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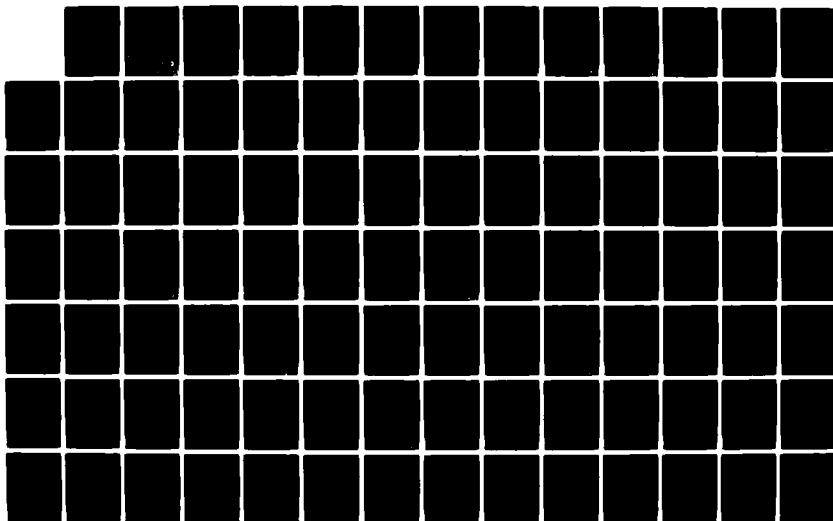
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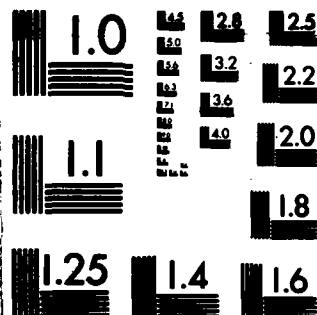
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OPERATIONAL TACTICAL DECISION AID (OTDA) FOR  
INFRARED (8-12  $\mu$ m) SYSTEMS - MARK II  
MANUAL VERSION

Appendix B - Insolation and Sky Radiation Tables

Donald B. Hodges

Systems and Applied Sciences Corporation (SASC)  
1577 Springhill Road, Suite 600  
Vienna, Virginia 22180

September 30, 1983

Scientific Report No. 8

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AIR FORCE SYSTEMS COMMAND  
UNITED STATES AIR FORCE  
HANSCOM AFB, MASSACHUSETTS 01731

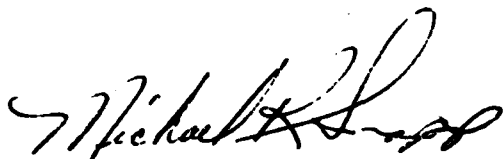
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MICHAEL R. SNAPP, Major  
Contract Manager



KENNETH R. HARDY, Chief  
Satellite Meteorology Branch

FOR THE COMMANDER



ROBERT A. MCCLATCHEY, Director  
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| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number)<br>SOLAR IRRADIANCE                      SOLAR TRANSMISSION<br>INSOLATION                              SKY RADIATION<br>ZENITH ANGLE                          CLEAR SKY IRRADIANCE<br>SOLAR FLUX                                                                                                                                                                                                                                                                                                                                             |                                     |                                                                                      |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br>Tables are presented for use in determining solar irradiance and sky radiation values needed to calculate maximum lock-on range (MLOR) and maximum acquisition range (AR) from the Manual Version of the IR OTDA. A table for use in determining solar irradiance as a function of terrain elevation is also presented. Errors in computed sea level values of sky radiation as a function of terrain elevation are discussed and found to be small.  |                                     |                                                                                      |

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## PREFACE

This publication consists of a basic report and four appendixes, each issued as a separate document.

This format will facilitate operational use by accommodating the sizeable bulk of the materials presented and the CONFIDENTIAL security classification of Appendix D.

\* \* \* \*

The material contained herein is unchanged from Appendix B of SASC Report No. 3. The content of this Appendix was the work of the co-authors of SASC Report No. 3; the contributions of R. Shapiro, C. N. Touart, and R. F. Wachtmann are hereby acknowledged.

Another collaborator in this Appendix was B. A. Mareiro, Jr.

Special thanks are due to Lt. Col. R. Wright, Lt. Col. K. Wantzloebe, Maj. W. Smith, Maj. J. Elrick and other representatives of Hq. Air Weather Service who continually enriched our understanding of the operator's problems.

Throughout this study we were supported and guided by the AFGL Contract Managers: Lt. Col. K. G. Cottrell to 2 May 1983, then Mr. R. V. Cormier.

The report was typed by D. M. Connor.

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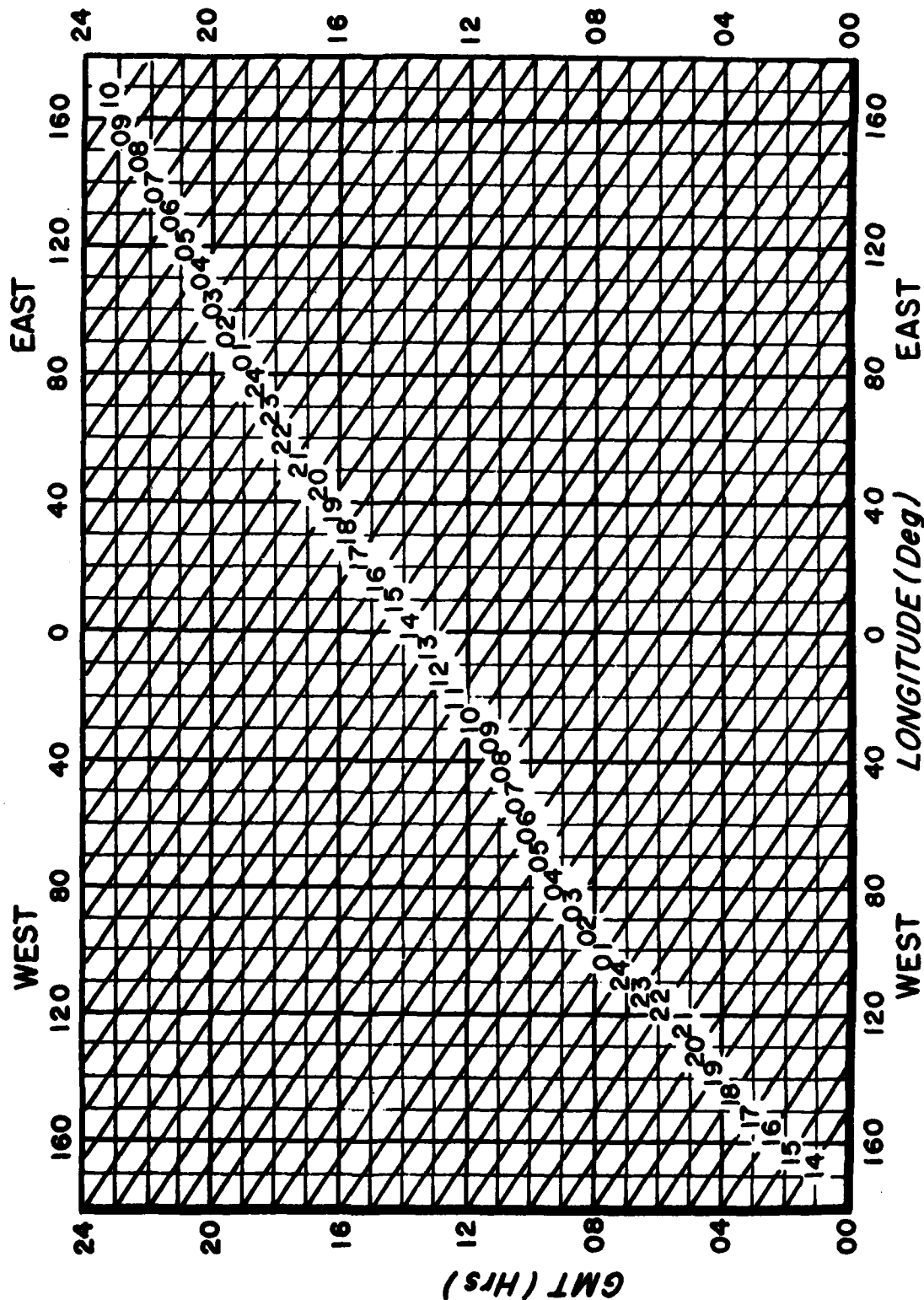


Fig. B-1. Mean Sun Time (MST) as a Function of Greenwich Mean Time (GMT) and Longitude

Mean Sun Time (MST) may be computed from the equation  $MST = GMT \pm (\text{longitude}/15)$ , where the expression in parenthesis is positive for east longitude and negative for west longitude.

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| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     | FEB |     |     | MAR |     |     | APR |     |     | MAY |     |     | JUN |     |     | JUL |     |     | AUG |     |     |     |
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TABLE B-1  
COS Z

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| MST  | JAN                |     |     |     |     |               |     |     |     |     | FEB              |     |     |     |     | MAR              |     |     |     |     | APR              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .0 |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS 2  
XO (W/M\*\*2.)

TABLE B-1

JAN-APR 94 N



| MST  | JAN |     |     |     |     |     |     | FEB |     |     |     |     |     |     | DATE |     |     |     |     |     |     | MAR |     |     |      |      |      |      | APR  |      |    |  |  |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|----|--|--|--|--|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10   | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30   | 5    | 10   | 15   | 20   | 25   | 30 |  |  |  |  |
| 1000 | .15 | .15 | .16 | .17 | .18 | .20 | .22 | .25 | .27 | .30 | .32 | .35 | .40 | .43 | .46  | .49 | .52 | .55 | .58 | .61 | .64 | .66 | .68 | .70 | .798 | .832 | .863 | .892 | .919 | .943 |    |  |  |  |  |
| 15   | .16 | .17 | .18 | .19 | .20 | .22 | .24 | .26 | .29 | .32 | .34 | .37 | .42 | .45 | .48  | .51 | .54 | .57 | .60 | .63 | .65 | .68 | .70 | .72 | .823 | .857 | .888 | .916 | .942 | .966 |    |  |  |  |  |
| 30   | .18 | .18 | .19 | .20 | .22 | .24 | .26 | .28 | .31 | .33 | .36 | .39 | .44 | .47 | .50  | .53 | .56 | .59 | .62 | .64 | .67 | .69 | .71 | .73 | .846 | .873 | .909 | .937 | .963 | .986 |    |  |  |  |  |
| 45   | .19 | .20 | .21 | .22 | .23 | .25 | .27 | .30 | .32 | .35 | .38 | .41 | .45 | .48 | .51  | .54 | .57 | .60 | .63 | .65 | .68 | .70 | .73 | .74 | .865 | .897 | .927 | .955 | .980 | .003 |    |  |  |  |  |
| 1100 | .20 | .21 | .22 | .23 | .24 | .26 | .28 | .31 | .33 | .36 | .39 | .42 | .47 | .50 | .53  | .56 | .58 | .61 | .64 | .67 | .69 | .72 | .74 | .75 | .881 | .912 | .942 | .970 | .995 | .017 |    |  |  |  |  |
| 15   | .21 | .22 | .23 | .24 | .25 | .27 | .29 | .32 | .35 | .37 | .40 | .43 | .48 | .51 | .54  | .57 | .59 | .62 | .65 | .69 | .70 | .72 | .74 | .76 | .893 | .925 | .954 | .981 | .006 | .028 |    |  |  |  |  |
| 30   | .22 | .22 | .23 | .25 | .26 | .28 | .30 | .33 | .35 | .38 | .41 | .44 | .48 | .51 | .54  | .57 | .60 | .63 | .66 | .69 | .71 | .73 | .75 | .77 | .902 | .933 | .962 | .989 | .014 | .036 |    |  |  |  |  |
| 45   | .22 | .23 | .24 | .25 | .27 | .29 | .31 | .33 | .36 | .39 | .41 | .44 | .49 | .52 | .55  | .58 | .61 | .63 | .66 | .69 | .71 | .73 | .75 | .77 | .908 | .939 | .967 | .994 | .018 | .040 |    |  |  |  |  |
| 1200 | .22 | .23 | .24 | .25 | .27 | .29 | .31 | .34 | .36 | .39 | .42 | .45 | .49 | .52 | .55  | .58 | .61 | .64 | .67 | .69 | .71 | .73 | .75 | .77 | .910 | .941 | .969 | .995 | .019 | .041 |    |  |  |  |  |
| 15   | .22 | .23 | .24 | .25 | .27 | .29 | .31 | .34 | .36 | .39 | .42 | .45 | .49 | .52 | .55  | .58 | .61 | .63 | .67 | .69 | .71 | .73 | .75 | .77 | .909 | .939 | .968 | .993 | .017 | .039 |    |  |  |  |  |
| 30   | .22 | .23 | .24 | .25 | .27 | .29 | .31 | .34 | .36 | .39 | .42 | .45 | .49 | .52 | .55  | .58 | .61 | .63 | .66 | .69 | .71 | .73 | .75 | .77 | .905 | .935 | .962 | .988 | .012 | .033 |    |  |  |  |  |
| 45   | .22 | .22 | .23 | .25 | .26 | .28 | .31 | .33 | .36 | .39 | .41 | .44 | .49 | .52 | .55  | .57 | .60 | .63 | .66 | .69 | .70 | .72 | .74 | .76 | .897 | .927 | .954 | .980 | .003 | .024 |    |  |  |  |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XO (W/M\*2.)

TABLE B-1

JAN-APR

54 N

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |      |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |      |     |
| 1300 | .21  | .21 | .23 | .24 | .26 | .28 | .30 | .33 | .35 | .38 | .41 | .44 | .48 | .51 | .54 | .57 | .59 | .62 | .65 | .67 | .69 | .71 | .73 | .75  |     |
|      | 293  | 303 | 320 | 340 | 364 | 391 | 421 | 461 | 496 | 532 | 570 | 608 | 670 | 707 | 744 | 780 | 815 | 848 | 886 | 915 | 942 | 968 | 991 | 1012 |     |
|      | 15   | .20 | .21 | .22 | .23 | .25 | .27 | .29 | .32 | .34 | .37 | .40 | .43 | .47 | .50 | .53 | .56 | .58 | .61 | .64 | .65 | .68 | .70 | .72  | .74 |
| 30   | 280  | 290 | 307 | 327 | 352 | 379 | 409 | 449 | 484 | 520 | 558 | 596 | 657 | 694 | 731 | 767 | 801 | 834 | 871 | 900 | 927 | 953 | 976 | 997  |     |
|      | 30   | .19 | .19 | .21 | .22 | .24 | .26 | .28 | .31 | .33 | .36 | .39 | .42 | .45 | .49 | .52 | .54 | .57 | .60 | .62 | .65 | .67 | .69 | .71  | .73 |
|      | 263  | 273 | 290 | 311 | 336 | 363 | 394 | 434 | 469 | 505 | 542 | 580 | 641 | 678 | 714 | 750 | 784 | 817 | 853 | 882 | 909 | 934 | 957 | 979  |     |
| 45   | .17  | .18 | .19 | .21 | .22 | .24 | .27 | .30 | .32 | .35 | .37 | .40 | .45 | .47 | .50 | .53 | .55 | .58 | .61 | .63 | .65 | .67 | .69 | .71  | .73 |
|      | 243  | 254 | 271 | 292 | 317 | 345 | 375 | 415 | 450 | 486 | 523 | 561 | 621 | 658 | 694 | 730 | 763 | 796 | 832 | 861 | 888 | 913 | 936 | 957  |     |
|      | 1400 | .16 | .16 | .18 | .19 | .21 | .23 | .25 | .28 | .31 | .33 | .36 | .39 | .43 | .46 | .49 | .51 | .54 | .56 | .59 | .61 | .64 | .66 | .67  | .69 |
| 15   | 220  | 231 | 249 | 270 | 295 | 323 | 354 | 393 | 428 | 464 | 501 | 539 | 599 | 635 | 671 | 706 | 740 | 772 | 808 | 837 | 864 | 889 | 912 | 933  |     |
|      | 15   | .14 | .15 | .16 | .17 | .19 | .21 | .23 | .26 | .29 | .31 | .34 | .37 | .41 | .44 | .47 | .49 | .52 | .54 | .57 | .59 | .62 | .64 | .65  | .67 |
|      | 194  | 205 | 223 | 245 | 270 | 298 | 329 | 369 | 403 | 440 | 476 | 514 | 573 | 609 | 645 | 680 | 713 | 745 | 781 | 810 | 836 | 861 | 885 | 906  |     |
| 30   | .12  | .13 | .14 | .15 | .17 | .19 | .21 | .24 | .27 | .29 | .32 | .35 | .39 | .42 | .45 | .47 | .50 | .52 | .55 | .57 | .59 | .61 | .63 | .65  | .67 |
|      | 165  | 177 | 195 | 217 | 242 | 271 | 301 | 341 | 376 | 412 | 448 | 485 | 544 | 581 | 616 | 650 | 683 | 715 | 751 | 780 | 806 | 831 | 855 | 876  |     |
|      | 45   | .10 | .10 | .12 | .13 | .15 | .17 | .19 | .22 | .25 | .27 | .30 | .33 | .37 | .40 | .42 | .45 | .47 | .50 | .53 | .55 | .57 | .59 | .61  | .63 |
| 1500 | 134  | 146 | 165 | 187 | 212 | 240 | 271 | 310 | 345 | 381 | 417 | 454 | 513 | 549 | 584 | 618 | 651 | 683 | 719 | 747 | 774 | 799 | 822 | 844  |     |
|      | 1500 | .07 | .08 | .09 | .11 | .13 | .15 | .17 | .20 | .22 | .25 | .27 | .30 | .34 | .37 | .40 | .42 | .45 | .47 | .50 | .52 | .54 | .56 | .58  | .60 |
|      | 100  | 113 | 131 | 153 | 179 | 207 | 238 | 277 | 312 | 347 | 384 | 420 | 478 | 514 | 549 | 583 | 616 | 647 | 683 | 712 | 738 | 764 | 787 | 809  |     |
| 15   | .05  | .05 | .07 | .08 | .10 | .12 | .14 | .17 | .20 | .22 | .25 | .28 | .32 | .34 | .37 | .40 | .42 | .44 | .47 | .49 | .52 | .54 | .55 | .57  | .59 |
|      | 064  | 077 | 095 | 118 | 143 | 172 | 202 | 241 | 276 | 311 | 347 | 384 | 442 | 477 | 512 | 546 | 578 | 610 | 646 | 674 | 701 | 726 | 750 | 772  |     |
|      | 30   | .02 | .03 | .04 | .06 | .08 | .10 | .12 | .14 | .17 | .19 | .22 | .25 | .29 | .32 | .34 | .37 | .39 | .42 | .44 | .47 | .49 | .51 | .53  | .54 |
| 45   | 026  | 039 | 058 | 080 | 105 | 134 | 164 | 203 | 238 | 273 | 309 | 345 | 402 | 438 | 472 | 506 | 538 | 570 | 606 | 634 | 661 | 686 | 710 | 733  |     |
|      | 45   | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .19 | .22 | .26 | .29 | .31 | .34 | .36 | .38 | .41 | .43 | .46 | .48 | .49  | .51 |
|      | 000  | 000 | 017 | 040 | 065 | 094 | 124 | 163 | 197 | 232 | 268 | 304 | 361 | 396 | 430 | 464 | 496 | 527 | 563 | 592 | 619 | 645 | 669 | 691  |     |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

TABLE B-1

JAN-APR 54 N



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1900 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .05 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 007 | 036 | 065 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 017 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

JAN-APR 54 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*



| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0600 | .23 | .25 | .27 | .28 | .30 | .31 | .31 | .32 | .32 | .32 | .32 | .31 | .30 | .30 | .29 | .27 | .26 | .24 | .23 | .21 | .19 | .17 | .15 | .13 |
|      | 311 | 337 | 359 | 378 | 394 | 406 | 416 | 421 | 423 | 422 | 419 | 412 | 403 | 391 | 378 | 362 | 344 | 324 | 299 | 276 | 252 | 227 | 201 | 174 |
| 15   | .27 | .29 | .30 | .32 | .33 | .34 | .35 | .35 | .35 | .35 | .35 | .35 | .34 | .33 | .32 | .31 | .30 | .28 | .26 | .24 | .23 | .21 | .19 | .17 |
|      | 361 | 386 | 408 | 426 | 441 | 453 | 463 | 468 | 470 | 469 | 465 | 459 | 450 | 438 | 425 | 409 | 392 | 373 | 348 | 326 | 302 | 278 | 252 | 225 |
| 30   | .31 | .32 | .34 | .36 | .37 | .38 | .38 | .39 | .39 | .39 | .39 | .38 | .38 | .37 | .36 | .35 | .33 | .32 | .30 | .28 | .26 | .25 | .23 | .21 |
|      | 411 | 435 | 456 | 474 | 489 | 501 | 510 | 515 | 517 | 516 | 512 | 505 | 497 | 485 | 472 | 457 | 440 | 421 | 397 | 375 | 352 | 328 | 302 | 276 |
| 45   | .34 | .36 | .38 | .39 | .40 | .41 | .42 | .42 | .42 | .42 | .42 | .42 | .41 | .40 | .39 | .38 | .37 | .35 | .33 | .32 | .30 | .28 | .26 | .24 |
|      | 460 | 484 | 504 | 522 | 536 | 548 | 557 | 561 | 563 | 562 | 558 | 552 | 543 | 532 | 519 | 504 | 487 | 469 | 445 | 424 | 401 | 377 | 352 | 326 |
| 0700 | .38 | .40 | .41 | .43 | .44 | .45 | .45 | .46 | .46 | .46 | .46 | .45 | .45 | .44 | .43 | .42 | .40 | .39 | .37 | .35 | .34 | .32 | .30 | .28 |
|      | 508 | 531 | 552 | 569 | 583 | 594 | 603 | 607 | 609 | 607 | 604 | 597 | 589 | 578 | 565 | 551 | 535 | 517 | 493 | 472 | 450 | 426 | 402 | 376 |
| 15   | .41 | .43 | .45 | .46 | .47 | .48 | .49 | .49 | .49 | .49 | .49 | .49 | .48 | .47 | .46 | .45 | .44 | .42 | .41 | .39 | .37 | .36 | .34 | .32 |
|      | 555 | 578 | 598 | 615 | 629 | 639 | 648 | 652 | 654 | 652 | 649 | 642 | 634 | 624 | 611 | 597 | 581 | 563 | 540 | 520 | 498 | 475 | 450 | 425 |
| 30   | .45 | .47 | .48 | .49 | .51 | .51 | .52 | .52 | .53 | .53 | .52 | .52 | .51 | .50 | .50 | .48 | .47 | .46 | .44 | .43 | .41 | .39 | .37 | .35 |
|      | 602 | 624 | 644 | 660 | 673 | 684 | 692 | 696 | 697 | 696 | 693 | 686 | 678 | 668 | 656 | 642 | 626 | 609 | 586 | 565 | 545 | 522 | 498 | 473 |
| 45   | .48 | .50 | .51 | .53 | .54 | .55 | .55 | .56 | .56 | .56 | .56 | .55 | .55 | .54 | .53 | .52 | .51 | .49 | .47 | .46 | .44 | .42 | .41 | .39 |
|      | 647 | 669 | 688 | 704 | 717 | 727 | 735 | 739 | 740 | 739 | 735 | 729 | 721 | 711 | 699 | 686 | 670 | 654 | 631 | 612 | 590 | 568 | 544 | 519 |
| 0800 | .51 | .53 | .55 | .56 | .57 | .58 | .58 | .59 | .59 | .59 | .59 | .58 | .58 | .57 | .56 | .55 | .54 | .53 | .51 | .49 | .48 | .46 | .44 | .42 |
|      | 690 | 712 | 730 | 746 | 759 | 768 | 777 | 780 | 782 | 780 | 777 | 771 | 763 | 753 | 742 | 728 | 713 | 697 | 675 | 656 | 635 | 612 | 589 | 564 |
| 15   | .54 | .56 | .58 | .59 | .60 | .61 | .61 | .62 | .62 | .62 | .62 | .61 | .61 | .60 | .59 | .58 | .57 | .56 | .54 | .52 | .51 | .49 | .47 | .45 |
|      | 732 | 753 | 771 | 787 | 799 | 809 | 816 | 820 | 821 | 820 | 817 | 811 | 803 | 794 | 783 | 770 | 755 | 739 | 717 | 699 | 677 | 656 | 632 | 608 |
| 30   | .57 | .59 | .61 | .62 | .63 | .64 | .64 | .65 | .65 | .65 | .65 | .64 | .64 | .63 | .62 | .61 | .60 | .59 | .57 | .55 | .54 | .52 | .50 | .48 |
|      | 772 | 793 | 811 | 826 | 838 | 847 | 855 | 858 | 859 | 858 | 855 | 850 | 842 | 833 | 822 | 809 | 795 | 779 | 758 | 739 | 718 | 697 | 674 | 649 |
| 45   | .60 | .62 | .63 | .65 | .66 | .66 | .67 | .67 | .68 | .68 | .67 | .67 | .66 | .66 | .65 | .64 | .63 | .62 | .60 | .59 | .57 | .55 | .53 | .51 |
|      | 810 | 830 | 848 | 862 | 874 | 883 | 891 | 895 | 896 | 895 | 891 | 886 | 879 | 870 | 859 | 847 | 833 | 817 | 797 | 778 | 758 | 736 | 713 | 689 |

MAY-AUG 54 N      TABLE B-1      SOLAR PARAMETERS      COS 2      \*\*\* SIGNIFIES COS 2 = 1.  
X0 (W/M\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

MST

DATE

MAY  
5 10 15 20 25 30

JUN

5 10 15 20 25 30

JUL

5 10 15 20 25 30

AUG

5 10 15 20 25 30

0900 .63 .65 .66 .67 .68 .69  
846 866 883 897 909 91815 .65 .67 .68 .70 .71 .71  
879 899 916 930 941 95030 .68 .69 .71 .72 .73 .74  
910 929 946 960 971 98045 .70 .71 .73 .74 .75 .76  
939 957 974 987 998 0071000 .72 .73 .75 .76 .77 .78  
964 983 999 012 023 03215 .73 .75 .76 .77 .78 .79  
987 005 021 034 045 05430 .75 .76 .78 .79 .80 .81  
007 025 041 054 064 07345 .76 .78 .79 .80 .81 .82  
024 042 057 070 081 0891100 .77 .79 .80 .81 .82 .83  
037 055 070 083 094 10215 .78 .79 .81 .82 .83 .84  
048 065 081 093 104 11330 .78 .80 .81 .82 .83 .84  
055 073 088 101 111 12045 .79 .80 .82 .83 .84 .84  
059 077 092 105 115 124.70 .70 .70 .70 .70 .70  
925 929 930 929 926 921.72 .72 .73 .73 .72 .72  
957 961 962 961 958 953.74 .75 .75 .75 .75 .74  
987 990 992 991 988 984.76 .77 .77 .77 .77 .76  
014 018 019 018 016 011.78 .79 .79 .79 .79 .78  
039 042 044 043 041 037.80 .80 .80 .80 .80 .80  
081 064 066 066 063 059.81 .82 .82 .82 .82 .82  
080 084 085 085 083 079.83 .83 .83 .83 .83 .83  
096 100 102 102 100 096.84 .84 .84 .84 .84 .84  
110 114 116 116 114 111.84 .85 .85 .85 .85 .85  
120 124 126 127 125 122.85 .85 .86 .86 .86 .85  
127 132 134 135 133 130.85 .86 .86 .86 .86 .86  
132 136 139 139 136 136.69 .68 .68 .67 .66 .64  
914 905 895 882 869 853.72 .71 .70 .69 .68 .67  
947 938 928 916 902 887.74 .73 .72 .71 .70 .69  
977 969 959 947 934 919.76 .75 .75 .74 .73 .71  
005 997 987 976 963 948.78 .77 .77 .76 .75 .73  
031 023 013 002 990 975.80 .79 .78 .77 .76 .75  
053 046 037 026 013 999.81 .81 .80 .79 .78 .77  
074 066 057 047 034 020.82 .82 .81 .80 .79 .78  
091 084 075 065 053 039.84 .83 .82 .81 .81 .79  
105 099 090 080 068 054.84 .84 .83 .82 .81 .80  
117 110 102 092 080 066.85 .85 .84 .83 .82 .81  
126 119 111 101 089 076.85 .85 .84 .84 .83 .81  
131 125 117 107 095 082.63 .61 .60 .58 .56 .54  
833 815 795 773 750 726.65 .64 .62 .60 .59 .57  
867 843 829 808 785 761.68 .65 .65 .63 .61 .59  
899 881 862 841 818 794.70 .69 .67 .65 .63 .61  
929 911 892 870 848 824.72 .70 .69 .67 .65 .63  
956 939 919 898 875 851.74 .72 .71 .69 .67 .65  
980 962 943 922 899 875.75 .74 .72 .71 .69 .67  
001 984 964 943 921 896.77 .75 .74 .72 .70 .68  
020 002 983 962 939 914.78 .76 .75 .73 .71 .69  
035 013 998 977 954 929.79 .77 .76 .74 .72 .70  
048 030 011 989 966 941.79 .78 .76 .75 .73 .71  
057 030 020 998 975 949.80 .79 .77 .75 .73 .71  
063 045 026 004 980 954MAY-AUG 54 N TABLE B-1 SOLAR PARAMETERS CCS 2  
X0 (W/M\*2.)\*\*\* SIGNIFIES COS 2 = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |     |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |     |      |      |      |      |      |      |
| 1200 | .79  | .80  | .82  | .83  | .84  | .85  | .85  | .86  | .86  | .86  | .86  | .86  | .86  | .85  | .85  | .85  | .84  | .83  | .82 | .80  | .79  | .77  | .75  | .73  | .71  |
|      | .060 | .077 | .092 | .105 | .116 | .125 | .133 | .137 | .140 | .141 | .140 | .138 | .133 | .127 | .119 | .110 | .098 | .085 |     | .066 | .043 | .028 | .006 | .982 | .956 |
| 15   | .79  | .80  | .81  | .83  | .84  | .84  | .85  | .86  | .86  | .86  | .86  | .86  | .86  | .86  | .85  | .85  | .84  | .83  | .82 | .80  | .79  | .77  | .75  | .73  | .71  |
|      | .058 | .075 | .090 | .103 | .114 | .123 | .131 | .136 | .139 | .140 | .139 | .137 | .133 | .127 | .119 | .109 | .098 | .084 |     | .066 | .043 | .028 | .005 | .981 | .955 |
| 30   | .78  | .80  | .81  | .82  | .83  | .84  | .85  | .85  | .86  | .86  | .86  | .86  | .86  | .85  | .85  | .84  | .83  | .83  | .81 | .80  | .78  | .77  | .75  | .73  | .71  |
|      | .052 | .069 | .084 | .097 | .108 | .118 | .126 | .131 | .134 | .136 | .135 | .133 | .129 | .123 | .116 | .106 | .095 | .081 |     | .062 | .044 | .024 | .001 | .977 | .950 |
| 45   | .78  | .79  | .80  | .81  | .82  | .83  | .84  | .85  | .85  | .85  | .85  | .85  | .85  | .84  | .84  | .83  | .82  | .81  | .79 | .79  | .73  | .76  | .74  | .72  | .70  |
|      | .043 | .061 | .076 | .089 | .100 | .109 | .118 | .123 | .127 | .128 | .128 | .126 | .122 | .117 | .109 | .100 | .088 | .075 |     | .055 | .037 | .017 | .994 | .969 | .942 |
| 1300 | .77  | .78  | .79  | .81  | .82  | .82  | .83  | .84  | .84  | .84  | .84  | .84  | .84  | .83  | .83  | .82  | .81  | .80  | .79 | .79  | .77  | .75  | .74  | .71  | .69  |
|      | .031 | .049 | .064 | .077 | .088 | .098 | .107 | .112 | .116 | .118 | .118 | .116 | .113 | .107 | .100 | .090 | .079 | .065 |     | .046 | .027 | .006 | .983 | .958 | .930 |
| 15   | .76  | .77  | .78  | .80  | .81  | .81  | .82  | .83  | .83  | .83  | .83  | .83  | .83  | .83  | .82  | .81  | .80  | .79  | .78 | .78  | .76  | .74  | .72  | .70  | .68  |
|      | .016 | .033 | .049 | .062 | .074 | .084 | .093 | .098 | .102 | .104 | .105 | .103 | .100 | .094 | .087 | .078 | .066 | .052 |     | .033 | .014 | .993 | .969 | .944 | .916 |
| 30   | .74  | .76  | .77  | .78  | .79  | .80  | .81  | .82  | .82  | .82  | .82  | .82  | .82  | .82  | .82  | .81  | .80  | .79  | .78 | .76  | .75  | .73  | .71  | .69  | .67  |
|      | .998 | .015 | .031 | .044 | .056 | .066 | .076 | .082 | .086 | .088 | .089 | .087 | .084 | .079 | .071 | .062 | .050 | .036 |     | .017 | .999 | .976 | .952 | .926 | .898 |
| 45   | .73  | .74  | .75  | .77  | .78  | .79  | .79  | .80  | .80  | .81  | .81  | .81  | .81  | .80  | .80  | .79  | .78  | .77  | .75 | .75  | .73  | .72  | .70  | .68  | .65  |
|      | .977 | .994 | .010 | .024 | .036 | .046 | .056 | .062 | .067 | .069 | .070 | .069 | .066 | .060 | .053 | .043 | .032 | .018 |     | .998 | .978 | .957 | .932 | .906 | .877 |
| 1400 | .71  | .72  | .74  | .75  | .76  | .77  | .78  | .78  | .79  | .79  | .79  | .79  | .79  | .79  | .79  | .78  | .77  | .76  | .75 | .73  | .72  | .70  | .68  | .66  | .63  |
|      | .953 | .970 | .986 | .000 | .013 | .023 | .033 | .040 | .045 | .047 | .048 | .047 | .044 | .039 | .032 | .022 | .010 | .996 |     | .976 | .955 | .934 | .909 | .882 | .853 |
| 15   | .69  | .70  | .72  | .73  | .74  | .75  | .76  | .76  | .77  | .77  | .77  | .77  | .77  | .77  | .76  | .75  | .74  | .73  | .72 | .72  | .70  | .68  | .66  | .64  | .62  |
|      | .926 | .944 | .960 | .974 | .987 | .997 | .008 | .015 | .020 | .023 | .024 | .023 | .020 | .015 | .008 | .998 | .986 | .972 |     | .951 | .931 | .909 | .884 | .856 | .826 |
| 30   | .67  | .68  | .70  | .71  | .72  | .73  | .74  | .74  | .75  | .75  | .75  | .75  | .75  | .75  | .75  | .74  | .73  | .72  | .71 | .69  | .68  | .66  | .64  | .62  | .59  |
|      | .896 | .914 | .931 | .945 | .958 | .969 | .980 | .987 | .993 | .996 | .997 | .996 | .994 | .988 | .981 | .971 | .959 | .945 |     | .924 | .903 | .880 | .855 | .827 | .797 |
| 45   | .64  | .66  | .67  | .68  | .70  | .71  | .72  | .72  | .73  | .73  | .73  | .73  | .73  | .73  | .72  | .72  | .71  | .70  | .69 | .67  | .63  | .64  | .62  | .59  | .57  |
|      | .864 | .882 | .899 | .914 | .927 | .939 | .950 | .957 | .963 | .966 | .968 | .967 | .964 | .959 | .952 | .942 | .930 | .915 |     | .894 | .873 | .850 | .824 | .795 | .764 |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 54 N X0 (W/M\*2.) \*\*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*



| MST  | MAY                                                |                                                    |                                                    |                                                    |                                                    | JUN                                                |                                                    |                                                    |                                                    |                                                    | JUL                                                |                                                    |                                                    |                                                    |                                                    | AUG |    |    |  |  |
|------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|-----|----|----|--|--|
|      | 5                                                  | 10                                                 | 15                                                 | 20                                                 | 25                                                 | 30                                                 | 5                                                  | 10                                                 | 15                                                 | 20                                                 | 25                                                 | 30                                                 | 5                                                  | 10                                                 | 15                                                 | 20  | 25 | 30 |  |  |
| 1500 | .62 .63 .65 .66 .67 .68<br>829 848 865 880 894 906 | .69 .70 .70 .71 .71 .71<br>917 925 931 935 936 936 | .71 .70 .70 .69 .68 .66<br>933 928 921 911 898 883 | .65 .63 .61 .59 .57 .54<br>861 840 816 790 761 730 | .62 .60 .59 .56 .54 .52<br>826 805 781 754 724 692 | .59 .58 .56 .54 .51 .49<br>789 763 743 716 686 653 | .56 .55 .53 .51 .48 .46<br>750 723 703 675 645 612 | .53 .52 .50 .47 .45 .42<br>710 687 661 633 602 568 | .50 .49 .46 .44 .42 .39<br>667 644 618 589 558 524 | .47 .45 .43 .41 .38 .36<br>623 600 573 544 512 477 | .43 .42 .39 .37 .35 .32<br>578 554 527 497 464 429 | .40 .39 .36 .34 .31 .28<br>532 507 479 449 416 381 | .36 .34 .32 .30 .27 .25<br>484 459 431 400 367 331 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |     |    |    |  |  |
| 15   | .59 .60 .62 .63 .64 .65<br>793 812 829 844 858 871 | .66 .67 .68 .68 .68 .68<br>883 891 897 901 902 902 | .68 .68 .67 .66 .65 .64<br>899 894 887 877 864 849 | .62 .60 .59 .56 .54 .52<br>826 805 781 754 724 692 | .59 .58 .56 .54 .51 .49<br>789 763 743 716 686 653 | .56 .55 .53 .51 .48 .46<br>750 723 703 675 645 612 | .53 .52 .50 .47 .45 .42<br>710 687 661 633 602 568 | .50 .49 .46 .44 .42 .39<br>667 644 618 589 558 524 | .47 .45 .43 .41 .38 .36<br>623 600 573 544 512 477 | .43 .42 .39 .37 .35 .32<br>578 554 527 497 464 429 | .40 .39 .36 .34 .31 .28<br>532 507 479 449 416 381 | .36 .34 .32 .30 .27 .25<br>484 459 431 400 367 331 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |     |    |    |  |  |
| 30   | .56 .58 .59 .60 .62 .63<br>754 773 791 807 821 833 | .64 .64 .65 .65 .65 .65<br>846 854 860 865 867 866 | .65 .65 .64 .63 .62 .61<br>864 859 851 841 828 812 | .62 .62 .61 .61 .60 .58<br>826 821 813 803 790 773 | .59 .59 .58 .58 .57 .55<br>787 781 774 763 749 733 | .56 .56 .55 .54 .53 .52<br>746 740 732 722 708 691 | .53 .53 .52 .51 .50 .49<br>703 698 690 679 665 648 | .50 .49 .49 .48 .47 .45<br>660 654 646 635 620 603 | .47 .46 .45 .44 .43 .42<br>615 610 601 589 575 557 | .43 .43 .42 .41 .40 .38<br>570 564 555 543 528 510 | .40 .39 .38 .37 .36 .35<br>524 518 509 496 481 463 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |     |    |    |  |  |
| 1600 | .50 .51 .53 .54 .56 .57<br>670 690 709 725 740 754 | .58 .58 .59 .59 .60 .60<br>767 776 783 787 789 789 | .59 .59 .58 .58 .57 .55<br>787 781 774 763 749 733 | .56 .56 .55 .54 .53 .52<br>746 740 732 722 708 691 | .53 .53 .52 .51 .50 .49<br>703 698 690 679 665 648 | .50 .49 .49 .48 .47 .45<br>660 654 646 635 620 603 | .47 .46 .45 .44 .43 .42<br>615 610 601 589 575 557 | .43 .43 .42 .41 .40 .38<br>570 564 555 543 528 510 | .40 .39 .38 .37 .36 .35<br>524 518 509 496 481 463 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |                                                    |                                                    |     |    |    |  |  |
| 15   | .47 .48 .50 .51 .52 .53<br>626 646 665 682 698 711 | .55 .55 .56 .56 .57 .57<br>725 734 741 746 748 748 | .56 .56 .55 .54 .53 .52<br>746 740 732 722 708 691 | .53 .53 .52 .51 .50 .49<br>703 698 690 679 665 648 | .50 .49 .49 .48 .47 .45<br>660 654 646 635 620 603 | .47 .46 .45 .44 .43 .42<br>615 610 601 589 575 557 | .43 .43 .42 .41 .40 .38<br>570 564 555 543 528 510 | .40 .39 .38 .37 .36 .35<br>524 518 509 496 481 463 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |                                                    |                                                    |                                                    |     |    |    |  |  |
| 30   | .43 .45 .46 .48 .49 .50<br>580 601 620 638 654 668 | .51 .52 .53 .53 .53 .53<br>682 691 699 704 706 706 | .53 .53 .52 .51 .50 .49<br>703 698 690 679 665 648 | .50 .49 .49 .48 .47 .45<br>660 654 646 635 620 603 | .47 .46 .45 .44 .43 .42<br>615 610 601 589 575 557 | .43 .43 .42 .41 .40 .38<br>570 564 555 543 528 510 | .40 .39 .38 .37 .36 .35<br>524 518 509 496 481 463 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |                                                    |                                                    |                                                    |                                                    |     |    |    |  |  |
| 45   | .40 .41 .43 .44 .46 .47<br>533 555 574 592 609 623 | .48 .49 .49 .50 .50 .50<br>637 647 655 660 662 662 | .50 .49 .49 .48 .47 .45<br>660 654 646 635 620 603 | .47 .46 .45 .44 .43 .42<br>615 610 601 589 575 557 | .43 .43 .42 .41 .40 .38<br>570 564 555 543 528 510 | .40 .39 .38 .37 .36 .35<br>524 518 509 496 481 463 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |     |    |    |  |  |
| 1700 | .36 .38 .39 .41 .42 .43<br>485 507 527 546 562 577 | .45 .45 .46 .46 .47 .47<br>592 602 610 615 618 618 | .47 .46 .45 .44 .43 .42<br>615 610 601 589 575 557 | .43 .43 .42 .41 .40 .38<br>570 564 555 543 528 510 | .40 .39 .38 .37 .36 .35<br>524 518 509 496 481 463 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |     |    |    |  |  |
| 15   | .33 .34 .36 .37 .39 .40<br>437 459 480 499 516 531 | .41 .42 .43 .43 .43 .43<br>546 556 564 570 572 572 | .43 .43 .42 .41 .40 .38<br>570 564 555 543 528 510 | .40 .39 .38 .37 .36 .35<br>524 518 509 496 481 463 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |     |    |    |  |  |
| 30   | .29 .31 .32 .34 .35 .36<br>388 410 431 451 468 484 | .38 .38 .39 .40 .40 .40<br>499 510 518 524 526 526 | .40 .39 .38 .37 .36 .35<br>524 518 509 496 481 463 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |     |    |    |  |  |
| 45   | .25 .27 .29 .30 .32 .33<br>338 361 383 402 420 436 | .34 .35 .36 .36 .36 .36<br>452 463 471 477 480 480 | .36 .36 .35 .34 .33 .31<br>477 471 462 449 433 415 | .33 .31 .29 .26 .24 .21<br>436 411 382 351 317 281 | .29 .27 .25 .23 .20 .17<br>388 362 333 301 267 230 |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |                                                    |     |    |    |  |  |

TABLE B-1 SOLAR PARAMETERS COS. Z COS. Z \*\*\* SIGNIFIES COS. Z = 1.  
MAY-AUG 54 N NO (W/M+2.) ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 000  | .21 | .23 | .25 | .27 | .28 | .29 | .31 | .31 | .32 | .33 | .33 | .33 | .33 | .32 | .31 | .30 | .29 | .28 | .26 | .23 | .21 | .19 | .16 | .13 |
|      | 288 | 312 | 334 | 354 | 372 | 389 | 405 | 416 | 425 | 430 | 433 | 433 | 430 | 424 | 414 | 402 | 386 | 366 | 339 | 313 | 283 | 251 | 216 | 179 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .18 | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .29 | .29 | .29 | .29 | .28 | .28 | .27 | .25 | .24 | .22 | .20 | .18 | .15 | .12 | .10 |
|      | 238 | 263 | 285 | 306 | 324 | 341 | 356 | 369 | 378 | 384 | 386 | 386 | 383 | 377 | 367 | 354 | 338 | 318 | 290 | 263 | 233 | 201 | 166 | 128 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .14 | .16 | .18 | .19 | .21 | .22 | .23 | .24 | .25 | .25 | .26 | .26 | .25 | .25 | .24 | .23 | .22 | .20 | .18 | .16 | .14 | .11 | .09 | .08 |
|      | 189 | 214 | 237 | 258 | 277 | 294 | 311 | 322 | 331 | 337 | 340 | 340 | 336 | 330 | 320 | 306 | 290 | 270 | 241 | 214 | 184 | 151 | 115 | 077 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .10 | .12 | .14 | .16 | .17 | .19 | .20 | .21 | .22 | .22 | .22 | .22 | .22 | .21 | .21 | .20 | .18 | .17 | .15 | .12 | .10 | .08 | .05 | .02 |
|      | 140 | 165 | 189 | 210 | 230 | 247 | 264 | 276 | 285 | 291 | 294 | 293 | 290 | 283 | 273 | 259 | 242 | 222 | 193 | 165 | 135 | 101 | 065 | 027 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1900 | .07 | .09 | .11 | .12 | .14 | .15 | .16 | .17 | .18 | .19 | .19 | .19 | .18 | .18 | .17 | .16 | .15 | .13 | .11 | .09 | .06 | .04 | .01 | .00 |
|      | 092 | 117 | 141 | 163 | 183 | 201 | 218 | 230 | 239 | 245 | 248 | 248 | 244 | 237 | 226 | 212 | 195 | 174 | 145 | 117 | 086 | 052 | 016 | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .03 | .05 | .07 | .09 | .10 | .12 | .13 | .14 | .15 | .15 | .15 | .15 | .15 | .15 | .14 | .13 | .11 | .10 | .07 | .05 | .03 | .00 | .00 | .00 |
|      | 044 | 070 | 095 | 117 | 137 | 155 | 173 | 185 | 194 | 200 | 203 | 203 | 199 | 192 | 181 | 166 | 149 | 128 | 098 | 069 | 038 | 004 | 000 | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .00 | .02 | .04 | .05 | .07 | .08 | .10 | .11 | .11 | .12 | .12 | .12 | .12 | .11 | .10 | .09 | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .00 |
|      | 000 | 025 | 049 | 072 | 093 | 111 | 129 | 141 | 150 | 156 | 159 | 159 | 155 | 147 | 136 | 121 | 103 | 082 | 051 | 023 | 000 | 000 | 000 | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .00 | .00 | .00 | .02 | .04 | .05 | .07 | .07 | .08 | .09 | .09 | .09 | .08 | .08 | .07 | .06 | .04 | .03 | .01 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 005 | 028 | 049 | 068 | 086 | 098 | 108 | 114 | 116 | 116 | 112 | 104 | 092 | 077 | 059 | 037 | 006 | 000 | 000 | 000 | 000 | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2000 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .06 | .06 | .05 | .05 | .04 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 007 | 026 | 045 | 057 | 066 | 072 | 075 | 074 | 070 | 062 | 050 | 035 | 016 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .03 | .03 | .02 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 005 | 017 | 027 | 033 | 035 | 034 | 023 | 021 | 009 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

MAY-AUG 54 N

MST

DATE

|      | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0500 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 038 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 089 | 060 | 030 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 0600 | .10 | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 141 | 112 | 082 | 052 | 021 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .14 | .12 | .10 | .08 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 192 | 164 | 134 | 104 | 073 | 042 | 010 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .18 | .16 | .14 | .12 | .09 | .07 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 243 | 215 | 186 | 156 | 125 | 094 | 062 | 029 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .22 | .20 | .18 | .15 | .13 | .11 | .08 | .06 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 294 | 266 | 237 | 207 | 177 | 145 | 113 | 081 | 048 | 014 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 0700 | .26 | .23 | .21 | .19 | .17 | .14 | .12 | .10 | .07 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 344 | 316 | 287 | 258 | 227 | 196 | 164 | 131 | 098 | 065 | 031 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .29 | .27 | .25 | .23 | .20 | .18 | .16 | .13 | .11 | .08 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 393 | 366 | 337 | 307 | 277 | 245 | 213 | 180 | 147 | 114 | 083 | 046 | 007 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .33 | .31 | .28 | .26 | .24 | .22 | .19 | .17 | .14 | .12 | .09 | .07 | .01 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 441 | 414 | 385 | 356 | 325 | 294 | 261 | 229 | 195 | 161 | 127 | 094 | 054 | 022 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .36 | .34 | .32 | .30 | .27 | .25 | .23 | .20 | .18 | .15 | .13 | .10 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 488 | 461 | 432 | 403 | 372 | 341 | 308 | 275 | 241 | 207 | 173 | 139 | 099 | 067 | 036 | 007 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

SEP-DEC 54 N TABLE B-1 SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

| NST  | SEP  |      |      |      |      |      | OCT  |      |      |      |      |      | DATE |      |      |      |      |      | NOV  |      |      |      |      |      | DEC  |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 0800 | .40  | .37  | .35  | .33  | .31  | .28  | .26  | .23  | .21  | .18  | .16  | .13  | .10  | .08  | .06  | .04  | .02  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  |
|      | 533  | 506  | 478  | 448  | 417  | 386  | 353  | 320  | 286  | 252  | 217  | 183  | 143  | 111  | 080  | 050  | 023  | 000  | 000  | 000  | 000  | 000  | 000  | 000  | 000  | 000  | 000  | 000  | 000  | 000  |
| 15   | .43  | .41  | .38  | .36  | .34  | .31  | .29  | .26  | .24  | .21  | .19  | .16  | .13  | .11  | .09  | .07  | .05  | .03  | .01  | .00  | .00  | .00  | .00  | .00  | .01  | .00  | .00  | .00  | .00  | .00  |
| 30   | .46  | .44  | .42  | .39  | .37  | .34  | .32  | .29  | .27  | .24  | .22  | .19  | .16  | .14  | .12  | .09  | .07  | .06  | .04  | .03  | .02  | .01  | .01  | .01  | .04  | .03  | .02  | .01  | .01  | .01  |
|      | 618  | 591  | 563  | 533  | 502  | 470  | 437  | 404  | 369  | 335  | 300  | 265  | 225  | 192  | 161  | 131  | 104  | 080  | 058  | 040  | 025  | 016  | 009  | 007  | 058  | 040  | 025  | 016  | 009  | 007  |
| 45   | .49  | .47  | .44  | .42  | .40  | .37  | .35  | .32  | .30  | .27  | .24  | .22  | .19  | .16  | .14  | .12  | .10  | .08  | .07  | .06  | .05  | .04  | .03  | .03  | .07  | .06  | .05  | .04  | .03  | .03  |
| 0900 | .52  | .49  | .47  | .45  | .42  | .40  | .37  | .35  | .32  | .30  | .27  | .24  | .21  | .19  | .17  | .15  | .13  | .11  | .09  | .08  | .07  | .06  | .06  | .06  | .09  | .08  | .07  | .06  | .06  | .06  |
|      | 695  | 668  | 640  | 610  | 578  | 546  | 513  | 479  | 444  | 409  | 373  | 338  | 297  | 264  | 233  | 204  | 176  | 152  | 131  | 113  | 100  | 090  | 084  | 083  | 131  | 113  | 100  | 090  | 084  | 083  |
| 15   | .54  | .52  | .50  | .47  | .45  | .42  | .40  | .37  | .35  | .32  | .29  | .27  | .24  | .21  | .19  | .17  | .15  | .13  | .12  | .10  | .09  | .09  | .08  | .08  | .12  | .10  | .09  | .09  | .08  | .08  |
| 30   | .57  | .54  | .52  | .50  | .47  | .45  | .42  | .40  | .37  | .34  | .32  | .29  | .26  | .23  | .21  | .19  | .17  | .15  | .14  | .13  | .12  | .11  | .11  | .11  | .14  | .13  | .12  | .11  | .11  | .11  |
|      | 763  | 735  | 706  | 676  | 644  | 612  | 578  | 543  | 508  | 472  | 437  | 401  | 360  | 327  | 295  | 266  | 239  | 215  | 194  | 177  | 164  | 155  | 150  | 150  | 194  | 177  | 164  | 155  | 150  | 150  |
| 45   | .59  | .57  | .54  | .52  | .49  | .47  | .44  | .42  | .39  | .36  | .34  | .31  | .28  | .25  | .23  | .21  | .19  | .17  | .16  | .15  | .14  | .13  | .13  | .13  | .16  | .15  | .14  | .13  | .13  | .13  |
| 1000 | .792 | .765 | .736 | .705 | .673 | .640 | .606 | .571 | .536 | .500 | .464 | .428 | .387 | .354 | .322 | .293 | .266 | .242 | .222 | .205 | .192 | .184 | .179 | .180 | .222 | .205 | .192 | .184 | .179 | .180 |
|      | .61  | .59  | .56  | .54  | .51  | .49  | .46  | .43  | .41  | .38  | .35  | .33  | .30  | .27  | .25  | .23  | .21  | .19  | .18  | .16  | .15  | .15  | .15  | .15  | .18  | .16  | .15  | .15  | .15  | .15  |
| 15   | 819  | 792  | 762  | 732  | 699  | 666  | 632  | 596  | 560  | 524  | 488  | 453  | 411  | 378  | 346  | 317  | 291  | 267  | 247  | 230  | 218  | 210  | 206  | 207  | 247  | 230  | 218  | 210  | 206  | 207  |
|      | .63  | .60  | .58  | .56  | .53  | .50  | .48  | .45  | .42  | .40  | .37  | .34  | .31  | .29  | .26  | .24  | .22  | .21  | .19  | .18  | .17  | .17  | .16  | .16  | .19  | .18  | .17  | .17  | .16  | .16  |
| 30   | 843  | 815  | 786  | 755  | 722  | 689  | 654  | 618  | 582  | 546  | 510  | 474  | 432  | 399  | 362  | 338  | 312  | 289  | 269  | 253  | 241  | 233  | 229  | 231  | 269  | 253  | 241  | 233  | 229  | 231  |
|      | .64  | .62  | .60  | .57  | .54  | .52  | .49  | .46  | .44  | .41  | .38  | .35  | .32  | .30  | .28  | .25  | .24  | .22  | .20  | .19  | .18  | .18  | .18  | .18  | .20  | .19  | .18  | .18  | .18  | .18  |
| 45   | 884  | 836  | 806  | 775  | 742  | 708  | 673  | 637  | 601  | 564  | 528  | 492  | 450  | 417  | 386  | 357  | 330  | 307  | 288  | 272  | 260  | 253  | 250  | 252  | 288  | 272  | 260  | 253  | 250  | 252  |
|      | .66  | .63  | .61  | .58  | .56  | .53  | .50  | .48  | .45  | .42  | .39  | .36  | .33  | .31  | .29  | .27  | .25  | .23  | .22  | .20  | .20  | .19  | .19  | .19  | .22  | .20  | .20  | .19  | .19  | .19  |
|      | 882  | 854  | 824  | 792  | 759  | 724  | 689  | 653  | 616  | 579  | 543  | 507  | 465  | 432  | 400  | 372  | 346  | 323  | 303  | 288  | 277  | 270  | 268  | 270  | 303  | 288  | 277  | 270  | 268  | 270  |

SEP-DEC 54 N      TABLE 8-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1100 | .67  | .64 | .62 | .59 | .57 | .54 | .51 | .48 | .46 | .43 | .40 | .37 | .34 | .32 | .29 | .27 | .25 | .24 | .22 | .21 | .21 | .20 | .20 | .20 |
|      | 897  | 868 | 838 | 806 | 772 | 737 | 702 | 665 | 628 | 591 | 554 | 518 | 476 | 443 | 412 | 383 | 358 | 335 | 316 | 301 | 290 | 284 | 282 | 285 |
| 15   | .67  | .65 | .63 | .60 | .57 | .55 | .52 | .49 | .46 | .43 | .41 | .38 | .35 | .32 | .30 | .28 | .26 | .24 | .23 | .22 | .21 | .21 | .21 | .21 |
|      | 908  | 879 | 848 | 816 | 782 | 747 | 711 | 674 | 637 | 600 | 563 | 526 | 484 | 451 | 420 | 392 | 366 | 344 | 326 | 311 | 301 | 295 | 294 | 297 |
| 30   | .68  | .66 | .63 | .61 | .58 | .55 | .52 | .49 | .47 | .44 | .41 | .38 | .35 | .33 | .30 | .28 | .27 | .25 | .24 | .23 | .22 | .21 | .21 | .22 |
|      | 916  | 887 | 856 | 823 | 789 | 753 | 717 | 680 | 642 | 605 | 567 | 531 | 489 | 456 | 425 | 397 | 372 | 350 | 332 | 318 | 308 | 303 | 302 | 305 |
| 45   | .68  | .66 | .63 | .61 | .58 | .55 | .52 | .50 | .47 | .44 | .41 | .38 | .35 | .33 | .31 | .28 | .27 | .25 | .24 | .23 | .22 | .22 | .22 | .22 |
|      | 921  | 891 | 860 | 826 | 792 | 756 | 719 | 682 | 644 | 606 | 569 | 533 | 491 | 458 | 427 | 399 | 374 | 353 | 335 | 321 | 312 | 307 | 307 | 311 |
| 1200 | .68  | .66 | .63 | .61 | .58 | .55 | .52 | .50 | .47 | .44 | .41 | .38 | .35 | .33 | .30 | .28 | .27 | .25 | .24 | .23 | .22 | .22 | .22 | .22 |
|      | 922  | 892 | 860 | 827 | 791 | 755 | 718 | 680 | 642 | 604 | 567 | 531 | 489 | 456 | 425 | 398 | 373 | 352 | 335 | 321 | 313 | 308 | 308 | 313 |
| 15   | .68  | .66 | .63 | .61 | .58 | .55 | .52 | .49 | .46 | .43 | .41 | .38 | .35 | .32 | .30 | .28 | .26 | .25 | .24 | .23 | .22 | .22 | .22 | .22 |
|      | 921  | 890 | 857 | 823 | 788 | 751 | 714 | 675 | 637 | 599 | 562 | 525 | 483 | 451 | 420 | 393 | 369 | 348 | 331 | 318 | 310 | 306 | 307 | 312 |
| 30   | .68  | .65 | .63 | .60 | .57 | .54 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .32 | .29 | .27 | .26 | .24 | .23 | .22 | .22 | .21 | .21 | .22 |
|      | 915  | 884 | 851 | 817 | 781 | 744 | 706 | 667 | 629 | 590 | 553 | 516 | 475 | 442 | 412 | 385 | 361 | 341 | 324 | 312 | 304 | 301 | 302 | 307 |
| 45   | .67  | .65 | .62 | .59 | .57 | .54 | .51 | .48 | .45 | .42 | .39 | .36 | .33 | .31 | .29 | .27 | .25 | .23 | .22 | .21 | .21 | .21 | .21 | .21 |
|      | 906  | 875 | 842 | 807 | 770 | 733 | 694 | 656 | 617 | 578 | 541 | 504 | 463 | 430 | 400 | 374 | 350 | 330 | 314 | 302 | 295 | 292 | 294 | 300 |
| 1300 | .66  | .64 | .61 | .58 | .56 | .53 | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .30 | .28 | .26 | .24 | .23 | .21 | .21 | .20 | .20 | .20 | .20 |
|      | 895  | 862 | 829 | 793 | 756 | 718 | 680 | 641 | 602 | 563 | 525 | 489 | 447 | 415 | 386 | 359 | 336 | 316 | 301 | 290 | 283 | 280 | 282 | 289 |
| 15   | .65  | .63 | .60 | .57 | .54 | .51 | .48 | .45 | .42 | .39 | .37 | .34 | .31 | .28 | .26 | .24 | .23 | .21 | .20 | .19 | .19 | .19 | .19 | .19 |
|      | 879  | 847 | 812 | 776 | 739 | 701 | 662 | 623 | 583 | 545 | 507 | 470 | 429 | 397 | 368 | 341 | 319 | 299 | 284 | 274 | 267 | 265 | 268 | 275 |
| 30   | .64  | .61 | .59 | .56 | .53 | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .27 | .25 | .23 | .21 | .20 | .19 | .19 | .18 | .18 | .18 | .18 |
|      | 861  | 828 | 793 | 757 | 719 | 680 | 641 | 601 | 562 | 523 | 485 | 449 | 407 | 376 | 346 | 321 | 298 | 280 | 265 | 255 | 249 | 247 | 250 | 258 |
| 45   | .62  | .60 | .57 | .54 | .51 | .48 | .45 | .42 | .39 | .36 | .33 | .31 | .27 | .25 | .23 | .21 | .20 | .18 | .17 | .17 | .16 | .16 | .16 | .17 |
|      | 839  | 806 | 770 | 734 | 695 | 656 | 617 | 577 | 537 | 498 | 460 | 424 | 383 | 351 | 322 | 297 | 275 | 257 | 242 | 233 | 227 | 226 | 230 | 238 |

SEP-DEC 54 N      TABLE B-1      SOLAR PARAMETERS      COS Z      X0 (W/M-2.)      \*\*\* SIGNIFIES COS Z = 1.      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1400 | .60 | .58 | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31  | .29 | .26 | .23 | .21 | .19 | .18 | .16 | .15 | .15 | .14 | .14 | .15 | .15 |  |
|      | 815 | 781 | 745 | 708 | 669 | 629 | 589 | 549 | 509 | 470 | 432  | 396 | 355 | 324 | 295 | 270 | 249 | 231 | 217 | 208 | 203 | 202 | 206 | 214 |  |
| 15   | .58 | .56 | .53 | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .29  | .26 | .23 | .21 | .19 | .17 | .16 | .14 | .13 | .13 | .12 | .12 | .13 | .13 |  |
|      | 787 | 753 | 717 | 679 | 640 | 600 | 559 | 519 | 479 | 440 | 402  | 358 | 325 | 294 | 265 | 241 | 220 | 202 | 189 | 180 | 175 | 175 | 180 | 188 |  |
| 30   | .56 | .53 | .51 | .48 | .45 | .42 | .38 | .35 | .32 | .29 | .27  | .24 | .21 | .19 | .17 | .15 | .13 | .12 | .11 | .11 | .10 | .10 | .11 | .11 |  |
|      | 757 | 722 | 685 | 647 | 607 | 567 | 527 | 486 | 446 | 406 | 363  | 332 | 292 | 261 | 233 | 209 | 188 | 171 | 158 | 150 | 145 | 146 | 151 | 160 |  |
| 45   | .54 | .51 | .48 | .45 | .42 | .39 | .36 | .33 | .30 | .27 | .24  | .21 | .18 | .16 | .14 | .12 | .11 | .10 | .09 | .09 | .08 | .08 | .08 | .09 |  |
|      | 724 | 689 | 651 | 613 | 573 | 532 | 491 | 450 | 410 | 371 | 333  | 297 | 255 | 226 | 198 | 174 | 154 | 137 | 125 | 117 | 113 | 114 | 119 | 128 |  |
| 1500 | .51 | .48 | .45 | .42 | .39 | .35 | .33 | .30 | .27 | .24 | .21  | .19 | .16 | .14 | .12 | .10 | .08 | .07 | .06 | .05 | .06 | .06 | .06 | .07 |  |
|      | 689 | 653 | 615 | 576 | 535 | 494 | 453 | 412 | 372 | 332 | 294  | 258 | 218 | 188 | 161 | 137 | 117 | 101 | 089 | 081 | 078 | 079 | 085 | 095 |  |
| 15   | .48 | .46 | .43 | .40 | .36 | .33 | .30 | .27 | .24 | .21 | .18  | .16 | .13 | .11 | .09 | .07 | .06 | .04 | .04 | .03 | .03 | .03 | .03 | .04 |  |
|      | 651 | 615 | 576 | 537 | 496 | 454 | 413 | 372 | 331 | 292 | 254  | 218 | 178 | 148 | 121 | 098 | 078 | 063 | 051 | 044 | 041 | 043 | 048 | 058 |  |
| 30   | .45 | .43 | .40 | .36 | .33 | .30 | .27 | .24 | .21 | .18 | .15  | .13 | .10 | .08 | .06 | .04 | .03 | .02 | .01 | .00 | .00 | .00 | .01 | .01 |  |
|      | 611 | 574 | 535 | 495 | 454 | 412 | 371 | 329 | 288 | 249 | 211  | 176 | 136 | 106 | 080 | 057 | 037 | 022 | 011 | 004 | 002 | 004 | 010 | 020 |  |
| 45   | .42 | .39 | .36 | .33 | .30 | .27 | .24 | .21 | .18 | .15 | .12  | .09 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 569 | 532 | 492 | 452 | 410 | 368 | 326 | 285 | 244 | 204 | 167  | 131 | 092 | 062 | 036 | 014 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 1600 | .39 | .36 | .33 | .30 | .27 | .24 | .20 | .17 | .14 | .11 | .09  | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 525 | 487 | 448 | 407 | 365 | 322 | 280 | 238 | 198 | 158 | 121  | 085 | 045 | 017 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .36 | .33 | .30 | .27 | .23 | .20 | .17 | .14 | .11 | .08 | .05  | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 480 | 441 | 401 | 360 | 318 | 275 | 233 | 191 | 150 | 110 | 073  | 038 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .32 | .29 | .26 | .23 | .20 | .17 | .13 | .10 | .07 | .04 | .02  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 433 | 394 | 353 | 311 | 269 | 226 | 184 | 142 | 101 | 061 | 024  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .29 | .26 | .22 | .19 | .16 | .13 | .10 | .07 | .04 | .01 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 385 | 345 | 304 | 262 | 219 | 176 | 134 | 091 | 051 | 011 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |

SEP-DEC 54 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1700 | .25  | .22 | .19 | .16 | .12 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 335  | 295 | 254 | 212 | 169 | 125 | 082 | 040 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .21  | .18 | .15 | .12 | .09 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 285  | 245 | 203 | 160 | 117 | 074 | 031 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .17  | .14 | .11 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 234  | 194 | 152 | 109 | 065 | 022 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .14  | .11 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 183  | 142 | 100 | 056 | 013 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1800 | .10  | .07 | .04 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 132  | 090 | 048 | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .06  | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 080  | 038 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .02  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 029  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XC (W/M\*\*2.)

TABLE B-1

54 N

SEP-DEC

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0400 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .05 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .06 | .09 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .08 | .13 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .12 | .14 | .17 |
| 0600 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .16 | .18 | .21 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .20 | .22 | .24 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .24 | .26 | .28 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .27 | .30 | .32 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      |      |     |     |     | </  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

TABLE B-1 SOLAR PARAMETERS COS Z X0 (X/M\*\*2.) ... SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY .





| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     | FEB |     |     | MAR |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  |     | 30  |     |     |     |     |     |     |     |     |     |     |
| 1000 | .18  | .18 | .19 | .20 | .21 | .23 | .25 | .27 | .30 | .32 | .35 | .38 | .43 | .46 | .49 | .52 | .54 | .57 | .61 | .63 | .65 | .68 | .70 | .72 |
|      | 251  | 256 | 267 | 281 | 300 | 323 | 349 | 385 | 418 | 453 | 490 | 528 | 592 | 632 | 672 | 711 | 749 | 786 | 828 | 861 | 891 | 919 | 945 | 968 |
| 15   | .20  | .20 | .21 | .22 | .23 | .25 | .27 | .29 | .32 | .34 | .37 | .40 | .45 | .48 | .51 | .54 | .56 | .59 | .62 | .65 | .67 | .70 | .72 | .74 |
|      | 277  | 282 | 293 | 308 | 328 | 351 | 377 | 413 | 446 | 482 | 519 | 557 | 620 | 660 | 700 | 739 | 777 | 813 | 854 | 887 | 917 | 944 | 969 | 992 |
| 30   | .21  | .22 | .22 | .24 | .25 | .27 | .29 | .31 | .34 | .36 | .39 | .42 | .46 | .49 | .52 | .55 | .58 | .61 | .64 | .67 | .69 | .71 | .73 | .75 |
|      | 299  | 305 | 316 | 332 | 352 | 375 | 402 | 439 | 472 | 507 | 545 | 593 | 646 | 686 | 725 | 764 | 801 | 837 | 878 | 904 | 939 | 966 | 991 | 013 |
| 45   | .23  | .23 | .24 | .25 | .26 | .28 | .30 | .33 | .35 | .38 | .41 | .43 | .48 | .51 | .54 | .57 | .60 | .62 | .66 | .68 | .70 | .73 | .75 | .76 |
|      | 318  | 325 | 337 | 353 | 373 | 397 | 424 | 461 | 494 | 530 | 567 | 606 | 668 | 708 | 747 | 785 | 822 | 857 | 898 | 924 | 958 | 985 | 009 | 031 |
| 1100 | .24  | .24 | .25 | .26 | .28 | .29 | .31 | .34 | .37 | .39 | .42 | .45 | .49 | .52 | .55 | .58 | .61 | .64 | .67 | .69 | .72 | .74 | .76 | .78 |
|      | 334  | 341 | 353 | 370 | 391 | 415 | 443 | 480 | 514 | 549 | 587 | 625 | 687 | 726 | 765 | 803 | 839 | 875 | 914 | 945 | 974 | 000 | 024 | 045 |
| 15   | .25  | .25 | .26 | .27 | .29 | .31 | .33 | .35 | .38 | .40 | .43 | .46 | .51 | .53 | .56 | .59 | .62 | .65 | .68 | .70 | .73 | .75 | .77 | .78 |
|      | 347  | 354 | 367 | 384 | 405 | 430 | 458 | 496 | 529 | 565 | 602 | 641 | 703 | 742 | 780 | 817 | 854 | 888 | 927 | 958 | 986 | 012 | 036 | 057 |
| 30   | .25  | .26 | .27 | .28 | .30 | .31 | .33 | .36 | .39 | .41 | .44 | .47 | .51 | .54 | .57 | .60 | .63 | .65 | .69 | .71 | .73 | .75 | .77 | .79 |
|      | 356  | 364 | 377 | 395 | 417 | 442 | 470 | 508 | 542 | 577 | 615 | 653 | 715 | 753 | 791 | 828 | 864 | 898 | 937 | 967 | 995 | 020 | 044 | 065 |
| 45   | .26  | .26 | .27 | .28 | .30 | .32 | .34 | .37 | .39 | .42 | .45 | .47 | .52 | .55 | .58 | .61 | .63 | .66 | .69 | .71 | .74 | .76 | .78 | .79 |
|      | 362  | 370 | 384 | 402 | 424 | 450 | 478 | 516 | 550 | 586 | 623 | 662 | 723 | 761 | 799 | 836 | 871 | 905 | 943 | 973 | 000 | 025 | 048 | 069 |
| 1200 | .26  | .26 | .27 | .29 | .30 | .32 | .34 | .37 | .40 | .42 | .45 | .48 | .52 | .55 | .58 | .61 | .64 | .66 | .69 | .71 | .74 | .76 | .78 | .79 |
|      | 364  | 373 | 388 | 406 | 428 | 454 | 483 | 521 | 556 | 591 | 629 | 667 | 726 | 763 | 803 | 840 | 874 | 908 | 946 | 975 | 002 | 027 | 050 | 070 |
| 15   | .26  | .26 | .27 | .29 | .30 | .32 | .34 | .37 | .40 | .42 | .45 | .48 | .52 | .55 | .58 | .61 | .64 | .66 | .69 | .71 | .74 | .76 | .77 | .79 |
|      | 364  | 372 | 387 | 406 | 429 | 455 | 484 | 523 | 557 | 593 | 630 | 668 | 729 | 767 | 804 | 840 | 874 | 907 | 944 | 973 | 000 | 025 | 047 | 068 |
| 30   | .25  | .26 | .27 | .29 | .30 | .32 | .34 | .37 | .40 | .42 | .45 | .48 | .52 | .55 | .58 | .61 | .63 | .66 | .69 | .71 | .73 | .75 | .77 | .79 |
|      | 359  | 368 | 384 | 403 | 426 | 453 | 482 | 521 | 555 | 591 | 628 | 666 | 725 | 764 | 801 | 836 | 870 | 903 | 940 | 968 | 000 | 019 | 042 | 062 |
| 45   | .25  | .26 | .27 | .28 | .30 | .32 | .34 | .37 | .39 | .42 | .45 | .47 | .52 | .55 | .57 | .60 | .63 | .65 | .68 | .70 | .73 | .75 | .76 | .78 |
|      | 351  | 361 | 377 | 397 | 420 | 447 | 476 | 515 | 550 | 586 | 623 | 660 | 720 | 757 | 794 | 829 | 863 | 895 | 932 | 960 | 987 | 010 | 033 | 053 |

TABLE 8-1 SOLAR PARAMETERS COS Z (1.0/N\*\*2.) SIGNIFIES COS Z = 1.000 TO VALUES PRECEDED BY .

| MST  | DATE |     |     |     |     |     |     |     |     |     | DATE |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     | FEB |     |     |     |     | MAR  |     |     |     |     | APR |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1300 | .24  | .25 | .26 | .27 | .29 | .31 | .33 | .36 | .39 | .41 | .44  | .47 | .51 | .54 | .57 | .59 | .62 | .64 | .67 | .70 |
|      | 340  | 350 | 367 | 387 | 410 | 437 | 467 | 506 | 541 | 576 | 613  | 651 | 710 | 747 | 783 | 818 | 852 | 884 | 920 | 942 |
| 15   | .23  | .24 | .25 | .26 | .28 | .30 | .32 | .35 | .38 | .40 | .43  | .46 | .50 | .53 | .56 | .58 | .61 | .63 | .66 | .69 |
|      | 326  | 336 | 353 | 373 | 397 | 425 | 455 | 493 | 528 | 564 | 601  | 639 | 697 | 734 | 769 | 804 | 837 | 869 | 905 | 922 |
| 30   | .22  | .23 | .24 | .25 | .27 | .29 | .31 | .34 | .36 | .39 | .42  | .45 | .49 | .52 | .54 | .57 | .60 | .62 | .65 | .67 |
|      | 308  | 319 | 336 | 357 | 381 | 408 | 438 | 477 | 512 | 548 | 584  | 621 | 680 | 717 | 752 | 786 | 819 | 850 | 886 | 913 |
| 45   | .20  | .21 | .22 | .24 | .26 | .28 | .30 | .33 | .35 | .38 | .40  | .43 | .47 | .50 | .53 | .55 | .58 | .60 | .63 | .65 |
|      | 287  | 298 | 315 | 337 | 361 | 389 | 419 | 458 | 492 | 528 | 565  | 601 | 660 | 696 | 731 | 765 | 798 | 829 | 864 | 891 |
| 1400 | .19  | .19 | .21 | .22 | .24 | .26 | .28 | .31 | .33 | .36 | .39  | .41 | .46 | .49 | .51 | .54 | .56 | .59 | .61 | .64 |
|      | 263  | 274 | 292 | 313 | 338 | 366 | 396 | 435 | 470 | 505 | 541  | 578 | 636 | 672 | 707 | 740 | 773 | 804 | 839 | 863 |
| 15   | .17  | .18 | .19 | .20 | .22 | .24 | .26 | .29 | .32 | .34 | .37  | .40 | .44 | .46 | .49 | .52 | .54 | .57 | .59 | .61 |
|      | 236  | 248 | 268 | 287 | 312 | 340 | 370 | 409 | 444 | 479 | 515  | 552 | 609 | 645 | 679 | 713 | 745 | 776 | 810 | 837 |
| 30   | .15  | .15 | .17 | .18 | .20 | .22 | .24 | .27 | .30 | .32 | .35  | .37 | .42 | .44 | .47 | .49 | .52 | .54 | .57 | .59 |
|      | 206  | 218 | 236 | 258 | 283 | 311 | 341 | 380 | 415 | 450 | 486  | 522 | 579 | 615 | 649 | 682 | 714 | 744 | 779 | 803 |
| 45   | .12  | .13 | .14 | .16 | .18 | .20 | .22 | .25 | .27 | .30 | .32  | .35 | .39 | .42 | .44 | .47 | .49 | .52 | .54 | .57 |
|      | 173  | 185 | 204 | 226 | 251 | 279 | 309 | 348 | 383 | 418 | 453  | 489 | 546 | 581 | 615 | 648 | 680 | 710 | 745 | 772 |
| 1500 | .10  | .11 | .12 | .14 | .15 | .17 | .20 | .22 | .25 | .27 | .30  | .33 | .37 | .39 | .42 | .44 | .47 | .49 | .52 | .54 |
|      | 138  | 150 | 169 | 191 | 216 | 244 | 275 | 314 | 348 | 383 | 418  | 454 | 510 | 545 | 579 | 612 | 643 | 673 | 708 | 735 |
| 15   | .07  | .08 | .09 | .11 | .13 | .15 | .17 | .20 | .22 | .25 | .27  | .30 | .34 | .37 | .39 | .42 | .44 | .46 | .49 | .51 |
|      | 100  | 113 | 132 | 154 | 179 | 207 | 238 | 276 | 310 | 345 | 380  | 416 | 472 | 506 | 540 | 572 | 604 | 634 | 668 | 695 |
| 30   | .04  | .05 | .07 | .08 | .10 | .12 | .14 | .17 | .19 | .22 | .24  | .27 | .31 | .34 | .36 | .38 | .41 | .43 | .46 | .49 |
|      | 060  | 073 | 092 | 114 | 140 | 168 | 198 | 236 | 270 | 304 | 340  | 375 | 431 | 465 | 498 | 531 | 562 | 592 | 626 | 653 |
| 45   | .01  | .02 | .04 | .05 | .07 | .09 | .11 | .14 | .16 | .19 | .21  | .24 | .28 | .30 | .33 | .35 | .38 | .40 | .43 | .45 |
|      | 018  | 031 | 050 | 072 | 098 | 126 | 156 | 194 | 227 | 262 | 297  | 332 | 387 | 421 | 454 | 487 | 518 | 548 | 582 | 609 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XO (W/M\*\*2.)

TABLE 8-1

52 N

JAN-APR

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1600 | .00  | .00 | .00 | .02 | .04 | .06 | .08 | .11 | .13 | .16 | .18 | .21 | .25 | .27 | .30 | .32 | .34 | .37 | .39 | .41 | .43 | .45 | .47 | .49 |     |
|      | 000  | 000 | 000 | 008 | 028 | 054 | 081 | 111 | 150 | 183 | 217 | 252 | 286 | 341 | 375 | 408 | 440 | 471 | 501 | 536 | 563 | 593 | 614 | 637 | 659 |
| 15   | .00  | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .10 | .12 | .15 | .17 | .21 | .24 | .26 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .44 | .45 |     |
|      | 000  | 000 | 000 | 000 | 008 | 035 | 065 | 103 | 136 | 170 | 204 | 239 | 294 | 327 | 360 | 392 | 423 | 453 | 488 | 515 | 541 | 566 | 590 | 612 |     |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .06 | .09 | .11 | .14 | .18 | .20 | .22 | .25 | .27 | .29 | .32 | .34 | .35 | .38 | .40 | .42 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 017 | 055 | 088 | 121 | 155 | 190 | 244 | 278 | 310 | 342 | 373 | 403 | 438 | 463 | 492 | 517 | 541 | 564 |     |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .05 | .08 | .10 | .14 | .16 | .19 | .21 | .23 | .26 | .28 | .30 | .33 | .34 | .36 | .38 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 005 | 038 | 071 | 105 | 139 | 193 | 226 | 259 | 291 | 322 | 352 | 387 | 415 | 442 | 467 | 492 | 515 |
| 1700 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .06 | .10 | .13 | .15 | .17 | .20 | .22 | .25 | .27 | .29 | .31 | .33 | .34 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 020 | 053 | 087 | 141 | 174 | 207 | 238 | 269 | 300 | 335 | 363 | 390 | 416 | 441 | 464 |     |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .06 | .09 | .11 | .13 | .16 | .18 | .21 | .23 | .25 | .27 | .29 | .31 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 034 | 087 | 120 | 153 | 185 | 216 | 246 | 281 | 310 | 337 | 363 | 389 | 413 |     |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .07 | .09 | .12 | .14 | .17 | .19 | .21 | .23 | .25 | .27 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 033 | 066 | 098 | 130 | 161 | 192 | 227 | 255 | 284 | 311 | 336 | 361 |     |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .05 | .08 | .10 | .13 | .15 | .17 | .19 | .21 | .23 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 011 | 043 | 075 | 106 | 137 | 173 | 202 | 230 | 257 | 283 | 308 |     |
| 1800 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .06 | .09 | .11 | .13 | .15 | .17 | .19 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 020 | 051 | 082 | 118 | 147 | 175 | 204 | 230 | 256 |     |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .07 | .09 | .11 | .13 | .15 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 027 | 063 | 093 | 122 | 150 | 177 | 203 |     |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .11 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 009 | 033 | 068 | 097 | 124 | 151 |     |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .05 | .07 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 015 | 044 | 072 | 099 |     |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS Z  
AO (W/M\*\*2.)

TABLE B-1

JAN-APR 52 N

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
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|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  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| 1900 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | . |

JAN-APR 52 N      TABLE 8-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z  $\approx 1$ .  
 X0 (W/L+\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |  |
| 0400 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .03 | .03 | .03 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 014 | 027 | 034 | 037 | 037 | 034 | 027 | 018 | 005 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .00 | .00 | .00 | .02 | .03 | .04 | .05 | .06 | .06 | .06 | .06 | .05 | .05 | .04 | .03 | .01 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 004 | 025 | 043 | 058 | 071 | 077 | 081 | 080 | 077 | 061 | 048 | 033 | 016 | 000 | 000 | 000 |  |
| 30   | .00 | .02 | .04 | .05 | .07 | .08 | .09 | .09 | .09 | .09 | .09 | .09 | .08 | .07 | .06 | .05 | .03 | .02 | .00 |  |
|      | 000 | 026 | 051 | 072 | 089 | 104 | 116 | 122 | 125 | 125 | 121 | 115 | 105 | 093 | 078 | 061 | 041 | 020 | 000 |  |
| 45   | .04 | .06 | .07 | .09 | .10 | .11 | .12 | .13 | .13 | .13 | .13 | .12 | .11 | .11 | .09 | .08 | .07 | .05 | .00 |  |
|      | 048 | 075 | 099 | 119 | 137 | 150 | 162 | 168 | 171 | 171 | 167 | 160 | 151 | 139 | 124 | 107 | 088 | 067 | 000 |  |
| 0500 | .07 | .09 | .11 | .13 | .14 | .15 | .16 | .16 | .16 | .16 | .16 | .16 | .15 | .14 | .13 | .12 | .10 | .09 | .00 |  |
|      | 098 | 124 | 148 | 168 | 185 | 198 | 210 | 216 | 218 | 217 | 214 | 207 | 198 | 185 | 171 | 154 | 135 | 115 | 000 |  |
| 15   | .11 | .13 | .15 | .16 | .18 | .19 | .19 | .20 | .20 | .20 | .20 | .19 | .19 | .18 | .17 | .15 | .14 | .12 | .01 |  |
|      | 149 | 175 | 198 | 218 | 234 | 247 | 258 | 264 | 266 | 265 | 261 | 255 | 245 | 233 | 219 | 202 | 184 | 164 | 010 |  |
| 30   | .15 | .17 | .19 | .20 | .21 | .22 | .23 | .24 | .24 | .24 | .23 | .23 | .22 | .21 | .20 | .19 | .18 | .16 | .05 |  |
|      | 200 | 226 | 249 | 268 | 284 | 296 | 307 | 312 | 314 | 313 | 310 | 303 | 294 | 282 | 268 | 252 | 233 | 214 | 063 |  |
| 45   | .19 | .21 | .22 | .24 | .25 | .26 | .27 | .27 | .27 | .27 | .27 | .27 | .26 | .25 | .24 | .23 | .21 | .20 | .09 |  |
|      | 252 | 277 | 300 | 318 | 334 | 346 | 356 | 361 | 363 | 362 | 358 | 352 | 342 | 331 | 317 | 301 | 283 | 264 | 116 |  |
| 0600 | .23 | .25 | .26 | .28 | .29 | .30 | .31 | .31 | .31 | .31 | .31 | .30 | .30 | .29 | .28 | .27 | .25 | .24 | .13 |  |
|      | 304 | 329 | 351 | 369 | 384 | 396 | 406 | 411 | 412 | 411 | 407 | 401 | 391 | 380 | 366 | 351 | 334 | 315 | 169 |  |
| 15   | .27 | .28 | .30 | .31 | .33 | .34 | .34 | .35 | .35 | .35 | .34 | .34 | .33 | .32 | .31 | .30 | .29 | .28 | .17 |  |
|      | 356 | 381 | 402 | 420 | 434 | 446 | 455 | 460 | 461 | 460 | 456 | 450 | 441 | 429 | 416 | 401 | 384 | 365 | 223 |  |
| 30   | .30 | .32 | .34 | .35 | .36 | .37 | .38 | .38 | .39 | .38 | .38 | .38 | .37 | .36 | .35 | .34 | .33 | .31 | .21 |  |
|      | 408 | 432 | 453 | 470 | 484 | 495 | 504 | 509 | 510 | 509 | 505 | 498 | 490 | 479 | 465 | 451 | 434 | 416 | 276 |  |
| 45   | .34 | .36 | .38 | .39 | .40 | .41 | .42 | .42 | .42 | .42 | .42 | .41 | .41 | .40 | .39 | .38 | .37 | .35 | .25 |  |
|      | 443 | 467 | 489 | 504 | 520 | 534 | 543 | 557 | 559 | 557 | 553 | 547 | 539 | 527 | 515 | 500 | 484 | 466 | 329 |  |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 52 N X0 (W/M\*\*2.) \*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

| MST  | MAY |     |     |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5   | 10  | 15  | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |
| 0700 | .38 | .40 | .41 | .43  | .44  | .45  | .45  | .46  | .46  | .46  | .45  | .45  | .44  | .43  | .43  | .41  | .40  | .39  | .37  | .33  | .34  | .32  | .30  | .28  |
| 15   | 510 | 533 | 552 | 569  | 582  | 593  | 601  | 605  | 606  | 605  | 601  | 595  | 58   | 576  | 563  | 549  | 533  | 516  | 493  | 472  | 451  | 429  | 405  | 381  |
| 30   | .42 | .43 | .45 | .46  | .47  | .48  | .49  | .49  | .49  | .49  | .49  | .49  | .47  | .46  | .45  | .45  | .44  | .43  | .41  | .39  | .39  | .36  | .34  | .32  |
| 45   | 560 | 582 | 601 | 617  | 630  | 640  | 649  | 652  | 653  | 652  | 649  | 642  | 631  | 623  | 611  | 597  | 582  | 565  | 542  | 523  | 502  | 479  | 456  | 432  |
| 0800 | .45 | .47 | .48 | .50  | .51  | .52  | .52  | .53  | .53  | .53  | .52  | .52  | .51  | .51  | .50  | .49  | .47  | .46  | .44  | .43  | .41  | .40  | .38  | .36  |
| 15   | 608 | 630 | 649 | 664  | 677  | 687  | 695  | 698  | 699  | 698  | 694  | 688  | 680  | 670  | 658  | 644  | 629  | 613  | 591  | 571  | 551  | 529  | 506  | 482  |
| 30   | .49 | .50 | .52 | .53  | .54  | .55  | .56  | .56  | .56  | .56  | .55  | .55  | .54  | .53  | .52  | .51  | .50  | .48  | .46  | .45  | .43  | .41  | .40  | .40  |
| 45   | 655 | 677 | 695 | 710  | 723  | 732  | 740  | 743  | 744  | 743  | 739  | 733  | 725  | 715  | 704  | 690  | 676  | 659  | 638  | 613  | 593  | 577  | 555  | 531  |
| 0900 | .52 | .54 | .55 | .56  | .58  | .58  | .59  | .59  | .59  | .59  | .59  | .59  | .58  | .57  | .56  | .55  | .54  | .53  | .51  | .50  | .48  | .47  | .45  | .43  |
| 15   | 701 | 722 | 740 | 755  | 767  | 776  | 783  | 787  | 787  | 786  | 782  | 777  | 761  | 753  | 746  | 735  | 721  | 705  | 684  | 663  | 645  | 624  | 602  | 578  |
| 30   | .55 | .57 | .58 | .60  | .61  | .61  | .62  | .62  | .63  | .63  | .62  | .62  | .61  | .61  | .60  | .59  | .58  | .56  | .55  | .53  | .52  | .50  | .48  | .46  |
| 45   | 745 | 765 | 783 | 797  | 809  | 818  | 825  | 828  | 829  | 828  | 822  | 819  | 811  | 802  | 791  | 778  | 764  | 748  | 728  | 710  | 690  | 669  | 647  | 624  |
| 1000 | .58 | .60 | .62 | .63  | .64  | .64  | .65  | .65  | .66  | .66  | .65  | .65  | .64  | .63  | .63  | .62  | .61  | .60  | .58  | .56  | .55  | .53  | .52  | .50  |
| 15   | 787 | 807 | 824 | 838  | 849  | 858  | 865  | 868  | 869  | 868  | 864  | 859  | 852  | 842  | 832  | 819  | 806  | 790  | 770  | 752  | 733  | 712  | 690  | 667  |
| 30   | .61 | .63 | .64 | .66  | .67  | .67  | .68  | .68  | .68  | .68  | .68  | .68  | .67  | .67  | .66  | .65  | .64  | .63  | .61  | .60  | .59  | .56  | .55  | .53  |
| 45   | 826 | 846 | 863 | 877  | 888  | 896  | 903  | 906  | 907  | 906  | 902  | 897  | 890  | 881  | 871  | 859  | 845  | 831  | 811  | 793  | 774  | 753  | 732  | 709  |
| 1100 | .64 | .66 | .67 | .68  | .69  | .70  | .71  | .71  | .71  | .71  | .71  | .71  | .70  | .69  | .69  | .68  | .67  | .65  | .64  | .62  | .61  | .59  | .58  | .56  |
| 15   | 864 | 883 | 899 | 913  | 924  | 932  | 939  | 942  | 943  | 942  | 939  | 933  | 927  | 918  | 909  | 896  | 883  | 869  | 849  | 832  | 813  | 792  | 771  | 748  |
| 30   | .67 | .68 | .70 | .71  | .72  | .73  | .73  | .74  | .74  | .74  | .73  | .73  | .72  | .72  | .71  | .70  | .69  | .68  | .67  | .65  | .64  | .62  | .60  | .58  |
| 45   | 899 | 918 | 934 | 947  | 958  | 966  | 973  | 976  | 977  | 975  | 972  | 967  | 961  | 953  | 943  | 931  | 918  | 904  | 885  | 863  | 849  | 829  | 807  | 784  |
| 1200 | .69 | .71 | .72 | .73  | .74  | .75  | .76  | .76  | .76  | .76  | .76  | .76  | .75  | .74  | .74  | .73  | .72  | .71  | .69  | .68  | .65  | .65  | .63  | .61  |
| 15   | 931 | 950 | 965 | 978  | 989  | 997  | .004 | .007 | .008 | .007 | .004 | .929 | .993 | .985 | .975 | .964 | .951 | .937 | .919 | .902 | .883 | .863 | .841 | .818 |
| 30   | .71 | .73 | .74 | .75  | .76  | .77  | .78  | .78  | .78  | .78  | .78  | .78  | .77  | .77  | .76  | .75  | .74  | .73  | .71  | .70  | .68  | .67  | .65  | .63  |
| 45   | 961 | 979 | 994 | .007 | .018 | .026 | .032 | .035 | .036 | .035 | .033 | .028 | .022 | .014 | .005 | .994 | .982 | .968 | .950 | .933 | .914 | .894 | .873 | .850 |

... SIGNIFIES COS 2 = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS 2  
X0 (W/M\*\*2.)

MAY-AUG 52 N





| MST  | MAY                      |     |     |     |     | JUN |                          |     |     |     | JUL |     |                          |     |     | AUG |     |     |                          |     |     |     |     |     |     |
|------|--------------------------|-----|-----|-----|-----|-----|--------------------------|-----|-----|-----|-----|-----|--------------------------|-----|-----|-----|-----|-----|--------------------------|-----|-----|-----|-----|-----|-----|
|      | 5                        | 10  | 15  | 20  | 25  | 30  | 5                        | 10  | 15  | 20  | 25  | 30  | 5                        | 10  | 15  | 20  | 25  | 30  |                          |     |     |     |     |     |     |
| 1300 | .79                      | .80 | .81 | .82 | .83 | .84 | .85                      | .85 | .86 | .86 | .86 | .86 | .85                      | .85 | .85 | .84 | .83 | .82 | .81                      | .80 | .79 | .77 | .76 | .74 | .72 |
|      | *058*074*089*101*112*121 |     |     |     |     |     | *129*134*138*140*140*138 |     |     |     |     |     | *130*133*123*114*103*090 |     |     |     |     |     | *072*051*034*012 988 962 |     |     |     |     |     |     |
| 15   | .77                      | .79 | .80 | .81 | .82 | .83 | .84                      | .84 | .85 | .85 | .85 | .85 | .85                      | .84 | .84 | .83 | .82 | .81 | .80                      | .79 | .76 | .75 | .73 | .70 |     |
|      | *042*059*073*086*097*106 |     |     |     |     |     | *114*120*124*126*126*125 |     |     |     |     |     | *121*116*109*101*090*077 |     |     |     |     |     | *058*040*020 998 973 946 |     |     |     |     |     |     |
| 30   | .76                      | .77 | .79 | .80 | .81 | .82 | .83                      | .83 | .83 | .84 | .84 | .84 | .83                      | .83 | .83 | .82 | .81 | .80 | .78                      | .77 | .75 | .73 | .71 | .69 |     |
|      | *023*040*054*067*078*088 |     |     |     |     |     | *097*102*106*109*109*108 |     |     |     |     |     | *105*100*093*084*073*060 |     |     |     |     |     | *041*023*003 980 955 927 |     |     |     |     |     |     |
| 45   | .74                      | .76 | .77 | .78 | .79 | .80 | .81                      | .82 | .82 | .82 | .82 | .82 | .82                      | .82 | .81 | .80 | .79 | .78 | .77                      | .75 | .74 | .72 | .70 | .67 |     |
|      | *001*018*032*045*057*066 |     |     |     |     |     | *076*082*086*089*039*038 |     |     |     |     |     | *083*081*074*065*054*041 |     |     |     |     |     | *022*003*032 959 933 906 |     |     |     |     |     |     |
| 1400 | .73                      | .74 | .75 | .76 | .77 | .78 | .79                      | .80 | .80 | .80 | .81 | .81 | .80                      | .80 | .79 | .79 | .78 | .77 | .75                      | .74 | .72 | .70 | .68 | .66 |     |
|      | *976 993*008*021*033*042 |     |     |     |     |     | *052*058*063*066*067*066 |     |     |     |     |     | *063*058*052*043*031*018 |     |     |     |     |     | *999 980*959 935 909 881 |     |     |     |     |     |     |
| 15   | .70                      | .72 | .73 | .74 | .75 | .76 | .77                      | .78 | .78 | .79 | .79 | .79 | .78                      | .78 | .78 | .77 | .76 | .75 | .73                      | .72 | .70 | .68 | .66 | .63 |     |
|      | *948 965 980 993*005*016 |     |     |     |     |     | *026*032*037*040*041*041 |     |     |     |     |     | *038*033*026*017*006 992 |     |     |     |     |     | *973 951*932 908 881 852 |     |     |     |     |     |     |
| 30   | .68                      | .70 | .71 | .72 | .73 | .74 | .75                      | .76 | .76 | .76 | .77 | .77 | .75                      | .76 | .75 | .75 | .74 | .73 | .71                      | .69 | .68 | .66 | .63 | .61 |     |
|      | *917 934 949 963 975 986 |     |     |     |     |     | *997*003*009*012*013*013 |     |     |     |     |     | *010*005 999 989 978 964 |     |     |     |     |     | *944 925*903 878 851 821 |     |     |     |     |     |     |
| 45   | .66                      | .67 | .68 | .70 | .71 | .72 | .73                      | .73 | .74 | .74 | .74 | .74 | .74                      | .74 | .73 | .72 | .71 | .70 | .69                      | .67 | .65 | .63 | .61 | .59 |     |
|      | *883 900 916 930 943 954 |     |     |     |     |     | *965 972 977 981 983 982 |     |     |     |     |     | *980 975 968 959 947 933 |     |     |     |     |     | *913 893*870 845 818 788 |     |     |     |     |     |     |
| 1500 | .63                      | .64 | .66 | .67 | .68 | .69 | .70                      | .71 | .71 | .72 | .72 | .72 | .72                      | .71 | .71 | .70 | .69 | .68 | .66                      | .64 | .63 | .61 | .58 | .56 |     |
|      | *847 864 881 895 908 919 |     |     |     |     |     | *931 938 944 948 949 949 |     |     |     |     |     | *947 942 935 926 914 899 |     |     |     |     |     | *879 858*835 810 782 751 |     |     |     |     |     |     |
| 15   | .60                      | .62 | .63 | .64 | .65 | .66 | .67                      | .68 | .69 | .69 | .69 | .69 | .69                      | .69 | .68 | .67 | .66 | .65 | .63                      | .62 | .60 | .58 | .55 | .53 |     |
|      | *808 826 843 858 871 883 |     |     |     |     |     | *894 902 908 912 914 914 |     |     |     |     |     | *911 907 900 890 878 863 |     |     |     |     |     | *842 822*798 772 743 712 |     |     |     |     |     |     |
| 30   | .57                      | .59 | .60 | .61 | .62 | .63 | .64                      | .65 | .66 | .66 | .66 | .66 | .66                      | .66 | .65 | .64 | .63 | .62 | .60                      | .59 | .57 | .55 | .52 | .50 |     |
|      | *767 786 803 818 832 844 |     |     |     |     |     | *856 864 870 874 876 876 |     |     |     |     |     | *874 869 862 853 840 825 |     |     |     |     |     | *803 782*759 732 703 671 |     |     |     |     |     |     |
| 45   | .54                      | .55 | .57 | .58 | .59 | .60 | .61                      | .62 | .63 | .63 | .63 | .63 | .63                      | .63 | .62 | .61 | .60 | .59 | .57                      | .55 | .54 | .52 | .49 | .47 |     |
|      | *724 743 761 776 790 803 |     |     |     |     |     | *815 824 830 835 837 837 |     |     |     |     |     | *835 830 823 813 800 785 |     |     |     |     |     | *763 741*717 690 660 628 |     |     |     |     |     |     |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

MAY-AUG 52 N

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
X0 (W/M\*\*2.)

TABLE B-1

MAY-AUG 52 N



MST

DATE

MAY

JUN

JUL

AUG

|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1900 | .06 | .07 | .09 | .11 | .12 | .14 | .15 | .16 | .17 | .17 | .17 | .17 | .17 | .17 | .16 | .15 | .13 | .12 |
|      | 074 | 099 | 122 | 144 | 164 | 181 | 199 | 210 | 219 | 226 | 229 | 228 | 225 | 218 | 208 | 195 | 178 | 157 |
| 15   | .02 | .04 | .06 | .07 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .14 | .13 | .13 | .12 | .11 | .10 | .08 |
|      | 025 | 050 | 074 | 096 | 116 | 133 | 151 | 163 | 172 | 179 | 182 | 181 | 178 | 171 | 160 | 146 | 129 | 108 |
| 30   | .00 | .00 | .02 | .04 | .05 | .07 | .09 | .09 | .10 | .10 | .10 | .10 | .10 | .09 | .09 | .08 | .06 | .05 |
|      | 000 | 002 | 026 | 049 | 069 | 087 | 105 | 117 | 126 | 133 | 136 | 135 | 131 | 124 | 113 | 099 | 081 | 050 |
| 45   | .00 | .00 | .00 | .00 | .02 | .03 | .05 | .06 | .06 | .07 | .07 | .07 | .07 | .06 | .05 | .04 | .03 | .01 |
|      | 000 | 000 | 000 | 000 | 003 | 023 | 060 | 072 | 082 | 088 | 091 | 090 | 085 | 079 | 068 | 053 | 035 | 014 |
| 2000 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .03 | .04 | .04 | .03 | .03 | .02 | .01 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 017 | 029 | 038 | 045 | 047 | 047 | 042 | 035 | 023 | 009 | 000 | 000 |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 005 | 005 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

MAY-AUG 52 N TABLE B-1 SOLAR PARAMETERS COS Z  
X0 (W/M\*\*2.)

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*



| MST  | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0800 | .41  | .39 | .37 | .34 | .32 | .30 | .27 | .25 | .23 | .20 | .19 | .15 | .12 | .10 | .08 | .06 | .04 | .02 | .01 | .00 | .00 | .00 | .00 | .00 |
|      | 549  | 523 | 495 | 467 | 438 | 407 | 376 | 344 | 311 | 278 | 245 | 211 | 172 | 136 | 109 | 080 | 054 | 029 | 008 | 000 | 000 | 000 | 000 | 000 |
| 15   | .44  | .42 | .40 | .38 | .36 | .33 | .31 | .29 | .26 | .23 | .21 | .18 | .16 | .13 | .11 | .09 | .07 | .05 | .04 | .02 | .01 | .01 | .00 | .00 |
| 30   | .47  | .45 | .43 | .41 | .39 | .36 | .34 | .31 | .29 | .26 | .24 | .21 | .19 | .16 | .14 | .12 | .10 | .08 | .07 | .05 | .04 | .04 | .03 | .03 |
|      | 638  | 612 | 585 | 556 | 527 | 496 | 464 | 432 | 399 | 365 | 331 | 297 | 257 | 225 | 194 | 165 | 138 | 114 | 093 | 076 | 059 | 050 | 043 | 041 |
| 45   | .50  | .48 | .46 | .44 | .42 | .39 | .37 | .34 | .32 | .29 | .27 | .24 | .21 | .19 | .17 | .15 | .13 | .11 | .09 | .03 | .07 | .06 | .06 | .05 |
| 0900 | .679 | 653 | 626 | 598 | 569 | 537 | 505 | 472 | 439 | 405 | 371 | 337 | 297 | 264 | 233 | 204 | 177 | 153 | 132 | 113 | 100 | 090 | 084 | 082 |
|      | .53  | .51 | .49 | .47 | .45 | .42 | .40 | .37 | .35 | .32 | .29 | .27 | .24 | .22 | .19 | .17 | .15 | .14 | .12 | .11 | .10 | .09 | .09 | .09 |
| 15   | .718 | 692 | 665 | 636 | 607 | 575 | 543 | 510 | 476 | 442 | 408 | 374 | 334 | 301 | 270 | 241 | 214 | 190 | 169 | 151 | 137 | 128 | 122 | 120 |
|      | .56  | .54 | .52 | .50 | .47 | .45 | .42 | .40 | .37 | .35 | .32 | .29 | .26 | .24 | .22 | .20 | .18 | .16 | .14 | .13 | .12 | .12 | .11 | .11 |
| 30   | .755 | 729 | 701 | 673 | 643 | 611 | 579 | 545 | 511 | 477 | 442 | 408 | 368 | 335 | 304 | 275 | 248 | 224 | 203 | 185 | 172 | 163 | 158 | 157 |
|      | .59  | .56 | .54 | .52 | .50 | .47 | .45 | .42 | .39 | .37 | .34 | .32 | .29 | .26 | .24 | .22 | .20 | .18 | .17 | .15 | .15 | .14 | .14 | .13 |
| 45   | .789 | 763 | 735 | 706 | 676 | 644 | 611 | 578 | 544 | 509 | 474 | 440 | 399 | 366 | 335 | 306 | 280 | 256 | 235 | 213 | 205 | 196 | 191 | 190 |
|      | .61  | .59 | .57 | .54 | .52 | .49 | .47 | .44 | .42 | .39 | .36 | .34 | .31 | .28 | .26 | .24 | .22 | .20 | .19 | .18 | .17 | .16 | .16 | .16 |
| 1000 | .820 | 794 | 766 | 737 | 706 | 674 | 641 | 607 | 573 | 538 | 503 | 468 | 427 | 395 | 364 | 335 | 309 | 284 | 264 | 247 | 235 | 226 | 221 | 221 |
|      | .63  | .61 | .59 | .56 | .54 | .51 | .49 | .46 | .43 | .41 | .38 | .36 | .33 | .30 | .28 | .26 | .24 | .22 | .21 | .19 | .19 | .18 | .19 | .18 |
| 15   | .848 | 822 | 794 | 764 | 733 | 701 | 668 | 633 | 599 | 562 | 529 | 493 | 453 | 420 | 389 | 360 | 334 | 310 | 290 | 271 | 261 | 253 | 249 | 249 |
|      | .65  | .63 | .60 | .58 | .56 | .53 | .50 | .48 | .45 | .42 | .40 | .37 | .34 | .32 | .29 | .27 | .25 | .24 | .22 | .21 | .20 | .20 | .19 | .19 |
| 30   | .873 | 847 | 818 | 788 | 757 | 725 | 691 | 657 | 621 | 585 | 551 | 516 | 475 | 442 | 411 | 382 | 356 | 333 | 313 | 297 | 285 | 277 | 274 | 275 |
|      | .66  | .64 | .62 | .60 | .57 | .55 | .52 | .49 | .47 | .44 | .41 | .38 | .35 | .33 | .31 | .29 | .27 | .25 | .24 | .23 | .22 | .21 | .21 | .21 |
| 45   | .935 | 868 | 840 | 810 | 778 | 745 | 711 | 676 | 641 | 605 | 570 | 534 | 493 | 461 | 430 | 401 | 375 | 352 | 333 | 317 | 305 | 298 | 295 | 297 |
| 15   | .968 | .86 | .63 | .61 | .58 | .56 | .53 | .50 | .48 | .45 | .42 | .40 | .37 | .34 | .32 | .30 | .28 | .26 | .25 | .24 | .23 | .22 | .22 | .22 |
|      | 914  | 887 | 858 | 827 | 795 | 762 | 728 | 693 | 657 | 621 | 585 | 550 | 509 | 476 | 445 | 417 | 391 | 369 | 350 | 331 | 323 | 316 | 314 | 316 |

SEP-DEC 52 N TABLE B-1 SOLAR PARAMETERS CQS Z X0 (W/R=2.) \*\*\* SIGNIFIES CQS Z = 1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1100 | .69 | .67 | .64 | .62 | .59 | .57 | .54 | .51 | .49 | .46 | .43 | .40 | .37 | .35 | .33 | .31 | .29 | .27 | .26 | .25 | .24 | .23 | .23 | .23 |
|      | 929 | 902 | 873 | 842 | 809 | 776 | 741 | 706 | 670 | 633 | 597 | 552 | 521 | 483 | 458 | 429 | 404 | 382 | 363 | 343 | 337 | 331 | 329 | 331 |
| 15   | .70 | .68 | .65 | .63 | .60 | .58 | .55 | .52 | .49 | .46 | .44 | .41 | .38 | .36 | .33 | .31 | .29 | .28 | .26 | .25 | .25 | .24 | .24 | .24 |
|      | 941 | 913 | 884 | 852 | 820 | 786 | 751 | 715 | 679 | 642 | 606 | 571 | 521 | 497 | 466 | 438 | 413 | 391 | 373 | 354 | 348 | 342 | 341 | 344 |
| 30   | .70 | .68 | .66 | .63 | .61 | .58 | .55 | .52 | .50 | .47 | .44 | .41 | .38 | .36 | .34 | .32 | .30 | .28 | .27 | .25 | .25 | .25 | .25 | .25 |
|      | 950 | 922 | 891 | 860 | 827 | 792 | 757 | 721 | 684 | 647 | 611 | 576 | 534 | 502 | 472 | 444 | 419 | 397 | 379 | 365 | 357 | 350 | 349 | 353 |
| 45   | .71 | .69 | .66 | .64 | .61 | .58 | .55 | .53 | .50 | .47 | .44 | .42 | .38 | .36 | .34 | .32 | .30 | .28 | .27 | .25 | .25 | .25 | .25 | .25 |
|      | 955 | 926 | 896 | 864 | 830 | 795 | 759 | 723 | 686 | 649 | 613 | 577 | 536 | 504 | 473 | 446 | 421 | 400 | 383 | 369 | 359 | 355 | 355 | 359 |
| 1200 | .71 | .69 | .66 | .64 | .61 | .58 | .55 | .53 | .50 | .47 | .44 | .41 | .38 | .36 | .34 | .32 | .30 | .28 | .27 | .25 | .25 | .25 | .25 | .26 |
|      | 956 | 927 | 896 | 864 | 830 | 794 | 758 | 721 | 684 | 647 | 611 | 575 | 534 | 502 | 472 | 444 | 420 | 399 | 382 | 369 | 350 | 356 | 356 | 361 |
| 15   | .71 | .68 | .66 | .63 | .61 | .58 | .55 | .52 | .49 | .46 | .44 | .41 | .38 | .36 | .33 | .31 | .30 | .28 | .27 | .25 | .25 | .25 | .25 | .25 |
|      | 954 | 925 | 893 | 860 | 826 | 790 | 754 | 716 | 679 | 642 | 605 | 569 | 529 | 496 | 466 | 439 | 415 | 395 | 378 | 365 | 358 | 354 | 355 | 360 |
| 30   | .70 | .68 | .65 | .63 | .60 | .57 | .54 | .52 | .49 | .46 | .43 | .40 | .37 | .35 | .33 | .31 | .29 | .28 | .26 | .25 | .25 | .25 | .25 | .25 |
|      | 949 | 919 | 887 | 853 | 818 | 782 | 745 | 708 | 670 | 633 | 596 | 560 | 519 | 487 | 456 | 431 | 407 | 387 | 371 | 359 | 352 | 348 | 349 | 355 |
| 45   | .70 | .67 | .65 | .62 | .59 | .56 | .54 | .51 | .48 | .45 | .42 | .39 | .35 | .34 | .32 | .30 | .28 | .27 | .26 | .25 | .25 | .24 | .24 | .25 |
|      | 939 | 909 | 877 | 843 | 807 | 771 | 732 | 696 | 658 | 620 | 582 | 547 | 507 | 475 | 446 | 419 | 396 | 376 | 361 | 349 | 342 | 339 | 341 | 347 |
| 1300 | .69 | .66 | .64 | .61 | .58 | .55 | .52 | .50 | .47 | .44 | .41 | .38 | .35 | .33 | .31 | .29 | .27 | .26 | .25 | .25 | .25 | .23 | .23 | .24 |
|      | 927 | 896 | 863 | 829 | 793 | 756 | 718 | 680 | 642 | 604 | 567 | 531 | 491 | 459 | 430 | 404 | 381 | 362 | 347 | 335 | 329 | 327 | 329 | 336 |
| 15   | .68 | .65 | .62 | .60 | .57 | .54 | .51 | .48 | .45 | .42 | .40 | .37 | .34 | .32 | .29 | .28 | .26 | .24 | .23 | .23 | .22 | .22 | .22 | .23 |
|      | 911 | 879 | 846 | 811 | 775 | 738 | 699 | 661 | 623 | 585 | 548 | 512 | 471 | 440 | 411 | 385 | 363 | 344 | 330 | 319 | 313 | 311 | 314 | 321 |
| 30   | .66 | .64 | .61 | .59 | .55 | .52 | .49 | .46 | .44 | .41 | .39 | .35 | .32 | .30 | .28 | .26 | .24 | .23 | .22 | .21 | .21 | .21 | .21 | .21 |
|      | 892 | 860 | 826 | 790 | 754 | 716 | 677 | 639 | 600 | 562 | 525 | 489 | 447 | 417 | 389 | 364 | 342 | 323 | 309 | 297 | 294 | 292 | 296 | 303 |
| 45   | .65 | .62 | .59 | .56 | .54 | .51 | .49 | .45 | .42 | .39 | .36 | .33 | .30 | .28 | .26 | .24 | .23 | .21 | .20 | .20 | .19 | .19 | .19 | .20 |
|      | 869 | 837 | 802 | 766 | 729 | 691 | 652 | 613 | 574 | 536 | 499 | 463 | 423 | 392 | 364 | 339 | 317 | 299 | 286 | 273 | 271 | 270 | 274 | 282 |

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/1-2.)  
... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1400 | .63 | .60 | .57 | .54 | .51 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .29 | .26 | .24 | .22 | .21 | .19 | .18 | .15 | .17 | .17 | .18 | .18 |
|      | 844 | 810 | 776 | 739 | 701 | 663 | 624 | 584 | 545 | 507 | 470 | 434 | 394 | 363 | 335 | 311 | 290 | 272 | 259 | 253 | 245 | 245 | 249 | 258 |
| 15   | .60 | .58 | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .32 | .29 | .25 | .24 | .22 | .20 | .18 | .17 | .16 | .15 | .15 | .15 | .16 | .16 |
|      | 815 | 781 | 746 | 709 | 671 | 632 | 592 | 552 | 513 | 475 | 438 | 402 | 362 | 332 | 304 | 280 | 259 | 242 | 230 | 221 | 217 | 217 | 222 | 231 |
| 30   | .58 | .55 | .53 | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .26 | .24 | .21 | .19 | .18 | .16 | .15 | .14 | .13 | .13 | .13 | .14 | .14 |
|      | 783 | 749 | 713 | 676 | 637 | 598 | 558 | 518 | 478 | 440 | 403 | 367 | 323 | 297 | 270 | 246 | 226 | 210 | 197 | 189 | 185 | 186 | 191 | 200 |
| 45   | .56 | .53 | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .26 | .24 | .21 | .19 | .17 | .15 | .14 | .12 | .12 | .11 | .11 | .11 | .11 | .12 |
|      | 749 | 714 | 678 | 640 | 601 | 561 | 521 | 480 | 441 | 402 | 365 | 330 | 290 | 263 | 234 | 210 | 190 | 174 | 162 | 155 | 152 | 153 | 158 | 168 |
| 1500 | .53 | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .26 | .23 | .21 | .18 | .16 | .14 | .12 | .11 | .10 | .09 | .09 | .08 | .08 | .09 | .09 |
|      | 712 | 676 | 639 | 601 | 561 | 521 | 481 | 441 | 401 | 362 | 325 | 290 | 251 | 221 | 194 | 171 | 152 | 136 | 125 | 113 | 115 | 117 | 122 | 132 |
| 15   | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .26 | .23 | .20 | .18 | .15 | .13 | .11 | .09 | .08 | .07 | .06 | .05 | .05 | .06 | .06 | .07 |
|      | 672 | 636 | 599 | 560 | 520 | 479 | 439 | 398 | 358 | 320 | 283 | 248 | 209 | 179 | 153 | 130 | 111 | 096 | 085 | 079 | 075 | 078 | 084 | 094 |
| 30   | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .26 | .23 | .20 | .17 | .15 | .12 | .10 | .08 | .06 | .05 | .04 | .03 | .03 | .03 | .03 | .03 | .04 |
|      | 630 | 594 | 556 | 517 | 476 | 435 | 394 | 354 | 314 | 275 | 238 | 203 | 164 | 135 | 109 | 087 | 069 | 054 | 043 | 037 | 035 | 037 | 044 | 054 |
| 45   | .44 | .41 | .38 | .35 | .32 | .29 | .25 | .22 | .19 | .17 | .14 | .11 | .09 | .05 | .05 | .03 | .02 | .01 | .00 | .03 | .03 | .00 | .00 | .01 |
|      | 586 | 549 | 511 | 471 | 430 | 389 | 348 | 307 | 267 | 228 | 191 | 157 | 116 | 089 | 064 | 042 | 024 | 010 | 000 | 003 | 000 | 000 | 001 | 012 |
| 1600 | .40 | .37 | .34 | .31 | .28 | .25 | .22 | .19 | .16 | .13 | .10 | .08 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
|      | 540 | 503 | 464 | 424 | 383 | 341 | 300 | 259 | 219 | 180 | 143 | 108 | 070 | 042 | 017 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |
| 15   | .37 | .34 | .31 | .28 | .24 | .21 | .18 | .15 | .12 | .09 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 |
|      | 493 | 455 | 415 | 375 | 333 | 292 | 250 | 209 | 169 | 130 | 093 | 059 | 021 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 003 | 000 | 000 | 000 |
| 30   | .33 | .30 | .27 | .24 | .21 | .18 | .15 | .11 | .09 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 |
|      | 443 | 405 | 365 | 324 | 282 | 240 | 199 | 157 | 117 | 079 | 042 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |
| 45   | .29 | .26 | .23 | .20 | .17 | .14 | .11 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 |
|      | 393 | 354 | 314 | 272 | 230 | 188 | 146 | 105 | 065 | 026 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |

SEP-DEC 52 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1700 | .25  | .22 | .19 | .16 | .13 | .10 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 341  | 302 | 261 | 220 | 177 | 135 | 093 | 051 | 011 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .21  | .18 | .15 | .12 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 269  | 249 | 208 | 166 | 123 | 081 | 038 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .18  | .14 | .11 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 235  | 195 | 154 | 112 | 069 | 026 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .14  | .10 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 182  | 141 | 100 | 057 | 014 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1800 | .10  | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 128  | 087 | 045 | 002 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .06  | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 074  | 033 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .02  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 020  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
X0 (W/M=+2.)

SEP-DEC S2 N

TABLE B-1



| MST  | DATE              |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | APR               |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|      | JAN               |                   |                   | FEB               |                   |                   | MAR               |                   |                   | APR               |                   |                   | MAY               |                   |                   | JUN               |                   |                   | JUL               |                   |                   | AUG               |                   |                   |                   |
|      | 1                 | 5                 | 10                | 15                | 20                | 25                | 30                | 5                 | 10                | 15                | 20                | 25                | 30                | 5                 | 10                | 15                | 20                | 25                | 30                | 5                 | 10                | 15                | 20                | 25                | 30                |
| 0500 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 15   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 30   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 45   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 0600 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 15   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 30   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 45   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 0700 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 15   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 30   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 45   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 0800 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 15   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 30   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 45   | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 |
| 0900 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000<br>000 | .00<br>000        |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |

JAN-APR 50 N      TABLE B-1      SOLAR PARAMETERS      COS Z      SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY

PREVIOUS PAGE  
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| MST  |     | DATE                        |   |    |    |     |    |    |  |                     |    |    |    | APR |    |                         |    |    |    |    |                         |  |  |  |  |
|------|-----|-----------------------------|---|----|----|-----|----|----|--|---------------------|----|----|----|-----|----|-------------------------|----|----|----|----|-------------------------|--|--|--|--|
|      |     | JAN                         |   |    |    | FEB |    |    |  | MAR                 |    |    |    | APR |    |                         |    |    |    |    |                         |  |  |  |  |
|      |     | 1                           | 5 | 10 | 15 | 20  | 25 | 30 |  | 5                   | 10 | 15 | 20 | 25  | 30 | 5                       | 10 | 15 | 20 | 25 | 30                      |  |  |  |  |
| 0800 |     | .00 .00 .00 .00 .01 .02 .04 |   |    |    |     |    |    |  | .06 .08 .11 .13 .16 |    |    |    |     |    | .20 .23 .26 .30 .33 .36 |    |    |    |    | .39 .42 .44 .47 .49 .51 |  |  |  |  |
|      | 000 | 000 000 000 001 015 034 056 |   |    |    |     |    |    |  | 087 117 149 185 222 |    |    |    |     |    | 285 325 366 407 447 487 |    |    |    |    | 532 563 602 633 662 688 |  |  |  |  |
| 15   |     | .02 .02 .03 .04 .05 .06 .08 |   |    |    |     |    |    |  | .10 .12 .14 .17 .20 |    |    |    |     |    | .21 .27 .30 .33 .36 .39 |    |    |    |    | .43 .45 .48 .50 .52 .54 |  |  |  |  |
|      | 030 | 032 038 049 064 083 105     |   |    |    |     |    |    |  | 137 167 200 235 273 |    |    |    |     |    | 335 376 417 457 497 536 |    |    |    |    | 581 617 650 681 709 734 |  |  |  |  |
| 30   |     | .05 .06 .06 .07 .08 .09 .11 |   |    |    |     |    |    |  | .13 .15 .18 .20 .23 |    |    |    |     |    | .28 .31 .34 .37 .40 .43 |    |    |    |    | .46 .49 .51 .54 .56 .58 |  |  |  |  |
|      | 075 | 077 084 095 111 130 153     |   |    |    |     |    |    |  | 185 216 249 284 322 |    |    |    |     |    | 384 425 465 506 545 584 |    |    |    |    | 628 663 695 726 753 778 |  |  |  |  |
| 45   |     | .08 .09 .09 .10 .11 .12 .14 |   |    |    |     |    |    |  | .16 .19 .21 .24 .26 |    |    |    |     |    | .31 .34 .37 .40 .43 .46 |    |    |    |    | .49 .52 .54 .57 .59 .61 |  |  |  |  |
|      | 118 | 120 128 140 155 175 199     |   |    |    |     |    |    |  | 231 262 295 331 369 |    |    |    |     |    | 431 471 512 552 591 629 |    |    |    |    | 673 707 739 769 796 820 |  |  |  |  |
| 0900 |     | .11 .11 .12 .13 .14 .15 .17 |   |    |    |     |    |    |  | .20 .22 .24 .27 .30 |    |    |    |     |    | .34 .37 .40 .43 .46 .49 |    |    |    |    | .52 .55 .57 .60 .62 .64 |  |  |  |  |
|      | 158 | 161 169 182 198 218 242     |   |    |    |     |    |    |  | 275 306 340 376 413 |    |    |    |     |    | 476 516 556 596 635 672 |    |    |    |    | 715 749 781 810 836 860 |  |  |  |  |
| 15   |     | .14 .14 .15 .16 .17 .18 .20 |   |    |    |     |    |    |  | .23 .25 .27 .30 .33 |    |    |    |     |    | .37 .40 .43 .46 .49 .52 |    |    |    |    | .55 .58 .60 .63 .65 .67 |  |  |  |  |
|      | 196 | 200 208 221 238 259 283     |   |    |    |     |    |    |  | 317 348 382 413 455 |    |    |    |     |    | 518 558 597 637 675 712 |    |    |    |    | 755 783 819 848 874 897 |  |  |  |  |
| 30   |     | .16 .17 .17 .18 .20 .21 .23 |   |    |    |     |    |    |  | .25 .28 .30 .33 .35 |    |    |    |     |    | .40 .43 .46 .49 .52 .55 |    |    |    |    | .58 .60 .63 .65 .67 .69 |  |  |  |  |
|      | 231 | 236 245 258 275 296 321     |   |    |    |     |    |    |  | 355 387 421 457 495 |    |    |    |     |    | 557 597 636 675 713 750 |    |    |    |    | 792 825 855 883 908 931 |  |  |  |  |
| 45   |     | .19 .19 .20 .21 .22 .24 .25 |   |    |    |     |    |    |  | .28 .30 .33 .35 .38 |    |    |    |     |    | .43 .46 .49 .52 .54 .57 |    |    |    |    | .60 .63 .65 .68 .70 .71 |  |  |  |  |
|      | 264 | 269 278 292 310 331 357     |   |    |    |     |    |    |  | 391 423 457 493 531 |    |    |    |     |    | 593 633 672 711 748 785 |    |    |    |    | 826 853 888 915 940 963 |  |  |  |  |
| 1000 |     | .21 .21 .22 .23 .24 .26 .28 |   |    |    |     |    |    |  | .30 .32 .35 .38 .40 |    |    |    |     |    | .45 .48 .51 .54 .57 .59 |    |    |    |    | .63 .65 .68 .70 .72 .74 |  |  |  |  |
|      | 294 | 299 309 323 341 363 389     |   |    |    |     |    |    |  | 424 456 491 527 564 |    |    |    |     |    | 627 666 705 743 780 816 |    |    |    |    | 857 883 918 945 969 991 |  |  |  |  |
| 15   |     | .23 .23 .24 .25 .26 .28 .30 |   |    |    |     |    |    |  | .32 .35 .37 .40 .43 |    |    |    |     |    | .47 .50 .53 .56 .59 .62 |    |    |    |    | .65 .67 .69 .72 .74 .75 |  |  |  |  |
|      | 320 | 326 336 351 370 392 418     |   |    |    |     |    |    |  | 454 486 521 557 595 |    |    |    |     |    | 657 696 734 772 809 844 |    |    |    |    | 884 915 944 971 995*016 |  |  |  |  |
| 30   |     | .24 .25 .26 .27 .28 .30 .32 |   |    |    |     |    |    |  | .34 .37 .39 .42 .45 |    |    |    |     |    | .49 .52 .55 .58 .61 .63 |    |    |    |    | .66 .69 .71 .73 .75 .77 |  |  |  |  |
|      | 344 | 349 361 376 395 418 445     |   |    |    |     |    |    |  | 480 513 548 584 622 |    |    |    |     |    | 683 722 760 798 834 869 |    |    |    |    | 909 933 958 994*017*038 |  |  |  |  |
| 45   |     | .26 .26 .27 .28 .30 .31 .33 |   |    |    |     |    |    |  | .36 .38 .41 .43 .46 |    |    |    |     |    | .51 .54 .57 .59 .62 .65 |    |    |    |    | .68 .70 .73 .75 .77 .78 |  |  |  |  |
|      | 364 | 370 382 397 417 441 468     |   |    |    |     |    |    |  | 504 536 571 608 645 |    |    |    |     |    | 707 745 783 820 856 891 |    |    |    |    | 929 960 988*013*036*057 |  |  |  |  |

JAN-APR 50 N TABLE B-1 SOLAR PARAMETERS COS Z  
 X0 (W/M\*\*2.) \*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*

MST

DATE

JAN

FEB

MAR

APR

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |
| 1100 | .27 | .27 | .28 | .29 | .31 | .33 | .35 | .37 | .40 | .42 | .45 | .48 | .52 | .55 | .58 | .61 | .64 | .66 | .69 | .72 | .74 | .76 | .78 | .80 |
| 380  | 387 | 399 | 416 | 436 | 460 | 487 |     | 523 | 556 | 591 | 626 | 665 | 726 | 765 | 802 | 839 | 874 | 908 | 947 | 975 | 004 | 029 | 052 | 072 |
| 15   | .28 | .28 | .29 | .30 | .32 | .34 | .36 | .38 | .41 | .43 | .46 | .49 | .53 | .56 | .59 | .62 | .65 | .67 | .70 | .73 | .75 | .77 | .79 | .80 |
| 393  | 401 | 413 | 430 | 451 | 475 | 503 |     | 540 | 573 | 608 | 644 | 682 | 743 | 781 | 818 | 854 | 889 | 923 | 960 | 990 | 017 | 042 | 064 | 084 |
| 30   | .29 | .29 | .30 | .31 | .33 | .35 | .37 | .39 | .42 | .44 | .47 | .50 | .54 | .57 | .60 | .63 | .65 | .68 | .71 | .73 | .75 | .77 | .79 | .81 |
| 403  | 411 | 424 | 441 | 463 | 487 | 515 |     | 552 | 586 | 621 | 657 | 695 | 755 | 793 | 830 | 866 | 900 | 932 | 971 | 999 | 025 | 050 | 073 | 092 |
| 45   | .29 | .30 | .31 | .32 | .33 | .35 | .37 | .40 | .42 | .45 | .48 | .50 | .55 | .58 | .61 | .63 | .66 | .69 | .71 | .74 | .76 | .78 | .80 | .81 |
| 409  | 417 | 431 | 449 | 471 | 496 | 524 |     | 561 | 595 | 630 | 666 | 704 | 764 | 801 | 838 | 873 | 908 | 940 | 977 | 005 | 032 | 056 | 078 | 097 |
| 1200 | .29 | .30 | .31 | .32 | .34 | .35 | .38 | .40 | .43 | .45 | .48 | .51 | .55 | .58 | .61 | .64 | .66 | .69 | .72 | .74 | .76 | .78 | .80 | .81 |
| 412  | 420 | 435 | 453 | 475 | 501 | 529 |     | 567 | 600 | 635 | 672 | 709 | 769 | 806 | 842 | 877 | 911 | 943 | 979 | 007 | 033 | 057 | 079 | 098 |
| 15   | .29 | .30 | .31 | .32 | .34 | .36 | .38 | .40 | .43 | .45 | .48 | .51 | .55 | .58 | .61 | .64 | .66 | .69 | .72 | .74 | .76 | .78 | .80 | .81 |
| 411  | 420 | 435 | 453 | 476 | 502 | 530 |     | 568 | 602 | 637 | 673 | 710 | 770 | 807 | 843 | 877 | 911 | 943 | 978 | 005 | 032 | 055 | 076 | 096 |
| 30   | .29 | .29 | .31 | .32 | .34 | .35 | .37 | .40 | .43 | .45 | .48 | .51 | .55 | .58 | .61 | .63 | .66 | .68 | .71 | .73 | .75 | .77 | .79 | .81 |
| 406  | 416 | 431 | 450 | 473 | 499 | 528 |     | 566 | 600 | 635 | 671 | 708 | 767 | 804 | 839 | 874 | 907 | 938 | 973 | 001 | 026 | 049 | 071 | 090 |
| 45   | .28 | .29 | .30 | .31 | .33 | .35 | .37 | .40 | .42 | .45 | .48 | .50 | .55 | .57 | .60 | .63 | .65 | .68 | .71 | .73 | .75 | .77 | .78 | .80 |
| 398  | 408 | 424 | 443 | 467 | 493 | 522 |     | 560 | 594 | 629 | 665 | 702 | 761 | 797 | 832 | 866 | 899 | 930 | 965 | 992 | 017 | 040 | 061 | 080 |
| 1300 | .27 | .28 | .29 | .31 | .32 | .34 | .36 | .39 | .42 | .44 | .47 | .50 | .54 | .57 | .59 | .62 | .64 | .67 | .70 | .72 | .74 | .76 | .78 | .79 |
| 387  | 397 | 413 | 433 | 456 | 483 | 512 |     | 551 | 585 | 620 | 656 | 692 | 751 | 786 | 821 | 855 | 887 | 918 | 953 | 979 | 004 | 027 | 048 | 067 |
| 15   | .26 | .27 | .28 | .30 | .31 | .33 | .35 | .38 | .41 | .43 | .46 | .49 | .53 | .56 | .58 | .61 | .63 | .66 | .69 | .71 | .73 | .75 | .76 | .78 |
| 372  | 382 | 399 | 419 | 443 | 470 | 499 |     | 537 | 571 | 607 | 642 | 679 | 737 | 772 | 807 | 840 | 872 | 902 | 937 | 963 | 988 | 010 | 031 | 050 |
| 30   | .25 | .26 | .27 | .28 | .30 | .32 | .34 | .37 | .40 | .42 | .45 | .47 | .52 | .54 | .57 | .60 | .62 | .64 | .67 | .69 | .71 | .73 | .75 | .76 |
| 353  | 364 | 381 | 401 | 425 | 453 | 482 |     | 521 | 555 | 590 | 625 | 662 | 719 | 754 | 788 | 822 | 853 | 883 | 917 | 945 | 968 | 990 | 011 | 030 |
| 45   | .23 | .24 | .25 | .27 | .29 | .31 | .33 | .36 | .38 | .41 | .43 | .46 | .50 | .53 | .55 | .58 | .60 | .63 | .65 | .68 | .69 | .71 | .73 | .75 |
| 331  | 342 | 360 | 381 | 405 | 432 | 462 |     | 500 | 534 | 569 | 605 | 641 | 698 | 733 | 767 | 799 | 831 | 861 | 894 | 920 | 945 | 967 | 988 | 007 |

COS 2  
X0 (W/M=2.)... SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY .

JAN-APR 50 N

TABLE B-1

SOLAR PARAMETERS

| MST  | JAN |     |     |     |     |     |     | FEB |     |     |     |     |    |   | DATE |     |     |     |     |     |    | MAR |     |     |     |     |     |    | APR |    |    |  |  |  |  |  |  |  |  |  |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|---|------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|----|-----|----|----|--|--|--|--|--|--|--|--|--|--|--|
|      |     |     |     |     |     |     |     |     |     |     |     |     |    |   |      |     |     |     |     |     |    |     |     |     |     |     |     |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30 | 5 | 10   | 15  | 20  | 25  | 30  | 5   | 10 | 15  | 20  | 25  | 30  | 5   | 10  | 15 | 20  | 25 | 30 |  |  |  |  |  |  |  |  |  |  |  |
| 1400 | .22 | .22 | .24 | .25 | .27 | .29 | .31 | .34 | .36 | .39 | .42 | .44 |    |   | .43  | .51 | .54 | .56 | .59 | .61 |    | .63 | .65 | .68 | .69 | .71 | .73 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 306 | 317 | 335 | 356 | 381 | 408 | 438 | 477 | 511 | 545 | 581 | 617 |    |   | 673  | 708 | 741 | 774 | 805 | 834 |    | 868 | 891 | 918 | 941 | 961 | 980 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 15   | .20 | .20 | .22 | .23 | .25 | .27 | .29 | .32 | .34 | .37 | .40 | .42 |    |   | .45  | .49 | .52 | .54 | .56 | .59 |    | .61 | .63 | .65 | .67 | .69 | .71 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 278 | 289 | 307 | 329 | 354 | 381 | 411 | 450 | 483 | 518 | 553 | 589 |    |   | 645  | 679 | 713 | 745 | 776 | 805 |    | 838 | 861 | 899 | 911 | 932 | 951 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 30   | .17 | .18 | .20 | .21 | .23 | .25 | .27 | .30 | .32 | .35 | .37 | .40 |    |   | .41  | .47 | .49 | .52 | .54 | .56 |    | .59 | .61 | .63 | .65 | .66 | .68 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 247 | 258 | 277 | 298 | 323 | 351 | 381 | 419 | 453 | 486 | 523 | 558 |    |   | 614  | 646 | 681 | 713 | 743 | 772 |    | 805 | 831 | 855 | 878 | 899 | 918 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 45   | .15 | .16 | .17 | .19 | .21 | .23 | .25 | .27 | .30 | .32 | .35 | .38 |    |   | .42  | .44 | .47 | .49 | .51 | .54 |    | .56 | .58 | .60 | .62 | .64 | .65 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 212 | 225 | 243 | 265 | 290 | 318 | 348 | 386 | 420 | 454 | 489 | 524 |    |   | 573  | 613 | 646 | 677 | 708 | 737 |    | 770 | 795 | 820 | 842 | 863 | 883 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 1500 | .12 | .13 | .15 | .16 | .18 | .20 | .22 | .25 | .27 | .30 | .32 | .35 |    |   | .39  | .41 | .44 | .46 | .49 | .51 |    | .53 | .55 | .57 | .59 | .61 | .63 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 176 | 188 | 207 | 229 | 254 | 282 | 311 | 350 | 383 | 417 | 452 | 487 |    |   | 542  | 575 | 608 | 639 | 669 | 698 |    | 731 | 757 | 781 | 804 | 825 | 845 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 15   | .10 | .11 | .12 | .13 | .15 | .17 | .19 | .22 | .25 | .27 | .29 | .32 |    |   | .36  | .39 | .41 | .43 | .46 | .48 |    | .50 | .52 | .54 | .56 | .58 | .60 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 136 | 149 | 168 | 190 | 215 | 243 | 273 | 311 | 344 | 378 | 412 | 447 |    |   | 501  | 535 | 567 | 598 | 628 | 657 |    | 690 | 715 | 740 | 763 | 784 | 804 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 30   | .07 | .08 | .09 | .11 | .12 | .14 | .16 | .19 | .22 | .24 | .26 | .29 |    |   | .33  | .35 | .38 | .40 | .43 | .45 |    | .47 | .49 | .51 | .53 | .55 | .56 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 094 | 107 | 126 | 148 | 174 | 201 | 231 | 269 | 302 | 336 | 370 | 404 |    |   | 458  | 491 | 524 | 555 | 585 | 613 |    | 646 | 672 | 695 | 719 | 741 | 761 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 45   | .04 | .05 | .06 | .07 | .09 | .11 | .13 | .16 | .18 | .21 | .23 | .26 |    |   | .30  | .32 | .35 | .37 | .39 | .41 |    | .44 | .45 | .48 | .50 | .51 | .53 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 050 | 063 | 082 | 105 | 130 | 157 | 187 | 225 | 258 | 291 | 325 | 359 |    |   | 413  | 446 | 478 | 509 | 539 | 567 |    | 600 | 623 | 650 | 674 | 696 | 716 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 1600 | .00 | .01 | .03 | .04 | .06 | .08 | .10 | .13 | .15 | .17 | .20 | .22 |    |   | .26  | .29 | .31 | .33 | .36 | .38 |    | .40 | .42 | .44 | .46 | .48 | .50 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 004 | 017 | 036 | 059 | 084 | 111 | 141 | 178 | 211 | 244 | 278 | 312 |    |   | 365  | 398 | 430 | 460 | 490 | 519 |    | 552 | 573 | 602 | 626 | 648 | 669 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 15   | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .12 | .14 | .16 | .19 |    |   | .23  | .25 | .27 | .30 | .32 | .34 |    | .37 | .39 | .41 | .43 | .44 | .46 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 000 | 000 | 000 | 011 | 036 | 063 | 093 | 130 | 162 | 195 | 229 | 262 |    |   | 315  | 343 | 379 | 410 | 440 | 469 |    | 501 | 523 | 553 | 576 | 599 | 620 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .06 | .08 | .10 | .13 | .15 |    |   | .19  | .21 | .24 | .26 | .28 | .30 |    | .33 | .35 | .37 | .39 | .41 | .42 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 014 | 043 | 080 | 112 | 145 | 178 | 211 |    |   | 264  | 296 | 328 | 358 | 388 | 417 |    | 450 | 475 | 501 | 525 | 548 | 570 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .07 | .09 | .11 |    |   | .15  | .18 | .20 | .22 | .24 | .26 |    | .29 | .31 | .33 | .35 | .37 | .38 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 028 | 060 | 092 | 125 | 158 |    |   | 210  | 243 | 274 | 305 | 334 | 363 |    | 396 | 423 | 448 | 473 | 496 | 518 |    |     |    |    |  |  |  |  |  |  |  |  |  |  |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
COS Z  
XO (W/M\*\*2.)

TABLE B-1

50 N

JAN-APR



| MST  | MAY  |     |     |     |     |     |  | JUN  |     |     |     |     |     |  | JUL  |     |     |     |     |     |  | AUG  |     |     |     |     |     |  |
|------|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|
|      | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  |
|      | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  |
| 0400 | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .01 | .01 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 006 | 009 | 009 | 006 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .00  | .00 | .00 | .00 | .01 | .02 |  | .03  | .04 | .04 | .04 | .04 | .03 |  | .03  | .02 | .01 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 000  | 000 | 000 | 001 | 018 | 033 |  | 045  | 051 | 054 | 054 | 050 | 034 |  | 034  | 022 | 007 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .00  | .00 | .02 | .04 | .05 | .06 |  | .07  | .07 | .08 | .08 | .07 | .07 |  | .06  | .05 | .04 | .03 | .01 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 000  | 005 | 029 | 049 | 066 | 080 |  | 092  | 098 | 101 | 101 | 097 | 090 |  | 081  | 068 | 054 | 037 | 017 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .02  | .04 | .06 | .07 | .09 | .10 |  | .11  | .11 | .11 | .11 | .11 | .10 |  | .10  | .09 | .08 | .06 | .05 | .03 |  | .01  | .00 | .00 | .00 | .00 | .00 |  |
|      | 029  | 055 | 079 | 099 | 116 | 129 |  | 141  | 146 | 149 | 148 | 145 | 138 |  | 128  | 116 | 102 | 085 | 066 | 046 |  | 019  | 000 | 000 | 000 | 000 | 000 |  |
| 0500 | .06  | .08 | .10 | .11 | .13 | .14 |  | .14  | .15 | .15 | .15 | .15 | .14 |  | .13  | .13 | .11 | .10 | .09 | .07 |  | .05  | .04 | .02 | .00 | .00 | .00 |  |
|      | 081  | 107 | 130 | 150 | 166 | 179 |  | 190  | 196 | 198 | 197 | 193 | 187 |  | 177  | 165 | 151 | 134 | 116 | 096 |  | 070  | 045 | 022 | 000 | 000 | 000 |  |
| 15   | .10  | .12 | .14 | .15 | .16 | .17 |  | .18  | .19 | .19 | .19 | .18 | .18 |  | .17  | .16 | .15 | .14 | .13 | .11 |  | .09  | .07 | .06 | .04 | .02 | .00 |  |
|      | 134  | 160 | 182 | 202 | 218 | 230 |  | 241  | 246 | 248 | 247 | 243 | 236 |  | 227  | 215 | 201 | 185 | 167 | 147 |  | 121  | 099 | 075 | 050 | 025 | 000 |  |
| 30   | .14  | .16 | .18 | .19 | .20 | .21 |  | .22  | .22 | .23 | .22 | .22 | .22 |  | .21  | .20 | .19 | .18 | .16 | .15 |  | .13  | .11 | .10 | .08 | .06 | .04 |  |
|      | 188  | 213 | 235 | 254 | 269 | 282 |  | 292  | 297 | 299 | 297 | 293 | 287 |  | 277  | 266 | 252 | 236 | 218 | 199 |  | 174  | 152 | 128 | 104 | 079 | 053 |  |
| 45   | .18  | .20 | .22 | .23 | .24 | .25 |  | .26  | .26 | .26 | .26 | .26 | .26 |  | .25  | .24 | .23 | .22 | .20 | .19 |  | .17  | .15 | .14 | .12 | .10 | .08 |  |
|      | 242  | 267 | 288 | 307 | 322 | 333 |  | 343  | 348 | 350 | 348 | 344 | 337 |  | 328  | 317 | 303 | 288 | 270 | 251 |  | 227  | 205 | 182 | 159 | 134 | 109 |  |
| 0600 | .22  | .24 | .26 | .27 | .28 | .29 |  | .30  | .30 | .30 | .30 | .30 | .29 |  | .29  | .28 | .27 | .26 | .24 | .23 |  | .21  | .19 | .18 | .16 | .14 | .12 |  |
|      | 297  | 321 | 342 | 360 | 374 | 386 |  | 395  | 399 | 401 | 399 | 395 | 389 |  | 379  | 368 | 355 | 340 | 323 | 304 |  | 280  | 257 | 237 | 214 | 189 | 165 |  |
| 15   | .26  | .28 | .30 | .31 | .32 | .33 |  | .34  | .34 | .34 | .34 | .34 | .33 |  | .33  | .32 | .31 | .30 | .28 | .27 |  | .25  | .24 | .22 | .20 | .18 | .16 |  |
|      | 351  | 375 | 395 | 413 | 427 | 438 |  | 447  | 451 | 452 | 450 | 446 | 440 |  | 431  | 420 | 407 | 392 | 375 | 357 |  | 334  | 313 | 291 | 268 | 245 | 220 |  |
| 30   | .30  | .32 | .34 | .35 | .36 | .37 |  | .38  | .38 | .38 | .38 | .38 | .37 |  | .36  | .35 | .35 | .34 | .32 | .31 |  | .29  | .28 | .26 | .24 | .22 | .21 |  |
|      | 405  | 428 | 448 | 465 | 479 | 489 |  | 498  | 502 | 503 | 501 | 497 | 491 |  | 482  | 471 | 458 | 444 | 428 | 410 |  | 387  | 367 | 345 | 323 | 300 | 276 |  |
| 45   | .34  | .36 | .37 | .39 | .40 | .41 |  | .41  | .42 | .42 | .42 | .41 | .41 |  | .40  | .39 | .39 | .37 | .36 | .35 |  | .33  | .32 | .30 | .28 | .26 | .25 |  |
|      | 459  | 481 | 501 | 517 | 530 | 541 |  | 549  | 553 | 554 | 552 | 548 | 541 |  | 533  | 522 | 510 | 495 | 480 | 462 |  | 440  | 420 | 399 | 377 | 355 | 331 |  |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

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ADD 1000 TO VALUES PRECEDED BY .

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

| MST  | MAY |     |     |     |     |     |  | JUN  |      |      |      |      |      |  | JUL  |      |     |      |     |     |  | AUG |     |     |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|--|------|------|------|------|------|------|--|------|------|-----|------|-----|-----|--|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  |  | 5    | 10   | 15   | 20   | 25   | 30   |  | 5    | 10   | 15  | 20   | 25  | 30  |  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0700 | .38 | .40 | .41 | .43 | .44 | .44 |  | .45  | .45  | .46  | .45  | .45  | .45  |  | .41  | .43  | .42 | .41  | .40 | .39 |  | .37 | .33 | .34 | .32 | .31 | .29 |  |
|      | 511 | 534 | 553 | 568 | 581 | 591 |  | 599  | 603  | 603  | 602  | 598  | 591  |  | 583  | 572  | 560 | 546  | 531 | 514 |  | 492 | 473 | 453 | 431 | 409 | 385 |  |
| 15   | .42 | .44 | .45 | .46 | .47 | .48 |  | .49  | .49  | .49  | .49  | .49  | .48  |  | .43  | .47  | .46 | .45  | .44 | .43 |  | .41 | .39 | .38 | .36 | .34 | .33 |  |
|      | 563 | 585 | 603 | 619 | 631 | 641 |  | 648  | 652  | 653  | 651  | 647  | 641  |  | 632  | 622  | 610 | 597  | 582 | 565 |  | 544 | 522 | 505 | 484 | 462 | 439 |  |
| 30   | .46 | .47 | .49 | .50 | .51 | .52 |  | .52  | .53  | .53  | .53  | .53  | .52  |  | .51  | .51  | .50 | .49  | .48 | .46 |  | .45 | .43 | .42 | .40 | .38 | .37 |  |
|      | 614 | 635 | 653 | 668 | 680 | 689 |  | 697  | 700  | 701  | 699  | 695  | 689  |  | 681  | 671  | 659 | 646  | 631 | 615 |  | 595 | 573 | 554 | 536 | 514 | 491 |  |
| 45   | .49 | .51 | .52 | .54 | .55 | .55 |  | .56  | .56  | .56  | .56  | .56  | .55  |  | .55  | .54  | .53 | .52  | .51 | .50 |  | .48 | .47 | .45 | .44 | .42 | .40 |  |
|      | 663 | 684 | 701 | 716 | 728 | 737 |  | 744  | 747  | 747  | 746  | 742  | 736  |  | 728  | 718  | 707 | 694  | 680 | 664 |  | 644 | 626 | 606 | 586 | 564 | 542 |  |
| 0800 | .53 | .54 | .56 | .57 | .58 | .59 |  | .59  | .60  | .60  | .60  | .59  | .59  |  | .59  | .58  | .57 | .56  | .55 | .54 |  | .52 | .51 | .49 | .47 | .46 | .44 |  |
|      | 711 | 731 | 748 | 762 | 774 | 782 |  | 789  | 792  | 792  | 791  | 787  | 781  |  | 773  | 764  | 753 | 741  | 727 | 711 |  | 692 | 674 | 655 | 635 | 614 | 591 |  |
| 15   | .56 | .58 | .59 | .60 | .61 | .62 |  | .63  | .63  | .63  | .63  | .63  | .62  |  | .62  | .61  | .60 | .59  | .58 | .57 |  | .55 | .54 | .53 | .51 | .49 | .48 |  |
|      | 756 | 776 | 793 | 807 | 818 | 826 |  | 833  | 836  | 836  | 834  | 831  | 825  |  | 813  | 803  | 793 | 786  | 772 | 757 |  | 738 | 720 | 702 | 682 | 661 | 639 |  |
| 30   | .60 | .61 | .62 | .64 | .64 | .65 |  | .66  | .66  | .66  | .66  | .66  | .66  |  | .65  | .64  | .63 | .63  | .62 | .60 |  | .59 | .57 | .55 | .54 | .53 | .51 |  |
|      | 800 | 819 | 836 | 849 | 860 | 868 |  | 874  | 877  | 878  | 876  | 873  | 867  |  | 860  | 851  | 841 | 829  | 816 | 801 |  | 782 | 765 | 745 | 727 | 706 | 684 |  |
| 45   | .63 | .64 | .65 | .67 | .68 | .68 |  | .69  | .69  | .69  | .69  | .69  | .69  |  | .68  | .67  | .67 | .66  | .65 | .63 |  | .62 | .61 | .59 | .58 | .56 | .54 |  |
|      | 842 | 860 | 876 | 889 | 900 | 908 |  | 914  | 917  | 917  | 916  | 912  | 907  |  | 900  | 892  | 881 | 870  | 857 | 843 |  | 824 | 807 | 789 | 770 | 749 | 727 |  |
| 0900 | .65 | .67 | .68 | .69 | .70 | .71 |  | .72  | .72  | .72  | .72  | .72  | .71  |  | .71  | .70  | .69 | .69  | .68 | .66 |  | .65 | .64 | .62 | .61 | .59 | .57 |  |
|      | 881 | 899 | 915 | 928 | 938 | 945 |  | 952  | 954  | 955  | 953  | 950  | 945  |  | 934  | 930  | 920 | 909  | 896 | 883 |  | 864 | 843 | 830 | 811 | 790 | 768 |  |
| 15   | .68 | .70 | .71 | .72 | .73 | .74 |  | .74  | .75  | .75  | .75  | .74  | .74  |  | .74  | .73  | .72 | .71  | .70 | .69 |  | .68 | .65 | .65 | .63 | .62 | .60 |  |
|      | 918 | 935 | 951 | 963 | 973 | 981 |  | 987  | 989  | 990  | 989  | 985  | 981  |  | 974  | 966  | 957 | 946  | 932 | 920 |  | 902 | 885 | 868 | 849 | 828 | 807 |  |
| 30   | .71 | .72 | .73 | .75 | .75 | .76 |  | .77  | .77  | .77  | .77  | .77  | .77  |  | .76  | .76  | .75 | .74  | .73 | .72 |  | .70 | .69 | .68 | .66 | .64 | .63 |  |
|      | 951 | 969 | 984 | 996 | 006 | 013 |  | *019 | *022 | *022 | *021 | *018 | *014 |  | *007 | *000 | 990 | 980  | 968 | 955 |  | 937 | 921 | 903 | 884 | 864 | 842 |  |
| 45   | .73 | .74 | .76 | .77 | .78 | .78 |  | .79  | .79  | .79  | .79  | .79  | .79  |  | .78  | .78  | .77 | .76  | .75 | .74 |  | .73 | .72 | .70 | .69 | .67 | .65 |  |
|      | 982 | 000 | 014 | 026 | 036 | 043 |  | *049 | *052 | *052 | *051 | *048 | *044 |  | *038 | *031 | 022 | *011 | 000 | 987 |  | 969 | 953 | 936 | 917 | 897 | 875 |  |

... SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
X0 (W/M\*\*2.)

MAY-AUG 50 N

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     |     |     | JUN |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1000 | .75  | .77 | .78 | .79 | .80 | .80 | .81 | .81 | .81 | .81 | .81 | .81 |
| 15   | .77  | .78 | .80 | .81 | .82 | .82 | .83 | .83 | .83 | .83 | .83 | .83 |
| 30   | .79  | .80 | .81 | .82 | .83 | .84 | .84 | .85 | .85 | .85 | .85 | .85 |
| 45   | .80  | .81 | .83 | .84 | .84 | .85 | .86 | .86 | .86 | .86 | .86 | .86 |
| 1100 | .81  | .82 | .84 | .85 | .85 | .86 | .87 | .87 | .87 | .87 | .87 | .87 |
| 15   | .82  | .83 | .84 | .85 | .86 | .87 | .88 | .88 | .88 | .88 | .88 | .88 |
| 30   | .83  | .84 | .85 | .86 | .87 | .88 | .89 | .89 | .89 | .89 | .89 | .89 |
| 45   | .83  | .84 | .85 | .86 | .87 | .88 | .89 | .89 | .89 | .89 | .89 | .89 |
| 1200 | .83  | .84 | .85 | .86 | .87 | .88 | .89 | .89 | .89 | .89 | .89 | .89 |
| 15   | .83  | .84 | .85 | .86 | .87 | .88 | .89 | .89 | .89 | .89 | .89 | .89 |
| 30   | .82  | .84 | .85 | .86 | .87 | .87 | .88 | .89 | .89 | .89 | .89 | .89 |
| 45   | .82  | .83 | .84 | .85 | .86 | .87 | .87 | .88 | .88 | .88 | .88 | .88 |

TABLE B-1 SOLAR PARAMETERS COS Z = 1.0 SIGNIFIES COS Z = 1.0 ADD 1000 TO VALUES PRECEDED BY .



| MST  | MAY                     |                               |    |    |    | JUN |                         |                               |    |    | JUL                     |                               |   |    |                         | AUG                           |    |    |  |  |
|------|-------------------------|-------------------------------|----|----|----|-----|-------------------------|-------------------------------|----|----|-------------------------|-------------------------------|---|----|-------------------------|-------------------------------|----|----|--|--|
|      | 5                       | 10                            | 15 | 20 | 25 | 30  | 5                       | 10                            | 15 | 20 | 25                      | 30                            | 5 | 10 | 15                      | 20                            | 25 | 30 |  |  |
| 1300 | .81 .82 .83 .84 .85 .86 | .084 .099 .112 .124 .134 .142 |    |    |    |     | .87 .87 .87 .88 .88 .88 | .150 .155 .158 .160 .160 .159 |    |    | .87 .87 .86 .86 .85 .84 | .156 .151 .144 .136 .126 .114 |   |    | .82 .91 .80 .78 .76 .74 | .097 .089 .051 .040 .017 .992 |    |    |  |  |
| 15   | .79 .81 .82 .83 .84 .85 | .067 .083 .096 .108 .118 .127 |    |    |    |     | .85 .86 .86 .86 .87 .86 | .135 .140 .143 .145 .145 .154 |    |    | .80 .86 .85 .85 .84 .83 | .142 .137 .131 .122 .112 .100 |   |    | .81 .80 .78 .77 .75 .73 | .083 .063 .045 .025 .001 .975 |    |    |  |  |
| 30   | .78 .79 .80 .81 .82 .83 | .047 .063 .076 .089 .099 .108 |    |    |    |     | .84 .85 .85 .85 .85 .85 | .116 .122 .125 .128 .128 .127 |    |    | .85 .85 .84 .83 .83 .82 | .125 .120 .114 .105 .095 .083 |   |    | .80 .75 .77 .75 .73 .71 | .065 .043 .028 .006 .982 .956 |    |    |  |  |
| 45   | .76 .77 .79 .80 .81 .82 | .024 .040 .054 .066 .077 .086 |    |    |    |     | .82 .83 .83 .84 .84 .84 | .094 .100 .104 .107 .108 .107 |    |    | .83 .83 .83 .82 .81 .80 | .104 .100 .093 .065 .075 .062 |   |    | .79 .77 .75 .74 .72 .69 | .044 .027 .007 .985 .960 .933 |    |    |  |  |
| 1400 | .74 .76 .77 .78 .79 .80 | .998 .014 .028 .040 .051 .061 |    |    |    |     | .81 .81 .81 .82 .82 .82 | .070 .076 .080 .083 .084 .093 |    |    | .82 .81 .81 .80 .79 .78 | .081 .076 .070 .062 .051 .039 |   |    | .77 .75 .74 .72 .70 .68 | .020 .002 .982 .959 .934 .907 |    |    |  |  |
| 15   | .72 .73 .75 .76 .77 .78 | .968 .984 .999 .012 .023 .033 |    |    |    |     | .78 .79 .79 .80 .80 .80 | .042 .048 .053 .056 .057 .057 |    |    | .80 .79 .79 .78 .77 .76 | .055 .050 .044 .036 .025 .012 |   |    | .75 .73 .72 .70 .68 .65 | .993 .975 .954 .931 .906 .878 |    |    |  |  |
| 30   | .70 .71 .72 .73 .74 .75 | .936 .952 .967 .980 .992 .002 |    |    |    |     | .76 .77 .77 .77 .78 .78 | .012 .018 .023 .026 .028 .028 |    |    | .77 .77 .77 .76 .75 .74 | .025 .021 .015 .006 .996 .982 |   |    | .72 .71 .69 .67 .65 .63 | .963 .945 .924 .900 .874 .845 |    |    |  |  |
| 45   | .67 .68 .70 .71 .72 .73 | .901 .917 .932 .946 .958 .968 |    |    |    |     | .74 .74 .75 .75 .75 .75 | .979 .986 .991 .994 .996 .996 |    |    | .75 .75 .74 .74 .73 .72 | .994 .989 .983 .974 .963 .950 |   |    | .70 .63 .67 .65 .63 .60 | .931 .911 .890 .866 .839 .810 |    |    |  |  |
| 1500 | .64 .66 .67 .68 .69 .70 | .863 .880 .895 .909 .921 .932 |    |    |    |     | .71 .72 .72 .72 .73 .73 | .943 .950 .956 .960 .961 .961 |    |    | .72 .72 .72 .71 .70 .69 | .959 .955 .949 .940 .929 .915 |   |    | .67 .63 .64 .62 .60 .57 | .895 .876 .853 .829 .802 .772 |    |    |  |  |
| 15   | .61 .63 .64 .65 .66 .67 | .823 .840 .856 .870 .883 .894 |    |    |    |     | .68 .69 .69 .70 .70 .70 | .905 .913 .918 .922 .924 .925 |    |    | .70 .69 .69 .68 .67 .66 | .922 .918 .912 .903 .891 .877 |   |    | .64 .63 .61 .59 .57 .54 | .857 .837 .815 .789 .762 .731 |    |    |  |  |
| 30   | .58 .59 .61 .62 .63 .64 | .780 .798 .814 .828 .842 .853 |    |    |    |     | .65 .66 .66 .67 .67 .67 | .865 .873 .879 .883 .885 .885 |    |    | .67 .66 .66 .65 .64 .63 | .883 .879 .873 .863 .852 .837 |   |    | .61 .60 .58 .56 .54 .51 | .817 .795 .773 .747 .719 .688 |    |    |  |  |
| 45   | .55 .56 .58 .59 .60 .61 | .735 .753 .770 .785 .798 .810 |    |    |    |     | .62 .63 .63 .64 .64 .64 | .823 .831 .837 .842 .844 .844 |    |    | .64 .63 .63 .62 .61 .60 | .842 .838 .831 .822 .810 .795 |   |    | .58 .57 .55 .53 .50 .48 | .774 .753 .730 .703 .674 .643 |    |    |  |  |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 50 N  
 \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 600  | .51 | .53 | .54 | .55 | .57 | .58 | .59 | .59 | .60 | .60 | .61 | .61 | .60 | .60 | .60 | .59 | .58 | .57 | .55 | .53 | .51 | .49 | .47 | .44 | 729 | 703 | 684 | 657 | 628 | 596 |     |
| 15   | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .56 | .56 | .57 | .57 | .57 | .57 | .57 | .56 | .55 | .54 | .53 | .51 | .50 | .48 | .46 | .43 | .41 | 683 | 661 | 636 | 609 | 579 | 547 |     |
| 30   | .44 | .45 | .47 | .48 | .49 | .50 | .52 | .52 | .53 | .53 | .54 | .54 | .54 | .53 | .53 | .52 | .51 | .50 | .48 | .45 | .44 | .42 | .39 | .37 | 635 | 612 | 587 | 559 | 529 | 496 |     |
| 45   | .40 | .42 | .43 | .44 | .46 | .47 | .48 | .49 | .49 | .50 | .50 | .50 | .50 | .50 | .49 | .48 | .47 | .46 | .44 | .42 | .40 | .38 | .36 | .33 | 585 | 562 | 537 | 508 | 477 | 444 |     |
| 1700 | .36 | .38 | .39 | .41 | .42 | .43 | .44 | .45 | .46 | .46 | .46 | .46 | .46 | .46 | .45 | .44 | .43 | .42 | .40 | .35 | .35 | .34 | .32 | .29 | 534 | 511 | 485 | 456 | 424 | 390 |     |
| 15   | .32 | .34 | .35 | .37 | .38 | .39 | .40 | .41 | .42 | .42 | .43 | .43 | .42 | .42 | .41 | .41 | .40 | .38 | .36 | .34 | .32 | .30 | .28 | .25 | 483 | 459 | 432 | 403 | 371 | 336 |     |
| 30   | .28 | .30 | .31 | .33 | .34 | .35 | .37 | .37 | .38 | .39 | .39 | .39 | .39 | .38 | .38 | .37 | .36 | .34 | .32 | .31 | .28 | .26 | .24 | .21 | 430 | 405 | 379 | 349 | 316 | 281 |     |
| 45   | .24 | .26 | .27 | .29 | .30 | .31 | .33 | .34 | .34 | .35 | .35 | .35 | .35 | .34 | .34 | .33 | .32 | .30 | .28 | .25 | .24 | .22 | .20 | .17 | 377 | 352 | 325 | 294 | 261 | 226 |     |
| 1800 | .20 | .22 | .24 | .25 | .26 | .28 | .29 | .30 | .30 | .31 | .31 | .31 | .31 | .31 | .30 | .29 | .28 | .26 | .24 | .22 | .20 | .18 | .15 | .13 | 324 | 299 | 270 | 239 | 206 | 170 |     |
| 15   | .16 | .18 | .20 | .21 | .22 | .24 | .25 | .26 | .27 | .27 | .27 | .27 | .27 | .27 | .26 | .25 | .24 | .22 | .20 | .18 | .16 | .14 | .11 | .09 | 270 | 245 | 216 | 185 | 150 | 114 |     |
| 30   | .12 | .14 | .16 | .17 | .19 | .20 | .21 | .22 | .23 | .23 | .23 | .23 | .23 | .23 | .22 | .21 | .20 | .18 | .16 | .14 | .12 | .10 | .07 | .04 | 217 | 191 | 162 | 130 | 995 | 058 |     |
| 45   | .08 | .10 | .12 | .13 | .15 | .16 | .17 | .18 | .19 | .19 | .20 | .20 | .20 | .20 | .19 | .18 | .17 | .16 | .14 | .12 | .10 | .08 | .06 | .03 | .00 | 164 | 137 | 108 | 075 | 041 | 003 |

TABLE B-1 SOLAR PARAMETERS COS Z  
 ... SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

| MST  | MAY |     |     |     |     |     | JUN |     |     |     |     |     | JUL |     |     |     |     |     | AUG |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1900 | .04 | .06 | .08 | .09 | .11 | .12 | .13 | .14 | .15 | .16 | .16 | .16 | .16 | .15 | .14 | .13 | .12 | .11 | .08 | .03 | .04 | .02 | .00 | .00 |     |
|      | 056 | 081 | 104 | 125 | 144 | 161 | 178 | 190 | 199 | 206 | 209 | 209 | 206 | 206 | 199 | 120 | 176 | 160 | 140 | 112 | 085 | 055 | 022 | 000 | 000 |
| 15   | .00 | .02 | .04 | .06 | .07 | .08 | .10 | .11 | .11 | .12 | .12 | .12 | .12 | .12 | .11 | .11 | .10 | .08 | .07 | .05 | .02 | .00 | .00 | .00 | .00 |
|      | 005 | 029 | 053 | 074 | 094 | 111 | 129 | 141 | 150 | 157 | 163 | 163 | 159 | 159 | 150 | 120 | 126 | 109 | 089 | 060 | 035 | 002 | 000 | 000 | 000 |
| 30   | .00 | .00 | .00 | .02 | .03 | .05 | .06 | .07 | .08 | .08 | .08 | .08 | .08 | .08 | .08 | .07 | .06 | .05 | .03 | .01 | .03 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 003 | 025 | 045 | 063 | 081 | 093 | 102 | 109 | 112 | 112 | 108 | 108 | 101 | 091 | 077 | 059 | 039 | 010 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .04 | .04 | .05 | .05 | .05 | .05 | .05 | .04 | .03 | .02 | .01 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 016 | 034 | 046 | 056 | 062 | 065 | 065 | 061 | 061 | 054 | 043 | 029 | 011 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |
| 2000 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .01 | .02 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 001 | 010 | 017 | 020 | 019 | 015 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS  
XO (W/M\*\*2.)

MAY-AUG 50 N

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | NOV |     |     |     |     |     |     |     |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
|      | SEP  |     |     |     | OCT |     |     |     | 5   |     |     |     | 5   |     |     |     | 5   |     |     |     | 5   |     |     |     | 5   |     |     |     | 5   |     |     |     | 5   |     |     |     | 5   |  |  |  |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |  |  |  |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 30   | .02  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 022  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 45   | .06  | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 078  | 051 | 023 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 0600 | .10  | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 134  | 107 | 080 | 053 | 024 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 15   | .14  | .12 | .10 | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 190  | 164 | 137 | 110 | 082 | 053 | 023 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 30   | .18  | .16 | .14 | .12 | .10 | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .06 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 246  | 220 | 194 | 166 | 138 | 110 | 080 | 050 | 020 | 000 | 000 | 000 | 080 | 050 | 020 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 45   | .22  | .20 | .18 | .16 | .14 | .12 | .10 | .08 | .06 | .04 | .02 | .00 | .10 | .08 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 302  | 276 | 250 | 223 | 195 | 166 | 136 | 106 | 075 | 044 | 013 | 000 | 136 | 106 | 075 | 044 | 013 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 0700 | .26  | .25 | .23 | .20 | .18 | .16 | .14 | .12 | .10 | .07 | .05 | .03 | .14 | .12 | .10 | .07 | .05 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 356  | 331 | 305 | 278 | 250 | 221 | 192 | 161 | 130 | 099 | 068 | 036 | 192 | 161 | 130 | 099 | 068 | 036 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 15   | .30  | .29 | .27 | .24 | .22 | .20 | .18 | .16 | .13 | .11 | .09 | .06 | .18 | .16 | .13 | .11 | .09 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 410  | 385 | 359 | 332 | 304 | 275 | 246 | 215 | 184 | 153 | 121 | 089 | 246 | 215 | 184 | 153 | 121 | 089 | 051 | 021 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 30   | .34  | .32 | .30 | .28 | .26 | .24 | .22 | .20 | .17 | .15 | .13 | .10 | .22 | .20 | .17 | .15 | .13 | .10 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 463  | 438 | 412 | 385 | 357 | 328 | 298 | 268 | 237 | 205 | 172 | 141 | 298 | 268 | 237 | 205 | 172 | 141 | 103 | 072 | 042 | 014 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |
| 45   | .38  | .36 | .34 | .32 | .30 | .28 | .26 | .24 | .23 | .21 | .19 | .16 | .26 | .23 | .21 | .19 | .16 | .14 | .11 | .09 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 514  | 489 | 463 | 436 | 408 | 379 | 349 | 319 | 287 | 255 | 223 | 191 | 349 | 319 | 287 | 255 | 223 | 191 | 153 | 121 | 091 | 063 | 037 | 012 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |

... SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY .

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/30-2.)

SEP-DEC 50 N

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0800 | .42 | .40 | .38 | .36 | .34 | .31 | .29 | .27 | .24 | .22 | .20  | .17 | .14 | .12 | .10 | .08 | .06 | .04 | .03 | .01 | .00 | .00 | .00 | .00 |  |
|      | 563 | 539 | 513 | 486 | 458 | 429 | 399 | 368 | 336 | 304 | 271  | 239 | 203 | 169 | 139 | 110 | 084 | 060 | 038 | 020 | 005 | 000 | 000 | 000 |  |
| 15   | .45 | .43 | .41 | .39 | .37 | .35 | .33 | .30 | .28 | .25 | .23  | .21 | .18 | .15 | .13 | .11 | .09 | .08 | .06 | .05 | .04 | .03 | .02 | .02 |  |
|      | 611 | 586 | 560 | 533 | 505 | 476 | 446 | 415 | 383 | 350 | 319  | 285 | 249 | 215 | 184 | 156 | 129 | 105 | 084 | 065 | 051 | 040 | 033 | 030 |  |
| 30   | .49 | .47 | .45 | .43 | .40 | .38 | .36 | .33 | .31 | .29 | .26  | .24 | .21 | .19 | .16 | .14 | .12 | .11 | .09 | .08 | .07 | .06 | .05 | .05 |  |
|      | 656 | 632 | 606 | 579 | 551 | 521 | 491 | 459 | 427 | 395 | 362  | 329 | 296 | 263 | 229 | 199 | 172 | 148 | 127 | 109 | 094 | 084 | 077 | 074 |  |
| 45   | .52 | .50 | .48 | .46 | .44 | .41 | .39 | .37 | .34 | .32 | .29  | .27 | .24 | .21 | .19 | .17 | .15 | .13 | .12 | .11 | .10 | .09 | .08 | .08 |  |
|      | 700 | 675 | 649 | 622 | 594 | 564 | 533 | 502 | 469 | 436 | 403  | 370 | 331 | 299 | 269 | 240 | 213 | 189 | 168 | 150 | 135 | 126 | 119 | 117 |  |
| 0900 | .55 | .53 | .51 | .49 | .47 | .44 | .42 | .39 | .37 | .34 | .32  | .29 | .27 | .24 | .22 | .20 | .18 | .16 | .15 | .13 | .12 | .12 | .11 | .11 |  |
|      | 740 | 716 | 690 | 662 | 634 | 604 | 573 | 541 | 509 | 475 | 442  | 409 | 369 | 337 | 307 | 278 | 252 | 228 | 207 | 189 | 175 | 165 | 159 | 157 |  |
| 15   | .58 | .56 | .54 | .52 | .49 | .47 | .45 | .42 | .40 | .37 | .35  | .32 | .29 | .27 | .24 | .22 | .20 | .19 | .17 | .15 | .15 | .14 | .14 | .14 |  |
|      | 779 | 754 | 728 | 700 | 671 | 641 | 610 | 578 | 545 | 512 | 478  | 444 | 405 | 373 | 342 | 314 | 287 | 263 | 243 | 225 | 212 | 202 | 196 | 195 |  |
| 30   | .60 | .58 | .56 | .54 | .52 | .49 | .47 | .45 | .42 | .39 | .37  | .34 | .31 | .29 | .27 | .25 | .23 | .21 | .20 | .19 | .17 | .17 | .16 | .16 |  |
|      | 814 | 789 | 763 | 735 | 706 | 676 | 644 | 612 | 579 | 545 | 511  | 477 | 438 | 406 | 375 | 346 | 320 | 296 | 276 | 259 | 245 | 236 | 231 | 230 |  |
| 45   | .63 | .61 | .59 | .56 | .54 | .52 | .49 | .47 | .44 | .42 | .39  | .37 | .34 | .31 | .29 | .27 | .25 | .23 | .22 | .21 | .20 | .19 | .19 | .19 |  |
|      | 847 | 822 | 795 | 767 | 738 | 707 | 675 | 642 | 609 | 575 | 541  | 507 | 467 | 435 | 405 | 376 | 350 | 326 | 306 | 289 | 275 | 268 | 263 | 263 |  |
| 1000 | .65 | .63 | .61 | .59 | .56 | .54 | .51 | .49 | .46 | .44 | .41  | .38 | .35 | .33 | .31 | .29 | .27 | .25 | .24 | .22 | .22 | .21 | .21 | .21 |  |
|      | 876 | 851 | 824 | 796 | 766 | 735 | 703 | 670 | 636 | 602 | 568  | 533 | 493 | 461 | 431 | 402 | 376 | 353 | 333 | 317 | 304 | 296 | 292 | 292 |  |
| 15   | .67 | .65 | .63 | .60 | .58 | .56 | .53 | .51 | .48 | .45 | .43  | .40 | .37 | .35 | .32 | .30 | .28 | .27 | .25 | .24 | .23 | .23 | .22 | .23 |  |
|      | 902 | 877 | 850 | 821 | 791 | 760 | 727 | 694 | 660 | 625 | 591  | 557 | 517 | 484 | 454 | 426 | 400 | 377 | 357 | 341 | 329 | 321 | 318 | 318 |  |
| 30   | .69 | .67 | .64 | .62 | .60 | .57 | .55 | .52 | .49 | .47 | .44  | .42 | .39 | .36 | .34 | .32 | .30 | .28 | .27 | .25 | .25 | .24 | .24 | .24 |  |
|      | 925 | 900 | 872 | 843 | 813 | 781 | 748 | 715 | 680 | 646 | 611  | 576 | 535 | 504 | 474 | 445 | 420 | 397 | 378 | 362 | 351 | 343 | 340 | 342 |  |
| 45   | .70 | .68 | .66 | .63 | .61 | .58 | .56 | .53 | .51 | .48 | .45  | .43 | .40 | .37 | .35 | .33 | .31 | .29 | .28 | .27 | .26 | .26 | .25 | .26 |  |
|      | 945 | 919 | 891 | 862 | 831 | 799 | 766 | 732 | 697 | 662 | 627  | 593 | 552 | 520 | 490 | 462 | 437 | 414 | 395 | 383 | 369 | 362 | 359 | 361 |  |

SEP-DEC 50 N      TABLE 8-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP  |     |     |     |     | OCT  |     |     |     |     | NOV  |     |     |     |     | DEC  |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|
|      | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30   | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1100 | .71  | .69 | .67 | .65 | .62 | .60  | .57 | .54 | .52 | .49 | .46  | .44 | .41 | .39 | .36 | .34  | .32 | .30 | .29 | .28 | .27 | .27 | .27 | .27 |
|      | 961  | 934 | 906 | 877 | 846 | 813  | 780 | 745 | 710 | 675 | 640  | 605 | 565 | 533 | 503 | 475  | 450 | 428 | 409 | 391 | 384 | 377 | 375 | 378 |
| 15   | .72  | .70 | .68 | .65 | .63 | .60  | .58 | .55 | .52 | .50 | .47  | .44 | .41 | .39 | .37 | .35  | .33 | .31 | .30 | .29 | .29 | .28 | .27 | .28 |
|      | 973  | 947 | 918 | 888 | 857 | 824  | 790 | 755 | 720 | 684 | 649  | 614 | 574 | 542 | 512 | 484  | 459 | 438 | 420 | 405 | 395 | 389 | 388 | 391 |
| 30   | .73  | .71 | .68 | .66 | .63 | .61  | .58 | .55 | .53 | .50 | .47  | .45 | .42 | .39 | .37 | .35  | .33 | .32 | .30 | .29 | .29 | .28 | .28 | .28 |
|      | 982  | 955 | 926 | 896 | 864 | 830  | 796 | 761 | 725 | 690 | 654  | 619 | 579 | 547 | 517 | 490  | 465 | 444 | 426 | 413 | 403 | 398 | 397 | 400 |
| 45   | .73  | .71 | .69 | .66 | .64 | .61  | .58 | .56 | .53 | .50 | .47  | .45 | .42 | .39 | .37 | .35  | .33 | .32 | .31 | .30 | .29 | .28 | .28 | .29 |
|      | 987  | 960 | 931 | 900 | 867 | 833  | 799 | 763 | 727 | 691 | 656  | 621 | 581 | 549 | 519 | 492  | 468 | 447 | 430 | 416 | 407 | 402 | 402 | 406 |
| 1200 | .73  | .71 | .69 | .66 | .64 | .61  | .58 | .55 | .53 | .50 | .47  | .45 | .42 | .39 | .37 | .35  | .33 | .32 | .30 | .29 | .29 | .29 | .29 | .29 |
|      | 989  | 961 | 931 | 900 | 867 | 833  | 798 | 762 | 726 | 689 | 654  | 619 | 578 | 547 | 517 | 490  | 467 | 446 | 429 | 417 | 408 | 404 | 404 | 408 |
| 15   | .73  | .71 | .69 | .66 | .63 | .61  | .58 | .55 | .52 | .49 | .47  | .44 | .41 | .39 | .37 | .35  | .33 | .31 | .30 | .29 | .29 | .28 | .28 | .29 |
|      | 987  | 958 | 928 | 896 | 863 | 828  | 793 | 757 | 720 | 684 | 648  | 613 | 573 | 541 | 512 | 485  | 462 | 442 | 425 | 413 | 405 | 401 | 402 | 407 |
| 30   | .73  | .70 | .68 | .65 | .63 | .60  | .57 | .54 | .52 | .49 | .46  | .43 | .40 | .38 | .36 | .34  | .32 | .31 | .30 | .29 | .28 | .28 | .28 | .28 |
|      | 981  | 952 | 921 | 889 | 855 | 820  | 784 | 748 | 711 | 674 | 638  | 603 | 563 | 532 | 503 | 476  | 453 | 434 | 418 | 405 | 399 | 395 | 397 | 402 |
| 45   | .72  | .70 | .67 | .65 | .62 | .59  | .56 | .53 | .51 | .48 | .45  | .42 | .39 | .37 | .35 | .33  | .31 | .30 | .29 | .29 | .28 | .27 | .27 | .28 |
|      | 971  | 942 | 911 | 878 | 844 | 808  | 772 | 735 | 698 | 661 | 625  | 590 | 550 | 519 | 490 | 464  | 441 | 422 | 407 | 395 | 389 | 386 | 388 | 394 |
| 1300 | .71  | .69 | .66 | .64 | .61 | .58  | .55 | .52 | .49 | .47 | .44  | .41 | .38 | .36 | .34 | .32  | .30 | .29 | .28 | .27 | .27 | .26 | .27 | .27 |
|      | 958  | 928 | 897 | 863 | 828 | 792  | 756 | 719 | 681 | 644 | 608  | 573 | 533 | 502 | 474 | 448  | 426 | 407 | 392 | 382 | 375 | 373 | 375 | 382 |
| 15   | .70  | .67 | .65 | .62 | .59 | .57  | .54 | .51 | .48 | .45 | .42  | .40 | .37 | .35 | .32 | .31  | .29 | .28 | .27 | .25 | .25 | .25 | .25 | .26 |
|      | 942  | 911 | 879 | 845 | 810 | 773  | 736 | 699 | 661 | 624 | 588  | 553 | 513 | 482 | 454 | 429  | 407 | 389 | 374 | 361 | 358 | 357 | 360 | 367 |
| 30   | .68  | .66 | .63 | .61 | .58 | .55  | .52 | .49 | .46 | .43 | .41  | .38 | .35 | .33 | .31 | .29  | .27 | .26 | .25 | .21 | .21 | .24 | .24 | .25 |
|      | 921  | 891 | 858 | 823 | 787 | 751  | 713 | 675 | 638 | 600 | 564  | 529 | 489 | 459 | 431 | 406  | 385 | 367 | 353 | 343 | 333 | 337 | 340 | 348 |
| 45   | .67  | .64 | .61 | .59 | .56 | .53  | .50 | .47 | .44 | .41 | .39  | .36 | .32 | .31 | .29 | .27  | .26 | .24 | .23 | .23 | .22 | .22 | .23 | .23 |
|      | 898  | 866 | 833 | 798 | 762 | 725  | 687 | 649 | 611 | 573 | 537  | 502 | 462 | 432 | 405 | 380  | 359 | 342 | 329 | 319 | 314 | 314 | 318 | 326 |

... SIGNIFIES COS Z = 1.  
;DD 1000 TO VALUES PRECEDED BY .

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M-2.)

SEP-DEC 50 N

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |
| 400  | .65 | .62 | .59 | .57 | .54 | .51 | .48 | .45 | .42 | .39 | .37 | .34 | .31 | .29 | .27 | .25 | .24 | .22 | .21 | .20 | .20 | .21 | .21 |
|      | 871 | 839 | 805 | 770 | 733 | 695 | 657 | 619 | 580 | 543 | 506 | 472 | 432 | 402 | 375 | 351 | 330 | 314 | 301 | 292 | 288 | 292 | 301 |
| 15   | .62 | .60 | .57 | .54 | .51 | .49 | .46 | .43 | .40 | .37 | .34 | .32 | .29 | .26 | .25 | .23 | .21 | .20 | .19 | .19 | .18 | .19 | .19 |
|      | 841 | 808 | 774 | 738 | 701 | 663 | 624 | 585 | 547 | 509 | 473 | 439 | 399 | 369 | 342 | 319 | 299 | 282 | 270 | 262 | 258 | 259 | 263 |
| 30   | .60 | .57 | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .32 | .29 | .26 | .24 | .22 | .20 | .19 | .18 | .17 | .16 | .16 | .16 | .17 |
|      | 808 | 775 | 740 | 703 | 666 | 627 | 588 | 549 | 511 | 473 | 437 | 402 | 363 | 334 | 307 | 284 | 264 | 248 | 236 | 223 | 225 | 226 | 232 |
| 45   | .57 | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .29 | .26 | .23 | .21 | .19 | .18 | .16 | .15 | .14 | .14 | .13 | .14 | .14 |
|      | 772 | 738 | 703 | 666 | 628 | 589 | 549 | 510 | 471 | 434 | 397 | 363 | 324 | 295 | 269 | 246 | 227 | 211 | 200 | 193 | 190 | 191 | 197 |
| 1500 | .54 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .28 | .26 | .23 | .20 | .18 | .16 | .15 | .13 | .12 | .11 | .11 | .11 | .11 | .12 |
|      | 733 | 699 | 663 | 625 | 587 | 548 | 508 | 469 | 430 | 392 | 355 | 321 | 283 | 254 | 228 | 205 | 187 | 172 | 161 | 154 | 152 | 154 | 160 |
| 15   | .51 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .28 | .25 | .22 | .20 | .17 | .15 | .13 | .12 | .10 | .09 | .09 | .09 | .08 | .08 | .09 |
|      | 692 | 657 | 621 | 583 | 544 | 504 | 464 | 424 | 385 | 347 | 311 | 277 | 239 | 210 | 185 | 163 | 144 | 130 | 119 | 113 | 111 | 113 | 120 |
| 30   | .48 | .45 | .43 | .40 | .37 | .34 | .31 | .28 | .25 | .22 | .19 | .17 | .14 | .12 | .10 | .08 | .07 | .06 | .05 | .05 | .05 | .05 | .06 |
|      | 648 | 613 | 576 | 537 | 498 | 458 | 418 | 378 | 339 | 301 | 265 | 230 | 193 | 164 | 139 | 118 | 100 | 886 | 076 | 070 | 059 | 071 | 077 |
| 45   | .45 | .42 | .39 | .36 | .33 | .30 | .27 | .24 | .21 | .18 | .16 | .13 | .10 | .08 | .07 | .05 | .04 | .03 | .02 | .02 | .02 | .02 | .03 |
|      | 602 | 567 | 529 | 490 | 450 | 410 | 369 | 329 | 290 | 252 | 216 | 182 | 144 | 116 | 092 | 070 | 053 | 039 | 030 | 024 | 023 | 026 | 033 |
| 1600 | .41 | .38 | .35 | .32 | .29 | .26 | .23 | .20 | .17 | .15 | .12 | .10 | .07 | .05 | .03 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 555 | 518 | 480 | 440 | 400 | 360 | 319 | 279 | 239 | 202 | 165 | 132 | 094 | 067 | 042 | 021 | 004 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .37 | .35 | .32 | .29 | .26 | .23 | .20 | .17 | .14 | .11 | .08 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 505 | 468 | 429 | 389 | 349 | 308 | 267 | 226 | 187 | 149 | 113 | 080 | 043 | 015 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .34 | .31 | .28 | .25 | .22 | .19 | .16 | .13 | .10 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 453 | 416 | 377 | 337 | 296 | 254 | 213 | 173 | 133 | 096 | 060 | 026 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .30 | .27 | .24 | .21 | .18 | .15 | .12 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 401 | 363 | 323 | 282 | 241 | 200 | 158 | 118 | 079 | 041 | 005 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

TABLE 8-1 SOLAR PARAMETERS COS Z  
XO (W/M\*2.)

\* SIGNIFIES COS Z = 1.

ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     | OCT |     |     | NOV |     |     | DEC |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1700 | .26  | .23 | .20 | .17 | .14 | .11 | .08 | .05 | .02 | .00 | .00 | .00 |
|      | 347  | 308 | 268 | 227 | 186 | 144 | 103 | 062 | 023 | 000 | 000 | 000 |
| 15   | .22  | .19 | .16 | .13 | .10 | .06 | .03 | .00 | .00 | .00 | .00 | .00 |
|      | 292  | 253 | 213 | 171 | 129 | 088 | 046 | 005 | 000 | 000 | 000 | 000 |
| 30   | .18  | .15 | .12 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 236  | 197 | 156 | 115 | 073 | 030 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .13  | .10 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 180  | 140 | 099 | 058 | 015 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1800 | .09  | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 124  | 084 | 042 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .05  | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 068  | 027 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .01  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 012  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS  
X0 (W/M\*\*2.)

SEP-DEC 50 N COS Z







MST

DATE

| MST  | JAN                                                        |   |    |    |    | FEB |    |                                            |    |    | MAR |    |    |                                                    |    | APR |    |    |                                                     |  |
|------|------------------------------------------------------------|---|----|----|----|-----|----|--------------------------------------------|----|----|-----|----|----|----------------------------------------------------|----|-----|----|----|-----------------------------------------------------|--|
|      | 1                                                          | 5 | 10 | 15 | 20 | 25  | 30 | 5                                          | 10 | 15 | 20  | 25 | 30 | 5                                                  | 10 | 15  | 20 | 25 | 30                                                  |  |
| 1100 | .30 .31 .31 .33 .34 .36 .38<br>426 433 444 461 480 504 530 |   |    |    |    |     |    | .40 .43 .45 .48 .51<br>566 598 633 668 705 |    |    |     |    |    | .53 .58 .61 .63 .66 .69<br>765 802 838 874 908 941 |    |     |    |    | .72 .74 .76 .78 .80 .81<br>978*007*033*057*079*098  |  |
| 15   | .31 .32 .32 .34 .35 .37 .39<br>440 447 459 476 496 520 547 |   |    |    |    |     |    | .41 .44 .46 .49 .52<br>583 616 650 686 722 |    |    |     |    |    | .55 .59 .62 .64 .67 .70<br>782 818 855 890 924 956 |    |     |    |    | .73 .75 .77 .79 .81 .82<br>992*020*048*070*091*110  |  |
| 30   | .32 .32 .33 .35 .36 .38 .40<br>450 457 470 487 508 533 560 |   |    |    |    |     |    | .42 .45 .47 .50 .53<br>596 629 663 699 736 |    |    |     |    |    | .57 .60 .63 .65 .68 .70<br>794 831 867 902 935 967 |    |     |    |    | .73 .75 .78 .80 .81 .83<br>*003*030 058*079*100*119 |  |
| 45   | .32 .33 .34 .35 .37 .38 .40<br>456 464 478 495 517 541 569 |   |    |    |    |     |    | .43 .45 .48 .51 .53<br>606 638 673 709 745 |    |    |     |    |    | .58 .61 .63 .66 .69 .71<br>804 840 875 910 943 974 |    |     |    |    | .74 .75 .78 .80 .82 .83<br>*009*037*062*085*105*124 |  |
| 1200 | .32 .33 .34 .35 .37 .39 .41<br>459 467 481 500 521 546 574 |   |    |    |    |     |    | .43 .46 .48 .51 .54<br>611 644 679 714 750 |    |    |     |    |    | .59 .61 .64 .66 .69 .71<br>809 845 880 914 946 977 |    |     |    |    | .74 .75 .78 .80 .82 .83<br>*012*033 059*086*107*125 |  |
| 15   | .32 .33 .34 .35 .37 .39 .41<br>458 467 481 500 522 547 576 |   |    |    |    |     |    | .44 .46 .49 .51 .54<br>613 646 680 716 752 |    |    |     |    |    | .59 .61 .64 .66 .69 .71<br>810 846 880 914 946 977 |    |     |    |    | .74 .75 .78 .80 .82 .83<br>*011*037*062*084*104*122 |  |
| 30   | .32 .33 .34 .35 .37 .39 .41<br>453 462 478 497 519 545 573 |   |    |    |    |     |    | .43 .46 .48 .51 .54<br>611 644 678 714 750 |    |    |     |    |    | .59 .61 .63 .66 .68 .71<br>807 842 877 910 942 972 |    |     |    |    | .74 .75 .78 .80 .81 .83<br>*006*032*058*078*098*116 |  |
| 45   | .31 .32 .33 .35 .36 .38 .40<br>445 454 470 489 512 538 567 |   |    |    |    |     |    | .43 .45 .48 .51 .53<br>604 638 672 708 743 |    |    |     |    |    | .58 .60 .63 .65 .68 .70<br>800 835 870 902 934 964 |    |     |    |    | .73 .75 .77 .79 .80 .82<br>997*023*048*068*088*106  |  |
| 1300 | .31 .31 .32 .34 .36 .37 .40<br>433 443 459 479 502 528 557 |   |    |    |    |     |    | .42 .45 .47 .50 .53<br>595 628 662 698 733 |    |    |     |    |    | .57 .59 .62 .65 .67 .69<br>790 824 859 891 922 951 |    |     |    |    | .72 .74 .76 .78 .79 .81<br>984*010*033*055*074*092  |  |
| 15   | .29 .30 .31 .33 .35 .36 .39<br>417 427 444 464 487 514 543 |   |    |    |    |     |    | .41 .44 .46 .49 .52<br>581 614 648 684 719 |    |    |     |    |    | .56 .58 .61 .63 .66 .68<br>775 810 843 875 906 935 |    |     |    |    | .71 .73 .75 .77 .78 .80<br>968 993*013*038*057*075  |  |
| 30   | .28 .29 .30 .32 .33 .35 .37<br>398 408 425 446 470 496 526 |   |    |    |    |     |    | .40 .42 .45 .48 .50<br>563 597 631 666 701 |    |    |     |    |    | .54 .57 .60 .62 .64 .67<br>757 791 824 856 886 915 |    |     |    |    | .69 .71 .73 .75 .77 .78<br>947 972*003*017*036*054  |  |
| 45   | .27 .27 .29 .30 .32 .34 .36<br>385 392 404 424 448 475 504 |   |    |    |    |     |    | .39 .41 .44 .46 .49<br>542 575 610 644 679 |    |    |     |    |    | .53 .55 .58 .60 .63 .65<br>735 769 801 833 863 891 |    |     |    |    | .68 .70 .71 .73 .75 .76<br>923 943 971 992*012*030  |  |

50

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BYCOS Z  
X0 (W/M\*\*2.)

SOLAR PARAMETERS

TABLE B-1

48 N

JAN-APR

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | DATE |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |    |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30 |
| 1400 | .25 | .25 | .27 | .28 | .30 | .32 | .34 | .37 | .39 | .42 | .44  | .47 | .51 | .54 | .56 | .58 | .61 | .63 | .66 | .68 | .69 | .71 | .73 | .74 |    |
|      | 349 | 360 | 378 | 399 | 423 | 450 | 480 | 518 | 551 | 585 | 619  | 654 | 703 | 743 | 775 | 806 | 836 | 864 | 896 | 921 | 944 | 965 | 984 | 002 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 15   | .23 | .23 | .25 | .26 | .28 | .30 | .32 | .35 | .37 | .40 | .42  | .45 | .48 | .51 | .54 | .56 | .59 | .61 | .63 | .65 | .67 | .69 | .71 | .72 |    |
|      | 319 | 331 | 349 | 370 | 395 | 422 | 452 | 489 | 522 | 556 | 591  | 625 | 680 | 713 | 745 | 776 | 806 | 834 | 865 | 890 | 913 | 934 | 953 | 971 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 30   | .20 | .21 | .22 | .24 | .26 | .28 | .30 | .33 | .35 | .37 | .40  | .43 | .47 | .49 | .51 | .54 | .56 | .58 | .61 | .63 | .65 | .66 | .68 | .70 |    |
|      | 287 | 299 | 317 | 339 | 363 | 391 | 420 | 458 | 491 | 525 | 559  | 593 | 647 | 680 | 712 | 743 | 772 | 800 | 831 | 855 | 878 | 900 | 919 | 937 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 45   | .18 | .19 | .20 | .22 | .23 | .25 | .27 | .30 | .32 | .35 | .37  | .40 | .44 | .46 | .49 | .51 | .53 | .56 | .58 | .60 | .62 | .64 | .65 | .67 |    |
|      | 251 | 263 | 282 | 304 | 329 | 356 | 385 | 423 | 456 | 490 | 524  | 558 | 611 | 644 | 676 | 706 | 735 | 763 | 794 | 813 | 841 | 862 | 882 | 901 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 1500 | .15 | .16 | .17 | .19 | .21 | .23 | .25 | .27 | .30 | .32 | .35  | .37 | .41 | .43 | .46 | .48 | .51 | .53 | .55 | .57 | .59 | .61 | .62 | .64 |    |
|      | 213 | 225 | 244 | 266 | 291 | 318 | 348 | 385 | 418 | 452 | 485  | 519 | 572 | 605 | 636 | 666 | 695 | 723 | 754 | 773 | 801 | 822 | 842 | 861 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 15   | .12 | .13 | .14 | .16 | .18 | .20 | .22 | .25 | .27 | .29 | .32  | .34 | .38 | .41 | .43 | .45 | .47 | .50 | .52 | .54 | .55 | .58 | .59 | .61 |    |
|      | 172 | 184 | 203 | 225 | 250 | 278 | 307 | 345 | 377 | 410 | 444  | 478 | 530 | 562 | 594 | 623 | 652 | 680 | 711 | 735 | 758 | 780 | 800 | 819 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 30   | .09 | .10 | .11 | .13 | .15 | .17 | .19 | .21 | .24 | .26 | .29  | .31 | .35 | .37 | .40 | .42 | .44 | .46 | .49 | .51 | .52 | .54 | .56 | .57 |    |
|      | 128 | 141 | 160 | 182 | 207 | 235 | 264 | 301 | 334 | 367 | 400  | 433 | 486 | 517 | 548 | 578 | 607 | 634 | 665 | 690 | 713 | 734 | 755 | 774 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 45   | .06 | .07 | .08 | .10 | .11 | .13 | .16 | .18 | .21 | .23 | .25  | .28 | .32 | .34 | .36 | .38 | .41 | .43 | .45 | .47 | .49 | .51 | .52 | .54 |    |
|      | 082 | 095 | 115 | 137 | 162 | 189 | 218 | 255 | 288 | 320 | 353  | 386 | 438 | 470 | 501 | 530 | 559 | 586 | 617 | 642 | 655 | 687 | 708 | 727 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 1600 | .02 | .03 | .05 | .06 | .08 | .10 | .12 | .15 | .17 | .19 | .22  | .24 | .28 | .30 | .33 | .35 | .37 | .39 | .41 | .43 | .45 | .47 | .49 | .50 |    |
|      | 034 | 047 | 067 | 089 | 114 | 141 | 170 | 207 | 239 | 272 | 304  | 337 | 389 | 420 | 451 | 480 | 508 | 536 | 567 | 592 | 615 | 637 | 658 | 678 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 15   | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .11 | .13 | .16 | .19  | .20 | .24 | .27 | .29 | .31 | .33 | .35 | .38 | .40 | .41 | .43 | .45 | .47 |    |
|      | 000 | 000 | 017 | 039 | 064 | 091 | 120 | 157 | 188 | 221 | 253  | 286 | 337 | 368 | 398 | 428 | 456 | 483 | 515 | 539 | 553 | 586 | 607 | 627 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 30   | .00 | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .10 | .12 | .14  | .17 | .20 | .23 | .25 | .27 | .29 | .31 | .34 | .36 | .38 | .39 | .41 | .43 |    |
|      | 000 | 000 | 000 | 000 | 012 | 039 | 068 | 104 | 136 | 168 | 200  | 232 | 283 | 314 | 344 | 374 | 402 | 429 | 461 | 486 | 510 | 533 | 554 | 575 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .06 | .08 | .10  | .13 | .16 | .19 | .21 | .23 | .25 | .27 | .30 | .32 | .33 | .35 | .37 | .39 |    |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 014 | 050 | 081 | 113 | 145  | 177 | 228 | 258 | 288 | 318 | 346 | 374 | 405 | 430 | 455 | 478 | 500 | 521 |    |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |    |

JAN-APR 48 N TABLE B-1 SOLAR PARAMETERS COS Z \*\* SIGNIFIES COS Z = 1.  
XO (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY \*

| NST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     | FEB |     |     | MAR |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |     |     |     |     |     |
| 1700 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .06 | .09 | .12 | .15 | .17 | .19 | .21 | .23 | .26 | .27 | .29 | .31 | .33 | .35 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 026 | 057 | 089 | 120 | 171 | 201 | 231 | 261 | 289 | 316 | 348 | 374 | 398 | 422 | 445 | 466 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .08 | .10 | .13 | .15 | .17 | .19 | .21 | .23 | .25 | .27 | .29 | .30 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 031 | 053 | 112 | 143 | 173 | 202 | 231 | 258 | 290 | 316 | 341 | 365 | 388 | 410 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .06 | .08 | .10 | .13 | .15 | .17 | .19 | .21 | .23 | .25 | .26 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 004 | 053 | 084 | 114 | 143 | 171 | 199 | 232 | 259 | 283 | 308 | 331 | 354 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .06 | .08 | .10 | .13 | .15 | .17 | .18 | .20 | .22 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 024 | 054 | 083 | 112 | 140 | 173 | 199 | 225 | 250 | 274 | 297 |
| 1800 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .06 | .08 | .10 | .12 | .14 | .16 | .18 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 023 | 052 | 080 | 113 | 140 | 165 | 191 | 216 | 240 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .05 | .08 | .10 | .12 | .14 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 020 | 053 | 081 | 107 | 133 | 158 | 182 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .06 | .08 | .09 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 022 | 049 | 075 | 101 | 126 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .05 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 018 | 044 | 069 |
| 1900 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 014 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY .

COS Z  
X0 (M/H\*2.)

SOLAR PARAMETERS

TABLE B-1

JAN-APR 48 N



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |     |     |     |     |     |     |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |     |     |     |     |     |     |
| 0700 | .38  | .40  | .41  | .42  | .43  | .44  | .45  | .45  | .45  | .45  | .45  | .44  | .41  | .43  | .42  | .41  | .40  | .39  | .37 | .35 | .34 | .32 | .31 | .29 |
|      | 512  | 534  | 552  | 567  | 579  | 589  | 596  | 599  | 600  | 598  | 594  | 587  | 579  | 589  | 557  | 543  | 528  | 512  | 491 | 473 | 453 | 433 | 411 | 389 |
| 15   | .42  | .44  | .45  | .46  | .47  | .48  | .49  | .49  | .49  | .49  | .49  | .48  | .46  | .47  | .46  | .45  | .44  | .43  | .41 | .40 | .38 | .36 | .35 | .33 |
|      | 566  | 587  | 605  | 620  | 631  | 640  | 647  | 650  | 651  | 649  | 645  | 638  | 630  | 620  | 609  | 596  | 581  | 565  | 545 | 527 | 508 | 488 | 467 | 445 |
| 30   | .46  | .48  | .49  | .50  | .51  | .52  | .53  | .53  | .53  | .53  | .52  | .52  | .51  | .51  | .50  | .49  | .48  | .47  | .45 | .41 | .42 | .41 | .39 | .37 |
|      | 619  | 639  | 657  | 671  | 682  | 691  | 698  | 700  | 701  | 699  | 695  | 689  | 681  | 671  | 660  | 647  | 633  | 617  | 597 | 580 | 561 | 541 | 521 | 499 |
| 45   | .50  | .51  | .53  | .54  | .55  | .56  | .56  | .56  | .57  | .56  | .56  | .56  | .55  | .55  | .54  | .53  | .52  | .50  | .49 | .47 | .45 | .44 | .43 | .41 |
|      | 670  | 690  | 707  | 721  | 732  | 740  | 747  | 749  | 749  | 747  | 743  | 737  | 730  | 720  | 709  | 697  | 683  | 668  | 649 | 631 | 613 | 594 | 574 | 552 |
| 0800 | .54  | .55  | .56  | .58  | .58  | .59  | .60  | .60  | .60  | .60  | .60  | .59  | .59  | .58  | .57  | .56  | .55  | .54  | .53 | .51 | .50 | .48 | .47 | .45 |
|      | 720  | 739  | 755  | 769  | 780  | 788  | 794  | 796  | 796  | 795  | 791  | 785  | 777  | 768  | 757  | 745  | 732  | 717  | 699 | 682 | 664 | 645 | 625 | 604 |
| 15   | .57  | .59  | .60  | .61  | .62  | .63  | .63  | .63  | .64  | .63  | .63  | .63  | .62  | .62  | .61  | .60  | .59  | .58  | .56 | .55 | .53 | .52 | .50 | .49 |
|      | 767  | 786  | 802  | 815  | 825  | 833  | 839  | 842  | 842  | 840  | 836  | 830  | 823  | 814  | 804  | 792  | 779  | 765  | 747 | 733 | 712 | 694 | 674 | 653 |
| 30   | .60  | .62  | .63  | .64  | .65  | .66  | .66  | .67  | .67  | .67  | .66  | .66  | .66  | .65  | .64  | .63  | .62  | .61  | .60 | .58 | .57 | .55 | .54 | .52 |
|      | 813  | 831  | 847  | 859  | 869  | 877  | 883  | 885  | 885  | 883  | 880  | 874  | 867  | 859  | 849  | 837  | 825  | 811  | 793 | 775 | 759 | 741 | 721 | 700 |
| 45   | .64  | .65  | .66  | .67  | .68  | .69  | .70  | .70  | .70  | .70  | .70  | .69  | .69  | .68  | .67  | .66  | .65  | .64  | .63 | .62 | .60 | .59 | .57 | .55 |
|      | 856  | 874  | 889  | 901  | 911  | 918  | 924  | 926  | 927  | 925  | 921  | 916  | 909  | 901  | 891  | 880  | 868  | 854  | 837 | 821 | 804 | 785 | 766 | 745 |
| 0900 | .67  | .68  | .69  | .70  | .71  | .72  | .72  | .73  | .73  | .73  | .73  | .72  | .72  | .71  | .70  | .69  | .69  | .67  | .66 | .65 | .63 | .62 | .60 | .59 |
|      | 897  | 914  | 929  | 941  | 950  | 958  | 963  | 965  | 965  | 964  | 960  | 955  | 948  | 941  | 931  | 921  | 909  | 896  | 878 | 863 | 846 | 828 | 808 | 788 |
| 15   | .70  | .71  | .72  | .73  | .74  | .75  | .75  | .75  | .76  | .76  | .75  | .75  | .75  | .74  | .73  | .72  | .71  | .70  | .69 | .68 | .66 | .65 | .63 | .62 |
|      | 935  | 952  | 966  | 978  | 987  | 994  | +000 | +002 | +002 | +000 | 997  | 992  | 985  | 978  | 969  | 959  | 947  | 934  | 917 | 902 | 885 | 867 | 848 | 828 |
| 30   | .72  | .74  | .75  | .76  | .77  | .77  | .78  | .78  | .78  | .78  | .78  | .78  | .77  | .77  | .76  | .75  | .74  | .73  | .72 | .70 | .69 | .68 | .66 | .64 |
|      | 970  | 987  | +001 | +012 | +021 | +028 | +033 | +036 | +036 | +034 | +031 | +027 | +021 | +013 | +004 | 994  | 983  | 970  | 954 | 939 | 922 | 904 | 885 | 865 |
| 45   | .75  | .76  | .77  | .78  | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .78  | .78  | .77  | .76  | .74 | .73 | .72 | .70 | .69 | .67 |
|      | +003 | +019 | +032 | +044 | +052 | +059 | +064 | +067 | +067 | +066 | +063 | +058 | +053 | +045 | +037 | +027 | +016 | +004 | 987 | 972 | 955 | 938 | 919 | 899 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

MAY-AUG 48 N

| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |
| 1000 | .77  | .78  | .79  | .80  | .81  | .82  | .82  | .82  | .83  | .83  | .82  | .82  | .82  | .81  | .81  | .80  | .79  | .78  | .77  | .75  | .74  | .72  | .71  | .69  |
|      | .032 | .048 | .061 | .072 | .081 | .087 | .092 | .095 | .095 | .094 | .091 | .087 | .082 | .075 | .057 | .057 | .046 | .034 | .018 | .003 | .987 | .969 | .950 | .930 |
| 15   | .79  | .80  | .81  | .82  | .83  | .84  | .84  | .84  | .85  | .85  | .84  | .84  | .84  | .83  | .83  | .82  | .81  | .80  | .79  | .77  | .75  | .75  | .73  | .71  |
|      | .058 | .073 | .086 | .097 | .106 | .112 | .117 | .120 | .120 | .119 | .117 | .113 | .103 | .101 | .093 | .084 | .073 | .062 | .046 | .031 | .015 | .997 | .978 | .957 |
| 30   | .80  | .82  | .83  | .84  | .85  | .85  | .86  | .86  | .86  | .86  | .86  | .86  | .86  | .85  | .85  | .84  | .83  | .82  | .80  | .75  | .73  | .76  | .75  | .73  |
|      | .080 | .095 | .108 | .119 | .127 | .134 | .139 | .142 | .142 | .142 | .139 | .136 | .131 | .124 | .117 | .108 | .097 | .086 | .070 | .055 | .039 | .021 | .002 | .981 |
| 45   | .82  | .83  | .84  | .85  | .86  | .87  | .87  | .87  | .88  | .88  | .88  | .87  | .87  | .86  | .86  | .85  | .84  | .83  | .82  | .81  | .79  | .78  | .76  | .75  |
|      | .099 | .114 | .127 | .138 | .146 | .152 | .158 | .160 | .161 | .161 | .159 | .155 | .150 | .144 | .137 | .128 | .118 | .107 | .091 | .073 | .053 | .042 | .023 | .002 |
| 1100 | .83  | .84  | .85  | .86  | .87  | .88  | .88  | .89  | .89  | .89  | .89  | .89  | .89  | .88  | .87  | .86  | .86  | .85  | .83  | .82  | .81  | .79  | .78  | .76  |
|      | .115 | .130 | .142 | .153 | .161 | .168 | .173 | .176 | .177 | .176 | .175 | .171 | .167 | .161 | .154 | .145 | .135 | .124 | .108 | .091 | .078 | .060 | .040 | .019 |
| 15   | .84  | .85  | .86  | .87  | .88  | .89  | .89  | .89  | .90  | .90  | .90  | .89  | .89  | .89  | .88  | .87  | .87  | .86  | .84  | .83  | .82  | .80  | .79  | .77  |
|      | .127 | .142 | .154 | .164 | .173 | .179 | .185 | .188 | .189 | .189 | .187 | .184 | .180 | .174 | .167 | .159 | .149 | .138 | .123 | .108 | .092 | .074 | .054 | .032 |
| 30   | .84  | .86  | .87  | .88  | .89  | .89  | .90  | .90  | .90  | .90  | .90  | .90  | .90  | .89  | .89  | .88  | .87  | .86  | .85  | .84  | .83  | .81  | .79  | .78  |
|      | .135 | .150 | .162 | .172 | .181 | .187 | .193 | .196 | .198 | .198 | .196 | .194 | .190 | .184 | .173 | .169 | .160 | .149 | .133 | .113 | .102 | .084 | .064 | .042 |
| 45   | .85  | .86  | .87  | .88  | .89  | .90  | .90  | .91  | .91  | .91  | .91  | .91  | .90  | .90  | .89  | .89  | .88  | .87  | .86  | .84  | .83  | .82  | .80  | .78  |
|      | .140 | .154 | .167 | .177 | .185 | .192 | .198 | .201 | .203 | .203 | .202 | .200 | .193 | .191 | .184 | .176 | .167 | .156 | .140 | .125 | .109 | .090 | .070 | .048 |
| 1200 | .85  | .86  | .87  | .88  | .89  | .90  | .90  | .91  | .91  | .91  | .91  | .91  | .91  | .90  | .90  | .89  | .88  | .87  | .86  | .85  | .83  | .82  | .80  | .78  |
|      | .141 | .155 | .167 | .178 | .186 | .193 | .199 | .203 | .205 | .205 | .205 | .202 | .199 | .194 | .187 | .179 | .170 | .159 | .143 | .123 | .112 | .093 | .072 | .050 |
| 15   | .85  | .86  | .87  | .88  | .89  | .89  | .90  | .90  | .91  | .91  | .91  | .91  | .91  | .90  | .90  | .89  | .88  | .87  | .86  | .85  | .83  | .82  | .80  | .78  |
|      | .138 | .153 | .165 | .175 | .184 | .191 | .197 | .201 | .203 | .204 | .203 | .201 | .193 | .193 | .187 | .179 | .170 | .159 | .143 | .123 | .111 | .092 | .071 | .048 |
| 30   | .84  | .85  | .87  | .87  | .88  | .89  | .90  | .90  | .90  | .91  | .91  | .90  | .90  | .90  | .89  | .89  | .88  | .87  | .86  | .85  | .83  | .81  | .80  | .78  |
|      | .132 | .146 | .158 | .169 | .178 | .185 | .192 | .195 | .198 | .199 | .199 | .197 | .194 | .189 | .183 | .175 | .166 | .155 | .139 | .124 | .107 | .087 | .066 | .043 |
| 45   | .83  | .85  | .86  | .87  | .88  | .88  | .89  | .89  | .90  | .90  | .90  | .90  | .90  | .89  | .89  | .88  | .87  | .86  | .85  | .83  | .82  | .81  | .79  | .77  |
|      | .122 | .136 | .148 | .159 | .168 | .175 | .182 | .187 | .189 | .191 | .191 | .189 | .186 | .182 | .176 | .168 | .159 | .147 | .131 | .116 | .090 | .079 | .057 | .033 |

TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/MV\*2.) ... SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY .



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |     |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |     |  |
| 1300 | .82  | .84  | .85  | .86  | .87  | .87  | .88  | .88  | .89  | .89  | .89  | .89  | .89  | .88  | .88  | .88  | .87  | .87  | .86  | .84  | .83  | .81  | .80  | .78  | .76 |  |
|      | *108 | *122 | *135 | *146 | *155 | *162 | *170 | *174 | *177 | *179 | *179 | *178 | *175 | *171 | *165 | *157 | *148 | *136 | *120 | *103 | .087 | .067 | *045 | *020 |     |  |
| 15   | .81  | .82  | .83  | .84  | .85  | .86  | .87  | .87  | .88  | .88  | .88  | .88  | .88  | .87  | .87  | .87  | .86  | .85  | .84  | .83  | .82  | .80  | .79  | .77  | .75 |  |
|      | *091 | *105 | *118 | *129 | *138 | *146 | *154 | *158 | *162 | *164 | *164 | *163 | *160 | *156 | *150 | *143 | *133 | *122 | *105 | *083 | .071 | .051 | *028 | *004 |     |  |
| 30   | .80  | .81  | .82  | .83  | .84  | .85  | .85  | .86  | .86  | .86  | .87  | .87  | .86  | .86  | .86  | .85  | .84  | .83  | .82  | .80  | .79  | .77  | .75  | .73  |     |  |
|      | *070 | *085 | *097 | *109 | *118 | *126 | *134 | *139 | *143 | *145 | *146 | *145 | *143 | *138 | *133 | *125 | *115 | *104 | *087 | .071 | .052 | *032 | *009 | 983  |     |  |
| 45   | .78  | .79  | .80  | .81  | .82  | .83  | .84  | .84  | .85  | .85  | .85  | .85  | .85  | .84  | .84  | .83  | .83  | .82  | .80  | .79  | .77  | .75  | .74  | .71  |     |  |
|      | *046 | *061 | *074 | *085 | *095 | *103 | *112 | *117 | *121 | *123 | *124 | *124 | *121 | *117 | *112 | *104 | *094 | *083 | *066 | .040 | .030 | .009 | 985  | 960  |     |  |
| 1400 | .76  | .77  | .78  | .79  | .80  | .81  | .82  | .82  | .83  | .83  | .83  | .83  | .83  | .83  | .83  | .82  | .81  | .80  | .78  | .77  | .75  | .73  | .72  | .69  |     |  |
|      | *019 | *033 | *047 | *058 | *069 | *077 | *086 | *092 | *096 | *099 | *100 | *099 | *097 | .093 | .087 | .080 | .070 | .058 | .041 | .024 | .004 | 983  | 959  | 932  |     |  |
| 15   | .73  | .75  | .76  | .77  | .78  | .79  | .80  | .80  | .81  | .81  | .81  | .81  | .81  | .81  | .80  | .79  | .79  | .78  | .76  | .75  | .73  | .71  | .69  | .67  |     |  |
|      | 988  | *003 | *016 | *028 | *039 | *048 | *057 | *063 | *068 | *071 | *072 | *072 | *070 | .066 | .060 | .052 | *042 | *030 | .013 | .995 | .975 | .953 | 929  | 902  |     |  |
| 30   | .71  | .72  | .73  | .75  | .75  | .76  | .77  | .78  | .78  | .79  | .79  | .79  | .79  | .78  | .78  | .77  | .76  | .75  | .74  | .72  | .71  | .69  | .67  | .65  |     |  |
|      | 954  | 969  | 983  | 996  | *007 | *016 | *026 | *032 | *037 | *040 | *042 | *041 | *040 | .036 | .030 | .022 | *012 | .999 | .981 | .964 | .943 | .921 | 896  | 868  |     |  |
| 45   | .68  | .70  | .71  | .72  | .73  | .74  | .75  | .75  | .76  | .76  | .76  | .76  | .76  | .76  | .75  | .75  | .74  | .73  | .71  | .70  | .68  | .66  | .64  | .62  |     |  |
|      | 918  | 933  | 947  | 960  | 971  | 981  | 991  | 998  | *003 | *006 | *008 | *008 | *006 | .003 | .997 | .989 | .978 | .966 | .947 | .929 | .908 | .885 | 859  | 831  |     |  |
| 1500 | .65  | .67  | .68  | .69  | .70  | .71  | .72  | .72  | .73  | .73  | .73  | .73  | .73  | .73  | .73  | .72  | .71  | .70  | .68  | .67  | .65  | .63  | .61  | .59  |     |  |
|      | 878  | 894  | 909  | 922  | 933  | 944  | 954  | 961  | 966  | 970  | 972  | 972  | 971  | .967 | .961 | .953 | .942 | .929 | .910 | .892 | .870 | .847 | 820  | 792  |     |  |
| 15   | .62  | .64  | .65  | .66  | .67  | .68  | .69  | .69  | .70  | .70  | .71  | .71  | .71  | .70  | .70  | .70  | .69  | .68  | .67  | .65  | .64  | .62  | .60  | .58  | .56 |  |
|      | 836  | 853  | 867  | 881  | 893  | 904  | 915  | 922  | 928  | 932  | 934  | 934  | 932  | .929 | .922 | .914 | .903 | .890 | .871 | .852 | .830 | .806 | .779 | 749  |     |  |
| 30   | .59  | .60  | .62  | .63  | .64  | .65  | .66  | .66  | .67  | .67  | .67  | .68  | .67  | .67  | .67  | .66  | .65  | .64  | .62  | .61  | .59  | .57  | .55  | .52  |     |  |
|      | 792  | 809  | 824  | 838  | 850  | 861  | 873  | 880  | 886  | 891  | 893  | 893  | 892  | .888 | .882 | .873 | .862 | .848 | .829 | .803 | .787 | .762 | .735 | 705  |     |  |
| 45   | .55  | .57  | .58  | .59  | .60  | .61  | .62  | .63  | .64  | .64  | .64  | .64  | .64  | .64  | .63  | .63  | .62  | .61  | .59  | .57  | .55  | .54  | .51  | .49  |     |  |
|      | 745  | 762  | 778  | 792  | 805  | 817  | 829  | 837  | 843  | 847  | 850  | 851  | 849  | .845 | .839 | .830 | .819 | .805 | .784 | .764 | .742 | .716 | .688 | 658  |     |  |

MAY-AUG 48 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z =1.  
 XO (W/M\*2.) ADD 1000 TO VALUES PRECEDED BY .



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     | JUN |     |     |     | JUL |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1900 | .03  | .05 | .06 | .08 | .09 | .11 | .12 | .13 | .14 | .14 | .14 | .14 |
|      | 039  | 062 | 085 | 105 | 124 | 141 | 158 | 170 | 179 | 185 | 189 | 189 |
| 15   | .00  | .01 | .02 | .04 | .05 | .07 | .08 | .09 | .10 | .10 | .10 | .10 |
|      | 000  | 009 | 032 | 053 | 072 | 089 | 107 | 119 | 128 | 134 | 138 | 138 |
| 30   | .00  | .00 | .00 | .00 | .02 | .03 | .04 | .05 | .06 | .06 | .07 | .07 |
|      | 000  | 000 | 000 | 002 | 021 | 039 | 057 | 069 | 078 | 084 | 083 | 088 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .02 | .03 | .03 | .03 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 008 | 020 | 029 | 036 | 039 | 039 |

TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M=2.) ... SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY \*



| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |
| 0800 | .43  | .41  | .39  | .37  | .35  | .33  | .31  | .28  | .26  | .24  | .22  | .19  | .16  | .14  | .12  | .10  | .08  | .06  | .05  | .03  | .03  | .02  | .01  | .01  |  |
|      | 577  | 554  | 529  | 504  | 477  | 449  | 421  | 391  | 360  | 329  | 298  | 266  | 223  | 196  | 169  | 140  | 114  | 090  | 069  | 050  | 035  | 024  | 016  | 012  |  |
| 15   | .47  | .45  | .43  | .41  | .39  | .37  | .34  | .32  | .30  | .27  | .25  | .23  | .20  | .18  | .15  | .13  | .12  | .10  | .08  | .07  | .05  | .05  | .05  | .04  |  |
| 30   | .627 | .603 | .579 | .553 | .527 | .499 | .470 | .440 | .409 | .378 | .346 | .314 | .276 | .246 | .216 | .188 | .161 | .137 | .116 | .098 | .083 | .072 | .064 | .061 |  |
|      | .50  | .48  | .46  | .44  | .42  | .40  | .38  | .35  | .33  | .31  | .28  | .26  | .23  | .21  | .19  | .17  | .15  | .13  | .11  | .10  | .09  | .08  | .08  | .08  |  |
| 45   | .674 | .651 | .626 | .601 | .574 | .546 | .517 | .486 | .455 | .424 | .392 | .360 | .322 | .291 | .261 | .233 | .206 | .182 | .161 | .143 | .129 | .118 | .111 | .108 |  |
|      | .53  | .52  | .50  | .48  | .45  | .43  | .41  | .39  | .36  | .34  | .31  | .29  | .26  | .24  | .22  | .20  | .18  | .16  | .15  | .13  | .12  | .11  | .11  | .11  |  |
| 0900 | .719 | .696 | .671 | .646 | .618 | .590 | .561 | .530 | .499 | .467 | .435 | .403 | .364 | .332 | .303 | .275 | .249 | .225 | .204 | .185 | .172 | .161 | .155 | .152 |  |
|      | .57  | .55  | .53  | .51  | .48  | .46  | .44  | .42  | .39  | .37  | .34  | .32  | .29  | .27  | .25  | .22  | .21  | .19  | .17  | .15  | .15  | .14  | .14  | .14  |  |
| 15   | .762 | .738 | .714 | .688 | .660 | .632 | .602 | .572 | .540 | .508 | .475 | .443 | .404 | .373 | .343 | .315 | .289 | .265 | .244 | .227 | .213 | .202 | .196 | .194 |  |
|      | .59  | .58  | .56  | .54  | .51  | .49  | .47  | .44  | .42  | .40  | .37  | .35  | .32  | .29  | .27  | .25  | .23  | .22  | .20  | .19  | .18  | .17  | .17  | .17  |  |
| 30   | .802 | .778 | .753 | .727 | .700 | .671 | .641 | .610 | .578 | .546 | .513 | .480 | .442 | .410 | .380 | .352 | .326 | .302 | .282 | .264 | .251 | .241 | .235 | .234 |  |
|      | .62  | .60  | .58  | .56  | .54  | .52  | .49  | .47  | .44  | .42  | .40  | .37  | .34  | .32  | .30  | .28  | .26  | .24  | .22  | .21  | .20  | .20  | .19  | .19  |  |
| 45   | .838 | .815 | .790 | .763 | .736 | .707 | .676 | .645 | .613 | .580 | .547 | .514 | .476 | .444 | .414 | .386 | .360 | .336 | .316 | .297 | .286 | .276 | .271 | .270 |  |
|      | .65  | .63  | .61  | .59  | .56  | .54  | .52  | .49  | .47  | .44  | .42  | .39  | .36  | .34  | .32  | .30  | .28  | .26  | .25  | .23  | .23  | .22  | .22  | .22  |  |
| 1000 | .872 | .849 | .823 | .797 | .769 | .739 | .709 | .677 | .645 | .612 | .578 | .545 | .506 | .475 | .445 | .417 | .391 | .368 | .348 | .331 | .316 | .309 | .304 | .304 |  |
|      | .67  | .65  | .63  | .61  | .59  | .56  | .54  | .51  | .49  | .46  | .44  | .41  | .38  | .36  | .34  | .32  | .30  | .28  | .27  | .25  | .25  | .24  | .24  | .24  |  |
| 15   | .903 | .879 | .854 | .827 | .798 | .768 | .738 | .706 | .673 | .640 | .606 | .573 | .534 | .502 | .472 | .444 | .419 | .396 | .376 | .360 | .347 | .339 | .334 | .334 |  |
|      | .69  | .67  | .65  | .63  | .61  | .58  | .56  | .53  | .51  | .48  | .46  | .43  | .40  | .38  | .35  | .33  | .32  | .30  | .28  | .27  | .26  | .26  | .26  | .26  |  |
| 30   | .930 | .906 | .880 | .853 | .824 | .794 | .763 | .731 | .698 | .664 | .630 | .597 | .558 | .526 | .496 | .468 | .443 | .420 | .401 | .385 | .373 | .365 | .361 | .362 |  |
|      | .71  | .69  | .67  | .64  | .62  | .60  | .57  | .55  | .52  | .50  | .47  | .44  | .42  | .39  | .37  | .35  | .33  | .31  | .30  | .29  | .28  | .27  | .27  | .27  |  |
| 45   | .954 | .930 | .904 | .876 | .847 | .816 | .785 | .752 | .719 | .685 | .651 | .618 | .578 | .547 | .517 | .489 | .464 | .441 | .422 | .407 | .395 | .388 | .385 | .386 |  |
|      | .72  | .70  | .68  | .66  | .64  | .61  | .59  | .56  | .53  | .51  | .48  | .46  | .43  | .40  | .38  | .36  | .34  | .33  | .31  | .30  | .29  | .29  | .29  | .29  |  |
| 1100 | .974 | .950 | .923 | .895 | .866 | .835 | .803 | .770 | .736 | .702 | .668 | .634 | .595 | .564 | .534 | .506 | .481 | .459 | .440 | .425 | .414 | .407 | .405 | .406 |  |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
COS Z  
XO (W/M\*2.)

TABLE B-1

SEP-DEC 48 N

| MST  | SEP  |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1100 | .74  | .71 | .69 | .67 | .65 | .62 | .60 | .57 | .54 | .52 | .49  | .47 | .44 | .41 | .39 | .37 | .35 | .34 | .32 | .31 | .30 | .30 | .30 | .30 |  |
|      | 991  | 966 | 939 | 911 | 881 | 850 | 817 | 784 | 750 | 716 | 681  | 648 | 605 | 577 | 547 | 520 | 495 | 473 | 455 | 440 | 430 | 423 | 421 | 424 |  |
| 15   | .75  | .72 | .70 | .68 | .65 | .63 | .60 | .58 | .55 | .52 | .50  | .47 | .44 | .42 | .40 | .38 | .36 | .34 | .33 | .32 | .31 | .31 | .31 | .31 |  |
|      | *004 | 979 | 951 | 923 | 892 | 861 | 828 | 794 | 760 | 725 | 691  | 657 | 617 | 585 | 557 | 529 | 505 | 484 | 466 | 452 | 442 | 436 | 434 | 437 |  |
| 30   | .75  | .73 | .71 | .68 | .66 | .64 | .61 | .58 | .56 | .53 | .50  | .48 | .45 | .42 | .40 | .38 | .36 | .35 | .34 | .33 | .32 | .31 | .31 | .32 |  |
|      | *013 | 987 | 960 | 931 | 900 | 868 | 834 | 800 | 766 | 731 | 696  | 662 | 623 | 592 | 562 | 535 | 511 | 490 | 473 | 457 | 450 | 444 | 443 | 447 |  |
| 45   | .76  | .73 | .71 | .69 | .66 | .64 | .61 | .58 | .56 | .53 | .50  | .48 | .45 | .43 | .40 | .38 | .37 | .35 | .34 | .33 | .32 | .32 | .32 | .32 |  |
|      | *019 | 992 | 964 | 935 | 903 | 871 | 837 | 803 | 768 | 733 | 698  | 664 | 624 | 593 | 564 | 538 | 514 | 493 | 476 | 463 | 454 | 449 | 449 | 453 |  |
| 1200 | .76  | .74 | .71 | .69 | .66 | .64 | .61 | .58 | .56 | .53 | .50  | .48 | .45 | .42 | .40 | .38 | .37 | .35 | .34 | .33 | .32 | .32 | .32 | .32 |  |
|      | *020 | 994 | 965 | 935 | 903 | 870 | 836 | 801 | 766 | 731 | 696  | 662 | 622 | 591 | 562 | 536 | 513 | 492 | 476 | 463 | 455 | 451 | 451 | 456 |  |
| 15   | .76  | .73 | .71 | .69 | .66 | .63 | .61 | .58 | .55 | .52 | .50  | .47 | .44 | .42 | .40 | .38 | .36 | .35 | .34 | .33 | .32 | .32 | .32 | .32 |  |
|      | *018 | 991 | 962 | 931 | 899 | 865 | 831 | 796 | 760 | 725 | 690  | 655 | 616 | 585 | 557 | 531 | 508 | 488 | 472 | 460 | 452 | 448 | 449 | 454 |  |
| 30   | .75  | .73 | .70 | .68 | .65 | .63 | .60 | .57 | .54 | .52 | .49  | .46 | .44 | .41 | .39 | .37 | .36 | .34 | .33 | .32 | .32 | .31 | .31 | .32 |  |
|      | *012 | 984 | 955 | 923 | 891 | 857 | 822 | 786 | 751 | 715 | 680  | 645 | 606 | 576 | 547 | 521 | 499 | 480 | 464 | 453 | 445 | 442 | 444 | 449 |  |
| 45   | .74  | .72 | .70 | .67 | .65 | .62 | .59 | .56 | .53 | .51 | .48  | .45 | .43 | .40 | .38 | .36 | .35 | .33 | .32 | .31 | .31 | .31 | .31 | .31 |  |
|      | *002 | 974 | 944 | 912 | 879 | 844 | 809 | 773 | 737 | 701 | 666  | 632 | 593 | 562 | 534 | 509 | 486 | 468 | 453 | 442 | 435 | 432 | 434 | 441 |  |
| 1300 | .73  | .71 | .69 | .66 | .63 | .61 | .58 | .55 | .52 | .49 | .47  | .44 | .41 | .39 | .37 | .35 | .33 | .32 | .31 | .30 | .30 | .30 | .30 | .30 |  |
|      | 988  | 960 | 929 | 897 | 863 | 828 | 792 | 756 | 720 | 684 | 648  | 614 | 575 | 545 | 517 | 492 | 470 | 452 | 437 | 427 | 421 | 419 | 421 | 428 |  |
| 15   | .72  | .70 | .67 | .65 | .62 | .59 | .56 | .54 | .51 | .48 | .45  | .43 | .40 | .38 | .35 | .34 | .32 | .31 | .30 | .29 | .29 | .28 | .29 | .29 |  |
|      | 971  | 942 | 911 | 878 | 844 | 808 | 772 | 735 | 699 | 663 | 627  | 593 | 554 | 524 | 496 | 472 | 450 | 433 | 419 | 409 | 403 | 402 | 405 | 412 |  |
| 30   | .71  | .68 | .66 | .63 | .60 | .57 | .55 | .52 | .49 | .46 | .43  | .41 | .39 | .36 | .34 | .32 | .30 | .29 | .26 | .27 | .27 | .27 | .27 | .28 |  |
|      | 950  | 920 | 888 | 855 | 820 | 785 | 748 | 711 | 674 | 638 | 602  | 568 | 530 | 500 | 472 | 448 | 427 | 410 | 397 | 387 | 382 | 381 | 385 | 393 |  |
| 45   | .69  | .66 | .64 | .61 | .58 | .55 | .53 | .50 | .47 | .44 | .41  | .39 | .36 | .34 | .32 | .30 | .29 | .27 | .26 | .27 | .25 | .25 | .26 | .26 |  |
|      | 926  | 895 | 863 | 829 | 794 | 757 | 721 | 683 | 646 | 610 | 574  | 540 | 501 | 472 | 445 | 421 | 401 | 384 | 371 | 362 | 353 | 357 | 361 | 370 |  |

... SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
 X0 (W/M\*\*2.)

SEP-DEC 48 N

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1400 | .67 | .64 | .62 | .59 | .56 | .53 | .50 | .47 | .45 | .42 | .39 | .37 | .34 | .32 | .30 | .28 | .26 | .25 | .24 | .21 | .23 | .23 | .24 | .24 |
|      | 898 | 867 | 834 | 799 | 764 | 727 | 690 | 652 | 615 | 578 | 543 | 506 | 470 | 441 | 414 | 391 | 371 | 354 | 342 | 334 | 330 | 330 | 335 | 343 |
| 15   | .64 | .62 | .59 | .56 | .54 | .51 | .48 | .45 | .42 | .39 | .37 | .34 | .31 | .29 | .27 | .26 | .24 | .23 | .22 | .21 | .21 | .21 | .22 | .22 |
|      | 866 | 835 | 801 | 766 | 730 | 693 | 655 | 618 | 580 | 543 | 508 | 474 | 436 | 407 | 360 | 357 | 338 | 322 | 310 | 302 | 295 | 300 | 305 | 314 |
| 30   | .62 | .59 | .57 | .54 | .51 | .48 | .45 | .42 | .39 | .37 | .34 | .31 | .28 | .26 | .25 | .23 | .22 | .20 | .20 | .19 | .19 | .19 | .19 | .20 |
|      | 832 | 800 | 766 | 730 | 694 | 656 | 618 | 580 | 542 | 505 | 470 | 436 | 398 | 369 | 343 | 321 | 302 | 286 | 275 | 265 | 255 | 266 | 272 | 281 |
| 45   | .59 | .56 | .54 | .51 | .48 | .45 | .42 | .39 | .36 | .34 | .31 | .28 | .25 | .23 | .22 | .20 | .19 | .18 | .17 | .15 | .15 | .16 | .17 | .17 |
|      | 795 | 762 | 727 | 691 | 654 | 616 | 578 | 539 | 501 | 465 | 429 | 395 | 358 | 329 | 304 | 281 | 263 | 248 | 237 | 230 | 230 | 230 | 235 | 245 |
| 1500 | .56 | .53 | .51 | .48 | .45 | .42 | .39 | .36 | .33 | .30 | .28 | .25 | .23 | .21 | .19 | .17 | .16 | .15 | .14 | .14 | .13 | .14 | .14 | .15 |
|      | 754 | 721 | 686 | 649 | 612 | 573 | 534 | 496 | 458 | 421 | 385 | 352 | 314 | 286 | 261 | 239 | 221 | 207 | 196 | 193 | 188 | 190 | 197 | 207 |
| 15   | .53 | .50 | .47 | .45 | .42 | .39 | .36 | .33 | .30 | .27 | .25 | .22 | .20 | .19 | .17 | .15 | .14 | .13 | .12 | .11 | .10 | .11 | .11 | .12 |
|      | 711 | 677 | 642 | 605 | 566 | 528 | 489 | 450 | 412 | 375 | 339 | 306 | 269 | 241 | 216 | 195 | 177 | 163 | 153 | 147 | 146 | 148 | 155 | 166 |
| 30   | .49 | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .26 | .24 | .21 | .19 | .16 | .14 | .12 | .11 | .09 | .08 | .08 | .07 | .07 | .07 | .08 | .09 |
|      | 666 | 631 | 595 | 557 | 519 | 480 | 440 | 401 | 363 | 326 | 291 | 257 | 221 | 193 | 169 | 148 | 130 | 117 | 108 | 102 | 101 | 104 | 111 | 122 |
| 45   | .46 | .43 | .40 | .37 | .34 | .31 | .28 | .26 | .23 | .20 | .17 | .15 | .12 | .10 | .09 | .07 | .06 | .05 | .04 | .04 | .04 | .04 | .05 | .05 |
|      | 618 | 583 | 546 | 508 | 469 | 430 | 390 | 351 | 313 | 275 | 240 | 207 | 170 | 143 | 119 | 099 | 082 | 069 | 060 | 055 | 054 | 058 | 065 | 076 |
| 1600 | .42 | .39 | .37 | .34 | .31 | .28 | .25 | .22 | .19 | .16 | .14 | .11 | .09 | .07 | .05 | .03 | .02 | .01 | .01 | .00 | .00 | .01 | .01 | .02 |
|      | 568 | 532 | 495 | 457 | 417 | 377 | 338 | 298 | 260 | 223 | 188 | 155 | 116 | 091 | 068 | 048 | 031 | 019 | 010 | 003 | 005 | 009 | 017 | 028 |
| 15   | .38 | .36 | .33 | .30 | .27 | .24 | .21 | .18 | .15 | .12 | .10 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 516 | 480 | 442 | 403 | 364 | 323 | 283 | 244 | 205 | 168 | 133 | 101 | 065 | 038 | 015 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .34 | .32 | .29 | .26 | .23 | .20 | .17 | .14 | .11 | .09 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 463 | 426 | 388 | 348 | 308 | 268 | 228 | 188 | 150 | 113 | 078 | 045 | 009 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .30 | .27 | .25 | .22 | .19 | .15 | .12 | .10 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 408 | 371 | 332 | 292 | 252 | 211 | 171 | 131 | 092 | 056 | 021 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

SEP-DEC 48 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | NOV |     |     |     |     |     |     |     |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |  |    |  |  |  |  |  |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|----|--|--|--|--|--|
|      | SEP  |     |     |     |     |     | OCT |     |     |     |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     |     | 15  |     |     |     |     |     | 20  |     |     |     |     |     | 25  |  |  |  |  |  | 30 |  |  |  |  |  |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |  |  |  |  |  |    |  |  |  |  |  |
| 1700 | .26  | .23 | .20 | .17 | .14 | .11 | .08 | .05 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |  |  |    |  |  |  |  |  |
|      | 352  | 314 | 275 | 235 | 194 | 153 | 112 | 073 | 034 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |  |  |  |    |  |  |  |  |  |
| 15   | .22  | .19 | .16 | .13 | .10 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |  |  |    |  |  |  |  |  |
|      | 295  | 256 | 217 | 176 | 135 | 094 | 054 | 014 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |  |  |  |    |  |  |  |  |  |
| 30   | .18  | .15 | .12 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |  |  |    |  |  |  |  |  |
|      | 237  | 198 | 158 | 117 | 076 | 035 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |  |  |  |    |  |  |  |  |  |
| 45   | .13  | .10 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |  |  |    |  |  |  |  |  |
|      | 178  | 139 | 099 | 058 | 017 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |  |  |  |    |  |  |  |  |  |
| 1800 | .09  | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |  |  |    |  |  |  |  |  |
|      | 120  | 080 | 040 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |  |  |  |    |  |  |  |  |  |
| 15   | .05  | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |  |  |    |  |  |  |  |  |
|      | 061  | 022 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |  |  |  |    |  |  |  |  |  |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |  |  |    |  |  |  |  |  |
|      | 003  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |  |  |  |    |  |  |  |  |  |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |  |  |  |    |  |  |  |  |  |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |  |  |  |    |  |  |  |  |  |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY -

SOLAR PARAMETERS  
X0 (W/M\*\*2.)

COS Z

TABLE B-1

48 N

SEP-DEC





| MST  | JAN   |     |     |     |     | FEB |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |
|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 1     | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |      |      |      |      |      |      |      |      |      |      |      |      |
| 0800 | .11   | .11 | .11 | .12 | .13 | .14 | .15 | .17 | .18 | .20 | .23 | .25 | .26 | .29 | .31 | .34 | .36 | .39 | .42 | .45  | .47  | .49  | .51  | .53  | .54  | .608 | .633 | .654 | .691 | .714 | .734 |
|      | 158   | 158 | 161 | 167 | 178 | 191 | 209 | 234 | 258 | 285 | 315 | 346 | 369 | 393 | 434 | 468 | 503 | 537 | 570 | 599  | 631  | 668  | 693  | 724  | 749  | 771  | 791  |      |      |      |      |
|      | .15   | .15 | .15 | .16 | .16 | .17 | .18 | .19 | .21 | .23 | .25 | .27 | .29 | .30 | .33 | .36 | .38 | .41 | .44 | .46  | .49  | .51  | .53  | .55  | .57  | .59  |      |      |      |      |      |
| 15   | 216   | 216 | 219 | 226 | 237 | 252 | 270 | 295 | 320 | 347 | 377 | 408 | 462 | 460 | 530 | 565 | 599 | 631 | 668 | 693  | 724  | 749  | 771  | 791  |      |      |      |      |      |      |      |
|      | .30   | .19 | .19 | .20 | .20 | .21 | .22 | .23 | .25 | .27 | .29 | .31 | .34 | .36 | .40 | .43 | .45 | .48 | .50 | .53  | .55  | .57  | .59  | .61  | .63  | .726 | .754 | .781 | .805 | .826 | .845 |
|      | 271   | 271 | 275 | 283 | 295 | 310 | 328 | 354 | 379 | 407 | 437 | 458 | 522 | 556 | 590 | 624 | 657 | 690 | 726 | 754  | 781  | 805  | 826  | 845  |      |      |      |      |      |      |      |
| 45   | .23   | .23 | .23 | .24 | .25 | .26 | .27 | .29 | .31 | .33 | .35 | .38 | .41 | .43 | .44 | .47 | .49 | .52 | .54 | .57  | .59  | .61  | .63  | .65  | .66  | .781 | .803 | .834 | .857 | .878 | .896 |
|      | 324   | 324 | 329 | 337 | 349 | 365 | 384 | 411 | 436 | 464 | 494 | 526 | 579 | 613 | 647 | 681 | 713 | 745 | 781 | 803  | 834  | 857  | 878  | 896  |      |      |      |      |      |      |      |
|      | .0900 | .26 | .27 | .27 | .28 | .28 | .30 | .31 | .33 | .35 | .37 | .39 | .42 | .46 | .48 | .51 | .53 | .56 | .58 | .61  | .63  | .65  | .67  | .69  | .70  | .833 | .860 | .885 | .907 | .927 | .945 |
| 15   | 373   | 373 | 380 | 389 | 401 | 418 | 437 | 464 | 490 | 519 | 549 | 581 | 634 | 667 | 701 | 734 | 767 | 798 | 833 | 860  | 885  | 907  | 927  | 945  |      |      |      |      |      |      |      |
|      | .15   | .30 | .30 | .30 | .31 | .32 | .33 | .35 | .37 | .39 | .41 | .43 | .45 | .49 | .52 | .54 | .57 | .59 | .62 | .64  | .67  | .69  | .70  | .72  | .73  | .881 | .903 | .932 | .954 | .973 | .990 |
|      | 420   | 422 | 428 | 437 | 450 | 467 | 487 | 515 | 541 | 570 | 600 | 632 | 685 | 719 | 752 | 785 | 817 | 847 | 881 | 903  | 932  | 954  | 973  | 990  |      |      |      |      |      |      |      |
| 30   | .33   | .33 | .33 | .34 | .35 | .36 | .38 | .40 | .42 | .44 | .46 | .49 | .53 | .55 | .58 | .60 | .63 | .65 | .68 | .70  | .72  | .74  | .75  | .77  | .927 | .952 | .976 | .997 | .016 | .032 |      |
|      | 463   | 466 | 472 | 482 | 496 | 513 | 534 | 563 | 589 | 618 | 648 | 680 | 733 | 766 | 799 | 832 | 863 | 893 | 927 | 952  | 976  | 997  | .016 | .032 |      |      |      |      |      |      |      |
|      | .45   | .36 | .36 | .36 | .37 | .38 | .39 | .41 | .43 | .45 | .47 | .50 | .52 | .56 | .58 | .61 | .63 | .66 | .68 | .71  | .73  | .75  | .76  | .78  | .79  | .968 | .993 | .015 | .037 | .055 | .071 |
| 1000 | 503   | 506 | 513 | 524 | 538 | 556 | 577 | 607 | 633 | 662 | 693 | 725 | 778 | 811 | 843 | 875 | 906 | 935 | 968 | 993  | .015 | .037 | .055 | .071 |      |      |      |      |      |      |      |
|      | .15   | .38 | .38 | .39 | .40 | .41 | .42 | .44 | .46 | .48 | .50 | .52 | .55 | .59 | .61 | .64 | .66 | .69 | .71 | .74  | .75  | .77  | .79  | .81  | .82  | .006 | .031 | .053 | .073 | .091 | .106 |
|      | 540   | 543 | 551 | 562 | 577 | 596 | 617 | 647 | 674 | 703 | 734 | 766 | 818 | 851 | 883 | 915 | 945 | 974 | 997 | .031 | .053 | .073 | .091 | .106 |      |      |      |      |      |      |      |
| 15   | .40   | .41 | .41 | .42 | .43 | .45 | .46 | .49 | .51 | .53 | .55 | .58 | .61 | .64 | .66 | .69 | .71 | .74 | .76 | .78  | .80  | .81  | .83  | .84  | .040 | .064 | .085 | .105 | .122 | .137 |      |
|      | 572   | 578 | 584 | 596 | 612 | 631 | 653 | 683 | 711 | 740 | 771 | 803 | 855 | 888 | 920 | 951 | 980 | 009 | 037 | .064 | .085 | .105 | .122 | .137 |      |      |      |      |      |      |      |
|      | .30   | .42 | .43 | .43 | .44 | .46 | .47 | .49 | .51 | .53 | .55 | .57 | .60 | .64 | .66 | .69 | .71 | .74 | .76 | .78  | .80  | .82  | .84  | .85  | .86  | .070 | .093 | .113 | .133 | .150 | .164 |
| 45   | 601   | 605 | 614 | 627 | 643 | 663 | 685 | 716 | 744 | 773 | 804 | 836 | 888 | 920 | 952 | 982 | 011 | 039 | 068 | .093 | .113 | .133 | .150 | .164 |      |      |      |      |      |      |      |
|      | .45   | .44 | .45 | .45 | .46 | .47 | .49 | .51 | .53 | .55 | .57 | .60 | .62 | .66 | .68 | .71 | .73 | .75 | .78 | .80  | .82  | .84  | .85  | .87  | .88  | .095 | .119 | .139 | .157 | .173 | .187 |
|      | 625   | 630 | 640 | 653 | 670 | 690 | 713 | 744 | 773 | 802 | 833 | 865 | 917 | 948 | 980 | 010 | 038 | 065 | 095 | .119 | .139 | .157 | .173 | .187 |      |      |      |      |      |      |      |

JAN-APR 38 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |       |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30    |     |     |     |     |     |
| 1100 | .46  | .46 | .47 | .48 | .49 | .51 | .52 | .55 | .57 | .59 | .61 | .64 | .65 | .70 | .72 | .75 | .77 | .79 | .82   | .84 | .85 | .87 | .88 | .89 |
|      | 646  | 651 | 662 | 676 | 693 | 714 | 737 | 769 | 797 | 827 | 858 | 890 | 941 | 972 | 003 | 033 | 061 | 087 | *117* | 133 | 153 | 176 | 192 | 206 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 15   | .47  | .47 | .48 | .49 | .50 | .52 | .54 | .56 | .58 | .60 | .63 | .65 | .69 | .71 | .74 | .76 | .78 | .81 | .83   | .85 | .85 | .88 | .89 | .90 |
|      | 662  | 668 | 679 | 694 | 712 | 733 | 757 | 789 | 817 | 847 | 878 | 910 | 961 | 992 | 022 | 051 | 079 | 105 | *133* | 155 | 174 | 192 | 207 | 220 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 30   | .48  | .48 | .49 | .50 | .51 | .53 | .55 | .57 | .59 | .62 | .64 | .66 | .70 | .73 | .75 | .77 | .79 | .81 | .84   | .85 | .87 | .89 | .90 | .91 |
|      | 674  | 680 | 692 | 707 | 726 | 748 | 772 | 804 | 833 | 863 | 894 | 926 | 976 | 007 | 037 | 065 | 092 | 118 | *146* | 167 | 186 | 203 | 217 | 230 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 45   | .48  | .49 | .50 | .51 | .52 | .54 | .56 | .58 | .60 | .62 | .65 | .67 | .71 | .73 | .76 | .78 | .80 | .82 | .84   | .85 | .88 | .89 | .90 | .92 |
|      | 681  | 689 | 701 | 717 | 736 | 758 | 783 | 815 | 844 | 874 | 905 | 937 | 987 | 017 | 047 | 075 | 101 | 126 | *153* | 174 | 193 | 209 | 223 | 236 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 1200 | .48  | .49 | .50 | .51 | .52 | .54 | .56 | .58 | .61 | .63 | .65 | .68 | .71 | .74 | .76 | .78 | .80 | .82 | .85   | .85 | .88 | .89 | .91 | .92 |
|      | 685  | 692 | 705 | 722 | 741 | 764 | 789 | 822 | 851 | 881 | 912 | 943 | 993 | 023 | 052 | 080 | 106 | 130 | *157* | 177 | 195 | 211 | 225 | 237 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 15   | .48  | .49 | .50 | .51 | .53 | .54 | .56 | .59 | .61 | .63 | .65 | .68 | .71 | .74 | .76 | .78 | .80 | .82 | .84   | .85 | .88 | .89 | .90 | .92 |
|      | 683  | 692 | 705 | 722 | 742 | 765 | 791 | 824 | 853 | 883 | 914 | 945 | 994 | 024 | 052 | 080 | 105 | 129 | *155* | 175 | 193 | 209 | 222 | 234 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 30   | .48  | .49 | .50 | .51 | .52 | .54 | .56 | .58 | .61 | .63 | .65 | .67 | .71 | .74 | .76 | .78 | .80 | .82 | .84   | .85 | .87 | .89 | .90 | .91 |
|      | 678  | 686 | 701 | 718 | 739 | 762 | 788 | 821 | 850 | 881 | 911 | 942 | 991 | 020 | 048 | 075 | 100 | 124 | *149* | 163 | 181 | 201 | 215 | 227 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 45   | .47  | .48 | .49 | .50 | .52 | .53 | .55 | .58 | .60 | .62 | .65 | .67 | .71 | .73 | .75 | .77 | .79 | .81 | .83   | .85 | .85 | .88 | .89 | .90 |
|      | 668  | 677 | 692 | 710 | 731 | 754 | 780 | 814 | 843 | 873 | 904 | 935 | 983 | 012 | 040 | 066 | 091 | 114 | *139* | 159 | 175 | 190 | 203 | 215 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 1300 | .46  | .47 | .48 | .49 | .51 | .53 | .55 | .57 | .59 | .61 | .64 | .66 | .70 | .72 | .74 | .76 | .78 | .80 | .82   | .81 | .85 | .87 | .88 | .89 |
|      | 654  | 663 | 678 | 697 | 718 | 742 | 768 | 802 | 832 | 862 | 892 | 923 | 970 | 000 | 026 | 052 | 077 | 099 | *124* | 142 | 159 | 174 | 187 | 199 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 15   | .45  | .46 | .47 | .48 | .50 | .51 | .53 | .56 | .58 | .60 | .62 | .65 | .63 | .71 | .73 | .75 | .77 | .79 | .81   | .82 | .83 | .85 | .86 | .87 |
|      | 635  | 645 | 661 | 680 | 701 | 726 | 752 | 786 | 815 | 846 | 876 | 906 | 953 | 982 | 009 | 034 | 058 | 080 | *104* | 122 | 133 | 154 | 167 | 178 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 30   | .43  | .44 | .45 | .47 | .48 | .50 | .52 | .54 | .57 | .59 | .61 | .63 | .67 | .69 | .71 | .73 | .75 | .77 | .79   | .81 | .82 | .83 | .84 | .86 |
|      | 612  | 623 | 639 | 658 | 680 | 705 | 732 | 765 | 795 | 825 | 855 | 885 | 932 | 960 | 986 | 011 | 035 | 056 | *080* | 093 | 114 | 129 | 142 | 154 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |
| 45   | .41  | .42 | .43 | .45 | .46 | .48 | .50 | .53 | .55 | .57 | .59 | .62 | .65 | .67 | .69 | .71 | .73 | .75 | .77   | .78 | .80 | .81 | .82 | .83 |
|      | 585  | 596 | 613 | 633 | 655 | 680 | 707 | 741 | 770 | 800 | 830 | 860 | 906 | 933 | 959 | 984 | 007 | 029 | *052* | 073 | 088 | 100 | 114 | 125 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |     |     |     |     |     |

JAN-APR 38 N      TABLE B-1      SOLAR PARAMETERS      COS Z      ... SIGNIFIES COS Z = 1.  
 X0 (W//H\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | MAR |     |     |     |     | APR |     |     |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30   |      |      |      |      |      |
| 1400 | .39 | .40 | .41 | .43 | .44 | .46 | .48 | .51 | .53 | .55 | .57 | .59 | .63 | .65 | .67 | .69 | .71 | .73 | .75  | .76  | .77  | .79  | .80  | .81  |
|      | 555 | 566 | 583 | 603 | 626 | 651 | 677 | 711 | 741 | 771 | 800 | 830 | 875 | 903 | 928 | 953 | 976 | 997 | .020 | .037 | .053 | .068 | .081 | .093 |
| 15   | .37 | .38 | .39 | .40 | .42 | .44 | .46 | .48 | .50 | .53 | .55 | .57 | .60 | .63 | .65 | .66 | .68 | .70 | .72  | .73  | .75  | .76  | .77  | .78  |
|      | 520 | 532 | 549 | 569 | 592 | 617 | 644 | 678 | 708 | 737 | 767 | 795 | 841 | 868 | 893 | 917 | 940 | 961 | .984 | .001 | .017 | .031 | .044 | .056 |
| 30   | .34 | .35 | .36 | .38 | .39 | .41 | .43 | .46 | .48 | .50 | .52 | .54 | .58 | .60 | .62 | .64 | .65 | .67 | .69  | .70  | .72  | .73  | .74  | .75  |
|      | 482 | 494 | 511 | 532 | 555 | 580 | 607 | 641 | 670 | 700 | 729 | 758 | 803 | 829 | 854 | 878 | 900 | 921 | .943 | .961 | .977 | .991 | .004 | .016 |
| 45   | .31 | .32 | .33 | .35 | .36 | .38 | .40 | .43 | .45 | .47 | .49 | .51 | .55 | .57 | .59 | .60 | .62 | .64 | .66  | .67  | .69  | .70  | .71  | .72  |
|      | 440 | 452 | 470 | 491 | 514 | 540 | 567 | 600 | 629 | 659 | 688 | 716 | 760 | 786 | 811 | 835 | 857 | 877 | .900 | .917 | .933 | .947 | .961 | .973 |
| 1500 | .28 | .29 | .30 | .32 | .33 | .35 | .37 | .40 | .42 | .44 | .46 | .48 | .51 | .53 | .55 | .57 | .59 | .60 | .62  | .64  | .65  | .66  | .68  | .69  |
|      | 395 | 407 | 426 | 447 | 470 | 495 | 522 | 556 | 585 | 614 | 642 | 671 | 714 | 740 | 765 | 788 | 809 | 830 | .852 | .863 | .885 | .900 | .914 | .926 |
| 15   | .25 | .25 | .27 | .28 | .30 | .32 | .34 | .36 | .38 | .40 | .42 | .45 | .48 | .50 | .52 | .53 | .55 | .57 | .59  | .60  | .61  | .63  | .64  | .65  |
|      | 346 | 359 | 378 | 399 | 422 | 448 | 474 | 508 | 537 | 565 | 594 | 622 | 665 | 690 | 715 | 738 | 759 | 779 | .802 | .813 | .835 | .850 | .864 | .877 |
| 30   | .21 | .22 | .23 | .25 | .26 | .28 | .30 | .32 | .35 | .37 | .39 | .41 | .44 | .46 | .48 | .50 | .51 | .53 | .55  | .56  | .57  | .59  | .60  | .61  |
|      | 295 | 308 | 327 | 348 | 371 | 397 | 424 | 457 | 485 | 514 | 542 | 570 | 612 | 637 | 661 | 684 | 705 | 726 | .748 | .765 | .781 | .797 | .811 | .824 |
| 45   | .17 | .18 | .19 | .21 | .23 | .24 | .26 | .29 | .31 | .33 | .35 | .37 | .40 | .42 | .44 | .46 | .47 | .49 | .51  | .52  | .53  | .55  | .56  | .57  |
|      | 241 | 254 | 273 | 294 | 318 | 343 | 370 | 403 | 431 | 459 | 487 | 514 | 557 | 581 | 605 | 628 | 649 | 669 | .691 | .703 | .725 | .741 | .755 | .769 |
| 1600 | .13 | .14 | .15 | .17 | .19 | .20 | .22 | .25 | .27 | .29 | .31 | .33 | .36 | .38 | .40 | .41 | .43 | .44 | .46  | .48  | .49  | .50  | .52  | .53  |
|      | 185 | 198 | 217 | 238 | 262 | 287 | 313 | 346 | 374 | 402 | 429 | 456 | 498 | 523 | 546 | 569 | 590 | 610 | .632 | .650 | .666 | .682 | .697 | .711 |
| 15   | .09 | .10 | .11 | .13 | .14 | .16 | .18 | .20 | .22 | .24 | .26 | .28 | .31 | .33 | .35 | .37 | .38 | .40 | .42  | .43  | .45  | .46  | .47  | .48  |
|      | 126 | 139 | 158 | 179 | 203 | 228 | 254 | 286 | 314 | 342 | 369 | 396 | 437 | 461 | 485 | 507 | 528 | 548 | .571 | .583 | .605 | .621 | .637 | .651 |
| 30   | .05 | .06 | .07 | .08 | .10 | .12 | .14 | .16 | .18 | .20 | .22 | .24 | .27 | .29 | .30 | .32 | .34 | .35 | .37  | .39  | .40  | .41  | .43  | .44  |
|      | 065 | 078 | 097 | 119 | 142 | 167 | 193 | 225 | 252 | 279 | 306 | 333 | 374 | 398 | 421 | 443 | 464 | 484 | .507 | .525 | .542 | .559 | .574 | .590 |
| 45   | .00 | .01 | .03 | .04 | .06 | .07 | .09 | .11 | .13 | .15 | .17 | .19 | .22 | .24 | .26 | .27 | .29 | .31 | .32  | .34  | .35  | .36  | .38  | .39  |
|      | 003 | 016 | 035 | 056 | 079 | 104 | 129 | 161 | 188 | 215 | 242 | 268 | 308 | 332 | 355 | 378 | 399 | 419 | .442 | .460 | .478 | .494 | .511 | .526 |

JAN-APR 38 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 XO (W/M\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |      |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|      | JAN  |     |     | FEB |     |     | MAR |     |     | APR |     |     | MAY |     |     | JUN |     |     | JUL |     |     | AUG |     |     |      |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30   |
| 1700 | .00  | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .11 | .13 | .14 | .17 | .19 | .21 | .23 | .24 | .26 | .27 | .29 | .30 | .32 | .33 | .34 | .375 |
|      | 000  | 000 | 000 | 000 | 015 | 039 | 064 | 096 | 122 | 149 | 175 | 201 | 241 | 265 | 288 | 310 | 331 | 352 | 375 | 393 | 411 | 429 | 445 | 462 |      |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .06 | .08 | .10 | .12 | .14 | .16 | .18 | .19 | .21 | .22 | .24 | .25 | .27 | .28 | .29 | .307 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 029 | 055 | 081 | 108 | 133 | 173 | 196 | 219 | 241 | 263 | 283 | 307 | 325 | 344 | 362 | 379 | 396 |      |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .11 | .12 | .14 | .16 | .17 | .19 | .20 | .22 | .23 | .24 | .238 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 013 | 038 | 064 | 103 | 127 | 150 | 172 | 193 | 214 | 238 | 257 | 276 | 294 | 312 | 329 |      |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .06 | .07 | .09 | .10 | .12 | .14 | .15 | .17 | .18 | .19 | .168 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 033 | 056 | 079 | 101 | 123 | 143 | 168 | 183 | 207 | 226 | 244 | 262 |      |
| 1800 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .04 | .05 | .07 | .09 | .10 | .12 | .13 | .14 | .098 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 008 | 030 | 052 | 073 | 098 | 113 | 138 | 157 | 176 | 195 |      |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .01 | .05 | .07 | .08 | .09 | .027 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 002 | 027 | 043 | 068 | 088 | 108 | 127 |      |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .03 | .05 | .000 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 020 | 040 | 060 |      |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .000 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |      |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

TABLE B-1

38 N

JAN-APR

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   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    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     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|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|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|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   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   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 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 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 0400 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .0 |

TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY .

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 0700 | .38 | .39 | .40 | .41 | .42 | .43 | .43 | .43 | .43 | .43 | .43 | .42 | .41 | .41 | .40 | .39 | .38 | .37 | .36 | .35 |
|      | 507 | 524 | 539 | 551 | 560 | 566 | 570 | 571 | 570 | 567 | 562 | 556 | 543 | 539 | 529 | 517 | 505 | 492 | 476 | 462 |
| 15   | .42 | .44 | .45 | .46 | .47 | .47 | .47 | .48 | .48 | .47 | .47 | .47 | .46 | .45 | .45 | .44 | .43 | .42 | .41 | .39 |
|      | 571 | 587 | 601 | 612 | 621 | 627 | 631 | 632 | 630 | 627 | 623 | 616 | 603 | 600 | 590 | 579 | 567 | 555 | 539 | 525 |
| 30   | .47 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 | .52 | .52 | .51 | .50 | .50 | .49 | .48 | .47 | .46 | .45 | .44 |
|      | 633 | 649 | 662 | 673 | 681 | 686 | 690 | 691 | 689 | 686 | 682 | 675 | 668 | 659 | 650 | 639 | 628 | 616 | 601 | 588 |
| 45   | .52 | .53 | .54 | .55 | .55 | .56 | .56 | .56 | .56 | .56 | .56 | .55 | .55 | .54 | .54 | .53 | .52 | .51 | .50 | .49 |
|      | 693 | 708 | 721 | 731 | 739 | 744 | 747 | 748 | 747 | 744 | 739 | 733 | 726 | 717 | 708 | 698 | 687 | 676 | 662 | 649 |
| 0800 | .56 | .57 | .58 | .59 | .60 | .60 | .60 | .61 | .61 | .60 | .60 | .60 | .59 | .58 | .58 | .57 | .56 | .55 | .54 | .53 |
|      | 751 | 766 | 778 | 788 | 795 | 800 | 803 | 803 | 802 | 799 | 794 | 789 | 782 | 774 | 765 | 755 | 745 | 734 | 720 | 708 |
| 15   | .60 | .61 | .62 | .63 | .64 | .64 | .64 | .65 | .65 | .64 | .64 | .64 | .63 | .63 | .62 | .61 | .60 | .60 | .58 | .57 |
|      | 807 | 822 | 833 | 843 | 849 | 854 | 857 | 857 | 855 | 852 | 848 | 842 | 836 | 828 | 820 | 811 | 801 | 790 | 777 | 765 |
| 30   | .64 | .65 | .66 | .67 | .68 | .68 | .68 | .68 | .68 | .68 | .68 | .68 | .67 | .67 | .66 | .65 | .64 | .64 | .62 | .62 |
|      | 861 | 875 | 886 | 895 | 901 | 905 | 908 | 908 | 907 | 904 | 899 | 894 | 888 | 880 | 872 | 863 | 854 | 844 | 831 | 820 |
| 45   | .68 | .69 | .70 | .71 | .71 | .72 | .72 | .72 | .72 | .72 | .72 | .71 | .71 | .70 | .70 | .69 | .68 | .67 | .66 | .65 |
|      | 912 | 925 | 936 | 944 | 950 | 954 | 957 | 957 | 955 | 952 | 948 | 943 | 937 | 930 | 922 | 914 | 905 | 895 | 883 | 872 |
| 0900 | .71 | .72 | .73 | .74 | .75 | .75 | .75 | .76 | .76 | .75 | .75 | .75 | .74 | .74 | .73 | .73 | .72 | .71 | .70 | .69 |
|      | 960 | 973 | 983 | 991 | 996 | 000 | 002 | 002 | 001 | 998 | 994 | 990 | 984 | 977 | 970 | 962 | 953 | 944 | 932 | 921 |
| 15   | .75 | .76 | .77 | .77 | .78 | .78 | .79 | .79 | .79 | .79 | .78 | .78 | .78 | .77 | .77 | .76 | .75 | .75 | .74 | .73 |
|      | 005 | 017 | 027 | 034 | 040 | 043 | 045 | 045 | 044 | 041 | 038 | 033 | 029 | 021 | 014 | 007 | 998 | 990 | 978 | 968 |
| 30   | .78 | .79 | .80 | .80 | .81 | .81 | .82 | .82 | .82 | .82 | .81 | .81 | .81 | .80 | .80 | .79 | .78 | .78 | .77 | .76 |
|      | 046 | 058 | 067 | 075 | 080 | 083 | 085 | 085 | 084 | 081 | 078 | 074 | 069 | 062 | 055 | 049 | 041 | 032 | 021 | 011 |
| 45   | .81 | .82 | .83 | .83 | .84 | .84 | .84 | .85 | .85 | .84 | .84 | .84 | .84 | .83 | .83 | .82 | .81 | .81 | .80 | .79 |
|      | 084 | 096 | 105 | 112 | 117 | 120 | 122 | 122 | 121 | 118 | 115 | 111 | 106 | 100 | 093 | 087 | 080 | 071 | 061 | 051 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (K/M\*\*2.)

MAY-AUG 38 N

| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |
| 1000 | .83  | .84  | .85  | .86  | .86  | .87  | .87  | .87  | .87  | .87  | .87  | .87  | .86  | .86  | .85  | .85  | .84  | .83  | .82  | .82  | .81  | .80  | .78  | .77  |
|      | *119 | *130 | *138 | *145 | *150 | *153 | *155 | *155 | *154 | *152 | *149 | *145 | *140 | *135 | *129 | *122 | *115 | *107 | .097 | .087 | .076 | .065 | .052 | .038 |
| 15   | .85  | .86  | .87  | .88  | .88  | .89  | .89  | .89  | .89  | .89  | .89  | .89  | .88  | .88  | .88  | .87  | .86  | .86  | .85  | .84  | .83  | .82  | .81  | .80  |
|      | *149 | *160 | *168 | *175 | *179 | *182 | *184 | *184 | *183 | *182 | *179 | *175 | *171 | *166 | *160 | *154 | *147 | *139 | *129 | *120 | *109 | .097 | .085 | .071 |
| 30   | .87  | .88  | .89  | .90  | .90  | .91  | .91  | .91  | .91  | .91  | .91  | .91  | .91  | .90  | .90  | .89  | .89  | .88  | .87  | .85  | .85  | .84  | .83  | .82  |
|      | *176 | *186 | *194 | *200 | *205 | *208 | *210 | *210 | *209 | *208 | *205 | *202 | *198 | *193 | *185 | *182 | *175 | *168 | *158 | *143 | .138 | .126 | .113 | .099 |
| 45   | .89  | .90  | .91  | .91  | .92  | .92  | .93  | .93  | .93  | .93  | .93  | .93  | .92  | .92  | .92  | .91  | .90  | .90  | .89  | .87  | .87  | .86  | .85  | .84  |
|      | *199 | *208 | *216 | *222 | *227 | *230 | *232 | *232 | *232 | *230 | *228 | *225 | *221 | *217 | *212 | *206 | *200 | *192 | *182 | *173 | .163 | .151 | .138 | .123 |
| 1100 | .90  | .91  | .92  | .93  | .93  | .94  | .94  | .94  | .94  | .94  | .94  | .94  | .94  | .93  | .93  | .93  | .92  | .91  | .90  | .90  | .89  | .88  | .86  | .85  |
|      | *217 | *226 | *234 | *240 | *245 | *248 | *250 | *250 | *250 | *249 | *247 | *244 | *241 | *237 | *232 | *226 | *220 | *213 | *203 | *194 | .193 | .171 | .158 | .143 |
| 15   | .92  | .92  | .93  | .94  | .94  | .95  | .95  | .95  | .95  | .95  | .95  | .95  | .95  | .95  | .94  | .94  | .93  | .93  | .92  | .91  | .90  | .89  | .88  | .86  |
|      | *231 | *240 | *248 | *254 | *258 | *261 | *264 | *264 | *264 | *263 | *262 | *259 | *256 | *252 | *248 | *243 | *236 | *229 | *220 | *210 | .200 | .188 | .174 | .159 |
| 30   | .92  | .93  | .94  | .95  | .95  | .95  | .96  | .96  | .96  | .96  | .96  | .96  | .96  | .95  | .95  | .95  | .94  | .94  | .93  | .92  | .91  | .90  | .88  | .87  |
|      | *241 | *250 | *257 | *263 | *268 | *271 | *273 | *274 | *275 | *274 | *272 | *270 | *268 | *264 | *250 | *255 | *249 | *242 | *232 | *223 | .212 | .200 | .186 | .170 |
| 45   | .93  | .94  | .94  | .95  | .95  | .96  | .96  | .96  | .97  | .97  | .97  | .97  | .96  | .96  | .96  | .95  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  |
|      | *247 | *255 | *263 | *269 | *273 | *277 | *279 | *280 | *281 | *280 | *279 | *277 | *275 | *272 | *268 | *263 | *257 | *250 | *240 | *231 | .220 | .207 | .193 | .177 |
| 1200 | .93  | .94  | .94  | .95  | .96  | .96  | .96  | .97  | .97  | .97  | .97  | .97  | .96  | .96  | .96  | .96  | .95  | .94  | .94  | .93  | .92  | .90  | .89  | .88  |
|      | *248 | *256 | *264 | *270 | *274 | *278 | *281 | *282 | *283 | *283 | *282 | *280 | *278 | *275 | *271 | *267 | *261 | *254 | *244 | *231 | .223 | .210 | .196 | .180 |
| 15   | .93  | .93  | .94  | .95  | .95  | .96  | .96  | .96  | .97  | .97  | .97  | .97  | .96  | .96  | .96  | .96  | .95  | .94  | .93  | .93  | .92  | .90  | .89  | .88  |
|      | *244 | *253 | *261 | *267 | *271 | *275 | *278 | *280 | *281 | *281 | *281 | *279 | *277 | *274 | *271 | *266 | *261 | *254 | *244 | *231 | .222 | .209 | .194 | .178 |
| 30   | .92  | .93  | .94  | .94  | .95  | .95  | .96  | .96  | .96  | .96  | .96  | .96  | .96  | .95  | .95  | .95  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .87  |
|      | *237 | *246 | *253 | *259 | *264 | *268 | *272 | *274 | *275 | *275 | *275 | *274 | *272 | *270 | .266 | .262 | .256 | .249 | *239 | *229 | .217 | .204 | .188 | .171 |
| 45   | .91  | .92  | .93  | .93  | .94  | .94  | .95  | .95  | .96  | .96  | .96  | .96  | .95  | .95  | .95  | .95  | .94  | .93  | .92  | .92  | .90  | .89  | .88  | .86  |
|      | *225 | *234 | *241 | *248 | *253 | *257 | *261 | *263 | *265 | *265 | *265 | *265 | *263 | .261 | .257 | .253 | .247 | .240 | *230 | *220 | .208 | .194 | .178 | .160 |

TABLE B-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
 MAY-AUG 38 N AD (W/X\*\*2.) ADD 1000 TO VALUES PRECEDED BY .



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |     |     |     |     |     |     |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5   | 10  | 15  | 20  | 25  | 30  |
| 1300 | .90  | .91  | .92  | .92  | .93  | .93  | .94  | .94  | .94  | .94  | .95  | .95  | .94  | .94  | .94  | .94  | .93  | .92  | .91 | .91 | .89 | .88 | .87 | .85 |
|      | *209 | *218 | *225 | *232 | *237 | *242 | *246 | *248 | *250 | *251 | *252 | *251 | *250 | *243 | *245 | *240 | *235 | *227 |     |     |     |     |     |     |
| 15   | .88  | .89  | .90  | .91  | .91  | .92  | .92  | .93  | .93  | .93  | .93  | .93  | .92  | .93  | .93  | .92  | .92  | .91  | .90 | .89 | .88 | .87 | .85 | .84 |
|      | *189 | *198 | *205 | *212 | *218 | *222 | *227 | *230 | *232 | *234 | *234 | *234 | *233 | *231 | *228 | *223 | *218 | *210 |     |     |     |     |     |     |
| 30   | .87  | .87  | .88  | .89  | .90  | .90  | .91  | .91  | .91  | .91  | .92  | .92  | .91  | .91  | .91  | .91  | .90  | .90  | .89 | .88 | .85 | .84 | .82 |     |
|      | *164 | *173 | *181 | *188 | *194 | *199 | *204 | *208 | *210 | *212 | *213 | *213 | *212 | *210 | *207 | *202 | *197 | *189 |     |     |     |     |     |     |
| 45   | .84  | .85  | .86  | .87  | .87  | .88  | .89  | .89  | .89  | .90  | .90  | .90  | .89  | .89  | .89  | .89  | .88  | .88  | .87 | .85 | .84 | .83 | .82 | .80 |
|      | *136 | *145 | *153 | *160 | *167 | *172 | *178 | *181 | *184 | *186 | *187 | *188 | *187 | *185 | *182 | *178 | *172 | *164 |     |     |     |     |     |     |
| 1400 | .82  | .83  | .84  | .84  | .85  | .86  | .86  | .87  | .87  | .87  | .88  | .88  | .88  | .87  | .87  | .87  | .86  | .85  | .84 | .83 | .82 | .81 | .79 | .77 |
|      | *103 | *113 | *121 | *129 | *136 | *141 | *147 | *151 | *155 | *157 | *159 | *159 | *158 | *157 | *154 | *149 | *143 | *135 |     |     |     |     |     |     |
| 15   | .79  | .80  | .81  | .82  | .83  | .83  | .84  | .84  | .85  | .85  | .85  | .85  | .85  | .85  | .85  | .84  | .84  | .83  | .82 | .81 | .80 | .78 | .77 | .75 |
|      | *067 | *077 | *086 | *094 | *101 | *107 | *113 | *118 | *121 | *124 | *126 | *127 | *126 | *125 | *122 | *117 | *111 | *102 |     |     |     |     |     |     |
| 30   | .76  | .77  | .78  | .79  | .80  | .80  | .81  | .81  | .82  | .82  | .82  | .82  | .82  | .82  | .82  | .82  | .81  | .80  | .79 | .78 | .77 | .75 | .74 | .72 |
|      | *028 | *038 | *047 | *055 | *063 | *069 | *076 | *081 | *085 | *088 | *090 | *091 | *091 | *089 | *085 | *081 | *075 | *066 |     |     |     |     |     |     |
| 45   | .73  | .74  | .75  | .76  | .77  | .77  | .78  | .78  | .79  | .79  | .79  | .79  | .79  | .79  | .79  | .79  | .78  | .77  | .76 | .75 | .74 | .72 | .71 | .69 |
|      | .984 | .995 | *004 | *013 | *021 | *028 | *036 | *041 | *045 | *048 | *051 | *052 | *052 | *050 | *047 | *042 | *035 | *026 |     |     |     |     |     |     |
| 1500 | .70  | .71  | .72  | .72  | .73  | .74  | .75  | .75  | .76  | .76  | .76  | .76  | .76  | .76  | .76  | .75  | .75  | .74  | .73 | .72 | .70 | .69 | .67 | .65 |
|      | .938 | .949 | .959 | .968 | .976 | .984 | .992 | .998 | *002 | *006 | *008 | *010 | *009 | *008 | *005 | *000 | .993 | .983 |     |     |     |     |     |     |
| 15   | .66  | .67  | .68  | .69  | .70  | .70  | .71  | .72  | .72  | .73  | .73  | .73  | .73  | .73  | .72  | .72  | .71  | .71  | .69 | .68 | .67 | .65 | .63 | .61 |
|      | .889 | .900 | .910 | .920 | .929 | .937 | .945 | .951 | .956 | .960 | .963 | .964 | .964 | .963 | .959 | .954 | .947 | .937 |     |     |     |     |     |     |
| 30   | .62  | .63  | .64  | .65  | .66  | .67  | .67  | .68  | .68  | .69  | .69  | .69  | .69  | .69  | .69  | .68  | .68  | .67  | .66 | .64 | .63 | .61 | .60 | .58 |
|      | .836 | .848 | .859 | .869 | .879 | .887 | .896 | .902 | .908 | .912 | .915 | .917 | .917 | .915 | .911 | .906 | .898 | .888 |     |     |     |     |     |     |
| 45   | .58  | .59  | .60  | .61  | .62  | .63  | .64  | .64  | .65  | .65  | .65  | .65  | .65  | .65  | .65  | .65  | .64  | .63  | .62 | .60 | .59 | .57 | .55 | .53 |
|      | .782 | .794 | .805 | .816 | .826 | .835 | .844 | .851 | .857 | .861 | .864 | .866 | .866 | .864 | .861 | .855 | .847 | .837 |     |     |     |     |     |     |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*2.)

MAY-AUG 38 N

| MST  | MAY  |     |     |     |     | JUN  |     |     |     |     | JUL  |     |     |     |     | AUG  |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30   | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1600 | .54  | .55 | .56 | .57 | .58 | .59  | .59 | .60 | .61 | .61 | .61  | .61 | .61 | .61 | .61 | .61  | .60 | .59 | .58 | .56 | .55 | .53 | .51 | .49 |     |
|      | 724  | 737 | 749 | 760 | 771 | 780  | 790 | 797 | 803 | 808 | 812  | 813 | 813 | 811 | 808 | 802  | 793 | 783 | 767 | 753 | 731 | 710 | 686 | 660 |     |
| 15   | .49  | .51 | .52 | .53 | .54 | .54  | .55 | .56 | .56 | .57 | .57  | .57 | .57 | .57 | .57 | .56  | .56 | .55 | .53 | .52 | .50 | .49 | .47 | .45 |     |
|      | 665  | 678 | 691 | 703 | 713 | 723  | 734 | 742 | 748 | 753 | 757  | 758 | 758 | 755 | 752 | 746  | 737 | 726 | 710 | 693 | 673 | 651 | 627 | 600 |     |
| 30   | .45  | .46 | .47 | .48 | .49 | .50  | .51 | .52 | .52 | .53 | .53  | .53 | .53 | .53 | .53 | .52  | .51 | .50 | .49 | .43 | .43 | .44 | .42 | .40 |     |
|      | 604  | 618 | 631 | 643 | 654 | 665  | 676 | 684 | 691 | 696 | 700  | 702 | 702 | 700 | 695 | 689  | 680 | 668 | 651 | 633 | 613 | 590 | 565 | 537 |     |
| 45   | .40  | .41 | .43 | .44 | .45 | .45  | .46 | .47 | .48 | .48 | .48  | .49 | .49 | .49 | .48 | .48  | .47 | .46 | .44 | .43 | .41 | .39 | .37 | .35 |     |
|      | 541  | 556 | 569 | 582 | 594 | 605  | 617 | 625 | 632 | 638 | 641  | 643 | 643 | 641 | 636 | 629  | 620 | 608 | 590 | 572 | 551 | 528 | 502 | 473 |     |
| 1700 | .35  | .37 | .38 | .39 | .40 | .41  | .42 | .43 | .43 | .44 | .44  | .44 | .44 | .44 | .44 | .43  | .42 | .41 | .40 | .33 | .37 | .35 | .33 | .30 |     |
|      | 477  | 492 | 506 | 520 | 532 | 544  | 556 | 565 | 572 | 578 | 581  | 583 | 583 | 581 | 576 | 569  | 559 | 546 | 528 | 503 | 489 | 464 | 437 | 408 |     |
| 15   | .31  | .32 | .33 | .34 | .35 | .36  | .37 | .38 | .39 | .39 | .39  | .40 | .40 | .39 | .39 | .38  | .37 | .36 | .35 | .33 | .32 | .30 | .28 | .25 |     |
|      | 412  | 427 | 442 | 456 | 469 | 481  | 494 | 503 | 511 | 517 | 521  | 523 | 523 | 522 | 515 | 507  | 497 | 484 | 464 | 445 | 423 | 398 | 371 | 341 |     |
| 30   | .26  | .27 | .28 | .29 | .30 | .31  | .33 | .33 | .34 | .34 | .35  | .35 | .35 | .35 | .35 | .34  | .33 | .32 | .30 | .29 | .27 | .25 | .23 | .20 |     |
|      | 346  | 362 | 377 | 392 | 406 | 418  | 431 | 441 | 449 | 455 | 459  | 461 | 461 | 460 | 458 | 452  | 444 | 434 | 400 | 380 | 357 | 332 | 304 | 274 |     |
| 45   | .21  | .22 | .23 | .25 | .26 | .27  | .28 | .29 | .29 | .30 | .30  | .30 | .30 | .30 | .30 | .29  | .28 | .27 | .25 | .21 | .22 | .20 | .18 | .15 |     |
|      | 279  | 296 | 312 | 327 | 342 | 355  | 368 | 378 | 386 | 392 | 397  | 398 | 398 | 393 | 395 | 389  | 381 | 370 | 335 | 314 | 291 | 265 | 237 | 206 |     |
| 1800 | .16  | .17 | .18 | .20 | .21 | .22  | .23 | .24 | .24 | .25 | .25  | .25 | .25 | .25 | .25 | .24  | .23 | .22 | .20 | .19 | .17 | .15 | .13 | .10 |     |
|      | 213  | 230 | 247 | 263 | 277 | 291  | 305 | 315 | 323 | 330 | 334  | 336 | 336 | 335 | 332 | 325  | 317 | 305 | 269 | 248 | 225 | 198 | 169 | 138 |     |
| 15   | .11  | .12 | .14 | .15 | .16 | .17  | .18 | .19 | .20 | .20 | .21  | .21 | .21 | .21 | .20 | .20  | .19 | .18 | .15 | .14 | .12 | .10 | .08 | .05 |     |
|      | 146  | 164 | 181 | 198 | 213 | 227  | 242 | 252 | 261 | 267 | 271  | 273 | 273 | 272 | 269 | 262  | 253 | 241 | 204 | 182 | 153 | 131 | 101 | 069 |     |
| 30   | .06  | .07 | .09 | .10 | .11 | .12  | .13 | .14 | .15 | .15 | .16  | .16 | .16 | .16 | .16 | .15  | .14 | .13 | .12 | .10 | .09 | .07 | .05 | .03 | .00 |
|      | 080  | 098 | 116 | 133 | 149 | 163  | 179 | 189 | 198 | 205 | 209  | 210 | 210 | 210 | 206 | 199  | 190 | 177 | 138 | 113 | 091 | 063 | 033 | 001 |     |
| 45   | .01  | .03 | .04 | .05 | .06 | .08  | .09 | .10 | .10 | .11 | .11  | .11 | .11 | .11 | .11 | .10  | .09 | .07 | .06 | .04 | .02 | .00 | .00 | .00 |     |
|      | 014  | 033 | 052 | 069 | 086 | 101  | 116 | 127 | 136 | 143 | 147  | 148 | 148 | 147 | 143 | 136  | 126 | 113 | 074 | 051 | 035 | 000 | 000 | 000 |     |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 38 N  
 ... SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     | JUN |     |     |     | JUL |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1900 | .00  | .00 | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .07 | .07 |
|      | 000  | 000 | 000 | 000 | 007 | 023 | 039 | 055 | 066 | 075 | 082 | 086 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .02 | .02 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 006 | 015 | 021 | 025 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

TABLE B-1 SOLAR PARAMETERS COS 2  
X0 (W/M\*\*2.)

\*\*\* SIGNIFIES COS 2 = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | NOV |     |     |     |     |     |     |     |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     |     | OCT |     |     |     |     |     | NOV |     |     |     |     |     | DEC |     |     |     |     |     | NOV |     |     |     |     |     | DEC |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 45   | .03  | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 041  | 022 | 003 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 0600 | .08  | .07 | .05 | .04 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 110  | 091 | 073 | 053 | 034 | 013 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 15   | .13  | .12 | .11 | .09 | .08 | .06 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 179  | 161 | 142 | 123 | 104 | 083 | 062 | 040 | 018 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 30   | .18  | .17 | .16 | .14 | .13 | .11 | .10 | .08 | .06 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 247  | 230 | 212 | 193 | 173 | 153 | 132 | 110 | 087 | 064 | 039 | 015 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 45   | .23  | .22 | .21 | .19 | .18 | .16 | .15 | .13 | .11 | .10 | .08 | .06 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 315  | 298 | 280 | 262 | 242 | 222 | 201 | 179 | 156 | 132 | 107 | 082 | 052 | 026 | 001 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 0700 | .28  | .27 | .26 | .24 | .23 | .21 | .20 | .18 | .16 | .14 | .13 | .11 | .10 | .08 | .06 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 382  | 365 | 348 | 329 | 310 | 290 | 269 | 246 | 223 | 199 | 174 | 149 | 118 | 092 | 067 | 042 | 018 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 15   | .33  | .32 | .31 | .29 | .28 | .26 | .24 | .23 | .21 | .19 | .17 | .15 | .14 | .12 | .10 | .08 | .06 | .04 | .03 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 448  | 432 | 414 | 396 | 377 | 356 | 335 | 313 | 289 | 265 | 240 | 214 | 183 | 157 | 131 | 106 | 082 | 060 | 039 | 021 | 003 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 30   | .38  | .37 | .35 | .34 | .32 | .31 | .29 | .27 | .26 | .24 | .22 | .20 | .18 | .16 | .14 | .12 | .10 | .09 | .07 | .05 | .04 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 | .03 |
|      | 513  | 496 | 479 | 461 | 441 | 421 | 400 | 377 | 353 | 329 | 303 | 277 | 246 | 219 | 194 | 168 | 144 | 122 | 101 | 083 | 067 | 055 | 045 | 039 | 039 | 039 | 039 | 039 | 039 | 039 | 039 | 039 | 039 | 039 | 039 | 039 |     |
| 45   | .43  | .41 | .40 | .39 | .37 | .35 | .34 | .32 | .30 | .28 | .26 | .24 | .22 | .20 | .18 | .16 | .15 | .13 | .11 | .10 | .09 | .08 | .07 | .07 | .07 | .07 | .07 | .07 | .07 | .07 | .07 | .07 | .07 | .07 | .07 | .07 |     |
|      | 575  | 559 | 542 | 524 | 504 | 484 | 462 | 439 | 415 | 391 | 365 | 339 | 307 | 280 | 254 | 229 | 205 | 182 | 161 | 143 | 128 | 115 | 106 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |     |

SEP-DEC 38 N TABLE E-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY

| MST  | SEP  |      |      |      |      | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 0800 | .47  | .46  | .44  | .43  | .41  | .40 | .38 | .36 | .35 | .33 | .31 | .29 | .26 | .24 | .22 | .20 | .19 | .17 | .16 | .14 | .13 | .12 | .12 | .11 |
|      | 636  | 620  | 603  | 584  | 565  | 544 | 523 | 499 | 475 | 450 | 424 | 398 | 365 | 339 | 312 | 287 | 263 | 240 | 220 | 202 | 185 | 174 | 165 | 160 |
| 15   | .52  | .50  | .49  | .47  | .46  | .44 | .42 | .41 | .39 | .37 | .35 | .33 | .30 | .28 | .26 | .24 | .23 | .21 | .20 | .19 | .17 | .16 | .16 | .15 |
|      | 694  | 678  | 661  | 643  | 623  | 602 | 580 | 557 | 533 | 507 | 481 | 454 | 422 | 395 | 368 | 342 | 318 | 296 | 275 | 257 | 232 | 230 | 222 | 217 |
| 30   | .56  | .54  | .53  | .51  | .50  | .48 | .46 | .45 | .43 | .41 | .39 | .37 | .33 | .32 | .30 | .28 | .26 | .25 | .23 | .22 | .21 | .20 | .20 | .19 |
|      | 750  | 734  | 717  | 698  | 679  | 658 | 635 | 612 | 587 | 561 | 535 | 508 | 475 | 448 | 421 | 395 | 371 | 349 | 328 | 311 | 291 | 284 | 276 | 272 |
| 45   | .60  | .58  | .57  | .55  | .54  | .52 | .50 | .48 | .46 | .44 | .42 | .40 | .38 | .36 | .34 | .32 | .30 | .28 | .27 | .25 | .25 | .24 | .23 | .23 |
|      | 803  | 787  | 770  | 751  | 731  | 710 | 688 | 664 | 639 | 613 | 586 | 558 | 525 | 498 | 471 | 445 | 421 | 399 | 379 | 361 | 347 | 336 | 328 | 324 |
| 0900 | .63  | .62  | .61  | .59  | .57  | .56 | .54 | .52 | .50 | .48 | .46 | .44 | .41 | .39 | .37 | .35 | .33 | .32 | .30 | .29 | .28 | .27 | .27 | .26 |
|      | 853  | 837  | 820  | 801  | 781  | 759 | 736 | 712 | 687 | 660 | 633 | 606 | 572 | 545 | 518 | 492 | 468 | 446 | 426 | 409 | 395 | 384 | 377 | 374 |
| 15   | .67  | .65  | .64  | .62  | .61  | .59 | .57 | .55 | .53 | .51 | .49 | .47 | .44 | .42 | .40 | .38 | .36 | .35 | .33 | .32 | .31 | .30 | .30 | .30 |
|      | 900  | 884  | 866  | 847  | 827  | 805 | 782 | 757 | 732 | 705 | 677 | 650 | 616 | 586 | 562 | 536 | 512 | 490 | 470 | 453 | 440 | 429 | 423 | 420 |
| 30   | .70  | .69  | .67  | .66  | .64  | .62 | .60 | .58 | .56 | .54 | .52 | .50 | .47 | .45 | .43 | .41 | .39 | .38 | .36 | .35 | .34 | .33 | .33 | .33 |
|      | 944  | 927  | 909  | 890  | 869  | 847 | 824 | 799 | 773 | 746 | 718 | 690 | 656 | 628 | 602 | 576 | 552 | 530 | 511 | 494 | 481 | 471 | 465 | 463 |
| 45   | .73  | .72  | .70  | .68  | .67  | .65 | .63 | .61 | .59 | .57 | .54 | .52 | .50 | .48 | .46 | .44 | .42 | .40 | .39 | .39 | .37 | .36 | .36 | .36 |
|      | 984  | 967  | 949  | 929  | 908  | 886 | 862 | 836 | 810 | 783 | 755 | 726 | 692 | 665 | 638 | 612 | 588 | 567 | 548 | 532 | 519 | 510 | 504 | 503 |
| 1000 | .76  | .74  | .73  | .71  | .69  | .67 | .65 | .63 | .61 | .59 | .57 | .55 | .52 | .50 | .48 | .46 | .44 | .43 | .41 | .40 | .39 | .39 | .38 | .38 |
|      | 1020 | 1003 | 984  | 964  | 943  | 920 | 896 | 870 | 843 | 816 | 787 | 759 | 725 | 697 | 670 | 645 | 621 | 600 | 581 | 565 | 553 | 545 | 540 | 539 |
| 15   | .78  | .77  | .75  | .73  | .71  | .70 | .68 | .65 | .63 | .61 | .59 | .57 | .54 | .52 | .50 | .48 | .46 | .45 | .43 | .42 | .41 | .41 | .40 | .40 |
|      | 1052 | 1035 | 1016 | 996  | 974  | 950 | 926 | 900 | 872 | 844 | 816 | 787 | 753 | 725 | 698 | 673 | 650 | 629 | 611 | 595 | 584 | 576 | 571 | 571 |
| 30   | .80  | .79  | .77  | .75  | .73  | .71 | .69 | .67 | .65 | .63 | .61 | .58 | .56 | .54 | .52 | .50 | .48 | .46 | .45 | .44 | .43 | .43 | .42 | .42 |
|      | 1080 | 1062 | 1043 | 1023 | 1000 | 977 | 951 | 925 | 897 | 869 | 840 | 811 | 777 | 749 | 723 | 698 | 674 | 654 | 636 | 621 | 610 | 603 | 599 | 599 |
| 45   | .82  | .80  | .79  | .77  | .75  | .73 | .71 | .69 | .67 | .64 | .62 | .60 | .57 | .55 | .53 | .51 | .49 | .48 | .47 | .46 | .45 | .44 | .44 | .44 |
|      | 1104 | 1086 | 1066 | 1045 | 1023 | 998 | 973 | 946 | 918 | 889 | 860 | 831 | 797 | 769 | 742 | 718 | 695 | 675 | 657 | 643 | 633 | 626 | 623 | 624 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

SEP-DEC 38 N

| MST  | SEP  |      |      |      |      | OCT  |      |     |     |     | NOV |     |     |     |     | DEC |     |     |  |  |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |
| 1100 | .83  | .82  | .80  | .78  | .76  | .74  | .72  | .70 | .68 | .65 | .63 | .61 | .58 | .56 | .54 | .52 | .51 | .49 |  |  |
|      | *124 | *105 | *085 | *064 | *040 | *016 | 990  | 962 | 934 | 905 | 876 | 847 | 812 | 784 | 758 | 733 | 711 | 691 |  |  |
| 15   | .84  | .83  | .81  | .79  | .77  | .75  | .73  | .71 | .69 | .66 | .64 | .62 | .57 | .57 | .55 | .53 | .51 | .50 |  |  |
|      | *139 | *120 | *100 | *077 | *054 | *029 | *002 | 974 | 946 | 916 | 887 | 858 | 823 | 795 | 769 | 745 | 723 | 703 |  |  |
| 30   | .85  | .84  | .82  | .80  | .78  | .76  | .74  | .71 | .69 | .67 | .64 | .62 | .60 | .57 | .55 | .54 | .52 | .51 |  |  |
|      | *150 | *130 | *109 | *087 | *063 | *037 | *010 | 982 | 953 | 923 | 893 | 864 | 830 | 802 | 776 | 752 | 730 | 711 |  |  |
| 45   | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72 | .69 | .67 | .65 | .62 | .60 | .59 | .56 | .54 | .52 | .51 |  |  |
|      | *156 | *136 | *115 | *092 | *067 | *041 | *013 | 984 | 955 | 925 | 895 | 866 | 831 | 804 | 778 | 755 | 733 | 715 |  |  |
| 1200 | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72 | .69 | .67 | .64 | .62 | .53 | .57 | .55 | .54 | .52 | .51 |  |  |
|      | *158 | *138 | *116 | *092 | *066 | *040 | *012 | 983 | 953 | 923 | 893 | 863 | 829 | 802 | 776 | 753 | 732 | 714 |  |  |
| 15   | .86  | .84  | .82  | .80  | .78  | .76  | .73  | .71 | .69 | .66 | .64 | .62 | .53 | .57 | .55 | .53 | .52 | .50 |  |  |
|      | *155 | *134 | *112 | *087 | *061 | *034 | *006 | 976 | 946 | 916 | 886 | 856 | 822 | 795 | 769 | 746 | 726 | 708 |  |  |
| 30   | .85  | .83  | .81  | .79  | .77  | .75  | .73  | .70 | .68 | .65 | .63 | .61 | .53 | .56 | .54 | .52 | .51 | .50 |  |  |
|      | *148 | *127 | *103 | *078 | *052 | *024 | 995  | 965 | 935 | 904 | 874 | 844 | 810 | 783 | 758 | 735 | 716 | 699 |  |  |
| 45   | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .69 | .67 | .64 | .62 | .60 | .57 | .55 | .53 | .51 | .50 | .49 |  |  |
|      | *136 | *114 | *091 | *065 | *038 | *009 | 980  | 950 | 919 | 888 | 858 | 828 | 794 | 767 | 743 | 720 | 701 | 685 |  |  |
| 1300 | .83  | .81  | .79  | .77  | .75  | .72  | .70  | .68 | .65 | .63 | .60 | .58 | .55 | .53 | .52 | .50 | .49 | .47 |  |  |
|      | *120 | *098 | *073 | *047 | *019 | 990  | 960  | 930 | 899 | 868 | 837 | 807 | 773 | 747 | 723 | 701 | 682 | 666 |  |  |
| 15   | .82  | .80  | .78  | .75  | .73  | .71  | .68  | .66 | .63 | .61 | .59 | .56 | .54 | .52 | .50 | .48 | .47 | .46 |  |  |
|      | *100 | *077 | *052 | *025 | 996  | 967  | 935  | 905 | 874 | 843 | 812 | 782 | 749 | 722 | 692 | 677 | 659 | 643 |  |  |
| 30   | .80  | .78  | .76  | .73  | .71  | .69  | .66  | .64 | .61 | .59 | .57 | .54 | .52 | .50 | .48 | .46 | .45 | .44 |  |  |
|      | *075 | *051 | *026 | 998  | 969  | 939  | 908  | 877 | 845 | 814 | 783 | 753 | 720 | 694 | 670 | 649 | 631 | 617 |  |  |
| 45   | .78  | .76  | .73  | .71  | .69  | .66  | .64  | .61 | .59 | .56 | .54 | .52 | .40 | .47 | .46 | .44 | .43 | .42 |  |  |
|      |      |      |      |      |      |      | 876  | 844 | 812 | 780 | 750 | 720 | 687 | 661 | 638 | 617 | 600 | 586 |  |  |

TABLE B-1 SOLAR PARAMETERS COS Z  
 SEP-DEC 38 N  
 ... SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP  |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1400 | .75  | .73 | .71 | .69 | .66 | .64 | .61 | .59 | .56 | .54 | .51  | .49 | .47 | .45 | .43 | .41 | .40 | .39 | .38 | .37 | .38 | .38 | .38 | .39 |  |
|      | 9014 | 988 | 961 | 932 | 902 | 871 | 839 | 807 | 775 | 743 | 712  | 683 | 650 | 621 | 602 | 582 | 565 | 551 | 541 | 535 | 533 | 535 | 540 | 549 |  |
| 15   | .72  | .70 | .68 | .66 | .63 | .61 | .58 | .56 | .53 | .51 | .49  | .46 | .44 | .42 | .40 | .39 | .37 | .36 | .36 | .35 | .35 | .35 | .36 | .36 |  |
|      | 977  | 951 | 923 | 894 | 863 | 831 | 799 | 766 | 734 | 702 | 671  | 642 | 609 | 584 | 562 | 542 | 526 | 513 | 504 | 498 | 497 | 499 | 505 | 515 |  |
| 30   | .69  | .67 | .65 | .63 | .60 | .58 | .55 | .53 | .50 | .48 | .45  | .43 | .41 | .39 | .37 | .36 | .34 | .34 | .33 | .32 | .32 | .33 | .33 | .34 |  |
|      | 936  | 910 | 881 | 851 | 820 | 788 | 755 | 722 | 689 | 657 | 627  | 597 | 565 | 540 | 518 | 499 | 483 | 471 | 462 | 453 | 455 | 459 | 466 | 476 |  |
| 45   | .66  | .64 | .62 | .59 | .57 | .54 | .52 | .49 | .47 | .44 | .42  | .40 | .37 | .35 | .34 | .32 | .31 | .30 | .30 | .29 | .29 | .29 | .30 | .31 |  |
|      | 892  | 865 | 836 | 805 | 773 | 740 | 707 | 674 | 641 | 609 | 579  | 549 | 517 | 493 | 471 | 453 | 438 | 426 | 418 | 413 | 413 | 416 | 423 | 434 |  |
| 1500 | .63  | .60 | .58 | .56 | .53 | .51 | .48 | .45 | .43 | .40 | .38  | .36 | .35 | .32 | .30 | .29 | .28 | .27 | .26 | .26 | .25 | .26 | .27 | .28 |  |
|      | 845  | 817 | 787 | 756 | 723 | 690 | 657 | 623 | 590 | 558 | 527  | 498 | 466 | 442 | 421 | 403 | 389 | 377 | 370 | 366 | 366 | 370 | 378 | 389 |  |
| 15   | .59  | .57 | .54 | .52 | .49 | .47 | .44 | .41 | .39 | .36 | .34  | .32 | .30 | .28 | .26 | .25 | .24 | .23 | .23 | .22 | .22 | .23 | .23 | .24 |  |
|      | 794  | 765 | 735 | 703 | 670 | 636 | 603 | 569 | 536 | 504 | 473  | 444 | 412 | 389 | 368 | 351 | 337 | 326 | 319 | 316 | 316 | 321 | 329 | 340 |  |
| 30   | .55  | .53 | .50 | .48 | .45 | .42 | .40 | .37 | .35 | .32 | .30  | .28 | .26 | .24 | .22 | .21 | .20 | .19 | .19 | .19 | .19 | .19 | .20 | .20 |  |
|      | 741  | 711 | 680 | 648 | 614 | 580 | 546 | 512 | 479 | 446 | 416  | 387 | 356 | 333 | 312 | 295 | 282 | 272 | 265 | 263 | 264 | 269 | 277 | 289 |  |
| 45   | .51  | .48 | .46 | .43 | .41 | .38 | .36 | .33 | .30 | .28 | .26  | .24 | .21 | .20 | .18 | .17 | .16 | .15 | .15 | .15 | .15 | .15 | .16 | .17 |  |
|      | 684  | 654 | 622 | 589 | 555 | 521 | 486 | 452 | 419 | 387 | 356  | 328 | 297 | 274 | 254 | 238 | 225 | 215 | 209 | 207 | 209 | 214 | 223 | 235 |  |
| 1600 | .46  | .44 | .42 | .39 | .36 | .34 | .31 | .28 | .26 | .24 | .21  | .19 | .17 | .15 | .14 | .13 | .12 | .11 | .11 | .11 | .11 | .12 | .12 | .13 |  |
|      | 625  | 595 | 562 | 529 | 494 | 460 | 425 | 390 | 357 | 325 | 294  | 266 | 235 | 213 | 194 | 178 | 165 | 156 | 151 | 149 | 151 | 157 | 166 | 178 |  |
| 15   | .42  | .39 | .37 | .34 | .32 | .29 | .26 | .24 | .21 | .19 | .17  | .15 | .12 | .11 | .09 | .08 | .07 | .07 | .06 | .06 | .07 | .07 | .08 | .08 |  |
|      | 564  | 533 | 500 | 466 | 431 | 396 | 361 | 326 | 293 | 261 | 230  | 202 | 172 | 150 | 131 | 116 | 104 | 095 | 090 | 089 | 091 | 097 | 107 | 119 |  |
| 30   | .37  | .35 | .32 | .30 | .27 | .24 | .22 | .19 | .17 | .14 | .12  | .10 | .08 | .06 | .05 | .04 | .03 | .02 | .02 | .02 | .02 | .03 | .03 | .04 |  |
|      | 501  | 469 | 436 | 401 | 366 | 331 | 295 | 261 | 227 | 195 | 165  | 137 | 107 | 086 | 067 | 052 | 040 | 032 | 028 | 027 | 030 | 036 | 046 | 058 |  |
| 45   | .32  | .30 | .27 | .25 | .22 | .19 | .17 | .14 | .12 | .09 | .07  | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 437  | 404 | 370 | 335 | 299 | 264 | 228 | 193 | 160 | 128 | 098  | 070 | 041 | 019 | 001 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |

SEP-DEC 38 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |  |
| 1700 | .28 | .25 | .22 | .20 | .17 | .14 | .12 | .09 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 371 | 337 | 303 | 267 | 231 | 195 | 160 | 125 | 091 | 059 | 030 | 002 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .23 | .20 | .17 | .15 | .12 | .09 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 303 | 270 | 235 | 199 | 162 | 126 | 090 | 055 | 022 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .17 | .15 | .12 | .10 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 235 | 201 | 166 | 129 | 093 | 056 | 020 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .12 | .10 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 166 | 132 | 096 | 059 | 022 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 1800 | .07 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 097 | 062 | 026 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 028 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
X0 (W/\*2.)

TABLE B-1

38 N

SEP-DEC







| MST  | JAN |     |     |     |     | FEB |     |     |     |     | DATE |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |    |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30 |
| 1100 | .49 | .49 | .50 | .51 | .52 | .53 | .55 | .57 | .59 | .62 | .64  | .66 | .70 | .72 | .75 | .77 | .79 | .81 | .83 | .85 | .87 | .88 | .90 | .91 |    |
|      | 687 | 693 | 703 | 716 | 733 | 753 | 776 | 807 | 834 | 863 | 893  | 924 | 973 | 003 | 032 | 061 | 088 | 113 | 140 | 161 | 180 | 196 | 210 | 223 |    |
| 15   | .50 | .50 | .51 | .52 | .53 | .55 | .56 | .59 | .61 | .63 | .65  | .68 | .71 | .74 | .76 | .78 | .80 | .82 | .85 | .85 | .88 | .89 | .91 | .92 |    |
|      | 704 | 710 | 721 | 735 | 752 | 773 | 796 | 827 | 855 | 884 | 914  | 944 | 993 | 023 | 052 | 080 | 106 | 131 | 158 | 173 | 189 | 212 | 226 | 238 |    |
| 30   | .51 | .51 | .52 | .53 | .54 | .56 | .58 | .60 | .62 | .64 | .66  | .69 | .73 | .75 | .77 | .79 | .81 | .83 | .86 | .87 | .89 | .90 | .91 | .93 |    |
|      | 716 | 723 | 734 | 749 | 767 | 788 | 812 | 843 | 871 | 900 | 930  | 960 | 000 | 038 | 067 | 094 | 120 | 144 | 170 | 190 | 207 | 223 | 236 | 248 |    |
| 45   | .51 | .52 | .53 | .54 | .55 | .57 | .58 | .61 | .63 | .65 | .67  | .70 | .73 | .76 | .78 | .80 | .82 | .84 | .86 | .88 | .89 | .91 | .92 | .93 |    |
|      | 724 | 731 | 743 | 759 | 777 | 799 | 823 | 854 | 882 | 912 | 942  | 972 | 020 | 049 | 077 | 104 | 129 | 153 | 178 | 197 | 214 | 230 | 243 | 254 |    |
| 1200 | .51 | .52 | .53 | .54 | .55 | .57 | .59 | .61 | .63 | .66 | .68  | .70 | .74 | .76 | .78 | .80 | .82 | .84 | .86 | .88 | .89 | .91 | .92 | .93 |    |
|      | 727 | 735 | 748 | 764 | 783 | 805 | 829 | 861 | 889 | 918 | 948  | 979 | 026 | 055 | 083 | 109 | 134 | 156 | 181 | 200 | 217 | 231 | 244 | 255 |    |
| 15   | .51 | .52 | .53 | .54 | .55 | .57 | .59 | .61 | .63 | .66 | .68  | .70 | .74 | .76 | .78 | .80 | .82 | .84 | .86 | .88 | .89 | .91 | .92 | .93 |    |
|      | 726 | 734 | 747 | 764 | 784 | 806 | 831 | 863 | 891 | 921 | 950  | 980 | 028 | 056 | 083 | 109 | 133 | 156 | 180 | 199 | 214 | 229 | 241 | 252 |    |
| 30   | .51 | .52 | .53 | .54 | .55 | .57 | .59 | .61 | .63 | .65 | .68  | .70 | .74 | .76 | .78 | .80 | .82 | .84 | .86 | .87 | .89 | .90 | .91 | .92 |    |
|      | 720 | 729 | 743 | 760 | 780 | 803 | 828 | 860 | 889 | 918 | 948  | 978 | 024 | 052 | 079 | 104 | 128 | 150 | 174 | 192 | 208 | 222 | 234 | 244 |    |
| 45   | .50 | .51 | .52 | .53 | .55 | .56 | .58 | .61 | .63 | .65 | .67  | .69 | .73 | .75 | .77 | .79 | .81 | .83 | .85 | .87 | .88 | .89 | .90 | .91 |    |
|      | 710 | 719 | 734 | 751 | 772 | 795 | 820 | 853 | 881 | 911 | 940  | 970 | 016 | 044 | 070 | 095 | 118 | 140 | 163 | 180 | 196 | 210 | 222 | 232 |    |
| 1300 | .49 | .50 | .51 | .52 | .54 | .55 | .57 | .60 | .62 | .64 | .66  | .69 | .72 | .74 | .76 | .78 | .80 | .82 | .84 | .85 | .87 | .88 | .89 | .90 |    |
|      | 696 | 705 | 720 | 738 | 759 | 783 | 808 | 841 | 870 | 899 | 928  | 958 | 003 | 030 | 056 | 081 | 104 | 125 | 148 | 165 | 180 | 193 | 205 | 216 |    |
| 15   | .48 | .49 | .50 | .51 | .53 | .54 | .56 | .59 | .61 | .63 | .65  | .67 | .71 | .73 | .75 | .77 | .79 | .81 | .82 | .84 | .85 | .86 | .88 | .89 |    |
|      | 677 | 686 | 702 | 721 | 742 | 766 | 791 | 824 | 853 | 882 | 911  | 940 | 986 | 013 | 038 | 062 | 084 | 105 | 128 | 144 | 159 | 173 | 184 | 195 |    |
| 30   | .46 | .47 | .48 | .49 | .51 | .53 | .55 | .57 | .59 | .61 | .64  | .66 | .69 | .71 | .73 | .75 | .77 | .79 | .81 | .82 | .83 | .85 | .86 | .87 |    |
|      | 653 | 664 | 680 | 699 | 720 | 744 | 770 | 803 | 832 | 861 | 890  | 919 | 963 | 990 | 015 | 039 | 061 | 081 | 103 | 119 | 134 | 148 | 159 | 170 |    |
| 45   | .44 | .45 | .46 | .48 | .49 | .51 | .53 | .55 | .57 | .60 | .62  | .64 | .67 | .69 | .71 | .73 | .75 | .77 | .79 | .80 | .81 | .82 | .84 | .85 |    |
|      | 626 | 636 | 653 | 672 | 694 | 719 | 745 | 778 | 806 | 835 | 864  | 893 | 937 | 963 | 988 | 011 | 033 | 052 | 074 | 090 | 105 | 118 | 130 | 140 |    |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
COS Z  
XO (W/M)\*2.)

TABLE B-1

JAN-APR 36 N

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | DATE |     |     |     |     | MAR |      |      |      |      | APR  |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 400  | .42 | .43 | .44 | .45 | .47 | .49 | .51 | .53 | .55 | .57 | .60  | .62 | .65 | .67 | .69 | .71 | .73  | .74  | .76  | .73  | .79  | .80  | .81  | .82  | .82  |
|      | 594 | 605 | 622 | 642 | 664 | 689 | 715 | 748 | 776 | 805 | 834  | 862 | 905 | 931 | 956 | 979 | 1000 | 1020 | 1041 | 1057 | 1072 | 1085 | 1098 | 1107 | 1107 |
| 15   | .39 | .40 | .42 | .43 | .45 | .46 | .48 | .51 | .53 | .55 | .57  | .59 | .63 | .65 | .66 | .68 | .70  | .72  | .73  | .75  | .76  | .77  | .78  | .79  | .79  |
|      | 559 | 570 | 587 | 607 | 630 | 654 | 681 | 714 | 742 | 771 | 799  | 827 | 870 | 896 | 920 | 942 | 963  | 983  | 1004 | 1020 | 1034 | 1047 | 1059 | 1070 | 1070 |
| 30   | .37 | .38 | .39 | .40 | .42 | .44 | .46 | .48 | .50 | .52 | .54  | .56 | .60 | .62 | .64 | .65 | .67  | .69  | .70  | .72  | .73  | .74  | .75  | .76  | .76  |
|      | 519 | 531 | 549 | 569 | 592 | 616 | 643 | 676 | 704 | 732 | 761  | 788 | 831 | 856 | 880 | 902 | 922  | 942  | 962  | 973  | 983  | 1006 | 1018 | 1029 | 1029 |
| 45   | .34 | .35 | .36 | .37 | .39 | .41 | .43 | .45 | .47 | .49 | .51  | .53 | .57 | .59 | .60 | .62 | .64  | .65  | .67  | .63  | .70  | .71  | .72  | .73  | .73  |
|      | 476 | 488 | 506 | 527 | 550 | 575 | 601 | 634 | 662 | 690 | 719  | 745 | 787 | 812 | 836 | 857 | 878  | 897  | 917  | 933  | 948  | 961  | 973  | 984  | 984  |
| 1500 | .30 | .31 | .33 | .34 | .36 | .38 | .39 | .42 | .44 | .46 | .48  | .50 | .53 | .55 | .57 | .59 | .60  | .62  | .64  | .65  | .66  | .67  | .68  | .69  | .69  |
|      | 430 | 442 | 460 | 481 | 504 | 529 | 555 | 588 | 616 | 644 | 672  | 699 | 740 | 765 | 788 | 809 | 830  | 848  | 869  | 885  | 899  | 912  | 925  | 936  | 936  |
| 15   | .27 | .28 | .29 | .31 | .32 | .34 | .36 | .38 | .40 | .42 | .44  | .46 | .50 | .51 | .53 | .55 | .57  | .58  | .60  | .61  | .62  | .63  | .65  | .66  | .66  |
|      | 380 | 393 | 411 | 432 | 455 | 480 | 506 | 539 | 567 | 594 | 622  | 649 | 690 | 714 | 736 | 758 | 778  | 796  | 817  | 833  | 847  | 861  | 873  | 885  | 885  |
| 30   | .23 | .24 | .25 | .27 | .29 | .30 | .32 | .35 | .37 | .39 | .41  | .43 | .46 | .48 | .49 | .51 | .53  | .54  | .56  | .57  | .58  | .59  | .61  | .62  | .62  |
|      | 328 | 340 | 359 | 380 | 403 | 428 | 454 | 486 | 514 | 541 | 568  | 595 | 635 | 659 | 682 | 703 | 723  | 741  | 762  | 773  | 792  | 806  | 819  | 831  | 831  |
| 45   | .19 | .20 | .22 | .23 | .25 | .26 | .28 | .31 | .33 | .35 | .37  | .39 | .42 | .43 | .45 | .47 | .48  | .50  | .51  | .53  | .54  | .55  | .56  | .57  | .57  |
|      | 272 | 285 | 304 | 325 | 348 | 373 | 399 | 431 | 458 | 485 | 512  | 538 | 578 | 602 | 624 | 645 | 665  | 683  | 704  | 720  | 735  | 749  | 762  | 774  | 774  |
| 1600 | .15 | .16 | .17 | .19 | .21 | .22 | .24 | .27 | .28 | .30 | .32  | .34 | .37 | .39 | .41 | .42 | .44  | .45  | .47  | .43  | .50  | .51  | .52  | .53  | .53  |
|      | 214 | 227 | 246 | 267 | 290 | 315 | 341 | 372 | 399 | 426 | 453  | 479 | 518 | 541 | 563 | 584 | 604  | 622  | 643  | 659  | 674  | 689  | 702  | 715  | 715  |
| 15   | .11 | .12 | .13 | .15 | .16 | .18 | .20 | .22 | .24 | .26 | .28  | .30 | .33 | .35 | .36 | .38 | .39  | .41  | .42  | .44  | .45  | .46  | .47  | .48  | .48  |
|      | 154 | 167 | 186 | 207 | 230 | 254 | 280 | 312 | 338 | 365 | 391  | 416 | 455 | 479 | 500 | 521 | 541  | 559  | 580  | 595  | 612  | 626  | 640  | 654  | 654  |
| 30   | .07 | .07 | .09 | .10 | .12 | .14 | .15 | .18 | .20 | .21 | .23  | .25 | .28 | .30 | .31 | .33 | .35  | .36  | .38  | .33  | .40  | .41  | .43  | .44  | .44  |
|      | 091 | 105 | 124 | 145 | 167 | 192 | 217 | 248 | 275 | 301 | 327  | 352 | 390 | 413 | 435 | 456 | 475  | 494  | 515  | 531  | 547  | 562  | 576  | 590  | 590  |
| 45   | .02 | .03 | .04 | .06 | .07 | .09 | .11 | .13 | .15 | .17 | .19  | .20 | .23 | .25 | .27 | .28 | .30  | .31  | .33  | .34  | .35  | .37  | .38  | .39  | .39  |
|      | 027 | 041 | 059 | 080 | 103 | 127 | 152 | 183 | 209 | 235 | 260  | 285 | 323 | 346 | 368 | 388 | 408  | 426  | 447  | 464  | 480  | 496  | 511  | 525  | 525  |

... SIGNIFIES COS 2 = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XO (W/M-2.)

TABLE B-1

36 N

JAN-APR

| MST  | DATE       |            |            |            |            |            |            |            |            |            |            |            | APR        |            |            |            |            |            |            |            |            |            |            |            |    |
|------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----|
|      | JAN        |            |            | FEB        |            |            | MAR        |            |            | APR        |            |            | APR        |            |            | APR        |            |            | APR        |            |            | APR        |            |            |    |
|      | 1          | 5          | 10         | 15         | 20         | 25         | 30         | 5          | 10         | 15         | 20         | 25         | 30         | 5          | 10         | 15         | 20         | 25         | 30         | 5          | 10         | 15         | 20         | 25         | 30 |
| 1700 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>014 | .03<br>037 | .04<br>061 | .06<br>085 | .08<br>116 | .10<br>141 | .12<br>167 | .14<br>192 | .16<br>217 | .18<br>255 | .20<br>277 | .22<br>298 | .23<br>319 | .25<br>339 | .26<br>357 | .28<br>379 | .29<br>395 | .30<br>412 | .32<br>428 | .33<br>444 | .34<br>459 |    |
| 15   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>017 | .03<br>047 | .05<br>072 | .07<br>098 | .09<br>122 | .11<br>147 | .13<br>181 | .15<br>206 | .17<br>228 | .18<br>248 | .20<br>268 | .21<br>287 | .23<br>309 | .24<br>325 | .25<br>343 | .27<br>360 | .28<br>376 | .29<br>391 |    |
| 30   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .02<br>002 | .04<br>027 | .05<br>052 | .06<br>076 | .08<br>113 | .10<br>135 | .11<br>156 | .13<br>177 | .14<br>197 | .16<br>216 | .17<br>238 | .19<br>255 | .20<br>273 | .21<br>290 | .23<br>307 | .24<br>323 |    |
| 45   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>004 | .03<br>040 | .05<br>062 | .06<br>084 | .08<br>104 | .09<br>124 | .11<br>144 | .12<br>166 | .14<br>185 | .15<br>202 | .16<br>220 | .18<br>237 | .19<br>254 |    |
| 1800 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>000 | .02<br>011 | .04<br>031 | .05<br>052 | .07<br>094 | .10<br>113 | .11<br>131 | .12<br>150 | .14<br>167 | .15<br>185 |            |            |            |            |            |    |
| 15   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .02<br>022 | .03<br>041 | .04<br>060 | .06<br>079 | .07<br>098 | .09<br>116 |            |            |            |            |            |    |
| 30   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>009 | .02<br>028 | .04<br>047 |    |
| 45   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 |    |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

COS Z  
X0 (W/N\*\*2.)

SOLAR PARAMETERS

TABLE B-1

36 N

JAN-APR



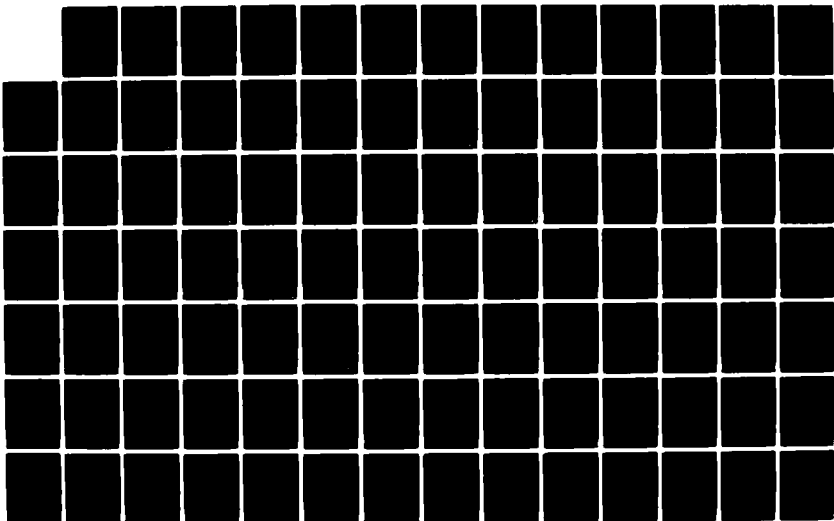
AD-A148 096

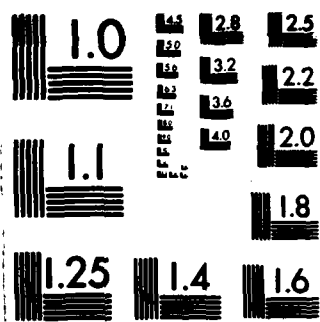
OPERATIONAL TACTICAL DECISION AID (OTDA) FOR INFRARED  
(8-12 MICROMETERS)...(U) SYSTEMS AND APPLIED SCIENCES  
CORP VIENNA VA D B HODGES 30 SEP 83 SCIENTIFIC-8-VOL-3  
AFGL-TR-83-0334-VOL-3 F19628-81-C-0042 F/G 4/1

2/4

UNCLASSIFIED

NL





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A



| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |
| 0800 | .56 | .57 | .58 | .59 | .60 | .60 | .60 | .60 | .60 | .60 | .59 | .59 | .54 | .53 | .52 | .51 | .50 | .49 |  |  |
|      | 755 | 769 | 780 | 789 | 795 | 800 | 802 | 802 | 800 | 797 | 792 | 787 | 780 | 772 | 764 | 755 | 745 | 735 |  |  |
| 15   | .60 | .62 | .63 | .63 | .64 | .64 | .65 | .65 | .65 | .64 | .64 | .64 | .63 | .63 | .62 | .61 | .60 | .60 |  |  |
|      | 813 | 826 | 837 | 845 | 851 | 855 | 857 | 857 | 855 | 852 | 847 | 842 | 835 | 828 | 820 | 811 | 802 | 792 |  |  |
| 30   | .65 | .66 | .67 | .67 | .68 | .68 | .68 | .69 | .68 | .68 | .68 | .68 | .67 | .67 | .66 | .65 | .65 | .64 |  |  |
|      | 868 | 880 | 891 | 898 | 904 | 908 | 910 | 909 | 907 | 904 | 900 | 895 | 888 | 881 | 874 | 866 | 857 | 848 |  |  |
| 45   | .68 | .69 | .70 | .71 | .72 | .72 | .72 | .72 | .72 | .72 | .72 | .71 | .71 | .70 | .70 | .69 | .69 | .68 |  |  |
|      | 920 | 932 | 942 | 949 | 955 | 958 | 960 | 959 | 957 | 954 | 950 | 945 | 939 | 933 | 925 | 917 | 909 | 900 |  |  |
| 0900 | .72 | .73 | .74 | .75 | .75 | .76 | .76 | .75 | .76 | .76 | .75 | .75 | .75 | .74 | .74 | .73 | .72 | .72 |  |  |
|      | 969 | 981 | 990 | 997 | 002 | 005 | 007 | 006 | 004 | 002 | 998 | 993 | 987 | 981 | 974 | 967 | 959 | 950 |  |  |
| 15   | .75 | .76 | .77 | .78 | .78 | .79 | .79 | .79 | .79 | .79 | .79 | .78 | .78 | .78 | .77 | .76 | .76 | .75 |  |  |
|      | 015 | 026 | 035 | 042 | 047 | 049 | 051 | 050 | 049 | 046 | 042 | 037 | 032 | 026 | 020 | 013 | 005 | 997 |  |  |
| 30   | .79 | .80 | .80 | .81 | .82 | .82 | .82 | .82 | .82 | .82 | .82 | .82 | .81 | .81 | .80 | .80 | .79 | .78 |  |  |
|      | 058 | 068 | 077 | 083 | 088 | 090 | 092 | 091 | 090 | 087 | 083 | 079 | 074 | 068 | 062 | 056 | 048 | 041 |  |  |
| 45   | .82 | .83 | .83 | .84 | .84 | .85 | .85 | .85 | .85 | .85 | .84 | .84 | .84 | .84 | .83 | .83 | .82 | .81 |  |  |
|      | 097 | 107 | 115 | 121 | 125 | 128 | 129 | 129 | 127 | 125 | 121 | 117 | 113 | 107 | 102 | 095 | 088 | 081 |  |  |
| 1000 | .84 | .85 | .86 | .86 | .87 | .87 | .88 | .88 | .88 | .87 | .87 | .87 | .87 | .86 | .86 | .85 | .85 | .84 |  |  |
|      | 132 | 142 | 150 | 155 | 159 | 162 | 163 | 163 | 161 | 159 | 156 | 152 | 148 | 143 | 137 | 131 | 125 | 118 |  |  |
| 15   | .87 | .87 | .88 | .89 | .89 | .90 | .90 | .90 | .90 | .90 | .90 | .89 | .89 | .89 | .88 | .88 | .87 | .87 |  |  |
|      | 164 | 173 | 180 | 186 | 190 | 192 | 193 | 193 | 192 | 190 | 187 | 183 | 179 | 175 | 170 | 164 | 158 | 151 |  |  |
| 30   | .89 | .89 | .90 | .91 | .91 | .92 | .92 | .92 | .92 | .92 | .92 | .91 | .91 | .91 | .90 | .90 | .89 | .89 |  |  |
|      | 191 | 200 | 207 | 212 | 216 | 218 | 220 | 220 | 218 | 217 | 214 | 211 | 207 | 203 | 198 | 193 | 187 | 180 |  |  |
| 45   | .90 | .91 | .92 | .92 | .93 | .93 | .93 | .94 | .94 | .94 | .93 | .93 | .93 | .93 | .92 | .92 | .91 | .91 |  |  |
|      | 214 | 223 | 230 | 235 | 238 | 241 | 242 | 242 | 241 | 240 | 237 | 234 | 231 | 227 | 223 | 217 | 212 | 205 |  |  |

TABLE B-1 SOLAR PARAMETERS COS Z  
X0 (W/N\*2.)

\*\*\* SIGNIFIES COS Z = 1.

ADD 1000 TO VALUES PRECEDED BY \*



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |
| 1400 | .83  | .84  | .85  | .85  | .86  | .86  | .87  | .87  | .88  | .88  | .88  | .88  | .88  | .88  | .88  | .87  | .87  | .86  | .85  | .84  | .83  | .82  | .80  | .79  |
|      | .116 | .125 | .132 | .139 | .145 | .150 | .155 | .159 | .162 | .165 | .166 | .167 | .167 | .165 | .163 | .159 | .154 | .147 | .136 | .125 | .112 | .096 | .079 | .059 |
| 15   | .80  | .81  | .82  | .83  | .83  | .84  | .84  | .85  | .85  | .85  | .86  | .86  | .86  | .86  | .85  | .85  | .84  | .84  | .83  | .82  | .81  | .79  | .78  | .76  |
|      | .079 | .080 | .086 | .096 | .103 | .109 | .121 | .125 | .128 | .131 | .133 | .134 | .133 | .132 | .130 | .126 | .120 | .113 | .102 | .090 | .077 | .061 | .043 | .022 |
| 30   | .77  | .78  | .79  | .80  | .80  | .81  | .81  | .82  | .82  | .83  | .83  | .83  | .83  | .83  | .83  | .82  | .82  | .81  | .80  | .79  | .78  | .76  | .75  | .73  |
|      | .039 | .048 | .056 | .063 | .070 | .076 | .082 | .087 | .091 | .094 | .093 | .097 | .097 | .096 | .093 | .089 | .083 | .076 | .064 | .052 | .033 | .021 | .003 | .982 |
| 45   | .74  | .75  | .76  | .76  | .77  | .78  | .78  | .79  | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .79  | .78  | .77  | .75  | .75  | .73  | .72  | .70  |
|      | .994 | .004 | .012 | .020 | .027 | .034 | .041 | .046 | .050 | .053 | .055 | .057 | .057 | .056 | .053 | .049 | .043 | .035 | .023 | .010 | .005 | .978 | .959 | .937 |
| 1500 | .70  | .71  | .72  | .73  | .74  | .74  | .75  | .75  | .76  | .76  | .76  | .77  | .77  | .76  | .76  | .76  | .75  | .75  | .74  | .72  | .71  | .70  | .68  | .66  |
|      | .947 | .956 | .965 | .974 | .981 | .988 | .996 | .001 | .006 | .009 | .012 | .013 | .014 | .012 | .010 | .005 | .999 | .991 | .978 | .965 | .950 | .932 | .912 | .889 |
| 15   | .67  | .68  | .68  | .69  | .70  | .71  | .71  | .72  | .72  | .73  | .73  | .73  | .73  | .73  | .73  | .72  | .72  | .71  | .70  | .69  | .67  | .66  | .64  | .62  |
|      | .896 | .906 | .916 | .924 | .933 | .940 | .948 | .954 | .959 | .963 | .965 | .967 | .967 | .966 | .963 | .959 | .952 | .943 | .930 | .917 | .901 | .882 | .861 | .838 |
| 30   | .63  | .64  | .64  | .65  | .66  | .67  | .68  | .68  | .69  | .69  | .69  | .69  | .69  | .69  | .69  | .68  | .67  | .67  | .66  | .65  | .64  | .62  | .60  | .58  |
|      | .842 | .853 | .863 | .872 | .881 | .889 | .897 | .904 | .909 | .913 | .916 | .918 | .918 | .917 | .914 | .909 | .902 | .893 | .879 | .865 | .849 | .829 | .808 | .784 |
| 45   | .58  | .59  | .60  | .61  | .62  | .63  | .64  | .64  | .65  | .65  | .65  | .65  | .65  | .65  | .65  | .64  | .63  | .63  | .62  | .61  | .59  | .58  | .56  | .54  |
|      | .786 | .797 | .808 | .818 | .827 | .835 | .844 | .851 | .856 | .861 | .864 | .866 | .866 | .865 | .862 | .857 | .850 | .840 | .826 | .811 | .794 | .774 | .752 | .727 |
| 1600 | .54  | .55  | .56  | .57  | .58  | .59  | .59  | .60  | .60  | .61  | .61  | .61  | .61  | .61  | .61  | .60  | .59  | .59  | .58  | .57  | .55  | .54  | .52  | .50  |
|      | .727 | .739 | .750 | .760 | .770 | .779 | .789 | .796 | .802 | .806 | .810 | .812 | .812 | .811 | .807 | .802 | .795 | .785 | .769 | .754 | .735 | .716 | .693 | .668 |
| 15   | .50  | .51  | .52  | .53  | .53  | .54  | .55  | .56  | .56  | .57  | .57  | .57  | .57  | .57  | .57  | .56  | .55  | .55  | .53  | .52  | .51  | .49  | .47  | .45  |
|      | .666 | .679 | .690 | .701 | .711 | .721 | .731 | .739 | .745 | .750 | .753 | .755 | .755 | .754 | .751 | .745 | .737 | .727 | .711 | .695 | .676 | .655 | .632 | .606 |
| 30   | .45  | .46  | .47  | .48  | .49  | .50  | .51  | .51  | .52  | .52  | .53  | .53  | .53  | .53  | .52  | .52  | .51  | .50  | .49  | .49  | .46  | .44  | .42  | .40  |
|      | .604 | .616 | .629 | .640 | .651 | .661 | .672 | .679 | .686 | .691 | .695 | .697 | .697 | .696 | .692 | .686 | .679 | .667 | .650 | .634 | .615 | .593 | .569 | .542 |
| 45   | .40  | .41  | .42  | .43  | .44  | .45  | .46  | .47  | .47  | .48  | .48  | .48  | .48  | .48  | .48  | .47  | .46  | .46  | .44  | .43  | .41  | .40  | .38  | .35  |
|      | .539 | .553 | .565 | .577 | .589 | .599 | .611 | .619 | .626 | .631 | .635 | .637 | .637 | .636 | .632 | .625 | .617 | .605 | .588 | .571 | .551 | .529 | .504 | .476 |

TABLE 8-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z = 1.  
 MAY-AUG 36 N XO (W/M\*2.) ADD 1000 TO VALUES PRECEDED BY \*



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     |     | OCT |     |     |     |     |     | NOV |     |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .03  | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 034  | 017 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0600 | .08  | .07 | .05 | .04 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 105  | 088 | 071 | 053 | 035 | 016 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .13  | .12 | .11 | .09 | .08 | .07 | .05 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 176  | 159 | 143 | 125 | 107 | 088 | 069 | 048 | 027 | 005 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .18  | .17 | .16 | .15 | .13 | .12 | .10 | .09 | .07 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 246  | 230 | 214 | 196 | 179 | 160 | 140 | 120 | 098 | 076 | 053 | 029 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .23  | .22 | .21 | .20 | .18 | .17 | .15 | .14 | .12 | .11 | .09 | .07 | .05 | .03 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 316  | 300 | 284 | 267 | 249 | 231 | 211 | 190 | 169 | 146 | 123 | 099 | 070 | 045 | 021 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0700 | .29  | .27 | .26 | .25 | .23 | .22 | .21 | .19 | .17 | .16 | .14 | .12 | .10 | .08 | .06 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 385  | 370 | 354 | 337 | 319 | 300 | 280 | 260 | 238 | 215 | 192 | 167 | 136 | 113 | 068 | 064 | 041 | 019 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .34  | .32 | .31 | .30 | .28 | .27 | .25 | .24 | .22 | .20 | .19 | .17 | .15 | .13 | .11 | .09 | .08 | .06 | .05 | .03 | .02 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 453  | 438 | 422 | 405 | 387 | 368 | 349 | 328 | 306 | 283 | 259 | 234 | 204 | 179 | 154 | 130 | 106 | 084 | 064 | 046 | 036 | 017 | 007 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .39  | .37 | .36 | .35 | .33 | .32 | .30 | .29 | .27 | .25 | .23 | .22 | .20 | .19 | .17 | .16 | .14 | .12 | .11 | .09 | .08 | .07 | .06 | .05 | .04 | .03 | .02 | .01 | .01 | .00 | .00 |     |
|      | 519  | 504 | 488 | 471 | 454 | 435 | 415 | 394 | 371 | 348 | 324 | 299 | 263 | 243 | 218 | 194 | 170 | 148 | 128 | 109 | 094 | 081 | 071 | 064 | 054 | 044 | 034 | 024 | 014 | 004 | 000 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .43  | .42 | .41 | .39 | .38 | .37 | .35 | .33 | .32 | .30 | .28 | .26 | .24 | .22 | .20 | .18 | .17 | .15 | .13 | .12 | .11 | .10 | .09 | .08 | .07 | .06 | .05 | .04 | .03 | .02 | .01 |     |
|      | 583  | 568 | 553 | 536 | 518 | 499 | 479 | 458 | 435 | 412 | 387 | 362 | 331 | 306 | 280 | 256 | 232 | 210 | 189 | 171 | 156 | 143 | 134 | 127 | 117 | 107 | 097 | 087 | 077 | 067 | 057 |     |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS CCS Z  
XO (W/M\*\*2.)

TABLE B-1

SEP-DEC

36 N

PREVIOUS PAGE  
IS BLANK

| MST  | SEP  |      |      |      |      | OCT  |      |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
|      | DATE |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0800 | .48  | .47  | .45  | .44  | .43  | .41  | .40  | .38 | .36 | .34 | .32 | .30 | .28 | .26 | .24 | .23 | .21 | .19 | .18 | .15 | .15 | .14 | .14 | .13 |
|      | 646  | 631  | 615  | 598  | 581  | 561  | 541  | 519 | 497 | 473 | 448 | 423 | 392 | 366 | 340 | 315 | 291 | 269 | 249 | 231 | 216 | 204 | 194 | 189 |
| 18   | .52  | .51  | .50  | .48  | .47  | .45  | .44  | .42 | .40 | .38 | .37 | .35 | .32 | .30 | .28 | .27 | .25 | .23 | .22 | .20 | .19 | .19 | .18 | .18 |
|      | 705  | 691  | 675  | 658  | 640  | 621  | 600  | 579 | 556 | 531 | 506 | 481 | 449 | 423 | 397 | 372 | 349 | 326 | 306 | 289 | 274 | 262 | 253 | 247 |
| 30   | .57  | .55  | .54  | .53  | .51  | .50  | .48  | .46 | .44 | .42 | .41 | .39 | .36 | .34 | .32 | .30 | .29 | .27 | .26 | .24 | .23 | .22 | .22 | .22 |
|      | 763  | 748  | 732  | 716  | 697  | 678  | 657  | 635 | 611 | 587 | 562 | 536 | 504 | 478 | 452 | 427 | 403 | 381 | 361 | 343 | 329 | 317 | 309 | 304 |
| 48   | .61  | .59  | .58  | .57  | .55  | .54  | .52  | .50 | .48 | .46 | .44 | .42 | .40 | .38 | .36 | .34 | .32 | .31 | .29 | .28 | .27 | .26 | .26 | .25 |
|      | 817  | 803  | 787  | 770  | 751  | 732  | 710  | 688 | 664 | 639 | 614 | 588 | 556 | 529 | 503 | 478 | 454 | 432 | 413 | 393 | 381 | 370 | 362 | 358 |
| 0900 | .64  | .63  | .62  | .60  | .59  | .57  | .56  | .54 | .52 | .50 | .49 | .46 | .43 | .41 | .39 | .38 | .36 | .34 | .33 | .32 | .30 | .30 | .29 | .29 |
|      | 889  | 854  | 838  | 821  | 802  | 782  | 761  | 736 | 714 | 689 | 663 | 636 | 604 | 577 | 551 | 526 | 503 | 481 | 461 | 441 | 430 | 419 | 412 | 408 |
| 15   | .68  | .67  | .65  | .64  | .62  | .61  | .59  | .57 | .55 | .53 | .51 | .49 | .47 | .45 | .43 | .41 | .39 | .37 | .36 | .35 | .34 | .33 | .32 | .32 |
|      | 917  | 902  | 886  | 868  | 849  | 829  | 807  | 784 | 760 | 734 | 708 | 681 | 649 | 622 | 596 | 571 | 547 | 526 | 506 | 490 | 476 | 466 | 459 | 456 |
| 30   | .71  | .70  | .69  | .67  | .66  | .64  | .62  | .60 | .58 | .56 | .54 | .52 | .50 | .47 | .46 | .44 | .42 | .40 | .39 | .38 | .37 | .36 | .36 | .35 |
|      | 961  | 946  | 930  | 912  | 893  | 872  | 850  | 827 | 802 | 776 | 750 | 723 | 690 | 663 | 637 | 612 | 589 | 567 | 548 | 532 | 519 | 509 | 503 | 500 |
| 48   | .74  | .73  | .72  | .70  | .68  | .67  | .65  | .63 | .61 | .59 | .57 | .55 | .52 | .50 | .48 | .46 | .45 | .43 | .42 | .40 | .40 | .39 | .38 | .38 |
|      | 1002 | 987  | 971  | 952  | 933  | 912  | 889  | 865 | 840 | 814 | 787 | 760 | 727 | 700 | 674 | 649 | 626 | 605 | 586 | 570 | 558 | 548 | 543 | 541 |
| 1000 | .77  | .76  | .74  | .73  | .71  | .69  | .67  | .65 | .63 | .61 | .59 | .57 | .55 | .53 | .51 | .49 | .47 | .45 | .44 | .43 | .42 | .41 | .41 | .41 |
|      | 1039 | 1024 | 1007 | 989  | 969  | 947  | 924  | 900 | 874 | 848 | 821 | 793 | 760 | 733 | 707 | 683 | 660 | 639 | 620 | 605 | 593 | 584 | 579 | 578 |
| 15   | .80  | .78  | .77  | .75  | .73  | .72  | .70  | .68 | .66 | .64 | .61 | .59 | .57 | .55 | .53 | .51 | .49 | .48 | .46 | .45 | .44 | .44 | .43 | .43 |
|      | 1072 | 1057 | 1039 | 1021 | 1000 | 978  | 955  | 930 | 904 | 878 | 850 | 823 | 789 | 762 | 736 | 712 | 689 | 668 | 651 | 636 | 624 | 616 | 611 | 611 |
| 30   | .82  | .80  | .79  | .77  | .75  | .74  | .72  | .70 | .67 | .65 | .63 | .61 | .58 | .56 | .54 | .53 | .51 | .49 | .48 | .47 | .46 | .46 | .46 | .45 |
|      | 1101 | 1085 | 1068 | 1048 | 1027 | 1005 | 981  | 956 | 930 | 903 | 875 | 847 | 814 | 787 | 761 | 737 | 714 | 694 | 677 | 662 | 651 | 644 | 640 | 640 |
| 48   | .84  | .82  | .81  | .79  | .77  | .75  | .73  | .71 | .69 | .67 | .65 | .62 | .60 | .58 | .56 | .54 | .52 | .51 | .50 | .49 | .48 | .47 | .47 | .47 |
|      | 1126 | 1109 | 1091 | 1072 | 1050 | 1027 | 1003 | 978 | 951 | 924 | 896 | 868 | 834 | 808 | 782 | 757 | 735 | 715 | 698 | 685 | 674 | 667 | 664 | 665 |

TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M\*\*2.) \*\*\* SIGNIFIFES COS Z =1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP   |       |       |       |       | OCT  |       |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |  |
|------|-------|-------|-------|-------|-------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|      | 5     | 10    | 15    | 20    | 25    | 30   | 5     | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |
| 1100 | .85   | .84   | .82   | .80   | .78   | .77  | .74   | .72  | .70  | .68  | .66  | .64  | .61  | .59  | .57  | .55  | .54  | .52  | .51  | .50  | .49  | .49  | .48  | .48  |  |
|      | .146* | .129* | .111* | .090* | .069* | .045 | .021  | .995 | .968 | .940 | .912 | .884 | .850 | .823 | .798 | .774 | .752 | .732 | .716 | .703 | .693 | .687 | .684 | .686 |  |
| 15   | .86   | .85   | .83   | .81   | .79   | .77  | .75   | .73  | .71  | .69  | .67  | .64  | .62  | .60  | .58  | .56  | .54  | .53  | .52  | .51  | .50  | .50  | .49  | .50  |  |
|      | .162* | .144* | .125* | .105* | .082* | .058 | .033* | .007 | .979 | .951 | .923 | .895 | .861 | .835 | .809 | .785 | .764 | .745 | .729 | .715 | .707 | .701 | .700 | .702 |  |
| 30   | .87   | .85   | .84   | .82   | .80   | .78  | .76   | .74  | .72  | .69  | .67  | .65  | .62  | .60  | .58  | .57  | .55  | .54  | .52  | .51  | .51  | .50  | .50  | .50  |  |
|      | .173* | .155* | .136* | .114* | .091* | .067 | .041* | .014 | .987 | .958 | .930 | .901 | .868 | .841 | .816 | .793 | .772 | .753 | .738 | .725 | .717 | .712 | .711 | .714 |  |
| 45   | .88   | .86   | .84   | .82   | .80   | .78  | .76   | .74  | .72  | .70  | .67  | .65  | .62  | .60  | .58  | .57  | .55  | .54  | .53  | .52  | .51  | .51  | .51  | .51  |  |
|      | .179* | .161* | .141* | .119* | .096* | .071 | .045* | .017 | .989 | .961 | .932 | .903 | .870 | .843 | .818 | .795 | .775 | .757 | .742 | .730 | .722 | .718 | .718 | .721 |  |
| 1200 | .88   | .86   | .84   | .82   | .80   | .78  | .76   | .74  | .72  | .69  | .67  | .65  | .62  | .60  | .58  | .57  | .55  | .54  | .53  | .52  | .51  | .51  | .51  | .51  |  |
|      | .181* | .162* | .142* | .119* | .095* | .070 | .043* | .015 | .987 | .958 | .929 | .901 | .867 | .841 | .816 | .793 | .773 | .756 | .741 | .730 | .723 | .720 | .720 | .724 |  |
| 15   | .87   | .86   | .84   | .82   | .80   | .78  | .76   | .73  | .71  | .69  | .67  | .64  | .62  | .60  | .58  | .56  | .55  | .53  | .52  | .51  | .51  | .51  | .51  | .51  |  |
|      | .179* | .159* | .138* | .115* | .090* | .064 | .037* | .009 | .980 | .951 | .922 | .893 | .860 | .834 | .809 | .787 | .767 | .750 | .736 | .725 | .720 | .717 | .718 | .723 |  |
| 30   | .87   | .85   | .83   | .81   | .79   | .77  | .75   | .73  | .70  | .68  | .66  | .63  | .61  | .59  | .57  | .55  | .54  | .53  | .52  | .51  | .50  | .50  | .50  | .51  |  |
|      | .171* | .151* | .129* | .106* | .080* | .054 | .026  | .998 | .968 | .939 | .910 | .831 | .848 | .822 | .798 | .776 | .757 | .740 | .727 | .717 | .711 | .709 | .711 | .717 |  |
| 45   | .86   | .84   | .82   | .80   | .78   | .76  | .74   | .71  | .69  | .67  | .64  | .62  | .60  | .58  | .56  | .54  | .53  | .52  | .51  | .50  | .49  | .49  | .50  | .50  |  |
|      | .159* | .139* | .118* | .092* | .066* | .039 | .011  | .982 | .952 | .922 | .893 | .864 | .831 | .806 | .782 | .760 | .741 | .726 | .713 | .704 | .699 | .697 | .700 | .706 |  |
| 1300 | .85   | .83   | .81   | .79   | .77   | .75  | .72   | .70  | .68  | .65  | .63  | .61  | .58  | .56  | .54  | .53  | .51  | .50  | .49  | .48  | .48  | .48  | .48  | .49  |  |
|      | .143* | .121* | .098* | .073* | .047* | .019 | .991  | .961 | .931 | .901 | .872 | .843 | .810 | .785 | .761 | .740 | .722 | .707 | .695 | .687 | .682 | .681 | .684 | .691 |  |
| 15   | .83   | .81   | .79   | .77   | .75   | .73  | .70   | .68  | .66  | .63  | .61  | .59  | .50  | .54  | .53  | .51  | .50  | .49  | .48  | .47  | .47  | .47  | .47  | .48  |  |
|      | .122* | .100* | .076* | .050* | .023  | .995 | .966  | .936 | .906 | .876 | .846 | .818 | .785 | .760 | .737 | .716 | .698 | .683 | .672 | .665 | .661 | .661 | .664 | .672 |  |
| 30   | .81   | .79   | .77   | .75   | .73   | .71  | .68   | .66  | .64  | .61  | .59  | .57  | .54  | .52  | .51  | .49  | .48  | .47  | .46  | .45  | .45  | .45  | .45  | .46  |  |
|      | .096* | .074* | .049* | .023  | .995  | .967 | .937  | .907 | .876 | .846 | .816 | .788 | .755 | .730 | .707 | .687 | .670 | .656 | .645 | .638 | .635 | .636 | .640 | .648 |  |
| 45   | .79   | .77   | .75   | .73   | .71   | .68  | .66   | .64  | .61  | .59  | .56  | .54  | .52  | .50  | .48  | .47  | .45  | .44  | .44  | .43  | .43  | .43  | .43  | .44  |  |
|      | .067* | .044* | .018  | .991  | .963  | .934 | .904  | .873 | .842 | .812 | .782 | .754 | .721 | .697 | .674 | .655 | .638 | .624 | .614 | .603 | .606 | .607 | .612 | .621 |  |

SEP-DEC 36 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

MST

DATE

SEP

NOV

DEC

5 10 15 20 25 30

5 10 15 20 25 30

5 10 15 20 25 30

5 10 15 20 25 30

1400 .77 .75 .73 .70 .68 .66  
033-009 983 956 927 897.63 .61 .58 .56 .54 .52  
866 835 804 774 744 715.49 .47 .46 .44 .43 .42  
683 659 637 618 602 589.41 .41 .41 .41 .41 .42  
580 574 572 574 579 58915 .74 .72 .70 .67 .65 .63  
995 971 944 916 886 856.60 .58 .55 .53 .51 .48  
825 793 762 732 702 673.46 .44 .43 .41 .40 .39  
642 618 596 577 562 550.38 .34 .36 .38 .38 .39  
541 535 534 537 543 55330 .71 .69 .67 .64 .62 .59  
954 928 901 872 842 811.57 .54 .52 .50 .47 .45  
780 748 716 686 656 628.43 .41 .39 .38 .37 .36  
596 573 551 533 518 507.35 .35 .35 .35 .36 .36  
498 491 493 496 503 51345 .67 .65 .63 .61 .58 .56  
909 882 854 825 794 763.53 .51 .48 .46 .44 .42  
731 699 667 636 607 578.39 .38 .36 .35 .34 .33  
547 524 503 486 471 460.32 .32 .32 .32 .33 .33  
453 449 449 452 460 4701500 .64 .62 .59 .57 .55 .52  
880 833 804 774 743 711.50 .47 .45 .42 .40 .38  
679 646 614 584 554 526.36 .34 .32 .31 .30 .29  
495 472 452 435 421 410.29 .23 .28 .29 .29 .30  
403 400 401 405 413 42415 .60 .58 .55 .53 .51 .48  
808 780 751 720 688 656.46 .43 .41 .38 .36 .34  
623 591 559 528 498 470.32 .30 .28 .27 .26 .25  
440 417 397 381 367 358.25 .25 .25 .25 .26 .26  
351 349 350 354 362 37430 .56 .54 .51 .49 .46 .44  
753 725 695 663 631 598.41 .39 .36 .34 .32 .30  
565 532 500 469 439 412.27 .26 .24 .23 .22 .21  
382 360 340 324 311 302.21 .21 .21 .21 .22 .23  
296 294 296 301 309 32145 .52 .49 .47 .44 .42 .39  
695 666 635 604 571 537.37 .34 .32 .30 .27 .25  
504 471 439 408 378 351.23 .21 .20 .19 .18 .17  
321 299 280 265 252 244.17 .17 .17 .17 .18 .19  
238 237 239 244 253 2661600 .47 .45 .42 .40 .37 .35  
635 605 574 541 508 474.32 .30 .27 .25 .23 .21  
441 407 375 344 315 288.19 .17 .16 .15 .14 .13  
258 237 218 203 191 183.13 .13 .13 .13 .14 .15  
178 177 180 186 195 20815 .42 .40 .38 .35 .33 .30  
572 542 510 477 443 409.27 .25 .22 .20 .18 .16  
375 342 309 278 249 222.14 .12 .11 .10 .09 .09  
193 172 154 139 128 120.08 .03 .08 .09 .10 .10  
116 115 118 125 134 14730 .38 .35 .33 .30 .28 .25  
507 476 444 411 376 342.22 .20 .18 .15 .13 .11  
308 274 242 211 182 155.09 .08 .06 .05 .05 .04  
126 106 088 074 063 056.04 .04 .04 .04 .05 .06  
052 052 055 062 072 08545 .33 .30 .28 .25 .23 .20  
441 409 376 342 308 273.17 .15 .13 .10 .08 .06  
239 205 173 142 113 086.04 .03 .02 .01 .00 .00  
058 038 021 007 000 000.00 .00 .00 .00 .01 .01  
000 000 000 000 007 020

SEP-DEC

36 N

TABLE B-1

SOLAR PARAMETERS

COS Z

XO (W/M=2.)

\*\* SIGNIFIES COS Z =1.

ADD 1000 TO VALUES PRECEDED BY \*





| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0600 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0700 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .02  | .01 | .01 | .02 | .02 | .03 | .04 | .05 | .07 | .09 | .11 | .13 | .15 | .16 | .18 | .21 | .23 | .26 | .28 | .31 | .33 | .35 | .37 | .39 | .41 |
| 30   | .02  | .01 | .01 | .02 | .03 | .04 | .05 | .06 | .09 | .12 | .14 | .17 | .19 | .21 | .24 | .26 | .29 | .31 | .33 | .36 | .38 | .40 | .42 | .44 | .46 |
| 45   | .06  | .06 | .06 | .06 | .07 | .08 | .09 | .10 | .12 | .14 | .16 | .18 | .21 | .24 | .26 | .29 | .31 | .33 | .36 | .38 | .40 | .42 | .44 | .46 | .48 |
| 0800 | .08  | .08 | .08 | .09 | .09 | .10 | .12 | .14 | .16 | .18 | .21 | .23 | .26 | .29 | .31 | .34 | .36 | .38 | .41 | .43 | .45 | .47 | .49 | .50 | .52 |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

TABLE B-1

JAN-APR 34 N

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | DATE |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |  |
| 0800 | .15 | .15 | .15 | .16 | .16 | .17 | .18 | .20 | .22 | .23 | .25  | .28 | .31 | .34 | .36 | .38 | .41 | .43 | .46 | .44 | .50 | .52 | .54 | .55 |  |
|      | 216 | 214 | 216 | 221 | 230 | 242 | 258 | 281 | 303 | 328 | 355  | 384 | 434 | 466 | 488 | 530 | 562 | 593 | 628 | 655 | 631 | 704 | 724 | 742 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 15   | .20 | .20 | .20 | .20 | .21 | .22 | .23 | .25 | .26 | .28 | .30  | .32 | .36 | .38 | .41 | .43 | .46 | .48 | .51 | .53 | .55 | .56 | .58 | .59 |  |
|      | 276 | 275 | 278 | 284 | 293 | 306 | 322 | 345 | 368 | 393 | 421  | 450 | 493 | 531 | 563 | 595 | 627 | 657 | 691 | 713 | 742 | 765 | 785 | 802 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 30   | .24 | .24 | .24 | .24 | .25 | .26 | .27 | .29 | .31 | .33 | .35  | .37 | .40 | .43 | .45 | .48 | .50 | .52 | .55 | .57 | .59 | .61 | .62 | .64 |  |
|      | 334 | 334 | 337 | 343 | 353 | 367 | 383 | 408 | 431 | 456 | 484  | 513 | 563 | 594 | 625 | 658 | 689 | 718 | 752 | 773 | 802 | 823 | 842 | 859 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 45   | .28 | .28 | .28 | .28 | .29 | .30 | .31 | .33 | .35 | .37 | .39  | .41 | .45 | .47 | .50 | .52 | .54 | .57 | .59 | .61 | .63 | .65 | .66 | .68 |  |
|      | 390 | 390 | 393 | 400 | 411 | 425 | 442 | 467 | 490 | 516 | 544  | 574 | 623 | 654 | 686 | 717 | 748 | 777 | 809 | 835 | 858 | 879 | 897 | 913 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 0900 | .31 | .31 | .32 | .32 | .33 | .34 | .35 | .37 | .39 | .41 | .43  | .45 | .49 | .51 | .54 | .56 | .58 | .61 | .63 | .65 | .67 | .69 | .70 | .72 |  |
|      | 442 | 443 | 447 | 454 | 466 | 480 | 498 | 523 | 547 | 573 | 602  | 631 | 680 | 712 | 743 | 774 | 803 | 832 | 864 | 883 | 911 | 931 | 949 | 964 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 15   | .35 | .35 | .35 | .36 | .37 | .38 | .39 | .41 | .43 | .45 | .47  | .49 | .53 | .55 | .58 | .60 | .62 | .64 | .67 | .69 | .71 | .72 | .74 | .75 |  |
|      | 491 | 492 | 497 | 505 | 517 | 532 | 551 | 577 | 601 | 627 | 656  | 685 | 734 | 766 | 796 | 827 | 856 | 884 | 915 | 933 | 951 | 980 | 997 | 012 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 30   | .38 | .38 | .38 | .39 | .40 | .41 | .43 | .45 | .46 | .48 | .50  | .53 | .56 | .59 | .61 | .64 | .66 | .68 | .70 | .72 | .74 | .76 | .77 | .78 |  |
|      | 537 | 538 | 544 | 553 | 565 | 581 | 600 | 627 | 651 | 678 | 706  | 736 | 785 | 816 | 846 | 876 | 905 | 932 | 963 | 983 | 007 | 026 | 042 | 056 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 45   | .41 | .41 | .42 | .42 | .43 | .44 | .46 | .48 | .50 | .52 | .54  | .56 | .60 | .62 | .65 | .67 | .69 | .71 | .74 | .75 | .77 | .79 | .80 | .81 |  |
|      | 579 | 581 | 587 | 597 | 610 | 626 | 646 | 673 | 698 | 725 | 753  | 783 | 832 | 862 | 893 | 922 | 950 | 977 | 007 | 023 | 050 | 068 | 083 | 097 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 1000 | .44 | .44 | .44 | .45 | .46 | .47 | .49 | .51 | .53 | .55 | .57  | .59 | .63 | .65 | .68 | .70 | .72 | .74 | .77 | .78 | .80 | .82 | .83 | .84 |  |
|      | 617 | 620 | 626 | 637 | 651 | 668 | 688 | 715 | 741 | 768 | 797  | 826 | 875 | 905 | 935 | 964 | 991 | 017 | 046 | 063 | 088 | 105 | 121 | 134 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 15   | .46 | .46 | .47 | .48 | .49 | .50 | .52 | .54 | .55 | .58 | .60  | .62 | .66 | .68 | .70 | .73 | .75 | .77 | .79 | .81 | .83 | .84 | .85 | .86 |  |
|      | 651 | 654 | 662 | 673 | 688 | 705 | 726 | 754 | 779 | 807 | 836  | 865 | 914 | 943 | 973 | 001 | 028 | 054 | 082 | 103 | 122 | 139 | 154 | 166 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 30   | .48 | .48 | .49 | .50 | .51 | .52 | .54 | .56 | .58 | .60 | .62  | .64 | .68 | .70 | .73 | .75 | .77 | .79 | .81 | .83 | .85 | .86 | .87 | .89 |  |
|      | 681 | 685 | 693 | 705 | 720 | 738 | 760 | 788 | 814 | 842 | 870  | 900 | 948 | 978 | 007 | 035 | 061 | 086 | 113 | 134 | 152 | 169 | 183 | 195 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 45   | .50 | .50 | .51 | .52 | .53 | .54 | .56 | .58 | .60 | .62 | .64  | .67 | .70 | .73 | .75 | .77 | .79 | .81 | .83 | .85 | .87 | .88 | .89 | .90 |  |
|      | 707 | 711 | 720 | 733 | 749 | 767 | 789 | 818 | 844 | 872 | 901  | 930 | 978 | 007 | 036 | 063 | 089 | 114 | 140 | 160 | 178 | 194 | 207 | 219 |  |
|      |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

JAN-APR 34 N TABLE B-1 SOLAR PARAMETERS COS Z XO (W/M\*\*2,)

\*\*\* SIGNIFIES COS Z = 1.

ADD 1000 TO VALUES PRECEDED BY \*

| MST  | JAN |     |     |     |     |     | FEB |     |     |     |      |      | DATE |      |      |      |      |      | MAR  |      |      |      |      |      | APR  |      |      |      |      |      |      |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |      |      |      |      |      |      |
| 1100 | .52 | .52 | .53 | .54 | .55 | .56 | .58 | .60 | .62 | .64 | .66  | .69  | .72  | .74  | .77  | .79  | .81  | .83  | .85  | .87  | .88  | .90  | .91  | .92  | .85  | .87  | .88  | .90  | .91  | .92  | .85  | .87  | .88  | .90  | .91  | .92  |      |
| 728  | 734 | 743 | 756 | 773 | 792 | 814 | 843 | 870 | 898 | 927 | 956  | 986  | *004 | .033 | .061 | .088 | .113 | .137 | *163 | .182 | .191 | .214 | .227 | *238 | *163 | .182 | .191 | .214 | .227 | *238 | *163 | .182 | .191 | .214 | .227 | *238 |      |
| 15   | .53 | .53 | .54 | .55 | .56 | .58 | .59 | .61 | .63 | .66 | .68  | .70  | .74  | .76  | .78  | .80  | .82  | .84  | .86  | .88  | .89  | .91  | .92  | .93  | .86  | .88  | .89  | .91  | .92  | .93  | .86  | .88  | .89  | .91  | .92  | .93  |      |
| 745  | 751 | 761 | 775 | 792 | 812 | 835 | 864 | 891 | 919 | 948 | 978  | 1008 | *024 | .052 | .081 | .107 | .132 | .155 | *180 | .191 | .214 | .230 | .243 | *254 | *180 | .191 | .214 | .230 | .243 | *254 | *180 | .191 | .214 | .230 | .243 | *254 |      |
| 30   | .54 | .54 | .55 | .56 | .57 | .59 | .60 | .63 | .65 | .67 | .69  | .71  | .75  | .77  | .79  | .81  | .83  | .85  | .87  | .89  | .90  | .92  | .93  | .94  | .87  | .89  | .90  | .92  | .93  | .94  | .87  | .89  | .90  | .92  | .93  | .94  |      |
| 758  | 764 | 775 | 790 | 807 | 828 | 851 | 881 | 908 | 936 | 965 | 994  | 1024 | *041 | .069 | .096 | .122 | .146 | .169 | *193 | .212 | .228 | .242 | .254 | *264 | *193 | .212 | .228 | .242 | .254 | *264 | *193 | .212 | .228 | .242 | .254 | *264 |      |
| 45   | .54 | .55 | .55 | .57 | .58 | .59 | .61 | .63 | .65 | .68 | .70  | .72  | .76  | .78  | .80  | .82  | .84  | .86  | .88  | .89  | .91  | .92  | .93  | .94  | .88  | .89  | .91  | .92  | .93  | .94  | .88  | .89  | .91  | .92  | .93  | .94  |      |
| 766  | 773 | 784 | 799 | 818 | 839 | 862 | 892 | 920 | 948 | 977 | 1006 | 1036 | *052 | .080 | .106 | .132 | .156 | .178 | *201 | .219 | .235 | .249 | .260 | *270 | *201 | .219 | .235 | .249 | .260 | *270 | *201 | .219 | .235 | .249 | .260 | *270 |      |
| 1200 | .54 | .55 | .56 | .57 | .58 | .60 | .62 | .64 | .66 | .68 | .70  | .73  | .76  | .78  | .80  | .82  | .84  | .86  | .88  | .90  | .91  | .92  | .93  | .94  | .88  | .90  | .91  | .92  | .93  | .94  | .88  | .90  | .91  | .92  | .93  | .94  |      |
| 769  | 777 | 789 | 805 | 823 | 845 | 868 | 899 | 927 | 955 | 984 | 1013 | 1043 | *053 | .086 | .112 | .137 | .160 | .182 | *205 | .222 | .237 | .251 | .262 | *272 | *205 | .222 | .237 | .251 | .262 | *272 | *205 | .222 | .237 | .251 | .262 | *272 |      |
| 15   | .54 | .55 | .56 | .57 | .58 | .60 | .62 | .64 | .66 | .68 | .70  | .73  | .76  | .78  | .80  | .82  | .84  | .86  | .88  | .89  | .91  | .92  | .93  | .94  | .88  | .89  | .91  | .92  | .93  | .94  | .88  | .89  | .91  | .92  | .93  | .94  |      |
| 768  | 776 | 789 | 805 | 824 | 846 | 870 | 901 | 929 | 957 | 985 | 1015 | 1045 | *060 | .087 | .113 | .137 | .160 | .181 | *203 | .220 | .235 | .248 | .259 | *269 | *203 | .220 | .235 | .248 | .259 | *269 | *203 | .220 | .235 | .248 | .259 | *269 |      |
| 30   | .54 | .54 | .55 | .57 | .58 | .60 | .62 | .64 | .66 | .68 | .70  | .72  | .76  | .78  | .80  | .82  | .84  | .86  | .88  | .89  | .91  | .92  | .93  | .93  | .88  | .89  | .91  | .92  | .93  | .93  | .88  | .89  | .91  | .92  | .93  | .93  |      |
| 762  | 771 | 784 | 801 | 821 | 843 | 867 | 899 | 926 | 954 | 983 | 1012 | 1042 | *055 | .083 | .108 | .132 | .155 | .175 | *197 | .213 | .228 | .240 | .251 | *261 | *197 | .213 | .228 | .240 | .251 | *261 | *197 | .213 | .228 | .240 | .251 | *261 |      |
| 45   | .53 | .54 | .55 | .56 | .58 | .59 | .61 | .63 | .65 | .68 | .70  | .72  | .75  | .77  | .79  | .81  | .83  | .85  | .87  | .89  | .90  | .91  | .92  | .93  | .87  | .89  | .90  | .91  | .92  | .93  | .87  | .89  | .90  | .91  | .92  | .93  |      |
| 752  | 761 | 775 | 792 | 812 | 835 | 859 | 891 | 919 | 947 | 975 | 1004 | 1034 | *046 | .074 | .099 | .123 | .144 | .164 | *186 | .202 | .218 | .228 | .239 | *248 | *186 | .202 | .218 | .228 | .239 | *248 | *186 | .202 | .218 | .228 | .239 | *248 |      |
| 1300 | .52 | .53 | .54 | .55 | .57 | .58 | .60 | .62 | .65 | .67 | .69  | .71  | .74  | .76  | .78  | .80  | .82  | .84  | .86  | .87  | .87  | .89  | .90  | .91  | .86  | .87  | .87  | .89  | .90  | .91  | .86  | .87  | .87  | .89  | .90  | .91  |      |
| 737  | 746 | 761 | 779 | 799 | 822 | 847 | 879 | 906 | 935 | 963 | 991  | 1021 | *033 | .061 | .085 | .108 | .129 | .149 | *170 | .185 | .199 | .212 | .222 | *231 | *170 | .185 | .199 | .212 | .222 | *231 | *170 | .185 | .199 | .212 | .222 | *231 |      |
| 15   | .51 | .51 | .52 | .54 | .55 | .57 | .59 | .61 | .63 | .65 | .68  | .70  | .73  | .75  | .77  | .79  | .81  | .82  | .84  | .85  | .85  | .87  | .88  | .89  | .90  | .84  | .85  | .87  | .88  | .89  | .90  | .84  | .85  | .87  | .88  | .89  | .90  |
| 717  | 727 | 742 | 761 | 781 | 805 | 830 | 862 | 889 | 918 | 945 | 974  | 1004 | *017 | .042 | .066 | .089 | .110 | .129 | *150 | .165 | .178 | .190 | .201 | *210 | *150 | .165 | .178 | .190 | .201 | *210 | *150 | .165 | .178 | .190 | .201 | *210 |      |
| 30   | .49 | .50 | .51 | .52 | .54 | .55 | .57 | .60 | .62 | .64 | .66  | .68  | .71  | .73  | .75  | .77  | .79  | .80  | .82  | .83  | .83  | .86  | .87  | .88  | .82  | .83  | .83  | .86  | .87  | .88  | .82  | .83  | .83  | .86  | .87  | .88  |      |
| 693  | 704 | 719 | 738 | 759 | 783 | 808 | 840 | 868 | 896 | 924 | 951  | 981  | .019 | .043 | .065 | .085 | .104 | *125 | .137 | .153 | .165 | .175 | *184 | *125 | .137 | .153 | .165 | .175 | *184 | *125 | .137 | .153 | .165 | .175 | *184 |      |      |
| 45   | .47 | .48 | .49 | .50 | .52 | .54 | .55 | .58 | .60 | .62 | .64  | .66  | .70  | .71  | .73  | .75  | .77  | .78  | .80  | .81  | .83  | .84  | .85  | .86  | .80  | .81  | .83  | .84  | .85  | .86  | .80  | .81  | .83  | .84  | .85  | .86  |      |
| 665  | 676 | 692 | 711 | 733 | 756 | 782 | 814 | 842 | 869 | 897 | 925  | 957  | .011 | .035 | .056 | .077 | .095 | *110 | .123 | .134 | .145 | *154 | *110 | .123 | .134 | .145 | *154 | *110 | .123 | .134 | .145 | *154 | *110 | .123 | .134 | .145 | *154 |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS COS Z  
AD (W/N)\*2.)

TABLE B-1

JAN-APR 34 N

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | DATE |     |     |     |     | MAR  |      |      |      |      | APR  |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 1400 | .45 | .46 | .47 | .48 | .50 | .51 | .53 | .56 | .58 | .60 | .62  | .64 | .67 | .69 | .71 | .73  | .74  | .76  | .78  | .79  | .80  | .81  | .82  | .83  | .83  |
|      | 633 | 644 | 660 | 680 | 702 | 726 | 751 | 783 | 811 | 839 | 866  | 893 | 935 | 959 | 982 | 1003 | 1023 | 1041 | 1061 | 1075 | 1098 | 1100 | 1110 | 1120 | 120  |
| 15   | .42 | .43 | .44 | .46 | .47 | .49 | .51 | .53 | .55 | .57 | .59  | .61 | .65 | .67 | .68 | .70  | .72  | .73  | .75  | .76  | .77  | .78  | .79  | .80  | .80  |
|      | 596 | 608 | 625 | 645 | 667 | 691 | 716 | 748 | 776 | 803 | 831  | 858 | 893 | 923 | 945 | 966  | 986  | 1003 | 1023 | 1037 | 1050 | 1062 | 1072 | 1082 | 1082 |
| 30   | .39 | .40 | .41 | .43 | .44 | .46 | .48 | .50 | .52 | .55 | .57  | .59 | .62 | .64 | .65 | .67  | .69  | .70  | .72  | .73  | .74  | .75  | .76  | .77  | .77  |
|      | 556 | 568 | 585 | 605 | 628 | 652 | 677 | 709 | 737 | 764 | 791  | 818 | 858 | 882 | 904 | 925  | 944  | 961  | 980  | 995  | 1008 | 1019 | 1030 | 1040 | 1040 |
| 45   | .36 | .37 | .38 | .40 | .41 | .43 | .45 | .47 | .49 | .51 | .53  | .55 | .59 | .60 | .62 | .64  | .65  | .67  | .68  | .70  | .71  | .72  | .73  | .74  | .74  |
|      | 512 | 524 | 542 | 562 | 585 | 609 | 634 | 666 | 694 | 721 | 748  | 774 | 814 | 837 | 859 | 879  | 898  | 915  | 934  | 943  | 961  | 973  | 984  | 994  | 994  |
| 1500 | .33 | .34 | .35 | .36 | .38 | .40 | .42 | .44 | .46 | .48 | .50  | .52 | .55 | .57 | .59 | .60  | .62  | .63  | .65  | .66  | .67  | .68  | .69  | .70  | .70  |
|      | 464 | 477 | 495 | 515 | 538 | 562 | 588 | 620 | 647 | 674 | 700  | 726 | 765 | 788 | 810 | 830  | 849  | 866  | 884  | 893  | 912  | 924  | 935  | 945  | 945  |
| 15   | .29 | .30 | .31 | .33 | .35 | .36 | .38 | .40 | .42 | .44 | .46  | .48 | .51 | .53 | .55 | .56  | .58  | .59  | .61  | .62  | .63  | .64  | .65  | .66  | .66  |
|      | 414 | 426 | 444 | 465 | 488 | 512 | 538 | 569 | 596 | 623 | 649  | 674 | 713 | 736 | 757 | 777  | 796  | 813  | 831  | 845  | 859  | 871  | 882  | 892  | 892  |
| 30   | .25 | .26 | .28 | .29 | .31 | .33 | .34 | .37 | .39 | .41 | .42  | .44 | .47 | .49 | .51 | .52  | .54  | .55  | .57  | .59  | .59  | .60  | .61  | .62  | .62  |
|      | 360 | 372 | 391 | 412 | 434 | 459 | 484 | 515 | 542 | 568 | 594  | 620 | 658 | 680 | 701 | 721  | 739  | 756  | 775  | 783  | 802  | 815  | 826  | 837  | 837  |
| 45   | .21 | .22 | .24 | .25 | .27 | .29 | .30 | .33 | .35 | .36 | .38  | .40 | .43 | .45 | .46 | .48  | .49  | .51  | .52  | .54  | .55  | .56  | .57  | .58  | .58  |
|      | 303 | 316 | 334 | 355 | 378 | 402 | 427 | 458 | 485 | 511 | 537  | 561 | 599 | 621 | 642 | 662  | 680  | 697  | 715  | 730  | 743  | 756  | 768  | 779  | 779  |
| 1600 | .17 | .18 | .19 | .21 | .23 | .24 | .26 | .28 | .30 | .32 | .34  | .36 | .39 | .40 | .42 | .43  | .45  | .46  | .48  | .49  | .50  | .51  | .52  | .53  | .53  |
|      | 243 | 256 | 275 | 296 | 319 | 343 | 368 | 399 | 425 | 450 | 476  | 500 | 538 | 559 | 580 | 599  | 617  | 634  | 653  | 663  | 681  | 694  | 707  | 718  | 718  |
| 15   | .13 | .14 | .15 | .17 | .18 | .20 | .22 | .24 | .26 | .28 | .29  | .31 | .34 | .36 | .37 | .39  | .40  | .42  | .43  | .44  | .45  | .47  | .48  | .49  | .49  |
|      | 182 | 195 | 213 | 234 | 257 | 281 | 306 | 336 | 362 | 387 | 412  | 437 | 473 | 495 | 515 | 535  | 553  | 569  | 588  | 603  | 617  | 630  | 643  | 655  | 655  |
| 30   | .08 | .09 | .11 | .12 | .14 | .15 | .17 | .19 | .21 | .23 | .25  | .27 | .29 | .31 | .32 | .34  | .35  | .37  | .38  | .39  | .41  | .42  | .43  | .44  | .44  |
|      | 118 | 131 | 150 | 170 | 193 | 216 | 241 | 271 | 297 | 322 | 347  | 370 | 407 | 428 | 448 | 467  | 485  | 502  | 521  | 537  | 551  | 565  | 578  | 590  | 590  |
| 45   | .04 | .05 | .06 | .07 | .09 | .11 | .12 | .15 | .16 | .18 | .20  | .22 | .24 | .26 | .27 | .29  | .30  | .32  | .33  | .34  | .36  | .37  | .38  | .39  | .39  |
|      | 052 | 065 | 084 | 104 | 127 | 150 | 175 | 204 | 229 | 254 | 279  | 302 | 338 | 359 | 379 | 398  | 416  | 433  | 453  | 463  | 483  | 497  | 511  | 524  | 524  |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
COS Z  
XO (W/M\*\*2.)

TABLE B-1

34 N

JAN-APR

| MST  | JAN        |            |            |            |            | FEB        |            |            |            |            | DATE       |            |            |            |            | MAR        |            |            |            |            | APR        |            |            |            |    |
|------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----|
|      | 1          | 5          | 10         | 15         | 20         | 25         | 30         | 5          | 10         | 15         | 20         | 25         | 30         | 5          | 10         | 15         | 20         | 25         | 30         | 5          | 10         | 15         | 20         | 25         | 30 |
| 1700 | .00<br>000 | .00<br>000 | .01<br>016 | .03<br>037 | .04<br>059 | .06<br>082 | .08<br>106 | .10<br>136 | .11<br>160 | .13<br>185 | .15<br>209 | .17<br>232 | .19<br>263 | .21<br>283 | .22<br>308 | .24<br>327 | .25<br>345 | .26<br>363 | .28<br>382 | .29<br>393 | .30<br>413 | .32<br>428 | .33<br>442 | .34<br>456 |    |
| 15   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>000 | .03<br>013 | .03<br>036 | .05<br>065 | .06<br>090 | .08<br>114 | .10<br>137 | .12<br>160 | .14<br>195 | .16<br>216 | .17<br>236 | .19<br>255 | .20<br>273 | .21<br>291 | .23<br>311 | .24<br>327 | .25<br>342 | .26<br>357 | .28<br>372 | .29<br>386 |    |
| 30   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>000 | .03<br>018 | .05<br>041 | .06<br>065 | .08<br>087 | .10<br>122 | .12<br>143 | .13<br>163 | .15<br>182 | .16<br>200 | .17<br>238 | .19<br>251 | .20<br>270 | .21<br>286 | .22<br>301 | .23<br>316 |    |
| 45   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>014 | .03<br>048 | .05<br>069 | .06<br>098 | .08<br>107 | .09<br>126 | .11<br>144 | .12<br>164 | .13<br>181 | .15<br>198 | .16<br>214 | .17<br>230 | .18<br>246 |    |
| 1800 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>000 | .02<br>033 | .04<br>051 | .05<br>069 | .07<br>091 | .09<br>103 | .09<br>125 | .11<br>142 | .12<br>159 | .13<br>175 |    |
| 15   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .01<br>017 | .03<br>035 | .04<br>052 | .05<br>070 | .06<br>087 | .08<br>104 |    |
| 30   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .02<br>000 | .03<br>000 | .00<br>000 | .01<br>016 | .03<br>034 |    |
| 45   | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .03<br>000 | .00<br>000 | .00<br>000 | .00<br>000 | .00<br>000 |    |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
X0 (W/M\*\*2.)

TABLE B-1

JAN-APR 34 N



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |
| 0800 | .56  | .57  | .58  | .59  | .60  | .60  | .60  | .60  | .60  | .60  | .59  | .59  | .58  | .58  | .57  | .56  | .55  | .54  | .54  | .53  |
|      | 758  | 771  | 781  | 789  | 795  | 798  | 800  | 799  | 797  | 794  | 789  | 784  | 777  | 769  | 761  | 753  | 744  | 735  | 723  | 715  |
| 15   | .61  | .62  | .63  | .63  | .64  | .64  | .64  | .64  | .64  | .64  | .63  | .63  | .62  | .62  | .61  | .61  | .60  | .59  | .59  | .58  |
|      | 817  | 829  | 839  | 846  | 852  | 855  | 856  | 856  | 854  | 850  | 846  | 840  | 834  | 827  | 819  | 811  | 802  | 794  | 782  | 773  |
| 30   | .65  | .66  | .67  | .67  | .68  | .68  | .69  | .69  | .68  | .68  | .68  | .68  | .67  | .67  | .66  | .65  | .64  | .63  | .63  | .62  |
|      | 873  | 885  | 894  | 901  | 906  | 909  | 910  | 909  | 907  | 904  | 900  | 894  | 883  | 882  | 874  | 867  | 859  | 850  | 840  | 835  |
| 45   | .69  | .70  | .71  | .71  | .72  | .72  | .72  | .72  | .72  | .72  | .72  | .71  | .71  | .71  | .70  | .69  | .68  | .67  | .67  | .66  |
|      | 927  | 938  | 947  | 953  | 958  | 960  | 961  | 961  | 958  | 955  | 951  | 946  | 940  | 934  | 927  | 920  | 912  | 904  | 894  | 885  |
| 0900 | .73  | .74  | .74  | .75  | .75  | .76  | .76  | .76  | .76  | .76  | .75  | .75  | .75  | .74  | .74  | .73  | .73  | .72  | .71  | .70  |
|      | 977  | 988  | 996  | 002  | 006  | 009  | *010 | *009 | *007 | *004 | *000 | 995  | 989  | 983  | 977  | 970  | 963  | 955  | 946  | 937  |
| 15   | .76  | .77  | .78  | .78  | .79  | .79  | .79  | .79  | .79  | .79  | .79  | .79  | .78  | .78  | .77  | .77  | .76  | .76  | .75  | .74  |
|      | *024 | *034 | *042 | *048 | *052 | *054 | *055 | *054 | *052 | *049 | *045 | *041 | *036 | *030 | *024 | *017 | *011 | *003 | 994  | 983  |
| 30   | .79  | .80  | .81  | .82  | .82  | .82  | .83  | .83  | .83  | .82  | .82  | .82  | .81  | .81  | .81  | .80  | .80  | .79  | .78  | .77  |
|      | *068 | *078 | *085 | *091 | *094 | *096 | *097 | *096 | *094 | *091 | *088 | *083 | *073 | *073 | *068 | *061 | *055 | *048 | *039 | *031 |
| 45   | .82  | .83  | .84  | .85  | .85  | .85  | .85  | .85  | .85  | .85  | .85  | .85  | .84  | .84  | .84  | .83  | .83  | .82  | .81  | .81  |
|      | *108 | *117 | *124 | *129 | *133 | *135 | *135 | *134 | *133 | *130 | *126 | *123 | *118 | *113 | *108 | *102 | *096 | *089 | *081 | *073 |
| 1000 | .85  | .86  | .87  | .87  | .88  | .88  | .88  | .88  | .88  | .88  | .88  | .88  | .87  | .87  | .86  | .86  | .85  | .85  | .84  | .83  |
|      | *144 | *153 | *160 | *164 | *168 | *169 | *170 | *169 | *167 | *165 | *162 | *158 | *154 | *149 | *144 | *139 | *133 | *127 | *119 | *111 |
| 15   | .87  | .88  | .89  | .89  | .90  | .90  | .90  | .90  | .90  | .90  | .90  | .90  | .90  | .89  | .89  | .88  | .88  | .87  | .87  | .86  |
|      | *176 | *185 | *191 | *196 | *199 | *200 | *201 | *200 | *199 | *196 | *194 | *190 | *186 | *182 | *177 | *172 | *167 | *161 | *153 | *145 |
| 30   | .90  | .90  | .91  | .92  | .92  | .92  | .92  | .92  | .92  | .92  | .92  | .92  | .92  | .91  | .91  | .91  | .90  | .90  | .89  | .89  |
|      | *204 | *212 | *218 | *223 | *226 | *227 | *228 | *227 | *226 | *224 | *221 | *218 | *215 | *211 | *207 | *202 | *197 | *191 | *183 | *176 |
| 45   | .91  | .92  | .93  | .93  | .94  | .94  | .94  | .94  | .94  | .94  | .94  | .94  | .94  | .93  | .93  | .93  | .92  | .92  | .91  | .90  |
|      | *228 | *236 | *242 | *246 | *249 | *250 | *251 | *251 | *249 | *248 | *245 | *242 | *239 | *236 | *232 | *227 | *222 | *217 | *209 | *202 |

TABLE B-1 SOLAR PARAMETERS COS Z (W/M\*2.) \*\* SIGNIFIES COS Z = 1. ADD 1000 TO VALUES PRECEDED BY \*





| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 1400 | .84  | .85  | .85  | .86  | .86  | .87  | .87  | .88  | .88  | .88  | .89  | .89  | .83  | .89  | .88  | .88  | .88  | .87  | .86  | .87  | .84  | .83  | .82  | .80  |
|      | *128 | *135 | *142 | *148 | *153 | *157 | *162 | *166 | *168 | *171 | *172 | *173 | *173 | *177 | *170 | *167 | *163 | *156 | *147 | *137 | *125 | *111 | *094 | *076 |
| 15   | .81  | .82  | .82  | .83  | .84  | .84  | .85  | .85  | .86  | .86  | .85  | .86  | .86  | .86  | .86  | .85  | .84  |      | .84  | .83  | .82  | .80  | .79  | .77  |
|      | *090 | *098 | *104 | *111 | *116 | *121 | *126 | *130 | *133 | *136 | *138 | *139 | *139 | *133 | *127 | *133 | *129 | *122 | *112 | *102 | .83  | .82  | .80  | .79  |
| 30   | .78  | .79  | .79  | .80  | .81  | .81  | .82  | .82  | .83  | .83  | .83  | .83  | .83  | .83  | .83  | .82  | .82  |      | .81  | .80  | .79  | .77  | .76  | .74  |
|      | *048 | *056 | *063 | *070 | *076 | *081 | *087 | *091 | *095 | *098 | *100 | *101 | *102 | *101 | *099 | *096 | *091 | *084 | *073 | *062 | *049 | *034 | *016 | .997 |
| 45   | .75  | .75  | .76  | .77  | .77  | .78  | .79  | .79  | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .78  | .78  | .77  | .75  | .74  | .72  | .71  |
|      | *003 | *011 | *019 | *026 | *032 | *038 | *045 | *049 | *053 | *056 | *059 | *060 | *061 | *060 | *059 | *054 | *049 | *042 | *031 | *020 | *005 | .990 | .972 | .951 |
| 1500 | .71  | .72  | .73  | .73  | .74  | .75  | .75  | .76  | .76  | .76  | .77  | .77  | .77  | .77  | .77  | .76  | .76  | .75  | .74  | .73  | .72  | .70  | .69  | .67  |
|      | .954 | .963 | .971 | .978 | .985 | .992 | .999 | *004 | *008 | *012 | *014 | *016 | *016 | *016 | *014 | *010 | *004 | .997 | .985 | .973 | .959 | .942 | .923 | .902 |
| 15   | .67  | .68  | .69  | .69  | .70  | .71  | .71  | .72  | .72  | .73  | .73  | .73  | .73  | .73  | .73  | .72  | .71  |      | .70  | .69  | .68  | .67  | .65  | .63  |
|      | .902 | .911 | .920 | .928 | .935 | .942 | .950 | .955 | .960 | .964 | .967 | .968 | .969 | .968 | .966 | .962 | .956 | .948 | .936 | .924 | .909 | .891 | .872 | .850 |
| 30   | .63  | .64  | .65  | .65  | .66  | .67  | .68  | .68  | .69  | .69  | .69  | .69  | .69  | .69  | .69  | .68  | .68  |      | .66  | .65  | .64  | .63  | .61  | .59  |
|      | .847 | .857 | .866 | .874 | .882 | .890 | .898 | .904 | .909 | .913 | .916 | .918 | .919 | .918 | .915 | .911 | .905 | .897 | .884 | .871 | .855 | .837 | .817 | .794 |
| 45   | .59  | .60  | .60  | .61  | .62  | .63  | .63  | .64  | .65  | .65  | .65  | .65  | .65  | .65  | .65  | .64  | .63  |      | .62  | .61  | .60  | .58  | .57  | .55  |
|      | .790 | .800 | .809 | .818 | .827 | .835 | .843 | .850 | .855 | .859 | .863 | .865 | .866 | .865 | .862 | .858 | .851 | .843 | .829 | .815 | .799 | .780 | .759 | .736 |
| 1600 | .54  | .55  | .56  | .57  | .58  | .58  | .59  | .60  | .60  | .61  | .61  | .61  | .61  | .61  | .61  | .60  | .59  |      | .58  | .57  | .55  | .54  | .52  | .50  |
|      | .729 | .740 | .750 | .760 | .769 | .777 | .786 | .793 | .799 | .804 | .807 | .809 | .810 | .809 | .806 | .802 | .795 | .786 | .772 | .757 | .740 | .721 | .699 | .675 |
| 15   | .50  | .51  | .51  | .52  | .53  | .54  | .55  | .55  | .56  | .56  | .57  | .57  | .57  | .57  | .57  | .56  | .55  |      | .54  | .52  | .51  | .49  | .47  | .45  |
|      | .667 | .678 | .689 | .699 | .709 | .718 | .727 | .734 | .741 | .746 | .749 | .752 | .752 | .751 | .748 | .743 | .736 | .726 | .712 | .697 | .679 | .659 | .636 | .611 |
| 30   | .45  | .46  | .47  | .48  | .49  | .49  | .50  | .51  | .51  | .52  | .52  | .52  | .52  | .52  | .52  | .52  | .51  | .50  |      | .49  | .48  | .46  | .44  | .41  |
|      | .603 | .614 | .626 | .636 | .647 | .656 | .666 | .674 | .680 | .686 | .690 | .692 | .693 | .691 | .688 | .683 | .675 | .665 | .650 | .634 | .610 | .595 | .572 | .546 |
| 45   | .40  | .41  | .42  | .43  | .44  | .45  | .45  | .46  | .47  | .47  | .47  | .48  | .48  | .48  | .47  | .47  | .46  | .45  |      | .44  | .43  | .41  | .40  | .38  |
|      | .537 | .549 | .561 | .572 | .583 | .593 | .604 | .612 | .619 | .624 | .628 | .630 | .631 | .630 | .626 | .621 | .612 | .602 | .586 | .569 | .550 | .529 | .505 | .479 |

MAY-AUG 34 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z =1.  
X0 (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 1700 | .35  | .36 | .37 | .38 | .39 | .40 | .41 | .41 | .42 | .42 | .43 | .43 | .43 | .43 | .43 | .43 | .42 | .41 | .40 | .39 | .39 | .39 | .39 | .39 |
|      | 469  | 482 | 495 | 507 | 518 | 528 | 540 | 548 | 555 | 561 | 565 | 568 | 569 | 567 | 563 | 557 | 548 | 537 | 520 | 503 | 484 | 461 | 437 | 410 |
| 15   | .30  | .31 | .32 | .33 | .34 | .35 | .36 | .36 | .37 | .38 | .38 | .38 | .38 | .38 | .38 | .37 | .36 | .36 | .36 | .34 | .33 | .31 | .29 | .27 |
|      | 400  | 414 | 427 | 440 | 452 | 463 | 475 | 484 | 491 | 497 | 501 | 504 | 504 | 502 | 498 | 492 | 483 | 471 | 454 | 435 | 416 | 393 | 367 | 340 |
| 30   | .25  | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .33 | .33 | .33 | .33 | .32 | .31 | .30 | .29 | .28 | .26 | .24 | .22 | .20 |
|      | 331  | 345 | 359 | 372 | 385 | 396 | 409 | 418 | 426 | 432 | 436 | 439 | 439 | 437 | 433 | 426 | 416 | 404 | 386 | 368 | 347 | 323 | 297 | 269 |
| 45   | .19  | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .28 | .28 | .28 | .28 | .27 | .26 | .25 | .24 | .22 | .21 | .19 | .17 | .15 |
|      | 261  | 276 | 291 | 304 | 317 | 330 | 343 | 352 | 360 | 366 | 371 | 373 | 373 | 371 | 366 | 359 | 349 | 336 | 317 | 294 | 277 | 253 | 226 | 197 |
| 1800 | .14  | .15 | .17 | .18 | .19 | .20 | .21 | .22 | .22 | .23 | .23 | .23 | .23 | .23 | .23 | .22 | .21 | .20 | .19 | .17 | .16 | .14 | .12 | .09 |
|      | 191  | 207 | 222 | 236 | 250 | 262 | 276 | 286 | 294 | 300 | 305 | 307 | 307 | 305 | 300 | 292 | 281 | 268 | 249 | 229 | 207 | 182 | 155 | 125 |
| 15   | .09  | .10 | .11 | .13 | .14 | .15 | .16 | .17 | .17 | .18 | .18 | .18 | .18 | .18 | .18 | .17 | .16 | .15 | .14 | .12 | .10 | .08 | .06 | .04 |
|      | 121  | 137 | 153 | 168 | 182 | 195 | 209 | 219 | 228 | 234 | 239 | 241 | 241 | 238 | 233 | 225 | 214 | 200 | 180 | 159 | 137 | 111 | 083 | 053 |
| 30   | .04  | .05 | .06 | .08 | .09 | .10 | .11 | .12 | .12 | .13 | .13 | .13 | .13 | .13 | .13 | .12 | .11 | .10 | .08 | .07 | .05 | .03 | .01 | .00 |
|      | 051  | 068 | 084 | 100 | 115 | 129 | 143 | 153 | 162 | 169 | 173 | 175 | 175 | 172 | 166 | 158 | 146 | 132 | 111 | 090 | 067 | 041 | 012 | 000 |
| 45   | .00  | .00 | .01 | .03 | .04 | .05 | .06 | .07 | .07 | .08 | .08 | .08 | .08 | .08 | .08 | .07 | .06 | .05 | .03 | .02 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 017 | 033 | 048 | 062 | 077 | 088 | 097 | 103 | 108 | 110 | 109 | 106 | 100 | 091 | 079 | 064 | 042 | 021 | 000 | 000 | 000 | 000 |
| 1900 | .00  | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .02 | .03 | .03 | .03 | .03 | .03 | .03 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 013 | 023 | 032 | 039 | 044 | 045 | 045 | 041 | 035 | 025 | 013 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 34 N X0 (W/M\*2.) \*\*\* SIGNIFIES CCS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY .



| MST  | SEP  |      |      |      |      | OCT  |      |      |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 0800 | .49  | .47  | .46  | .45  | .44  | .42  | .41  | .39  | .38 | .36 | .34 | .32 | .30 | .28 | .26 | .25 | .23 | .21 | .20 | .18 | .17 | .17 | .16 | .15 |
|      | 654  | 641  | 627  | 612  | 595  | 578  | 559  | 539  | 517 | 495 | 471 | 447 | 417 | 392 | 367 | 343 | 320 | 298 | 278 | 263 | 245 | 233 | 223 | 217 |
| 15   | .53  | .52  | .51  | .50  | .48  | .47  | .45  | .44  | .42 | .40 | .38 | .36 | .34 | .32 | .30 | .29 | .27 | .25 | .24 | .23 | .22 | .21 | .20 | .20 |
|      | 716  | 703  | 688  | 673  | 657  | 639  | 620  | 599  | 578 | 555 | 531 | 506 | 476 | 451 | 426 | 402 | 378 | 357 | 337 | 319 | 301 | 292 | 283 | 278 |
| 30   | .57  | .56  | .55  | .54  | .53  | .51  | .49  | .48  | .46 | .44 | .42 | .41 | .39 | .36 | .34 | .33 | .31 | .29 | .28 | .27 | .25 | .25 | .24 | .24 |
|      | 774  | 761  | 747  | 732  | 715  | 697  | 678  | 657  | 635 | 612 | 588 | 563 | 532 | 507 | 482 | 457 | 434 | 413 | 393 | 375 | 351 | 349 | 341 | 335 |
| 45   | .62  | .60  | .59  | .58  | .57  | .55  | .53  | .52  | .50 | .48 | .46 | .44 | .42 | .40 | .38 | .36 | .35 | .33 | .32 | .30 | .29 | .29 | .28 | .28 |
|      | 830  | 817  | 803  | 787  | 770  | 752  | 733  | 712  | 689 | 666 | 641 | 616 | 585 | 560 | 534 | 510 | 487 | 465 | 446 | 423 | 414 | 403 | 395 | 390 |
| 0900 | .66  | .64  | .63  | .62  | .60  | .59  | .57  | .56  | .54 | .52 | .50 | .48 | .46 | .44 | .42 | .40 | .38 | .37 | .35 | .34 | .33 | .32 | .32 | .31 |
|      | 883  | 870  | 855  | 840  | 822  | 804  | 784  | 763  | 740 | 716 | 691 | 666 | 635 | 609 | 584 | 559 | 536 | 515 | 496 | 479 | 465 | 454 | 446 | 442 |
| 15   | .69  | .68  | .67  | .65  | .64  | .62  | .61  | .59  | .57 | .55 | .53 | .51 | .49 | .47 | .45 | .43 | .41 | .40 | .38 | .37 | .36 | .36 | .35 | .35 |
|      | 932  | 919  | 904  | 888  | 871  | 852  | 832  | 810  | 787 | 763 | 738 | 712 | 681 | 655 | 630 | 605 | 582 | 561 | 542 | 525 | 512 | 502 | 495 | 491 |
| 30   | .73  | .71  | .70  | .69  | .67  | .66  | .64  | .62  | .60 | .58 | .56 | .54 | .52 | .50 | .48 | .46 | .44 | .43 | .42 | .40 | .39 | .39 | .38 | .38 |
|      | 978  | 964  | 950  | 933  | 916  | 896  | 876  | 854  | 830 | 806 | 780 | 754 | 723 | 697 | 672 | 647 | 624 | 603 | 585 | 563 | 555 | 546 | 539 | 537 |
| 45   | .76  | .74  | .73  | .72  | .70  | .69  | .67  | .65  | .63 | .61 | .59 | .57 | .55 | .53 | .51 | .49 | .47 | .46 | .44 | .43 | .42 | .41 | .41 | .41 |
|      | 1020 | 1006 | 991  | 975  | 956  | 937  | 916  | 893  | 869 | 845 | 819 | 793 | 761 | 735 | 710 | 686 | 663 | 642 | 624 | 603 | 595 | 586 | 580 | 578 |
| 1000 | .78  | .77  | .76  | .74  | .73  | .71  | .69  | .68  | .66 | .64 | .62 | .60 | .57 | .55 | .53 | .51 | .50 | .48 | .47 | .45 | .45 | .44 | .44 | .44 |
|      | 1058 | 1044 | 1029 | 1012 | 993  | 973  | 952  | 929  | 904 | 879 | 853 | 827 | 795 | 769 | 744 | 720 | 697 | 677 | 659 | 641 | 632 | 623 | 618 | 616 |
| 15   | .81  | .80  | .78  | .77  | .75  | .74  | .72  | .70  | .68 | .66 | .64 | .62 | .59 | .57 | .55 | .53 | .52 | .50 | .49 | .45 | .47 | .46 | .46 | .46 |
|      | 1092 | 1077 | 1062 | 1044 | 1025 | 1005 | 983  | 960  | 935 | 910 | 883 | 857 | 825 | 799 | 774 | 750 | 727 | 707 | 690 | 675 | 664 | 655 | 651 | 650 |
| 30   | .83  | .82  | .80  | .79  | .77  | .76  | .74  | .72  | .70 | .68 | .66 | .64 | .61 | .59 | .57 | .55 | .54 | .52 | .51 | .50 | .49 | .48 | .48 | .48 |
|      | 1121 | 1107 | 1091 | 1073 | 1053 | 1032 | 1010 | 986  | 961 | 936 | 909 | 882 | 850 | 824 | 799 | 775 | 753 | 734 | 716 | 702 | 691 | 684 | 680 | 680 |
| 45   | .85  | .84  | .82  | .81  | .79  | .77  | .75  | .73  | .71 | .69 | .67 | .65 | .63 | .61 | .59 | .57 | .55 | .54 | .52 | .51 | .51 | .50 | .50 | .50 |
|      | 1146 | 1131 | 1115 | 1097 | 1077 | 1055 | 1033 | 1008 | 983 | 957 | 930 | 903 | 871 | 845 | 820 | 796 | 775 | 755 | 739 | 725 | 715 | 708 | 705 | 705 |

SEP-DEC 34 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
X0 (W/M+2.)      ADD 1000 TO VALUES PRECEDED BY \*

| NST  | SEP  |      |      |      |      | OCT  |      |      |      |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|------|------|------|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1100 | .87  | .85  | .84  | .82  | .80  | .79  | .77  | .75  | .73  | .70 | .68  | .66 | .64 | .62 | .60 | .58 | .56 | .55 | .54 | .53 | .52 | .51 | .51 | .51 |  |
|      | *157 | *152 | *135 | *116 | *096 | *074 | *050 | *026 | *000 | 973 | 947  | 919 | 887 | 861 | 836 | 813 | 792 | 773 | 757 | 741 | 734 | 728 | 725 | 727 |  |
| 15   | .88  | .86  | .85  | .83  | .81  | .80  | .78  | .76  | .73  | .71 | .69  | .67 | .65 | .62 | .61 | .59 | .57 | .56 | .55 | .54 | .53 | .53 | .52 | .53 |  |
|      | *183 | *167 | *150 | *131 | *110 | *087 | *063 | *038 | *012 | 985 | 958  | 931 | 897 | 873 | 848 | 825 | 804 | 786 | 770 | 753 | 749 | 743 | 741 | 743 |  |
| 30   | .89  | .87  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72 | .70  | .67 | .65 | .63 | .61 | .59 | .58 | .56 | .55 | .54 | .54 | .53 | .53 | .53 |  |
|      | *195 | *178 | *160 | *140 | *119 | *096 | *072 | *046 | *020 | 992 | 965  | 938 | 905 | 880 | 855 | 833 | 812 | 794 | 779 | 767 | 759 | 754 | 753 | 756 |  |
| 45   | .89  | .88  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72 | .70  | .68 | .65 | .63 | .61 | .60 | .58 | .57 | .56 | .55 | .54 | .54 | .54 | .54 |  |
|      | *201 | *184 | *166 | *145 | *123 | *100 | *075 | *049 | *022 | 995 | 967  | 940 | 907 | 882 | 858 | 835 | 815 | 798 | 783 | 772 | 764 | 760 | 760 | 763 |  |
| 1200 | .89  | .88  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72 | .70  | .67 | .65 | .63 | .61 | .59 | .58 | .57 | .56 | .55 | .54 | .54 | .54 | .54 |  |
|      | *203 | *186 | *167 | *146 | *123 | *099 | *073 | *047 | *020 | 992 | 964  | 937 | 905 | 879 | 855 | 833 | 814 | 797 | 783 | 772 | 765 | 762 | 762 | 766 |  |
| 15   | .89  | .88  | .86  | .84  | .82  | .80  | .78  | .76  | .73  | .71 | .69  | .67 | .64 | .62 | .61 | .59 | .57 | .56 | .55 | .54 | .54 | .54 | .54 | .54 |  |
|      | *200 | *182 | *163 | *141 | *118 | *093 | *067 | *040 | *013 | 985 | 957  | 929 | 897 | 872 | 848 | 827 | 807 | 791 | 778 | 763 | 751 | 759 | 760 | 765 |  |
| 30   | .89  | .87  | .85  | .83  | .81  | .79  | .77  | .75  | .73  | .70 | .68  | .66 | .64 | .62 | .60 | .58 | .57 | .55 | .55 | .54 | .53 | .53 | .53 | .54 |  |
|      | *193 | *174 | *154 | *132 | *108 | *082 | *056 | *029 | *001 | 973 | 944  | 917 | 885 | 860 | 836 | 815 | 797 | 781 | 768 | 753 | 753 | 751 | 753 | 759 |  |
| 45   | .88  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .71  | .69 | .67  | .65 | .62 | .60 | .59 | .57 | .56 | .54 | .53 | .53 | .52 | .52 | .52 | .53 |  |
|      | *181 | *161 | *140 | *117 | *093 | *067 | *040 | *012 | 984  | 956 | 927  | 900 | 868 | 843 | 820 | 799 | 781 | 766 | 754 | 745 | 740 | 739 | 741 | 748 |  |
| 1300 | .86  | .85  | .83  | .81  | .79  | .77  | .74  | .72  | .70  | .68 | .65  | .63 | .61 | .59 | .57 | .56 | .54 | .53 | .52 | .52 | .51 | .51 | .51 | .52 |  |
|      | *164 | *144 | *122 | *098 | *073 | *047 | *020 | 991  | 963  | 934 | 906  | 878 | 846 | 822 | 799 | 779 | 761 | 746 | 735 | 727 | 723 | 722 | 726 | 732 |  |
| 15   | .85  | .83  | .81  | .79  | .77  | .75  | .73  | .70  | .68  | .66 | .63  | .61 | .59 | .57 | .55 | .54 | .52 | .51 | .51 | .50 | .50 | .50 | .50 | .50 |  |
|      | *142 | *122 | *099 | *075 | *049 | *022 | 994  | 966  | 937  | 908 | 879  | 852 | 820 | 796 | 774 | 754 | 737 | 723 | 712 | 705 | 701 | 701 | 705 | 713 |  |
| 30   | .83  | .81  | .79  | .77  | .75  | .73  | .70  | .68  | .66  | .63 | .61  | .59 | .57 | .55 | .53 | .52 | .50 | .49 | .49 | .48 | .48 | .48 | .48 | .49 |  |
|      | *116 | *095 | *072 | *047 | *021 | 993  | 965  | 936  | 906  | 877 | 849  | 821 | 790 | 766 | 744 | 725 | 708 | 695 | 684 | 673 | 675 | 676 | 680 | 688 |  |
| 45   | .81  | .79  | .77  | .75  | .72  | .70  | .68  | .66  | .63  | .61 | .59  | .57 | .54 | .52 | .51 | .49 | .48 | .47 | .46 | .45 | .46 | .46 | .46 | .47 |  |
|      | *086 | *064 | *040 | *015 | 988  | 959  | 930  | 901  | 872  | 842 | 814  | 786 | 755 | 731 | 710 | 691 | 675 | 662 | 653 | 647 | 645 | 646 | 651 | 660 |  |

| MST   | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|       | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 400   | .78 | .76 | .74 | .72 | .70 | .67 | .65 | .63 | .60 | .58 | .56  | .54 | .51 | .50 | .48 | .47 | .45 | .44 | .44 | .43 | .43 | .43 | .44 | .44 |  |
| *051* | 029 | 004 | 978 | 950 | 922 |     | 892 | 862 | 833 | 803 | 775  | 747 | 716 | 693 | 672 | 653 | 638 | 626 | 617 | 612 | 610 | 612 | 618 | 627 |  |
| 15    | .75 | .73 | .71 | .69 | .67 | .64 | .62 | .60 | .57 | .55 | .53  | .51 | .48 | .47 | .45 | .44 | .43 | .42 | .41 | .41 | .40 | .41 | .41 | .42 |  |
| *013  | 989 | 964 | 937 | 909 | 880 |     | 850 | 820 | 790 | 760 | 731  | 704 | 674 | 650 | 630 | 612 | 597 | 585 | 577 | 573 | 572 | 574 | 581 | 591 |  |
| 30    | .72 | .70 | .68 | .66 | .63 | .61 | .59 | .56 | .54 | .52 | .49  | .47 | .45 | .43 | .42 | .40 | .39 | .38 | .38 | .38 | .38 | .38 | .38 | .39 |  |
| 970   | 946 | 920 | 892 | 863 | 834 |     | 803 | 773 | 743 | 713 | 684  | 657 | 627 | 604 | 584 | 567 | 552 | 541 | 534 | 530 | 530 | 533 | 540 | 550 |  |
| 45    | .69 | .67 | .64 | .62 | .60 | .57 | .55 | .53 | .50 | .48 | .46  | .44 | .41 | .40 | .38 | .37 | .36 | .35 | .35 | .34 | .34 | .35 | .35 | .36 |  |
| 924   | 899 | 872 | 844 | 814 | 784 |     | 753 | 723 | 692 | 662 | 634  | 607 | 577 | 554 | 535 | 518 | 504 | 494 | 487 | 484 | 484 | 488 | 495 | 506 |  |
| 1500  | .65 | .63 | .61 | .58 | .56 | .54 | .51 | .49 | .46 | .44 | .42  | .40 | .38 | .36 | .34 | .33 | .32 | .31 | .31 | .31 | .31 | .31 | .32 | .32 |  |
| 874   | 848 | 821 | 792 | 762 | 731 |     | 700 | 669 | 638 | 608 | 580  | 553 | 523 | 501 | 482 | 466 | 453 | 443 | 436 | 434 | 435 | 439 | 447 | 458 |  |
| 15    | .61 | .59 | .57 | .54 | .52 | .49 | .47 | .45 | .42 | .40 | .38  | .36 | .34 | .32 | .30 | .29 | .28 | .28 | .27 | .27 | .27 | .27 | .28 | .29 |  |
| 821   | 794 | 766 | 737 | 706 | 675 |     | 643 | 612 | 581 | 551 | 523  | 496 | 467 | 445 | 426 | 410 | 398 | 389 | 383 | 381 | 382 | 387 | 396 | 407 |  |
| 30    | .57 | .55 | .52 | .50 | .48 | .45 | .43 | .40 | .38 | .36 | .33  | .31 | .29 | .28 | .26 | .25 | .24 | .24 | .23 | .23 | .23 | .24 | .24 | .25 |  |
| 764   | 737 | 708 | 678 | 647 | 615 |     | 584 | 552 | 521 | 491 | 463  | 436 | 407 | 386 | 368 | 352 | 340 | 332 | 326 | 325 | 327 | 332 | 341 | 353 |  |
| 45    | .52 | .50 | .48 | .45 | .43 | .41 | .38 | .36 | .33 | .31 | .29  | .27 | .25 | .23 | .22 | .21 | .20 | .19 | .19 | .19 | .19 | .19 | .20 | .21 |  |
| 705   | 677 | 648 | 617 | 585 | 553 |     | 521 | 489 | 458 | 428 | 400  | 374 | 345 | 324 | 306 | 291 | 280 | 272 | 267 | 265 | 269 | 275 | 284 | 296 |  |
| 1600  | .48 | .46 | .43 | .41 | .38 | .36 | .33 | .31 | .29 | .26 | .24  | .22 | .20 | .19 | .17 | .16 | .16 | .15 | .15 | .15 | .15 | .16 | .16 | .17 |  |
| 643   | 615 | 585 | 553 | 521 | 489 |     | 456 | 424 | 393 | 363 | 335  | 309 | 281 | 260 | 243 | 228 | 217 | 210 | 206 | 205 | 208 | 215 | 224 | 237 |  |
| 15    | .43 | .41 | .38 | .36 | .33 | .31 | .28 | .26 | .24 | .21 | .19  | .17 | .15 | .14 | .13 | .12 | .11 | .10 | .10 | .10 | .10 | .11 | .11 | .12 |  |
| 579   | 550 | 519 | 487 | 455 | 422 |     | 389 | 357 | 325 | 296 | 268  | 242 | 214 | 194 | 177 | 163 | 153 | 146 | 142 | 142 | 145 | 152 | 162 | 175 |  |
| 30    | .38 | .36 | .33 | .31 | .28 | .26 | .23 | .21 | .19 | .16 | .14  | .12 | .10 | .09 | .08 | .07 | .06 | .06 | .05 | .05 | .05 | .06 | .07 | .08 |  |
| 513   | 483 | 452 | 419 | 386 | 353 |     | 320 | 287 | 256 | 226 | 198  | 173 | 146 | 126 | 109 | 096 | 086 | 080 | 077 | 077 | 081 | 088 | 098 | 111 |  |
| 45    | .33 | .31 | .28 | .26 | .23 | .21 | .18 | .16 | .13 | .11 | .09  | .07 | .05 | .04 | .03 | .02 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .03 |  |
| 445   | 414 | 382 | 349 | 316 | 282 |     | 249 | 217 | 185 | 156 | 128  | 103 | 076 | 056 | 040 | 027 | 018 | 012 | 009 | 010 | 014 | 022 | 032 | 045 |  |

SEP-DEC34 N

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY +

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

SEP-DEC 34 N

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1700 | .28  | .25 | .23 | .21 | .18 | .15 | .13 | .11 | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 375  | 344 | 312 | 278 | 244 | 211 | 177 | 145 | 113 | 084 | 056 | 031 | 005 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .23  | .20 | .18 | .15 | .13 | .10 | .08 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 304  | 273 | 240 | 206 | 172 | 138 | 104 | 071 | 040 | 011 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .17  | .15 | .12 | .10 | .07 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 232  | 200 | 167 | 133 | 098 | 064 | 030 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .12  | .09 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 160  | 128 | 094 | 059 | 025 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1800 | .07  | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 088  | 055 | 020 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .01  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 015  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

SEP-DEC 34 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z =1.  
 x0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY -





| MST     | DATE |     |           |     |     | MAR |     |                  |     |     | APR |     |                       |      |      |      |      |                                                              |      |      |      |      |      |      |
|---------|------|-----|-----------|-----|-----|-----|-----|------------------|-----|-----|-----|-----|-----------------------|------|------|------|------|--------------------------------------------------------------|------|------|------|------|------|------|
|         | 1    | 5   | 10        | 15  | 20  | 25  | 30  | 5                | 10  | 15  | 20  | 25  | 30                    |      |      |      |      |                                                              |      |      |      |      |      |      |
| 0800    | .17  | .17 | .17       | .18 | .18 | .19 | .20 | .22              | .23 | .25 | .27 | .29 | .32                   | .35  | .37  | .39  | .42  | .44                                                          | .47  | .43  | .51  | .52  | .54  | .55  |
|         | 244  | 242 | 244       | 248 | 256 | 268 | 282 | 304              | 325 | 349 | 375 | 403 | 450                   | 481  | 512  | 543  | 574  | 603                                                          | 637  | 663  | 687  | 709  | 728  | 745  |
|         | 15   | .22 | .22       | .22 | .22 | .23 | .24 | .25              | .26 | .28 | .30 | .32 | .34                   | .37  | .40  | .42  | .44  | .46                                                          | .49  | .51  | .53  | .55  | .57  | .58  |
|         | 306  | 305 | 307       | 312 | 320 | 332 | 348 | 370              | 391 | 416 | 442 | 470 | 517                   | 548  | 579  | 610  | 640  | 669                                                          | 701  | 727  | 750  | 771  | 790  | 806  |
| 30      | .26  | .26 | .26       | .26 | .27 | .28 | .29 | .31              | .32 | .34 | .36 | .38 | .42                   | .44  | .46  | .48  | .51  | .53                                                          | .56  | .53  | .60  | .61  | .63  | .64  |
|         | 365  | 365 | 367       | 373 | 382 | 395 | 411 | 433              | 455 | 480 | 506 | 535 | 582                   | 612  | 643  | 673  | 703  | 731                                                          | 763  | 783  | 811  | 831  | 849  | 864  |
|         | 45   | .30 | .30       | .30 | .31 | .31 | .32 | .33              | .35 | .37 | .39 | .41 | .43                   | .46  | .49  | .51  | .53  | .55                                                          | .58  | .60  | .62  | .64  | .65  | .67  |
|         | 422  | 422 | 425       | 431 | 441 | 454 | 471 | 494              | 517 | 541 | 568 | 596 | 643                   | 674  | 704  | 734  | 763  | 791                                                          | 822  | 845  | 868  | 888  | 905  | 920  |
| 0900    | .34  | .34 | .34       | .34 | .35 | .36 | .37 | .39              | .41 | .43 | .45 | .47 | .51                   | .53  | .55  | .57  | .60  | .62                                                          | .64  | .65  | .68  | .69  | .71  | .72  |
|         | 475  | 476 | 479       | 486 | 497 | 511 | 528 | 552              | 575 | 600 | 627 | 655 | 702                   | 733  | 762  | 792  | 820  | 848                                                          | 878  | 901  | 923  | 942  | 958  | 972  |
|         | 15   | .37 | .37       | .38 | .38 | .39 | .40 | .41              | .43 | .45 | .47 | .49 | .51                   | .54  | .57  | .59  | .61  | .64                                                          | .66  | .68  | .70  | .72  | .73  | .75  |
|         | 526  | 526 | 531       | 539 | 550 | 564 | 582 | 606              | 630 | 655 | 682 | 711 | 758                   | 789  | 817  | 846  | 874  | 901                                                          | 930  | 953  | 974  | 992  | 1008 | 1021 |
| 30      | .40  | .41 | .41       | .42 | .42 | .44 | .45 | .47              | .49 | .50 | .52 | .55 | .59                   | .60  | .63  | .65  | .67  | .69                                                          | .72  | .73  | .75  | .77  | .78  | .79  |
|         | 572  | 574 | 579       | 587 | 599 | 614 | 632 | 658              | 681 | 707 | 734 | 763 | 810                   | 839  | 869  | 897  | 924  | 950                                                          | 979  | 1001 | 1021 | 1038 | 1053 | 1066 |
|         | 45   | .43 | .44       | .44 | .45 | .46 | .47 | .48              | .50 | .52 | .54 | .56 | .58                   | .62  | .64  | .66  | .68  | .71                                                          | .73  | .75  | .77  | .78  | .80  | .81  |
|         | 615  | 617 | 623       | 632 | 645 | 660 | 679 | 705              | 729 | 755 | 782 | 811 | 857                   | 887  | 916  | 944  | 970  | 996                                                          | 1024 | 1045 | 1064 | 1081 | 1096 | 1108 |
| 1000    | .46  | .46 | .47       | .48 | .49 | .50 | .51 | .53              | .55 | .57 | .59 | .61 | .65                   | .67  | .69  | .71  | .74  | .76                                                          | .78  | .80  | .81  | .83  | .84  | .85  |
|         | 654  | 657 | 663       | 673 | 686 | 703 | 722 | 748              | 773 | 799 | 826 | 855 | 901                   | 930  | 959  | 986  | 1013 | 1037                                                         | 1065 | 1085 | 1104 | 1120 | 1134 | 1145 |
|         | 15   | .49 | .49       | .49 | .50 | .51 | .53 | .54              | .56 | .58 | .60 | .62 | .64                   | .68  | .70  | .72  | .74  | .76                                                          | .78  | .81  | .82  | .84  | .85  | .86  |
|         | 689  | 692 | 699       | 710 | 724 | 741 | 761 | 788              | 812 | 839 | 866 | 895 | 941                   | 970  | 998  | 1025 | 1050 | 1075                                                         | 1101 | 1121 | 1139 | 1154 | 1168 | 1179 |
| 30      | .51  | .51 | .52       | .53 | .54 | .55 | .56 | .58              | .60 | .62 | .64 | .67 | .70                   | .72  | .75  | .77  | .79  | .81                                                          | .83  | .85  | .86  | .87  | .89  | .90  |
|         | 720  | 724 | 732       | 743 | 757 | 775 | 795 | 823              | 848 | 874 | 902 | 930 | 975                   | 1005 | 1032 | 1059 | 1084 | 1107                                                         | 1133 | 1152 | 1169 | 1184 | 1197 | 1208 |
|         | 45   | .53 | .53       | .54 | .55 | .56 | .57 | .59              | .61 | .63 | .65 | .67 | .69                   | .72  | .75  | .77  | .79  | .81                                                          | .83  | .85  | .88  | .89  | .90  | .91  |
|         | 746  | 751 | 759       | 771 | 786 | 805 | 825 | 853              | 879 | 905 | 933 | 961 | 1007                  | 1035 | 1062 | 1088 | 1113 | 1136                                                         | 1161 | 1179 | 1195 | 1210 | 1222 | 1232 |
| JAN-APR | 32   | N   | TABLE B-1 |     |     |     |     | SOLAR PARAMETERS |     |     |     |     | COS Z<br>X0 (W/M*+2.) |      |      |      |      | *** SIGNIFIES' COS Z =1.<br>ADD 1000 TO VALUES PRECEDED BY * |      |      |      |      |      |      |

| MST  | JAN                                                        |   |    |    |    | FEB |    |                                              |    |    | MAR                                                      |    |    |                                                              |    | APR |    |    |    |  |
|------|------------------------------------------------------------|---|----|----|----|-----|----|----------------------------------------------|----|----|----------------------------------------------------------|----|----|--------------------------------------------------------------|----|-----|----|----|----|--|
|      | 1                                                          | 5 | 10 | 15 | 20 | 25  | 30 | 5                                            | 10 | 15 | 20                                                       | 25 | 30 | 5                                                            | 10 | 15  | 20 | 25 | 30 |  |
| 1100 | .54 .55 .55 .56 .57 .59 .60<br>768 773 783 795 811 830 851 |   |    |    |    |     |    | .63 .64 .66 .69 .71<br>879 905 932 960 988   |    |    | .74 .76 .79 .81 .83 .84<br>*033 .061 .088 .113 .137 .159 |    |    | .87 .88 .90 .91 .92 .93<br>*184 .202 .217 .231 .243 .253     |    |     |    |    |    |  |
| 15   | .56 .56 .57 .58 .59 .60 .62<br>786 791 801 815 831 850 872 |   |    |    |    |     |    | .64 .66 .68 .70 .72<br>901 927 954 981 .010  |    |    | .76 .78 .80 .82 .84 .86<br>*054 .082 .108 .133 .156 .178 |    |    | .88 .89 .90 .91 .92 .93 .94<br>*202 .217 .231 .248 .259 .268 |    |     |    |    |    |  |
| 30   | .56 .57 .58 .59 .60 .61 .63<br>799 805 815 829 846 866 888 |   |    |    |    |     |    | .65 .67 .69 .71 .74<br>918 944 971 998 .027  |    |    | .77 .79 .81 .83 .85 .87<br>*071 .098 .124 .148 .171 .192 |    |    | .89 .90 .92 .93 .94 .95<br>*215 .232 .247 .259 .270 .279     |    |     |    |    |    |  |
| 45   | .57 .58 .58 .59 .61 .62 .64<br>807 814 825 839 857 877 900 |   |    |    |    |     |    | .66 .68 .70 .72 .74<br>929 956 983 .011 .038 |    |    | .78 .80 .82 .84 .86 .88<br>*082 .109 .134 .158 .181 .201 |    |    | .89 .91 .92 .93 .94 .95<br>*223 .240 .254 .266 .277 .285     |    |     |    |    |    |  |
| 1200 | .57 .58 .59 .60 .61 .63 .64<br>810 817 830 845 863 884 906 |   |    |    |    |     |    | .67 .69 .71 .73 .75<br>936 963 990 .019 .045 |    |    | .78 .80 .82 .84 .86 .88<br>*083 .115 .140 .163 .185 .205 |    |    | .90 .91 .92 .93 .94 .95<br>*227 .242 .256 .268 .278 .287     |    |     |    |    |    |  |
| 15   | .57 .58 .59 .60 .61 .63 .64<br>809 817 829 845 864 885 908 |   |    |    |    |     |    | .67 .69 .71 .73 .75<br>938 965 992 .020 .047 |    |    | .78 .80 .82 .84 .86 .88<br>*090 .116 .141 .164 .185 .204 |    |    | .90 .91 .92 .93 .94 .95<br>*225 .240 .254 .265 .275 .283     |    |     |    |    |    |  |
| 30   | .57 .57 .58 .59 .61 .62 .64<br>803 811 825 841 860 882 905 |   |    |    |    |     |    | .67 .69 .71 .73 .75<br>936 962 990 .017 .044 |    |    | .78 .80 .82 .84 .86 .87<br>*087 .112 .136 .159 .180 .198 |    |    | .89 .90 .92 .93 .94 .95<br>*219 .231 .247 .258 .267 .275     |    |     |    |    |    |  |
| 45   | .56 .57 .58 .59 .60 .62 .64<br>792 801 815 832 851 873 897 |   |    |    |    |     |    | .66 .68 .70 .72 .74<br>928 955 982 .009 .036 |    |    | .78 .80 .81 .83 .85 .87<br>*078 .103 .127 .149 .163 .188 |    |    | .88 .90 .91 .92 .93 .94<br>*207 .222 .234 .245 .255 .263     |    |     |    |    |    |  |
| 1300 | .55 .56 .57 .58 .59 .61 .63<br>777 786 801 818 838 860 885 |   |    |    |    |     |    | .65 .67 .69 .71 .73<br>915 942 969 997 .023  |    |    | .77 .79 .80 .82 .84 .85<br>*065 .083 .113 .134 .154 .172 |    |    | .87 .88 .90 .91 .92 .92<br>*191 .205 .218 .228 .237 .245     |    |     |    |    |    |  |
| 15   | .54 .54 .55 .57 .58 .60 .62<br>757 767 782 800 820 843 867 |   |    |    |    |     |    | .64 .66 .68 .70 .72<br>898 925 952 979 .006  |    |    | .75 .77 .79 .81 .82 .84<br>*047 .071 .093 .114 .134 .151 |    |    | .86 .87 .88 .89 .90 .91<br>*170 .184 .195 .207 .216 .223     |    |     |    |    |    |  |
| 30   | .52 .53 .54 .55 .56 .58 .60<br>733 743 758 777 797 820 845 |   |    |    |    |     |    | .62 .64 .66 .68 .70<br>876 903 930 956 983   |    |    | .74 .75 .77 .79 .81 .82<br>*023 .047 .069 .090 .109 .126 |    |    | .84 .85 .86 .87 .88 .89<br>*144 .158 .170 .180 .189 .197     |    |     |    |    |    |  |
| 45   | .50 .51 .52 .53 .55 .56 .58<br>704 714 730 749 770 793 818 |   |    |    |    |     |    | .60 .62 .64 .66 .68<br>849 876 903 929 955   |    |    | .72 .73 .75 .77 .78 .80<br>995 .019 .041 .061 .079 .096  |    |    | .81 .83 .84 .85 .86 .86<br>*114 .127 .139 .149 .158 .166     |    |     |    |    |    |  |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS COS Z  
X0 (W/M\*\*2.)

TABLE B-1

JAN-APR 32 N

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | MAR |     |     |     |      | APR  |      |      |      |      |      |      |      |      |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|-----|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |     |
| 1400 | .47 | .48 | .49 | .51 | .52 | .54 | .56 | .58 | .60 | .62 | .64 | .66 | .68 | .69 | .71  | .73  | .74  | .76  | .77  | .79  | .80  | .81  | .82  | .83  | .84 |
|      | 671 | 682 | 698 | 717 | 738 | 762 | 787 | 818 | 844 | 871 | 898 | 923 | 963 | 986 | 1017 | 1047 | 1074 | 1104 | 1123 | 1151 | 1179 | 1207 | 1234 | 1261 |     |
| 15   | .45 | .46 | .47 | .48 | .50 | .51 | .53 | .56 | .58 | .60 | .62 | .64 | .67 | .68 | .70  | .72  | .73  | .75  | .76  | .77  | .78  | .79  | .80  | .81  |     |
|      | 633 | 645 | 662 | 681 | 703 | 726 | 751 | 782 | 809 | 835 | 861 | 887 | 926 | 948 | 969  | 989  | 1007 | 1023 | 1038 | 1053 | 1068 | 1083 | 1098 | 1113 |     |
| 30   | .42 | .43 | .44 | .45 | .47 | .49 | .50 | .53 | .55 | .57 | .59 | .61 | .64 | .65 | .67  | .69  | .70  | .71  | .73  | .74  | .75  | .76  | .77  | .78  |     |
|      | 592 | 604 | 621 | 641 | 663 | 686 | 711 | 742 | 769 | 795 | 821 | 846 | 884 | 907 | 927  | 946  | 964  | 980  | 997  | 1010 | 1021 | 1032 | 1041 | 1049 |     |
| 45   | .39 | .40 | .41 | .42 | .44 | .46 | .47 | .50 | .52 | .54 | .55 | .57 | .60 | .62 | .64  | .65  | .67  | .68  | .69  | .71  | .72  | .73  | .74  | .74  |     |
|      | 547 | 559 | 577 | 597 | 619 | 642 | 667 | 698 | 724 | 751 | 776 | 801 | 839 | 861 | 881  | 900  | 917  | 933  | 950  | 963  | 974  | 984  | 994  | 1002 |     |
| 1500 | .35 | .36 | .37 | .39 | .40 | .42 | .44 | .46 | .48 | .50 | .52 | .54 | .57 | .58 | .60  | .62  | .63  | .64  | .66  | .67  | .68  | .69  | .70  | .71  |     |
|      | 498 | 511 | 529 | 549 | 571 | 595 | 619 | 650 | 676 | 702 | 728 | 752 | 789 | 811 | 831  | 850  | 867  | 882  | 899  | 912  | 923  | 934  | 943  | 952  |     |
| 15   | .32 | .32 | .34 | .35 | .37 | .39 | .40 | .43 | .44 | .46 | .48 | .50 | .53 | .55 | .56  | .58  | .59  | .60  | .62  | .63  | .64  | .65  | .66  | .67  |     |
|      | 446 | 459 | 477 | 497 | 520 | 543 | 568 | 599 | 625 | 650 | 675 | 700 | 736 | 757 | 777  | 795  | 812  | 828  | 845  | 857  | 869  | 880  | 889  | 899  |     |
| 30   | .28 | .29 | .30 | .31 | .33 | .35 | .36 | .39 | .41 | .42 | .44 | .46 | .49 | .50 | .52  | .53  | .55  | .56  | .58  | .59  | .60  | .61  | .62  | .62  |     |
|      | 391 | 404 | 422 | 443 | 465 | 489 | 513 | 544 | 569 | 595 | 619 | 643 | 679 | 700 | 720  | 738  | 755  | 770  | 787  | 800  | 811  | 822  | 832  | 842  |     |
| 45   | .24 | .24 | .26 | .27 | .29 | .31 | .32 | .35 | .36 | .38 | .40 | .42 | .45 | .46 | .48  | .49  | .50  | .52  | .53  | .54  | .55  | .56  | .57  | .58  |     |
|      | 333 | 346 | 364 | 385 | 407 | 431 | 455 | 486 | 511 | 536 | 560 | 584 | 620 | 640 | 659  | 677  | 694  | 709  | 726  | 739  | 751  | 762  | 773  | 783  |     |
| 1600 | .19 | .20 | .22 | .23 | .25 | .26 | .28 | .30 | .32 | .34 | .36 | .37 | .40 | .42 | .43  | .44  | .46  | .47  | .48  | .50  | .51  | .52  | .53  | .53  |     |
|      | 272 | 285 | 304 | 324 | 347 | 370 | 394 | 424 | 449 | 474 | 498 | 522 | 557 | 577 | 596  | 614  | 630  | 645  | 662  | 675  | 688  | 699  | 710  | 721  |     |
| 15   | .15 | .16 | .17 | .19 | .20 | .22 | .24 | .26 | .27 | .29 | .31 | .33 | .35 | .37 | .38  | .40  | .41  | .42  | .44  | .45  | .45  | .47  | .48  | .49  |     |
|      | 209 | 222 | 241 | 261 | 283 | 307 | 331 | 360 | 385 | 410 | 433 | 456 | 491 | 511 | 530  | 547  | 564  | 579  | 596  | 609  | 622  | 634  | 645  | 656  |     |
| 30   | .10 | .11 | .12 | .14 | .15 | .17 | .19 | .21 | .23 | .24 | .26 | .28 | .30 | .32 | .33  | .35  | .36  | .37  | .39  | .40  | .41  | .42  | .43  | .44  |     |
|      | 144 | 157 | 175 | 196 | 218 | 241 | 265 | 294 | 318 | 342 | 366 | 399 | 423 | 443 | 461  | 479  | 495  | 510  | 528  | 541  | 554  | 566  | 578  | 590  |     |
| 45   | .05 | .06 | .08 | .09 | .11 | .12 | .14 | .16 | .18 | .20 | .21 | .23 | .25 | .27 | .28  | .30  | .31  | .32  | .33  | .35  | .35  | .37  | .38  | .39  |     |
|      | 076 | 090 | 108 | 128 | 150 | 173 | 197 | 226 | 250 | 273 | 296 | 319 | 352 | 372 | 391  | 408  | 424  | 440  | 457  | 471  | 484  | 497  | 510  | 522  |     |

JAN-APR 32 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z =1.  
XO (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY .





| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 0800 | .56 | .58 | .58 | .59 | .59 | .60 | .60 | .60 | .60 | .60 | .59 | .59 | .53 | .53 | .57 | .57 | .56 | .55 | .54 | .54 |
|      | 759 | 771 | 781 | 788 | 793 | 796 | 797 | 796 | 794 | 790 | 785 | 779 | 773 | 766 | 756 | 750 | 742 | 733 | 723 | 714 |
| 15   | .61 | .62 | .63 | .63 | .64 | .64 | .64 | .64 | .64 | .64 | .63 | .63 | .63 | .62 | .62 | .61 | .60 | .60 | .59 | .59 |
|      | 820 | 831 | 840 | 847 | 851 | 854 | 855 | 854 | 851 | 847 | 843 | 837 | 831 | 824 | 817 | 810 | 802 | 794 | 784 | 775 |
| 30   | .65 | .66 | .67 | .68 | .68 | .68 | .68 | .68 | .68 | .68 | .68 | .67 | .67 | .67 | .66 | .65 | .65 | .64 | .63 | .63 |
|      | 878 | 888 | 897 | 903 | 907 | 909 | 910 | 909 | 906 | 903 | 898 | 893 | 887 | 881 | 874 | 867 | 859 | 852 | 842 | 833 |
| 45   | .69 | .70 | .71 | .72 | .72 | .72 | .72 | .72 | .72 | .72 | .71 | .71 | .71 | .71 | .70 | .70 | .69 | .68 | .68 | .67 |
|      | 932 | 942 | 950 | 956 | 960 | 962 | 962 | 961 | 958 | 955 | 951 | 946 | 940 | 934 | 928 | 921 | 914 | 907 | 898 | 890 |
| 0900 | .73 | .74 | .75 | .75 | .76 | .76 | .76 | .76 | .76 | .76 | .76 | .75 | .75 | .75 | .74 | .73 | .73 | .72 | .71 | .71 |
|      | 984 | 994 | 001 | 006 | 010 | 011 | 011 | 010 | 008 | 004 | 000 | 996 | 990 | 985 | 979 | 972 | 966 | 959 | 951 | 943 |
| 15   | .77 | .78 | .78 | .79 | .79 | .79 | .79 | .79 | .79 | .79 | .79 | .79 | .78 | .78 | .78 | .77 | .77 | .76 | .75 | .75 |
|      | 032 | 041 | 048 | 053 | 056 | 058 | 058 | 056 | 054 | 051 | 047 | 043 | 038 | 032 | 027 | 021 | 015 | 008 | 000 | 993 |
| 30   | .80 | .81 | .82 | .82 | .82 | .83 | .83 | .83 | .83 | .83 | .82 | .82 | .82 | .81 | .81 | .80 | .80 | .79 | .79 | .79 |
|      | 077 | 085 | 092 | 096 | 099 | 101 | 101 | 099 | 097 | 094 | 090 | 086 | 082 | 077 | 071 | 066 | 060 | 054 | 046 | 040 |
| 45   | .83 | .84 | .85 | .85 | .85 | .86 | .86 | .86 | .86 | .86 | .85 | .85 | .85 | .84 | .84 | .84 | .83 | .83 | .82 | .81 |
|      | 118 | 126 | 132 | 136 | 139 | 140 | 140 | 139 | 136 | 134 | 130 | 125 | 122 | 117 | 113 | 107 | 102 | 096 | 089 | 082 |
| 1000 | .86 | .87 | .87 | .88 | .88 | .88 | .88 | .88 | .88 | .88 | .88 | .88 | .88 | .87 | .87 | .86 | .86 | .85 | .85 | .84 |
|      | 155 | 162 | 168 | 172 | 175 | 176 | 175 | 174 | 172 | 170 | 166 | 163 | 159 | 155 | 150 | 145 | 140 | 135 | 128 | 121 |
| 15   | .88 | .89 | .90 | .90 | .90 | .91 | .91 | .91 | .91 | .91 | .91 | .90 | .90 | .90 | .89 | .89 | .88 | .88 | .87 | .87 |
|      | 188 | 195 | 200 | 204 | 206 | 207 | 207 | 206 | 204 | 202 | 199 | 195 | 192 | 188 | 184 | 179 | 175 | 170 | 163 | 157 |
| 30   | .90 | .91 | .92 | .92 | .93 | .93 | .93 | .93 | .93 | .93 | .93 | .92 | .92 | .92 | .92 | .91 | .91 | .90 | .90 | .89 |
|      | 216 | 223 | 228 | 232 | 234 | 235 | 235 | 234 | 232 | 230 | 227 | 224 | 221 | 217 | 214 | 210 | 205 | 200 | 194 | 187 |
| 45   | .92 | .93 | .94 | .94 | .94 | .95 | .95 | .95 | .95 | .95 | .94 | .94 | .94 | .94 | .94 | .93 | .93 | .92 | .92 | .91 |
|      | 241 | 247 | 252 | 255 | 257 | 258 | 258 | 257 | 256 | 254 | 252 | 249 | 246 | 243 | 239 | 235 | 231 | 227 | 220 | 214 |

MAY-AUG 32 N TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M\*\*2.) \*\* SIGNIFIES COS Z = 1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY                         |                          |    |    |    | JUN |                         |                          |    |    | JUL                     |                          |   |                         |                              | AUG |    |    |  |  |
|------|-----------------------------|--------------------------|----|----|----|-----|-------------------------|--------------------------|----|----|-------------------------|--------------------------|---|-------------------------|------------------------------|-----|----|----|--|--|
|      | 5                           | 10                       | 15 | 20 | 25 | 30  | 5                       | 10                       | 15 | 20 | 25                      | 30                       | 5 | 10                      | 15                           | 20  | 25 | 30 |  |  |
| 1100 | .94 .94 .94 .95 .95 .96 .96 | .261*267*271*275*277*278 |    |    |    |     | .96 .96 .96 .96 .96 .96 | .278*277*276*274*272*270 |    |    | .96 .95 .95 .95 .94 .94 | .267*264*261*257*253*249 |   | .93 .93 .92 .91 .90 .89 | .242*235*229*221*212*201     |     |    |    |  |  |
| 15   | .95 .96 .96 .96 .97 .97     | .276*282*286*289*291*292 |    |    |    |     | .97 .97 .97 .97 .97 .97 | .293*292*291*290*288*286 |    |    | .97 .97 .97 .96 .96 .95 | .284*281*278*275*271*267 |   | .95 .91 .93 .93 .92 .91 | .260*251*247*239*229*218     |     |    |    |  |  |
| 30   | .96 .96 .97 .97 .98 .98     | .286*292*296*300*302*303 |    |    |    |     | .98 .98 .98 .98 .98 .98 | .303*303*302*301*300*298 |    |    | .93 .98 .97 .97 .97 .96 | .295*294*291*288*284*280 |   | .96 .95 .94 .94 .93 .92 | .274*267*260*252*242*231     |     |    |    |  |  |
| 45   | .96 .97 .97 .98 .98 .98     | .292*298*302*305*307*309 |    |    |    |     | .99 .99 .99 .99 .99 .99 | .309*309*309*308*307*305 |    |    | .99 .98 .92 .98 .97 .97 | .304*302*299*296*293*289 |   | .96 .95 .95 .94 .93 .92 | .282*275*269*260*250*238     |     |    |    |  |  |
| 1200 | .96 .97 .97 .98 .98 .98     | .294*299*303*306*309*310 |    |    |    |     | .99 .99 .99 .99 .99 .99 | .311*311*311*311*310*309 |    |    | .99 .99 .98 .98 .98 .97 | .307*305*303*300*297*293 |   | .97 .95 .95 .94 .93 .92 | .287*280*273*263*253*241     |     |    |    |  |  |
| 15   | .96 .97 .97 .98 .98 .98     | .290*296*300*303*305*307 |    |    |    |     | .98 .99 .99 .99 .99 .99 | .308*309*309*309*308*307 |    |    | .99 .99 .98 .98 .98 .97 | .306*305*303*300*297*293 |   | .97 .95 .95 .94 .93 .92 | .286*280*272*262*251*238     |     |    |    |  |  |
| 30   | .95 .96 .96 .97 .97 .98     | .282*287*292*295*298*299 |    |    |    |     | .98 .98 .98 .98 .98 .98 | .301*302*302*302*302*302 |    |    | .99 .98 .98 .98 .97 .97 | .301*300*293*295*292*288 |   | .96 .93 .95 .94 .93 .92 | .281*274*268*258*256*245*231 |     |    |    |  |  |
| 45   | .94 .95 .96 .96 .96 .97     | .269*275*279*283*285*287 |    |    |    |     | .97 .97 .97 .98 .98 .98 | .289*291*291*292*292*292 |    |    | .98 .97 .97 .97 .97 .96 | .291*290*288*286*283*278 |   | .96 .95 .94 .93 .92 .91 | .272*264*258*246*234*220     |     |    |    |  |  |
| 1300 | .93 .94 .94 .95 .95 .95     | .252*257*262*266*269*271 |    |    |    |     | .96 .96 .96 .96 .96 .97 | .273*275*276*277*277*277 |    |    | .96 .96 .96 .96 .96 .95 | .277*276*275*272*269*264 |   | .95 .91 .93 .92 .91 .90 | .257*250*241*230*218*203     |     |    |    |  |  |
| 15   | .91 .92 .93 .93 .94 .94     | .230*236*240*244*248*250 |    |    |    |     | .94 .95 .95 .95 .95 .95 | .253*255*257*258*258*259 |    |    | .95 .95 .95 .95 .94 .94 | .253*256*256*254*251*246 |   | .93 .92 .92 .90 .89 .88 | .239*231*221*210*197*182     |     |    |    |  |  |
| 30   | .89 .90 .91 .91 .92 .92     | .204*209*214*219*222*225 |    |    |    |     | .92 .93 .93 .93 .93 .93 | .229*231*233*234*235*236 |    |    | .93 .93 .93 .93 .93 .92 | .230*235*234*232*228*223 |   | .91 .91 .90 .89 .87 .86 | .216*207*198*186*172*156     |     |    |    |  |  |
| 45   | .87 .88 .88 .89 .89 .90     | .173*179*184*189*193*196 |    |    |    |     | .90 .91 .91 .91 .91 .91 | .200*203*205*207*208*209 |    |    | .91 .91 .91 .91 .91 .90 | .203*209*207*205*201*196 |   | .89 .89 .88 .86 .85 .84 | .188*183*179*157*143*126     |     |    |    |  |  |

TABLE 8-1 SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

.. SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |  |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |  |
| 1400 | .85  | .85  | .86  | .86  | .87  | .87  | .88  | .88  | .88  | .89  | .89  | .88  | .87  | .86  | .85  | .84  | .83  | .81  |  |  |
|      | .138 | .144 | .150 | .155 | .159 | .163 | .167 | .170 | .173 | .175 | .177 | .178 | .178 | .178 | .177 | .174 | .170 | .165 |  |  |
| 15   | .82  | .82  | .83  | .84  | .84  | .85  | .85  | .85  | .86  | .86  | .86  | .85  | .83  | .86  | .86  | .86  | .85  | .85  |  |  |
|      | .099 | .106 | .112 | .117 | .122 | .126 | .131 | .134 | .137 | .140 | .142 | .143 | .143 | .143 | .142 | .139 | .135 | .130 |  |  |
| 30   | .79  | .79  | .80  | .81  | .81  | .82  | .82  | .82  | .83  | .83  | .83  | .82  | .84  | .83  | .83  | .83  | .83  | .82  |  |  |
|      | .057 | .064 | .070 | .075 | .081 | .086 | .091 | .095 | .098 | .101 | .103 | .105 | .105 | .105 | .104 | .101 | .097 | .091 |  |  |
| 45   | .75  | .76  | .76  | .77  | .78  | .78  | .79  | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .79  |  |  |
|      | .010 | .017 | .024 | .030 | .036 | .041 | .047 | .051 | .055 | .058 | .061 | .063 | .063 | .063 | .062 | .059 | .054 | .048 |  |  |
| 1500 | .71  | .72  | .73  | .73  | .74  | .75  | .75  | .76  | .76  | .76  | .77  | .77  | .77  | .77  | .77  | .76  | .76  | .75  |  |  |
|      | .960 | .968 | .975 | .982 | .988 | .994 | .000 | .005 | .009 | .013 | .015 | .017 | .018 | .018 | .016 | .013 | .008 | .002 |  |  |
| 15   | .67  | .68  | .69  | .70  | .70  | .71  | .72  | .72  | .72  | .73  | .73  | .73  | .73  | .73  | .73  | .73  | .72  | .72  |  |  |
|      | .907 | .915 | .923 | .930 | .937 | .943 | .950 | .955 | .960 | .964 | .967 | .969 | .970 | .969 | .968 | .964 | .959 | .952 |  |  |
| 30   | .63  | .64  | .65  | .66  | .66  | .67  | .68  | .68  | .68  | .69  | .69  | .68  | .69  | .69  | .69  | .69  | .68  | .68  |  |  |
|      | .851 | .860 | .868 | .875 | .883 | .889 | .897 | .903 | .907 | .912 | .915 | .917 | .918 | .918 | .916 | .912 | .907 | .899 |  |  |
| 45   | .59  | .60  | .60  | .61  | .62  | .63  | .63  | .64  | .64  | .65  | .65  | .65  | .65  | .65  | .65  | .65  | .64  | .64  |  |  |
|      | .792 | .801 | .810 | .818 | .826 | .833 | .841 | .847 | .853 | .857 | .860 | .863 | .864 | .863 | .861 | .858 | .852 | .844 |  |  |
| 1600 | .54  | .55  | .56  | .57  | .57  | .58  | .59  | .60  | .60  | .60  | .61  | .61  | .61  | .61  | .61  | .60  | .60  | .59  |  |  |
|      | .731 | .740 | .749 | .758 | .766 | .774 | .783 | .789 | .795 | .800 | .804 | .806 | .807 | .806 | .804 | .800 | .794 | .786 |  |  |
| 15   | .50  | .50  | .51  | .52  | .53  | .54  | .54  | .55  | .56  | .56  | .56  | .56  | .57  | .56  | .56  | .56  | .55  | .55  |  |  |
|      | .667 | .677 | .687 | .696 | .705 | .713 | .723 | .730 | .736 | .741 | .744 | .747 | .748 | .747 | .745 | .740 | .734 | .725 |  |  |
| 30   | .45  | .46  | .46  | .47  | .48  | .49  | .50  | .50  | .51  | .51  | .52  | .52  | .52  | .52  | .52  | .51  | .51  | .50  |  |  |
|      | .601 | .612 | .622 | .632 | .642 | .650 | .660 | .668 | .674 | .679 | .683 | .686 | .687 | .686 | .683 | .679 | .672 | .662 |  |  |
| 45   | .40  | .41  | .42  | .42  | .43  | .44  | .45  | .46  | .46  | .47  | .47  | .47  | .47  | .47  | .47  | .46  | .46  | .45  |  |  |
|      | .533 | .545 | .556 | .566 | .576 | .586 | .596 | .604 | .611 | .616 | .620 | .623 | .624 | .623 | .620 | .615 | .607 | .598 |  |  |

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |
| 1700 | .35 | .36 | .36 | .37 | .38 | .39 | .40 | .41 | .41 | .42 | .42 | .42 | .42 | .42 | .42 | .42 | .41 | .40 |  |  |
|      | 464 | 476 | 488 | 499 | 510 | 520 | 531 | 539 | 546 | 552 | 555 | 559 | 559 | 558 | 555 | 550 | 542 | 531 |  |  |
| 15   | .29 | .30 | .31 | .32 | .33 | .34 | .35 | .36 | .36 | .37 | .37 | .37 | .37 | .37 | .37 | .36 | .36 | .35 |  |  |
|      | 394 | 407 | 419 | 431 | 442 | 453 | 464 | 473 | 480 | 486 | 490 | 493 | 494 | 493 | 489 | 483 | 475 | 464 |  |  |
| 30   | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .32 | .32 | .32 | .32 | .31 | .31 | .30 |  |  |
|      | 323 | 336 | 349 | 362 | 374 | 385 | 397 | 406 | 413 | 420 | 424 | 427 | 427 | 426 | 422 | 416 | 407 | 395 |  |  |
| 45   | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .27 | .27 | .27 | .27 | .27 | .26 | .26 | .25 |  |  |
|      | 251 | 266 | 279 | 292 | 305 | 316 | 329 | 338 | 346 | 352 | 357 | 360 | 360 | 358 | 354 | 347 | 338 | 326 |  |  |
| 1800 | .13 | .15 | .16 | .17 | .18 | .19 | .20 | .20 | .21 | .22 | .22 | .22 | .22 | .22 | .22 | .21 | .20 | .19 |  |  |
|      | 180 | 194 | 209 | 222 | 236 | 248 | 261 | 270 | 279 | 285 | 290 | 292 | 292 | 290 | 286 | 279 | 269 | 256 |  |  |
| 15   | .08 | .09 | .10 | .11 | .13 | .13 | .15 | .15 | .16 | .16 | .17 | .17 | .17 | .17 | .16 | .16 | .15 | .14 |  |  |
|      | 108 | 123 | 138 | 153 | 166 | 179 | 193 | 203 | 211 | 218 | 222 | 225 | 225 | 222 | 218 | 210 | 200 | 187 |  |  |
| 30   | .03 | .04 | .05 | .06 | .07 | .08 | .09 | .10 | .11 | .11 | .12 | .12 | .12 | .12 | .11 | .11 | .10 | .09 |  |  |
|      | 037 | 053 | 068 | 083 | 098 | 111 | 125 | 135 | 144 | 150 | 155 | 157 | 157 | 155 | 149 | 141 | 131 | 117 |  |  |
| 45   | .00 | .00 | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .06 | .07 | .07 | .07 | .07 | .06 | .06 | .05 | .04 |  |  |
|      | 000 | 000 | 000 | 015 | 029 | 043 | 058 | 068 | 077 | 084 | 088 | 090 | 090 | 087 | 082 | 073 | 062 | 048 |  |  |
| 1900 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .01 | .02 | .02 | .02 | .02 | .01 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 002 | 011 | 018 | 022 | 024 | 024 | 021 | 015 | 006 | 000 | 000 |  |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*



| MST  | SEP  |      |      |      |      |      |  | OCT  |      |      |     |     |     |  | DATE |     |     |     |     |     |  | NOV |     |     |     |     |     |  | DEC |     |     |     |     |     |  |  |  |  |  |  |  |  |
|------|------|------|------|------|------|------|--|------|------|------|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|
|      |      |      |      |      |      |      |  |      |      |      |     |     |     |  |      |     |     |     |     |     |  |     |     |     |     |     |     |  |     |     |     |     |     |     |  |  |  |  |  |  |  |  |
|      | 5    | 10   | 15   | 20   | 25   | 30   |  | 5    | 10   | 15   | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5   | 10  | 15  | 20  | 25  | 30  |  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |  |  |  |  |  |  |
| 0800 | .49  | .48  | .47  | .46  | .45  | .43  |  | .42  | .41  | .39  | .37 | .36 | .34 |  | .32  | .30 | .28 | .26 | .25 | .23 |  | .22 | .21 | .19 | .19 | .18 | .17 |  | .22 | .21 | .19 | .19 | .18 | .17 |  |  |  |  |  |  |  |  |
|      | 662  | 650  | 638  | 624  | 610  | 594  |  | 576  | 558  | 538  | 516 | 494 | 471 |  | 442  | 418 | 394 | 371 | 348 | 327 |  | 307 | 290 | 274 | 262 | 252 | 246 |  | 307 | 290 | 274 | 262 | 252 | 246 |  |  |  |  |  |  |  |  |
| 15   | .54  | .53  | .52  | .51  | .49  | .48  |  | .47  | .45  | .44  | .42 | .40 | .38 |  | .35  | .34 | .32 | .31 | .29 | .28 |  | .26 | .25 | .24 | .23 | .22 | .22 |  | .26 | .25 | .24 | .23 | .22 | .22 |  |  |  |  |  |  |  |  |
|      | 725  | 713  | 701  | 687  | 672  | 656  |  | 638  | 619  | 599  | 578 | 555 | 532 |  | 502  | 478 | 454 | 431 | 408 | 387 |  | 367 | 350 | 335 | 323 | 313 | 308 |  | 367 | 350 | 335 | 323 | 313 | 308 |  |  |  |  |  |  |  |  |
| 30   | .58  | .57  | .56  | .55  | .54  | .52  |  | .51  | .49  | .48  | .46 | .44 | .42 |  | .40  | .38 | .37 | .35 | .33 | .32 |  | .30 | .29 | .28 | .27 | .26 | .26 |  | .30 | .29 | .28 | .27 | .26 | .26 |  |  |  |  |  |  |  |  |
|      | 785  | 773  | 761  | 747  | 732  | 716  |  | 698  | 678  | 658  | 636 | 613 | 589 |  | 560  | 536 | 511 | 488 | 465 | 444 |  | 424 | 407 | 383 | 381 | 372 | 367 |  | 424 | 407 | 383 | 381 | 372 | 367 |  |  |  |  |  |  |  |  |
| 45   | .63  | .61  | .60  | .59  | .58  | .57  |  | .55  | .53  | .52  | .50 | .48 | .46 |  | .44  | .42 | .40 | .39 | .37 | .35 |  | .34 | .33 | .32 | .31 | .30 | .30 |  | .34 | .33 | .32 | .31 | .30 | .30 |  |  |  |  |  |  |  |  |
|      | 842  | 831  | 818  | 804  | 789  | 772  |  | 754  | 734  | 713  | 691 | 668 | 644 |  | 614  | 590 | 565 | 541 | 519 | 498 |  | 479 | 462 | 447 | 436 | 428 | 423 |  | 479 | 462 | 447 | 436 | 428 | 423 |  |  |  |  |  |  |  |  |
| 0900 | .67  | .65  | .64  | .63  | .62  | .60  |  | .59  | .57  | .56  | .54 | .52 | .50 |  | .48  | .46 | .44 | .42 | .41 | .39 |  | .38 | .35 | .35 | .35 | .34 | .34 |  | .38 | .35 | .35 | .35 | .34 | .34 |  |  |  |  |  |  |  |  |
|      | 896  | 884  | 872  | 857  | 842  | 825  |  | 806  | 786  | 765  | 743 | 719 | 695 |  | 665  | 640 | 616 | 592 | 569 | 548 |  | 529 | 513 | 499 | 488 | 480 | 476 |  | 529 | 513 | 499 | 488 | 480 | 476 |  |  |  |  |  |  |  |  |
| 15   | .70  | .69  | .68  | .67  | .65  | .64  |  | .62  | .61  | .59  | .57 | .55 | .53 |  | .51  | .49 | .47 | .46 | .44 | .42 |  | .41 | .40 | .39 | .38 | .37 | .37 |  | .41 | .40 | .39 | .38 | .37 | .37 |  |  |  |  |  |  |  |  |
|      | 947  | 935  | 922  | 907  | 891  | 874  |  | 855  | 835  | 813  | 790 | 767 | 742 |  | 712  | 687 | 663 | 639 | 616 | 596 |  | 577 | 561 | 547 | 537 | 530 | 526 |  | 577 | 561 | 547 | 537 | 530 | 526 |  |  |  |  |  |  |  |  |
| 30   | .74  | .73  | .71  | .70  | .69  | .67  |  | .66  | .64  | .62  | .60 | .58 | .57 |  | .54  | .52 | .50 | .49 | .47 | .45 |  | .44 | .43 | .42 | .41 | .41 | .40 |  | .44 | .43 | .42 | .41 | .41 | .40 |  |  |  |  |  |  |  |  |
|      | 993  | 981  | 968  | 953  | 937  | 919  |  | 900  | 880  | 858  | 834 | 810 | 785 |  | 755  | 730 | 706 | 682 | 660 | 639 |  | 621 | 605 | 592 | 582 | 575 | 572 |  | 621 | 605 | 592 | 582 | 575 | 572 |  |  |  |  |  |  |  |  |
| 45   | .77  | .76  | .75  | .73  | .72  | .70  |  | .69  | .67  | .65  | .63 | .61 | .59 |  | .57  | .55 | .53 | .51 | .50 | .48 |  | .47 | .45 | .45 | .44 | .43 | .43 |  | .47 | .45 | .45 | .44 | .44 | .43 |  |  |  |  |  |  |  |  |
|      | 1036 | 1024 | 1010 | 995  | 979  | 961  |  | 941  | 920  | 898  | 874 | 850 | 825 |  | 794  | 769 | 745 | 721 | 699 | 679 |  | 661 | 645 | 633 | 623 | 617 | 615 |  | 661 | 645 | 633 | 623 | 617 | 615 |  |  |  |  |  |  |  |  |
| 1000 | .80  | .79  | .77  | .76  | .75  | .73  |  | .71  | .70  | .68  | .66 | .64 | .62 |  | .60  | .58 | .56 | .54 | .52 | .51 |  | .49 | .48 | .47 | .47 | .46 | .46 |  | .49 | .48 | .47 | .47 | .46 | .46 |  |  |  |  |  |  |  |  |
|      | 1075 | 1063 | 1049 | 1033 | 1016 | 998  |  | 978  | 956  | 933  | 910 | 885 | 860 |  | 829  | 804 | 779 | 756 | 734 | 714 |  | 696 | 681 | 669 | 661 | 656 | 654 |  | 696 | 681 | 669 | 661 | 656 | 654 |  |  |  |  |  |  |  |  |
| 15   | .82  | .81  | .80  | .79  | .77  | .75  |  | .74  | .72  | .70  | .68 | .66 | .64 |  | .62  | .60 | .58 | .56 | .54 | .53 |  | .52 | .51 | .50 | .49 | .49 | .49 |  | .52 | .51 | .50 | .49 | .49 | .49 |  |  |  |  |  |  |  |  |
|      | 1110 | 1097 | 1083 | 1067 | 1049 | 1030 |  | 1010 | 988  | 965  | 941 | 916 | 890 |  | 859  | 834 | 810 | 787 | 765 | 745 |  | 728 | 714 | 702 | 694 | 689 | 688 |  | 728 | 714 | 702 | 694 | 689 | 688 |  |  |  |  |  |  |  |  |
| 30   | .85  | .83  | .82  | .81  | .79  | .77  |  | .76  | .74  | .72  | .70 | .68 | .66 |  | .64  | .62 | .60 | .58 | .56 | .55 |  | .54 | .53 | .52 | .51 | .51 | .51 |  | .54 | .53 | .52 | .51 | .51 | .51 |  |  |  |  |  |  |  |  |
|      | 1140 | 1127 | 1112 | 1096 | 1078 | 1059 |  | 1038 | 1015 | 992  | 967 | 942 | 916 |  | 885  | 860 | 836 | 813 | 791 | 772 |  | 755 | 741 | 731 | 723 | 719 | 719 |  | 755 | 741 | 731 | 723 | 719 | 719 |  |  |  |  |  |  |  |  |
| 45   | .86  | .85  | .84  | .82  | .81  | .79  |  | .77  | .76  | .74  | .72 | .70 | .67 |  | .65  | .63 | .61 | .60 | .58 | .56 |  | .55 | .54 | .53 | .53 | .53 | .53 |  | .55 | .54 | .53 | .53 | .53 | .53 |  |  |  |  |  |  |  |  |
|      | 1166 | 1152 | 1137 | 1120 | 1102 | 1082 |  | 1061 | 1038 | 1014 | 989 | 963 | 938 |  | 907  | 881 | 857 | 834 | 813 | 795 |  | 778 | 765 | 755 | 748 | 745 | 745 |  | 778 | 765 | 755 | 748 | 745 | 745 |  |  |  |  |  |  |  |  |

SEP-DEC 32 N

TABLE B-1 SOLAR PARAMETERS COS Z  
XC (W/M\*\*2.)

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |
| 1100 | .88  | .87  | .85  | .84  | .82  | .81  | .79  | .77  | .75  | .73  | .71  | .69  | .66  | .64  | .62  | .61  | .59  | .58  | .57  | .53  | .55  | .54  | .54  | .54  |  |
|      | .187 | .173 | .157 | .140 | .121 | .101 | .079 | .056 | .031 | .006 | .980 | .954 | .923 | .893 | .874 | .851 | .831 | .812 | .797 | .784 | .774 | .768 | .766 | .767 |  |
| 15   | .89  | .88  | .87  | .85  | .83  | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .67  | .65  | .63  | .62  | .60  | .59  | .58  | .57  | .55  | .55  | .55  | .55  |  |
|      | .203 | .189 | .173 | .155 | .136 | .115 | .092 | .068 | .044 | .018 | .992 | .966 | .935 | .910 | .886 | .864 | .843 | .825 | .810 | .795 | .789 | .784 | .782 | .784 |  |
| 30   | .90  | .89  | .87  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .68  | .66  | .64  | .62  | .61  | .59  | .58  | .57  | .57  | .56  | .56  | .56  |  |
|      | .215 | .200 | .183 | .165 | .145 | .124 | .101 | .076 | .051 | .025 | .993 | .973 | .942 | .917 | .893 | .871 | .851 | .834 | .819 | .803 | .800 | .795 | .794 | .796 |  |
| 45   | .91  | .89  | .88  | .86  | .84  | .83  | .81  | .79  | .76  | .74  | .72  | .70  | .68  | .66  | .64  | .62  | .61  | .60  | .58  | .53  | .57  | .57  | .57  | .57  |  |
|      | .222 | .206 | .189 | .170 | .150 | .127 | .104 | .079 | .054 | .028 | .001 | .975 | .944 | .919 | .896 | .874 | .855 | .838 | .824 | .813 | .805 | .801 | .801 | .804 |  |
| 1200 | .91  | .89  | .88  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .68  | .66  | .64  | .62  | .61  | .59  | .58  | .53  | .57  | .57  | .57  | .57  |  |
|      | .224 | .208 | .190 | .170 | .149 | .127 | .103 | .077 | .051 | .025 | .998 | .972 | .941 | .916 | .893 | .872 | .853 | .837 | .823 | .813 | .806 | .803 | .803 | .807 |  |
| 15   | .91  | .89  | .88  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .71  | .69  | .67  | .65  | .63  | .62  | .60  | .59  | .58  | .57  | .57  | .57  | .57  | .57  |  |
|      | .221 | .204 | .186 | .166 | .144 | .121 | .096 | .070 | .044 | .017 | .991 | .964 | .933 | .909 | .886 | .865 | .847 | .831 | .818 | .803 | .802 | .800 | .801 | .806 |  |
| 30   | .90  | .89  | .87  | .85  | .83  | .81  | .79  | .77  | .75  | .73  | .71  | .68  | .66  | .64  | .62  | .61  | .59  | .58  | .57  | .57  | .55  | .56  | .56  | .57  |  |
|      | .213 | .196 | .177 | .156 | .134 | .110 | .085 | .059 | .032 | .005 | .978 | .951 | .921 | .897 | .874 | .854 | .836 | .820 | .808 | .793 | .794 | .792 | .794 | .799 |  |
| 45   | .89  | .88  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .71  | .69  | .67  | .65  | .63  | .61  | .60  | .58  | .57  | .56  | .55  | .55  | .55  | .55  | .56  |  |
|      | .201 | .183 | .163 | .142 | .118 | .094 | .068 | .042 | .015 | .988 | .961 | .934 | .903 | .879 | .857 | .837 | .820 | .805 | .794 | .783 | .781 | .780 | .782 | .788 |  |
| 1300 | .88  | .86  | .84  | .83  | .81  | .79  | .76  | .74  | .72  | .70  | .68  | .66  | .63  | .61  | .60  | .58  | .57  | .56  | .55  | .51  | .54  | .54  | .54  | .55  |  |
|      | .183 | .165 | .144 | .122 | .098 | .073 | .047 | .020 | .993 | .966 | .938 | .912 | .881 | .858 | .836 | .816 | .799 | .785 | .774 | .767 | .763 | .763 | .766 | .773 |  |
| 15   | .86  | .85  | .83  | .81  | .79  | .77  | .75  | .72  | .70  | .68  | .65  | .64  | .61  | .60  | .58  | .56  | .55  | .54  | .53  | .53  | .52  | .52  | .53  | .53  |  |
|      | .161 | .142 | .121 | .098 | .074 | .048 | .022 | .994 | .966 | .939 | .911 | .885 | .855 | .831 | .810 | .791 | .774 | .761 | .751 | .741 | .741 | .741 | .745 | .752 |  |
| 30   | .84  | .83  | .81  | .79  | .77  | .75  | .72  | .70  | .68  | .66  | .64  | .61  | .59  | .57  | .56  | .54  | .53  | .52  | .51  | .51  | .51  | .51  | .51  | .51  |  |
|      | .135 | .115 | .093 | .069 | .044 | .018 | .991 | .963 | .935 | .907 | .880 | .854 | .824 | .800 | .779 | .761 | .745 | .732 | .723 | .715 | .714 | .715 | .720 | .728 |  |
| 45   | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .68  | .65  | .63  | .61  | .59  | .57  | .55  | .53  | .52  | .51  | .50  | .49  | .43  | .48  | .48  | .49  | .49  |  |
|      | .104 | .083 | .061 | .036 | .011 | .984 | .956 | .928 | .900 | .872 | .844 | .818 | .783 | .765 | .745 | .727 | .711 | .699 | .690 | .693 | .692 | .685 | .690 | .699 |  |

SEP-DEC 32 N TABLE B-1 SOLAR PARAMETERS COS Z  
 ... SIGNIFIES COS Z = 1.  
 DEC 1900 TO VALUES PRECEDED BY .

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |
| 1400 | .79  | .77  | .76  | .74  | .71  | .69  | .67  | .65  | .62  | .60  | .58  | .56  | .54  | .52  | .50  | .49  | .48  | .47  | .46  | .45  | .44  | .43  | .42  | .41  |  |
|      | .068 | .047 | .024 | .999 | .973 | .945 | .917 | .888 | .860 | .832 | .804 | .778 | .743 | .720 | .706 | .688 | .673 | .662 | .654 | .640 | .626 | .611 | .618 | .628 |  |
| 15   | .76  | .75  | .73  | .70  | .68  | .66  | .64  | .61  | .59  | .57  | .55  | .53  | .51  | .49  | .47  | .46  | .45  | .44  | .44  | .43  | .43  | .43  | .44  | .44  |  |
|      | .029 | .007 | .983 | .957 | .930 | .902 | .874 | .845 | .816 | .788 | .760 | .734 | .705 | .682 | .663 | .646 | .632 | .621 | .613 | .603 | .608 | .611 | .618 | .628 |  |
| 30   | .73  | .71  | .69  | .67  | .65  | .63  | .60  | .58  | .56  | .54  | .51  | .49  | .47  | .45  | .44  | .43  | .42  | .41  | .40  | .40  | .40  | .40  | .41  | .41  |  |
|      | .985 | .962 | .938 | .911 | .884 | .855 | .826 | .797 | .768 | .739 | .712 | .686 | .657 | .635 | .616 | .599 | .586 | .575 | .569 | .565 | .565 | .569 | .576 | .586 |  |
| 45   | .70  | .68  | .66  | .63  | .61  | .59  | .57  | .54  | .52  | .50  | .48  | .46  | .43  | .42  | .40  | .39  | .38  | .37  | .37  | .37  | .37  | .37  | .38  | .38  |  |
|      | .938 | .914 | .889 | .862 | .834 | .805 | .775 | .746 | .716 | .688 | .660 | .634 | .606 | .584 | .565 | .549 | .536 | .527 | .520 | .518 | .513 | .523 | .530 | .541 |  |
| 1500 | .66  | .64  | .62  | .60  | .57  | .55  | .53  | .50  | .48  | .46  | .44  | .42  | .40  | .38  | .37  | .35  | .34  | .34  | .33  | .33  | .33  | .33  | .34  | .35  |  |
|      | .887 | .862 | .836 | .809 | .780 | .750 | .720 | .691 | .661 | .632 | .605 | .579 | .551 | .530 | .512 | .496 | .484 | .475 | .469 | .467 | .468 | .473 | .481 | .492 |  |
| 15   | .62  | .60  | .58  | .55  | .53  | .51  | .48  | .46  | .44  | .42  | .39  | .38  | .35  | .34  | .32  | .31  | .30  | .30  | .29  | .29  | .29  | .30  | .30  | .31  |  |
|      | .832 | .807 | .780 | .752 | .723 | .693 | .662 | .632 | .603 | .574 | .547 | .521 | .493 | .472 | .454 | .440 | .428 | .419 | .414 | .413 | .414 | .420 | .428 | .440 |  |
| 30   | .57  | .55  | .53  | .51  | .49  | .46  | .44  | .42  | .39  | .37  | .35  | .33  | .31  | .30  | .28  | .27  | .26  | .26  | .25  | .25  | .25  | .26  | .26  | .27  |  |
|      | .775 | .749 | .721 | .692 | .662 | .632 | .601 | .571 | .541 | .512 | .485 | .460 | .432 | .412 | .394 | .380 | .369 | .361 | .356 | .355 | .358 | .364 | .373 | .385 |  |
| 45   | .53  | .51  | .49  | .46  | .44  | .42  | .39  | .37  | .35  | .32  | .30  | .29  | .26  | .25  | .24  | .23  | .22  | .21  | .21  | .21  | .21  | .22  | .22  | .23  |  |
|      | .714 | .687 | .659 | .630 | .599 | .568 | .537 | .507 | .477 | .448 | .421 | .396 | .363 | .343 | .332 | .318 | .307 | .300 | .296 | .295 | .298 | .305 | .314 | .327 |  |
| 1600 | .48  | .46  | .44  | .42  | .39  | .37  | .34  | .32  | .30  | .28  | .26  | .24  | .22  | .20  | .19  | .18  | .17  | .17  | .17  | .17  | .17  | .17  | .18  | .19  |  |
|      | .651 | .623 | .595 | .564 | .534 | .502 | .471 | .440 | .410 | .381 | .354 | .329 | .303 | .283 | .267 | .253 | .243 | .236 | .233 | .233 | .236 | .243 | .253 | .266 |  |
| 15   | .43  | .41  | .39  | .37  | .34  | .32  | .29  | .27  | .25  | .23  | .21  | .19  | .17  | .15  | .14  | .13  | .13  | .12  | .12  | .12  | .12  | .13  | .13  | .14  |  |
|      | .585 | .557 | .528 | .497 | .466 | .434 | .402 | .371 | .341 | .312 | .286 | .261 | .234 | .215 | .199 | .187 | .177 | .171 | .168 | .169 | .172 | .179 | .189 | .202 |  |
| 30   | .38  | .36  | .34  | .31  | .29  | .27  | .24  | .22  | .20  | .18  | .16  | .14  | .12  | .10  | .09  | .08  | .08  | .07  | .07  | .07  | .08  | .08  | .09  | .10  |  |
|      | .517 | .489 | .458 | .427 | .396 | .363 | .332 | .300 | .270 | .242 | .215 | .190 | .164 | .146 | .130 | .118 | .109 | .103 | .101 | .102 | .106 | .113 | .124 | .137 |  |
| 45   | .33  | .31  | .29  | .26  | .24  | .21  | .19  | .17  | .14  | .12  | .10  | .09  | .07  | .05  | .04  | .03  | .03  | .02  | .02  | .02  | .03  | .03  | .04  | .05  |  |
|      | .448 | .418 | .388 | .356 | .324 | .291 | .259 | .228 | .198 | .169 | .143 | .119 | .093 | .075 | .060 | .048 | .039 | .034 | .032 | .033 | .038 | .046 | .056 | .070 |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

SEP-DEC 32 N

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1700 | .28 | .26 | .23 | .21 | .18 | .16 | .14 | .11 | .09 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 376 | 347 | 315 | 283 | 251 | 218 | 186 | 154 | 124 | 096 | 069 | 045 | 020 | 002 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 001 |
| 15   | .23 | .20 | .18 | .15 | .13 | .11 | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 304 | 274 | 242 | 209 | 176 | 143 | 111 | 079 | 049 | 021 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .17 | .15 | .12 | .10 | .07 | .05 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 231 | 200 | 167 | 135 | 101 | 068 | 036 | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .12 | .09 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 157 | 125 | 093 | 059 | 026 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1800 | .06 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 083 | 051 | 017 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

... SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS  
XO (W/M\*\*2.)

TABLE 8-1

32 N

SEP-DEC





| MST | DATE |   |    |    |    |     |    |   |    |    | SOLAR PARAMETERS |    |    |   |    |     |    |    |    |   | COS Z<br>XO (W/M+2.) | COS Z<br>XO (W/M+2.) | TABLE B-1 | 30 N | JAN-APR |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|     | JAN  |   |    |    |    | FEB |    |   |    |    | MAR              |    |    |   |    | APR |    |    |    |   |                      |                      |           |      |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     | 1    | 5 | 10 | 15 | 20 | 25  | 30 | 5 | 10 | 15 | 20               | 25 | 30 | 5 | 10 | 15  | 20 | 25 | 30 | 5 | 10                   | 15                   | 20        | 25   | 30      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| MST  | JAN |     |     |     |     | FEB |     |     |     |     | MAR |     |      |      |      | APR  |      |      |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |
| 1100 | .57 | .57 | .58 | .59 | .60 | .61 | .63 | .65 | .67 | .69 | .71 | .73 | .76  | .78  | .80  | .82  | .84  | .86  | .88  | .89  | .91  | .92  | .93  | .94  |
|      | 808 | 812 | 821 | 833 | 848 | 866 | 887 | 914 | 939 | 965 | 991 | 018 | *061 | *083 | *113 | *137 | *160 | *181 | *203 | *223 | *234 | *246 | *257 | *265 |
| 15   | .58 | .59 | .59 | .60 | .62 | .63 | .64 | .67 | .68 | .70 | .72 | .75 | *083 | *109 | *134 | *158 | *180 | *200 | *222 | *237 | *251 | *263 | *273 | *281 |
|      | 825 | 831 | 840 | 853 | 869 | 887 | 908 | 936 | 961 | 987 | 014 | 040 | *079 | *100 | *126 | *150 | *173 | *194 | *214 | *235 | *250 | *264 | *275 | *285 |
| 30   | .59 | .60 | .60 | .61 | .63 | .64 | .66 | .68 | .70 | .72 | .74 | .76 | *093 | *118 | *143 | *167 | *189 | *209 | *227 | *246 | *253 | *271 | *282 | *291 |
|      | 839 | 844 | 855 | 868 | 885 | 904 | 925 | 953 | 978 | 004 | 031 | 058 | *083 | *108 | *133 | *157 | *181 | *205 | *229 | *253 | *277 | *301 |      |      |
| 45   | .60 | .60 | .61 | .62 | .63 | .65 | .66 | .69 | .71 | .73 | .75 | .77 | *100 | *126 | *150 | *173 | *194 | *214 | *235 | *250 | *264 | *275 | *285 | *292 |
|      | 847 | 853 | 864 | 878 | 895 | 915 | 937 | 965 | 990 | 017 | 043 | 070 | *093 | *118 | *143 | *167 | *189 | *209 | *227 | *247 | *261 | *274 | *284 | *293 |
| 1200 | .60 | .61 | .61 | .63 | .64 | .65 | .67 | .69 | .71 | .73 | .75 | .77 | *080 | *105 | *130 | *154 | *178 | *202 | *226 | *250 | *274 |      |      |      |
|      | 850 | 857 | 869 | 884 | 901 | 921 | 944 | 972 | 998 | 024 | 051 | 077 | *100 | *125 | *150 | *174 | *198 | *222 | *246 | *270 |      |      |      |      |
| 15   | .60 | .61 | .61 | .63 | .64 | .65 | .67 | .69 | .71 | .73 | .75 | .77 | *081 | *106 | *131 | *155 | *179 | *203 | *227 | *251 | *275 |      |      |      |
|      | 849 | 857 | 869 | 884 | 902 | 923 | 945 | 975 | 000 | 026 | 053 | 079 | *100 | *125 | *150 | *174 | *198 | *222 | *246 | *270 |      |      |      |      |
| 30   | .60 | .60 | .61 | .62 | .64 | .65 | .67 | .69 | .71 | .73 | .75 | .77 | *080 | *105 | *130 | *154 | *178 | *202 | *226 | *250 | *274 |      |      |      |
|      | 843 | 851 | 864 | 880 | 898 | 919 | 942 | 972 | 997 | 024 | 050 | 076 | *100 | *125 | *150 | *174 | *198 | *222 | *246 | *270 |      |      |      |      |
| 45   | .59 | .59 | .60 | .62 | .63 | .65 | .66 | .68 | .70 | .72 | .74 | .76 | *080 | *105 | *130 | *154 | *178 | *202 | *226 | *250 | *274 |      |      |      |
|      | 832 | 841 | 854 | 871 | 890 | 911 | 934 | 964 | 989 | 016 | 042 | 068 | *093 | *118 | *143 | *167 | *189 | *209 | *227 | *243 | *251 | *261 | *269 | *276 |
| 1300 | .58 | .58 | .59 | .61 | .62 | .64 | .65 | .68 | .70 | .72 | .74 | .76 | *079 | *104 | *129 | *153 | *177 | *201 | *225 | *249 |      |      |      |      |
|      | 816 | 825 | 840 | 857 | 876 | 898 | 921 | 951 | 977 | 003 | 029 | 055 | *084 | *109 | *133 | *157 | *181 | *205 | *229 | *253 |      |      |      |      |
| 15   | .56 | .57 | .58 | .59 | .61 | .62 | .64 | .66 | .68 | .70 | .72 | .74 | *076 | *101 | *125 | *149 | *173 | *197 | *221 | *245 |      |      |      |      |
|      | 796 | 805 | 820 | 838 | 858 | 880 | 903 | 933 | 959 | 985 | 011 | 036 | *076 | *101 | *125 | *149 | *173 | *197 | *221 | *245 |      |      |      |      |
| 30   | .55 | .55 | .56 | .58 | .59 | .61 | .62 | .65 | .67 | .69 | .71 | .73 | *051 | *076 | *101 | *125 | *149 | *173 | *197 | *221 |      |      |      |      |
|      | 771 | 781 | 796 | 814 | 834 | 857 | 881 | 911 | 936 | 962 | 983 | 013 | *051 | *076 | *101 | *125 | *149 | *173 | *197 | *221 |      |      |      |      |
| 45   | .52 | .53 | .54 | .56 | .57 | .59 | .61 | .63 | .65 | .67 | .69 | .71 | *074 | *099 | *123 | *147 | *171 | *195 | *219 | *243 |      |      |      |      |
|      | 741 | 752 | 768 | 786 | 807 | 829 | 853 | 883 | 909 | 935 | 960 | 985 | *074 | *099 | *123 | *147 | *171 | *195 | *219 | *243 |      |      |      |      |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY -

SOLAR PARAMETERS COS Z  
XO (W/M\*2.)

TABLE B-1

JAN-APR 30 N

| MST  | JAN                         |   |    |    |    | FEB |    |                     |    |    | DATE                    |    |    |                          |    | MAR |    |    |    |  | APR |  |  |  |  |
|------|-----------------------------|---|----|----|----|-----|----|---------------------|----|----|-------------------------|----|----|--------------------------|----|-----|----|----|----|--|-----|--|--|--|--|
|      | 1                           | 5 | 10 | 15 | 20 | 25  | 30 | 5                   | 10 | 15 | 20                      | 25 | 30 | 5                        | 10 | 15  | 20 | 25 | 30 |  |     |  |  |  |  |
| 1400 | .50 .51 .52 .53 .55 .56 .58 |   |    |    |    |     |    | .61 .62 .64 .66 .68 |    |    | .71 .73 .75 .76 .77 .79 |    |    | .80 .81 .82 .83 .84 .85  |    |     |    |    |    |  |     |  |  |  |  |
|      | 708 719 735 753 774 797 821 |   |    |    |    |     |    | 851 877 903 928 952 |    |    | 990 011 031 049 066 081 |    |    | -097 103 118 127 135 141 |    |     |    |    |    |  |     |  |  |  |  |
| 15   | .47 .48 .49 .51 .52 .54 .56 |   |    |    |    |     |    | .58 .60 .62 .64 .66 |    |    | .63 .70 .72 .73 .75 .76 |    |    | .77 .78 .79 .80 .81 .82  |    |     |    |    |    |  |     |  |  |  |  |
|      | 670 681 697 717 738 761 785 |   |    |    |    |     |    | 815 840 866 891 915 |    |    | 952 973 992 010 027 041 |    |    | -057 063 078 087 095 101 |    |     |    |    |    |  |     |  |  |  |  |
| 30   | .44 .45 .46 .48 .49 .51 .53 |   |    |    |    |     |    | .55 .57 .59 .61 .63 |    |    | .65 .67 .69 .70 .71 .73 |    |    | .74 .75 .76 .77 .78 .78  |    |     |    |    |    |  |     |  |  |  |  |
|      | 627 639 656 675 697 720 744 |   |    |    |    |     |    | 774 799 825 850 873 |    |    | 909 930 949 967 983 997 |    |    | -013 024 034 043 050 057 |    |     |    |    |    |  |     |  |  |  |  |
| 45   | .41 .42 .43 .45 .46 .48 .50 |   |    |    |    |     |    | .52 .54 .56 .57 .59 |    |    | .62 .64 .65 .67 .68 .69 |    |    | .71 .72 .72 .73 .74 .75  |    |     |    |    |    |  |     |  |  |  |  |
|      | 581 593 611 630 652 675 699 |   |    |    |    |     |    | 729 754 779 804 828 |    |    | 863 883 902 920 935 949 |    |    | 964 975 985 995 003 010  |    |     |    |    |    |  |     |  |  |  |  |
| 1500 | .38 .38 .40 .41 .43 .44 .46 |   |    |    |    |     |    | .48 .50 .52 .54 .56 |    |    | .58 .60 .62 .63 .64 .65 |    |    | .67 .68 .69 .70 .70 .71  |    |     |    |    |    |  |     |  |  |  |  |
|      | 532 544 562 581 603 626 650 |   |    |    |    |     |    | 680 705 730 754 778 |    |    | 813 833 851 868 883 897 |    |    | 912 924 934 943 951 959  |    |     |    |    |    |  |     |  |  |  |  |
| 15   | .34 .35 .36 .37 .39 .41 .42 |   |    |    |    |     |    | .45 .46 .48 .50 .52 |    |    | .55 .56 .58 .59 .60 .61 |    |    | .63 .64 .65 .65 .66 .67  |    |     |    |    |    |  |     |  |  |  |  |
|      | 479 491 509 529 551 574 598 |   |    |    |    |     |    | 628 652 677 701 724 |    |    | 753 778 796 813 828 842 |    |    | 857 863 878 887 896 904  |    |     |    |    |    |  |     |  |  |  |  |
| 30   | .30 .31 .32 .33 .35 .37 .38 |   |    |    |    |     |    | .41 .42 .44 .46 .48 |    |    | .50 .52 .53 .55 .56 .57 |    |    | .58 .59 .60 .61 .62 .63  |    |     |    |    |    |  |     |  |  |  |  |
|      | 422 435 453 473 495 518 542 |   |    |    |    |     |    | 571 596 620 644 666 |    |    | 700 720 738 754 769 783 |    |    | 798 809 819 829 838 846  |    |     |    |    |    |  |     |  |  |  |  |
| 45   | .26 .27 .28 .29 .31 .33 .34 |   |    |    |    |     |    | .36 .38 .40 .42 .43 |    |    | .46 .47 .49 .50 .51 .53 |    |    | .54 .55 .55 .57 .57 .58  |    |     |    |    |    |  |     |  |  |  |  |
|      | 363 376 394 414 436 459 483 |   |    |    |    |     |    | 512 536 560 583 606 |    |    | 639 658 676 692 707 721 |    |    | 736 747 758 767 777 785  |    |     |    |    |    |  |     |  |  |  |  |
| 1600 | .21 .22 .24 .25 .27 .28 .30 |   |    |    |    |     |    | .32 .34 .35 .37 .39 |    |    | .41 .43 .44 .45 .47 .48 |    |    | .49 .50 .51 .52 .53 .54  |    |     |    |    |    |  |     |  |  |  |  |
|      | 301 314 332 352 374 397 421 |   |    |    |    |     |    | 449 473 497 520 542 |    |    | 575 594 611 627 642 656 |    |    | 671 682 693 703 713 722  |    |     |    |    |    |  |     |  |  |  |  |
| 15   | .17 .18 .19 .20 .22 .24 .25 |   |    |    |    |     |    | .27 .29 .31 .32 .34 |    |    | .37 .38 .39 .41 .42 .43 |    |    | .44 .45 .46 .47 .48 .49  |    |     |    |    |    |  |     |  |  |  |  |
|      | 236 249 268 288 310 332 356 |   |    |    |    |     |    | 384 408 431 454 475 |    |    | 508 526 543 559 574 588 |    |    | 603 615 626 636 646 656  |    |     |    |    |    |  |     |  |  |  |  |
| 30   | .12 .13 .14 .16 .17 .19 .20 |   |    |    |    |     |    | .23 .24 .26 .28 .29 |    |    | .32 .33 .34 .35 .37 .38 |    |    | .39 .40 .41 .42 .43 .44  |    |     |    |    |    |  |     |  |  |  |  |
|      | 170 183 201 221 243 265 288 |   |    |    |    |     |    | 316 340 363 385 406 |    |    | 438 456 473 489 504 518 |    |    | 533 545 557 568 578 588  |    |     |    |    |    |  |     |  |  |  |  |
| 45   | .07 .08 .09 .11 .12 .14 .16 |   |    |    |    |     |    | .18 .19 .21 .22 .24 |    |    | .26 .28 .29 .30 .31 .33 |    |    | .34 .35 .36 .37 .38 .38  |    |     |    |    |    |  |     |  |  |  |  |
|      | 101 114 132 152 174 196 219 |   |    |    |    |     |    | 247 270 292 314 335 |    |    | 366 384 401 417 432 446 |    |    | 461 474 485 497 508 519  |    |     |    |    |    |  |     |  |  |  |  |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XO (W/M\*\*2.)

TABLE B-1

JAN-APR 30 N

| MST  | DATE |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | JAN  |      |      | FEB  |      |      | MAR  |      |      | APR  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|      | 1    | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |      |      |      |      |      |
| 1700 | .02  | .03  | .04  | .06  | .07  | .09  | .10  | .12  | .14  | .16  | .17  | .19  | .21  | .22  | .24  | .25  | .26  | .27  | .28  | .29  | .30  | .31  | .32  | .33  |
|      | .031 | .044 | .062 | .082 | .103 | .125 | .147 | .175 | .197 | .219 | .241 | .262 | .293 | .310 | .327 | .343 | .358 | .372 | .388 | .401 | .413 | .425 | .436 | .448 |
| 15   | .00  | .00  | .00  | .01  | .02  | .04  | .05  | .07  | .09  | .10  | .12  | .13  | .15  | .17  | .18  | .19  | .21  | .22  | .23  | .24  | .25  | .26  | .27  | .28  |
|      | .000 | .000 | .000 | .010 | .031 | .052 | .074 | .101 | .123 | .145 | .166 | .187 | .217 | .235 | .252 | .268 | .283 | .297 | .313 | .325 | .339 | .351 | .363 | .375 |
| 30   | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .02  | .03  | .05  | .07  | .08  | .10  | .11  | .13  | .14  | .15  | .16  | .17  | .18  | .19  | .20  | .21  | .22  |
|      | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .027 | .048 | .070 | .091 | .111 | .141 | .158 | .175 | .191 | .206 | .220 | .237 | .250 | .264 | .277 | .289 | .302 |
| 45   | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .01  | .02  | .05  | .06  | .07  | .08  | .09  | .10  | .12  | .13  | .14  | .15  | .16  | .17  |
|      | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .014 | .033 | .063 | .081 | .097 | .113 | .129 | .143 | .160 | .174 | .188 | .201 | .215 | .228 |
| 1800 | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .01  | .03  | .04  | .05  | .06  | .07  | .08  | .09  | .10  | .11  |
|      | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .002 | .019 | .035 | .051 | .066 | .083 | .093 | .112 | .126 | .140 | .154 |
| 15   | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .02  | .03  | .04  | .05  | .06  |
|      | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .006 | .021 | .033 | .051 | .066 | .080 |
| 30   | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .01  |
|      | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .007 |
| 45   | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  |
|      | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |

--- SIGNIFIES COS 2 = 1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS  
Y0 (W/M\*\*2.)

COS 2

TABLE B-1

30 N

JAN-APR

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |
| 0500 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 15   | .00 | .00 | .01 | .02 | .03 | .04 | .04 | .04 | .04 | .04 | .03 | .02 | .02 | .02 | .01 | .00 | .00 | .00 |  |  |
|      | 000 | 002 | 018 | 031 | 041 | 049 | 054 | 056 | 055 | 052 | 047 | 042 | 032 | 022 | 010 | 000 | 000 | 000 |  |  |
| 30   | .04 | .06 | .07 | .08 | .08 | .09 | .09 | .09 | .09 | .09 | .08 | .08 | .08 | .07 | .06 | .05 | .04 | .03 |  |  |
|      | 056 | 074 | 089 | 102 | 111 | 118 | 123 | 124 | 123 | 120 | 115 | 108 | 100 | 090 | 079 | 067 | 054 | 041 |  |  |
| 45   | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .15 | .15 | .14 | .14 | .13 | .13 | .12 | .11 | .10 | .09 | .08 |  |  |
|      | 129 | 146 | 161 | 173 | 182 | 188 | 192 | 193 | 192 | 189 | 184 | 177 | 168 | 159 | 148 | 136 | 124 | 112 |  |  |
| 0600 | .15 | .16 | .17 | .18 | .19 | .19 | .20 | .20 | .20 | .19 | .19 | .19 | .18 | .17 | .16 | .16 | .15 | .14 |  |  |
|      | 202 | 219 | 233 | 244 | 252 | 258 | 262 | 263 | 261 | 258 | 252 | 246 | 237 | 228 | 218 | 207 | 195 | 183 |  |  |
| 15   | .21 | .22 | .23 | .24 | .24 | .25 | .25 | .25 | .25 | .25 | .24 | .24 | .23 | .23 | .22 | .21 | .20 | .19 |  |  |
|      | 276 | 291 | 305 | 315 | 323 | 328 | 332 | 332 | 330 | 327 | 321 | 315 | 306 | 297 | 287 | 277 | 266 | 254 |  |  |
| 30   | .26 | .27 | .28 | .29 | .30 | .30 | .30 | .30 | .30 | .30 | .29 | .29 | .28 | .28 | .27 | .26 | .25 | .25 |  |  |
|      | 348 | 364 | 376 | 386 | 393 | 398 | 401 | 401 | 399 | 395 | 390 | 383 | 375 | 367 | 357 | 347 | 336 | 325 |  |  |
| 45   | .31 | .32 | .33 | .34 | .35 | .35 | .35 | .35 | .35 | .35 | .34 | .34 | .34 | .33 | .32 | .31 | .31 | .30 |  |  |
|      | 421 | 435 | 447 | 456 | 463 | 467 | 469 | 469 | 467 | 463 | 458 | 451 | 444 | 435 | 426 | 416 | 406 | 396 |  |  |
| 0700 | .37 | .38 | .39 | .39 | .40 | .40 | .40 | .40 | .40 | .40 | .39 | .39 | .38 | .38 | .37 | .37 | .36 | .35 |  |  |
|      | 492 | 505 | 517 | 525 | 531 | 535 | 537 | 537 | 534 | 530 | 525 | 519 | 511 | 503 | 494 | 485 | 476 | 466 |  |  |
| 15   | .42 | .43 | .44 | .44 | .45 | .45 | .45 | .45 | .45 | .45 | .44 | .44 | .44 | .43 | .42 | .42 | .41 | .40 |  |  |
|      | 562 | 575 | 585 | 593 | 599 | 602 | 604 | 603 | 600 | 596 | 591 | 585 | 578 | 570 | 562 | 553 | 544 | 534 |  |  |
| 30   | .47 | .48 | .49 | .49 | .50 | .50 | .50 | .50 | .50 | .50 | .49 | .49 | .48 | .48 | .47 | .47 | .46 | .45 |  |  |
|      | 630 | 642 | 652 | 659 | 664 | 668 | 669 | 668 | 665 | 661 | 656 | 650 | 643 | 636 | 628 | 619 | 611 | 602 |  |  |
| 45   | .52 | .53 | .54 | .54 | .55 | .55 | .55 | .55 | .55 | .55 | .54 | .54 | .53 | .53 | .52 | .52 | .51 | .50 |  |  |
|      | 696 | 708 | 717 | 724 | 728 | 731 | 732 | 731 | 728 | 724 | 719 | 713 | 707 | 699 | 692 | 684 | 676 | 668 |  |  |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

TABLE B-1 SOLAR PARAMETERS  
COS Z  
XO (M/A=-2.)

MAY-AUG 30 N

PREVIOUS PAGE  
IS BLANK

| MST  | MAY  |     |     |     |     |     |  | JUN  |     |     |     |     |     |  | JUL  |     |     |     |     |     |  | AUG  |     |     |     |     |     |  |
|------|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|
|      | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  |
|      | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  |
| 0800 | .57  | .57 | .58 | .59 | .59 | .60 |  | .60  | .60 | .60 | .59 | .59 | .59 |  | .59  | .59 | .57 | .56 | .56 | .55 |  | .54  | .54 | .53 | .52 | .51 | .51 |  |
|      | 760  | 771 | 780 | 786 | 790 | 793 |  | 793  | 792 | 789 | 785 | 780 | 775 |  | 763  | 761 | 754 | 747 | 739 | 731 |  | 722  | 714 | 706 | 698 | 689 | 681 |  |
| 15   | .61  | .62 | .63 | .63 | .64 | .64 |  | .64  | .64 | .64 | .64 | .63 | .63 |  | .63  | .62 | .62 | .61 | .60 | .60 |  | .59  | .59 | .58 | .57 | .56 | .55 |  |
|      | 822  | 832 | 840 | 846 | 850 | 852 |  | 852  | 850 | 848 | 844 | 839 | 834 |  | 828  | 821 | 814 | 807 | 800 | 793 |  | 784  | 777 | 769 | 761 | 753 | 745 |  |
| 30   | .66  | .66 | .67 | .68 | .68 | .68 |  | .68  | .68 | .68 | .68 | .67 | .67 |  | .67  | .66 | .66 | .65 | .65 | .64 |  | .63  | .63 | .62 | .61 | .61 | .60 |  |
|      | 881  | 891 | 898 | 903 | 907 | 908 |  | 908  | 906 | 904 | 900 | 895 | 890 |  | 885  | 879 | 872 | 866 | 859 | 852 |  | 844  | 837 | 830 | 822 | 814 | 806 |  |
| 45   | .70  | .71 | .71 | .72 | .72 | .72 |  | .72  | .72 | .72 | .72 | .72 | .71 |  | .71  | .71 | .70 | .70 | .69 | .68 |  | .68  | .67 | .66 | .66 | .65 | .64 |  |
|      | 937  | 946 | 953 | 958 | 961 | 962 |  | 962  | 960 | 957 | 953 | 949 | 944 |  | 939  | 933 | 927 | 921 | 915 | 909 |  | 901  | 894 | 887 | 880 | 872 | 864 |  |
| 0900 | .74  | .74 | .75 | .76 | .76 | .76 |  | .76  | .76 | .76 | .76 | .76 | .75 |  | .75  | .74 | .74 | .73 | .73 | .72 |  | .72  | .71 | .71 | .70 | .69 | .68 |  |
|      | 990  | 998 | 004 | 009 | 012 | 013 |  | 012  | 010 | 008 | 004 | 000 | 995 |  | 990  | 985 | 979 | 974 | 968 | 962 |  | 955  | 943 | 942 | 935 | 927 | 919 |  |
| 15   | .77  | .78 | .79 | .79 | .79 | .80 |  | .80  | .80 | .80 | .79 | .79 | .79 |  | .78  | .78 | .78 | .77 | .77 | .76 |  | .76  | .75 | .74 | .74 | .73 | .72 |  |
|      | 039  | 047 | 053 | 057 | 059 | 060 |  | 059  | 057 | 055 | 051 | 048 | 043 |  | 038  | 033 | 028 | 023 | 018 | 012 |  | 005  | 993 | 993 | 986 | 979 | 971 |  |
| 30   | .81  | .81 | .82 | .82 | .83 | .83 |  | .83  | .83 | .83 | .83 | .82 | .82 |  | .82  | .81 | .81 | .81 | .80 | .80 |  | .79  | .79 | .78 | .77 | .77 | .76 |  |
|      | 085  | 092 | 097 | 101 | 103 | 104 |  | 103  | 101 | 099 | 095 | 092 | 088 |  | 083  | 079 | 074 | 069 | 064 | 059 |  | 052  | 047 | 041 | 034 | 027 | 018 |  |
| 45   | .84  | .84 | .85 | .85 | .86 | .86 |  | .86  | .86 | .86 | .86 | .86 | .85 |  | .85  | .85 | .84 | .84 | .83 | .83 |  | .82  | .82 | .81 | .81 | .80 | .79 |  |
|      | 126  | 133 | 138 | 142 | 144 | 144 |  | 143  | 141 | 139 | 136 | 132 | 129 |  | 125  | 120 | 116 | 112 | 107 | 102 |  | 096  | 090 | 083 | 078 | 071 | 062 |  |
| 1000 | .87  | .87 | .88 | .88 | .88 | .89 |  | .89  | .89 | .89 | .89 | .88 | .88 |  | .88  | .88 | .87 | .87 | .86 | .86 |  | .85  | .85 | .84 | .84 | .83 | .82 |  |
|      | 164  | 171 | 175 | 178 | 180 | 180 |  | 179  | 178 | 175 | 173 | 169 | 166 |  | 162  | 158 | 154 | 150 | 146 | 141 |  | 136  | 130 | 123 | 118 | 111 | 102 |  |
| 15   | .89  | .90 | .90 | .91 | .91 | .91 |  | .91  | .91 | .91 | .91 | .91 | .91 |  | .90  | .90 | .90 | .89 | .89 | .89 |  | .88  | .88 | .87 | .86 | .86 | .85 |  |
|      | 198  | 204 | 208 | 211 | 212 | 213 |  | 212  | 210 | 208 | 205 | 203 | 199 |  | 196  | 192 | 189 | 185 | 181 | 177 |  | 171  | 163 | 160 | 154 | 146 | 138 |  |
| 30   | .91  | .92 | .92 | .93 | .93 | .93 |  | .93  | .93 | .93 | .93 | .93 | .93 |  | .93  | .92 | .92 | .92 | .91 | .91 |  | .90  | .90 | .89 | .89 | .88 | .87 |  |
|      | 227  | 233 | 237 | 239 | 241 | 241 |  | 240  | 239 | 237 | 234 | 232 | 229 |  | 226  | 223 | 219 | 216 | 212 | 208 |  | 203  | 193 | 192 | 185 | 178 | 169 |  |
| 45   | .93  | .94 | .94 | .95 | .95 | .95 |  | .95  | .95 | .95 | .95 | .95 | .95 |  | .95  | .94 | .94 | .94 | .93 | .93 |  | .92  | .92 | .91 | .91 | .90 | .89 |  |
|      | 252  | 257 | 261 | 263 | 265 | 265 |  | 264  | 263 | 261 | 259 | 257 | 254 |  | 251  | 248 | 245 | 242 | 239 | 235 |  | 230  | 225 | 219 | 212 | 205 | 196 |  |

MAY-AUG 30 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 XO (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY                     |                          |    |    |    | JUN |                         |                          |    |    | JUL |    |                         |                          |    | AUG |    |                         |                          |  |
|------|-------------------------|--------------------------|----|----|----|-----|-------------------------|--------------------------|----|----|-----|----|-------------------------|--------------------------|----|-----|----|-------------------------|--------------------------|--|
|      | 5                       | 10                       | 15 | 20 | 25 | 30  | 5                       | 10                       | 15 | 20 | 25  | 30 | 5                       | 10                       | 15 | 20  | 25 | 30                      |                          |  |
| 1100 | .95 .95 .96 .96 .96 .96 | *272*277*281*283*284*284 |    |    |    |     | .97 .97 .97 .97 .97 .96 | *284*283*281*279*277*275 |    |    |     |    | .96 .96 .96 .96 .95 .95 | *273*270*267*264*261*258 |    |     |    | .94 .94 .93 .92 .92 .91 | *253*243*242*235*227*218 |  |
| 15   | .96 .96 .97 .97 .97 .98 | *288*292*296*298*299*300 |    |    |    |     | .98 .98 .98 .98 .98 .98 | *299*298*297*295*294*292 |    |    |     |    | .97 .97 .97 .97 .96 .96 | *290*287*285*282*279*276 |    |     |    | .96 .95 .94 .94 .93 .92 | *271*263*260*253*245*235 |  |
| 30   | .97 .97 .98 .98 .98 .98 | *298*303*306*308*310*310 |    |    |    |     | .99 .99 .99 .99 .99 .99 | *310*309*308*307*305*304 |    |    |     |    | .98 .98 .98 .98 .97 .97 | *302*300*298*296*293*289 |    |     |    | .97 .95 .95 .95 .94 .93 | *284*273*273*266*258*248 |  |
| 45   | .97 .98 .98 .98 .99 .99 | *304*309*312*314*316*316 |    |    |    |     | .99 .99 .99 .99 .99 .99 | *316*316*315*314*313*312 |    |    |     |    | .99 .99 .99 .98 .98 .98 | *310*309*307*304*302*298 |    |     |    | .97 .97 .95 .95 .94 .93 | *293*283*282*275*266*255 |  |
| 1200 | .97 .98 .98 .98 .99 .99 | *306*310*313*315*317*318 |    |    |    |     | .99 .99 .99 .99 .99 .99 | *318*318*317*317*316*315 |    |    |     |    | .99 .99 .99 .99 .98 .98 | *314*312*311*309*306*303 |    |     |    | .98 .97 .96 .96 .95 .94 | *298*292*285*278*269*258 |  |
| 15   | .97 .97 .98 .98 .98 .99 | *302*306*310*312*314*315 |    |    |    |     | .99 .99 .99 .99 .99 .99 | *315*315*315*315*314*314 |    |    |     |    | .99 .99 .99 .99 .98 .98 | *313*312*310*308*306*302 |    |     |    | .98 .97 .96 .95 .95 .93 | *297*292*285*277*267*256 |  |
| 30   | .96 .97 .97 .98 .98 .98 | *294*298*301*304*306*307 |    |    |    |     | .98 .99 .99 .99 .99 .99 | *308*308*308*308*308*308 |    |    |     |    | .99 .99 .99 .98 .98 .98 | *307*306*305*303*301*297 |    |     |    | .97 .97 .96 .95 .95 .94 | *292*283*279*271*261*249 |  |
| 45   | .95 .96 .96 .97 .97 .97 | *281*285*289*291*293*295 |    |    |    |     | .98 .98 .98 .98 .98 .98 | *296*297*297*298*298*298 |    |    |     |    | .98 .98 .98 .98 .97 .97 | *297*297*296*294*291*288 |    |     |    | .96 .95 .95 .94 .93 .92 | *282*275*269*260*249*237 |  |
| 1300 | .94 .94 .95 .95 .96 .96 | *263*267*271*274*276*278 |    |    |    |     | .96 .96 .97 .97 .97 .97 | *280*281*282*282*283*283 |    |    |     |    | .97 .97 .97 .97 .96 .96 | *283*282*281*280*277*274 |    |     |    | .95 .95 .94 .93 .92 .91 | *268*261*254*244*233*220 |  |
| 15   | .92 .93 .93 .94 .94 .94 | *241*245*249*252*255*257 |    |    |    |     | .95 .95 .95 .95 .95 .95 | *259*260*262*263*263*264 |    |    |     |    | .96 .95 .95 .95 .95 .94 | *263*263*261*259*255     |    |     |    | .94 .93 .92 .91 .90 .89 | *249*242*234*224*212*198 |  |
| 30   | .90 .91 .91 .92 .92 .92 | *214*219*222*226*229*231 |    |    |    |     | .93 .93 .93 .94 .94 .94 | *234*236*237*239*240*241 |    |    |     |    | .93 .93 .93 .93 .93 .93 | *241*241*240*238*235*232 |    |     |    | .92 .91 .91 .90 .88 .87 | *225*219*213*199*186*172 |  |
| 45   | .88 .88 .89 .89 .90 .90 | *183*187*192*195*199*201 |    |    |    |     | .91 .91 .91 .91 .91 .91 | *205*207*209*211*212*213 |    |    |     |    | .92 .92 .92 .91 .91 .91 | *214*213*213*211*208*204 |    |     |    | .90 .89 .88 .87 .86 .85 | *197*193*180*169*156*141 |  |

TABLE B-1 SOLAR PARAMETERS COS Z XC (W/M\*\*2.) \*\*\* SIGNIFIES COS Z = 1. ADD 1000 TO VALUES PRECEDED BY .

| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |
| 1400 | .85  | .86  | .86  | .87  | .87  | .88  | .88  | .88  | .89  | .89  | .89  | .88  | .83  | .89  | .89  | .89  | .89  | .88  | .88  | .87  | .85  | .85  | .84  | .82  |
|      | *147 | *152 | *157 | *161 | *164 | *168 | *171 | *174 | *176 | *178 | *180 | *182 | *182 | *182 | *181 | *180 | *177 | *172 | -165 | *157 | *147 | *135 | *122 | *106 |
| 15   | .82  | .83  | .83  | .84  | .84  | .85  | .85  | .86  | .86  | .86  | .86  | .87  | .87  | .87  | .87  | .86  | .86  | .86  | .85  | .84  | .83  | .82  | .81  | .79  |
|      | *107 | *113 | *118 | *122 | *126 | *130 | *134 | *137 | *140 | *142 | *144 | *145 | *147 | *147 | *146 | *144 | *141 | *136 | -128 | *123 | *110 | *097 | *083 | *066 |
| 30   | .79  | .80  | .80  | .81  | .81  | .82  | .82  | .83  | .83  | .83  | .83  | .84  | .84  | .84  | .84  | .83  | .83  | .83  | .82  | .81  | .80  | .79  | .78  | .76  |
|      | *064 | *070 | *075 | *080 | *084 | *088 | *093 | *097 | *100 | *103 | *105 | *107 | *106 | *108 | *107 | *105 | *101 | *096 | -088 | *073 | *069 | *055 | *040 | *023 |
| 45   | .76  | .76  | .77  | .77  | .78  | .78  | .79  | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .78  | .73  | .77  | .75  | .74  | .73  |
|      | *016 | *023 | *028 | *034 | *039 | *043 | -048 | *052 | *056 | *059 | *062 | *064 | *065 | *065 | *064 | *062 | *058 | *053 | -044 | *034 | *023 | *009 | 993  | 975  |
| 1500 | .72  | .72  | .73  | .74  | .74  | .75  | .75  | .76  | .76  | .76  | .77  | .77  | .77  | .77  | .77  | .77  | .76  | .76  | .75  | .74  | .73  | .72  | .70  | .69  |
|      | 966  | 972  | 978  | 984  | 989  | 995  | *000 | *005 | *009 | *012 | *015 | *017 | *019 | *019 | *018 | *015 | *011 | *005 | 996  | 985  | 974  | 959  | 943  | 924  |
| 15   | .68  | .68  | .69  | .70  | .70  | .71  | .71  | .72  | .72  | .73  | .73  | .73  | .73  | .73  | .73  | .73  | .72  | .72  | .71  | .70  | .69  | .68  | .66  | .65  |
|      | 911  | 918  | 925  | 931  | 937  | 943  | 949  | 954  | 958  | 962  | 965  | 968  | 969  | 969  | 968  | 965  | 961  | 955  | 945  | 934  | 921  | 906  | 889  | 869  |
| 30   | .63  | .64  | .65  | .66  | .66  | .67  | .67  | .68  | .68  | .69  | .69  | .69  | .69  | .69  | .69  | .68  | .68  | .68  | .67  | .66  | .65  | .64  | .62  | .60  |
|      | 854  | 861  | 868  | 875  | 882  | 888  | 895  | 900  | 905  | 909  | 913  | 915  | 916  | 916  | 915  | 912  | 908  | 901  | 890  | 873  | 865  | 850  | 832  | 811  |
| 45   | .59  | .60  | .60  | .61  | .62  | .62  | .63  | .64  | .64  | .64  | .65  | .65  | .65  | .65  | .65  | .65  | .64  | .64  | .63  | .62  | .60  | .59  | .58  | .56  |
|      | 794  | 802  | 809  | 817  | 824  | 831  | 838  | 844  | 849  | 853  | 857  | 860  | 861  | 861  | 859  | 856  | 851  | 844  | 833  | 821  | 807  | 790  | 771  | 750  |
| 1600 | .54  | .55  | .56  | .57  | .57  | .58  | .59  | .59  | .60  | .60  | .60  | .61  | .61  | .61  | .61  | .60  | .60  | .59  | .58  | .57  | .56  | .54  | .53  | .51  |
|      | 731  | 739  | 748  | 756  | 763  | 771  | 779  | 785  | 790  | 795  | 799  | 802  | 803  | 803  | 801  | 798  | 792  | 785  | 773  | 760  | 745  | 728  | 708  | 687  |
| 15   | .49  | .50  | .51  | .52  | .53  | .53  | .54  | .55  | .55  | .55  | .56  | .56  | .56  | .56  | .56  | .56  | .55  | .54  | .53  | .52  | .51  | .50  | .48  | .46  |
|      | 666  | 675  | 684  | 692  | 700  | 708  | 717  | 724  | 730  | 735  | 738  | 741  | 743  | 742  | 740  | 737  | 731  | 723  | 710  | 697  | 681  | 663  | 643  | 620  |
| 30   | .45  | .45  | .46  | .47  | .48  | .48  | .49  | .50  | .50  | .51  | .51  | .51  | .51  | .51  | .51  | .51  | .50  | .50  | .49  | .47  | .45  | .45  | .43  | .41  |
|      | 598  | 608  | 618  | 627  | 636  | 644  | 653  | 660  | 667  | 672  | 676  | 679  | 680  | 680  | 678  | 674  | 667  | 659  | 645  | 632  | 615  | 596  | 575  | 552  |
| 45   | .39  | .40  | .41  | .42  | .43  | .43  | .44  | .45  | .45  | .46  | .46  | .46  | .47  | .47  | .46  | .46  | .45  | .45  | .44  | .42  | .41  | .39  | .38  | .36  |
|      | 529  | 540  | 550  | 560  | 569  | 578  | 588  | 596  | 602  | 608  | 612  | 615  | 616  | 615  | 613  | 609  | 602  | 593  | 579  | 564  | 547  | 528  | 506  | 482  |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS  
X0 (W/M\*2.)

COS 2

MAY-AUG 30 N



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     | JUN |     |     |     | JUL |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1700 | .34  | .35 | .36 | .37 | .38 | .38 | .39 | .40 | .40 | .41 | .41 | .42 |
|      | 459  | 470 | 481 | 491 | 501 | 511 | 521 | 529 | 536 | 542 | 546 | 549 |
| 15   | .29  | .30 | .31 | .32 | .32 | .33 | .34 | .35 | .35 | .36 | .36 | .36 |
|      | 387  | 399 | 410 | 421 | 432 | 442 | 453 | 462 | 469 | 475 | 479 | 482 |
| 30   | .23  | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .31 |
|      | 315  | 327 | 339 | 351 | 362 | 373 | 385 | 393 | 401 | 407 | 411 | 414 |
| 45   | .18  | .19 | .20 | .21 | .22 | .23 | .24 | .24 | .25 | .26 | .26 | .26 |
|      | 242  | 255 | 267 | 280 | 292 | 303 | 315 | 324 | 332 | 338 | 343 | 346 |
| 1800 | .13  | .14 | .15 | .16 | .17 | .18 | .19 | .19 | .20 | .20 | .21 | .21 |
|      | 168  | 182 | 196 | 209 | 221 | 233 | 246 | 255 | 263 | 269 | 274 | 277 |
| 15   | .07  | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .15 | .15 | .16 | .16 |
|      | 095  | 110 | 124 | 137 | 150 | 163 | 176 | 186 | 194 | 200 | 205 | 208 |
| 30   | .02  | .03 | .04 | .05 | .06 | .07 | .08 | .09 | .09 | .10 | .10 | .11 |
|      | 022  | 037 | 052 | 067 | 080 | 093 | 107 | 117 | 125 | 132 | 137 | 139 |
| 45   | .00  | .00 | .00 | .00 | .01 | .02 | .03 | .04 | .04 | .05 | .05 | .05 |
|      | 000  | 000 | 000 | 000 | 011 | 024 | 038 | 048 | 057 | 064 | 068 | 071 |

TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADC 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     | JUN |     |     |     | JUL |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1700 | .38  | .37 | .35 | .34 | .32 | .31 | .42 | .42 | .41 | .41 | .40 | .40 |
|      | 510  | 495 | 477 | 457 | 435 | 410 | 550 | 549 | 547 | 542 | 535 | 525 |
| 15   | .33  | .32 | .30 | .29 | .27 | .25 | .37 | .36 | .36 | .36 | .35 | .34 |
|      | 441  | 425 | 408 | 385 | 362 | 337 | 483 | 482 | 479 | 474 | 466 | 456 |
| 30   | .28  | .27 | .25 | .23 | .22 | .20 | .31 | .31 | .31 | .31 | .30 | .29 |
|      | 370  | 353 | 334 | 313 | 289 | 263 | 415 | 414 | 411 | 405 | 397 | 386 |
| 45   | .22  | .21 | .20 | .18 | .16 | .14 | .26 | .26 | .26 | .25 | .25 | .24 |
|      | 298  | 281 | 251 | 239 | 215 | 188 | 346 | 345 | 341 | 335 | 327 | 315 |
| 1800 | .17  | .15 | .14 | .12 | .10 | .08 | .21 | .21 | .21 | .20 | .19 | .18 |
|      | 226  | 209 | 188 | 165 | 140 | 113 | 277 | 276 | 272 | 265 | 256 | 244 |
| 15   | .12  | .10 | .09 | .07 | .05 | .03 | .16 | .16 | .15 | .15 | .14 | .13 |
|      | 154  | 135 | 115 | 091 | 065 | 037 | 208 | 206 | 202 | 195 | 185 | 173 |
| 30   | .06  | .05 | .03 | .01 | .00 | .00 | .11 | .10 | .10 | .09 | .09 | .08 |
|      | 083  | 063 | 042 | 018 | 000 | 000 | 139 | 137 | 132 | 125 | 115 | 102 |
| 45   | .01  | .00 | .00 | .00 | .00 | .00 | .05 | .05 | .05 | .04 | .03 | .02 |
|      | 011  | 003 | 000 | 000 | 000 | 000 | 071 | 068 | 063 | 055 | 045 | 031 |

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0500 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 45   | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 0600 | .07 | .06 | .05 | .04 | .03 | .02 | .01 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 15   | .12 | .11 | .11 | .10 | .09 | .08 | .06 | .05 | .04 | .03 | .01  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 30   | .18 | .17 | .16 | .15 | .14 | .13 | .12 | .11 | .10 | .08 | .07  | .05 | .04 | .03 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 45   | .24 | .23 | .22 | .21 | .20 | .19 | .18 | .16 | .15 | .14 | .12  | .11 | .10 | .09 | .07 | .06 | .04 | .03 | .01 | .00 | .00 | .00 | .00 | .00 |  |
| 0700 | .29 | .28 | .27 | .26 | .25 | .24 | .23 | .22 | .20 | .19 | .17  | .16 | .15 | .14 | .12 | .11 | .09 | .08 | .06 | .05 | .03 | .02 | .01 | .00 |  |
| 15   | .34 | .33 | .33 | .32 | .31 | .29 | .28 | .27 | .26 | .24 | .23  | .21 | .20 | .19 | .18 | .16 | .14 | .13 | .11 | .10 | .09 | .07 | .06 | .05 |  |
| 30   | .40 | .39 | .38 | .37 | .36 | .35 | .34 | .33 | .32 | .31 | .29  | .28 | .26 | .25 | .24 | .22 | .20 | .18 | .16 | .15 | .13 | .12 | .11 | .10 |  |
| 45   | .45 | .44 | .43 | .42 | .41 | .40 | .39 | .38 | .37 | .36 | .34  | .33 | .31 | .30 | .29 | .27 | .26 | .24 | .22 | .21 | .20 | .19 | .17 | .16 |  |

SEP-DEC 30 N TABLE B-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0800 | .50  | .49  | .48  | .47  | .46  | .45  | .43  | .42  | .40  | .39  | .37 | .36 | .34 | .32 | .30 | .28 | .27 | .25 | .24 | .23 | .21 | .21 | .20 | .19 |
|      | 669  | 659  | 648  | 636  | 623  | 608  | 593  | 576  | 557  | 537  | 516 | 494 | 467 | 443 | 421 | 398 | 376 | 355 | 336 | 313 | 293 | 290 | 281 | 274 |
| 15   | .54  | .54  | .53  | .52  | .50  | .49  | .48  | .47  | .45  | .43  | .42 | .40 | .38 | .36 | .34 | .33 | .31 | .30 | .28 | .27 | .25 | .25 | .24 | .24 |
|      | 733  | 723  | 712  | 700  | 687  | 672  | 656  | 639  | 620  | 600  | 579 | 556 | 529 | 505 | 482 | 459 | 437 | 416 | 397 | 380 | 355 | 353 | 343 | 337 |
| 30   | .59  | .58  | .57  | .56  | .55  | .54  | .52  | .51  | .49  | .48  | .46 | .44 | .42 | .40 | .39 | .37 | .35 | .34 | .32 | .31 | .29 | .29 | .29 | .28 |
|      | 795  | 785  | 774  | 761  | 748  | 733  | 717  | 699  | 680  | 659  | 633 | 615 | 587 | 564 | 540 | 517 | 495 | 474 | 455 | 433 | 424 | 412 | 403 | 397 |
| 45   | .63  | .62  | .61  | .60  | .59  | .58  | .56  | .55  | .53  | .52  | .50 | .48 | .46 | .44 | .43 | .41 | .39 | .38 | .36 | .35 | .34 | .33 | .33 | .32 |
|      | 853  | 843  | 832  | 820  | 806  | 791  | 774  | 756  | 736  | 716  | 694 | 671 | 643 | 619 | 595 | 572 | 550 | 529 | 511 | 494 | 480 | 468 | 460 | 455 |
| 0900 | .67  | .66  | .65  | .64  | .63  | .62  | .60  | .59  | .57  | .56  | .54 | .52 | .50 | .48 | .46 | .44 | .43 | .41 | .40 | .39 | .38 | .37 | .36 | .36 |
|      | 908  | 898  | 887  | 874  | 860  | 845  | 828  | 809  | 789  | 768  | 746 | 723 | 694 | 670 | 647 | 624 | 602 | 581 | 563 | 546 | 532 | 522 | 514 | 509 |
| 15   | .71  | .70  | .69  | .68  | .67  | .66  | .64  | .63  | .61  | .59  | .57 | .56 | .53 | .51 | .50 | .48 | .46 | .45 | .43 | .42 | .41 | .40 | .40 | .40 |
|      | 960  | 949  | 938  | 925  | 911  | 895  | 878  | 859  | 839  | 817  | 794 | 771 | 742 | 718 | 695 | 672 | 650 | 629 | 611 | 595 | 582 | 571 | 564 | 560 |
| 30   | .75  | .74  | .73  | .72  | .70  | .69  | .67  | .66  | .64  | .62  | .61 | .59 | .56 | .55 | .53 | .51 | .49 | .48 | .47 | .45 | .44 | .44 | .43 | .43 |
|      | 1007 | 997  | 985  | 972  | 958  | 941  | 924  | 904  | 884  | 862  | 839 | 815 | 786 | 762 | 739 | 716 | 694 | 674 | 656 | 640 | 627 | 617 | 611 | 607 |
| 45   | .78  | .77  | .76  | .75  | .73  | .72  | .70  | .69  | .67  | .65  | .63 | .62 | .59 | .57 | .56 | .54 | .52 | .51 | .49 | .48 | .47 | .47 | .46 | .46 |
|      | 1051 | 1041 | 1029 | 1015 | 1000 | 984  | 965  | 946  | 925  | 903  | 879 | 855 | 826 | 802 | 778 | 755 | 734 | 714 | 696 | 681 | 669 | 660 | 654 | 651 |
| 1000 | .81  | .80  | .79  | .78  | .76  | .75  | .73  | .72  | .70  | .68  | .66 | .64 | .62 | .60 | .58 | .56 | .55 | .53 | .52 | .51 | .50 | .49 | .49 | .49 |
|      | 1091 | 1080 | 1068 | 1054 | 1038 | 1021 | 1003 | 983  | 961  | 939  | 915 | 891 | 862 | 838 | 814 | 791 | 770 | 750 | 733 | 713 | 707 | 698 | 693 | 691 |
| 15   | .84  | .83  | .81  | .80  | .79  | .77  | .76  | .74  | .72  | .70  | .68 | .66 | .64 | .62 | .60 | .59 | .57 | .56 | .54 | .53 | .52 | .52 | .51 | .51 |
|      | 1126 | 1115 | 1102 | 1088 | 1072 | 1055 | 1036 | 1015 | 993  | 970  | 947 | 922 | 893 | 869 | 845 | 822 | 801 | 782 | 765 | 751 | 740 | 732 | 727 | 726 |
| 30   | .86  | .85  | .84  | .82  | .81  | .79  | .78  | .76  | .74  | .72  | .70 | .68 | .66 | .64 | .62 | .61 | .59 | .58 | .56 | .55 | .54 | .54 | .54 | .54 |
|      | 1157 | 1146 | 1132 | 1118 | 1101 | 1083 | 1064 | 1043 | 1021 | 997  | 973 | 949 | 919 | 895 | 872 | 849 | 828 | 810 | 793 | 780 | 769 | 762 | 758 | 757 |
| 45   | .88  | .87  | .85  | .84  | .83  | .81  | .79  | .78  | .76  | .74  | .72 | .70 | .68 | .66 | .64 | .62 | .61 | .59 | .58 | .57 | .56 | .56 | .55 | .55 |
|      | 1183 | 1171 | 1158 | 1143 | 1126 | 1107 | 1087 | 1066 | 1043 | 1020 | 995 | 971 | 941 | 917 | 893 | 871 | 851 | 833 | 817 | 804 | 794 | 787 | 784 | 784 |

SEP-DEC 30 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 \*091\*080\*068\*054\*038\*021      XO (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE                     |    |     |    |     |    |                          | NOV |    |     |    |     |    |                         | DEC |     |    |     |    |     |                         |
|------|--------------------------|----|-----|----|-----|----|--------------------------|-----|----|-----|----|-----|----|-------------------------|-----|-----|----|-----|----|-----|-------------------------|
|      | SEP                      |    | OCT |    | NOV |    |                          | DEC |    | NOV |    | DEC |    | NOV                     |     | DEC |    | NOV |    | DEC |                         |
|      | 5                        | 10 | 15  | 20 | 25  | 30 |                          | 5   | 10 | 15  | 20 | 25  | 30 |                         | 5   | 10  | 15 | 20  | 25 | 30  |                         |
| 1100 | .89 .88 .87 .86 .84 .82  |    |     |    |     |    | .81 .79 .77 .75 .73 .71  |     |    |     |    |     |    | .61 .67 .65 .63 .62 .60 |     |     |    |     |    |     | .59 .58 .57 .57 .57     |
|      | *205*193*179*163*145*126 |    |     |    |     |    | *106*084*061*037*013 988 |     |    |     |    |     |    | 958 934 911 889 869 851 |     |     |    |     |    |     | 835 823 814 808 805 806 |
| 15   | .91 .89 .88 .87 .85 .83  |    |     |    |     |    | .82 .80 .78 .76 .74 .72  |     |    |     |    |     |    | .70 .68 .66 .64 .63 .61 |     |     |    |     |    |     | .60 .59 .58 .58 .58     |
|      | *222*209*194*178*160*141 |    |     |    |     |    | *120*097*074*050*025*000 |     |    |     |    |     |    | 970 946 923 901 882 864 |     |     |    |     |    |     | 849 833 823 824 822 824 |
| 30   | .92 .90 .89 .87 .86 .84  |    |     |    |     |    | .82 .80 .78 .76 .74 .72  |     |    |     |    |     |    | .70 .68 .66 .65 .63 .62 |     |     |    |     |    |     | .61 .60 .59 .59 .59 .59 |
|      | *234*220*205*188*170*150 |    |     |    |     |    | *128*105*082*057*032*007 |     |    |     |    |     |    | 977 953 930 909 890 873 |     |     |    |     |    |     | 859 847 839 835 834 836 |
| 45   | .92 .91 .89 .88 .86 .84  |    |     |    |     |    | .83 .81 .79 .77 .75 .73  |     |    |     |    |     |    | .70 .68 .67 .65 .64 .62 |     |     |    |     |    |     | .61 .60 .60 .60 .59 .60 |
|      | *241*227*211*194*174*154 |    |     |    |     |    | *132*108*084*059*034*009 |     |    |     |    |     |    | 979 955 933 912 893 877 |     |     |    |     |    |     | 863 852 845 841 841 844 |
| 1200 | .92 .91 .89 .88 .86 .84  |    |     |    |     |    | .82 .81 .78 .76 .74 .72  |     |    |     |    |     |    | .70 .68 .66 .65 .63 .62 |     |     |    |     |    |     | .61 .60 .60 .60 .60 .60 |
|      | *243*228*212*194*174*153 |    |     |    |     |    | *130*106*082*057*031*006 |     |    |     |    |     |    | 976 953 930 910 891 876 |     |     |    |     |    |     | 863 853 846 843 843 847 |
| 15   | .92 .91 .89 .88 .86 .84  |    |     |    |     |    | .82 .80 .78 .76 .74 .72  |     |    |     |    |     |    | .69 .68 .66 .64 .63 .62 |     |     |    |     |    |     | .61 .60 .60 .59 .59 .60 |
|      | *240*225*208*189*169*147 |    |     |    |     |    | *124*099*074*049*023 958 |     |    |     |    |     |    | 963 945 923 903 885 870 |     |     |    |     |    |     | 857 843 842 840 841 846 |
| 30   | .91 .90 .88 .87 .85 .83  |    |     |    |     |    | .81 .79 .77 .75 .73 .71  |     |    |     |    |     |    | .69 .67 .65 .64 .62 .61 |     |     |    |     |    |     | .60 .59 .59 .59 .59 .59 |
|      | *232*216*198*179*158*136 |    |     |    |     |    | *112*087*062*036*010 925 |     |    |     |    |     |    | 956 932 911 891 874 859 |     |     |    |     |    |     | 847 834 834 832 834 839 |
| 45   | .90 .89 .87 .86 .84 .82  |    |     |    |     |    | .80 .78 .76 .74 .72 .70  |     |    |     |    |     |    | .67 .66 .64 .62 .61 .60 |     |     |    |     |    |     | .59 .58 .58 .58 .58 .59 |
|      | *219*203*184*164*143*120 |    |     |    |     |    | *095*070*044*018 993 967 |     |    |     |    |     |    | 934 915 894 874 858 843 |     |     |    |     |    |     | 832 825 820 819 822 828 |
| 1300 | .89 .88 .86 .84 .82 .80  |    |     |    |     |    | .78 .76 .74 .72 .70 .68  |     |    |     |    |     |    | .66 .64 .62 .61 .60 .59 |     |     |    |     |    |     | .58 .57 .57 .57 .57 .57 |
|      | *202*184*165*145*122*099 |    |     |    |     |    | *074*048*022 995 970 944 |     |    |     |    |     |    | 915 893 872 853 837 823 |     |     |    |     |    |     | 813 805 802 802 805 812 |
| 15   | .87 .86 .84 .82 .81 .79  |    |     |    |     |    | .76 .74 .72 .70 .68 .66  |     |    |     |    |     |    | .64 .62 .60 .59 .58 .57 |     |     |    |     |    |     | .56 .55 .55 .55 .55 .56 |
|      | *179*161*141*120*097*073 |    |     |    |     |    | *047*021 995 969 942 917 |     |    |     |    |     |    | 883 868 845 827 811 798 |     |     |    |     |    |     | 789 782 773 780 784 791 |
| 30   | .85 .84 .82 .80 .78 .76  |    |     |    |     |    | .74 .72 .70 .68 .66 .64  |     |    |     |    |     |    | .61 .60 .58 .57 .56 .55 |     |     |    |     |    |     | .54 .53 .53 .53 .54 .54 |
|      | *152*133*113*091*067*042 |    |     |    |     |    | *016 990 963 937 910 885 |     |    |     |    |     |    | 856 834 814 796 781 769 |     |     |    |     |    |     | 760 751 752 753 758 766 |
| 45   | .83 .81 .80 .78 .76 .74  |    |     |    |     |    | .72 .69 .67 .65 .63 .61  |     |    |     |    |     |    | .59 .57 .56 .54 .53 .52 |     |     |    |     |    |     | .52 .51 .51 .51 .51 .52 |
|      | *120*101*080*057*033*007 |    |     |    |     |    | 981 954 927 900 874 849  |     |    |     |    |     |    | 820 798 776 761 747 735 |     |     |    |     |    |     | 727 722 720 722 728 736 |

SEP-DEC 30 N TABLE B-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
X0 (W/7\*2.) ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP              |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |     |
|------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5                | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |     |     |
| 1400 | .80              | .79 | .77 | .75 | .73 | .71 | .69 | .66 | .64 | .62 | .60 | .58 | .56 | .54 | .53 | .51 | .50 | .50 | .49 | .49 | .48 | .49 | .49 | .50 |     |     |
|      | .084*064*042*019 |     |     |     |     | 994 | 968 | 941 | 913 | 886 | 859 | 833 | 808 | 779 | 753 | 739 | 722 | 708 | 697 | 689 | 685 | 684 | 687 | 693 | 702 |     |
| 15   | .77              | .76 | .74 | .72 | .70 | .68 | .65 | .63 | .61 | .59 | .57 | .55 | .53 | .51 | .50 | .48 | .47 | .47 | .46 | .45 | .45 | .46 | .46 | .47 |     |     |
|      | .044*023*000     |     |     |     |     | 976 | 950 | 924 | 896 | 869 | 841 | 814 | 788 | 763 | 735 | 714 | 695 | 679 | 665 | 655 | 648 | 644 | 644 | 647 | 654 | 664 |
| 30   | .74              | .72 | .70 | .68 | .66 | .64 | .62 | .60 | .57 | .55 | .53 | .51 | .49 | .48 | .46 | .45 | .44 | .43 | .43 | .43 | .43 | .43 | .43 | .44 |     |     |
|      | 999              | 978 | 954 | 929 | 903 | 876 | 848 | 820 | 792 | 765 | 739 | 714 | 685 | 655 | 647 | 631 | 619 | 609 | 603 | 603 | 600 | 600 | 604 | 611 | 622 |     |
| 45   | .71              | .69 | .67 | .65 | .63 | .60 | .58 | .56 | .54 | .52 | .50 | .48 | .45 | .44 | .43 | .41 | .40 | .40 | .39 | .39 | .39 | .39 | .40 | .41 |     |     |
|      | 951              | 928 | 904 | 879 | 852 | 824 | 796 | 768 | 739 | 712 | 686 | 661 | 634 | 613 | 595 | 580 | 568 | 559 | 553 | 551 | 552 | 557 | 565 | 576 |     |     |
| 1500 | .67              | .65 | .63 | .61 | .58 | .56 | .54 | .52 | .50 | .47 | .45 | .44 | .41 | .40 | .39 | .38 | .37 | .36 | .36 | .35 | .35 | .36 | .36 | .37 |     |     |
|      | 899              | 875 | 851 | 824 | 797 | 769 | 740 | 711 | 683 | 656 | 629 | 605 | 578 | 558 | 540 | 526 | 514 | 506 | 501 | 499 | 501 | 506 | 514 | 526 |     |     |
| 15   | .63              | .61 | .59 | .56 | .54 | .52 | .50 | .47 | .45 | .43 | .41 | .39 | .37 | .36 | .34 | .33 | .32 | .32 | .32 | .31 | .32 | .32 | .33 | .33 |     |     |
|      | 843              | 819 | 793 | 767 | 738 | 710 | 681 | 652 | 623 | 596 | 570 | 545 | 519 | 499 | 482 | 468 | 457 | 449 | 445 | 444 | 446 | 452 | 461 | 472 |     |     |
| 30   | .58              | .56 | .54 | .52 | .50 | .47 | .45 | .43 | .41 | .39 | .37 | .35 | .33 | .31 | .30 | .29 | .28 | .28 | .27 | .27 | .28 | .28 | .29 | .29 |     |     |
|      | 784              | 759 | 733 | 706 | 677 | 648 | 618 | 589 | 561 | 533 | 507 | 483 | 455 | 437 | 421 | 407 | 397 | 390 | 386 | 385 | 388 | 394 | 404 | 416 |     |     |
| 45   | .54              | .52 | .49 | .47 | .45 | .43 | .40 | .38 | .36 | .34 | .32 | .30 | .28 | .27 | .26 | .25 | .24 | .23 | .23 | .23 | .23 | .24 | .24 | .25 |     |     |
|      | 722              | 697 | 670 | 642 | 612 | 583 | 553 | 524 | 495 | 467 | 442 | 417 | 392 | 373 | 357 | 344 | 334 | 328 | 324 | 324 | 328 | 334 | 344 | 356 |     |     |
| 1600 | .49              | .47 | .45 | .42 | .40 | .38 | .35 | .33 | .31 | .29 | .27 | .25 | .23 | .22 | .21 | .20 | .19 | .19 | .18 | .19 | .19 | .20 | .21 | .21 |     |     |
|      | 658              | 631 | 604 | 575 | 545 | 515 | 485 | 456 | 427 | 399 | 373 | 350 | 324 | 306 | 290 | 278 | 269 | 263 | 260 | 261 | 264 | 271 | 281 | 294 |     |     |
| 15   | .44              | .42 | .40 | .37 | .35 | .33 | .30 | .28 | .26 | .24 | .22 | .20 | .18 | .17 | .16 | .15 | .14 | .14 | .14 | .14 | .14 | .15 | .15 | .16 |     |     |
|      | 591              | 564 | 535 | 506 | 476 | 445 | 415 | 385 | 356 | 329 | 303 | 280 | 255 | 237 | 222 | 210 | 201 | 196 | 193 | 195 | 199 | 206 | 217 | 230 |     |     |
| 30   | .39              | .37 | .34 | .32 | .30 | .27 | .25 | .23 | .21 | .19 | .17 | .15 | .13 | .12 | .11 | .10 | .09 | .09 | .09 | .09 | .09 | .10 | .11 | .12 |     |     |
|      | 521              | 494 | 465 | 435 | 404 | 374 | 343 | 313 | 284 | 257 | 231 | 208 | 183 | 166 | 151 | 140 | 132 | 127 | 125 | 126 | 131 | 139 | 150 | 163 |     |     |
| 45   | .33              | .31 | .29 | .27 | .24 | .22 | .20 | .17 | .15 | .13 | .11 | .10 | .08 | .07 | .06 | .05 | .04 | .04 | .04 | .04 | .04 | .05 | .06 | .07 |     |     |
|      | 450              | 422 | 393 | 362 | 331 | 300 | 269 | 239 | 210 | 183 | 157 | 134 | 110 | 093 | 079 | 068 | 060 | 056 | 055 | 057 | 062 | 070 | 081 | 094 |     |     |

\*\*\* SIGNIFICES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY +

TABLE B-1 SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

SEP-DEC 30 N

\*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY +

TABLE B-1 SOLAR PARAMETERS COS Z  
 X0 (W/M=2.)

SEP-DEC 30 N

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 1700 | .28 | .26 | .24 | .21 | .19 | .16 | .14 | .12 | .10 | .08 | .06 | .04 | .03 | .01 | .00 | .00 | .00 | .01 | .02 |     |
|      | 377 | 349 | 319 | 288 | 256 | 225 | 194 | 164 | 135 | 108 | 082 | 060 | 030 | 019 | 006 | 000 | 000 | 000 | 010 | 024 |
| 15   | .23 | .20 | .18 | .16 | .13 | .11 | .09 | .06 | .04 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 304 | 274 | 244 | 212 | 180 | 149 | 118 | 087 | 058 | 031 | 005 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 30   | .17 | .15 | .12 | .10 | .08 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 229 | 199 | 168 | 136 | 104 | 072 | 041 | 010 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 45   | .11 | .09 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 153 | 123 | 091 | 059 | 027 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 1800 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 077 | 046 | 015 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 002 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

COS Z  
X0 (W/M\*\*2.)

SOLAR PARAMETERS

TABLE B-1

30 N

SEP-DEC



| MST  | JAN |     |     |     |     |     | FEB |     |     |     |     |      | MAR  |      |      |      |      |      | APR  |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |
| 0800 | .21 | .21 | .21 | .21 | .22 | .22 | .23 | .25 | .26 | .28 | .30 | .31  | .35  | .37  | .39  | .41  | .43  | .45  | .48  | .50  | .51  | .53  | .54  | .55  |
|      | 300 | 297 | 297 | 301 | 307 | 317 | 330 | 349 | 368 | 389 | 413 | 438  | 481  | 510  | 538  | 566  | 594  | 621  | 652  | 675  | 697  | 716  | 733  | 748  |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 15   | .26 | .26 | .26 | .26 | .27 | .27 | .28 | .30 | .31 | .33 | .35 | .36  | .40  | .42  | .44  | .46  | .48  | .50  | .53  | .54  | .55  | .58  | .59  | .60  |
|      | 364 | 362 | 363 | 367 | 374 | 384 | 398 | 417 | 437 | 459 | 482 | 508  | 551  | 579  | 608  | 636  | 663  | 689  | 719  | 742  | 763  | 781  | 798  | 812  |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 30   | .30 | .30 | .30 | .30 | .31 | .32 | .33 | .34 | .36 | .38 | .39 | .41  | .45  | .47  | .49  | .51  | .53  | .55  | .57  | .59  | .61  | .62  | .64  | .65  |
|      | 426 | 425 | 426 | 430 | 438 | 449 | 463 | 484 | 503 | 526 | 550 | 575  | 619  | 647  | 674  | 702  | 729  | 755  | 784  | 805  | 826  | 844  | 859  | 872  |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 45   | .34 | .34 | .34 | .35 | .35 | .36 | .37 | .39 | .40 | .42 | .44 | .46  | .49  | .51  | .53  | .55  | .58  | .60  | .62  | .64  | .65  | .67  | .68  | .69  |
|      | 485 | 484 | 486 | 491 | 500 | 511 | 526 | 547 | 567 | 590 | 614 | 640  | 683  | 711  | 738  | 765  | 792  | 817  | 845  | 865  | 885  | 903  | 918  | 930  |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 0900 | .38 | .38 | .38 | .39 | .40 | .40 | .42 | .43 | .45 | .46 | .48 | .50  | .54  | .56  | .58  | .60  | .62  | .64  | .66  | .68  | .69  | .71  | .72  | .73  |
|      | 541 | 540 | 543 | 549 | 558 | 570 | 585 | 607 | 628 | 651 | 675 | 701  | 744  | 772  | 799  | 826  | 851  | 876  | 903  | 924  | 942  | 959  | 973  | 984  |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 15   | .42 | .42 | .42 | .43 | .43 | .44 | .46 | .47 | .49 | .51 | .52 | .54  | .56  | .60  | .62  | .64  | .66  | .68  | .70  | .72  | .73  | .75  | .76  | .77  |
|      | 593 | 593 | 596 | 603 | 613 | 626 | 641 | 664 | 685 | 708 | 733 | 759  | 802  | 829  | 856  | 882  | 907  | 931  | 958  | 977  | 995  | 1011 | 1024 | 1035 |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 30   | .45 | .45 | .46 | .46 | .47 | .48 | .49 | .51 | .53 | .54 | .56 | .58  | .62  | .64  | .66  | .68  | .70  | .72  | .74  | .75  | .77  | .78  | .79  | .80  |
|      | 641 | 642 | 646 | 654 | 664 | 678 | 694 | 717 | 738 | 762 | 787 | 813  | 856  | 883  | 909  | 935  | 959  | 983  | 1008 | 1027 | 1044 | 1059 | 1072 | 1083 |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 45   | .49 | .49 | .49 | .50 | .50 | .51 | .53 | .54 | .56 | .58 | .60 | .62  | .65  | .67  | .69  | .71  | .73  | .75  | .77  | .79  | .80  | .81  | .83  | .83  |
|      | 686 | 687 | 692 | 700 | 711 | 726 | 743 | 766 | 788 | 812 | 837 | 863  | 905  | 932  | 958  | 984  | 1008 | 1030 | 1055 | 1073 | 1090 | 1104 | 1116 | 1126 |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1000 | .51 | .52 | .52 | .53 | .53 | .55 | .56 | .58 | .59 | .61 | .63 | .65  | .66  | .70  | .73  | .74  | .76  | .78  | .80  | .82  | .83  | .84  | .85  | .86  |
|      | 727 | 729 | 734 | 743 | 755 | 770 | 787 | 811 | 834 | 858 | 883 | 909  | 951  | 978  | 1003 | 1028 | 1051 | 1073 | 1097 | 1115 | 1131 | 1144 | 1155 | 1165 |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 15   | .54 | .54 | .55 | .55 | .56 | .57 | .59 | .61 | .62 | .64 | .66 | .68  | .71  | .73  | .75  | .77  | .79  | .81  | .83  | .85  | .86  | .87  | .88  | .89  |
|      | 763 | 766 | 772 | 782 | 794 | 810 | 828 | 852 | 875 | 899 | 924 | 950  | 993  | 1018 | 1044 | 1068 | 1091 | 1112 | 1135 | 1152 | 1167 | 1180 | 1191 | 1199 |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 30   | .56 | .56 | .57 | .58 | .59 | .60 | .61 | .63 | .65 | .67 | .69 | .71  | .74  | .76  | .78  | .80  | .82  | .84  | .85  | .87  | .88  | .89  | .90  | .91  |
|      | 795 | 798 | 805 | 816 | 829 | 845 | 864 | 889 | 912 | 936 | 962 | 987  | 1029 | 1055 | 1080 | 1103 | 1126 | 1146 | 1169 | 1185 | 1199 | 1211 | 1222 | 1230 |
|      |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 45   | .58 | .58 | .59 | .60 | .61 | .62 | .64 | .65 | .67 | .69 | .71 | .73  | .76  | .78  | .80  | .82  | .84  | .86  | .88  | .89  | .90  | .91  | .92  | .93  |
|      | 823 | 827 | 834 | 845 | 859 | 876 | 895 | 921 | 944 | 969 | 994 | 1020 | 1061 | 1087 | 1111 | 1134 | 1156 | 1176 | 1197 | 1213 | 1227 | 1238 | 1248 | 1255 |

JAN-APR 28 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*



| MST  | JAN  |     |     |     |     | FEB |     |      |      |      | MAR  |      |      |      |      | APR  |      |      |      |      |      |      |      |      |
|------|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |
| 1100 | .60  | .60 | .61 | .62 | .63 | .64 | .65 | .67  | .69  | .71  | .73  | .75  | .78  | .80  | .82  | .84  | .86  | .87  | .89  | .91  | .92  | .93  | .94  | .95  |
|      | 846  | 850 | 859 | 870 | 885 | 902 | 922 | 948  | 971  | 996  | 022  | 047  | *085 | *113 | *137 | *160 | *181 | *200 | *221 | *235 | *249 | *260 | *269 | *276 |
|      | 15   | .61 | .61 | .62 | .63 | .64 | .65 | .67  | .69  | .71  | .73  | .75  | .77  | .80  | .82  | .84  | .86  | .87  | .89  | .91  | .92  | .93  | .94  | .95  |
| 1200 | 864  | 869 | 878 | 890 | 906 | 923 | 944 | 970  | 994  | 019  | 044  | 070  | *111 | *135 | *159 | *181 | *201 | *220 | *240 | *251 | *267 | *277 | *286 | *293 |
|      | 30   | .62 | .62 | .63 | .64 | .65 | .67 | .68  | .70  | .72  | .74  | .76  | .78  | .81  | .83  | .85  | .87  | .88  | .90  | .92  | .93  | .94  | .95  | .96  |
|      | 877  | 883 | 893 | 906 | 922 | 940 | 961 | 988  | 012  | 037  | 062  | 088  | *128 | *152 | *175 | *196 | *216 | *234 | *254 | *263 | *279 | *289 | *298 | *304 |
| 1300 | 45   | .63 | .63 | .64 | .65 | .66 | .67 | .69  | .71  | .73  | .75  | .77  | .79  | .82  | .84  | .86  | .87  | .89  | .91  | .92  | .94  | .95  | .96  | .97  |
|      | 886  | 892 | 903 | 916 | 933 | 952 | 973 | *000 | *024 | *049 | *075 | *100 | *140 | *163 | *186 | *207 | *226 | *244 | *262 | *276 | *287 | *297 | *304 | *310 |
|      | 1200 | .63 | .63 | .64 | .65 | .66 | .68 | .69  | .72  | .73  | .75  | .77  | .79  | .82  | .84  | .86  | .88  | .89  | .91  | .93  | .94  | .95  | .96  | .97  |
| 1400 | 889  | 896 | 907 | 922 | 939 | 958 | 979 | *007 | *032 | *057 | *082 | *107 | *147 | *170 | *192 | *212 | *231 | *248 | *266 | *279 | *290 | *299 | *306 | *312 |
|      | 15   | .63 | .63 | .64 | .65 | .67 | .68 | .70  | .72  | .74  | .76  | .77  | .79  | .83  | .84  | .86  | .88  | .89  | .91  | .92  | .91  | .95  | .96  | .97  |
|      | 888  | 895 | 907 | 922 | 940 | 960 | 981 | *009 | *034 | *059 | *084 | *109 | *148 | *171 | *193 | *213 | *231 | *247 | *264 | *277 | *287 | *296 | *303 | *308 |
| 1500 | 30   | .62 | .63 | .64 | .65 | .66 | .68 | .69  | .72  | .73  | .75  | .77  | .79  | .82  | .84  | .86  | .88  | .89  | .90  | .92  | .93  | .94  | .95  | .96  |
|      | 882  | 890 | 902 | 918 | 936 | 956 | 978 | *006 | *031 | *056 | *081 | *106 | *145 | *167 | *188 | *207 | *225 | *241 | *258 | *270 | *280 | *288 | *295 | *300 |
|      | 45   | .62 | .62 | .63 | .64 | .66 | .67 | .69  | .71  | .73  | .75  | .77  | .79  | .82  | .83  | .85  | .87  | .88  | .90  | .91  | .92  | .93  | .94  | .95  |
| 1600 | 871  | 879 | 892 | 908 | 927 | 948 | 970 | 998  | 023  | 048  | 073  | 098  | *136 | *158 | *178 | *197 | *214 | *230 | *246 | *257 | *267 | *275 | *282 | *287 |
|      | 1300 | .60 | .61 | .62 | .63 | .65 | .66 | .68  | .70  | .72  | .74  | .76  | .78  | .81  | .82  | .84  | .86  | .87  | .88  | .90  | .91  | .92  | .93  | .94  |
|      | 855  | 864 | 877 | 894 | 913 | 934 | 957 | 985  | 010  | 035  | 060  | 084  | *122 | *143 | *163 | *182 | *199 | *213 | *229 | *240 | *249 | *257 | *264 | *269 |
| 1700 | 15   | .59 | .60 | .61 | .62 | .63 | .65 | .67  | .69  | .71  | .73  | .74  | .76  | .78  | .81  | .83  | .84  | .86  | .87  | .88  | .89  | .90  | .91  | .92  |
|      | 834  | 843 | 858 | 875 | 894 | 915 | 938 | 967  | 992  | 017  | 042  | 066  | *102 | *124 | *143 | *161 | *178 | *192 | *207 | *218 | *227 | *234 | *241 | *246 |
|      | 30   | .57 | .58 | .59 | .60 | .62 | .63 | .65  | .57  | .69  | .71  | .73  | .75  | .78  | .79  | .81  | .82  | .84  | .85  | .86  | .87  | .88  | .89  | .90  |
| 1800 | 808  | 818 | 833 | 851 | 871 | 892 | 915 | 944  | 969  | 994  | 018  | 042  | *078 | *099 | *118 | *136 | *152 | *166 | *180 | *191 | *200 | *207 | *213 | *218 |
|      | 45   | .55 | .56 | .57 | .58 | .60 | .61 | .63  | .65  | .67  | .69  | .71  | .73  | .75  | .77  | .79  | .80  | .81  | .83  | .84  | .85  | .86  | .87  | .88  |
|      | 778  | 789 | 804 | 822 | 842 | 864 | 887 | 916  | 941  | 966  | 990  | 014  | *049 | *070 | *088 | *105 | *121 | *135 | *149 | *153 | *159 | *175 | *181 | *186 |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY -

SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

TABLE 8-1

28 N

JAN-APR

| MST  | JAN |     |     |     |     |     |     | FEB |     |     |     |     |      |      | MAR  |      |      |      |      |      |      | APR  |      |      |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30  |     |     |     |     |     |
| 1400 | .53 | .53 | .54 | .56 | .57 | .59 | .61 | .63 | .65 | .67 | .68 | .70 | .73  | .75  | .76  | .78  | .79  | .80  | .81  | .82  | .83  | .84  | .85  | .85  | .81 | .82 | .83 | .84 | .85 | .85 |
|      | 744 | 755 | 770 | 789 | 809 | 831 | 855 | 884 | 908 | 933 | 957 | 980 | *015 | *035 | *054 | *070 | *085 | *099 | *113 | *123 | *131 | *138 | *145 | *150 |     |     |     |     |     |     |
| 15   | .50 | .51 | .52 | .53 | .55 | .56 | .58 | .60 | .62 | .64 | .66 | .67 | .70  | .72  | .73  | .75  | .76  | .77  | .78  | .79  | .80  | .81  | .82  | .82  | .78 | .79 | .80 | .81 | .82 | .82 |
|      | 705 | 716 | 733 | 751 | 772 | 794 | 818 | 847 | 871 | 895 | 919 | 942 | 977  | 996  | *014 | *031 | *045 | *058 | *072 | *082 | *090 | *097 | *104 | *109 |     |     |     |     |     |     |
| 30   | .47 | .48 | .49 | .50 | .52 | .53 | .55 | .57 | .59 | .61 | .63 | .64 | .67  | .69  | .70  | .71  | .73  | .74  | .75  | .75  | .77  | .78  | .78  | .79  | .75 | .75 | .77 | .78 | .78 | .79 |
|      | 662 | 674 | 690 | 709 | 730 | 753 | 776 | 805 | 829 | 854 | 877 | 900 | 934  | 953  | 970  | 986  | *001 | *014 | *027 | *037 | *045 | *052 | *059 | *065 |     |     |     |     |     |     |
| 45   | .44 | .44 | .46 | .47 | .48 | .50 | .52 | .54 | .56 | .58 | .59 | .61 | .64  | .65  | .67  | .68  | .69  | .70  | .72  | .72  | .73  | .74  | .75  | .75  | .72 | .72 | .73 | .74 | .75 | .75 |
|      | 615 | 627 | 644 | 663 | 684 | 707 | 730 | 759 | 783 | 807 | 831 | 853 | 886  | 905  | 922  | 938  | 952  | 965  | 978  | 987  | 996  | *003 | *010 | *016 |     |     |     |     |     |     |
| 1500 | .40 | .41 | .42 | .43 | .45 | .47 | .48 | .50 | .52 | .54 | .56 | .57 | .60  | .62  | .63  | .64  | .65  | .66  | .68  | .69  | .69  | .70  | .71  | .71  | .68 | .69 | .69 | .70 | .71 | .71 |
|      | 565 | 577 | 594 | 614 | 635 | 657 | 681 | 709 | 733 | 757 | 780 | 802 | 835  | 853  | 870  | 886  | 899  | 912  | 925  | 934  | 943  | 950  | 957  | 964  |     |     |     |     |     |     |
| 15   | .36 | .37 | .38 | .40 | .41 | .43 | .45 | .47 | .48 | .50 | .52 | .54 | .56  | .57  | .59  | .60  | .61  | .62  | .63  | .64  | .65  | .66  | .67  | .67  | .63 | .64 | .65 | .66 | .67 | .67 |
|      | 510 | 523 | 540 | 560 | 581 | 604 | 627 | 656 | 680 | 703 | 726 | 747 | 779  | 797  | 814  | 829  | 843  | 855  | 868  | 873  | 885  | 894  | 901  | 908  |     |     |     |     |     |     |
| 30   | .32 | .33 | .34 | .36 | .37 | .39 | .40 | .43 | .44 | .46 | .48 | .49 | .52  | .53  | .55  | .56  | .57  | .58  | .59  | .60  | .61  | .62  | .63  | .63  | .59 | .60 | .61 | .62 | .62 | .63 |
|      | 453 | 466 | 483 | 503 | 524 | 547 | 570 | 598 | 622 | 645 | 667 | 689 | 720  | 738  | 754  | 769  | 783  | 795  | 808  | 813  | 826  | 834  | 842  | 849  |     |     |     |     |     |     |
| 45   | .28 | .29 | .30 | .31 | .33 | .35 | .36 | .38 | .40 | .42 | .43 | .45 | .47  | .49  | .50  | .51  | .52  | .53  | .54  | .55  | .56  | .57  | .58  | .58  | .54 | .55 | .56 | .57 | .58 | .58 |
|      | 392 | 405 | 423 | 443 | 464 | 487 | 510 | 538 | 561 | 584 | 606 | 627 | 658  | 675  | 691  | 706  | 719  | 732  | 745  | 754  | 763  | 772  | 780  | 787  |     |     |     |     |     |     |
| 1600 | .23 | .24 | .25 | .27 | .28 | .30 | .32 | .34 | .35 | .37 | .39 | .40 | .43  | .44  | .45  | .46  | .47  | .49  | .50  | .50  | .51  | .52  | .53  | .54  | .50 | .50 | .51 | .52 | .53 | .54 |
|      | 329 | 342 | 360 | 380 | 401 | 423 | 446 | 474 | 497 | 520 | 541 | 562 | 592  | 610  | 625  | 640  | 653  | 665  | 678  | 683  | 698  | 706  | 714  | 722  |     |     |     |     |     |     |
| 15   | .19 | .20 | .21 | .22 | .24 | .25 | .27 | .29 | .31 | .32 | .34 | .35 | .38  | .39  | .40  | .41  | .42  | .43  | .45  | .45  | .46  | .47  | .48  | .49  | .45 | .45 | .46 | .47 | .48 | .49 |
|      | 263 | 276 | 294 | 314 | 335 | 357 | 380 | 408 | 430 | 452 | 474 | 494 | 524  | 541  | 557  | 571  | 584  | 596  | 609  | 620  | 629  | 638  | 647  | 655  |     |     |     |     |     |     |
| 30   | .14 | .15 | .16 | .17 | .19 | .21 | .22 | .24 | .26 | .27 | .29 | .30 | .33  | .34  | .35  | .36  | .37  | .38  | .39  | .40  | .41  | .42  | .43  | .43  | .39 | .40 | .41 | .42 | .43 | .43 |
|      | 195 | 208 | 226 | 246 | 267 | 289 | 311 | 338 | 361 | 383 | 403 | 423 | 453  | 470  | 485  | 499  | 513  | 525  | 538  | 543  | 559  | 568  | 577  | 586  |     |     |     |     |     |     |
| 45   | .09 | .10 | .11 | .12 | .14 | .16 | .17 | .19 | .21 | .22 | .24 | .25 | .27  | .29  | .30  | .31  | .32  | .33  | .34  | .35  | .36  | .37  | .37  | .38  | .34 | .35 | .36 | .37 | .37 | .38 |
|      | 125 | 138 | 156 | 176 | 197 | 218 | 241 | 267 | 289 | 310 | 331 | 351 | 380  | 396  | 412  | 426  | 439  | 451  | 465  | 475  | 486  | 496  | 506  | 515  |     |     |     |     |     |     |

JAN-APR 28 N      TABLE B-1      SOLAR PARAMETERS      COS 2      \*\* SIGNIFIES' COS 2 = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |
| 1700 | .04 | .05 | .06 | .07 | .09 | .10 | .12 | .14 | .15 | .17 | .18 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .29 | .29 | .30 | .31 | .32 | .33 |
| 054  | 067 | 085 | 104 | 125 | 146 | 168 |     | 194 | 215 | 236 | 257 | 276 | 305 | 321 | 336 | 350 | 364 | 376 | 390 | 401 | 412 | 422 | 433 | 443 |
| 15   | .00 | .00 | .01 | .02 | .04 | .05 | .07 | .09 | .10 | .12 | .13 | .14 | .16 | .18 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .27 |
| 000  | 000 | 000 | 011 | 031 | 051 | 072 | 093 | 119 | 140 | 161 | 181 | 200 | 228 | 244 | 259 | 273 | 287 | 299 | 314 | 325 | 336 | 347 | 358 | 369 |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .05 | .06 | .07 | .09 | .11 | .12 | .13 | .14 | .15 | .16 | .17 | .18 | .19 | .20 | .21 | .22 |
| 000  | 000 | 000 | 000 | 000 | 000 | 000 | 018 | 043 | 064 | 084 | 103 | 122 | 150 | 166 | 181 | 195 | 209 | 221 | 236 | 243 | 260 | 271 | 283 | 294 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .03 | .05 | .06 | .07 | .08 | .09 | .10 | .12 | .13 | .13 | .14 | .15 | .16 |
| 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 006 | 025 | 043 | 071 | 087 | 102 | 116 | 130 | 143 | 158 | 170 | 183 | 195 | 207 | 219 |
| 1800 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | .10 | .11 |
| 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 007 | 022 | 036 | 050 | 064 | 079 | 092 | 105 | 118 | 131 | 144 |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .04 | .05 |
| 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 001 | 011 | 028 | 041 | 055 | 068 |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

JAN-APR 28 N TABLE B-1 SOLAR PARAMETERPS COS Z  
 Y0 (W/M\*2.) \*\*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*



MST

DATE

MAY

JUN

JUL

AUG

5 10 15 20 25 30  
 0000 .57 .57 .58 .59 .59 .59  
 760 770 778 783 787 788  
 15 .61 .62 .63 .63 .64 .64  
 823 832 839 844 847 849  
 30 .66 .66 .67 .68 .68 .68  
 883 892 898 903 905 906  
 45 .70 .71 .71 .72 .72 .72  
 940 948 954 958 960 961

0000 .74 .75 .75 .76 .76 .76  
 994 001 007 010 012 013  
 15 .78 .78 .79 .79 .80 .80  
 044 051 056 059 061 061  
 30 .81 .82 .82 .83 .83 .83  
 091 097 102 104 106 106  
 45 .84 .85 .85 .86 .86 .86  
 133 139 143 146 147 147

1000 .87 .88 .88 .89 .89 .89  
 172 177 181 183 184 184  
 15 .90 .90 .91 .91 .91 .91  
 206 211 214 216 217 217  
 30 .92 .92 .93 .93 .93 .94  
 236 241 244 245 246 245  
 45 .94 .94 .95 .95 .95 .95  
 261 266 268 270 270 270

5 10 15 20 25 30  
 .59 .59 .59 .59 .58 .58  
 788 786 783 779 774 769  
 .64 .64 .64 .63 .63 .63  
 848 846 843 839 834 829  
 .68 .68 .68 .68 .67 .67  
 905 903 900 896 892 887  
 .72 .72 .72 .72 .72 .71  
 960 958 955 951 946 942

.76 .76 .76 .76 .75 .75  
 011 009 006 002 998 994  
 .80 .80 .80 .79 .79 .79  
 060 057 054 051 047 042  
 .83 .83 .83 .83 .82 .82  
 104 102 099 096 092 088  
 .86 .86 .86 .86 .86 .85  
 145 143 140 137 133 130

.89 .89 .89 .89 .88 .88  
 182 180 177 174 171 168  
 .91 .91 .91 .91 .91 .91  
 215 213 211 208 205 202  
 .94 .94 .94 .93 .93 .93  
 244 242 240 237 234 232  
 .95 .95 .95 .95 .95 .95  
 268 267 265 262 260 257

5 10 15 20 25 30  
 .54 .54 .53 .52 .52 .51  
 720 713 706 700 692 685  
 .59 .59 .58 .57 .57 .56  
 784 777 771 764 757 750  
 .63 .63 .62 .62 .61 .60  
 844 833 832 826 820 813  
 .68 .67 .67 .66 .66 .65  
 902 897 891 885 879 872

.72 .71 .71 .70 .70 .69  
 957 952 947 941 935 928  
 .76 .75 .75 .74 .74 .73  
 009 004 999 993 987 981  
 .79 .79 .78 .78 .77 .77  
 057 052 048 042 036 030  
 .83 .82 .82 .81 .81 .80  
 101 097 092 087 081 074

.86 .85 .85 .84 .84 .83  
 142 138 133 128 122 115  
 .89 .88 .88 .87 .86 .86  
 178 174 170 164 158 151  
 .91 .91 .90 .89 .89 .88  
 210 203 202 197 190 183  
 .93 .93 .92 .92 .91 .90  
 238 234 230 224 218 210

MAY-AUG 28 N TABLE 8-1 SOLAR PARAMETERS COS Z  
 XO (W/M\*2.)

\*\*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 1400 | .86  | .86  | .87  | .87  | .88  | .88  | .88  | .89  | .89  | .89  | .89  | .89  | .90  | .90  | .89  | .89  | .89  | .89  | .88  | .87  | .87  | .86  | .85  | .83  |
|      | .155 | .159 | .162 | .165 | .168 | .171 | .174 | .176 | .178 | .180 | .182 | .184 | .185 | .185 | .185 | .184 | .181 | .178 | .172 | .165 | .156 | .146 | .133 | .119 |
| 15   | .83  | .83  | .84  | .84  | .85  | .85  | .85  | .86  | .86  | .86  | .87  | .87  | .87  | .87  | .87  | .87  | .86  | .86  | .85  | .85  | .84  | .83  | .82  | .80  |
|      | .114 | .118 | .122 | .126 | .129 | .132 | .136 | .139 | .141 | .144 | .146 | .147 | .149 | .149 | .149 | .147 | .145 | .141 | .135 | .127 | .118 | .107 | .094 | .078 |
| 30   | .80  | .80  | .81  | .81  | .81  | .82  | .82  | .83  | .83  | .83  | .83  | .84  | .84  | .84  | .84  | .84  | .83  | .83  | .82  | .81  | .81  | .80  | .78  | .77  |
|      | .070 | .074 | .079 | .083 | .086 | .090 | .094 | .097 | .100 | .103 | .105 | .107 | .109 | .109 | .109 | .107 | .105 | .101 | .093 | .085 | .075 | .064 | .050 | .034 |
| 45   | .76  | .76  | .77  | .78  | .78  | .78  | .79  | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .73  | .77  | .76  | .75  | .73  |
|      | .021 | .026 | .031 | .036 | .040 | .044 | .048 | .052 | .056 | .059 | .061 | .063 | .065 | .065 | .065 | .064 | .061 | .056 | .048 | .040 | .023 | .017 | .002 | .985 |
| 1500 | .72  | .73  | .73  | .74  | .74  | .75  | .75  | .76  | .76  | .76  | .77  | .77  | .77  | .77  | .77  | .77  | .76  | .76  | .75  | .74  | .73  | .72  | .71  | .69  |
|      | .969 | .975 | .980 | .985 | .990 | .994 | .000 | .004 | .007 | .011 | .014 | .016 | .016 | .018 | .018 | .016 | .013 | .008 | .000 | .991 | .979 | .966 | .951 | .933 |
| 15   | .68  | .69  | .69  | .70  | .70  | .71  | .71  | .72  | .72  | .72  | .73  | .73  | .73  | .73  | .73  | .73  | .72  | .72  | .71  | .70  | .69  | .68  | .67  | .65  |
|      | .914 | .920 | .926 | .931 | .936 | .942 | .947 | .952 | .956 | .960 | .963 | .966 | .967 | .968 | .967 | .965 | .962 | .956 | .947 | .938 | .926 | .912 | .896 | .877 |
| 30   | .64  | .64  | .65  | .65  | .66  | .67  | .67  | .68  | .68  | .68  | .69  | .69  | .69  | .69  | .69  | .68  | .68  | .68  | .67  | .65  | .65  | .64  | .62  | .61  |
|      | .856 | .862 | .868 | .874 | .880 | .886 | .892 | .897 | .902 | .906 | .909 | .912 | .914 | .914 | .913 | .911 | .907 | .901 | .892 | .882 | .869 | .854 | .837 | .818 |
| 45   | .59  | .60  | .60  | .61  | .62  | .62  | .63  | .63  | .64  | .64  | .64  | .65  | .65  | .65  | .65  | .64  | .64  | .64  | .63  | .62  | .61  | .59  | .58  | .56  |
|      | .794 | .801 | .808 | .814 | .821 | .827 | .834 | .840 | .845 | .849 | .853 | .855 | .857 | .857 | .857 | .854 | .850 | .843 | .833 | .822 | .809 | .794 | .776 | .756 |
| 1600 | .54  | .55  | .56  | .56  | .57  | .58  | .58  | .59  | .59  | .60  | .60  | .60  | .60  | .60  | .60  | .60  | .59  | .59  | .58  | .57  | .55  | .55  | .53  | .51  |
|      | .730 | .738 | .745 | .752 | .759 | .766 | .774 | .779 | .785 | .789 | .793 | .796 | .793 | .798 | .797 | .794 | .790 | .783 | .772 | .760 | .747 | .730 | .712 | .691 |
| 15   | .49  | .50  | .51  | .51  | .52  | .53  | .54  | .54  | .55  | .55  | .55  | .56  | .56  | .56  | .56  | .55  | .54  | .54  | .53  | .52  | .51  | .50  | .48  | .46  |
|      | .664 | .672 | .680 | .687 | .695 | .702 | .711 | .717 | .723 | .728 | .732 | .735 | .736 | .737 | .735 | .732 | .727 | .720 | .708 | .696 | .681 | .664 | .645 | .624 |
| 30   | .44  | .45  | .46  | .46  | .47  | .48  | .49  | .49  | .50  | .50  | .50  | .51  | .51  | .51  | .51  | .50  | .49  | .49  | .48  | .47  | .46  | .45  | .43  | .41  |
|      | .595 | .604 | .612 | .621 | .629 | .637 | .646 | .653 | .659 | .664 | .668 | .671 | .673 | .673 | .671 | .668 | .662 | .654 | .642 | .629 | .614 | .596 | .576 | .554 |
| 45   | .39  | .40  | .41  | .41  | .42  | .43  | .44  | .44  | .45  | .45  | .46  | .46  | .46  | .46  | .46  | .45  | .44  | .44  | .43  | .42  | .41  | .39  | .38  | .36  |
|      | .525 | .534 | .543 | .552 | .561 | .570 | .579 | .586 | .593 | .598 | .603 | .606 | .607 | .607 | .605 | .601 | .595 | .587 | .574 | .560 | .544 | .526 | .505 | .482 |

MAY-AUG 28 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z = 1.  
X0 (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 1700 | .34 | .35 | .35 | .36 | .37 | .38 | .38 | .39 | .40 | .40 | .40 | .41 | .41 | .41 | .41 | .40 | .40 | .39 | .38 | .37 | .35 | .34 | .32 | .30 |
|      | 453 | 463 | 473 | 482 | 492 | 501 | 511 | 519 | 525 | 531 | 536 | 539 | 540 | 540 | 538 | 533 | 527 | 518 | 504 | 490 | 473 | 454 | 433 | 409 |
| 15   | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .34 | .34 | .35 | .35 | .36 | .36 | .36 | .35 | .35 | .35 | .34 | .33 | .31 | .30 | .29 | .27 | .25 |
|      | 380 | 391 | 401 | 411 | 421 | 431 | 442 | 450 | 457 | 463 | 467 | 470 | 472 | 471 | 469 | 464 | 457 | 448 | 433 | 418 | 401 | 381 | 359 | 334 |
| 30   | .23 | .24 | .25 | .25 | .26 | .27 | .28 | .29 | .29 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .29 | .28 | .27 | .25 | .25 | .23 | .21 | .19 |
|      | 306 | 317 | 329 | 340 | 350 | 360 | 372 | 380 | 387 | 393 | 398 | 401 | 402 | 402 | 399 | 394 | 386 | 376 | 361 | 345 | 327 | 307 | 284 | 259 |
| 45   | .17 | .18 | .19 | .20 | .21 | .22 | .23 | .23 | .24 | .24 | .25 | .25 | .25 | .25 | .25 | .24 | .24 | .23 | .22 | .20 | .19 | .17 | .16 | .14 |
|      | 231 | 243 | 255 | 267 | 278 | 289 | 301 | 310 | 317 | 324 | 328 | 331 | 332 | 332 | 328 | 323 | 315 | 304 | 288 | 272 | 253 | 232 | 208 | 183 |
| 1800 | .12 | .13 | .14 | .15 | .16 | .16 | .17 | .18 | .19 | .19 | .20 | .20 | .20 | .20 | .19 | .19 | .18 | .17 | .16 | .15 | .13 | .12 | .10 | .08 |
|      | 157 | 169 | 182 | 194 | 206 | 218 | 230 | 239 | 247 | 253 | 258 | 261 | 262 | 261 | 257 | 251 | 243 | 232 | 215 | 193 | 179 | 157 | 132 | 106 |
| 15   | .06 | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .13 | .14 | .14 | .14 | .15 | .14 | .14 | .14 | .13 | .12 | .11 | .03 | .08 | .06 | .04 | .02 |
|      | 082 | 095 | 109 | 122 | 134 | 146 | 159 | 168 | 177 | 183 | 188 | 191 | 192 | 190 | 186 | 180 | 171 | 159 | 142 | 121 | 104 | 081 | 056 | 029 |
| 30   | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .07 | .08 | .09 | .09 | .09 | .09 | .09 | .09 | .08 | .07 | .07 | .05 | .04 | .02 | .00 | .00 | .00 |
|      | 008 | 022 | 036 | 050 | 063 | 075 | 086 | 098 | 106 | 113 | 118 | 121 | 121 | 120 | 115 | 108 | 099 | 087 | 068 | 050 | 029 | 006 | 000 | 000 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .03 | .04 | .04 | .04 | .04 | .03 | .03 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 005 | 018 | 028 | 037 | 044 | 049 | 051 | 052 | 049 | 045 | 037 | 027 | 015 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*2.)

MAY-AUG 28 N





| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0800 | .50  | .49  | .49  | .48  | .47  | .46  | .44  | .43  | .42  | .40  | .39  | .37  | .35 | .34 | .32 | .30 | .29 | .27 | .26 | .25 | .23 | .23 | .22 | .21 |  |
|      | 676  | 667  | 658  | 647  | 636  | 623  | 609  | 593  | 576  | 557  | 538  | 517  | 491 | 469 | 447 | 424 | 403 | 383 | 364 | 347 | 331 | 319 | 309 | 302 |  |
| 15   | .55  | .54  | .53  | .52  | .51  | .50  | .49  | .48  | .46  | .45  | .43  | .42  | .40 | .38 | .36 | .35 | .33 | .32 | .30 | .29 | .28 | .27 | .26 | .26 |  |
|      | 741  | 732  | 723  | 713  | 701  | 688  | 673  | 657  | 640  | 621  | 601  | 580  | 554 | 531 | 509 | 487 | 465 | 445 | 426 | 409 | 394 | 382 | 373 | 366 |  |
| 30   | .60  | .59  | .58  | .57  | .56  | .55  | .54  | .52  | .51  | .49  | .48  | .46  | .44 | .42 | .41 | .39 | .37 | .36 | .34 | .33 | .32 | .31 | .31 | .30 |  |
|      | 804  | 795  | 786  | 775  | 763  | 750  | 735  | 719  | 701  | 682  | 662  | 640  | 614 | 591 | 568 | 546 | 525 | 504 | 486 | 469 | 455 | 443 | 434 | 428 |  |
| 45   | .64  | .63  | .62  | .61  | .60  | .59  | .58  | .57  | .55  | .54  | .52  | .50  | .48 | .46 | .45 | .43 | .41 | .40 | .38 | .37 | .35 | .35 | .35 | .34 |  |
|      | 863  | 854  | 845  | 834  | 822  | 808  | 793  | 777  | 759  | 739  | 719  | 697  | 670 | 647 | 625 | 602 | 581 | 561 | 542 | 525 | 512 | 500 | 492 | 486 |  |
| 0900 | .68  | .67  | .66  | .66  | .64  | .63  | .62  | .60  | .59  | .57  | .56  | .54  | .52 | .50 | .48 | .47 | .45 | .44 | .42 | .41 | .40 | .39 | .39 | .38 |  |
|      | 919  | 911  | 901  | 890  | 877  | 864  | 848  | 831  | 813  | 793  | 772  | 750  | 723 | 700 | 677 | 655 | 633 | 613 | 595 | 579 | 565 | 554 | 546 | 542 |  |
| 15   | .72  | .71  | .70  | .69  | .68  | .67  | .66  | .64  | .63  | .61  | .59  | .58  | .55 | .54 | .52 | .50 | .49 | .47 | .46 | .45 | .44 | .43 | .42 | .42 |  |
|      | 972  | 963  | 953  | 942  | 929  | 915  | 899  | 882  | 863  | 843  | 821  | 799  | 772 | 749 | 726 | 704 | 682 | 663 | 645 | 629 | 616 | 605 | 598 | 594 |  |
| 30   | .76  | .75  | .74  | .73  | .72  | .70  | .69  | .68  | .66  | .64  | .63  | .61  | .59 | .57 | .55 | .53 | .52 | .50 | .49 | .48 | .47 | .46 | .46 | .45 |  |
|      | 1020 | 1011 | 1001 | 990  | 977  | 962  | 946  | 928  | 909  | 888  | 867  | 844  | 817 | 794 | 771 | 748 | 727 | 708 | 690 | 675 | 662 | 652 | 645 | 642 |  |
| 45   | .79  | .78  | .77  | .76  | .75  | .74  | .72  | .71  | .69  | .67  | .66  | .64  | .62 | .60 | .58 | .56 | .55 | .53 | .52 | .51 | .50 | .49 | .49 | .49 |  |
|      | 1065 | 1056 | 1045 | 1034 | 1020 | 1005 | 988  | 970  | 951  | 930  | 908  | 885  | 857 | 834 | 811 | 789 | 768 | 749 | 732 | 717 | 704 | 695 | 689 | 686 |  |
| 1000 | .82  | .81  | .80  | .79  | .78  | .76  | .75  | .73  | .72  | .70  | .69  | .66  | .64 | .62 | .61 | .59 | .57 | .56 | .55 | .53 | .53 | .52 | .52 | .51 |  |
|      | 1105 | 1096 | 1085 | 1073 | 1059 | 1044 | 1027 | 1008 | 988  | 967  | 945  | 922  | 894 | 870 | 847 | 825 | 805 | 786 | 769 | 755 | 743 | 734 | 729 | 727 |  |
| 15   | .85  | .84  | .83  | .82  | .80  | .79  | .77  | .76  | .74  | .72  | .70  | .69  | .66 | .65 | .63 | .61 | .60 | .58 | .57 | .55 | .55 | .54 | .54 | .54 |  |
|      | 1141 | 1132 | 1121 | 1108 | 1094 | 1078 | 1060 | 1041 | 1021 | 999  | 977  | 953  | 925 | 902 | 879 | 857 | 837 | 818 | 802 | 789 | 777 | 769 | 764 | 763 |  |
| 30   | .87  | .86  | .85  | .84  | .82  | .81  | .79  | .78  | .76  | .74  | .72  | .71  | .68 | .67 | .65 | .63 | .62 | .60 | .59 | .58 | .57 | .57 | .56 | .56 |  |
|      | 1173 | 1163 | 1151 | 1138 | 1123 | 1107 | 1089 | 1069 | 1049 | 1027 | 1004 | 981  | 952 | 929 | 906 | 885 | 865 | 846 | 830 | 817 | 807 | 799 | 795 | 794 |  |
| 45   | .89  | .88  | .87  | .86  | .84  | .83  | .81  | .80  | .78  | .76  | .74  | .72  | .70 | .68 | .66 | .65 | .63 | .62 | .61 | .60 | .59 | .58 | .58 | .58 |  |
|      | 1200 | 1189 | 1177 | 1164 | 1148 | 1131 | 1113 | 1093 | 1072 | 1049 | 1026 | 1003 | 974 | 951 | 929 | 907 | 887 | 870 | 854 | 841 | 832 | 825 | 822 | 822 |  |

SEP-DEC 28 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1100 | .91  | .90  | .88  | .87  | .86  | .84  | .83  | .81  | .79  | .77  | .75  | .73  | .71  | .69 | .68 | .66 | .64 | .63 | .62 | .61 | .60 | .60 | .60 | .60 |  |
|      | *222 | *211 | *198 | *184 | *168 | *151 | *132 | *111 | *090 | *067 | *044 | *020 | 992  | 968 | 946 | 925 | 906 | 888 | 873 | 861 | 852 | 846 | 843 | 844 |  |
| 15   | .92  | .91  | .90  | .88  | .87  | .85  | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .70 | .68 | .67 | .65 | .64 | .63 | .62 | .61 | .61 | .61 | .61 |  |
|      | *239 | *227 | *214 | *200 | *183 | *165 | *146 | *125 | *103 | *080 | *056 | *032 | *004 | 961 | 959 | 938 | 919 | 902 | 888 | 875 | 868 | 862 | 860 | 862 |  |
| 30   | .93  | .92  | .90  | .89  | .88  | .86  | .84  | .82  | .81  | .79  | .77  | .75  | .73  | .71 | .69 | .67 | .66 | .65 | .64 | .63 | .62 | .62 | .62 | .62 |  |
|      | *251 | *239 | *225 | *210 | *193 | *175 | *154 | *133 | *111 | *087 | *063 | *040 | *011 | 988 | 966 | 946 | 927 | 911 | 897 | 885 | 873 | 874 | 873 | 875 |  |
| 45   | .93  | .92  | .91  | .89  | .88  | .86  | .85  | .83  | .81  | .79  | .77  | .75  | .73  | .71 | .69 | .68 | .66 | .65 | .64 | .63 | .63 | .62 | .62 | .62 |  |
|      | *258 | *246 | *231 | *215 | *198 | *179 | *158 | *136 | *113 | *090 | *066 | *042 | *013 | 990 | 969 | 949 | 930 | 915 | 901 | 891 | 884 | 880 | 880 | 883 |  |
| 1200 | .94  | .92  | .91  | .89  | .88  | .86  | .84  | .83  | .81  | .79  | .77  | .75  | .72  | .71 | .69 | .67 | .66 | .65 | .64 | .63 | .63 | .62 | .62 | .63 |  |
|      | *260 | *247 | *232 | *216 | *197 | *178 | *156 | *134 | *111 | *087 | *063 | *039 | *010 | 988 | 966 | 946 | 929 | 914 | 901 | 891 | 885 | 882 | 883 | 886 |  |
| 15   | .93  | .92  | .91  | .89  | .87  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .70 | .68 | .67 | .66 | .64 | .63 | .62 | .62 | .62 | .62 | .63 |  |
|      | *257 | *244 | *228 | *211 | *192 | *171 | *150 | *127 | *103 | *079 | *055 | *030 | *002 | 980 | 959 | 939 | 922 | 907 | 896 | 887 | 881 | 879 | 880 | 885 |  |
| 30   | .93  | .91  | .90  | .88  | .87  | .85  | .83  | .81  | .79  | .77  | .75  | .73  | .71  | .69 | .68 | .66 | .65 | .64 | .63 | .62 | .62 | .62 | .62 | .62 |  |
|      | *249 | *235 | *219 | *201 | *181 | *160 | *138 | *115 | *091 | *066 | *042 | *017 | 989  | 967 | 946 | 927 | 911 | 897 | 885 | 877 | 872 | 871 | 873 | 878 |  |
| 45   | .92  | .90  | .89  | .87  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .68 | .66 | .65 | .64 | .63 | .62 | .61 | .61 | .61 | .61 | .61 |  |
|      | *236 | *221 | *204 | *186 | *165 | *144 | *121 | *097 | *073 | *048 | *023 | *999 | 971  | 949 | 929 | 910 | 894 | 881 | 870 | 863 | 859 | 858 | 861 | 867 |  |
| 1300 | .90  | .89  | .87  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .68  | .66 | .65 | .63 | .62 | .61 | .60 | .60 | .59 | .59 | .60 | .60 |  |
|      | *218 | *202 | *185 | *166 | *145 | *122 | *099 | *075 | *050 | *025 | *000 | *976 | 948  | 926 | 906 | 888 | 873 | 860 | 850 | 844 | 840 | 840 | 844 | 850 |  |
| 15   | .89  | .87  | .86  | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .68  | .66  | .64 | .63 | .61 | .60 | .59 | .59 | .58 | .58 | .58 | .58 | .59 |  |
|      | *195 | *179 | *161 | *140 | *119 | *096 | *072 | *047 | *022 | *997 | *972 | *948 | 920  | 899 | 879 | 862 | 847 | 835 | 826 | 820 | 817 | 818 | 822 | 829 |  |
| 30   | .87  | .85  | .84  | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .68  | .66  | .64  | .62 | .61 | .59 | .58 | .57 | .57 | .55 | .55 | .56 | .56 | .57 |  |
|      | *168 | *150 | *131 | *111 | *088 | *065 | *040 | *015 | *990 | *965 | *940 | *915 | 883  | 867 | 848 | 831 | 816 | 805 | 796 | 791 | 789 | 791 | 795 | 804 |  |
| 45   | .84  | .83  | .81  | .79  | .77  | .75  | .73  | .71  | .69  | .67  | .65  | .63  | .61  | .59 | .58 | .57 | .56 | .55 | .54 | .53 | .54 | .54 | .54 | .55 |  |
|      | *135 | *117 | *098 | *076 | *053 | *029 | *004 | *979 | *953 | *927 | *902 | *878 | 851  | 830 | 811 | 795 | 781 | 770 | 763 | 759 | 757 | 759 | 765 | 773 |  |

SEP-DEC 28 N      TABLE B-1      SOLAR PARAMETERS      COS Z      ... SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |
| 1400 | .82  | .80  | .78  | .76  | .74  | .72  | .70  | .68  | .66  | .64  | .62  | .60  | .58  | .57  | .55  | .54  | .53  | .52  | .51  | .51  | .51  | .51  | .52  | .52  |  |
|      | .099 | .080 | .059 | .037 | .013 | .989 | .963 | .937 | .911 | .886 | .861 | .837 | .810 | .789 | .771 | .755 | .742 | .732 | .724 | .721 | .720 | .723 | .729 | .739 |  |
| 15   | .78  | .77  | .75  | .73  | .71  | .69  | .67  | .65  | .63  | .61  | .59  | .57  | .55  | .53  | .52  | .51  | .50  | .49  | .48  | .48  | .48  | .48  | .49  | .49  |  |
|      | .057 | .038 | .016 | .994 | .969 | .944 | .918 | .892 | .866 | .840 | .815 | .791 | .764 | .741 | .725 | .711 | .698 | .689 | .682 | .679 | .679 | .683 | .690 | .700 |  |
| 30   | .75  | .73  | .72  | .70  | .68  | .66  | .63  | .61  | .59  | .57  | .55  | .53  | .51  | .50  | .48  | .47  | .46  | .46  | .45  | .45  | .45  | .45  | .46  | .46  |  |
|      | .012 | .992 | .970 | .946 | .921 | .895 | .869 | .842 | .816 | .790 | .765 | .741 | .714 | .695 | .677 | .662 | .651 | .642 | .636 | .633 | .634 | .638 | .646 | .656 |  |
| 45   | .71  | .70  | .68  | .66  | .64  | .62  | .60  | .57  | .55  | .53  | .51  | .49  | .47  | .46  | .45  | .44  | .43  | .42  | .42  | .41  | .41  | .42  | .42  | .43  |  |
|      | .963 | .941 | .919 | .894 | .869 | .842 | .816 | .789 | .762 | .736 | .711 | .687 | .661 | .642 | .625 | .610 | .599 | .591 | .586 | .584 | .585 | .590 | .598 | .609 |  |
| 1500 | .67  | .66  | .64  | .62  | .60  | .58  | .55  | .53  | .51  | .49  | .47  | .45  | .43  | .42  | .41  | .40  | .39  | .38  | .38  | .38  | .38  | .38  | .39  | .40  |  |
|      | .909 | .888 | .864 | .839 | .813 | .786 | .759 | .731 | .704 | .678 | .653 | .630 | .604 | .585 | .569 | .555 | .544 | .537 | .532 | .531 | .533 | .539 | .547 | .559 |  |
| 15   | .63  | .61  | .59  | .57  | .55  | .53  | .51  | .49  | .47  | .45  | .43  | .41  | .39  | .38  | .36  | .35  | .34  | .34  | .34  | .34  | .34  | .34  | .35  | .36  |  |
|      | .853 | .830 | .806 | .780 | .753 | .726 | .698 | .671 | .643 | .617 | .592 | .569 | .544 | .525 | .509 | .496 | .486 | .479 | .475 | .475 | .477 | .483 | .492 | .504 |  |
| 30   | .59  | .57  | .55  | .53  | .51  | .49  | .46  | .44  | .42  | .40  | .38  | .36  | .34  | .33  | .32  | .31  | .30  | .30  | .29  | .29  | .30  | .30  | .31  | .32  |  |
|      | .793 | .769 | .744 | .718 | .691 | .663 | .635 | .607 | .579 | .553 | .528 | .505 | .480 | .462 | .447 | .434 | .425 | .418 | .415 | .415 | .418 | .425 | .434 | .447 |  |
| 45   | .54  | .52  | .50  | .48  | .46  | .44  | .41  | .39  | .37  | .35  | .33  | .32  | .30  | .28  | .27  | .26  | .26  | .25  | .25  | .25  | .25  | .26  | .26  | .27  |  |
|      | .730 | .705 | .680 | .653 | .625 | .597 | .568 | .540 | .513 | .486 | .462 | .439 | .414 | .396 | .381 | .369 | .361 | .355 | .352 | .353 | .357 | .363 | .373 | .386 |  |
| 1600 | .49  | .47  | .45  | .43  | .41  | .39  | .36  | .34  | .32  | .30  | .28  | .27  | .25  | .24  | .22  | .22  | .21  | .21  | .20  | .20  | .21  | .21  | .22  | .23  |  |
|      | .664 | .639 | .612 | .585 | .556 | .528 | .499 | .471 | .443 | .417 | .392 | .370 | .345 | .328 | .314 | .302 | .294 | .289 | .287 | .285 | .292 | .299 | .310 | .323 |  |
| 15   | .44  | .42  | .40  | .38  | .36  | .33  | .31  | .29  | .27  | .25  | .23  | .22  | .20  | .18  | .17  | .17  | .16  | .16  | .16  | .15  | .16  | .17  | .17  | .18  |  |
|      | .595 | .570 | .543 | .515 | .486 | .456 | .427 | .399 | .371 | .345 | .321 | .298 | .275 | .258 | .244 | .233 | .225 | .220 | .219 | .220 | .225 | .233 | .243 | .257 |  |
| 30   | .39  | .37  | .35  | .33  | .30  | .28  | .26  | .24  | .22  | .20  | .18  | .16  | .15  | .13  | .12  | .12  | .11  | .11  | .11  | .11  | .11  | .12  | .12  | .13  |  |
|      | .525 | .498 | .471 | .442 | .413 | .383 | .354 | .325 | .298 | .271 | .247 | .225 | .202 | .185 | .172 | .161 | .154 | .150 | .149 | .151 | .150 | .164 | .175 | .188 |  |
| 45   | .34  | .32  | .29  | .27  | .25  | .23  | .20  | .18  | .16  | .14  | .12  | .11  | .09  | .08  | .07  | .06  | .06  | .06  | .06  | .05  | .06  | .07  | .07  | .08  |  |
|      | .452 | .425 | .397 | .368 | .338 | .308 | .279 | .250 | .222 | .196 | .172 | .150 | .127 | .111 | .098 | .088 | .081 | .078 | .077 | .080 | .085 | .094 | .105 | .118 |  |

TABLE B-1 SOLAR PARAMETERS COS Z  
 \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     |     | OCT |     |     |     |     |     | DATE |     |     |     |     |     | NOV |     |     |     |     |     | DEC |     |      |      |      |      |      |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15   | 20   | 25   | 30   |      |     |
| 1700 | .28 | .26 | .24 | .22 | .19 | .17 | .15 | .13 | .11 | .09 | .07 | .05 | .04  | .03 | .02 | .01 | .01 | .00 | .00 | .01 | .01 | .01 | .02 | .02 | .03 | .04 | .007 | .013 | .022 | .033 | .047 |     |
|      | 378 | 351 | 322 | 292 | 262 | 232 | 202 | 173 | 145 | 119 | 095 | 074 | 051  | 036 | 023 | 014 | 008 | 004 | 004 | 004 | 004 | 004 | 004 | 004 | 004 | 004 | 004  | 004  | 004  | 004  | 004  |     |
|      |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |
| 15   | .22 | .20 | .18 | .16 | .14 | .11 | .09 | .07 | .05 | .03 | .01 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00  | .00  | .00  | .00  | .00 |
|      | 303 | 275 | 245 | 215 | 184 | 154 | 124 | 095 | 068 | 042 | 018 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000  | 000  | 000  | 000  | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |
| 30   | .17 | .15 | .12 | .10 | .08 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00  | .00  | .00  | .00  | .00 |
|      | 226 | 198 | 168 | 137 | 106 | 076 | 046 | 017 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000  | 000  | 000  | 000  | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |
| 45   | .11 | .09 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00  | .00  | .00  | .00  | .00 |
|      | 149 | 120 | 090 | 059 | 028 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000  | 000  | 000  | 000  | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |
| 1800 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00  | .00  | .00  | .00  | .00 |
|      | 072 | 042 | 012 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000  | 000  | 000  | 000  | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00  | .00  | .00  | .00  | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000  | 000  | 000  | 000  | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00  | .00  | .00  | .00  | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000  | 000  | 000  | 000  | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00  | .00  | .00  | .00  | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000  | 000  | 000  | 000  | 000 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

(W/M=2.)

SOLAR PARAMETERS

TABLE B-1

28 N

SEP-DEC

XO

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0000 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0100 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0200 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

\*\*\* SIGNIFIES CDS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS COS 2  
XO (W/M\*\*2.)

TABLE B-1

80 N

JAN-APR

PREVIOUS PAGE  
IS BLANK











| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .09 | .12 | .15 | .18 | .22 | .25 | .28 | .31 | .34 | .36 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 025 | 071 | 117 | 163 | 208 | 252 | 304 | 345 | 384 | 422 | 458 | 491 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .08 | .11 | .14 | .18 | .21 | .25 | .27 | .30 | .33 | .36 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 015 | 060 | 106 | 152 | 197 | 241 | 292 | 333 | 373 | 411 | 446 | 480 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .07 | .10 | .13 | .17 | .21 | .25 | .27 | .29 | .32 | .35 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 049 | 094 | 140 | 185 | 229 | 281 | 322 | 361 | 399 | 435 | 468 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .06 | .09 | .13 | .16 | .20 | .23 | .25 | .28 | .31 | .34 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 036 | 082 | 128 | 172 | 217 | 268 | 303 | 339 | 387 | 423 | 456 |
| 1600 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .08 | .12 | .15 | .19 | .22 | .25 | .28 | .30 | .33 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 023 | 069 | 114 | 159 | 204 | 255 | 295 | 336 | 374 | 410 | 443 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .07 | .11 | .14 | .18 | .21 | .24 | .27 | .29 | .32 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 010 | 055 | 101 | 146 | 190 | 242 | 283 | 323 | 361 | 396 | 430 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .06 | .10 | .13 | .17 | .20 | .23 | .26 | .28 | .31 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 031 | 087 | 132 | 176 | 228 | 263 | 309 | 347 | 383 | 416 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .09 | .12 | .16 | .19 | .22 | .25 | .27 | .30 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 027 | 072 | 117 | 161 | 213 | 255 | 295 | 333 | 369 | 403 |
| 1700 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .07 | .11 | .15 | .18 | .21 | .23 | .26 | .29 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 012 | 058 | 102 | 147 | 198 | 240 | 280 | 318 | 354 | 388 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .06 | .10 | .13 | .17 | .20 | .22 | .25 | .28 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 042 | 087 | 132 | 183 | 225 | 265 | 303 | 340 | 374 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .09 | .12 | .15 | .18 | .21 | .24 | .27 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 027 | 072 | 116 | 168 | 210 | 250 | 288 | 325 | 359 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .07 | .11 | .14 | .17 | .20 | .23 | .26 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 011 | 056 | 101 | 153 | 195 | 235 | 273 | 310 | 344 |

JAN-APR 80 N TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/H\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY .



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     | FEB |     |     | MAR |     |     | APR |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 2100 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 2200 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 2300 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

JAN-APR 80 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z =1.      ADD 1000 TO VALUES PRECEDED BY \*



| NST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 0300 | .16 | .18 | .20 | .22 | .24 | .25 | .26 | .27 | .28 | .28 | .28 | .27 | .27 | .26 | .25 | .23 | .22 | .20 | .17 | .15 |
|      | 209 | 240 | 269 | 294 | 315 | 333 | 350 | 360 | 366 | 369 | 368 | 363 | 354 | 342 | 327 | 308 | 286 | 262 | 228 | 197 |
| 15   | .16 | .19 | .21 | .23 | .24 | .26 | .27 | .28 | .28 | .29 | .29 | .28 | .28 | .27 | .25 | .24 | .22 | .21 | .18 | .15 |
|      | 219 | 251 | 279 | 304 | 326 | 344 | 360 | 370 | 376 | 379 | 378 | 373 | 364 | 352 | 337 | 318 | 297 | 272 | 238 | 203 |
| 30   | .17 | .20 | .22 | .24 | .25 | .27 | .28 | .29 | .29 | .29 | .29 | .29 | .28 | .27 | .26 | .25 | .23 | .21 | .19 | .16 |
|      | 231 | 262 | 291 | 315 | 337 | 355 | 371 | 381 | 387 | 389 | 388 | 383 | 375 | 363 | 348 | 329 | 307 | 283 | 249 | 213 |
| 45   | .18 | .20 | .23 | .25 | .26 | .28 | .29 | .30 | .30 | .30 | .30 | .30 | .29 | .28 | .27 | .26 | .24 | .22 | .20 | .17 |
|      | 243 | 274 | 302 | 327 | 348 | 366 | 383 | 392 | 398 | 401 | 399 | 394 | 386 | 374 | 359 | 340 | 319 | 294 | 261 | 230 |
| 0400 | .19 | .21 | .24 | .25 | .27 | .28 | .30 | .30 | .31 | .31 | .31 | .31 | .30 | .29 | .28 | .27 | .25 | .23 | .21 | .19 |
|      | 256 | 287 | 315 | 339 | 361 | 378 | 395 | 404 | 410 | 412 | 411 | 406 | 398 | 386 | 370 | 352 | 330 | 306 | 273 | 242 |
| 15   | .20 | .22 | .25 | .26 | .28 | .29 | .31 | .31 | .32 | .32 | .32 | .32 | .31 | .30 | .29 | .28 | .26 | .24 | .21 | .19 |
|      | 269 | 300 | 328 | 352 | 373 | 391 | 407 | 416 | 422 | 425 | 423 | 418 | 410 | 398 | 383 | 364 | 343 | 318 | 285 | 255 |
| 30   | .21 | .23 | .25 | .27 | .29 | .30 | .32 | .32 | .33 | .33 | .33 | .33 | .32 | .31 | .30 | .28 | .27 | .25 | .22 | .20 |
|      | 282 | 313 | 341 | 365 | 386 | 404 | 420 | 429 | 435 | 437 | 436 | 431 | 422 | 410 | 395 | 377 | 355 | 331 | 298 | 263 |
| 45   | .22 | .24 | .27 | .28 | .30 | .31 | .33 | .33 | .34 | .34 | .34 | .34 | .33 | .32 | .31 | .29 | .28 | .26 | .23 | .21 |
|      | 296 | 327 | 354 | 379 | 400 | 417 | 433 | 442 | 448 | 450 | 449 | 444 | 435 | 423 | 408 | 390 | 369 | 344 | 312 | 282 |
| 0500 | .23 | .25 | .28 | .29 | .31 | .32 | .34 | .34 | .35 | .35 | .35 | .35 | .34 | .33 | .32 | .30 | .29 | .27 | .25 | .22 |
|      | 310 | 341 | 368 | 392 | 413 | 430 | 446 | 455 | 461 | 463 | 462 | 457 | 448 | 436 | 421 | 403 | 382 | 358 | 325 | 295 |
| 15   | .24 | .26 | .29 | .30 | .32 | .33 | .35 | .35 | .36 | .36 | .36 | .36 | .35 | .34 | .33 | .31 | .30 | .28 | .26 | .23 |
|      | 325 | 355 | 382 | 406 | 427 | 444 | 460 | 469 | 475 | 477 | 475 | 470 | 462 | 450 | 435 | 417 | 396 | 372 | 339 | 310 |
| 30   | .25 | .28 | .30 | .32 | .33 | .34 | .36 | .36 | .37 | .37 | .37 | .37 | .36 | .35 | .34 | .33 | .31 | .29 | .27 | .24 |
|      | 339 | 369 | 397 | 421 | 441 | 458 | 474 | 483 | 488 | 490 | 489 | 484 | 475 | 464 | 449 | 431 | 410 | 386 | 354 | 324 |
| 45   | .26 | .29 | .31 | .33 | .34 | .35 | .37 | .37 | .38 | .38 | .38 | .38 | .37 | .36 | .35 | .34 | .32 | .30 | .28 | .25 |
|      | 354 | 384 | 411 | 435 | 455 | 472 | 488 | 497 | 502 | 504 | 502 | 497 | 489 | 477 | 463 | 445 | 424 | 400 | 368 | 339 |

MAY-AUG 80 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 0600 | .27 | .30 | .32 | .34 | .35 | .37 | .38 | .38 | .39 | .39 | .39 | .39 | .38 | .37 | .36 | .35 | .33 | .31 | .29 | .27 | .24 | .22 | .19 | .16 |
|      | 368 | 399 | 425 | 449 | 469 | 486 | 501 | 510 | 516 | 518 | 516 | 511 | 503 | 491 | 477 | 459 | 438 | 414 | 382 | 353 | 321 | 288 | 252 | 214 |
| 15   | .29 | .31 | .33 | .35 | .36 | .38 | .39 | .40 | .40 | .40 | .40 | .40 | .39 | .38 | .37 | .36 | .34 | .32 | .30 | .28 | .25 | .23 | .20 | .17 |
|      | 383 | 413 | 440 | 463 | 483 | 500 | 515 | 524 | 530 | 532 | 530 | 525 | 517 | 505 | 491 | 473 | 452 | 429 | 397 | 363 | 335 | 302 | 267 | 229 |
| 30   | .30 | .32 | .34 | .36 | .37 | .39 | .40 | .41 | .41 | .41 | .41 | .41 | .40 | .39 | .38 | .37 | .35 | .33 | .31 | .29 | .26 | .24 | .21 | .18 |
|      | 398 | 428 | 454 | 478 | 498 | 514 | 529 | 538 | 543 | 545 | 544 | 539 | 531 | 519 | 504 | 487 | 466 | 443 | 411 | 382 | 351 | 317 | 282 | 244 |
| 45   | .31 | .33 | .35 | .37 | .38 | .40 | .41 | .42 | .42 | .42 | .42 | .42 | .41 | .40 | .39 | .38 | .36 | .34 | .32 | .30 | .27 | .25 | .22 | .19 |
|      | 412 | 442 | 468 | 492 | 511 | 528 | 543 | 552 | 557 | 559 | 557 | 553 | 544 | 533 | 518 | 501 | 480 | 457 | 426 | 397 | 365 | 332 | 296 | 259 |
| 0700 | .32 | .34 | .36 | .38 | .39 | .41 | .42 | .43 | .43 | .43 | .43 | .43 | .42 | .41 | .40 | .39 | .37 | .35 | .33 | .31 | .28 | .26 | .23 | .20 |
|      | 426 | 456 | 482 | 505 | 525 | 542 | 557 | 565 | 571 | 572 | 571 | 566 | 558 | 547 | 532 | 515 | 494 | 471 | 440 | 411 | 380 | 346 | 311 | 274 |
| 15   | .33 | .35 | .37 | .39 | .40 | .42 | .43 | .44 | .44 | .44 | .44 | .44 | .43 | .42 | .41 | .40 | .38 | .37 | .34 | .32 | .30 | .27 | .24 | .21 |
|      | 440 | 470 | 496 | 519 | 539 | 555 | 570 | 579 | 584 | 586 | 584 | 579 | 571 | 560 | 546 | 528 | 508 | 485 | 454 | 425 | 394 | 361 | 325 | 288 |
| 30   | .34 | .36 | .38 | .40 | .41 | .43 | .44 | .45 | .45 | .45 | .45 | .45 | .44 | .43 | .42 | .41 | .39 | .38 | .35 | .33 | .31 | .28 | .25 | .23 |
|      | 454 | 483 | 510 | 532 | 552 | 568 | 583 | 592 | 597 | 599 | 597 | 592 | 584 | 573 | 559 | 541 | 521 | 498 | 467 | 439 | 408 | 375 | 339 | 302 |
| 45   | .35 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .46 | .46 | .46 | .46 | .45 | .44 | .43 | .42 | .40 | .39 | .36 | .34 | .32 | .29 | .26 | .24 |
|      | 467 | 497 | 523 | 545 | 565 | 581 | 596 | 604 | 609 | 611 | 610 | 605 | 597 | 586 | 572 | 554 | 534 | 512 | 481 | 452 | 421 | 388 | 353 | 316 |
| 0800 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .46 | .47 | .47 | .47 | .47 | .46 | .45 | .44 | .43 | .41 | .40 | .37 | .35 | .33 | .30 | .27 | .25 |
|      | 480 | 509 | 535 | 558 | 577 | 593 | 608 | 617 | 622 | 624 | 622 | 617 | 609 | 598 | 584 | 567 | 547 | 524 | 494 | 465 | 434 | 401 | 366 | 329 |
| 15   | .37 | .39 | .41 | .43 | .44 | .45 | .47 | .47 | .48 | .48 | .48 | .48 | .47 | .46 | .45 | .44 | .42 | .40 | .38 | .35 | .34 | .31 | .28 | .26 |
|      | 493 | 522 | 547 | 570 | 589 | 605 | 620 | 628 | 633 | 635 | 634 | 629 | 621 | 610 | 596 | 579 | 559 | 537 | 506 | 473 | 447 | 414 | 379 | 342 |
| 30   | .38 | .40 | .42 | .44 | .45 | .46 | .48 | .48 | .49 | .49 | .49 | .48 | .48 | .47 | .46 | .45 | .43 | .41 | .39 | .37 | .34 | .32 | .29 | .26 |
|      | 504 | 533 | 559 | 581 | 601 | 616 | 631 | 640 | 645 | 647 | 645 | 641 | 633 | 622 | 608 | 591 | 571 | 548 | 518 | 490 | 459 | 426 | 391 | 355 |
| 45   | .38 | .41 | .43 | .44 | .46 | .47 | .48 | .49 | .49 | .50 | .50 | .49 | .49 | .48 | .47 | .45 | .44 | .42 | .40 | .38 | .35 | .33 | .30 | .27 |
|      | 516 | 544 | 570 | 592 | 611 | 627 | 642 | 650 | 655 | 657 | 656 | 651 | 644 | 633 | 619 | 602 | 582 | 560 | 529 | 501 | 471 | 438 | 403 | 366 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M+2.)

MAY-AUG 80 N



| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 0900 | .39 | .41 | .43 | .45 | .47 | .48 | .49 | .50 | .50 | .50 | .50 | .50 | .49 | .49 | .48 | .46 | .45 | .43 | .41 | .39 |
|      | 526 | 555 | 580 | 602 | 622 | 637 | 652 | 660 | 666 | 667 | 666 | 662 | 654 | 643 | 629 | 613 | 593 | 571 | 540 | 512 |
| 15   | .40 | .42 | .44 | .46 | .47 | .49 | .50 | .50 | .51 | .51 | .51 | .51 | .50 | .49 | .48 | .47 | .45 | .44 | .41 | .39 |
|      | 536 | 565 | 590 | 612 | 631 | 647 | 661 | 670 | 675 | 677 | 676 | 671 | 664 | 653 | 639 | 622 | 603 | 581 | 550 | 522 |
| 30   | .41 | .43 | .45 | .47 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .51 | .51 | .50 | .49 | .48 | .46 | .44 | .42 | .40 |
|      | 545 | 574 | 599 | 621 | 640 | 656 | 670 | 679 | 684 | 686 | 695 | 680 | 673 | 662 | 648 | 632 | 612 | 590 | 560 | 532 |
| 45   | .41 | .43 | .45 | .47 | .49 | .50 | .51 | .52 | .52 | .52 | .52 | .52 | .51 | .51 | .50 | .48 | .47 | .45 | .43 | .41 |
|      | 554 | 582 | 607 | 629 | 648 | 664 | 678 | 687 | 692 | 694 | 693 | 688 | 681 | 670 | 657 | 640 | 621 | 599 | 568 | 541 |
| 1000 | .42 | .44 | .46 | .48 | .49 | .50 | .52 | .52 | .53 | .53 | .53 | .53 | .52 | .51 | .50 | .49 | .47 | .46 | .43 | .41 |
|      | 561 | 589 | 614 | 636 | 655 | 671 | 685 | 694 | 699 | 701 | 700 | 696 | 688 | 678 | 664 | 648 | 629 | 606 | 576 | 543 |
| 15   | .42 | .44 | .46 | .48 | .50 | .51 | .52 | .53 | .53 | .53 | .53 | .53 | .53 | .52 | .51 | .49 | .48 | .46 | .44 | .42 |
|      | 568 | 596 | 621 | 643 | 662 | 677 | 692 | 700 | 706 | 708 | 707 | 703 | 695 | 685 | 671 | 655 | 636 | 614 | 584 | 555 |
| 30   | .43 | .45 | .47 | .49 | .50 | .51 | .53 | .53 | .54 | .54 | .54 | .54 | .53 | .52 | .51 | .50 | .48 | .47 | .44 | .42 |
|      | 574 | 602 | 627 | 649 | 667 | 683 | 698 | 706 | 711 | 714 | 713 | 708 | 701 | 691 | 677 | 661 | 642 | 620 | 590 | 562 |
| 45   | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .54 | .54 | .54 | .54 | .54 | .53 | .53 | .52 | .50 | .49 | .47 | .45 | .43 |
|      | 579 | 607 | 632 | 654 | 672 | 688 | 702 | 711 | 716 | 719 | 718 | 713 | 706 | 696 | 683 | 666 | 647 | 625 | 595 | 568 |
| 1100 | .43 | .46 | .47 | .49 | .51 | .52 | .53 | .54 | .54 | .55 | .55 | .54 | .54 | .53 | .52 | .51 | .49 | .47 | .45 | .43 |
|      | 583 | 611 | 636 | 657 | 676 | 692 | 706 | 715 | 720 | 723 | 722 | 718 | 711 | 700 | 687 | 671 | 652 | 630 | 600 | 572 |
| 15   | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .55 | .55 | .54 | .54 | .53 | .52 | .51 | .49 | .48 | .45 | .43 |
|      | 586 | 614 | 639 | 660 | 679 | 695 | 709 | 718 | 724 | 726 | 725 | 721 | 714 | 704 | 691 | 674 | 655 | 633 | 604 | 576 |
| 30   | .44 | .46 | .48 | .50 | .51 | .52 | .54 | .54 | .55 | .55 | .55 | .55 | .54 | .53 | .52 | .51 | .50 | .48 | .46 | .43 |
|      | 588 | 616 | 641 | 663 | 681 | 697 | 712 | 720 | 726 | 728 | 727 | 723 | 716 | 706 | 693 | 677 | 658 | 636 | 606 | 578 |
| 45   | .44 | .46 | .48 | .50 | .51 | .52 | .54 | .54 | .55 | .55 | .55 | .55 | .54 | .54 | .52 | .51 | .50 | .48 | .46 | .44 |
|      | 589 | 617 | 642 | 664 | 682 | 698 | 713 | 722 | 727 | 730 | 729 | 725 | 718 | 708 | 695 | 679 | 660 | 638 | 608 | 580 |

\*\*\* SIGNIFIES COS 2 = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE D-1 SOLAR PARAMETERS COS 2  
X0 (W/M\*\*2.)

MAY-AUG 80 N

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1200 | .44 | .46 | .48 | .50 | .51 | .52 | .54 | .54 | .55 | .55 | .55 | .55 | .54 | .54 | .53 | .51 | .50 | .48 | .46 | .44 | .41 | .39 | .36 | .33 |
|      | 590 | 617 | 642 | 664 | 683 | 698 | 713 | 722 | 728 | 730 | 729 | 726 | 719 | 709 | 696 | 680 | 661 | 639 | 609 | 581 | 551 | 518 | 483 | 445 |
| 15   | .44 | .46 | .48 | .50 | .51 | .52 | .54 | .54 | .55 | .55 | .55 | .55 | .54 | .54 | .53 | .51 | .50 | .48 | .46 | .44 | .41 | .39 | .36 | .33 |
|      | 589 | 617 | 641 | 663 | 682 | 698 | 713 | 722 | 727 | 730 | 729 | 725 | 719 | 709 | 696 | 680 | 661 | 639 | 609 | 581 | 550 | 517 | 482 | 445 |
| 30   | .44 | .46 | .48 | .50 | .51 | .52 | .54 | .54 | .55 | .55 | .55 | .55 | .54 | .53 | .52 | .51 | .50 | .48 | .46 | .44 | .41 | .39 | .36 | .33 |
|      | 587 | 615 | 640 | 662 | 680 | 696 | 711 | 720 | 726 | 728 | 728 | 724 | 717 | 708 | 695 | 679 | 660 | 638 | 608 | 580 | 549 | 516 | 481 | 443 |
| 45   | .43 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .55 | .55 | .55 | .54 | .53 | .52 | .51 | .50 | .48 | .46 | .43 | .41 | .38 | .36 | .33 |
|      | 585 | 612 | 637 | 659 | 678 | 694 | 709 | 718 | 724 | 726 | 726 | 722 | 715 | 706 | 693 | 677 | 658 | 636 | 606 | 578 | 547 | 514 | 479 | 441 |
| 1300 | .43 | .45 | .47 | .49 | .51 | .52 | .53 | .54 | .54 | .55 | .55 | .54 | .54 | .53 | .52 | .51 | .49 | .48 | .45 | .43 | .41 | .38 | .35 | .33 |
|      | 581 | 609 | 634 | 656 | 675 | 690 | 705 | 715 | 720 | 723 | 723 | 719 | 713 | 703 | 690 | 674 | 655 | 633 | 603 | 575 | 544 | 511 | 475 | 438 |
| 15   | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .54 | .54 | .54 | .54 | .54 | .54 | .53 | .52 | .51 | .49 | .47 | .45 | .43 | .40 | .38 | .35 | .32 |
|      | 577 | 604 | 629 | 651 | 670 | 686 | 701 | 710 | 716 | 719 | 719 | 715 | 708 | 699 | 686 | 670 | 651 | 629 | 599 | 571 | 540 | 507 | 471 | 433 |
| 30   | .42 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .54 | .54 | .54 | .54 | .53 | .52 | .51 | .50 | .49 | .47 | .45 | .43 | .40 | .38 | .35 | .32 |
|      | 571 | 599 | 624 | 646 | 665 | 681 | 696 | 706 | 712 | 715 | 714 | 711 | 704 | 694 | 682 | 666 | 647 | 625 | 594 | 565 | 535 | 502 | 466 | 428 |
| 45   | .42 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .53 | .54 | .54 | .53 | .53 | .52 | .51 | .50 | .48 | .47 | .44 | .42 | .40 | .37 | .34 | .31 |
|      | 565 | 593 | 618 | 640 | 659 | 675 | 690 | 700 | 706 | 709 | 709 | 705 | 699 | 683 | 676 | 660 | 641 | 619 | 589 | 560 | 529 | 496 | 460 | 422 |
| 1400 | .41 | .44 | .46 | .47 | .49 | .50 | .51 | .52 | .53 | .53 | .53 | .53 | .52 | .52 | .51 | .49 | .48 | .46 | .44 | .42 | .39 | .37 | .34 | .31 |
|      | 558 | 586 | 611 | 633 | 652 | 668 | 684 | 693 | 699 | 702 | 702 | 699 | 692 | 683 | 670 | 654 | 635 | 613 | 582 | 554 | 523 | 489 | 453 | 415 |
| 15   | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .52 | .53 | .53 | .52 | .52 | .51 | .50 | .49 | .47 | .46 | .43 | .41 | .39 | .36 | .33 | .30 |
|      | 550 | 578 | 603 | 625 | 645 | 661 | 676 | 686 | 692 | 695 | 695 | 692 | 685 | 676 | 663 | 647 | 628 | 605 | 575 | 547 | 515 | 482 | 445 | 407 |
| 30   | .40 | .42 | .44 | .46 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 | .51 | .50 | .49 | .48 | .47 | .45 | .43 | .40 | .38 | .35 | .33 | .30 |
|      | 541 | 569 | 594 | 617 | 636 | 652 | 668 | 678 | 684 | 687 | 687 | 684 | 677 | 668 | 655 | 639 | 620 | 597 | 567 | 538 | 507 | 473 | 437 | 398 |
| 45   | .40 | .42 | .44 | .45 | .47 | .48 | .50 | .50 | .51 | .51 | .51 | .51 | .51 | .50 | .49 | .48 | .46 | .44 | .42 | .40 | .37 | .35 | .32 | .29 |
|      | 532 | 560 | 585 | 607 | 627 | 643 | 659 | 669 | 675 | 679 | 679 | 675 | 663 | 659 | 646 | 630 | 611 | 589 | 558 | 529 | 498 | 464 | 427 | 389 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

X0 (W/M\*\*2.)

TABLE B-1 SOLAR PARAMETERS COS Z

MAY-AUG 80 N

| MST  | MAY |     |     |     |     |     | JUN |     |     |     |     |     | JUL |     |     |     |     |     | AUG |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1500 | .39 | .41 | .43 | .45 | .46 | .48 | .49 | .50 | .50 | .51 | .51 | .50 | .50 | .49 | .48 | .47 | .45 | .44 | .41 | .39 | .37 | .34 | .31 | .28 |
|      | 521 | 550 | 575 | 597 | 617 | 634 | 650 | 659 | 666 | 669 | 669 | 666 | 660 | 650 | 637 | 621 | 602 | 579 | 548 | 520 | 488 | 454 | 417 | 378 |
| 15   | .38 | .40 | .42 | .44 | .46 | .47 | .48 | .49 | .49 | .50 | .50 | .50 | .49 | .48 | .47 | .46 | .45 | .43 | .40 | .38 | .35 | .33 | .30 | .27 |
|      | 511 | 539 | 564 | 587 | 607 | 623 | 639 | 649 | 656 | 659 | 659 | 656 | 650 | 640 | 627 | 611 | 592 | 569 | 538 | 509 | 478 | 443 | 406 | 367 |
| 30   | .37 | .39 | .41 | .43 | .45 | .46 | .47 | .48 | .49 | .49 | .49 | .49 | .48 | .48 | .47 | .45 | .44 | .42 | .40 | .37 | .35 | .32 | .29 | .27 |
|      | 499 | 527 | 553 | 576 | 596 | 612 | 628 | 638 | 645 | 648 | 649 | 645 | 639 | 629 | 616 | 600 | 581 | 558 | 527 | 499 | 466 | 432 | 395 | 356 |
| 45   | .36 | .38 | .40 | .42 | .44 | .45 | .46 | .47 | .48 | .48 | .48 | .48 | .47 | .47 | .46 | .44 | .43 | .41 | .39 | .37 | .34 | .31 | .29 | .26 |
|      | 487 | 515 | 541 | 564 | 584 | 601 | 617 | 627 | 634 | 637 | 637 | 634 | 628 | 618 | 600 | 589 | 570 | 547 | 516 | 487 | 455 | 420 | 383 | 343 |
| 1600 | .35 | .38 | .40 | .41 | .43 | .44 | .46 | .46 | .47 | .47 | .47 | .47 | .46 | .46 | .45 | .44 | .42 | .40 | .38 | .36 | .33 | .30 | .28 | .25 |
|      | 474 | 503 | 529 | 552 | 572 | 589 | 605 | 615 | 622 | 626 | 626 | 623 | 616 | 607 | 594 | 577 | 558 | 535 | 504 | 474 | 442 | 407 | 370 | 331 |
| 15   | .34 | .37 | .39 | .40 | .42 | .43 | .45 | .45 | .46 | .46 | .46 | .46 | .45 | .45 | .44 | .43 | .41 | .39 | .37 | .35 | .32 | .30 | .27 | .24 |
|      | 461 | 490 | 516 | 539 | 559 | 576 | 593 | 603 | 610 | 613 | 614 | 611 | 604 | 594 | 581 | 565 | 545 | 523 | 491 | 462 | 429 | 394 | 357 | 317 |
| 30   | .33 | .36 | .38 | .39 | .41 | .42 | .44 | .44 | .45 | .45 | .45 | .45 | .44 | .44 | .43 | .42 | .40 | .38 | .36 | .34 | .31 | .29 | .26 | .23 |
|      | 448 | 477 | 503 | 526 | 546 | 563 | 580 | 590 | 597 | 601 | 601 | 598 | 592 | 582 | 569 | 552 | 533 | 510 | 478 | 449 | 416 | 381 | 344 | 304 |
| 45   | .32 | .35 | .37 | .38 | .40 | .41 | .43 | .44 | .44 | .44 | .44 | .44 | .43 | .43 | .42 | .41 | .39 | .37 | .35 | .33 | .30 | .27 | .25 | .22 |
|      | 434 | 463 | 489 | 512 | 533 | 550 | 567 | 577 | 584 | 588 | 588 | 585 | 579 | 569 | 556 | 539 | 519 | 496 | 465 | 435 | 403 | 367 | 330 | 290 |
| 1700 | .31 | .33 | .36 | .37 | .39 | .40 | .42 | .43 | .43 | .43 | .43 | .43 | .42 | .42 | .41 | .40 | .38 | .36 | .34 | .32 | .29 | .26 | .24 | .21 |
|      | 420 | 449 | 475 | 499 | 519 | 537 | 553 | 564 | 571 | 575 | 575 | 572 | 566 | 556 | 543 | 526 | 506 | 483 | 451 | 421 | 389 | 353 | 315 | 275 |
| 15   | .30 | .32 | .34 | .36 | .38 | .39 | .41 | .41 | .42 | .42 | .42 | .42 | .41 | .41 | .40 | .39 | .37 | .35 | .33 | .31 | .28 | .25 | .22 | .19 |
|      | 405 | 435 | 461 | 485 | 505 | 523 | 540 | 550 | 558 | 561 | 562 | 559 | 552 | 542 | 529 | 512 | 492 | 469 | 437 | 407 | 374 | 339 | 301 | 261 |
| 30   | .29 | .31 | .33 | .35 | .37 | .38 | .40 | .40 | .41 | .41 | .41 | .41 | .41 | .40 | .39 | .38 | .36 | .34 | .32 | .30 | .27 | .24 | .21 | .18 |
|      | 391 | 420 | 447 | 471 | 491 | 509 | 526 | 537 | 544 | 548 | 548 | 545 | 539 | 529 | 515 | 498 | 478 | 455 | 423 | 393 | 360 | 324 | 286 | 246 |
| 45   | .28 | .30 | .32 | .34 | .36 | .37 | .39 | .39 | .40 | .40 | .40 | .40 | .40 | .39 | .38 | .37 | .35 | .33 | .31 | .28 | .26 | .23 | .20 | .17 |
|      | 376 | 406 | 432 | 456 | 477 | 495 | 512 | 523 | 530 | 534 | 534 | 531 | 525 | 515 | 501 | 485 | 464 | 441 | 409 | 378 | 345 | 309 | 271 | 231 |

MAY-AUG 80 N TABLE B-1 SOLAR PARAMETERS COS 2 \*\*\* SIGNIFIES COS 2 \*1.  
XO (W/M\*2.) ADD 1000 TO VALUES PRECEDED BY \*

| INST | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1800 | .27 | .29 | .31 | .33 | .35 | .36 | .38 | .38 | .39 | .39 | .39 | .39 | .39 | .38 | .37 | .36 | .34 | .32 | .30 | .27 | .25 | .22 | .19 | .16 |
|      | 362 | 391 | 418 | 442 | 463 | 481 | 498 | 509 | 516 | 520 | 521 | 518 | 511 | 501 | 487 | 470 | 450 | 427 | 394 | 364 | 331 | 295 | 256 | 216 |
| 15   | .26 | .28 | .30 | .32 | .34 | .35 | .36 | .37 | .38 | .38 | .38 | .38 | .38 | .37 | .36 | .34 | .33 | .31 | .29 | .26 | .24 | .21 | .18 | .15 |
|      | 347 | 377 | 404 | 428 | 449 | 467 | 484 | 495 | 502 | 506 | 507 | 504 | 497 | 487 | 473 | 456 | 436 | 412 | 380 | 349 | 316 | 280 | 241 | 201 |
| 30   | .25 | .27 | .29 | .31 | .33 | .34 | .35 | .36 | .37 | .37 | .37 | .37 | .37 | .36 | .35 | .33 | .32 | .30 | .27 | .25 | .23 | .20 | .17 | .14 |
|      | 332 | 362 | 389 | 414 | 435 | 453 | 470 | 481 | 489 | 493 | 493 | 490 | 483 | 473 | 459 | 442 | 422 | 398 | 365 | 335 | 301 | 265 | 226 | 186 |
| 45   | .24 | .26 | .28 | .30 | .32 | .33 | .34 | .35 | .36 | .36 | .36 | .36 | .36 | .35 | .34 | .32 | .31 | .29 | .26 | .24 | .22 | .19 | .16 | .13 |
|      | 318 | 348 | 375 | 399 | 421 | 439 | 457 | 467 | 475 | 479 | 479 | 476 | 470 | 459 | 446 | 428 | 408 | 384 | 351 | 320 | 287 | 250 | 212 | 171 |
| 1900 | .23 | .25 | .27 | .29 | .31 | .32 | .33 | .34 | .35 | .35 | .35 | .35 | .35 | .34 | .34 | .33 | .31 | .28 | .25 | .23 | .20 | .18 | .15 | .12 |
|      | 304 | 334 | 361 | 386 | 407 | 425 | 443 | 454 | 461 | 465 | 466 | 463 | 456 | 446 | 432 | 415 | 394 | 370 | 337 | 306 | 272 | 236 | 197 | 156 |
| 15   | .22 | .24 | .26 | .28 | .30 | .31 | .32 | .33 | .34 | .34 | .34 | .34 | .34 | .33 | .33 | .32 | .30 | .27 | .24 | .22 | .19 | .17 | .14 | .11 |
|      | 290 | 320 | 347 | 372 | 394 | 412 | 430 | 441 | 448 | 452 | 453 | 449 | 443 | 432 | 418 | 401 | 380 | 356 | 323 | 292 | 258 | 222 | 183 | 142 |
| 30   | .21 | .23 | .25 | .27 | .29 | .30 | .31 | .32 | .33 | .33 | .33 | .33 | .33 | .32 | .32 | .31 | .29 | .26 | .23 | .21 | .18 | .16 | .13 | .10 |
|      | 276 | 306 | 334 | 359 | 380 | 399 | 417 | 428 | 435 | 439 | 440 | 436 | 430 | 419 | 405 | 388 | 367 | 343 | 309 | 278 | 244 | 208 | 169 | 127 |
| 45   | .20 | .22 | .24 | .26 | .28 | .29 | .30 | .31 | .32 | .32 | .32 | .32 | .32 | .31 | .30 | .28 | .27 | .25 | .22 | .20 | .17 | .15 | .12 | .09 |
|      | 263 | 293 | 321 | 346 | 368 | 386 | 404 | 415 | 423 | 427 | 427 | 424 | 417 | 406 | 392 | 375 | 354 | 329 | 296 | 265 | 231 | 194 | 155 | 114 |
| 2000 | .19 | .21 | .23 | .25 | .27 | .28 | .30 | .30 | .31 | .31 | .31 | .31 | .31 | .30 | .29 | .27 | .26 | .24 | .21 | .19 | .16 | .14 | .11 | .08 |
|      | 250 | 280 | 308 | 333 | 355 | 374 | 392 | 403 | 410 | 414 | 415 | 411 | 405 | 394 | 380 | 362 | 341 | 317 | 283 | 252 | 218 | 181 | 142 | 100 |
| 15   | .18 | .20 | .22 | .24 | .26 | .27 | .29 | .30 | .30 | .30 | .30 | .30 | .30 | .29 | .28 | .26 | .25 | .23 | .20 | .19 | .15 | .13 | .10 | .07 |
|      | 237 | 268 | 298 | 321 | 343 | 362 | 380 | 391 | 399 | 403 | 403 | 400 | 393 | 382 | 368 | 350 | 329 | 304 | 271 | 239 | 205 | 168 | 129 | 088 |
| 30   | .17 | .19 | .21 | .23 | .25 | .26 | .28 | .29 | .29 | .30 | .30 | .29 | .29 | .28 | .27 | .26 | .24 | .22 | .19 | .17 | .14 | .12 | .09 | .06 |
|      | 226 | 256 | 285 | 310 | 332 | 351 | 369 | 380 | 387 | 391 | 392 | 388 | 381 | 370 | 356 | 338 | 317 | 292 | 259 | 227 | 193 | 156 | 117 | 075 |
| 45   | .16 | .18 | .20 | .22 | .24 | .26 | .27 | .28 | .28 | .29 | .29 | .29 | .28 | .27 | .26 | .25 | .23 | .21 | .19 | .16 | .14 | .11 | .08 | .05 |
|      | 214 | 245 | 274 | 299 | 321 | 340 | 358 | 369 | 377 | 381 | 381 | 377 | 370 | 360 | 345 | 327 | 306 | 281 | 247 | 216 | 181 | 144 | 105 | 064 |

TABLE B-1 SOLAR PARAMETERS COS 2  
XO (W/M\*\*2.) \*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY .

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 2100 | .15 | .18 | .20 | .22 | .23 | .25 | .26 | .27 | .28 | .28 | .28 | .28 | .27 | .26 | .25 | .24 | .22 | .20 | .18 | .15 |
|      | 204 | 235 | 263 | 289 | 311 | 330 | 348 | 359 | 367 | 370 | 371 | 367 | 360 | 349 | 335 | 317 | 295 | 270 | 236 | 205 |
| 15   | .14 | .17 | .19 | .21 | .23 | .24 | .25 | .26 | .27 | .27 | .27 | .27 | .27 | .26 | .25 | .23 | .22 | .20 | .17 | .15 |
|      | 194 | 225 | 254 | 279 | 301 | 320 | 338 | 350 | 357 | 361 | 361 | 358 | 350 | 339 | 325 | 307 | 285 | 260 | 226 | 195 |
| 30   | .14 | .16 | .18 | .20 | .22 | .23 | .25 | .26 | .26 | .27 | .27 | .26 | .26 | .25 | .24 | .22 | .21 | .19 | .16 | .14 |
|      | 185 | 216 | 245 | 270 | 292 | 311 | 330 | 341 | 348 | 352 | 352 | 349 | 341 | 330 | 316 | 298 | 276 | 251 | 217 | 185 |
| 45   | .13 | .16 | .18 | .20 | .21 | .23 | .24 | .25 | .26 | .26 | .26 | .26 | .25 | .24 | .23 | .22 | .20 | .18 | .16 | .13 |
|      | 176 | 208 | 236 | 262 | 284 | 303 | 321 | 333 | 340 | 344 | 344 | 340 | 333 | 322 | 307 | 289 | 267 | 242 | 208 | 176 |
| 2200 | .13 | .15 | .17 | .19 | .21 | .22 | .24 | .25 | .25 | .25 | .25 | .25 | .25 | .24 | .23 | .21 | .20 | .18 | .15 | .13 |
|      | 169 | 200 | 229 | 255 | 277 | 296 | 314 | 325 | 333 | 337 | 337 | 333 | 326 | 314 | 300 | 281 | 259 | 234 | 200 | 163 |
| 15   | .12 | .14 | .17 | .19 | .20 | .22 | .23 | .24 | .25 | .25 | .25 | .25 | .24 | .23 | .22 | .21 | .19 | .17 | .15 | .12 |
|      | 162 | 194 | 222 | 248 | 271 | 290 | 308 | 319 | 326 | 330 | 330 | 326 | 319 | 308 | 293 | 274 | 252 | 227 | 193 | 161 |
| 30   | .12 | .14 | .16 | .18 | .20 | .21 | .23 | .24 | .24 | .25 | .25 | .24 | .24 | .23 | .22 | .20 | .19 | .17 | .14 | .12 |
|      | 156 | 188 | 217 | 242 | 265 | 284 | 302 | 313 | 321 | 324 | 324 | 320 | 313 | 301 | 287 | 268 | 246 | 221 | 187 | 155 |
| 45   | .11 | .14 | .16 | .18 | .20 | .21 | .22 | .23 | .24 | .24 | .24 | .24 | .23 | .22 | .21 | .20 | .18 | .16 | .14 | .11 |
|      | 151 | 183 | 212 | 238 | 260 | 279 | 297 | 308 | 316 | 319 | 319 | 315 | 308 | 296 | 281 | 263 | 241 | 216 | 181 | 149 |
| 2300 | .11 | .13 | .16 | .18 | .19 | .21 | .22 | .23 | .24 | .24 | .24 | .24 | .23 | .22 | .21 | .20 | .18 | .16 | .13 | .11 |
|      | 147 | 179 | 208 | 234 | 256 | 275 | 293 | 304 | 312 | 315 | 315 | 311 | 303 | 292 | 277 | 258 | 236 | 211 | 177 | 145 |
| 15   | .11 | .13 | .15 | .17 | .19 | .20 | .22 | .23 | .23 | .24 | .24 | .23 | .23 | .22 | .21 | .19 | .18 | .16 | .13 | .11 |
|      | 144 | 176 | 205 | 231 | 253 | 272 | 290 | 301 | 309 | 312 | 312 | 308 | 300 | 288 | 273 | 255 | 233 | 207 | 173 | 141 |
| 30   | .11 | .13 | .15 | .17 | .19 | .20 | .22 | .23 | .23 | .23 | .23 | .23 | .23 | .22 | .20 | .19 | .17 | .15 | .13 | .10 |
|      | 142 | 174 | 203 | 229 | 251 | 270 | 288 | 299 | 306 | 310 | 309 | 305 | 297 | 286 | 271 | 252 | 230 | 205 | 170 | 138 |
| 45   | .10 | .13 | .15 | .17 | .19 | .20 | .22 | .23 | .23 | .23 | .23 | .23 | .22 | .22 | .20 | .19 | .17 | .15 | .13 | .10 |
|      | 141 | 173 | 202 | 227 | 250 | 269 | 287 | 298 | 305 | 308 | 308 | 304 | 290 | 284 | 269 | 250 | 228 | 203 | 168 | 137 |

MAY-AUG 80 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS 2 =1.  
X0 (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0300 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 002 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 013 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 025 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 038 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 0400 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 051 | 009 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 064 | 022 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 078 | 036 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 092 | 051 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 0500 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 107 | 066 | 023 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 122 | 080 | 038 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .10 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 137 | 096 | 053 | 010 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .11 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 152 | 111 | 069 | 026 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |

SEP-DEC 80 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     |     |  | OCT |     |     |     |     |     |  | NOV |     |     |     |     |     |  | DEC |     |     |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  |  | 5   | 10  | 15  | 20  | 25  | 30  |  | 5   | 10  | 15  | 20  | 25  | 30  |  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0600 | .12 | .09 | .06 | .03 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 167 | 126 | 084 | 041 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .14 | .11 | .07 | .04 | .01 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 182 | 141 | 099 | 057 | 013 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .15 | .12 | .09 | .05 | .02 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 197 | 157 | 115 | 072 | 028 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .16 | .13 | .10 | .06 | .03 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 212 | 172 | 130 | 087 | 044 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 0700 | .17 | .14 | .11 | .08 | .04 | .01 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 227 | 187 | 145 | 102 | 059 | 015 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .18 | .15 | .12 | .09 | .05 | .02 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 242 | 201 | 159 | 117 | 073 | 029 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .19 | .16 | .13 | .10 | .06 | .03 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 256 | 215 | 174 | 131 | 087 | 044 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .20 | .17 | .14 | .11 | .07 | .04 |  | .01 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 270 | 229 | 188 | 145 | 101 | 057 |  | 013 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 0800 | .21 | .18 | .15 | .12 | .08 | .05 |  | .02 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 283 | 243 | 201 | 158 | 115 | 071 |  | 026 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .22 | .19 | .16 | .13 | .09 | .06 |  | .03 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 296 | 255 | 214 | 171 | 128 | 083 |  | 039 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .23 | .20 | .17 | .14 | .10 | .07 |  | .04 | .01 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 308 | 268 | 226 | 183 | 140 | 096 |  | 051 | 007 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .24 | .21 | .18 | .14 | .11 | .08 |  | .05 | .01 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 320 | 279 | 238 | 195 | 151 | 107 |  | 063 | 018 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  | 000 | 000 | 000 | 000 | 000 | 000 |  |

SEP-DEC 80 N      TABLE B-1      SOLAR PARAMETERS      CDS Z      \*\*\* SIGNIFIES COS Z =1.  
 XO (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0900 | .25  | .22 | .18 | .15 | .12 | .09 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 331  | 290 | 249 | 206 | 162 | 118 | 074 | 029 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .25  | .22 | .19 | .16 | .13 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 341  | 301 | 259 | 216 | 172 | 128 | 084 | 039 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .26  | .23 | .20 | .17 | .13 | .10 | .07 | .04 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 351  | 310 | 269 | 226 | 182 | 137 | 093 | 048 | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .27  | .24 | .20 | .17 | .14 | .11 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 360  | 319 | 277 | 234 | 190 | 146 | 101 | 056 | 012 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1000 | .27  | .24 | .21 | .18 | .15 | .11 | .08 | .05 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 368  | 327 | 285 | 242 | 198 | 153 | 109 | 064 | 019 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .28  | .25 | .22 | .18 | .15 | .12 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 375  | 334 | 292 | 249 | 205 | 160 | 115 | 070 | 026 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .28  | .25 | .22 | .19 | .16 | .12 | .09 | .06 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 381  | 340 | 298 | 255 | 211 | 166 | 121 | 076 | 031 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .29  | .26 | .22 | .19 | .16 | .13 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 386  | 345 | 303 | 260 | 216 | 171 | 126 | 081 | 036 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1100 | .29  | .26 | .23 | .19 | .16 | .13 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 390  | 350 | 307 | 264 | 219 | 175 | 129 | 084 | 039 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .29  | .26 | .23 | .20 | .16 | .13 | .10 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 394  | 353 | 310 | 267 | 222 | 177 | 132 | 087 | 042 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .29  | .26 | .23 | .20 | .17 | .13 | .10 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 396  | 355 | 313 | 269 | 224 | 179 | 134 | 088 | 044 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .30  | .26 | .23 | .20 | .17 | .13 | .10 | .07 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 398  | 356 | 314 | 270 | 225 | 180 | 134 | 089 | 044 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

SEP-DEC 80 N TABLE B-1 SOLAR PARAMETERS COS Z XO (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY \*



| MST  | SEP  |     |     |     |     |     |  | OCT  |     |     |     |     |     |  | NOV  |     |     |     |     |     |  | DEC  |     |     |     |     |     |  |
|------|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|
|      | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  |
|      | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  |
| 1200 | .30  | .26 | .23 | .20 | .17 | .13 |  | .10  | .06 | .03 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 398  | 357 | 314 | 270 | 225 | 180 |  | 134  | 089 | 044 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .30  | .26 | .23 | .20 | .16 | .13 |  | .10  | .06 | .03 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 397  | 356 | 313 | 269 | 224 | 179 |  | 133  | 087 | 042 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .29  | .26 | .23 | .20 | .16 | .13 |  | .10  | .06 | .03 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 396  | 354 | 311 | 267 | 222 | 176 |  | 131  | 065 | 040 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .29  | .26 | .23 | .19 | .16 | .13 |  | .09  | .06 | .03 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 393  | 352 | 308 | 264 | 219 | 173 |  | 127  | 081 | 036 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 1300 | .29  | .26 | .23 | .19 | .15 | .12 |  | .09  | .06 | .02 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 390  | 348 | 305 | 260 | 215 | 169 |  | 123  | 077 | 032 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .29  | .25 | .22 | .19 | .15 | .12 |  | .09  | .05 | .02 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 385  | 343 | 300 | 255 | 210 | 164 |  | 118  | 072 | 026 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .28  | .25 | .22 | .18 | .15 | .12 |  | .08  | .05 | .01 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 380  | 338 | 294 | 249 | 204 | 158 |  | 111  | 065 | 020 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .28  | .25 | .21 | .18 | .14 | .11 |  | .08  | .04 | .01 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 373  | 331 | 287 | 243 | 197 | 151 |  | 104  | 058 | 013 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 1400 | .27  | .24 | .21 | .17 | .14 | .10 |  | .07  | .04 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 366  | 324 | 280 | 235 | 189 | 143 |  | 096  | 050 | 004 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .27  | .23 | .20 | .17 | .13 | .10 |  | .06  | .03 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 358  | 316 | 272 | 226 | 180 | 134 |  | 087  | 041 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .26  | .23 | .19 | .16 | .13 | .09 |  | .06  | .02 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 349  | 306 | 262 | 217 | 171 | 124 |  | 078  | 031 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .25  | .22 | .19 | .15 | .12 | .08 |  | .05  | .02 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
|      | 339  | 297 | 252 | 207 | 161 | 114 |  | 067  | 021 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  | 000  | 000 | 000 | 000 | 000 | 000 |  |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

TABLE B-1

SEP-DEC

80 N

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1500 | .24  | .21 | .18 | .14 | .11 | .08 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 329  | 286 | 242 | 196 | 150 | 103 | 056 | 009 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .24  | .20 | .17 | .14 | .10 | .07 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 318  | 275 | 230 | 184 | 138 | 091 | 044 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .23  | .19 | .16 | .13 | .09 | .06 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 306  | 263 | 218 | 172 | 126 | 079 | 032 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .22  | .19 | .15 | .12 | .08 | .05 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 294  | 250 | 205 | 159 | 113 | 066 | 018 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1600 | .21  | .18 | .14 | .11 | .07 | .04 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 281  | 237 | 192 | 146 | 099 | 052 | 005 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .20  | .17 | .13 | .10 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 267  | 223 | 178 | 132 | 085 | 038 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .19  | .16 | .12 | .09 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 253  | 209 | 164 | 118 | 071 | 024 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .18  | .14 | .11 | .08 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 239  | 195 | 150 | 103 | 056 | 009 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1700 | .17  | .13 | .10 | .07 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 224  | 180 | 135 | 088 | 041 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .16  | .12 | .09 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 210  | 165 | 120 | 073 | 026 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .14  | .11 | .08 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 195  | 150 | 105 | 058 | 011 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .13  | .10 | .07 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 179  | 135 | 089 | 043 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS 2  
XO (W//H\*\*2.)

SEP-DEC 80 N

| MST  | SEP  |     |     |     |     | OCT  |     |     |     |     | DATE |     |     |     |     | NOV  |     |     |     |     | DEC  |     |     |     |  |
|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|--|
|      | 5    | 10  | 15  | 20  | 25  | 30   | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15   | 20  | 25  | 30  |  |
|      | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |     |  |
| 1800 | .12  | .09 | .05 | .02 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 164  | 120 | 074 | 027 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 15   | .11  | .08 | .04 | .01 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 149  | 104 | 059 | 012 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 30   | .10  | .07 | .03 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 134  | 089 | 043 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 45   | .09  | .06 | .02 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 119  | 074 | 028 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 1900 | .08  | .04 | .01 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 104  | 059 | 013 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 15   | .07  | .03 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 090  | 045 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 30   | .06  | .02 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 075  | 031 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 45   | .05  | .01 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 062  | 017 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 2000 | .04  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 048  | 003 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 15   | .03  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 035  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 30   | .02  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 023  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |
| 45   | .01  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 |  |
|      | 011  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 |  |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
COS Z  
XO (W/M\*\*2.)

TABLE B-1

SEP-DEC 80 M

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     | FEB |     |     | MAR |     |     | APR |     |     | APR |     |     | APR |     |     | APR |     |     | APR |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0400 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0600 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS 2  
XO (W/M\*\*2.)

TABLL B-1 60 N JAN-APR



| MST  | JAN                                                        |   |    |    |    | FEB |    |                                            |    |    | DATE |    |    |                                                    |    | MAR |    |    |    |                                                    | APR |    |    |    |    |
|------|------------------------------------------------------------|---|----|----|----|-----|----|--------------------------------------------|----|----|------|----|----|----------------------------------------------------|----|-----|----|----|----|----------------------------------------------------|-----|----|----|----|----|
|      | 1                                                          | 5 | 10 | 15 | 20 | 25  | 30 | 5                                          | 10 | 15 | 20   | 25 | 30 | 5                                                  | 10 | 15  | 20 | 25 | 30 | 5                                                  | 10  | 15 | 20 | 25 | 30 |
| 1000 | .06 .06 .07 .08 .09 .11 .13<br>079 085 096 112 133 157 185 |   |    |    |    |     |    | .16 .18 .21 .24 .27<br>224 259 296 336 377 |    |    |      |    |    | .32 .35 .38 .42 .45 .48<br>445 489 532 574 616 657 |    |     |    |    |    | .51 .54 .57 .59 .62 .64<br>703 740 774 806 835 862 |     |    |    |    |    |
| 15   | .07 .08 .08 .10 .11 .13 .15<br>099 106 118 134 155 180 208 |   |    |    |    |     |    | .18 .20 .23 .26 .29<br>247 282 320 360 401 |    |    |      |    |    | .34 .37 .40 .43 .46 .49<br>469 512 555 597 639 679 |    |     |    |    |    | .53 .55 .58 .61 .63 .65<br>725 761 795 826 855 882 |     |    |    |    |    |
| 30   | .08 .09 .10 .11 .12 .14 .16<br>117 124 137 154 175 200 229 |   |    |    |    |     |    | .19 .22 .24 .27 .30<br>268 303 341 381 422 |    |    |      |    |    | .35 .38 .42 .45 .48 .51<br>490 532 575 617 658 698 |    |     |    |    |    | .54 .57 .60 .62 .65 .67<br>744 779 813 844 873 899 |     |    |    |    |    |
| 45   | .09 .10 .11 .12 .14 .15 .18<br>133 140 153 170 192 217 247 |   |    |    |    |     |    | .20 .23 .26 .29 .32<br>286 321 359 399 440 |    |    |      |    |    | .37 .40 .43 .46 .49 .52<br>504 550 593 635 675 715 |    |     |    |    |    | .56 .59 .61 .63 .66 .68<br>760 795 828 859 888 913 |     |    |    |    |    |
| 1100 | .10 .11 .12 .13 .15 .16 .19<br>146 153 167 185 206 232 262 |   |    |    |    |     |    | .21 .24 .27 .30 .33<br>301 337 375 415 456 |    |    |      |    |    | .38 .41 .44 .47 .50 .53<br>523 566 608 649 690 729 |    |     |    |    |    | .57 .59 .62 .64 .67 .69<br>773 809 841 872 900 925 |     |    |    |    |    |
| 15   | .11 .12 .13 .14 .15 .17 .19<br>156 164 178 196 218 244 274 |   |    |    |    |     |    | .22 .25 .28 .31 .34<br>314 350 388 427 469 |    |    |      |    |    | .39 .42 .45 .48 .51 .54<br>530 578 620 661 701 740 |    |     |    |    |    | .57 .60 .63 .65 .67 .69<br>784 819 851 881 909 935 |     |    |    |    |    |
| 30   | .12 .12 .13 .15 .16 .18 .20<br>164 172 186 205 227 254 284 |   |    |    |    |     |    | .23 .26 .28 .31 .34<br>323 360 398 437 478 |    |    |      |    |    | .39 .42 .45 .49 .52 .55<br>545 587 629 670 710 748 |    |     |    |    |    | .58 .61 .63 .66 .68 .70<br>792 827 858 888 916 941 |     |    |    |    |    |
| 45   | .12 .13 .14 .15 .17 .18 .21<br>169 177 192 211 234 260 290 |   |    |    |    |     |    | .24 .26 .29 .32 .35<br>330 367 405 445 486 |    |    |      |    |    | .40 .43 .46 .49 .52 .55<br>552 594 635 676 715 753 |    |     |    |    |    | .58 .61 .63 .66 .68 .70<br>797 831 863 892 920 945 |     |    |    |    |    |
| 1200 | .12 .13 .14 .15 .17 .19 .21<br>171 179 194 214 237 264 294 |   |    |    |    |     |    | .24 .26 .29 .32 .35<br>335 371 409 449 490 |    |    |      |    |    | .40 .43 .46 .49 .52 .55<br>550 598 639 679 718 756 |    |     |    |    |    | .58 .61 .63 .66 .68 .70<br>799 832 864 894 921 945 |     |    |    |    |    |
| 15   | .12 .13 .14 .15 .17 .19 .21<br>170 179 194 214 238 265 295 |   |    |    |    |     |    | .24 .27 .29 .32 .35<br>336 372 410 450 491 |    |    |      |    |    | .40 .43 .46 .49 .52 .55<br>557 598 639 679 718 755 |    |     |    |    |    | .58 .61 .63 .66 .68 .70<br>798 831 863 892 919 944 |     |    |    |    |    |
| 30   | .12 .12 .14 .15 .17 .19 .21<br>166 176 191 211 235 263 294 |   |    |    |    |     |    | .24 .26 .29 .32 .35<br>334 371 409 448 489 |    |    |      |    |    | .40 .43 .46 .49 .52 .55<br>555 596 636 676 715 752 |    |     |    |    |    | .58 .61 .63 .65 .68 .70<br>794 827 858 887 914 939 |     |    |    |    |    |
| 45   | .11 .12 .13 .15 .16 .18 .21<br>160 170 186 206 230 258 289 |   |    |    |    |     |    | .23 .26 .29 .32 .35<br>330 366 404 444 484 |    |    |      |    |    | .40 .43 .46 .49 .52 .54<br>550 591 631 670 709 745 |    |     |    |    |    | .58 .60 .63 .65 .67 .69<br>787 820 851 880 907 931 |     |    |    |    |    |

JAN-APR 60 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
X0 (W/M\*2.)      ADD 1000 TO VALUES PRECEDED BY .

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | DATE |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30   |      |      |      |      |      |
| 1300 | .11 | .11 | .13 | .14 | .16 | .18 | .20 | .23 | .26 | .28 | .31  | .34 | .39 | .42 | .45 | .48 | .51 | .54 | .57 | .53 | .62 | .64 | .66 | .68 | .778 | .811 | .841 | .870 | .897 | .921 |
| 15   | .10 | .11 | .12 | .13 | .15 | .17 | .19 | .22 | .25 | .28 | .30  | .33 | .38 | .41 | .44 | .47 | .50 | .53 | .56 | .53 | .61 | .63 | .65 | .67 | .765 | .793 | .829 | .857 | .884 | .908 |
| 30   | .09 | .10 | .11 | .12 | .14 | .16 | .18 | .21 | .24 | .27 | .30  | .32 | .37 | .40 | .43 | .46 | .49 | .52 | .55 | .57 | .60 | .62 | .64 | .66 | .750 | .783 | .813 | .842 | .868 | .893 |
| 45   | .08 | .08 | .10 | .11 | .13 | .15 | .17 | .20 | .23 | .26 | .28  | .31 | .36 | .39 | .42 | .45 | .48 | .50 | .54 | .55 | .58 | .61 | .63 | .65 | .732 | .765 | .795 | .823 | .850 | .874 |
| 1400 | .06 | .07 | .08 | .10 | .12 | .14 | .16 | .19 | .21 | .24 | .27  | .30 | .35 | .38 | .41 | .43 | .46 | .49 | .52 | .55 | .57 | .59 | .61 | .63 | .712 | .741 | .774 | .803 | .829 | .854 |
| 15   | .05 | .06 | .07 | .08 | .10 | .12 | .14 | .17 | .20 | .23 | .26  | .28 | .33 | .36 | .39 | .42 | .45 | .47 | .50 | .53 | .55 | .58 | .60 | .62 | .689 | .721 | .751 | .780 | .806 | .831 |
| 30   | .03 | .04 | .05 | .07 | .08 | .11 | .13 | .16 | .18 | .21 | .24  | .27 | .31 | .34 | .37 | .40 | .43 | .45 | .49 | .51 | .53 | .56 | .58 | .60 | .663 | .695 | .726 | .754 | .781 | .805 |
| 45   | .01 | .02 | .03 | .05 | .07 | .09 | .11 | .14 | .16 | .19 | .22  | .25 | .29 | .32 | .35 | .38 | .41 | .43 | .46 | .47 | .51 | .54 | .56 | .58 | .636 | .667 | .698 | .726 | .753 | .778 |
| 1500 | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .12 | .14 | .17 | .20  | .23 | .27 | .30 | .33 | .36 | .39 | .41 | .44 | .47 | .49 | .51 | .54 | .56 | .606 | .637 | .668 | .696 | .723 | .748 |
| 15   | .00 | .00 | .00 | .01 | .02 | .05 | .07 | .10 | .12 | .15 | .18  | .20 | .25 | .28 | .31 | .34 | .36 | .39 | .42 | .44 | .47 | .49 | .51 | .53 | .573 | .605 | .636 | .664 | .691 | .717 |
| 30   | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .07 | .10 | .13 | .15  | .18 | .23 | .25 | .28 | .31 | .34 | .36 | .39 | .42 | .44 | .47 | .49 | .51 | .539 | .571 | .602 | .631 | .658 | .683 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .07 | .10 | .13  | .16 | .20 | .23 | .26 | .28 | .31 | .34 | .37 | .39 | .42 | .44 | .46 | .48 | .503 | .535 | .566 | .595 | .623 | .648 |

JAN-APR 60 N      TABLE 8-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*





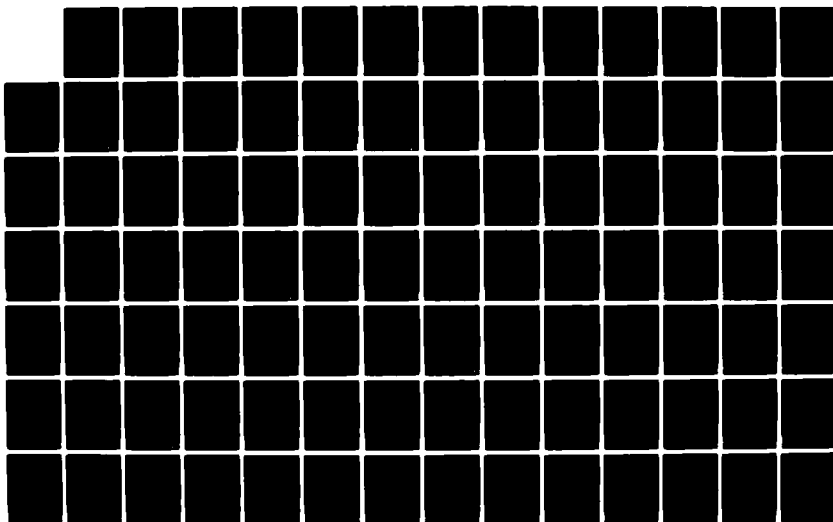
AD-A148 096

OPERATIONAL TACTICAL DECISION AID (OTDA) FOR INFRARED  
(8-12 MICROMETERS)...(U) SYSTEMS AND APPLIED SCIENCES  
CORP VIENNA VA D B HODGES 30 SEP 83 SCIENTIFIC-8-VOL-3  
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MST

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1900 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

JAN-APR 60 N      TABLE 8-1      SOLAR PARAMETERS      COS 2  
XO (W/M-2.)

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY .



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 0500 | .12  | .14  | .16  | .18  | .19  | .20  | .21  | .22  | .22  | .22  | .22  | .22  | .21  | .20  | .19  | .18  | .16  | .14  | .12  | .10  | .08  | .06  | .04  | .01  |
|      | 163  | 192  | 217  | 239  | 257  | 272  | 285  | 292  | 296  | 296  | 293  | 286  | 277  | 264  | 249  | 232  | 212  | 190  | 161  | 134  | 107  | 077  | 047  | 015  |
| 15   | .15  | .17  | .19  | .21  | .22  | .23  | .24  | .25  | .25  | .25  | .25  | .25  | .24  | .23  | .22  | .20  | .19  | .17  | .15  | .13  | .11  | .09  | .07  | .04  |
| 30   | .204 | .233 | .258 | .279 | .297 | .312 | .324 | .331 | .334 | .334 | .331 | .325 | .315 | .303 | .288 | .271 | .251 | .230 | .201 | .175 | .148 | .119 | .089 | .058 |
|      | .18  | .20  | .22  | .24  | .25  | .26  | .27  | .28  | .28  | .28  | .28  | .28  | .27  | .26  | .25  | .23  | .22  | .20  | .18  | .15  | .14  | .12  | .10  | .08  |
| 45   | .246 | .274 | .299 | .320 | .337 | .352 | .364 | .371 | .374 | .374 | .370 | .364 | .355 | .343 | .328 | .311 | .292 | .270 | .242 | .216 | .189 | .161 | .131 | .100 |
|      | .21  | .24  | .25  | .27  | .28  | .29  | .30  | .31  | .31  | .31  | .31  | .31  | .30  | .29  | .28  | .27  | .25  | .23  | .21  | .19  | .17  | .15  | .13  | .11  |
| 0600 | .286 | .316 | .340 | .361 | .378 | .392 | .404 | .410 | .413 | .413 | .410 | .404 | .394 | .382 | .368 | .351 | .332 | .311 | .283 | .253 | .231 | .203 | .174 | .144 |
|      | .25  | .27  | .29  | .30  | .31  | .33  | .33  | .34  | .34  | .34  | .34  | .34  | .33  | .32  | .31  | .30  | .28  | .27  | .24  | .23  | .21  | .18  | .16  | .14  |
| 15   | .331 | .358 | .382 | .402 | .419 | .432 | .444 | .450 | .453 | .453 | .450 | .443 | .434 | .422 | .408 | .392 | .373 | .352 | .325 | .300 | .274 | .246 | .217 | .187 |
|      | .28  | .30  | .32  | .33  | .35  | .36  | .36  | .37  | .37  | .37  | .37  | .37  | .36  | .35  | .34  | .33  | .31  | .30  | .28  | .26  | .24  | .22  | .19  | .17  |
| 30   | .373 | .400 | .423 | .443 | .460 | .473 | .484 | .490 | .493 | .493 | .489 | .483 | .474 | .463 | .448 | .432 | .414 | .393 | .366 | .342 | .316 | .289 | .260 | .230 |
|      | .31  | .33  | .35  | .36  | .38  | .39  | .39  | .40  | .40  | .40  | .40  | .40  | .39  | .38  | .37  | .36  | .34  | .33  | .31  | .29  | .27  | .25  | .23  | .20  |
| 45   | .415 | .441 | .464 | .484 | .500 | .513 | .524 | .530 | .533 | .532 | .529 | .523 | .514 | .503 | .489 | .473 | .454 | .434 | .408 | .384 | .358 | .331 | .303 | .274 |
|      | .34  | .36  | .38  | .39  | .41  | .42  | .42  | .43  | .43  | .43  | .43  | .43  | .42  | .41  | .40  | .39  | .37  | .36  | .34  | .32  | .30  | .28  | .26  | .24  |
| 0700 | .457 | .483 | .505 | .524 | .540 | .553 | .564 | .570 | .572 | .572 | .568 | .562 | .553 | .542 | .529 | .513 | .495 | .475 | .449 | .425 | .400 | .373 | .346 | .316 |
|      | .37  | .39  | .41  | .42  | .44  | .45  | .45  | .46  | .46  | .46  | .46  | .45  | .45  | .44  | .43  | .42  | .40  | .39  | .37  | .35  | .33  | .31  | .29  | .27  |
| 15   | .498 | .523 | .545 | .564 | .580 | .592 | .603 | .609 | .611 | .610 | .607 | .601 | .592 | .581 | .568 | .552 | .535 | .515 | .490 | .466 | .441 | .415 | .388 | .359 |
|      | .40  | .42  | .44  | .45  | .46  | .47  | .48  | .49  | .49  | .49  | .49  | .48  | .48  | .47  | .46  | .45  | .43  | .42  | .40  | .39  | .36  | .34  | .32  | .30  |
| 30   | .538 | .563 | .585 | .604 | .619 | .631 | .642 | .647 | .649 | .649 | .645 | .639 | .631 | .620 | .607 | .592 | .574 | .555 | .530 | .507 | .482 | .456 | .429 | .400 |
|      | .43  | .45  | .47  | .48  | .49  | .50  | .51  | .52  | .52  | .52  | .52  | .51  | .51  | .50  | .49  | .48  | .46  | .45  | .43  | .41  | .39  | .37  | .35  | .33  |
| 45   | .578 | .602 | .624 | .642 | .657 | .669 | .679 | .684 | .686 | .686 | .683 | .677 | .669 | .658 | .645 | .630 | .613 | .594 | .569 | .545 | .522 | .496 | .469 | .441 |
|      | .46  | .48  | .49  | .51  | .52  | .53  | .54  | .54  | .55  | .55  | .54  | .54  | .53  | .53  | .52  | .50  | .49  | .48  | .46  | .44  | .42  | .40  | .38  | .36  |
|      | .616 | .640 | .661 | .679 | .694 | .706 | .716 | .721 | .723 | .722 | .719 | .713 | .705 | .695 | .682 | .667 | .651 | .632 | .607 | .585 | .561 | .536 | .509 | .481 |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS 2  
X0 (W/M\*\*2.)

TABLE B-1

MAY-AUG 60 N

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 0800 | .49 | .50 | .52 | .54 | .55 | .56 | .57 | .57 | .57 | .57 | .57 | .57 | .56 | .55 | .54 | .53 | .52 | .50 | .48 | .47 | .45 | .43 | .41 | .39 |
|      | 653 | 677 | 697 | 715 | 730 | 741 | 751 | 756 | 758 | 757 | 754 | 749 | 741 | 730 | 718 | 704 | 687 | 669 | 644 | 622 | 599 | 574 | 547 | 519 |
| 15   | .51 | .53 | .55 | .56 | .57 | .58 | .59 | .60 | .60 | .60 | .60 | .59 | .59 | .58 | .57 | .56 | .54 | .53 | .51 | .49 | .48 | .46 | .44 | .41 |
|      | 689 | 712 | 732 | 750 | 764 | 775 | 785 | 790 | 792 | 791 | 788 | 783 | 775 | 765 | 753 | 739 | 722 | 704 | 680 | 659 | 635 | 610 | 584 | 556 |
| 30   | .54 | .56 | .57 | .59 | .60 | .61 | .62 | .62 | .62 | .62 | .62 | .62 | .61 | .60 | .59 | .58 | .57 | .56 | .54 | .52 | .50 | .48 | .46 | .44 |
|      | 723 | 746 | 766 | 783 | 797 | 808 | 817 | 822 | 824 | 824 | 821 | 816 | 808 | 798 | 786 | 772 | 756 | 738 | 715 | 693 | 670 | 645 | 619 | 591 |
| 45   | .56 | .58 | .60 | .61 | .62 | .63 | .64 | .64 | .65 | .65 | .64 | .64 | .63 | .63 | .62 | .61 | .59 | .58 | .56 | .55 | .53 | .51 | .49 | .47 |
|      | 755 | 778 | 797 | 814 | 828 | 839 | 848 | 853 | 855 | 855 | 852 | 847 | 839 | 830 | 818 | 804 | 789 | 771 | 748 | 725 | 703 | 679 | 653 | 625 |
| 0900 | .58 | .60 | .62 | .63 | .64 | .65 | .66 | .66 | .67 | .67 | .67 | .66 | .66 | .65 | .64 | .63 | .62 | .60 | .59 | .57 | .55 | .53 | .51 | .49 |
|      | 785 | 808 | 827 | 844 | 857 | 868 | 877 | 882 | 884 | 884 | 881 | 876 | 869 | 859 | 848 | 835 | 819 | 802 | 779 | 758 | 735 | 710 | 684 | 657 |
| 15   | .61 | .62 | .64 | .65 | .66 | .67 | .68 | .69 | .69 | .69 | .69 | .68 | .68 | .67 | .66 | .65 | .64 | .63 | .61 | .59 | .57 | .55 | .53 | .51 |
|      | 814 | 836 | 855 | 871 | 885 | 895 | 905 | 909 | 912 | 911 | 909 | 904 | 897 | 888 | 876 | 863 | 848 | 831 | 808 | 787 | 764 | 740 | 714 | 686 |
| 30   | .62 | .64 | .66 | .67 | .68 | .69 | .70 | .70 | .71 | .71 | .71 | .70 | .70 | .69 | .68 | .67 | .66 | .65 | .63 | .61 | .59 | .57 | .55 | .53 |
|      | 840 | 862 | 881 | 897 | 910 | 921 | 930 | 935 | 937 | 937 | 934 | 930 | 923 | 914 | 903 | 890 | 875 | 858 | 835 | 814 | 792 | 768 | 742 | 714 |
| 45   | .64 | .66 | .68 | .69 | .70 | .71 | .72 | .72 | .72 | .72 | .72 | .72 | .72 | .71 | .70 | .69 | .68 | .66 | .65 | .63 | .61 | .59 | .57 | .55 |
|      | 864 | 886 | 904 | 920 | 933 | 944 | 953 | 958 | 960 | 960 | 958 | 953 | 946 | 938 | 927 | 914 | 899 | 883 | 860 | 840 | 817 | 793 | 767 | 739 |
| 1000 | .66 | .68 | .69 | .70 | .72 | .72 | .73 | .74 | .74 | .74 | .74 | .74 | .73 | .73 | .72 | .71 | .70 | .68 | .66 | .65 | .63 | .61 | .59 | .57 |
|      | 886 | 907 | 926 | 942 | 955 | 965 | 974 | 979 | 981 | 981 | 979 | 975 | 968 | 960 | 949 | 936 | 922 | 905 | 883 | 863 | 840 | 816 | 790 | 762 |
| 15   | .67 | .69 | .71 | .72 | .73 | .74 | .75 | .75 | .75 | .76 | .76 | .75 | .75 | .74 | .73 | .72 | .71 | .70 | .68 | .65 | .65 | .63 | .60 | .58 |
|      | 905 | 926 | 945 | 960 | 973 | 984 | 993 | 998 | 000 | 000 | 998 | 994 | 988 | 979 | 969 | 957 | 942 | 926 | 904 | 883 | 861 | 837 | 811 | 783 |
| 30   | .69 | .70 | .72 | .73 | .74 | .75 | .76 | .76 | .77 | .77 | .77 | .76 | .76 | .75 | .74 | .74 | .72 | .71 | .69 | .63 | .65 | .64 | .62 | .60 |
|      | 922 | 943 | 961 | 977 | 990 | 000 | 009 | 014 | 017 | 017 | 015 | 011 | 005 | 997 | 986 | 974 | 960 | 944 | 922 | 902 | 879 | 855 | 829 | 801 |
| 45   | .70 | .71 | .73 | .74 | .75 | .76 | .77 | .77 | .78 | .78 | .78 | .77 | .77 | .76 | .76 | .75 | .74 | .72 | .71 | .69 | .67 | .65 | .63 | .61 |
|      | 937 | 957 | 975 | 991 | 003 | 014 | 023 | 028 | 031 | 031 | 029 | 026 | 020 | 012 | 002 | 990 | 976 | 960 | 938 | 917 | 895 | 871 | 845 | 816 |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS 2  
X0 (W/M\*\*2.)

MAY-AUG 60 N

| MST  | MAY |     |     |     |     | JUN |      |      |      |      | JUL  |      |      |      |      | AUG  |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25  | 30  |     |     |     |     |     |     |
| 1100 | .71 | .72 | .74 | .75 | .76 | .77 | .78  | .78  | .79  | .79  | .79  | .78  | .79  | .77  | .77  | .76  | .75 | .73 | .71 | .70 | .68 | .66 | .64 | .62 |
| 948  | 969 | 987 | 002 | 015 | 025 |     | +034 | +039 | +042 | +043 | +041 | +038 | +032 | +024 | +014 | +002 | 989 | 973 | 951 | 930 | 908 | 884 | 857 | 829 |
| 15   | .71 | .73 | .74 | .76 | .77 | .78 | .79  | .79  | .79  | .79  | .79  | .79  | .79  | .78  | .77  | .76  | .75 | .74 | .72 | .71 | .69 | .67 | .65 | .62 |
| 957  | 978 | 995 | 011 | 023 | 034 |     | +043 | +048 | +051 | +052 | +051 | +047 | +042 | +034 | +024 | +013 | 999 | 983 | 961 | 941 | 919 | 894 | 868 | 839 |
| 30   | .72 | .73 | .75 | .76 | .77 | .78 | .79  | .79  | .80  | .80  | .80  | .80  | .79  | .79  | .78  | .77  | .76 | .75 | .73 | .71 | .69 | .67 | .65 | .63 |
| 964  | 984 | 001 | 017 | 029 | 040 |     | +049 | +055 | +058 | +059 | +058 | +054 | +049 | +042 | +032 | +020 | 007 | 991 | 969 | 949 | 926 | 902 | 875 | 846 |
| 45   | .72 | .74 | .75 | .76 | .77 | .78 | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .78  | .77  | .76 | .75 | .73 | .72 | .70 | .68 | .66 | .63 |
| 967  | 987 | 005 | 020 | 033 | 043 |     | +053 | +058 | +062 | +063 | +062 | +059 | +054 | +046 | +037 | +025 | 012 | 996 | 974 | 954 | 931 | 907 | 880 | 851 |
| 1200 | .72 | .74 | .75 | .76 | .78 | .78 | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .78  | .78  | .76 | .75 | .73 | .72 | .70 | .68 | .66 | .63 |
| 968  | 988 | 005 | 021 | 034 | 044 |     | +054 | +060 | +063 | +064 | +064 | +061 | +056 | +049 | +039 | +028 | 014 | 999 | 977 | 955 | 934 | 909 | 881 | 852 |
| 15   | .72 | .73 | .75 | .76 | .77 | .78 | .79  | .80  | .80  | .80  | .80  | .80  | .80  | .79  | .78  | .78  | .76 | .75 | .73 | .72 | .70 | .68 | .66 | .63 |
| 966  | 986 | 003 | 019 | 032 | 042 |     | +052 | +058 | +062 | +063 | +063 | +060 | +055 | +048 | +039 | +028 | 014 | 998 | 977 | 955 | 933 | 908 | 880 | 851 |
| 30   | .71 | .73 | .75 | .76 | .77 | .78 | .79  | .79  | .80  | .80  | .80  | .80  | .79  | .79  | .78  | .77  | .76 | .75 | .73 | .72 | .70 | .68 | .65 | .63 |
| 961  | 981 | 999 | 014 | 027 | 038 |     | +048 | +054 | +058 | +060 | +059 | +057 | +052 | +045 | +036 | +025 | 011 | 996 | 974 | 953 | 930 | 904 | 877 | 847 |
| 45   | .71 | .73 | .74 | .75 | .76 | .77 | .78  | .79  | .79  | .80  | .80  | .79  | .78  | .79  | .78  | .77  | .76 | .75 | .73 | .71 | .69 | .67 | .65 | .63 |
| 953  | 973 | 991 | 007 | 020 | 031 |     | +041 | +047 | +051 | +053 | +053 | +051 | +046 | +039 | +031 | +019 | 006 | 990 | 968 | 947 | 924 | 898 | 870 | 840 |
| 1300 | .70 | .72 | .73 | .75 | .76 | .77 | .78  | .78  | .79  | .79  | .79  | .79  | .78  | .78  | .77  | .76  | .75 | .74 | .72 | .70 | .69 | .66 | .64 | .62 |
| 943  | 963 | 981 | 997 | 010 | 021 |     | +032 | +038 | +042 | +045 | +045 | +042 | +038 | +031 | +022 | +011 | 998 | 982 | 960 | 939 | 915 | 889 | 861 | 830 |
| 15   | .69 | .71 | .72 | .74 | .75 | .76 | .77  | .77  | .78  | .78  | .78  | .78  | .78  | .77  | .76  | .76  | .74 | .73 | .71 | .70 | .68 | .66 | .63 | .61 |
| 930  | 950 | 968 | 984 | 998 | 009 |     | +020 | +026 | +031 | +033 | +033 | +031 | +027 | +021 | +012 | +000 | 987 | 971 | 949 | 927 | 903 | 877 | 849 | 818 |
| 30   | .68 | .70 | .71 | .73 | .74 | .75 | .76  | .76  | .77  | .77  | .77  | .77  | .77  | .76  | .75  | .75  | .73 | .72 | .70 | .69 | .67 | .65 | .62 | .60 |
| 915  | 935 | 953 | 969 | 983 | 994 |     | +005 | +012 | +017 | +019 | +020 | +018 | +014 | +007 | 998  | 987  | 974 | 958 | 935 | 913 | 889 | 863 | 834 | 803 |
| 45   | .67 | .68 | .70 | .71 | .72 | .73 | .74  | .75  | .75  | .76  | .76  | .76  | .75  | .75  | .74  | .73  | .72 | .71 | .69 | .67 | .65 | .63 | .61 | .58 |
| 897  | 917 | 935 | 951 | 965 | 977 |     | 988  | 996  | 000  | 003  | 004  | 002  | 998  | 992  | 983  | 972  | 958 | 942 | 919 | 897 | 873 | 846 | 816 | 785 |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 60 N X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 1400 | .65 | .67 | .68 | .70 | .71 | .72 | .73 | .74 | .74 | .74 | .74 | .74 | .74 | .74 | .73 | .72 | .71 | .70 | .68 | .66 | .64 | .62 | .59 | .57 |
|      | 876 | 897 | 915 | 931 | 946 | 958 | 969 | 977 | 982 | 985 | 985 | 984 | 980 | 973 | 965 | 953 | 940 | 923 | 900 | 879 | 853 | 826 | 796 | 764 |
| 15   | .63 | .65 | .67 | .68 | .69 | .70 | .71 | .72 | .72 | .73 | .73 | .73 | .72 | .72 | .71 | .70 | .69 | .68 | .66 | .64 | .62 | .60 | .58 | .55 |
|      | 853 | 874 | 893 | 909 | 923 | 936 | 948 | 955 | 961 | 964 | 965 | 963 | 959 | 953 | 944 | 933 | 919 | 902 | 879 | 857 | 832 | 804 | 774 | 742 |
| 30   | .62 | .63 | .65 | .66 | .67 | .69 | .70 | .70 | .71 | .71 | .71 | .71 | .71 | .70 | .70 | .69 | .68 | .66 | .64 | .63 | .61 | .58 | .56 | .53 |
|      | 828 | 849 | 868 | 885 | 899 | 912 | 924 | 932 | 938 | 941 | 942 | 940 | 937 | 930 | 922 | 910 | 896 | 879 | 856 | 833 | 808 | 780 | 749 | 716 |
| 45   | .60 | .61 | .63 | .64 | .65 | .67 | .68 | .68 | .69 | .69 | .69 | .69 | .69 | .68 | .68 | .67 | .66 | .64 | .62 | .61 | .59 | .56 | .54 | .51 |
|      | 801 | 822 | 841 | 858 | 873 | 886 | 898 | 906 | 912 | 916 | 917 | 916 | 912 | 906 | 897 | 885 | 871 | 854 | 830 | 807 | 782 | 753 | 722 | 689 |
| 1500 | .57 | .59 | .61 | .62 | .63 | .64 | .66 | .66 | .67 | .67 | .67 | .67 | .67 | .66 | .66 | .65 | .64 | .62 | .60 | .59 | .56 | .54 | .52 | .49 |
|      | 771 | 793 | 812 | 829 | 845 | 858 | 871 | 879 | 885 | 889 | 890 | 889 | 885 | 879 | 870 | 858 | 844 | 827 | 803 | 779 | 753 | 725 | 693 | 659 |
| 15   | .55 | .57 | .58 | .60 | .61 | .62 | .63 | .64 | .65 | .65 | .65 | .65 | .65 | .64 | .64 | .63 | .61 | .60 | .58 | .56 | .54 | .52 | .49 | .47 |
|      | 740 | 762 | 781 | 799 | 814 | 828 | 841 | 850 | 856 | 860 | 861 | 860 | 857 | 850 | 841 | 830 | 815 | 798 | 773 | 749 | 723 | 694 | 662 | 628 |
| 30   | .53 | .54 | .56 | .57 | .59 | .60 | .61 | .62 | .62 | .63 | .63 | .63 | .62 | .62 | .61 | .60 | .59 | .58 | .56 | .54 | .52 | .49 | .47 | .44 |
|      | 707 | 729 | 749 | 767 | 782 | 796 | 810 | 819 | 825 | 829 | 831 | 830 | 826 | 820 | 811 | 799 | 784 | 767 | 742 | 718 | 691 | 661 | 629 | 594 |
| 45   | .50 | .52 | .53 | .55 | .56 | .57 | .58 | .59 | .60 | .60 | .60 | .60 | .60 | .60 | .59 | .58 | .57 | .55 | .53 | .51 | .49 | .47 | .44 | .42 |
|      | 672 | 694 | 715 | 733 | 749 | 763 | 777 | 786 | 793 | 797 | 799 | 798 | 794 | 788 | 779 | 767 | 752 | 734 | 709 | 684 | 657 | 627 | 594 | 559 |
| 1600 | .47 | .49 | .51 | .52 | .54 | .55 | .56 | .57 | .57 | .58 | .58 | .58 | .58 | .57 | .56 | .55 | .54 | .53 | .51 | .49 | .47 | .44 | .42 | .39 |
|      | 636 | 658 | 679 | 697 | 714 | 728 | 743 | 752 | 759 | 763 | 765 | 764 | 761 | 754 | 745 | 733 | 718 | 700 | 674 | 649 | 621 | 591 | 558 | 522 |
| 15   | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .55 | .55 | .55 | .55 | .54 | .54 | .53 | .51 | .50 | .48 | .45 | .44 | .41 | .39 | .36 |
|      | 598 | 621 | 642 | 661 | 678 | 692 | 707 | 717 | 724 | 728 | 730 | 730 | 726 | 719 | 710 | 698 | 682 | 664 | 638 | 613 | 585 | 554 | 520 | 484 |
| 30   | .42 | .43 | .45 | .47 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 | .52 | .52 | .51 | .50 | .49 | .47 | .45 | .43 | .41 | .39 | .36 | .33 |
|      | 559 | 583 | 604 | 623 | 640 | 655 | 670 | 680 | 687 | 692 | 694 | 693 | 690 | 683 | 674 | 661 | 646 | 627 | 600 | 575 | 545 | 515 | 481 | 445 |
| 45   | .39 | .40 | .42 | .44 | .45 | .46 | .48 | .48 | .49 | .49 | .50 | .50 | .49 | .49 | .48 | .47 | .46 | .44 | .42 | .40 | .38 | .36 | .33 | .30 |
|      | 520 | 543 | 565 | 584 | 602 | 617 | 633 | 643 | 650 | 655 | 657 | 656 | 653 | 646 | 636 | 624 | 608 | 589 | 562 | 535 | 507 | 475 | 441 | 404 |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XO (W/M\*\*2.)

TABLE 8-1  
COS 2

MAY-AUG  
60 N



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     |     |     | JUN |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1700 | .36  | .37 | .39 | .41 | .42 | .43 | .45 | .46 | .46 | .45 | .44 | .43 |
| 479  | 503  | 525 | 545 | 563 | 578 |     | 594 | 604 | 612 | 617 | 619 | 619 |
| 15   | .33  | .34 | .36 | .38 | .39 | .40 | .42 | .43 | .43 | .44 | .44 | .44 |
| 438  | 462  | 484 | 505 | 523 | 539 |     | 555 | 565 | 573 | 578 | 581 | 580 |
| 30   | .29  | .31 | .33 | .35 | .36 | .37 | .39 | .40 | .40 | .41 | .41 | .41 |
| 396  | 420  | 443 | 464 | 482 | 499 |     | 515 | 526 | 534 | 539 | 541 | 541 |
| 45   | .26  | .28 | .30 | .32 | .33 | .34 | .36 | .37 | .37 | .38 | .38 | .38 |
| 353  | 379  | 402 | 423 | 442 | 458 |     | 475 | 486 | 494 | 500 | 502 | 501 |
| 1800 | .23  | .25 | .27 | .29 | .30 | .31 | .33 | .34 | .34 | .35 | .35 | .35 |
| 311  | 337  | 360 | 382 | 401 | 418 |     | 435 | 446 | 454 | 460 | 462 | 461 |
| 15   | .20  | .22 | .24 | .26 | .27 | .28 | .30 | .31 | .31 | .32 | .32 | .32 |
| 269  | 295  | 319 | 341 | 360 | 377 |     | 395 | 406 | 414 | 420 | 422 | 422 |
| 30   | .17  | .19 | .21 | .22 | .24 | .25 | .27 | .28 | .28 | .29 | .29 | .29 |
| 227  | 253  | 277 | 300 | 320 | 337 |     | 355 | 366 | 375 | 380 | 383 | 382 |
| 45   | .14  | .16 | .18 | .19 | .21 | .22 | .24 | .25 | .25 | .26 | .26 | .26 |
| 185  | 212  | 237 | 259 | 279 | 297 |     | 315 | 327 | 335 | 341 | 343 | 342 |
| 1900 | .11  | .13 | .15 | .16 | .18 | .19 | .21 | .22 | .22 | .23 | .23 | .23 |
| 144  | 171  | 196 | 219 | 240 | 258 |     | 276 | 288 | 297 | 302 | 305 | 304 |
| 15   | .08  | .10 | .12 | .14 | .15 | .17 | .18 | .19 | .20 | .20 | .20 | .20 |
| 104  | 131  | 157 | 180 | 201 | 219 |     | 238 | 250 | 258 | 264 | 266 | 265 |
| 30   | .05  | .07 | .09 | .11 | .12 | .14 | .15 | .16 | .17 | .17 | .17 | .17 |
| 684  | 692  | 718 | 742 | 763 | 782 |     | 800 | 812 | 821 | 827 | 829 | 828 |
| 45   | .02  | .04 | .06 | .08 | .09 | .11 | .12 | .13 | .14 | .14 | .15 | .14 |
| 626  | 654  | 681 | 705 | 726 | 745 |     | 764 | 776 | 785 | 790 | 793 | 791 |

TABLE B-1 SOLAR PARAMETERS COS Z  
X0 (W/M\*2.) \*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE                    |                         |                         |                          |                          |                         |                         |                         |                         |                         |                         |                         |
|------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|      | MAY                     |                         |                         |                          | JUN                      |                         |                         |                         | JUL                     |                         |                         |                         |
|      | 5                       | 10                      | 15                      | 20                       | 25                       | 30                      | 5                       | 10                      | 15                      | 20                      | 25                      | 30                      |
| 2000 | .00 .01 .03 .05 .07 .08 | .10 .11 .11 .12 .12 .12 | .11 .11 .10 .09 .07 .05 | .03 .01 .00 .00 .00 .00  | .038 008 000 000 000 000 | .00 .02 .00 .00 .00 .00 | .00 .02 .00 .00 .00 .00 | .00 .02 .00 .00 .00 .00 | .00 .02 .00 .00 .00 .00 | .00 .02 .00 .00 .00 .00 | .00 .02 .00 .00 .00 .00 | .00 .02 .00 .00 .00 .00 |
| 15   | .00 .00 .01 .03 .04 .06 | .07 .08 .09 .09 .09 .09 | .09 .08 .07 .06 .04 .03 | .003 003 000 000 000 000 | .00 .00 .00 .00 .00 .00  | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 |
| 30   | .00 .00 .00 .00 .02 .03 | .05 .06 .06 .07 .07 .07 | .06 .05 .03 .02 .00 .00 | .000 000 000 000 000 000 | .00 .00 .00 .00 .00 .00  | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 |
| 45   | .00 .00 .00 .00 .00 .01 | .02 .03 .04 .04 .05 .04 | .04 .03 .02 .01 .00 .00 | .000 000 000 000 000 000 | .00 .00 .00 .00 .00 .00  | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 |
| 2100 | .00 .00 .00 .00 .00 .00 | .00 .01 .02 .02 .02 .02 | .02 .01 .00 .00 .00 .00 | .000 000 000 000 000 000 | .00 .00 .00 .00 .00 .00  | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 |
| 15   | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .000 000 000 000 000 000 | .00 .00 .00 .00 .00 .00  | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 |
| 30   | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .000 000 000 000 000 000 | .00 .00 .00 .00 .00 .00  | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 |
| 45   | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .000 000 000 000 000 000 | .00 .00 .00 .00 .00 .00  | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 | .00 .00 .00 .00 .00 .00 |

TABLE B-1 SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0500 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 15   | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 30   | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 45   | .08 | .05 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 0600 | .11 | .09 | .06 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 15   | .14 | .12 | .10 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 30   | .18 | .15 | .13 | .10 | .08 | .05 | .03 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 45   | .21 | .18 | .16 | .13 | .11 | .08 | .06 | .03 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 0700 | .24 | .22 | .19 | .17 | .14 | .11 | .09 | .06 | .04 | .01 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 15   | .27 | .25 | .22 | .20 | .17 | .15 | .12 | .09 | .07 | .04 | .01  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 30   | .30 | .28 | .25 | .23 | .20 | .18 | .15 | .12 | .10 | .07 | .04  | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 45   | .33 | .31 | .28 | .26 | .23 | .20 | .18 | .15 | .12 | .10 | .07  | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |

SEP-DEC 60 N

TABLE 8-1 SOLAR PARAMETERS

COS Z  
XO (W/M\*\*2.)

ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 0900 | .36 | .34 | .31 | .29 | .26 | .23 | .21 | .18 | .15 | .12 | .10  | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 | .00 |
|      | 484 | 453 | 420 | 387 | 353 | 318 | 282 | 245 | 208 | 171 | 135  | 098 | 056 | 022 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 15   | .39 | .36 | .34 | .31 | .29 | .26 | .23 | .21 | .18 | .15 | .12  | .10 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 | .00 |
|      | 521 | 490 | 458 | 424 | 390 | 355 | 319 | 282 | 245 | 208 | 171  | 134 | 091 | 057 | 025 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 30   | .41 | .39 | .36 | .34 | .31 | .29 | .26 | .23 | .20 | .18 | .15  | .12 | .09 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 556 | 525 | 493 | 460 | 425 | 390 | 354 | 317 | 279 | 242 | 205  | 168 | 125 | 091 | 059 | 028 | 001 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 45   | .44 | .41 | .39 | .36 | .34 | .31 | .28 | .25 | .23 | .20 | .17  | .14 | .11 | .09 | .07 | .04 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 590 | 559 | 527 | 493 | 459 | 423 | 387 | 350 | 312 | 274 | 237  | 200 | 157 | 123 | 090 | 060 | 032 | 008 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 0900 | .46 | .44 | .41 | .39 | .36 | .33 | .31 | .28 | .25 | .22 | .19  | .17 | .13 | .11 | .09 | .06 | .04 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 621 | 591 | 558 | 525 | 490 | 454 | 418 | 380 | 343 | 305 | 267  | 230 | 187 | 153 | 120 | 090 | 062 | 038 | 016 | 000 | 000 | 000 | 000 | 000 |     |
| 15   | .48 | .46 | .43 | .41 | .38 | .35 | .33 | .30 | .27 | .24 | .21  | .19 | .15 | .13 | .11 | .08 | .06 | .05 | .03 | .02 | .01 | .00 | .00 | .00 | .00 |
|      | 651 | 620 | 588 | 554 | 519 | 483 | 446 | 409 | 371 | 333 | 295  | 258 | 215 | 180 | 148 | 118 | 090 | 065 | 044 | 027 | 014 | 005 | 001 | 001 |     |
| 30   | .50 | .48 | .45 | .43 | .40 | .37 | .35 | .32 | .29 | .26 | .23  | .20 | .17 | .15 | .12 | .10 | .08 | .07 | .05 | .04 | .03 | .02 | .02 | .02 | .02 |
|      | 679 | 648 | 615 | 581 | 546 | 510 | 473 | 435 | 397 | 359 | 321  | 284 | 240 | 206 | 173 | 143 | 115 | 091 | 070 | 053 | 040 | 032 | 028 | 028 |     |
| 45   | .52 | .50 | .47 | .45 | .42 | .39 | .36 | .33 | .31 | .28 | .25  | .22 | .19 | .16 | .14 | .12 | .10 | .08 | .07 | .05 | .05 | .04 | .04 | .04 | .04 |
|      | 704 | 673 | 640 | 606 | 571 | 534 | 497 | 459 | 421 | 382 | 344  | 307 | 263 | 229 | 196 | 166 | 139 | 114 | 094 | 077 | 064 | 056 | 053 | 054 |     |
| 1000 | .54 | .51 | .49 | .46 | .44 | .41 | .38 | .35 | .32 | .29 | .26  | .24 | .20 | .18 | .16 | .13 | .11 | .10 | .08 | .07 | .06 | .06 | .05 | .05 |     |
|      | 727 | 696 | 663 | 628 | 593 | 556 | 519 | 480 | 442 | 403 | 365  | 327 | 284 | 249 | 217 | 187 | 159 | 135 | 115 | 099 | 085 | 078 | 075 | 076 |     |
| 15   | .55 | .53 | .50 | .48 | .45 | .42 | .39 | .36 | .33 | .31 | .28  | .25 | .22 | .19 | .17 | .15 | .13 | .11 | .10 | .08 | .08 | .07 | .07 | .07 |     |
|      | 747 | 716 | 683 | 648 | 612 | 575 | 538 | 499 | 460 | 422 | 383  | 345 | 302 | 267 | 235 | 205 | 178 | 154 | 134 | 117 | 105 | 098 | 095 | 097 |     |
| 30   | .57 | .54 | .52 | .49 | .46 | .43 | .40 | .38 | .35 | .32 | .29  | .26 | .23 | .20 | .18 | .16 | .14 | .12 | .11 | .10 | .09 | .08 | .08 | .08 |     |
|      | 765 | 733 | 700 | 665 | 629 | 592 | 554 | 515 | 476 | 437 | 399  | 361 | 317 | 282 | 250 | 220 | 193 | 170 | 150 | 134 | 122 | 115 | 113 | 115 |     |
| 45   | .58 | .55 | .53 | .50 | .47 | .44 | .41 | .38 | .36 | .33 | .30  | .27 | .24 | .21 | .19 | .17 | .15 | .13 | .12 | .11 | .10 | .09 | .09 | .09 |     |
|      | 790 | 748 | 715 | 680 | 643 | 606 | 567 | 529 | 489 | 450 | 411  | 373 | 330 | 295 | 263 | 233 | 206 | 183 | 163 | 148 | 136 | 130 | 128 | 130 |     |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
X0 (W/M\*\*2.)

COS 2

TABLE B-1

60 N

SEP-DEC

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     | OCT |     |     |     | NOV |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1100 | .59  | .56 | .54 | .51 | .48 | .45 | .42 | .39 | .36 | .33 | .30 | .28 |
|      | 793  | 761 | 727 | 691 | 655 | 617 | 578 | 539 | 499 | 460 | 421 | 383 |
| 15   | .60  | .57 | .54 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .28 |
|      | 803  | 770 | 736 | 700 | 663 | 625 | 586 | 547 | 507 | 467 | 428 | 390 |
| 30   | .60  | .57 | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .28 |
|      | 809  | 777 | 742 | 706 | 669 | 630 | 591 | 551 | 511 | 472 | 432 | 394 |
| 45   | .60  | .58 | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .28 |
|      | 813  | 780 | 745 | 709 | 671 | 633 | 593 | 553 | 513 | 473 | 434 | 395 |
| 1200 | .60  | .58 | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .28 |
|      | 815  | 781 | 746 | 709 | 671 | 632 | 592 | 552 | 511 | 471 | 432 | 394 |
| 15   | .60  | .58 | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .28 |
|      | 813  | 779 | 744 | 706 | 668 | 629 | 588 | 548 | 507 | 467 | 427 | 389 |
| 30   | .60  | .57 | .55 | .52 | .49 | .46 | .42 | .39 | .36 | .33 | .30 | .28 |
|      | 808  | 774 | 738 | 701 | 662 | 622 | 582 | 541 | 500 | 460 | 420 | 382 |
| 45   | .59  | .57 | .54 | .51 | .48 | .45 | .42 | .39 | .36 | .33 | .30 | .27 |
|      | 801  | 766 | 730 | 692 | 653 | 613 | 572 | 531 | 490 | 449 | 410 | 371 |
| 1300 | .59  | .56 | .53 | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .26 |
|      | 791  | 756 | 719 | 681 | 641 | 601 | 560 | 518 | 477 | 436 | 397 | 358 |
| 15   | .58  | .55 | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .30 | .28 | .25 |
|      | 778  | 742 | 705 | 667 | 627 | 586 | 544 | 503 | 461 | 421 | 381 | 342 |
| 30   | .57  | .54 | .51 | .48 | .45 | .42 | .38 | .35 | .32 | .29 | .26 | .23 |
|      | 762  | 726 | 689 | 650 | 609 | 568 | 527 | 485 | 443 | 402 | 362 | 324 |
| 45   | .55  | .52 | .49 | .46 | .43 | .40 | .37 | .34 | .31 | .28 | .25 | .22 |
|      | 744  | 708 | 670 | 630 | 590 | 548 | 506 | 464 | 422 | 381 | 341 | 303 |
|      |      |     |     |     |     |     | .25 | .20 | .18 | .16 | .14 | .13 |
|      |      |     |     |     |     |     | 315 | 281 | 250 | 222 | 198 | 177 |
|      |      |     |     |     |     |     | .21 | .19 | .17 | .15 | .13 | .12 |
|      |      |     |     |     |     |     | 290 | 265 | 235 | 207 | 183 | 163 |
|      |      |     |     |     |     |     | .20 | .18 | .16 | .14 | .12 | .10 |
|      |      |     |     |     |     |     | 281 | 247 | 217 | 189 | 166 | 146 |
|      |      |     |     |     |     |     | .19 | .16 | .14 | .12 | .10 | .09 |
|      |      |     |     |     |     |     | 260 | 227 | 196 | 169 | 146 | 127 |
|      |      |     |     |     |     |     | .11 | .11 | .10 | .10 | .10 | .10 |
|      |      |     |     |     |     |     | 161 | 149 | 141 | 138 | 140 | 147 |
|      |      |     |     |     |     |     | .10 | .10 | .09 | .09 | .09 | .10 |
|      |      |     |     |     |     |     | 147 | 135 | 128 | 126 | 128 | 135 |
|      |      |     |     |     |     |     | .09 | .09 | .08 | .08 | .08 | .09 |
|      |      |     |     |     |     |     | 130 | 119 | 112 | 110 | 113 | 120 |
|      |      |     |     |     |     |     | .08 | .07 | .07 | .07 | .07 | .07 |
|      |      |     |     |     |     |     | 111 | 100 | 094 | 092 | 095 | 103 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XO (W/M\*2.)

COS Z

SEP-DEC

60 N

TABLE B-1

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1400 | .54 | .51 | .48 | .45 | .42 | .38 | .35 | .32 | .29 | .26 | .23  | .20 | .17 | .15 | .12 | .10 | .09 | .07 | .06 | .05 | .05 | .05 | .05 | .06 |  |
|      | 723 | 686 | 648 | 608 | 567 | 525 | 483 | 440 | 399 | 357 | 317  | 279 | 236 | 203 | 173 | 147 | 124 | 105 | 090 | 079 | 073 | 072 | 075 | 083 |  |
| 15   | .52 | .49 | .46 | .43 | .40 | .37 | .33 | .30 | .27 | .24 | .21  | .18 | .15 | .13 | .11 | .09 | .07 | .06 | .05 | .04 | .04 | .04 | .04 | .04 |  |
|      | 700 | 663 | 624 | 583 | 542 | 500 | 457 | 415 | 373 | 331 | 291  | 253 | 210 | 178 | 148 | 122 | 099 | 080 | 066 | 055 | 050 | 049 | 053 | 061 |  |
| 30   | .50 | .47 | .44 | .41 | .38 | .35 | .31 | .28 | .25 | .22 | .19  | .16 | .13 | .11 | .09 | .07 | .05 | .04 | .03 | .02 | .02 | .02 | .02 | .03 |  |
|      | 674 | 636 | 597 | 556 | 515 | 472 | 429 | 387 | 344 | 303 | 263  | 225 | 182 | 150 | 120 | 094 | 072 | 054 | 040 | 030 | 025 | 024 | 028 | 037 |  |
| 45   | .48 | .45 | .42 | .39 | .36 | .32 | .29 | .26 | .23 | .20 | .17  | .14 | .11 | .09 | .07 | .05 | .03 | .02 | .01 | .00 | .00 | .00 | .00 | .01 |  |
|      | 646 | 608 | 568 | 527 | 485 | 442 | 399 | 356 | 314 | 272 | 233  | 195 | 152 | 120 | 091 | 065 | 043 | 025 | 011 | 002 | 000 | 000 | 001 | 010 |  |
| 1500 | .46 | .43 | .40 | .37 | .33 | .30 | .27 | .24 | .20 | .17 | .14  | .12 | .09 | .06 | .04 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 616 | 578 | 537 | 496 | 453 | 410 | 367 | 324 | 281 | 240 | 200  | 162 | 120 | 088 | 059 | 033 | 012 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .43 | .40 | .37 | .34 | .31 | .28 | .24 | .21 | .18 | .15 | .12  | .09 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 584 | 545 | 504 | 463 | 420 | 376 | 333 | 289 | 247 | 205 | 165  | 128 | 086 | 054 | 025 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .41 | .38 | .35 | .31 | .28 | .25 | .22 | .18 | .15 | .12 | .09  | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 550 | 511 | 470 | 427 | 384 | 340 | 297 | 253 | 211 | 169 | 129  | 092 | 050 | 018 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .38 | .35 | .32 | .29 | .25 | .22 | .19 | .16 | .13 | .10 | .07  | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 514 | 474 | 433 | 390 | 347 | 303 | 259 | 215 | 173 | 131 | 092  | 054 | 012 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 1600 | .35 | .32 | .29 | .26 | .23 | .19 | .16 | .13 | .10 | .07 | .04  | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 477 | 437 | 395 | 352 | 308 | 264 | 220 | 176 | 133 | 092 | 052  | 015 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .33 | .29 | .26 | .23 | .20 | .16 | .13 | .10 | .07 | .04 | .01  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 438 | 398 | 355 | 312 | 268 | 224 | 179 | 135 | 093 | 051 | 012  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .30 | .26 | .23 | .20 | .17 | .13 | .10 | .07 | .04 | .01 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 398 | 357 | 315 | 271 | 227 | 182 | 138 | 094 | 051 | 010 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .27 | .23 | .20 | .17 | .14 | .10 | .07 | .04 | .01 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 357 | 316 | 273 | 229 | 184 | 140 | 095 | 051 | 008 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |

SEP-DEC 60 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z =1.  
X0 (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|      | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |  |  |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |
| 1700 | .23  | .20 | .17 | .14 | .10 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 315  | 273 | 230 | 186 | 141 | 096 | 052 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 15   | .20  | .17 | .14 | .11 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 272  | 230 | 187 | 143 | 098 | 052 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 30   | .17  | .14 | .11 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 229  | 187 | 143 | 098 | 053 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 45   | .14  | .11 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 186  | 143 | 099 | 054 | 009 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 1800 | .11  | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 142  | 099 | 055 | 010 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 15   | .07  | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 098  | 055 | 011 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 30   | .04  | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 054  | 011 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 45   | .01  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 011  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |

\*\*\* SIGNIFIES COS 2 =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
X0 (W/M\*\*2.)

TABLE 8-1

SEP-DEC 60 N





| MST  | DATE |     |     |     |     |      |     | MAR |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
|      | JAN  |     | FEB |     |     | DATE |     | 5   |     | 10  |     |     | 15  |     | 20  |     | 25  |     | 30  |     | 5   |     | 10  |     |     | 15  |     | 20  |     | 25  |     | 30 |
| 0800 | .09  | .09 | .09 | .10 | .11 | .12  | .13 | .15 | .17 | .19 | .21 | .23 | .27 | .30 | .33 | .35 | .38 | .41 | .44 | .45 | .48 | .50 | .52 | .54 | .59 | .62 | .63 | .65 | .68 | .70 | .72 |    |
|      | 129  | 129 | 133 | 140 | 151 | 166  | 184 | 210 | 2.5 | 263 | 294 | 326 | 381 | 417 | 453 | 488 | 524 | 558 | 597 | 623 | 657 | 683 | 707 | 728 |     |     |     |     |     |     |     |    |
|      | .13  | .13 | .13 | .14 | .15 | .16  | .17 | .19 | .21 | .23 | .25 | .28 | .32 | .34 | .37 | .40 | .42 | .45 | .48 | .50 | .53 | .55 | .56 | .58 |     |     |     |     |     |     |     |    |
| 15   | 185  | 186 | 190 | 197 | 209 | 224  | 243 | 270 | 295 | 324 | 354 | 387 | 442 | 477 | 513 | 549 | 583 | 617 | 656 | 683 | 711 | 740 | 763 | 784 |     |     |     |     |     |     |     |    |
|      | .17  | .17 | .17 | .18 | .19 | .20  | .21 | .23 | .25 | .27 | .30 | .32 | .35 | .39 | .41 | .44 | .47 | .49 | .52 | .54 | .57 | .59 | .60 | .62 |     |     |     |     |     |     |     |    |
|      | 239  | 240 | 244 | 252 | 265 | 280  | 300 | 327 | 353 | 382 | 413 | 445 | 503 | 535 | 571 | 606 | 641 | 674 | 712 | 741 | 769 | 794 | 816 | 836 |     |     |     |     |     |     |     |    |
| 45   | .21  | .21 | .21 | .22 | .23 | .24  | .25 | .27 | .29 | .31 | .33 | .36 | .40 | .43 | .45 | .48 | .51 | .53 | .56 | .58 | .60 | .62 | .64 | .66 |     |     |     |     |     |     |     |    |
|      | 290  | 291 | 296 | 305 | 318 | 334  | 354 | 382 | 408 | 437 | 468 | 501 | 556 | 591 | 626 | 661 | 695 | 728 | 765 | 794 | 821 | 845 | 867 | 886 |     |     |     |     |     |     |     |    |
|      |      |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 0900 | .24  | .24 | .24 | .25 | .26 | .27  | .29 | .31 | .33 | .35 | .37 | .40 | .44 | .46 | .49 | .52 | .54 | .57 | .50 | .62 | .64 | .66 | .68 | .69 |     |     |     |     |     |     |     |    |
|      | 338  | 340 | 346 | 355 | 368 | 385  | 406 | 434 | 461 | 490 | 521 | 554 | 609 | 644 | 679 | 713 | 747 | 779 | 816 | 843 | 870 | 894 | 915 | 934 |     |     |     |     |     |     |     |    |
|      | .27  | .27 | .28 | .28 | .29 | .31  | .32 | .34 | .36 | .39 | .41 | .43 | .47 | .50 | .53 | .55 | .58 | .60 | .63 | .65 | .67 | .69 | .71 | .73 |     |     |     |     |     |     |     |    |
| 15   | 384  | 386 | 392 | 402 | 416 | 434  | 454 | 483 | 511 | 540 | 571 | 604 | 659 | 694 | 728 | 762 | 795 | 827 | 863 | 891 | 919 | 939 | 960 | 978 |     |     |     |     |     |     |     |    |
|      | .30  | .30 | .31 | .32 | .33 | .34  | .35 | .38 | .40 | .42 | .44 | .47 | .51 | .53 | .56 | .59 | .61 | .64 | .66 | .68 | .71 | .72 | .74 | .76 |     |     |     |     |     |     |     |    |
|      | 426  | 428 | 435 | 446 | 461 | 479  | 500 | 529 | 557 | 587 | 618 | 651 | 706 | 740 | 774 | 808 | 841 | 872 | 907 | 931 | 959 | 981 | 001 | 019 |     |     |     |     |     |     |     |    |
| 45   | .33  | .33 | .34 | .34 | .36 | .37  | .38 | .41 | .43 | .45 | .47 | .50 | .54 | .56 | .59 | .62 | .64 | .67 | .69 | .71 | .73 | .75 | .77 | .78 |     |     |     |     |     |     |     |    |
|      | 465  | 468 | 475 | 487 | 502 | 520  | 542 | 572 | 600 | 630 | 662 | 695 | 749 | 783 | 817 | 850 | 882 | 913 | 947 | 974 | 993 | 020 | 039 | 056 |     |     |     |     |     |     |     |    |
|      |      |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 1000 | .35  | .36 | .36 | .37 | .38 | .40  | .41 | .43 | .46 | .48 | .50 | .53 | .57 | .59 | .62 | .64 | .67 | .69 | .72 | .74 | .75 | .78 | .79 | .81 |     |     |     |     |     |     |     |    |
|      | 500  | 504 | 512 | 524 | 539 | 559  | 581 | 611 | 640 | 670 | 702 | 735 | 789 | 823 | 856 | 889 | 920 | 950 | 984 | 010 | 033 | 055 | 074 | 090 |     |     |     |     |     |     |     |    |
|      | .38  | .38 | .39 | .39 | .41 | .42  | .44 | .45 | .48 | .50 | .53 | .55 | .59 | .62 | .64 | .67 | .69 | .72 | .74 | .75 | .78 | .80 | .82 | .83 |     |     |     |     |     |     |     |    |
| 15   | 532  | 536 | 544 | 557 | 573 | 593  | 616 | 647 | 675 | 706 | 738 | 771 | 825 | 858 | 891 | 924 | 955 | 984 | 017 | 042 | 065 | 086 | 104 | 120 |     |     |     |     |     |     |     |    |
|      | .40  | .40 | .41 | .42 | .43 | .44  | .46 | .48 | .50 | .53 | .55 | .58 | .62 | .64 | .67 | .69 | .72 | .74 | .76 | .79 | .80 | .82 | .84 | .85 |     |     |     |     |     |     |     |    |
|      | 559  | 564 | 573 | 587 | 604 | 624  | 647 | 679 | 707 | 738 | 770 | 803 | 856 | 890 | 923 | 954 | 985 | 014 | 046 | 071 | 093 | 113 | 131 | 146 |     |     |     |     |     |     |     |    |
| 45   | .41  | .42 | .42 | .43 | .45 | .46  | .48 | .50 | .52 | .55 | .57 | .60 | .64 | .66 | .69 | .71 | .73 | .76 | .78 | .80 | .82 | .84 | .85 | .87 |     |     |     |     |     |     |     |    |
|      | 583  | 588 | 599 | 612 | 630 | 651  | 674 | 706 | 735 | 766 | 798 | 831 | 884 | 917 | 950 | 981 | 011 | 039 | 071 | 095 | 117 | 136 | 154 | 169 |     |     |     |     |     |     |     |    |

JAN-APR 40 N TABLE B-1 SOLAR PARAMETERS COS 2 ... SIGNIFIES COS 2 = 1.  
 X0 (W/M\*2.) ADD 1000 TO VALUES PRECEDED BY \*

| MST  | JAN     |         |         |         |    | FEB     |             |         |         |         | MAR     |         |         |          |          | APR      |    |    |    |  |
|------|---------|---------|---------|---------|----|---------|-------------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----|----|----|--|
|      | 1       | 5       | 10      | 15      | 20 | 25      | 30          | 5       | 10      | 15      | 20      | 25      | 30      | 5        | 10       | 15       | 20 | 25 | 30 |  |
| 1100 | .43 .43 | .44 .44 | .45 .46 | .48 .50 |    | .52 .54 | .56 .59 .61 | .65 .68 | .70 .73 | .75 .77 | .80 .82 | .84 .85 | .87 .88 | .091*115 | .136*155 | .172*187 |    |    |    |  |
| 15   | .44 .44 | .45 .46 | .47 .49 | .51     |    | .53 .55 | .59 .60 .63 | .67 .69 | .72 .74 | .76 .79 | .81 .83 | .85 .86 | .88 .89 | .108*131 | .152*170 | .187*201 |    |    |    |  |
| 30   | .45 .45 | .46 .47 | .48 .50 | .52     |    | .54 .57 | .59 .61 .64 | .68 .70 | .73 .75 | .77 .79 | .82 .84 | .85 .87 | .89 .90 | .120*142 | .163*181 | .197*211 |    |    |    |  |
| 45   | .45 .46 | .47 .48 | .49 .51 | .53     |    | .55 .57 | .60 .62 .65 | .68 .71 | .73 .76 | .78 .80 | .82 .84 | .85 .88 | .89 .90 | .127*143 | .169*187 | .203*216 |    |    |    |  |
| 1200 | .45 .46 | .47 .48 | .49 .51 | .53     |    | .56 .58 | .60 .63 .65 | .69 .71 | .74 .76 | .78 .80 | .83 .84 | .85 .88 | .89 .90 | .130*152 | .171*189 | .204*218 |    |    |    |  |
| 15   | .45 .46 | .47 .48 | .50 .51 | .53     |    | .56 .58 | .60 .63 .65 | .69 .71 | .74 .76 | .78 .80 | .83 .84 | .85 .87 | .89 .90 | .139*153 | .169*186 | .201*215 |    |    |    |  |
| 30   | .45 .45 | .47 .48 | .49 .51 | .53     |    | .55 .58 | .60 .62 .65 | .69 .71 | .73 .76 | .78 .80 | .82 .84 | .85 .87 | .88 .90 | .123*144 | .163*179 | .194*207 |    |    |    |  |
| 45   | .44 .45 | .46 .47 | .49 .51 | .52     |    | .55 .57 | .60 .62 .64 | .68 .71 | .73 .75 | .77 .79 | .81 .83 | .85 .86 | .87 .89 | .113*133 | .152*168 | .183*196 |    |    |    |  |
| 1300 | .43 .44 | .45 .46 | .48 .50 | .52     |    | .54 .56 | .59 .61 .64 | .67 .70 | .72 .74 | .76 .78 | .80 .82 | .84 .85 | .86 .88 | .098*115 | .133*153 | .167*180 |    |    |    |  |
| 15   | .42 .43 | .44 .45 | .47 .49 | .51     |    | .53 .55 | .58 .60 .62 | .66 .68 | .71 .73 | .75 .77 | .79 .81 | .82 .84 | .85 .86 | .079*099 | .117*133 | .148*160 |    |    |    |  |
| 30   | .40 .41 | .42 .44 | .45 .47 | .49     |    | .52 .54 | .56 .59 .61 | .65 .67 | .69 .71 | .73 .75 | .77 .79 | .80 .82 | .83 .84 | .056*076 | .091*109 | .124*137 |    |    |    |  |
| 45   | .39 .39 | .40 .42 | .44 .45 | .47     |    | .50 .52 | .54 .57 .59 | .63 .65 | .67 .69 | .71 .73 | .73 .75 | .77 .79 | .80 .81 | .029*043 | .066*081 | .096*109 |    |    |    |  |

JAN-APR 40 N TABLE B-1 SOLAR PARAMETERS COS Z ADD 1000 TO VALUES PRECEDED BY .

| MST  | JAN |     |     |     |     |     |     | FEB |     |     |     |     |     |     | MAR |     |     |     |     |     |     | APR |     |     |    |  |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|--|--|--|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30 |  |  |  |
| 1400 | .36 | .37 | .38 | .40 | .42 | .43 | .45 | .48 | .50 | .52 | .55 | .57 | .61 | .63 | .65 | .67 | .69 | .71 | .73 | .75 | .76 | .77 | .79 | .80 |    |  |  |  |
|      | 515 | 526 | 543 | 563 | 587 | 612 | 639 | 674 | 704 | 735 | 766 | 797 | 844 | 873 | 900 | 926 | 950 | 972 | 997 | 016 | 034 | 050 | 064 | 077 |    |  |  |  |
| 15   | .34 | .35 | .36 | .38 | .39 | .41 | .43 | .46 | .48 | .50 | .52 | .55 | .58 | .60 | .63 | .65 | .67 | .68 | .70 | .72 | .73 | .75 | .76 | .77 |    |  |  |  |
|      | 481 | 493 | 510 | 531 | 554 | 580 | 607 | 642 | 672 | 703 | 733 | 764 | 811 | 839 | 866 | 891 | 915 | 937 | 962 | 981 | 998 | 014 | 029 | 042 |    |  |  |  |
| 30   | .31 | .32 | .34 | .35 | .37 | .39 | .41 | .43 | .45 | .48 | .50 | .52 | .56 | .58 | .60 | .62 | .64 | .65 | .68 | .69 | .71 | .72 | .73 | .74 |    |  |  |  |
|      | 444 | 456 | 474 | 494 | 518 | 544 | 571 | 606 | 636 | 666 | 697 | 727 | 773 | 801 | 822 | 853 | 876 | 899 | 923 | 942 | 959 | 975 | 990 | 003 |    |  |  |  |
| 45   | .29 | .29 | .31 | .32 | .34 | .36 | .38 | .40 | .42 | .45 | .47 | .49 | .53 | .55 | .57 | .59 | .61 | .62 | .64 | .65 | .67 | .69 | .70 | .71 |    |  |  |  |
|      | 403 | 415 | 433 | 455 | 478 | 504 | 532 | 566 | 596 | 626 | 656 | 686 | 732 | 760 | 786 | 811 | 834 | 856 | 880 | 893 | 916 | 933 | 947 | 961 |    |  |  |  |
| 1500 | .25 | .26 | .28 | .29 | .31 | .33 | .35 | .37 | .39 | .42 | .44 | .46 | .49 | .52 | .54 | .55 | .57 | .59 | .61 | .63 | .64 | .65 | .67 | .68 |    |  |  |  |
|      | 359 | 372 | 390 | 411 | 435 | 461 | 488 | 523 | 553 | 583 | 612 | 642 | 686 | 715 | 741 | 765 | 788 | 810 | 834 | 853 | 871 | 887 | 902 | 916 |    |  |  |  |
| 15   | .22 | .23 | .24 | .26 | .28 | .29 | .31 | .34 | .36 | .38 | .40 | .43 | .46 | .48 | .50 | .52 | .54 | .55 | .57 | .59 | .60 | .62 | .63 | .64 |    |  |  |  |
|      | 312 | 325 | 344 | 365 | 389 | 415 | 442 | 476 | 506 | 536 | 565 | 594 | 633 | 666 | 692 | 716 | 739 | 761 | 785 | 804 | 821 | 838 | 853 | 867 |    |  |  |  |
| 30   | .19 | .19 | .21 | .22 | .24 | .26 | .28 | .30 | .32 | .35 | .37 | .39 | .42 | .44 | .46 | .48 | .50 | .52 | .54 | .55 | .57 | .58 | .59 | .61 |    |  |  |  |
|      | 262 | 275 | 294 | 316 | 339 | 365 | 392 | 427 | 456 | 485 | 515 | 544 | 586 | 615 | 640 | 664 | 687 | 709 | 733 | 752 | 769 | 786 | 801 | 816 |    |  |  |  |
| 45   | .15 | .16 | .17 | .19 | .20 | .22 | .24 | .27 | .29 | .31 | .33 | .35 | .38 | .40 | .42 | .44 | .46 | .48 | .50 | .51 | .53 | .54 | .55 | .57 |    |  |  |  |
|      | 210 | 223 | 242 | 263 | 287 | 313 | 340 | 374 | 403 | 432 | 461 | 490 | 534 | 560 | 586 | 610 | 632 | 654 | 678 | 697 | 715 | 732 | 747 | 762 |    |  |  |  |
| 1600 | .11 | .12 | .13 | .15 | .16 | .18 | .20 | .23 | .25 | .27 | .29 | .31 | .34 | .36 | .38 | .40 | .42 | .43 | .45 | .47 | .48 | .50 | .51 | .52 |    |  |  |  |
|      | 155 | 168 | 187 | 209 | 232 | 258 | 285 | 319 | 348 | 376 | 405 | 433 | 477 | 503 | 528 | 552 | 575 | 596 | 621 | 640 | 658 | 675 | 691 | 706 |    |  |  |  |
| 15   | .07 | .08 | .09 | .11 | .12 | .14 | .16 | .19 | .21 | .23 | .25 | .27 | .30 | .32 | .34 | .36 | .37 | .39 | .41 | .43 | .44 | .45 | .47 | .48 |    |  |  |  |
|      | 098 | 111 | 130 | 152 | 175 | 201 | 228 | 261 | 290 | 318 | 347 | 375 | 418 | 444 | 469 | 492 | 515 | 536 | 561 | 580 | 598 | 616 | 632 | 648 |    |  |  |  |
| 30   | .03 | .04 | .05 | .07 | .08 | .10 | .12 | .14 | .16 | .18 | .20 | .22 | .26 | .28 | .29 | .31 | .33 | .35 | .37 | .38 | .40 | .41 | .42 | .44 |    |  |  |  |
|      | 039 | 052 | 071 | 093 | 116 | 141 | 168 | 201 | 229 | 258 | 286 | 313 | 356 | 382 | 407 | 430 | 453 | 474 | 499 | 518 | 537 | 555 | 572 | 588 |    |  |  |  |
| 45   | .00 | .00 | .01 | .02 | .04 | .06 | .08 | .10 | .12 | .14 | .16 | .18 | .21 | .23 | .25 | .27 | .28 | .30 | .32 | .33 | .35 | .36 | .38 | .39 |    |  |  |  |
|      | 000 | 000 | 010 | 032 | 055 | 080 | 107 | 139 | 167 | 195 | 223 | 250 | 293 | 318 | 343 | 366 | 389 | 411 | 435 | 455 | 474 | 492 | 510 | 526 |    |  |  |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

TABLE B-1

JAN-APR 40 N

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |    |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |    |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30 |
| 1700 | .00  | .00 | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .11 | .13 | .16 | .18 | .20 | .22 | .24 | .25 | .27 | .29 | .30 | .32 | .33 | .34 |    |
|      | 000  | 000 | 000 | 000 | 000 | 017 | 043 | 076 | 103 | 131 | 158 | 185 | 228 | 253 | 277 | 301 | 324 | 345 | 370 | 390 | 410 | 428 | 446 | 464 |    |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .09 | .12 | .13 | .15 | .17 | .19 | .20 | .22 | .21 | .25 | .27 | .28 | .30 |    |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 011 | 038 | 065 | 092 | 119 | 161 | 186 | 211 | 234 | 257 | 279 | 304 | 325 | 344 | 363 | 382 | 400 |    |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .07 | .09 | .10 | .12 | .14 | .15 | .17 | .13 | .20 | .22 | .23 | .25 |    |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 025 | 052 | 093 | 118 | 143 | 166 | 189 | 211 | 237 | 253 | 278 | 297 | 316 | 335 |    |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .05 | .07 | .09 | .10 | .12 | .14 | .16 | .17 | .19 | .20 |    |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 025 | 050 | 074 | 098 | 121 | 143 | 169 | 190 | 211 | 231 | 251 | 270 |    |
| 1800 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .05 | .07 | .03 | .11 | .12 | .14 | .15 |    |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 029 | 052 | 074 | 101 | 123 | 144 | 164 | 185 | 204 |    |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .05 | .07 | .09 | .10 |    |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 006 | 033 | 055 | 076 | 098 | 118 | 139 |    |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .01 | .02 | .04 | .06 |    |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 039 | 031 | 053 | 074 |    |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 |    |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 009 |    |

... SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS  
X0 (W/N\*2.)

TABLE B-1

JAN-APR 40 N



| MST  | DATE                    |                               |    |    |     |    |                         |                               |     |    |    |    |
|------|-------------------------|-------------------------------|----|----|-----|----|-------------------------|-------------------------------|-----|----|----|----|
|      | MAY                     |                               |    |    | JUN |    |                         |                               | JUL |    |    |    |
|      | 5                       | 10                            | 15 | 20 | 25  | 30 | 5                       | 10                            | 15  | 20 | 25 | 30 |
| 0700 | .38 .39 .41 .42 .42 .43 | 509 527 543 555 565 572       |    |    |     |    | .43 .44 .44 .43 .43 .43 | 577 578 578 575 570 564       |     |    |    |    |
| 15   | .42 .44 .45 .46 .47 .47 | 571 589 603 615 624 631       |    |    |     |    | .48 .48 .48 .48 .48 .47 | 636 637 636 633 629 622       |     |    |    |    |
| 30   | .47 .48 .50 .50 .51 .52 | 631 648 663 674 683 689       |    |    |     |    | .52 .52 .52 .52 .52 .51 | 693 694 693 690 686 680       |     |    |    |    |
| 45   | .51 .53 .54 .55 .55 .56 | 690 706 720 731 739 745       |    |    |     |    | .56 .57 .57 .56 .56 .56 | 749 750 749 746 742 736       |     |    |    |    |
| 0800 | .56 .57 .58 .59 .60 .60 | 747 763 776 786 794 799       |    |    |     |    | .60 .61 .61 .60 .60 .60 | 803 804 803 800 796 790       |     |    |    |    |
| 15   | .60 .61 .62 .63 .64 .64 | 801 817 829 839 847 852       |    |    |     |    | .64 .65 .64 .64 .64 .64 | 855 856 855 852 848 842       |     |    |    |    |
| 30   | .63 .65 .66 .67 .67 .68 | 854 868 880 890 897 902       |    |    |     |    | .68 .68 .68 .68 .68 .67 | 905 906 904 902 898 892       |     |    |    |    |
| 45   | .67 .68 .69 .70 .71 .71 | 903 917 929 938 945 949       |    |    |     |    | .72 .72 .72 .72 .71 .71 | 952 953 952 949 945 940       |     |    |    |    |
| 0900 | .71 .72 .73 .74 .74 .75 | 950 963 974 983 990 994       |    |    |     |    | .75 .75 .75 .75 .75 .74 | 997 997 996 994 990 985       |     |    |    |    |
| 15   | .74 .75 .76 .77 .77 .78 | 993 1006 1017 1025 1032 1036  |    |    |     |    | .78 .78 .78 .78 .78 .78 | 1039 1039 1038 1036 1032 1027 |     |    |    |    |
| 30   | .77 .78 .79 .80 .80 .81 | 1034 1046 1057 1065 1071 1075 |    |    |     |    | .81 .81 .81 .81 .81 .81 | 1077 1078 1077 1075 1071 1067 |     |    |    |    |
| 45   | .80 .81 .82 .82 .83 .83 | 1071 1083 1093 1101 1106 1110 |    |    |     |    | .84 .84 .84 .84 .84 .83 | 1113 1113 1112 1110 1107 1103 |     |    |    |    |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

TABLE B-1 SOLAR PARAMETERS  
XO (W/M\*\*2.)

MAY-AUG 40 N

...



| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |     |     |     |     |     |     |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |     |     |     |     |     |     |
| 1300 | .89  | .90  | .90  | .91  | .92  | .92  | .93  | .93  | .93  | .94  | .94  | .94  | .91  | .93  | .93  | .93  | .92  | .91  | .90 | .89 | .89 | .87 | .85 | .84 |
|      | *192 | *202 | *210 | *217 | *224 | *229 | *234 | *237 | *239 | *240 | *240 | *240 | *238 | *235 | *232 | *227 | *220 | *212 |     |     |     |     |     |     |
| 15   | .87  | .88  | .89  | .90  | .90  | .91  | .91  | .92  | .92  | .92  | .92  | .92  | .92  | .92  | .92  | .91  | .91  | .90  | .89 | .88 | .87 | .85 | .84 | .82 |
|      | *172 | *182 | *191 | *198 | *205 | *210 | *215 | *219 | *221 | *223 | *223 | *223 | *221 | *219 | *215 | *210 | *204 | *196 |     |     |     |     |     |     |
| 30   | .85  | .86  | .87  | .88  | .89  | .89  | .90  | .90  | .90  | .91  | .91  | .91  | .91  | .91  | .90  | .90  | .89  | .88  | .86 | .84 | .83 | .82 | .80 | .78 |
|      | *148 | *158 | *167 | *175 | *182 | *187 | *193 | *197 | *200 | *201 | *202 | *202 | *201 | *193 | *195 | *190 | *183 | *175 |     |     |     |     |     |     |
| 45   | .83  | .84  | .85  | .86  | .87  | .87  | .88  | .88  | .89  | .89  | .89  | .89  | .87  | .89  | .88  | .88  | .87  | .87  | .86 | .84 | .83 | .82 | .80 | .78 |
|      | *120 | *131 | *140 | *148 | *155 | *161 | *167 | *171 | *174 | *177 | *178 | *178 | *177 | *175 | *171 | *166 | *159 | *151 |     |     |     |     |     |     |
| 1400 | .81  | .82  | .83  | .84  | .84  | .85  | .86  | .86  | .86  | .87  | .87  | .87  | .87  | .87  | .86  | .86  | .85  | .85  | .83 | .82 | .81 | .80 | .78 | .76 |
|      | *089 | *100 | *109 | *117 | *125 | *131 | *138 | *142 | *146 | *148 | *150 | *150 | *149 | *147 | *143 | *138 | *131 | *122 |     |     |     |     |     |     |
| 15   | .78  | .79  | .80  | .81  | .82  | .82  | .83  | .84  | .84  | .84  | .84  | .85  | .84  | .84  | .84  | .84  | .83  | .82  | .81 | .80 | .79 | .77 | .75 | .73 |
|      | *054 | *065 | *075 | *083 | *091 | *098 | *105 | *110 | *113 | *116 | *118 | *118 | *118 | *116 | *112 | *107 | *100 | *091 |     |     |     |     |     |     |
| 30   | .75  | .76  | .77  | .78  | .79  | .80  | .80  | .81  | .81  | .82  | .82  | .82  | .82  | .82  | .81  | .81  | .80  | .79  | .78 | .77 | .76 | .74 | .72 | .71 |
|      | *015 | *026 | *037 | *046 | *054 | *061 | *069 | *074 | *078 | *081 | *083 | *084 | *083 | *081 | *077 | *072 | *065 | *055 |     |     |     |     |     |     |
| 45   | .72  | .73  | .74  | .75  | .76  | .77  | .77  | .78  | .78  | .79  | .79  | .79  | .79  | .79  | .78  | .78  | .77  | .77  | .75 | .74 | .73 | .71 | .69 | .67 |
|      | *973 | *985 | *995 | *005 | *014 | *021 | *029 | *035 | *039 | *043 | *045 | *046 | *045 | *043 | *039 | *034 | *026 | *017 |     |     |     |     |     |     |
| 1500 | .69  | .70  | .71  | .72  | .73  | .73  | .74  | .75  | .75  | .76  | .76  | .76  | .76  | .76  | .75  | .75  | .74  | .73  | .72 | .71 | .70 | .68 | .66 | .64 |
|      | *928 | *940 | *951 | *961 | *970 | *978 | *987 | *993 | *997 | *001 | *004 | *005 | *004 | *002 | *998 | *993 | *985 | *975 |     |     |     |     |     |     |
| 15   | .65  | .67  | .68  | .68  | .69  | .70  | .71  | .71  | .72  | .72  | .72  | .73  | .73  | .72  | .72  | .72  | .71  | .70  | .69 | .68 | .67 | .65 | .64 | .63 |
|      | *880 | *893 | *904 | *914 | *924 | *932 | *941 | *948 | *953 | *957 | *959 | *961 | *960 | *958 | *954 | *948 | *940 | *930 |     |     |     |     |     |     |
| 30   | .62  | .63  | .64  | .65  | .66  | .66  | .67  | .68  | .68  | .69  | .69  | .69  | .69  | .69  | .68  | .68  | .67  | .66  | .65 | .64 | .62 | .61 | .59 | .57 |
|      | *830 | *842 | *854 | *865 | *875 | *884 | *894 | *900 | *906 | *910 | *913 | *914 | *914 | *912 | *908 | *901 | *893 | *883 |     |     |     |     |     |     |
| 45   | .58  | .59  | .60  | .61  | .62  | .63  | .63  | .64  | .65  | .65  | .65  | .65  | .65  | .65  | .64  | .64  | .63  | .63  | .61 | .60 | .58 | .57 | .55 | .53 |
|      | *778 | *789 | *802 | *813 | *824 | *833 | *843 | *850 | *856 | *861 | *864 | *865 | *865 | *863 | *858 | *852 | *843 | *832 |     |     |     |     |     |     |

TABLE 8-1 SOLAR PARAMETERS COS 2 ... SIGNIFIES COS 2 = 1.  
 MAY-AUG 40 N ADD 1000 TO VALUES PRECEDED BY +  
 X0 (W/M\*\*2.)



| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 600  | .54 | .55 | .56 | .57 | .58 | .59 | .60 | .60 | .61 | .61 | .61 | .61 | .61 | .61 | .61 | .60 | .60 | .59 | .57 | .55 | .54 | .53 | .51 | .48 |
|      | 721 | 734 | 747 | 759 | 770 | 780 | 791 | 798 | 804 | 809 | 812 | 814 | 813 | 811 | 807 | 800 | 791 | 780 | 763 | 745 | 726 | 703 | 678 | 651 |
| 15   | .49 | .50 | .52 | .53 | .54 | .54 | .55 | .56 | .57 | .57 | .57 | .57 | .57 | .57 | .57 | .56 | .56 | .55 | .53 | .52 | .50 | .48 | .46 | .44 |
|      | 663 | 677 | 691 | 703 | 714 | 725 | 736 | 744 | 750 | 755 | 759 | 760 | 760 | 758 | 753 | 746 | 737 | 725 | 707 | 690 | 669 | 646 | 620 | 593 |
| 30   | .45 | .46 | .47 | .48 | .49 | .50 | .51 | .52 | .52 | .53 | .53 | .53 | .53 | .53 | .53 | .52 | .51 | .50 | .49 | .47 | .45 | .44 | .42 | .40 |
|      | 804 | 818 | 832 | 845 | 857 | 868 | 880 | 888 | 895 | 900 | 904 | 905 | 905 | 902 | 898 | 890 | 881 | 868 | 850 | 832 | 811 | 787 | 761 | 732 |
| 45   | .40 | .42 | .43 | .44 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 | .49 | .49 | .48 | .48 | .47 | .46 | .44 | .43 | .41 | .39 | .37 | .35 |
|      | 543 | 558 | 572 | 586 | 598 | 610 | 622 | 631 | 638 | 643 | 647 | 648 | 643 | 645 | 640 | 633 | 623 | 610 | 591 | 572 | 550 | 526 | 499 | 470 |
| 1700 | .36 | .37 | .38 | .39 | .40 | .41 | .42 | .43 | .44 | .44 | .44 | .45 | .45 | .44 | .44 | .43 | .42 | .41 | .40 | .38 | .37 | .35 | .33 | .30 |
|      | 480 | 496 | 511 | 525 | 538 | 550 | 563 | 572 | 579 | 585 | 589 | 590 | 590 | 587 | 582 | 574 | 563 | 550 | 530 | 511 | 489 | 464 | 436 | 406 |
| 15   | .31 | .32 | .34 | .35 | .36 | .37 | .38 | .39 | .39 | .40 | .40 | .40 | .40 | .40 | .39 | .39 | .38 | .37 | .35 | .34 | .32 | .30 | .28 | .25 |
|      | 417 | 433 | 449 | 464 | 477 | 490 | 503 | 512 | 520 | 526 | 529 | 531 | 531 | 528 | 522 | 514 | 503 | 489 | 469 | 449 | 426 | 400 | 372 | 342 |
| 30   | .26 | .28 | .29 | .30 | .31 | .32 | .33 | .34 | .35 | .35 | .35 | .36 | .36 | .35 | .35 | .34 | .33 | .32 | .31 | .29 | .27 | .25 | .23 | .21 |
|      | 353 | 370 | 386 | 401 | 415 | 428 | 442 | 452 | 459 | 465 | 469 | 471 | 470 | 467 | 461 | 453 | 441 | 427 | 406 | 385 | 362 | 336 | 307 | 276 |
| 45   | .21 | .23 | .24 | .25 | .27 | .28 | .29 | .29 | .30 | .31 | .31 | .31 | .31 | .31 | .30 | .30 | .29 | .27 | .26 | .24 | .22 | .20 | .18 | .16 |
|      | 288 | 306 | 322 | 338 | 353 | 366 | 381 | 391 | 399 | 405 | 409 | 410 | 410 | 406 | 400 | 391 | 379 | 365 | 343 | 322 | 298 | 271 | 241 | 210 |
| 1800 | .17 | .18 | .19 | .21 | .22 | .23 | .24 | .25 | .26 | .26 | .26 | .26 | .26 | .25 | .25 | .24 | .23 | .23 | .21 | .19 | .17 | .15 | .13 | .11 |
|      | 223 | 241 | 259 | 275 | 290 | 304 | 319 | 329 | 338 | 344 | 348 | 350 | 349 | 345 | 339 | 329 | 317 | 302 | 279 | 258 | 233 | 205 | 176 | 143 |
| 15   | .12 | .13 | .15 | .16 | .17 | .18 | .19 | .20 | .21 | .21 | .22 | .22 | .22 | .21 | .21 | .20 | .19 | .18 | .16 | .15 | .13 | .11 | .08 | .06 |
|      | 158 | 177 | 195 | 212 | 228 | 242 | 257 | 268 | 277 | 283 | 287 | 289 | 287 | 284 | 277 | 267 | 254 | 239 | 216 | 193 | 168 | 140 | 110 | 077 |
| 30   | .07 | .08 | .10 | .11 | .12 | .14 | .15 | .16 | .16 | .17 | .17 | .17 | .17 | .17 | .16 | .16 | .15 | .13 | .11 | .10 | .08 | .06 | .03 | .01 |
|      | 094 | 113 | 132 | 150 | 166 | 181 | 196 | 207 | 216 | 222 | 226 | 228 | 225 | 222 | 215 | 205 | 192 | 176 | 152 | 129 | 103 | 075 | 044 | 011 |
| 45   | .02 | .04 | .05 | .07 | .08 | .09 | .10 | .11 | .12 | .12 | .13 | .13 | .13 | .12 | .12 | .11 | .10 | .09 | .07 | .05 | .03 | .01 | .00 | .00 |
|      | 030 | 050 | 069 | 088 | 104 | 120 | 135 | 147 | 156 | 162 | 166 | 167 | 160 | 162 | 154 | 144 | 130 | 113 | 089 | 065 | 039 | 010 | 000 | 000 |

TABLE 8-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 40 N  
 ... SIGNIFIES COS Z = 1.  
 :DD 1000 TO VALUES PRECEDED BY .

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     | JUN |     |     |     | JUL |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1900 | .00  | .00 | .01 | .02 | .03 | .04 | .06 | .07 | .07 | .08 | .09 | .08 |
|      | 000  | 000 | 008 | 026 | 044 | 059 | 076 | 087 | 096 | 103 | 107 | 109 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .03 | .04 | .04 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 017 | 028 | 038 | 044 | 048 | 049 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

MAY-AUG 40 N      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z =1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0500 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .04 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 047 | 027 | 006 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 0600 | .09 | .07 | .06 | .04 | .02 | .01 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 114 | 094 | 074 | 053 | 032 | 010 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .13 | .12 | .11 | .09 | .07 | .06 | .04 | .02 | .01 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 181 | 162 | 142 | 121 | 100 | 079 | 056 | 033 | 009 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .18 | .17 | .15 | .14 | .12 | .11 | .09 | .07 | .06 | .04 | .02  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 248 | 229 | 209 | 189 | 168 | 146 | 124 | 100 | 076 | 051 | 026  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .23 | .22 | .20 | .19 | .17 | .16 | .14 | .12 | .10 | .09 | .07  | .05 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 314 | 295 | 276 | 256 | 235 | 213 | 191 | 167 | 143 | 118 | 092  | 066 | 034 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 0700 | .28 | .27 | .25 | .24 | .22 | .20 | .19 | .17 | .15 | .13 | .11  | .09 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 379 | 361 | 342 | 322 | 301 | 279 | 257 | 233 | 208 | 183 | 157  | 130 | 098 | 072 | 046 | 020 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .33 | .31 | .30 | .28 | .27 | .25 | .23 | .22 | .20 | .18 | .16  | .14 | .12 | .10 | .08 | .06 | .04 | .03 | .01 | .00 | .00 | .00 | .00 | .00 |  |
|      | 443 | 425 | 406 | 386 | 366 | 344 | 321 | 297 | 272 | 247 | 221  | 194 | 161 | 133 | 108 | 082 | 058 | 035 | 014 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .38 | .36 | .35 | .33 | .31 | .30 | .28 | .26 | .24 | .22 | .20  | .18 | .16 | .14 | .12 | .10 | .08 | .07 | .05 | .04 | .03 | .02 | .01 | .01 |  |
|      | 506 | 488 | 469 | 449 | 429 | 407 | 384 | 360 | 335 | 309 | 282  | 255 | 223 | 195 | 169 | 143 | 118 | 096 | 075 | 053 | 031 | 028 | 019 | 013 |  |
| 45   | .42 | .41 | .39 | .38 | .36 | .34 | .32 | .31 | .29 | .27 | .25  | .23 | .20 | .18 | .16 | .14 | .13 | .11 | .10 | .08 | .07 | .06 | .06 | .05 |  |
|      | 567 | 549 | 530 | 511 | 490 | 468 | 445 | 420 | 395 | 369 | 342  | 315 | 282 | 254 | 228 | 202 | 177 | 154 | 133 | 110 | 087 | 068 | 078 | 073 |  |

TABLE B-1 SOLAR PARAMETERS CCS Z  
 SEP-DEC 40 N  
 ... SIGNIFIES CCS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP   |      |      |     |     |     | OCT |    |    |    |    |    | DATE |    |    |    |    |    | NOV |    |    |    |    |    | DEC |    |    |    |    |    |
|------|-------|------|------|-----|-----|-----|-----|----|----|----|----|----|------|----|----|----|----|----|-----|----|----|----|----|----|-----|----|----|----|----|----|
|      | 5     | 10   | 15   | 20  | 25  | 30  | 5   | 10 | 15 | 20 | 25 | 30 | 5    | 10 | 15 | 20 | 25 | 30 | 5   | 10 | 15 | 20 | 25 | 30 | 5   | 10 | 15 | 20 | 25 | 30 |
| 0800 | .46   | .45  | .44  | .42 | .40 | .39 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 626   | 608  | 589  | 570 | 549 | 527 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 15   | .51   | .49  | .48  | .46 | .44 | .43 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 682   | 665  | 646  | 626 | 605 | 583 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 30   | .55   | .53  | .52  | .50 | .48 | .47 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 737   | 719  | 700  | 681 | 659 | 637 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 45   | .59   | .57  | .56  | .54 | .52 | .50 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 788   | 771  | 752  | 732 | 710 | 688 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 0900 | .62   | .61  | .59  | .57 | .56 | .54 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 837   | 819  | 800  | 780 | 759 | 736 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 15   | .66   | .64  | .62  | .61 | .59 | .57 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 883   | 865  | 846  | 825 | 803 | 780 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 30   | .69   | .67  | .66  | .64 | .62 | .60 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 925   | 907  | 888  | 867 | 845 | 821 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 45   | .72   | .70  | .68  | .67 | .65 | .63 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 964   | 945  | 926  | 905 | 882 | 858 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 1000 | .74   | .73  | .71  | .69 | .67 | .65 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | 999   | 980  | 960  | 939 | 916 | 892 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 15   | .76   | .75  | .73  | .71 | .69 | .67 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | *030* | 011  | 991  | 969 | 946 | 921 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 30   | .78   | .77  | .75  | .73 | .71 | .69 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | *057* | 038* | 018  | 996 | 972 | 947 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| 45   | .80   | .79  | .77  | .75 | .73 | .71 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
|      | *081* | 061* | 040* | 018 | 994 | 968 |     |    |    |    |    |    |      |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |

SEP-DEC 40 N TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP                      |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |     |
|------|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5                        | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 1100 | .82                      | .80 | .78 | .76 | .74 | .72 | .70 | .68 | .65 | .63 | .61 | .58 | .55 | .53 | .51 | .49 | .48 | .46 | .45 | .41 | .33 | .43 | .42 | .43 |     |     |
|      | *100*080*059*036*011     |     |     |     |     | 985 | 957 | 929 | 899 | 869 | 839 | 809 | 773 | 745 | 718 | 692 | 669 | 649 | 632 | 613 | 608 | 602 | 599 | 601 |     |     |
| 15   | .83                      | .81 | .79 | .77 | .75 | .73 | .71 | .68 | .66 | .64 | .61 | .59 | .56 | .54 | .52 | .50 | .48 | .47 | .46 | .45 | .44 | .44 | .43 | .44 |     |     |
|      | *114*094*073*049*024     |     |     |     |     | 997 | 969 | 940 | 911 | 880 | 850 | 819 | 784 | 755 | 728 | 703 | 681 | 661 | 644 | 631 | 621 | 616 | 614 | 616 |     |     |
| 30   | .83                      | .82 | .80 | .78 | .76 | .74 | .71 | .69 | .67 | .64 | .62 | .59 | .57 | .55 | .53 | .51 | .49 | .48 | .46 | .45 | .45 | .44 | .44 | .44 |     |     |
|      | *125*104*082*058*032*005 |     |     |     |     |     | 977 | 948 | 917 | 887 | 856 | 826 | 790 | 762 | 735 | 710 | 688 | 669 | 652 | 640 | 631 | 626 | 625 | 628 |     |     |
| 45   | .84                      | .82 | .80 | .78 | .76 | .74 | .72 | .69 | .67 | .64 | .62 | .50 | .57 | .55 | .53 | .51 | .49 | .48 | .47 | .45 | .45 | .45 | .45 | .45 |     |     |
|      | *131*110*087*063*037*009 |     |     |     |     |     | 980 | 950 | 920 | 889 | 858 | 827 | 792 | 764 | 737 | 713 | 691 | 672 | 656 | 644 | 635 | 631 | 631 | 635 |     |     |
| 1200 | .84                      | .82 | .80 | .78 | .76 | .74 | .71 | .69 | .67 | .64 | .62 | .59 | .57 | .55 | .53 | .51 | .49 | .48 | .47 | .45 | .45 | .45 | .45 | .45 |     |     |
|      | *133*111*088*063*036*008 |     |     |     |     |     | 979 | 949 | 918 | 886 | 855 | 825 | 789 | 761 | 735 | 711 | 689 | 671 | 656 | 644 | 637 | 633 | 633 | 638 |     |     |
| 15   | .84                      | .82 | .80 | .78 | .76 | .73 | .71 | .69 | .66 | .64 | .61 | .59 | .56 | .54 | .52 | .50 | .49 | .47 | .46 | .45 | .45 | .45 | .45 | .45 |     |     |
|      | *130*108*084*059*031*003 |     |     |     |     |     | 973 | 942 | 911 | 880 | 848 | 818 | 782 | 754 | 726 | 705 | 684 | 666 | 651 | 640 | 633 | 630 | 631 | 636 |     |     |
| 30   | .83                      | .81 | .79 | .77 | .75 | .73 | .70 | .68 | .65 | .63 | .60 | .58 | .55 | .53 | .51 | .50 | .48 | .47 | .46 | .45 | .44 | .44 | .44 | .45 |     |     |
|      | *123*101*076*050*022     |     |     |     |     | 993 | 963 | 932 | 900 | 868 | 837 | 806 | 771 | 743 | 718 | 694 | 674 | 656 | 642 | 632 | 625 | 623 | 625 | 630 |     |     |
| 45   | .83                      | .81 | .79 | .76 | .74 | .72 | .69 | .67 | .64 | .62 | .59 | .57 | .54 | .52 | .50 | .48 | .47 | .46 | .45 | .44 | .43 | .43 | .43 | .44 |     |     |
|      | *112*089*064*037*008     |     |     |     |     | 979 | 948 | 916 | 885 | 853 | 821 | 791 | 755 | 728 | 702 | 680 | 659 | 643 | 629 | 620 | 614 | 612 | 614 | 621 |     |     |
| 1300 | .81                      | .79 | .77 | .75 | .73 | .70 | .68 | .65 | .63 | .60 | .58 | .55 | .53 | .51 | .49 | .47 | .46 | .44 | .43 | .43 | .42 | .42 | .42 | .43 |     |     |
|      | *097*073*047*019         |     |     |     |     | 990 | 960 | 929 | 897 | 865 | 833 | 801 | 770 | 735 | 708 | 683 | 661 | 641 | 625 | 612 | 603 | 598 | 597 | 599 | 606 |     |
| 15   | .80                      | .78 | .76 | .73 | .71 | .69 | .66 | .64 | .61 | .59 | .56 | .54 | .51 | .49 | .47 | .45 | .44 | .43 | .42 | .41 | .41 | .41 | .41 | .42 |     |     |
|      | *077*052*026             |     |     |     |     | 998 | 968 | 937 | 906 | 873 | 841 | 809 | 777 | 746 | 711 | 684 | 660 | 638 | 618 | 603 | 590 | 582 | 578 | 577 | 581 | 588 |
| 30   | .78                      | .76 | .74 | .72 | .69 | .67 | .64 | .62 | .59 | .56 | .54 | .52 | .49 | .47 | .45 | .44 | .42 | .41 | .40 | .40 | .39 | .39 | .39 | .40 |     |     |
|      | *053*028*000             |     |     |     |     | 972 | 942 | 910 | 878 | 845 | 813 | 780 | 749 | 718 | 683 | 656 | 632 | 610 | 592 | 577 | 565 | 557 | 553 | 554 | 558 | 566 |
| 45   | .76                      | .74 | .72 | .69 | .67 | .64 | .62 | .59 | .57 | .54 | .52 | .49 | .47 | .45 | .43 | .41 | .40 | .39 | .38 | .37 | .37 | .37 | .38 | .38 |     |     |
|      | *025                     |     |     |     |     | 999 | 971 | 942 | 911 | 879 | 847 | 814 | 781 | 748 | 716 | 686 | 651 | 625 | 601 | 579 | 561 | 547 | 531 | 539 |     |     |

SEP-DEC 40 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z = 1.  
X0 (N/M=+2.) ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1400 | .74 | .72 | .69 | .67 | .64 | .62 | .59 | .57 | .54 | .52 | .49  | .47 | .43 | .42 | .40 | .39 | .38 | .36 | .36 | .35 | .35 | .35 | .35 | .36 |  |
|      | 993 | 966 | 938 | 908 | 877 | 844 | 811 | 778 | 745 | 712 | 680  | 659 | 615 | 589 | 565 | 545 | 527 | 513 | 503 | 493 | 494 | 495 | 500 | 509 |  |
| 15   | .71 | .69 | .66 | .64 | .62 | .59 | .56 | .54 | .51 | .49 | .46  | .44 | .41 | .39 | .36 | .36 | .35 | .34 | .33 | .33 | .32 | .33 | .33 | .34 |  |
|      | 957 | 930 | 901 | 870 | 838 | 805 | 772 | 738 | 705 | 672 | 640  | 610 | 576 | 550 | 527 | 506 | 489 | 476 | 466 | 460 | 458 | 460 | 466 | 475 |  |
| 30   | .68 | .66 | .63 | .61 | .58 | .56 | .53 | .51 | .48 | .46 | .43  | .41 | .38 | .36 | .35 | .33 | .32 | .31 | .30 | .30 | .30 | .30 | .30 | .31 |  |
|      | 918 | 890 | 860 | 829 | 796 | 763 | 729 | 695 | 662 | 629 | 597  | 566 | 533 | 507 | 484 | 465 | 448 | 435 | 426 | 421 | 419 | 422 | 428 | 438 |  |
| 45   | .65 | .63 | .60 | .58 | .55 | .53 | .50 | .47 | .45 | .42 | .40  | .37 | .35 | .33 | .31 | .30 | .29 | .28 | .27 | .27 | .27 | .27 | .27 | .28 |  |
|      | 875 | 846 | 816 | 784 | 751 | 717 | 683 | 649 | 615 | 582 | 550  | 520 | 486 | 461 | 439 | 419 | 404 | 391 | 382 | 373 | 377 | 380 | 387 | 397 |  |
| 1500 | .61 | .59 | .57 | .54 | .52 | .49 | .46 | .44 | .41 | .39 | .36  | .34 | .31 | .30 | .28 | .27 | .25 | .24 | .24 | .24 | .23 | .24 | .24 | .25 |  |
|      | 829 | 799 | 768 | 735 | 703 | 668 | 634 | 599 | 565 | 532 | 500  | 470 | 437 | 412 | 390 | 371 | 356 | 344 | 336 | 332 | 331 | 335 | 342 | 353 |  |
| 15   | .58 | .55 | .53 | .50 | .48 | .45 | .42 | .40 | .37 | .35 | .32  | .30 | .28 | .26 | .24 | .23 | .22 | .21 | .20 | .20 | .20 | .20 | .21 | .22 |  |
|      | 779 | 750 | 718 | 685 | 651 | 616 | 581 | 546 | 512 | 479 | 447  | 417 | 385 | 360 | 339 | 320 | 305 | 294 | 287 | 283 | 283 | 287 | 295 | 306 |  |
| 30   | .54 | .52 | .49 | .46 | .44 | .41 | .38 | .36 | .33 | .31 | .28  | .26 | .24 | .22 | .20 | .19 | .18 | .17 | .17 | .15 | .16 | .17 | .17 | .18 |  |
|      | 727 | 697 | 665 | 631 | 596 | 561 | 526 | 491 | 457 | 423 | 392  | 362 | 330 | 305 | 284 | 266 | 252 | 241 | 234 | 231 | 232 | 236 | 244 | 256 |  |
| 45   | .50 | .47 | .45 | .42 | .40 | .37 | .34 | .32 | .29 | .26 | .24  | .22 | .20 | .18 | .16 | .15 | .14 | .13 | .13 | .13 | .13 | .13 | .14 | .14 |  |
|      | 673 | 641 | 609 | 574 | 539 | 504 | 468 | 433 | 399 | 365 | 334  | 304 | 272 | 248 | 228 | 210 | 196 | 186 | 180 | 177 | 178 | 183 | 191 | 203 |  |
| 1600 | .46 | .43 | .41 | .38 | .35 | .33 | .30 | .27 | .25 | .22 | .20  | .18 | .15 | .14 | .12 | .11 | .10 | .09 | .09 | .03 | .03 | .09 | .10 | .11 |  |
|      | 615 | 584 | 550 | 516 | 480 | 444 | 408 | 373 | 338 | 305 | 274  | 244 | 213 | 189 | 169 | 152 | 139 | 129 | 123 | 121 | 122 | 127 | 136 | 148 |  |
| 15   | .41 | .39 | .36 | .33 | .31 | .28 | .25 | .23 | .20 | .18 | .15  | .13 | .11 | .09 | .08 | .07 | .06 | .05 | .05 | .04 | .05 | .05 | .06 | .06 |  |
|      | 556 | 524 | 490 | 455 | 419 | 382 | 346 | 311 | 276 | 243 | 212  | 182 | 151 | 128 | 109 | 92  | 79  | 070 | 064 | 062 | 054 | 070 | 079 | 091 |  |
| 30   | .37 | .34 | .32 | .29 | .26 | .23 | .21 | .18 | .15 | .13 | .11  | .09 | .06 | .05 | .03 | .02 | .01 | .01 | .00 | .00 | .00 | .01 | .01 | .02 |  |
|      | 495 | 462 | 427 | 392 | 355 | 319 | 282 | 247 | 212 | 179 | 148  | 119 | 088 | 055 | 046 | 030 | 017 | 009 | 003 | 002 | 004 | 010 | 019 | 032 |  |
| 45   | .32 | .30 | .27 | .24 | .21 | .19 | .16 | .13 | .11 | .08 | .06  | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 432 | 398 | 363 | 327 | 291 | 254 | 217 | 181 | 147 | 114 | 083  | 054 | 022 | 001 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |

SEP-DEC 40 N TABLE B-1 SOLAR PARAMETERS COS Z \*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1700 | .27 | .25 | .22 | .19 | .17 | .14 | .11 | .08 | .06 | .03 | .01  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 368 | 334 | 298 | 261 | 224 | 187 | 151 | 115 | 080 | 047 | 016  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .22 | .20 | .17 | .14 | .12 | .09 | .06 | .03 | .01 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 302 | 268 | 232 | 195 | 157 | 120 | 083 | 047 | 012 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .18 | .15 | .12 | .09 | .07 | .04 | .01 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 236 | 201 | 164 | 127 | 090 | 052 | 015 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .13 | .10 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 169 | 134 | 097 | 059 | 021 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 1800 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 102 | 066 | 029 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 035 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SEP-DEC 40 N

TABLE B-1 SOLAR PARAMETERS

XO (W/M\*\*2.)





| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |
| 0800 | .29  | .28 | .28 | .28 | .29 | .29 | .30 | .31 | .32 | .33 | .34 | .36 | .39 | .40 | .42 | .44 | .46 | .47 | .49 | .51 | .52 | .53 | .54 | .55 |
|      | 406  | 403 | 400 | 401 | 404 | 410 | 419 | 433 | 447 | 464 | 482 | 502 | 537 | 559 | 582 | 605 | 627 | 648 | 672 | 690 | 705 | 721 | 733 | 743 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .34  | .33 | .33 | .33 | .34 | .34 | .35 | .36 | .37 | .38 | .40 | .41 | .41 | .46 | .47 | .49 | .51 | .53 | .54 | .55 | .57 | .58 | .59 | .60 |
|      | 475  | 472 | 470 | 471 | 475 | 482 | 492 | 506 | 521 | 538 | 557 | 577 | 611 | 634 | 656 | 679 | 700 | 721 | 744 | 761 | 776 | 790 | 801 | 810 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .38  | .38 | .38 | .38 | .39 | .39 | .40 | .41 | .42 | .43 | .45 | .46 | .43 | .51 | .53 | .54 | .56 | .58 | .59 | .61 | .62 | .63 | .64 | .65 |
|      | 541  | 538 | 537 | 539 | 544 | 551 | 561 | 577 | 592 | 609 | 628 | 648 | 683 | 705 | 727 | 749 | 770 | 790 | 812 | 824 | 844 | 856 | 867 | 875 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .43  | .43 | .43 | .43 | .43 | .44 | .45 | .46 | .47 | .48 | .50 | .51 | .54 | .56 | .57 | .59 | .61 | .62 | .64 | .65 | .67 | .68 | .69 | .69 |
|      | 603  | 601 | 601 | 604 | 609 | 617 | 628 | 644 | 660 | 677 | 696 | 717 | 751 | 773 | 795 | 817 | 837 | 857 | 878 | 894 | 907 | 919 | 929 | 937 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0900 | .47  | .47 | .47 | .47 | .48 | .48 | .49 | .50 | .52 | .53 | .54 | .56 | .59 | .60 | .62 | .64 | .65 | .67 | .69 | .70 | .71 | .72 | .73 | .74 |
|      | 663  | 661 | 662 | 665 | 671 | 680 | 691 | 708 | 724 | 742 | 762 | 782 | 816 | 838 | 860 | 881 | 901 | 919 | 940 | 955 | 968 | 979 | 988 | 995 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .51  | .51 | .51 | .51 | .52 | .52 | .53 | .55 | .56 | .57 | .59 | .60 | .63 | .65 | .67 | .68 | .70 | .71 | .73 | .74 | .75 | .76 | .77 | .78 |
|      | 718  | 717 | 719 | 723 | 730 | 739 | 751 | 768 | 785 | 803 | 823 | 844 | 878 | 899 | 920 | 941 | 960 | 978 | 998 | 012 | 024 | 034 | 043 | 049 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .54  | .54 | .55 | .55 | .56 | .56 | .57 | .59 | .60 | .61 | .63 | .65 | .67 | .69 | .71 | .72 | .74 | .75 | .77 | .78 | .79 | .80 | .81 | .81 |
|      | 770  | 770 | 772 | 776 | 784 | 794 | 807 | 825 | 842 | 861 | 880 | 901 | 935 | 956 | 977 | 997 | 016 | 033 | 052 | 065 | 076 | 086 | 093 | 099 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .58  | .58 | .58 | .58 | .59 | .60 | .61 | .62 | .64 | .65 | .67 | .68 | .71 | .73 | .74 | .76 | .78 | .79 | .81 | .82 | .83 | .84 | .84 | .85 |
|      | 818  | 818 | 821 | 826 | 835 | 845 | 859 | 877 | 895 | 914 | 934 | 954 | 988 | 009 | 029 | 049 | 067 | 083 | 101 | 114 | 125 | 133 | 140 | 145 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1000 | .61  | .61 | .61 | .62 | .62 | .63 | .64 | .66 | .67 | .69 | .70 | .72 | .75 | .76 | .78 | .79 | .81 | .82 | .84 | .85 | .86 | .87 | .87 | .88 |
|      | 861  | 862 | 865 | 872 | 881 | 892 | 906 | 925 | 943 | 962 | 983 | 003 | 037 | 057 | 077 | 096 | 114 | 129 | 146 | 153 | 168 | 176 | 182 | 186 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .64  | .64 | .64 | .65 | .65 | .66 | .67 | .69 | .70 | .72 | .73 | .75 | .74 | .79 | .81 | .83 | .84 | .85 | .87 | .88 | .89 | .90 | .90 | .91 |
|      | 900  | 901 | 906 | 913 | 923 | 935 | 949 | 969 | 987 | 007 | 027 | 048 | 081 | 101 | 120 | 139 | 155 | 171 | 187 | 193 | 207 | 214 | 220 | 223 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .66  | .66 | .67 | .67 | .68 | .69 | .70 | .72 | .73 | .75 | .76 | .78 | .81 | .82 | .84 | .85 | .87 | .88 | .89 | .90 | .91 | .92 | .93 | .93 |
|      | 934  | 936 | 941 | 949 | 960 | 972 | 987 | 008 | 026 | 046 | 066 | 087 | 120 | 140 | 159 | 176 | 193 | 207 | 222 | 233 | 241 | 248 | 253 | 256 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .68  | .68 | .69 | .69 | .70 | .71 | .72 | .74 | .76 | .77 | .79 | .80 | .83 | .85 | .86 | .88 | .89 | .90 | .92 | .93 | .93 | .94 | .95 | .95 |
|      | 963  | 966 | 972 | 981 | 992 | 005 | 021 | 042 | 061 | 081 | 101 | 122 | 154 | 173 | 192 | 209 | 225 | 238 | 253 | 262 | 270 | 276 | 280 | 283 |

JAN-APR 20 N TABLE B-1 SOLAR PARAMETERS COS 2 X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS 2 =1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | JAN |     |     |     |     |     |     | FEB |     |     |     |     |     |     | DATE |     |     |     |     |     |     | MAR |     |     |     |     |     |     | APR |     |     |     |  |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10   | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |  |  |  |
| 1100 | .70 | .70 | .71 | .71 | .72 | .73 | .74 | .76 | .78 | .79 | .81 | .82 |     | .76 | .78  | .79 | .81 | .82 |     | .85 | .87 | .88 | .90 | .91 | .92 |     | .93 | .94 | .95 | .96 | .96 | .97 |  |  |  |
| 988  | 991 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998  | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 | 998 |  |  |  |
| 15   | .71 | .71 | .72 | .73 | .74 | .75 | .76 | .78 | .79 | .81 | .83 | .84 |     | .78 | .79  | .81 | .83 | .84 |     | .87 | .88 | .90 | .91 | .92 | .94 |     | .95 | .96 | .97 | .97 | .98 | .98 |  |  |  |
| 30   | .72 | .73 | .73 | .74 | .75 | .76 | .77 | .79 | .81 | .82 | .84 | .85 |     | .79 | .81  | .82 | .84 | .85 |     | .88 | .90 | .91 | .92 | .94 | .95 |     | .96 | .97 | .98 | .98 | .99 | .99 |  |  |  |
| 45   | .73 | .73 | .74 | .75 | .76 | .77 | .78 | .80 | .82 | .83 | .85 | .86 |     | .80 | .82  | .83 | .85 | .86 |     | .83 | .90 | .92 | .93 | .94 | .96 |     | .97 | .97 | .98 | .99 | .99 | .99 |  |  |  |
| 1200 | .73 | .74 | .74 | .75 | .76 | .77 | .79 | .81 | .82 | .84 | .85 | .87 |     | .81 | .82  | .84 | .85 | .87 |     | .89 | .91 | .92 | .94 | .95 | .96 |     | .97 | .98 | .98 | .99 | .99 | .99 |  |  |  |
| 15   | .73 | .73 | .74 | .75 | .76 | .78 | .79 | .81 | .82 | .84 | .86 | .87 |     | .81 | .82  | .84 | .86 | .87 |     | .90 | .91 | .92 | .94 | .95 | .96 |     | .97 | .98 | .98 | .99 | .99 | .99 |  |  |  |
| 30   | .73 | .73 | .74 | .75 | .76 | .77 | .79 | .81 | .82 | .84 | .85 | .87 |     | .81 | .82  | .84 | .85 | .87 |     | .89 | .91 | .92 | .93 | .94 | .95 |     | .96 | .97 | .98 | .98 | .98 | .99 |  |  |  |
| 45   | .72 | .72 | .73 | .74 | .75 | .77 | .78 | .80 | .82 | .83 | .85 | .86 |     | .80 | .82  | .83 | .85 | .86 |     | .83 | .90 | .91 | .92 | .94 | .94 |     | .95 | .96 | .97 | .97 | .97 | .98 |  |  |  |
| 1300 | .70 | .71 | .72 | .73 | .74 | .76 | .77 | .79 | .81 | .82 | .84 | .85 |     | .79 | .81  | .82 | .84 | .85 |     | .82 | .89 | .90 | .91 | .92 | .93 |     | .94 | .95 | .95 | .96 | .96 | .96 |  |  |  |
| 15   | .69 | .70 | .70 | .72 | .73 | .74 | .76 | .78 | .79 | .81 | .82 | .84 |     | .78 | .79  | .81 | .82 | .84 |     | .86 | .87 | .89 | .90 | .91 | .92 |     | .92 | .93 | .93 | .94 | .94 | .94 |  |  |  |
| 30   | .67 | .68 | .69 | .70 | .71 | .72 | .74 | .76 | .77 | .79 | .81 | .82 |     | .76 | .77  | .79 | .81 | .82 |     | .84 | .86 | .87 | .88 | .89 | .89 |     | .90 | .91 | .91 | .92 | .92 | .92 |  |  |  |
| 45   | .65 | .65 | .66 | .68 | .69 | .70 | .72 | .74 | .75 | .77 | .78 | .80 |     | .74 | .75  | .77 | .78 | .80 |     | .82 | .83 | .84 | .85 | .86 | .87 |     | .88 | .89 | .89 | .89 | .89 | .90 |  |  |  |

JAN-APR 20 N TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

| MST  | JAN                                                        |   |    |    |    | FEB |    |                                             |    |                                                     | MAR |    |                                                     |   |    | APR |    |    |    |  |
|------|------------------------------------------------------------|---|----|----|----|-----|----|---------------------------------------------|----|-----------------------------------------------------|-----|----|-----------------------------------------------------|---|----|-----|----|----|----|--|
|      | 1                                                          | 5 | 10 | 15 | 20 | 25  | 30 | 5                                           | 10 | 15                                                  | 20  | 25 | 30                                                  | 5 | 10 | 15  | 20 | 25 | 30 |  |
| 1400 | .62 .63 .64 .65 .66 .68 .69<br>879 889 904 921 939 958 978 |   |    |    |    |     |    | .71 .73 .74 .76 .77<br>*003*023*043*062*079 |    | .79 .81 .82 .83 .84 .84<br>*105*113*131*141*150*157 |     |    | .85 .85 .85 .86 .87 .87<br>*163*163*163*170*171*171 |   |    |     |    |    |    |  |
| 15   | .59 .60 .61 .62 .64 .65 .67<br>838 848 864 880 899 918 938 |   |    |    |    |     |    | .68 .70 .72 .73 .74<br>963 983*003*021*039  |    | .76 .78 .79 .80 .80 .81<br>*064*077*089*099*107*114 |     |    | .82 .82 .83 .83 .83 .84<br>*119*123*125*126*127*127 |   |    |     |    |    |    |  |
| 30   | .56 .57 .58 .59 .61 .62 .63<br>792 803 819 836 855 874 894 |   |    |    |    |     |    | .65 .67 .68 .70 .71<br>919 939 958 977 994  |    | .73 .74 .75 .76 .77 .78<br>*018*031*042*052*060*066 |     |    | .78 .79 .79 .80 .80 .80<br>*071*075*077*079*079*080 |   |    |     |    |    |    |  |
| 45   | .52 .53 .54 .56 .57 .59 .60<br>742 754 769 787 806 825 846 |   |    |    |    |     |    | .62 .63 .65 .66 .68<br>870 890 909 927 944  |    | .70 .71 .72 .72 .73 .74<br>966 980 991*000*008*014  |     |    | .75 .75 .75 .76 .76 .76<br>*019*022*025*026*027*028 |   |    |     |    |    |    |  |
| 1500 | .49 .49 .51 .52 .53 .55 .56<br>688 700 716 734 753 773 793 |   |    |    |    |     |    | .58 .60 .61 .62 .64<br>817 837 855 873 890  |    | .66 .67 .68 .68 .69 .70<br>913 925 936 944 952 957  |     |    | .70 .71 .71 .72 .72 .72<br>963 966 968 970 971 972  |   |    |     |    |    |    |  |
| 15   | .45 .45 .47 .48 .49 .51 .52<br>631 643 659 677 696 716 736 |   |    |    |    |     |    | .54 .55 .57 .58 .60<br>760 779 798 815 831  |    | .61 .62 .63 .64 .65 .65<br>854 866 876 885 892 897  |     |    | .66 .66 .67 .67 .67 .68<br>902 903 904 910 912 913  |   |    |     |    |    |    |  |
| 30   | .40 .41 .42 .44 .45 .46 .48<br>570 582 598 616 635 655 675 |   |    |    |    |     |    | .50 .51 .53 .54 .55<br>699 718 736 753 769  |    | .57 .58 .59 .59 .60 .61<br>791 803 812 821 828 833  |     |    | .61 .62 .62 .62 .62 .63<br>838 842 844 847 848 850  |   |    |     |    |    |    |  |
| 45   | .36 .37 .38 .39 .40 .42 .43<br>505 517 534 552 572 591 611 |   |    |    |    |     |    | .45 .47 .48 .49 .50<br>634 653 671 688 703  |    | .52 .53 .54 .55 .55 .56<br>725 736 745 754 760 766  |     |    | .56 .57 .57 .57 .58 .58<br>771 774 777 780 782 784  |   |    |     |    |    |    |  |
| 1600 | .31 .32 .33 .34 .36 .37 .39<br>438 450 467 485 504 524 543 |   |    |    |    |     |    | .40 .42 .43 .44 .45<br>567 585 603 619 634  |    | .47 .48 .49 .50 .50 .51<br>655 666 675 683 690 695  |     |    | .51 .52 .52 .52 .53 .53<br>700 704 707 710 713 716  |   |    |     |    |    |    |  |
| 15   | .26 .27 .28 .29 .31 .32 .34<br>368 380 397 415 434 454 473 |   |    |    |    |     |    | .35 .37 .38 .39 .40<br>496 514 531 547 562  |    | .42 .43 .44 .44 .45 .45<br>582 593 602 610 616 622  |     |    | .46 .46 .47 .47 .47 .48<br>627 631 634 638 641 644  |   |    |     |    |    |    |  |
| 30   | .21 .22 .23 .24 .26 .27 .28<br>295 308 325 343 362 381 400 |   |    |    |    |     |    | .30 .31 .33 .34 .35<br>422 440 457 472 487  |    | .36 .37 .38 .39 .39 .40<br>506 517 526 534 540 546  |     |    | .40 .41 .41 .42 .42 .42<br>551 555 559 563 567 571  |   |    |     |    |    |    |  |
| 45   | .16 .17 .18 .19 .20 .22 .23<br>221 233 250 268 287 306 324 |   |    |    |    |     |    | .25 .26 .27 .28 .29<br>346 364 380 395 409  |    | .31 .32 .32 .33 .34 .34<br>429 439 448 455 462 467  |     |    | .35 .35 .35 .36 .36 .37<br>473 478 482 486 491 495  |   |    |     |    |    |    |  |

JAN-APR 20 N TABLE B-1 SOLAR PARAMETERS COS Z XO (W/M\*2.) \*\*\* SIGNIFIES COS Z = 1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |
| 1700 | .10  | .11 | .12 | .14 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .29 | .29 | .30 | .30 | .31 | .31 |
|      | 144  | 157 | 174 | 192 | 210 | 229 | 247 | 268 | 285 | 301 | 316 | 330 | 349 | 359 | 367 | 375 | 381 | 387 | 394 | 393 | 403 | 408 | 413 | 418 |
| 15   | .05  | .06 | .07 | .08 | .09 | .11 | .12 | .13 | .15 | .16 | .17 | .18 | .19 | .20 | .21 | .21 | .22 | .22 | .23 | .23 | .24 | .24 | .25 | .25 |
|      | 067  | 079 | 096 | 114 | 132 | 150 | 168 | 189 | 205 | 221 | 235 | 249 | 267 | 277 | 285 | 293 | 300 | 306 | 312 | 318 | 323 | 328 | 334 | 340 |
| 30   | .00  | .00 | .01 | .02 | .04 | .05 | .06 | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .15 | .15 | .16 | .16 | .17 | .17 | .18 | .18 | .19 | .19 |
|      | 000  | 000 | 017 | 034 | 052 | 070 | 087 | 108 | 124 | 139 | 153 | 165 | 184 | 193 | 202 | 210 | 216 | 223 | 230 | 235 | 241 | 247 | 254 | 260 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | .09 | .10 | .10 | .11 | .11 | .12 | .12 | .13 | .13 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 006 | 025 | 041 | 056 | 070 | 082 | 100 | 109 | 118 | 125 | 133 | 139 | 147 | 153 | 159 | 166 | 173 | 180 |
| 1800 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .02 | .03 | .04 | .04 | .05 | .05 | .06 | .06 | .07 | .07 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 015 | 024 | 033 | 041 | 048 | 055 | 063 | 070 | 077 | 084 | 092 | 100 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .01 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 002 | 011 | 019 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

JAN-APR 20 N      TABLE B-1      SOLAR PARAMETERS      COS Z      -- SIGNIFIES COS Z = 1.  
X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY  |     |     |     |     |     |  | JUN  |     |     |     |     |     |  | JUL  |     |     |     |     |     |  | AUG  |     |     |     |     |     |  |
|------|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|------|-----|-----|-----|-----|-----|--|
|      | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  | DATE |     |     |     |     |     |  |
|      | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  | 5    | 10  | 15  | 20  | 25  | 30  |  |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
| 30   | .00  | .00 | .01 | .02 | .02 | .02 |  | .02  | .02 | .02 | .02 | .02 | .01 |  | .00  | .00 | .00 | .00 | .00 | .00 |  | .00  | .00 | .00 | .00 | .00 | .00 |  |
| 45   | .05  | .06 | .07 | .07 | .08 | .08 |  | .08  | .08 | .08 | .08 | .07 | .07 |  | .06  | .05 | .05 | .04 | .03 | .03 |  | .02  | .01 | .01 | .00 | .00 | .00 |  |
| 0600 | .11  | .12 | .12 | .13 | .13 | .14 |  | .14  | .14 | .13 | .13 | .13 | .12 |  | .12  | .11 | .10 | .10 | .09 | .09 |  | .08  | .07 | .07 | .06 | .06 | .05 |  |
| 15   | .17  | .18 | .18 | .19 | .19 | .19 |  | .19  | .19 | .19 | .19 | .18 | .18 |  | .17  | .17 | .16 | .16 | .15 | .14 |  | .14  | .13 | .13 | .12 | .12 | .11 |  |
| 30   | .23  | .23 | .24 | .25 | .25 | .25 |  | .25  | .25 | .25 | .24 | .24 | .24 |  | .23  | .22 | .22 | .21 | .21 | .20 |  | .20  | .19 | .19 | .18 | .18 | .17 |  |
| 45   | .28  | .29 | .30 | .30 | .31 | .31 |  | .31  | .31 | .30 | .30 | .30 | .29 |  | .29  | .28 | .28 | .27 | .26 | .26 |  | .25  | .25 | .24 | .24 | .24 | .23 |  |
| 0700 | .34  | .35 | .35 | .36 | .36 | .36 |  | .36  | .36 | .36 | .36 | .35 | .35 |  | .34  | .34 | .33 | .33 | .32 | .32 |  | .31  | .31 | .30 | .30 | .30 | .29 |  |
| 15   | .40  | .40 | .41 | .41 | .42 | .42 |  | .42  | .41 | .41 | .41 | .41 | .40 |  | .40  | .39 | .39 | .38 | .38 | .37 |  | .37  | .35 | .35 | .36 | .35 | .35 |  |
| 30   | .45  | .46 | .46 | .47 | .47 | .47 |  | .47  | .47 | .47 | .46 | .46 | .45 |  | .45  | .44 | .44 | .44 | .43 | .43 |  | .42  | .42 | .42 | .41 | .41 | .41 |  |
| 45   | .51  | .51 | .52 | .52 | .52 | .52 |  | .52  | .52 | .52 | .51 | .51 | .51 |  | .50  | .50 | .49 | .49 | .48 | .48 |  | .48  | .47 | .47 | .47 | .47 | .46 |  |

MAY-AUG 20 N TABLE B-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
 XO (W/M=2.) ADD 1000 TO VALUES PRECEDED BY .

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 0800 | .56 | .56 | .57 | .57 | .57 | .57 | .57 | .57 | .57 | .56 | .56 | .56 | .55 | .55 | .54 | .54 | .54 | .53 | .53 | .53 | .52 | .52 | .52 | .52 |
|      | 751 | 756 | 760 | 762 | 763 | 762 | 759 | 755 | 751 | 746 | 741 | 736 | 730 | 725 | 720 | 716 | 712 | 708 | 704 | 702 | 700 | 698 | 696 | 695 |
| 15   | .61 | .61 | .62 | .62 | .62 | .62 | .62 | .62 | .61 | .61 | .61 | .60 | .60 | .60 | .59 | .59 | .59 | .58 | .58 | .58 | .57 | .57 | .57 | .57 |
|      | 818 | 823 | 826 | 827 | 827 | 826 | 822 | 819 | 815 | 810 | 805 | 800 | 795 | 790 | 786 | 782 | 778 | 775 | 772 | 770 | 766 | 767 | 765 | 764 |
| 30   | .66 | .66 | .66 | .67 | .67 | .67 | .67 | .66 | .66 | .66 | .65 | .65 | .65 | .64 | .64 | .64 | .63 | .63 | .63 | .63 | .62 | .62 | .62 | .62 |
|      | 882 | 886 | 888 | 889 | 889 | 887 | 884 | 880 | 876 | 871 | 866 | 861 | 857 | 852 | 848 | 845 | 842 | 839 | 837 | 835 | 834 | 833 | 832 | 831 |
| 45   | .70 | .71 | .71 | .71 | .71 | .71 | .71 | .71 | .70 | .70 | .70 | .70 | .69 | .69 | .68 | .68 | .68 | .68 | .68 | .67 | .67 | .67 | .67 | .67 |
|      | 942 | 946 | 948 | 948 | 947 | 945 | 942 | 938 | 933 | 929 | 924 | 920 | 915 | 912 | 908 | 905 | 902 | 900 | 898 | 897 | 895 | 896 | 895 | 894 |
| 0900 | .74 | .75 | .75 | .75 | .75 | .75 | .75 | .75 | .75 | .74 | .74 | .74 | .73 | .73 | .73 | .73 | .72 | .72 | .72 | .72 | .72 | .71 | .71 | .71 |
|      | 999 | 003 | 004 | 004 | 003 | 000 | 996 | 992 | 988 | 984 | 979 | 975 | 971 | 968 | 965 | 962 | 960 | 958 | 957 | 955 | 955 | 955 | 954 | 953 |
| 15   | .78 | .79 | .79 | .79 | .79 | .79 | .79 | .79 | .78 | .78 | .78 | .78 | .77 | .77 | .77 | .77 | .76 | .76 | .76 | .75 | .75 | .75 | .75 | .75 |
|      | 053 | 056 | 056 | 056 | 054 | 052 | 048 | 044 | 039 | 035 | 031 | 027 | 024 | 020 | 018 | 015 | 014 | 013 | 012 | 011 | 011 | 011 | 010 | 009 |
| 30   | .82 | .82 | .83 | .83 | .83 | .83 | .82 | .82 | .82 | .82 | .82 | .81 | .81 | .81 | .81 | .80 | .80 | .80 | .80 | .80 | .80 | .79 | .79 | .79 |
|      | 103 | 104 | 105 | 104 | 102 | 099 | 095 | 091 | 087 | 083 | 079 | 075 | 072 | 069 | 067 | 065 | 064 | 063 | 063 | 063 | 063 | 062 | 061 | 061 |
| 45   | .85 | .86 | .86 | .86 | .86 | .86 | .86 | .86 | .85 | .85 | .85 | .85 | .84 | .84 | .84 | .84 | .84 | .84 | .83 | .83 | .83 | .83 | .83 | .83 |
|      | 148 | 149 | 149 | 148 | 146 | 143 | 139 | 135 | 131 | 127 | 123 | 120 | 117 | 115 | 113 | 111 | 111 | 110 | 110 | 110 | 110 | 110 | 109 | 109 |
| 1000 | .88 | .89 | .89 | .89 | .89 | .89 | .88 | .88 | .88 | .88 | .88 | .88 | .87 | .87 | .87 | .87 | .87 | .87 | .87 | .87 | .86 | .86 | .86 | .86 |
|      | 189 | 190 | 189 | 188 | 185 | 182 | 178 | 174 | 170 | 167 | 163 | 160 | 158 | 156 | 154 | 153 | 153 | 153 | 153 | 153 | 154 | 154 | 153 | 152 |
| 15   | .91 | .91 | .91 | .92 | .92 | .91 | .91 | .91 | .91 | .91 | .91 | .90 | .90 | .90 | .90 | .90 | .90 | .90 | .90 | .89 | .89 | .89 | .89 | .89 |
|      | 225 | 226 | 225 | 223 | 221 | 217 | 213 | 209 | 206 | 202 | 199 | 197 | 194 | 193 | 192 | 191 | 191 | 191 | 192 | 192 | 193 | 193 | 192 | 191 |
| 30   | .93 | .94 | .94 | .94 | .94 | .94 | .94 | .93 | .93 | .93 | .93 | .93 | .93 | .93 | .92 | .92 | .92 | .92 | .92 | .92 | .92 | .91 | .91 | .91 |
|      | 257 | 257 | 256 | 254 | 251 | 248 | 244 | 240 | 237 | 234 | 231 | 229 | 227 | 225 | 225 | 225 | 225 | 225 | 226 | 227 | 227 | 227 | 226 | 225 |
| 45   | .95 | .96 | .96 | .96 | .96 | .96 | .96 | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .94 | .94 | .94 | .94 | .94 | .94 | .93 |
|      | 284 | 284 | 282 | 280 | 277 | 274 | 270 | 266 | 263 | 260 | 258 | 256 | 254 | 254 | 253 | 253 | 254 | 254 | 255 | 255 | 256 | 256 | 256 | 254 |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 20 N \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*



| MST  | MAY   |      |      |      |      | JUN  |     |     |       |       | DATE |      |      |      |     | JUL |       |       |      |      | AUG  |      |     |     |  |
|------|-------|------|------|------|------|------|-----|-----|-------|-------|------|------|------|------|-----|-----|-------|-------|------|------|------|------|-----|-----|--|
|      | 5     | 10   | 15   | 20   | 25   | 30   | 5   | 10  | 15    | 20    | 25   | 30   | 5    | 10   | 15  | 20  | 25    | 30    | 5    | 10   | 15   | 20   | 25  | 30  |  |
| 1400 | .87   | .87  | .87  | .87  | .88  | .88  | .88 | .88 | .88   | .89   | .89  | .89  | .89  | .89  | .89 | .89 | .89   | .89   | .89  | .89  | .89  | .89  | .89 | .89 |  |
|      | *170* | 170* | 169* | 169* | 169* | 168* | 169 |     |       | *169* | 170* | 171* | 173* | 175* | 177 |     |       | *180* | 182* | 184* | 185* | 186* | 186 |     |  |
| 15   | .84   | .84  | .84  | .84  | .85  | .85  | .85 | .85 | .86   | .86   | .86  | .86  | .86  | .86  | .86 | .86 | .86   | .86   | .86  | .86  | .86  | .86  | .86 | .86 |  |
|      | *127* | 127* | 127* | 127* | 127* | 127* | 128 |     |       | *129* | 130* | 132* | 134* | 136* | 139 |     |       | *141* | 143* | 145* | 147* | 148* | 147 |     |  |
| 30   | .80   | .80  | .81  | .81  | .81  | .81  | .81 | .82 | .82   | .82   | .82  | .83  | .83  | .83  | .83 | .83 | .83   | .83   | .83  | .83  | .83  | .83  | .83 | .83 |  |
|      | *080* | 080* | 080* | 080* | 081* | 081* | 083 |     |       | *084* | 086* | 088* | 091* | 093* | 096 |     |       | *093* | 101* | 103* | 104* | 105* | 104 |     |  |
| 45   | .76   | .77  | .77  | .77  | .77  | .78  | .78 | .78 | .79   | .79   | .79  | .79  | .79  | .79  | .79 | .79 | .79   | .80   | .80  | .80  | .80  | .80  | .80 | .80 |  |
|      | *029* | 029* | 030* | 031* | 032* | 034  |     |     | *036* | 038*  | 041* | 044* | 047* | 049  |     |     | *052* | 055*  | 056* | 058* | 058* | 057  |     |     |  |
| 1500 | .72   | .73  | .73  | .73  | .73  | .74  | .74 | .74 | .75   | .75   | .75  | .75  | .75  | .75  | .75 | .75 | .75   | .76   | .76  | .76  | .76  | .76  | .76 | .76 |  |
|      | 973   | 974  | 976  | 977  | 979  | 981  |     |     | 984   | 987   | 990  | 993  | 996  | 999  |     |     | *002* | 004*  | 006* | 007* | 007* | 005  |     |     |  |
| 15   | .68   | .68  | .69  | .69  | .69  | .69  | .69 | .70 | .70   | .71   | .71  | .71  | .71  | .71  | .71 | .71 | .72   | .72   | .72  | .72  | .72  | .72  | .72 | .72 |  |
|      | 914   | 916  | 918  | 920  | 922  | 925  |     |     | 928   | 932   | 935  | 938  | 942  | 945  |     |     | 948   | 951   | 952  | 953  | 952  | 950  |     |     |  |
| 30   | .63   | .64  | .64  | .64  | .65  | .65  | .65 | .65 | .66   | .66   | .67  | .67  | .67  | .67  | .67 | .67 | .67   | .68   | .68  | .68  | .68  | .67  | .67 | .67 |  |
|      | 852   | 854  | 856  | 859  | 862  | 865  |     |     | 869   | 873   | 877  | 881  | 885  | 888  |     |     | 891   | 893   | 895  | 895  | 894  | 892  |     |     |  |
| 45   | .59   | .59  | .59  | .60  | .60  | .60  | .60 | .61 | .61   | .62   | .62  | .62  | .63  | .63  | .63 | .63 | .63   | .63   | .63  | .63  | .63  | .63  | .63 | .63 |  |
|      | 787   | 789  | 792  | 795  | 799  | 803  |     |     | 808   | 812   | 816  | 820  | 824  | 828  |     |     | 831   | 833   | 834  | 835  | 833  | 830  |     |     |  |
| 1600 | .53   | .54  | .54  | .55  | .55  | .55  | .55 | .56 | .56   | .57   | .57  | .58  | .58  | .58  | .58 | .58 | .58   | .58   | .58  | .58  | .58  | .58  | .58 | .58 |  |
|      | 719   | 722  | 725  | 729  | 733  | 738  |     |     | 743   | 748   | 753  | 757  | 761  | 765  |     |     | 768   | 770   | 771  | 771  | 769  | 766  |     |     |  |
| 15   | .48   | .49  | .49  | .49  | .50  | .50  | .50 | .51 | .51   | .52   | .52  | .53  | .53  | .53  | .53 | .53 | .53   | .53   | .53  | .53  | .53  | .53  | .53 | .53 |  |
|      | 648   | 652  | 656  | 660  | 665  | 670  |     |     | 676   | 681   | 687  | 691  | 696  | 700  |     |     | 703   | 705   | 705  | 705  | 703  | 699  |     |     |  |
| 30   | .43   | .43  | .44  | .44  | .45  | .45  | .45 | .46 | .46   | .47   | .47  | .47  | .48  | .48  | .48 | .48 | .48   | .48   | .48  | .48  | .48  | .47  | .47 | .47 |  |
|      | 575   | 579  | 584  | 589  | 595  | 600  |     |     | 607   | 613   | 618  | 623  | 628  | 632  |     |     | 635   | 637   | 637  | 636  | 634  | 629  |     |     |  |
| 45   | .37   | .38  | .38  | .39  | .39  | .40  | .40 | .41 | .41   | .41   | .42  | .42  | .43  | .43  | .43 | .43 | .43   | .43   | .43  | .43  | .42  | .42  | .42 | .42 |  |
|      | 500   | 505  | 511  | 517  | 523  | 529  |     |     | 536   | 542   | 548  | 554  | 558  | 562  |     |     | 565   | 567   | 567  | 566  | 563  | 558  |     |     |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*2.)

MAY-AUG 20 N



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     | JUN |     |     |     | JUL |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1700 | .32  | .32 | .33 | .33 | .34 | .34 | .35 | .35 | .36 | .36 | .37 | .37 |
|      | 424  | 429 | 436 | 442 | 449 | 456 | 464 | 470 | 477 | 482 | 487 | 491 |
| 15   | .26  | .26 | .27 | .27 | .28 | .29 | .29 | .30 | .30 | .31 | .31 | .32 |
|      | 346  | 352 | 359 | 367 | 374 | 381 | 390 | 397 | 404 | 409 | 414 | 418 |
| 30   | .20  | .20 | .21 | .22 | .22 | .23 | .24 | .24 | .25 | .25 | .26 | .26 |
|      | 267  | 274 | 282 | 290 | 298 | 306 | 315 | 323 | 330 | 336 | 341 | 345 |
| 45   | .14  | .15 | .15 | .16 | .17 | .17 | .18 | .19 | .19 | .20 | .20 | .20 |
|      | 188  | 196 | 204 | 213 | 222 | 230 | 240 | 248 | 255 | 261 | 266 | 270 |
| 1800 | .08  | .09 | .09 | .10 | .11 | .12 | .12 | .13 | .14 | .14 | .15 | .15 |
|      | 108  | 117 | 126 | 136 | 145 | 154 | 165 | 173 | 180 | 187 | 192 | 196 |
| 15   | .02  | .03 | .04 | .04 | .05 | .06 | .07 | .07 | .08 | .08 | .09 | .09 |
|      | 029  | 038 | 048 | 058 | 068 | 078 | 089 | 098 | 105 | 112 | 117 | 121 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .02 | .03 | .03 | .04 |
|      | 000  | 000 | 000 | 000 | 000 | 002 | 014 | 023 | 031 | 037 | 043 | 046 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
|      | .36  | .35 | .34 | .33 | .31 | .30 | .37 | .37 | .37 | .37 | .37 | .36 |
|      | 475  | 464 | 452 | 437 | 420 | 401 | 494 | 495 | 495 | 493 | 490 | 484 |
|      | .30  | .23 | .28 | .27 | .25 | .24 | .32 | .32 | .32 | .32 | .31 | .31 |
|      | 399  | 383 | 375 | 359 | 341 | 322 | 421 | 422 | 422 | 420 | 416 | 409 |
|      | .24  | .23 | .22 | .21 | .20 | .18 | .25 | .26 | .26 | .26 | .26 | .25 |
|      | 322  | 310 | 295 | 280 | 261 | 241 | 347 | 348 | 347 | 345 | 340 | 333 |
|      | .18  | .17 | .15 | .15 | .14 | .12 | .21 | .21 | .21 | .20 | .20 | .19 |
|      | 245  | 232 | 217 | 200 | 181 | 160 | 273 | 273 | 272 | 269 | 264 | 257 |
|      | .13  | .12 | .10 | .09 | .08 | .06 | .15 | .15 | .15 | .15 | .14 | .14 |
|      | 167  | 153 | 138 | 120 | 100 | 078 | 198 | 198 | 197 | 193 | 187 | 179 |
|      | .07  | .05 | .04 | .03 | .01 | .00 | .09 | .09 | .09 | .09 | .08 | .08 |
|      | 088  | 075 | 058 | 040 | 019 | 000 | 123 | 123 | 121 | 117 | 111 | 102 |
|      | .01  | .00 | .00 | .00 | .00 | .00 | .04 | .04 | .03 | .03 | .03 | .02 |
|      | 011  | 000 | 000 | 000 | 000 | 000 | 048 | 045 | 045 | 041 | 034 | 025 |
|      | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

250

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 20 N  
 \*\*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0600 | .05 | .04 | .04 | .04 | .03 | .03 | .02 | .02 | .01 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 065 | 060 | 055 | 050 | 045 | 039 | 032 | 024 | 015 | 004 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .11 | .11 | .10 | .10 | .09 | .09 | .08 | .08 | .07 | .06 | .06  | .05 | .03 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
| 30   | .17 | .17 | .16 | .16 | .15 | .15 | .15 | .14 | .13 | .12 | .11  | .10 | .09 | .08 | .07 | .05 | .04 | .03 | .02 | .01 | .00 | .00 | .00 | .00 |  |
|      | 229 | 225 | 221 | 216 | 211 | 205 | 198 | 190 | 181 | 170 | 158  | 144 | 127 | 111 | 094 | 076 | 059 | 041 | 024 | 003 | 000 | 000 | 000 | 000 |  |
| 45   | .23 | .23 | .22 | .22 | .22 | .21 | .21 | .20 | .19 | .18 | .17  | .16 | .15 | .14 | .12 | .11 | .10 | .09 | .07 | .05 | .05 | .04 | .03 | .03 |  |
| 0700 | .29 | .29 | .28 | .28 | .28 | .27 | .26 | .26 | .25 | .24 | .23  | .22 | .21 | .19 | .18 | .17 | .15 | .14 | .13 | .12 | .11 | .10 | .09 | .08 |  |
|      | 390 | 387 | 383 | 379 | 374 | 368 | 361 | 353 | 343 | 332 | 319  | 305 | 286 | 269 | 252 | 234 | 216 | 198 | 180 | 164 | 149 | 135 | 123 | 113 |  |
| 15   | .35 | .34 | .34 | .34 | .33 | .33 | .32 | .31 | .31 | .30 | .29  | .28 | .26 | .25 | .23 | .22 | .21 | .19 | .18 | .17 | .16 | .15 | .14 | .13 |  |
| 30   | .40 | .40 | .40 | .39 | .39 | .38 | .38 | .37 | .36 | .35 | .34  | .33 | .31 | .30 | .29 | .27 | .26 | .25 | .23 | .22 | .21 | .20 | .19 | .19 |  |
|      | 545 | 543 | 540 | 536 | 531 | 525 | 517 | 509 | 498 | 486 | 473  | 458 | 438 | 421 | 403 | 384 | 366 | 348 | 330 | 314 | 299 | 286 | 274 | 265 |  |
| 45   | .46 | .46 | .45 | .45 | .44 | .44 | .43 | .42 | .42 | .41 | .39  | .38 | .37 | .35 | .34 | .33 | .31 | .30 | .29 | .27 | .26 | .25 | .25 | .24 |  |
| 0800 | .62 | .61 | .61 | .60 | .60 | .59 | .59 | .58 | .57 | .56 | .55  | .54 | .53 | .51 | .50 | .48 | .47 | .45 | .44 | .43 | .42 | .40 | .39 | .38 |  |
|      | 829 | 826 | 823 | 819 | 814 | 807 | 799 | 789 | 777 | 764 | 749  | 732 | 711 | 693 | 674 | 655 | 636 | 618 | 601 | 585 | 572 | 560 | 550 | 543 |  |
| 45   | .66 | .66 | .65 | .65 | .64 | .64 | .63 | .62 | .61 | .60 | .58  | .57 | .55 | .54 | .52 | .51 | .50 | .48 | .47 | .45 | .45 | .44 | .43 | .43 |  |
| 15   | .57 | .56 | .56 | .55 | .55 | .54 | .54 | .53 | .52 | .51 | .49  | .48 | .47 | .45 | .44 | .42 | .41 | .39 | .38 | .37 | .36 | .35 | .34 | .34 |  |
|      | 762 | 760 | 757 | 753 | 748 | 741 | 733 | 723 | 712 | 699 | 684  | 669 | 648 | 630 | 611 | 592 | 573 | 555 | 538 | 522 | 508 | 495 | 485 | 478 |  |
| 30   | .62 | .61 | .61 | .60 | .60 | .59 | .58 | .57 | .56 | .55 | .54  | .53 | .51 | .50 | .48 | .47 | .45 | .44 | .43 | .42 | .40 | .40 | .39 | .38 |  |
| 45   | .82 | .81 | .81 | .80 | .80 | .79 | .78 | .77 | .76 | .75 | .74  | .73 | .71 | .70 | .68 | .67 | .65 | .64 | .62 | .61 | .59 | .58 | .57 | .56 |  |
|      | 892 | 890 | 887 | 882 | 877 | 870 | 861 | 850 | 838 | 825 | 809  | 793 | 771 | 753 | 734 | 715 | 696 | 678 | 661 | 645 | 632 | 621 | 612 | 605 |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS Z  
XO (W/M\*\*2.)

TABLE B-1

SEP-DEC 20 N

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |
| 0900 | .71  | .70  | .70  | .69  | .69  | .68  | .67  | .66  | .65  | .64  | .63  | .61  | .59  | .58  | .56  | .55  | .54  | .52  | .51  | .50  | .49  | .48  | .47  | .47  |  |
|      | 952  | 949  | 946  | 942  | 936  | 928  | 919  | 908  | 896  | 882  | 866  | 849  | 828  | 809  | 790  | 771  | 752  | 734  | 718  | 703  | 690  | 679  | 670  | 664  |  |
| 15   | .75  | .74  | .74  | .73  | .73  | .72  | .71  | .70  | .69  | .68  | .66  | .65  | .63  | .62  | .60  | .59  | .57  | .56  | .55  | .54  | .53  | .52  | .51  | .51  |  |
|      | *008 | *005 | *002 | 997  | 991  | 983  | 973  | 962  | 949  | 935  | 919  | 902  | 880  | 861  | 842  | 823  | 804  | 786  | 770  | 753  | 733  | 725  | 720  | 720  |  |
| 30   | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .74  | .72  | .71  | .70  | .68  | .67  | .65  | .64  | .62  | .61  | .59  | .58  | .57  | .56  | .55  | .55  | .55  |  |
|      | *059 | *057 | *053 | *048 | *041 | *033 | *023 | *012 | 998  | 983  | 967  | 950  | 926  | 908  | 889  | 870  | 852  | 835  | 819  | 801  | 782  | 776  | 771  | 771  |  |
| 45   | .82  | .82  | .81  | .81  | .80  | .79  | .78  | .77  | .76  | .74  | .73  | .71  | .70  | .68  | .67  | .65  | .64  | .62  | .61  | .60  | .59  | .59  | .58  | .58  |  |
|      | *107 | *104 | *100 | *094 | *087 | *079 | *068 | *056 | *043 | *027 | *011 | 993  | 971  | 952  | 932  | 914  | 895  | 878  | 863  | 843  | 838  | 829  | 822  | 818  |  |
| 1000 | .85  | .85  | .84  | .84  | .83  | .82  | .81  | .80  | .79  | .77  | .76  | .74  | .72  | .71  | .69  | .68  | .67  | .65  | .64  | .63  | .62  | .62  | .61  | .61  |  |
|      | *150 | *147 | *142 | *136 | *129 | *120 | *109 | *097 | *082 | *067 | *050 | *032 | *009 | 990  | 971  | 952  | 934  | 918  | 903  | 889  | 878  | 870  | 864  | 861  |  |
| 15   | .88  | .88  | .87  | .86  | .86  | .85  | .84  | .82  | .81  | .80  | .78  | .77  | .75  | .73  | .72  | .70  | .69  | .68  | .67  | .65  | .65  | .64  | .64  | .64  |  |
|      | *188 | *185 | *180 | *174 | *166 | *156 | *145 | *132 | *117 | *101 | *084 | *066 | *043 | *024 | *005 | 986  | 969  | 952  | 938  | 925  | 915  | 907  | 902  | 900  |  |
| 30   | .91  | .90  | .89  | .89  | .88  | .87  | .86  | .85  | .83  | .82  | .80  | .79  | .77  | .75  | .74  | .72  | .71  | .70  | .69  | .63  | .67  | .66  | .66  | .66  |  |
|      | *222 | *218 | *213 | *206 | *197 | *187 | *175 | *162 | *147 | *131 | *113 | *095 | *072 | *053 | *034 | *015 | 998  | 982  | 968  | 956  | 946  | 939  | 935  | 934  |  |
| 45   | .93  | .92  | .92  | .91  | .90  | .89  | .88  | .86  | .85  | .84  | .82  | .80  | .79  | .77  | .76  | .74  | .73  | .72  | .70  | .70  | .69  | .68  | .68  | .68  |  |
|      | *250 | *246 | *240 | *233 | *224 | *213 | *201 | *187 | *171 | *155 | *137 | *118 | *095 | *076 | *057 | *039 | *022 | *007 | 993  | 982  | 973  | 967  | 963  | 963  |  |
| 1100 | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .86  | .85  | .83  | .82  | .80  | .78  | .77  | .75  | .74  | .73  | .72  | .71  | .70  | .70  | .70  | .70  |  |
|      | *274 | *269 | *263 | *255 | *245 | *234 | *221 | *206 | *191 | *173 | *155 | *137 | *114 | *095 | *076 | *058 | *042 | *027 | *014 | *003 | 995  | 989  | 986  | 987  |  |
| 15   | .96  | .95  | .94  | .94  | .93  | .91  | .90  | .89  | .87  | .86  | .84  | .83  | .81  | .79  | .78  | .76  | .75  | .74  | .73  | .72  | .72  | .71  | .71  | .71  |  |
|      | *292 | *287 | *280 | *271 | *261 | *249 | *236 | *221 | *204 | *187 | *169 | *150 | *127 | *108 | *089 | *072 | *056 | *041 | *029 | *019 | *011 | *006 | *004 | *006 |  |
| 30   | .97  | .96  | .95  | .94  | .93  | .92  | .91  | .89  | .88  | .86  | .85  | .83  | .81  | .80  | .78  | .77  | .76  | .75  | .74  | .73  | .72  | .72  | .72  | .72  |  |
|      | *305 | *299 | *292 | *282 | *272 | *259 | *245 | *230 | *213 | *195 | *176 | *157 | *134 | *116 | *097 | *080 | *065 | *051 | *039 | *023 | *023 | *019 | *017 | *019 |  |
| 45   | .97  | .97  | .96  | .95  | .94  | .92  | .91  | .90  | .88  | .87  | .85  | .83  | .82  | .80  | .79  | .77  | .76  | .75  | .74  | .73  | .73  | .73  | .72  | .73  |  |
|      | *313 | *308 | *298 | *288 | *277 | *264 | *249 | *233 | *216 | *198 | *179 | *160 | *137 | *118 | *100 | *083 | *068 | *055 | *044 | *035 | *029 | *026 | *025 | *028 |  |

SEP-DEC 20 N TABLE B-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
XO (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY +

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |     |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |     |
| 1200 | .98  | .97  | .96  | .95  | .94  | .92  | .91  | .90  | .88  | .86  | .85  | .83  | .81  | .80  | .78  | .77  | .76  | .75  | .74  | .73  | .73  | .73  | .73  | .73  | .73 |
|      | *315 | *308 | *299 | *288 | *276 | *262 | *247 | *231 | *213 | *195 | *176 | *156 | *133 | *115 | *097 | *081 | *066 | *054 | *043 | *035 | *030 | *027 | *028 | *031 |     |
| 15   | .97  | .96  | .96  | .94  | .93  | .92  | .90  | .89  | .87  | .85  | .84  | .83  | .81  | .79  | .78  | .77  | .75  | .74  | .74  | .73  | .73  | .72  | .73  | .73  |     |
|      | *312 | *304 | *294 | *283 | *270 | *256 | *240 | *223 | *205 | *186 | *167 | *148 | *125 | *107 | *089 | *073 | *059 | *047 | *037 | *030 | *026 | *024 | *025 | *030 |     |
| 30   | .97  | .96  | .95  | .94  | .92  | .91  | .90  | .88  | .86  | .85  | .83  | .82  | .80  | .78  | .77  | .76  | .75  | .74  | .73  | .72  | .72  | .72  | .72  | .72  |     |
|      | *303 | *295 | *284 | *272 | *259 | *244 | *228 | *210 | *192 | *172 | *153 | *134 | *111 | *093 | *076 | *061 | *047 | *035 | *026 | *020 | *015 | *015 | *018 | *023 |     |
| 45   | .96  | .95  | .94  | .92  | .91  | .90  | .88  | .87  | .85  | .83  | .82  | .80  | .78  | .77  | .76  | .74  | .73  | .72  | .72  | .71  | .71  | .71  | .71  | .71  |     |
|      | *289 | *280 | *269 | *256 | *242 | *226 | *209 | *191 | *173 | *153 | *134 | *114 | *092 | *074 | *057 | *043 | *029 | *019 | *010 | *005 | *002 | *002 | *005 | *010 |     |
| 1300 | .94  | .93  | .92  | .91  | .90  | .88  | .87  | .85  | .83  | .82  | .80  | .78  | .77  | .75  | .74  | .73  | .72  | .71  | .70  | .70  | .70  | .70  | .70  | .70  |     |
|      | *270 | *260 | *248 | *235 | *220 | *204 | *186 | *168 | *148 | *129 | *109 | *090 | *067 | *050 | *034 | *019 | *007 | *997 | 989  | 981  | 982  | 983  | 987  | 993  |     |
| 15   | .92  | .91  | .90  | .89  | .88  | .86  | .84  | .83  | .81  | .80  | .78  | .76  | .74  | .73  | .72  | .71  | .70  | .69  | .68  | .63  | .68  | .68  | .68  | .69  |     |
|      | *246 | *235 | *222 | *208 | *193 | *176 | *158 | *139 | *119 | *099 | *079 | *060 | *038 | *021 | *005 | .991 | .979 | .970 | 963  | 953  | 957  | 959  | 963  | 971  |     |
| 30   | .90  | .89  | .88  | .87  | .85  | .84  | .82  | .80  | .79  | .77  | .75  | .74  | .72  | .71  | .69  | .68  | .67  | .67  | .66  | .65  | .65  | .66  | .66  | .67  |     |
|      | *216 | *205 | *191 | *177 | *160 | *143 | *124 | *104 | *084 | *064 | *045 | *025 | *003 | .936 | .971 | .958 | .947 | .938 | 932  | 923  | 923  | 930  | 935  | 943  |     |
| 45   | .88  | .87  | .85  | .84  | .82  | .81  | .79  | .78  | .76  | .74  | .73  | .71  | .69  | .68  | .67  | .66  | .65  | .64  | .64  | .63  | .63  | .63  | .64  | .64  |     |
|      | *182 | *170 | *155 | *140 | *123 | *104 | *085 | *065 | *045 | *025 | *005 | .986 | 964  | 947  | 933  | 920  | 909  | 901  | 896  | 893  | 893  | 896  | 902  | 911  |     |
| 1400 | .85  | .84  | .82  | .81  | .79  | .78  | .76  | .74  | .73  | .71  | .69  | .68  | .66  | .65  | .64  | .63  | .62  | .61  | .61  | .60  | .60  | .61  | .61  | .62  |     |
|      | *143 | *130 | *115 | *098 | *080 | *061 | *042 | *021 | *001 | .980 | .960 | .941 | 920  | 901  | 889  | 877  | 867  | 860  | 855  | 853  | 854  | 858  | 865  | 874  |     |
| 15   | .82  | .80  | .79  | .77  | .76  | .74  | .73  | .71  | .69  | .67  | .66  | .64  | .63  | .61  | .60  | .59  | .58  | .58  | .57  | .57  | .57  | .58  | .58  | .59  |     |
|      | *099 | *085 | *069 | *052 | *033 | *014 | .994 | .973 | .952 | .931 | .912 | .893 | 871  | 856  | 842  | 830  | 821  | 814  | 810  | 803  | 811  | 815  | 823  | 833  |     |
| 30   | .78  | .77  | .75  | .74  | .72  | .70  | .69  | .67  | .65  | .64  | .62  | .60  | .59  | .58  | .56  | .55  | .54  | .54  | .54  | .54  | .54  | .54  | .55  | .56  |     |
|      | *051 | *036 | *019 | *001 | .982 | .962 | .941 | .920 | .899 | .878 | .858 | .839 | 819  | 803  | .790 | .779 | .770 | .764 | 761  | 760  | 763  | 768  | 776  | 787  |     |
| 45   | .74  | .73  | .71  | .70  | .68  | .66  | .65  | .63  | .61  | .59  | .58  | .56  | .55  | .53  | .52  | .52  | .51  | .50  | .50  | .50  | .50  | .51  | .51  | .52  |     |
|      | .998 | .982 | .965 | .946 | .927 | .906 | .884 | .863 | .842 | .821 | .801 | .782 | 762  | 747  | 734  | 724  | 716  | 710  | 708  | 703  | 711  | 717  | 725  | 736  |     |

SEP-DEC 20 N TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M\*\*2.) ... SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1500 | .70  | .68 | .67 | .65 | .64 | .62 | .60 | .58 | .57 | .55 | .53 | .52 | .50 | .49 | .48 | .47 | .47 | .46 | .46 | .43 | .45 | .46 | .47 | .47 | .48 |
|      | 941  | 925 | 907 | 887 | 867 | 846 | 824 | 802 | 781 | 760 | 740 | 721 | 701 | 687 | 674 | 664 | 657 | 652 | 651 | 651 | 655 | 662 | 671 | 682 |     |
| 15   | .65  | .64 | .62 | .61 | .59 | .57 | .55 | .54 | .52 | .50 | .49 | .47 | .46 | .45 | .44 | .43 | .42 | .42 | .42 | .42 | .42 | .43 | .43 | .44 |     |
|      | 881  | 864 | 845 | 825 | 804 | 782 | 760 | 737 | 716 | 695 | 675 | 657 | 637 | 623 | 611 | 602 | 595 | 591 | 590 | 591 | 595 | 603 | 613 | 625 |     |
| 30   | .61  | .59 | .58 | .56 | .54 | .52 | .51 | .49 | .47 | .45 | .44 | .42 | .41 | .40 | .39 | .38 | .38 | .37 | .37 | .37 | .38 | .38 | .39 | .40 |     |
|      | 817  | 799 | 779 | 759 | 737 | 714 | 692 | 669 | 648 | 627 | 607 | 589 | 570 | 556 | 545 | 536 | 530 | 526 | 526 | 523 | 533 | 541 | 551 | 563 |     |
| 45   | .56  | .54 | .52 | .51 | .49 | .47 | .45 | .44 | .42 | .40 | .39 | .37 | .36 | .35 | .34 | .33 | .33 | .33 | .33 | .33 | .33 | .34 | .34 | .35 |     |
|      | 750  | 731 | 711 | 689 | 667 | 644 | 621 | 598 | 576 | 555 | 536 | 518 | 499 | 486 | 475 | 467 | 462 | 459 | 459 | 462 | 467 | 475 | 486 | 499 |     |
| 1600 | .50  | .49 | .47 | .45 | .44 | .42 | .40 | .38 | .36 | .35 | .33 | .32 | .31 | .30 | .29 | .28 | .28 | .28 | .28 | .23 | .28 | .29 | .30 | .31 |     |
|      | 680  | 660 | 639 | 617 | 594 | 571 | 547 | 525 | 502 | 481 | 462 | 444 | 426 | 413 | 403 | 395 | 391 | 388 | 389 | 393 | 399 | 407 | 418 | 431 |     |
| 15   | .45  | .43 | .42 | .40 | .38 | .36 | .34 | .33 | .31 | .29 | .28 | .27 | .25 | .24 | .24 | .23 | .23 | .22 | .23 | .23 | .23 | .24 | .25 | .26 |     |
|      | 607  | 587 | 565 | 542 | 519 | 495 | 471 | 448 | 426 | 405 | 386 | 368 | 351 | 338 | 328 | 321 | 317 | 316 | 317 | 321 | 327 | 336 | 348 | 361 |     |
| 30   | .39  | .38 | .36 | .34 | .32 | .31 | .29 | .27 | .25 | .24 | .22 | .21 | .20 | .19 | .18 | .18 | .17 | .17 | .17 | .13 | .18 | .19 | .19 | .20 |     |
|      | 532  | 511 | 488 | 465 | 441 | 417 | 393 | 370 | 348 | 327 | 308 | 290 | 273 | 261 | 252 | 245 | 242 | 241 | 243 | 247 | 254 | 263 | 275 | 277 |     |
| 45   | .34  | .32 | .30 | .28 | .27 | .25 | .23 | .21 | .19 | .18 | .16 | .15 | .14 | .13 | .12 | .12 | .12 | .12 | .12 | .12 | .13 | .13 | .14 | .15 |     |
|      | 455  | 433 | 410 | 386 | 362 | 337 | 313 | 290 | 267 | 246 | 228 | 211 | 194 | 182 | 174 | 168 | 165 | 164 | 166 | 171 | 179 | 188 | 200 | 214 |     |
| 1700 | .28  | .26 | .24 | .23 | .21 | .19 | .17 | .15 | .14 | .12 | .11 | .09 | .08 | .07 | .07 | .06 | .06 | .06 | .06 | .07 | .07 | .08 | .09 | .10 |     |
|      | 376  | 353 | 330 | 305 | 280 | 256 | 231 | 208 | 186 | 165 | 146 | 130 | 113 | 102 | 094 | 089 | 086 | 086 | 089 | 094 | 102 | 112 | 124 | 138 |     |
| 15   | .22  | .20 | .18 | .16 | .15 | .13 | .11 | .09 | .08 | .06 | .05 | .03 | .02 | .02 | .01 | .01 | .00 | .01 | .01 | .01 | .02 | .02 | .03 | .04 |     |
|      | 296  | 273 | 248 | 223 | 198 | 173 | 149 | 125 | 103 | 082 | 064 | 048 | 032 | 021 | 013 | 008 | 006 | 007 | 010 | 016 | 024 | 034 | 046 | 060 |     |
| 30   | .16  | .14 | .12 | .10 | .08 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 214  | 191 | 166 | 141 | 115 | 090 | 065 | 041 | 019 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |
| 45   | .10  | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |     |
|      | 132  | 108 | 083 | 057 | 031 | 006 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |     |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XO (W/M\*\*2.)

SEP-DEC 20 N

TABLE B-1

20 N

SEP-DEC

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     | OCT |     |     |     | NOV |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1800 | .04  | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 050  | 025 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

COS Z  
X0 (W/M\*\*2.)

SOLAR PARAMETERS

TABLE B-1

SEP-DEC 20 N

| MST  | JAN |     |     |     |     | FEB |     |     |     |     | DATE |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0600 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 006 | 012 | 017 |
| 15   | .05 | .04 | .03 | .02 | .02 | .01 | .01 | .01 | .00 | .00 | .00  | .01 | .01 | .02 | .02 | .03 | .04 | .04 | .04 | .05 | .03 | .06 | .07 | .07 | .08 |
|      | 066 | 056 | 045 | 034 | 025 | 017 | 011 | 006 | 004 | 004 | 006  | 009 | 013 | 025 | 033 | 042 | 052 | 061 | 072 | 080 | 087 | 094 | 098 | 102 | 102 |
| 30   | .11 | .10 | .09 | .09 | .08 | .07 | .07 | .07 | .07 | .07 | .07  | .07 | .08 | .08 | .09 | .10 | .10 | .11 | .12 | .12 | .13 | .13 | .14 | .14 | .14 |
|      | 151 | 141 | 130 | 120 | 112 | 105 | 099 | 095 | 093 | 094 | 096  | 099 | 108 | 116 | 124 | 133 | 141 | 150 | 160 | 163 | 175 | 180 | 184 | 184 | 187 |
| 45   | .17 | .16 | .15 | .15 | .14 | .14 | .13 | .13 | .13 | .13 | .13  | .14 | .14 | .15 | .15 | .16 | .17 | .17 | .18 | .13 | .19 | .20 | .20 | .20 | .20 |
|      | 235 | 226 | 215 | 206 | 198 | 191 | 186 | 183 | 182 | 183 | 185  | 189 | 198 | 206 | 214 | 222 | 231 | 239 | 248 | 255 | 261 | 266 | 269 | 271 | 271 |
| 0700 | .23 | .22 | .21 | .21 | .20 | .20 | .19 | .19 | .19 | .19 | .20  | .20 | .21 | .21 | .22 | .23 | .23 | .24 | .25 | .25 | .26 | .26 | .26 | .26 | .26 |
|      | 318 | 310 | 300 | 291 | 283 | 277 | 273 | 270 | 270 | 271 | 274  | 278 | 287 | 295 | 303 | 311 | 319 | 327 | 336 | 342 | 347 | 351 | 353 | 354 | 354 |
| 15   | .28 | .28 | .27 | .27 | .26 | .26 | .25 | .25 | .25 | .26 | .26  | .26 | .27 | .28 | .28 | .29 | .30 | .30 | .31 | .31 | .32 | .32 | .32 | .32 | .32 |
|      | 400 | 392 | 382 | 374 | 367 | 362 | 358 | 356 | 356 | 358 | 361  | 366 | 375 | 383 | 390 | 398 | 406 | 413 | 421 | 427 | 431 | 434 | 436 | 436 | 436 |
| 30   | .34 | .33 | .33 | .32 | .32 | .32 | .31 | .31 | .31 | .32 | .32  | .32 | .33 | .34 | .34 | .35 | .36 | .36 | .37 | .37 | .38 | .38 | .38 | .38 | .38 |
|      | 481 | 473 | 464 | 456 | 450 | 445 | 442 | 441 | 441 | 443 | 447  | 452 | 462 | 469 | 476 | 484 | 491 | 498 | 505 | 510 | 513 | 515 | 516 | 516 | 515 |
| 45   | .40 | .39 | .38 | .38 | .38 | .37 | .37 | .37 | .37 | .38 | .38  | .38 | .39 | .40 | .41 | .41 | .42 | .42 | .43 | .43 | .44 | .44 | .44 | .44 | .44 |
|      | 559 | 551 | 543 | 536 | 530 | 527 | 524 | 523 | 524 | 527 | 531  | 536 | 543 | 553 | 560 | 567 | 574 | 580 | 586 | 590 | 593 | 594 | 594 | 594 | 593 |
| 0800 | .45 | .44 | .44 | .43 | .43 | .43 | .43 | .43 | .43 | .43 | .44  | .44 | .45 | .46 | .46 | .47 | .48 | .48 | .49 | .49 | .49 | .50 | .50 | .50 | .50 |
|      | 634 | 627 | 620 | 614 | 609 | 606 | 604 | 604 | 605 | 608 | 613  | 618 | 628 | 635 | 642 | 648 | 655 | 660 | 666 | 669 | 671 | 671 | 670 | 668 | 668 |
| 15   | .50 | .50 | .49 | .49 | .48 | .48 | .48 | .48 | .48 | .49 | .49  | .50 | .51 | .51 | .52 | .53 | .53 | .54 | .54 | .53 | .55 | .55 | .55 | .55 | .55 |
|      | 708 | 701 | 694 | 689 | 684 | 682 | 681 | 682 | 684 | 687 | 692  | 697 | 707 | 714 | 720 | 727 | 732 | 737 | 742 | 744 | 745 | 745 | 743 | 740 | 740 |
| 30   | .55 | .55 | .54 | .54 | .54 | .54 | .54 | .54 | .54 | .54 | .55  | .55 | .55 | .57 | .58 | .58 | .59 | .59 | .60 | .60 | .60 | .60 | .60 | .60 | .60 |
|      | 778 | 772 | 765 | 761 | 757 | 755 | 755 | 757 | 759 | 763 | 768  | 773 | 783 | 790 | 796 | 802 | 807 | 811 | 815 | 815 | 817 | 815 | 813 | 809 | 809 |
| 45   | .60 | .59 | .59 | .59 | .59 | .59 | .59 | .59 | .59 | .60 | .60  | .61 | .62 | .62 | .63 | .63 | .64 | .64 | .65 | .65 | .65 | .65 | .65 | .65 | .65 |
|      | 884 | 885 | 884 | 882 | 882 | 882 | 882 | 882 | 882 | 882 | 882  | 882 | 882 | 882 | 882 | 882 | 882 | 882 | 882 | 882 | 882 | 882 | 882 | 882 | 882 |

TABLE B-1 SOLAR PARAMETERS CCS 2 X0 (W/M\*\*2.) ... SIGNIFIES COS 2 \*1. ADD 1000 TO VALUES PRECEDED BY .

MST

DATE

JAN

FEB

MAR

APR

|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0900 | .64 | .64 | .63 | .63 | .63 | .63 | .63 | .64 | .64 | .65 | .65 | .66 | .67 | .67 | .67 | .68 | .68 | .69 | .69 |
|      | 907 | 903 | 898 | 895 | 893 | 892 | 893 | 896 | 900 | 905 | 910 | 916 | 925 | 931 | 937 | 942 | 946 | 941 | 936 |
| 15   | .68 | .68 | .68 | .68 | .68 | .68 | .68 | .68 | .69 | .69 | .70 | .70 | .71 | .72 | .72 | .73 | .73 | .74 | .74 |
|      | 966 | 962 | 958 | 956 | 955 | 955 | 957 | 961 | 965 | 970 | 975 | 981 | 991 | 996 | 001 | 006 | 009 | 011 |     |
| 30   | .72 | .72 | .72 | .72 | .72 | .72 | .72 | .73 | .73 | .74 | .74 | .75 | .76 | .76 | .77 | .77 | .78 | .78 | .78 |
|      | 021 | 018 | 015 | 013 | 013 | 014 | 017 | 021 | 025 | 031 | 036 | 042 | 052 | 057 | 062 | 066 | 068 | 070 |     |
| 45   | .76 | .76 | .75 | .75 | .76 | .76 | .76 | .77 | .77 | .78 | .78 | .79 | .80 | .80 | .81 | .81 | .82 | .82 | .81 |
|      | 072 | 069 | 067 | 066 | 067 | 069 | 072 | 077 | 082 | 087 | 093 | 099 | 108 | 113 | 117 | 121 | 123 | 123 |     |
| 1000 | .79 | .79 | .79 | .79 | .79 | .79 | .80 | .80 | .81 | .81 | .82 | .82 | .83 | .84 | .84 | .85 | .85 | .85 | .85 |
|      | 118 | 116 | 115 | 115 | 116 | 119 | 122 | 128 | 133 | 139 | 145 | 151 | 160 | 165 | 168 | 171 | 172 | 172 |     |
| 15   | .82 | .82 | .82 | .82 | .82 | .82 | .83 | .83 | .84 | .85 | .85 | .86 | .87 | .87 | .88 | .88 | .88 | .88 | .87 |
|      | 160 | 158 | 157 | 158 | 160 | 164 | 168 | 174 | 180 | 186 | 192 | 198 | 207 | 211 | 214 | 216 | 217 | 216 |     |
| 30   | .85 | .84 | .85 | .85 | .85 | .85 | .86 | .86 | .87 | .88 | .88 | .89 | .90 | .90 | .91 | .91 | .91 | .91 | .90 |
|      | 196 | 195 | 195 | 197 | 200 | 204 | 209 | 216 | 222 | 228 | 234 | 240 | 249 | 253 | 255 | 256 | 256 | 255 |     |
| 45   | .87 | .87 | .87 | .87 | .87 | .88 | .88 | .89 | .90 | .90 | .91 | .91 | .92 | .93 | .93 | .94 | .94 | .94 | .92 |
|      | 227 | 227 | 228 | 230 | 234 | 239 | 244 | 252 | 258 | 265 | 271 | 277 | 285 | 288 | 290 | 291 | 291 | 288 |     |
| 1100 | .89 | .89 | .89 | .89 | .89 | .90 | .90 | .91 | .92 | .92 | .93 | .94 | .95 | .95 | .95 | .96 | .96 | .96 | .94 |
|      | 253 | 254 | 255 | 259 | 263 | 268 | 275 | 282 | 289 | 296 | 302 | 308 | 315 | 319 | 320 | 320 | 319 | 316 |     |
| 15   | .90 | .90 | .90 | .91 | .91 | .92 | .92 | .93 | .94 | .94 | .95 | .96 | .96 | .97 | .97 | .97 | .98 | .98 | .95 |
|      | 274 | 275 | 278 | 282 | 287 | 293 | 299 | 308 | 315 | 322 | 328 | 334 | 341 | 343 | 344 | 344 | 342 | 338 |     |
| 30   | .91 | .91 | .91 | .92 | .92 | .93 | .94 | .94 | .95 | .96 | .96 | .97 | .98 | .98 | .98 | .99 | .99 | .99 | .96 |
|      | 289 | 291 | 294 | 299 | 305 | 311 | 319 | 327 | 335 | 342 | 348 | 354 | 360 | 362 | 363 | 362 | 359 | 355 |     |
| 45   | .92 | .92 | .92 | .93 | .93 | .94 | .94 | .95 | .96 | .97 | .97 | .98 | .99 | .99 | .99 | *** | *** | *** | .97 |
|      | 298 | 301 | 305 | 311 | 317 | 324 | 332 | 341 | 349 | 356 | 362 | 368 | 374 | 375 | 375 | 374 | 370 | 365 |     |

JAN-APR

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TABLE B-1

SOLAR PARAMETERS  
COS Z  
XO (W/M\*\*2.)\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*



NST

DATE

|      | JAN                             |   |    |    |    | FEB |    |                      |    |    | MAR |    |    |                          |    | APR |    |    |    |                          |
|------|---------------------------------|---|----|----|----|-----|----|----------------------|----|----|-----|----|----|--------------------------|----|-----|----|----|----|--------------------------|
|      | 1                               | 5 | 10 | 15 | 20 | 25  | 30 | 5                    | 10 | 15 | 20  | 25 | 30 | 5                        | 10 | 15  | 20 | 25 | 30 |                          |
| 1200 | .92 .92 .92 .93 .93 .94 .94 .95 |   |    |    |    |     |    | .96 .97 .97 .98 .99  |    |    |     |    |    | .99 .99 .99 .99 .99      |    |     |    |    |    | *** .99 .99 .98 .98 .97  |
|      | .302.306.311.317.324.332.340    |   |    |    |    |     |    | .350.357.365.371.376 |    |    |     |    |    | .381.382.382.380.376.370 |    |     |    |    |    | .361.352.342.331.319.306 |
| 15   | .92 .92 .93 .93 .94 .94 .95     |   |    |    |    |     |    | .96 .97 .97 .98 .99  |    |    |     |    |    | .99 .99 .99 .99 .99      |    |     |    |    |    | .99 .99 .98 .98 .97 .97  |
|      | .301.305.311.318.325.334.342    |   |    |    |    |     |    | .352.360.367.373.378 |    |    |     |    |    | .383.384.383.380.375.369 |    |     |    |    |    | .360.350.339.328.315.302 |
| 30   | .91 .92 .92 .93 .93 .94 .95     |   |    |    |    |     |    | .96 .97 .97 .98 .98  |    |    |     |    |    | .99 .99 .99 .99 .99      |    |     |    |    |    | .99 .99 .98 .97 .97 .96  |
|      | .294.298.305.313.321.330.338    |   |    |    |    |     |    | .349.357.364.370.375 |    |    |     |    |    | .379.379.378.374.369.362 |    |     |    |    |    | .352.342.331.319.306.293 |
| 45   | .91 .91 .91 .92 .93 .94 .94     |   |    |    |    |     |    | .95 .96 .97 .97 .98  |    |    |     |    |    | .99 .99 .99 .99 .99      |    |     |    |    |    | .98 .97 .97 .96 .95 .95  |
|      | .281.286.294.302.311.320.329    |   |    |    |    |     |    | .340.348.355.361.365 |    |    |     |    |    | .363.369.367.363.357.350 |    |     |    |    |    | .339.323.315.304.291.278 |
| 1300 | .89 .90 .90 .91 .92 .92 .93     |   |    |    |    |     |    | .94 .95 .96 .96 .97  |    |    |     |    |    | .97 .97 .98 .97 .97 .97  |    |     |    |    |    | .96 .95 .95 .95 .94 .93  |
|      | .263.269.277.286.295.305.314    |   |    |    |    |     |    | .325.333.340.346.350 |    |    |     |    |    | .353.352.350.345.339.331 |    |     |    |    |    | .319.303.293.284.271.258 |
| 15   | .88 .88 .89 .89 .90 .91 .92     |   |    |    |    |     |    | .93 .93 .94 .95 .95  |    |    |     |    |    | .96 .96 .96 .96 .96 .95  |    |     |    |    |    | .95 .91 .93 .93 .92 .91  |
|      | .239.246.254.264.274.284.293    |   |    |    |    |     |    | .304.313.320.325.329 |    |    |     |    |    | .331.330.327.322.315.307 |    |     |    |    |    | .295.283.271.258.245.232 |
| 30   | .86 .86 .87 .87 .88 .89 .90     |   |    |    |    |     |    | .91 .92 .92 .93 .93  |    |    |     |    |    | .94 .94 .94 .94 .93 .93  |    |     |    |    |    | .92 .92 .91 .90 .90 .89  |
|      | .211.217.227.237.247.257.267    |   |    |    |    |     |    | .278.286.293.299.302 |    |    |     |    |    | .304.302.299.293.286.277 |    |     |    |    |    | .264.253.240.227.214.201 |
| 45   | .83 .84 .84 .85 .86 .87 .88     |   |    |    |    |     |    | .89 .89 .90 .91 .91  |    |    |     |    |    | .91 .91 .91 .91 .91 .90  |    |     |    |    |    | .90 .89 .89 .88 .87 .86  |
|      | .177.184.194.204.215.225.236    |   |    |    |    |     |    | .247.255.262.267.270 |    |    |     |    |    | .271.279.285.259.251.242 |    |     |    |    |    | .229.217.204.191.177.164 |
| 1400 | .80 .81 .82 .83 .83 .84 .85     |   |    |    |    |     |    | .86 .87 .87 .88 .88  |    |    |     |    |    | .89 .89 .89 .88 .88 .88  |    |     |    |    |    | .87 .86 .85 .85 .84 .83  |
|      | .137.145.156.167.178.188.199    |   |    |    |    |     |    | .210.218.224.229.232 |    |    |     |    |    | .232.230.225.219.211.201 |    |     |    |    |    | .188.175.163.149.136.123 |
| 15   | .77 .78 .79 .79 .80 .81 .82     |   |    |    |    |     |    | .82 .84 .84 .85 .85  |    |    |     |    |    | .85 .85 .85 .85 .85 .84  |    |     |    |    |    | .83 .63 .62 .61 .61 .60  |
|      | .094.102.113.124.135.146.157    |   |    |    |    |     |    | .168.176.182.186.189 |    |    |     |    |    | .189.186.181.174.165.155 |    |     |    |    |    | .142.129.116.103.090.077 |
| 30   | .74 .74 .75 .76 .77 .78 .79     |   |    |    |    |     |    | .80 .80 .81 .81 .82  |    |    |     |    |    | .82 .82 .82 .81 .81 .81  |    |     |    |    |    | .80 .79 .78 .78 .77 .76  |
|      | .045.054.065.076.088.099.110    |   |    |    |    |     |    | .121.128.134.139.141 |    |    |     |    |    | .140.137.131.124.115.105 |    |     |    |    |    | .091.075.055.052.039.026 |
| 45   | .70 .71 .72 .72 .73 .74 .75     |   |    |    |    |     |    | .76 .77 .77 .78 .78  |    |    |     |    |    | .76 .78 .78 .77 .77 .76  |    |     |    |    |    | .76 .75 .74 .73 .73 .72  |
|      | .992.001.013.024.036.047.058    |   |    |    |    |     |    | .069.076.082.086.088 |    |    |     |    |    | .086.082.077.069.060.049 |    |     |    |    |    | .035.022.009.996.983.971 |

JAN-APR 0 TABLE B-1 SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | JAN |     |     |     |     | FEB |      |      |      |      | MAR  |      |      |      |      | APR  |      |      |     |  |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30  |  |
| 1300 | .66 | .67 | .68 | .68 | .69 | .70 | .71  |      |      |      |      |      |      |      |      |      |      |      |     |  |
|      | 935 | 944 | 956 | 968 | 980 | 991 | .002 | .72  | .73  | .73  | .74  | .74  | .74  | .74  | .74  | .74  | .70  | .69  | .68 |  |
|      |     |     |     |     |     |     |      | .012 | .020 | .025 | .029 | .030 | .030 | .023 | .021 | .018 | .010 | .000 | 989 |  |
| 15   | .62 | .62 | .63 | .64 | .65 | .66 | .67  | .68  | .68  | .69  | .69  | .69  | .68  | .67  |      |      |      |      |     |  |
|      | 873 | 883 | 895 | 907 | 919 | 931 | 941  | 952  | 959  | 964  | 967  | 968  | 965  | 961  | 954  | 946  | 936  | 925  |     |  |
|      |     |     |     |     |     |     |      | .63  | .64  | .64  | .64  | .64  | .63  | .62  | .63  | .64  | .65  | .64  | .63 |  |
| 30   | .57 | .58 | .59 | .60 | .61 | .61 | .62  | .63  | .64  | .64  | .64  | .64  | .63  | .62  | .63  | .64  | .64  | .63  | .62 |  |
|      | 808 | 818 | 831 | 843 | 855 | 866 | 876  | 887  | 893  | 898  | 901  | 902  | 898  | 893  | 887  | 878  | 868  | 857  |     |  |
|      |     |     |     |     |     |     |      | .60  | .59  | .59  | .59  | .58  | .57  | .56  | .59  | .58  | .59  | .59  | .58 |  |
| 45   | .52 | .53 | .54 | .55 | .56 | .57 | .57  | .58  | .59  | .59  | .59  | .58  | .57  | .56  | .55  | .55  | .54  | .53  | .53 |  |
|      | 740 | 750 | 762 | 775 | 787 | 798 | 808  | 818  | 824  | 829  | 831  | 832  | 823  | 822  | 815  | 807  | 796  | 785  |     |  |
|      |     |     |     |     |     |     |      | .54  | .54  | .54  | .54  | .53  | .52  | .52  | .54  | .54  | .49  | .48  | .47 |  |
| 1600 | .47 | .48 | .49 | .50 | .51 | .51 | .52  | .53  | .54  | .54  | .54  | .54  | .54  | .52  | .53  | .54  | .53  | .52  | .52 |  |
|      | 668 | 678 | 691 | 703 | 715 | 726 | 736  | 746  | 752  | 756  | 758  | 758  | 753  | 748  | 740  | 732  | 721  | 710  |     |  |
|      |     |     |     |     |     |     |      | .48  | .48  | .49  | .49  | .49  | .49  | .49  | .48  | .48  | .47  | .47  | .46 |  |
| 15   | .42 | .43 | .44 | .45 | .45 | .46 | .47  | .48  | .48  | .49  | .49  | .49  | .49  | .46  | .45  | .44  | .44  | .43  | .42 |  |
|      | 593 | 604 | 617 | 629 | 641 | 652 | 661  | 670  | 676  | 680  | 682  | 681  | 676  | 670  | 662  | 652  | 643  | 632  |     |  |
|      |     |     |     |     |     |     |      | .42  | .43  | .43  | .43  | .43  | .43  | .43  | .43  | .42  | .42  | .41  | .40 |  |
| 30   | .37 | .37 | .38 | .39 | .40 | .41 | .41  | .42  | .43  | .43  | .43  | .43  | .43  | .40  | .39  | .39  | .38  | .37  | .36 |  |
|      | 516 | 527 | 540 | 552 | 564 | 574 | 583  | 592  | 598  | 601  | 602  | 601  | 595  | 589  | 582  | 572  | 562  | 551  |     |  |
|      |     |     |     |     |     |     |      | .36  | .37  | .37  | .37  | .37  | .37  | .37  | .37  | .36  | .35  | .34  | .34 |  |
| 45   | .31 | .32 | .33 | .33 | .34 | .35 | .36  | .36  | .37  | .37  | .37  | .37  | .37  | .34  | .33  | .33  | .32  | .31  | .30 |  |
|      | 437 | 447 | 460 | 472 | 484 | 494 | 503  | 511  | 516  | 519  | 520  | 519  | 513  | 506  | 498  | 489  | 479  | 468  |     |  |
|      |     |     |     |     |     |     |      | .30  | .31  | .31  | .31  | .31  | .31  | .31  | .30  | .30  | .29  | .29  | .28 |  |
| 1700 | .25 | .26 | .27 | .28 | .29 | .29 | .30  | .29  | .30  | .31  | .31  | .31  | .31  | .28  | .27  | .25  | .25  | .24  | .24 |  |
|      | 356 | 366 | 379 | 391 | 402 | 412 | 421  | 429  | 433  | 436  | 436  | 434  | 427  | 421  | 413  | 404  | 393  | 382  |     |  |
|      |     |     |     |     |     |     |      | .24  | .25  | .25  | .25  | .25  | .25  | .25  | .24  | .24  | .23  | .22  | .22 |  |
| 15   | .19 | .20 | .21 | .22 | .23 | .23 | .24  | .24  | .25  | .25  | .25  | .25  | .25  | .22  | .21  | .20  | .19  | .18  | .18 |  |
|      | 273 | 283 | 296 | 308 | 319 | 328 | 336  | 344  | 348  | 350  | 350  | 348  | 341  | 334  | 326  | 316  | 306  | 296  |     |  |
|      |     |     |     |     |     |     |      | .18  | .19  | .19  | .19  | .19  | .19  | .18  | .18  | .17  | .17  | .16  | .15 |  |
| 30   | .13 | .14 | .15 | .16 | .17 | .17 | .18  | .18  | .19  | .19  | .19  | .19  | .19  | .15  | .14  | .14  | .13  | .12  | .11 |  |
|      | 189 | 199 | 212 | 223 | 234 | 243 | 251  | 257  | 261  | 263  | 262  | 260  | 252  | 245  | 237  | 228  | 218  | 207  |     |  |
|      |     |     |     |     |     |     |      | .12  | .12  | .12  | .12  | .12  | .12  | .12  | .11  | .11  | .10  | .09  | .09 |  |
| 45   | .07 | .08 | .09 | .10 | .11 | .11 | .12  | .12  | .12  | .12  | .12  | .12  | .12  | .12  | .12  | .11  | .10  | .09  | .08 |  |
|      | 104 | 115 | 127 | 138 | 148 | 157 | 164  | 170  | 173  | 174  | 174  | 171  | 163  | 156  | 147  | 138  | 128  | 118  |     |  |
|      |     |     |     |     |     |     |      | .08  | .07  | .07  | .06  | .06  | .05  | .06  | .07  | .08  | .08  | .07  | .06 |  |

JAN-APR 0      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |  |
| 0600 | .02 | .02 | .02 | .02 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 020 | 021 | 021 | 020 | 018 | 015 | 009 | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 15   | .08 | .08 | .08 | .08 | .08 | .07 | .07 | .06 | .06 | .06 | .05 | .05 | .04 | .04 | .04 | .04 | .04 | .04 | .06 |  |
|      | 104 | 105 | 104 | 103 | 100 | 096 | 090 | 084 | 079 | 073 | 067 | 062 | 057 | 053 | 049 | 047 | 046 | 047 | 083 |  |
| 30   | .14 | .14 | .14 | .14 | .14 | .13 | .13 | .12 | .12 | .12 | .11 | .11 | .10 | .10 | .10 | .10 | .10 | .10 | .13 |  |
|      | 188 | 188 | 187 | 184 | 181 | 176 | 170 | 164 | 158 | 152 | 146 | 141 | 136 | 132 | 130 | 128 | 128 | 129 | 169 |  |
| 45   | .20 | .20 | .20 | .20 | .20 | .19 | .19 | .18 | .18 | .17 | .17 | .17 | .16 | .16 | .16 | .16 | .16 | .16 | .19 |  |
|      | 272 | 271 | 269 | 265 | 261 | 256 | 249 | 243 | 237 | 231 | 225 | 220 | 215 | 212 | 209 | 208 | 209 | 211 | 255 |  |
| 0700 | .26 | .26 | .26 | .26 | .26 | .25 | .25 | .24 | .24 | .23 | .23 | .23 | .22 | .22 | .22 | .22 | .22 | .22 | .25 |  |
|      | 354 | 352 | 349 | 345 | 340 | 335 | 327 | 321 | 314 | 308 | 303 | 298 | 293 | 290 | 288 | 288 | 289 | 291 | 339 |  |
| 15   | .32 | .32 | .32 | .32 | .31 | .31 | .30 | .30 | .30 | .29 | .29 | .28 | .28 | .28 | .28 | .28 | .28 | .28 | .31 |  |
|      | 435 | 432 | 428 | 424 | 418 | 412 | 404 | 397 | 391 | 384 | 379 | 374 | 370 | 367 | 366 | 366 | 368 | 371 | 423 |  |
| 30   | .38 | .38 | .38 | .37 | .37 | .37 | .36 | .36 | .35 | .35 | .34 | .34 | .34 | .34 | .33 | .33 | .34 | .34 | .38 |  |
|      | 513 | 510 | 506 | 500 | 494 | 487 | 479 | 472 | 465 | 455 | 454 | 449 | 445 | 443 | 442 | 443 | 445 | 448 | 504 |  |
| 45   | .44 | .44 | .43 | .43 | .43 | .42 | .42 | .41 | .41 | .40 | .40 | .39 | .39 | .39 | .39 | .39 | .40 | .40 | .43 |  |
|      | 590 | 586 | 581 | 575 | 568 | 561 | 552 | 545 | 538 | 532 | 526 | 522 | 519 | 517 | 516 | 517 | 520 | 524 | 583 |  |
| 0800 | .49 | .49 | .49 | .48 | .48 | .47 | .47 | .46 | .46 | .45 | .45 | .45 | .45 | .44 | .44 | .45 | .45 | .45 | .49 |  |
|      | 664 | 659 | 653 | 647 | 639 | 632 | 623 | 615 | 608 | 602 | 597 | 593 | 590 | 588 | 588 | 590 | 593 | 598 | 660 |  |
| 15   | .55 | .54 | .54 | .54 | .53 | .53 | .52 | .51 | .51 | .51 | .50 | .50 | .50 | .50 | .50 | .50 | .50 | .50 | .55 |  |
|      | 735 | 730 | 723 | 716 | 708 | 700 | 691 | 683 | 676 | 670 | 665 | 661 | 656 | 657 | 658 | 660 | 664 | 669 | 734 |  |
| 30   | .60 | .59 | .59 | .59 | .58 | .58 | .57 | .56 | .56 | .56 | .55 | .55 | .55 | .55 | .55 | .55 | .55 | .56 | .60 |  |
|      | 803 | 797 | 790 | 782 | 774 | 765 | 756 | 748 | 741 | 735 | 730 | 726 | 724 | 724 | 725 | 727 | 732 | 737 | 804 |  |
| 45   | .65 | .64 | .64 | .63 | .63 | .62 | .62 | .61 | .61 | .60 | .60 | .60 | .60 | .59 | .59 | .60 | .60 | .60 | .65 |  |
|      | 868 | 861 | 853 | 845 | 836 | 827 | 817 | 810 | 803 | 797 | 792 | 789 | 787 | 787 | 788 | 791 | 796 | 803 | 872 |  |

TABLE 8-1 SOLAR PARAMETERS COS Z  
MAY-AUG 0  
\*\* SIGNIFIES COS Z = 1.  
X0 (W/MH\*2.)  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | DATE |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0900 | .69 | .69 | .68 | .68 | .67 | .67 | .66 | .65 | .65 | .65 | .64  | .64 | .64 | .64 | .64 | .64 | .65 | .65 | .66 | .65 | .67 | .68 | .69 | .70 |  |
|      | 929 | 921 | 913 | 904 | 895 | 886 | 876 | 868 | 861 | 855 | 851  | 848 | 846 | 846 | 848 | 852 | 857 | 864 | 875 | 885 | 896 | 909 | 922 | 935 |  |
| 15   | .73 | .73 | .72 | .72 | .71 | .71 | .70 | .70 | .69 | .69 | .68  | .68 | .68 | .68 | .68 | .69 | .69 | .69 | .70 | .71 | .72 | .72 | .73 | .74 |  |
|      | 986 | 977 | 968 | 959 | 950 | 940 | 930 | 922 | 915 | 910 | 906  | 903 | 902 | 902 | 905 | 909 | 915 | 922 | 933 | 944 | 955 | 968 | 981 | 995 |  |
| 30   | .77 | .77 | .76 | .76 | .75 | .74 | .74 | .73 | .73 | .73 | .72  | .72 | .72 | .72 | .72 | .73 | .73 | .74 | .74 | .75 | .76 | .77 | .77 | .78 |  |
|      | 038 | 029 | 020 | 010 | 001 | 991 | 981 | 973 | 966 | 961 | 957  | 954 | 954 | 955 | 958 | 962 | 968 | 976 | 988 | 995 | 010 | 023 | 036 | 050 |  |
| 45   | .81 | .80 | .80 | .79 | .79 | .78 | .77 | .77 | .76 | .76 | .76  | .76 | .75 | .76 | .76 | .76 | .77 | .77 | .78 | .79 | .79 | .80 | .81 | .82 |  |
|      | 087 | 077 | 067 | 057 | 047 | 038 | 027 | 019 | 013 | 007 | 004  | 002 | 001 | 003 | 006 | 011 | 018 | 026 | 038 | 049 | 051 | 074 | 087 | 101 |  |
| 1000 | .84 | .83 | .83 | .82 | .82 | .81 | .80 | .80 | .80 | .79 | .79  | .79 | .79 | .79 | .79 | .80 | .80 | .81 | .81 | .82 | .83 | .84 | .85 | .85 |  |
|      | 130 | 120 | 110 | 099 | 089 | 080 | 069 | 061 | 055 | 050 | 046  | 045 | 045 | 047 | 050 | 056 | 063 | 071 | 084 | 095 | 107 | 120 | 134 | 147 |  |
| 15   | .87 | .86 | .86 | .85 | .84 | .84 | .83 | .83 | .82 | .82 | .82  | .82 | .82 | .82 | .82 | .83 | .83 | .84 | .85 | .85 | .85 | .87 | .88 | .88 |  |
|      | 169 | 159 | 148 | 137 | 127 | 117 | 106 | 099 | 092 | 088 | 085  | 083 | 083 | 086 | 090 | 096 | 103 | 112 | 125 | 135 | 149 | 162 | 175 | 188 |  |
| 30   | .89 | .89 | .88 | .88 | .87 | .86 | .86 | .85 | .85 | .85 | .84  | .84 | .84 | .85 | .85 | .85 | .85 | .86 | .87 | .88 | .89 | .90 | .90 | .91 |  |
|      | 203 | 192 | 181 | 170 | 159 | 149 | 139 | 131 | 125 | 121 | 118  | 117 | 118 | 121 | 125 | 131 | 139 | 148 | 161 | 173 | 185 | 198 | 211 | 224 |  |
| 45   | .92 | .91 | .90 | .90 | .89 | .88 | .88 | .87 | .87 | .87 | .87  | .87 | .87 | .87 | .87 | .88 | .88 | .89 | .90 | .90 | .91 | .92 | .93 | .93 |  |
|      | 231 | 220 | 209 | 198 | 187 | 177 | 167 | 159 | 154 | 149 | 147  | 146 | 148 | 151 | 156 | 162 | 170 | 180 | 192 | 204 | 217 | 229 | 242 | 255 |  |
| 1100 | .93 | .93 | .92 | .91 | .91 | .90 | .90 | .89 | .89 | .89 | .88  | .88 | .89 | .89 | .89 | .90 | .90 | .91 | .92 | .92 | .93 | .94 | .95 | .95 |  |
|      | 255 | 243 | 231 | 220 | 209 | 200 | 189 | 182 | 177 | 173 | 171  | 171 | 172 | 176 | 181 | 188 | 196 | 206 | 213 | 231 | 243 | 255 | 268 | 280 |  |
| 15   | .95 | .94 | .93 | .93 | .92 | .91 | .91 | .90 | .90 | .90 | .90  | .90 | .90 | .90 | .90 | .91 | .91 | .92 | .93 | .94 | .95 | .95 | .96 | .97 |  |
|      | 273 | 261 | 249 | 238 | 227 | 217 | 207 | 200 | 195 | 191 | 190  | 190 | 192 | 196 | 201 | 208 | 217 | 227 | 240 | 252 | 264 | 276 | 288 | 300 |  |
| 30   | .96 | .95 | .94 | .94 | .93 | .92 | .92 | .91 | .91 | .91 | .91  | .91 | .91 | .91 | .92 | .92 | .93 | .94 | .94 | .95 | .96 | .97 | .97 | .98 |  |
|      | 285 | 273 | 261 | 250 | 239 | 229 | 220 | 213 | 208 | 205 | 203  | 204 | 206 | 210 | 216 | 224 | 232 | 242 | 256 | 267 | 279 | 291 | 303 | 315 |  |
| 45   | .96 | .95 | .95 | .94 | .93 | .93 | .92 | .92 | .92 | .92 | .92  | .92 | .92 | .92 | .93 | .93 | .94 | .94 | .95 | .96 | .97 | .97 | .98 | .98 |  |
|      | 292 | 280 | 268 | 256 | 246 | 236 | 227 | 220 | 216 | 213 | 212  | 213 | 216 | 220 | 226 | 234 | 243 | 253 | 266 | 277 | 289 | 301 | 313 | 324 |  |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 0 ADD 1000 TO VALUES PRECEDED BY \*  
 \*\*\* SIGNIFIES COS Z = 1.

| MST  | MAY  |      |      |      |      |      |  | JUN  |      |      |      |      |      |  | JUL  |      |      |      |      |      |  | AUG  |      |      |      |      |      |     |
|------|------|------|------|------|------|------|--|------|------|------|------|------|------|--|------|------|------|------|------|------|--|------|------|------|------|------|------|-----|
|      | 5    | 10   | 15   | 20   | 25   | 30   |  | 5    | 10   | 15   | 20   | 25   | 30   |  | 5    | 10   | 15   | 20   | 25   | 30   |  | 5    | 10   | 15   | 20   | 25   | 30   |     |
| 1200 | .96  | .95  | .95  | .94  | .94  | .93  |  | .92  | .92  | .92  | .92  | .92  | .92  |  | .92  | .93  | .93  | .93  | .94  | .95  |  | .96  | .95  | .97  | .97  | .98  | .98  | .99 |
|      | .294 | .281 | .269 | .258 | .247 | .238 |  | .229 | .223 | .219 | .216 | .216 | .217 |  | .220 | .225 | .231 | .239 | .248 | .258 |  | .271 | .282 | .294 | .305 | .316 | .327 |     |
| 15   | .96  | .95  | .94  | .94  | .93  | .93  |  | .92  | .92  | .92  | .92  | .92  | .92  |  | .92  | .92  | .93  | .93  | .94  | .95  |  | .95  | .95  | .97  | .97  | .98  | .99  |     |
|      | .290 | .277 | .265 | .254 | .243 | .234 |  | .226 | .220 | .216 | .214 | .214 | .215 |  | .219 | .224 | .230 | .238 | .247 | .257 |  | .270 | .281 | .293 | .304 | .314 | .324 |     |
| 30   | .95  | .94  | .94  | .93  | .93  | .92  |  | .92  | .91  | .91  | .91  | .91  | .91  |  | .92  | .92  | .92  | .93  | .94  | .94  |  | .95  | .95  | .96  | .97  | .97  | .98  |     |
|      | .280 | .268 | .256 | .244 | .234 | .226 |  | .217 | .212 | .208 | .207 | .207 | .209 |  | .212 | .218 | .224 | .233 | .242 | .252 |  | .264 | .275 | .281 | .297 | .307 | .316 |     |
| 45   | .94  | .93  | .93  | .92  | .91  | .91  |  | .91  | .90  | .90  | .90  | .90  | .90  |  | .91  | .91  | .92  | .92  | .93  | .93  |  | .94  | .95  | .95  | .96  | .96  | .97  |     |
|      | .265 | .252 | .241 | .230 | .220 | .211 |  | .203 | .198 | .195 | .194 | .195 | .197 |  | .201 | .206 | .213 | .222 | .231 | .241 |  | .253 | .264 | .274 | .284 | .293 | .302 |     |
| 1300 | .93  | .92  | .91  | .91  | .90  | .90  |  | .89  | .89  | .89  | .89  | .89  | .89  |  | .89  | .90  | .90  | .91  | .92  | .92  |  | .93  | .91  | .94  | .95  | .95  | .95  |     |
|      | .245 | .232 | .220 | .210 | .200 | .192 |  | .184 | .180 | .177 | .176 | .177 | .180 |  | .184 | .190 | .197 | .205 | .214 | .224 |  | .236 | .245 | .255 | .266 | .275 | .282 |     |
| 15   | .91  | .90  | .89  | .89  | .88  | .88  |  | .87  | .87  | .87  | .87  | .87  | .87  |  | .88  | .88  | .89  | .89  | .90  | .91  |  | .91  | .92  | .92  | .93  | .93  | .94  |     |
|      | .219 | .206 | .195 | .184 | .175 | .168 |  | .161 | .156 | .154 | .154 | .155 | .158 |  | .162 | .168 | .176 | .184 | .193 | .202 |  | .214 | .224 | .233 | .242 | .250 | .258 |     |
| 30   | .88  | .88  | .87  | .86  | .86  | .86  |  | .85  | .85  | .85  | .85  | .85  | .85  |  | .86  | .86  | .87  | .87  | .88  | .89  |  | .89  | .90  | .90  | .91  | .91  | .91  |     |
|      | .188 | .176 | .164 | .154 | .145 | .138 |  | .132 | .128 | .126 | .126 | .128 | .131 |  | .136 | .142 | .149 | .157 | .166 | .176 |  | .187 | .195 | .205 | .213 | .221 | .227 |     |
| 45   | .86  | .85  | .84  | .84  | .83  | .83  |  | .83  | .82  | .82  | .83  | .83  | .83  |  | .83  | .84  | .84  | .85  | .86  | .86  |  | .87  | .87  | .87  | .88  | .88  | .89  |     |
|      | .152 | .140 | .129 | .119 | .111 | .104 |  | .096 | .095 | .093 | .094 | .096 | .099 |  | .104 | .110 | .118 | .126 | .135 | .144 |  | .155 | .164 | .172 | .179 | .186 | .192 |     |
| 1400 | .83  | .82  | .81  | .81  | .80  | .80  |  | .80  | .80  | .80  | .80  | .80  | .80  |  | .81  | .81  | .82  | .82  | .83  | .83  |  | .84  | .81  | .85  | .85  | .86  | .86  |     |
|      | .111 | .099 | .088 | .079 | .071 | .065 |  | .059 | .057 | .056 | .057 | .059 | .063 |  | .068 | .074 | .082 | .090 | .098 | .107 |  | .117 | .125 | .133 | .140 | .146 | .151 |     |
| 15   | .79  | .79  | .78  | .77  | .77  | .77  |  | .77  | .76  | .76  | .77  | .77  | .77  |  | .77  | .77  | .79  | .79  | .80  | .80  |  | .81  | .81  | .82  | .82  | .82  | .82  |     |
|      | .065 | .053 | .043 | .034 | .027 | .021 |  | .016 | .014 | .014 | .015 | .018 | .022 |  | .027 | .034 | .041 | .049 | .057 | .066 |  | .075 | .083 | .090 | .096 | .101 | .105 |     |
| 30   | .75  | .75  | .74  | .74  | .73  | .73  |  | .73  | .73  | .73  | .73  | .73  | .74  |  | .73  | .75  | .75  | .76  | .76  | .77  |  | .77  | .75  | .78  | .78  | .78  | .79  |     |
|      | .014 | .004 | .994 | .985 | .979 | .973 |  | .969 | .967 | .967 | .969 | .972 | .976 |  | .982 | .968 | .966 | .966 | .966 | .966 |  | .929 | .933 | .942 | .946 | .952 | .955 |     |
| 45   | .71  | .71  | .70  | .70  | .69  | .69  |  | .69  | .69  | .69  | .69  | .70  | .70  |  | .70  | .71  | .71  | .72  | .72  | .73  |  | .74  | .71  | .74  | .74  | .74  | .74  |     |
|      | .960 | .949 | .940 | .932 | .926 | .921 |  | .916 | .916 | .917 | .919 | .922 | .927 |  | .932 | .939 | .946 | .954 | .961 | .969 |  | .978 | .984 | .990 | .995 | .998 | .000 |     |

... SIGNIFIES COS 2 = 1.  
ADD 1000 TO VALUES PRECEDED BY .

TABLE B-1 SCALAR PARAMETERS COS 2  
X0 (W/M-2.)

MAY-AUG 0

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 1500 | .67 | .66 | .66 | .66 | .65 | .65 | .65 | .65 | .65 | .65 | .66 | .66 | .69 | .69 | .67 | .67 | .68 | .68 | .69 | .69 | .70 | .70 | .70 | .70 |
|      | 901 | 891 | 882 | 875 | 869 | 865 | 862 | 862 | 862 | 865 | 868 | 873 | 879 | 885 | 882 | 900 | 907 | 915 | 923 | 923 | 933 | 937 | 940 | 941 |
| 15   | .62 | .62 | .61 | .61 | .61 | .61 | .60 | .61 | .61 | .61 | .61 | .62 | .62 | .63 | .63 | .64 | .64 | .64 | .65 | .65 | .65 | .65 | .65 |     |
|      | 838 | 829 | 821 | 814 | 809 | 805 | 803 | 803 | 804 | 807 | 811 | 815 | 822 | 828 | 835 | 842 | 849 | 856 | 863 | 863 | 873 | 876 | 877 | 878 |
| 30   | .57 | .57 | .56 | .56 | .56 | .56 | .56 | .56 | .56 | .56 | .57 | .57 | .58 | .58 | .58 | .59 | .59 | .60 | .60 | .60 | .61 | .61 | .60 |     |
|      | 772 | 763 | 756 | 750 | 745 | 742 | 741 | 741 | 743 | 746 | 750 | 755 | 761 | 767 | 774 | 781 | 788 | 794 | 800 | 805 | 808 | 810 | 811 | 811 |
| 45   | .52 | .52 | .51 | .51 | .51 | .51 | .51 | .51 | .51 | .51 | .52 | .52 | .53 | .53 | .54 | .54 | .54 | .55 | .55 | .55 | .55 | .55 | .55 | .55 |
|      | 702 | 694 | 687 | 682 | 678 | 676 | 675 | 676 | 678 | 681 | 686 | 691 | 697 | 703 | 710 | 716 | 723 | 728 | 734 | 733 | 741 | 742 | 742 | 740 |
| 1600 | .47 | .46 | .46 | .46 | .46 | .46 | .46 | .46 | .46 | .46 | .47 | .47 | .48 | .48 | .49 | .49 | .49 | .50 | .50 | .50 | .50 | .50 | .50 | .50 |
|      | 630 | 622 | 616 | 611 | 608 | 606 | 606 | 608 | 610 | 614 | 619 | 624 | 630 | 636 | 643 | 649 | 655 | 660 | 665 | 663 | 670 | 670 | 669 | 667 |
| 15   | .41 | .41 | .41 | .40 | .40 | .40 | .40 | .40 | .41 | .41 | .41 | .42 | .42 | .43 | .43 | .44 | .44 | .44 | .45 | .45 | .45 | .45 | .44 | .44 |
|      | 555 | 548 | 542 | 538 | 536 | 534 | 535 | 537 | 540 | 544 | 549 | 554 | 560 | 566 | 572 | 578 | 584 | 588 | 592 | 595 | 595 | 595 | 594 | 590 |
| 30   | .35 | .35 | .35 | .35 | .35 | .35 | .35 | .35 | .35 | .36 | .36 | .36 | .37 | .37 | .38 | .38 | .38 | .39 | .39 | .39 | .39 | .39 | .38 | .38 |
|      | 477 | 471 | 466 | 463 | 461 | 460 | 461 | 464 | 467 | 472 | 477 | 482 | 489 | 494 | 500 | 505 | 510 | 514 | 518 | 519 | 519 | 518 | 515 | 511 |
| 45   | .30 | .29 | .29 | .29 | .29 | .29 | .29 | .29 | .30 | .30 | .30 | .31 | .31 | .32 | .32 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .32 | .32 |
|      | 397 | 392 | 388 | 385 | 384 | 384 | 386 | 389 | 393 | 397 | 403 | 408 | 414 | 420 | 425 | 430 | 435 | 438 | 441 | 441 | 441 | 439 | 435 | 430 |
| 1700 | .24 | .23 | .23 | .23 | .23 | .23 | .23 | .24 | .24 | .24 | .25 | .25 | .26 | .26 | .26 | .27 | .27 | .27 | .27 | .27 | .27 | .26 | .26 | .26 |
|      | 316 | 311 | 308 | 306 | 305 | 306 | 309 | 312 | 316 | 321 | 327 | 332 | 338 | 344 | 349 | 353 | 357 | 360 | 362 | 362 | 360 | 357 | 353 | 347 |
| 15   | .17 | .17 | .17 | .17 | .17 | .17 | .17 | .18 | .18 | .18 | .19 | .19 | .20 | .20 | .20 | .21 | .21 | .21 | .21 | .21 | .21 | .21 | .20 | .20 |
|      | 233 | 229 | 227 | 225 | 226 | 227 | 230 | 234 | 239 | 244 | 249 | 255 | 261 | 266 | 271 | 275 | 278 | 280 | 281 | 280 | 278 | 274 | 269 | 263 |
| 30   | .11 | .11 | .11 | .11 | .11 | .11 | .11 | .12 | .12 | .13 | .13 | .13 | .14 | .14 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .14 | .14 | .13 |
|      | 149 | 146 | 144 | 144 | 145 | 147 | 151 | 155 | 160 | 165 | 171 | 177 | 182 | 187 | 192 | 195 | 198 | 199 | 199 | 193 | 195 | 190 | 184 | 177 |
| 45   | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .06 | .06 | .07 | .07 | .07 | .08 | .08 | .08 | .09 | .09 | .09 | .09 | .09 | .08 | .08 | .07 | .07 |
|      | 065 | 063 | 062 | 062 | 064 | 066 | 071 | 076 | 081 | 086 | 092 | 098 | 102 | 108 | 112 | 115 | 117 | 118 | 117 | 115 | 111 | 105 | 099 | 091 |

TABLE B-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 0  
 \*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     |     | OCT |     |     |     |     |     | NOV |     |     |     |     |     | DEC |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0600 | .01  | .01 | .02 | .03 | .04 | .05 | .05 | .06 | .06 | .07 | .07 | .07 | .07 | .07 | .06 | .06 | .05 | .04 | .04 | .03 | .02 | .01 | .00 | .00 |
|      | 008  | 018 | 030 | 041 | 052 | 062 | 072 | 080 | 087 | 092 | 095 | 096 | 095 | 092 | 087 | 080 | 071 | 062 | 050 | 038 | 025 | 013 | 000 | 000 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .07  | .08 | .09 | .10 | .10 | .11 | .12 | .12 | .13 | .13 | .13 | .13 | .13 | .13 | .12 | .12 | .11 | .10 | .10 | .09 | .08 | .07 | .06 | .05 |
|      | 095  | 106 | 118 | 129 | 141 | 151 | 161 | 169 | 176 | 181 | 183 | 184 | 183 | 179 | 173 | 166 | 157 | 147 | 136 | 123 | 111 | 098 | 084 | 072 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .14  | .14 | .15 | .16 | .17 | .18 | .18 | .19 | .19 | .19 | .20 | .20 | .20 | .19 | .19 | .18 | .17 | .17 | .16 | .15 | .14 | .13 | .12 | .11 |
|      | 182  | 194 | 206 | 218 | 229 | 240 | 249 | 257 | 264 | 268 | 271 | 272 | 269 | 265 | 259 | 252 | 242 | 232 | 220 | 208 | 195 | 182 | 169 | 156 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .20  | .21 | .22 | .22 | .23 | .24 | .25 | .25 | .25 | .26 | .26 | .26 | .26 | .25 | .25 | .24 | .23 | .22 | .22 | .21 | .20 | .19 | .18 | .17 |
|      | 269  | 281 | 293 | 305 | 316 | 327 | 337 | 345 | 351 | 355 | 357 | 358 | 353 | 351 | 344 | 336 | 327 | 316 | 304 | 291 | 279 | 266 | 253 | 241 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0700 | .26  | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .32 | .32 | .32 | .32 | .32 | .32 | .31 | .30 | .29 | .28 | .27 | .27 | .26 | .25 | .24 | .23 |
|      | 334  | 365 | 379 | 391 | 403 | 413 | 423 | 430 | 436 | 440 | 442 | 442 | 439 | 434 | 427 | 419 | 409 | 398 | 386 | 371 | 351 | 348 | 336 | 324 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .32  | .33 | .34 | .35 | .36 | .36 | .37 | .37 | .38 | .38 | .38 | .38 | .38 | .37 | .37 | .36 | .35 | .34 | .33 | .32 | .31 | .30 | .30 | .29 |
|      | 437  | 450 | 463 | 475 | 487 | 497 | 507 | 514 | 520 | 524 | 525 | 525 | 521 | 516 | 509 | 500 | 490 | 479 | 467 | 450 | 432 | 429 | 417 | 405 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .39  | .39 | .40 | .41 | .42 | .42 | .43 | .43 | .44 | .44 | .44 | .44 | .44 | .43 | .43 | .42 | .41 | .40 | .39 | .38 | .37 | .36 | .35 | .34 |
|      | 519  | 532 | 545 | 557 | 569 | 580 | 589 | 596 | 602 | 605 | 606 | 605 | 601 | 596 | 588 | 579 | 569 | 558 | 546 | 533 | 521 | 508 | 497 | 485 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .44  | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 | .49 | .49 | .49 | .49 | .48 | .48 | .48 | .47 | .46 | .44 | .43 | .42 | .41 | .41 | .40 |
|      | 599  | 612 | 625 | 637 | 649 | 659 | 668 | 675 | 680 | 683 | 684 | 683 | 679 | 673 | 665 | 656 | 645 | 634 | 622 | 610 | 598 | 585 | 574 | 563 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0800 | .50  | .51 | .52 | .53 | .53 | .54 | .54 | .55 | .55 | .55 | .55 | .55 | .55 | .54 | .53 | .52 | .51 | .50 | .49 | .48 | .48 | .47 | .46 | .45 |
|      | 676  | 689 | 702 | 714 | 726 | 736 | 745 | 752 | 756 | 759 | 759 | 758 | 753 | 747 | 739 | 730 | 719 | 708 | 696 | 681 | 672 | 660 | 649 | 639 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .56  | .56 | .57 | .59 | .59 | .59 | .60 | .60 | .60 | .60 | .60 | .60 | .60 | .59 | .59 | .58 | .57 | .56 | .54 | .53 | .52 | .52 | .51 | .50 |
|      | 750  | 763 | 776 | 789 | 800 | 810 | 818 | 825 | 829 | 831 | 831 | 830 | 824 | 818 | 811 | 800 | 790 | 778 | 767 | 755 | 743 | 732 | 721 | 711 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .61  | .62 | .63 | .63 | .64 | .64 | .65 | .65 | .65 | .65 | .65 | .65 | .64 | .63 | .63 | .62 | .61 | .60 | .59 | .58 | .57 | .56 | .55 | .55 |
|      | 821  | 834 | 847 | 859 | 870 | 880 | 888 | 894 | 898 | 900 | 900 | 897 | 892 | 885 | 877 | 867 | 857 | 846 | 834 | 822 | 811 | 800 | 790 | 791 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .66  | .67 | .67 | .68 | .69 | .69 | .70 | .70 | .70 | .70 | .70 | .69 | .69 | .68 | .67 | .66 | .66 | .65 | .64 | .63 | .62 | .61 | .61 | .60 |
|      | 888  | 901 | 914 | 926 | 937 | 946 | 954 | 960 | 963 | 965 | 964 | 962 | 953 | 945 | 937 | 931 | 920 | 909 | 898 | 887 | 878 | 865 | 856 | 848 |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

SEP-DEC 0      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 X0 (M/HR\*2.)      SEE 1000 TO VALUES PRECEDED BY \*

| HST  | SEP  |      |      |      |      | OCT  |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 0900 | .71  | .71  | .72  | .73  | .73  | .74  | .74  | .74  | .74  | .74  | .74  | .74  | .75  | .72  | .71  | .71  | .70  | .69  | .68  | .67  | .66  | .65  | .64  | .63  |
|      | 952  | 965  | 978  | 989  | 999  | 009  | *016 | *021 | *025 | *026 | *025 | *022 | *019 | *008 | *000 | 990  | 980  | 969  | 958  | 947  | 937  | 927  | 918  | 910  |
| 15   | .75  | .76  | .77  | .77  | .78  | .78  | .78  | .78  | .78  | .78  | .78  | .78  | .77  | .76  | .75  | .75  | .74  | .73  | .72  | .71  | .70  | .69  | .68  | .67  |
|      | *011 | *024 | *037 | *048 | *058 | *067 | *074 | *079 | *081 | *082 | *081 | *077 | *071 | *063 | *055 | *046 | *035 | *025 | *014 | *003 | .993 | .984 | .975 | .969 |
| 30   | .79  | .80  | .81  | .81  | .82  | .82  | .82  | .82  | .82  | .82  | .82  | .81  | .81  | .80  | .79  | .78  | .77  | .76  | .76  | .75  | .74  | .73  | .72  | .72  |
|      | *066 | *079 | *091 | *103 | *112 | *120 | *127 | *131 | *134 | *134 | *132 | *129 | *121 | *115 | *106 | *096 | *086 | *076 | *065 | *053 | *043 | *038 | *030 | *024 |
| 45   | .83  | .84  | .84  | .85  | .85  | .86  | .86  | .86  | .86  | .85  | .85  | .85  | .84  | .83  | .82  | .81  | .81  | .80  | .79  | .78  | .77  | .76  | .76  | .70  |
|      | *117 | *129 | *141 | *152 | *161 | *169 | *175 | *179 | *181 | *181 | *179 | *175 | *163 | *150 | *132 | *113 | *103 | *123 | *115 | *103 | .993 | .986 | *080 | *074 |
| 1000 | .85  | .87  | .88  | .88  | .89  | .89  | .89  | .89  | .89  | .89  | .89  | .88  | .87  | .86  | .85  | .84  | .84  | .83  | .82  | .81  | .80  | .80  | .80  | .79  |
|      | *163 | *175 | *186 | *197 | *206 | *213 | *218 | *222 | *223 | *223 | *220 | *216 | *201 | *193 | *183 | *174 | *164 | *154 | *143 | *130 | *120 | *110 | *100 | *120 |
| 15   | .89  | .90  | .91  | .91  | .91  | .92  | .92  | .92  | .91  | .91  | .91  | .90  | .89  | .89  | .88  | .87  | .86  | .85  | .85  | .84  | .83  | .82  | .82  | .82  |
|      | *203 | *215 | *227 | *236 | *245 | *251 | *256 | *259 | *260 | *259 | *257 | *252 | *240 | *237 | *229 | *220 | *211 | *201 | *192 | *183 | *170 | *165 | *161 | *161 |
| 30   | .92  | .93  | .93  | .94  | .94  | .94  | .94  | .94  | .94  | .93  | .93  | .92  | .92  | .91  | .90  | .89  | .88  | .88  | .87  | .86  | .85  | .85  | .85  | .85  |
|      | *235 | *251 | *261 | *271 | *278 | *285 | *289 | *291 | *292 | *290 | *287 | *283 | *275 | *268 | *260 | *251 | *242 | *233 | *224 | *215 | *204 | *200 | *197 | *197 |
| 45   | .94  | .95  | .95  | .96  | .96  | .96  | .96  | .96  | .96  | .95  | .95  | .94  | .93  | .93  | .92  | .91  | .90  | .89  | .89  | .88  | .87  | .87  | .87  | .87  |
|      | *269 | *281 | *291 | *299 | *307 | *312 | *316 | *318 | *318 | *316 | *313 | *308 | *300 | *292 | *285 | *276 | *268 | *259 | *251 | *243 | *238 | *233 | *230 | *228 |
| 1100 | .96  | .97  | .97  | .97  | .98  | .98  | .98  | .97  | .97  | .97  | .96  | .96  | .95  | .94  | .93  | .92  | .92  | .91  | .90  | .89  | .89  | .89  | .89  | .89  |
|      | *294 | *305 | *315 | *323 | *329 | *334 | *337 | *339 | *338 | *336 | *333 | *328 | *320 | *313 | *305 | *296 | *288 | *280 | *273 | *265 | *257 | *251 | *253 | *253 |
| 15   | .97  | .98  | .98  | .99  | .99  | .99  | .99  | .99  | .98  | .98  | .97  | .97  | .96  | .95  | .94  | .93  | .93  | .92  | .91  | .90  | .90  | .90  | .90  | .90  |
|      | *314 | *324 | *333 | *340 | *346 | *351 | *353 | *354 | *353 | *351 | *347 | *341 | *331 | *327 | *319 | *311 | *303 | *296 | *289 | *283 | *279 | *276 | *274 | *273 |
| 30   | .98  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .98  | .98  | .97  | .96  | .96  | .95  | .94  | .93  | .93  | .92  | .91  | .91  | .91  | .91  | .91  |
|      | *328 | *337 | *345 | *352 | *357 | *361 | *363 | *363 | *362 | *359 | *355 | *350 | *342 | *335 | *327 | *320 | *313 | *306 | *300 | *295 | *291 | *289 | *288 | *288 |
| 45   | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .97  | .96  | .96  | .95  | .94  | .94  | .93  | .93  | .92  | .92  | .92  | .92  | .92  |
|      | *336 | *344 | *352 | *358 | *363 | *366 | *367 | *367 | *365 | *362 | *357 | *352 | *344 | *337 | *330 | *323 | *316 | *310 | *305 | *301 | *298 | *296 | *296 | *297 |

SEP-DEC 0 TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS Z = 0. ADD 1000 TO VALUES PRECEDED BY \*



| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |      |      |      |      |      |
| 1200 | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  |
|      | .338 | .346 | .353 | .359 | .362 | .365 | .365 | .365 | .362 | .359 | .354 | .349 | .341 | .334 | .327 | .321 | .315 | .309 | .304 | .301 | .299 | .298 | .299 | .301 |
| 15   | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  |      |
|      | .335 | .342 | .348 | .352 | .356 | .358 | .358 | .356 | .354 | .350 | .345 | .339 | .332 | .325 | .319 | .313 | .307 | .302 | .298 | .294 | .291 | .294 | .296 | .299 |
| 30   | .98  | .99  | .99  | .99  | .99  | .98  | .98  | .98  | .97  | .97  | .96  | .95  | .95  | .94  | .93  | .93  | .92  | .92  | .91  | .91  | .91  | .91  | .91  | .91  |
|      | .325 | .332 | .338 | .342 | .344 | .345 | .344 | .342 | .339 | .335 | .330 | .324 | .317 | .311 | .305 | .299 | .294 | .290 | .287 | .283 | .281 | .285 | .288 | .292 |
| 45   | .97  | .97  | .98  | .97  | .97  | .97  | .97  | .96  | .96  | .95  | .94  | .94  | .93  | .92  | .92  | .91  | .91  | .90  | .90  | .90  | .90  | .90  | .90  | .90  |
|      | .311 | .317 | .321 | .324 | .326 | .326 | .325 | .323 | .319 | .315 | .310 | .304 | .297 | .291 | .285 | .280 | .275 | .272 | .269 | .266 | .264 | .271 | .274 | .279 |
| 1300 | .96  | .96  | .96  | .96  | .96  | .95  | .95  | .94  | .94  | .93  | .93  | .92  | .91  | .91  | .90  | .89  | .89  | .89  | .88  | .88  | .88  | .88  | .89  | .89  |
|      | .290 | .296 | .299 | .302 | .303 | .302 | .300 | .297 | .293 | .289 | .283 | .278 | .271 | .265 | .260 | .255 | .251 | .243 | .247 | .243 | .240 | .250 | .255 | .260 |
| 15   | .94  | .94  | .94  | .94  | .94  | .93  | .93  | .92  | .92  | .91  | .90  | .90  | .89  | .88  | .88  | .87  | .87  | .87  | .86  | .86  | .86  | .87  | .87  | .87  |
|      | .264 | .269 | .272 | .273 | .273 | .272 | .270 | .266 | .262 | .257 | .252 | .246 | .239 | .234 | .229 | .225 | .222 | .220 | .219 | .220 | .222 | .225 | .230 | .236 |
| 30   | .91  | .92  | .91  | .91  | .91  | .91  | .90  | .89  | .89  | .88  | .88  | .87  | .86  | .85  | .85  | .85  | .84  | .84  | .83  | .83  | .83  | .84  | .85  | .85  |
|      | .233 | .237 | .239 | .239 | .239 | .237 | .234 | .230 | .225 | .220 | .215 | .209 | .202 | .197 | .193 | .190 | .187 | .185 | .186 | .187 | .193 | .194 | .200 | .207 |
| 45   | .89  | .89  | .89  | .88  | .88  | .88  | .87  | .86  | .86  | .85  | .85  | .84  | .83  | .83  | .82  | .82  | .82  | .81  | .81  | .81  | .82  | .82  | .82  | .83  |
|      | .197 | .199 | .200 | .200 | .199 | .196 | .193 | .188 | .183 | .178 | .172 | .167 | .161 | .156 | .152 | .149 | .147 | .147 | .148 | .150 | .153 | .159 | .165 | .173 |
| 1400 | .86  | .86  | .85  | .85  | .85  | .84  | .84  | .83  | .82  | .82  | .81  | .81  | .80  | .79  | .79  | .79  | .78  | .78  | .76  | .76  | .76  | .79  | .80  | .80  |
|      | .155 | .157 | .157 | .156 | .154 | .151 | .147 | .142 | .136 | .131 | .125 | .120 | .114 | .108 | .103 | .104 | .103 | .103 | .104 | .107 | .112 | .118 | .125 | .133 |
| 15   | .82  | .82  | .82  | .81  | .81  | .81  | .80  | .79  | .79  | .78  | .77  | .77  | .76  | .75  | .75  | .75  | .75  | .75  | .75  | .75  | .76  | .76  | .76  | .77  |
|      | .108 | .109 | .109 | .107 | .104 | .100 | .095 | .090 | .084 | .079 | .073 | .068 | .062 | .056 | .051 | .046 | .050 | .054 | .057 | .060 | .063 | .072 | .080 | .083 |
| 30   | .79  | .78  | .78  | .78  | .77  | .76  | .76  | .75  | .75  | .74  | .73  | .73  | .72  | .71  | .71  | .71  | .71  | .71  | .71  | .71  | .72  | .72  | .73  | .74  |
|      | .057 | .057 | .055 | .053 | .049 | .045 | .040 | .034 | .028 | .022 | .016 | .011 | .005 | .000 | .000 | .000 | .001 | .001 | .001 | .001 | .005 | .022 | .031 | .040 |
| 45   | .74  | .74  | .74  | .73  | .73  | .72  | .71  | .71  | .70  | .70  | .69  | .68  | .67  | .67  | .67  | .67  | .67  | .67  | .67  | .67  | .68  | .69  | .70  | .70  |
|      | .001 | .000 | .998 | .994 | .990 | .985 | .979 | .973 | .967 | .961 | .955 | .950 | .940 | .930 | .920 | .910 | .904 | .904 | .907 | .911 | .916 | .927 | .937 | .947 |

SEP-DEC 0 SOLAR PARAMETERS COS 2  
 100 1000 IC VALUES PRECEDED BY

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 1500 | .70 | .69 | .69 | .69 | .68 | .67 | .67 | .63 | .65 | .65 | .63 | .63 | .63 | .63 | .63 | .63 | .63 | .65 | .66 |     |
|      | 941 | 939 | 936 | 932 | 927 | 921 | 915 | 908 | 902 | 898 | 890 | 885 | 882 | 877 | 879 | 882 | 882 | 897 | 919 | 929 |
| 15   | .65 | .65 | .64 | .64 | .63 | .62 | .62 | .61 | .60 | .60 | .59 | .59 | .58 | .58 | .58 | .58 | .58 | .58 | .61 | .61 |
|      | 876 | 874 | 870 | 865 | 859 | 853 | 846 | 840 | 833 | 827 | 821 | 817 | 813 | 811 | 811 | 813 | 817 | 822 | 847 | 868 |
| 30   | .60 | .60 | .59 | .59 | .58 | .57 | .57 | .56 | .55 | .55 | .54 | .54 | .53 | .53 | .53 | .53 | .53 | .54 | .55 | .57 |
|      | 808 | 805 | 800 | 795 | 788 | 781 | 774 | 767 | 760 | 754 | 748 | 744 | 741 | 739 | 739 | 741 | 744 | 754 | 770 | 803 |
| 45   | .55 | .54 | .54 | .53 | .52 | .52 | .51 | .50 | .50 | .49 | .49 | .48 | .48 | .48 | .48 | .48 | .48 | .48 | .51 | .52 |
|      | 737 | 733 | 727 | 721 | 714 | 706 | 699 | 692 | 685 | 678 | 673 | 669 | 665 | 665 | 667 | 671 | 676 | 693 | 700 | 734 |
| 1600 | .49 | .49 | .48 | .47 | .47 | .46 | .45 | .45 | .44 | .43 | .43 | .43 | .42 | .42 | .42 | .42 | .43 | .43 | .46 | .47 |
|      | 662 | 657 | 651 | 644 | 636 | 629 | 621 | 613 | 606 | 600 | 595 | 591 | 587 | 588 | 591 | 595 | 601 | 609 | 617 | 662 |
| 15   | .43 | .43 | .42 | .42 | .41 | .40 | .39 | .39 | .38 | .38 | .37 | .37 | .36 | .36 | .37 | .37 | .37 | .38 | .39 | .42 |
|      | 585 | 579 | 572 | 564 | 556 | 548 | 540 | 532 | 525 | 519 | 514 | 510 | 509 | 509 | 512 | 517 | 524 | 532 | 541 | 587 |
| 30   | .37 | .37 | .36 | .36 | .35 | .34 | .33 | .33 | .32 | .32 | .31 | .31 | .31 | .31 | .31 | .31 | .32 | .32 | .33 | .36 |
|      | 505 | 498 | 491 | 482 | 474 | 465 | 456 | 448 | 441 | 435 | 430 | 427 | 425 | 426 | 422 | 437 | 444 | 453 | 462 | 510 |
| 45   | .31 | .31 | .30 | .29 | .29 | .28 | .27 | .26 | .26 | .25 | .25 | .25 | .24 | .25 | .25 | .25 | .26 | .26 | .27 | .30 |
|      | 423 | 415 | 407 | 398 | 389 | 380 | 371 | 363 | 356 | 350 | 345 | 342 | 341 | 342 | 343 | 349 | 355 | 372 | 382 | 431 |
| 1700 | .25 | .25 | .24 | .23 | .22 | .21 | .21 | .20 | .20 | .19 | .19 | .18 | .18 | .18 | .19 | .19 | .20 | .21 | .21 | .25 |
|      | 339 | 331 | 322 | 312 | 303 | 293 | 284 | 276 | 269 | 263 | 259 | 256 | 253 | 255 | 260 | 271 | 279 | 289 | 300 | 350 |
| 15   | .19 | .18 | .17 | .17 | .16 | .15 | .14 | .14 | .13 | .13 | .12 | .12 | .12 | .12 | .13 | .13 | .14 | .15 | .15 | .19 |
|      | 253 | 245 | 235 | 225 | 215 | 205 | 196 | 188 | 181 | 175 | 171 | 169 | 163 | 170 | 174 | 179 | 186 | 205 | 215 | 267 |
| 30   | .12 | .12 | .11 | .10 | .09 | .09 | .08 | .07 | .07 | .06 | .06 | .06 | .06 | .06 | .06 | .07 | .08 | .09 | .09 | .13 |
|      | 167 | 157 | 147 | 137 | 127 | 117 | 107 | 099 | 092 | 086 | 082 | 080 | 081 | 083 | 087 | 093 | 101 | 120 | 132 | 183 |
| 45   | .06 | .05 | .04 | .04 | .03 | .02 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .03 | .07 |
|      | 080 | 070 | 059 | 048 | 038 | 027 | 018 | 009 | 002 | 000 | 000 | 000 | 000 | 000 | 000 | 007 | 015 | 035 | 047 | 099 |

SEP-DEC 0 TABLE B-1 SOLAR PARAMETERS COS 2 XC (W/M<sup>2</sup>\*2.) ... SIGNIFIES COS 2 =1. ADD 1000 TO VALUES PRECEDED BY \*



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |     |     |
| 0800 | .56  | .55 | .54 | .53 | .52 | .51 |     | .50 | .49 | .48 | .47 |     | .46 | .45 | .44 | .43 |     | .42 | .41 | .40 | .39 | .38 |     |     |     |     |     |
|      | 786  | 777 | 765 | 752 | 740 | 728 | 716 | 702 | 690 | 680 | 669 | 659 | 643 | 633 | 624 | 614 | 603 | 593 | 579 | 567 | 554 | 540 | 526 | 512 |     |     |     |
| 15   | .60  | .60 | .59 | .58 | .57 | .56 |     | .55 | .54 | .54 | .53 | .53 |     | .52 | .51 | .50 | .49 | .48 |     | .48 | .47 | .46 | .45 | .44 | .43 |     |     |
|      | 855  | 846 | 834 | 823 | 811 | 800 | 788 | 775 | 764 | 754 | 743 | 733 | 718 | 708 | 698 | 687 | 676 | 665 |     | 650 | 638 | 624 | 610 | 595 | 580 |     |     |
| 30   | .65  | .64 | .64 | .63 | .62 | .61 |     | .60 | .59 | .59 | .58 | .58 |     | .57 | .56 | .56 | .55 | .54 | .54 |     | .53 | .52 | .51 | .50 | .49 | .48 |     |
|      | 920  | 912 | 901 | 890 | 879 | 869 | 858 | 845 | 835 | 825 | 815 | 805 | 789 | 779 | 769 | 758 | 747 | 735 |     | 719 | 705 | 691 | 676 | 660 | 644 |     |     |
| 45   | .69  | .69 | .68 | .68 | .67 | .66 | .66 |     | .65 | .64 | .64 | .63 | .63 |     | .62 | .61 | .60 | .59 | .58 |     | .57 | .56 | .55 | .55 | .53 | .52 |     |
|      | 983  | 975 | 965 | 955 | 945 | 935 | 925 | 913 | 903 | 893 | 883 | 874 | 858 | 847 | 837 | 825 | 813 | 801 |     | 785 | 770 | 755 | 739 | 723 | 706 |     |     |
| 0900 | .74  | .73 | .73 | .72 | .71 | .71 | .70 |     | .69 | .69 | .68 | .68 | .67 |     | .66 | .66 | .65 | .64 | .64 | .63 |     | .62 | .61 | .60 | .59 | .58 | .57 |
|      | 042  | 035 | 026 | 016 | 007 | 997 | 988 | 977 | 967 | 958 | 948 | 939 | 923 | 912 | 901 | 889 | 877 | 863 |     | 846 | 831 | 815 | 798 | 781 | 764 |     |     |
| 15   | .78  | .77 | .77 | .76 | .75 | .75 | .74 |     | .74 | .73 | .73 | .72 | .72 |     | .71 | .70 | .70 | .69 | .68 | .67 |     | .66 | .65 | .64 | .63 | .62 | .61 |
|      | 098  | 091 | 083 | 074 | 065 | 056 | 048 | 037 | 028 | 019 | 010 | 000 | 984 | 973 | 962 | 949 | 936 | 922 |     | 904 | 883 | 872 | 854 | 836 | 818 |     |     |
| 30   | .81  | .81 | .80 | .80 | .79 | .79 | .78 |     | .78 | .77 | .77 | .76 | .76 |     | .75 | .74 | .74 | .73 | .72 | .71 |     | .70 | .69 | .68 | .67 | .66 | .64 |
|      | 150  | 144 | 136 | 128 | 120 | 112 | 104 | 094 | 085 | 076 | 067 | 058 | 041 | 030 | 018 | 006 | 992 | 977 |     | 958 | 942 | 924 | 906 | 887 | 868 |     |     |
| 45   | .85  | .84 | .84 | .83 | .83 | .82 | .82 |     | .81 | .81 | .81 | .80 | .80 |     | .79 | .78 | .77 | .77 | .76 | .75 |     | .74 | .73 | .72 | .70 | .69 | .68 |
|      | 197  | 192 | 185 | 178 | 170 | 163 | 155 | 146 | 138 | 129 | 121 | 111 | 094 | 083 | 071 | 057 | 043 | 028 |     | 008 | 990 | 972 | 953 | 934 | 914 |     |     |
| 1000 | .88  | .87 | .87 | .87 | .86 | .86 | .85 |     | .85 | .84 | .84 | .84 | .83 |     | .82 | .82 | .81 | .80 | .79 | .78 |     | .77 | .75 | .75 | .73 | .72 | .71 |
|      | 241  | 236 | 229 | 223 | 217 | 210 | 203 | 194 | 186 | 178 | 169 | 160 | 143 | 131 | 119 | 105 | 090 | 074 |     | 053 | 035 | 015 | 996 | 976 | 956 |     |     |
| 15   | .90  | .90 | .90 | .89 | .89 | .89 | .88 |     | .88 | .88 | .87 | .87 | .86 |     | .85 | .85 | .84 | .83 | .82 | .81 |     | .80 | .79 | .78 | .76 | .75 | .74 |
|      | 279  | 275 | 270 | 264 | 258 | 252 | 246 | 239 | 230 | 222 | 214 | 204 | 187 | 175 | 162 | 147 | 132 | 115 |     | 093 | 074 | 055 | 034 | 013 | 992 |     |     |
| 30   | .93  | .93 | .92 | .92 | .92 | .91 | .91 |     | .91 | .90 | .90 | .90 | .89 |     | .88 | .87 | .87 | .86 | .85 | .84 |     | .83 | .81 | .80 | .79 | .77 | .76 |
|      | 314  | 310 | 305 | 300 | 295 | 290 | 284 | 277 | 270 | 262 | 253 | 244 | 226 | 214 | 200 | 185 | 169 | 151 |     | 129 | 109 | 089 | 068 | 046 | 025 |     |     |
| 45   | .95  | .95 | .94 | .94 | .94 | .94 | .93 |     | .93 | .93 | .92 | .92 | .92 |     | .91 | .90 | .89 | .88 | .87 | .86 |     | .85 | .84 | .82 | .81 | .79 | .78 |
|      | 343  | 340 | 336 | 332 | 328 | 323 | 318 | 311 | 304 | 296 | 288 | 278 | 260 | 247 | 233 | 218 | 201 | 183 |     | 159 | 139 | 118 | 096 | 074 | 052 |     |     |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS COS Z  
XO (W/M\*2.)

TABLE B-1

20 S

JAN-APR

| MST  | JAN  |      |      |      |      | FEB  |      |      |      |      | DATE |      |      |      |      | MAR  |      |      |     |      | APR  |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
|      | 1    | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30  | 5    | 10   | 15   | 20   | 25   | 30   |
| 1100 | .97  | .96  | .96  | .96  | .96  | .96  | .95  | .95  | .95  | .94  | .94  | .94  | .94  | .93  | .92  | .91  | .90  | .89  | .88 | .87  | .85  | .84  | .83  | .81  | .80  |
|      | *367 | *365 | *362 | *359 | *355 | *351 | *346 | *339 | *333 | *326 | *317 | *307 | *289 | *276 | *261 | *245 | *228 | *209 |     | *185 | *164 | *142 | *119 | *097 | *074 |
| 15   | .98  | .98  | .98  | .98  | .97  | .97  | .97  | .97  | .97  | .96  | .96  | .95  | .94  | .94  | .94  | .93  | .92  | .91  | .90 | .88  | .87  | .85  | .84  | .82  | .81  |
|      | *387 | *385 | *383 | *380 | *377 | *373 | *369 | *363 | *357 | *350 | *341 | *332 | *313 | *299 | *264 | *267 | *249 | *230 |     | *205 | *183 | *161 | *138 | *115 | *092 |
| 30   | .99  | .99  | .99  | .99  | .99  | .99  | .98  | .98  | .98  | .98  | .97  | .97  | .96  | .96  | .95  | .94  | .93  | .92  | .91 | .89  | .88  | .86  | .85  | .83  | .82  |
|      | *401 | *400 | *398 | *396 | *394 | *391 | *387 | *382 | *376 | *369 | *360 | *350 | *331 | *317 | *301 | *284 | *265 | *245 |     | *220 | *197 | *174 | *151 | *127 | *104 |
| 45   | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .98  | .98  | .97  | .96  | .95  | .94  | .93  | .91  | .90 | .89  | .88  | .87  | .85  | .84  | .82  |
|      | *410 | *409 | *409 | *407 | *406 | *403 | *400 | *395 | *389 | *382 | *374 | *363 | *344 | *329 | *313 | *295 | *276 | *255 |     | *229 | *203 | *182 | *158 | *134 | *111 |
| 1200 | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .90 | .89  | .87  | .86  | .84  | .82  | .80  |
|      | *414 | *414 | *414 | *413 | *412 | *410 | *407 | *403 | *397 | *390 | *382 | *371 | *351 | *336 | *319 | *301 | *281 | *260 |     | *233 | *203 | *185 | *160 | *136 | *112 |
| 15   | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .90 | .89  | .87  | .85  | .84  | .82  | .80  |
|      | *412 | *413 | *414 | *414 | *413 | *412 | *409 | *405 | *400 | *393 | *384 | *373 | *353 | *337 | *320 | *301 | *281 | *259 |     | *231 | *207 | *182 | *157 | *133 | *109 |
| 30   | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .98  | .97  | .96  | .95  | .94  | .93  | .91  | .90 | .89  | .88  | .86  | .85  | .83  | .82  |
|      | *405 | *407 | *408 | *409 | *409 | *408 | *406 | *402 | *397 | *390 | *381 | *370 | *349 | *333 | *315 | *296 | *275 | *252 |     | *224 | *199 | *174 | *149 | *124 | *100 |
| 45   | .98  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .98  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .90  | .89 | .87  | .85  | .84  | .82  | .80  | .78  |
|      | *394 | *396 | *398 | *399 | *400 | *399 | *397 | *393 | *388 | *381 | *372 | *361 | *339 | *323 | *305 | *285 | *263 | *240 |     | *211 | *185 | *161 | *135 | *110 | *086 |
| 1300 | .97  | .97  | .98  | .98  | .98  | .98  | .96  | .98  | .98  | .97  | .97  | .96  | .95  | .94  | .93  | .92  | .91  | .89  | .87 | .85  | .84  | .82  | .81  | .79  | .77  |
|      | *377 | *379 | *382 | *384 | *385 | *385 | *383 | *379 | *374 | *367 | *358 | *347 | *324 | *308 | *289 | *269 | *246 | *223 |     | *193 | *169 | *142 | *116 | *091 | *066 |
| 15   | .96  | .96  | .96  | .96  | .96  | .97  | .97  | .97  | .96  | .96  | .96  | .95  | .94  | .93  | .92  | .90  | .89  | .87  | .86 | .84  | .82  | .81  | .79  | .77  | .75  |
|      | *354 | *358 | *361 | *363 | *365 | *365 | *364 | *360 | *355 | *348 | *339 | *327 | *304 | *287 | *268 | *247 | *224 | *200 |     | *170 | *144 | *118 | *092 | *067 | *042 |
| 30   | .94  | .94  | .94  | .95  | .95  | .95  | .95  | .95  | .95  | .94  | .94  | .93  | .92  | .91  | .90  | .88  | .87  | .85  | .83 | .82  | .80  | .78  | .77  | .75  | .73  |
|      | *327 | *331 | *335 | *338 | *340 | *340 | *339 | *336 | *330 | *323 | *314 | *302 | *278 | *261 | *241 | *220 | *196 | *172 |     | *142 | *115 | *089 | *063 | *037 | *013 |
| 45   | .92  | .92  | .92  | .92  | .92  | .93  | .93  | .93  | .93  | .92  | .92  | .91  | .90  | .89  | .87  | .86  | .85  | .83  | .81 | .79  | .78  | .76  | .74  | .73  | .71  |
|      | *295 | *299 | *304 | *307 | *309 | *310 | *309 | *306 | *301 | *293 | *284 | *272 | *247 | *229 | *209 | *187 | *164 | *139 |     | *108 | *082 | *055 | *029 | *003 | *979 |

JAN-APR 20 S TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z = 1.  
 Y0 (W/M-2.) ADD 1000 TO VALUES PRECEDED BY .

MST

DATE

|      | JAN                         |                              |    |    |    | FEB |    |                         |    |    | MAR                     |    |    |                         |    | APR |                          |    |    |  |
|------|-----------------------------|------------------------------|----|----|----|-----|----|-------------------------|----|----|-------------------------|----|----|-------------------------|----|-----|--------------------------|----|----|--|
|      | 1                           | 5                            | 10 | 15 | 20 | 25  | 30 | 5                       | 10 | 15 | 20                      | 25 | 30 | 5                       | 10 | 15  | 20                       | 25 | 30 |  |
| 1400 | .89 .89 .90 .90 .90 .90 .90 | .259*263*268*272*274*275*275 |    |    |    |     |    | .90 .90 .90 .89 .89 .89 |    |    | .87 .86 .85 .83 .82 .80 |    |    | .78 .75 .75 .73 .71 .70 |    |     | .069*043*016 990 964 940 |    |    |  |
| 15   | .86 .86 .87 .87 .87 .88 .88 | .217*222*228*232*235*236*235 |    |    |    |     |    | .88 .87 .87 .86 .86 .86 |    |    | .84 .83 .82 .80 .79 .77 |    |    | .75 .73 .72 .70 .68 .66 |    |     | .026 993 973 946 921 897 |    |    |  |
| 30   | .83 .83 .84 .84 .84 .84 .84 | .172*177*183*187*190*192*191 |    |    |    |     |    | .84 .84 .84 .83 .82 .82 |    |    | .81 .80 .78 .77 .75 .74 |    |    | .72 .70 .68 .66 .65 .63 |    |     | 978 951 925 898 873 849  |    |    |  |
| 45   | .79 .80 .80 .81 .81 .81 .81 | .122*127*134*138*142*143*142 |    |    |    |     |    | .81 .81 .80 .80 .79 .79 |    |    | .77 .76 .75 .73 .72 .70 |    |    | .68 .65 .64 .62 .61 .59 |    |     | 926 893 872 846 821 797  |    |    |  |
| 1500 | .75 .76 .76 .77 .77 .77 .77 | .068*074*080*085*089*090*089 |    |    |    |     |    | .77 .77 .76 .76 .75 .75 |    |    | .73 .72 .71 .69 .67 .66 |    |    | .64 .62 .60 .58 .57 .55 |    |     | 870 843 816 790 765 742  |    |    |  |
| 15   | .71 .72 .72 .73 .73 .73 .73 | .010*017*023*028*032*033*033 |    |    |    |     |    | .73 .73 .72 .72 .71 .71 |    |    | .69 .68 .66 .65 .63 .61 |    |    | .59 .57 .56 .54 .52 .51 |    |     | 809 782 755 730 705 682  |    |    |  |
| 30   | .67 .68 .68 .68 .69 .69 .69 | .949 956 962 968 971 973 972 |    |    |    |     |    | .69 .68 .68 .67 .66 .66 |    |    | .65 .63 .62 .60 .58 .57 |    |    | .55 .53 .51 .49 .48 .46 |    |     | 745 718 692 666 642 619  |    |    |  |
| 45   | .63 .63 .64 .64 .64 .64 .64 | .885 891 898 904 907 909 908 |    |    |    |     |    | .64 .64 .63 .63 .62 .62 |    |    | .60 .58 .57 .55 .54 .52 |    |    | .50 .48 .46 .44 .43 .41 |    |     | 678 651 625 600 576 554  |    |    |  |
| 1600 | .58 .58 .59 .59 .59 .60 .60 | .817 824 831 837 840 841 840 |    |    |    |     |    | .59 .59 .58 .58 .57 .57 |    |    | .55 .53 .52 .50 .48 .47 |    |    | .44 .43 .41 .39 .37 .36 |    |     | 607 581 555 530 506 485  |    |    |  |
| 15   | .53 .53 .54 .54 .55 .55 .55 | .747 754 761 767 770 771 770 |    |    |    |     |    | .54 .54 .53 .52 .51 .51 |    |    | .50 .48 .47 .45 .43 .41 |    |    | .39 .37 .35 .34 .32 .31 |    |     | 534 503 482 458 435 413  |    |    |  |
| 30   | .48 .48 .49 .49 .49 .49 .49 | .675 682 689 694 697 698 697 |    |    |    |     |    | .49 .49 .48 .47 .46 .46 |    |    | .44 .43 .41 .39 .38 .36 |    |    | .34 .32 .30 .28 .27 .25 |    |     | 458 432 407 383 360 340  |    |    |  |
| 45   | .42 .43 .43 .44 .44 .44 .44 | .600 607 615 620 623 623 621 |    |    |    |     |    | .44 .43 .43 .42 .41 .41 |    |    | .38 .37 .35 .34 .32 .30 |    |    | .28 .25 .24 .23 .21 .20 |    |     | 380 354 330 306 284 264  |    |    |  |

JAN-APR 20 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 XO (W/M\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |    |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |    |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30 |
| 1700 | .37  | .38 | .38 | .38 | .39 | .39 | .39 | .38 | .38 | .37 | .36 | .35 | .33 | .31 | .30 | .28 | .26 | .24 | .22 | .20 | .18 | .17 | .15 | .14 |    |
|      | 524  | 531 | 538 | 543 | 546 | 546 | 544 | 537 | 529 | 517 | 503 | 486 | 455 | 433 | 409 | 384 | 358 | 332 | 300 | 275 | 251 | 228 | 206 | 187 |    |
| 15   | .32  | .32 | .33 | .33 | .33 | .33 | .33 | .33 | .32 | .31 | .30 | .29 | .27 | .25 | .24 | .22 | .20 | .18 | .16 | .14 | .13 | .11 | .09 | .08 |    |
|      | 446  | 453 | 460 | 465 | 467 | 467 | 464 | 457 | 448 | 437 | 422 | 405 | 373 | 351 | 327 | 302 | 276 | 250 | 219 | 194 | 170 | 148 | 127 | 109 |    |
| 30   | .26  | .26 | .27 | .27 | .27 | .27 | .27 | .27 | .26 | .25 | .24 | .23 | .21 | .19 | .18 | .16 | .14 | .12 | .10 | .08 | .07 | .05 | .04 | .02 |    |
|      | 367  | 374 | 381 | 386 | 388 | 387 | 384 | 376 | 367 | 355 | 340 | 322 | 290 | 267 | 243 | 218 | 193 | 167 | 137 | 112 | 089 | 067 | 047 | 029 |    |
| 45   | .20  | .21 | .21 | .22 | .22 | .22 | .21 | .21 | .20 | .19 | .18 | .17 | .15 | .13 | .12 | .10 | .08 | .06 | .04 | .02 | .01 | .00 | .00 | .00 |    |
|      | 288  | 295 | 301 | 305 | 307 | 306 | 302 | 294 | 284 | 272 | 256 | 239 | 206 | 183 | 159 | 134 | 109 | 083 | 053 | 023 | 007 | 000 | 000 | 000 |    |
| 1800 | .15  | .15 | .16 | .16 | .16 | .16 | .16 | .15 | .14 | .13 | .12 | .11 | .09 | .07 | .05 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |    |
|      | 208  | 214 | 221 | 224 | 226 | 224 | 220 | 211 | 201 | 188 | 172 | 154 | 121 | 098 | 074 | 049 | 024 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |    |
| 15   | .09  | .10 | .10 | .10 | .10 | .10 | .10 | .09 | .08 | .07 | .06 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 |    |
|      | 128  | 134 | 140 | 143 | 144 | 142 | 138 | 128 | 118 | 104 | 088 | 070 | 036 | 013 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |    |
| 30   | .03  | .04 | .04 | .04 | .04 | .04 | .04 | .03 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |    |
|      | 048  | 054 | 060 | 062 | 063 | 060 | 055 | 045 | 034 | 020 | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |    |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |    |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 |    |

JAN-APR 20 S TABLE B-1 SOLAR PARAMETERS COS Z XO (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |  |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |  |
| 0600 | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  |  |  |
| 15   | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  |  |  |
| 30   | .04  | .03  | .02  | .01  | .01  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  | .00  |  |  |
| 45   | .10  | .09  | .08  | .07  | .06  | .05  | .05  | .04  | .03  | .03  | .02  | .02  | .02  | .02  | .02  | .02  | .03  | .05  |  |  |
| 0700 | .15  | .14  | .14  | .13  | .12  | .11  | .10  | .09  | .09  | .08  | .08  | .08  | .08  | .08  | .08  | .09  | .10  | .12  |  |  |
| 15   | .21  | .20  | .19  | .18  | .17  | .16  | .16  | .15  | .14  | .14  | .13  | .13  | .13  | .13  | .14  | .14  | .15  | .16  |  |  |
| 30   | .26  | .26  | .25  | .24  | .23  | .22  | .21  | .20  | .20  | .19  | .19  | .18  | .18  | .18  | .19  | .20  | .21  | .22  |  |  |
| 45   | .32  | .31  | .30  | .29  | .28  | .27  | .26  | .25  | .25  | .24  | .24  | .24  | .24  | .24  | .25  | .25  | .26  | .27  |  |  |
| 0800 | .37  | .36  | .35  | .34  | .33  | .32  | .31  | .30  | .30  | .29  | .29  | .29  | .29  | .29  | .30  | .30  | .31  | .33  |  |  |
| 15   | .42  | .41  | .40  | .39  | .38  | .37  | .36  | .35  | .34  | .34  | .34  | .33  | .33  | .34  | .35  | .35  | .36  | .38  |  |  |
| 30   | .47  | .46  | .45  | .43  | .42  | .41  | .40  | .39  | .39  | .39  | .38  | .38  | .38  | .38  | .39  | .40  | .41  | .43  |  |  |
| 45   | .51  | .50  | .49  | .48  | .47  | .46  | .45  | .44  | .43  | .43  | .43  | .43  | .43  | .43  | .44  | .45  | .46  | .47  |  |  |
|      | .56  | .55  | .54  | .53  | .52  | .51  | .50  | .49  | .48  | .48  | .48  | .48  | .48  | .48  | .49  | .50  | .51  | .52  |  |  |
|      | .61  | .60  | .59  | .58  | .57  | .56  | .55  | .54  | .53  | .53  | .53  | .53  | .53  | .54  | .55  | .56  | .57  | .58  |  |  |
|      | .66  | .65  | .64  | .63  | .62  | .61  | .60  | .59  | .58  | .58  | .58  | .58  | .58  | .59  | .60  | .61  | .62  | .63  |  |  |
|      | .71  | .70  | .69  | .68  | .67  | .66  | .65  | .64  | .63  | .63  | .63  | .63  | .63  | .64  | .65  | .66  | .67  | .68  |  |  |
|      | .76  | .75  | .74  | .73  | .72  | .71  | .70  | .69  | .68  | .68  | .68  | .68  | .68  | .69  | .70  | .71  | .72  | .73  |  |  |
|      | .81  | .80  | .79  | .78  | .77  | .76  | .75  | .74  | .73  | .73  | .73  | .73  | .73  | .74  | .75  | .76  | .77  | .78  |  |  |
|      | .86  | .85  | .84  | .83  | .82  | .81  | .80  | .79  | .78  | .78  | .78  | .78  | .78  | .79  | .80  | .81  | .82  | .83  |  |  |
|      | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .83  | .83  | .83  | .83  | .83  | .84  | .85  | .86  | .87  | .88  |  |  |
|      | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .88  | .88  | .88  | .88  | .89  | .90  | .91  | .92  | .93  |  |  |
|      | 1.01 | 1.00 | .99  | .98  | .97  | .96  | .95  | .94  | .93  | .93  | .93  | .93  | .93  | .94  | .95  | .96  | .97  | .98  |  |  |
|      | 1.06 | 1.05 | 1.04 | 1.03 | 1.02 | 1.01 | 1.00 | .99  | .98  | .98  | .98  | .98  | .98  | .99  | 1.00 | 1.01 | 1.02 | 1.03 |  |  |
|      | 1.11 | 1.10 | 1.09 | 1.08 | 1.07 | 1.06 | 1.05 | 1.04 | 1.03 | 1.03 | 1.03 | 1.03 | 1.03 | 1.04 | 1.05 | 1.06 | 1.07 | 1.08 |  |  |
|      | 1.16 | 1.15 | 1.14 | 1.13 | 1.12 | 1.11 | 1.10 | 1.09 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.09 | 1.10 | 1.11 | 1.12 | 1.13 |  |  |
|      | 1.21 | 1.20 | 1.19 | 1.18 | 1.17 | 1.16 | 1.15 | 1.14 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.14 | 1.15 | 1.16 | 1.17 | 1.18 |  |  |
|      | 1.26 | 1.25 | 1.24 | 1.23 | 1.22 | 1.21 | 1.20 | 1.19 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.19 | 1.20 | 1.21 | 1.22 | 1.23 |  |  |
|      | 1.31 | 1.30 | 1.29 | 1.28 | 1.27 | 1.26 | 1.25 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.29 |  |  |
|      | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 | 1.31 | 1.30 | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 | 1.30 | 1.31 | 1.32 | 1.33 | 1.34 |  |  |
|      | 1.41 | 1.40 | 1.39 | 1.38 | 1.37 | 1.36 | 1.35 | 1.34 | 1.34 | 1.34 | 1.34 | 1.34 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.39 |  |  |
|      | 1.46 | 1.45 | 1.44 | 1.43 | 1.42 | 1.41 | 1.40 | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 | 1.40 | 1.41 | 1.42 | 1.43 | 1.44 |  |  |
|      | 1.51 | 1.50 | 1.49 | 1.48 | 1.47 | 1.46 | 1.45 | 1.44 | 1.43 | 1.43 | 1.43 | 1.43 | 1.43 | 1.44 | 1.45 | 1.46 | 1.47 | 1.48 |  |  |
|      | 1.56 | 1.55 | 1.54 | 1.53 | 1.52 | 1.51 | 1.50 | 1.49 | 1.48 | 1.48 | 1.48 | 1.48 | 1.48 | 1.49 | 1.50 | 1.51 | 1.52 | 1.53 |  |  |
|      | 1.61 | 1.60 | 1.59 | 1.58 | 1.57 | 1.56 | 1.55 | 1.54 | 1.53 | 1.53 | 1.53 | 1.53 | 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 |  |  |
|      | 1.66 | 1.65 | 1.64 | 1.63 | 1.62 | 1.61 | 1.60 | 1.59 | 1.58 | 1.58 | 1.58 | 1.58 | 1.58 | 1.59 | 1.60 | 1.61 | 1.62 | 1.63 |  |  |
|      | 1.71 | 1.70 | 1.69 | 1.68 | 1.67 | 1.66 | 1.65 | 1.64 | 1.63 | 1.63 | 1.63 | 1.63 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 |  |  |
|      | 1.76 | 1.75 | 1.74 | 1.73 | 1.72 | 1.71 | 1.70 | 1.69 | 1.68 | 1.68 | 1.68 | 1.68 | 1.68 | 1.69 | 1.70 | 1.71 | 1.72 | 1.73 |  |  |
|      | 1.81 | 1.80 | 1.79 | 1.78 | 1.77 | 1.76 | 1.75 | 1.74 | 1.73 | 1.73 | 1.73 | 1.73 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 |  |  |
|      | 1.86 | 1.85 | 1.84 | 1.83 | 1.82 | 1.81 | 1.80 | 1.79 | 1.78 | 1.78 | 1.78 | 1.78 | 1.78 | 1.79 | 1.80 | 1.81 | 1.82 | 1.83 |  |  |
|      | 1.91 | 1.90 | 1.89 | 1.88 | 1.87 | 1.86 | 1.85 | 1.84 | 1.83 | 1.83 | 1.83 | 1.83 | 1.83 | 1.84 | 1.85 | 1.86 | 1.87 | 1.88 |  |  |
|      | 1.96 | 1.95 | 1.94 | 1.93 | 1.92 | 1.91 | 1.90 | 1.89 | 1.88 | 1.88 | 1.88 | 1.88 | 1.88 | 1.89 | 1.90 | 1.91 | 1.92 | 1.93 |  |  |
|      | 2.01 | 2.00 | 1.99 | 1.98 | 1.97 | 1.96 | 1.95 | 1.94 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.95 | 1.96 | 1.97 | 1.98 |  |  |
|      | 2.06 | 2.05 | 2.04 | 2.03 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 |  |  |
|      | 2.11 | 2.10 | 2.09 | 2.08 | 2.07 | 2.06 | 2.05 | 2.04 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 |  |  |
|      | 2.16 | 2.15 | 2.14 | 2.13 | 2.12 | 2.11 | 2.10 | 2.09 | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 | 2.09 | 2.10 | 2.11 | 2.12 | 2.13 |  |  |
|      | 2.21 | 2.20 | 2.19 | 2.18 | 2.17 | 2.16 | 2.15 | 2.14 | 2.13 | 2.13 | 2.13 | 2.13 | 2.13 | 2.14 | 2.15 | 2.16 | 2.17 | 2.18 |  |  |
|      | 2.26 | 2.25 | 2.24 | 2.23 | 2.22 | 2.21 | 2.20 | 2.19 | 2.18 | 2.18 | 2.18 | 2.18 | 2.18 | 2.19 | 2.20 | 2.21 | 2.22 | 2.23 |  |  |
|      | 2.31 | 2.30 | 2.29 | 2.28 | 2.27 | 2.26 | 2.25 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.25 | 2.26 | 2.27 | 2.28 | 2.29 |  |  |
|      | 2.36 | 2.35 | 2.34 | 2.33 | 2.32 | 2.31 | 2.30 | 2.29 | 2.29 | 2.29 | 2.29 | 2.29 | 2.29 | 2.30 | 2.31 | 2.32 | 2.33 | 2.34 |  |  |
|      | 2.41 | 2.40 | 2.39 | 2.38 | 2.37 | 2.36 | 2.35 | 2.34 | 2.34 | 2.34 | 2.34 | 2.34 | 2.34 | 2.35 | 2.36 | 2.37 | 2.38 | 2.39 |  |  |
|      | 2.46 | 2.45 | 2.44 | 2.43 | 2.42 | 2.41 | 2.40 | 2.39 | 2.39 | 2.39 | 2.39 | 2.39 | 2.39 | 2.40 | 2.41 | 2.42 | 2.43 | 2.44 |  |  |
|      | 2.51 | 2.50 | 2.49 | 2.48 | 2.47 | 2.46 | 2.45 | 2.44 | 2.43 | 2.43 | 2.43 | 2.43 | 2.43 | 2.44 | 2.45 | 2.46 | 2.47 | 2.48 |  |  |
|      | 2.56 | 2.55 | 2.54 | 2.53 | 2.52 | 2.51 | 2.50 | 2.49 | 2.48 | 2.48 | 2.48 | 2.48 | 2.48 | 2.49 | 2.50 | 2.51 | 2.52 | 2.53 |  |  |
|      | 2.61 | 2.60 | 2.59 | 2.58 | 2.57 | 2.56 | 2.55 | 2.54 | 2.53 | 2.53 | 2.53 | 2.53 | 2.53 | 2.54 | 2.55 | 2.56 | 2.57 | 2.58 |  |  |
|      | 2.66 | 2.65 | 2.64 | 2.63 | 2.62 | 2.61 | 2.60 | 2.59 | 2.58 | 2.58 | 2.58 | 2.58 | 2.58 | 2.59 | 2.60 | 2.61 | 2.62 | 2.63 |  |  |
|      | 2.71 | 2.70 | 2.69 | 2.68 | 2.67 | 2.66 | 2.65 | 2.64 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.64 | 2.65 | 2.66 | 2.67 | 2.68 |  |  |
|      | 2.76 | 2.75 | 2.74 | 2.73 | 2.72 | 2.71 | 2.70 | 2.69 | 2.68 | 2.68 | 2.68 | 2.68 | 2.68 | 2.69 | 2.70 | 2.71 | 2.72 | 2.73 |  |  |
|      | 2.81 | 2.80 | 2.79 | 2.78 | 2.77 | 2.76 | 2.75 | 2.74 | 2.73 | 2.73 | 2.73 | 2.73 | 2.73 | 2.74 | 2.75 | 2.76 | 2.77 | 2.78 |  |  |
|      | 2.86 | 2.85 | 2.84 | 2.83 | 2.82 | 2.81 | 2.80 | 2.79 | 2.78 | 2.78 | 2.78 | 2.78 | 2.78 | 2.79 | 2.80 | 2.81 | 2.82 | 2.83 |  |  |
|      | 2.91 | 2.90 | 2.89 | 2.88 | 2.87 | 2.86 | 2.85 | 2.84 | 2.83 | 2.83 | 2.83 | 2.83 | 2.83 | 2.84 | 2.85 | 2.86 | 2.87 | 2.88 |  |  |
|      | 2.96 | 2.95 | 2.94 | 2.93 | 2.92 | 2.91 | 2.90 | 2.89 | 2.88 | 2.88 | 2.88 | 2.88 | 2.88 | 2.89 | 2.90 | 2.91 | 2.92 | 2.93 |  |  |
|      | 3.01 | 3.00 | 2.99 | 2.98 | 2.97 | 2.96 | 2.95 | 2.94 | 2.93 | 2.93 | 2.93 | 2.93 | 2.93 | 2.94 | 2.95 | 2.96 | 2.97 | 2.98 |  |  |
|      | 3.06 | 3.05 | 3.04 | 3.03 | 3.02 | 3.01 | 3.00 | 2.99 | 2.98 | 2.98 | 2.98 | 2.98 | 2.98 | 2.99 | 3.00 | 3.01 | 3.02 | 3.03 |  |  |
|      | 3.11 | 3.10 | 3.09 | 3.08 | 3.07 | 3.06 | 3.05 | 3.04 | 3.03 | 3.03 | 3.03 | 3.03 | 3.03 | 3.04 | 3.05 | 3.06 | 3.07 | 3.08 |  |  |
|      | 3.16 | 3.15 | 3.14 | 3.13 | 3.12 | 3.11 | 3.10 | 3.09 | 3.08 | 3.08 | 3.08 | 3.08 | 3.08 | 3.09 | 3.10 | 3.11 | 3.12 | 3.13 |  |  |
|      | 3.21 | 3.20 | 3.19 | 3.18 | 3.17 | 3.16 | 3.15 | 3.14 | 3.13 | 3.13 | 3.13 | 3.13 | 3.13 | 3.14 | 3.15 | 3.16 | 3.17 | 3.18 |  |  |
|      | 3.26 | 3.25 | 3.24 | 3.23 | 3.22 | 3.21 | 3.20 | 3.19 | 3.18 | 3.18 | 3.18 | 3.18 | 3.18 | 3.19 | 3.20 | 3.21 | 3.22 | 3.23 |  |  |
|      | 3.31 | 3.30 | 3.29 | 3.28 | 3.27 | 3.26 | 3.25 | 3.24 | 3.24 | 3.24 | 3.24 | 3.24 | 3.24 | 3.25 | 3.26 | 3.27 | 3.28 | 3.29 |  |  |
|      | 3.36 | 3.35 | 3.34 | 3.33 | 3.32 | 3.31 | 3.30 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 | 3.30 | 3.31 | 3.32 | 3.33 | 3.34 |  |  |
|      | 3.41 | 3.40 | 3.39 | 3.38 | 3.37 | 3.36 | 3.35 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 | 3.35 | 3.36 | 3.37 | 3.38 | 3.39 |  |  |
|      | 3.46 | 3.45 | 3.44 | 3.43 | 3.42 | 3.41 | 3.40 | 3.39 | 3.39 | 3.39 | 3.39 | 3.39 | 3.39 | 3.40 | 3.41 | 3.42 | 3.43 | 3.44 |  |  |
|      | 3.51 | 3.50 | 3.49 | 3.48 | 3.47 | 3.46 | 3.45 | 3.44 | 3.43 | 3.43 | 3.43 | 3.43 | 3.43 | 3.44 | 3.45 | 3.46 | 3.47 | 3.48 |  |  |
|      | 3.56 | 3.55 | 3.54 | 3.53 | 3.52 | 3.51 | 3.50 | 3.49 | 3.48 | 3.48 | 3.48 | 3.48 | 3.48 | 3.49 | 3.50 | 3.51 | 3.52 | 3.53 |  |  |
|      | 3.61 | 3.60 | 3.59 | 3.58 | 3.57 | 3.56 | 3.55 | 3.54 | 3.53 | 3.53 | 3.53 | 3.53 | 3.53 | 3.54 | 3.55 | 3.56 | 3.57 | 3.58 |  |  |
|      | 3.66 | 3.65 | 3.64 | 3.63 | 3.62 | 3.61 | 3.60 | 3.59 | 3.58 | 3.58 | 3.58 | 3.58 | 3.58 | 3.59 | 3.60 | 3.61 | 3.62 | 3.63 |  |  |
|      | 3.71 | 3.70 | 3.69 | 3.68 | 3.67 | 3.66 | 3.65 | 3.64 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.64 | 3.65 | 3.66 | 3.67 | 3.68 |  |  |
|      | 3.76 | 3.75 | 3.74 | 3.73 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
COS Z  
XO (W/M\*\*2.)

TABLE 8-1

MAY-AUG

20 S

PREVIOUS PAGE  
IS BLANK



| MST  | MAY  |      |      |      |      | JUN |     |     |     |     | JUL |     |     |     |     | AUG |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30   |      |      |      |      |      |      |
| 0900 | .55  | .54  | .53  | .52  | .51  | .50 | .49 | .48 | .48 | .47 | .47 | .47 | .47 | .47 | .48 | .48 | .49  | .50  | .52  | .53  | .55  | .56  | .58  | .60  |
|      | 746  | 728  | 711  | 695  | 679  | 664 | 649 | 638 | 630 | 623 | 619 | 618 | 619 | 623 | 630 | 639 | 651  | 666  | 687  | 707  | 729  | 753  | 778  | 804  |
| 15   | .59  | .58  | .57  | .56  | .55  | .54 | .53 | .52 | .51 | .51 | .51 | .51 | .51 | .51 | .52 | .52 | .53  | .54  | .56  | .57  | .59  | .60  | .62  | .64  |
|      | 799  | 781  | 763  | 746  | 730  | 716 | 700 | 690 | 681 | 675 | 671 | 670 | 671 | 676 | 683 | 693 | 705  | 721  | 742  | 762  | 785  | 808  | 834  | 860  |
| 30   | .63  | .62  | .61  | .59  | .58  | .57 | .56 | .56 | .55 | .55 | .54 | .54 | .54 | .55 | .55 | .56 | .57  | .58  | .60  | .61  | .63  | .64  | .66  | .68  |
|      | 849  | 830  | 812  | 795  | 778  | 763 | 748 | 737 | 729 | 723 | 719 | 718 | 720 | 725 | 732 | 743 | 756  | 771  | 793  | 814  | 836  | 860  | 886  | 912  |
| 45   | .66  | .65  | .64  | .63  | .62  | .61 | .60 | .59 | .58 | .58 | .58 | .58 | .58 | .58 | .59 | .60 | .60  | .62  | .63  | .65  | .66  | .68  | .70  | .71  |
|      | 894  | 875  | 856  | 839  | 822  | 807 | 791 | 781 | 772 | 766 | 763 | 763 | 765 | 770 | 778 | 789 | 802  | 818  | 840  | 861  | 884  | 908  | 934  | 960  |
| 1000 | .70  | .68  | .67  | .66  | .65  | .64 | .63 | .62 | .61 | .61 | .61 | .61 | .61 | .61 | .62 | .63 | .64  | .65  | .66  | .68  | .69  | .71  | .73  | .75  |
|      | 935  | 916  | 896  | 878  | 862  | 847 | 831 | 820 | 812 | 806 | 803 | 803 | 806 | 811 | 820 | 831 | 845  | 861  | 883  | 904  | 927  | 952  | 977  | 1003 |
| 15   | .72  | .71  | .70  | .68  | .67  | .66 | .65 | .64 | .64 | .64 | .63 | .63 | .64 | .64 | .65 | .66 | .67  | .68  | .69  | .71  | .72  | .74  | .76  | .78  |
|      | 972  | 952  | 932  | 914  | 897  | 882 | 866 | 855 | 847 | 842 | 839 | 839 | 842 | 848 | 857 | 869 | 883  | 899  | 922  | 943  | 966  | 990  | 1016 | 1042 |
| 30   | .75  | .73  | .72  | .71  | .70  | .69 | .67 | .67 | .66 | .66 | .66 | .66 | .66 | .67 | .67 | .68 | .69  | .70  | .72  | .73  | .75  | .77  | .78  | .80  |
|      | 1004 | 983  | 963  | 945  | 927  | 912 | 897 | 886 | 878 | 873 | 871 | 871 | 875 | 881 | 890 | 902 | 916  | 933  | 956  | 973  | 1001 | 1025 | 1050 | 1076 |
| 45   | .77  | .75  | .74  | .73  | .72  | .70 | .69 | .69 | .68 | .68 | .68 | .68 | .68 | .69 | .69 | .70 | .71  | .72  | .74  | .75  | .77  | .79  | .81  | .82  |
|      | 1030 | 1009 | 989  | 971  | 953  | 938 | 923 | 912 | 905 | 900 | 898 | 899 | 902 | 909 | 918 | 931 | 945  | 962  | 986  | 1007 | 1030 | 1054 | 1079 | 1105 |
| 1100 | .78  | .77  | .75  | .74  | .73  | .72 | .71 | .70 | .70 | .70 | .70 | .70 | .70 | .70 | .71 | .72 | .73  | .74  | .76  | .77  | .79  | .81  | .82  | .84  |
|      | 1052 | 1031 | 1011 | 992  | 975  | 959 | 944 | 934 | 927 | 922 | 920 | 921 | 925 | 932 | 942 | 955 | 970  | 987  | 1010 | 1032 | 1055 | 1079 | 1103 | 1129 |
| 15   | .79  | .78  | .77  | .75  | .74  | .73 | .72 | .72 | .71 | .71 | .71 | .71 | .71 | .72 | .73 | .74 | .75  | .76  | .77  | .79  | .80  | .82  | .84  | .85  |
|      | 1069 | 1048 | 1027 | 1008 | 991  | 976 | 961 | 951 | 944 | 939 | 938 | 939 | 944 | 951 | 961 | 974 | 989  | 1007 | 1030 | 1052 | 1074 | 1098 | 1123 | 1147 |
| 30   | .80  | .79  | .78  | .76  | .75  | .74 | .73 | .73 | .72 | .72 | .72 | .72 | .72 | .73 | .74 | .75 | .76  | .77  | .79  | .80  | .82  | .83  | .85  | .86  |
|      | 1081 | 1059 | 1039 | 1020 | 1002 | 987 | 972 | 963 | 956 | 952 | 951 | 953 | 958 | 965 | 976 | 989 | 1004 | 1021 | 1045 | 1066 | 1089 | 1112 | 1136 | 1161 |
| 45   | .81  | .79  | .78  | .77  | .76  | .75 | .74 | .73 | .73 | .72 | .72 | .73 | .73 | .74 | .74 | .75 | .76  | .78  | .79  | .81  | .82  | .84  | .85  | .87  |
|      | 1088 | 1066 | 1045 | 1026 | 1009 | 994 | 979 | 970 | 963 | 960 | 959 | 961 | 966 | 974 | 985 | 998 | 1014 | 1031 | 1055 | 1076 | 1098 | 1121 | 1145 | 1169 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M\*2.)

MAY-AUG 20 S

| MST  | MAY  |      |      |      |      | JUN  |      |      |      |      | JUL  |      |      |      |      | AUG  |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 1200 | .81  | .80  | .78  | .77  | .76  | .75  | .74  | .73  | .73  | .73  | .73  | .73  | .73  | .74  | .75  | .76  | .77  | .78  | .80  | .81  | .83  | .84  | .86  | .87  |
|      | .089 | .067 | .046 | .027 | .010 | .995 | .981 | .972 | .966 | .963 | .962 | .965 | .970 | .978 | .989 | .003 | .018 | .036 | .059 | .080 | .102 | .125 | .149 | .172 |
| 15   | .81  | .79  | .78  | .77  | .75  | .75  | .74  | .73  | .73  | .73  | .73  | .73  | .73  | .74  | .75  | .76  | .77  | .78  | .80  | .81  | .83  | .84  | .86  | .87  |
|      | .085 | .063 | .042 | .023 | .007 | .992 | .978 | .969 | .963 | .960 | .960 | .963 | .969 | .978 | .989 | .002 | .018 | .036 | .059 | .080 | .101 | .124 | .147 | .170 |
| 30   | .80  | .79  | .77  | .76  | .75  | .74  | .73  | .72  | .72  | .72  | .72  | .72  | .72  | .73  | .74  | .75  | .76  | .78  | .79  | .81  | .82  | .84  | .85  | .86  |
|      | .076 | .054 | .033 | .015 | .998 | .984 | .970 | .962 | .956 | .954 | .954 | .957 | .963 | .972 | .983 | .997 | .013 | .030 | .053 | .074 | .095 | .117 | .140 | .162 |
| 45   | .79  | .77  | .76  | .75  | .74  | .73  | .72  | .72  | .71  | .71  | .71  | .71  | .71  | .72  | .73  | .74  | .76  | .77  | .78  | .80  | .81  | .83  | .84  | .85  |
|      | .062 | .040 | .019 | .001 | .984 | .970 | .957 | .949 | .944 | .942 | .942 | .946 | .952 | .961 | .973 | .987 | .002 | .020 | .043 | .063 | .094 | .105 | .127 | .149 |
| 1300 | .78  | .76  | .75  | .74  | .72  | .72  | .71  | .70  | .70  | .70  | .70  | .70  | .71  | .71  | .72  | .73  | .74  | .76  | .77  | .79  | .80  | .81  | .83  | .84  |
|      | .043 | .021 | .000 | .982 | .966 | .952 | .939 | .932 | .927 | .925 | .926 | .930 | .937 | .946 | .957 | .971 | .987 | .004 | .027 | .047 | .057 | .088 | .110 | .130 |
| 15   | .76  | .74  | .73  | .72  | .71  | .70  | .69  | .69  | .68  | .68  | .68  | .69  | .69  | .70  | .71  | .72  | .73  | .74  | .76  | .77  | .78  | .80  | .81  | .82  |
|      | .018 | .997 | .976 | .958 | .943 | .929 | .917 | .910 | .905 | .904 | .905 | .909 | .916 | .926 | .937 | .951 | .967 | .984 | .006 | .026 | .043 | .066 | .087 | .107 |
| 30   | .74  | .72  | .71  | .70  | .69  | .68  | .67  | .67  | .66  | .66  | .66  | .67  | .67  | .68  | .69  | .70  | .71  | .72  | .74  | .75  | .75  | .78  | .79  | .80  |
|      | .989 | .968 | .948 | .930 | .914 | .902 | .890 | .883 | .879 | .878 | .880 | .884 | .891 | .901 | .912 | .926 | .942 | .959 | .981 | .000 | .019 | .039 | .059 | .079 |
| 45   | .71  | .70  | .68  | .67  | .66  | .65  | .65  | .64  | .64  | .64  | .64  | .65  | .65  | .66  | .67  | .68  | .69  | .70  | .71  | .73  | .74  | .75  | .77  | .78  |
|      | .955 | .934 | .914 | .897 | .882 | .869 | .856 | .852 | .848 | .847 | .850 | .854 | .862 | .871 | .883 | .897 | .912 | .929 | .950 | .963 | .988 | .007 | .026 | .045 |
| 1400 | .68  | .67  | .65  | .64  | .63  | .63  | .62  | .62  | .61  | .61  | .62  | .62  | .63  | .63  | .64  | .65  | .66  | .67  | .69  | .70  | .71  | .73  | .74  | .75  |
|      | .917 | .896 | .876 | .859 | .845 | .833 | .822 | .816 | .813 | .813 | .815 | .820 | .827 | .837 | .849 | .863 | .878 | .894 | .915 | .933 | .952 | .970 | .989 | .007 |
| 15   | .65  | .64  | .62  | .61  | .60  | .59  | .59  | .58  | .58  | .58  | .59  | .59  | .60  | .60  | .61  | .62  | .63  | .64  | .66  | .67  | .68  | .69  | .71  | .72  |
|      | .874 | .853 | .834 | .817 | .803 | .792 | .782 | .776 | .773 | .773 | .776 | .781 | .789 | .799 | .811 | .824 | .839 | .855 | .876 | .893 | .911 | .929 | .947 | .964 |
| 30   | .61  | .60  | .59  | .58  | .57  | .56  | .55  | .55  | .55  | .55  | .55  | .56  | .56  | .57  | .58  | .59  | .60  | .61  | .63  | .64  | .65  | .66  | .67  | .68  |
|      | .826 | .806 | .787 | .771 | .758 | .747 | .737 | .732 | .730 | .730 | .733 | .739 | .747 | .756 | .768 | .782 | .796 | .812 | .832 | .849 | .865 | .883 | .900 | .917 |
| 45   | .58  | .56  | .55  | .54  | .53  | .52  | .52  | .52  | .51  | .52  | .52  | .52  | .53  | .54  | .55  | .55  | .57  | .58  | .59  | .60  | .61  | .62  | .63  | .64  |
|      | .775 | .755 | .737 | .721 | .708 | .698 | .689 | .684 | .682 | .683 | .685 | .692 | .700 | .710 | .722 | .735 | .749 | .765 | .784 | .800 | .817 | .833 | .850 | .865 |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY -

TABLE 8-1 SOLAR PARAMETERS  
COS Z  
X0 (W/M\*2.)

MAY-AUG 20 S

MST

DATE

|      | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |
| 1500 | .54 | .52 | .51 | .50 | .49 | .48 | .48 | .48 | .48 | .48 | .49 | .50 | .51 | .52 | .53 | .54 | .55 | .56 | .57 | .58 |
|      | 720 | 700 | 683 | 667 | 655 | 645 | 637 | 633 | 631 | 632 | 636 | 642 | 650 | 660 | 671 | 684 | 698 | 713 | 732 | 743 |
| 15   | .49 | .48 | .47 | .46 | .45 | .44 | .44 | .44 | .44 | .44 | .44 | .44 | .45 | .46 | .47 | .48 | .49 | .50 | .51 | .52 |
|      | 661 | 642 | 625 | 610 | 598 | 589 | 581 | 577 | 577 | 578 | 582 | 588 | 596 | 606 | 617 | 630 | 644 | 658 | 676 | 692 |
| 30   | .45 | .43 | .42 | .41 | .40 | .40 | .39 | .39 | .39 | .39 | .40 | .40 | .41 | .41 | .42 | .43 | .44 | .45 | .46 | .47 |
|      | 599 | 580 | 564 | 550 | 538 | 529 | 522 | 519 | 519 | 520 | 525 | 531 | 539 | 549 | 560 | 573 | 586 | 600 | 617 | 632 |
| 45   | .40 | .38 | .37 | .36 | .36 | .35 | .35 | .35 | .35 | .35 | .35 | .36 | .36 | .37 | .38 | .39 | .40 | .41 | .42 | .43 |
|      | 533 | 515 | 499 | 486 | 475 | 467 | 461 | 458 | 458 | 460 | 454 | 471 | 479 | 489 | 500 | 512 | 525 | 538 | 555 | 563 |
| 1600 | .35 | .33 | .32 | .31 | .31 | .30 | .30 | .30 | .30 | .30 | .31 | .31 | .31 | .32 | .33 | .34 | .35 | .36 | .37 | .38 |
|      | 465 | 448 | 432 | 420 | 409 | 402 | 396 | 394 | 394 | 397 | 401 | 408 | 416 | 426 | 436 | 448 | 461 | 474 | 490 | 503 |
| 15   | .29 | .28 | .27 | .26 | .26 | .25 | .25 | .25 | .25 | .25 | .26 | .26 | .27 | .27 | .28 | .29 | .30 | .31 | .32 | .33 |
|      | 394 | 377 | 363 | 351 | 341 | 334 | 329 | 327 | 328 | 331 | 336 | 342 | 350 | 360 | 371 | 382 | 394 | 407 | 422 | 434 |
| 30   | .24 | .23 | .22 | .21 | .20 | .20 | .20 | .20 | .20 | .20 | .21 | .21 | .21 | .22 | .23 | .24 | .25 | .25 | .26 | .27 |
|      | 321 | 305 | 291 | 280 | 271 | 265 | 260 | 259 | 260 | 263 | 268 | 275 | 283 | 292 | 302 | 314 | 325 | 337 | 352 | 363 |
| 45   | .18 | .17 | .16 | .16 | .15 | .15 | .14 | .14 | .14 | .15 | .15 | .16 | .16 | .17 | .18 | .18 | .19 | .20 | .21 | .22 |
|      | 246 | 231 | 218 | 207 | 199 | 193 | 189 | 188 | 190 | 193 | 198 | 205 | 213 | 222 | 232 | 243 | 254 | 266 | 279 | 290 |
| 1700 | .13 | .12 | .11 | .10 | .09 | .09 | .09 | .09 | .09 | .09 | .10 | .10 | .11 | .11 | .12 | .13 | .14 | .15 | .15 | .16 |
|      | 170 | 155 | 143 | 133 | 125 | 120 | 117 | 116 | 118 | 122 | 127 | 134 | 142 | 151 | 160 | 171 | 181 | 192 | 205 | 215 |
| 15   | .07 | .06 | .05 | .04 | .04 | .03 | .03 | .03 | .03 | .04 | .04 | .05 | .05 | .06 | .07 | .07 | .08 | .09 | .10 | .10 |
|      | 092 | 078 | 066 | 057 | 050 | 046 | 043 | 043 | 045 | 049 | 054 | 061 | 069 | 078 | 087 | 097 | 107 | 117 | 129 | 139 |
| 30   | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .02 | .03 | .04 | .05 |
|      | 014 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 004 | 013 | 022 | 032 | 041 | 053 | 061 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

MAY-AUG

20 S

TABLE B-1

SOLAR PARAMETERS

COS Z

XO (W/M\*2.)

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     |     |     | OCT |     |     |     |     |     | NOV |     |     |     |     |     | DEC |     |     |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 0600 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .02  | .04 | .06 | .08 | .10 | .12 | .14 | .15 | .17 | .18 | .19 | .20 | .21 | .22 | .22 | .23 | .23 | .22 | .21 | .22 | .22 | .21 | .20 | .19 |
|      | 032  | 057 | 083 | 110 | 136 | 162 | 187 | 210 | 232 | 252 | 269 | 284 | 298 | 307 | 313 | 316 | 317 | 315 | 310 | 303 | 295 | 284 | 272 | 258 |
| 30   | .08  | .10 | .12 | .14 | .16 | .18 | .20 | .21 | .23 | .24 | .25 | .26 | .27 | .28 | .28 | .28 | .28 | .28 | .28 | .27 | .27 | .27 | .26 | .25 |
|      | 114  | 140 | 166 | 193 | 219 | 245 | 270 | 293 | 315 | 334 | 352 | 366 | 380 | 388 | 394 | 397 | 397 | 394 | 390 | 383 | 374 | 363 | 351 | 338 |
| 45   | .15  | .16 | .18 | .20 | .22 | .24 | .26 | .27 | .29 | .30 | .31 | .32 | .33 | .34 | .34 | .34 | .34 | .34 | .33 | .33 | .32 | .31 | .30 | .30 |
|      | 195  | 221 | 248 | 275 | 301 | 327 | 352 | 375 | 397 | 416 | 433 | 447 | 460 | 468 | 473 | 476 | 476 | 473 | 468 | 461 | 452 | 442 | 430 | 417 |
| 0700 | .20  | .22 | .24 | .26 | .28 | .30 | .32 | .33 | .35 | .36 | .37 | .38 | .39 | .39 | .39 | .40 | .39 | .39 | .39 | .38 | .38 | .37 | .36 | .35 |
|      | 275  | 301 | 328 | 355 | 382 | 408 | 433 | 456 | 477 | 496 | 512 | 526 | 539 | 547 | 552 | 554 | 553 | 551 | 546 | 538 | 530 | 520 | 508 | 495 |
| 15   | .26  | .28 | .30 | .32 | .34 | .36 | .37 | .39 | .40 | .42 | .43 | .43 | .44 | .45 | .45 | .45 | .45 | .45 | .44 | .44 | .43 | .42 | .41 | .40 |
|      | 354  | 380 | 408 | 435 | 461 | 487 | 512 | 535 | 556 | 574 | 590 | 604 | 616 | 624 | 628 | 630 | 630 | 627 | 622 | 615 | 608 | 596 | 584 | 572 |
| 30   | .32  | .34 | .36 | .38 | .40 | .41 | .43 | .45 | .46 | .47 | .48 | .49 | .50 | .50 | .50 | .50 | .50 | .50 | .49 | .49 | .48 | .47 | .47 | .46 |
|      | 430  | 457 | 485 | 512 | 539 | 565 | 589 | 612 | 632 | 651 | 666 | 679 | 691 | 698 | 703 | 704 | 704 | 701 | 696 | 689 | 680 | 670 | 659 | 647 |
| 45   | .38  | .39 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .54 | .55 | .55 | .55 | .55 | .55 | .55 | .54 | .54 | .53 | .53 | .52 | .51 |
|      | 505  | 532 | 560 | 587 | 614 | 639 | 664 | 686 | 706 | 724 | 740 | 752 | 764 | 771 | 775 | 776 | 775 | 772 | 767 | 760 | 752 | 742 | 732 | 720 |

SEP-DEC 20 S TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIEES COS Z = 1.  
X0 (W/M\*2.) ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0800 | .43 | .45 | .47 | .49 | .50 | .52 | .54 | .55 | .56 | .58 | .58  | .59 | .60 | .60 | .60 | .60 | .60 | .60 | .59 | .59 | .58 | .57 | .57 | .56 |  |
|      | 577 | 605 | 632 | 660 | 686 | 712 | 736 | 758 | 778 | 795 | 810  | 823 | 834 | 841 | 844 | 846 | 845 | 842 | 837 | 830 | 822 | 812 | 802 | 791 |  |
| 15   | .48 | .50 | .52 | .54 | .55 | .57 | .59 | .60 | .61 | .62 | .63  | .64 | .65 | .65 | .65 | .65 | .65 | .65 | .64 | .64 | .63 | .62 | .62 | .61 |  |
|      | 647 | 674 | 702 | 729 | 756 | 781 | 805 | 826 | 846 | 863 | 878  | 890 | 901 | 907 | 911 | 912 | 911 | 908 | 903 | 897 | 883 | 880 | 870 | 860 |  |
| 30   | .53 | .55 | .57 | .59 | .60 | .62 | .64 | .65 | .66 | .67 | .68  | .69 | .69 | .69 | .70 | .70 | .69 | .69 | .69 | .69 | .67 | .67 | .66 | .65 |  |
|      | 714 | 741 | 769 | 796 | 822 | 847 | 870 | 892 | 911 | 928 | 942  | 954 | 965 | 971 | 974 | 975 | 974 | 971 | 966 | 960 | 953 | 944 | 935 | 925 |  |
| 45   | .58 | .60 | .61 | .63 | .65 | .67 | .68 | .69 | .71 | .72 | .72  | .73 | .74 | .74 | .74 | .74 | .74 | .73 | .73 | .72 | .72 | .71 | .70 | .70 |  |
|      | 777 | 804 | 832 | 859 | 885 | 909 | 932 | 953 | 972 | 989 | 003  | 014 | 025 | 030 | 034 | 035 | 034 | 031 | 026 | 021 | 013 | 005 | 997 | 987 |  |
| 0900 | .62 | .64 | .66 | .68 | .69 | .71 | .72 | .74 | .75 | .76 | .76  | .77 | .78 | .78 | .78 | .78 | .78 | .77 | .77 | .76 | .75 | .75 | .75 | .74 |  |
|      | 837 | 864 | 891 | 918 | 944 | 968 | 991 | 011 | 030 | 046 | 060  | 071 | 081 | 086 | 090 | 091 | 090 | 087 | 083 | 077 | 071 | 063 | 055 | 046 |  |
| 15   | .66 | .68 | .70 | .72 | .73 | .75 | .76 | .78 | .79 | .80 | .80  | .81 | .81 | .82 | .82 | .81 | .81 | .81 | .81 | .80 | .80 | .79 | .78 | .78 |  |
|      | 893 | 920 | 947 | 973 | 998 | 022 | 045 | 065 | 083 | 099 | 112  | 123 | 133 | 138 | 142 | 143 | 142 | 139 | 135 | 130 | 124 | 117 | 110 | 102 |  |
| 30   | .70 | .72 | .74 | .75 | .77 | .79 | .80 | .81 | .82 | .83 | .84  | .84 | .85 | .85 | .85 | .85 | .85 | .84 | .84 | .84 | .83 | .83 | .82 | .81 |  |
|      | 944 | 971 | 998 | 024 | 049 | 073 | 095 | 115 | 132 | 148 | 161  | 171 | 181 | 186 | 189 | 190 | 190 | 188 | 184 | 179 | 174 | 167 | 160 | 153 |  |
| 45   | .74 | .75 | .77 | .79 | .80 | .82 | .83 | .84 | .85 | .86 | .87  | .87 | .88 | .88 | .88 | .88 | .88 | .87 | .87 | .87 | .86 | .86 | .85 | .85 |  |
|      | 992 | 019 | 045 | 071 | 095 | 119 | 140 | 159 | 177 | 192 | 204  | 215 | 224 | 229 | 232 | 234 | 233 | 231 | 228 | 224 | 219 | 213 | 207 | 200 |  |
| 1000 | .77 | .79 | .80 | .82 | .83 | .85 | .86 | .87 | .88 | .89 | .90  | .90 | .91 | .91 | .91 | .91 | .91 | .90 | .90 | .90 | .89 | .89 | .88 | .88 |  |
|      | 035 | 061 | 088 | 113 | 137 | 160 | 181 | 200 | 216 | 231 | 243  | 253 | 263 | 268 | 271 | 272 | 272 | 271 | 268 | 264 | 260 | 255 | 249 | 243 |  |
| 15   | .80 | .81 | .83 | .85 | .86 | .88 | .89 | .90 | .91 | .92 | .92  | .93 | .93 | .93 | .93 | .93 | .93 | .93 | .92 | .92 | .92 | .91 | .91 | .91 |  |
|      | 073 | 099 | 125 | 150 | 174 | 196 | 216 | 235 | 251 | 265 | 278  | 287 | 296 | 302 | 305 | 306 | 306 | 305 | 303 | 300 | 296 | 291 | 287 | 282 |  |
| 30   | .82 | .84 | .85 | .87 | .88 | .90 | .91 | .92 | .93 | .94 | .94  | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .94 | .94 | .94 | .93 | .93 |  |
|      | 107 | 133 | 158 | 182 | 205 | 227 | 247 | 265 | 281 | 295 | 307  | 316 | 325 | 330 | 334 | 335 | 336 | 335 | 333 | 331 | 327 | 324 | 320 | 315 |  |
| 45   | .84 | .86 | .87 | .89 | .90 | .92 | .93 | .94 | .95 | .95 | .96  | .96 | .97 | .97 | .97 | .97 | .97 | .97 | .96 | .96 | .96 | .96 | .95 | .95 |  |
|      | 135 | 161 | 185 | 209 | 232 | 253 | 272 | 290 | 305 | 319 | 330  | 340 | 349 | 354 | 357 | 359 | 360 | 360 | 359 | 357 | 354 | 351 | 348 | 344 |  |

SEP-DEC 20 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |      |
| 1100 | .86  | .88  | .89  | .91  | .92  | .93  | .94  | .95  | .96  | .97  | .97  | .98  | .93  | .98  | .98  | .98  | .98  | .98  | .98  | .98  | .97  | .97  | .97  | .97  | .97  |
|      | *159 | *184 | *208 | *231 | *253 | *274 | *292 | *310 | *325 | *338 | *349 | *358 | *367 | *372 | *376 | *378 | *379 | *380 | *380 | *385 | *389 | *392 | *391 | *389 | *387 |
| 15   | .87  | .89  | .90  | .92  | .93  | .94  | .95  | .96  | .97  | .98  | .98  | .99  | .94  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .98  | .98  | .98  | .98  |
|      | *177 | *201 | *225 | *248 | *269 | *289 | *307 | *324 | *338 | *351 | *362 | *371 | *380 | *385 | *389 | *392 | *394 | *394 | *394 | *394 | *394 | *394 | *394 | *394 | *394 |
| 30   | .88  | .90  | .91  | .93  | .94  | .95  | .96  | .97  | .98  | .98  | .99  | .99  | .96  | .97  | .98  | .98  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  |
|      | *190 | *214 | *237 | *259 | *280 | *299 | *317 | *333 | *347 | *359 | *370 | *379 | *388 | *393 | *397 | *400 | *402 | *404 | *404 | *404 | *404 | *404 | *403 | *402 | *401 |
| 45   | .89  | .90  | .92  | .93  | .94  | .95  | .96  | .97  | .98  | .99  | .99  | .99  | .96  | .97  | .98  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  |
|      | *198 | *221 | *243 | *264 | *285 | *303 | *320 | *336 | *350 | *362 | *372 | *381 | *390 | *396 | *400 | *403 | *406 | *408 | *408 | *408 | *408 | *408 | *408 | *408 | *408 |
| 1200 | .89  | .90  | .92  | .93  | .94  | .95  | .96  | .97  | .98  | .98  | .99  | .99  | .96  | .97  | .98  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  |
|      | *200 | *222 | *244 | *265 | *284 | *302 | *319 | *334 | *347 | *359 | *369 | *378 | *387 | *393 | *397 | *401 | *404 | *407 | *407 | *407 | *407 | *407 | *407 | *407 | *407 |
| 15   | .89  | .90  | .91  | .93  | .94  | .95  | .96  | .96  | .97  | .98  | .98  | .99  | .96  | .96  | .97  | .98  | .98  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  |
|      | *197 | *218 | *239 | *259 | *278 | *296 | *312 | *326 | *339 | *351 | *361 | *369 | *378 | *384 | *389 | *394 | *397 | *400 | *400 | *400 | *400 | *400 | *400 | *400 | *400 |
| 30   | .88  | .89  | .91  | .92  | .93  | .94  | .95  | .96  | .96  | .97  | .97  | .98  | .95  | .96  | .96  | .97  | .98  | .99  | .99  | .99  | .99  | .99  | .99  | .99  | .99  |
|      | *188 | *209 | *229 | *249 | *267 | *284 | *299 | *313 | *326 | *337 | *347 | *355 | *364 | *371 | *376 | *381 | *385 | *388 | *388 | *388 | *388 | *388 | *388 | *388 | *388 |
| 45   | .87  | .88  | .90  | .91  | .92  | .93  | .93  | .94  | .95  | .95  | .96  | .96  | .93  | .94  | .95  | .96  | .96  | .97  | .97  | .97  | .97  | .97  | .97  | .97  | .97  |
|      | *174 | *195 | *214 | *233 | *250 | *266 | *281 | *294 | *307 | *318 | *327 | *336 | *345 | *352 | *357 | *363 | *367 | *372 | *372 | *372 | *372 | *372 | *372 | *372 | *372 |
| 1300 | .86  | .87  | .88  | .89  | .90  | .91  | .92  | .92  | .93  | .94  | .94  | .94  | .92  | .92  | .93  | .94  | .94  | .96  | .96  | .96  | .96  | .96  | .96  | .96  | .96  |
|      | *155 | *175 | *193 | *211 | *228 | *243 | *259 | *271 | *282 | *293 | *303 | *311 | *321 | *327 | *334 | *339 | *345 | *350 | *350 | *350 | *350 | *350 | *350 | *350 | *350 |
| 15   | .84  | .85  | .86  | .87  | .88  | .89  | .90  | .90  | .91  | .91  | .92  | .92  | .90  | .90  | .91  | .91  | .92  | .94  | .94  | .94  | .94  | .94  | .94  | .94  | .94  |
|      | *131 | *150 | *168 | *185 | *201 | *215 | *229 | *242 | *253 | *263 | *273 | *282 | *291 | *298 | *305 | *311 | *317 | *323 | *323 | *323 | *323 | *323 | *323 | *323 | *323 |
| 30   | .82  | .83  | .84  | .85  | .86  | .87  | .87  | .88  | .88  | .89  | .89  | .90  | .87  | .88  | .88  | .89  | .89  | .90  | .92  | .92  | .92  | .92  | .92  | .92  | .92  |
|      | *101 | *119 | *137 | *153 | *168 | *182 | *195 | *207 | *218 | *229 | *238 | *247 | *257 | *264 | *271 | *278 | *284 | *291 | *291 | *291 | *291 | *291 | *291 | *291 | *291 |
| 45   | .79  | .80  | .81  | .82  | .83  | .84  | .84  | .85  | .86  | .86  | .86  | .87  | .84  | .85  | .86  | .86  | .87  | .89  | .89  | .89  | .89  | .89  | .89  | .89  | .89  |
|      | *067 | *084 | *101 | *116 | *131 | *144 | *157 | *168 | *179 | *189 | *198 | *207 | *217 | *225 | *233 | *240 | *247 | *254 | *254 | *254 | *254 | *254 | *254 | *254 | *254 |

SEP-DEC 20 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP  |      |      |      |      | OCT  |      |      |      |      | DATE |      |      |      |      | NOV  |      |      |      |      | DEC  |      |      |      |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|      | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |
| 1400 | .76  | .77  | .78  | .79  | .80  | .81  | .81  | .82  | .82  | .83  | .83  | .84  | .84  | .85  | .85  | .85  | .86  | .86  | .87  | .87  | .87  | .88  | .88  | .89  |  |
|      | .028 | .044 | .060 | .075 | .088 | .101 | .113 | .124 | .135 | .145 | .154 | .163 | .173 | .181 | .189 | .197 | .205 | .213 | .220 | .223 | .235 | .243 | .250 | .256 |  |
| 15   | .73  | .74  | .75  | .76  | .76  | .77  | .78  | .78  | .79  | .79  | .80  | .80  | .81  | .81  | .82  | .82  | .82  | .83  | .83  | .84  | .84  | .85  | .85  | .86  |  |
|      | .984 | .999 | .014 | .028 | .041 | .054 | .065 | .076 | .086 | .096 | .105 | .114 | .125 | .133 | .142 | .150 | .159 | .167 | .175 | .184 | .192 | .200 | .207 | .214 |  |
| 30   | .69  | .70  | .71  | .72  | .73  | .73  | .74  | .74  | .75  | .75  | .76  | .76  | .77  | .77  | .78  | .78  | .79  | .79  | .80  | .80  | .81  | .82  | .82  | .83  |  |
|      | .935 | .950 | .964 | .978 | .990 | .002 | .013 | .023 | .033 | .043 | .052 | .061 | .072 | .081 | .090 | .099 | .108 | .117 | .126 | .135 | .144 | .153 | .161 | .169 |  |
| 45   | .66  | .66  | .67  | .68  | .69  | .69  | .70  | .70  | .71  | .71  | .72  | .72  | .73  | .73  | .74  | .74  | .75  | .76  | .76  | .77  | .77  | .78  | .78  | .79  |  |
|      | .883 | .897 | .910 | .923 | .934 | .945 | .956 | .966 | .976 | .985 | .995 | .004 | .015 | .024 | .034 | .044 | .053 | .063 | .073 | .083 | .092 | .101 | .110 | .118 |  |
| 1500 | .61  | .62  | .63  | .64  | .64  | .65  | .65  | .66  | .66  | .67  | .67  | .68  | .68  | .69  | .70  | .70  | .71  | .71  | .72  | .73  | .73  | .74  | .75  | .75  |  |
|      | .826 | .840 | .852 | .864 | .875 | .885 | .895 | .905 | .915 | .924 | .933 | .943 | .954 | .964 | .974 | .985 | .995 | .005 | .016 | .025 | .034 | .046 | .056 | .064 |  |
| 15   | .57  | .58  | .58  | .59  | .60  | .60  | .61  | .61  | .62  | .62  | .63  | .63  | .64  | .64  | .65  | .66  | .66  | .67  | .68  | .63  | .69  | .70  | .71  | .71  |  |
|      | .766 | .778 | .790 | .801 | .811 | .821 | .831 | .840 | .850 | .859 | .863 | .878 | .890 | .900 | .911 | .922 | .933 | .944 | .955 | .966 | .977 | .988 | .997 | .007 |  |
| 30   | .52  | .53  | .53  | .54  | .55  | .55  | .56  | .56  | .57  | .57  | .58  | .58  | .59  | .60  | .60  | .61  | .62  | .62  | .63  | .64  | .65  | .65  | .66  | .67  |  |
|      | .702 | .714 | .725 | .735 | .745 | .754 | .763 | .772 | .782 | .791 | .800 | .810 | .823 | .833 | .845 | .856 | .868 | .879 | .891 | .903 | .914 | .925 | .936 | .945 |  |
| 45   | .47  | .48  | .48  | .49  | .50  | .50  | .51  | .51  | .52  | .52  | .53  | .53  | .54  | .55  | .55  | .56  | .57  | .58  | .58  | .59  | .60  | .61  | .62  | .62  |  |
|      | .635 | .646 | .656 | .666 | .675 | .684 | .693 | .701 | .710 | .720 | .729 | .740 | .752 | .764 | .775 | .787 | .799 | .812 | .824 | .837 | .848 | .860 | .871 | .881 |  |
| 1600 | .42  | .43  | .43  | .44  | .44  | .45  | .45  | .46  | .46  | .47  | .47  | .48  | .49  | .49  | .50  | .51  | .52  | .53  | .54  | .54  | .55  | .56  | .57  | .57  |  |
|      | .565 | .575 | .584 | .593 | .602 | .610 | .619 | .628 | .636 | .646 | .656 | .666 | .679 | .691 | .703 | .716 | .728 | .741 | .754 | .767 | .780 | .792 | .803 | .813 |  |
| 15   | .37  | .37  | .38  | .38  | .39  | .39  | .40  | .40  | .41  | .41  | .42  | .42  | .43  | .44  | .45  | .46  | .47  | .48  | .48  | .49  | .50  | .51  | .52  | .53  |  |
|      | .492 | .501 | .510 | .518 | .527 | .535 | .543 | .551 | .560 | .569 | .579 | .590 | .604 | .616 | .628 | .642 | .655 | .669 | .682 | .695 | .709 | .721 | .733 | .743 |  |
| 30   | .31  | .32  | .32  | .33  | .33  | .33  | .34  | .34  | .35  | .36  | .36  | .37  | .38  | .39  | .39  | .40  | .41  | .42  | .43  | .44  | .45  | .46  | .47  | .47  |  |
|      | .417 | .425 | .434 | .441 | .449 | .457 | .465 | .473 | .482 | .491 | .501 | .512 | .525 | .539 | .552 | .566 | .580 | .594 | .608 | .622 | .635 | .648 | .660 | .671 |  |
| 45   | .25  | .26  | .26  | .27  | .27  | .28  | .28  | .29  | .29  | .30  | .30  | .31  | .32  | .33  | .34  | .35  | .36  | .37  | .38  | .39  | .40  | .41  | .41  | .42  |  |
|      | .340 | .348 | .355 | .362 | .369 | .377 | .384 | .393 | .401 | .411 | .421 | .432 | .447 | .460 | .474 | .488 | .502 | .517 | .532 | .546 | .560 | .573 | .585 | .596 |  |

SEP-DEC 20 S      TABLE 8-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     |     | OCT |     |     |     | NOV |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1700 | .19  | .20 | .20 | .21 | .21 | .22 | .22 | .23 | .23 | .24 | .25 | .25 |
|      | 261  | 268 | 275 | 282 | 288 | 295 | 303 | 311 | 320 | 329 | 340 | 351 |
| 15   | .13  | .14 | .14 | .15 | .15 | .16 | .16 | .17 | .17 | .18 | .19 | .19 |
|      | 181  | 187 | 193 | 200 | 206 | 213 | 220 | 228 | 237 | 247 | 257 | 269 |
| 30   | .07  | .08 | .08 | .09 | .09 | .10 | .10 | .11 | .11 | .12 | .13 | .13 |
|      | 099  | 105 | 111 | 117 | 123 | 129 | 136 | 144 | 153 | 163 | 174 | 186 |
| 45   | .01  | .02 | .02 | .03 | .03 | .03 | .04 | .04 | .05 | .06 | .07 | .07 |
|      | 017  | 023 | 028 | 033 | 039 | 045 | 052 | 060 | 069 | 079 | 091 | 103 |
| 1800 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 007 | 020 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
XO (W/M\*\*2.)

COS Z

TABLE B-1

20 S

SEP-DEC



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0400 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .02  | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 022  | 009 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 0500 | .06  | .05 | .04 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 084  | 071 | 052 | 031 | 007 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .10  | .10 | .08 | .07 | .05 | .03 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 148  | 134 | 115 | 094 | 071 | 047 | 021 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .15  | .14 | .13 | .11 | .10 | .08 | .06 | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 212  | 199 | 180 | 159 | 136 | 112 | 087 | 055 | 028 | 002 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .20  | .19 | .17 | .16 | .14 | .13 | .11 | .09 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 277  | 264 | 245 | 225 | 202 | 178 | 153 | 122 | 095 | 069 | 043 | 016 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 0600 | .24  | .23 | .22 | .21 | .19 | .17 | .16 | .14 | .12 | .10 | .08 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 |
|      | 342  | 329 | 311 | 290 | 268 | 245 | 220 | 190 | 164 | 137 | 111 | 085 | 044 | 019 | 000 | 000 | 000 | 000 | 000 |
| 15   | .29  | .28 | .27 | .25 | .24 | .22 | .20 | .18 | .17 | .15 | .13 | .11 | .03 | .06 | .05 | .03 | .01 | .00 | .00 |
|      | 407  | 394 | 376 | 356 | 335 | 312 | 288 | 257 | 232 | 206 | 180 | 154 | 114 | 089 | 064 | 041 | 017 | 000 | 000 |
| 30   | .33  | .33 | .31 | .30 | .28 | .27 | .25 | .23 | .21 | .20 | .18 | .16 | .13 | .11 | .10 | .08 | .06 | .05 | .00 |
|      | 472  | 460 | 442 | 422 | 401 | 379 | 355 | 325 | 300 | 274 | 249 | 223 | 183 | 156 | 134 | 110 | 086 | 063 | 000 |
| 45   | .38  | .37 | .36 | .35 | .33 | .32 | .30 | .28 | .26 | .24 | .23 | .21 | .18 | .16 | .15 | .13 | .11 | .10 | .00 |
|      | 537  | 525 | 507 | 488 | 467 | 445 | 422 | 393 | 368 | 343 | 317 | 292 | 252 | 227 | 203 | 178 | 154 | 131 | 000 |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
X0 (W/M\*\*2.)

TABLE B-1

40 S

JAN-APR

| MST  | DATE                                                        |                                             |                                                    |                                                    |    |    |     |   |    |     |    |    |
|------|-------------------------------------------------------------|---------------------------------------------|----------------------------------------------------|----------------------------------------------------|----|----|-----|---|----|-----|----|----|
|      | JAN                                                         |                                             |                                                    | FEB                                                |    |    | MAR |   |    | APR |    |    |
|      | 1                                                           | 5                                           | 10                                                 | 15                                                 | 20 | 25 | 30  | 5 | 10 | 15  | 20 | 25 |
| 0700 | .42 .42 .40 .39 .38 .36 .35<br>601 589 572 553 533 511 488  | .33 .31 .29 .28 .26<br>459 435 410 385 360  | .23 .21 .20 .18 .16 .14<br>320 295 271 246 222 198 | .12 .11 .09 .07 .06 .04<br>169 143 122 099 077 054 |    |    |     |   |    |     |    |    |
| 15   | .47 .46 .45 .44 .42 .41 .39<br>663 652 635 617 597 576 553  | .37 .36 .34 .32 .31<br>525 501 477 452 427  | .28 .26 .24 .23 .21 .19<br>387 363 338 313 289 264 | .17 .15 .14 .12 .10 .09<br>235 211 187 163 140 117 |    |    |     |   |    |     |    |    |
| 30   | .51 .50 .49 .48 .47 .45 .44<br>725 713 697 680 660 639 618  | .42 .40 .39 .37 .35<br>590 567 542 518 493  | .33 .31 .29 .27 .26 .24<br>453 429 404 379 354 329 | .22 .20 .18 .17 .15 .13<br>299 274 250 225 201 178 |    |    |     |   |    |     |    |    |
| 45   | .55 .55 .54 .52 .51 .50 .48<br>785 774 758 741 722 702 680  | .46 .45 .43 .42 .40<br>653 630 606 582 558  | .37 .36 .34 .32 .30 .29<br>518 493 468 443 417 392 | .26 .25 .23 .21 .19 .18<br>362 336 311 286 261 237 |    |    |     |   |    |     |    |    |
| 0800 | .60 .59 .58 .57 .55 .54 .53<br>843 832 817 800 782 762 741  | .51 .49 .48 .46 .44<br>715 692 669 645 620  | .42 .40 .38 .37 .35 .33<br>581 556 530 505 479 453 | .31 .29 .27 .25 .24 .22<br>422 396 370 345 319 295 |    |    |     |   |    |     |    |    |
| 15   | .64 .63 .62 .61 .59 .58 .57<br>899 888 874 858 840 821 800  | .55 .54 .52 .50 .49<br>775 752 729 705 681  | .46 .44 .43 .41 .39 .37<br>642 616 591 565 539 512 | .35 .33 .31 .30 .28 .26<br>481 454 428 401 375 350 |    |    |     |   |    |     |    |    |
| 30   | .67 .67 .66 .65 .63 .62 .61<br>952 942 928 913 896 877 857  | .59 .58 .56 .55 .53<br>832 810 787 764 740  | .50 .49 .47 .45 .43 .42<br>700 675 649 622 596 569 | .39 .37 .35 .34 .32 .30<br>537 503 482 455 429 402 |    |    |     |   |    |     |    |    |
| 45   | .71 .70 .69 .68 .67 .66 .65<br>*003 994 981 966 949 931 912 | .63 .62 .60 .59 .57<br>887 865 843 820 796  | .54 .53 .51 .49 .47 .45<br>756 730 704 677 650 623 | .43 .41 .39 .37 .35 .34<br>590 562 534 507 479 453 |    |    |     |   |    |     |    |    |
| 0900 | .74 .74 .73 .72 .71 .70 .68<br>*052*043*030*015 999 982 963 | .67 .65 .64 .62 .61<br>939 918 896 873 849  | .58 .56 .55 .53 .51 .49<br>809 783 757 730 702 674 | .47 .45 .43 .41 .39 .37<br>640 612 583 555 527 500 |    |    |     |   |    |     |    |    |
| 15   | .78 .77 .76 .75 .74 .73 .72<br>*097*089*076*063*047*030*012 | .70 .69 .67 .66 .64<br>988 968 946 923 899  | .62 .60 .58 .56 .55 .53<br>859 833 806 779 751 722 | .50 .49 .47 .45 .44 .42<br>688 659 629 600 572 544 |    |    |     |   |    |     |    |    |
| 30   | .81 .80 .79 .78 .77 .76 .75<br>*139*131*120*106*092*075*058 | .74 .72 .71 .69 .68<br>*035*014 992 969 946 | .65 .63 .62 .60 .58 .56<br>905 879 852 824 796 767 | .54 .51 .49 .47 .45 .43<br>732 702 672 643 613 585 |    |    |     |   |    |     |    |    |
| 45   | .83 .83 .82 .81 .80 .79 .78<br>*178*171*160*147*133*117*100 | .77 .75 .74 .72 .71<br>*077*057*036*013 989 | .68 .66 .65 .63 .61 .59<br>949 922 895 867 838 808 | .56 .54 .52 .50 .48 .46<br>772 742 711 681 651 622 |    |    |     |   |    |     |    |    |

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY +

SOLAR PARAMETERS  
X0 (W/M\*\*2.)

TABLE B-1  
COS Z

40 S

JAN-APR

| MST  | JAN                          |   |    |    |    | FEB |    |                      |    |    | DATE |    |    |                          |    | MAR |    |    |    |                         | APR |    |    |    |    |  |  |  |
|------|------------------------------|---|----|----|----|-----|----|----------------------|----|----|------|----|----|--------------------------|----|-----|----|----|----|-------------------------|-----|----|----|----|----|--|--|--|
|      | 1                            | 5 | 10 | 15 | 20 | 25  | 30 | 5                    | 10 | 15 | 20   | 25 | 30 | 5                        | 10 | 15  | 20 | 25 | 30 | 5                       | 10  | 15 | 20 | 25 | 30 |  |  |  |
| 1000 | .86 .85 .85 .84 .83 .82 .81  |   |    |    |    |     |    | .79 .78 .77 .75 .74  |    |    |      |    |    | .71 .69 .68 .66 .64 .62  |    |     |    |    |    | .59 .57 .55 .53 .51 .49 |     |    |    |    |    |  |  |  |
|      | *213*206*196*184*170*155*138 |   |    |    |    |     |    | *116*097*075*053*029 |    |    |      |    |    | 983 962 934 905 876 846  |    |     |    |    |    | 809 778 747 716 686 656 |     |    |    |    |    |  |  |  |
| 15   | .88 .88 .87 .86 .85 .84 .83  |   |    |    |    |     |    | .82 .81 .79 .78 .76  |    |    |      |    |    | .74 .72 .70 .68 .66 .64  |    |     |    |    |    | .62 .53 .57 .55 .53 .51 |     |    |    |    |    |  |  |  |
|      | *245*238*229*217*204*190*174 |   |    |    |    |     |    | *152*132*111*089*065 |    |    |      |    |    | *024 997 969 940 910 879 |    |     |    |    |    | 842 810 779 747 716 686 |     |    |    |    |    |  |  |  |
| 30   | .90 .90 .89 .88 .87 .86 .85  |   |    |    |    |     |    | .84 .83 .82 .80 .79  |    |    |      |    |    | .75 .74 .72 .70 .68 .66  |    |     |    |    |    | .64 .62 .59 .57 .55 .53 |     |    |    |    |    |  |  |  |
|      | *273*267*258*247*235*221*205 |   |    |    |    |     |    | *184*164*143*121*097 |    |    |      |    |    | *056*029*000 971 940 909 |    |     |    |    |    | 871 833 806 774 743 713 |     |    |    |    |    |  |  |  |
| 45   | .92 .91 .91 .90 .89 .88 .87  |   |    |    |    |     |    | .86 .85 .84 .82 .81  |    |    |      |    |    | .78 .76 .74 .72 .70 .68  |    |     |    |    |    | .66 .63 .61 .59 .57 .55 |     |    |    |    |    |  |  |  |
|      | *297*291*283*273*261*247*232 |   |    |    |    |     |    | *211*192*172*149*125 |    |    |      |    |    | *084*056*027 997 966 934 |    |     |    |    |    | 896 863 830 798 766 735 |     |    |    |    |    |  |  |  |
| 1100 | .93 .93 .92 .92 .91 .90 .89  |   |    |    |    |     |    | .88 .87 .85 .84 .82  |    |    |      |    |    | .80 .78 .76 .74 .72 .70  |    |     |    |    |    | .67 .65 .63 .60 .58 .56 |     |    |    |    |    |  |  |  |
|      | *317*312*304*294*283*270*255 |   |    |    |    |     |    | *235*216*196*173*149 |    |    |      |    |    | *108*080*050*020 988 956 |    |     |    |    |    | 916 883 850 817 784 753 |     |    |    |    |    |  |  |  |
| 15   | .94 .94 .93 .93 .92 .91 .90  |   |    |    |    |     |    | .89 .88 .87 .85 .84  |    |    |      |    |    | .81 .79 .77 .75 .73 .71  |    |     |    |    |    | .68 .65 .64 .61 .59 .57 |     |    |    |    |    |  |  |  |
|      | *332*328*321*312*301*289*274 |   |    |    |    |     |    | *254*236*215*193*169 |    |    |      |    |    | *127*098*069*038*006 973 |    |     |    |    |    | 933 899 865 832 799 767 |     |    |    |    |    |  |  |  |
| 30   | .95 .95 .94 .94 .93 .92 .91  |   |    |    |    |     |    | .90 .89 .88 .86 .85  |    |    |      |    |    | .82 .80 .78 .76 .74 .72  |    |     |    |    |    | .69 .67 .64 .62 .60 .58 |     |    |    |    |    |  |  |  |
|      | *344*340*334*325*315*303*289 |   |    |    |    |     |    | *269*251*231*208*184 |    |    |      |    |    | *142*113*083*051*019 985 |    |     |    |    |    | 945 910 875 842 809 777 |     |    |    |    |    |  |  |  |
| 45   | .95 .95 .95 .94 .94 .93 .92  |   |    |    |    |     |    | .91 .90 .89 .87 .86  |    |    |      |    |    | .83 .81 .79 .77 .75 .72  |    |     |    |    |    | .70 .67 .65 .63 .60 .58 |     |    |    |    |    |  |  |  |
|      | *351*348*342*334*325*313*299 |   |    |    |    |     |    | *280*262*242*219*195 |    |    |      |    |    | *152*123*092*061*028 994 |    |     |    |    |    | 952 917 883 848 815 783 |     |    |    |    |    |  |  |  |
| 1200 | .96 .96 .95 .95 .94 .93 .93  |   |    |    |    |     |    | .91 .90 .89 .88 .86  |    |    |      |    |    | .82 .81 .79 .77 .75 .73  |    |     |    |    |    | .70 .67 .65 .63 .60 .58 |     |    |    |    |    |  |  |  |
|      | *354*352*346*339*330*319*305 |   |    |    |    |     |    | *286*268*248*226*201 |    |    |      |    |    | *153*129*098*065*032 997 |    |     |    |    |    | 955 920 885 850 816 784 |     |    |    |    |    |  |  |  |
| 15   | .96 .95 .95 .95 .94 .94 .93  |   |    |    |    |     |    | .92 .90 .89 .88 .86  |    |    |      |    |    | .83 .81 .79 .77 .75 .73  |    |     |    |    |    | .70 .67 .65 .63 .60 .58 |     |    |    |    |    |  |  |  |
|      | *353*351*346*340*331*320*307 |   |    |    |    |     |    | *288*270*250*228*203 |    |    |      |    |    | *153*130*098*065*031 996 |    |     |    |    |    | 954 919 883 848 814 781 |     |    |    |    |    |  |  |  |
| 30   | .95 .95 .95 .94 .94 .93 .93  |   |    |    |    |     |    | .91 .90 .89 .88 .86  |    |    |      |    |    | .83 .81 .79 .77 .75 .72  |    |     |    |    |    | .69 .67 .64 .62 .60 .57 |     |    |    |    |    |  |  |  |
|      | *348*346*342*336*327*317*304 |   |    |    |    |     |    | *286*268*248*225*200 |    |    |      |    |    | *156*126*094*061*027 991 |    |     |    |    |    | 948 912 875 841 806 774 |     |    |    |    |    |  |  |  |
| 45   | .95 .94 .94 .94 .93 .93 .92  |   |    |    |    |     |    | .91 .90 .88 .87 .85  |    |    |      |    |    | .83 .81 .78 .76 .74 .72  |    |     |    |    |    | .69 .66 .64 .61 .59 .57 |     |    |    |    |    |  |  |  |
|      | *338*337*333*327*320*309*297 |   |    |    |    |     |    | *279*261*241*218*193 |    |    |      |    |    | *148*118*086*052*017 981 |    |     |    |    |    | 938 901 865 830 795 762 |     |    |    |    |    |  |  |  |

JAN-APR 40 S TABLE B-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY .

MST

|      | JAN  |      |      |      |      | FEB  |      |      |      |      | MAR  |      |      |      |      | APR  |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 1    | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 30   |
| 1300 | .94  | .94  | .94  | .93  | .93  | .93  | .92  | .91  | .90  | .89  | .88  | .86  | .85  | .82  | .80  | .78  | .75  | .73  | .70  | .68  |
|      | .324 | .323 | .320 | .315 | .308 | .298 | .285 | .267 | .250 | .229 | .207 | .181 | .136 | .105 | .073 | .039 | .003 | .967 | .923 | .883 |
| 15   | .92  | .92  | .92  | .92  | .91  | .91  | .90  | .89  | .88  | .87  | .85  | .83  | .80  | .78  | .76  | .74  | .72  | .69  | .66  | .64  |
|      | .306 | .306 | .303 | .298 | .291 | .282 | .270 | .252 | .234 | .214 | .191 | .155 | .120 | .088 | .055 | .021 | .985 | .949 | .904 | .867 |
| 30   | .91  | .91  | .91  | .90  | .90  | .89  | .89  | .88  | .86  | .85  | .84  | .82  | .79  | .77  | .75  | .72  | .70  | .67  | .64  | .62  |
|      | .284 | .284 | .282 | .278 | .271 | .261 | .250 | .232 | .214 | .193 | .170 | .145 | .093 | .067 | .034 | .999 | .963 | .926 | .881 | .844 |
| 45   | .89  | .89  | .89  | .89  | .88  | .88  | .87  | .86  | .85  | .83  | .82  | .80  | .77  | .75  | .73  | .70  | .68  | .66  | .62  | .60  |
|      | .258 | .258 | .257 | .253 | .246 | .237 | .225 | .208 | .190 | .169 | .146 | .120 | .073 | .041 | .008 | .972 | .936 | .899 | .854 | .816 |
| 1400 | .87  | .87  | .87  | .87  | .86  | .86  | .85  | .84  | .83  | .81  | .80  | .78  | .75  | .73  | .71  | .68  | .66  | .63  | .60  | .59  |
|      | .228 | .229 | .227 | .224 | .218 | .209 | .197 | .179 | .161 | .141 | .117 | .091 | .044 | .012 | .978 | .942 | .905 | .868 | .822 | .784 |
| 15   | .84  | .84  | .84  | .84  | .84  | .83  | .83  | .82  | .80  | .79  | .77  | .76  | .73  | .70  | .68  | .66  | .63  | .61  | .58  | .55  |
|      | .194 | .195 | .195 | .191 | .185 | .176 | .165 | .147 | .129 | .108 | .094 | .058 | .010 | .978 | .943 | .908 | .870 | .833 | .787 | .743 |
| 30   | .82  | .82  | .82  | .82  | .81  | .81  | .80  | .79  | .78  | .76  | .75  | .73  | .70  | .68  | .65  | .63  | .60  | .58  | .55  | .52  |
|      | .157 | .158 | .158 | .155 | .149 | .140 | .129 | .111 | .093 | .072 | .048 | .021 | .973 | .940 | .905 | .869 | .832 | .794 | .748 | .710 |
| 45   | .79  | .79  | .79  | .79  | .79  | .78  | .77  | .76  | .75  | .74  | .72  | .70  | .67  | .65  | .62  | .60  | .57  | .55  | .52  | .49  |
|      | .117 | .118 | .118 | .115 | .109 | .101 | .089 | .071 | .053 | .032 | .008 | .980 | .932 | .899 | .864 | .827 | .790 | .751 | .705 | .667 |
| 1500 | .76  | .76  | .76  | .76  | .75  | .75  | .74  | .73  | .72  | .70  | .69  | .67  | .64  | .62  | .59  | .57  | .54  | .51  | .48  | .46  |
|      | .073 | .074 | .074 | .072 | .066 | .058 | .046 | .028 | .010 | .988 | .964 | .936 | .887 | .854 | .818 | .782 | .744 | .705 | .659 | .621 |
| 15   | .72  | .73  | .73  | .73  | .72  | .72  | .71  | .70  | .69  | .67  | .65  | .64  | .60  | .58  | .56  | .53  | .51  | .48  | .45  | .42  |
|      | .026 | .028 | .028 | .025 | .020 | .011 | .000 | .981 | .963 | .941 | .916 | .889 | .839 | .805 | .770 | .733 | .695 | .656 | .610 | .572 |
| 30   | .69  | .69  | .69  | .69  | .69  | .68  | .67  | .66  | .65  | .64  | .62  | .60  | .57  | .54  | .52  | .49  | .47  | .44  | .41  | .39  |
|      | .976 | .978 | .978 | .978 | .970 | .962 | .950 | .932 | .913 | .891 | .866 | .838 | .788 | .754 | .718 | .681 | .643 | .604 | .558 | .520 |
| 45   | .65  | .65  | .65  | .65  | .65  | .64  | .64  | .62  | .61  | .60  | .58  | .56  | .53  | .50  | .48  | .45  | .43  | .40  | .37  | .34  |
|      | .923 | .926 | .926 | .924 | .918 | .910 | .898 | .879 | .860 | .838 | .812 | .784 | .734 | .700 | .663 | .626 | .588 | .549 | .503 | .465 |

JAN-APR 40 S TABLE B-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
|      | JAN  |     |     | FEB |     |     | MAR |     |     | APR |     |     | JAN |     |     | FEB |     |     | MAR |     |     | APR |     |     |     |      |      |      |      |      |      |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5    | 10   | 15   | 20   | 25   | 30   |
| 1600 | .61  | .62 | .62 | .61 | .61 | .61 | .60 | .59 | .57 | .56 | .54 | .52 | .49 | .46 | .44 | .41 | .39 | .36 | .33 | .33 | .33 | .27 | .25 | .22 | .20 | .445 | .403 | .371 | .336 | .303 | .272 |
| 15   | .57  | .58 | .58 | .57 | .57 | .57 | .56 | .54 | .53 | .52 | .50 | .48 | .44 | .42 | .40 | .37 | .34 | .31 | .28 | .28 | .28 | .23 | .20 | .18 | .16 | .386 | .343 | .312 | .277 | .244 | .214 |
| 30   | .53  | .53 | .53 | .53 | .53 | .53 | .52 | .51 | .50 | .49 | .47 | .46 | .44 | .40 | .38 | .35 | .32 | .30 | .27 | .24 | .24 | .20 | .18 | .16 | .14 | .324 | .285 | .250 | .216 | .184 | .154 |
| 45   | .49  | .49 | .49 | .49 | .49 | .48 | .47 | .46 | .44 | .43 | .41 | .39 | .35 | .33 | .30 | .28 | .25 | .22 | .19 | .19 | .19 | .14 | .11 | .09 | .07 | .260 | .223 | .188 | .154 | .122 | .093 |
| 1700 | .44  | .45 | .45 | .45 | .44 | .44 | .43 | .41 | .40 | .38 | .36 | .34 | .31 | .28 | .26 | .23 | .20 | .18 | .14 | .14 | .14 | .09 | .07 | .04 | .02 | .195 | .153 | .123 | .090 | .058 | .030 |
| 15   | .40  | .40 | .40 | .40 | .40 | .39 | .38 | .37 | .35 | .34 | .32 | .30 | .26 | .23 | .21 | .18 | .15 | .13 | .09 | .09 | .09 | .04 | .02 | .00 | .00 | .129 | .093 | .058 | .025 | .000 | .000 |
| 30   | .35  | .36 | .36 | .35 | .35 | .34 | .33 | .32 | .31 | .29 | .27 | .25 | .21 | .19 | .16 | .13 | .11 | .08 | .06 | .06 | .06 | .00 | .00 | .00 | .00 | .062 | .025 | .000 | .000 | .000 | .000 |
| 45   | .31  | .31 | .31 | .31 | .30 | .29 | .29 | .27 | .26 | .24 | .22 | .20 | .16 | .14 | .11 | .08 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .000 | .000 | .000 | .000 | .000 | .000 |
| 1800 | .26  | .26 | .26 | .26 | .26 | .25 | .24 | .22 | .21 | .19 | .17 | .15 | .11 | .09 | .06 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .000 | .000 | .000 | .000 | .000 | .000 |
| 15   | .22  | .22 | .22 | .22 | .21 | .20 | .19 | .18 | .16 | .14 | .12 | .10 | .06 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .000 | .000 | .000 | .000 | .000 | .000 |
| 30   | .17  | .17 | .17 | .17 | .16 | .15 | .14 | .13 | .11 | .09 | .07 | .05 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .000 | .000 | .000 | .000 | .000 | .000 |
| 45   | .13  | .13 | .13 | .12 | .12 | .11 | .10 | .08 | .06 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .000 | .000 | .000 | .000 | .000 | .000 |

... SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS  
XO (W/M\*\*2.)

TABLE B-1

40 S

JAN-APR

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     | FEB |     |     | MAR |     |     | APR |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1900 | .08  | .08 | .08 | .08 | .07 | .06 | .05 | .03 | .02 | .00 | .00 | .00 | .00 |
|      | 113  | 114 | 113 | 107 | 099 | 086 | 070 | 046 | 022 | 000 | 000 | 000 | 000 |
| 15   | .04  | .04 | .04 | .03 | .02 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 050  | 051 | 049 | 044 | 034 | 021 | 004 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

JAN-APR

40 S

TABLE B-1

SOLAR PARAMETERS

COS Z

X0 (W/M\*\*2.)

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY \*

SOLAR PARAMETERS  
X0 (W/M\*\*2.)

TABLE B-1

40 S

JAN-APR

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |
| 0600 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 0700 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 033 | 012 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 15   | .07 | .06 | .04 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
|      | 095 | 073 | 053 | 034 | 016 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |  |
| 30   | .12 | .10 | .08 | .07 | .06 | .04 | .03 | .02 | .02 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |  |  |
|      | 155 | 133 | 112 | 092 | 074 | 058 | 041 | 029 | 020 | 013 | 009 | 008 | 010 | 016 | 024 | 036 | 051 | 069 |  |  |
| 45   | .16 | .14 | .13 | .11 | .10 | .09 | .07 | .06 | .06 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 |  |  |
|      | 214 | 191 | 169 | 149 | 131 | 114 | 097 | 085 | 075 | 069 | 065 | 064 | 067 | 072 | 081 | 093 | 109 | 127 |  |  |
| 0800 | .20 | .18 | .17 | .15 | .14 | .13 | .11 | .10 | .10 | .09 | .09 | .09 | .09 | .10 | .10 | .11 | .12 | .14 |  |  |
|      | 270 | 247 | 225 | 204 | 185 | 168 | 151 | 139 | 129 | 123 | 119 | 118 | 121 | 127 | 136 | 149 | 165 | 184 |  |  |
| 15   | .24 | .22 | .21 | .19 | .18 | .17 | .15 | .14 | .14 | .13 | .13 | .13 | .13 | .14 | .14 | .15 | .17 | .18 |  |  |
|      | 325 | 301 | 279 | 257 | 238 | 221 | 203 | 191 | 181 | 175 | 171 | 171 | 174 | 180 | 189 | 202 | 219 | 238 |  |  |
| 30   | .28 | .26 | .25 | .23 | .22 | .20 | .19 | .18 | .17 | .17 | .17 | .17 | .17 | .17 | .17 | .19 | .20 | .22 |  |  |
|      | 377 | 353 | 330 | 308 | 288 | 271 | 253 | 240 | 231 | 224 | 221 | 221 | 224 | 230 | 240 | 254 | 271 | 291 |  |  |
| 45   | .32 | .30 | .28 | .27 | .25 | .24 | .23 | .22 | .21 | .21 | .20 | .20 | .21 | .21 | .22 | .23 | .24 | .26 |  |  |
|      | 427 | 402 | 378 | 356 | 336 | 318 | 300 | 288 | 278 | 272 | 268 | 268 | 272 | 279 | 289 | 303 | 320 | 340 |  |  |

TABLE 9-1 SOLAR PARAMETERS COS Z  
 MAY-AUG 40 S  
 \*\*\* SIGNIFIES COS Z = 1.  
 ADD 1000 TO VALUES PRECEDED BY .

MST

|      | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0900 | .35 | .33 | .32 | .30 | .29 | .27 | .26 | .25 | .24 | .24 | .24 | .24 | .24 | .25 | .25 | .26 | .28 | .29 | .31 | .33 | .35 | .38 | .40 | .43 |
|      | 473 | 448 | 424 | 402 | 381 | 363 | 345 | 332 | 323 | 316 | 313 | 314 | 317 | 325 | 325 | 349 | 367 | 388 | 417 | 441 | 474 | 506 | 540 | 576 |
| 15   | .38 | .37 | .35 | .33 | .32 | .30 | .29 | .28 | .28 | .27 | .27 | .27 | .27 | .28 | .29 | .30 | .31 | .33 | .35 | .37 | .39 | .41 | .44 | .46 |
|      | 517 | 491 | 467 | 444 | 423 | 405 | 386 | 374 | 364 | 358 | 355 | 355 | 360 | 368 | 379 | 393 | 411 | 432 | 461 | 481 | 519 | 551 | 586 | 622 |
| 30   | .41 | .40 | .38 | .36 | .35 | .33 | .32 | .31 | .30 | .30 | .30 | .30 | .30 | .31 | .32 | .33 | .34 | .36 | .38 | .40 | .42 | .44 | .47 | .49 |
|      | 557 | 531 | 506 | 483 | 462 | 444 | 425 | 413 | 403 | 397 | 395 | 395 | 400 | 408 | 419 | 434 | 452 | 473 | 503 | 531 | 551 | 594 | 628 | 664 |
| 45   | .44 | .42 | .41 | .39 | .37 | .36 | .35 | .34 | .33 | .33 | .33 | .33 | .33 | .34 | .34 | .36 | .37 | .39 | .41 | .43 | .45 | .47 | .50 | .52 |
|      | 594 | 567 | 542 | 519 | 498 | 479 | 460 | 448 | 439 | 433 | 431 | 432 | 436 | 444 | 456 | 471 | 490 | 512 | 542 | 570 | 600 | 633 | 667 | 703 |
| 1000 | .47 | .45 | .43 | .41 | .40 | .38 | .37 | .36 | .36 | .35 | .35 | .35 | .35 | .36 | .37 | .38 | .40 | .41 | .43 | .45 | .48 | .50 | .52 | .55 |
|      | 628 | 600 | 575 | 551 | 530 | 511 | 493 | 480 | 471 | 465 | 463 | 465 | 469 | 478 | 490 | 506 | 524 | 546 | 577 | 605 | 635 | 668 | 703 | 738 |
| 15   | .49 | .47 | .45 | .43 | .42 | .41 | .39 | .38 | .38 | .37 | .37 | .37 | .37 | .38 | .39 | .40 | .42 | .44 | .46 | .48 | .50 | .52 | .55 | .57 |
|      | 657 | 630 | 604 | 580 | 559 | 540 | 521 | 509 | 500 | 494 | 493 | 494 | 499 | 508 | 521 | 536 | 555 | 578 | 608 | 637 | 667 | 700 | 734 | 770 |
| 30   | .51 | .49 | .47 | .45 | .44 | .42 | .41 | .40 | .40 | .39 | .39 | .39 | .40 | .40 | .41 | .43 | .44 | .46 | .48 | .50 | .52 | .54 | .57 | .59 |
|      | 683 | 655 | 629 | 605 | 584 | 565 | 546 | 534 | 525 | 520 | 518 | 520 | 526 | 535 | 547 | 564 | 583 | 605 | 636 | 664 | 695 | 728 | 762 | 797 |
| 45   | .52 | .50 | .49 | .47 | .45 | .44 | .43 | .42 | .41 | .41 | .41 | .41 | .41 | .42 | .43 | .44 | .46 | .47 | .50 | .52 | .54 | .56 | .59 | .61 |
|      | 705 | 677 | 651 | 627 | 605 | 586 | 567 | 555 | 547 | 542 | 540 | 542 | 545 | 558 | 571 | 587 | 607 | 629 | 660 | 689 | 719 | 752 | 786 | 821 |
| 1100 | .54 | .52 | .50 | .48 | .47 | .45 | .44 | .43 | .43 | .42 | .42 | .42 | .42 | .43 | .44 | .45 | .46 | .47 | .49 | .51 | .53 | .55 | .58 | .60 |
|      | 723 | 695 | 668 | 644 | 622 | 603 | 585 | 573 | 565 | 560 | 559 | 561 | 567 | 577 | 590 | 607 | 626 | 649 | 680 | 709 | 739 | 772 | 806 | 841 |
| 15   | .55 | .53 | .51 | .49 | .48 | .46 | .45 | .44 | .44 | .43 | .43 | .44 | .44 | .45 | .46 | .47 | .48 | .50 | .52 | .54 | .57 | .59 | .61 | .64 |
|      | 737 | 708 | 681 | 657 | 636 | 617 | 598 | 587 | 579 | 574 | 573 | 576 | 582 | 592 | 606 | 622 | 642 | 665 | 696 | 725 | 755 | 788 | 821 | 856 |
| 30   | .56 | .53 | .52 | .50 | .48 | .47 | .46 | .45 | .44 | .44 | .44 | .44 | .45 | .46 | .47 | .48 | .49 | .51 | .53 | .55 | .57 | .60 | .62 | .65 |
|      | 746 | 718 | 691 | 666 | 645 | 626 | 608 | 596 | 589 | 584 | 584 | 587 | 593 | 603 | 617 | 634 | 654 | 677 | 708 | 737 | 767 | 799 | 833 | 867 |
| 45   | .56 | .54 | .52 | .50 | .49 | .47 | .46 | .45 | .45 | .45 | .45 | .45 | .45 | .46 | .47 | .48 | .50 | .52 | .54 | .56 | .58 | .60 | .63 | .65 |
|      | 752 | 723 | 696 | 672 | 650 | 632 | 614 | 602 | 595 | 591 | 590 | 593 | 600 | 611 | 625 | 642 | 662 | 685 | 716 | 745 | 775 | 807 | 840 | 874 |

MAY-AUG

40 S

TABLE B-1

SOLAR PARAMETERS

COS 2

X0 (W/M\*\*2.)

\*\*\* SIGNIFIES COS 2 =1.

ADD 1000 TO VALUES PRECEDED BY \*



| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 1500 | .34 | .32 | .30 | .28 | .27 | .26 | .25 | .25 | .24 | .24 | .25 | .25 | .26 | .27 | .28 | .29 | .31 | .32 | .34 | .35 | .38 | .39 | .41 | .43 |
|      | 452 | 425 | 401 | 379 | 362 | 347 | 334 | 327 | 324 | 324 | 327 | 333 | 342 | 354 | 369 | 386 | 405 | 426 | 453 | 477 | 502 | 528 | 554 | 580 |
| 15   | .30 | .28 | .26 | .25 | .24 | .23 | .22 | .21 | .21 | .21 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .29 | .31 | .32 | .34 | .36 | .38 | .40 |
|      | 404 | 377 | 353 | 333 | 315 | 301 | 289 | 282 | 279 | 279 | 283 | 289 | 299 | 311 | 325 | 342 | 361 | 381 | 408 | 431 | 456 | 481 | 506 | 532 |
| 30   | .26 | .24 | .23 | .21 | .20 | .19 | .18 | .18 | .18 | .18 | .18 | .18 | .19 | .20 | .21 | .22 | .24 | .25 | .27 | .29 | .30 | .32 | .34 | .36 |
|      | 353 | 327 | 304 | 283 | 266 | 253 | 241 | 235 | 232 | 232 | 236 | 243 | 252 | 264 | 278 | 295 | 314 | 334 | 360 | 383 | 406 | 431 | 456 | 481 |
| 45   | .22 | .20 | .19 | .17 | .16 | .15 | .14 | .14 | .14 | .14 | .14 | .15 | .15 | .16 | .17 | .19 | .20 | .21 | .23 | .25 | .27 | .28 | .30 | .32 |
|      | 300 | 274 | 251 | 232 | 215 | 202 | 191 | 185 | 182 | 183 | 187 | 194 | 203 | 215 | 229 | 246 | 264 | 284 | 309 | 331 | 355 | 378 | 402 | 427 |
| 1600 | .18 | .16 | .15 | .13 | .12 | .11 | .10 | .10 | .10 | .10 | .10 | .11 | .12 | .12 | .13 | .15 | .16 | .17 | .19 | .21 | .23 | .24 | .26 | .28 |
|      | 244 | 219 | 197 | 177 | 162 | 149 | 138 | 133 | 131 | 132 | 135 | 142 | 152 | 164 | 178 | 194 | 212 | 231 | 256 | 278 | 300 | 323 | 347 | 371 |
| 15   | .14 | .12 | .10 | .09 | .08 | .07 | .06 | .06 | .06 | .06 | .06 | .07 | .07 | .08 | .09 | .11 | .12 | .13 | .15 | .17 | .18 | .20 | .22 | .23 |
|      | 187 | 162 | 140 | 121 | 106 | 094 | 084 | 079 | 077 | 078 | 082 | 089 | 098 | 110 | 124 | 140 | 157 | 176 | 200 | 222 | 244 | 266 | 289 | 312 |
| 30   | .09 | .08 | .06 | .05 | .04 | .03 | .02 | .02 | .02 | .02 | .02 | .03 | .03 | .04 | .05 | .06 | .08 | .09 | .11 | .12 | .14 | .16 | .17 | .19 |
|      | 127 | 103 | 082 | 064 | 049 | 037 | 027 | 023 | 021 | 023 | 027 | 034 | 043 | 055 | 068 | 084 | 101 | 119 | 143 | 164 | 185 | 207 | 229 | 251 |
| 45   | .05 | .03 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .05 | .06 | .03 | .09 | .11 | .13 | .14 |
|      | 066 | 042 | 022 | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 011 | 026 | 043 | 061 | 084 | 104 | 125 | 146 | 168 | 189 |
| 1700 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .03 | .05 | .06 | .08 | .09 |
|      | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 001 | 024 | 043 | 063 | 084 | 105 | 126 |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .03 | .05 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 020 | 040 | 061 |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

TABLE B-1 SOLAR PARAMETERS COS Z XO (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY \*



MST

DATE

SEP

OCT

NOV

DEC

|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| 0700 | .12 | .15 | .18 | .20 | .23 | .26 | .29 | .31  | .33  | .36  | .38  | .39  | .41  | .43  | .44  | .44  | .45  | .43  |
|      | 163 | 200 | 239 | 277 | 316 | 354 | 391 | 427  | 460  | 492  | 521  | 547  | 574  | 593  | 609  | 622  | 631  | 607  |
| 15   | .17 | .20 | .22 | .25 | .28 | .31 | .33 | .36  | .38  | .40  | .42  | .44  | .46  | .47  | .48  | .49  | .49  | .47  |
|      | 227 | 265 | 303 | 342 | 380 | 418 | 455 | 491  | 524  | 556  | 584  | 610  | 637  | 656  | 672  | 684  | 693  | 669  |
| 30   | .22 | .24 | .27 | .30 | .33 | .35 | .38 | .40  | .43  | .45  | .47  | .48  | .50  | .51  | .52  | .53  | .54  | .52  |
|      | 290 | 327 | 366 | 405 | 443 | 481 | 518 | 553  | 587  | 618  | 646  | 672  | 693  | 717  | 733  | 745  | 753  | 731  |
| 45   | .26 | .29 | .32 | .34 | .37 | .40 | .42 | .45  | .47  | .49  | .51  | .53  | .55  | .56  | .57  | .58  | .58  | .56  |
|      | 351 | 388 | 427 | 466 | 505 | 542 | 579 | 614  | 647  | 678  | 706  | 731  | 753  | 776  | 791  | 803  | 812  | 790  |
| 0800 | .30 | .33 | .36 | .39 | .41 | .44 | .47 | .49  | .51  | .53  | .55  | .57  | .59  | .60  | .61  | .61  | .62  | .60  |
|      | 409 | 448 | 486 | 525 | 564 | 601 | 638 | 672  | 705  | 736  | 764  | 789  | 815  | 833  | 848  | 860  | 868  | 848  |
| 15   | .35 | .37 | .40 | .43 | .46 | .48 | .51 | .53  | .55  | .57  | .59  | .61  | .62  | .64  | .64  | .65  | .66  | .64  |
|      | 466 | 504 | 543 | 582 | 620 | 658 | 694 | 728  | 761  | 791  | 819  | 844  | 869  | 887  | 902  | 914  | 922  | 904  |
| 30   | .39 | .41 | .44 | .47 | .49 | .52 | .55 | .57  | .59  | .61  | .63  | .64  | .66  | .67  | .68  | .69  | .69  | .68  |
|      | 521 | 559 | 597 | 636 | 674 | 711 | 747 | 782  | 814  | 844  | 871  | 896  | 921  | 939  | 954  | 965  | 974  | 957  |
| 45   | .42 | .45 | .48 | .51 | .53 | .56 | .58 | .61  | .63  | .65  | .66  | .68  | .70  | .71  | .72  | .72  | .73  | .71  |
|      | 572 | 610 | 649 | 687 | 725 | 762 | 798 | 832  | 864  | 894  | 921  | 945  | 970  | 988  | 1002 | 1014 | 1023 | 1008 |
| 0900 | .46 | .49 | .51 | .54 | .57 | .59 | .62 | .64  | .66  | .68  | .70  | .71  | .73  | .74  | .75  | .76  | .76  | .75  |
|      | 621 | 659 | 697 | 736 | 773 | 810 | 846 | 879  | 911  | 940  | 967  | 991  | 1016 | 1033 | 1048 | 1060 | 1068 | 1056 |
| 15   | .49 | .52 | .55 | .57 | .60 | .63 | .65 | .67  | .69  | .71  | .73  | .74  | .76  | .77  | .78  | .79  | .79  | .78  |
|      | 666 | 704 | 743 | 781 | 818 | 855 | 890 | 923  | 954  | 983  | 1010 | 1034 | 1058 | 1076 | 1090 | 1102 | 1111 | 1101 |
| 30   | .53 | .55 | .58 | .61 | .63 | .66 | .68 | .70  | .72  | .74  | .76  | .77  | .79  | .80  | .81  | .81  | .82  | .81  |
|      | 709 | 746 | 784 | 822 | 859 | 896 | 930 | 963  | 994  | 1023 | 1049 | 1073 | 1097 | 1115 | 1129 | 1141 | 1150 | 1143 |
| 45   | .55 | .58 | .61 | .63 | .66 | .68 | .71 | .73  | .75  | .77  | .78  | .80  | .81  | .82  | .83  | .84  | .84  | .84  |
|      | 747 | 785 | 823 | 860 | 897 | 933 | 967 | 1000 | 1031 | 1059 | 1085 | 1108 | 1133 | 1150 | 1164 | 1176 | 1185 | 1182 |

SEP-DEC

40 S

TABLE B-1

SOLAR PARAMETERS

COS Z

X0 (W/M\*\*2.)

Z = 1.

ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |                          |     |     |     | DATE |     |                          |     |     | NOV |     |                          |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|--------------------------|-----|-----|-----|------|-----|--------------------------|-----|-----|-----|-----|--------------------------|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5                        | 10  | 15  | 20  | 25   | 30  | 5                        | 10  | 15  | 20  | 25  | 30                       | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1000 | .58 | .61 | .63 | .66 | .68 | .71 | .73                      | .75 | .77 | .79 | .81  | .82 | .84                      | .85 | .86 | .87 | .87 | .86                      | .87 | .87 | .87 | .87 | .86 | .86 |  |
| 782  | 820 | 857 | 895 | 931 | 966 |     | *000*033*063*091*117*140 |     |     |     |      |     | *164*161*196*208*217*224 |     |     |     |     | *228*230*230*227*223*217 |     |     |     |     |     |     |  |
| 15   | .60 | .63 | .66 | .68 | .71 | .73 | .75                      | .77 | .79 | .81 | .83  | .84 | .86                      | .87 | .88 | .89 | .89 | .88                      | .89 | .89 | .89 | .89 | .88 | .88 |  |
| 814  | 851 | 888 | 925 | 961 | 996 |     | *029*061*091*119*144*167 |     |     |     |      |     | *191*209*223*235*245*252 |     |     |     |     | *257*259*259*257*254*248 |     |     |     |     |     |     |  |
| 30   | .62 | .65 | .68 | .70 | .72 | .75 | .77                      | .79 | .81 | .83 | .84  | .86 | .88                      | .89 | .90 | .90 | .91 | .90                      | .91 | .91 | .91 | .91 | .91 | .90 |  |
| 841  | 878 | 915 | 951 | 987 | 021 |     | *054*086*116*143*168*191 |     |     |     |      |     | *215*232*247*259*269*276 |     |     |     |     | *281*281*236*284*281*276 |     |     |     |     |     |     |  |
| 45   | .64 | .67 | .69 | .72 | .74 | .76 | .78                      | .80 | .82 | .84 | .86  | .87 | .89                      | .90 | .90 | .91 | .92 | .92                      | .92 | .92 | .92 | .92 | .92 | .92 |  |
| 864  | 901 | 937 | 973 | 008 | 042 |     | *075*106*136*163*188*210 |     |     |     |      |     | *234*251*266*279*289*296 |     |     |     |     | *302*305*307*306*304*299 |     |     |     |     |     |     |  |
| 1100 | .66 | .68 | .71 | .73 | .75 | .78 | .80                      | .82 | .84 | .85 | .87  | .88 | .89                      | .90 | .91 | .92 | .92 | .93                      | .93 | .94 | .94 | .94 | .93 | .93 |  |
| 883  | 919 | 955 | 991 | 026 | 059 |     | *092*122*151*178*203*225 |     |     |     |      |     | *249*266*281*294*304*312 |     |     |     |     | *318*322*321*324*322*319 |     |     |     |     |     |     |  |
| 15   | .67 | .69 | .72 | .74 | .76 | .78 | .81                      | .83 | .84 | .86 | .88  | .89 | .90                      | .91 | .92 | .93 | .94 | .94                      | .94 | .94 | .95 | .95 | .95 | .94 |  |
| 898  | 934 | 969 | 004 | 039 | 072 |     | *104*134*162*189*213*236 |     |     |     |      |     | *260*277*292*305*316*324 |     |     |     |     | *331*335*336*338*337*334 |     |     |     |     |     |     |  |
| 30   | .67 | .70 | .72 | .75 | .77 | .79 | .81                      | .83 | .85 | .87 | .88  | .89 | .90                      | .91 | .92 | .93 | .94 | .94                      | .95 | .95 | .95 | .95 | .95 | .95 |  |
| 909  | 944 | 979 | 014 | 047 | 080 |     | *111*141*169*196*220*242 |     |     |     |      |     | *266*283*299*312*323*332 |     |     |     |     | *339*344*347*348*348*346 |     |     |     |     |     |     |  |
| 45   | .68 | .70 | .73 | .75 | .77 | .79 | .81                      | .83 | .85 | .87 | .88  | .90 | .91                      | .92 | .93 | .94 | .94 | .95                      | .95 | .95 | .95 | .96 | .96 | .96 |  |
| 915  | 950 | 984 | 018 | 051 | 084 |     | *114*144*172*198*222*244 |     |     |     |      |     | *268*285*301*314*326*335 |     |     |     |     | *343*343*352*354*354*353 |     |     |     |     |     |     |  |
| 1200 | .68 | .70 | .73 | .75 | .77 | .79 | .81                      | .83 | .85 | .86 | .88  | .89 | .90                      | .91 | .92 | .93 | .94 | .94                      | .95 | .95 | .95 | .96 | .96 | .96 |  |
| 917  | 951 | 985 | 018 | 051 | 083 |     | *113*142*170*195*219*241 |     |     |     |      |     | *265*283*299*313*324*334 |     |     |     |     | *343*343*352*356*356*355 |     |     |     |     |     |     |  |
| 15   | .68 | .70 | .72 | .75 | .77 | .79 | .81                      | .83 | .84 | .86 | .87  | .89 | .90                      | .91 | .92 | .93 | .94 | .94                      | .94 | .95 | .95 | .95 | .96 | .96 |  |
| 914  | 948 | 981 | 014 | 046 | 077 |     | *107*136*163*188*212*234 |     |     |     |      |     | *259*276*292*306*319*329 |     |     |     |     | *338*345*350*353*354*354 |     |     |     |     |     |     |  |
| 30   | .67 | .70 | .72 | .74 | .76 | .78 | .80                      | .82 | .84 | .85 | .87  | .88 | .89                      | .91 | .92 | .92 | .93 | .94                      | .94 | .94 | .95 | .95 | .95 | .95 |  |
| 907  | 940 | 973 | 005 | 037 | 068 |     | *097*125*152*177*201*223 |     |     |     |      |     | *247*265*281*296*309*320 |     |     |     |     | *329*336*332*346*348*348 |     |     |     |     |     |     |  |
| 45   | .66 | .69 | .71 | .73 | .75 | .77 | .79                      | .81 | .82 | .84 | .86  | .87 | .88                      | .89 | .90 | .91 | .92 | .93                      | .93 | .93 | .94 | .94 | .95 | .95 |  |
| 896  | 928 | 961 | 992 | 023 | 053 |     | *082*110*137*162*185*207 |     |     |     |      |     | *231*250*266*281*294*306 |     |     |     |     | *316*321*330*335*357*338 |     |     |     |     |     |     |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY .

TABLE B-1 SOLAR PARAMETERS COS Z  
XO (W/M-2.)

SEP-DEC 40 S

| MST  | SEP |     |     |     |     | OCT |      |      |      |      | DATE |     |      |     |     | NOV |     |     |      |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5    | 10   | 15   | 20   | 25   | 30  | 5    | 10  | 15  | 20  | 25  | 30  | 5    | 10  | 15  | 20  | 25  | 30  |  |
| 1300 | .65 | .68 | .70 | .72 | .74 | .76 | .78  | .79  | .81  | .83  | .84  | .85 | .87  | .88 | .89 | .90 | .91 | .92 | .92  | .93 | .93 | .93 | .94 | .94 |  |
|      | 880 | 912 | 944 | 975 | 005 | 035 | *063 | 091  | *117 | *142 | *165 | 187 | *211 | 230 | 247 | 262 | 276 | 288 | *298 | 307 | 314 | 319 | 323 | 324 |  |
| 15   | .64 | .66 | .68 | .70 | .72 | .74 | .76  | .78  | .79  | .81  | .82  | .84 | .85  | .86 | .87 | .88 | .89 | .90 | .91  | .91 | .92 | .92 | .92 | .92 |  |
|      | 861 | 892 | 923 | 953 | 983 | 012 | *040 | 067  | *093 | *117 | *141 | 163 | *187 | 206 | 223 | 239 | 253 | 266 | *277 | 285 | 293 | 300 | 304 | 306 |  |
| 30   | .62 | .64 | .66 | .68 | .70 | .72 | .74  | .76  | .77  | .79  | .80  | .82 | .83  | .84 | .85 | .86 | .87 | .88 | .89  | .89 | .90 | .90 | .91 | .91 |  |
|      | 837 | 867 | 897 | 927 | 956 | 985 | *012 | 039  | *065 | *089 | *112 | 134 | *158 | 178 | 196 | 212 | 227 | 240 | *252 | 262 | 270 | 276 | 281 | 284 |  |
| 45   | .60 | .62 | .64 | .66 | .68 | .70 | .72  | .73  | .75  | .76  | .78  | .79 | .81  | .82 | .83 | .84 | .85 | .86 | .87  | .87 | .88 | .88 | .89 | .89 |  |
|      | 808 | 838 | 868 | 897 | 926 | 954 | 981  | *007 | *032 | *057 | *080 | 102 | *127 | 146 | 164 | 181 | 196 | 210 | *222 | 233 | 242 | 249 | 254 | 257 |  |
| 1400 | .58 | .60 | .62 | .64 | .65 | .67 | .69  | .71  | .72  | .74  | .75  | .77 | .78  | .80 | .81 | .82 | .83 | .84 | .84  | .85 | .85 | .86 | .86 | .87 |  |
|      | 777 | 806 | 835 | 863 | 891 | 919 | 946  | 971  | 996  | *021 | *044 | 066 | *091 | 111 | 129 | 146 | 162 | 177 | *189 | 200 | 210 | 218 | 223 | 227 |  |
| 15   | .55 | .57 | .59 | .61 | .63 | .64 | .66  | .68  | .69  | .71  | .72  | .74 | .75  | .77 | .78 | .79 | .80 | .81 | .82  | .83 | .83 | .84 | .84 | .84 |  |
|      | 741 | 769 | 798 | 826 | 853 | 880 | 906  | 932  | 957  | 981  | *004 | 026 | *052 | 072 | 090 | 108 | 124 | 139 | *153 | 164 | 174 | 183 | 189 | 193 |  |
| 30   | .52 | .54 | .56 | .58 | .60 | .61 | .63  | .65  | .66  | .68  | .69  | .71 | .72  | .74 | .75 | .76 | .77 | .78 | .79  | .80 | .80 | .81 | .81 | .82 |  |
|      | 701 | 729 | 757 | 784 | 811 | 838 | 864  | 889  | 913  | 937  | 960  | 983 | *009 | 029 | 048 | 066 | 083 | 099 | *113 | 125 | 136 | 144 | 151 | 156 |  |
| 45   | .49 | .51 | .53 | .54 | .56 | .58 | .60  | .61  | .63  | .64  | .66  | .67 | .69  | .70 | .72 | .73 | .74 | .75 | .76  | .77 | .77 | .78 | .78 | .79 |  |
|      | 659 | 686 | 713 | 740 | 766 | 792 | 817  | 842  | 867  | 891  | 914  | 936 | 962  | 983 | 003 | 021 | 038 | 055 | *069 | 082 | 093 | 103 | 110 | 115 |  |
| 1500 | .45 | .47 | .49 | .51 | .53 | .54 | .56  | .58  | .59  | .61  | .62  | .64 | .66  | .67 | .68 | .69 | .71 | .72 | .73  | .73 | .74 | .75 | .75 | .76 |  |
|      | 612 | 639 | 665 | 691 | 717 | 743 | 768  | 793  | 817  | 841  | 864  | 886 | 913  | 934 | 954 | 973 | 991 | 007 | *023 | 035 | 048 | 058 | 065 | 071 |  |
| 15   | .42 | .44 | .45 | .47 | .49 | .51 | .52  | .54  | .55  | .57  | .59  | .60 | .62  | .63 | .64 | .66 | .67 | .68 | .69  | .70 | .71 | .71 | .72 | .72 |  |
|      | 563 | 589 | 615 | 640 | 666 | 691 | 716  | 740  | 764  | 788  | 811  | 834 | 860  | 882 | 902 | 922 | 940 | 957 | 973  | 987 | 999 | 010 | 018 | 024 |  |
| 30   | .38 | .40 | .41 | .43 | .45 | .47 | .48  | .50  | .51  | .53  | .55  | .56 | .58  | .59 | .61 | .62 | .63 | .64 | .65  | .65 | .67 | .68 | .68 | .69 |  |
|      | 511 | 536 | 561 | 586 | 611 | 636 | 660  | 685  | 708  | 732  | 756  | 779 | 805  | 827 | 848 | 868 | 887 | 905 | 921  | 935 | 948 | 959 | 968 | 974 |  |
| 45   | .34 | .36 | .37 | .39 | .41 | .42 | .44  | .46  | .47  | .49  | .50  | .52 | .54  | .55 | .57 | .58 | .59 | .60 | .61  | .62 | .63 | .64 | .65 | .65 |  |
|      | 456 | 481 | 505 | 530 | 554 | 578 | 603  | 627  | 650  | 674  | 698  | 721 | 748  | 770 | 792 | 812 | 831 | 850 | 866  | 881 | 895 | 906 | 915 | 921 |  |

SEP-DEC 40 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
X0 (W/M\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1600 | .30 | .31 | .33 | .35 | .36 | .38 | .40 | .41 | .43 | .44 | .46  | .48 | .49 | .51 | .52 | .54 | .55 | .56 | .57 | .59 | .59 | .60 | .61 | .61 |  |
|      | 399 | 423 | 447 | 471 | 495 | 519 | 543 | 566 | 590 | 614 | 637  | 661 | 688 | 711 | 733 | 754 | 774 | 792 | 809 | 825 | 839 | 850 | 859 | 868 |  |
| 15   | .25 | .27 | .29 | .30 | .32 | .33 | .35 | .37 | .38 | .40 | .42  | .43 | .45 | .47 | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .56 | .57 | .57 |  |
|      | 340 | 363 | 387 | 410 | 433 | 457 | 481 | 504 | 528 | 552 | 575  | 599 | 627 | 650 | 672 | 693 | 714 | 733 | 751 | 767 | 781 | 792 | 802 | 809 |  |
| 30   | .21 | .22 | .24 | .26 | .27 | .29 | .30 | .32 | .34 | .35 | .37  | .39 | .40 | .42 | .44 | .45 | .46 | .48 | .49 | .50 | .51 | .52 | .53 | .53 |  |
|      | 279 | 301 | 324 | 347 | 370 | 393 | 417 | 440 | 464 | 488 | 512  | 535 | 564 | 587 | 610 | 631 | 652 | 672 | 690 | 705 | 721 | 733 | 743 | 750 |  |
| 45   | .16 | .18 | .19 | .21 | .22 | .24 | .26 | .27 | .29 | .31 | .32  | .34 | .36 | .37 | .39 | .41 | .42 | .43 | .45 | .45 | .47 | .48 | .48 | .49 |  |
|      | 216 | 238 | 260 | 283 | 305 | 328 | 351 | 375 | 398 | 422 | 446  | 470 | 499 | 523 | 546 | 568 | 589 | 609 | 628 | 645 | 659 | 672 | 682 | 689 |  |
| 1700 | .11 | .13 | .14 | .16 | .18 | .19 | .21 | .22 | .24 | .26 | .27  | .29 | .31 | .33 | .34 | .36 | .37 | .39 | .40 | .41 | .42 | .43 | .44 | .44 |  |
|      | 151 | 173 | 195 | 217 | 239 | 262 | 285 | 308 | 332 | 356 | 380  | 404 | 433 | 457 | 481 | 504 | 525 | 546 | 565 | 582 | 597 | 609 | 619 | 627 |  |
| 15   | .06 | .08 | .10 | .11 | .13 | .14 | .16 | .18 | .19 | .21 | .23  | .24 | .26 | .28 | .30 | .31 | .33 | .34 | .36 | .37 | .38 | .39 | .39 | .40 |  |
|      | 086 | 107 | 128 | 150 | 172 | 195 | 217 | 241 | 264 | 288 | 313  | 337 | 367 | 391 | 415 | 438 | 460 | 481 | 500 | 519 | 533 | 546 | 556 | 563 |  |
| 30   | .02 | .03 | .05 | .06 | .08 | .09 | .11 | .13 | .14 | .16 | .18  | .19 | .22 | .23 | .25 | .27 | .28 | .30 | .31 | .32 | .33 | .34 | .35 | .35 |  |
|      | 020 | 040 | 061 | 083 | 104 | 127 | 149 | 173 | 196 | 220 | 245  | 270 | 300 | 324 | 349 | 372 | 395 | 416 | 435 | 453 | 468 | 481 | 492 | 499 |  |
| 45   | .00 | .00 | .00 | .01 | .03 | .04 | .06 | .08 | .09 | .11 | .13  | .15 | .17 | .18 | .20 | .22 | .23 | .25 | .26 | .28 | .29 | .30 | .30 | .31 |  |
|      | 000 | 000 | 000 | 015 | 036 | 058 | 081 | 104 | 128 | 152 | 177  | 202 | 232 | 257 | 282 | 306 | 329 | 350 | 370 | 388 | 404 | 417 | 427 | 434 |  |
| 1800 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .04 | .06 | .08  | .10 | .12 | .14 | .15 | .17 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .26 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 012 | 036 | 059 | 084 | 109  | 134 | 165 | 190 | 215 | 240 | 263 | 285 | 305 | 323 | 338 | 352 | 362 | 369 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03  | .05 | .07 | .09 | .11 | .12 | .14 | .16 | .17 | .18 | .19 | .20 | .21 | .22 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 016 | 041  | 067 | 098 | 124 | 149 | 174 | 197 | 219 | 239 | 258 | 273 | 287 | 297 | 304 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .02 | .04 | .06 | .08 | .09 | .11 | .12 | .14 | .15 | .16 | .16 | .17 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 032 | 053 | 083 | 108 | 132 | 154 | 175 | 193 | 209 | 222 | 232 | 239 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .01 | .03 | .05 | .06 | .08 | .09 | .10 | .11 | .12 | .12 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 018 | 043 | 067 | 090 | 110 | 129 | 145 | 158 | 168 | 175 |  |

SEP-DEC 40 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z =1.  
 XO (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*







| MST  | DATE |     |     |     |     |     |     |     |     |     | DATE |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     | FEB |     |     |     |     | MAR  |     |     |     |     | APR |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20   | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 0600 | .33  | .32 | .31 | .30 | .28 | .26 | .24 | .21 | .19 | .16 | .14  | .11 | .07 | .04 | .02 | .00 | .00 | .00 | .00 | .00 |
|      | 471  | 459 | 440 | 419 | 394 | 367 | 337 | 299 | 266 | 231 | 195  | 158 | 698 | 661 | 624 | 600 | 600 | 600 | 600 | 600 |
| 15   | .36  | .35 | .34 | .33 | .31 | .29 | .27 | .24 | .22 | .20 | .17  | .15 | .10 | .08 | .05 | .02 | .00 | .00 | .00 | .00 |
|      | 514  | 502 | 483 | 462 | 438 | 411 | 381 | 343 | 310 | 275 | 239  | 203 | 141 | 106 | 069 | 032 | 000 | 000 | 000 | 000 |
| 30   | .39  | .38 | .37 | .36 | .34 | .32 | .30 | .28 | .25 | .23 | .20  | .18 | .14 | .11 | .08 | .06 | .03 | .00 | .00 | .00 |
|      | 556  | 544 | 526 | 505 | 481 | 454 | 425 | 388 | 354 | 320 | 284  | 243 | 189 | 152 | 114 | 077 | 041 | 005 | 000 | 000 |
| 45   | .42  | .41 | .40 | .39 | .37 | .35 | .33 | .31 | .28 | .26 | .24  | .21 | .17 | .14 | .12 | .09 | .06 | .04 | .01 | .00 |
|      | 598  | 586 | 569 | 548 | 524 | 498 | 469 | 432 | 399 | 364 | 329  | 293 | 234 | 196 | 159 | 122 | 085 | 049 | 006 | 000 |
| 0700 | .45  | .44 | .43 | .42 | .40 | .38 | .36 | .34 | .32 | .29 | .27  | .24 | .20 | .17 | .15 | .12 | .09 | .07 | .04 | .01 |
|      | 640  | 628 | 611 | 590 | 567 | 541 | 512 | 475 | 443 | 409 | 373  | 337 | 278 | 241 | 204 | 166 | 129 | 093 | 050 | 015 |
| 15   | .48  | .47 | .46 | .45 | .43 | .41 | .39 | .37 | .35 | .32 | .30  | .27 | .23 | .21 | .18 | .15 | .13 | .10 | .07 | .04 |
|      | 681  | 669 | 652 | 632 | 609 | 583 | 555 | 518 | 486 | 452 | 417  | 381 | 322 | 285 | 247 | 210 | 173 | 136 | 092 | 057 |
| 30   | .51  | .50 | .49 | .48 | .46 | .44 | .42 | .40 | .38 | .35 | .33  | .30 | .25 | .24 | .21 | .18 | .16 | .13 | .10 | .07 |
|      | 721  | 710 | 693 | 673 | 650 | 625 | 597 | 561 | 528 | 495 | 460  | 424 | 365 | 328 | 290 | 253 | 215 | 178 | 134 | 099 |
| 45   | .54  | .53 | .52 | .50 | .49 | .47 | .45 | .43 | .41 | .38 | .36  | .33 | .29 | .27 | .24 | .21 | .19 | .16 | .13 | .10 |
|      | 760  | 749 | 732 | 713 | 690 | 665 | 638 | 602 | 570 | 537 | 502  | 466 | 408 | 370 | 332 | 295 | 257 | 220 | 175 | 139 |
| 0800 | .56  | .56 | .55 | .53 | .52 | .50 | .48 | .46 | .43 | .41 | .39  | .36 | .32 | .30 | .27 | .24 | .22 | .19 | .16 | .13 |
|      | 798  | 787 | 771 | 752 | 729 | 705 | 678 | 642 | 611 | 577 | 543  | 507 | 448 | 411 | 373 | 335 | 297 | 260 | 215 | 178 |
| 15   | .59  | .58 | .57 | .56 | .54 | .53 | .51 | .48 | .46 | .44 | .42  | .39 | .35 | .33 | .30 | .27 | .24 | .22 | .19 | .16 |
|      | 834  | 824 | 808 | 789 | 767 | 743 | 716 | 681 | 650 | 617 | 582  | 547 | 488 | 451 | 413 | 374 | 336 | 298 | 253 | 215 |
| 30   | .61  | .61 | .60 | .58 | .57 | .55 | .53 | .51 | .49 | .47 | .44  | .42 | .38 | .35 | .33 | .30 | .27 | .24 | .21 | .19 |
|      | 869  | 859 | 844 | 825 | 804 | 780 | 753 | 718 | 687 | 655 | 620  | 585 | 526 | 489 | 450 | 412 | 373 | 335 | 289 | 252 |
| 45   | .64  | .63 | .62 | .61 | .59 | .58 | .56 | .54 | .52 | .49 | .47  | .45 | .40 | .38 | .35 | .32 | .30 | .27 | .24 | .21 |
|      | 903  | 893 | 878 | 860 | 839 | 815 | 789 | 754 | 724 | 691 | 657  | 621 | 563 | 525 | 487 | 448 | 409 | 370 | 324 | 285 |

JAN-APR 60 S TABLE 8-1 SOLAR PARAMETERS COS Z \*\*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | JAN  |      |      |      |      | FEB  |      |      |     |     | MAR |     |     |     |     | APR |     |     |     |     |     |     |     |     |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |
| 0900 | .66  | .65  | .64  | .63  | .62  | .60  | .58  | .56  | .54 | .52 | .49 | .47 | .43 | .40 | .38 | .35 | .32 | .29 | .26 | .23 | .21 | .18 | .16 | .13 |
|      | 934  | 925  | 910  | 892  | 872  | 848  | 822  | 788  | 758 | 725 | 691 | 656 | 597 | 559 | 521 | 482 | 443 | 404 | 357 | 310 | 281 | 245 | 209 | 176 |
| 15   | .68  | .67  | .66  | .65  | .64  | .62  | .61  | .58  | .56 | .54 | .52 | .49 | .45 | .43 | .40 | .37 | .35 | .32 | .28 | .25 | .23 | .20 | .18 | .15 |
|      | 964  | 955  | 940  | 923  | 903  | 880  | 854  | 821  | 790 | 758 | 724 | 689 | 630 | 592 | 553 | 514 | 474 | 435 | 388 | 343 | 311 | 274 | 239 | 204 |
| 30   | .70  | .69  | .68  | .67  | .66  | .64  | .63  | .60  | .58 | .56 | .54 | .52 | .47 | .45 | .42 | .39 | .37 | .34 | .31 | .28 | .25 | .22 | .20 | .17 |
|      | 991  | 982  | 968  | 951  | 932  | 909  | 884  | 851  | 821 | 788 | 755 | 719 | 660 | 622 | 583 | 544 | 504 | 464 | 417 | 379 | 339 | 302 | 266 | 231 |
| 45   | .72  | .71  | .70  | .69  | .68  | .66  | .65  | .62  | .60 | .58 | .56 | .54 | .50 | .47 | .44 | .41 | .39 | .36 | .32 | .30 | .27 | .24 | .22 | .19 |
|      | 1017 | 1008 | 995  | 978  | 959  | 936  | 911  | 879  | 849 | 817 | 783 | 748 | 689 | 650 | 611 | 571 | 531 | 491 | 443 | 404 | 365 | 327 | 290 | 255 |
| 1000 | .73  | .73  | .72  | .71  | .70  | .68  | .66  | .64  | .62 | .60 | .58 | .55 | .51 | .49 | .46 | .43 | .40 | .38 | .34 | .31 | .29 | .26 | .23 | .21 |
|      | 1040 | 1031 | 1018 | 1002 | 983  | 961  | 937  | 904  | 874 | 843 | 809 | 774 | 715 | 676 | 637 | 597 | 556 | 516 | 467 | 427 | 388 | 350 | 313 | 278 |
| 15   | .75  | .74  | .74  | .72  | .71  | .70  | .68  | .66  | .64 | .62 | .60 | .57 | .53 | .50 | .48 | .45 | .42 | .39 | .36 | .33 | .30 | .27 | .25 | .22 |
|      | 1060 | 1052 | 1040 | 1024 | 1005 | 984  | 960  | 927  | 898 | 866 | 833 | 797 | 738 | 699 | 660 | 619 | 578 | 538 | 489 | 449 | 409 | 370 | 333 | 297 |
| 30   | .76  | .76  | .75  | .74  | .73  | .71  | .70  | .67  | .65 | .63 | .61 | .59 | .55 | .52 | .49 | .46 | .43 | .41 | .37 | .34 | .31 | .29 | .26 | .23 |
|      | 1079 | 1071 | 1059 | 1043 | 1025 | 1004 | 980  | 948  | 919 | 887 | 854 | 818 | 759 | 720 | 680 | 639 | 598 | 557 | 507 | 467 | 427 | 388 | 350 | 314 |
| 45   | .77  | .77  | .76  | .75  | .74  | .72  | .71  | .69  | .67 | .65 | .62 | .60 | .56 | .53 | .50 | .48 | .45 | .42 | .38 | .35 | .33 | .30 | .27 | .24 |
|      | 1094 | 1087 | 1075 | 1060 | 1042 | 1021 | 998  | 966  | 937 | 906 | 872 | 837 | 777 | 738 | 698 | 657 | 615 | 574 | 524 | 483 | 442 | 403 | 365 | 329 |
| 1100 | .78  | .78  | .77  | .76  | .75  | .73  | .72  | .70  | .68 | .66 | .63 | .61 | .57 | .54 | .52 | .49 | .46 | .43 | .39 | .35 | .33 | .31 | .28 | .25 |
|      | 1107 | 1100 | 1089 | 1074 | 1057 | 1036 | 1013 | 981  | 952 | 921 | 888 | 852 | 792 | 753 | 712 | 671 | 629 | 587 | 537 | 495 | 455 | 415 | 377 | 341 |
| 15   | .79  | .79  | .78  | .77  | .76  | .74  | .73  | .71  | .69 | .67 | .64 | .62 | .58 | .55 | .52 | .50 | .47 | .44 | .40 | .37 | .34 | .31 | .29 | .26 |
|      | 1117 | 1111 | 1100 | 1086 | 1068 | 1048 | 1025 | 994  | 965 | 934 | 901 | 865 | 805 | 765 | 725 | 683 | 641 | 599 | 548 | 505 | 465 | 425 | 387 | 350 |
| 30   | .80  | .79  | .78  | .77  | .76  | .75  | .73  | .71  | .69 | .67 | .65 | .63 | .59 | .56 | .53 | .50 | .47 | .44 | .41 | .38 | .35 | .32 | .29 | .26 |
|      | 1125 | 1119 | 1108 | 1094 | 1078 | 1058 | 1035 | 1004 | 975 | 944 | 911 | 875 | 815 | 775 | 734 | 692 | 649 | 607 | 556 | 514 | 472 | 432 | 393 | 356 |
| 45   | .80  | .79  | .79  | .78  | .77  | .75  | .74  | .72  | .70 | .68 | .65 | .63 | .59 | .56 | .54 | .51 | .48 | .45 | .41 | .38 | .35 | .32 | .29 | .27 |
|      | 1130 | 1124 | 1114 | 1100 | 1084 | 1064 | 1042 | 1011 | 982 | 951 | 918 | 882 | 821 | 781 | 740 | 698 | 655 | 612 | 561 | 519 | 477 | 436 | 397 | 360 |

... SIGNIFIES COS 2 +1.  
ADD 1000 TO VALUES PRECEDED 3Y +

SOLAR PARAMETERS COS 2  
X0 (W/M\*\*2.)

JAN-APR 60 S

TABLE B-1

... SIGNIFIES COS Z <sup>41</sup>.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS COS Z  
X0 (W/M\*2.)

TABLE B-1

JAN-APR 60 S

| MST  | DATE |      |      |      |      |      |      |      |      |      | DATE |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | JAN  |      |      |      |      | FEB  |      |      |      |      | MAR  |      |      |      |      | APR  |      |      |      |      |
|      | 1    | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 30   |
| 1200 | .80  | .80  | .79  | .78  | .77  | .76  | .74  | .72  | .70  | .68  | .66  | .63  | .59  | .57  | .54  | .51  | .48  | .45  | .41  | .39  |
|      | .132 | .126 | .116 | .103 | .087 | .068 | .046 | .015 | .987 | .955 | .922 | .886 | .825 | .785 | .743 | .701 | .658 | .615 | .563 | .520 |
| 15   | .80  | .80  | .79  | .78  | .77  | .76  | .74  | .72  | .70  | .68  | .66  | .64  | .59  | .57  | .54  | .51  | .48  | .45  | .41  | .39  |
|      | .131 | .126 | .116 | .104 | .088 | .069 | .047 | .016 | .988 | .957 | .923 | .887 | .826 | .786 | .744 | .701 | .658 | .614 | .562 | .519 |
| 30   | .80  | .79  | .79  | .78  | .77  | .76  | .74  | .72  | .70  | .68  | .66  | .63  | .59  | .56  | .54  | .51  | .48  | .45  | .41  | .39  |
|      | .127 | .123 | .113 | .101 | .086 | .067 | .045 | .015 | .986 | .955 | .922 | .886 | .824 | .783 | .741 | .698 | .655 | .611 | .558 | .515 |
| 45   | .79  | .79  | .78  | .78  | .76  | .75  | .74  | .72  | .70  | .68  | .66  | .63  | .59  | .56  | .53  | .50  | .47  | .44  | .40  | .37  |
|      | .121 | .117 | .108 | .096 | .080 | .062 | .040 | .010 | .982 | .951 | .917 | .881 | .819 | .778 | .736 | .692 | .648 | .604 | .551 | .503 |
| 1300 | .79  | .78  | .78  | .77  | .76  | .75  | .73  | .71  | .69  | .67  | .65  | .63  | .58  | .56  | .53  | .50  | .46  | .43  | .40  | .37  |
|      | .112 | .108 | .099 | .088 | .073 | .054 | .033 | .003 | .974 | .943 | .909 | .873 | .811 | .770 | .727 | .684 | .639 | .595 | .542 | .493 |
| 15   | .78  | .77  | .77  | .76  | .75  | .74  | .73  | .71  | .69  | .67  | .64  | .62  | .58  | .55  | .52  | .49  | .46  | .42  | .39  | .35  |
|      | .100 | .096 | .088 | .077 | .062 | .044 | .022 | .992 | .964 | .933 | .899 | .853 | .800 | .759 | .715 | .672 | .628 | .583 | .529 | .485 |
| 30   | .77  | .76  | .76  | .75  | .74  | .73  | .72  | .70  | .68  | .66  | .63  | .61  | .57  | .54  | .51  | .48  | .45  | .41  | .38  | .35  |
|      | .086 | .082 | .074 | .063 | .049 | .031 | .009 | .979 | .951 | .920 | .886 | .849 | .786 | .745 | .702 | .658 | .613 | .568 | .514 | .470 |
| 45   | .76  | .75  | .75  | .74  | .73  | .72  | .70  | .68  | .67  | .64  | .62  | .60  | .55  | .52  | .50  | .46  | .43  | .40  | .36  | .33  |
|      | .069 | .065 | .058 | .047 | .033 | .015 | .993 | .984 | .935 | .904 | .870 | .833 | .770 | .728 | .685 | .640 | .595 | .550 | .496 | .452 |
| 1400 | .74  | .74  | .73  | .73  | .72  | .71  | .69  | .67  | .65  | .63  | .61  | .58  | .54  | .51  | .48  | .45  | .42  | .39  | .35  | .32  |
|      | .049 | .046 | .039 | .028 | .014 | .996 | .975 | .945 | .917 | .885 | .851 | .814 | .751 | .709 | .665 | .621 | .575 | .530 | .476 | .431 |
| 15   | .73  | .72  | .72  | .71  | .70  | .69  | .68  | .66  | .64  | .62  | .59  | .57  | .52  | .50  | .46  | .43  | .40  | .37  | .33  | .30  |
|      | .027 | .024 | .017 | .007 | .993 | .975 | .954 | .924 | .896 | .864 | .830 | .793 | .729 | .687 | .643 | .598 | .553 | .507 | .453 | .403 |
| 30   | .71  | .71  | .70  | .70  | .69  | .67  | .66  | .64  | .62  | .60  | .58  | .55  | .51  | .48  | .45  | .42  | .38  | .35  | .31  | .29  |
|      | .063 | .060 | .053 | .043 | .033 | .023 | .013 | .901 | .872 | .840 | .806 | .769 | .705 | .662 | .618 | .573 | .527 | .482 | .427 | .383 |
| 45   | .69  | .69  | .68  | .68  | .67  | .66  | .64  | .62  | .60  | .58  | .56  | .53  | .49  | .46  | .43  | .40  | .36  | .33  | .29  | .25  |
|      | .977 | .974 | .967 | .957 | .943 | .926 | .905 | .875 | .846 | .814 | .780 | .742 | .676 | .635 | .591 | .546 | .500 | .454 | .399 | .355 |

JAN-APR 60 S TABLE B-1 SOLAR PARAMETERS COS 2 X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS 2 =1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |
| 1500 | .67  | .67 | .66 | .66 | .65 | .64 | .62 | .60 | .58 | .56 | .54 | .51 | .47 | .44 | .41 | .37 | .34 | .31 | .27 | .24 | .21 | .18 | .15 | .12 |
|      | 948  | 945 | 939 | 929 | 915 | 898 | 876 | 846 | 818 | 786 | 751 | 713 | 649 | 606 | 561 | 516 | 470 | 424 | 369 | 325 | 282 | 240 | 201 | 164 |
| 15   | .65  | .65 | .64 | .64 | .63 | .61 | .60 | .58 | .56 | .54 | .51 | .49 | .44 | .41 | .38 | .35 | .32 | .29 | .25 | .22 | .18 | .15 | .13 | .10 |
| 30   | 917  | 915 | 909 | 899 | 885 | 867 | 846 | 816 | 787 | 755 | 720 | 682 | 617 | 574 | 529 | 484 | 438 | 392 | 337 | 293 | 250 | 208 | 169 | 132 |
|      | .63  | .62 | .62 | .61 | .60 | .59 | .58 | .56 | .54 | .52 | .49 | .47 | .42 | .39 | .36 | .33 | .29 | .26 | .22 | .19 | .16 | .13 | .10 | .07 |
| 45   | 885  | 882 | 876 | 866 | 853 | 835 | 814 | 784 | 755 | 722 | 687 | 649 | 584 | 540 | 496 | 450 | 404 | 358 | 303 | 259 | 216 | 174 | 135 | 099 |
|      | .60  | .60 | .60 | .59 | .58 | .57 | .55 | .53 | .51 | .49 | .47 | .44 | .39 | .36 | .33 | .30 | .27 | .24 | .20 | .16 | .13 | .10 | .07 | .05 |
| 1600 | 850  | 848 | 842 | 832 | 819 | 801 | 780 | 749 | 720 | 688 | 652 | 614 | 543 | 505 | 460 | 414 | 368 | 322 | 267 | 223 | 180 | 139 | 100 | 064 |
|      | .58  | .57 | .57 | .56 | .55 | .54 | .53 | .51 | .49 | .46 | .44 | .41 | .37 | .34 | .31 | .27 | .24 | .21 | .17 | .14 | .11 | .08 | .05 | .02 |
| 15   | 815  | 812 | 806 | 797 | 783 | 765 | 744 | 713 | 684 | 651 | 616 | 577 | 511 | 468 | 423 | 377 | 331 | 284 | 230 | 185 | 143 | 102 | 063 | 027 |
|      | .55  | .55 | .54 | .54 | .53 | .52 | .50 | .48 | .46 | .44 | .41 | .39 | .34 | .31 | .28 | .25 | .21 | .18 | .14 | .11 | .08 | .05 | .02 | .00 |
| 30   | 777  | 775 | 769 | 759 | 746 | 728 | 706 | 675 | 646 | 613 | 577 | 539 | 473 | 429 | 384 | 338 | 291 | 245 | 191 | 147 | 104 | 063 | 025 | 000 |
|      | .52  | .52 | .52 | .51 | .50 | .49 | .47 | .45 | .43 | .41 | .38 | .36 | .31 | .28 | .25 | .22 | .18 | .15 | .11 | .08 | .05 | .02 | .00 | .00 |
| 45   | 739  | 737 | 731 | 721 | 707 | 689 | 667 | 636 | 607 | 574 | 538 | 499 | 432 | 388 | 343 | 297 | 251 | 205 | 150 | 105 | 064 | 024 | 000 | 000 |
|      | .49  | .49 | .49 | .48 | .47 | .46 | .45 | .42 | .40 | .38 | .36 | .33 | .29 | .25 | .22 | .19 | .15 | .12 | .08 | .05 | .02 | .00 | .00 | .00 |
| 1700 | 699  | 697 | 691 | 681 | 667 | 649 | 627 | 596 | 566 | 533 | 497 | 458 | 391 | 347 | 302 | 256 | 209 | 163 | 109 | 065 | 023 | 000 | 000 | 000 |
|      | .47  | .46 | .46 | .45 | .44 | .43 | .42 | .39 | .37 | .35 | .33 | .30 | .25 | .22 | .19 | .15 | .12 | .09 | .05 | .02 | .00 | .00 | .00 | .00 |
| 15   | 658  | 657 | 650 | 640 | 626 | 608 | 586 | 554 | 524 | 491 | 455 | 415 | 348 | 304 | 259 | 213 | 167 | 121 | 067 | 023 | 000 | 000 | 000 | 000 |
|      | .44  | .43 | .43 | .42 | .41 | .40 | .39 | .36 | .34 | .32 | .29 | .27 | .22 | .19 | .16 | .12 | .09 | .06 | .02 | .00 | .00 | .00 | .00 | .00 |
| 30   | 617  | 615 | 609 | 599 | 584 | 566 | 544 | 512 | 482 | 448 | 411 | 372 | 305 | 261 | 215 | 169 | 123 | 077 | 023 | 000 | 000 | 000 | 000 | 000 |
|      | .41  | .41 | .40 | .39 | .38 | .37 | .36 | .33 | .31 | .29 | .26 | .24 | .19 | .16 | .12 | .09 | .06 | .02 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | 575  | 573 | 567 | 557 | 542 | 523 | 501 | 469 | 438 | 405 | 368 | 328 | 261 | 216 | 171 | 125 | 079 | 033 | 000 | 000 | 000 | 000 | 000 | 000 |
|      | .38  | .38 | .37 | .36 | .35 | .34 | .32 | .30 | .28 | .26 | .23 | .20 | .16 | .12 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | 533  | 531 | 524 | 514 | 499 | 480 | 458 | 425 | 394 | 360 | 323 | 284 | 216 | 171 | 126 | 080 | 034 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
|      | .41  | .41 | .40 | .39 | .38 | .37 | .36 | .33 | .31 | .29 | .26 | .24 | .19 | .16 | .12 | .09 | .06 | .02 | .00 | .00 | .00 | .00 | .00 | .00 |

JAN-APR 60 S      TABLE 8-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 X0 (W/M-+2.)      ADD 1000 TO VALUES PRECEDED BY +



| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 2100 | .02  | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
|      | 027  | 022 | 012 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

JAN-APR 60 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z =1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | MAY  |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |  |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |  |
| 0700 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 |  |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 022 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 |  |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 023 | 063 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .08 |  |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 024 | 062 | 103 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 0800 | .01  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .11 |  |
|      | 011  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 025 | 062 | 100 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 141 |  |
| 15   | .04  | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .13 |  |
|      | 047  | 018 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 062 | 098 | 137 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 178 |  |
| 30   | .06  | .04 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .16 |  |
|      | 081  | 051 | 024 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 037 | 133 | 172 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 213 |  |
| 45   | .08  | .06 | .04 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .18 |  |
|      | 113  | 083 | 056 | 030 | 008 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 035 | 130 | 167 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 247 |  |
| 0900 | .11  | .08 | .06 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .21 |  |
|      | 143  | 113 | 085 | 060 | 037 | 018 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 127 | 161 | 198 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 279 |  |
| 15   | .13  | .11 | .09 | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .23 |  |
|      | 172  | 141 | 113 | 088 | 065 | 045 | 026 | 013 | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 157 | 191 | 228 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 308 |  |
| 30   | .15  | .13 | .10 | .09 | .07 | .05 | .04 | .03 | .02 | .02 | .02 | .02 | .02 | .02 | .02 | .02 | .02 | .02 | .25 |  |
|      | 198  | 167 | 139 | 113 | 090 | 070 | 051 | 038 | 029 | 024 | 022 | 025 | 000 | 000 | 000 | 000 | 181 | 219 | 256 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 336 |  |
| 45   | .17  | .14 | .12 | .10 | .09 | .07 | .06 | .05 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .04 | .27 |  |
|      | 222  | 191 | 163 | 137 | 114 | 094 | 074 | 061 | 052 | 047 | 046 | 048 | 000 | 000 | 000 | 000 | 209 | 244 | 281 |  |
|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 361 |  |

\*\*\* SIGNIFIES COS Z = 1.  
ADD 1000 TO VALUES PRECEDED BY \*

TABLE B-1 SOLAR PARAMETERS  
XO (W/M\*\*2.)

60 S

TABLE B-1

MAY-AUG

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1000 | .18 | .16 | .14 | .12 | .10 | .09 | .07 | .06 | .06 | .05 | .05 | .05 | .06 | .07 | .08 | .09 | .11 | .13 | .15 | .17 | .20 | .23 | .26 | .29 |
|      | 244 | 213 | 184 | 158 | 135 | 115 | 095 | 082 | 074 | 069 | 067 | 070 | 077 | 087 | 101 | 119 | 141 | 166 | 200 | 232 | 267 | 304 | 343 | 384 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .20 | .17 | .15 | .13 | .12 | .10 | .09 | .08 | .07 | .07 | .07 | .07 | .07 | .08 | .09 | .11 | .12 | .14 | .17 | .19 | .22 | .24 | .27 | .30 |
|      | 264 | 232 | 203 | 177 | 153 | 133 | 114 | 101 | 092 | 087 | 085 | 089 | 096 | 107 | 121 | 139 | 161 | 186 | 221 | 253 | 288 | 325 | 364 | 405 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .21 | .19 | .16 | .14 | .13 | .11 | .10 | .09 | .08 | .08 | .08 | .08 | .09 | .09 | .11 | .12 | .14 | .15 | .18 | .20 | .23 | .26 | .29 | .32 |
|      | 280 | 249 | 220 | 193 | 170 | 150 | 130 | 118 | 109 | 104 | 102 | 106 | 113 | 124 | 139 | 157 | 179 | 204 | 239 | 271 | 305 | 343 | 382 | 423 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .22 | .20 | .17 | .16 | .14 | .12 | .11 | .10 | .09 | .09 | .09 | .09 | .10 | .11 | .12 | .13 | .15 | .17 | .19 | .22 | .24 | .27 | .30 | .33 |
|      | 295 | 263 | 233 | 207 | 184 | 163 | 144 | 131 | 123 | 118 | 118 | 121 | 128 | 139 | 154 | 172 | 195 | 220 | 255 | 287 | 322 | 359 | 398 | 438 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1100 | .23 | .20 | .18 | .16 | .15 | .13 | .12 | .11 | .10 | .10 | .10 | .10 | .11 | .11 | .13 | .14 | .16 | .18 | .20 | .23 | .25 | .28 | .31 | .34 |
|      | 306 | 274 | 245 | 218 | 195 | 175 | 155 | 143 | 135 | 130 | 130 | 133 | 140 | 152 | 167 | 185 | 208 | 233 | 268 | 300 | 335 | 372 | 411 | 451 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .23 | .21 | .19 | .17 | .15 | .14 | .12 | .11 | .11 | .11 | .11 | .11 | .11 | .12 | .13 | .15 | .16 | .18 | .21 | .23 | .26 | .29 | .31 | .34 |
|      | 315 | 283 | 254 | 227 | 203 | 183 | 164 | 152 | 144 | 139 | 139 | 143 | 150 | 162 | 177 | 196 | 218 | 244 | 278 | 311 | 345 | 382 | 421 | 461 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .24 | .22 | .19 | .17 | .16 | .14 | .13 | .12 | .11 | .11 | .11 | .11 | .12 | .13 | .14 | .15 | .17 | .19 | .22 | .24 | .26 | .29 | .32 | .35 |
|      | 322 | 289 | 260 | 233 | 210 | 190 | 170 | 158 | 150 | 146 | 146 | 150 | 157 | 169 | 184 | 203 | 226 | 251 | 286 | 313 | 353 | 390 | 428 | 468 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .24 | .22 | .20 | .18 | .16 | .15 | .13 | .12 | .12 | .11 | .11 | .12 | .12 | .13 | .14 | .16 | .17 | .19 | .22 | .24 | .27 | .30 | .32 | .35 |
|      | 325 | 293 | 263 | 236 | 213 | 193 | 174 | 162 | 154 | 150 | 150 | 154 | 162 | 174 | 189 | 208 | 231 | 257 | 291 | 321 | 358 | 395 | 433 | 473 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1200 | .24 | .22 | .20 | .18 | .16 | .15 | .13 | .12 | .12 | .11 | .12 | .12 | .12 | .13 | .15 | .16 | .18 | .20 | .22 | .24 | .27 | .30 | .32 | .35 |
|      | 326 | 293 | 264 | 237 | 214 | 194 | 175 | 163 | 155 | 152 | 152 | 156 | 164 | 176 | 192 | 211 | 233 | 259 | 294 | 325 | 360 | 397 | 435 | 474 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15   | .24 | .22 | .20 | .18 | .16 | .14 | .13 | .12 | .12 | .11 | .11 | .12 | .12 | .13 | .14 | .16 | .18 | .20 | .22 | .24 | .27 | .30 | .32 | .35 |
|      | 324 | 291 | 262 | 235 | 212 | 192 | 173 | 162 | 154 | 151 | 151 | 155 | 164 | 176 | 191 | 211 | 233 | 259 | 294 | 326 | 360 | 396 | 434 | 473 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   | .24 | .21 | .19 | .17 | .16 | .14 | .13 | .12 | .11 | .11 | .11 | .12 | .12 | .13 | .14 | .16 | .17 | .19 | .22 | .24 | .27 | .29 | .32 | .35 |
|      | 319 | 287 | 257 | 230 | 207 | 188 | 169 | 158 | 150 | 147 | 147 | 152 | 160 | 173 | 188 | 208 | 230 | 256 | 291 | 322 | 354 | 392 | 430 | 469 |
|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | .23 | .21 | .19 | .17 | .15 | .14 | .12 | .11 | .11 | .11 | .11 | .11 | .12 | .13 | .14 | .15 | .17 | .19 | .21 | .24 | .26 | .29 | .32 | .34 |
|      | 312 | 279 | 249 | 223 | 200 | 181 | 162 | 151 | 144 | 141 | 141 | 146 | 155 | 167 | 183 | 202 | 225 | 251 | 285 | 317 | 350 | 386 | 423 | 462 |

MAY-AUG 60 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*



MST

DATE

|      | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1300 | .22 | .20 | .18 | .16 | .14 | .13 | .12 | .11 | .10 | .10 | .10 | .10 | .11 | .12 | .13 | .15 | .16 | .18 | .21 | .23 | .26 | .28 | .31 | .34 |
|      | 301 | 269 | 239 | 213 | 190 | 171 | 153 | 142 | 135 | 132 | 133 | 138 | 146 | 159 | 175 | 194 | 217 | 242 | 277 | 303 | 342 | 377 | 414 | 452 |
| 15   | .21 | .19 | .17 | .15 | .13 | .12 | .11 | .10 | .09 | .09 | .09 | .10 | .10 | .11 | .12 | .14 | .16 | .17 | .20 | .22 | .25 | .27 | .30 | .33 |
|      | 288 | 256 | 227 | 200 | 178 | 159 | 141 | 130 | 123 | 120 | 122 | 127 | 135 | 148 | 164 | 183 | 206 | 231 | 266 | 297 | 330 | 365 | 402 | 440 |
| 30   | .20 | .18 | .16 | .14 | .12 | .11 | .10 | .09 | .08 | .08 | .08 | .09 | .09 | .10 | .11 | .13 | .15 | .16 | .19 | .21 | .24 | .26 | .29 | .32 |
|      | 273 | 241 | 211 | 185 | 163 | 144 | 126 | 116 | 109 | 107 | 108 | 113 | 122 | 135 | 151 | 170 | 193 | 218 | 252 | 283 | 316 | 351 | 387 | 425 |
| 45   | .19 | .17 | .14 | .13 | .11 | .10 | .08 | .08 | .07 | .07 | .07 | .07 | .08 | .09 | .10 | .12 | .13 | .15 | .18 | .20 | .22 | .25 | .28 | .30 |
|      | 255 | 223 | 194 | 168 | 145 | 127 | 109 | 099 | 093 | 090 | 092 | 097 | 106 | 119 | 135 | 154 | 177 | 202 | 236 | 267 | 299 | 334 | 370 | 407 |
| 1400 | .17 | .15 | .13 | .11 | .09 | .08 | .07 | .06 | .06 | .05 | .06 | .06 | .07 | .08 | .09 | .10 | .12 | .14 | .16 | .19 | .21 | .24 | .26 | .29 |
|      | 234 | 202 | 173 | 148 | 126 | 107 | 090 | 080 | 074 | 072 | 074 | 079 | 083 | 101 | 117 | 136 | 159 | 184 | 217 | 243 | 280 | 314 | 350 | 386 |
| 15   | .16 | .13 | .11 | .09 | .08 | .06 | .05 | .04 | .04 | .04 | .04 | .04 | .05 | .06 | .07 | .09 | .10 | .12 | .15 | .17 | .19 | .22 | .24 | .27 |
|      | 211 | 180 | 151 | 125 | 104 | 085 | 069 | 059 | 053 | 051 | 053 | 058 | 068 | 080 | 097 | 116 | 138 | 163 | 196 | 223 | 258 | 292 | 327 | 364 |
| 30   | .14 | .12 | .09 | .08 | .06 | .05 | .03 | .03 | .02 | .02 | .02 | .03 | .03 | .04 | .06 | .07 | .09 | .11 | .13 | .15 | .18 | .20 | .23 | .25 |
|      | 186 | 155 | 126 | 101 | 079 | 061 | 045 | 036 | 030 | 028 | 030 | 036 | 045 | 058 | 074 | 093 | 115 | 140 | 173 | 203 | 234 | 268 | 303 | 338 |
| 45   | .12 | .10 | .07 | .06 | .04 | .03 | .01 | .01 | .00 | .00 | .00 | .01 | .02 | .03 | .04 | .05 | .07 | .09 | .11 | .13 | .16 | .18 | .21 | .23 |
|      | 159 | 127 | 099 | 074 | 053 | 035 | 019 | 010 | 005 | 003 | 005 | 011 | 020 | 033 | 049 | 068 | 090 | 115 | 147 | 177 | 208 | 241 | 276 | 311 |
| 1500 | .10 | .07 | .05 | .03 | .02 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .05 | .07 | .09 | .11 | .14 | .16 | .18 | .21 |
|      | 129 | 098 | 070 | 046 | 025 | 007 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 006 | 022 | 041 | 063 | 088 | 120 | 143 | 180 | 213 | 246 | 281 |
| 15   | .07 | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .04 | .07 | .09 | .11 | .14 | .16 | .19 |
|      | 098 | 067 | 039 | 015 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 013 | 034 | 058 | 090 | 113 | 150 | 182 | 215 | 250 |
| 30   | .05 | .03 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .07 | .09 | .11 | .14 | .16 |
|      | 065 | 034 | 007 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 027 | 059 | 087 | 113 | 149 | 182 | 216 |
| 45   | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .06 | .09 | .11 | .14 |
|      | 030 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 026 | 054 | 084 | 115 | 148 | 181 |

MAY-AUG 60 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY  |     |     |     |     | JUN  |     |     |     |     | JUL  |     |     |     |     | AUG  |     |     |  |  |
|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|--|--|
|      | 5    | 10  | 15  | 20  | 25  | 30   | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20   | 25  | 30  |  |  |
|      | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |     |     | DATE |     |     |  |  |
| 1600 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 |  |  |
|      | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 |  |  |
| 15   | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 |  |  |
|      | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 |  |  |
| 30   | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 |  |  |
|      | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 |  |  |
| 45   | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00  | .00 | .00 |  |  |
|      | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000  | 000 | 000 |  |  |

MAY-AUG

60 S

TABLE B-1

SOLAR PARAMETERS

COS Z

XO (W/M\*\*2.)

\*\*\* SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY -

MAY-AUG 60 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 X0 (W/M=2.)      ADD 1000 TO VALUES PRECEDED BY \*

AD-A148 096

OPERATIONAL TACTICAL DECISION AID (OTDA) FOR INFRARED  
(8-12 MICROMETERS) (U) SYSTEMS AND APPLIED SCIENCES  
CORP VIENNA VA D B HODGES 30 SEP 83 SCIENTIFIC-8-VOL-3  
AFGL-YR-83-0334-VOL-3 F19628-81-C-0042 F/G 4/1

4/4

UNCLASSIFIED

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DTIC



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | DEC |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | SEP  |     |     | OCT |     |     | NOV |     |     | 5   |     |     | 5   |     |     | 5   |     |     | 5   |     |     | 5   |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 0200 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0300 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0400 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0500 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

SEP-DEC 60 S TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY .



| MST  | SEP   |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5     | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0800 | .14   | .18 | .21 | .24 | .27 | .31 | .34 | .37 | .40 | .43 | .45  | .47 | .50 | .52 | .54 | .55 | .56 | .57 | .58 | .59 | .59 | .58 | .57 | .57 |  |
|      | 192   | 236 | 282 | 327 | 373 | 418 | 463 | 506 | 548 | 587 | 625  | 659 | 697 | 725 | 743 | 770 | 787 | 801 | 810 | 815 | 818 | 817 | 812 | 803 |  |
|      | .15   | .17 | .20 | .24 | .27 | .30 | .32 | .36 | .40 | .42 | .45  | .48 | .50 | .53 | .54 | .56 | .57 | .59 | .59 | .60 | .60 | .60 | .60 | .59 |  |
| 15   | 229   | 273 | 319 | 364 | 410 | 455 | 500 | 543 | 584 | 624 | 661  | 695 | 733 | 760 | 785 | 805 | 823 | 836 | 846 | 852 | 853 | 853 | 848 | 839 |  |
|      | .30   | .20 | .23 | .26 | .29 | .33 | .36 | .39 | .42 | .45 | .48  | .50 | .53 | .55 | .57 | .58 | .60 | .61 | .62 | .62 | .63 | .63 | .62 | .62 |  |
|      | 265   | 309 | 354 | 400 | 445 | 490 | 534 | 577 | 619 | 658 | 695  | 729 | 766 | 794 | 818 | 839 | 856 | 870 | 880 | 883 | 886 | 887 | 882 | 874 |  |
| 45   | .22   | .25 | .29 | .32 | .35 | .38 | .41 | .44 | .47 | .50 | .52  | .55 | .57 | .59 | .61 | .62 | .63 | .64 | .65 | .65 | .65 | .65 | .65 | .64 |  |
|      | 298   | 343 | 388 | 433 | 479 | 523 | 568 | 610 | 651 | 691 | 727  | 761 | 798 | 826 | 850 | 871 | 888 | 902 | 911 | 913 | 920 | 920 | 915 | 907 |  |
|      | 0900  | .25 | .28 | .31 | .34 | .37 | .41 | .44 | .47 | .50 | .52  | .55 | .57 | .59 | .61 | .63 | .64 | .65 | .66 | .67 | .67 | .67 | .67 | .66 |  |
| 15   | 330   | 374 | 419 | 465 | 510 | 555 | 599 | 641 | 682 | 721 | 757  | 791 | 828 | 856 | 880 | 901 | 918 | 931 | 942 | 943 | .51 | 950 | 946 | 939 |  |
|      | .15   | .27 | .30 | .33 | .36 | .40 | .43 | .46 | .49 | .52 | .54  | .57 | .59 | .61 | .63 | .65 | .66 | .67 | .68 | .69 | .69 | .69 | .69 | .68 |  |
|      | 360   | 404 | 449 | 494 | 539 | 584 | 627 | 670 | 710 | 749 | 785  | 819 | 856 | 883 | 907 | 928 | 945 | 959 | 969 | 973 | 979 | 979 | 975 | 968 |  |
| 30   | .29   | .32 | .35 | .38 | .42 | .45 | .48 | .51 | .53 | .56 | .59  | .61 | .63 | .65 | .67 | .68 | .69 | .70 | .71 | .71 | .71 | .71 | .71 | .70 |  |
|      | 387   | 431 | 476 | 521 | 566 | 610 | 654 | 696 | 736 | 775 | 811  | 845 | 881 | 909 | 923 | 954 | 971 | 985 | 995 | 002 | 006 | 006 | 002 | 995 |  |
|      | 45    | .31 | .34 | .37 | .40 | .43 | .46 | .49 | .52 | .55 | .58  | .60 | .62 | .65 | .67 | .68 | .70 | .71 | .72 | .72 | .74 | .74 | .73 | .73 |  |
| 1000 | 413   | 457 | 501 | 546 | 591 | 635 | 678 | 720 | 760 | 793 | 834  | 868 | 905 | 932 | 956 | 977 | 994 | 008 | 019 | 021 | 016 | 030 | 027 | 021 |  |
|      | .1000 | .32 | .36 | .39 | .42 | .45 | .48 | .51 | .54 | .57 | .59  | .62 | .64 | .66 | .68 | .70 | .71 | .72 | .73 | .74 | .74 | .74 | .74 | .74 |  |
|      | 436   | 479 | 524 | 568 | 613 | 657 | 700 | 741 | 781 | 819 | 855  | 889 | 925 | 952 | 976 | 997 | 015 | 029 | 040 | 043 | .61 | 052 | 049 | 043 |  |
| 15   | .34   | .37 | .40 | .43 | .46 | .49 | .52 | .55 | .58 | .61 | .63  | .65 | .68 | .69 | .71 | .72 | .74 | .74 | .75 | .75 | .75 | .76 | .76 | .75 |  |
|      | 456   | 500 | 544 | 588 | 632 | 676 | 719 | 760 | 800 | 838 | 873  | 907 | 943 | 970 | 994 | 015 | 033 | 047 | 059 | 063 | 061 | 072 | 063 | 064 |  |
|      | 30    | .35 | .38 | .41 | .45 | .48 | .51 | .54 | .56 | .59 | .62  | .64 | .66 | .68 | .71 | .72 | .73 | .75 | .76 | .76 | .77 | .77 | .77 | .77 |  |
| 45   | 474   | 517 | 561 | 605 | 649 | 693 | 735 | 776 | 816 | 853 | 889  | 922 | 956 | 985 | 010 | 031 | 049 | 063 | 075 | 082 | 087 | 089 | 087 | 082 |  |
|      | .45   | .36 | .39 | .43 | .46 | .49 | .52 | .55 | .57 | .60 | .63  | .65 | .67 | .70 | .71 | .72 | .74 | .76 | .76 | .77 | .79 | .79 | .78 | .78 |  |
|      | 489   | 532 | 576 | 620 | 663 | 706 | 748 | 789 | 829 | 866 | 901  | 935 | 971 | 998 | 022 | 043 | 062 | 077 | 088 | 097 | 101 | 103 | 102 | 097 |  |

SEP-DEC 60 S TABLE 2-1 SOLAR PARAMETERS COS  $\delta$  (M/M+2.) ... SIGNIFIES COS  $\delta$  = 1. ADD 1000 TO VALUES PRECEDED BY .

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |      |      | DEC  |      |      |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |
| 1100 | .37 | .40 | .43 | .46 | .50 | .53 | .55 | .52 | .61 | .63 | .66 | .68 | .70 | .72  | .74  | .75  | .76  | .77  | .78  | .73  | .79  | .79  | .79  | .78  |
|      | 502 | 544 | 588 | 631 | 675 | 717 | 759 | 800 | 839 | 876 | 911 | 944 | 931 | 908  | 882  | 854  | 827  | 807  | .099 | .103 | .113 | .115 | .114 | .110 |
| 15   | .38 | .41 | .44 | .47 | .50 | .53 | .56 | .59 | .61 | .64 | .66 | .68 | .71 | .73  | .74  | .76  | .77  | .78  | .79  | .75  | .80  | .80  | .79  | .79  |
|      | 511 | 554 | 597 | 640 | 683 | 726 | 767 | 807 | 846 | 883 | 918 | 951 | 927 | 915  | 899  | 881  | 879  | 895  | .107 | .115 | .122 | .125 | .124 | .120 |
| 30   | .38 | .41 | .45 | .48 | .51 | .53 | .56 | .59 | .62 | .64 | .67 | .69 | .71 | .73  | .75  | .76  | .77  | .78  | .79  | .79  | .80  | .80  | .80  | .80  |
|      | 518 | 560 | 603 | 646 | 689 | 731 | 772 | 812 | 851 | 888 | 923 | 955 | 992 | 1019 | 1044 | 1065 | 1084 | 1100 | .112 | .122 | .128 | .131 | .131 | .128 |
| 45   | .39 | .42 | .45 | .48 | .51 | .54 | .56 | .59 | .62 | .64 | .67 | .69 | .71 | .73  | .75  | .76  | .77  | .78  | .79  | .80  | .80  | .80  | .80  | .80  |
|      | 522 | 564 | 607 | 649 | 691 | 733 | 774 | 814 | 852 | 889 | 924 | 957 | 993 | 1020 | 1045 | 1067 | 1086 | 1102 | .115 | .125 | .131 | .135 | .135 | .132 |
| 1200 | .39 | .42 | .45 | .48 | .51 | .54 | .56 | .59 | .62 | .64 | .67 | .69 | .71 | .73  | .75  | .76  | .77  | .78  | .79  | .80  | .80  | .80  | .80  | .80  |
|      | 523 | 565 | 607 | 649 | 691 | 733 | 773 | 813 | 851 | 887 | 922 | 955 | 991 | 1019 | 1044 | 1066 | 1085 | 1101 | .115 | .125 | .132 | .136 | .137 | .134 |
| 15   | .39 | .42 | .45 | .48 | .51 | .53 | .56 | .59 | .61 | .64 | .66 | .68 | .71 | .73  | .74  | .76  | .77  | .78  | .79  | .80  | .80  | .80  | .80  | .80  |
|      | 522 | 563 | 605 | 646 | 688 | 729 | 769 | 809 | 847 | 883 | 919 | 950 | 987 | 1014 | 1039 | 1062 | 1081 | 1098 | .112 | .122 | .130 | .134 | .135 | .133 |
| 30   | .38 | .41 | .44 | .47 | .50 | .53 | .56 | .58 | .61 | .63 | .65 | .68 | .70 | .72  | .74  | .75  | .76  | .78  | .78  | .79  | .80  | .80  | .80  | .80  |
|      | 517 | 558 | 599 | 641 | 682 | 723 | 763 | 802 | 839 | 876 | 910 | 943 | 979 | 1007 | 1032 | 1055 | 1075 | 1092 | .106 | .117 | .125 | .129 | .131 | .129 |
| 45   | .38 | .41 | .44 | .47 | .49 | .52 | .55 | .58 | .60 | .63 | .65 | .67 | .70 | .71  | .73  | .75  | .76  | .77  | .78  | .79  | .79  | .79  | .79  | .79  |
|      | 510 | 550 | 591 | 632 | 673 | 713 | 753 | 792 | 829 | 865 | 900 | 932 | 969 | 1007 | 1022 | 1045 | 1065 | 1083 | .097 | .109 | .117 | .122 | .124 | .123 |
| 1300 | .37 | .40 | .43 | .46 | .49 | .51 | .54 | .57 | .59 | .62 | .64 | .66 | .69 | .70  | .72  | .74  | .75  | .76  | .77  | .78  | .78  | .79  | .79  | .79  |
|      | 500 | 540 | 580 | 621 | 661 | 701 | 741 | 779 | 816 | 852 | 887 | 919 | 951 | 984  | 1010 | 1033 | 1053 | 1071 | .086 | .098 | .102 | .112 | .114 | .114 |
| 15   | .36 | .39 | .42 | .45 | .47 | .50 | .52 | .56 | .58 | .61 | .63 | .65 | .67 | .69  | .71  | .73  | .74  | .75  | .76  | .77  | .77  | .78  | .78  | .78  |
|      | 487 | 526 | 566 | 607 | 647 | 686 | 725 | 764 | 801 | 837 | 871 | 904 | 940 | 968  | 994  | 1018 | 1039 | 1057 | .072 | .081 | .093 | .099 | .102 | .102 |
| 30   | .35 | .38 | .41 | .43 | .46 | .49 | .52 | .54 | .57 | .59 | .62 | .64 | .66 | .69  | .70  | .71  | .73  | .74  | .75  | .76  | .76  | .77  | .77  | .77  |
|      | 471 | 510 | 550 | 590 | 629 | 669 | 707 | 745 | 782 | 818 | 852 | 885 | 922 | 950  | 976  | 1000 | 1021 | 1040 | .055 | .063 | .078 | .084 | .087 | .087 |
| 45   | .34 | .36 | .39 | .42 | .45 | .47 | .50 | .53 | .55 | .58 | .60 | .62 | .65 | .67  | .68  | .70  | .71  | .72  | .74  | .74  | .75  | .75  | .76  | .76  |
|      | 453 | 491 | 531 | 570 | 609 | 648 | 687 | 725 | 761 | 797 | 831 | 864 | 901 | 929  | 956  | 980  | 1001 | 1020 | .036 | .043 | .059 | .066 | .070 | .070 |

SEP-DEC 60 S      TABLE B-1      SOLAR PARAMETERS      COS 2      \*\*\* SIGNIFIES COS 2 = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*



| MSY  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |      |      |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5    | 10   | 15   | 20   | 25   | 30   |
| 1400 | .32 | .35 | .38 | .40 | .43 | .46 | .48 | .51 | .54 | .56 | .58 | .60 | .63 | .65 | .67 | .68 | .70 | .71 | .72  | .73  | .74  | .74  | .74  | .74  |
|      | 432 | 470 | 509 | 548 | 587 | 626 | 664 | 701 | 738 | 773 | 808 | 840 | 877 | 906 | 933 | 957 | 979 | 998 | .015 | .023 | .039 | .046 | .050 | .050 |
| 15   | .30 | .33 | .36 | .39 | .41 | .44 | .47 | .49 | .52 | .54 | .56 | .59 | .61 | .63 | .65 | .66 | .68 | .69 | .70  | .71  | .72  | .72  | .73  | .73  |
|      | 406 | 446 | 485 | 523 | 562 | 600 | 638 | 675 | 712 | 747 | 782 | 814 | 852 | 881 | 908 | 932 | 954 | 974 | .991 | .003 | .015 | .023 | .027 | .028 |
| 30   | .28 | .31 | .34 | .37 | .39 | .42 | .45 | .47 | .50 | .52 | .54 | .57 | .59 | .61 | .63 | .65 | .66 | .67 | .68  | .69  | .70  | .71  | .71  | .71  |
|      | 393 | 420 | 458 | 496 | 535 | 573 | 610 | 647 | 684 | 719 | 753 | 786 | 824 | 853 | 880 | 905 | 927 | 947 | .965 | .973 | .990 | .998 | .002 | .004 |
| 45   | .26 | .29 | .32 | .34 | .37 | .40 | .42 | .45 | .47 | .50 | .52 | .54 | .57 | .59 | .61 | .62 | .64 | .65 | .66  | .67  | .68  | .69  | .69  | .69  |
|      | 355 | 392 | 429 | 467 | 505 | 543 | 580 | 617 | 653 | 689 | 723 | 756 | 793 | 823 | 850 | 875 | 898 | 919 | .936 | .951 | .962 | .971 | .976 | .977 |
| 1500 | .24 | .27 | .29 | .32 | .35 | .37 | .40 | .43 | .45 | .47 | .50 | .52 | .55 | .57 | .58 | .60 | .62 | .63 | .64  | .65  | .66  | .67  | .67  | .67  |
|      | 325 | 361 | 398 | 436 | 473 | 511 | 548 | 585 | 621 | 656 | 693 | 723 | 761 | 791 | 818 | 844 | 867 | 888 | .906 | .921 | .933 | .941 | .947 | .948 |
| 15   | .22 | .24 | .27 | .30 | .32 | .35 | .38 | .40 | .43 | .45 | .47 | .50 | .52 | .54 | .56 | .58 | .59 | .61 | .62  | .63  | .64  | .64  | .65  | .65  |
|      | 293 | 329 | 365 | 403 | 440 | 477 | 514 | 550 | 586 | 621 | 656 | 689 | 727 | 757 | 785 | 811 | 834 | 855 | .874 | .893 | .901 | .910 | .916 | .917 |
| 30   | .19 | .22 | .24 | .27 | .30 | .32 | .35 | .37 | .40 | .42 | .45 | .47 | .50 | .52 | .54 | .55 | .57 | .58 | .60  | .61  | .61  | .62  | .62  | .63  |
|      | 259 | 294 | 331 | 367 | 404 | 441 | 478 | 514 | 550 | 585 | 620 | 653 | 691 | 721 | 749 | 776 | 800 | 821 | .840 | .855 | .863 | .877 | .883 | .885 |
| 45   | .17 | .19 | .22 | .24 | .27 | .30 | .32 | .35 | .37 | .40 | .42 | .44 | .47 | .49 | .51 | .53 | .54 | .56 | .57  | .58  | .59  | .60  | .60  | .60  |
|      | 223 | 258 | 294 | 330 | 367 | 403 | 440 | 476 | 512 | 547 | 582 | 615 | 653 | 684 | 712 | 739 | 763 | 785 | .804 | .820 | .833 | .842 | .848 | .851 |
| 1600 | .14 | .16 | .19 | .22 | .24 | .27 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .45 | .48 | .50 | .52 | .53 | .54  | .55  | .56  | .57  | .57  | .58  |
|      | 185 | 220 | 256 | 292 | 328 | 365 | 401 | 437 | 473 | 508 | 542 | 576 | 615 | 645 | 674 | 701 | 725 | 747 | .767 | .783 | .794 | .806 | .812 | .815 |
| 15   | .11 | .13 | .16 | .19 | .21 | .24 | .26 | .29 | .31 | .34 | .36 | .39 | .41 | .43 | .45 | .47 | .49 | .50 | .52  | .53  | .54  | .54  | .55  | .55  |
|      | 147 | 181 | 217 | 252 | 288 | 324 | 360 | 396 | 432 | 467 | 502 | 536 | 574 | 605 | 634 | 662 | 686 | 709 | .723 | .743 | .758 | .768 | .775 | .777 |
| 30   | .08 | .10 | .13 | .16 | .18 | .21 | .23 | .26 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .44 | .46 | .48 | .49  | .50  | .51  | .52  | .52  | .52  |
|      | 107 | 141 | 176 | 211 | 247 | 283 | 319 | 355 | 390 | 426 | 460 | 494 | 532 | 564 | 594 | 621 | 646 | 669 | .689 | .703 | .719 | .729 | .736 | .739 |
| 45   | .05 | .07 | .10 | .12 | .15 | .18 | .20 | .23 | .25 | .28 | .30 | .33 | .35 | .37 | .39 | .41 | .43 | .45 | .46  | .47  | .48  | .49  | .49  | .49  |
|      | 66  | 100 | 134 | 169 | 204 | 240 | 276 | 312 | 348 | 383 | 413 | 452 | 491 | 522 | 552 | 580 | 605 | 628 | .648 | .663 | .679 | .689 | .696 | .699 |

SEP-DEC 60 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 X0 (W/M<sup>2</sup>\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1700 | .02 | .04 | .07 | .09 | .12 | .14 | .17 | .20 | .22 | .25 | .27  | .29 | .32 | .34 | .36 | .38 | .40 | .42 | .43 | .41 | .45 | .46 | .46 | .47 |  |
|      | 024 | 057 | 091 | 126 | 161 | 197 | 233 | 268 | 304 | 339 | 374  | 409 | 445 | 480 | 510 | 538 | 563 | 587 | 607 | 621 | 638 | 649 | 655 | 658 |  |
| 15   | .00 | .01 | .04 | .06 | .09 | .11 | .14 | .16 | .19 | .21 | .24  | .26 | .29 | .31 | .33 | .35 | .37 | .39 | .40 | .41 | .42 | .43 | .43 | .44 |  |
|      | 000 | 014 | 048 | 083 | 118 | 153 | 189 | 224 | 260 | 295 | 331  | 365 | 400 | 437 | 467 | 495 | 521 | 544 | 565 | 583 | 597 | 607 | 614 | 617 |  |
| 30   | .00 | .00 | .00 | .03 | .05 | .08 | .11 | .13 | .16 | .18 | .21  | .23 | .26 | .28 | .30 | .32 | .34 | .36 | .37 | .34 | .33 | .40 | .40 | .41 |  |
|      | 000 | 000 | 000 | 038 | 073 | 109 | 144 | 180 | 216 | 251 | 286  | 321 | 356 | 393 | 423 | 452 | 478 | 502 | 523 | 540 | 550 | 565 | 572 | 575 |  |
| 45   | .00 | .00 | .00 | .00 | .02 | .05 | .07 | .10 | .12 | .15 | .17  | .20 | .23 | .25 | .27 | .29 | .31 | .33 | .34 | .33 | .33 | .37 | .37 | .38 |  |
|      | 000 | 000 | 000 | 000 | 029 | 064 | 099 | 135 | 171 | 207 | 242  | 277 | 312 | 348 | 380 | 409 | 435 | 459 | 480 | 493 | 512 | 523 | 530 | 533 |  |
| 1800 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .07 | .09 | .12 | .14  | .17 | .20 | .22 | .24 | .26 | .28 | .30 | .31 | .32 | .33 | .34 | .34 | .35 |  |
|      | 000 | 000 | 000 | 000 | 000 | 019 | 055 | 090 | 126 | 162 | 198  | 232 | 267 | 303 | 336 | 365 | 392 | 416 | 437 | 455 | 470 | 481 | 487 | 490 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .06 | .09 | .11  | .14 | .16 | .19 | .21 | .23 | .25 | .27 | .28 | .24 | .20 | .30 | .31 | .32 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 010 | 046 | 082 | 118 | 153  | 188 | 223 | 262 | 293 | 322 | 349 | 373 | 395 | 413 | 427 | 438 | 445 | 448 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .05 | .08  | .10 | .13 | .16 | .18 | .20 | .22 | .24 | .25 | .25 | .27 | .28 | .29 | .29 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 002 | 038 | 074 | 110  | 145 | 180 | 219 | 250 | 279 | 307 | 331 | 352 | 371 | 385 | 396 | 403 | 405 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05  | .07 | .10 | .13 | .15 | .17 | .19 | .21 | .22 | .23 | .24 | .25 | .26 | .26 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 030 | 065  | 102 | 143 | 176 | 208 | 237 | 264 | 289 | 311 | 329 | 343 | 354 | 361 | 363 |  |
| 1900 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02  | .04 | .07 | .10 | .12 | .14 | .16 | .18 | .19 | .20 | .21 | .22 | .23 | .23 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 024  | 059 | 101 | 134 | 166 | 196 | 223 | 248 | 269 | 286 | 302 | 313 | 319 | 322 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .01 | .04 | .07 | .09 | .11 | .13 | .15 | .16 | .15 | .19 | .19 | .20 | .20 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 018 | 050 | 093 | 125 | 155 | 183 | 207 | 229 | 247 | 262 | 272 | 279 | 281 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .01 | .04 | .06 | .08 | .10 | .12 | .13 | .15 | .15 | .16 | .17 | .17 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 020 | 054 | 086 | 116 | 143 | 168 | 190 | 209 | 222 | 233 | 239 | 241 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .01 | .03 | .06 | .08 | .09 | .11 | .12 | .13 | .14 | .14 | .14 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 015 | 047 | 077 | 105 | 130 | 151 | 170 | 184 | 194 | 200 | 202 |  |

SEP-DEC 60 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z =1.  
 ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 2000 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .01 | .03 | .05 | .07 | .08 | .03 | .10 | .11 | .12 | .12 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 010 | 041 | 068 | 093 | 115 | 133 | 117 | 157 | 163 | 164 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .02 | .04 | .06 | .07 | .08 | .09 | .09 | .09 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 033 | 058 | 079 | 097 | 111 | 121 | 127 | 128 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .03 | .03 | .05 | .06 | .07 | .07 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 024 | 045 | 063 | 077 | 087 | 092 | 093 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .03 | .04 | .04 | .04 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 014 | 031 | 045 | 054 | 059 | 060 |  |
| 2100 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .01 | .02 | .02 | .02 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 001 | 014 | 023 | 026 | 028 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |  |

SEP-DEC 60 S      TABLE B-1: SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ACC 1000 TO VALUES PRECEDED BY .

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     | FEB |     |     |     | MAR |     |     |     | APR |     |     |     | APR |     |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |     |     |     |     |     |
| 0000 | .23  | .22 | .21 | .20 | .18 | .16 | .14 | .11 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 320  | 312 | 297 | 277 | 253 | 226 | 194 | 153 | 114 | 074 | 031 | 000 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .23  | .22 | .21 | .20 | .18 | .16 | .14 | .11 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 321  | 312 | 297 | 277 | 253 | 226 | 194 | 152 | 114 | 073 | 031 | 000 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .23  | .22 | .21 | .20 | .18 | .16 | .14 | .11 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 322  | 313 | 298 | 278 | 254 | 226 | 195 | 153 | 114 | 074 | 031 | 000 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .23  | .22 | .21 | .20 | .18 | .16 | .14 | .11 | .08 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 324  | 315 | 300 | 280 | 256 | 228 | 196 | 154 | 116 | 075 | 033 | 000 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0100 | .23  | .23 | .21 | .20 | .18 | .16 | .14 | .11 | .08 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 327  | 318 | 303 | 283 | 259 | 231 | 199 | 157 | 119 | 078 | 035 | 000 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .23  | .23 | .22 | .20 | .19 | .17 | .14 | .11 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 331  | 322 | 306 | 286 | 262 | 234 | 203 | 160 | 122 | 082 | 039 | 000 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .24  | .23 | .22 | .21 | .19 | .17 | .15 | .12 | .09 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 336  | 327 | 311 | 291 | 267 | 239 | 207 | 165 | 127 | 086 | 044 | 000 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .24  | .24 | .22 | .21 | .19 | .17 | .15 | .12 | .09 | .07 | .04 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 342  | 333 | 317 | 297 | 272 | 244 | 213 | 170 | 132 | 092 | 049 | 005 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 0200 | .25  | .24 | .23 | .21 | .20 | .18 | .16 | .13 | .10 | .07 | .04 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 349  | 339 | 324 | 303 | 279 | 251 | 219 | 177 | 139 | 098 | 056 | 012 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 15   | .25  | .25 | .23 | .22 | .20 | .18 | .16 | .13 | .10 | .08 | .05 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 357  | 347 | 331 | 311 | 286 | 258 | 226 | 184 | 146 | 105 | 063 | 019 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 30   | .26  | .25 | .24 | .23 | .21 | .19 | .17 | .14 | .11 | .08 | .05 | .02 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 365  | 355 | 339 | 319 | 294 | 266 | 234 | 192 | 154 | 114 | 071 | 027 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 45   | .26  | .26 | .25 | .23 | .22 | .20 | .17 | .14 | .12 | .09 | .06 | .03 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 374  | 365 | 348 | 328 | 303 | 275 | 243 | 201 | 163 | 123 | 080 | 037 |     | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

... SIGNIFIES COS Z =1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS COS Z  
XO (W/N\*\*2.)

TABLE B-1

80 S

JAN-APR



| MST  | JAN  |      |      |      |      | FEB  |      |      |      |      | DATE |      |      |      |      | MAR  |      |      |      |  | APR |  |  |  |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|-----|--|--|--|--|
|      | 1    | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   | 5    | 10   | 15   | 20   | 25   | 30   |  |     |  |  |  |  |
| 0600 | .38  | .38  | .37  | .35  | .33  | .32  | .29  | .27  | .24  | .21  | .18  | .15  | .10  | .07  | .04  | .00  | .00  | .00  | .00  |  |     |  |  |  |  |
|      | 543  | 533  | 517  | 497  | 473  | 445  | 414  | 373  | 335  | 296  | 254  | 211  | 140  | 095  | 050  | 004  | 000  | 000  | 000  |  |     |  |  |  |  |
| 15   | .39  | .39  | .38  | .36  | .35  | .33  | .30  | .28  | .25  | .22  | .19  | .16  | .11  | .08  | .05  | .01  | .00  | .00  | .00  |  |     |  |  |  |  |
| 30   | .41  | .40  | .39  | .37  | .36  | .34  | .32  | .29  | .26  | .23  | .20  | .17  | .12  | .09  | .06  | .03  | .00  | .00  | .00  |  |     |  |  |  |  |
|      | 573  | 563  | 547  | 527  | 503  | 475  | 444  | 403  | 366  | 327  | 286  | 243  | 172  | 127  | 081  | 036  | 000  | 000  | 000  |  |     |  |  |  |  |
| 45   | .42  | .41  | .40  | .38  | .37  | .35  | .33  | .30  | .27  | .24  | .22  | .19  | .14  | .10  | .07  | .04  | .00  | .00  | .00  |  |     |  |  |  |  |
| 0700 | .43  | .42  | .41  | .39  | .38  | .36  | .34  | .31  | .28  | .26  | .23  | .20  | .15  | .11  | .08  | .05  | .02  | .00  | .00  |  |     |  |  |  |  |
|      | 602  | 592  | 576  | 556  | 533  | 505  | 475  | 434  | 397  | 358  | 317  | 274  | 203  | 158  | 112  | 066  | 021  | 000  | 000  |  |     |  |  |  |  |
| 15   | .44  | .43  | .42  | .40  | .39  | .37  | .35  | .32  | .29  | .27  | .24  | .21  | .16  | .13  | .09  | .06  | .03  | .00  | .00  |  |     |  |  |  |  |
| 30   | .45  | .44  | .43  | .41  | .40  | .38  | .36  | .33  | .30  | .28  | .25  | .22  | .17  | .14  | .10  | .07  | .04  | .00  | .00  |  |     |  |  |  |  |
|      | 630  | 620  | 605  | 585  | 562  | 534  | 504  | 463  | 427  | 388  | 347  | 304  | 233  | 188  | 142  | 097  | 051  | 006  | 000  |  |     |  |  |  |  |
| 45   | .46  | .45  | .44  | .42  | .41  | .39  | .37  | .34  | .31  | .29  | .26  | .23  | .18  | .15  | .11  | .08  | .05  | .02  | .00  |  |     |  |  |  |  |
| 0800 | .46  | .46  | .45  | .43  | .42  | .40  | .38  | .35  | .32  | .30  | .27  | .24  | .19  | .16  | .12  | .09  | .06  | .03  | .00  |  |     |  |  |  |  |
|      | 657  | 647  | 632  | 612  | 589  | 562  | 532  | 492  | 455  | 416  | 375  | 333  | 262  | 217  | 171  | 125  | 079  | 034  | 000  |  |     |  |  |  |  |
| 15   | .47  | .47  | .46  | .44  | .43  | .41  | .39  | .36  | .33  | .31  | .28  | .25  | .20  | .17  | .13  | .10  | .07  | .04  | .00  |  |     |  |  |  |  |
| 30   | .48  | .48  | .46  | .45  | .44  | .42  | .40  | .37  | .34  | .32  | .29  | .26  | .21  | .18  | .14  | .11  | .08  | .04  | .00  |  |     |  |  |  |  |
|      | 682  | 672  | 657  | 638  | 615  | 588  | 558  | 518  | 482  | 443  | 402  | 360  | 289  | 244  | 198  | 152  | 106  | 061  | 007  |  |     |  |  |  |  |
| 45   | .49  | .48  | .47  | .46  | .44  | .43  | .41  | .38  | .35  | .33  | .30  | .27  | .22  | .19  | .15  | .12  | .09  | .05  | .00  |  |     |  |  |  |  |
|      | .693 | .684 | .669 | .650 | .627 | .600 | .571 | .531 | .494 | .456 | .415 | .372 | .302 | .256 | .210 | .164 | .118 | .073 | .019 |  |     |  |  |  |  |

JAN-APR 80 S TABLE B-1 SOLAR PARAMETERS COS 2  
 \*\*\* SIGNIFIES COS 2 =1.  
 ADD 1000 TO VALUES PRECEDED BY .

| MST  | JAN |     |     |     |     |     |     | FEB |     |     |     |     |    |     | MAR |     |     |     |     |   |     | APR |     |     |     |     |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|--|--|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30 | 5   | 10  | 15  | 20  | 25  | 30  | 5 | 10  | 15  | 20  | 25  | 30  |     |  |  |
| 0900 | .50 | .49 | .48 | .47 | .45 | .43 | .41 | .39 | .36 | .33 | .31 | .28 |    | .23 | .13 | .16 | .13 | .09 | .06 |   | .02 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 704 | 695 | 680 | 661 | 638 | 612 | 582 | 543 | 506 | 468 | 427 | 385 |    | 314 | 268 | 222 | 176 | 130 | 084 |   | 031 | 003 | 000 | 000 | 000 | 000 |  |  |
| 15   | .51 | .50 | .49 | .48 | .46 | .44 | .42 | .39 | .37 | .34 | .31 | .28 |    | .23 | .20 | .17 | .14 | .10 | .07 |   | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 714 | 705 | 691 | 672 | 649 | 623 | 593 | 554 | 518 | 479 | 438 | 396 |    | 325 | 280 | 233 | 187 | 141 | 095 |   | 041 | 003 | 000 | 000 | 000 | 000 |  |  |
| 30   | .51 | .51 | .50 | .48 | .47 | .45 | .43 | .40 | .38 | .35 | .32 | .29 |    | .24 | .21 | .18 | .14 | .11 | .08 |   | .04 | .01 | .00 | .00 | .00 | .00 |  |  |
|      | 724 | 715 | 700 | 682 | 659 | 633 | 604 | 564 | 528 | 490 | 449 | 407 |    | 336 | 290 | 244 | 198 | 151 | 105 |   | 051 | 003 | 000 | 000 | 000 | 000 |  |  |
| 45   | .52 | .51 | .50 | .49 | .47 | .46 | .44 | .41 | .38 | .36 | .33 | .30 |    | .25 | .22 | .18 | .15 | .12 | .08 |   | .04 | .01 | .00 | .00 | .00 | .00 |  |  |
|      | 733 | 724 | 710 | 691 | 669 | 643 | 613 | 574 | 538 | 499 | 459 | 416 |    | 345 | 300 | 254 | 207 | 161 | 115 |   | 061 | 017 | 000 | 000 | 000 | 000 |  |  |
| 1000 | .52 | .52 | .51 | .49 | .48 | .46 | .44 | .41 | .39 | .36 | .33 | .30 |    | .26 | .22 | .19 | .16 | .12 | .09 |   | .05 | .02 | .00 | .00 | .00 | .00 |  |  |
|      | 741 | 732 | 718 | 699 | 677 | 651 | 622 | 583 | 547 | 508 | 468 | 425 |    | 354 | 309 | 262 | 216 | 169 | 123 |   | 069 | 025 | 000 | 000 | 000 | 000 |  |  |
| 15   | .53 | .52 | .51 | .50 | .49 | .47 | .45 | .42 | .40 | .37 | .34 | .31 |    | .26 | .23 | .20 | .16 | .13 | .10 |   | .06 | .02 | .00 | .00 | .00 | .00 |  |  |
|      | 748 | 739 | 725 | 707 | 685 | 659 | 630 | 591 | 555 | 517 | 476 | 434 |    | 363 | 317 | 270 | 224 | 177 | 131 |   | 076 | 032 | 000 | 000 | 000 | 000 |  |  |
| 30   | .53 | .53 | .52 | .51 | .49 | .47 | .45 | .43 | .40 | .37 | .35 | .32 |    | .27 | .23 | .20 | .17 | .13 | .10 |   | .06 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 754 | 746 | 732 | 714 | 692 | 666 | 637 | 598 | 562 | 524 | 483 | 441 |    | 370 | 324 | 277 | 231 | 184 | 138 |   | 083 | 039 | 000 | 000 | 000 | 000 |  |  |
| 45   | .54 | .53 | .52 | .51 | .49 | .48 | .46 | .43 | .40 | .38 | .35 | .32 |    | .27 | .24 | .21 | .17 | .14 | .10 |   | .07 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 760 | 751 | 737 | 720 | 698 | 672 | 643 | 604 | 569 | 530 | 490 | 447 |    | 376 | 330 | 284 | 237 | 190 | 143 |   | 089 | 044 | 001 | 000 | 000 | 000 |  |  |
| 1100 | .54 | .53 | .52 | .51 | .50 | .48 | .46 | .43 | .41 | .38 | .35 | .32 |    | .27 | .24 | .21 | .18 | .14 | .11 |   | .07 | .04 | .00 | .00 | .00 | .00 |  |  |
|      | 764 | 756 | 742 | 724 | 703 | 677 | 648 | 610 | 574 | 536 | 495 | 453 |    | 381 | 335 | 289 | 242 | 195 | 148 |   | 093 | 049 | 004 | 000 | 000 | 000 |  |  |
| 15   | .54 | .54 | .53 | .52 | .50 | .48 | .46 | .44 | .41 | .39 | .36 | .33 |    | .28 | .25 | .21 | .18 | .14 | .11 |   | .07 | .01 | .01 | .00 | .00 | .00 |  |  |
|      | 768 | 760 | 746 | 728 | 707 | 682 | 653 | 614 | 578 | 540 | 500 | 457 |    | 386 | 340 | 293 | 246 | 199 | 152 |   | 097 | 052 | 009 | 000 | 000 | 000 |  |  |
| 30   | .54 | .54 | .53 | .52 | .50 | .49 | .47 | .44 | .41 | .39 | .36 | .33 |    | .28 | .25 | .21 | .18 | .15 | .11 |   | .07 | .01 | .01 | .00 | .00 | .00 |  |  |
|      | 770 | 762 | 749 | 731 | 710 | 685 | 656 | 617 | 582 | 544 | 503 | 461 |    | 389 | 343 | 296 | 249 | 202 | 155 |   | 100 | 055 | 012 | 000 | 000 | 000 |  |  |
| 45   | .55 | .54 | .53 | .52 | .50 | .49 | .47 | .44 | .42 | .39 | .36 | .33 |    | .28 | .25 | .22 | .18 | .15 | .11 |   | .07 | .01 | .01 | .00 | .00 | .00 |  |  |
|      | 772 | 764 | 751 | 733 | 712 | 687 | 658 | 620 | 584 | 546 | 506 | 463 |    | 392 | 345 | 298 | 251 | 204 | 157 |   | 101 | 057 | 013 | 000 | 000 | 000 |  |  |

JAN-APR 80 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 Y0 (W/M=2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | JAN |     |     |     |     |     |     | FEB |     |     |     |     |     |     | MAR |     |     |     |     |     |     | APR |     |     |     |  |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |  |
| 1200 | .55 | .54 | .53 | .52 | .51 | .49 | .47 | .44 | .42 | .39 | .36 | .33 | .30 | .26 | .25 | .22 | .18 | .15 | .12 | .08 | .04 | .01 | .00 | .00 | .00 |  |  |  |
|      | 773 | 765 | 752 | 735 | 713 | 688 | 660 | 621 | 586 | 548 | 507 | 464 | 393 | 347 | 300 | 252 | 205 | 158 | 102 | 057 | 014 | 000 | 000 | 000 |     |  |  |  |
| 15   | .55 | .54 | .53 | .52 | .51 | .49 | .47 | .44 | .42 | .39 | .36 | .33 | .30 | .28 | .25 | .22 | .18 | .15 | .12 | .07 | .04 | .01 | .00 | .00 | .00 |  |  |  |
|      | 772 | 765 | 752 | 735 | 714 | 689 | 660 | 622 | 586 | 548 | 507 | 465 | 393 | 347 | 300 | 252 | 205 | 157 | 102 | 057 | 013 | 000 | 000 | 000 |     |  |  |  |
| 30   | .55 | .54 | .53 | .52 | .50 | .49 | .47 | .44 | .42 | .39 | .36 | .33 | .30 | .23 | .25 | .22 | .18 | .15 | .11 | .07 | .04 | .01 | .00 | .00 | .00 |  |  |  |
|      | 771 | 764 | 751 | 734 | 713 | 688 | 660 | 621 | 586 | 548 | 507 | 464 | 392 | 346 | 299 | 251 | 204 | 156 | 101 | 055 | 012 | 000 | 000 | 000 |     |  |  |  |
| 45   | .54 | .54 | .53 | .52 | .50 | .49 | .47 | .44 | .42 | .39 | .36 | .33 | .30 | .23 | .25 | .21 | .18 | .15 | .11 | .07 | .04 | .01 | .00 | .00 | .00 |  |  |  |
|      | 769 | 762 | 749 | 732 | 711 | 686 | 658 | 620 | 584 | 546 | 505 | 463 | 391 | 344 | 297 | 249 | 201 | 154 | 098 | 053 | 009 | 000 | 000 | 000 |     |  |  |  |
| 1300 | .54 | .54 | .53 | .52 | .50 | .48 | .47 | .44 | .41 | .39 | .36 | .33 | .30 | .24 | .25 | .21 | .18 | .14 | .11 | .07 | .04 | .00 | .00 | .00 | .00 |  |  |  |
|      | 766 | 759 | 746 | 729 | 708 | 684 | 655 | 617 | 582 | 543 | 503 | 460 | 388 | 341 | 294 | 246 | 198 | 151 | 095 | 049 | 006 | 000 | 000 | 000 |     |  |  |  |
| 15   | .54 | .53 | .52 | .51 | .50 | .48 | .46 | .44 | .41 | .39 | .36 | .33 | .30 | .28 | .24 | .21 | .18 | .14 | .11 | .07 | .03 | .00 | .00 | .00 | .00 |  |  |  |
|      | 762 | 755 | 742 | 725 | 705 | 680 | 652 | 613 | 578 | 540 | 499 | 456 | 384 | 337 | 290 | 242 | 194 | 147 | 091 | 045 | 001 | 000 | 000 | 000 |     |  |  |  |
| 30   | .54 | .53 | .52 | .51 | .50 | .48 | .46 | .43 | .41 | .38 | .35 | .32 | .30 | .27 | .24 | .21 | .17 | .14 | .10 | .06 | .03 | .00 | .00 | .00 | .00 |  |  |  |
|      | 757 | 750 | 737 | 721 | 700 | 675 | 647 | 609 | 573 | 535 | 495 | 452 | 379 | 333 | 285 | 237 | 189 | 141 | 085 | 040 | 000 | 000 | 000 | 000 |     |  |  |  |
| 45   | .53 | .53 | .52 | .51 | .49 | .47 | .46 | .43 | .40 | .38 | .35 | .32 | .30 | .27 | .24 | .20 | .17 | .13 | .10 | .06 | .03 | .00 | .00 | .00 | .00 |  |  |  |
|      | 751 | 744 | 732 | 715 | 694 | 670 | 642 | 603 | 568 | 530 | 489 | 446 | 374 | 327 | 279 | 231 | 183 | 135 | 079 | 034 | 000 | 000 | 000 | 000 |     |  |  |  |
| 1400 | .53 | .52 | .51 | .50 | .49 | .47 | .45 | .42 | .40 | .37 | .35 | .32 | .30 | .26 | .23 | .20 | .16 | .13 | .09 | .05 | .02 | .00 | .00 | .00 | .00 |  |  |  |
|      | 744 | 737 | 725 | 708 | 688 | 663 | 635 | 597 | 562 | 523 | 482 | 439 | 367 | 320 | 272 | 224 | 176 | 128 | 072 | 025 | 000 | 000 | 000 | 000 |     |  |  |  |
| 15   | .52 | .52 | .51 | .50 | .48 | .47 | .45 | .42 | .39 | .37 | .34 | .31 | .30 | .26 | .25 | .19 | .16 | .12 | .09 | .05 | .01 | .00 | .00 | .00 | .00 |  |  |  |
|      | 736 | 730 | 717 | 701 | 681 | 656 | 628 | 590 | 554 | 516 | 475 | 432 | 359 | 312 | 265 | 216 | 168 | 120 | 064 | 019 | 000 | 000 | 000 | 000 |     |  |  |  |
| 30   | .51 | .51 | .50 | .49 | .48 | .46 | .44 | .41 | .39 | .36 | .33 | .30 | .30 | .26 | .22 | .19 | .15 | .12 | .08 | .04 | .01 | .00 | .00 | .00 | .00 |  |  |  |
|      | 728 | 721 | 709 | 693 | 672 | 648 | 620 | 581 | 546 | 508 | 467 | 424 | 351 | 303 | 256 | 208 | 159 | 112 | 055 | 003 | 000 | 000 | 000 | 000 |     |  |  |  |
| 45   | .51 | .50 | .50 | .48 | .47 | .45 | .43 | .41 | .38 | .36 | .33 | .30 | .30 | .26 | .21 | .18 | .14 | .11 | .07 | .03 | .00 | .00 | .00 | .00 | .00 |  |  |  |
|      | 719 | 712 | 700 | 684 | 663 | 639 | 611 | 572 | 537 | 499 | 458 | 414 | 342 | 294 | 247 | 198 | 150 | 102 | 045 | 000 | 000 | 000 | 000 | 000 |     |  |  |  |

JAN-APR 80 S TABLE B-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
X0 (W/H\*\*2.) ADD 1000 TO VALUES PRECEDED BY \*



| MST  | JAN |     |     |     |     | FEB |     |     |     |     | MAR |     |     |     |     | APR |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |
| 1500 | .50 | .50 | .49 | .48 | .46 | .45 | .43 | .40 | .38 | .35 | .32 | .29 | .24 | .21 | .17 | .14 | .10 | .07 | .03 | .00 |
|      | 709 | 702 | 690 | 674 | 651 | 629 | 601 | 563 | 527 | 489 | 448 | 404 | 332 | 284 | 236 | 188 | 139 | 092 | 035 | 000 |
| 15   | .49 | .49 | .48 | .47 | .46 | .44 | .42 | .39 | .37 | .34 | .31 | .28 | .23 | .20 | .16 | .13 | .09 | .06 | .02 | .00 |
|      | 698 | 692 | 680 | 663 | 643 | 619 | 591 | 552 | 517 | 478 | 437 | 394 | 321 | 273 | 225 | 177 | 128 | 080 | 024 | 000 |
| 30   | .49 | .48 | .47 | .46 | .45 | .43 | .41 | .38 | .36 | .33 | .30 | .27 | .22 | .19 | .15 | .12 | .09 | .05 | .01 | .00 |
|      | 687 | 680 | 668 | 652 | 632 | 607 | 579 | 541 | 505 | 467 | 425 | 382 | 303 | 262 | 214 | 165 | 117 | 069 | 012 | 000 |
| 45   | .48 | .47 | .46 | .45 | .44 | .42 | .40 | .38 | .35 | .32 | .30 | .27 | .21 | .18 | .15 | .11 | .08 | .04 | .00 | .00 |
|      | 675 | 669 | 657 | 640 | 620 | 596 | 567 | 529 | 493 | 455 | 413 | 370 | 297 | 249 | 201 | 153 | 104 | 056 | 000 | 000 |
| 1600 | .47 | .46 | .46 | .44 | .43 | .41 | .39 | .37 | .34 | .32 | .29 | .26 | .20 | .17 | .14 | .10 | .07 | .03 | .00 | .00 |
|      | 662 | 656 | 644 | 628 | 608 | 583 | 555 | 516 | 481 | 442 | 401 | 357 | 284 | 236 | 188 | 140 | 091 | 043 | 000 | 000 |
| 15   | .46 | .45 | .45 | .44 | .42 | .40 | .38 | .36 | .33 | .31 | .28 | .25 | .19 | .16 | .13 | .09 | .06 | .02 | .00 | .00 |
|      | 650 | 643 | 631 | 615 | 595 | 570 | 542 | 503 | 467 | 429 | 387 | 344 | 270 | 223 | 175 | 126 | 077 | 029 | 000 | 000 |
| 30   | .45 | .45 | .44 | .43 | .41 | .39 | .38 | .35 | .32 | .30 | .27 | .24 | .18 | .15 | .12 | .08 | .05 | .01 | .00 | .00 |
|      | 636 | 630 | 618 | 602 | 581 | 557 | 528 | 490 | 454 | 415 | 374 | 330 | 256 | 209 | 161 | 112 | 063 | 015 | 000 | 000 |
| 45   | .44 | .44 | .43 | .42 | .40 | .38 | .37 | .34 | .31 | .29 | .26 | .23 | .17 | .14 | .11 | .07 | .04 | .00 | .00 | .00 |
|      | 622 | 616 | 604 | 588 | 567 | 543 | 515 | 476 | 440 | 401 | 359 | 316 | 242 | 194 | 146 | 097 | 049 | 001 | 000 | 000 |
| 1700 | .43 | .43 | .42 | .41 | .39 | .37 | .36 | .33 | .30 | .28 | .25 | .22 | .16 | .13 | .10 | .06 | .03 | .00 | .00 | .00 |
|      | 608 | 602 | 590 | 574 | 553 | 529 | 500 | 461 | 425 | 386 | 345 | 301 | 227 | 180 | 131 | 083 | 034 | 000 | 000 | 000 |
| 15   | .42 | .42 | .41 | .40 | .38 | .36 | .34 | .32 | .29 | .27 | .24 | .21 | .15 | .12 | .08 | .05 | .01 | .00 | .00 | .00 |
|      | 594 | 588 | 576 | 559 | 539 | 514 | 486 | 447 | 410 | 371 | 330 | 296 | 212 | 164 | 116 | 067 | 019 | 000 | 000 | 000 |
| 30   | .41 | .41 | .40 | .39 | .37 | .35 | .33 | .31 | .28 | .25 | .23 | .19 | .14 | .11 | .07 | .04 | .00 | .00 | .00 | .00 |
|      | 579 | 573 | 561 | 545 | 524 | 499 | 471 | 432 | 395 | 356 | 315 | 271 | 197 | 149 | 101 | 052 | 004 | 000 | 000 | 000 |
| 45   | .40 | .39 | .39 | .38 | .36 | .34 | .32 | .30 | .27 | .24 | .21 | .18 | .13 | .10 | .06 | .03 | .00 | .00 | .00 | .00 |
|      | 565 | 558 | 546 | 530 | 509 | 484 | 456 | 416 | 380 | 341 | 299 | 255 | 181 | 134 | 085 | 037 | 000 | 000 | 000 | 000 |

JAN-APR 80 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\*\* SIGNIFIES COS Z = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | JAN  |     |     |     |     |     | FEB |     |     |     |     |     | MAR |     |     |     |     |     | APR |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 1    | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1800 | .39  | .38 | .38 | .36 | .35 | .33 | .31 | .29 | .26 | .23 | .20 | .17 | .12 | .09 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 550  | 543 | 531 | 515 | 494 | 469 | 440 | 401 | 365 | 325 | 284 | 240 | 160 | 118 | 069 | 021 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .38  | .37 | .37 | .35 | .34 | .32 | .30 | .27 | .25 | .22 | .19 | .16 | .11 | .07 | .04 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 535  | 529 | 516 | 500 | 479 | 454 | 425 | 386 | 349 | 310 | 268 | 224 | 150 | 102 | 054 | 005 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .37  | .36 | .35 | .34 | .33 | .31 | .29 | .26 | .24 | .21 | .18 | .15 | .10 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 520  | 514 | 502 | 485 | 461 | 439 | 410 | 370 | 334 | 294 | 252 | 208 | 134 | 086 | 038 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .36  | .35 | .34 | .33 | .32 | .30 | .28 | .25 | .23 | .20 | .17 | .14 | .09 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 506  | 499 | 487 | 470 | 449 | 424 | 395 | 355 | 318 | 279 | 237 | 193 | 119 | 071 | 022 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 1900 | .35  | .34 | .33 | .32 | .31 | .29 | .27 | .24 | .22 | .19 | .16 | .13 | .07 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 491  | 485 | 472 | 455 | 434 | 409 | 380 | 340 | 303 | 264 | 222 | 177 | 103 | 055 | 007 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .34  | .33 | .32 | .31 | .30 | .28 | .26 | .23 | .21 | .18 | .15 | .12 | .06 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 477  | 470 | 458 | 441 | 420 | 394 | 365 | 325 | 288 | 249 | 206 | 162 | 088 | 040 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .33  | .32 | .31 | .30 | .29 | .27 | .25 | .22 | .20 | .17 | .14 | .11 | .05 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 463  | 456 | 444 | 427 | 405 | 380 | 350 | 310 | 273 | 234 | 191 | 147 | 073 | 025 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .32  | .31 | .30 | .29 | .28 | .26 | .24 | .21 | .18 | .16 | .13 | .10 | .04 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 450  | 443 | 430 | 413 | 391 | 366 | 336 | 296 | 259 | 219 | 177 | 132 | 059 | 011 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 2000 | .31  | .30 | .29 | .28 | .27 | .25 | .23 | .20 | .17 | .15 | .12 | .09 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 436  | 429 | 417 | 399 | 378 | 352 | 322 | 282 | 245 | 205 | 163 | 118 | 044 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .30  | .29 | .29 | .27 | .26 | .24 | .22 | .19 | .17 | .14 | .11 | .08 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 424  | 417 | 404 | 386 | 365 | 339 | 309 | 269 | 231 | 191 | 149 | 104 | 030 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .29  | .29 | .28 | .26 | .25 | .23 | .21 | .18 | .16 | .13 | .10 | .07 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 412  | 404 | 391 | 374 | 352 | 326 | 296 | 256 | 218 | 178 | 136 | 091 | 017 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .28  | .28 | .27 | .26 | .24 | .22 | .20 | .17 | .15 | .12 | .09 | .06 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 400  | 393 | 380 | 362 | 340 | 314 | 284 | 243 | 206 | 166 | 123 | 079 | 004 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

\*\*\* SIGNIFIES COS Z -1.  
ADD 1000 TO VALUES PRECEDED BY .

SOLAR PARAMETERS COS Z  
XO (W/M+2.)

TABLE B-1

JAN-APR 80 S

| MST  | JAN |     |     |     |     |     |     | FEB |     |     |     |     |    |     | MAR |     |     |     |     |     |     | APR |     |     |     |     |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|      | 1   | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30 | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |     |  |  |
| 2100 | .28 | .27 | .26 | .25 | .23 | .21 | .19 | .16 | .14 | .11 | .08 | .05 |    | .03 | .03 | .03 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 389 | 382 | 368 | 351 | 328 | 302 | 272 | 231 | 194 | 154 | 111 | 067 |    | 003 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 15   | .27 | .26 | .25 | .24 | .23 | .21 | .19 | .16 | .13 | .10 | .07 | .04 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 379 | 371 | 358 | 340 | 318 | 291 | 261 | 220 | 183 | 142 | 109 | 055 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 30   | .26 | .26 | .25 | .23 | .22 | .20 | .18 | .15 | .12 | .09 | .06 | .03 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 369 | 362 | 348 | 330 | 307 | 281 | 251 | 210 | 172 | 132 | 089 | 045 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 45   | .26 | .25 | .24 | .23 | .21 | .19 | .17 | .14 | .12 | .09 | .06 | .03 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 360 | 353 | 339 | 321 | 298 | 272 | 241 | 200 | 162 | 122 | 079 | 025 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 2200 | .25 | .24 | .23 | .22 | .21 | .19 | .17 | .14 | .11 | .08 | .05 | .02 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 352 | 345 | 331 | 312 | 290 | 263 | 232 | 191 | 153 | 113 | 070 | 026 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 15   | .24 | .24 | .23 | .22 | .20 | .18 | .16 | .13 | .10 | .08 | .04 | .01 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 345 | 337 | 323 | 305 | 282 | 255 | 224 | 183 | 145 | 105 | 062 | 017 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 30   | .24 | .23 | .22 | .21 | .20 | .18 | .15 | .13 | .10 | .07 | .04 | .01 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 339 | 331 | 317 | 298 | 275 | 248 | 217 | 176 | 138 | 097 | 055 | 010 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 45   | .24 | .23 | .22 | .21 | .19 | .17 | .15 | .12 | .09 | .07 | .04 | .00 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 333 | 325 | 311 | 292 | 269 | 242 | 211 | 170 | 132 | 091 | 048 | 004 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 2300 | .23 | .23 | .22 | .20 | .19 | .17 | .15 | .12 | .09 | .06 | .03 | .00 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 329 | 321 | 306 | 287 | 264 | 237 | 206 | 164 | 126 | 086 | 043 | 000 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 15   | .23 | .22 | .21 | .20 | .18 | .17 | .14 | .11 | .09 | .06 | .03 | .00 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 325 | 317 | 302 | 283 | 260 | 233 | 202 | 160 | 122 | 081 | 038 | 000 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 30   | .23 | .22 | .21 | .20 | .18 | .16 | .14 | .11 | .08 | .06 | .03 | .00 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 323 | 314 | 300 | 280 | 257 | 229 | 198 | 156 | 118 | 078 | 035 | 000 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |
| 45   | .23 | .22 | .21 | .20 | .18 | .16 | .14 | .11 | .08 | .05 | .02 | .00 |    | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .00 | .00 | .00 | .00 |  |  |
|      | 321 | 312 | 298 | 278 | 255 | 227 | 196 | 154 | 116 | 075 | 032 | 000 |    | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 003 | 000 | 000 | 000 | 000 | 000 |  |  |

JAN-APR 80 S      TABLE B-1      SOLAR PARAMETERS      COS 2      \*\*\* SIGNIFIES COS 2 = 1.  
 X0 (W/M\*\*2.)      ADD 1000 TO VALUES PRECEDED BY \*

| MST  | MAY |     |     |     |     | JUN |     |     |     |     | JUL |     |     |     |     | AUG |     |     |  |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |  |
| 1000 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 1100 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 1200 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |  |  |

TABLE B-1 SOLAR PARAMETERS COS Z X0 (W/M<sup>2</sup>·2.) \*\* SIGNIFIES COS Z = 1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | DATE |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | MAY  |     |     |     | JUN |     |     |     | JUL |     |     |     |
|      | 5    | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1300 | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 15   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 30   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| 45   | .00  | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
|      | 000  | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |

MAY-AUG 80 S      TABLE B-1      SOLAR PARAMETERS      COS Z      \*\* SIGNIFIES COS Z \*1.  
 XO (W/M\*+2.)      ADD 1000 TO VALUES PRECEDED BY \*





| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 0600 | .00 | .00 | .00 | .00 | .02 | .05 | .08 | .12 | .15 | .18 | .21  | .24 | .27 | .30 | .32 | .34 | .36 | .37 | .38 | .39 | .39 | .39 | .39 | .39 |  |
|      | 000 | 000 | 000 | 000 | 020 | 068 | 115 | 162 | 206 | 253 | 295  | 336 | 381 | 416 | 447 | 475 | 499 | 519 | 535 | 543 | 553 | 556 | 554 | 548 |  |
| 15   | .00 | .00 | .00 | .00 | .03 | .06 | .10 | .13 | .15 | .19 | .22  | .25 | .28 | .31 | .33 | .35 | .37 | .38 | .39 | .40 | .40 | .40 | .40 | .40 |  |
|      | 000 | 000 | 000 | 000 | 036 | 083 | 131 | 178 | 223 | 268 | 311  | 351 | 396 | 431 | 462 | 490 | 514 | 534 | 549 | 561 | 571 | 571 | 569 | 562 |  |
| 30   | .00 | .00 | .00 | .00 | .04 | .07 | .11 | .14 | .17 | .21 | .24  | .26 | .30 | .32 | .34 | .36 | .38 | .39 | .40 | .41 | .41 | .41 | .41 | .41 |  |
|      | 000 | 000 | 000 | 004 | 051 | 099 | 146 | 193 | 239 | 283 | 326  | 365 | 411 | 446 | 477 | 505 | 529 | 548 | 564 | 573 | 583 | 585 | 583 | 577 |  |
| 45   | .00 | .00 | .00 | .01 | .05 | .08 | .12 | .15 | .18 | .22 | .25  | .27 | .31 | .33 | .35 | .37 | .39 | .40 | .41 | .42 | .42 | .42 | .42 | .42 |  |
|      | 000 | 000 | 000 | 019 | 066 | 114 | 161 | 208 | 254 | 298 | 341  | 381 | 426 | 461 | 492 | 519 | 543 | 563 | 579 | 590 | 597 | 600 | 598 | 592 |  |
| 0700 | .00 | .00 | .00 | .03 | .06 | .09 | .13 | .16 | .20 | .23 | .26  | .29 | .32 | .34 | .36 | .38 | .40 | .41 | .42 | .43 | .43 | .43 | .43 | .43 |  |
|      | 000 | 000 | 000 | 034 | 081 | 129 | 176 | 223 | 269 | 313 | 356  | 396 | 441 | 475 | 506 | 534 | 557 | 577 | 593 | 601 | 612 | 614 | 612 | 606 |  |
| 15   | .00 | .00 | .00 | .04 | .07 | .11 | .14 | .17 | .21 | .24 | .27  | .30 | .33 | .35 | .37 | .39 | .41 | .42 | .43 | .44 | .44 | .44 | .44 | .44 |  |
|      | 000 | 000 | 001 | 048 | 096 | 144 | 191 | 238 | 283 | 328 | 370  | 410 | 455 | 484 | 520 | 548 | 572 | 591 | 607 | 613 | 620 | 623 | 626 | 620 |  |
| 30   | .00 | .00 | .01 | .05 | .08 | .12 | .15 | .18 | .22 | .25 | .28  | .31 | .34 | .36 | .38 | .40 | .42 | .43 | .44 | .45 | .45 | .45 | .45 | .45 |  |
|      | 000 | 000 | 016 | 063 | 110 | 158 | 205 | 252 | 297 | 342 | 384  | 424 | 469 | 503 | 534 | 562 | 585 | 605 | 621 | 632 | 637 | 642 | 640 | 634 |  |
| 45   | .00 | .00 | .02 | .06 | .09 | .13 | .16 | .19 | .23 | .26 | .29  | .32 | .35 | .37 | .39 | .41 | .43 | .44 | .45 | .46 | .46 | .46 | .46 | .46 |  |
|      | 000 | 000 | 030 | 077 | 124 | 172 | 215 | 266 | 311 | 355 | 399  | 438 | 482 | 516 | 547 | 575 | 599 | 618 | 634 | 645 | 652 | 655 | 654 | 648 |  |
| 0800 | .00 | .00 | .03 | .07 | .10 | .14 | .17 | .20 | .24 | .27 | .30  | .32 | .36 | .38 | .40 | .42 | .44 | .45 | .46 | .47 | .47 | .47 | .47 | .47 |  |
|      | 000 | 000 | 013 | 090 | 137 | 185 | 232 | 279 | 324 | 368 | 411  | 451 | 499 | 529 | 560 | 588 | 611 | 631 | 647 | 653 | 659 | 668 | 667 | 661 |  |
| 15   | .00 | .01 | .04 | .08 | .11 | .15 | .18 | .21 | .24 | .28 | .31  | .33 | .36 | .39 | .41 | .43 | .44 | .46 | .47 | .48 | .48 | .48 | .48 | .48 |  |
|      | 000 | 010 | 056 | 103 | 150 | 198 | 245 | 291 | 337 | 381 | 423  | 463 | 509 | 542 | 572 | 600 | 624 | 643 | 659 | 671 | 678 | 681 | 679 | 673 |  |
| 30   | .00 | .02 | .05 | .09 | .12 | .15 | .19 | .22 | .25 | .28 | .31  | .34 | .37 | .40 | .42 | .44 | .45 | .47 | .48 | .49 | .49 | .49 | .49 | .49 |  |
|      | 000 | 022 | 068 | 115 | 162 | 210 | 257 | 304 | 349 | 393 | 435  | 475 | 519 | 553 | 584 | 612 | 635 | 655 | 671 | 682 | 689 | 693 | 691 | 686 |  |
| 45   | .00 | .03 | .06 | .09 | .13 | .16 | .20 | .23 | .26 | .29 | .32  | .35 | .38 | .40 | .43 | .44 | .46 | .47 | .48 | .49 | .50 | .50 | .50 | .49 |  |
|      | 000 | 034 | 080 | 127 | 174 | 221 | 269 | 315 | 360 | 404 | 446  | 486 | 531 | 563 | 595 | 623 | 646 | 666 | 682 | 691 | 701 | 704 | 703 | 697 |  |

SEP-DEC 80 S TABLE 3-1 SOLAR PARAMETERS COS 2 COS 7 51. SIGNIFIES COS 7 51.  
 XC (M/M\*\*2.) COS 1000 TO VALUES PRECEDED BY .





| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 1200 | .05 | .08 | .12 | .15 | .18 | .22 | .25 | .28 | .31 | .34 | .37  | .40 | .43 | .45 | .47 | .49 | .51 | .52 | .53 | .51 | .55 | .55 | .55 | .55 |  |
|      | 067 | 111 | 156 | 202 | 248 | 294 | 340 | 385 | 430 | 472 | 514  | 553 | 597 | 631 | 662 | 690 | 715 | 735 | 752 | 765 | 774 | 779 | 780 | 773 |  |
| 15   | .05 | .08 | .11 | .15 | .18 | .21 | .25 | .28 | .31 | .34 | .37  | .40 | .43 | .45 | .47 | .49 | .51 | .52 | .53 | .51 | .55 | .55 | .55 | .55 |  |
|      | 066 | 110 | 155 | 201 | 247 | 293 | 339 | 384 | 428 | 471 | 512  | 552 | 596 | 630 | 661 | 689 | 713 | 734 | 751 | 763 | 773 | 778 | 779 | 775 |  |
| 30   | .05 | .08 | .11 | .15 | .18 | .21 | .25 | .28 | .31 | .34 | .37  | .40 | .43 | .45 | .47 | .49 | .51 | .52 | .53 | .51 | .55 | .55 | .55 | .55 |  |
|      | 065 | 108 | 153 | 199 | 245 | 291 | 336 | 381 | 426 | 468 | 510  | 549 | 593 | 627 | 658 | 686 | 711 | 732 | 749 | 763 | 772 | 777 | 778 | 774 |  |
| 45   | .05 | .08 | .11 | .14 | .18 | .21 | .24 | .28 | .31 | .34 | .37  | .39 | .42 | .45 | .47 | .49 | .50 | .52 | .53 | .51 | .54 | .55 | .55 | .55 |  |
|      | 062 | 106 | 150 | 196 | 242 | 287 | 333 | 378 | 422 | 465 | 506  | 545 | 590 | 624 | 655 | 683 | 708 | 729 | 746 | 760 | 769 | 774 | 775 | 772 |  |
| 1300 | .04 | .08 | .11 | .14 | .17 | .21 | .24 | .27 | .30 | .33 | .36  | .39 | .42 | .44 | .47 | .48 | .50 | .52 | .53 | .51 | .54 | .55 | .55 | .54 |  |
|      | 058 | 102 | 147 | 192 | 238 | 283 | 329 | 374 | 418 | 460 | 502  | 541 | 585 | 619 | 651 | 679 | 704 | 725 | 742 | 755 | 765 | 771 | 772 | 769 |  |
| 15   | .04 | .07 | .11 | .14 | .17 | .20 | .24 | .27 | .30 | .33 | .36  | .39 | .42 | .44 | .46 | .48 | .50 | .51 | .52 | .53 | .54 | .54 | .54 | .54 |  |
|      | 054 | 097 | 142 | 187 | 232 | 278 | 323 | 368 | 412 | 455 | 496  | 535 | 590 | 614 | 645 | 674 | 699 | 720 | 738 | 751 | 761 | 766 | 763 | 765 |  |
| 30   | .04 | .07 | .10 | .13 | .17 | .20 | .23 | .26 | .29 | .32 | .35  | .38 | .41 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .53 | .54 | .54 | .54 |  |
|      | 048 | 092 | 136 | 181 | 226 | 272 | 317 | 362 | 406 | 448 | 490  | 529 | 573 | 608 | 639 | 667 | 693 | 714 | 732 | 745 | 755 | 761 | 762 | 759 |  |
| 45   | .03 | .06 | .10 | .13 | .16 | .19 | .23 | .26 | .29 | .32 | .35  | .38 | .41 | .43 | .45 | .47 | .49 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |  |
|      | 042 | 085 | 129 | 174 | 220 | 265 | 310 | 355 | 398 | 441 | 482  | 522 | 563 | 600 | 632 | 660 | 686 | 707 | 725 | 739 | 749 | 755 | 756 | 753 |  |
| 1400 | .03 | .06 | .09 | .12 | .16 | .19 | .22 | .25 | .28 | .31 | .34  | .37 | .40 | .42 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |  |
|      | 035 | 078 | 122 | 167 | 212 | 257 | 302 | 347 | 390 | 433 | 474  | 513 | 558 | 592 | 624 | 653 | 678 | 700 | 718 | 732 | 742 | 748 | 749 | 747 |  |
| 15   | .02 | .05 | .08 | .12 | .15 | .18 | .21 | .25 | .28 | .31 | .34  | .36 | .38 | .42 | .44 | .46 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 |  |
|      | 027 | 070 | 114 | 158 | 203 | 248 | 293 | 338 | 381 | 424 | 465  | 504 | 549 | 583 | 615 | 644 | 669 | 691 | 709 | 721 | 731 | 740 | 742 | 739 |  |
| 30   | .01 | .05 | .08 | .11 | .14 | .17 | .21 | .24 | .27 | .30 | .33  | .36 | .39 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .51 | .52 | .52 | .52 |  |
|      | 018 | 061 | 104 | 149 | 194 | 239 | 283 | 328 | 371 | 414 | 455  | 495 | 539 | 574 | 606 | 634 | 660 | 682 | 700 | 715 | 725 | 731 | 733 | 730 |  |
| 45   | .01 | .04 | .07 | .10 | .13 | .17 | .20 | .23 | .26 | .29 | .32  | .35 | .38 | .40 | .43 | .45 | .46 | .48 | .49 | .50 | .51 | .51 | .51 | .51 |  |
|      | 008 | 051 | 094 | 139 | 183 | 228 | 275 | 317 | 361 | 403 | 445  | 484 | 529 | 563 | 595 | 624 | 650 | 672 | 690 | 705 | 715 | 722 | 724 | 721 |  |

SEP-DEC 80 S TABLE 8-1 SOLAR PARAMETERS COS Z ... SIGNIFIES COS Z = 1.  
 XC (W/M\*\*2.) ADD 1000 TO VALUES PRECEDED BY



| MST  | SEP |     |     |     |     | OCT |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |
| 1800 | .00 | .00 | .00 | .00 | .00 | .03 | .07 | .10 | .13 | .16 | .19 | .22 | .25 | .28 | .30 | .32 | .34 | .35 | .37 | .38 | .39 | .39 | .39 | .39 |
|      | 000 | 000 | 000 | 000 | 000 | 046 | 090 | 134 | 178 | 221 | 262 | 302 | 342 | 382 | 417 | 447 | 474 | 497 | 517 | 533 | 548 | 551 | 554 | 552 |
| 15   | .00 | .00 | .00 | .00 | .00 | .02 | .06 | .09 | .12 | .15 | .18 | .21 | .24 | .26 | .29 | .31 | .33 | .34 | .36 | .37 | .38 | .38 | .38 | .38 |
|      | 000 | 000 | 000 | 000 | 000 | 031 | 075 | 119 | 162 | 205 | 247 | 287 | 333 | 369 | 402 | 432 | 459 | 483 | 502 | 518 | 532 | 537 | 539 | 537 |
| 30   | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .08 | .11 | .14 | .17 | .20 | .23 | .25 | .28 | .30 | .32 | .33 | .35 | .36 | .36 | .37 | .37 | .37 |
|      | 000 | 000 | 000 | 000 | 000 | 016 | 060 | 104 | 147 | 190 | 232 | 272 | 318 | 354 | 387 | 417 | 444 | 468 | 488 | 503 | 515 | 522 | 525 | 523 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .06 | .10 | .13 | .16 | .19 | .22 | .24 | .27 | .29 | .31 | .32 | .34 | .35 | .35 | .36 | .36 | .36 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 044 | 088 | 132 | 175 | 217 | 257 | 303 | 339 | 372 | 403 | 430 | 453 | 473 | 489 | 500 | 508 | 510 | 508 |
| 1900 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .09 | .12 | .15 | .17 | .21 | .23 | .26 | .28 | .30 | .31 | .33 | .34 | .34 | .35 | .35 | .35 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 030 | 074 | 117 | 160 | 202 | 242 | 285 | 324 | 358 | 388 | 415 | 439 | 459 | 475 | 488 | 493 | 496 | 494 |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .07 | .11 | .14 | .16 | .20 | .22 | .25 | .27 | .29 | .30 | .32 | .33 | .33 | .34 | .34 | .34 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 015 | 059 | 103 | 146 | 187 | 228 | 274 | 310 | 342 | 374 | 401 | 425 | 445 | 461 | 472 | 479 | 482 | 479 |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .06 | .10 | .13 | .15 | .19 | .21 | .24 | .26 | .28 | .29 | .31 | .32 | .32 | .33 | .33 | .33 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 001 | 045 | 089 | 132 | 173 | 214 | 260 | 296 | 330 | 360 | 388 | 411 | 431 | 447 | 458 | 465 | 468 | 466 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .09 | .12 | .14 | .18 | .20 | .23 | .25 | .27 | .28 | .30 | .31 | .32 | .32 | .32 | .32 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 031 | 075 | 118 | 160 | 200 | 247 | 283 | 316 | 347 | 374 | 398 | 418 | 434 | 445 | 452 | 454 | 452 |
| 2000 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .05 | .08 | .11 | .14 | .17 | .19 | .22 | .24 | .26 | .27 | .29 | .30 | .31 | .31 | .31 | .31 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 018 | 062 | 105 | 147 | 187 | 234 | 270 | 304 | 334 | 362 | 385 | 405 | 421 | 432 | 439 | 441 | 439 |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .07 | .10 | .13 | .16 | .18 | .21 | .23 | .25 | .27 | .28 | .29 | .30 | .30 | .30 | .30 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 005 | 049 | 092 | 134 | 175 | 221 | 258 | 291 | 322 | 349 | 373 | 393 | 403 | 410 | 427 | 429 | 426 |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .06 | .09 | .12 | .15 | .18 | .20 | .22 | .24 | .26 | .27 | .28 | .29 | .29 | .29 | .29 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 037 | 080 | 122 | 163 | 210 | 246 | 280 | 310 | 338 | 361 | 381 | 397 | 408 | 415 | 417 | 414 |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05 | .08 | .11 | .14 | .17 | .19 | .21 | .23 | .25 | .26 | .27 | .28 | .29 | .29 | .28 |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 026 | 069 | 111 | 152 | 199 | 235 | 269 | 299 | 327 | 350 | 370 | 385 | 397 | 403 | 405 | 403 |

SEP-DEC 80 S TABLE R-1 SOLAR PARAMETERS CCS Z X0 (W/M\*\*2.) \*\*\* SIGNIFIES COS Z =1. ADD 1000 TO VALUES PRECEDED BY \*

| MST  | SEP |     |     |     |     | OCT |     |     |     |     | DATE |     |     |     |     | NOV |     |     |     |     | DEC |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|      | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25   | 30  | 5   | 10  | 15  | 20  | 25  | 30  | 5   | 10  | 15  | 20  | 25  | 30  |  |
| 2100 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04 | .07  | .10 | .14 | .16 | .18 | .21 | .23 | .24 | .26 | .27 | .27 | .28 | .28 | .28 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 015 | 058 | 101  | 142 | 188 | 225 | 258 | 289 | 315 | 340 | 360 | 375 | 385 | 393 | 395 | 392 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .07  | .10 | .13 | .15 | .18 | .20 | .22 | .23 | .25 | .26 | .27 | .27 | .27 | .27 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 005 | 049 | 091  | 132 | 179 | 215 | 249 | 279 | 307 | 330 | 350 | 365 | 37  | 383 | 385 | 382 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .06  | .09 | .12 | .15 | .17 | .19 | .21 | .23 | .24 | .25 | .25 | .26 | .27 | .26 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 040 | 082 | 123  |     | 170 | 206 | 240 | 271 | 293 | 321 | 341 | 355 | 367 | 373 | 375 | 372 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05  | .08 | .12 | .14 | .17 | .19 | .21 | .22 | .24 | .25 | .25 | .26 | .26 | .26 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 032 | 074 | 115  |     | 162 | 198 | 232 | 263 | 290 | 313 | 333 | 348 | 359 | 365 | 367 | 363 |  |
| 2200 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .05  | .08 | .11 | .14 | .16 | .18 | .20 | .22 | .23 | .24 | .25 | .25 | .25 | .25 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 024 | 067 | 108  |     | 155 | 191 | 225 | 255 | 283 | 306 | 325 | 341 | 351 | 357 | 359 | 355 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04  | .07 | .11 | .13 | .16 | .18 | .20 | .21 | .23 | .24 | .24 | .25 | .25 | .25 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 018 | 060 | 102  |     | 148 | 185 | 218 | 249 | 276 | 300 | 319 | 334 | 345 | 351 | 352 | 348 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04  | .07 | .10 | .13 | .15 | .17 | .19 | .21 | .22 | .23 | .24 | .24 | .24 | .24 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 012 | 055 | 096  |     | 143 | 180 | 213 | 244 | 271 | 294 | 313 | 328 | 339 | 345 | 346 | 342 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .04  | .07 | .10 | .13 | .15 | .17 | .19 | .21 | .22 | .23 | .24 | .24 | .24 | .24 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 008 | 051 | 092  |     | 139 | 175 | 209 | 239 | 266 | 289 | 309 | 323 | 334 | 340 | 340 | 337 |  |
| 2300 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03  | .06 | .10 | .12 | .15 | .17 | .19 | .20 | .22 | .23 | .23 | .24 | .24 | .24 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 005 | 047 | 089  |     | 135 | 172 | 205 | 236 | 263 | 286 | 305 | 320 | 330 | 335 | 336 | 332 |  |
| 15   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03  | .06 | .10 | .12 | .15 | .17 | .19 | .20 | .21 | .22 | .23 | .24 | .24 | .23 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 002 | 045 | 086  |     | 133 | 169 | 203 | 233 | 260 | 283 | 302 | 317 | 327 | 332 | 333 | 329 |  |
| 30   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03  | .06 | .10 | .12 | .14 | .17 | .18 | .20 | .21 | .22 | .23 | .23 | .23 | .23 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 001 | 043 | 085  |     | 132 | 168 | 201 | 232 | 258 | 281 | 300 | 315 | 325 | 330 | 330 | 326 |  |
| 45   | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03  | .06 | .10 | .12 | .14 | .17 | .18 | .20 | .21 | .22 | .23 | .23 | .23 | .23 |  |
|      | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 043 | 084  |     | 131 | 167 | 201 | 231 | 258 | 281 | 299 | 314 | 323 | 329 | 329 | 325 |  |

SEP-DEC 80 S TABLE B-1 SOLAR PARAMETERS COS Z X0 (M/M=2.) \*\*\* SIGNIFIES COS Z =1. ADD 1500 TO VALUES PRECEDED BY \*

|     |     | COS Z |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| LOW | MID | HIGH  | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
| CLR | CLR | CLR   | .45 | .49 | .54 | .58 | .61 | .65 | .68 | .71 | .73 | .75 | .77 | .78 | .79 | .79 | .80 | .80 | .80 | .80 | .80 |
|     |     | SCT   | .43 | .48 | .52 | .56 | .60 | .64 | .67 | .70 | .72 | .74 | .76 | .77 | .78 | .79 | .79 | .79 | .79 | .79 | .79 |
|     |     | BKN   | .39 | .43 | .48 | .52 | .56 | .60 | .63 | .66 | .69 | .71 | .73 | .74 | .75 | .76 | .76 | .76 | .76 | .76 | .76 |
|     |     | OVC   | .38 | .42 | .46 | .49 | .53 | .56 | .59 | .62 | .65 | .67 | .69 | .71 | .72 | .73 | .74 | .74 | .74 | .74 | .74 |
| CLR | SCT |       | .38 | .42 | .46 | .50 | .54 | .57 | .60 | .63 | .66 | .68 | .70 | .71 | .73 | .74 | .74 | .75 | .75 | .75 | .75 |
|     |     | SCT   | .37 | .41 | .45 | .49 | .53 | .56 | .60 | .63 | .65 | .67 | .69 | .71 | .72 | .73 | .74 | .74 | .74 | .74 | .74 |
|     |     | BKN   | .34 | .38 | .42 | .46 | .50 | .53 | .57 | .60 | .62 | .65 | .67 | .68 | .70 | .71 | .71 | .71 | .71 | .71 | .71 |
|     |     | OVC   | .33 | .37 | .40 | .44 | .47 | .50 | .53 | .56 | .59 | .61 | .63 | .65 | .67 | .68 | .69 | .69 | .70 | .70 | .70 |
| C'R | BKN |       | .30 | .34 | .37 | .40 | .43 | .46 | .49 | .52 | .54 | .56 | .57 | .59 | .60 | .61 | .61 | .61 | .61 | .61 | .61 |
|     |     | SCT   | .29 | .33 | .36 | .39 | .43 | .46 | .48 | .51 | .53 | .55 | .57 | .59 | .60 | .60 | .61 | .61 | .61 | .61 | .61 |
|     |     | BKN   | .27 | .30 | .34 | .37 | .40 | .43 | .46 | .49 | .51 | .53 | .55 | .57 | .58 | .58 | .59 | .59 | .59 | .59 | .59 |
|     |     | OVC   | .27 | .30 | .33 | .36 | .39 | .41 | .44 | .46 | .49 | .51 | .53 | .54 | .56 | .56 | .57 | .58 | .58 | .58 | .58 |
| CLR | OVC |       | .18 | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .33 | .33 | .34 | .34 | .34 | .34 | .34 |
|     |     | SCT   | .18 | .19 | .21 | .22 | .24 | .25 | .27 | .28 | .29 | .30 | .31 | .32 | .33 | .33 | .34 | .34 | .34 | .34 | .34 |
|     |     | BKN   | .16 | .18 | .20 | .21 | .23 | .25 | .26 | .27 | .29 | .30 | .31 | .31 | .32 | .32 | .33 | .33 | .33 | .33 | .33 |
|     |     | OVC   | .16 | .18 | .19 | .21 | .22 | .24 | .25 | .26 | .27 | .29 | .30 | .30 | .31 | .32 | .32 | .32 | .32 | .32 | .32 |
| SCT | CLR |       | .37 | .41 | .45 | .49 | .52 | .56 | .59 | .62 | .65 | .67 | .69 | .71 | .72 | .73 | .74 | .75 | .76 | .76 | .76 |
|     |     | SCT   | .36 | .40 | .44 | .48 | .51 | .55 | .58 | .61 | .64 | .67 | .69 | .70 | .72 | .73 | .74 | .75 | .75 | .75 | .75 |
|     |     | BKN   | .32 | .36 | .41 | .45 | .48 | .52 | .55 | .59 | .61 | .64 | .66 | .68 | .69 | .70 | .71 | .72 | .72 | .72 | .72 |
|     |     | OVC   | .32 | .35 | .39 | .42 | .46 | .49 | .52 | .55 | .58 | .60 | .63 | .65 | .66 | .68 | .69 | .70 | .70 | .70 | .70 |
| SCT | SCT |       | .32 | .36 | .39 | .43 | .47 | .50 | .53 | .56 | .59 | .61 | .63 | .65 | .67 | .68 | .69 | .70 | .71 | .71 | .72 |
|     |     | SCT   | .31 | .35 | .38 | .42 | .46 | .49 | .52 | .56 | .58 | .61 | .63 | .65 | .67 | .68 | .69 | .70 | .70 | .71 | .71 |
|     |     | BKN   | .28 | .32 | .36 | .40 | .43 | .47 | .50 | .53 | .56 | .58 | .61 | .63 | .64 | .66 | .67 | .67 | .68 | .68 | .68 |
|     |     | OVC   | .28 | .31 | .35 | .38 | .41 | .44 | .47 | .50 | .53 | .55 | .58 | .60 | .62 | .63 | .64 | .65 | .66 | .67 | .67 |
| SCT | BKN |       | .26 | .29 | .32 | .35 | .38 | .41 | .44 | .46 | .49 | .51 | .53 | .54 | .56 | .57 | .58 | .58 | .59 | .59 | .59 |
|     |     | SCT   | .25 | .28 | .31 | .34 | .38 | .41 | .43 | .46 | .48 | .51 | .52 | .54 | .56 | .57 | .57 | .58 | .58 | .58 | .58 |
|     |     | BKN   | .23 | .26 | .29 | .33 | .36 | .39 | .42 | .44 | .47 | .49 | .51 | .52 | .54 | .55 | .56 | .56 | .56 | .56 | .56 |
|     |     | OVC   | .23 | .26 | .28 | .31 | .34 | .37 | .40 | .42 | .44 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .55 | .55 | .55 |
| SCT | OVC |       | .16 | .17 | .19 | .21 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .33 | .33 |
|     |     | SCT   | .15 | .17 | .19 | .20 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .33 | .33 |
|     |     | BKN   | .15 | .16 | .18 | .19 | .21 | .23 | .24 | .25 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .32 | .32 | .32 | .32 |
|     |     | OVC   | .14 | .16 | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .31 | .32 | .32 |

|     |     | COS Z |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| LOW | MID | HIGH  | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
| BKN | CLR | CLR   | .30 | .33 | .36 | .39 | .42 | .45 | .48 | .50 | .52 | .54 | .55 | .57 | .58 | .59 | .60 | .60 | .61 | .61 | .61 |
|     | SCT | SCT   | .29 | .32 | .35 | .39 | .42 | .44 | .47 | .49 | .52 | .54 | .55 | .57 | .58 | .59 | .60 | .60 | .61 | .61 | .61 |
|     | BKN | BKN   | .26 | .30 | .33 | .36 | .39 | .42 | .45 | .47 | .50 | .52 | .53 | .55 | .56 | .57 | .58 | .58 | .58 | .58 | .58 |
|     | OVC | OVC   | .26 | .29 | .32 | .35 | .37 | .40 | .43 | .45 | .47 | .49 | .51 | .52 | .54 | .55 | .56 | .57 | .57 | .57 | .57 |
| BKN | SCT | CLR   | .26 | .29 | .32 | .35 | .38 | .41 | .43 | .46 | .48 | .50 | .51 | .53 | .54 | .55 | .56 | .57 | .58 | .58 | .58 |
|     | SCT | SCT   | .25 | .29 | .32 | .35 | .38 | .40 | .43 | .45 | .47 | .49 | .51 | .53 | .54 | .55 | .56 | .57 | .57 | .58 | .58 |
|     | BKN | BKN   | .24 | .27 | .30 | .33 | .36 | .38 | .41 | .44 | .46 | .48 | .50 | .51 | .52 | .53 | .54 | .55 | .55 | .55 | .55 |
|     | OVC | OVC   | .23 | .26 | .29 | .31 | .34 | .37 | .39 | .41 | .43 | .46 | .47 | .49 | .50 | .52 | .53 | .54 | .54 | .54 | .55 |
| BKN | BKN | CLR   | .22 | .24 | .27 | .29 | .32 | .34 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 |
|     | SCT | SCT   | .21 | .24 | .26 | .29 | .31 | .34 | .36 | .38 | .40 | .42 | .44 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 |
|     | BKN | BKN   | .19 | .22 | .25 | .27 | .30 | .32 | .35 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .46 | .47 | .47 | .47 | .47 |
|     | OVC | OVC   | .19 | .22 | .24 | .26 | .29 | .31 | .33 | .35 | .37 | .39 | .41 | .42 | .43 | .44 | .45 | .46 | .46 | .46 | .46 |
| BKN | OVC | CLR   | .14 | .15 | .17 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .29 | .29 | .29 | .29 |
|     | SCT | SCT   | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .28 | .28 | .28 | .29 | .29 | .29 |
|     | BKN | BKN   | .13 | .14 | .16 | .17 | .18 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .28 | .28 | .28 |
|     | OVC | OVC   | .13 | .14 | .15 | .16 | .18 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .27 | .28 | .28 | .28 |
| OVC | CLR | CLR   | .13 | .15 | .17 | .18 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .34 |
|     | SCT | SCT   | .13 | .14 | .16 | .18 | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .33 |
|     | BKN | BKN   | .12 | .14 | .15 | .17 | .19 | .21 | .22 | .24 | .25 | .26 | .27 | .29 | .29 | .30 | .31 | .31 | .32 | .32 | .32 |
|     | OVC | OVC   | .12 | .13 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .25 | .27 | .28 | .29 | .29 | .30 | .31 | .31 | .32 | .32 |
| OVC | SCT | CLR   | .12 | .14 | .15 | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .33 |
|     | SCT | SCT   | .12 | .13 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .32 | .32 | .32 |
|     | BKN | BKN   | .11 | .12 | .14 | .16 | .18 | .19 | .21 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .31 |
|     | OVC | OVC   | .11 | .12 | .14 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 |
| OVC | BKN | CLR   | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .29 | .29 |
|     | SCT | SCT   | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .28 | .28 | .29 | .29 |
|     | BKN | BKN   | .09 | .11 | .12 | .14 | .16 | .17 | .18 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .28 | .28 | .29 |
|     | OVC | OVC   | .09 | .11 | .12 | .14 | .15 | .16 | .18 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 |
| OVC | OVC | CLR   | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .16 | .17 | .17 | .18 | .18 | .18 | .19 | .19 | .19 |
|     | SCT | SCT   | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .16 | .16 | .17 | .18 | .18 | .18 | .19 | .19 | .19 |
|     | BKN | BKN   | .07 | .08 | .09 | .10 | .11 | .12 | .12 | .13 | .14 | .15 | .16 | .16 | .17 | .17 | .18 | .18 | .18 | .18 | .18 |
|     | OVC | OVC   | .07 | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .16 | .16 | .17 | .17 | .18 | .18 | .18 | .18 |

TABLE 8-2 SOLAR TRANSMISSION (T)

THIN HIGH CLOUD  
LOW ALBEDO  
VIS > 11 KM

STATE 1-1-1

COS Z

|     | LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CLR | CLR | CLR | CLR  | .38 | .42 | .45 | .49 | .52 | .56 | .59 | .62 | .64 | .66 | .68 | .70 | .71 | .72 | .72 | .73 | .73 | .73 | .73 |
|     | SCT |     |      | .36 | .40 | .44 | .48 | .51 | .55 | .59 | .61 | .64 | .66 | .68 | .69 | .71 | .72 | .72 | .72 | .72 | .72 | .72 |
|     | BKN |     |      | .33 | .37 | .41 | .45 | .48 | .52 | .55 | .58 | .61 | .63 | .65 | .67 | .68 | .69 | .69 | .69 | .69 | .69 | .69 |
|     | OVC |     |      | .32 | .36 | .39 | .42 | .46 | .49 | .52 | .55 | .57 | .60 | .62 | .64 | .65 | .66 | .67 | .67 | .67 | .67 | .67 |
| CLR | SCT | CLR |      | .32 | .36 | .40 | .43 | .46 | .50 | .53 | .56 | .58 | .60 | .63 | .64 | .66 | .67 | .68 | .68 | .68 | .68 | .68 |
|     | SCT |     |      | .31 | .35 | .39 | .42 | .46 | .49 | .52 | .55 | .58 | .60 | .62 | .64 | .65 | .66 | .67 | .68 | .68 | .68 | .68 |
|     | BKN |     |      | .29 | .32 | .36 | .39 | .43 | .46 | .50 | .53 | .55 | .58 | .60 | .62 | .63 | .64 | .65 | .65 | .65 | .65 | .65 |
|     | OVC |     |      | .28 | .31 | .35 | .38 | .41 | .44 | .47 | .50 | .52 | .55 | .57 | .59 | .60 | .62 | .63 | .64 | .64 | .64 | .64 |
| CLR | BKN | CLR |      | .26 | .29 | .32 | .35 | .38 | .41 | .43 | .46 | .48 | .50 | .52 | .53 | .55 | .55 | .56 | .56 | .56 | .56 | .56 |
|     | SCT |     |      | .25 | .28 | .31 | .34 | .37 | .40 | .43 | .45 | .48 | .50 | .52 | .53 | .54 | .55 | .56 | .56 | .56 | .56 | .56 |
|     | BKN |     |      | .23 | .26 | .29 | .32 | .35 | .38 | .41 | .44 | .46 | .48 | .50 | .51 | .53 | .53 | .54 | .54 | .54 | .54 | .54 |
|     | OVC |     |      | .23 | .26 | .28 | .31 | .34 | .36 | .39 | .41 | .44 | .46 | .48 | .49 | .51 | .52 | .52 | .53 | .53 | .53 | .53 |
| CLR | OVC | CLR |      | .16 | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .32 | .32 | .32 | .32 |
|     | SCT |     |      | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .25 | .27 | .28 | .29 | .29 | .30 | .31 | .31 | .31 | .31 | .31 | .31 |
|     | BKN |     |      | .15 | .16 | .18 | .19 | .21 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .30 | .31 | .31 | .31 | .31 |
|     | OVC |     |      | .14 | .16 | .17 | .19 | .20 | .21 | .23 | .24 | .25 | .26 | .27 | .28 | .29 | .29 | .30 | .30 | .30 | .30 | .30 |
| SCT | CLR | CLR |      | .31 | .35 | .38 | .42 | .45 | .49 | .52 | .55 | .57 | .60 | .62 | .64 | .66 | .67 | .68 | .69 | .69 | .69 | .69 |
|     | SCT |     |      | .30 | .34 | .37 | .41 | .45 | .48 | .51 | .54 | .57 | .59 | .62 | .64 | .65 | .67 | .67 | .68 | .68 | .68 | .68 |
|     | BKN |     |      | .28 | .31 | .35 | .38 | .42 | .45 | .49 | .52 | .55 | .57 | .59 | .61 | .63 | .64 | .65 | .66 | .66 | .66 | .66 |
|     | OVC |     |      | .27 | .30 | .34 | .37 | .40 | .43 | .46 | .49 | .52 | .54 | .56 | .58 | .60 | .62 | .63 | .64 | .64 | .64 | .64 |
| SCT | SCT | CLR |      | .27 | .31 | .34 | .37 | .41 | .44 | .47 | .50 | .52 | .55 | .57 | .59 | .61 | .62 | .64 | .65 | .65 | .65 | .65 |
|     | SCT |     |      | .26 | .30 | .33 | .37 | .40 | .43 | .46 | .49 | .52 | .55 | .57 | .59 | .61 | .62 | .63 | .64 | .64 | .64 | .64 |
|     | BKN |     |      | .24 | .28 | .31 | .34 | .38 | .41 | .44 | .47 | .50 | .53 | .55 | .57 | .59 | .60 | .61 | .62 | .62 | .62 | .62 |
|     | OVC |     |      | .24 | .27 | .30 | .33 | .36 | .39 | .42 | .45 | .47 | .50 | .52 | .54 | .56 | .58 | .59 | .61 | .61 | .61 | .61 |
| SCT | BKN | CLR |      | .22 | .25 | .28 | .31 | .34 | .36 | .39 | .41 | .44 | .46 | .48 | .50 | .51 | .52 | .53 | .54 | .54 | .54 | .54 |
|     | SCT |     |      | .22 | .24 | .27 | .30 | .33 | .36 | .39 | .41 | .43 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .54 | .54 | .54 |
|     | BKN |     |      | .20 | .23 | .26 | .29 | .31 | .34 | .37 | .40 | .42 | .44 | .46 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 |
|     | OVC |     |      | .20 | .22 | .25 | .28 | .30 | .33 | .35 | .38 | .40 | .42 | .44 | .46 | .47 | .49 | .50 | .51 | .51 | .51 | .51 |
| SCT | OVC | CLR |      | .14 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .31 | .31 |
|     | SCT |     |      | .14 | .15 | .17 | .18 | .20 | .21 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .29 | .30 | .30 | .30 | .30 | .30 |
|     | BKN |     |      | .13 | .14 | .16 | .17 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .28 | .29 | .29 | .30 | .30 | .30 | .30 |
|     | OVC |     |      | .13 | .14 | .16 | .17 | .18 | .20 | .21 | .22 | .23 | .25 | .26 | .27 | .27 | .28 | .29 | .29 | .29 | .29 | .29 |

TABLE B-2 SOLAR TRANSMISSION (T)

THIN HIGH CLOUD  
LOW ALBEDO  
VIS < 11 KM

STATE 1-1-2



## COS Z

| LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| BKN | CLR | CLR  | .26 | .29 | .32 | .35 | .37 | .40 | .42 | .45 | .47 | .49 | .51 | .52 | .54 | .55 | .55 | .56 | .56 | .57 | .57 |
|     | SCT | SCT  | .25 | .28 | .31 | .34 | .37 | .39 | .42 | .44 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .56 | .56 | .56 | .56 |
|     | BKN | BKN  | .23 | .26 | .29 | .32 | .35 | .38 | .40 | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .53 | .54 | .54 | .54 | .54 |
|     | OVC | OVC  | .23 | .25 | .28 | .31 | .33 | .36 | .38 | .40 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |
| BKN | SCT | CLR  | .23 | .26 | .28 | .31 | .34 | .36 | .39 | .41 | .43 | .45 | .47 | .49 | .50 | .51 | .52 | .53 | .54 | .54 | .54 |
|     | SCT | SCT  | .22 | .25 | .28 | .31 | .33 | .36 | .38 | .41 | .43 | .45 | .47 | .49 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |
|     | BKN | BKN  | .21 | .23 | .26 | .29 | .32 | .34 | .37 | .39 | .42 | .44 | .45 | .47 | .48 | .50 | .50 | .51 | .51 | .51 | .51 |
|     | OVC | OVC  | .20 | .23 | .25 | .28 | .30 | .33 | .35 | .37 | .40 | .42 | .43 | .45 | .47 | .48 | .49 | .50 | .50 | .51 | .51 |
| BKN | BKN | CLR  | .19 | .21 | .24 | .26 | .29 | .31 | .33 | .35 | .37 | .39 | .40 | .42 | .43 | .44 | .45 | .45 | .46 | .46 | .46 |
|     | SCT | SCT  | .18 | .21 | .23 | .26 | .28 | .30 | .33 | .35 | .37 | .39 | .40 | .42 | .43 | .44 | .44 | .45 | .45 | .45 | .45 |
|     | BKN | BKN  | .17 | .20 | .22 | .24 | .27 | .29 | .31 | .34 | .36 | .37 | .39 | .40 | .42 | .43 | .43 | .44 | .44 | .44 | .44 |
|     | OVC | OVC  | .17 | .19 | .21 | .24 | .26 | .28 | .30 | .32 | .34 | .36 | .37 | .39 | .40 | .41 | .42 | .43 | .43 | .43 | .43 |
| BKN | OVC | CLR  | .12 | .14 | .15 | .16 | .17 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .25 | .26 | .27 | .27 | .27 | .27 | .27 |
|     | SCT | SCT  | .12 | .13 | .15 | .16 | .17 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .25 | .26 | .26 | .26 | .26 | .26 | .26 |
|     | BKN | BKN  | .11 | .13 | .14 | .15 | .17 | .18 | .19 | .20 | .21 | .22 | .23 | .24 | .24 | .25 | .25 | .26 | .26 | .26 | .26 |
|     | OVC | OVC  | .11 | .12 | .14 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .25 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 |
| OVC | CLR | CLR  | .13 | .15 | .17 | .18 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .34 |
|     | SCT | SCT  | .13 | .14 | .16 | .18 | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .33 |
|     | BKN | BKN  | .12 | .14 | .15 | .17 | .19 | .21 | .22 | .24 | .25 | .26 | .27 | .29 | .29 | .30 | .31 | .31 | .32 | .32 | .32 |
|     | OVC | OVC  | .12 | .13 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .25 | .27 | .28 | .29 | .29 | .30 | .31 | .31 | .32 | .32 |
| OVC | SCT | CLR  | .12 | .14 | .15 | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .33 |
|     | SCT | SCT  | .12 | .13 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .32 | .32 | .32 |
|     | BKN | BKN  | .11 | .12 | .14 | .16 | .18 | .19 | .21 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .31 |
|     | OVC | OVC  | .11 | .12 | .14 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 |
| OVC | BKN | CLR  | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .29 | .29 |
|     | SCT | SCT  | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .28 | .28 | .29 | .29 |
|     | BKN | BKN  | .09 | .11 | .12 | .14 | .16 | .17 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .28 | .28 | .29 |
|     | OVC | OVC  | .09 | .11 | .12 | .14 | .15 | .16 | .18 | .19 | .20 | .21 | .23 | .24 | .25 | .26 | .26 | .27 | .27 | .27 | .27 |
| OVC | OVC | CLR  | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .16 | .17 | .17 | .18 | .18 | .19 | .19 | .19 | .19 |
|     | SCT | SCT  | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .16 | .16 | .17 | .18 | .18 | .19 | .19 | .19 | .19 |
|     | BKN | BKN  | .07 | .08 | .09 | .10 | .11 | .12 | .12 | .13 | .14 | .15 | .16 | .16 | .17 | .17 | .18 | .18 | .18 | .18 | .18 |
|     | OVC | OVC  | .07 | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .16 | .16 | .17 | .17 | .18 | .18 | .18 | .18 |

TABLE B-2 SOLAR TRANSMISSION ( $\tau$ )THIN HIGH CLOUD  
LOW ALBEDO  
VIS < 11 KM

STATE 1-1-2

## COS Z

| LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CLR | CLR | CLR  | .54 | .58 | .62 | .66 | .69 | .72 | .74 | .77 | .79 | .80 | .82 | .83 | .84 | .84 | .84 | .84 | .85 | .85 | .85 |
|     | SCT | SCT  | .52 | .56 | .61 | .64 | .68 | .71 | .74 | .76 | .78 | .80 | .81 | .82 | .83 | .84 | .84 | .84 | .84 | .84 | .84 |
|     | BKN | BKN  | .48 | .53 | .57 | .61 | .65 | .69 | .72 | .74 | .76 | .78 | .80 | .81 | .82 | .82 | .83 | .83 | .83 | .83 | .83 |
|     | OVC | OVC  | .48 | .52 | .56 | .59 | .63 | .66 | .69 | .71 | .74 | .76 | .77 | .79 | .80 | .81 | .81 | .81 | .81 | .81 | .81 |
| CLR | SCT | CLR  | .48 | .53 | .57 | .61 | .64 | .67 | .70 | .73 | .75 | .77 | .78 | .80 | .81 | .81 | .82 | .82 | .82 | .82 | .82 |
|     | SCT | SCT  | .47 | .51 | .56 | .60 | .63 | .67 | .70 | .72 | .74 | .76 | .78 | .79 | .80 | .81 | .82 | .82 | .82 | .82 | .82 |
|     | BKN | BKN  | .44 | .48 | .53 | .57 | .61 | .64 | .67 | .70 | .73 | .75 | .76 | .78 | .79 | .80 | .80 | .80 | .80 | .80 | .80 |
|     | OVC | OVC  | .43 | .47 | .51 | .55 | .59 | .62 | .65 | .68 | .70 | .72 | .74 | .76 | .77 | .78 | .79 | .79 | .79 | .79 | .79 |
| CLR | BKN | CLR  | .41 | .45 | .49 | .53 | .56 | .60 | .63 | .65 | .67 | .69 | .71 | .72 | .73 | .74 | .75 | .75 | .75 | .75 | .75 |
|     | SCT | SCT  | .40 | .44 | .48 | .52 | .56 | .59 | .62 | .65 | .67 | .69 | .71 | .72 | .73 | .74 | .75 | .75 | .75 | .75 | .75 |
|     | BKN | BKN  | .37 | .41 | .46 | .50 | .54 | .57 | .60 | .63 | .66 | .68 | .69 | .71 | .72 | .73 | .73 | .73 | .73 | .73 | .73 |
|     | OVC | OVC  | .37 | .41 | .45 | .48 | .52 | .55 | .58 | .61 | .63 | .66 | .67 | .69 | .70 | .71 | .72 | .72 | .72 | .72 | .72 |
| CLR | OVC | CLR  | .27 | .30 | .33 | .35 | .38 | .40 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .53 | .54 | .54 | .54 | .54 |
|     | SCT | SCT  | .27 | .30 | .32 | .35 | .38 | .40 | .42 | .45 | .46 | .48 | .50 | .51 | .52 | .53 | .53 | .53 | .53 | .53 | .53 |
|     | BKN | BKN  | .25 | .28 | .31 | .34 | .36 | .39 | .41 | .44 | .46 | .47 | .49 | .50 | .51 | .52 | .52 | .52 | .52 | .52 | .52 |
|     | OVC | OVC  | .25 | .28 | .30 | .33 | .35 | .38 | .40 | .42 | .44 | .46 | .48 | .49 | .50 | .51 | .51 | .52 | .52 | .52 | .52 |
| SCT | CLR | CLR  | .49 | .53 | .57 | .61 | .65 | .68 | .70 | .73 | .75 | .77 | .78 | .80 | .81 | .82 | .82 | .83 | .83 | .83 | .83 |
|     | SCT | SCT  | .48 | .52 | .56 | .60 | .64 | .67 | .70 | .72 | .75 | .77 | .78 | .80 | .81 | .81 | .82 | .82 | .82 | .82 | .82 |
|     | BKN | BKN  | .44 | .49 | .53 | .57 | .61 | .65 | .68 | .70 | .73 | .75 | .77 | .78 | .79 | .80 | .80 | .81 | .81 | .81 | .81 |
|     | OVC | OVC  | .44 | .48 | .52 | .55 | .59 | .62 | .65 | .68 | .70 | .73 | .74 | .76 | .77 | .78 | .79 | .80 | .80 | .80 | .80 |
| SCT | SCT | CLR  | .44 | .49 | .53 | .57 | .60 | .63 | .66 | .69 | .71 | .73 | .75 | .77 | .78 | .79 | .80 | .81 | .81 | .81 | .81 |
|     | SCT | SCT  | .43 | .47 | .52 | .56 | .59 | .63 | .66 | .69 | .71 | .73 | .75 | .77 | .78 | .79 | .79 | .80 | .80 | .80 | .80 |
|     | BKN | BKN  | .40 | .45 | .49 | .53 | .57 | .61 | .64 | .67 | .69 | .72 | .73 | .75 | .76 | .77 | .78 | .78 | .78 | .78 | .78 |
|     | OVC | OVC  | .40 | .44 | .48 | .51 | .55 | .58 | .61 | .64 | .67 | .69 | .71 | .73 | .75 | .76 | .77 | .77 | .78 | .78 | .78 |
| SCT | BKN | CLR  | .38 | .42 | .46 | .49 | .53 | .56 | .59 | .62 | .64 | .66 | .68 | .70 | .71 | .72 | .73 | .73 | .73 | .73 | .73 |
|     | SCT | SCT  | .37 | .41 | .45 | .49 | .52 | .56 | .59 | .62 | .64 | .66 | .68 | .70 | .71 | .72 | .73 | .73 | .73 | .73 | .73 |
|     | BKN | BKN  | .34 | .39 | .43 | .47 | .50 | .54 | .57 | .60 | .63 | .65 | .67 | .68 | .70 | .71 | .71 | .72 | .72 | .72 | .72 |
|     | OVC | OVC  | .34 | .38 | .42 | .45 | .49 | .52 | .55 | .58 | .61 | .63 | .65 | .67 | .68 | .69 | .70 | .71 | .71 | .71 | .71 |
| SCT | OVC | CLR  | .26 | .28 | .31 | .33 | .36 | .38 | .40 | .43 | .44 | .46 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 | .52 |
|     | SCT | SCT  | .25 | .28 | .30 | .33 | .35 | .38 | .40 | .42 | .44 | .46 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 | .52 |
|     | BKN | BKN  | .24 | .26 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .45 | .47 | .48 | .49 | .50 | .51 | .51 | .51 | .51 | .51 |
|     | OVC | OVC  | .23 | .26 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .44 | .46 | .47 | .48 | .49 | .50 | .51 | .51 | .51 | .51 |

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TABLE B-2 SOLAR TRANSMISSION (T)

THIN HIGH CLOUD  
HIGH ALBEDO  
VIS > 11 KM

STATE 1-2-1

COS Z

| LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| BKN | CLR | CLR  | .44 | .48 | .52 | .55 | .59 | .61 | .64 | .66 | .68 | .70 | .72 | .73 | .74 | .75 | .75 | .76 | .76 | .76 | .76 |
|     | SCT | SCT  | .43 | .47 | .51 | .54 | .58 | .61 | .64 | .66 | .68 | .70 | .71 | .73 | .74 | .75 | .75 | .76 | .76 | .76 | .76 |
|     | BKN | BKN  | .40 | .44 | .48 | .52 | .55 | .59 | .62 | .64 | .66 | .68 | .70 | .71 | .72 | .73 | .74 | .74 | .74 | .74 | .74 |
|     | OVC | OVC  | .39 | .43 | .47 | .50 | .53 | .57 | .59 | .62 | .64 | .66 | .68 | .69 | .71 | .72 | .72 | .73 | .73 | .73 | .73 |
| BKN | SCT | CLR  | .40 | .44 | .48 | .51 | .55 | .58 | .60 | .63 | .65 | .67 | .69 | .70 | .71 | .72 | .73 | .74 | .74 | .74 | .74 |
|     | SCT | SCT  | .39 | .43 | .47 | .51 | .54 | .57 | .60 | .63 | .65 | .67 | .68 | .70 | .71 | .72 | .73 | .74 | .74 | .74 | .74 |
|     | BKN | BKN  | .36 | .40 | .44 | .48 | .52 | .55 | .58 | .61 | .63 | .65 | .67 | .69 | .70 | .71 | .71 | .72 | .72 | .72 | .72 |
|     | OVC | OVC  | .36 | .40 | .43 | .47 | .50 | .53 | .55 | .59 | .61 | .63 | .65 | .67 | .68 | .69 | .70 | .71 | .71 | .71 | .71 |
| BKN | BKN | CLR  | .34 | .38 | .42 | .45 | .48 | .51 | .54 | .57 | .59 | .61 | .62 | .64 | .65 | .66 | .67 | .67 | .67 | .67 | .67 |
|     | SCT | SCT  | .33 | .37 | .41 | .44 | .48 | .51 | .54 | .56 | .58 | .60 | .62 | .64 | .65 | .66 | .66 | .67 | .67 | .67 | .67 |
|     | BKN | BKN  | .31 | .35 | .39 | .43 | .46 | .49 | .52 | .55 | .57 | .59 | .61 | .62 | .64 | .65 | .65 | .66 | .66 | .66 | .66 |
|     | OVC | OVC  | .31 | .34 | .38 | .41 | .44 | .47 | .50 | .53 | .55 | .57 | .59 | .61 | .62 | .63 | .64 | .65 | .65 | .65 | .65 |
| BKN | OVC | CLR  | .23 | .26 | .28 | .31 | .33 | .35 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .47 | .47 | .48 | .48 | .48 | .48 |
|     | SCT | SCT  | .23 | .25 | .28 | .30 | .33 | .35 | .37 | .39 | .41 | .42 | .43 | .45 | .46 | .47 | .47 | .48 | .48 | .48 | .48 |
|     | BKN | BKN  | .22 | .24 | .27 | .29 | .32 | .34 | .36 | .38 | .40 | .41 | .43 | .44 | .45 | .46 | .46 | .47 | .47 | .47 | .47 |
|     | OVC | OVC  | .22 | .24 | .26 | .28 | .31 | .33 | .35 | .37 | .39 | .40 | .42 | .43 | .44 | .45 | .46 | .46 | .46 | .46 | .46 |
| OVC | CLR | CLR  | .26 | .29 | .32 | .35 | .38 | .41 | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .56 | .57 | .57 | .57 |
|     | SCT | SCT  | .25 | .29 | .32 | .35 | .38 | .40 | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .56 | .56 | .56 | .56 |
|     | BKN | BKN  | .24 | .27 | .30 | .33 | .36 | .39 | .41 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .55 | .55 | .55 |
|     | OVC | OVC  | .23 | .26 | .29 | .32 | .35 | .38 | .40 | .42 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .54 | .54 | .54 |
| OVC | SCT | CLR  | .24 | .27 | .30 | .33 | .36 | .38 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .54 | .55 | .55 | .55 |
|     | SCT | SCT  | .23 | .27 | .30 | .33 | .35 | .38 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .54 | .54 | .54 | .54 |
|     | BKN | BKN  | .22 | .25 | .28 | .31 | .34 | .37 | .39 | .42 | .44 | .46 | .47 | .49 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |
|     | OVC | OVC  | .22 | .25 | .27 | .30 | .33 | .36 | .38 | .40 | .42 | .44 | .46 | .48 | .49 | .50 | .51 | .52 | .53 | .53 | .53 |
| OVC | BKN | CLR  | .21 | .24 | .27 | .29 | .32 | .35 | .37 | .39 | .41 | .43 | .44 | .46 | .47 | .48 | .49 | .50 | .50 | .50 | .50 |
|     | SCT | SCT  | .20 | .23 | .26 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .44 | .46 | .47 | .48 | .49 | .50 | .50 | .50 | .50 |
|     | BKN | BKN  | .19 | .22 | .25 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .49 | .49 | .49 | .49 |
|     | OVC | OVC  | .19 | .22 | .24 | .27 | .30 | .32 | .34 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .47 | .48 | .48 | .48 | .48 |
| OVC | OVC | CLR  | .15 | .17 | .19 | .21 | .23 | .24 | .26 | .28 | .29 | .30 | .32 | .33 | .34 | .34 | .35 | .36 | .36 | .36 | .36 |
|     | SCT | SCT  | .15 | .17 | .19 | .21 | .22 | .24 | .26 | .28 | .29 | .30 | .32 | .33 | .34 | .34 | .35 | .36 | .36 | .36 | .36 |
|     | BKN | BKN  | .14 | .16 | .18 | .20 | .22 | .24 | .25 | .27 | .28 | .30 | .31 | .32 | .33 | .34 | .34 | .35 | .35 | .35 | .35 |
|     | OVC | OVC  | .14 | .16 | .17 | .19 | .21 | .23 | .25 | .26 | .28 | .29 | .30 | .31 | .32 | .33 | .34 | .35 | .35 | .35 | .35 |

TABLE B-2 SOLAR TRANSMISSION (T)

THIN HIGH CLOUD  
HIGH ALBEDO  
VIS > 11 KM

STATE 1-2-1

COS Z

| LOW MID HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CLR CLR      | .48 | .52 | .56 | .59 | .63 | .66 | .68 | .71 | .73 | .75 | .76 | .78 | .79 | .79 | .80 | .80 | .80 | .80 | .80 |
| SCT SCT      | .47 | .51 | .55 | .58 | .62 | .65 | .68 | .70 | .73 | .74 | .76 | .77 | .78 | .79 | .79 | .80 | .80 | .80 | .80 |
| BKN BKN      | .43 | .47 | .52 | .56 | .59 | .63 | .66 | .68 | .71 | .73 | .74 | .76 | .77 | .77 | .78 | .78 | .78 | .78 | .78 |
| OVC OVC      | .43 | .46 | .50 | .54 | .57 | .60 | .63 | .66 | .68 | .70 | .72 | .73 | .75 | .76 | .76 | .77 | .77 | .77 | .77 |
| CLR SCT      | .43 | .47 | .51 | .55 | .58 | .61 | .64 | .67 | .69 | .71 | .73 | .74 | .75 | .76 | .77 | .77 | .77 | .77 | .77 |
| SCT SCT      | .42 | .46 | .50 | .54 | .57 | .61 | .64 | .66 | .69 | .71 | .73 | .74 | .75 | .76 | .77 | .77 | .77 | .77 | .77 |
| BKN BKN      | .39 | .43 | .47 | .51 | .55 | .58 | .61 | .64 | .67 | .69 | .71 | .72 | .74 | .75 | .75 | .75 | .75 | .75 | .75 |
| OVC OVC      | .39 | .42 | .46 | .49 | .53 | .56 | .59 | .62 | .64 | .67 | .69 | .70 | .72 | .73 | .74 | .74 | .74 | .74 | .74 |
| CLR BKN      | .37 | .40 | .44 | .47 | .51 | .54 | .57 | .59 | .62 | .64 | .66 | .67 | .68 | .69 | .70 | .70 | .70 | .70 | .70 |
| SCT SCT      | .36 | .39 | .43 | .47 | .50 | .53 | .56 | .59 | .61 | .64 | .65 | .67 | .68 | .69 | .69 | .70 | .70 | .70 | .70 |
| BKN BKN      | .33 | .37 | .41 | .45 | .48 | .51 | .55 | .57 | .60 | .62 | .64 | .65 | .67 | .68 | .68 | .68 | .68 | .68 | .68 |
| OVC OVC      | .33 | .36 | .40 | .43 | .46 | .50 | .53 | .55 | .58 | .60 | .62 | .64 | .66 | .66 | .67 | .67 | .67 | .67 | .67 |
| CLR OVC      | .24 | .27 | .29 | .31 | .34 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 | .49 |
| SCT SCT      | .24 | .26 | .29 | .31 | .33 | .35 | .38 | .40 | .41 | .43 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 | .49 |
| BKN BKN      | .23 | .25 | .27 | .30 | .32 | .34 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .47 | .47 | .48 | .48 | .48 | .48 |
| OVC OVC      | .22 | .25 | .27 | .29 | .31 | .33 | .35 | .37 | .39 | .41 | .43 | .44 | .45 | .46 | .47 | .47 | .47 | .47 | .47 |
| SCT CLR      | .44 | .48 | .52 | .56 | .59 | .62 | .65 | .68 | .70 | .72 | .74 | .75 | .76 | .77 | .78 | .78 | .78 | .78 | .78 |
| SCT SCT      | .43 | .47 | .51 | .55 | .58 | .62 | .64 | .67 | .69 | .72 | .73 | .75 | .76 | .77 | .78 | .78 | .78 | .78 | .78 |
| BKN BKN      | .40 | .44 | .48 | .52 | .56 | .59 | .62 | .65 | .68 | .70 | .72 | .73 | .74 | .75 | .76 | .76 | .76 | .76 | .76 |
| OVC OVC      | .39 | .43 | .47 | .50 | .54 | .57 | .60 | .63 | .65 | .67 | .69 | .71 | .72 | .74 | .75 | .75 | .75 | .75 | .75 |
| SCT CLR      | .40 | .44 | .48 | .51 | .55 | .58 | .61 | .64 | .66 | .68 | .70 | .72 | .73 | .74 | .75 | .76 | .76 | .76 | .76 |
| SCT SCT      | .39 | .43 | .47 | .51 | .54 | .57 | .61 | .63 | .66 | .68 | .70 | .72 | .73 | .74 | .75 | .75 | .75 | .75 | .75 |
| BKN BKN      | .36 | .40 | .44 | .48 | .52 | .55 | .59 | .62 | .64 | .66 | .68 | .70 | .72 | .73 | .74 | .74 | .74 | .74 | .74 |
| OVC OVC      | .36 | .39 | .43 | .47 | .50 | .53 | .56 | .59 | .62 | .64 | .66 | .68 | .70 | .71 | .72 | .73 | .73 | .73 | .73 |
| SCT BKN      | .34 | .38 | .41 | .45 | .48 | .51 | .54 | .57 | .59 | .61 | .63 | .65 | .66 | .67 | .68 | .69 | .69 | .69 | .69 |
| SCT SCT      | .33 | .37 | .41 | .44 | .48 | .51 | .54 | .57 | .59 | .61 | .63 | .65 | .66 | .67 | .68 | .68 | .68 | .68 | .68 |
| BKN BKN      | .31 | .35 | .38 | .42 | .46 | .49 | .52 | .55 | .58 | .60 | .62 | .63 | .65 | .66 | .67 | .67 | .67 | .67 | .67 |
| OVC OVC      | .31 | .34 | .37 | .41 | .44 | .47 | .50 | .53 | .56 | .58 | .60 | .62 | .63 | .64 | .65 | .66 | .66 | .66 | .66 |
| SCT OVC      | .23 | .25 | .28 | .30 | .32 | .34 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .47 | .48 | .48 | .48 | .48 |
| SCT SCT      | .22 | .25 | .27 | .30 | .32 | .34 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .47 | .48 | .48 | .48 | .48 |
| BKN BKN      | .21 | .24 | .26 | .28 | .31 | .33 | .35 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .46 | .47 | .47 | .47 | .47 |
| OVC OVC      | .21 | .23 | .26 | .28 | .30 | .32 | .34 | .36 | .38 | .40 | .41 | .43 | .44 | .45 | .46 | .46 | .46 | .46 | .46 |

TABLE B-2 SOLAR TRANSMISSION (T)

THIN HIGH CLOUD  
HIGH ALBEDO  
VIS < 11 KM

STATE 1-2-2

| LOW MID HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| BKN CLR      | .40 | .44 | .48 | .51 | .54 | .57 | .60 | .62 | .64 | .66 | .68 | .69 | .70 | .71 | .72 | .72 | .72 | .72 | .72 |
| SCT          | .39 | .43 | .47 | .50 | .53 | .56 | .59 | .62 | .64 | .66 | .68 | .69 | .70 | .71 | .72 | .72 | .72 | .72 | .72 |
| BKN          | .36 | .40 | .44 | .48 | .51 | .54 | .57 | .60 | .62 | .64 | .66 | .67 | .69 | .70 | .70 | .71 | .71 | .71 | .71 |
| OVC          | .36 | .39 | .43 | .46 | .49 | .52 | .55 | .58 | .60 | .62 | .64 | .66 | .67 | .68 | .69 | .69 | .70 | .70 | .70 |
| BKN SCT      | .36 | .40 | .44 | .47 | .50 | .53 | .56 | .59 | .61 | .63 | .65 | .66 | .68 | .69 | .69 | .70 | .70 | .70 | .70 |
| SCT          | .35 | .39 | .43 | .46 | .50 | .53 | .56 | .58 | .61 | .63 | .65 | .66 | .67 | .68 | .69 | .70 | .70 | .70 | .70 |
| BKN          | .33 | .37 | .41 | .44 | .48 | .51 | .54 | .57 | .59 | .61 | .63 | .65 | .66 | .67 | .68 | .68 | .68 | .68 | .68 |
| OVC          | .33 | .36 | .40 | .43 | .46 | .49 | .52 | .55 | .57 | .59 | .61 | .63 | .65 | .66 | .67 | .67 | .68 | .68 | .68 |
| BKN BKN      | .31 | .35 | .38 | .41 | .44 | .47 | .50 | .53 | .55 | .57 | .59 | .60 | .61 | .62 | .63 | .64 | .64 | .64 | .64 |
| CLR          | .30 | .34 | .37 | .41 | .44 | .47 | .50 | .52 | .55 | .57 | .58 | .60 | .61 | .62 | .63 | .64 | .64 | .64 | .64 |
| SCT          | .28 | .32 | .36 | .39 | .42 | .45 | .48 | .51 | .53 | .55 | .57 | .59 | .60 | .61 | .62 | .62 | .62 | .62 | .62 |
| BKN          | .28 | .31 | .35 | .38 | .41 | .44 | .47 | .49 | .52 | .54 | .56 | .57 | .59 | .60 | .61 | .61 | .61 | .61 | .61 |
| OVC          | .28 | .31 | .35 | .38 | .41 | .44 | .47 | .49 | .52 | .54 | .56 | .57 | .59 | .60 | .61 | .61 | .61 | .61 | .61 |
| BKN OVC      | .21 | .24 | .26 | .28 | .30 | .32 | .34 | .36 | .38 | .39 | .40 | .42 | .43 | .44 | .44 | .45 | .45 | .45 | .45 |
| CLR          | .21 | .23 | .25 | .28 | .30 | .32 | .34 | .36 | .37 | .39 | .40 | .42 | .43 | .44 | .44 | .45 | .45 | .45 | .45 |
| SCT          | .20 | .22 | .24 | .27 | .29 | .31 | .33 | .35 | .37 | .38 | .40 | .41 | .42 | .43 | .43 | .44 | .44 | .44 | .44 |
| BKN          | .20 | .22 | .24 | .26 | .28 | .30 | .32 | .34 | .36 | .37 | .39 | .40 | .41 | .42 | .43 | .43 | .43 | .43 | .43 |
| OVC          | .20 | .22 | .24 | .26 | .28 | .30 | .32 | .34 | .36 | .37 | .39 | .40 | .41 | .42 | .43 | .43 | .43 | .43 | .43 |
| OVC CLR      | .26 | .29 | .32 | .35 | .38 | .41 | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .56 | .56 | .56 | .56 |
| CLR          | .25 | .29 | .32 | .35 | .38 | .40 | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .56 | .56 | .56 | .56 |
| SCT          | .24 | .27 | .30 | .33 | .36 | .39 | .41 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .55 | .55 | .55 |
| BKN          | .23 | .26 | .29 | .32 | .35 | .38 | .40 | .42 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .54 | .54 | .54 |
| OVC          | .23 | .26 | .29 | .32 | .35 | .38 | .40 | .42 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .54 | .54 | .54 |
| OVC SCT      | .24 | .27 | .30 | .33 | .36 | .38 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .54 | .55 | .55 | .55 |
| CLR          | .23 | .27 | .30 | .33 | .35 | .38 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .54 | .55 | .55 | .55 |
| SCT          | .22 | .25 | .28 | .31 | .34 | .37 | .39 | .42 | .44 | .46 | .47 | .49 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |
| BKN          | .22 | .25 | .28 | .31 | .34 | .37 | .39 | .42 | .44 | .46 | .47 | .49 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |
| OVC          | .22 | .25 | .28 | .31 | .34 | .37 | .39 | .42 | .44 | .46 | .47 | .49 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |
| OVC BKN      | .21 | .24 | .27 | .29 | .32 | .35 | .37 | .39 | .41 | .43 | .44 | .46 | .47 | .48 | .49 | .49 | .50 | .50 | .50 |
| CLR          | .20 | .23 | .26 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .44 | .46 | .47 | .48 | .49 | .49 | .50 | .50 | .50 |
| SCT          | .19 | .22 | .25 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 |
| BKN          | .19 | .22 | .25 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 |
| OVC          | .19 | .22 | .25 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 |
| OVC CLR      | .15 | .17 | .19 | .21 | .23 | .24 | .26 | .28 | .29 | .30 | .32 | .33 | .34 | .34 | .35 | .36 | .36 | .36 | .36 |
| CLR          | .15 | .17 | .19 | .21 | .22 | .24 | .26 | .28 | .29 | .30 | .32 | .33 | .34 | .34 | .35 | .36 | .36 | .36 | .36 |
| SCT          | .14 | .16 | .18 | .20 | .22 | .24 | .25 | .27 | .28 | .30 | .31 | .32 | .33 | .34 | .34 | .35 | .35 | .35 | .35 |
| BKN          | .14 | .16 | .18 | .20 | .22 | .24 | .25 | .27 | .28 | .30 | .31 | .32 | .33 | .34 | .34 | .35 | .35 | .35 | .35 |
| OVC          | .14 | .16 | .17 | .19 | .21 | .23 | .25 | .26 | .28 | .29 | .30 | .31 | .32 | .33 | .34 | .35 | .35 | .35 | .35 |

TABLE 8-2 SOLAR TRANSMISSION (1)

THIN HIGH CLOUD  
HIGH ALBEDO  
VIS < 11 KM

STATE 1-2-2

|     |     |      | COS Z |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| LOW | MID | HIGH | .05   | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |  |
| CLR | CLR | CLR  | .45   | .49 | .54 | .58 | .61 | .65 | .68 | .71 | .73 | .75 | .77 | .78 | .79 | .79 | .80 | .80 | .80 | .80 | .80 |  |
|     |     | SCT  | .40   | .44 | .48 | .52 | .56 | .60 | .63 | .66 | .69 | .71 | .73 | .75 | .76 | .77 | .78 | .78 | .78 | .78 | .78 |  |
|     |     | BKN  | .36   | .40 | .43 | .47 | .50 | .54 | .57 | .59 | .62 | .64 | .66 | .67 | .68 | .69 | .70 | .70 | .70 | .70 | .70 |  |
|     |     | OVC  | .28   | .31 | .33 | .36 | .39 | .42 | .45 | .48 | .50 | .52 | .54 | .56 | .58 | .59 | .60 | .61 | .61 | .61 | .61 |  |
| CLR | SCT | CLR  | .38   | .42 | .46 | .50 | .54 | .57 | .60 | .63 | .66 | .68 | .70 | .71 | .73 | .74 | .74 | .75 | .75 | .75 | .75 |  |
|     |     | SCT  | .34   | .38 | .42 | .46 | .50 | .53 | .57 | .60 | .62 | .65 | .67 | .69 | .70 | .72 | .72 | .73 | .73 | .73 | .73 |  |
|     |     | BKN  | .31   | .35 | .38 | .42 | .45 | .48 | .51 | .54 | .56 | .59 | .61 | .62 | .63 | .64 | .65 | .65 | .66 | .66 | .66 |  |
|     |     | OVC  | .24   | .27 | .30 | .33 | .36 | .38 | .41 | .44 | .46 | .48 | .51 | .52 | .54 | .55 | .56 | .57 | .58 | .58 | .58 |  |
| CLR | BKN | CLR  | .30   | .34 | .37 | .40 | .43 | .46 | .49 | .52 | .54 | .56 | .57 | .59 | .60 | .61 | .61 | .61 | .61 | .61 | .61 |  |
|     |     | SCT  | .27   | .31 | .34 | .37 | .40 | .43 | .46 | .49 | .51 | .54 | .55 | .57 | .58 | .59 | .60 | .60 | .60 | .60 | .60 |  |
|     |     | BKN  | .25   | .28 | .31 | .34 | .37 | .40 | .42 | .45 | .47 | .49 | .51 | .52 | .53 | .54 | .55 | .55 | .55 | .55 | .55 |  |
|     |     | OVC  | .20   | .22 | .25 | .27 | .30 | .32 | .35 | .37 | .39 | .41 | .43 | .45 | .46 | .47 | .48 | .49 | .49 | .49 | .49 |  |
| CLR | OVC | CLR  | .18   | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .33 | .33 | .34 | .34 | .34 | .34 | .34 |  |
|     |     | SCT  | .17   | .18 | .20 | .21 | .23 | .25 | .26 | .27 | .28 | .30 | .31 | .31 | .32 | .33 | .33 | .33 | .34 | .34 | .34 |  |
|     |     | BKN  | .15   | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .31 | .31 | .31 | .31 |  |
|     |     | OVC  | .13   | .14 | .16 | .17 | .18 | .20 | .21 | .22 | .23 | .25 | .26 | .26 | .27 | .28 | .28 | .29 | .29 | .29 | .29 |  |
| SCT | CLR | CLR  | .37   | .41 | .45 | .49 | .52 | .56 | .59 | .62 | .65 | .67 | .69 | .71 | .72 | .73 | .74 | .75 | .76 | .76 | .76 |  |
|     |     | SCT  | .33   | .37 | .41 | .45 | .48 | .52 | .55 | .59 | .61 | .64 | .66 | .68 | .70 | .71 | .73 | .73 | .74 | .74 | .75 |  |
|     |     | BKN  | .30   | .33 | .37 | .40 | .44 | .47 | .50 | .53 | .55 | .58 | .60 | .62 | .63 | .64 | .65 | .66 | .66 | .66 | .66 |  |
|     |     | OVC  | .23   | .26 | .29 | .32 | .35 | .37 | .40 | .43 | .45 | .48 | .50 | .52 | .54 | .55 | .56 | .57 | .58 | .58 | .58 |  |
| SCT | SCT | CLR  | .32   | .36 | .39 | .43 | .47 | .50 | .53 | .56 | .59 | .61 | .63 | .65 | .67 | .68 | .69 | .70 | .71 | .71 | .72 |  |
|     |     | SCT  | .29   | .32 | .36 | .40 | .43 | .47 | .50 | .53 | .56 | .59 | .61 | .63 | .65 | .67 | .68 | .69 | .70 | .70 | .71 |  |
|     |     | BKN  | .26   | .30 | .33 | .36 | .39 | .42 | .45 | .48 | .51 | .53 | .55 | .57 | .59 | .60 | .61 | .62 | .63 | .63 | .63 |  |
|     |     | OVC  | .21   | .23 | .26 | .29 | .31 | .34 | .37 | .39 | .42 | .44 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .55 | .55 |  |
| SCT | BKN | CLR  | .26   | .29 | .32 | .35 | .38 | .41 | .44 | .46 | .49 | .51 | .53 | .54 | .56 | .57 | .58 | .59 | .59 | .59 | .59 |  |
|     |     | SCT  | .23   | .26 | .30 | .33 | .36 | .39 | .42 | .44 | .47 | .49 | .51 | .53 | .54 | .56 | .57 | .58 | .58 | .58 | .58 |  |
|     |     | BKN  | .21   | .24 | .27 | .30 | .33 | .36 | .38 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .52 | .52 | .52 | .52 |  |
|     |     | OVC  | .17   | .20 | .22 | .24 | .27 | .29 | .32 | .34 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .47 | .47 | .47 |  |
| SCT | OVC | CLR  | .16   | .17 | .19 | .21 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .33 | .33 |  |
|     |     | SCT  | .15   | .16 | .18 | .19 | .21 | .22 | .24 | .25 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .32 | .33 | .33 |  |
|     |     | BKN  | .14   | .15 | .17 | .18 | .20 | .21 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .30 | .30 | .30 | .30 |  |
|     |     | OVC  | .11   | .13 | .14 | .15 | .17 | .18 | .19 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .28 | .28 |  |

TABLE B-2 SOLAR TRANSMISSION (T)

THICK HIGH CLOUD  
LOW ALBEDO  
VIS > 11 KM

STATE 2-1-1

COS Z

| LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| BKN | CLR | CLR  | .30 | .33 | .36 | .39 | .42 | .45 | .48 | .50 | .52 | .54 | .55 | .57 | .58 | .59 | .60 | .60 | .61 | .61 | .61 |
|     | SCT | SCT  | .27 | .30 | .33 | .36 | .39 | .42 | .45 | .47 | .50 | .52 | .54 | .55 | .56 | .58 | .59 | .59 | .60 | .60 | .60 |
|     | BKN | BKN  | .25 | .27 | .30 | .33 | .36 | .38 | .41 | .43 | .45 | .47 | .49 | .50 | .52 | .52 | .53 | .54 | .54 | .54 | .54 |
|     | OVC | OVC  | .19 | .22 | .24 | .26 | .29 | .31 | .33 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .48 | .48 | .48 |
| BKN | SCT | CLR  | .26 | .29 | .32 | .35 | .38 | .41 | .43 | .46 | .48 | .50 | .51 | .53 | .54 | .55 | .56 | .57 | .58 | .58 | .58 |
|     | SCT | SCT  | .24 | .27 | .30 | .33 | .36 | .38 | .41 | .43 | .46 | .48 | .50 | .51 | .53 | .54 | .55 | .56 | .57 | .57 | .57 |
|     | BKN | BKN  | .22 | .25 | .27 | .30 | .33 | .35 | .38 | .40 | .42 | .44 | .46 | .47 | .48 | .50 | .50 | .51 | .51 | .52 | .52 |
|     | OVC | OVC  | .17 | .20 | .22 | .24 | .26 | .29 | .31 | .33 | .35 | .37 | .39 | .41 | .42 | .43 | .44 | .45 | .46 | .46 | .46 |
| BKN | BKN | CLR  | .22 | .24 | .27 | .29 | .32 | .34 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 |
|     | SCT | SCT  | .20 | .22 | .25 | .27 | .30 | .32 | .35 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .47 | .48 | .48 | .48 | .48 |
|     | BKN | BKN  | .18 | .21 | .23 | .25 | .28 | .30 | .32 | .34 | .36 | .38 | .39 | .41 | .42 | .43 | .43 | .44 | .44 | .44 | .44 |
|     | OVC | OVC  | .15 | .17 | .19 | .21 | .23 | .25 | .27 | .29 | .31 | .32 | .34 | .35 | .37 | .38 | .39 | .39 | .40 | .40 | .40 |
| BKN | OVC | CLR  | .14 | .15 | .17 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .29 | .29 | .29 | .29 |
|     | SCT | SCT  | .13 | .14 | .16 | .17 | .18 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .28 | .29 | .29 |
|     | BKN | BKN  | .11 | .13 | .14 | .16 | .18 | .19 | .21 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .29 | .29 | .29 | .29 | .29 |
|     | OVC | OVC  | .09 | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .28 | .28 | .28 |
| OVC | CLR | CLR  | .13 | .15 | .17 | .18 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 | .33 | .33 | .34 |
|     | SCT | SCT  | .12 | .14 | .15 | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .31 | .32 | .32 |
|     | BKN | BKN  | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .21 | .22 | .23 | .24 | .26 | .27 | .27 | .28 | .29 | .29 | .29 | .30 |
|     | OVC | OVC  | .08 | .10 | .11 | .12 | .14 | .15 | .17 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .25 | .26 | .27 | .27 | .27 |
| OVC | SCT | CLR  | .12 | .14 | .15 | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .33 |
|     | SCT | SCT  | .11 | .13 | .14 | .16 | .18 | .19 | .21 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 |
|     | BKN | BKN  | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .21 | .22 | .23 | .24 | .26 | .27 | .27 | .28 | .29 | .29 | .29 | .30 |
|     | OVC | OVC  | .08 | .10 | .11 | .12 | .14 | .15 | .17 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .25 | .26 | .27 | .27 | .27 |
| OVC | BKN | CLR  | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .29 | .29 |
|     | SCT | SCT  | .09 | .11 | .12 | .14 | .16 | .17 | .18 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .28 |
|     | BKN | BKN  | .09 | .10 | .12 | .13 | .14 | .16 | .17 | .19 | .20 | .21 | .22 | .23 | .24 | .24 | .25 | .26 | .26 | .26 | .26 |
|     | OVC | OVC  | .07 | .08 | .10 | .11 | .12 | .14 | .15 | .16 | .17 | .18 | .20 | .21 | .21 | .22 | .23 | .23 | .24 | .24 | .24 |
| OVC | OVC | CLR  | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .16 | .17 | .17 | .18 | .18 | .18 | .19 | .19 | .19 |
|     | SCT | SCT  | .07 | .08 | .09 | .10 | .11 | .11 | .12 | .13 | .14 | .15 | .16 | .16 | .17 | .17 | .18 | .18 | .18 | .19 | .19 |
|     | BKN | BKN  | .06 | .07 | .08 | .09 | .10 | .11 | .12 | .13 | .13 | .14 | .15 | .15 | .16 | .16 | .17 | .17 | .17 | .18 | .18 |
|     | OVC | OVC  | .05 | .06 | .07 | .08 | .09 | .09 | .10 | .11 | .12 | .13 | .13 | .14 | .15 | .15 | .16 | .16 | .16 | .16 | .17 |

TABLE B-2 SOLAR TRANSMISSION (T)

THICK HIGH CLOUD  
LOW ALBEDO  
VIS > 11 KM

STATE 2-1-1

## COS Z

| LOW MID HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CLR CLR      | .38 | .42 | .45 | .49 | .52 | .56 | .59 | .62 | .64 | .66 | .68 | .70 | .71 | .72 | .72 | .73 | .73 | .73 | .73 |
| SCT SCT      | .34 | .37 | .41 | .45 | .48 | .52 | .55 | .58 | .61 | .63 | .66 | .67 | .69 | .70 | .71 | .71 | .71 | .71 | .71 |
| BKN BKN      | .30 | .34 | .37 | .40 | .44 | .47 | .50 | .52 | .55 | .57 | .59 | .61 | .62 | .63 | .63 | .64 | .64 | .64 | .64 |
| OVC OVC      | .24 | .26 | .29 | .32 | .34 | .37 | .40 | .42 | .45 | .47 | .49 | .51 | .53 | .54 | .55 | .55 | .56 | .56 | .56 |
| CLR SCT      | .32 | .36 | .40 | .43 | .46 | .50 | .53 | .56 | .58 | .60 | .63 | .64 | .66 | .67 | .68 | .68 | .68 | .68 | .68 |
| SCT SCT      | .29 | .33 | .36 | .40 | .43 | .46 | .50 | .53 | .55 | .58 | .60 | .62 | .64 | .65 | .66 | .67 | .67 | .67 | .67 |
| BKN BKN      | .27 | .30 | .33 | .36 | .39 | .42 | .45 | .48 | .50 | .52 | .54 | .56 | .58 | .59 | .60 | .60 | .60 | .60 | .60 |
| OVC OVC      | .21 | .23 | .26 | .28 | .31 | .34 | .36 | .39 | .41 | .44 | .46 | .48 | .49 | .51 | .52 | .52 | .53 | .53 | .53 |
| CLR BKN      | .26 | .29 | .32 | .35 | .38 | .41 | .43 | .46 | .48 | .50 | .52 | .53 | .55 | .55 | .56 | .56 | .56 | .56 | .56 |
| SCT SCT      | .24 | .26 | .29 | .32 | .35 | .38 | .41 | .44 | .46 | .48 | .50 | .52 | .53 | .54 | .55 | .55 | .55 | .55 | .55 |
| BKN BKN      | .22 | .24 | .27 | .30 | .32 | .35 | .38 | .40 | .42 | .44 | .46 | .47 | .49 | .50 | .50 | .50 | .50 | .50 | .50 |
| OVC OVC      | .17 | .20 | .22 | .24 | .26 | .29 | .31 | .33 | .35 | .37 | .39 | .41 | .42 | .43 | .44 | .45 | .45 | .45 | .45 |
| CLR OVC      | .16 | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .31 | .32 | .32 | .32 |
| SCT SCT      | .15 | .16 | .18 | .19 | .21 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .31 | .31 | .31 |
| BKN BKN      | .14 | .15 | .16 | .18 | .19 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .28 | .28 | .29 | .29 | .29 | .29 | .29 |
| OVC OVC      | .11 | .13 | .14 | .15 | .16 | .18 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .27 | .27 | .27 |
| SCT CLR      | .31 | .35 | .38 | .42 | .45 | .49 | .52 | .55 | .57 | .60 | .62 | .64 | .66 | .67 | .68 | .69 | .69 | .69 | .69 |
| SCT SCT      | .28 | .32 | .35 | .39 | .42 | .45 | .49 | .52 | .55 | .57 | .60 | .62 | .64 | .65 | .66 | .67 | .68 | .68 | .68 |
| BKN BKN      | .25 | .29 | .32 | .35 | .38 | .41 | .44 | .47 | .49 | .52 | .54 | .56 | .57 | .59 | .60 | .60 | .61 | .61 | .61 |
| OVC OVC      | .20 | .23 | .25 | .28 | .30 | .33 | .36 | .38 | .41 | .43 | .45 | .47 | .49 | .51 | .52 | .53 | .53 | .53 | .53 |
| SCT SCT      | .27 | .31 | .34 | .37 | .41 | .44 | .47 | .50 | .52 | .55 | .57 | .59 | .61 | .62 | .64 | .64 | .65 | .65 | .65 |
| SCT SCT      | .25 | .28 | .31 | .35 | .38 | .41 | .44 | .47 | .50 | .53 | .55 | .57 | .59 | .61 | .62 | .63 | .64 | .64 | .64 |
| BKN BKN      | .23 | .26 | .28 | .31 | .34 | .37 | .40 | .43 | .46 | .48 | .50 | .52 | .54 | .55 | .56 | .57 | .57 | .57 | .57 |
| OVC OVC      | .18 | .20 | .23 | .25 | .28 | .30 | .33 | .35 | .38 | .40 | .42 | .44 | .46 | .48 | .49 | .50 | .51 | .51 | .51 |
| SCT BKN      | .22 | .25 | .28 | .31 | .34 | .36 | .39 | .41 | .44 | .46 | .48 | .50 | .51 | .52 | .53 | .54 | .54 | .54 | .54 |
| SCT SCT      | .20 | .23 | .26 | .29 | .31 | .34 | .37 | .40 | .42 | .44 | .46 | .48 | .50 | .51 | .52 | .53 | .53 | .53 | .53 |
| BKN BKN      | .19 | .21 | .24 | .26 | .29 | .32 | .34 | .36 | .39 | .41 | .43 | .44 | .46 | .47 | .48 | .48 | .48 | .48 | .48 |
| OVC OVC      | .15 | .17 | .19 | .22 | .24 | .26 | .28 | .30 | .33 | .35 | .37 | .38 | .40 | .41 | .42 | .43 | .43 | .43 | .43 |
| SCT OVC      | .14 | .15 | .17 | .18 | .20 | .21 | .23 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .30 | .30 | .31 | .31 | .31 |
| SCT SCT      | .13 | .14 | .16 | .17 | .19 | .20 | .22 | .23 | .24 | .25 | .27 | .28 | .28 | .29 | .30 | .30 | .30 | .30 | .30 |
| BKN BKN      | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .28 | .28 | .28 |
| OVC OVC      | .10 | .11 | .13 | .14 | .15 | .16 | .18 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .25 | .26 | .26 | .26 | .26 |

TABLE B-2 SOLAR TRANSMISSION (T)

THICK HIGH CLOUD  
LOW ALBEDO  
VIS < 11 KM

STATE 2-1-2



COS Z

|     | LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| BKN | CLR | CLR | .26  | .29 | .32 | .35 | .37 | .40 | .42 | .45 | .47 | .49 | .51 | .52 | .54 | .55 | .56 | .57 | .57 | .57 | .57 | .57 |
|     | SCT | SCT | .23  | .26 | .29 | .32 | .35 | .38 | .40 | .43 | .45 | .47 | .49 | .51 | .52 | .54 | .55 | .56 | .56 | .56 | .56 | .56 |
|     | BKN | BKN | .21  | .24 | .27 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .45 | .46 | .48 | .49 | .50 | .50 | .50 | .50 | .50 | .50 |
|     | OVC | OVC | .17  | .19 | .21 | .23 | .26 | .28 | .30 | .32 | .34 | .36 | .38 | .40 | .41 | .43 | .44 | .44 | .45 | .45 | .45 | .45 |
| BKN | SCT | CLR | .23  | .26 | .28 | .31 | .34 | .36 | .39 | .41 | .43 | .45 | .47 | .49 | .50 | .51 | .51 | .52 | .53 | .54 | .54 | .54 |
|     | SCT | SCT | .21  | .24 | .26 | .29 | .32 | .34 | .37 | .39 | .42 | .44 | .46 | .47 | .49 | .50 | .50 | .51 | .52 | .53 | .53 | .53 |
|     | BKN | BKN | .19  | .22 | .24 | .27 | .29 | .31 | .34 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .47 | .48 | .48 | .48 | .48 |
|     | OVC | OVC | .15  | .17 | .19 | .22 | .24 | .26 | .28 | .30 | .32 | .34 | .36 | .38 | .39 | .40 | .41 | .42 | .42 | .43 | .43 | .43 |
| BKN | BKN | CLR | .19  | .21 | .24 | .26 | .29 | .31 | .33 | .35 | .37 | .39 | .40 | .42 | .43 | .44 | .44 | .45 | .45 | .46 | .46 | .46 |
|     | SCT | SCT | .17  | .20 | .22 | .24 | .27 | .29 | .31 | .34 | .36 | .37 | .39 | .41 | .42 | .43 | .44 | .44 | .45 | .45 | .45 | .45 |
|     | BKN | BKN | .16  | .18 | .20 | .23 | .25 | .27 | .29 | .31 | .33 | .35 | .36 | .38 | .39 | .40 | .40 | .41 | .41 | .41 | .41 | .41 |
|     | OVC | OVC | .13  | .15 | .17 | .19 | .21 | .22 | .24 | .26 | .28 | .30 | .31 | .33 | .34 | .35 | .36 | .37 | .37 | .37 | .37 | .37 |
| BKN | OVC | CLR | .12  | .14 | .15 | .16 | .17 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .27 | .27 | .27 | .27 | .27 |
|     | SCT | SCT | .11  | .13 | .14 | .15 | .17 | .18 | .19 | .20 | .21 | .22 | .23 | .24 | .25 | .26 | .26 | .27 | .27 | .27 | .27 | .27 |
|     | BKN | BKN | .11  | .13 | .14 | .16 | .18 | .19 | .21 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .29 | .30 | .30 | .30 | .30 | .30 |
|     | OVC | OVC | .09  | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .28 | .28 |
| OVC | CLR | CLR | .13  | .15 | .17 | .18 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .33 | .33 | .34 |
|     | SCT | SCT | .12  | .14 | .15 | .17 | .19 | .20 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .33 | .33 | .33 |
|     | BKN | BKN | .11  | .13 | .14 | .16 | .18 | .19 | .21 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .29 | .30 | .30 | .30 | .30 | .31 |
|     | OVC | OVC | .09  | .10 | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .28 | .28 | .28 | .28 |
| OVC | SCT | CLR | .12  | .14 | .15 | .17 | .19 | .20 | .22 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .30 | .31 | .31 | .32 | .32 | .33 |
|     | SCT | SCT | .11  | .13 | .14 | .16 | .18 | .19 | .21 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .29 | .30 | .31 | .31 | .32 | .32 |
|     | BKN | BKN | .10  | .12 | .13 | .15 | .16 | .18 | .19 | .21 | .22 | .23 | .25 | .26 | .27 | .28 | .29 | .29 | .30 | .30 | .30 | .31 |
|     | OVC | OVC | .08  | .10 | .11 | .12 | .14 | .15 | .17 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .27 | .27 | .27 |
| OVC | BKN | CLR | .10  | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .33 |
|     | SCT | SCT | .09  | .11 | .12 | .14 | .16 | .17 | .19 | .20 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 |
|     | BKN | BKN | .09  | .10 | .12 | .13 | .14 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .29 | .29 | .29 | .30 |
|     | OVC | OVC | .07  | .08 | .10 | .11 | .12 | .14 | .15 | .17 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .27 | .27 |
| OVC | BKN | CLR | .10  | .12 | .13 | .15 | .16 | .18 | .19 | .20 | .22 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .33 |
|     | SCT | SCT | .09  | .11 | .12 | .14 | .16 | .17 | .19 | .20 | .22 | .24 | .25 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 |
|     | BKN | BKN | .09  | .10 | .12 | .13 | .14 | .16 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .29 | .29 | .29 | .30 |
|     | OVC | OVC | .07  | .08 | .10 | .11 | .12 | .14 | .15 | .17 | .18 | .19 | .20 | .22 | .23 | .24 | .25 | .26 | .27 | .27 | .27 | .27 |
| OVC | OVC | CLR | .07  | .08 | .09 | .10 | .11 | .12 | .13 | .14 | .14 | .15 | .16 | .17 | .17 | .18 | .18 | .18 | .19 | .19 | .19 | .19 |
|     | SCT | SCT | .07  | .08 | .09 | .10 | .11 | .11 | .11 | .12 | .13 | .14 | .15 | .16 | .16 | .17 | .17 | .17 | .18 | .18 | .18 | .19 |
|     | BKN | BKN | .06  | .07 | .08 | .09 | .10 | .11 | .11 | .12 | .13 | .13 | .14 | .15 | .15 | .16 | .16 | .17 | .17 | .17 | .18 | .18 |
|     | OVC | OVC | .05  | .06 | .07 | .08 | .09 | .10 | .09 | .10 | .11 | .12 | .13 | .13 | .14 | .15 | .15 | .16 | .16 | .16 | .16 | .17 |

TABLE B-2 SOLAR TRANSMISSION (T)

THICK HIGH CLOUD  
LOW ALBEDO  
VIS < 11 KM

STATE 2-1-2

|     |     | CUS Z |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| LOW | MID | HIGH  | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
| CLR | CLR | CLR   | .54 | .58 | .62 | .66 | .69 | .72 | .74 | .77 | .79 | .80 | .82 | .83 | .84 | .84 | .84 | .84 | .85 | .85 | .85 |
|     | SCT | SCT   | .49 | .53 | .57 | .61 | .65 | .68 | .71 | .74 | .76 | .78 | .80 | .81 | .82 | .83 | .83 | .83 | .84 | .84 | .84 |
|     | BKN | BKN   | .45 | .49 | .53 | .57 | .60 | .64 | .67 | .69 | .72 | .74 | .75 | .77 | .78 | .78 | .78 | .79 | .79 | .79 | .79 |
|     | OVC | OVC   | .36 | .40 | .43 | .47 | .51 | .54 | .57 | .60 | .63 | .65 | .67 | .69 | .71 | .72 | .73 | .73 | .73 | .73 | .73 |
| CLR | SCT | CLR   | .48 | .53 | .57 | .61 | .64 | .67 | .70 | .73 | .75 | .77 | .78 | .80 | .81 | .81 | .82 | .82 | .82 | .82 | .82 |
|     | SCT | SCT   | .44 | .49 | .53 | .57 | .61 | .64 | .67 | .70 | .73 | .75 | .77 | .78 | .79 | .80 | .81 | .81 | .81 | .81 | .81 |
|     | BKN | BKN   | .41 | .45 | .49 | .53 | .56 | .60 | .63 | .66 | .68 | .70 | .72 | .74 | .75 | .76 | .76 | .77 | .77 | .77 | .77 |
|     | OVC | OVC   | .33 | .37 | .40 | .44 | .47 | .51 | .54 | .57 | .60 | .63 | .65 | .67 | .68 | .70 | .70 | .71 | .71 | .71 | .71 |
| CLR | BKN | CLR   | .41 | .45 | .49 | .53 | .56 | .60 | .63 | .65 | .67 | .69 | .71 | .72 | .73 | .74 | .75 | .75 | .75 | .75 | .75 |
|     | SCT | SCT   | .38 | .42 | .46 | .50 | .54 | .57 | .60 | .63 | .66 | .68 | .70 | .71 | .72 | .73 | .74 | .74 | .74 | .74 | .74 |
|     | BKN | BKN   | .35 | .39 | .43 | .46 | .50 | .53 | .56 | .59 | .62 | .64 | .66 | .67 | .68 | .69 | .70 | .70 | .70 | .70 | .70 |
|     | OVC | OVC   | .29 | .32 | .35 | .39 | .42 | .46 | .49 | .52 | .54 | .57 | .59 | .61 | .62 | .64 | .65 | .65 | .65 | .65 | .65 |
| CLR | OVC | CLR   | .27 | .30 | .33 | .35 | .38 | .40 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .53 | .54 | .54 | .54 | .54 |
|     | SCT | SCT   | .26 | .28 | .31 | .34 | .36 | .39 | .41 | .43 | .45 | .47 | .49 | .50 | .51 | .52 | .53 | .53 | .53 | .53 | .53 |
|     | BKN | BKN   | .24 | .26 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .45 | .46 | .48 | .49 | .50 | .50 | .50 | .50 | .50 | .50 |
|     | OVC | OVC   | .20 | .22 | .25 | .27 | .30 | .32 | .34 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .47 | .47 | .47 | .47 | .47 |
| SCT | CLR | CLR   | .49 | .53 | .57 | .61 | .65 | .68 | .70 | .73 | .75 | .77 | .78 | .80 | .81 | .82 | .82 | .83 | .83 | .83 | .83 |
|     | SCT | SCT   | .45 | .49 | .53 | .57 | .61 | .64 | .68 | .70 | .73 | .75 | .77 | .78 | .80 | .81 | .81 | .82 | .82 | .82 | .82 |
|     | BKN | BKN   | .41 | .45 | .49 | .53 | .57 | .60 | .63 | .66 | .68 | .71 | .72 | .74 | .75 | .76 | .77 | .77 | .77 | .77 | .77 |
|     | OVC | OVC   | .33 | .37 | .40 | .44 | .47 | .51 | .54 | .57 | .60 | .63 | .65 | .67 | .68 | .70 | .71 | .71 | .72 | .72 | .72 |
| SCT | SCT | CLR   | .44 | .49 | .53 | .57 | .60 | .63 | .66 | .69 | .71 | .73 | .75 | .77 | .78 | .79 | .80 | .81 | .81 | .81 | .81 |
|     | SCT | SCT   | .41 | .45 | .49 | .53 | .57 | .60 | .64 | .67 | .69 | .72 | .74 | .75 | .77 | .78 | .79 | .80 | .80 | .80 | .80 |
|     | BKN | BKN   | .37 | .41 | .45 | .49 | .53 | .56 | .60 | .63 | .65 | .67 | .69 | .71 | .72 | .74 | .74 | .75 | .75 | .75 | .75 |
|     | OVC | OVC   | .30 | .34 | .38 | .41 | .45 | .48 | .51 | .54 | .57 | .60 | .62 | .64 | .66 | .67 | .69 | .69 | .70 | .70 | .70 |
| SCT | BKN | CLR   | .38 | .42 | .46 | .49 | .53 | .56 | .59 | .62 | .64 | .66 | .68 | .70 | .71 | .72 | .73 | .73 | .73 | .73 | .73 |
|     | SCT | SCT   | .35 | .39 | .43 | .47 | .50 | .54 | .57 | .60 | .63 | .65 | .67 | .69 | .70 | .71 | .72 | .72 | .73 | .73 | .73 |
|     | BKN | BKN   | .32 | .36 | .40 | .43 | .47 | .50 | .53 | .56 | .59 | .61 | .63 | .65 | .66 | .67 | .68 | .69 | .69 | .69 | .69 |
|     | OVC | OVC   | .26 | .30 | .33 | .36 | .40 | .43 | .46 | .49 | .52 | .55 | .57 | .59 | .60 | .62 | .63 | .64 | .64 | .64 | .64 |
| SCT | OVC | CLR   | .26 | .28 | .31 | .33 | .36 | .38 | .40 | .43 | .44 | .46 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 | .52 |
|     | SCT | SCT   | .24 | .26 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .45 | .47 | .48 | .49 | .50 | .51 | .52 | .52 | .52 | .52 |
|     | BKN | BKN   | .22 | .25 | .27 | .30 | .32 | .35 | .37 | .39 | .41 | .43 | .45 | .46 | .47 | .48 | .49 | .49 | .49 | .49 | .49 |
|     | OVC | OVC   | .19 | .21 | .23 | .26 | .28 | .30 | .33 | .35 | .37 | .39 | .40 | .42 | .43 | .44 | .45 | .46 | .46 | .46 | .46 |

STATE 2-2-1 THICK HIGH CLOUD HIGH ALBEDO VIS => 11 KM

TABLE B-2 SOLAR TRANSMISSION (T)

COS Z

| LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| BKN | CLR | CLR  | .44 | .48 | .52 | .55 | .59 | .61 | .64 | .66 | .68 | .70 | .72 | .73 | .74 | .75 | .75 | .76 | .76 | .76 | .76 |
|     | SCT | SCT  | .40 | .44 | .48 | .52 | .55 | .59 | .61 | .64 | .66 | .68 | .70 | .72 | .73 | .74 | .74 | .75 | .75 | .75 | .75 |
|     | BKN | BKN  | .37 | .41 | .45 | .48 | .52 | .55 | .57 | .60 | .62 | .64 | .66 | .68 | .69 | .70 | .70 | .71 | .71 | .71 | .71 |
|     | OVC | OVC  | .30 | .33 | .37 | .40 | .43 | .46 | .49 | .52 | .55 | .57 | .59 | .61 | .63 | .64 | .65 | .66 | .66 | .66 | .66 |
| BKN | SCT | CLR  | .40 | .44 | .48 | .51 | .55 | .58 | .60 | .63 | .65 | .67 | .69 | .70 | .71 | .72 | .73 | .74 | .74 | .74 | .74 |
|     | SCT | SCT  | .37 | .41 | .45 | .48 | .52 | .55 | .58 | .61 | .63 | .65 | .67 | .69 | .70 | .71 | .72 | .73 | .73 | .73 | .73 |
|     | BKN | BKN  | .34 | .38 | .41 | .45 | .48 | .51 | .54 | .57 | .59 | .62 | .63 | .65 | .66 | .67 | .68 | .69 | .69 | .69 | .69 |
|     | OVC | OVC  | .28 | .31 | .34 | .37 | .41 | .44 | .47 | .50 | .52 | .55 | .57 | .59 | .60 | .62 | .63 | .64 | .64 | .64 | .64 |
| BKN | BKN | CLR  | .34 | .38 | .42 | .45 | .48 | .51 | .54 | .57 | .59 | .61 | .62 | .64 | .65 | .66 | .67 | .67 | .67 | .67 | .67 |
|     | SCT | SCT  | .32 | .35 | .39 | .43 | .46 | .49 | .52 | .55 | .57 | .59 | .61 | .63 | .64 | .65 | .66 | .67 | .67 | .67 | .67 |
|     | BKN | BKN  | .29 | .33 | .36 | .40 | .43 | .46 | .49 | .51 | .54 | .56 | .58 | .59 | .60 | .61 | .62 | .63 | .63 | .63 | .63 |
|     | OVC | OVC  | .24 | .27 | .30 | .33 | .36 | .39 | .42 | .45 | .47 | .50 | .52 | .54 | .55 | .56 | .57 | .58 | .58 | .59 | .59 |
| BKN | OVC | CLR  | .23 | .26 | .28 | .31 | .33 | .35 | .37 | .39 | .41 | .42 | .44 | .45 | .46 | .47 | .47 | .48 | .48 | .48 | .48 |
|     | SCT | SCT  | .22 | .24 | .27 | .29 | .31 | .34 | .36 | .38 | .40 | .41 | .43 | .44 | .45 | .46 | .47 | .47 | .48 | .48 | .48 |
|     | BKN | BKN  | .20 | .23 | .25 | .27 | .30 | .32 | .34 | .36 | .38 | .39 | .41 | .43 | .44 | .45 | .45 | .45 | .45 | .45 | .45 |
|     | OVC | OVC  | .17 | .19 | .21 | .24 | .26 | .28 | .30 | .32 | .34 | .35 | .37 | .38 | .40 | .41 | .41 | .42 | .42 | .42 | .42 |
| OVC | CLR | CLR  | .26 | .29 | .32 | .35 | .38 | .41 | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .56 | .56 | .57 | .57 |
|     | SCT | SCT  | .24 | .27 | .30 | .33 | .36 | .39 | .41 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .55 | .56 | .56 | .56 |
|     | BKN | BKN  | .22 | .25 | .28 | .31 | .34 | .36 | .39 | .41 | .43 | .45 | .47 | .48 | .49 | .50 | .51 | .52 | .52 | .53 | .53 |
|     | OVC | OVC  | .18 | .21 | .23 | .26 | .29 | .31 | .34 | .36 | .38 | .40 | .42 | .44 | .45 | .46 | .47 | .48 | .49 | .49 | .49 |
| OVC | SCT | CLR  | .24 | .27 | .30 | .33 | .36 | .38 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .54 | .55 | .55 | .55 |
|     | SCT | SCT  | .22 | .25 | .28 | .31 | .34 | .37 | .39 | .42 | .44 | .46 | .47 | .49 | .50 | .52 | .53 | .53 | .54 | .55 | .55 |
|     | BKN | BKN  | .20 | .23 | .26 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .45 | .46 | .48 | .49 | .50 | .51 | .51 | .51 | .52 |
|     | OVC | OVC  | .17 | .19 | .22 | .25 | .27 | .30 | .32 | .34 | .37 | .39 | .40 | .42 | .44 | .45 | .46 | .47 | .48 | .48 | .48 |
| OVC | BKN | CLR  | .21 | .24 | .27 | .29 | .32 | .35 | .37 | .39 | .41 | .43 | .44 | .46 | .47 | .48 | .49 | .49 | .50 | .50 | .51 |
|     | SCT | SCT  | .19 | .22 | .25 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .49 | .50 | .50 | .50 |
|     | BKN | BKN  | .18 | .21 | .23 | .26 | .29 | .31 | .34 | .36 | .38 | .39 | .41 | .43 | .44 | .45 | .46 | .47 | .47 | .47 | .47 |
|     | OVC | OVC  | .15 | .17 | .20 | .22 | .25 | .27 | .29 | .31 | .33 | .35 | .37 | .39 | .40 | .41 | .42 | .43 | .44 | .44 | .44 |
| OVC | OVC | CLR  | .15 | .17 | .19 | .21 | .23 | .24 | .26 | .28 | .29 | .30 | .32 | .33 | .34 | .34 | .35 | .36 | .36 | .36 | .37 |
|     | SCT | SCT  | .14 | .16 | .18 | .20 | .22 | .24 | .25 | .27 | .28 | .30 | .31 | .32 | .33 | .34 | .35 | .35 | .36 | .36 | .36 |
|     | BKN | BKN  | .13 | .15 | .17 | .19 | .21 | .22 | .24 | .26 | .27 | .28 | .30 | .31 | .32 | .32 | .33 | .34 | .34 | .34 | .34 |
|     | OVC | OVC  | .11 | .13 | .14 | .16 | .18 | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .31 | .32 | .32 | .32 |

TABLE 8-2 SOLAR TRANSMISSION (T)

THICK HIGH CLOUD  
HIGH ALBEDO  
VIS > 11 KM

STATE 2-2-1

COS Z

|     | LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .80 | .85 | .90 | .95 |
|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CLR | CLR | CLR | CLR  | .48 | .52 | .56 | .59 | .63 | .66 | .68 | .71 | .73 | .75 | .76 | .78 | .79 | .79 | .80 | .80 | .80 | .80 | .80 |
|     | SCT | SCT | SCT  | .44 | .48 | .52 | .56 | .59 | .62 | .65 | .68 | .71 | .73 | .74 | .76 | .77 | .78 | .79 | .79 | .79 | .79 | .79 |
|     | BKN | BKN | BKN  | .40 | .44 | .48 | .51 | .55 | .58 | .61 | .64 | .66 | .68 | .70 | .71 | .73 | .73 | .74 | .74 | .74 | .74 | .74 |
|     | OVC | OVC | OVC  | .32 | .36 | .39 | .42 | .45 | .49 | .52 | .55 | .57 | .60 | .62 | .64 | .66 | .67 | .68 | .68 | .68 | .68 | .68 |
| CLR | SCT | CLR | CLR  | .43 | .47 | .51 | .55 | .58 | .61 | .64 | .67 | .69 | .71 | .73 | .74 | .75 | .76 | .77 | .77 | .77 | .77 | .77 |
|     | SCT | SCT | SCT  | .40 | .44 | .48 | .51 | .55 | .58 | .61 | .64 | .67 | .69 | .71 | .73 | .74 | .75 | .76 | .76 | .76 | .76 | .76 |
|     | BKN | BKN | BKN  | .36 | .40 | .44 | .47 | .51 | .54 | .57 | .60 | .63 | .65 | .67 | .68 | .70 | .71 | .71 | .72 | .72 | .72 | .72 |
|     | OVC | OVC | OVC  | .30 | .33 | .36 | .39 | .43 | .46 | .49 | .52 | .55 | .57 | .60 | .62 | .63 | .65 | .66 | .66 | .66 | .66 | .66 |
| CLR | BKN | CLR | CLR  | .37 | .40 | .44 | .47 | .51 | .54 | .57 | .59 | .62 | .64 | .66 | .67 | .68 | .69 | .70 | .70 | .70 | .70 | .70 |
|     | SCT | SCT | SCT  | .34 | .37 | .41 | .45 | .48 | .51 | .54 | .57 | .60 | .62 | .64 | .66 | .67 | .68 | .69 | .69 | .69 | .69 | .69 |
|     | BKN | BKN | BKN  | .31 | .35 | .38 | .41 | .45 | .48 | .51 | .54 | .56 | .58 | .60 | .62 | .63 | .64 | .65 | .65 | .65 | .65 | .65 |
|     | OVC | OVC | OVC  | .26 | .29 | .32 | .35 | .38 | .41 | .44 | .47 | .49 | .52 | .54 | .56 | .57 | .59 | .60 | .60 | .60 | .60 | .60 |
| CLR | OVC | CLR | CLR  | .24 | .27 | .29 | .31 | .34 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .48 | .49 | .49 | .49 | .49 |
|     | SCT | SCT | SCT  | .23 | .25 | .27 | .30 | .32 | .34 | .36 | .39 | .40 | .42 | .44 | .45 | .46 | .47 | .48 | .48 | .48 | .48 | .48 |
|     | BKN | BKN | BKN  | .21 | .23 | .26 | .28 | .30 | .32 | .34 | .36 | .38 | .40 | .42 | .43 | .44 | .45 | .45 | .46 | .46 | .46 | .46 |
|     | OVC | OVC | OVC  | .18 | .20 | .22 | .24 | .26 | .28 | .30 | .32 | .34 | .36 | .38 | .39 | .40 | .41 | .42 | .43 | .43 | .43 | .43 |
| SCT | CLR | CLR | CLR  | .44 | .48 | .52 | .56 | .59 | .62 | .65 | .68 | .70 | .72 | .74 | .75 | .76 | .77 | .78 | .78 | .78 | .78 | .78 |
|     | SCT | SCT | SCT  | .40 | .44 | .48 | .52 | .56 | .59 | .62 | .65 | .68 | .70 | .72 | .73 | .75 | .76 | .77 | .77 | .77 | .77 | .77 |
|     | BKN | BKN | BKN  | .37 | .41 | .45 | .48 | .52 | .55 | .58 | .61 | .63 | .66 | .67 | .69 | .70 | .72 | .72 | .73 | .73 | .73 | .73 |
|     | OVC | OVC | OVC  | .30 | .33 | .36 | .40 | .43 | .46 | .49 | .52 | .55 | .58 | .60 | .62 | .64 | .65 | .66 | .67 | .67 | .67 | .67 |
| SCT | SCT | CLR | CLR  | .40 | .44 | .48 | .51 | .55 | .58 | .61 | .64 | .66 | .68 | .70 | .72 | .73 | .74 | .75 | .76 | .76 | .76 | .76 |
|     | SCT | SCT | SCT  | .37 | .41 | .44 | .48 | .52 | .55 | .58 | .61 | .64 | .67 | .69 | .70 | .72 | .73 | .74 | .75 | .75 | .75 | .75 |
|     | BKN | BKN | BKN  | .34 | .37 | .41 | .45 | .48 | .51 | .55 | .57 | .60 | .62 | .65 | .66 | .68 | .69 | .70 | .71 | .71 | .71 | .71 |
|     | OVC | OVC | OVC  | .27 | .31 | .34 | .37 | .40 | .44 | .47 | .50 | .53 | .55 | .58 | .60 | .61 | .63 | .64 | .65 | .65 | .65 | .65 |
| SCT | BKN | CLR | CLR  | .34 | .38 | .41 | .45 | .48 | .51 | .54 | .57 | .59 | .61 | .63 | .65 | .66 | .67 | .68 | .69 | .69 | .69 | .69 |
|     | SCT | SCT | SCT  | .31 | .35 | .39 | .42 | .46 | .49 | .52 | .55 | .57 | .60 | .62 | .64 | .65 | .66 | .67 | .68 | .68 | .68 | .68 |
|     | BKN | BKN | BKN  | .29 | .32 | .36 | .39 | .43 | .46 | .49 | .51 | .54 | .56 | .58 | .60 | .61 | .63 | .63 | .64 | .64 | .64 | .64 |
|     | OVC | OVC | OVC  | .24 | .27 | .30 | .33 | .36 | .39 | .42 | .45 | .47 | .50 | .52 | .54 | .56 | .57 | .58 | .59 | .59 | .59 | .59 |
| SCT | OVC | CLR | CLR  | .23 | .25 | .28 | .30 | .32 | .34 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .47 | .48 | .48 | .48 | .48 |
|     | SCT | SCT | SCT  | .21 | .24 | .26 | .28 | .31 | .33 | .35 | .37 | .39 | .41 | .43 | .44 | .45 | .46 | .47 | .47 | .48 | .48 | .48 |
|     | BKN | BKN | BKN  | .20 | .22 | .24 | .27 | .29 | .31 | .33 | .35 | .37 | .39 | .40 | .42 | .43 | .44 | .45 | .45 | .45 | .45 | .45 |
|     | OVC | OVC | OVC  | .17 | .19 | .21 | .23 | .25 | .27 | .29 | .31 | .33 | .35 | .37 | .38 | .39 | .41 | .41 | .42 | .42 | .42 | .42 |

TABLE B-2 SOLAR TRANSMISSION ( $\tau$ )

THICK HIGH CLOUD  
HIGH ALBEDO  
VIS < 11 KM

STATE 2-2-2

COS Z

| LOW | MID | HIGH | .05 | .10 | .15 | .20 | .25 | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 | .90 | .95 |
|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| BKN | CLR | CLR  | .40 | .44 | .48 | .51 | .54 | .57 | .60 | .62 | .64 | .66 | .68 | .69 | .70 | .71 | .72 | .72 | .72 |
|     | SCT | SCT  | .37 | .40 | .44 | .48 | .51 | .54 | .57 | .60 | .62 | .64 | .66 | .68 | .69 | .70 | .71 | .72 | .72 |
|     | BKN | BKN  | .34 | .37 | .41 | .44 | .48 | .51 | .53 | .56 | .58 | .60 | .62 | .64 | .65 | .66 | .67 | .67 | .67 |
|     | OVC | OVC  | .27 | .30 | .34 | .37 | .40 | .43 | .46 | .49 | .51 | .53 | .56 | .58 | .59 | .60 | .61 | .62 | .62 |
| BKN | SCT | CLR  | .36 | .40 | .44 | .47 | .50 | .53 | .56 | .59 | .61 | .63 | .65 | .66 | .68 | .69 | .69 | .70 | .70 |
|     | SCT | SCT  | .33 | .37 | .41 | .44 | .48 | .51 | .54 | .57 | .59 | .61 | .63 | .65 | .66 | .68 | .69 | .70 | .70 |
|     | BKN | BKN  | .31 | .34 | .38 | .41 | .44 | .48 | .50 | .53 | .56 | .58 | .60 | .61 | .63 | .64 | .65 | .65 | .65 |
|     | OVC | OVC  | .25 | .28 | .31 | .34 | .37 | .40 | .43 | .46 | .49 | .51 | .53 | .55 | .57 | .58 | .59 | .61 | .61 |
| BKN | BKN | CLR  | .31 | .35 | .38 | .41 | .44 | .47 | .50 | .53 | .55 | .57 | .59 | .60 | .61 | .62 | .63 | .64 | .64 |
|     | SCT | SCT  | .29 | .32 | .36 | .39 | .42 | .45 | .48 | .51 | .53 | .55 | .57 | .59 | .60 | .61 | .62 | .63 | .63 |
|     | BKN | BKN  | .27 | .30 | .33 | .36 | .39 | .42 | .45 | .48 | .50 | .52 | .54 | .56 | .57 | .58 | .59 | .59 | .59 |
|     | OVC | OVC  | .22 | .25 | .28 | .31 | .33 | .36 | .39 | .42 | .44 | .46 | .49 | .50 | .52 | .53 | .54 | .55 | .55 |
| BKN | OVC | CLR  | .21 | .24 | .26 | .28 | .30 | .32 | .34 | .36 | .38 | .39 | .40 | .42 | .43 | .44 | .44 | .45 | .45 |
|     | SCT | SCT  | .20 | .22 | .24 | .27 | .29 | .31 | .33 | .35 | .37 | .38 | .40 | .41 | .42 | .43 | .44 | .45 | .45 |
|     | BKN | BKN  | .19 | .21 | .23 | .25 | .27 | .29 | .31 | .33 | .35 | .36 | .38 | .39 | .40 | .41 | .42 | .42 | .42 |
|     | OVC | OVC  | .16 | .18 | .19 | .21 | .23 | .25 | .27 | .29 | .31 | .33 | .34 | .36 | .37 | .38 | .39 | .40 | .40 |
| OVC | CLR | CLR  | .26 | .29 | .32 | .35 | .38 | .41 | .43 | .45 | .47 | .49 | .50 | .52 | .53 | .54 | .55 | .56 | .57 |
|     | SCT | SCT  | .24 | .27 | .30 | .33 | .36 | .39 | .41 | .44 | .46 | .48 | .49 | .51 | .52 | .53 | .54 | .56 | .56 |
|     | BKN | BKN  | .22 | .25 | .28 | .31 | .34 | .36 | .39 | .41 | .43 | .45 | .47 | .48 | .49 | .50 | .51 | .52 | .53 |
|     | OVC | OVC  | .18 | .21 | .23 | .26 | .29 | .31 | .34 | .36 | .38 | .40 | .42 | .44 | .45 | .46 | .47 | .48 | .49 |
| OVC | SCT | CLR  | .24 | .27 | .30 | .33 | .36 | .38 | .41 | .43 | .45 | .47 | .48 | .50 | .51 | .52 | .53 | .54 | .55 |
|     | SCT | SCT  | .22 | .25 | .28 | .31 | .34 | .37 | .39 | .42 | .44 | .46 | .47 | .49 | .50 | .52 | .53 | .54 | .55 |
|     | BKN | BKN  | .20 | .23 | .26 | .29 | .32 | .34 | .37 | .39 | .41 | .43 | .45 | .46 | .48 | .49 | .50 | .51 | .52 |
|     | OVC | OVC  | .17 | .19 | .22 | .25 | .27 | .30 | .32 | .34 | .37 | .39 | .40 | .42 | .44 | .45 | .46 | .47 | .48 |
| OVC | BKN | CLR  | .21 | .24 | .27 | .29 | .32 | .35 | .37 | .39 | .41 | .43 | .44 | .46 | .47 | .48 | .49 | .50 | .51 |
|     | SCT | SCT  | .19 | .22 | .25 | .28 | .31 | .33 | .36 | .38 | .40 | .42 | .43 | .45 | .46 | .47 | .48 | .49 | .50 |
|     | BKN | BKN  | .18 | .21 | .23 | .26 | .29 | .31 | .34 | .36 | .38 | .39 | .41 | .43 | .44 | .45 | .46 | .47 | .47 |
|     | OVC | OVC  | .15 | .17 | .20 | .22 | .25 | .27 | .29 | .31 | .33 | .35 | .37 | .39 | .40 | .41 | .42 | .43 | .44 |
| OVC | OVC | CLR  | .15 | .17 | .19 | .21 | .23 | .24 | .26 | .28 | .29 | .30 | .32 | .33 | .34 | .34 | .35 | .36 | .37 |
|     | SCT | SCT  | .14 | .16 | .18 | .20 | .22 | .24 | .25 | .27 | .28 | .30 | .31 | .32 | .33 | .34 | .35 | .36 | .36 |
|     | BKN | BKN  | .13 | .15 | .17 | .19 | .21 | .22 | .24 | .26 | .27 | .28 | .30 | .31 | .32 | .32 | .33 | .34 | .34 |
|     | OVC | OVC  | .11 | .13 | .14 | .16 | .18 | .20 | .21 | .23 | .24 | .26 | .27 | .28 | .29 | .30 | .31 | .32 | .32 |

TABLE B-2 SOLAR TRANSMISSION (T)

THICK HIGH CLOUD  
HIGH ALBEDO  
VIS < 11 KM

STATE 2-2-2

TABLE B-3. RATIO OF SOLAR IRRADIANCE ( $W_{SUN}$ ) ON A 10,000 FT GROUND SURFACE TO THAT WHICH WOULD HAVE BEEN OBSERVED IF THE GROUND WERE AT SEA LEVEL

|                      | COS Z |      |      |      |      |      |      |      |      |      |
|----------------------|-------|------|------|------|------|------|------|------|------|------|
|                      | .05   | .15  | .25  | .35  | .45  | .55  | .65  | .75  | .85  | .95  |
| Ground Albedo = 0.15 |       |      |      |      |      |      |      |      |      |      |
|                      | 1.33  | 1.28 | 1.19 | 1.15 | 1.12 | 1.10 | 1.10 | 1.09 | 1.09 | 1.09 |
| Ground Albedo = 0.80 |       |      |      |      |      |      |      |      |      |      |
|                      | 1.28  | 1.23 | 1.15 | 1.12 | 1.09 | 1.08 | 1.07 | 1.07 | 1.07 | 1.07 |

For ground surfaces with elevations less than 10,000 ft but more than 2,000 ft, interpolate for the corresponding elevation.

## Sky Radiation ( $W_{sky}$ )

Fig. B-2 consists of nomograms that produce the clear sky radiation as a function of the forecast surface temperature and dewpoint. Four nomograms cover four different ranges of surface temperature.

These nomograms produce values of the clear sky irradiance for terrain near sea level. At high terrain elevation the irradiance values will differ slightly. The differences may be positive or negative and are a function of elevation, temperature, and dewpoint. Correction tables are under development. The approximate maximum values of the difference will be:

| <u>Terrain<br/>Elevation (km)</u> | <u>Maximum<br/>Difference (watts/m<sup>2</sup>)</u> | <u>Approximate Percentage of<br/>Clear Sky Irradiance</u> |
|-----------------------------------|-----------------------------------------------------|-----------------------------------------------------------|
| 1                                 | 5                                                   | 2                                                         |
| 2                                 | 11                                                  | 4                                                         |
| 3                                 | 15                                                  | 5                                                         |

Table B-4 provides corrections that are added to the clear sky irradiance values when cloud cover is forecast. The user enters the table with the amount and height above ground level of the two lowest cloud levels forecast to obtain the correction.

The values for the cloud correction in Table B-4 are strictly valid only for terrain near sea level. At high terrain elevations the cloud corrections will be slightly larger. However, the magnitude of the differences will be small (probably less than 10 watts/m<sup>2</sup>) and does not represent a major error. The largest error will occur with low clouds at high terrain elevations. Estimates of the maximum error incurred by using Table B-4 values at high terrain elevations are:

| <u>Terrain<br/>Elevation (km)</u> | <u>Maximum<br/>Error (watts/m<sup>2</sup>)</u> | <u>Approximate Percentage of<br/>Total Cloudy Sky Irradiance</u> |
|-----------------------------------|------------------------------------------------|------------------------------------------------------------------|
| 1                                 | 5                                              | 1.5                                                              |
| 2                                 | 8                                              | 2.0                                                              |
| 3                                 | 10                                             | 3.0                                                              |

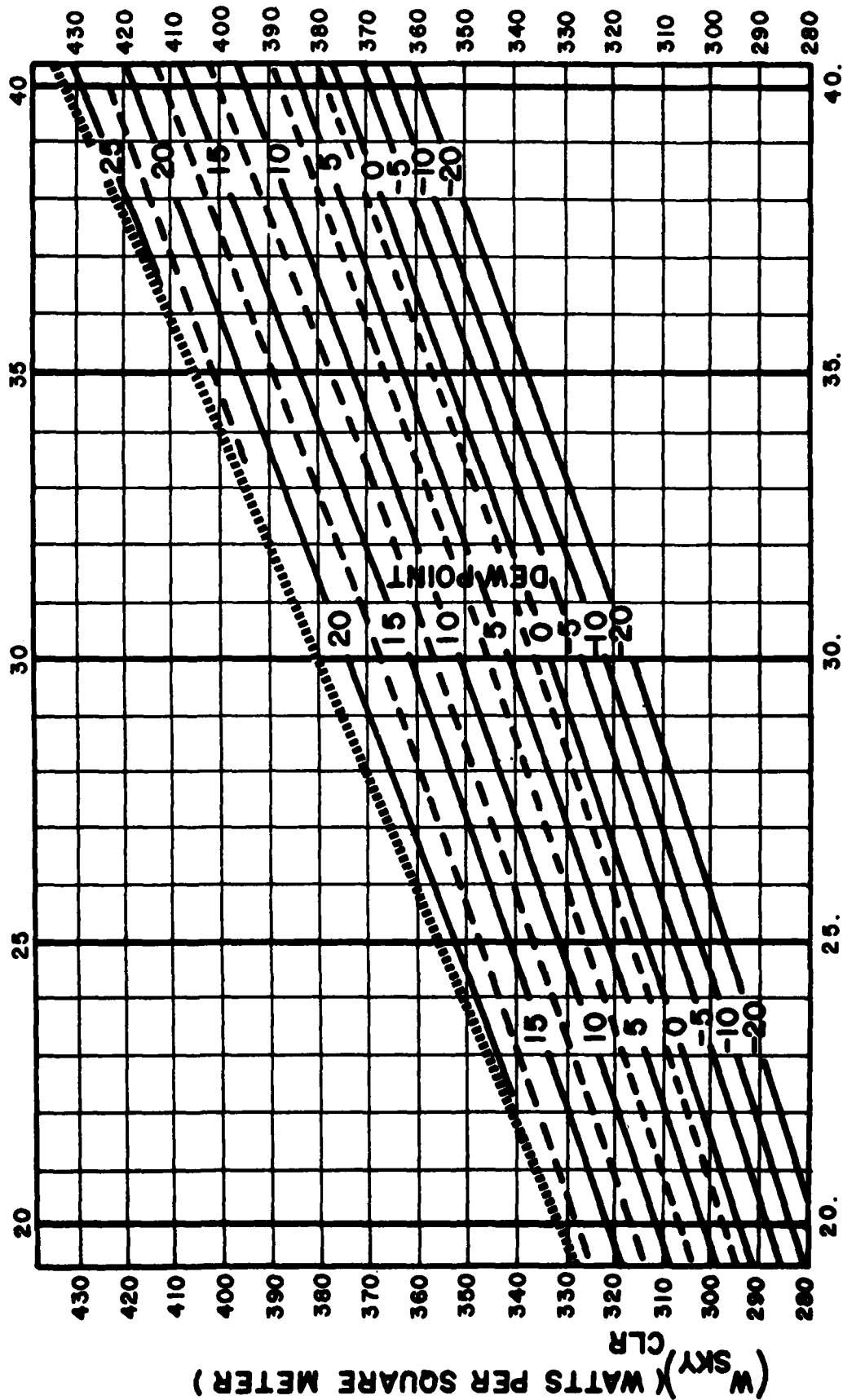


Fig. B-2. Sky Radiation ( $W_{SKY}$ ) Nomogram

20° to 40° C



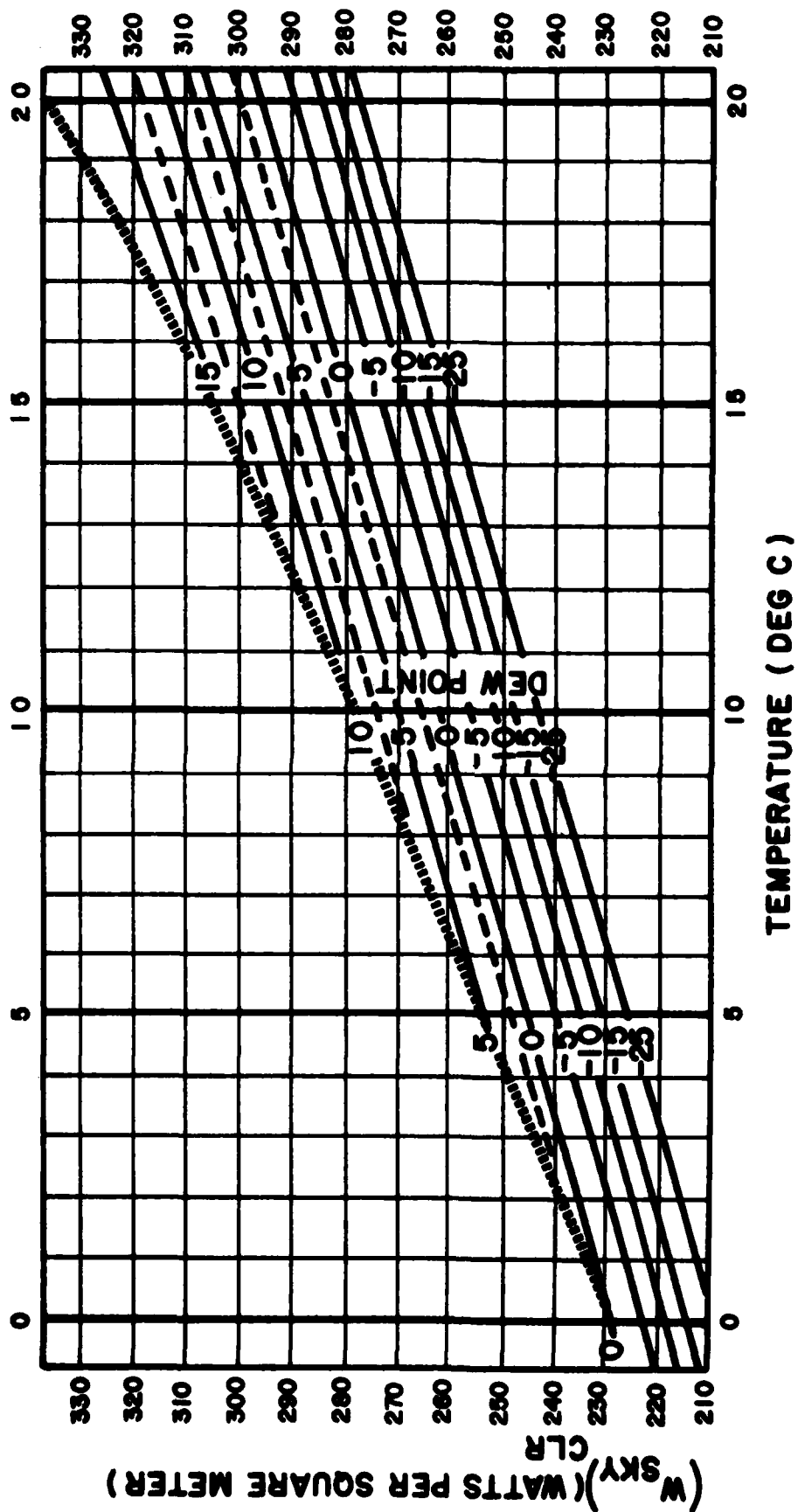


Fig. B-2. (Continued)  
0°C to 20°C

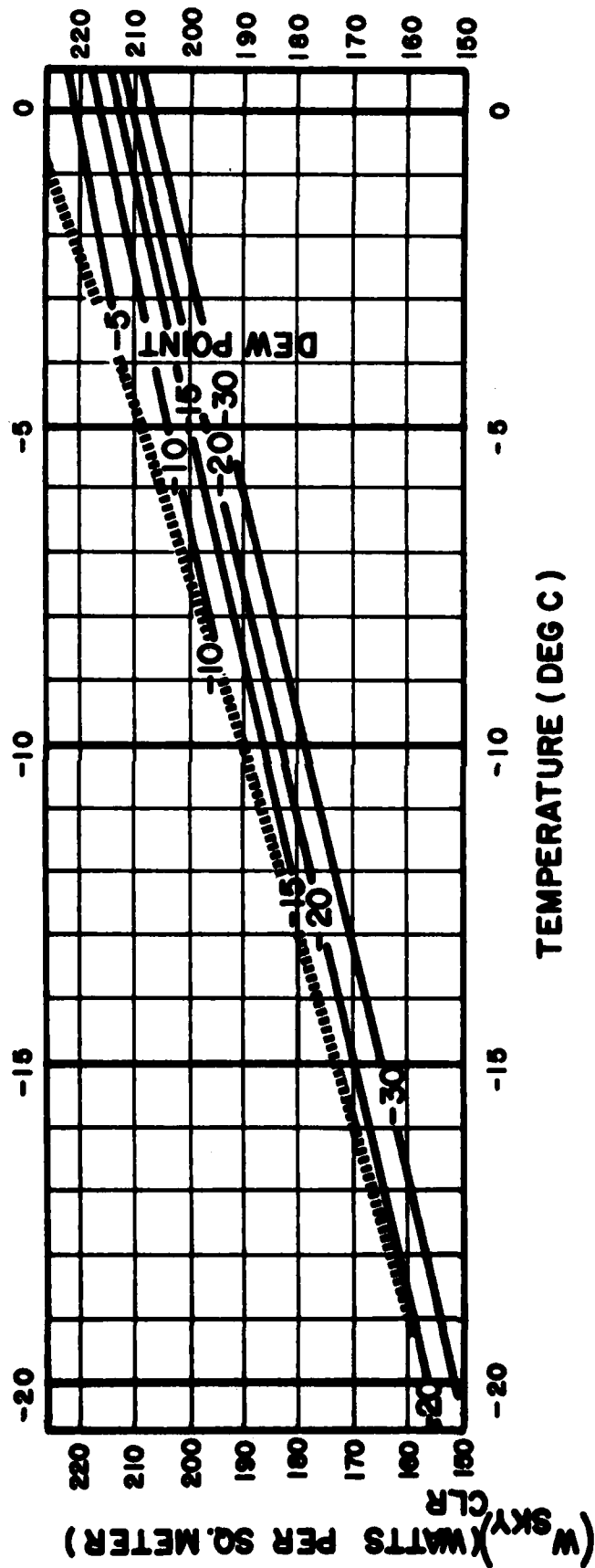


Fig. B-2: (Continued)  
-20°C to 0°C

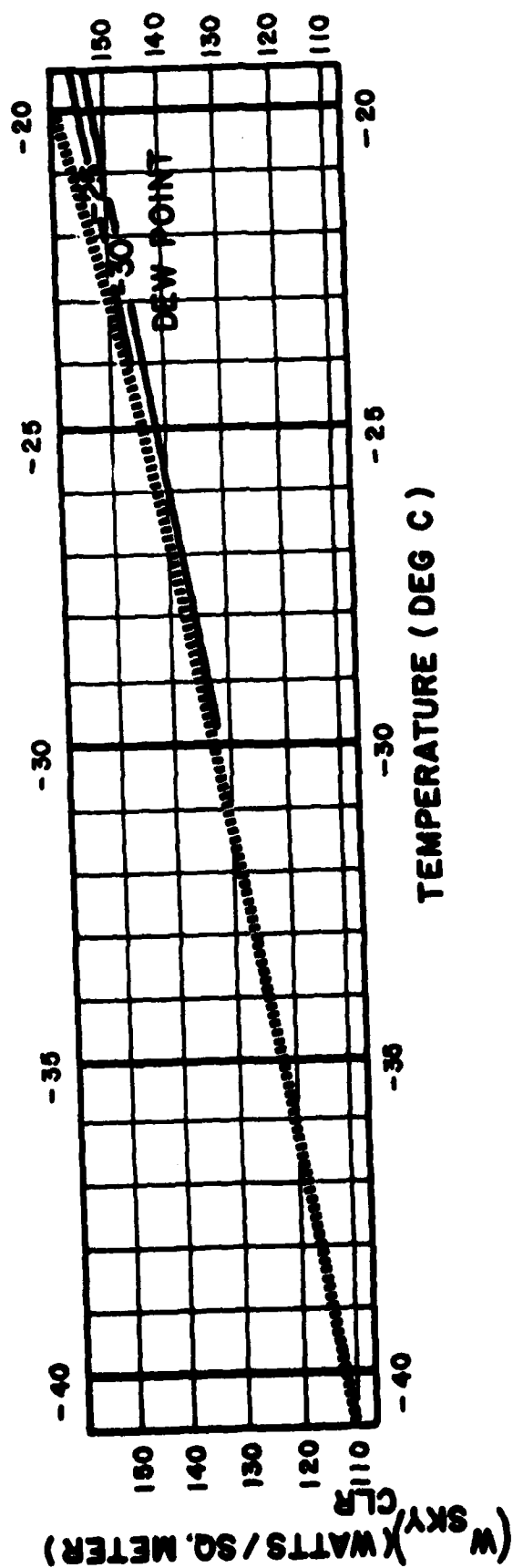


Fig. B-2. (Continued)  
-40°C to -20°C

LOWEST CLOUD LEVEL

|                 |                    |     | Low |     |     | Middle |     |     | High |     |     |
|-----------------|--------------------|-----|-----|-----|-----|--------|-----|-----|------|-----|-----|
|                 |                    |     | SCT | BKN | OVC | SCT    | BKN | OVC | SCT  | BKN | OVC |
|                 |                    |     | 19  | 57  | 76  | 15     | 45  | 60  | 9    | 27  | 35  |
| No Second Level | Second Cloud Level | SCT | 31  | 61  | 76  | —      | —   | —   | —    | —   | —   |
|                 |                    | BKN | 53  | 65  | 76  | —      | —   | —   | —    | —   | —   |
|                 |                    | OVC | 65  | 72  | 76  | —      | —   | —   | —    | —   | —   |
| HIGH            |                    | SCT | 26  | 59  | 76  | 22     | 47  | 60  | —    | —   | —   |
|                 |                    | BKN | 39  | 61  | 76  | 35     | 49  | 60  | —    | —   | —   |
|                 |                    | OVC | 47  | 66  | 76  | 43     | 53  | 60  | —    | —   | —   |

TABLE B-4. SKY RADIATION ( $W_{SKY}$ ) CLOUD CORRECTION ( $\text{watts/m}^2$ )