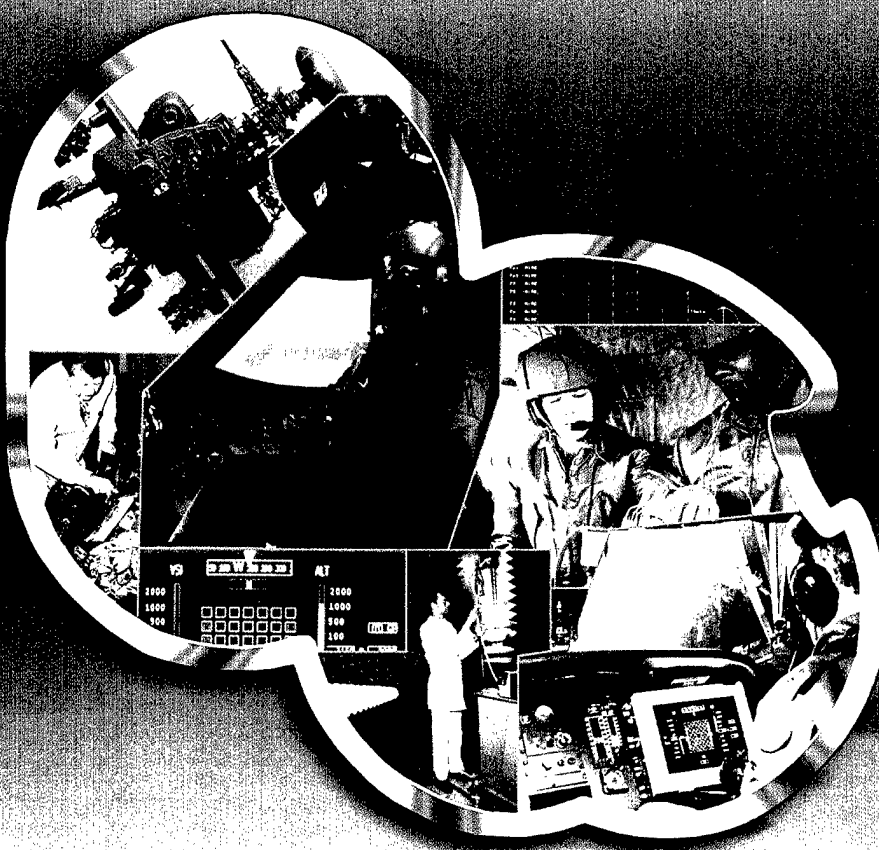


**USAARL Report No. 2002-23  
Volume II**

# **A Comparison of Visual Fields with Fixed and Moving Fixation Points (Reprint)**

**by William E. McLean**



**Aircrew Health and Performance Division**

**September 2002**

**Approved for public release, distribution unlimited.**

**20021029 047**

**U  
S  
A  
A  
R  
L**

**U.S. Army  
Aeromedical Research  
Laboratory**

## Notice

### Qualified requesters

Qualified requesters may obtain copies from the Defense Technical Information Center (DTIC), 8725 John J. Kingman Road, Suite 0944, Fort Belvoir, Virginia 22060-6218. Orders will be expedited if placed through the librarian or other person designated to request documents from DTIC.

### Change of address

Organizations receiving reports from the U.S. Army Aeromedical Research Laboratory on automatic mailing lists should confirm correct address when corresponding about laboratory reports.

### Disposition

Destroy this document when it is no longer needed. Do not return it to the originator.

### Disclaimer

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other official documentation. Citation of trade names in this report does not constitute an official Department of the Army endorsement or approval of the use of such commercial items.

### Human use

Human subjects participated in these studies after giving their free and informed voluntary consent. Investigators adhered to AR 70-25 and USAMRMC Reg 70-25 on Use of Volunteers in Research.

| REPORT DOCUMENTATION PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |                                      |                                                                                                                                                                                                                              | Form Approved<br>OMB No. 0704-0188                 |                                   |                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------|----------------------------|
| 1a. REPORT SECURITY CLASSIFICATION<br>Unclassified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                      | 1b. RESTRICTIVE MARKINGS                                                                                                                                                                                                     |                                                    |                                   |                            |
| 2a. SECURITY CLASSIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                      | 3. DISTRIBUTION / AVAILABILITY OF REPORT<br>Approved for public release, distribution unlimited                                                                                                                              |                                                    |                                   |                            |
| 2b. DECLASSIFICATION / DOWNGRADING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                      |                                                                                                                                                                                                                              |                                                    |                                   |                            |
| 4. PERFORMING ORGANIZATION REPORT NUMBER(S)<br>USAARL Report No. 2002-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                      | 5. MONITORING ORGANIZATION REPORT NUMBER(S)                                                                                                                                                                                  |                                                    |                                   |                            |
| 6a. NAME OF PERFORMING ORGANIZATION<br>U.S. Army Aeromedical<br>Research Laboratory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       | 6b. OFFICE SYMBOL<br>(If<br>MCMR-UAD | 7a. NAME OF MONITORING ORGANIZATION<br>U.S. Army Medical Research and Materiel<br>Command                                                                                                                                    |                                                    |                                   |                            |
| 6c. ADDRESS (City, State, and ZIP Code)<br>P.O. Box 620577<br>Fort Rucker, AL 36362-0577                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                      | 7b. ADDRESS (City, State, and ZIP Code)<br>504 Scott Street<br>Fort Detrick, MD 21702-5012                                                                                                                                   |                                                    |                                   |                            |
| 8a. NAME OF FUNDING / SPONSORING<br>ORGANIZATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       | 8b. OFFICE SYMBOL<br>(If             | 9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER                                                                                                                                                                              |                                                    |                                   |                            |
| 8c. ADDRESS (City, State, and ZIP Code)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |                                      | 10. SOURCE OF FUNDING NUMBERS                                                                                                                                                                                                |                                                    |                                   |                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                      | PROGRAM<br>ELEMENT NO.                                                                                                                                                                                                       | PROJECT<br>NO.                                     | TASK<br>NO.                       | WORK UNIT<br>ACCESSION NO. |
| 11. TITLE (Include Security Classification)<br>(U) A Comparison of Visual Fields with Fixed and Moving Fixation Points, Volume II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |                                      |                                                                                                                                                                                                                              |                                                    |                                   |                            |
| 12. PERSONAL AUTHOR(S)<br>William E. McLean                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                      |                                                                                                                                                                                                                              |                                                    |                                   |                            |
| 13a. TYPE OF REPORT<br>Final                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       | 13b. TIME COVERED<br>FROM TO         |                                                                                                                                                                                                                              | 14. DATE OF REPORT (Year, Month,<br>2002 September |                                   | 15. PAGE COUNT<br>97       |
| 16. SUPPLEMENTAL NOTATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |                                      |                                                                                                                                                                                                                              |                                                    |                                   |                            |
| 17. COSATI CODES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |                                      | 18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)<br>Visual field measurements, target detection, contrast<br>saccadic suppression, target velocity, visual lobe,<br>binocular visual fields |                                                    |                                   |                            |
| FIELD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | GROUP | SUB-GROUP                            |                                                                                                                                                                                                                              |                                                    |                                   |                            |
| 23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 02    |                                      |                                                                                                                                                                                                                              |                                                    |                                   |                            |
| 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 06    |                                      |                                                                                                                                                                                                                              |                                                    |                                   |                            |
| 19. ABSTRACT (Continue on reverse if necessary and identify by block number)<br>Four procedures were used to measure the extent of the detection fields of four primary meridians of the binocular visual fields of four subjects. Procedures I (Moving Target) used a horizontally moving target and a stationary fixation point. Procedure II (Fixed Target) used a stationary target and a horizontally moving fixation point. Procedure III (Saccadic Move) used a saccadic eye movement between two stationary horizontal fixation points and a stationary target. Procedure IV (Flashed Target) used a stationary fixation point and a .6 second flashed target. The results from the dynamic procedures (I and II) and the two static procedures (III and IV) were very similar for each subject. In the dynamic procedures, the relationship between a change in contrast and an equivalent change in velocity tends to support Bloch's Law ( $I \times T = C$ ) between 2 deg/s and 20 deg/s for a given retinal location. The relationship between the reciprocal of relative single glimpse probability of four subjects measured in this study and the mean detection times for comparable stimuli taken from Krendel and Wodinsky's Study (1960) appear to be linear and highly correlated (.92 to .99). Volume I of this report details the technical report and volume II contains the appendices. |       |                                      |                                                                                                                                                                                                                              |                                                    |                                   |                            |
| 20. DISTRIBUTION / AVAILABILITY OF<br><input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                      | 21. ABSTRACT SECURITY CLASSIFICATION<br>Unclassified                                                                                                                                                                         |                                                    |                                   |                            |
| 22a. NAME OF RESPONSIBLE INDIVIDUAL<br>Chief, Science Information Center                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                      | 22b. TELEPHONE (Include Area<br>(334) 255-6907                                                                                                                                                                               |                                                    | 22c. OFFICE SYMBOL<br>MCMR-UAX-SI |                            |

## Table of contents

### Appendices

- A. List of Equipment and Model Numbers
- B. Means, Standard Deviations, Correction Factors,  
and Calibration Values for Each Subject, Procedures,  
Meridian, Velocity, and Contrast Value
- C. Meridian Plots for Each Subject and Procedure
- D. Four Primary Meridian Plots for Each Subject  
and Procedure
- E. Relationship Between Contrast and Velocity  
for Each Subjects BM and DP
- F. Relationship Between Detection Time and  $1/P_{sg}$   
for Each Subject

## APPENDIX

APPENDIX A  
Equipment and Model Numbers

APPENDIX A  
EQUIPMENT AND MODEL NUMBERS

1. Wavetek Sweep Generator, Model 184
2. General Scanning Inc., CCX-100 Scanner Control Amplifier
3. General Scanning Inc., G-300 PD Optical Scanner
4. Uniblitz Shutter Timing and Drive Unit, Model Number 310B
5. Uniblitz Shutter
6. Kodak Ektagraphic RA-960 Projector with zoom lens (100 to 150 mm)
7. Kodak Ektagraphic AF-3 Projector with zoom lens (102 to 152 mm)
8. Digital Voltmeter (4.5 digits)
9. Neutral Density Filters (.1 log unit steps)
10. Pritchards Spectra Photometer (Model 1980A)
11. 500 Watt G.E. Incandescent Light Bulb
12. Sample hold electronic devices
13. 35 mm spot slides for 4.8 arcmin target
14.  $180^{\circ} \times 34^{\circ}$  screen with 3.05 meters (10 foot) radius primed with Nextel 915 (3 coats) and painted with 202-A10 white (3 coats)
15. Switch Box

## APPENDIX B

Means, Standard Deviations, Correction Factors, and Calibration  
Values for Each Subject, Procedures, Meridian,  
Velocity, and Contrast Value



Subject # 2 B.M.  
 Procedure # 1  
 Contrast 68%

(Vertical) 1° = .081 Volts  
 (Horizontal) 1° = .060 Volts  
 Reaction Time = .251 Sec

|                            |             |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|-------------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity °/Sec             | 1           | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  |             |       |       | 1.333          | 1.106 | .833  | .532  |  |  |
| Volt S.D.                  | Sees to Top |       |       | .0435          | .0704 | .0331 | .0839 |  |  |
| Degree Mean                |             |       |       | 16.46          | 13.65 | 10.28 | 6.57  |  |  |
| Degree S.D.                |             |       |       | .537           | .869  | .409  | 1.036 |  |  |
|                            |             |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | 1.201       | 1.206 | 1.204 | .998           | .849  | .680  | .503  |  |  |
| Volt S.D.                  | .0097       | .0263 | .0340 | .0484          | .0390 | .0564 | .0274 |  |  |
| Degree Mean                | 14.83       | 14.89 | 14.86 | 12.32          | 10.48 | 8.40  | 6.21  |  |  |
| Degree S.D.                | .120        | .325  | .420  | .598           | .481  | .696  | .338  |  |  |
|                            |             |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | 1.806       | 1.752 | 1.654 | 1.306          | .588  | .452  | .316  |  |  |
| Volt S.D.                  | .0865       | .0835 | .0564 | .1524          | .0268 | .0650 | .0754 |  |  |
| Degree Mean                | 30.10       | 29.20 | 27.57 | 21.77          | 9.80  | 7.53  | 5.27  |  |  |
| Reaction Correction Factor | .25         | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 30.36       | 29.70 | 28.57 | 23.78          | 12.81 | 11.55 | 10.29 |  |  |
| Degree S.D.                | 1.442       | 1.392 | .940  | 2.540          | .447  | 1.083 | 1.257 |  |  |
|                            |             |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | 1.868       | 2.006 | 1.742 | 1.344          | .534  | .416  | .238  |  |  |
| Volt S.D.                  | .1587       | .0602 | .0726 | .1431          | .0182 | .0336 | .0259 |  |  |
| Degree Mean                | 31.13       | 33.43 | 29.03 | 22.40          | 8.90  | 6.93  | 3.97  |  |  |
| Reaction Correction Factor | .25         | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 31.38       | 33.93 | 30.03 | 24.41          | 11.91 | 10.95 | 8.99  |  |  |
| Degree S.D.                | 2.645       | 1.003 | 1.210 | 2.385          | .303  | .560  | .432  |  |  |

Subject # 2 B.M.  
 Procedure #1  
 Contrast 54%

(Vertical)  $1^\circ = .081$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .251 Sec

|                            |         |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|---------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1       | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  |         |       |       | 1.113          | .935  | .765  | .351  |  |  |
| Volt S.D.                  |         |       |       | .0301          | .0490 | .1224 | .0302 |  |  |
| Degree Mean                | Sees to | Top   |       | 13.74          | 11.54 | 9.44  | 4.33  |  |  |
| Degree S.D.                |         |       |       | .383           | .605  | 1.511 | .373  |  |  |
|                            |         |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | 1.092   | 1.076 | .985  | .783           | .601  | .522  | .345  |  |  |
| Volt S.D.                  | .0589   | .0254 | .0478 | .0252          | .0358 | .0318 | .0416 |  |  |
| Degree Mean                | 13.48   | 13.28 | 12.16 | 9.67           | 7.42  | 6.44  | 4.26  |  |  |
| Degree S.D.                | .727    | .314  | .590  | .311           | .442  | .393  | .514  |  |  |
|                            |         |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | 1.268   | 1.180 | 1.060 | .652           | .470  | .298  | .178  |  |  |
| Volt S.D.                  | .0993   | .0806 | .1125 | .0192          | .0604 | .1085 | .0760 |  |  |
| Degree Mean                | 21.13   | 19.67 | 17.67 | 10.87          | 7.83  | 4.97  | 2.97  |  |  |
| Reaction Correction Factor | .25     | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 21.38   | 20.17 | 18.67 | 12.88          | 10.84 | 8.99  | 7.99  |  |  |
| Degree S.D.                | 1.655   | 1.343 | 1.875 | .320           | 1.007 | 1.808 | 1.267 |  |  |
|                            |         |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | 1.340   | 1.294 | .966  | .568           | .434  | .296  | .102  |  |  |
| Volt S.D.                  | .0566   | .1064 | .1309 | .0390          | .0456 | .0639 | .0773 |  |  |
| Degree Mean                | 22.33   | 21.57 | 16.10 | 9.47           | 7.23  | 4.93  | 1.70  |  |  |
| Reaction Correction Factor | .25     | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 22.58   | 22.07 | 17.10 | 11.48          | 10.24 | 8.95  | 6.72  |  |  |
| Degree S.D.                | .943    | 1.773 | 2.182 | .650           | .760  | 1.065 | 1.288 |  |  |

Subject # 2 B.M.  
 Procedure #1  
 Contrast 43%

(Vertical)  $1^\circ = .081$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .251 Sec

|                            |       |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|-------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  | 1.191 | 1.131 | 1.024 | .879           | .645  | .395  | .248  |  |  |
| Volt S.D.                  | .0153 | .0173 | .0365 | .0246          | .0505 | .0880 | .0282 |  |  |
| Degree Mean                | 14.70 | 13.96 | 12.64 | 10.85          | 7.96  | 4.88  | 3.06  |  |  |
| Degree S.D.                | .189  | .214  | .451  | .304           | .623  | 1.086 | .348  |  |  |
|                            |       |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | 1.013 | .992  | .871  | .648           | .431  | .332  | .274  |  |  |
| Volt S.D.                  | .0732 | .0491 | .0185 | .0465          | .0308 | .0224 | .0355 |  |  |
| Degree Mean                | 12.51 | 12.25 | 10.75 | 8.00           | 5.32  | 4.10  | 3.38  |  |  |
| Degree S.D.                | .904  | .606  | .228  | .574           | .380  | .277  | .438  |  |  |
|                            |       |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | .952  | .868  | .768  | .612           | .370  | -.122 | +.086 |  |  |
| Volt S.D.                  | .0383 | .0773 | .0630 | .0502          | .1277 | .0676 | .0744 |  |  |
| Degree Mean                | 15.87 | 14.47 | 12.80 | 10.20          | 6.17  | -2.03 | +1.43 |  |  |
| Reaction Correction Factor | .25   | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 16.12 | 14.97 | 13.80 | 12.21          | 9.18  | 6.05  | 3.59  |  |  |
| Degree S.D.                | .550  | 1.288 | 1.050 | .837           | 2.128 | 1.127 | 1.240 |  |  |
|                            |       |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | .974  | .834  | .654  | .478           | .328  | +.162 | -.024 |  |  |
| Volt S.D.                  | .1609 | .1528 | .0546 | .0517          | .0487 | .0295 | .0963 |  |  |
| Degree Mean                | 16.23 | 13.90 | 10.90 | 7.97           | 5.47  | +2.70 | -.40  |  |  |
| Reaction Correction Factor | .25   | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 16.48 | 14.40 | 11.90 | 9.98           | 8.48  | 6.72  | 4.62  |  |  |
| Degree S.D.                | 2.817 | 2.547 | .910  | .862           | .812  | .492  | 1.605 |  |  |

Subject # 2 B.M.  
 Procedure #1  
 Contrast 34%

(Vertical)  $I^0 = .081$  Volts  
 (Horizontal)  $I^0 = .060$  Volts  
 Reaction Time = .251 Sec

|                                | 270th Meridian |       |       |       |       |       |       |  |  |
|--------------------------------|----------------|-------|-------|-------|-------|-------|-------|--|--|
| Velocity $^{\circ}/\text{Sec}$ | 1              | 2     | 4     | 8     | 12    | 16    | 20    |  |  |
| Volt Mean                      | .969           | .972  | .792  | .533  | .370  | .157  | .095  |  |  |
| Volt S.D.                      | .0474          | .0248 | .0257 | .0393 | .0359 | .0361 | .0373 |  |  |
| Degree Mean                    | 11.96          | 12.00 | 9.78  | 6.58  | 4.57  | 1.94  | 1.17  |  |  |
| Degree S.D.                    | .585           | .306  | .317  | .485  | .443  | .446  | .460  |  |  |
|                                | 90th Meridian  |       |       |       |       |       |       |  |  |
| Volt Mean                      | .839           | .807  | .661  | .511  | .312  | .196  | .180  |  |  |
| Volt S.D.                      | .0388          | .0148 | .0530 | .0334 | .0252 | .0187 | .0289 |  |  |
| Degree Mean                    | 10.36          | 9.96  | 8.16  | 6.31  | 3.85  | 2.42  | 2.22  |  |  |
| Degree S.D.                    | .479           | .183  | .654  | .412  | .311  | .231  | .357  |  |  |
|                                | 0 Meridian     |       |       |       |       |       |       |  |  |
| Volt Mean                      | .830           | .814  | .640  | .452  | .126  | -.039 | +.234 |  |  |
| Volt S.D.                      | .0418          | .0786 | .0612 | .0926 | .0666 | .0883 | .0555 |  |  |
| Degree Mean                    | 13.83          | 13.57 | 10.67 | 7.53  | 2.10  | -.65  | +3.90 |  |  |
| Reaction Correction Factor     | .25            | .50   | 1.00  | 2.01  | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean          | 14.08          | 14.07 | 11.67 | 9.54  | 5.11  | 4.67  | 1.12  |  |  |
| Degree S.D.                    | .697           | 1.310 | 1.020 | 1.543 | 1.110 | 1.472 | .925  |  |  |
|                                | 180th Meridian |       |       |       |       |       |       |  |  |
| Volt Mean                      | .712           | .676  | .568  | .382  | +.140 | -.038 | -.248 |  |  |
| Volt S.D.                      | .0259          | .0856 | .0593 | .0164 | .0534 | .1274 | .0497 |  |  |
| Degree Mean                    | 11.87          | 11.27 | 9.47  | 6.37  | +2.33 | -.63  | -4.13 |  |  |
| Reaction Correction Factor     | .25            | .50   | 1.00  | 2.01  | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean          | 12.12          | 11.77 | 10.47 | 8.38  | 5.34  | 3.39  | .89   |  |  |
| Degree S.D.                    | .432           | 1.427 | .988  | .273  | .890  | 2.123 | .828  |  |  |

Subject # 2 B.M.  
 Procedure #1  
 Contrast 27%

(Vertical)  $1^{\circ} = .081$  Volts  
 (Horizontal)  $1^{\circ} = .060$  Volts  
 Reaction Time = .251 Sec

|                                | 270th Meridian |       |       |       |       |       |       |  |  |
|--------------------------------|----------------|-------|-------|-------|-------|-------|-------|--|--|
| Velocity $^{\circ}/\text{Sec}$ | 1              | 2     | 4     | 8     | 12    | 16    | 20    |  |  |
| Volt Mean                      | .846           | .773  | .610  | .292  | .148  | .119  | .046  |  |  |
| Volt S.D.                      | .0502          | .0392 | .0379 | .0319 | .0217 | .0270 | .0306 |  |  |
| Degree Mean                    | 10.44          | 9.54  | 7.53  | 3.60  | 1.83  | 1.47  | .57   |  |  |
| Degree S.D.                    | .620           | .484  | .468  | .394  | .268  | .333  | .378  |  |  |
|                                | 90th Meridian  |       |       |       |       |       |       |  |  |
| Volt Mean                      | .631           | .636  | .512  | .267  | .176  | .117  | .060  |  |  |
| Volt S.D.                      | .0206          | .0362 | .0560 | .0340 | .0175 | .0270 | .0141 |  |  |
| Degree Mean                    | 7.79           | 7.85  | 6.32  | 3.30  | 2.17  | 1.44  | .74   |  |  |
| Degree S.D.                    | .254           | .447  | .691  | .420  | .216  | .333  | .174  |  |  |
|                                | 0 Meridian     |       |       |       |       |       |       |  |  |
| Volt Mean                      | .734           | .606  | .504  | -.162 | -.004 | +.138 | +.334 |  |  |
| Volt S.D.                      | .0279          | .0439 | .0537 | .0531 | .0207 | .0444 | .0829 |  |  |
| Degree Mean                    | -12.23         | 10.10 | 8.40  | -2.70 | -.07  | +2.30 | +5.57 |  |  |
| Reaction Correction Factor     | .25            | .50   | 1.00  | 2.01  | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean          | 12.48          | 10.60 | 9.40  | 4.71  | 3.08  | 1.72  | -.55  |  |  |
| Degree S.D.                    | .465           | .732  | .895  | .885  | .345  | .740  | 1.382 |  |  |
|                                | 180th Meridian |       |       |       |       |       |       |  |  |
| Volt Mean                      | .634           | .542  | .402  | .174  | +.032 | -.182 | -.312 |  |  |
| Volt S.D.                      | .0358          | .0634 | .1003 | .0847 | .0614 | .0409 | .0466 |  |  |
| Degree Mean                    | 10.57          | 9.03  | 6.70  | 2.90  | +.53  | -3.03 | -5.20 |  |  |
| Reaction Correction Factor     | .25            | .50   | 1.00  | 2.01  | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean          | 10.82          | 9.53  | 7.70  | 4.91  | 3.54  | .99   | -.18  |  |  |
| Degree S.D.                    | .597           | 1.057 | 1.672 | 1.412 | 1.023 | .682  | .777  |  |  |

Subject # 2 B.M.  
 Procedure # 2  
 Contrast 68%

(Vertical)  $I^0 = .075$  Volts  
 (Horizontal)  $I^0 = .060$  Volts  
 Reaction Time = .251 Sec

|                            | 270th Meridian |       |       |       |       |       |       |  |  |
|----------------------------|----------------|-------|-------|-------|-------|-------|-------|--|--|
| Velocity °/Sec             | 1              | 2     | 4     | 8     | 12    | 16    | 20    |  |  |
| Volt Mean                  |                |       |       |       | 1.153 | 1.005 | .705  |  |  |
| Volt S.D.                  | Sees at Top    |       |       |       | .0356 | .0705 | .0530 |  |  |
| Degree Mean                |                |       |       |       | 15.37 | 13.40 | 9.40  |  |  |
| Degree S.D.                |                |       |       |       | .475  | .940  | .707  |  |  |
|                            | 90th Meridian  |       |       |       |       |       |       |  |  |
| Volt Mean                  | 1.077          | 1.113 | 1.045 | .899  | .777  | .667  | .519  |  |  |
| Volt S.D.                  | .0685          | .0239 | .0566 | .0371 | .0431 | .0679 | .0406 |  |  |
| Degree Mean                | 14.36          | 14.84 | 13.93 | 11.99 | 10.36 | 8.89  | 6.92  |  |  |
| Degree S.D.                | .913           | .319  | .755  | .495  | .575  | .905  | .541  |  |  |
|                            | 0 Meridian     |       |       |       |       |       |       |  |  |
| Volt Mean                  | 1.63           | 1.69  | 1.52  | .77   | .57   | .33   | .11   |  |  |
| Volt S.D.                  | .0555          | .0767 | .1564 | .1065 | .0527 | .0335 | .0421 |  |  |
| Degree Mean                | 27.17          | 28.17 | 25.33 | 12.83 | 9.50  | 5.50  | 1.83  |  |  |
| Reaction Correction Factor | .25            | .50   | 1.00  | 2.01  | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 27.42          | 28.67 | 26.33 | 14.84 | 12.51 | 9.52  | 6.85  |  |  |
| Degree S.D.                | .925           | 1.278 | 2.607 | 1.775 | .878  | .558  | .702  |  |  |
|                            | 180th Meridian |       |       |       |       |       |       |  |  |
| Volt Mean                  | 1.881          | 1.864 | 1.712 | 1.298 | .654  | .416  | .284  |  |  |
| Volt S.D.                  | .0658          | .1372 | .1228 | .2549 | .1798 | .0577 | .0994 |  |  |
| Degree Mean                | 31.35          | 31.07 | 28.53 | 21.63 | 10.90 | 6.93  | 4.73  |  |  |
| Reaction Correction Factor | .25            | .50   | 1.00  | 2.01  | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 31.60          | 31.57 | 29.53 | 23.64 | 13.91 | 10.95 | 9.75  |  |  |
| Degree S.D.                | 1.097          | 2.287 | 2.047 | 4.248 | 2.997 | .962  | 1.657 |  |  |

Subject # 2 B.M.  
 Procedure # 2  
 Contrast 54%

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .251 Sec

|                            |       |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|-------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  |       |       |       | 1.012          | .852  | .682  | .384  |  |  |
| Volt S.D.                  |       |       |       | 0.400          | .0296 | .0909 | .0679 |  |  |
| Degree Mean                |       |       |       | 13.49          | 11.36 | 9.09  | 5.12  |  |  |
| Degree S.D.                |       |       |       | .533           | .395  | 1.212 | .905  |  |  |
|                            |       |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | .978  | .968  | .901  | .774           | .577  | .484  | .320  |  |  |
| Volt S.D.                  | .0307 | .0177 | .0484 | .0300          | .0251 | .0312 | .0335 |  |  |
| Degree Mean                | 13.04 | 12.91 | 12.01 | 10.32          | 7.69  | 6.45  | 4.27  |  |  |
| Degree S.D.                | 4.09  | .236  | .645  | .400           | .335  | .416  | .447  |  |  |
|                            |       |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | 1.19  | 1.40  | .76   | .60            | .34   | + .16 | -.04  |  |  |
| Volt S.D.                  | .2794 | .1747 | .0536 | .0370          | .0518 | .0952 | .0971 |  |  |
| Degree Mean                | 19.83 | 23.33 | 12.67 | 10.00          | 5.67  | +2.67 | -.67  |  |  |
| Reaction Correction Factor | .25   | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 20.08 | 23.83 | 13.67 | 12.01          | 8.68  | 6.67  | 4.35  |  |  |
| Degree S.D.                | 4.657 | 2.912 | .893  | .617           | .863  | 1.587 | 1.618 |  |  |
|                            |       |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | 1.636 | 1.646 | 1.510 | .688           | .426  | -.324 | -.130 |  |  |
| Volt S.D.                  | .1659 | .0321 | .1198 | .0687          | .0385 | .0493 | .0949 |  |  |
| Degree Mean                | 27.27 | 27.43 | 25.17 | 11.47          | 7.10  | -5.40 | -2.17 |  |  |
| Reaction Correction Factor | .25   | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 27.52 | 27.93 | 26.17 | 13.48          | 10.11 | 9.42  | 7.19  |  |  |
| Degree S.D.                | 2.765 | .535  | 1.997 | 1.145          | .642  | .822  | 1.582 |  |  |

Subject # 2 B.M.  
 Procedure #1  
 Contrast 43%

(Vertical)  $1^{\circ} = .075$  Volts  
 (Horizontal)  $1^{\circ} = .060$  Volts  
 Reaction Time = .251 Sec

|                                |       |       |       | 270th Meridian |       |       |       |  |  |
|--------------------------------|-------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^{\circ}/\text{Sec}$ | 1     | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                      | 1.044 | 1.036 | .973  | .819           | .514  | .366  | .246  |  |  |
| Volt S.D.                      | .0395 | .0343 | .0199 | .0664          | .0720 | .0306 | .0603 |  |  |
| Degree Mean                    | 13.92 | 13.81 | 12.97 | 10.92          | 6.85  | 4.88  | 3.28  |  |  |
| Degree S.D.                    | .527  | .457  | .265  | .885           | .960  | .408  | .804  |  |  |
|                                |       |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                      | .806  | .836  | .801  | .527           | .450  | .249  | .209  |  |  |
| Volt S.D.                      | .0254 | .0537 | .0322 | .0067          | .0467 | .0358 | .0275 |  |  |
| Degree Mean                    | 10.75 | 11.15 | 10.68 | 7.03           | 6.00  | 3.32  | 2.79  |  |  |
| Degree S.D.                    | .339  | .716  | .429  | .089           | .623  | .477  | .367  |  |  |
|                                |       |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                      | .74   | .75   | .62   | .30            | +.25  | -.01  | -.18  |  |  |
| Volt S.D.                      | .0394 | .0396 | .0776 | .0638          | .0279 | .0723 | .0288 |  |  |
| Degree Mean                    | 12.33 | 12.50 | 10.33 | 5.00           | +4.17 | -.17  | -3.00 |  |  |
| Reaction Correction Factor     | .25   | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean          | 12.58 | 13.00 | 11.33 | 7.01           | 7.18  | 3.85  | 2.02  |  |  |
| Degree S.D.                    | .657  | .660  | 1.293 | 1.063          | .465  | 1.205 | .480  |  |  |
|                                |       |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                      | .892  | .772  | .910  | .546           | .284  | -.148 | +.026 |  |  |
| Volt S.D.                      | .0526 | .0466 | .1646 | .1569          | .0699 | .0259 | .1178 |  |  |
| Degree Mean                    | 14.87 | 12.87 | 15.17 | 9.10           | 4.73  | -2.47 | +.43  |  |  |
| Reaction Correction Factor     | .25   | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean          | 15.12 | 13.37 | 16.17 | 11.11          | 7.74  | 6.49  | 4.59  |  |  |
| Degree S.D.                    | .877  | .777  | 2.743 | 2.615          | 1.165 | .432  | 1.963 |  |  |



Subject # 2 B.M.  
 Procedure # 2  
 Contrast 34%

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .251 Sec

|                            | 270th Meridian |       |       |       |       |       |       |  |  |
|----------------------------|----------------|-------|-------|-------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1              | 2     | 4     | 8     | 12    | 16    | 20    |  |  |
| Volt Mean                  | .873           | .862  | .845  | .642  | .425  | .157  | .117  |  |  |
| Volt S.D.                  | .0242          | .0461 | .0284 | .0556 | .0504 | .0230 | .0506 |  |  |
| Degree Mean                | 11.64          | 11.49 | 11.27 | 8.56  | 5.67  | 2.09  | 1.56  |  |  |
| Degree S.D.                | .323           | .615  | .379  | .741  | .672  | .307  | .675  |  |  |
|                            | 90th Meridian  |       |       |       |       |       |       |  |  |
| Volt Mean                  | .680           | .656  | .566  | .409  | .249  | .201  | .144  |  |  |
| Volt S.D.                  | .0338          | .0324 | .0496 | .0633 | .0282 | .0590 | .0200 |  |  |
| Degree Mean                | 9.07           | 8.75  | 7.55  | 5.45  | 3.32  | 2.68  | 1.92  |  |  |
| Degree S.D.                | .451           | .453  | .661  | .844  | .376  | .787  | .267  |  |  |
|                            | 0 Meridian     |       |       |       |       |       |       |  |  |
| Volt Mean                  | .74            | .70   | .59   | .24   | +.13  | -.04  | -.25  |  |  |
| Volt S.D.                  | .0167          | .0230 | .0559 | .0728 | .0832 | .0862 | .0467 |  |  |
| Degree Mean                | 12.33          | 11.67 | 9.83  | 4.00  | +2.17 | -.67  | -4.17 |  |  |
| Reaction Correction Factor | .25            | .50   | 1.00  | 2.01  | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 12.58          | 12.17 | 10.83 | 6.01  | 5.18  | 3.35  | .85   |  |  |
| Degree S.D.                | .278           | .383  | .932  | 1.213 | 1.387 | 1.437 | .778  |  |  |
|                            | 180th Meridian |       |       |       |       |       |       |  |  |
| Volt Mean                  | .734           | .708  | .588  | .376  | -.162 | +.015 | +.256 |  |  |
| Volt S.D.                  | .0055          | .0402 | .0356 | .0876 | .1154 | .0507 | .0740 |  |  |
| Degree Mean                | 12.23          | 11.80 | 9.80  | 6.27  | -2.70 | +.25  | +4.27 |  |  |
| Reaction Correction Factor | .25            | .50   | 1.00  | 2.01  | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 12.48          | 12.30 | 10.80 | 8.28  | 5.71  | 3.77  | .75   |  |  |
| Degree S.D.                | .092           | .670  | .593  | 1.460 | 1.923 | .845  | 1.233 |  |  |

Subject # 2 B.M.  
 Procedure # 2  
 Contrast 27%

(Vertical)  $1^0 = .075$  Volts  
 (Horizontal)  $1^0 = .060$  Volts  
 Reaction Time = .251 Sec

|                            |       |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|-------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^0$ /Sec         | 1     | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  | .671  | .682  | .597  | .256           | .150  | .106  | .037  |  |  |
| Volt S.D.                  | .0188 | .0250 | .0500 | .0370          | .0562 | .0297 | .0272 |  |  |
| Degree Mean                | 8.95  | 9.09  | 7.96  | 3.41           | 2.00  | 1.41  | .49   |  |  |
| Degree S.D.                | .251  | .333  | .667  | .493           | .749  | .396  | .363  |  |  |
|                            |       |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | .575  | .538  | .488  | .256           | .148  | .103  | .058  |  |  |
| Volt S.D.                  | .0260 | .0286 | .0385 | .0453          | .0388 | .0167 | .0261 |  |  |
| Degree Mean                | 7.67  | 7.17  | 6.51  | 3.41           | 1.97  | 1.37  | .77   |  |  |
| Degree S.D.                | .347  | .381  | .513  | .604           | .517  | .223  | .348  |  |  |
|                            |       |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | .62   | .55   | .44   | +.30           | -.03  | -.22  | -.42  |  |  |
| Volt S.D.                  | .0415 | .0394 | .0654 | .0913          | .0409 | .0778 | .0422 |  |  |
| Degree Mean                | 10.33 | 9.17  | 7.33  | +5.00          | -.50  | -3.67 | -7.00 |  |  |
| Reaction Correction Factor | .25   | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 10.58 | 9.67  | 8.33  | 7.01           | 2.51  | .35   | -2.02 |  |  |
| Degree S.D.                | .692  | .657  | 1.090 | 1.522          | .682  | 1.297 | .703  |  |  |
|                            |       |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | .620  | .615  | .464  | .192           | -.080 | +.218 | +.438 |  |  |
| Volt S.D.                  | .0600 | .0327 | .0532 | .0876          | .1160 | .0522 | .0581 |  |  |
| Degree Mean                | 10.33 | 10.25 | 7.73  | 3.20           | -1.33 | +3.63 | 7.30  |  |  |
| Reaction Correction Factor | .25   | .50   | 1.00  | 2.01           | 3.01  | 4.02  | 5.02  |  |  |
| Corrected Degree Mean      | 10.58 | 10.75 | 8.73  | 5.21           | 4.34  | .39   | -2.28 |  |  |
| Degree S.D.                | 1.000 | .545  | .887  | 1.460          | 1.933 | .870  | .968  |  |  |

Subject #2 B.M.  
Procedure #3

(Vertical)  $1^\circ = .070$  Volts  
(Horizontal)  $1^\circ = .060$  Volts

| Contrast    | 68%   | 54%   | 43%            | 34%   | 27%   |  |  |  |  |
|-------------|-------|-------|----------------|-------|-------|--|--|--|--|
|             |       |       | 270th Meridian |       |       |  |  |  |  |
| Volt Mean   | 1.014 | .912  | .707           | .641  | .395  |  |  |  |  |
| Volt S.D.   | .0066 | .0734 | .0733          | .0399 | .0106 |  |  |  |  |
| Degree Mean | 14.49 | 13.03 | 10.10          | 9.16  | 5.64  |  |  |  |  |
| Degree S.D. | .094  | 1.049 | 1.047          | .570  | .151  |  |  |  |  |
|             |       |       | 90th Meridian  |       |       |  |  |  |  |
| Volt Mean   | .719  | .622  | .603           | .484  | .335  |  |  |  |  |
| Volt S.D.   | .0159 | .0260 | .0148          | .0397 | .0289 |  |  |  |  |
| Degree Mean | 10.27 | 8.89  | 8.61           | 6.91  | 4.79  |  |  |  |  |
| Degree S.D. | .227  | .371  | .211           | .567  | .413  |  |  |  |  |
|             |       |       | 0 Meridian     |       |       |  |  |  |  |
| Volt Mean   | 1.340 | 1.038 | .830           | .701  | .609  |  |  |  |  |
| Volt S.D.   | .0205 | .1042 | .0436          | .0489 | .0352 |  |  |  |  |
| Degree Mean | 22.33 | 17.30 | 13.83          | 11.68 | 10.15 |  |  |  |  |
| Degree S.D. | .342  | 1.737 | .727           | .815  | .587  |  |  |  |  |
|             |       |       | 180th Meridian |       |       |  |  |  |  |
| Volt Mean   | 1.708 | 1.359 | .848           | .640  | .565  |  |  |  |  |
| Volt S.D.   | .1017 | .0590 | .1061          | .0747 | .0350 |  |  |  |  |
| Degree Mean | 28.47 | 22.65 | 14.13          | 10.67 | 9.42  |  |  |  |  |
| Degree S.D. | 1.695 | .983  | 1.768          | 1.245 | .583  |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |

Subject #2 B.M.  
Procedure #4

(vertical)  $1^{\circ} = .075$  Volts  
(horizontal)  $1^{\circ} = .060$  Volts

| Contrast    | 68%   | 54%   | 43%            | 34%   | 27%   |  |  |  |  |
|-------------|-------|-------|----------------|-------|-------|--|--|--|--|
|             |       |       | 270th Meridian |       |       |  |  |  |  |
| Volt Mean   | 1.110 | .790  | .672           | .656  | .438  |  |  |  |  |
| Volt S.D.   | .0500 | .0996 | .0404          | .0236 | .0324 |  |  |  |  |
| Degree Mean | 14.80 | 10.53 | 8.96           | 8.75  | 5.84  |  |  |  |  |
| Degree S.D. | .667  | 1.328 | .539           | .315  | .432  |  |  |  |  |
|             |       |       | 90th Meridian  |       |       |  |  |  |  |
| Volt Mean   | .920  | .713  | .540           | .489  | .292  |  |  |  |  |
| Volt S.D.   | .0030 | .0594 | .0438          | .0088 | .0462 |  |  |  |  |
| Degree Mean | 12.27 | 9.51  | 7.20           | 6.52  | 3.89  |  |  |  |  |
| Degree S.D. | .040  | .792  | .584           | .117  | .616  |  |  |  |  |
|             |       |       | 0 Meridian     |       |       |  |  |  |  |
| Volt Mean   | 1.574 | 1.284 | .863           | .683  | .623  |  |  |  |  |
| Volt S.D.   | .1561 | .2418 | .0129          | .0358 | .0700 |  |  |  |  |
| Degree Mean | 26.23 | 21.40 | 14.38          | 11.38 | 10.38 |  |  |  |  |
| Degree S.D. | 2.602 | 4.030 | .215           | .597  | 1.167 |  |  |  |  |
|             |       |       | 180th Meridian |       |       |  |  |  |  |
| Volt Mean   | 1.822 | 1.168 | .731           | .703  | .625  |  |  |  |  |
| Volt S.D.   | .1184 | .2668 | .0263          | .0283 | .0646 |  |  |  |  |
| Degree Mean | 30.37 | 19.47 | 12.18          | 11.72 | 10.42 |  |  |  |  |
| Degree S.D. | 1.973 | 4.447 | .438           | .472  | 1.077 |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |

Subject # 1 D.F.  
 Procedure #1  
 Contrast 68%

(Vertical)  $1^\circ = .081$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .235 sec

|                            |                |       |       | 270th Meridian |       |       |       |       |  |
|----------------------------|----------------|-------|-------|----------------|-------|-------|-------|-------|--|
| Velocity °/Sec             | 1              | 2     | 4     | 8              | 12    | .16   | 20    |       |  |
| Volt Mean                  |                |       |       | .999           | .818  | .475  | .296  |       |  |
| Volt S.D.                  | Sees to Top    |       |       | .0630          | .0684 | .0367 | .0477 |       |  |
| Degree Mean                |                |       |       | 12.33          | 10.10 | 5.86  | 3.65  |       |  |
| Degree S.D.                |                |       |       | .778           | .844  | .453  | .589  |       |  |
|                            |                |       |       | 90th Meridian  |       |       |       |       |  |
| Volt Mean                  |                | 1.193 | 1.022 | .712           | .630  | .372  | .239  |       |  |
| Volt S.D.                  | Sees at bottom | .0322 | .0148 | .0549          | .0253 | .0237 | .0135 |       |  |
| Degree Mean                |                | 14.73 | 12.62 | 8.79           | 7.78  | 4.59  | 2.95  |       |  |
| Degree S.D.                |                | .398  | .183  | .678           | .312  | .293  | .167  |       |  |
|                            |                |       |       | 0 Meridian     |       |       |       |       |  |
| Volt Mean                  |                | .973  | .778  | .782           | .622  | .376  | -.224 | -.004 |  |
| Volt S.D.                  |                | .0556 | .0653 | .0530          | .0462 | .1077 | .1161 | .0265 |  |
| Degree Mean                |                | 16.21 | 12.97 | 13.03          | 10.37 | 6.27  | 3.73  | .07   |  |
| Reaction Correction Factor | .24            | .47   | .94   | 1.88           | 2.82  | 3.76  | 4.70  |       |  |
| Corrected Degree Mean      | 16.45          | 13.44 | 13.97 | 12.25          | 9.09  | 7.49  | 4.77  |       |  |
| Degree S.D.                | .927           | 1.088 | .883  | .770           | 1.795 | 1.935 | .442  |       |  |
|                            |                |       |       | 180th Meridian |       |       |       |       |  |
| Volt Mean                  | 1.095          | .842  | .710  | .526           | +.324 | +.040 | -.010 |       |  |
| Volt S.D.                  | .1720          | .0949 | .0340 | .1087          | .0954 | .0849 | .0502 |       |  |
| Degree Mean                | 18.25          | 14.03 | 11.83 | 8.77           | +5.40 | +.67  | -.17  |       |  |
| Reaction Correction Factor | .24            | .47   | .94   | 1.88           | 2.82  | 3.76  | 4.70  |       |  |
| Corrected Degree Mean      | 18.49          | 14.50 | 12.77 | 10.65          | 8.22  | 4.43  | 4.53  |       |  |
| Degree S.D.                | 2.867          | 1.582 | .567  | 1.812          | 1.590 | 1.415 | .837  |       |  |

Subject # 1 D.P.  
 Procedure #1  
 Contrast 43%

(Vertical)  $1^\circ = .081$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .235 sec

|                            |       |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|-------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  | 1.076 | 1.071 | .888  | .474           | .185  | .095  | .066  |  |  |
| Volt S.D.                  | .0211 | .0334 | .0344 | .0184          | .0299 | .0163 | .0366 |  |  |
| Degree Mean                | 13.28 | 13.22 | 10.96 | 5.85           | 2.28  | 1.17  | .81   |  |  |
| Degree S.D.                | .260  | .412  | .425  | .227           | .369  | .201  | .452  |  |  |
|                            |       |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | .991  | .956  | .855  | .401           | .242  | .108  | .081  |  |  |
| Volt S.D.                  | .0360 | .0360 | .0221 | .0182          | .0248 | .0168 | .0367 |  |  |
| Degree Mean                | 12.23 | 11.80 | 10.56 | 4.95           | 2.99  | 1.33  | 1.00  |  |  |
| Degree S.D.                | .444  | .444  | .273  | .225           | .306  | .207  | .453  |  |  |
|                            |       |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | .756  | .639  | .591  | .307           | .143  | +.082 | +.162 |  |  |
| Volt S.D.                  | .0620 | .0976 | .0258 | .0307          | .0510 | .0690 | .0774 |  |  |
| Degree Mean                | 12.60 | 10.65 | 9.85  | 5.12           | -2.38 | +1.37 | +2.70 |  |  |
| Reaction Correction Factor | .24   | .47   | .94   | 1.88           | 2.82  | 3.76  | 4.70  |  |  |
| Corrected Degree Mean      | 12.84 | 11.12 | 10.79 | 7.00           | 5.20  | 2.39  | 2.00  |  |  |
| Degree S.D.                | 1.033 | 1.627 | .430  | .512           | .850  | 1.150 | 1.290 |  |  |
|                            |       |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | .674  | .668  | .531  | .254           | +.047 | -.062 | -.158 |  |  |
| Volt S.D.                  | .0579 | .0244 | .0795 | .0623          | .0619 | .0345 | .1103 |  |  |
| Degree Mean                | 11.23 | 11.13 | 8.85  | 4.23           | +.78  | -1.03 | -2.63 |  |  |
| Reaction Correction Factor | .24   | .47   | .94   | 1.88           | 2.82  | 3.76  | 4.70  |  |  |
| Corrected Degree Mean      | 11.47 | 11.60 | 9.79  | 6.11           | 3.60  | 2.73  | 2.07  |  |  |
| Degree S.D.                | .965  | .407  | 1.33  | 1.04           | 1.03  | .575  | 1.838 |  |  |

Subject 1 D.P.  
 Procedure #1  
 Contrast 27%

(Vertical)  $1^\circ = .081$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .235 Sec

|                            |       |       |       | 270th Meridian |        |           |    |  |  |
|----------------------------|-------|-------|-------|----------------|--------|-----------|----|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12     | 16        | 20 |  |  |
| Volt Mean                  | .656  | .561  | -.196 | -.108          | -.0202 | Can't See |    |  |  |
| Volt S.D.                  | .0326 | .0326 | .0279 | .0175          | .0186  | "         |    |  |  |
| Degree Mean                | 8.10  | 6.93  | 2.42  | 1.33           | .25    |           |    |  |  |
| Degree S.D.                | .402  | .402  | .344  | .216           | .230   |           |    |  |  |
|                            |       |       |       | 90th Meridian  |        |           |    |  |  |
| Volt Mean                  | .585  | .504  | +.269 | +.094          | +.040  | Can't See |    |  |  |
| Volt S.D.                  | .0251 | .0541 | .0198 | .0180          | .0221  |           |    |  |  |
| Degree Mean                | 7.22  | 6.22  | 3.32  | 1.16           | .49    |           |    |  |  |
| Degree S.D.                | .310  | .668  | .244  | .222           | .273   |           |    |  |  |
|                            |       |       |       | 0 Meridian     |        |           |    |  |  |
| Volt Mean                  | .529  | .507  | .325  | -.120          | +.125  | Can't See |    |  |  |
| Volt S.D.                  | .0527 | .0638 | .0502 | .0735          | .0339  | Can't See |    |  |  |
| Degree Mean                | 8.82  | 8.45  | 5.42  | -2.00          | +2.08  |           |    |  |  |
| Reaction Correction Factor | .24   | .47   | .94   | 1.88           | 2.82   |           |    |  |  |
| Corrected Degree Mean      | 9.06  | 8.92  | 6.36  | 3.88           | 0.74   |           |    |  |  |
| Degree S.D.                | .878  | 1.063 | .837  | 1.225          | .565   |           |    |  |  |
|                            |       |       |       | 180th Meridian |        |           |    |  |  |
| Volt Mean                  | .481  | .394  | .188  | +.048          | -.120  | Can't See |    |  |  |
| Volt S.D.                  | .0581 | .0714 | .0360 | .0526          | .1089  |           |    |  |  |
| Degree Mean                | 8.02  | 6.57  | 3.13  | +.80           | -2.00  |           |    |  |  |
| Reaction Correction Factor | .24   | .47   | .94   | 1.88           | 2.82   |           |    |  |  |
| Corrected Degree Mean      | 8.26  | 7.04  | 4.07  | 2.68           | .82    |           |    |  |  |
| Degree S.D.                | .968  | 1.190 | .600  | .877           | 1.815  |           |    |  |  |

Subject # 1 D.P.  
 Procedure # 2  
 Contrast 68%\*

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .235 Sec

|                            | 270th Meridian |       |       |       |        |       |       |  |
|----------------------------|----------------|-------|-------|-------|--------|-------|-------|--|
| Velocity $^\circ$ /Sec     | 1              | 2     | 4     | 8     | 12     | 16    | 20    |  |
| Volt Mean                  |                |       |       |       | +1.171 | .961  | .807  |  |
| Volt S.D.                  | Sees at Top    |       |       |       | .0157  | .0202 | .0253 |  |
| Degree Mean                |                |       |       |       | 15.61  | 12.81 | 10.76 |  |
| Degree S.D.                |                |       |       |       | .209   | .267  | .337  |  |
|                            | 90th Meridian  |       |       |       |        |       |       |  |
| Volt Mean                  |                |       | 1.258 | 1.008 | .864   | .772  | .464  |  |
| Volt S.D.                  | Sees at Bottom |       | .0185 | .0443 | .0707  | .0361 | .0389 |  |
| Degree Mean                |                |       | 16.77 | 13.44 | 11.52  | 10.29 | 6.19  |  |
| Degree S.D.                |                |       | .247  | .591  | .943   | .481  | .519  |  |
|                            | 0 Meridian     |       |       |       |        |       |       |  |
| Volt Mean                  | 1.073          | 1.043 | .897  | .628  | .554   | .178  | .023  |  |
| Volt S.D.                  | .0482          | .0779 | .0274 | .0308 | .0954  | .0252 | .0823 |  |
| Degree Mean                | 17.88          | 17.38 | 14.95 | 10.47 | 9.23   | 2.97  | .38   |  |
| Reaction Correction Factor | .24            | .47   | .94   | 1.88  | 2.82   | 3.76  | 4.70  |  |
| Corrected Degree Mean      | 18.12          | 17.85 | 15.89 | 12.35 | 12.05  | 6.73  | 5.08  |  |
| Degree S.D.                | .8033          | 1.298 | .457  | .513  | 1.590  | .420  | 1.372 |  |
|                            | 180th Meridian |       |       |       |        |       |       |  |
| Volt Mean                  | 1.046          | .900  | .851  | .699  | .403   | -.161 | -.091 |  |
| Volt S.D.                  | .0303          | .0280 | .0463 | .0432 | .1219  | .0643 | .0826 |  |
| Degree Mean                | 17.43          | 15.00 | 14.18 | 11.65 | 6.72   | -2.68 | +1.52 |  |
| Reaction Correction Factor | .24            | .47   | .94   | 1.88  | 2.82   | 3.76  | 4.70  |  |
| Corrected Degree Mean      | 17.67          | 15.47 | 15.12 | 13.53 | 9.54   | 6.44  | 3.18  |  |
| Degree S.D.                | .505           | .467  | .772  | .720  | 2.032  | 1.072 | 1.377 |  |



Subject #1 D.P.  
 Procedure # 2  
 Contrast 54%

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .235 Sec

|                            | 270th Meridian |       |       |       |       |       |        |  |  |
|----------------------------|----------------|-------|-------|-------|-------|-------|--------|--|--|
| Velocity $^\circ$ /Sec     | 1              | 2     | 4     | 8     | 12    | 16    | 20     |  |  |
| Volt Mean                  |                |       |       |       |       |       |        |  |  |
| Volt S.D.                  |                |       |       |       |       |       |        |  |  |
| Degree Mean                |                |       |       |       |       |       |        |  |  |
| Degree S.D.                |                |       |       |       |       |       |        |  |  |
|                            | 90th Meridian  |       |       |       |       |       |        |  |  |
| Volt Mean                  |                |       |       |       |       |       |        |  |  |
| Volt S.D.                  |                |       |       |       |       |       |        |  |  |
| Degree Mean                |                |       |       |       |       |       |        |  |  |
| Degree S.D.                |                |       |       |       |       |       |        |  |  |
|                            | 0 Meridian     |       |       |       |       |       |        |  |  |
| Volt Mean                  | .891           | .865  | .806  | .583  | .361  | +.023 | -.120  |  |  |
| Volt S.D.                  | .0460          | .0524 | .0427 | .0670 | .0668 | .0421 | .0180  |  |  |
| Degree Mean                | 14.85          | 14.42 | 13.43 | 9.72  | 6.02  | +.38  | -.30   |  |  |
| Reaction Correction Factor | .24            | .47   | .94   | 1.88  | 2.82  | 3.76  | 4.70   |  |  |
| Corrected Degree Mean      | 15.09          | 14.89 | 14.37 | 11.60 | 8.84  | 4.14  | 4.40   |  |  |
| Degree S.D.                | .767           | .873  | .712  | 1.117 | 1.113 | .702  | .300   |  |  |
|                            | 180th Meridian |       |       |       |       |       |        |  |  |
| Volt Mean                  | .859           | .777  | .758  | .585  | .294  | -.175 | +.0365 |  |  |
| Volt S.D.                  | .0335          | .0599 | .0451 | .0477 | .1677 | .1439 | .0617  |  |  |
| Degree Mean                | 14.32          | 12.95 | 12.63 | 9.75  | 4.99  | -2.92 | +.61   |  |  |
| Reaction Correction Factor | .24            | .47   | .94   | 1.88  | 2.82  | 3.76  | 4.70   |  |  |
| Corrected Degree Mean      | 14.56          | 13.42 | 13.57 | 11.63 | 7.81  | 6.68  | 4.09   |  |  |
| Degree S.D.                | .558           | .998  | .752  | .795  | 2.795 | 2.398 | 1.028  |  |  |

Subject # 1  
 Procedure # 2  
 Contrast 43%

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .235 Secs

|                            |       |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|-------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  | 1.127 | 1.154 | 1.052 | .810           | .516  | .233  | .202  |  |  |
| Volt S.D.                  | .0141 | .0325 | .0432 | .0315          | .0420 | .0326 | .0222 |  |  |
| Degree Mean                | 15.03 | 15.39 | 14.03 | 10.80          | 6.88  | 3.11  | 2.69  |  |  |
| Degree S.D.                | .188  | .433  | .576  | .420           | .560  | .435  | .296  |  |  |
|                            |       |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | .953  | .935  | .847  | .560           | .341  | .255  | .185  |  |  |
| Volt S.D.                  | .0248 | .0243 | .0334 | .0583          | .0301 | .0230 | .0349 |  |  |
| Degree Mean                | 12.71 | 12.47 | 11.29 | 7.47           | 4.55  | 3.40  | 2.47  |  |  |
| Degree S.D.                | .331  | .324  | .445  | .777           | .401  | .307  | .465  |  |  |
|                            |       |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | .836  | .778  | .714  | .508           | .262  | +.032 | -.126 |  |  |
| Volt S.D.                  | .0449 | .0191 | .0611 | .0794          | .0998 | .0514 | .0599 |  |  |
| Degree Mean                | 13.93 | 12.97 | 11.90 | 8.47           | 4.37  | +.53  | -2.10 |  |  |
| Reaction Correction Factor | .24   | .47   | .94   | 1.88           | 2.82  | 3.76  | 4.70  |  |  |
| Corrected Degree Mean      | 14.17 | 13.44 | 12.84 | 10.35          | 7.19  | 4.29  | 2.60  |  |  |
| Degree S.D.                | .748  | .318  | 1.018 | 1.323          | 1.663 | .857  | .998  |  |  |
|                            |       |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | .882  | .767  | .676  | .519           | .328  | -.015 | +.069 |  |  |
| Volt S.D.                  | .0358 | .0791 | .0520 | .0555          | .0752 | .0917 | .0641 |  |  |
| Degree Mean                | 14.70 | 12.78 | 11.27 | 8.65           | 5.47  | -.25  | +1.15 |  |  |
| Reaction Correction Factor | .24   | .47   | .94   | 1.88           | 2.82  | 3.76  | 4.70  |  |  |
| Corrected Degree Mean      | 14.94 | 13.25 | 12.21 | 10.53          | 8.29  | 4.01  | 3.55  |  |  |
| Degree S.D.                | .597  | 1.318 | .867  | .917           | 1.253 | 1.528 | 1.068 |  |  |

Subject # 1 D.P.  
 Procedure # 2  
 Contrast 34%

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = 235 Secs

|                            |       |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|-------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  | 1.024 | .967  | .772  | .446           | .200  | .150  | .091  |  |  |
| Volt S.D.                  | .0334 | .0154 | .0363 | .0487          | .0407 | .0168 | .0364 |  |  |
| Degree Mean                | 13.65 | 12.89 | 10.29 | 5.95           | 2.67  | 2.00  | 1.21  |  |  |
| Degree S.D.                | .445  | .205  | .484  | .649           | .543  | .224  | .485  |  |  |
|                            |       |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | .797  | .726  | .669  | .307           | .150  | .080  | .017  |  |  |
| Volt S.D.                  | .0193 | .0195 | .0240 | .0147          | .0268 | .0125 | .0153 |  |  |
| Degree Mean                | 10.63 | 9.68  | 8.92  | 4.09           | 2.00  | 1.07  | .23   |  |  |
| Degree S.D.                | .257  | .260  | .320  | .196           | .357  | .167  | .204  |  |  |
|                            |       |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | .707  | .711  | .554  | .369           | +.084 | -.002 | -.070 |  |  |
| Volt S.D.                  | .0381 | .0603 | .0395 | .0811          | .1111 | .0176 | .0683 |  |  |
| Degree Mean                | 11.78 | 11.85 | 9.23  | 6.15           | +1.40 | -.03  | -1.17 |  |  |
| Reaction Correction Factor | .24   | .47   | .94   | 1.88           | 2.82  | 3.76  | 4.70  |  |  |
| Corrected Degree Mean      | 12.02 | 12.32 | 10.17 | 8.03           | 4.22  | 3.73  | 3.53  |  |  |
| Degree S.D.                | .635  | 1.005 | .658  | 1.352          | 1.852 | .293  | 1.138 |  |  |
|                            |       |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | .746  | .684  | .601  | .252           | -.136 | +.024 | +.080 |  |  |
| Volt S.D.                  | .0168 | .0703 | .0574 | .0589          | .1098 | .1329 | .1454 |  |  |
| Degree Mean                | 12.43 | 11.40 | 10.02 | 4.20           | -2.27 | +.40  | +1.33 |  |  |
| Reaction Correction Factor | .24   | .47   | .94   | 1.88           | 2.82  | 3.76  | 4.70  |  |  |
| Corrected Degree Mean      | 12.67 | 11.87 | 10.96 | 6.08           | 5.09  | 3.36  | 3.37  |  |  |
| Degree S.D.                | .280  | 1.172 | .957  | .982           | 1.83  | 2.215 | 2.423 |  |  |

Subject # 1 D.P.  
 Procedure # 2  
 Contrast 27\*

(Vertical)  $1^4 = .075$  Volts  
 (Horizontal)  $1^0 = .060$  Volts  
 Reaction Time = .235 secs

|                            | 270th Meridian |       |       |       | *(Actual 31% Contrast) |       |       |  |
|----------------------------|----------------|-------|-------|-------|------------------------|-------|-------|--|
| Velocity °/Sec             | 1              | 2     | 4     | 8     | 12                     | 16    | 20    |  |
| Volt Mean                  | .895           | .860  | .656  | .354  | .215                   | .163  | .120  |  |
| Volt S.D.                  | .0269          | .0366 | .0349 | .0456 | .0370                  | .0535 | .0277 |  |
| Degree Mean                | 11.93          | 11.47 | 8.75  | 4.72  | 2.87                   | 2.17  | 1.60  |  |
| Degree S.D.                | .359           | .488  | .465  | .608  | .493                   | .713  | .369  |  |
|                            | 90th Meridian  |       |       |       | *(Actual 31% Contrast) |       |       |  |
| Volt Mean                  | .800           | .755  | .555  | .358  | .297                   | .148  | .064  |  |
| Volt S.D.                  | .0467          | .0208 | .0590 | .0136 | .0165                  | .0388 | .0273 |  |
| Degree Mean                | 10.67          | 10.07 | 7.40  | 4.77  | 3.96                   | 1.97  | .85   |  |
| Degree S.D.                | .623           | .277  | .787  | .181  | .220                   | .517  | .364  |  |
|                            | 0 Meridian     |       |       |       |                        |       |       |  |
| Volt Mean                  | .625           | .555  | .509  | .366  | +.072                  | -.096 | -.148 |  |
| Volt S.D.                  | .0182          | .0448 | .0319 | .1573 | .0629                  | .0347 | .1286 |  |
| Degree Mean                | 10.83          | 9.25  | 8.48  | 6.10  | +1.20                  | -1.60 | -2.47 |  |
| Reaction Correction Factor | .24            | .47   | .94   | 1.88  | 2.82                   | 3.76  | 4.70  |  |
| Corrected Degree Mean      | 11.07          | 9.72  | 9.42  | 7.98  | 4.02                   | 2.16  | 2.23  |  |
| Degree S.D.                | .303           | .747  | .532  | 2.622 | 1.048                  | .578  | 2.143 |  |
|                            | 180th Meridian |       |       |       |                        |       |       |  |
| Volt Mean                  | .607           | .621  | .544  | .271  | -.091                  | +.039 | +.319 |  |
| Volt S.D.                  | .0392          | .0349 | .0858 | .0905 | .0568                  | .0787 | .1427 |  |
| Degree Mean                | 10.12          | 10.17 | 9.07  | 4.52  | -1.52                  | +.65  | +5.32 |  |
| Reaction Correction Factor | .24            | .47   | .94   | 1.88  | 2.82                   | 3.76  | 4.70  |  |
| Corrected Degree Mean      | 10.36          | 10.64 | 10.01 | 6.40  | 4.34                   | 3.11  | -.62* |  |
| Degree S.D.                | .653           | .582  | 1.430 | 1.508 | .947                   | 1.312 | 2.378 |  |

Subject 1 D.P.  
Procedure #3

(Vertical)  $1^\circ = .070$  Volts  
(Horizontal)  $1^\circ = .060$  Volts

| Contrast    | 68%   | 54%   | 43%            | 34%   | 27%   |  |  |  |  |
|-------------|-------|-------|----------------|-------|-------|--|--|--|--|
|             |       |       | 270th Meridian |       |       |  |  |  |  |
| Volt Mean   | .845  | .569  | .385           | .268  | .194  |  |  |  |  |
| Volt S.D.   | .0105 | .0304 | .0456          | .0261 | .0145 |  |  |  |  |
| Degree Mean | 12.07 | 8.13  | 5.50           | 3.83  | 2.77  |  |  |  |  |
| Degree S.D. | .150  | .434  | .651           | .373  | .207  |  |  |  |  |
|             |       |       | 90th Meridian  |       |       |  |  |  |  |
| Volt Mean   | .784  | .674  | .465           | .291  | .252  |  |  |  |  |
| Volt S.D.   | .0443 | .0171 | .0333          | .0179 | .0318 |  |  |  |  |
| Degree Mean | 11.20 | 9.63  | 6.64           | 4.16  | 3.60  |  |  |  |  |
| Degree S.D. | .633  | .244  | .476           | .256  | .454  |  |  |  |  |
|             |       |       | 0 Meridian     |       |       |  |  |  |  |
| Volt Mean   | 1.046 | .861  | .668           | .526  | .379  |  |  |  |  |
| Volt S.D.   | .0232 | .0293 | .0396          | .0360 | .0221 |  |  |  |  |
| Degree Mean | 17.43 | 14.35 | 11.13          | 8.77  | 6.32  |  |  |  |  |
| Degree S.D. | .383  | .488  | .660           | .600  | .368  |  |  |  |  |
|             |       |       | 180th Meridian |       |       |  |  |  |  |
| Volt Mean   | .843  | .662  | .566           | .352  | .153  |  |  |  |  |
| Volt S.D.   | .0447 | .0077 | .1025          | .0363 | .0249 |  |  |  |  |
| Degree Mean | 14.05 | 11.03 | 9.43           | 5.87  | 2.55  |  |  |  |  |
| Degree S.D. | .745  | .128  | 1.708          | .605  | .415  |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |

Subject #1 D.P.  
Procedure #4

(Vertical)  $1^\circ = .070$  Volts  
(Horizontal)  $1^\circ = .060$  Volts

| Contrast    | 68%   | 54%   | 43%            | 34%   | 27%   |  |  |  |  |
|-------------|-------|-------|----------------|-------|-------|--|--|--|--|
|             |       |       | 270th Meridian |       |       |  |  |  |  |
| Volt Mean   | .938  | .690  | .612           | .466  | .334  |  |  |  |  |
| Volt S.D.   | .0220 | .0308 | .0244          | .0208 | .0483 |  |  |  |  |
| Degree Mean | 13.40 | 9.86  | 8.74           | 6.66  | 4.77  |  |  |  |  |
| Degree S.D. | .314  | .440  | .349           | .297  | .690  |  |  |  |  |
|             |       |       | 90th Meridian  |       |       |  |  |  |  |
| Volt Mean   | .776  | .535  | .383           | .281  | .214  |  |  |  |  |
| Volt S.D.   | .0239 | .0299 | .0135          | .0127 | .0466 |  |  |  |  |
| Degree Mean | 11.09 | 7.64  | 5.47           | 4.01  | 3.06  |  |  |  |  |
| Degree S.D. | .341  | .427  | .193           | .181  | .666  |  |  |  |  |
|             |       |       | 0 Meridian     |       | N=10  |  |  |  |  |
| Volt Mean   | .842  | .793  | .702           | .594  | .407  |  |  |  |  |
| Volt S.D.   | .0710 | .0313 | .0421          | .0146 | .0162 |  |  |  |  |
| Degree Mean | 14.03 | 13.22 | 11.70          | 9.90  | 6.78  |  |  |  |  |
| Degree S.D. | 1.183 | .522  | .702           | .243  | .270  |  |  |  |  |
|             |       |       | 180th Meridian |       |       |  |  |  |  |
| Volt Mean   | .874  | .766  | .644           | .549  | .425  |  |  |  |  |
| Volt S.D.   | .0244 | .0309 | .0337          | .0395 | .0414 |  |  |  |  |
| Degree Mean | 14.57 | 12.77 | 10.73          | 9.15  | 7.08  |  |  |  |  |
| Degree S.D. | .407  | .515  | .562           | .658  | .690  |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |

Subject # 4 RH  
 Procedure #1  
 Contrast 68%

(Vertical)  $1^\circ = .081$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .237 sec

|                            |                |       |       | 270th Meridian |      |       |      |  |  |
|----------------------------|----------------|-------|-------|----------------|------|-------|------|--|--|
| Velocity $^\circ$ /Sec     | 1              | 2     | 4     | 8              | 12   | 16    | 20   |  |  |
| Volt Mean                  |                |       |       | 1.078          |      | .643  |      |  |  |
| Volt S.D.                  | Sees to top    |       |       | .0619          |      | .0299 |      |  |  |
| Degree Mean                |                |       |       | 13.31          |      | 7.94  |      |  |  |
| Degree S.D.                |                |       |       | .764           |      | .369  |      |  |  |
|                            |                |       |       | 90th Meridian  |      |       |      |  |  |
| Volt Mean                  |                |       |       | 1.023          |      | .645  |      |  |  |
| Volt S.D.                  |                |       |       | .0835          |      | .0448 |      |  |  |
| Degree Mean                | Sees at Bottom |       |       | 12.63          |      | 7.96  |      |  |  |
| Degree S.D.                |                |       |       | 1.031          |      | .553  |      |  |  |
|                            |                |       |       | 0 Meridian     |      |       |      |  |  |
| Volt Mean                  | 1.70           | 1.76  | 1.70  | 1.55           |      | .48   |      |  |  |
| Volt S.D.                  | .0378          | .0589 | .0586 | .1374          |      | .0568 |      |  |  |
| Degree Mean                | 28.33          | 29.33 | 28.33 | 25.83          |      | 8.00  |      |  |  |
| Reaction Correction Factor | .24            | .47   | .95   | 1.90           | 2.84 | 3.79  | 4.74 |  |  |
| Corrected Degree Mean      | 28.57          | 29.80 | 29.28 | 27.73          |      | 11.79 |      |  |  |
| Degree S.D.                | .630           | .982  | .977  | 2.290          |      | .947  |      |  |  |
|                            |                |       |       | 180th Meridian |      |       |      |  |  |
| Volt Mean                  | 1.67           | 1.63  | 1.60  | 1.06           |      | .46   |      |  |  |
| Volt S.D.                  | .0920          | .0769 | .1285 | .2475          |      | .1178 |      |  |  |
| Degree Mean                | 27.83          | 27.17 | 26.67 | 17.67          |      | 7.67  |      |  |  |
| Reaction Correction Factor | .24            | .47   | .95   | 1.90           | 2.84 | 3.79  | 4.74 |  |  |
| Corrected Degree Mean      | 28.07          | 27.64 | 27.62 | 19.57          |      | 11.46 |      |  |  |
| Degree S.D.                | 1.533          | 1.282 | 2.142 | 4.125          |      | 1.963 |      |  |  |

Subject # 4 RH  
 Procedure #1  
 Contrast 43%

(Vertical)  $1^\circ = .081$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .237 sec

|                            |       |       |       | 270th Meridian |       |       |      |  |  |
|----------------------------|-------|-------|-------|----------------|-------|-------|------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12    | 16    | 20   |  |  |
| Volt Mean                  | 1.107 | 1.080 | .912  | .519           |       | .171  |      |  |  |
| Volt S.D.                  | .0513 | .0683 | .0529 | .0823          |       | .0326 |      |  |  |
| Degree Mean                | 13.67 | 13.33 | 11.26 | 6.41           |       | 2.11  |      |  |  |
| Degree S.D.                | .633  | .843  | .653  | 1.016          |       | .402  |      |  |  |
|                            |       |       |       | 90th Meridian  |       |       |      |  |  |
| Volt Mean                  | .963  | 1.020 | .894  | .643           |       | .310  |      |  |  |
| Volt S.D.                  | .0546 | .0446 | .0487 | .0303          |       | .0145 |      |  |  |
| Degree Mean                | 11.89 | 12.59 | 11.04 | 7.94           |       | 3.83  |      |  |  |
| Degree S.D.                | .674  | .551  | .601  | .374           |       | .179  |      |  |  |
|                            |       |       |       | 0 Meridian     |       |       |      |  |  |
| Volt Mean                  | 1.35  | .99   | .87   | .63            | .09   |       |      |  |  |
| Volt S.D.                  | .3306 | .0662 | .0911 | .0910          |       | .1295 |      |  |  |
| Degree Mean                | 22.50 | 16.50 | 14.50 | 10.50          |       | 1.50  |      |  |  |
| Reaction Correction Factor | .24   | .47   | .95   | 1.90           | 2.84  | 3.79  | 4.74 |  |  |
| Corrected Degree Mean      | 22.74 | 16.97 | 15.45 | 12.40          |       | 5.29  |      |  |  |
| Degree S.D.                | 5.510 | 1.103 | 1.518 | 1.517          |       | 2.158 |      |  |  |
|                            |       |       |       | 180th Meridian |       |       |      |  |  |
| Volt Mean                  | 1.26  | 1.34  | .74   | .51            |       | .21   |      |  |  |
| Volt S.D.                  | .1582 | .0568 | .1009 | .0466          | .1380 |       |      |  |  |
| Degree Mean                | 21.00 | 22.33 | 12.33 | 8.50           |       | 3.50  |      |  |  |
| Reaction Correction Factor | .24   | .47   | .95   | 1.90           |       | 3.79  |      |  |  |
| Corrected Degree Mean      | 21.24 | 22.80 | 13.28 | 10.40          |       | 7.29  |      |  |  |
| Degree S.D.                | 2.637 | .947  | 1.682 | .777           |       | 2.300 |      |  |  |



Subject # 4 RH  
 Procedure #1  
 Contrast 27%

(Vertical)  $1^\circ = .081$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .237 sec

|                            | 270th Meridian |       |       |       |      |           |      |  |  |
|----------------------------|----------------|-------|-------|-------|------|-----------|------|--|--|
| Velocity $^\circ$ /Sec     | 1              | 2     | 4     | 8     | 12   | 16        | 20   |  |  |
| Volt Mean                  | .609           | .499  | .328  | .112  |      | 1         |      |  |  |
| Volt S.D.                  | .0134          | .0308 | .0408 | .0410 |      | can't see |      |  |  |
| Degree Mean                | 7.52           | 6.16  | 4.05  | 1.38  |      |           |      |  |  |
| Degree S.D.                | .165           | .380  | .504  | .506  |      |           |      |  |  |
|                            | 90th Meridian  |       |       |       |      |           |      |  |  |
| Volt Mean                  | .627           | .592  | .364  | .248  |      | .0666     |      |  |  |
| Volt S.D.                  | .0274          | .0474 | .0409 | .0356 |      | .0509     |      |  |  |
| Degree Mean                | 7.74           | 7.31  | 4.49  | 3.06  |      | .82       |      |  |  |
| Degree S.D.                | .338           | .585  | .505  | .440  |      | .628      |      |  |  |
|                            | 0 Meridian     |       |       |       |      |           |      |  |  |
| Volt Mean                  | .66            | .60   | .50   | -.31  |      | +.20      |      |  |  |
| Volt S.D.                  | .0620          | .0877 | .0785 | .0820 |      | .0899     |      |  |  |
| Degree Mean                | 11.00          | 10.00 | 8.33  | -5.17 |      | +3.33     |      |  |  |
| Reaction Correction Factor | .24            | .47   | .95   | 1.90  | 2.84 | 3.79      | 4.74 |  |  |
| Corrected Degree Mean      | 11.24          | 10.47 | 9.28  | 7.07  |      | .46       |      |  |  |
| Degree S.D.                | 1.033          | 1.462 | 1.308 | 1.367 |      | 1.498     |      |  |  |
|                            | 180th Meridian |       |       |       |      |           |      |  |  |
| Volt Mean                  | .64            | .59   | .52   | +.19  |      | -.23      |      |  |  |
| Volt S.D.                  | .0614          | .0512 | .0886 | .0740 |      | .1044     |      |  |  |
| Degree Mean                | 10.67          | 9.83  | 8.67  | +3.17 |      | -3.83     |      |  |  |
| Reaction Correction Factor | .24            | .47   | .95   | 1.90  |      | 3.79      |      |  |  |
| Corrected Degree Mean      | 10.91          | 10.30 | 9.62  | 5.07  |      | -.04      |      |  |  |
| Degree S.D.                | 1.023          | .853  | 1.477 | 1.233 |      | 1.740     |      |  |  |

Subject # 4 RH  
 Procedure # 2  
 Contrast: 68%

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .237 sec

|                            |               |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|---------------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1             | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  |               |       |       |                | 1.106 | .881  | .767  |  |  |
| Volt S.D.                  | Sees at top   |       |       |                | .0863 | .0219 | .0540 |  |  |
| Degree Mean                |               |       |       |                | 14.75 | 11.75 | 10.23 |  |  |
| Degree S.D.                |               |       |       |                | 1.151 | .292  | .720  |  |  |
|                            |               |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  |               |       |       |                | .968  | .762  | .626  |  |  |
| Volt S.D.                  | See at bottom |       |       |                | .0351 | .0348 | .0293 |  |  |
| Degree Mean                |               |       |       |                | 12.91 | 10.16 | 8.35  |  |  |
| Degree S.D.                |               |       |       |                | .468  | .464  | .391  |  |  |
|                            |               |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | 1.68          | 1.63  | 1.50  | 1.35           |       | .624  |       |  |  |
| Volt S.D.                  | .0864         | .1352 | .0850 | .0923          |       | .1150 |       |  |  |
| Degree Mean                | 28.00         | 27.17 | 25.00 | 22.50          |       | 10.40 |       |  |  |
| Reaction Correction Factor | .24           | .47   | .95   | 1.90           | 2.84  | 3.79  | 4.74  |  |  |
| Corrected Degree Mean      | 28.24         | 27.64 | 25.95 | 24.40          |       | 14.19 |       |  |  |
| Degree S.D.                | 1.440         | 2.253 | 1.417 | 1.538          |       | 1.917 |       |  |  |
|                            |               |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | 1.84          | 1.76  | 1.57  | 1.52           |       | .62   |       |  |  |
| Volt S.D.                  | .0856         | .0657 | .1439 | .0564          |       | .1338 |       |  |  |
| Degree Mean                | 30.67         | 29.33 | 26.17 | 25.33          |       | 10.33 |       |  |  |
| Reaction Correction Factor | .24           | .47   | .95   | 1.90           |       | 3.79  |       |  |  |
| Corrected Degree Mean      | 30.91         | 29.80 | 27.12 | 27.23          |       | 14.12 |       |  |  |
| Degree S.D.                | 1.427         | 1.095 | 2.398 | .940           |       | 2.230 |       |  |  |

Subject # 4 RH  
 Procedure # 2  
 Contrast 43%

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .237 sec

|                            |       |       |       | 270th Meridian |      |       |      |  |  |
|----------------------------|-------|-------|-------|----------------|------|-------|------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12   | 16    | 20   |  |  |
| Volt Mean                  | 1.064 |       | 1.125 | .844           |      | .574  |      |  |  |
| Volt S.D.                  | .0955 |       | .0601 | .0579          |      | .0724 |      |  |  |
| Degree Mean                | 14.19 |       | 15.00 | 11.25          |      | 7.65  |      |  |  |
| Degree S.D.                | 1.273 |       | .801  | .772           |      | .965  |      |  |  |
|                            |       |       |       | 90th Meridian  |      |       |      |  |  |
| Volt Mean                  | 1.054 |       | 1.038 | .722           |      | .494  |      |  |  |
| Volt S.D.                  | .0429 |       | .0258 | .0502          |      | .0349 |      |  |  |
| Degree Mean                | 14.05 |       | 13.84 | 9.63           |      | 6.59  |      |  |  |
| Degree S.D.                | .653  |       | .344  | .669           |      | .465  |      |  |  |
|                            |       |       |       | 0 Meridian     |      |       |      |  |  |
| Volt Mean                  | .94   | 1.03  | .85   | +.60           |      | +.17  |      |  |  |
| Volt S.D.                  | .0579 | .1841 | .0110 | .0554          |      | .0354 |      |  |  |
| Degree Mean                | 15.67 | 17.17 | 14.17 | -10.00         |      | 2.83  |      |  |  |
| Reaction Correction Factor | .24   | .47   | .95   | 1.90           | 2.84 | 3.79  | 4.74 |  |  |
| Corrected Degree Mean      | 15.91 | 17.64 | 15.12 | 11.90          |      | 6.62  |      |  |  |
| Degree S.D.                | .965  | 3.068 | .183  | .923           |      | .590  |      |  |  |
|                            |       |       |       | 180th Meridian |      |       |      |  |  |
| Volt Mean                  | .86   | 1.19  | .74   | .61            |      | .206  |      |  |  |
| Volt S.D.                  | .1280 | .1500 | .0872 | .1172          |      | .0684 |      |  |  |
| Degree Mean                | 14.33 | 19.83 | 12.33 | 10.17          |      | 3.43  |      |  |  |
| Reaction Correction Factor | .24   | .47   | .95   | 1.90           |      | 3.79  |      |  |  |
| Corrected Degree Mean      | 14.57 | 20.30 | 13.28 | 12.07          |      | 7.22  |      |  |  |
| Degree S.D.                | 2.133 | 2.500 | 1.453 | 1.953          |      | 1.140 |      |  |  |

Subject # 4 RH  
 Procedure #2  
 Contrast 27%

(Vertical)  $1^\circ = .075$  Volts  
 (Horizontal)  $1^\circ = .060$  Volts  
 Reaction Time = .237 Volts

|                            |       |       |       | 270th Meridian |      |       |      |  |  |
|----------------------------|-------|-------|-------|----------------|------|-------|------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12   | 16    | 20   |  |  |
| Volt Mean                  | .637  | .699  | .495  | +.279          |      | +.089 |      |  |  |
| Volt S.D.                  | .0622 | .0624 | .0431 | .0275          |      | .0189 |      |  |  |
| Degree Mean                | 8.49  | 9.32  | 6.60  | 3.72           |      | 1.19  |      |  |  |
| Degree S.D.                | .829  | .832  | .575  | .367           |      | .252  |      |  |  |
|                            |       |       |       | 90th Meridian  |      |       |      |  |  |
| Volt Mean                  | .697  |       | .588  | .454           |      | .076  |      |  |  |
| Volt S.D.                  | .0430 |       | .0578 | .0556          |      | .0234 |      |  |  |
| Degree Mean                | 9.29  |       | 7.84  | 6.05           |      | 1.01  |      |  |  |
| Degree S.D.                | .573  |       | .771  | .741           |      | .312  |      |  |  |
|                            |       |       |       | 0 Meridian     |      |       |      |  |  |
| Volt Mean                  | .66   | .57   | .56   | +.33           |      | -.13  |      |  |  |
| Volt S.D.                  | .1018 | .1137 | .0554 | .2043          |      | .0444 |      |  |  |
| Degree Mean                | 11.00 | 9.50  | 9.33  | +5.50          |      | -2.17 |      |  |  |
| Reaction Correction Factor | .24   | .47   | .95   | 1.90           | 2.84 | 3.79  | 4.74 |  |  |
| Corrected Degree Mean      | 11.24 | 9.97  | 10.28 | 7.40           |      | 1.62  |      |  |  |
| Degree S.D.                | 1.697 | 1.895 | .923  | 3.405          |      | .740  |      |  |  |
|                            |       |       |       | 180th Meridian |      |       |      |  |  |
| Volt Mean                  | .70   | .63   | .59   | -.36           |      | +.038 |      |  |  |
| Volt S.D.                  | .0288 | .0311 | .0663 | .0694          |      | .1684 |      |  |  |
| Degree Mean                | 11.67 | 10.50 | 9.83  | -6.00          |      | +.63  |      |  |  |
| Reaction Correction Factor | .24   | .47   | .95   | 1.90           |      | 3.79  |      |  |  |
| Corrected Degree Mean      | 11.91 | 10.97 | 10.78 | 7.90           |      | 3.16  |      |  |  |
| Degree S.D.                | .480  | .518  | 1.105 | 1.157          |      | 2.807 |      |  |  |

Subject #4 R.H.  
Procedure #3

(Vertical)  $1^\circ = .070$  Volts  
(Horizontal)  $1^\circ = .060$  Volts

| Contrast    | 66 %  | 54 % | 43 %           | 34 % | 27 %  |  |  |  |  |
|-------------|-------|------|----------------|------|-------|--|--|--|--|
|             |       |      | 270th Meridian |      |       |  |  |  |  |
| Volt Mean   | 1.037 |      | .656           |      | .378  |  |  |  |  |
| Volt S.D.   | .0268 |      | .0517          |      | .0319 |  |  |  |  |
| Degree Mean | 14.81 |      | 9.37           |      | 5.40  |  |  |  |  |
| Degree S.D. | .383  |      | .739           |      | .456  |  |  |  |  |
|             |       |      | 90th Meridian  |      |       |  |  |  |  |
| Volt Mean   | .940  |      | .565           |      | .364  |  |  |  |  |
| Volt S.D.   | .0450 |      | .0211          |      | .0268 |  |  |  |  |
| Degree Mean | 13.43 |      | 8.07           |      | 5.20  |  |  |  |  |
| Degree S.D. | .643  |      | .301           |      | .383  |  |  |  |  |
|             |       |      | 0 Meridian     |      |       |  |  |  |  |
| Volt Mean   | 1.523 |      | .786           |      | .588  |  |  |  |  |
| Volt S.D.   | .0541 |      | .0403          |      | .0266 |  |  |  |  |
| Degree Mean | 25.38 |      | 13.10          |      | 9.80  |  |  |  |  |
| Degree S.D. | .902  |      | .672           |      | .443  |  |  |  |  |
|             |       |      | 180th Meridian |      |       |  |  |  |  |
| Volt Mean   | 1.682 |      | .769           |      | .571  |  |  |  |  |
| Volt S.D.   | .0663 |      | .0427          |      | .0312 |  |  |  |  |
| Degree Mean | 28.03 |      | 12.82          |      | 9.52  |  |  |  |  |
| Degree S.D. | 1.105 |      | .712           |      | 5.20  |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |

(Vertical)  $I^0 = .075$  Volts  
(Horizontal)  $I^0 = .060$  Volts

131

Subject # 3 DH  
 Procedure # 1  
 Contrast 68%

(Vertical)  $1^0 = .081$  volts  
 (Horizontal)  $1^0 = .060$  volts  
 Reaction Time = .224 sec

|                            |                |       |       | 270th Meridian |      |       |      |  |  |
|----------------------------|----------------|-------|-------|----------------|------|-------|------|--|--|
| Velocity °/Sec             | 1              | 2     | 4     | 8              | 12   | 16    | 20   |  |  |
| Volt Mean                  | SEES TO TOP    |       |       |                |      | .991  |      |  |  |
| Volt S.D.                  |                |       |       |                |      | .0715 |      |  |  |
| Degree Mean                |                |       |       |                |      | 12.23 |      |  |  |
| Degree S.D.                |                |       |       |                |      | .883  |      |  |  |
|                            |                |       |       | 90th Meridian  |      |       |      |  |  |
| Volt Mean                  | SEES TO BOTTOM |       |       | 1.079          |      | .747  |      |  |  |
| Volt S.D.                  |                |       |       | .0484          |      | .0687 |      |  |  |
| Degree Mean                |                |       |       | 13.32          |      | 9.22  |      |  |  |
| Degree S.D.                |                |       |       | .598           |      | .848  |      |  |  |
|                            |                |       |       | 0 Meridian     |      |       |      |  |  |
| Volt Mean                  | 1.742          |       | 2.048 | 1.504          |      | .644  |      |  |  |
| Volt S.D.                  | .2991          |       | .1597 | .1405          |      | .0865 |      |  |  |
| Degree Mean                | 29.03          |       | 34.13 | 25.07          |      | 10.73 |      |  |  |
| Reaction Correction Factor | .22            | .45   | .90   | 1.79           | 2.69 | 3.58  | 4.48 |  |  |
| Corrected Degree Mean      | 29.25          |       | 35.03 | 26.86          |      | 14.31 |      |  |  |
| Degree S.D.                | 4.985          | 2.662 | 2.342 |                |      | 1.442 |      |  |  |
|                            |                |       |       | 180th Meridian |      |       |      |  |  |
| Volt Mean                  | 1.898          | 2.082 | 1.950 | 1.296          |      | .604  |      |  |  |
| Volt S.D.                  | .1047          | .0540 | .1512 | .1890          |      | .0241 |      |  |  |
| Degree Mean                | 31.63          | 34.70 | 32.50 | 21.60          |      | 10.07 |      |  |  |
| Reaction Correction Factor | .22            | .45   | .90   | 1.79           | 2.69 | 3.58  | 4.48 |  |  |
| Corrected Degree Mean      | 31.85          | 35.15 | 33.40 | 23.39          |      | 13.65 |      |  |  |
| Degree S.D.                | 1.741          | .900  | 2.520 | 3.150          |      | .402  |      |  |  |

Subject # 3 DH  
 Procedure # 1  
 Contrast 43%

(Vertical)  $1^\circ = .081$  volts  
 (Horizontal)  $1^\circ = .060$  volts  
 Reaction Time = .224 sec

|                            | 270th Meridian |     |       |       |      |       |      |  |
|----------------------------|----------------|-----|-------|-------|------|-------|------|--|
| Velocity $^\circ$ /Sec     | 1              | 2   | 4     | 8     | 12   | 16    | 20   |  |
| Volt Mean                  | 1.185          |     | 1.126 | .875  |      | .549  |      |  |
| Volt S.D.                  | .0478          |     | .0505 | .0345 |      | .0483 |      |  |
| Degree Mean                | 14.63          |     | 13.90 | 10.80 |      | 6.78  |      |  |
| Degree S.D.                | .590           |     | .623  | .426  |      | .596  |      |  |
|                            | 90th Meridian  |     |       |       |      |       |      |  |
| Volt Mean                  | .932           |     | .896  | .829  |      | .435  |      |  |
| Volt S.D.                  | .0504          |     | .0372 | .0474 |      | .0559 |      |  |
| Degree Mean                | 11.51          |     | 11.06 | 10.23 |      | 5.37  |      |  |
| Degree S.D.                | .622           |     | .459  | .585  |      | .690  |      |  |
|                            | 0 Meridian     |     |       |       |      |       |      |  |
| Volt Mean                  | .966           |     | .882  | .590  |      | .306  |      |  |
| Volt S.D.                  | .0838          |     | .0342 | .0608 |      | .0378 |      |  |
| Degree Mean                | 16.10          |     | 14.70 | 9.83  |      | 5.10  |      |  |
| Reaction Correction Factor | .22            | .45 | .90   | 1.79  | 2.69 | 3.58  | 4.48 |  |
| Corrected Degree Mean      | 16.32          |     | 15.60 | 11.62 |      | 8.68  |      |  |
| Degree S.D.                | 1.397          |     | .570  | 1.013 |      | .630  |      |  |
|                            | 180th Meridian |     |       |       |      |       |      |  |
| Volt Mean                  | .868           |     | .768  | .479  |      | .234  |      |  |
| Volt S.D.                  | .0383          |     | .0466 | .1060 |      | .0614 |      |  |
| Degree Mean                | 14.47          |     | 12.80 | 7.98  |      | 3.90  |      |  |
| Reaction Correction Factor | .22            | .45 | .90   | 1.79  | 2.69 | 3.58  | 4.48 |  |
| Corrected Degree Mean      | 14.69          |     | 13.70 | 9.77  |      | 7.48  |      |  |
| Degree S.D.                | .638           |     | .777  | 1.767 |      | 1.023 |      |  |



Subject # 3 DH  
 Procedure # 1  
 Contrast 27%

(Vertical)  $1^\circ = .081$  volts  
 (Horizontal)  $1^\circ = .060$  volts  
 Reaction Time = .224 sec

|                              |       |     |       | 270th Meridian |      |       |      |  |  |
|------------------------------|-------|-----|-------|----------------|------|-------|------|--|--|
| Velocity $^\circ/\text{Sec}$ | 1     | 2   | 4     | 8              | 12   | 16    | 20   |  |  |
| Volt Mean                    | .841  |     | .659  | .518           |      | .106  |      |  |  |
| Volt S.D.                    | .0321 |     | .043  | .0552          |      | .0175 |      |  |  |
| Degree Mean                  | 10.38 |     | 8.14  | 6.40           |      | 1.31  |      |  |  |
| Degree S.D.                  | .396  |     | .532  | .681           |      | .216  |      |  |  |
|                              |       |     |       | 90th Meridian  |      |       |      |  |  |
| Volt Mean                    | .793  |     | .596  | .453           |      | .250  |      |  |  |
| Volt S.D.                    | .0617 |     | .0717 | .0445          |      | .0474 |      |  |  |
| Degree Mean                  | 9.79  |     | 7.36  | 5.59           |      | 3.09  |      |  |  |
| Degree S.D.                  | .774  |     | .885  | .549           |      | .585  |      |  |  |
|                              |       |     |       | 0 Meridian     |      |       |      |  |  |
| Volt Mean                    | .724  |     | .592  | .340           |      | +.066 |      |  |  |
| Volt S.D.                    | .0351 |     | .0890 | .0930          |      | .0207 |      |  |  |
| Degree Mean                  | 12.07 |     | 9.87  | 5.67           |      | 1.10  |      |  |  |
| Reaction Correction Factor   | .22   | .45 | .90   | 1.79           | 2.69 | 3.58  | 4.48 |  |  |
| Corrected Degree Mean        | 12.29 |     | 10.77 | 7.46           |      | 2.48  |      |  |  |
| Degree S.D.                  | .585  |     | 1.483 | 1.550          |      | 3.45  |      |  |  |
|                              |       |     |       | 180th Meridian |      |       |      |  |  |
| Volt Mean                    | .690  |     | .532  | +.282          |      | -.114 |      |  |  |
| Volt S.D.                    | .0464 |     | .0432 | .0427          |      | .0677 |      |  |  |
| Degree Mean                  | 11.50 |     | 8.87  | +4.70          |      | -1.90 |      |  |  |
| Reaction Correction Factor   | .22   | .45 | .90   | 1.79           | 2.69 | 3.58  | 4.48 |  |  |
| Corrected Degree Mean        | 11.72 |     | 9.77  | 6.49           |      | 1.68  |      |  |  |
| Degree S.D.                  | .773  |     | .720  | .712           |      | 1.128 |      |  |  |

Subject # 3 DH  
 Procedure # 2  
 Contrast 68%

(Vertical)  $1^\circ = .070$  volts  
 (Horizontal)  $1^\circ = .060$  volts  
 Reaction Time = .224 sec

|                            |               |     |       | 270th Meridian |       |       |       |  |  |
|----------------------------|---------------|-----|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1             | 2   | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  |               |     |       | .966           | .861  | .791  | .671  |  |  |
| Volt S.D.                  | SEE TO BOTTOM |     |       | .0480          | .0449 | .0531 | .0391 |  |  |
| Degree Mean                |               |     |       | 13.80          | 12.30 | 11.30 | 9.59  |  |  |
| Degree S.D.                |               |     |       | .686           | .641  | .759  | .559  |  |  |
|                            |               |     |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  |               |     |       |                | .940  | .613  | .521  |  |  |
| Volt S.D.                  | SEE TO TOP    |     |       |                | .0356 | .0214 | .0479 |  |  |
| Degree Mean                |               |     |       |                | 13.43 | 8.76  | 7.44  |  |  |
| Degree S.D.                |               |     |       |                | .509  | .306  | .684  |  |  |
|                            |               |     |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | 1.768         |     | 1.680 | 1.199          |       | .602  |       |  |  |
| Volt S.D.                  | .0432         |     | .0809 | .1843          |       | .1344 |       |  |  |
| Degree Mean                | 29.47         |     | 28.00 | 19.98          |       | 10.03 |       |  |  |
| Reaction Correction Factor | .22           | .45 | .90   | 1.79           | 2.69  | 3.58  | 4.48  |  |  |
| Corrected Degree Mean      | 29.69         |     | 28.90 | 21.77          |       | 13.61 |       |  |  |
| Degree S.D.                | .720          |     | 1.348 | 3.072          |       | 2.240 |       |  |  |
|                            |               |     |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | 2.041         |     | 1.910 | 1.615          |       | .841  |       |  |  |
| Volt S.D.                  | .0853         |     | .2046 | .1381          |       | .1486 |       |  |  |
| Degree Mean                | 34.02         |     | 31.83 | 26.92          |       | 14.02 |       |  |  |
| Reaction Correction Factor | .22           | .45 | .90   | 1.79           | 2.69  | 3.58  | 4.48  |  |  |
| Corrected Degree Mean      | 34.24         |     | 32.73 | 28.71          |       | 17.60 |       |  |  |
| Degree S.D.                | 1.422         |     | 3.410 | 2.302          |       | 2.477 |       |  |  |

Subject # 3 DH  
 Procedure # 2  
 Contrast 43%

(Vertical)  $1^\circ = .070$  volts  
 (Horizontal)  $1^\circ = .060$  volts  
 Reaction Time = .224 Sec

|                            |       |       |       | 270th Meridian |       |       |       |  |  |
|----------------------------|-------|-------|-------|----------------|-------|-------|-------|--|--|
| Velocity $^\circ$ /Sec     | 1     | 2     | 4     | 8              | 12    | 16    | 20    |  |  |
| Volt Mean                  | 1.113 |       | .899  | .649           | .560  | .470  | .334  |  |  |
| Volt S.D.                  | .0460 |       | .0273 | .0452          | .0398 | .0482 | .0482 |  |  |
| Degree Mean                | 15.90 |       | 12.84 | 9.27           | 8.00  | 6.71  | 4.77  |  |  |
| Degree S.D.                | .657  |       | .390  | .646           | .569  | .689  | .689  |  |  |
|                            |       |       |       | 90th Meridian  |       |       |       |  |  |
| Volt Mean                  | .875  | .867  | .709  | .564           | .456  | .341  | .290  |  |  |
| Volt S.D.                  | .0831 | .0740 | .0740 | .0389          | .0380 | .0542 | .0187 |  |  |
| Degree Mean                | 12.50 | 12.39 | 10.13 | 8.06           | 6.51  | 4.87  | 4.14  |  |  |
| Degree S.D.                | 1.187 | 1.057 | 1.057 | .556           | .543  | .774  | .267  |  |  |
|                            |       |       |       | 0 Meridian     |       |       |       |  |  |
| Volt Mean                  | .972  |       | .883  | .741           |       | .374  |       |  |  |
| Volt S.D.                  | .1168 |       | .0603 | .1252          |       | .0751 |       |  |  |
| Degree Mean                | 16.20 |       | 14.72 | 12.35          |       | 6.23  |       |  |  |
| Reaction Correction Factor | .22   | .45   | .90   | 1.79           | 2.69  | 3.58  | 4.48  |  |  |
| Corrected Degree Mean      | 16.42 |       | 15.62 | 14.14          |       | 9.81  |       |  |  |
| Degree S.D.                | 1.947 |       | 1.005 | 2.086          |       | 1.252 |       |  |  |
|                            |       |       |       | 180th Meridian |       |       |       |  |  |
| Volt Mean                  | .888  |       | .890  | .683           |       | .306  |       |  |  |
| Volt S.D.                  | .0457 |       | .0559 | .0921          |       | .0867 |       |  |  |
| Degree Mean                | 14.80 |       | 14.83 | 11.38          |       | 5.10  |       |  |  |
| Reaction Correction Factor | .22   | .45   | .90   | 1.79           | 2.69  | 3.58  | 4.48  |  |  |
| Corrected Degree Mean      | 15.02 |       | 15.73 | 13.17          |       | 8.68  |       |  |  |
| Degree S.D.                | .762  |       | .932  | 1.535          |       | 1.445 |       |  |  |

Subject # 3 DH  
 Procedure # 2  
 Contrast 27%

(Vertical)  $1^\circ = .070$  volts  
 (Horizontal)  $1^\circ = .060$  volts  
 Reaction Time = .224 Sec

|                            | 270th Meridian |     |       |       |      |       |      |  |  |
|----------------------------|----------------|-----|-------|-------|------|-------|------|--|--|
| Velocity <sup>0</sup> /Sec | 1              | 2   | 4     | 8     | 12   | 16    | 20   |  |  |
| Volt Mean                  | .789           |     | .742  | .496  |      | .314  |      |  |  |
| Volt S.D.                  | .0252          |     | .0253 | .0434 |      | .0748 |      |  |  |
| Degree Mean                | 11.27          |     | 10.60 | 7.09  |      | 4.49  |      |  |  |
| Degree S.D.                | .360           |     | .361  | .620  |      | 1.069 |      |  |  |
|                            | 90th Meridian  |     |       |       |      |       |      |  |  |
| Volt Mean                  | .690           |     | .700  | .534  |      | .415  |      |  |  |
| Volt S.D.                  | .0093          |     | .0210 | .0512 |      | .0375 |      |  |  |
| Degree Mean                | 9.86           |     | 10.00 | 7.63  |      | 5.93  |      |  |  |
| Degree S.D.                | .133           |     | .300  | .731  |      | .536  |      |  |  |
|                            | 0 Meridian     |     |       |       |      |       |      |  |  |
| Volt Mean                  | .717           |     | .624  | .380  |      | .164  |      |  |  |
| Volt S.D.                  | .0284          |     | .0300 | .0388 |      | .1231 |      |  |  |
| Degree Mean                | 11.95          |     | 10.40 | 6.33  |      | 2.73  |      |  |  |
| Reaction Correction Factor | .22            | .45 | .90   | 1.79  | 2.69 | 3.58  | 4.48 |  |  |
| Corrected Degree Mean      | 12.17          |     | 11.30 | 8.12  |      | 6.31  |      |  |  |
| Degree S.D.                | .473           |     | .500  | .647  |      | 2.052 |      |  |  |
|                            | 180th Meridian |     |       |       |      |       |      |  |  |
| Volt Mean                  | .748           |     | .664  | -.442 |      | -.030 |      |  |  |
| Volt S.D.                  | .0434          |     | .0788 | .1579 |      | .0547 |      |  |  |
| Degree Mean                | 12.47          |     | 11.07 | -7.37 |      | -.50  |      |  |  |
| Reaction Correction Factor | .22            | .45 | .90   | 1.79  | 2.69 | 3.58  | 4.48 |  |  |
| Corrected Degree Mean      | 12.69          |     | 11.97 | 8.16  |      | 4.08  |      |  |  |
| Degree S.D.                | .723           |     | 1.313 | 2.632 |      | .912  |      |  |  |

Subject # 3 D.H.  
Procedure # 3

(Vertical)  $1^\circ = .070$  volts  
(Horizontal)  $1^\circ = .060$  volts

| Contrast    | 68%   | 54 %  | 43 %           | 34 %  | 27 %  |  |  |  |  |
|-------------|-------|-------|----------------|-------|-------|--|--|--|--|
|             |       |       | 270th Meridian |       |       |  |  |  |  |
| Volt Mean   | .913  | .790  | .647           | .450  | .254  |  |  |  |  |
| Volt S.D.   | .0828 | .0205 | .0338          | .0729 | .0438 |  |  |  |  |
| Degree Mean | 13.04 | 11.29 | 9.24           | 6.43  | 3.63  |  |  |  |  |
| Degree S.D. | 1.183 | .293  | .483           | 1.041 | .626  |  |  |  |  |
|             |       |       | 90th Meridian  |       |       |  |  |  |  |
| Volt Mean   | .667  | .562  | .537           | .349  | .287  |  |  |  |  |
| Volt S.D.   | .0387 | .0422 | .0262          | .0416 | .0210 |  |  |  |  |
| Degree Mean | 9.53  | 8.03  | 7.67           | 4.99  | 4.10  |  |  |  |  |
| Degree S.D. | .553  | .603  | .374           | .594  | .300  |  |  |  |  |
|             |       |       | 0 Meridian     |       |       |  |  |  |  |
| Volt Mean   | .829  | .767  | .623           | .474  | .260  |  |  |  |  |
| Volt S.D.   | .0482 | .0238 | .0276          | .0586 | .0295 |  |  |  |  |
| Degree Mean | 13.82 | 12.78 | 10.38          | 7.90  | 4.33  |  |  |  |  |
| Degree S.D. | .803  | .397  | .460           | .977  | .492  |  |  |  |  |
|             |       |       | 180th Meridian |       |       |  |  |  |  |
| Volt Mean   | .901  | .755  | .644           | .539  | .417  |  |  |  |  |
| Volt S.D.   | .0454 | .0389 | .0350          | .0336 | .0354 |  |  |  |  |
| Degree Mean | 15.02 | 12.58 | 10.73          | 8.98  | 6.95  |  |  |  |  |
| Degree S.D. | .757  | .648  | .583           | .560  | .590  |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |
|             |       |       |                |       |       |  |  |  |  |

Subject # 3 DH  
Procedure # 4

(Vertical)  $1^\circ = .070$  volts  
(Horizontal)  $1^\circ = .060$  volts

| Contrast    | 68 %  | 54 % | 43 %           | 34 % | 27 %  |  |  |  |  |
|-------------|-------|------|----------------|------|-------|--|--|--|--|
|             |       |      | 270th Meridian |      |       |  |  |  |  |
| Volt Mean   | .869  |      | .607           |      | .310  |  |  |  |  |
| Volt S.D.   | .0284 |      | .0355          |      | .0289 |  |  |  |  |
| Degree Mean | 12.41 |      | 8.67           |      | 4.43  |  |  |  |  |
| Degree S.D. | .406  |      | .507           |      | .413  |  |  |  |  |
|             |       |      | 90th Meridian  |      |       |  |  |  |  |
| Volt Mean   | .828  |      | .563           |      | .328  |  |  |  |  |
| Volt S.D.   | .0199 |      | .0224          |      | .0383 |  |  |  |  |
| Degree Mean | 11.83 |      | 8.04           |      | 4.69  |  |  |  |  |
| Degree S.D. | .284  |      | .320           |      | .547  |  |  |  |  |
|             |       |      | 0 Meridian     |      |       |  |  |  |  |
| Volt Mean   | .811  |      | .706           |      | .483  |  |  |  |  |
| Volt S.D.   | .0779 |      | .0743          |      | .0667 |  |  |  |  |
| Degree Mean | 13.52 |      | 11.77          |      | 8.05  |  |  |  |  |
| Degree S.D. | 1.298 |      | 1.238          |      | 1.112 |  |  |  |  |
|             |       |      | 180th Meridian |      |       |  |  |  |  |
| Volt Mean   | .949  |      | .760           |      | .515  |  |  |  |  |
| Volt S.D.   | .0317 |      | .0374          |      | .0404 |  |  |  |  |
| Degree Mean | 15.82 |      | 12.67          |      | 8.58  |  |  |  |  |
| Degree S.D. | .528  |      | .623           |      | .673  |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |
|             |       |      |                |      |       |  |  |  |  |

APPENDIX C

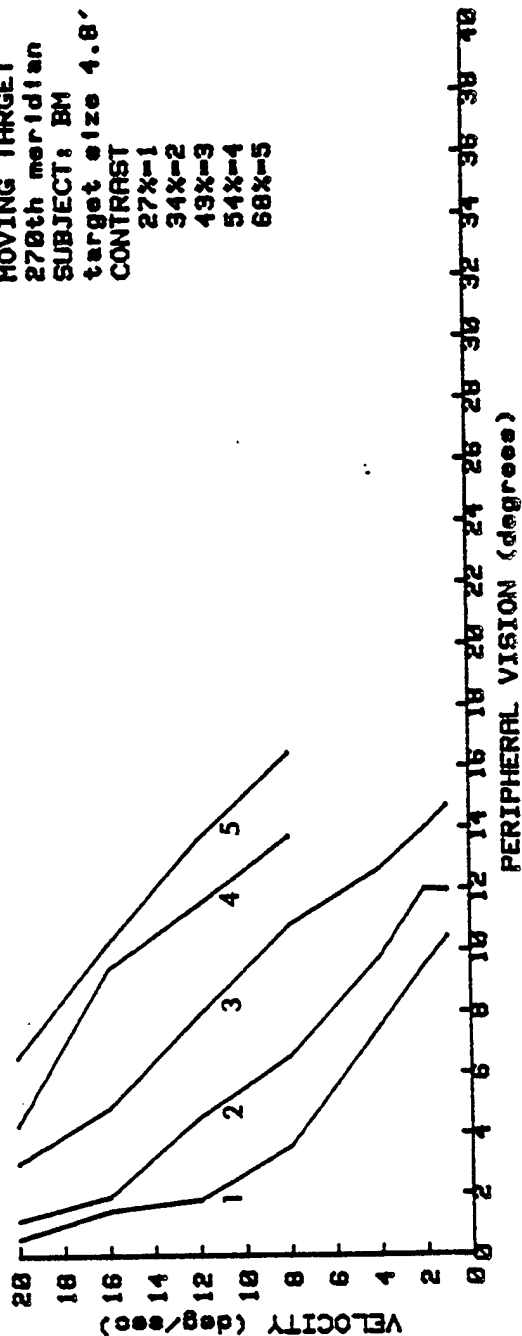
Meridian Plots for Each Subject  
and Procedures

# Mean Peripheral Vision - degrees from fovea

270th Meridian Subject: BM Procedure #1

|              | 1     | 2     | 4     | 8     | 12    | 16    | 20    |
|--------------|-------|-------|-------|-------|-------|-------|-------|
| Contrast 68% |       |       |       | 16.46 | 13.65 | 10.28 | 6.57  |
| S.D.         |       |       |       | .537  | .869  | .409  | 1.036 |
| Contrast 54% |       |       |       | 13.74 | 11.54 | 9.44  | 4.33  |
| S.D.         |       |       |       | .383  | .605  | 1.511 | .373  |
| Contrast 43% | 14.70 | 13.96 | 12.64 | 10.85 | 7.96  | 4.88  | 3.06  |
| S.D.         | .189  | .214  | .451  | .304  | .623  | 1.086 | .348  |
| Contrast 34% | 11.96 | 12.00 | 9.78  | 6.58  | 4.57  | 1.94  | 1.17  |
| S.D.         | .585  | .306  | .317  | .485  | .443  | .446  | .460  |
| Contrast 27% | 10.44 | 9.54  | 7.53  | 3.60  | 1.83  | 1.47  | .57   |
| S.D.         | .620  | .484  | .468  | .394  | .268  | .333  | .378  |
| Velocity     | 1     | 2     | 4     | 8     | 12    | 16    | 20    |

MOVING TARGET  
270th meridian  
SUBJECT: BM  
target size 4.8'  
CONTRAST  
27%-1  
34%-2  
43%-3  
54%-4  
68%-5

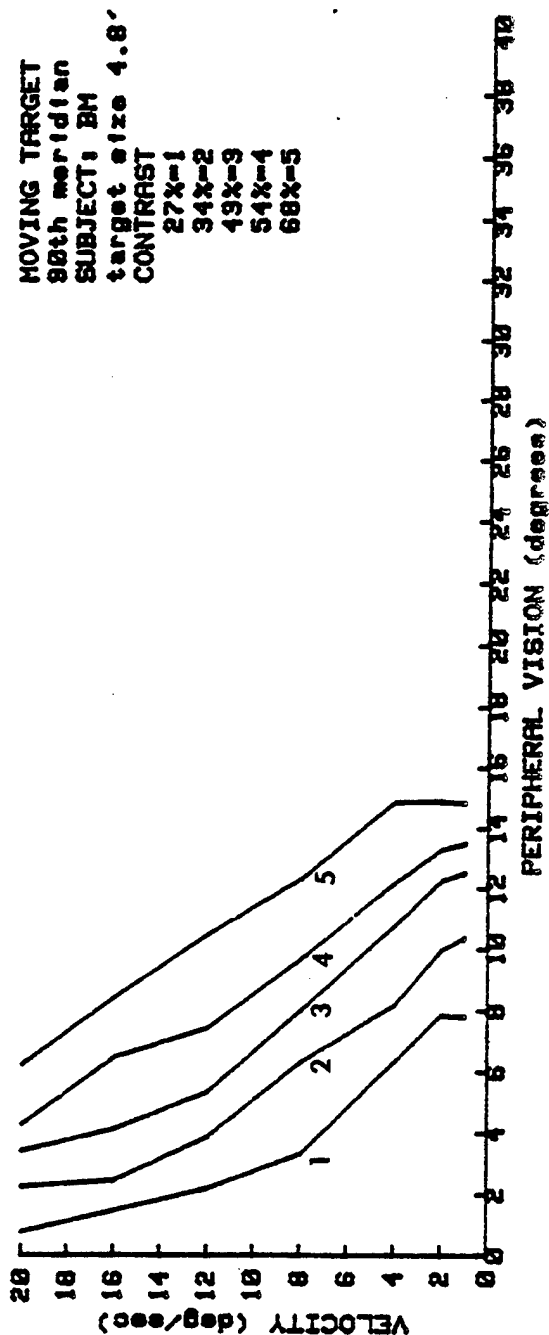




# Mean Peripheral Vision - degrees from fovea

90th Meridian Subject: BM Procedure #1

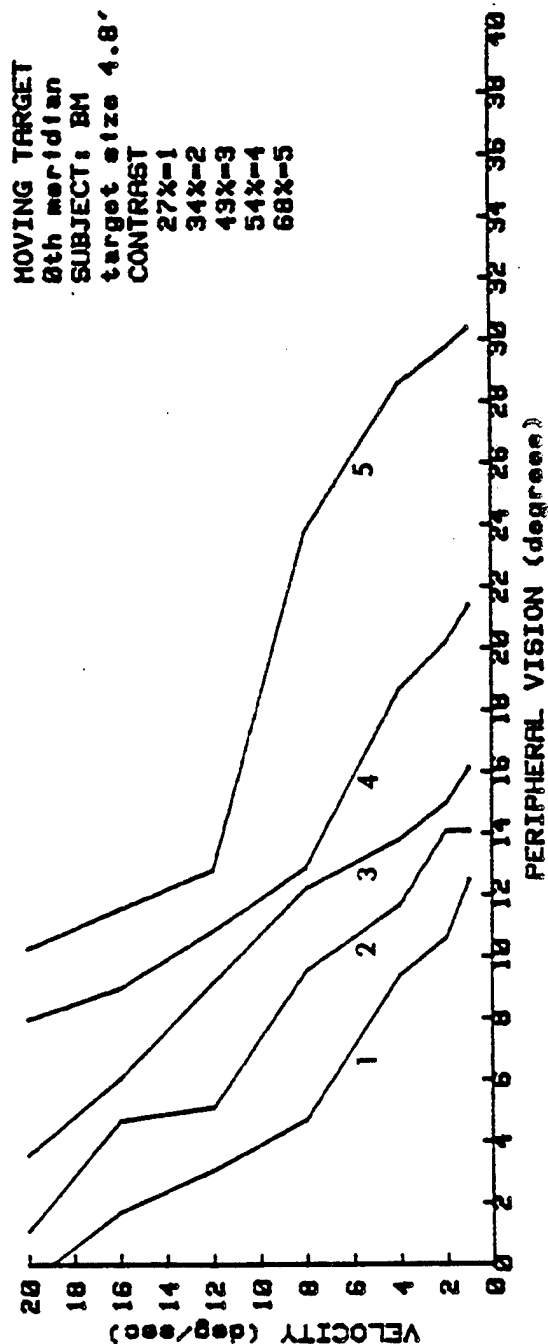
|              | Velocity |       |       |       |       |      |      |      |       |       |
|--------------|----------|-------|-------|-------|-------|------|------|------|-------|-------|
|              | 1        | 2     | 4     | 8     | 12    | 16   | 20   | 16   | 12    | 8     |
| Contrast 68% | 14.83    | 14.89 | 14.86 | 12.32 | 10.48 | 8.40 | 6.21 | 8.40 | 10.48 | 12.32 |
| S.D.         | .120     | .325  | .420  | .598  | .481  | .696 | .338 | .696 | .481  | .598  |
| Contrast 54% | 13.48    | 13.28 | 12.16 | 9.67  | 7.42  | 6.44 | 4.26 | 6.44 | 7.42  | 9.67  |
| S.D.         | .727     | .314  | .590  | .311  | .442  | .393 | .514 | .393 | .442  | .311  |
| Contrast 43% | 12.51    | 12.25 | 10.75 | 8.00  | 5.32  | 4.10 | 3.38 | 4.10 | 5.32  | 8.00  |
| S.D.         | .904     | .606  | .228  | .574  | .380  | .277 | .438 | .277 | .380  | .574  |
| Contrast 34% | 10.36    | 9.96  | 8.16  | 6.31  | 3.85  | 2.42 | 2.22 | 2.42 | 3.85  | 6.31  |
| S.D.         | .479     | .183  | .654  | .412  | .311  | .231 | .357 | .231 | .311  | .412  |
| Contrast 27% | 7.79     | 7.85  | 6.32  | 3.30  | 2.17  | 1.44 | .74  | 1.44 | 2.17  | 3.30  |
| S.D.         | .254     | .447  | .691  | .420  | .216  | .333 | .174 | .333 | .216  | .420  |
| Velocity     | 1        | 2     | 4     | 8     | 12    | 16   | 20   | 16   | 12    | 8     |



# Mean Peripheral Vision - degrees from fovea

Oth Meridian Subject: BM Procedure #1

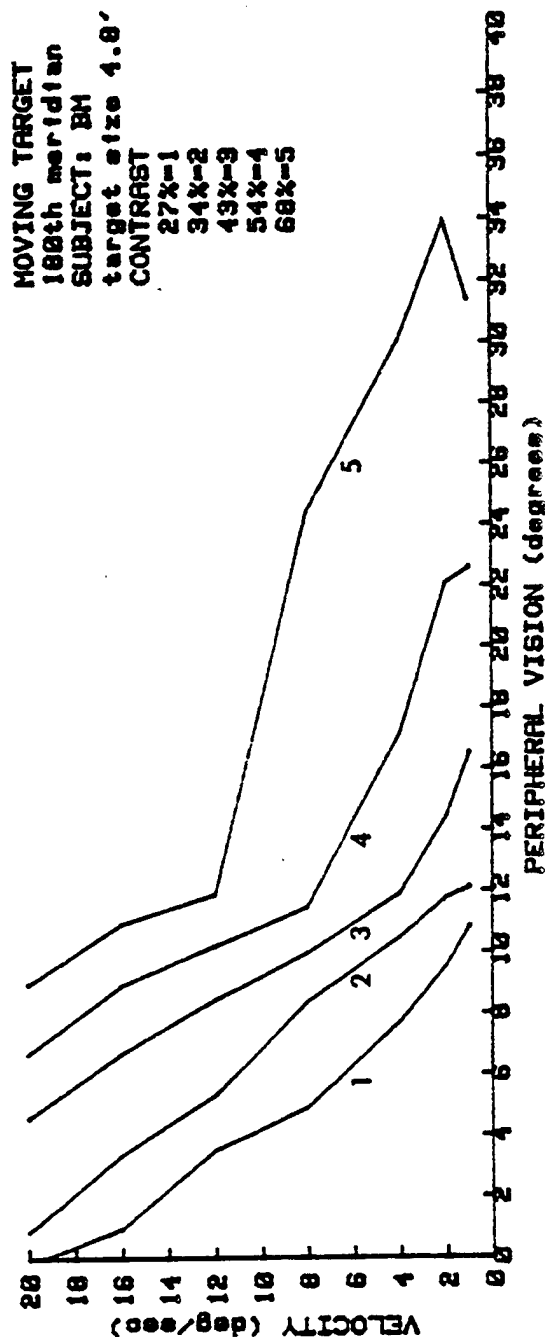
|              | Velocity |       | 1     |       | 2     |       | 4     |       | 8     |       | 12    |       | 16    |       | 20   |      |
|--------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
|              | mean     | S.D.  | mean  | S.D.  | mean  | S.D.  | mean  | S.D.  | mean  | S.D.  | mean  | S.D.  | mean  | S.D.  | mean | S.D. |
| Contrast 68% | 30.36    | 1.442 | 29.70 | 1.392 | 28.57 | .940  | 23.78 | 2.540 | 12.81 | .447  | 11.55 | 1.083 | 10.29 | 1.257 |      |      |
| Contrast 54% | 21.38    | 1.655 | 20.17 | 1.343 | 18.67 | 1.875 | 12.88 | .320  | 10.84 | 1.007 | 8.99  | 1.808 | 7.99  | 1.267 |      |      |
| Contrast 43% | 16.12    | .550  | 14.97 | 1.288 | 13.80 | 1.050 | 12.21 | .837  | 9.18  | 2.128 | 6.05  | 1.127 | 3.59  | 1.240 |      |      |
| Contrast 34% | 14.08    | .697  | 14.07 | 1.310 | 11.67 | 1.020 | 9.54  | 1.543 | 5.11  | 1.110 | 4.67  | 1.472 | .925  |       |      |      |
| Contrast 27% | 12.48    | .465  | 10.60 | .732  | 9.40  | .895  | 4.71  | .885  | 3.08  | .345  | 1.72  | .740  | 1.382 |       |      |      |
| Velocity     | 1        |       | 2     |       | 4     |       | 8     |       | 12    |       | 16    |       | 20    |       |      |      |



# Mean Peripheral Vision - degrees from fovea

180th Meridian Subject: BM Procedure #1

| Contrast     | Velocity | 1     | 2     | 4     | 8     | 12    | 16    | 20    |
|--------------|----------|-------|-------|-------|-------|-------|-------|-------|
| Contrast 68% | mean     | 31.38 | 33.93 | 30.03 | 24.41 | 11.91 | 10.95 | 8.99  |
|              | S.D.     | 2.645 | 1.003 | 1.210 | 2.385 | .303  | .560  | .432  |
| Contrast 54% | mean     | 22.58 | 22.07 | 17.10 | 11.48 | 10.24 | 8.95  | 6.72  |
|              | S.D.     | .943  | 1.773 | 2.182 | .650  | .760  | 1.065 | 1.288 |
| Contrast 43% | mean     | 16.48 | 14.40 | 11.90 | 9.98  | 8.48  | 6.72  | 4.62  |
|              | S.D.     | 2.817 | 2.547 | .910  | .862  | .812  | .492  | 1.605 |
| Contrast 34% | mean     | 12.12 | 11.77 | 10.47 | 8.38  | 5.34  | 3.39  | .89   |
|              | S.D.     | .432  | 1.427 | .988  | .273  | .890  | 2.123 | .828  |
| Contrast 27% | mean     | 10.82 | 9.53  | 7.70  | 4.91  | 3.54  | .99   | -.18  |
|              | S.D.     | .597  | 1.057 | 1.672 | 1.412 | 1.023 | .682  | .777  |
| Velocity     |          | 1     | 2     | 4     | 8     | 12    | 16    | 20    |

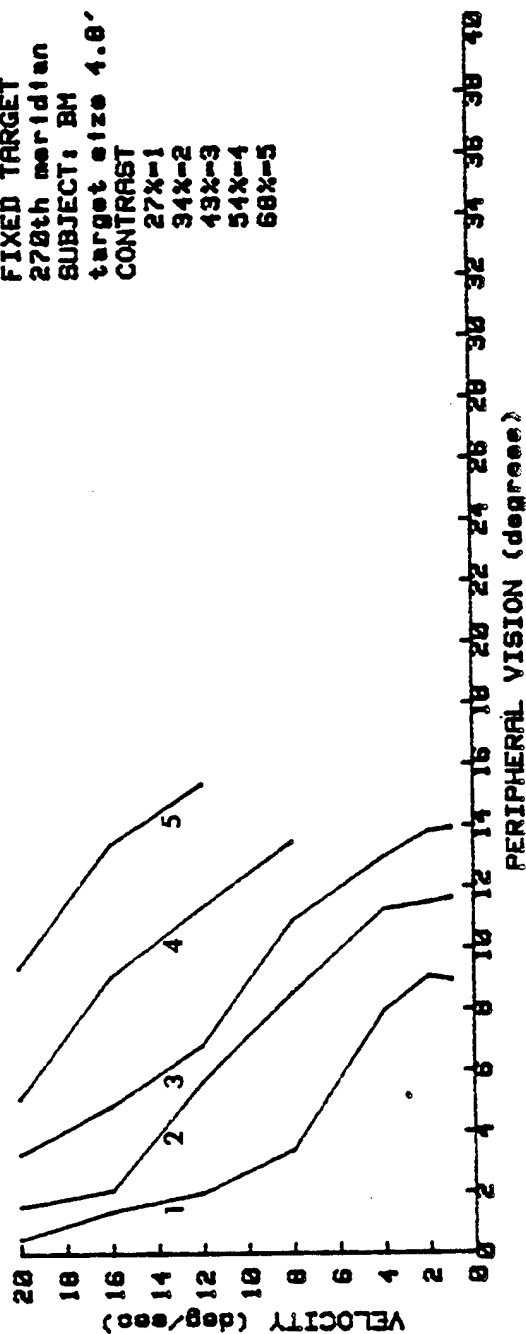


# Mean Peripheral Vision - degrees from fovea

270th Meridian Subject: BM Procedure #2

| Contrast | Velocity | 1     | 2     | 4     | 8     | 12    | 16    | 20   |
|----------|----------|-------|-------|-------|-------|-------|-------|------|
| 68%      | mean     |       |       |       |       | 15.37 | 13.40 | 9.40 |
|          | S.D.     |       |       |       |       | .475  | .940  | .707 |
| 54%      | mean     |       |       |       | 13.49 | 11.36 | 9.09  | 5.12 |
|          | S.D.     |       |       |       | .533  | .395  | 1.212 | .905 |
| 43%      | mean     | 13.92 | 13.81 | 12.97 | 10.92 | 6.85  | 4.88  | 3.28 |
|          | S.D.     | .527  | .457  | .265  | .885  | .960  | .408  | .804 |
| 34%      | mean     | 11.64 | 11.49 | 11.27 | 8.56  | 5.67  | 2.09  | 1.56 |
|          | S.D.     | .323  | .615  | .379  | .741  | .672  | .307  | .675 |
| 27%      | mean     | 8.95  | 9.09  | 7.96  | 3.41  | 2.00  | 1.41  | .49  |
|          | S.D.     | .251  | .333  | .667  | .493  | .749  | .396  | .363 |
|          | Velocity | 1     | 2     | 4     | 8     | 12    | 16    | 20   |

FIXED TARGET  
270th meridian  
SUBJECT: BM  
target size 4.0'  
CONTRAST  
27X-1  
34X-2  
43X-3  
54X-4  
68X-5

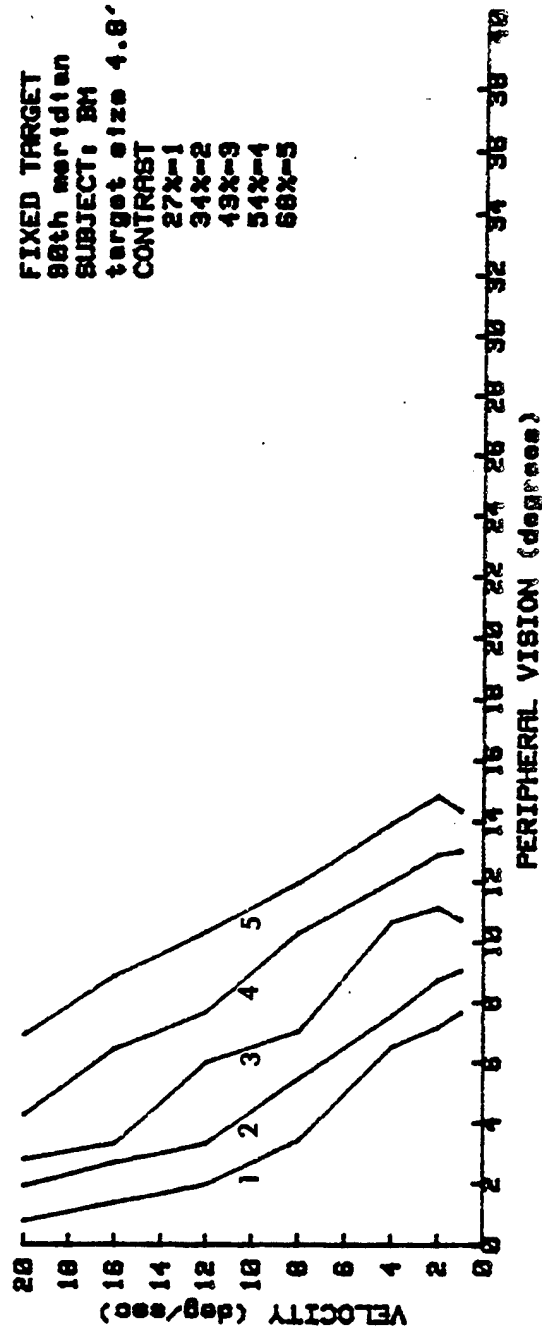


# Mean Peripheral Vision - degrees from fovea

90th Meridian Subject: BM Procedure #2

|          | 1     | 2     | 4     | 8     | 12    | 16   | 20   |
|----------|-------|-------|-------|-------|-------|------|------|
| Contrast | 14.36 | 14.84 | 13.93 | 11.99 | 10.36 | 8.89 | 6.92 |
| 68%      | .913  | .319  | .755  | .495  | .575  | .905 | .541 |
| Contrast | 13.04 | 12.91 | 12.01 | 10.32 | 7.69  | 6.45 | 4.27 |
| 54%      | .409  | .236  | .645  | .400  | .335  | .416 | .447 |
| Contrast | 10.75 | 11.15 | 10.68 | 7.03  | 6.00  | 3.32 | 2.79 |
| 43%      | .339  | .716  | .429  | .089  | .623  | .477 | .367 |
| Contrast | 9.07  | 8.75  | 7.55  | 5.45  | 3.32  | 2.68 | 1.92 |
| 34%      | .451  | .453  | .661  | .844  | .376  | .787 | .267 |
| Contrast | 7.67  | 7.17  | 6.51  | 3.41  | 1.97  | 1.37 | .77  |
| 27%      | .347  | .381  | .513  | .604  | .517  | .223 | .348 |
| Velocity | 1     | 2     | 4     | 8     | 12    | 16   | 20   |

FIXED TARGET  
98th meridian  
SUBJECT: BM  
target size 4.8'  
CONTRAST  
27X-1  
34X-2  
43X-3  
54X-4  
68X-5

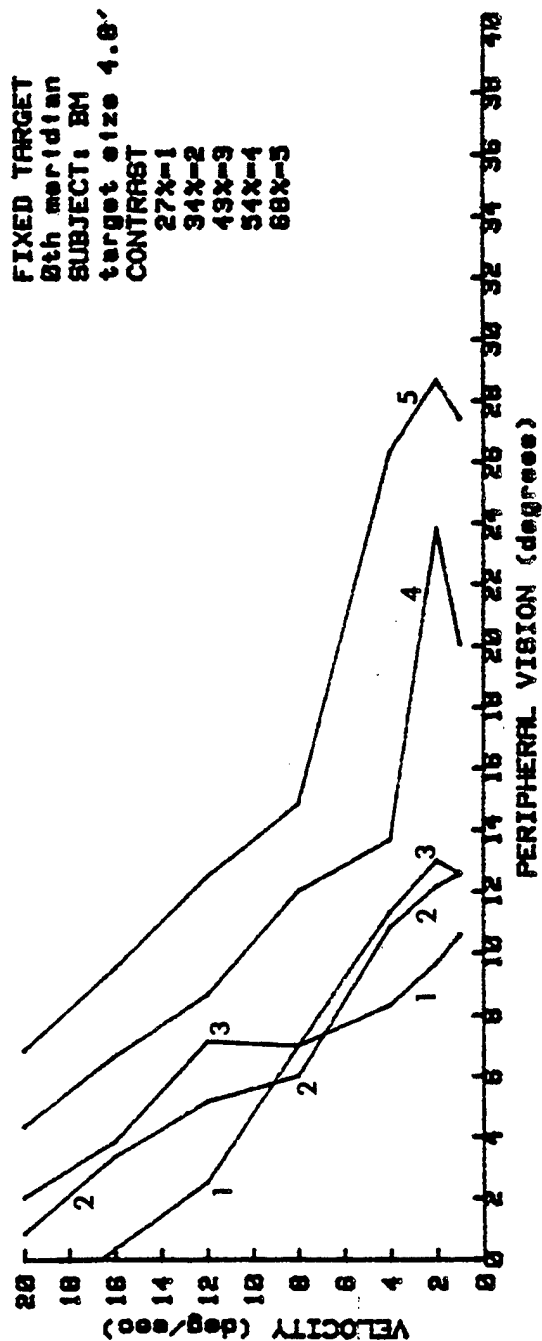


# Mean Peripheral Vision - degrees from fovea

0th Meridian Subject: BM Procedure #2

|          | 1     | 2     | 4     | 8     | 12    | 16    | 20    |
|----------|-------|-------|-------|-------|-------|-------|-------|
| Contrast | 27.42 | 28.67 | 26.33 | 14.84 | 12.51 | 9.52  | 6.85  |
| 68%      | .925  | 1.278 | 2.607 | 1.775 | .878  | .558  | .702  |
| Contrast | 20.08 | 23.83 | 13.67 | 12.01 | 8.68  | 6.67  | 4.35  |
| 54%      | 4.657 | 2.912 | .893  | .617  | .863  | 1.587 | 1.618 |
| Contrast | 12.58 | 13.00 | 11.33 | 7.01  | 7.18  | 3.85  | 2.02  |
| 43%      | .657  | .660  | 1.293 | 1.063 | .465  | 1.205 | .480  |
| Contrast | 12.58 | 12.17 | 10.83 | 6.01  | 5.18  | 3.35  | .85   |
| 34%      | .278  | .383  | .932  | 1.213 | 1.387 | 1.437 | .778  |
| Contrast | 10.58 | 9.67  | 8.33  | 7.01  | 2.51  | .35   | -2.02 |
| 27%      | .692  | .657  | 1.090 | 1.522 | .682  | 1.297 | .703  |
| Velocity | 1     | 2     | 4     | 8     | 12    | 16    | 20    |

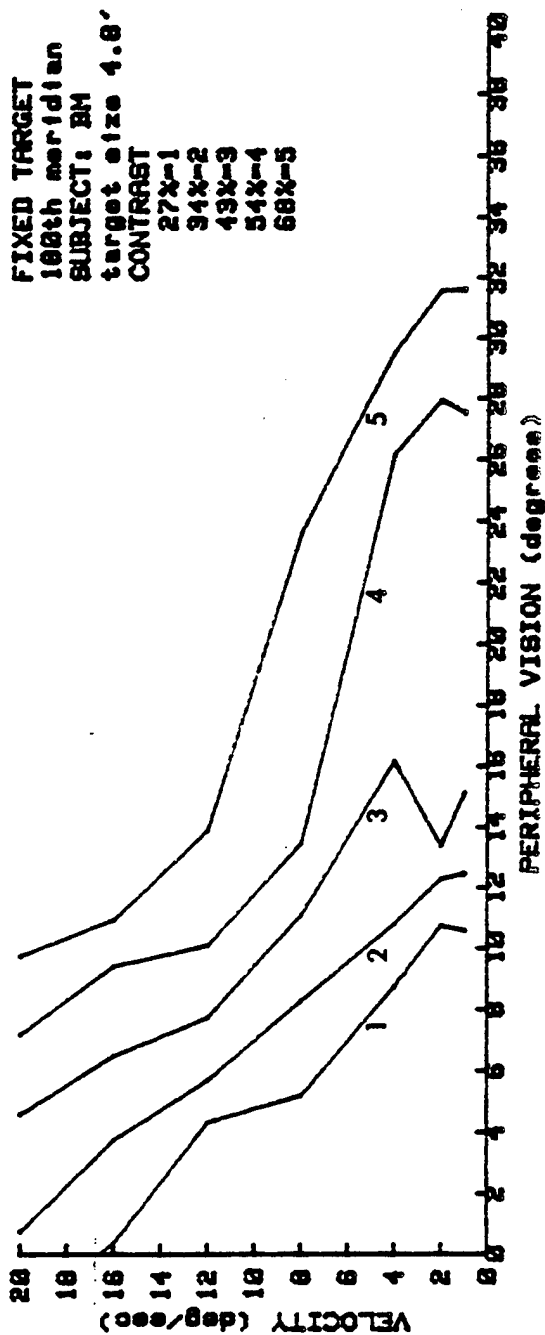
FIXED TARGET  
0th meridian  
SUBJECT: BM  
target size 4.8'  
CONTRAST  
27X-1  
34X-2  
43X-3  
54X-4  
68X-5



# Mean Peripheral Vision - degrees from fovea

180th Meridian Subject: BM Procedure #2

|          | 1     | 2     | 4     | 8     | 12    | 16    | 20    |
|----------|-------|-------|-------|-------|-------|-------|-------|
| Contrast | 31.60 | 31.57 | 29.53 | 23.64 | 13.91 | 10.95 | 9.75  |
| 68%      | 1.097 | 2.287 | 2.047 | 4.248 | 2.997 | .962  | 1.657 |
| Contrast | 27.52 | 27.93 | 26.17 | 13.48 | 10.11 | 9.42  | 7.19  |
| 54%      | 2.765 | .535  | 1.997 | 1.145 | .642  | .822  | 1.582 |
| Contrast | 15.12 | 13.37 | 16.17 | 11.11 | 7.74  | 6.49  | 4.59  |
| 43%      | .877  | .777  | 2.743 | 2.615 | 1.165 | .432  | 1.963 |
| Contrast | 12.48 | 12.30 | 10.80 | 8.28  | 5.71  | 3.77  | .75   |
| 34%      | .092  | .670  | .593  | 1.460 | 1.923 | .845  | 1.233 |
| Contrast | 10.58 | 10.75 | 8.73  | 5.21  | 4.34  | .39   | -2.28 |
| 27%      | 1.000 | .545  | .887  | 1.460 | 1.933 | .870  | .968  |
| Velocity | 1     | 2     | 4     | 8     | 12    | 16    | 20    |

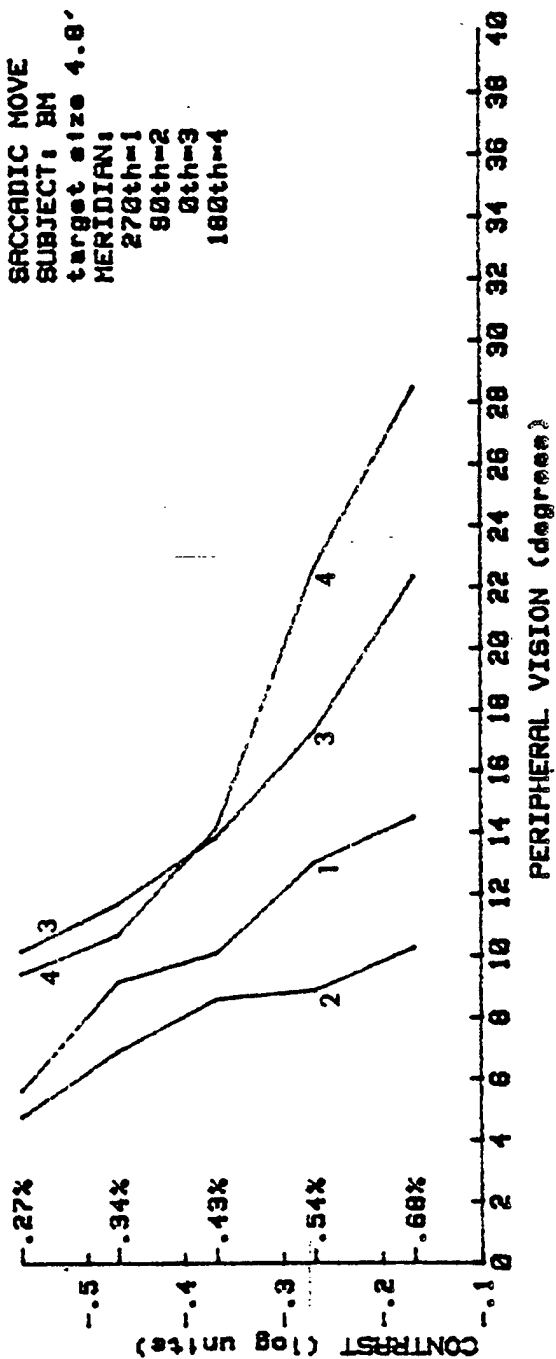


# Mean Peripheral Vision - degrees from fovea

Subject: BM Procedure: #3

|                | Contrast | 68%   | 54%   | 43%   | 34%   | 27%   |
|----------------|----------|-------|-------|-------|-------|-------|
| 270th Meridian | mean     | 14.49 | 13.03 | 10.10 | 9.16  | 5.64  |
|                | S.D.     | .094  | 1.049 | 1.047 | .570  | .151  |
| 90th Meridian  | mean     | 10.27 | 8.89  | 8.61  | 6.91  | 4.79  |
|                | S.D.     | .227  | .371  | .211  | .567  | .413  |
| 0th Meridian   | mean     | 22.33 | 17.30 | 13.83 | 11.68 | 10.15 |
|                | S.D.     | .342  | 1.737 | .727  | .815  | .587  |
| 180th Meridian | mean     | 28.47 | 22.65 | 14.13 | 10.67 | 9.42  |
|                | S.D.     | 1.695 | .983  | 1.768 | 1.245 | .583  |
| Contrast       |          | 68%   | 54%   | 43%   | 34%   | 27%   |

SACCADEIC MOVE  
SUBJECT: BM  
target size 4.8'  
MERIDIAN:  
270th=1  
90th=2  
0th=3  
180th=4



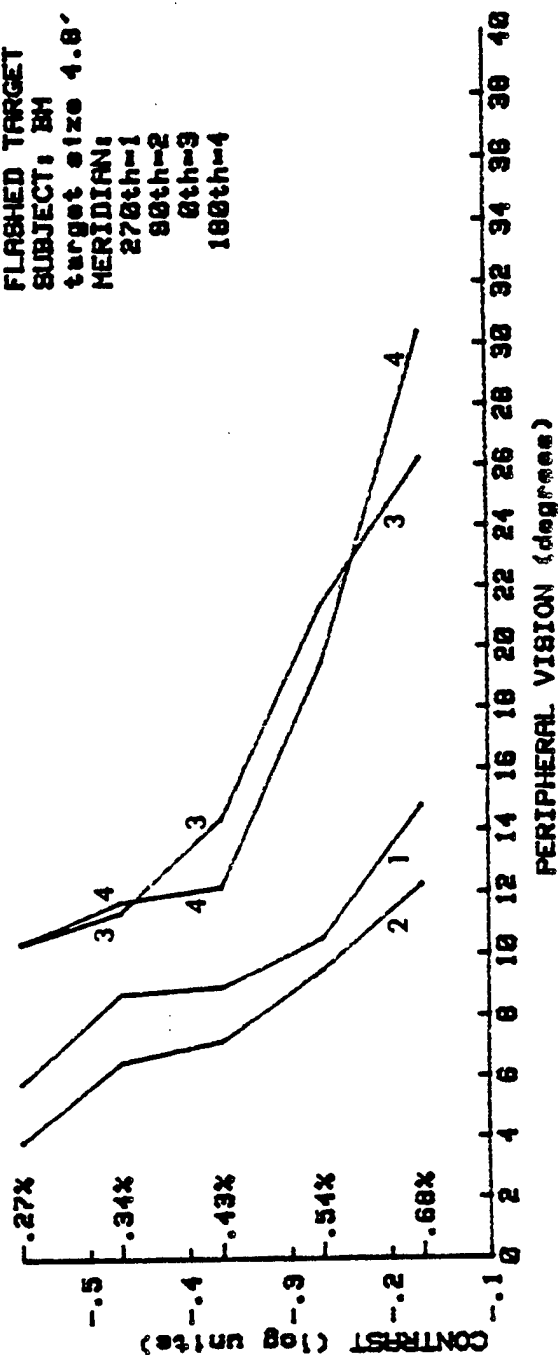


# Mean Peripheral Vision - degrees from fovea

Subject: BM Procedure: #4

|                | Contrast | 68%   | 54%   | 43%   | 34%   | 27%   |
|----------------|----------|-------|-------|-------|-------|-------|
| 270th Meridian | mean     | 14.80 | 10.53 | 8.96  | 8.75  | 5.84  |
|                | S.D.     | .667  | 1.328 | .539  | .315  | .432  |
| 90th Meridian  | mean     | 12.27 | 9.51  | 7.20  | 6.52  | 3.89  |
|                | S.D.     | .040  | .792  | .584  | .117  | .616  |
| 0th Meridian   | mean     | 26.23 | 21.40 | 14.38 | 11.38 | 10.38 |
|                | S.D.     | 2.602 | 4.030 | .215  | .597  | 1.167 |
| 180th Meridian | mean     | 30.37 | 19.47 | 12.18 | 11.72 | 10.42 |
|                | S.D.     | 1.973 | 4.447 | .438  | .472  | 1.077 |
| Contrast       |          | 68%   | 54%   | 43%   | 34%   | 27%   |

FLASHED TARGET  
SUBJECT: BM  
target size 4.8'  
MERIDIAN:  
270th=1  
90th=2  
0th=3  
180th=4

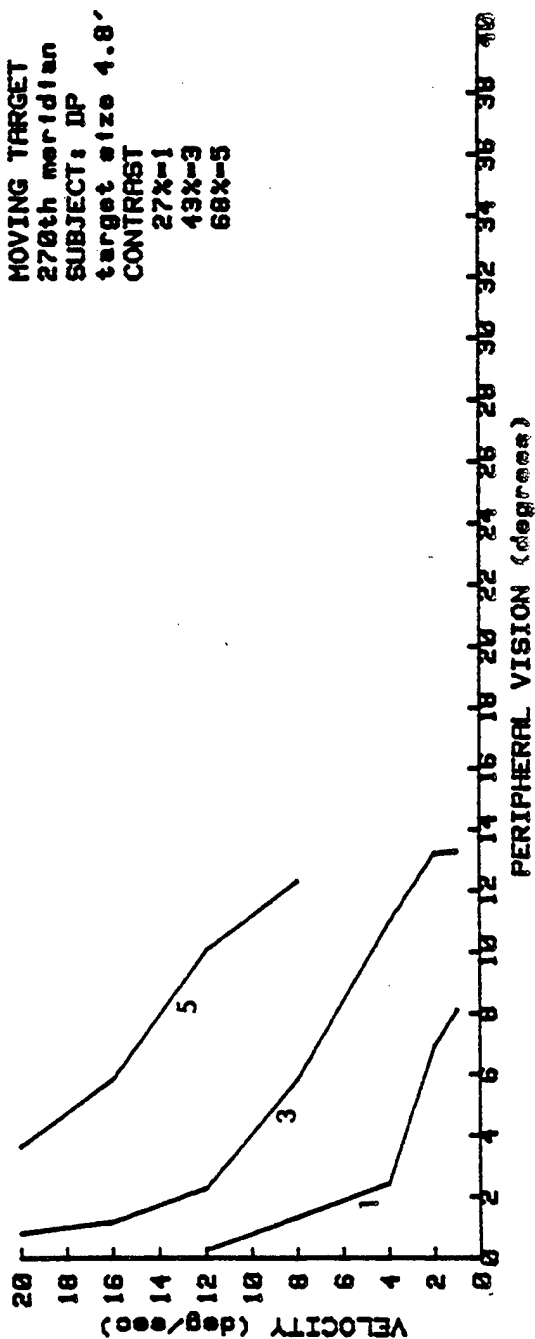


# Mean Peripheral Vision - degrees from fovea

270th Meridian Subject: DP Procedure #1

|          | 1     | 2     | 4     | 8     | 12    | 16   | 20   |
|----------|-------|-------|-------|-------|-------|------|------|
| Contrast |       |       |       | 12.33 | 10.10 | 5.86 | 3.65 |
| 68%      |       |       |       | .778  | .844  | .453 | .589 |
| Contrast | 13.28 | 13.22 | 10.96 | 5.85  | 2.28  | 1.17 | .81  |
| 43%      | .260  | .412  | .425  | .227  | .369  | .201 | .452 |
| Contrast | 8.10  | 6.93  | 2.42  | 1.33  | .25   |      |      |
| 27%      | .402  | .402  | .344  | .216  | .230  |      |      |
| Velocity | 1     | 2     | 4     | 8     | 12    | 16   | 20   |

MOVING TARGET  
270th meridian  
SUBJECT: DP  
target size 4.8'  
CONTRAST  
27%-1  
43%-3  
68%-5

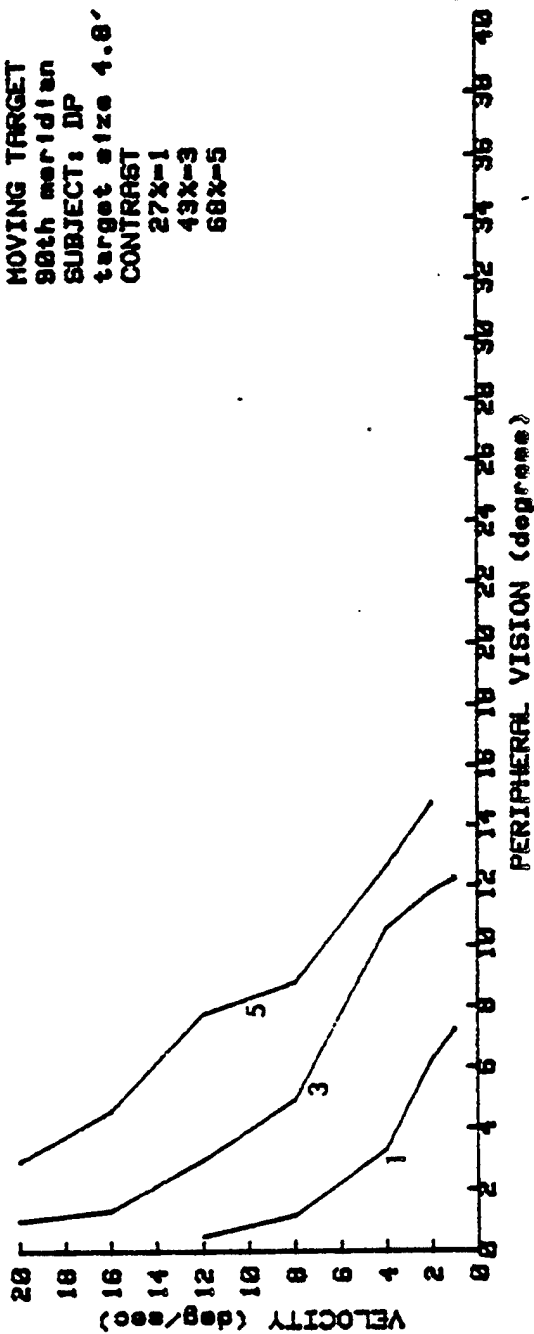


# Mean Peripheral Vision - degrees from fovea

90th Meridian Subject: DP Procedure #1

|              | 1     | 2     | 4     | 8    | 12   | 16   | 20   |
|--------------|-------|-------|-------|------|------|------|------|
| Velocity     |       |       |       |      |      |      |      |
| mean         |       | 14.73 | 12.62 | 8.79 | 7.78 | 4.59 | 2.95 |
| S.D.         |       | .398  | .183  | .678 | .312 | .293 | .167 |
| Contrast 68% |       |       |       |      |      |      |      |
| mean         | 12.23 | 11.80 | 10.56 | 4.95 | 2.99 | 1.33 | 1.00 |
| S.D.         | .444  | .444  | .273  | .225 | .306 | .207 | .453 |
| Contrast 43% |       |       |       |      |      |      |      |
| mean         | 7.22  | 6.22  | 3.32  | 1.16 | .49  |      |      |
| S.D.         | .310  | .668  | .244  | .222 | .273 |      |      |
| Contrast 27% |       |       |       |      |      |      |      |
| Velocity     | 1     | 2     | 4     | 8    | 12   | 16   | 20   |

MOVING TARGET  
90th meridian  
SUBJECT: DP  
target size 4.8'  
CONTRAST  
27%-1  
43%-3  
68%-5

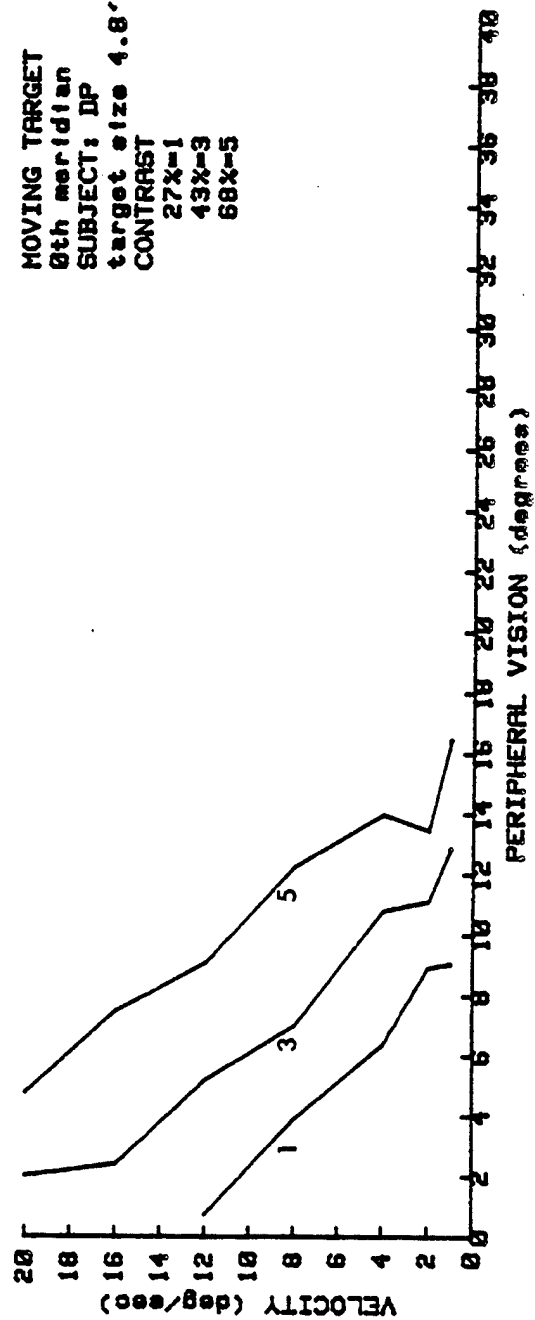


# Mean Peripheral Vision - degrees from fovea

Oth Meridian Subject: DP Procedure #1

|              | 1     | 2     | 4     | 8     | 12    | 16    | 20    |
|--------------|-------|-------|-------|-------|-------|-------|-------|
| Contrast 68% | 16.45 | 13.44 | 13.97 | 12.25 | 9.09  | 7.49  | 4.77  |
| S.D.         | .927  | 1.088 | .883  | .770  | 1.795 | 1.935 | .442  |
| Contrast 43% | 12.84 | 11.12 | 10.79 | 7.00  | 5.20  | 2.39  | 2.00  |
| S.D.         | 1.033 | 1.627 | .430  | .512  | .850  | 1.150 | 1.290 |
| Contrast 27% | 9.06  | 8.92  | 6.36  | 3.88  | .74   |       |       |
| S.D.         | .878  | 1.063 | .837  | 1.225 | .565  |       |       |
| Velocity     | 1     | 2     | 4     | 8     | 12    | 16    | 20    |

MOVING TARGET  
 0th meridian  
 SUBJECT: DP  
 target size 4.8'  
 CONTRAST  
 27%-1  
 43%-3  
 68%-5

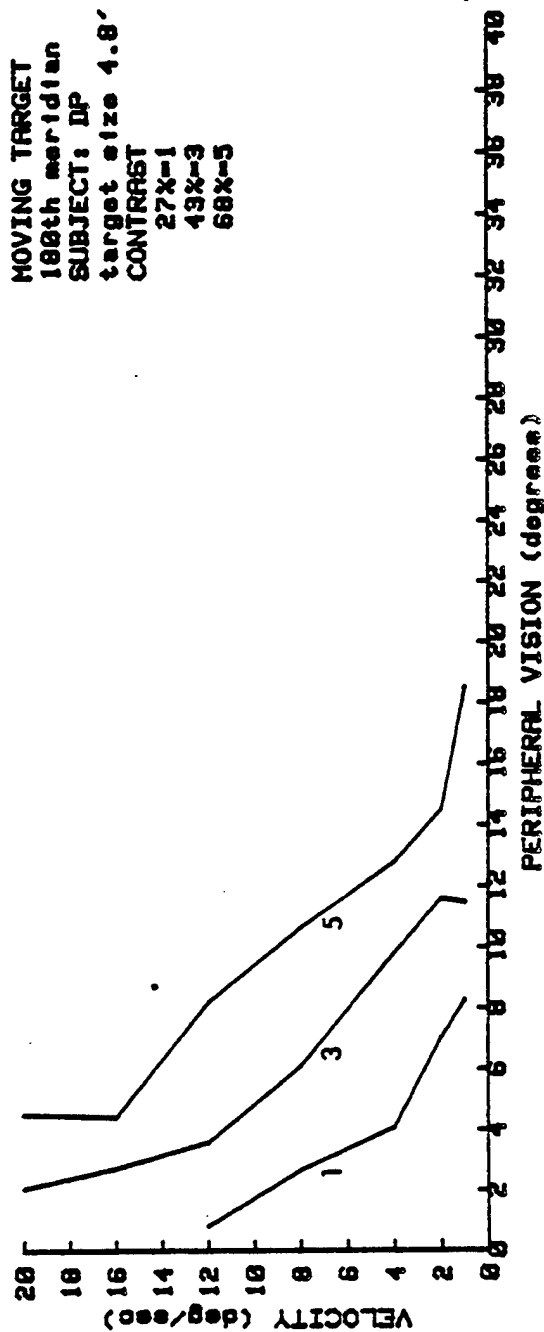


# Mean Peripheral Vision - degrees from fovea

180th Meridian Subject: DP Procedure #1

|              | 1     | 2     | 4     | 8     | 12    | 16    | 20    |
|--------------|-------|-------|-------|-------|-------|-------|-------|
| Velocity     |       |       |       |       |       |       |       |
| mean         | 18.49 | 14.50 | 12.77 | 10.65 | 8.22  | 4.43  | 4.53  |
| S.D.         | 2.867 | 1.582 | .567  | 1.812 | 1.590 | 1.415 | .837  |
| Contrast 68% |       |       |       |       |       |       |       |
| mean         | 11.47 | 11.60 | 9.79  | 6.11  | 3.60  | 2.73  | 2.07  |
| S.D.         | .965  | .407  | 1.33  | 1.04  | 1.03  | .575  | 1.838 |
| Contrast 43% |       |       |       |       |       |       |       |
| mean         | 8.26  | 7.04  | 4.07  | 2.68  | .82   |       |       |
| S.D.         | .968  | 1.190 | .600  | .877  | 1.815 |       |       |
| Contrast 27% |       |       |       |       |       |       |       |
| mean         |       |       |       |       |       |       |       |
| S.D.         |       |       |       |       |       |       |       |
| Velocity     | 1     | 2     | 4     | 8     | 12    | 16    | 20    |

MOVING TARGET  
180th meridian  
SUBJECT: DP  
target size 4.8'  
CONTRAST  
27X-1  
49X-3  
68X-5

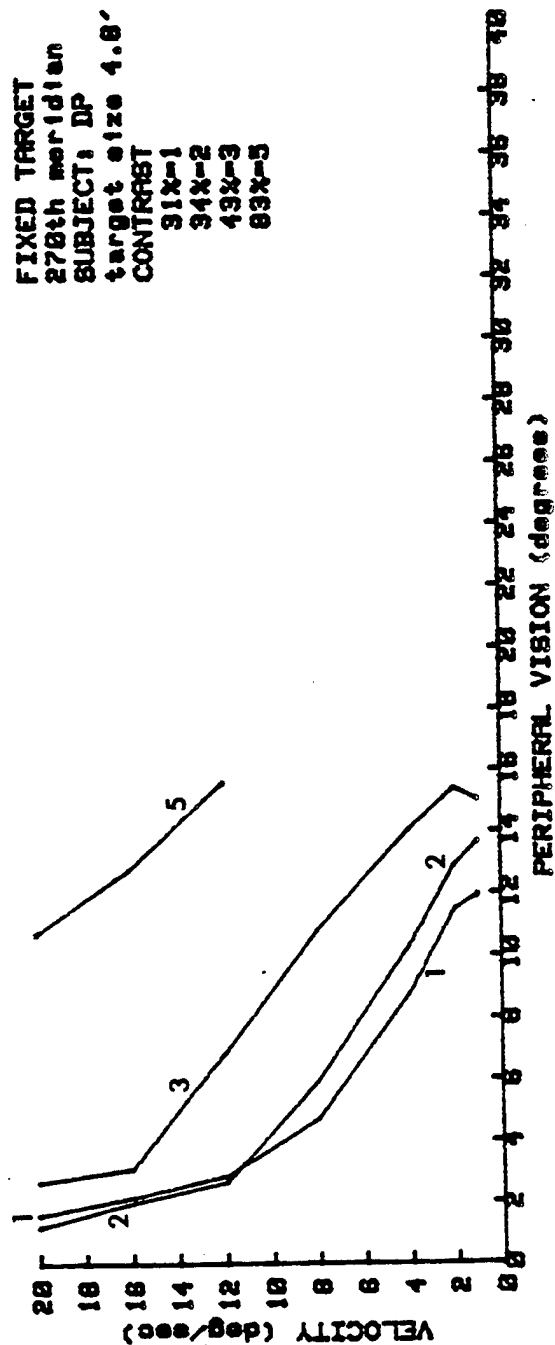


# Mean Peripheral Vision - degrees from fovea

270th Meridian Subject: DP Procedure #2

|              | Velocity |      | 1 |  | 2 |  | 4 |  | 8 |  | 12 |  | 16 |  | 20 |  |
|--------------|----------|------|---|--|---|--|---|--|---|--|----|--|----|--|----|--|
|              | mean     | S.D. |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
| Contrast 83% |          |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
| Contrast     | mean     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
|              | S.D.     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
| Contrast     | mean     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
|              | S.D.     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
| Contrast 43% | mean     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
|              | S.D.     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
| Contrast 34% | mean     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
|              | S.D.     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
| Contrast 31% | mean     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
|              | S.D.     |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |
| Velocity     | 1        |      |   |  |   |  |   |  |   |  |    |  |    |  |    |  |

FIXED TARGET  
270th meridian  
SUBJECT: DP  
target size 4.8'  
CONTRAST  
91X-1  
94X-2  
49X-3  
83X-5

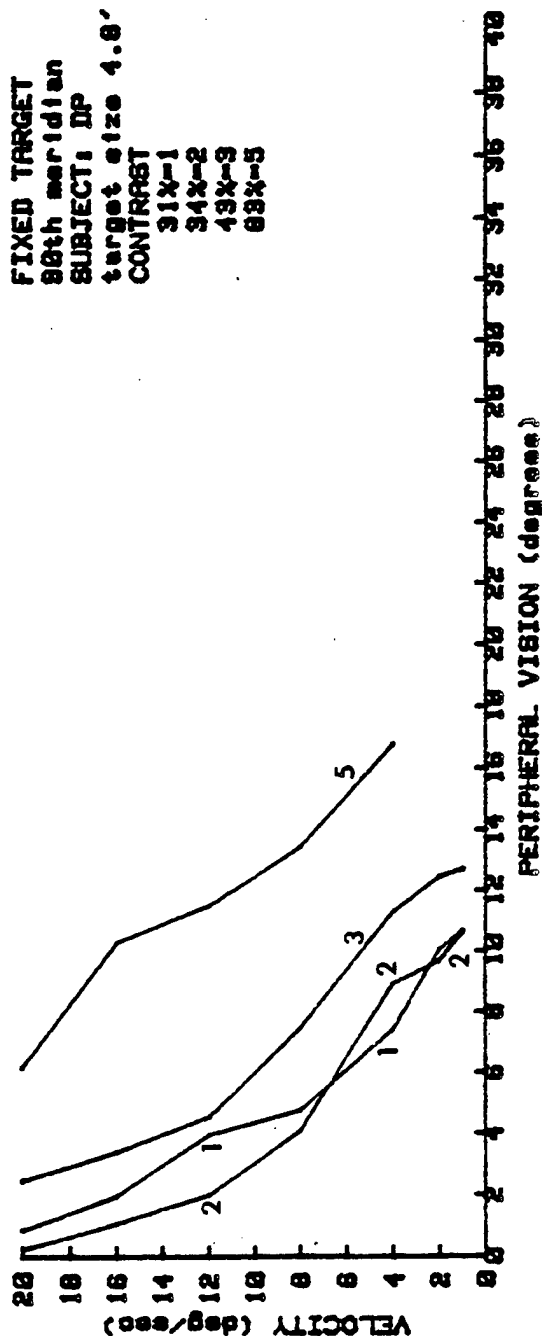


# Mean Peripheral Vision - degrees from fovea

90th Meridian Subject: DP Procedure #2

|              | Velocity |       |       |       |       |       |      |    |    |    |
|--------------|----------|-------|-------|-------|-------|-------|------|----|----|----|
|              | 1        | 2     | 4     | 8     | 12    | 16    | 20   | 24 | 28 | 32 |
| Contrast 83% |          |       | 16.77 | 13.44 | 11.52 | 10.29 |      |    |    |    |
| S.D.         |          |       | .247  | .591  | .943  | .481  |      |    |    |    |
| Contrast     |          |       |       |       |       |       |      |    |    |    |
| S.D.         |          |       |       |       |       |       |      |    |    |    |
| Contrast 43% | 12.71    | 12.47 | 11.29 | 7.47  | 4.55  | 3.40  | 2.47 |    |    |    |
| S.D.         | .331     | .324  | .445  | .777  | .401  | .307  | .465 |    |    |    |
| Contrast 31% | 10.63    | 9.68  | 8.92  | 4.09  | 2.00  | 1.07  | .23  |    |    |    |
| S.D.         | .257     | .260  | .320  | .196  | .357  | .167  | .204 |    |    |    |
| Contrast 31% | 10.67    | 10.07 | 7.40  | 4.77  | 3.96  | 1.97  | .85  |    |    |    |
| S.D.         | .623     | .277  | .787  | .181  | .220  | .517  | .364 |    |    |    |
| Velocity     | 1        | 2     | 4     | 8     | 12    | 16    | 20   |    |    |    |

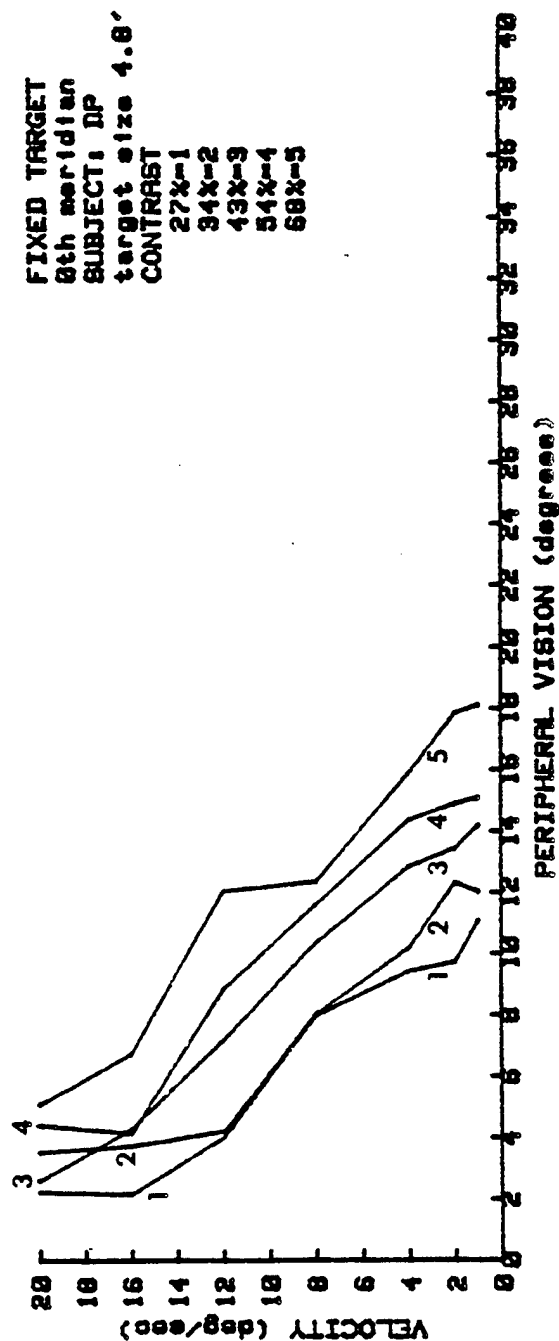
FIXED TARGET  
80th meridian  
SUBJECT: DP  
target size 4.8'  
CONTRAST  
31%-1  
34%-2  
43%-3  
83%-5



# Mean Peripheral Vision - degrees from fovea

Oth Meridian Subject: DP Procedure #2

|          | Velocity |       |       |       |       |      |       |      |       |       |
|----------|----------|-------|-------|-------|-------|------|-------|------|-------|-------|
|          | 1        | 2     | 4     | 8     | 12    | 16   | 20    | 16   | 12    | 8     |
| Contrast | 18.12    | 17.85 | 15.89 | 12.35 | 12.05 | 6.73 | 5.08  | 6.73 | 12.05 | 12.35 |
| 68%      | .8033    | 1.298 | .457  | .513  | 1.590 | .420 | 1.372 | .420 | 1.590 | .513  |
| Contrast | 15.09    | 14.89 | 14.37 | 11.60 | 8.84  | 4.14 | 4.40  | 4.14 | 8.84  | 11.60 |
| 54%      | .767     | .873  | .712  | 1.117 | 1.113 | .702 | .300  | .702 | 1.113 | 1.117 |
| Contrast | 14.17    | 13.44 | 12.84 | 10.35 | 7.19  | 4.29 | 2.60  | 4.29 | 7.19  | 10.35 |
| 43%      | .748     | .318  | 1.018 | 1.323 | 1.663 | .857 | .998  | .857 | 1.663 | 1.323 |
| Contrast | 12.02    | 12.32 | 10.17 | 8.03  | 4.22  | 3.73 | 3.53  | 3.73 | 4.22  | 8.03  |
| 34%      | .635     | 1.005 | .658  | 1.352 | 1.852 | .293 | 1.138 | .293 | 1.852 | 1.352 |
| Contrast | 11.07    | 9.72  | 9.42  | 7.98  | 4.02  | 2.16 | 2.23  | 2.16 | 4.02  | 7.98  |
| 27%      | .303     | .747  | .532  | 2.622 | 1.048 | .578 | 2.143 | .578 | 1.048 | 2.622 |
| Velocity | 1        | 2     | 4     | 8     | 12    | 16   | 20    | 16   | 12    | 8     |

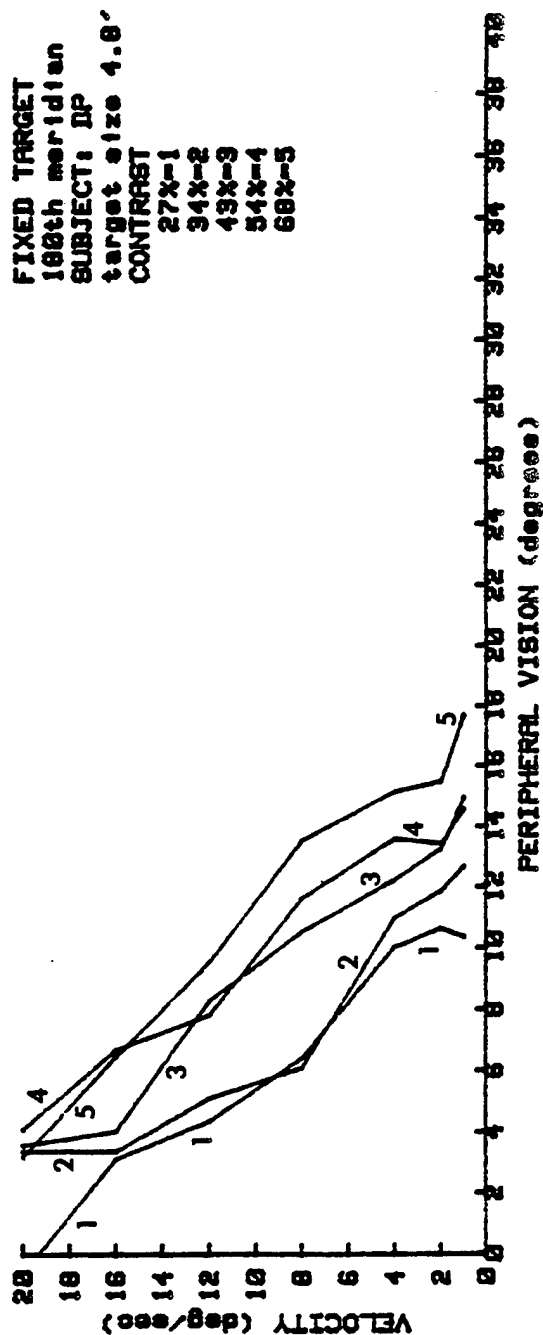




# Mean Peripheral Vision - degrees from fovea

180th Meridian Subject: DP Procedure #2

|              | 1     | 2     | 4     | 8     | 12    | 16    | 20    |
|--------------|-------|-------|-------|-------|-------|-------|-------|
| Contrast 68% | 17.67 | 15.47 | 15.12 | 13.53 | 9.54  | 6.44  | 3.18  |
| S.D.         | .505  | .467  | .772  | .720  | 2.032 | 1.072 | 1.377 |
| Contrast 54% | 14.56 | 13.42 | 13.57 | 11.63 | 7.81  | 6.68  | 4.09  |
| S.D.         | .558  | .998  | .752  | .795  | 2.795 | 2.398 | 1.028 |
| Contrast 43% | 14.94 | 13.25 | 12.21 | 10.53 | 8.29  | 4.01  | 3.55  |
| S.D.         | .597  | 1.318 | .867  | .917  | 1.253 | 1.528 | 1.068 |
| Contrast 34% | 12.67 | 11.87 | 10.96 | 6.08  | 5.09  | 3.36  | 3.37  |
| S.D.         | .280  | 1.172 | .957  | .982  | 1.83  | 2.215 | 2.423 |
| Contrast 27% | 10.36 | 10.64 | 10.01 | 6.40  | 4.34  | 3.11  | 2.62  |
| S.D.         | .653  | .582  | 1.430 | 1.508 | .947  | 1.312 | 2.378 |
| Velocity     | 1     | 2     | 4     | 8     | 12    | 16    | 20    |

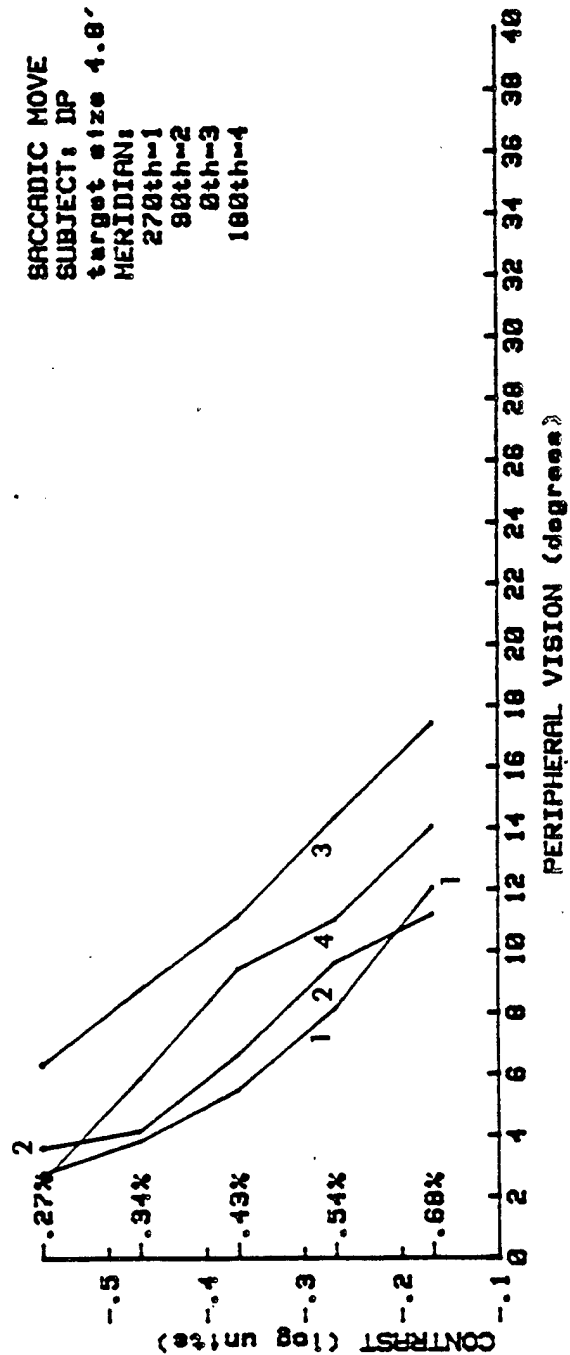


# Mean Peripheral Vision - degrees from fovea

Subject: DP Procedure: #3

|                | Contrast | 68%   | 54%   | 43%   | 34%  | 27%  |
|----------------|----------|-------|-------|-------|------|------|
| 270th Meridian | mean     | 12.07 | 8.13  | 5.50  | 3.83 | 2.77 |
|                | S.D.     | .150  | .434  | .651  | .373 | .207 |
| 90th Meridian  | mean     | 11.20 | 9.63  | 6.64  | 4.16 | 3.60 |
|                | S.D.     | .633  | .244  | .476  | .256 | .454 |
| 0th Meridian   | mean     | 17.43 | 14.35 | 11.13 | 8.77 | 6.32 |
|                | S.D.     | .383  | .488  | .660  | .600 | .368 |
| 180th Meridian | mean     | 14.05 | 11.03 | 9.43  | 5.87 | 2.55 |
|                | S.D.     | .745  | .128  | 1.708 | .605 | .415 |
| Contrast       |          | 68%   | 54%   | 43%   | 34%  | 27%  |

SACCADEIC MOVE  
SUBJECT: DP  
target size 4.8'  
MERIDIAN:  
270th=1  
90th=2  
0th=3  
180th=4

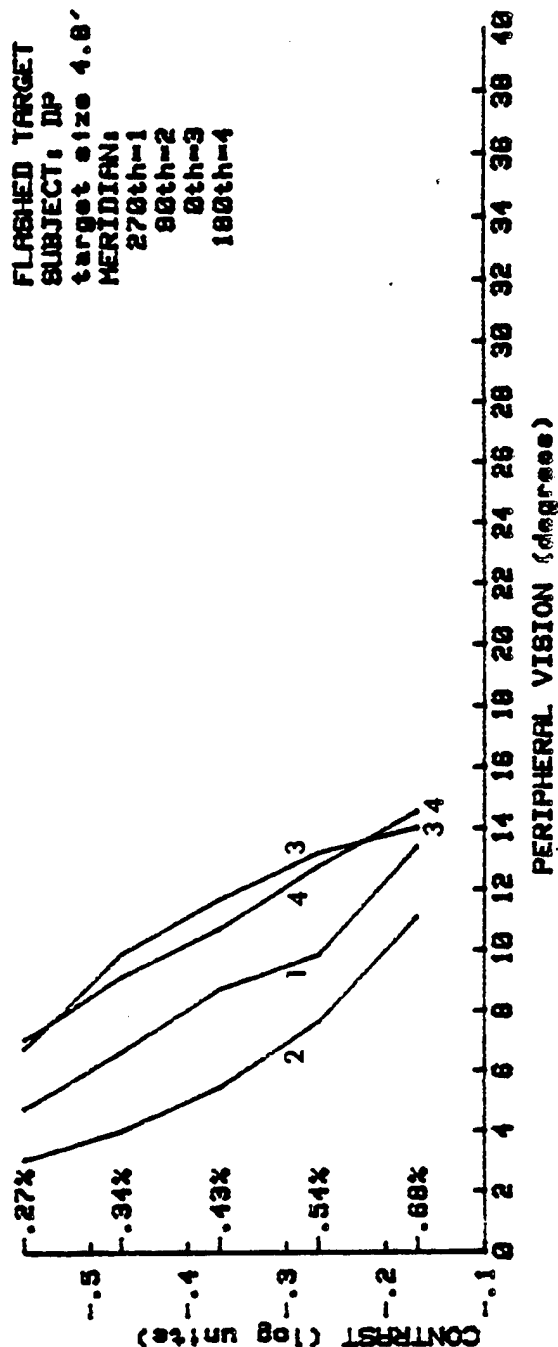


# Mean Peripheral Vision - degrees from fovea

Subject: DP Procedure: #4

|                | Contrast | 68%   | 54%   | 43%   | 34%  | 27%  |
|----------------|----------|-------|-------|-------|------|------|
| 270th Meridian | mean     | 13.40 | 9.86  | 8.74  | 6.66 | 4.77 |
|                | S.D.     | .314  | .440  | .349  | .297 | .690 |
| 90th Meridian  | mean     | 11.09 | 7.64  | 5.47  | 4.01 | 3.06 |
|                | S.D.     | .341  | .427  | .193  | .181 | .666 |
| 0th Meridian   | mean     | 14.03 | 13.22 | 11.70 | 9.90 | 6.78 |
|                | S.D.     | 1.183 | .522  | .702  | .243 | .270 |
| 180th Meridian | mean     | 14.57 | 12.77 | 10.73 | 9.15 | 7.08 |
|                | S.D.     | .407  | .515  | .562  | .658 | .690 |
| Contrast       |          | 68%   | 54%   | 43%   | 34%  | 27%  |

FLASHED TARGET  
SUBJECT: DP  
target size 4.8'  
MERIDIANS:  
270th-1  
90th-2  
0th-3  
180th-4

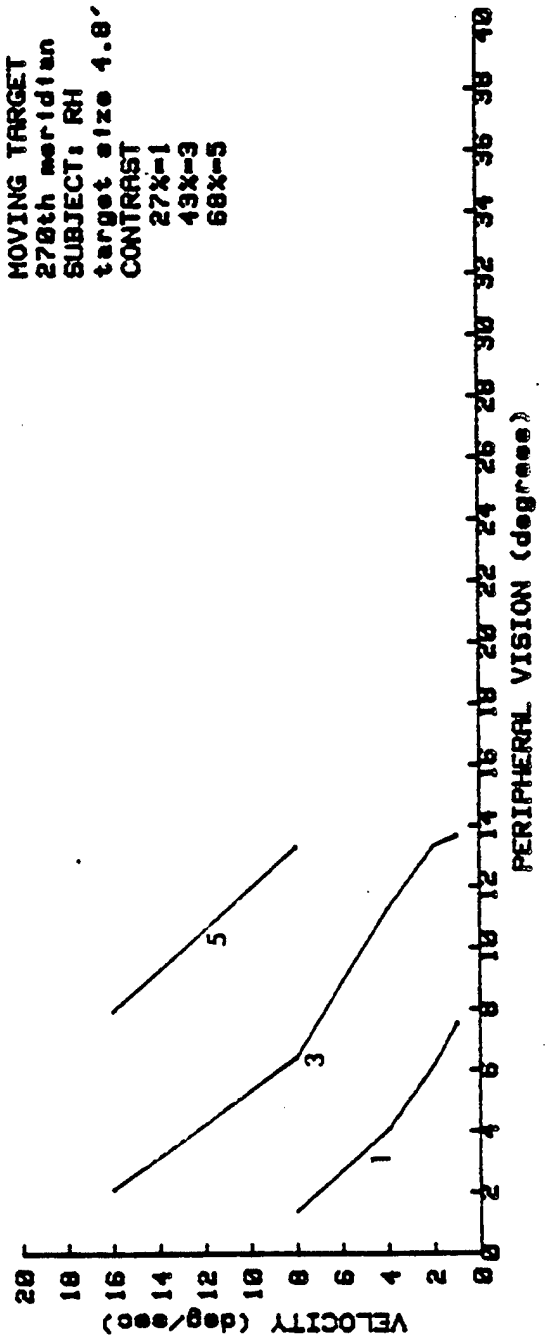


# Mean Peripheral Vision - degrees from fovea

270th Meridian Subject: RH Procedure #1

|              | Velocity |      | 1     | 2     | 4     | 8     | 12 | 16   | 20 |
|--------------|----------|------|-------|-------|-------|-------|----|------|----|
|              | mean     | S.D. |       |       |       |       |    |      |    |
| Contrast 68% |          |      |       |       |       | 13.31 |    | 7.94 |    |
|              |          |      |       |       |       | .764  |    | .369 |    |
| Contrast 43% |          |      | 13.67 | 13.33 | 11.26 | 6.41  |    | 2.11 |    |
|              |          |      | .633  | .843  | .653  | 1.016 |    | .402 |    |
| Contrast 27% |          |      | 7.52  | 6.16  | 4.05  | 1.38  |    |      |    |
|              |          |      | .165  | .380  | .504  | .506  |    |      |    |
| Velocity     |          |      | 1     | 2     | 4     | 8     | 12 | 16   | 20 |

MOVING TARGET  
270th meridian  
SUBJECT: RH  
target size 4.8'  
CONTRAST  
27X-1  
43X-3  
68X-5

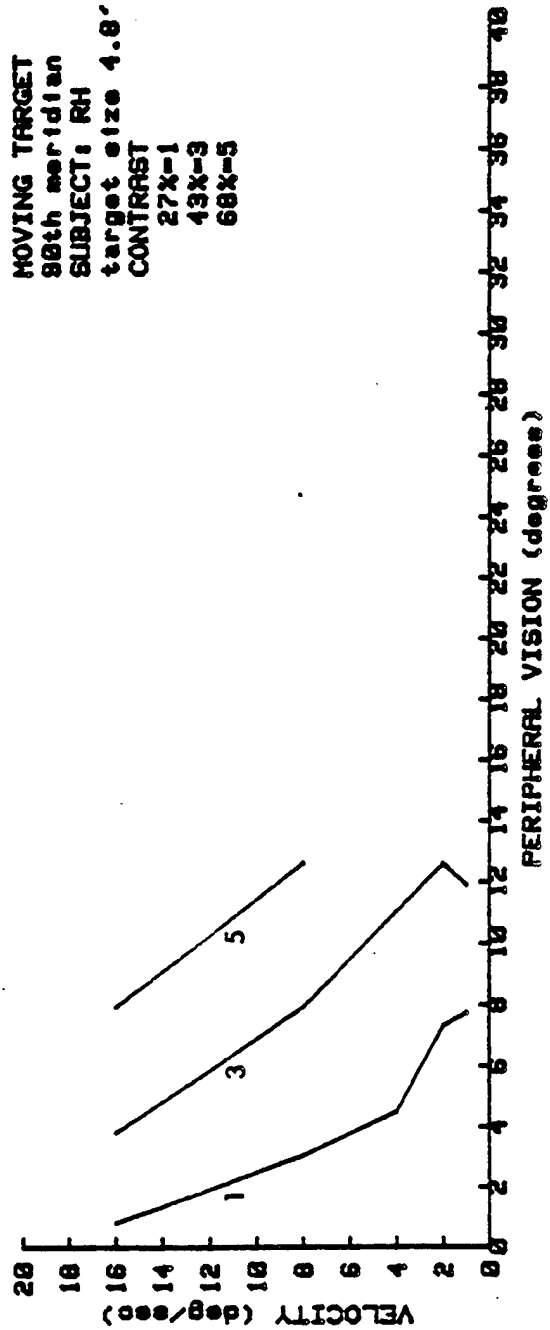


# Mean Peripheral Vision - degrees from fovea

90th Meridian Subject: RH Procedure #1

|          | Velocity |       |       |       |    |    |    |    |      |    |
|----------|----------|-------|-------|-------|----|----|----|----|------|----|
|          | 1        | 2     | 4     | 8     | 12 | 16 | 20 | 12 | 16   | 20 |
| Contrast |          |       |       | 12.63 |    |    |    |    | 7.96 |    |
| 68%      |          |       |       | 1.031 |    |    |    |    | .553 |    |
| Contrast | 11.89    | 12.59 | 11.04 | 7.94  |    |    |    |    | 3.83 |    |
| 43%      | .674     | .551  | .601  | .374  |    |    |    |    | .179 |    |
| Contrast | 7.74     | 7.31  | 4.49  | 3.06  |    |    |    |    | .82  |    |
| 27%      | .338     | .585  | .505  | .440  |    |    |    |    | .628 |    |
| Velocity | 1        | 2     | 4     | 8     | 12 | 16 | 20 | 12 | 16   | 20 |

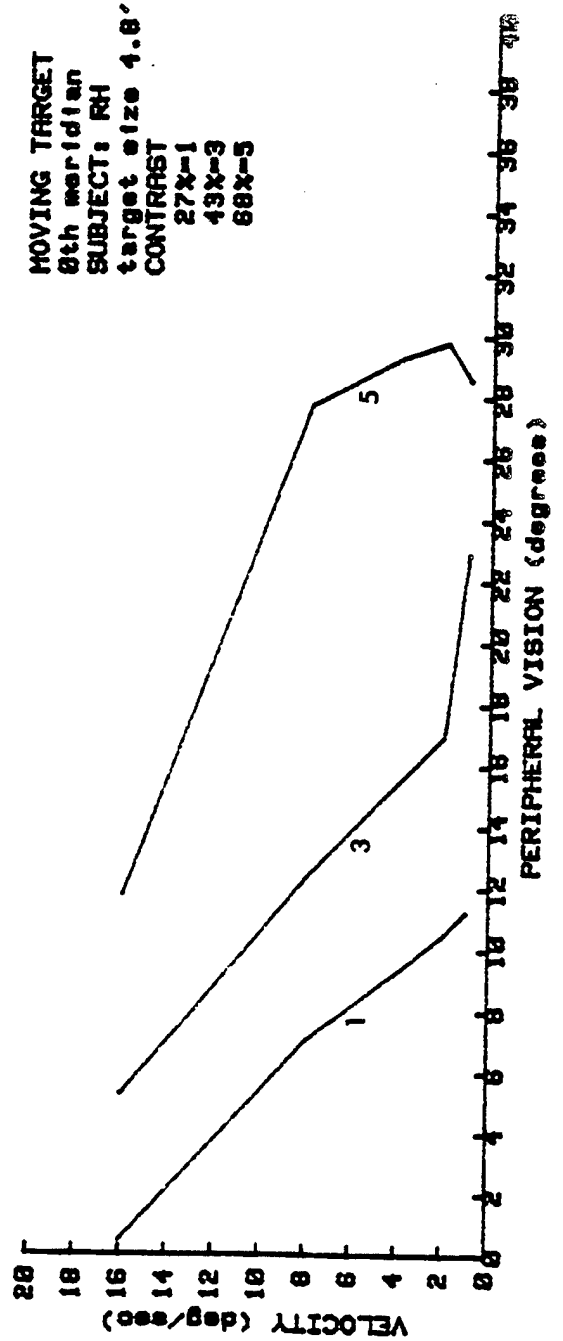
MOVING TARGET  
98th meridian  
SUBJECT: RH  
target size 4.8'  
CONTRAST  
27%-1  
43%-3  
68%-5



# Mean Peripheral Vision - degrees from fovea

Oth Meridian Subject: RH Procedure #1

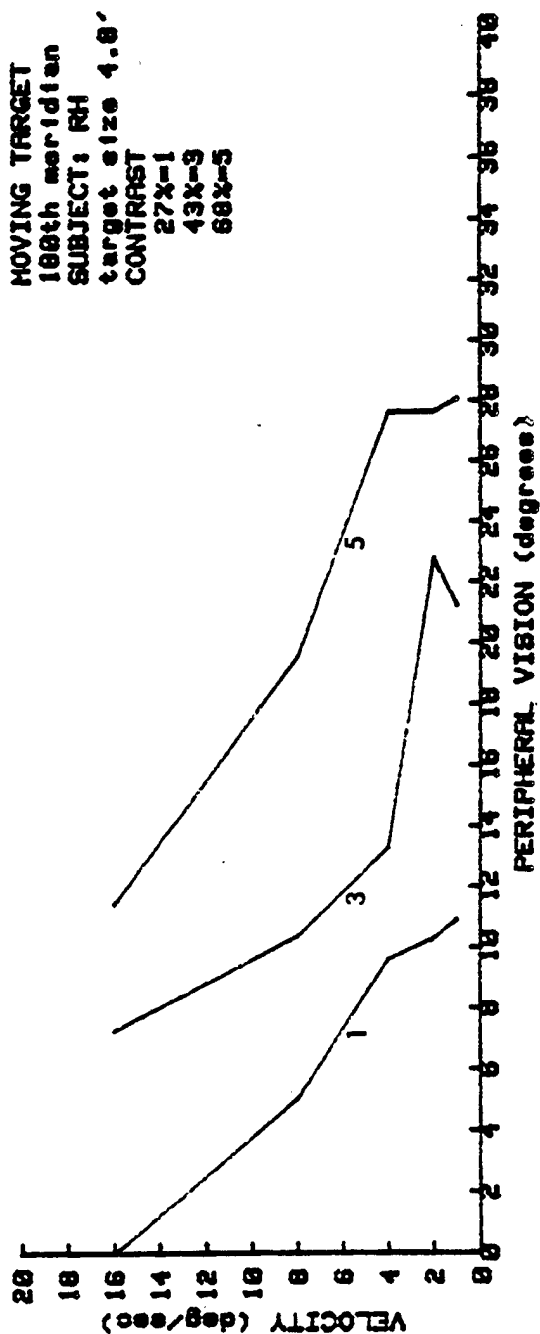
|              | Velocity | Subject: RH |       |       |       |    | Procedure #1 |    |  |  |  |
|--------------|----------|-------------|-------|-------|-------|----|--------------|----|--|--|--|
|              |          | 1           | 2     | 4     | 8     | 12 | 16           | 20 |  |  |  |
| Contrast 68% | mean     | 28.57       | 29.80 | 29.28 | 27.73 |    | 11.79        |    |  |  |  |
|              | S.D.     | .630        | .982  | .977  | 2.290 |    | .947         |    |  |  |  |
| Contrast 43% | mean     | 22.74       | 16.97 | 15.45 | 12.40 |    | 5.29         |    |  |  |  |
|              | S.D.     | 5.510       | 1.103 | 1.518 | 1.517 |    | 2.158        |    |  |  |  |
| Contrast 27% | mean     | 11.24       | 10.47 | 9.28  | 7.07  |    | .46          |    |  |  |  |
|              | S.D.     | 1.033       | 1.462 | 1.308 | 1.367 |    | 1.498        |    |  |  |  |
| Velocity     |          | 1           | 2     | 4     | 8     | 12 | 16           | 20 |  |  |  |



# Mean Peripheral Vision - degrees from fovea

180th Meridian Subject: RH Procedure #1

| Contrast | Velocity | 1     | 2     | 4     | 8     | 12 | 16    | 20 |
|----------|----------|-------|-------|-------|-------|----|-------|----|
| 68%      | mean     | 28.07 | 27.64 | 27.62 | 19.57 |    | 11.46 |    |
|          | S.D.     | 1.533 | 1.282 | 2.142 | 4.125 |    | 1.963 |    |
| 43%      | mean     | 21.24 | 22.80 | 13.28 | 10.40 |    | 7.29  |    |
|          | S.D.     | 2.637 | .947  | 1.682 | .777  |    | 2.300 |    |
| 27%      | mean     | 10.91 | 10.30 | 9.62  | 4.07  |    | -.04  |    |
|          | S.D.     | 1.023 | .853  | 1.477 | 1.233 |    | 1.740 |    |
| Velocity |          | 1     | 2     | 4     | 8     | 12 | 16    | 20 |

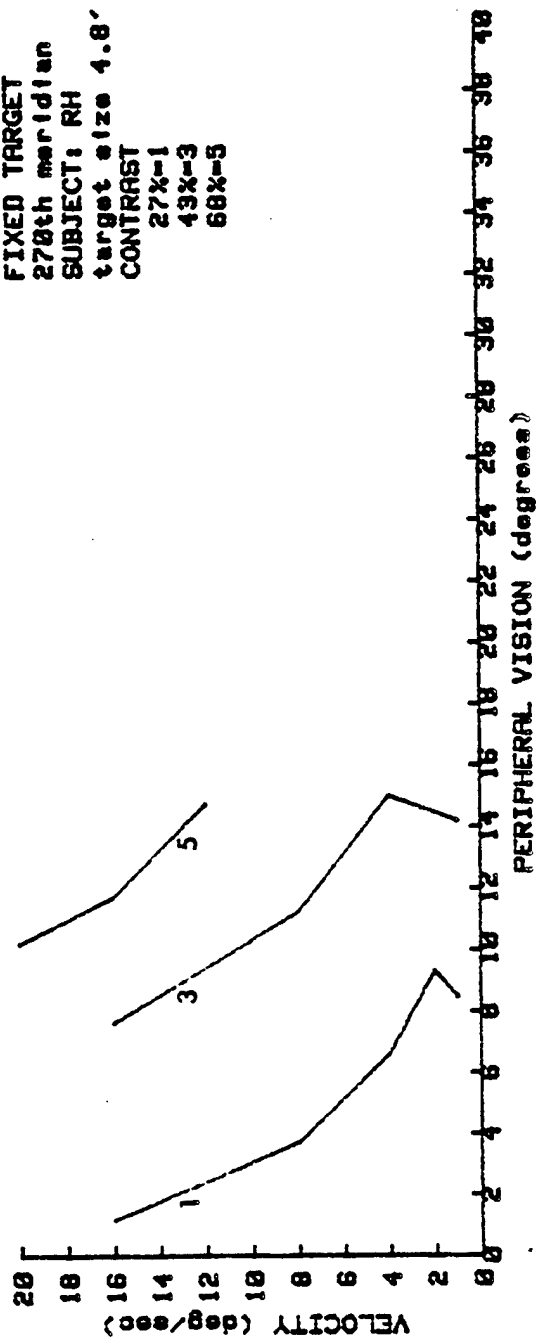


# Mean Peripheral Vision - degrees from fovea

270th Meridian Subject: RH Procedure #2

|              | 1     | 2    | 4     | 8     | 12    | 16    | 20    |
|--------------|-------|------|-------|-------|-------|-------|-------|
| Contrast 68% |       |      |       |       | 14.75 | 11.75 | 10.23 |
| S.D.         |       |      |       |       | 1.151 | .292  | .720  |
| Contrast 43% | 14.19 |      | 15.00 | 11.25 |       | 7.65  |       |
| S.D.         | 1.273 |      | .801  | .772  |       | .965  |       |
| Contrast 27% | 8.49  | 9.32 | 6.60  | 3.72  |       | 1.19  |       |
| S.D.         | .829  | .832 | .575  | .367  |       | .252  |       |
| Velocity     | 1     | 2    | 4     | 8     | 12    | 16    | 20    |

FIXED TARGET  
270th meridian  
SUBJECT: RH  
target size 4.8'  
CONTRAST  
27%-1  
43%-3  
68%-5



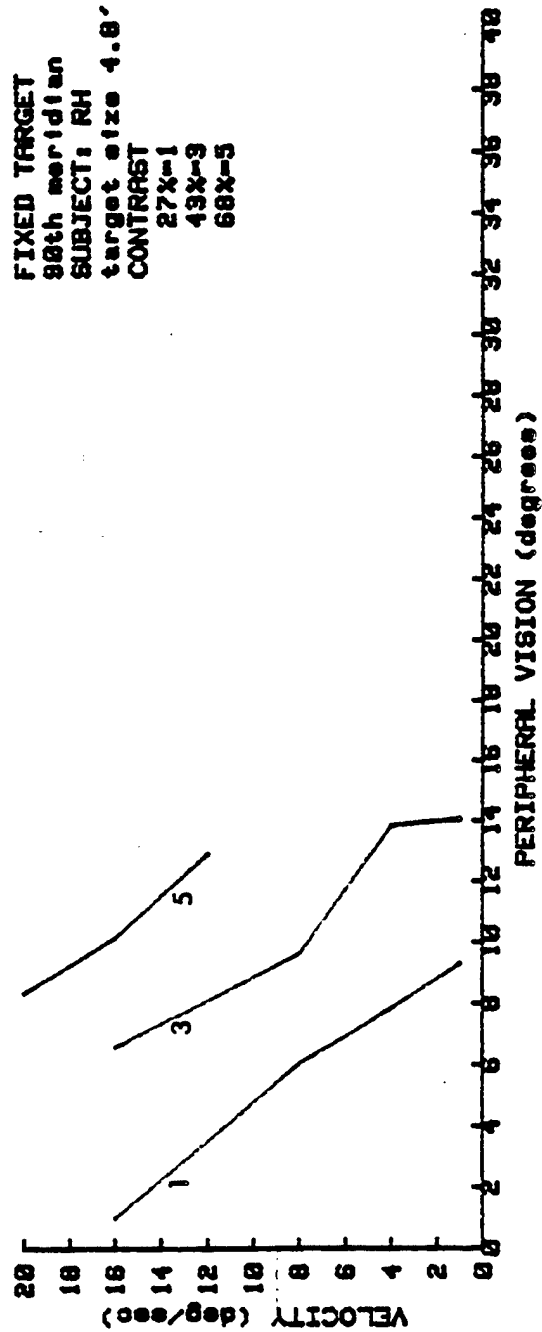


# Mean Peripheral Vision - degrees from fovea

90th Meridian Subject: RH Procedure #2

| Contrast | Velocity | 1     | 2 | 4     | 8    | 12    | 16    | 20   |
|----------|----------|-------|---|-------|------|-------|-------|------|
| 68%      | mean     |       |   |       |      | 12.91 | 10.16 | 8.35 |
|          | S.D.     |       |   |       |      | .468  | .464  | .391 |
| 43%      | mean     | 14.05 |   | 13.84 | 9.63 |       | 6.59  |      |
|          | S.D.     | .653  |   | .344  | .669 |       | .465  |      |
| 27%      | mean     | 9.29  |   | 7.84  | 6.05 |       | 1.01  |      |
|          | S.D.     | .573  |   | .771  | .741 |       | .312  |      |
|          | Velocity | 1     | 2 | 4     | 8    | 12    | 16    | 20   |

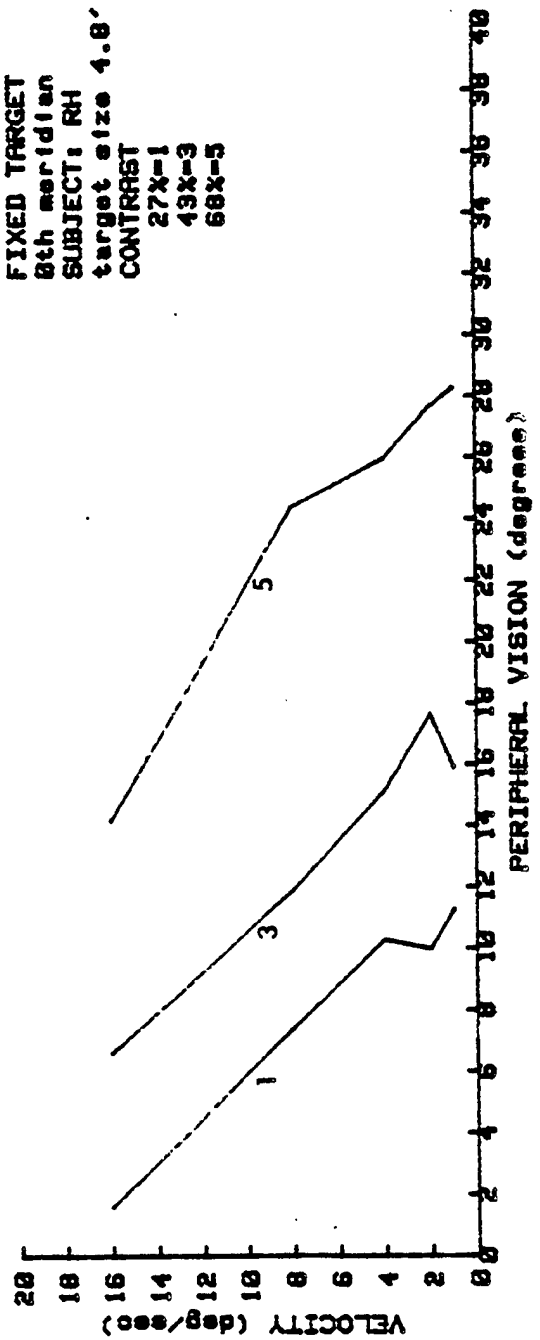
FIXED TARGET  
90th meridian  
SUBJECT: RH  
target size 4.8'  
CONTRAST  
27%-1  
43%-3  
68%-5



# Mean Peripheral Vision - degrees from fovea

|              |          | Oth Meridian | Subject: RH |       | Procedure #2 |    |       |    |  |  |
|--------------|----------|--------------|-------------|-------|--------------|----|-------|----|--|--|
|              |          | 1            | 2           | 4     | 8            | 12 | 16    | 20 |  |  |
| Contrast 68% | Velocity | 28.24        | 27.64       | 25.95 | 24.40        |    | 14.19 |    |  |  |
|              | S.D.     | 1.440        | 2.253       | 1.417 | 1.538        |    | 1.917 |    |  |  |
| Contrast 43% | mean     | 15.91        | 17.64       | 15.12 | 11.90        |    | 6.62  |    |  |  |
|              | S.D.     | .965         | 3.068       | .183  | .923         |    | .590  |    |  |  |
| Contrast 27% | mean     | 11.24        | 9.97        | 10.28 | 7.40         |    | 1.62  |    |  |  |
|              | S.D.     | 1.697        | 1.895       | .923  | 3.405        |    | .740  |    |  |  |
| Velocity     |          | 1            | 2           | 4     | 8            | 12 | 16    | 20 |  |  |

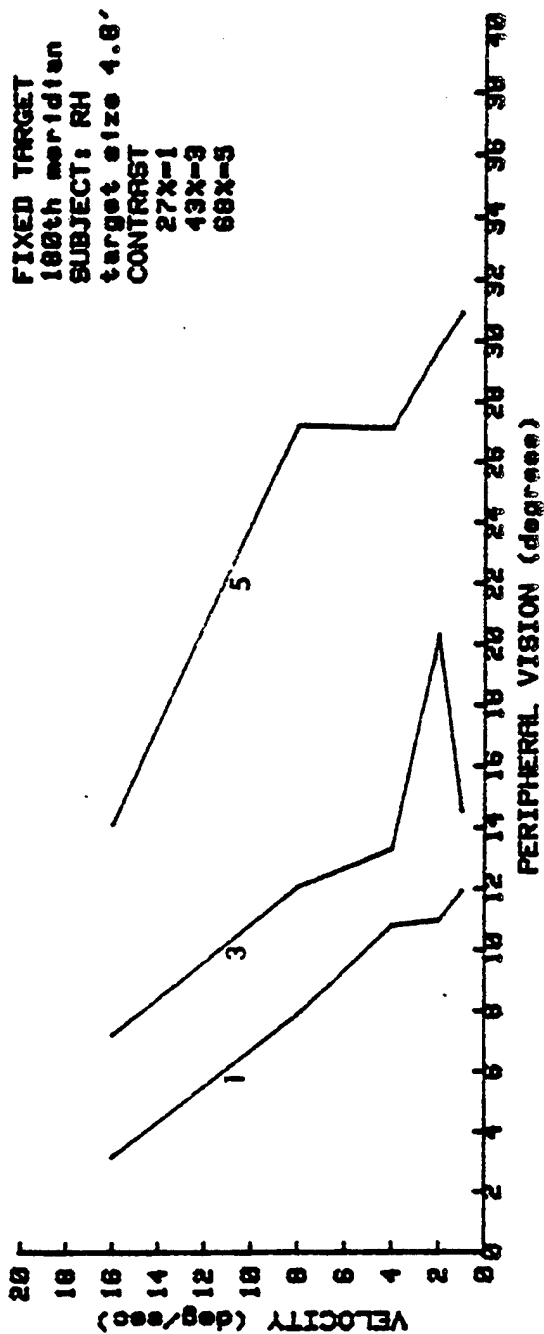
FIXED TARGET  
 0th meridian  
 SUBJECT: RH  
 target size 4.8'  
 CONTRAST  
 27X-1  
 43X-3  
 68X-5



# Mean Peripheral Vision - degrees from fovea

180th Meridian Subject: RH Procedure #2

|          | 1     | 2     | 4     | 8     | 12 | 16    | 20 |
|----------|-------|-------|-------|-------|----|-------|----|
| Contrast | 30.91 | 29.80 | 27.12 | 27.23 |    | 14.12 |    |
| 68%      | 1.427 | 1.095 | 2.398 | .940  |    | 2.230 |    |
| Contrast | 14.57 | 20.30 | 13.28 | 12.07 |    | 7.22  |    |
| 43%      | 2.133 | 2.500 | 1.453 | 1.953 |    | 1.140 |    |
| Contrast | 11.91 | 10.97 | 10.78 | 7.90  |    | 3.16  |    |
| 27%      | .480  | .518  | 1.105 | 1.157 |    | 2.807 |    |
| Velocity | 1     | 2     | 4     | 8     | 12 | 16    | 20 |

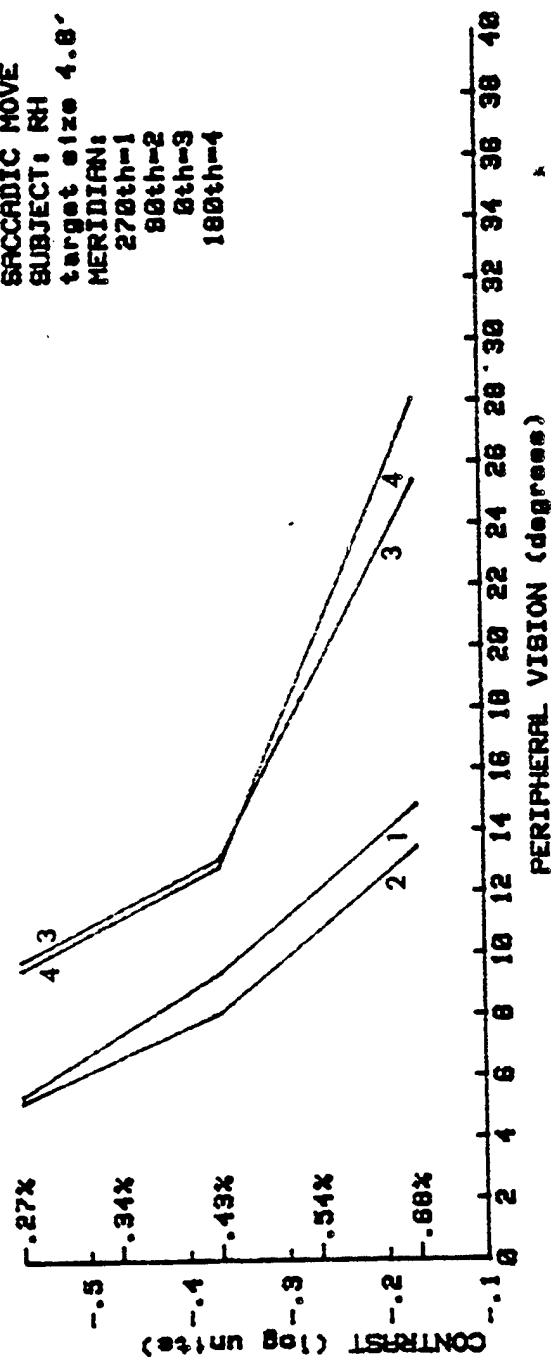


# Mean Peripheral Vision - degrees from fovea

Subject: RH Procedure: #3

|                | Contrast | 68%   | 54% | 43%   | 34% | 27%  |
|----------------|----------|-------|-----|-------|-----|------|
| 270th Meridian | mean     | 14.81 |     | 9.37  |     | 5.40 |
|                | S.D.     | .383  |     | .739  |     | .456 |
| 90th Meridian  | mean     | 13.43 |     | 8.07  |     | 5.20 |
|                | S.D.     | .643  |     | .301  |     | .383 |
| 0th Meridian   | mean     | 25.38 |     | 13.10 |     | 9.80 |
|                | S.D.     | .902  |     | .672  |     | .443 |
| 180th Meridian | mean     | 28.03 |     | 12.82 |     | 9.52 |
|                | S.D.     | 1.105 |     | .712  |     | .520 |
| Contrast       |          | 68%   | 54% | 43%   | 34% | 27%  |

SACCADEIC MOVE  
SUBJECT: RH  
target size 4.8'  
MERIDIAN:  
270th=1  
80th=2  
8th=3  
180th=4

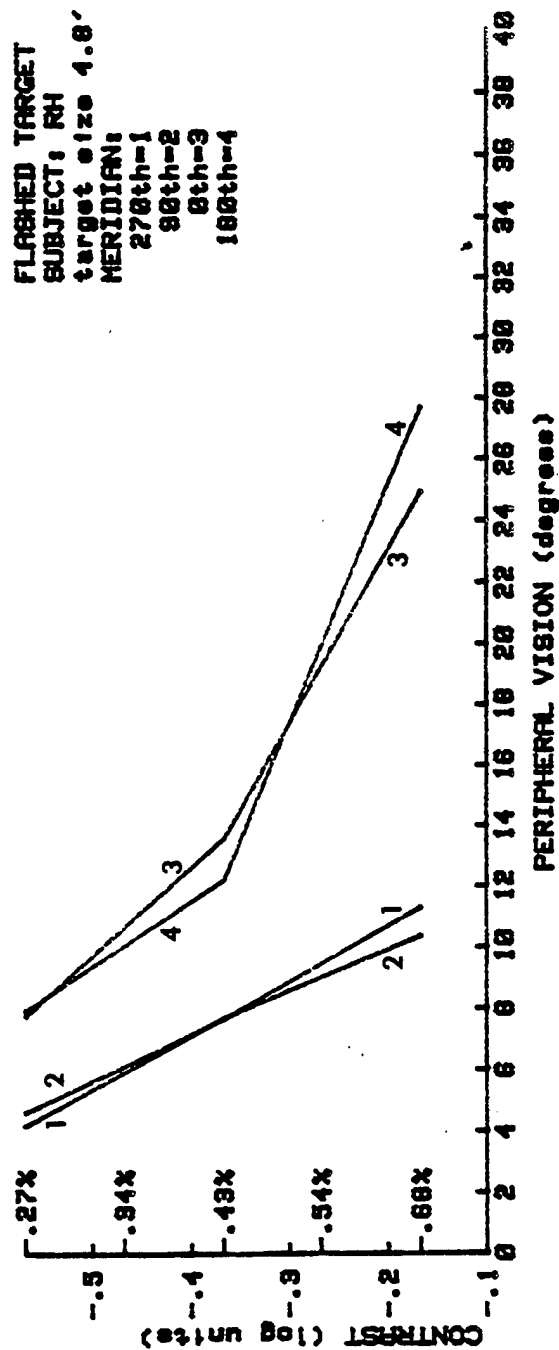


# Mean Peripheral Vision - degrees from fovea

Subject: RH Procedure: #4

|                | Contrast | 68%   | 54% | 43%   | 34% | 27%  |
|----------------|----------|-------|-----|-------|-----|------|
| 270th Meridian | mean     | 11.29 |     | 7.68  |     | 4.63 |
|                | S.D.     | .528  |     | .876  |     | .459 |
| 90th Meridian  | mean     | 10.37 |     | 7.71  |     | 4.20 |
|                | S.D.     | 1.031 |     | .308  |     | .313 |
| 0th Meridian   | mean     | 24.92 |     | 13.60 |     | 7.78 |
|                | S.D.     | .622  |     | 1.133 |     | .590 |
| 180th Meridian | mean     | 27.68 |     | 12.22 |     | 7.95 |
|                | S.D.     | 1.080 |     | .578  |     | .972 |
| Contrast       |          | 68%   | 54% | 43%   | 34% | 27%  |

170

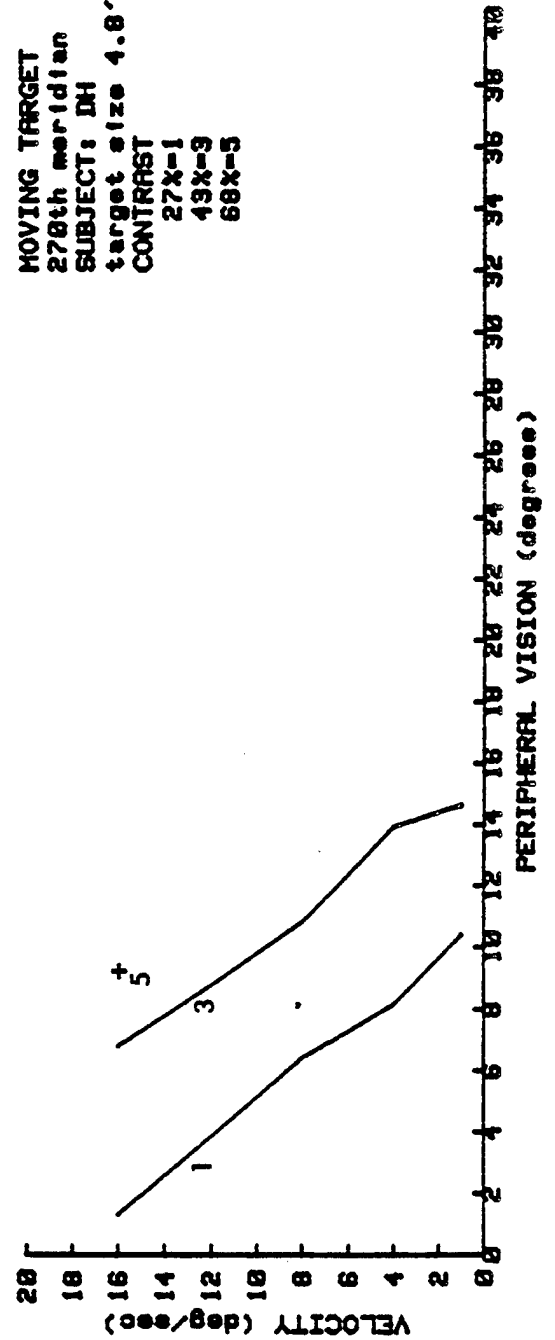


# Mean Peripheral Vision - degrees from fovea

270th Meridian Subject: DH Procedure #1

| Contrast | Velocity |      | 1     | 2 | 4     | 8     | 12 | 16    | 20 |
|----------|----------|------|-------|---|-------|-------|----|-------|----|
|          | mean     | S.D. |       |   |       |       |    |       |    |
| 68%      |          |      |       |   |       |       |    | 12.23 |    |
|          |          |      |       |   |       |       |    | .883  |    |
| Contrast | mean     |      | 14.63 |   | 13.90 | 10.80 |    | 6.78  |    |
| 43%      | S.D.     |      | .590  |   | .623  | .426  |    | .596  |    |
| Contrast | mean     |      | 10.38 |   | 8.14  | 6.40  |    | 1.31  |    |
| 27%      | S.D.     |      | .396  |   | .532  | .681  |    | .216  |    |
|          | Velocity |      | 1     | 2 | 4     | 8     | 12 | 16    | 20 |

MOVING TARGET  
270th meridian  
SUBJECT: DH  
target size 4.8'  
CONTRAST  
27X-1  
49X-3  
68X-5

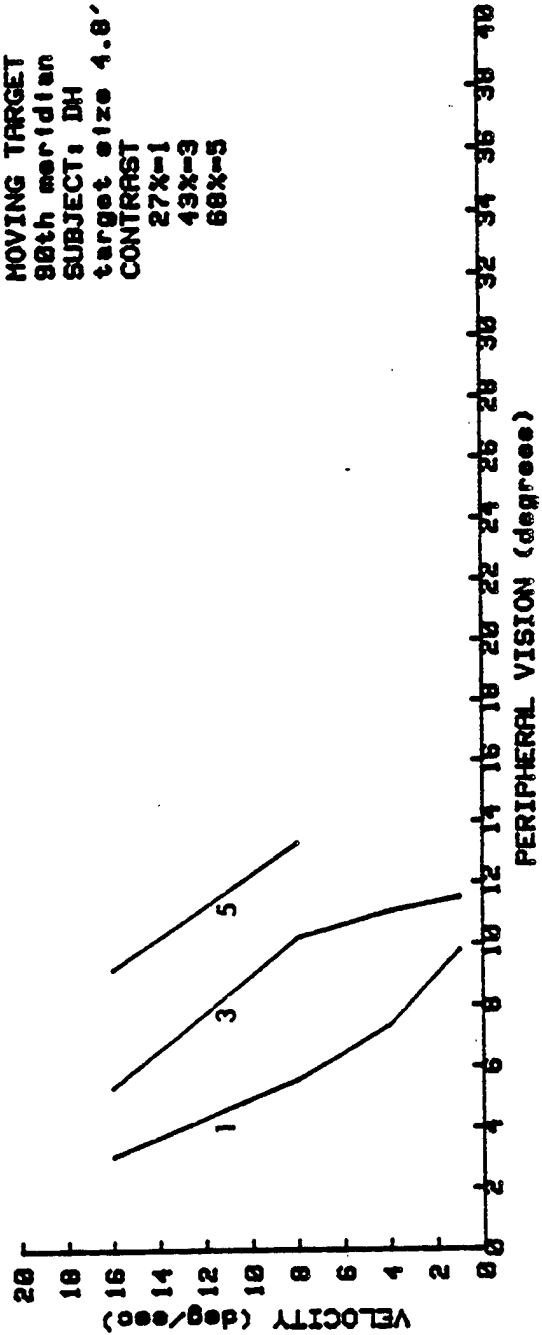


# Mean Peripheral Vision - degrees from fovea

90th Meridian Subject: DH Procedure #1

|              | Velocity |      | 1     | 2 | 4     | 8     | 12 | 16   | 20 |
|--------------|----------|------|-------|---|-------|-------|----|------|----|
|              | mean     | S.D. |       |   |       |       |    |      |    |
| Contrast 68% |          |      |       |   |       | 13.32 |    | 9.22 |    |
|              |          |      |       |   |       | .598  |    | .848 |    |
| Contrast 43% |          |      | 11.51 |   | 11.06 | 10.23 |    | 5.37 |    |
|              |          |      | .622  |   | .459  | .585  |    | .690 |    |
| Contrast 27% |          |      | 9.79  |   | 7.36  | 5.59  |    | 3.09 |    |
|              |          |      | .774  |   | .885  | .549  |    | .585 |    |
| Velocity     |          |      | 1     | 2 | 4     | 8     | 12 | 16   | 20 |
|              |          |      |       |   |       |       |    |      |    |

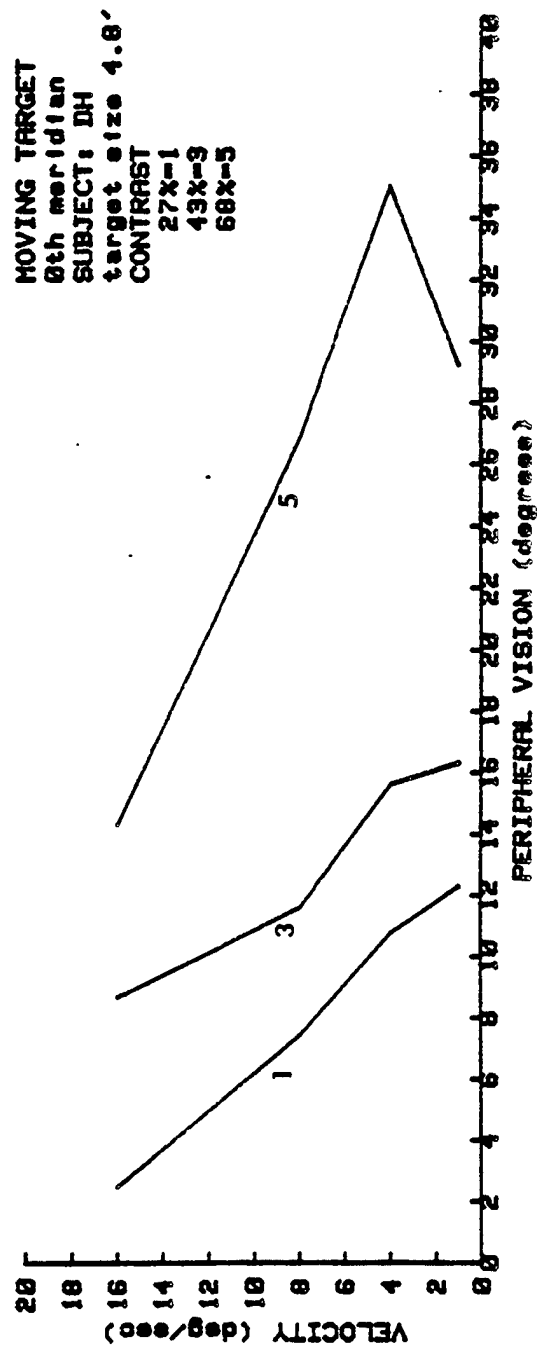
MOVING TARGET  
98th meridian  
SUBJECT: DH  
target size 4.8'  
CONTRAST  
27X-1  
43X-3  
68X-5



# Mean Peripheral Vision - degrees from fovea

Oth Meridian Subject: DH Procedure #1

| Contrast | Velocity | 1     | 2 | 4     | 8     | 12 | 16    | 20 |
|----------|----------|-------|---|-------|-------|----|-------|----|
| 68%      | mean     | 29.25 |   | 35.03 | 26.86 |    | 14.31 |    |
|          | S.D.     | 4.985 |   | 2.662 | 2.342 |    | 1.442 |    |
| 43%      | mean     | 16.32 |   | 15.60 | 11.62 |    | 8.68  |    |
|          | S.D.     | 1.397 |   | .570  | 1.013 |    | .630  |    |
| 27%      | mean     | 12.29 |   | 10.77 | 7.46  |    | 2.48  |    |
|          | S.D.     | .585  |   | 1.483 | 1.550 |    | .345  |    |
| Velocity |          | 1     | 2 | 4     | 8     | 12 | 16    | 20 |

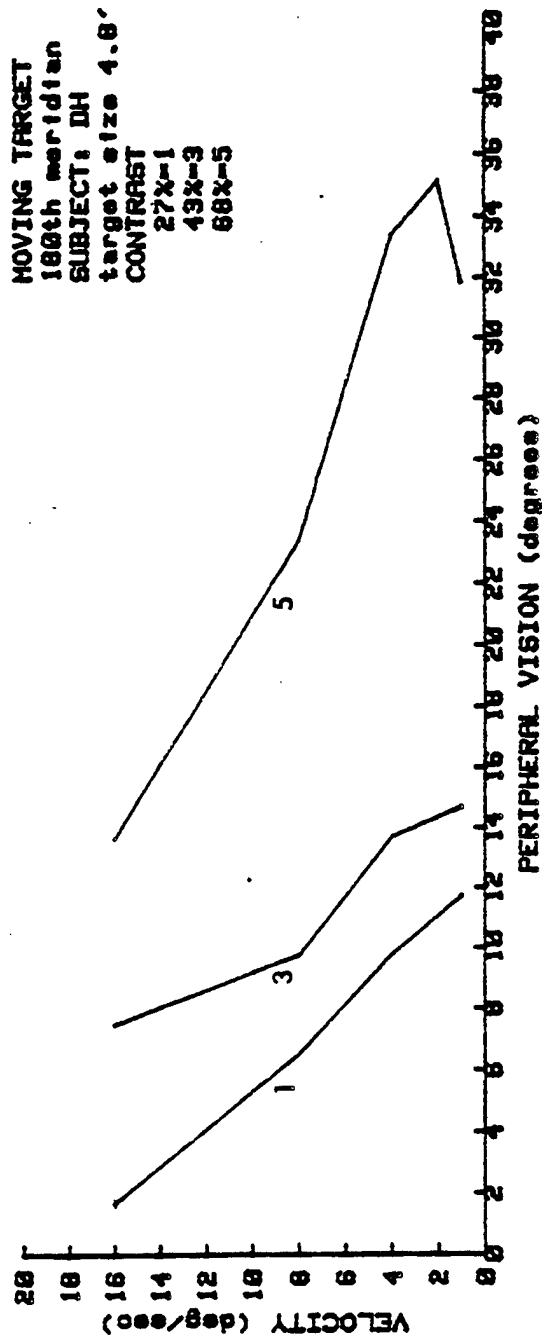




# Mean Peripheral Vision - degrees from fovea

180th Meridian Subject: DH Procedure #1

| Contrast | Velocity | 1     | 2     | 4     | 8     | 12 | 16    | 20 |
|----------|----------|-------|-------|-------|-------|----|-------|----|
| 68%      | mean     | 31.85 | 35.15 | 33.40 | 23.39 |    | 13.65 |    |
|          | S.D.     | 1.741 | .900  | 2.520 | 3.150 |    | .402  |    |
| Contrast | mean     | 14.69 |       | 13.70 | 9.77  |    | 7.48  |    |
| 43%      | S.D.     | .638  |       | .777  | 1.767 |    | 1.023 |    |
| Contrast | mean     | 11.72 |       | 9.77  | 6.49  |    | 1.68  |    |
| 27%      | S.D.     | .773  |       | .720  | .712  |    | 1.128 |    |
| Velocity |          | 1     | 2     | 4     | 8     | 12 | 16    | 20 |

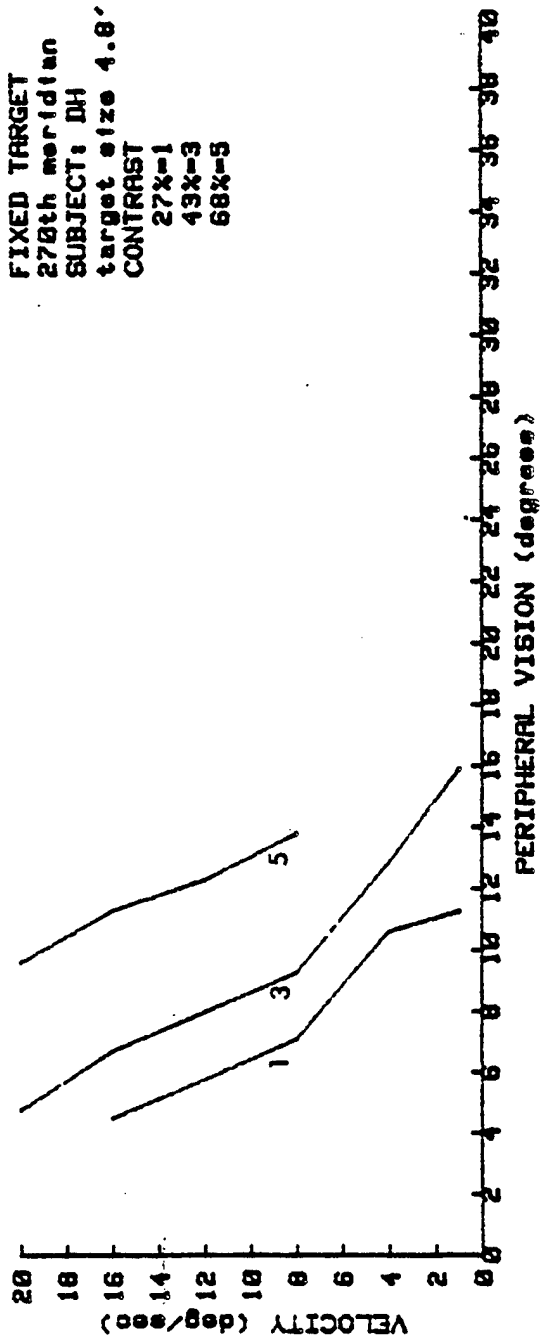


# Mean Peripheral Vision - degrees from fovea

270th Meridian Subject: DH Procedure #2

| Contrast | 1     | 2 | 4     | 8     | 12    | 16    | 20   |
|----------|-------|---|-------|-------|-------|-------|------|
| 68%      |       |   |       | 13.80 | 12.30 | 11.30 | 9.59 |
| S.D.     |       |   |       | .686  | .641  | .759  | .559 |
| Contrast | 15.90 |   | 12.84 | 9.27  | 8.00  | 6.71  | 4.77 |
| 43%      | .657  |   | .390  | .646  | .569  | .689  | .689 |
| S.D.     |       |   |       |       |       |       |      |
| Contrast | 11.27 |   | 10.60 | 7.09  |       | 4.49  |      |
| 27%      | .360  |   | .361  | .620  |       | 1.069 |      |
| S.D.     |       |   |       |       |       |       |      |
| Velocity | 1     | 2 | 4     | 8     | 12    | 16    | 20   |

FIXED TARGET  
270th meridian  
SUBJECT: DH  
target size 4.8'  
CONTRAST  
27%-1  
43%-3  
68%-5

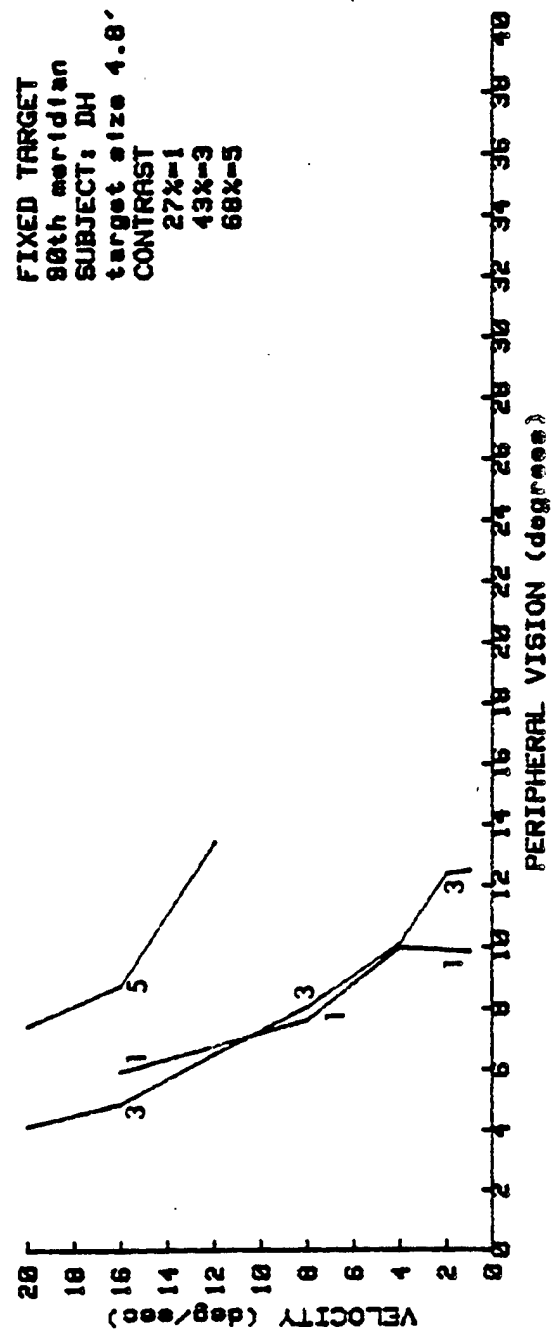


# Mean Peripheral Vision - degrees from fovea

90th Meridian Subject: DH Procedure #2

|          | 1     | 2     | 4     | 8    | 12    | 16   | 20   |
|----------|-------|-------|-------|------|-------|------|------|
| Contrast |       |       |       |      |       |      |      |
| 68%      |       |       |       |      | 13.43 | 8.76 | 7.44 |
| S.D.     |       |       |       |      | .509  | .306 | .684 |
| Contrast | 12.50 | 12.39 | 10.13 | 8.06 | 6.51  | 4.87 | 4.14 |
| 43%      | 1.187 | 1.057 | 1.057 | .556 | .543  | .774 | .267 |
| S.D.     |       |       |       |      |       |      |      |
| Contrast | 9.86  |       | 10.00 | 7.63 |       | 5.93 |      |
| 27%      | .133  |       | .300  | .731 |       | .536 |      |
| S.D.     |       |       |       |      |       |      |      |
| Velocity | 1     | 2     | 4     | 8    | 12    | 16   | 20   |

FIXED TARGET  
80th meridian  
SUBJECT: DH  
target size 4.8'  
CONTRAST  
27%-1  
43%-3  
68%-5

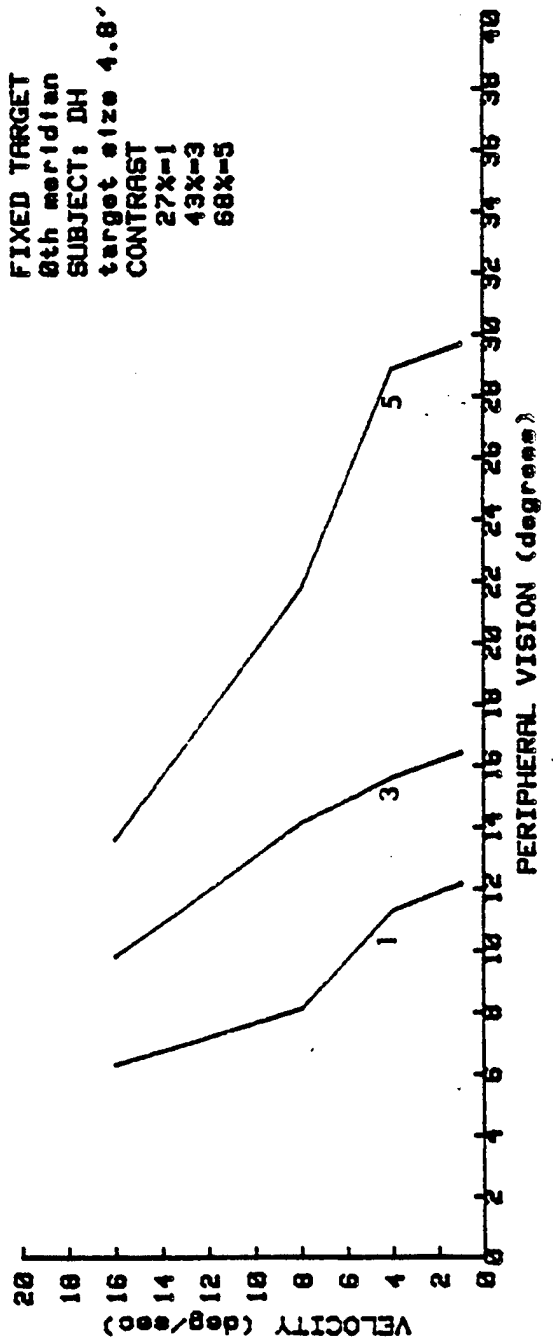


# Mean Peripheral Vision - degrees from fovea

Oth Meridian Subject: DH Procedure #2

|          | 1     | 2     | 4     | 8     | 12 | 16 | 20 |
|----------|-------|-------|-------|-------|----|----|----|
| Contrast | 29.69 | 28.90 | 21.77 | 13.61 |    |    |    |
| 68%      | .720  | 1.348 | 3.072 | 2.240 |    |    |    |
| Contrast | 16.42 | 15.62 | 14.14 | 9.81  |    |    |    |
| 43%      | 1.947 | 1.005 | 2.086 | 1.252 |    |    |    |
| Contrast | 12.17 | 11.30 | 8.12  | 6.31  |    |    |    |
| 27%      | .473  | .500  | .647  | 2.052 |    |    |    |
| Velocity | 1     | 2     | 4     | 8     | 12 | 16 | 20 |

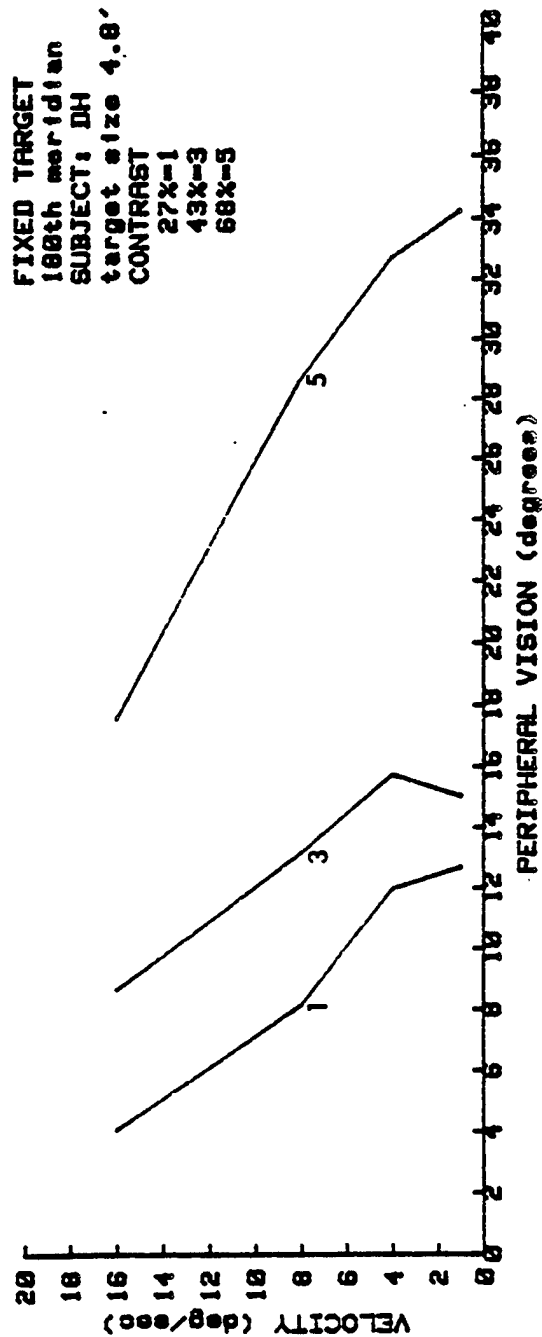
FIXED TARGET  
8th meridian  
SUBJECT: DH  
target size 4.8'  
CONTRAST  
27X-1  
43X-3  
68X-5



# Mean Peripheral Vision - degrees from fovea

180th Meridian Subject: DH Procedure 112

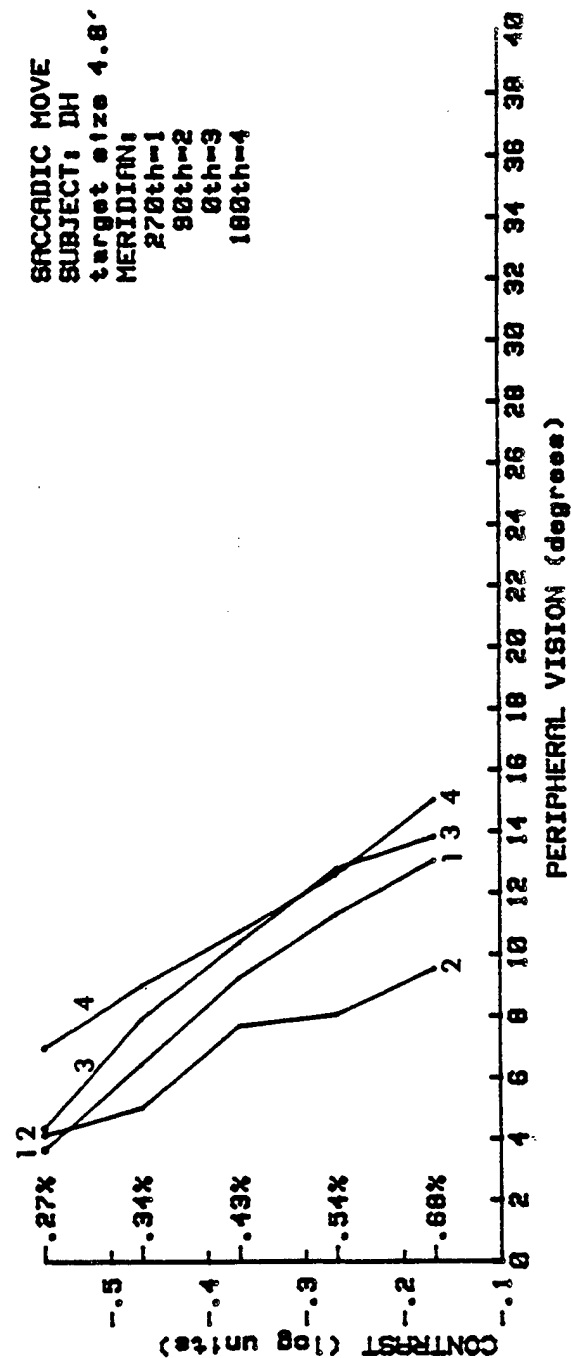
|              | 1     | 2 | 4     | 8     | 12 | 16    | 20 |
|--------------|-------|---|-------|-------|----|-------|----|
| Contrast 68% | 34.24 |   | 32.73 | 28.71 |    | 17.60 |    |
| S.D.         | 1.422 |   | 3.410 | 2.302 |    | 2.477 |    |
| Contrast 43% | 15.02 |   | 15.73 | 13.17 |    | 8.68  |    |
| S.D.         | .762  |   | .932  | 1.535 |    | 1.445 |    |
| Contrast 27% | 12.69 |   | 11.97 | 8.16  |    | 4.08  |    |
| S.D.         | .723  |   | 1.313 | 2.632 |    | .912  |    |
| Velocity     | 1     | 2 | 4     | 8     | 12 | 16    | 20 |



# Mean Peripheral Vision - degrees from fovea

Subject: DH Procedure: #3

|                | Contrast | 68%   | 54%   | 43%   | 34%   | 27%  |
|----------------|----------|-------|-------|-------|-------|------|
| 270th Meridian | mean     | 13.04 | 11.29 | 9.24  | 6.43  | 3.63 |
|                | S.D.     | 1.183 | .293  | .483  | 1.041 | .626 |
| 90th Meridian  | mean     | 9.53  | 8.03  | 7.67  | 4.99  | 4.10 |
|                | S.D.     | .553  | .603  | .374  | .594  | .300 |
| 0th Meridian   | mean     | 13.82 | 12.78 | 10.38 | 7.90  | 4.33 |
|                | S.D.     | .803  | .397  | .460  | .977  | .492 |
| 180th Meridian | mean     | 15.02 | 12.58 | 10.73 | 8.98  | 6.95 |
|                | S.D.     | .757  | .648  | .583  | .560  | .590 |
| Contrast       |          | 68%   | 54%   | 43%   | 34%   | 27%  |

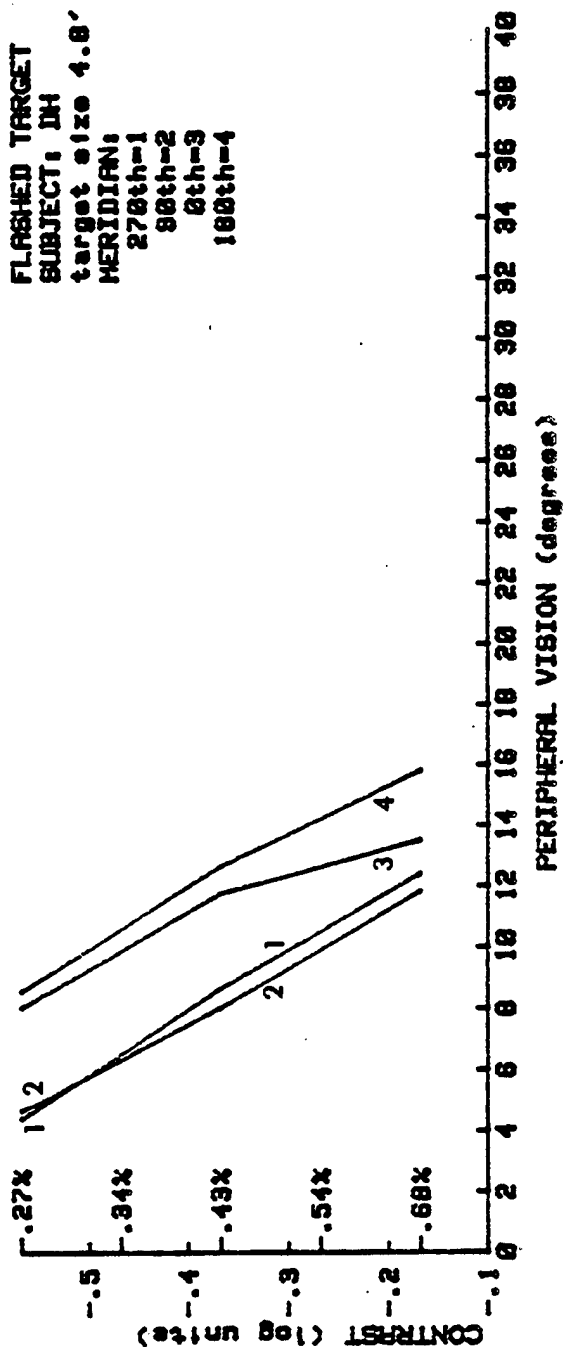


# Mean Peripheral Vision - degrees from fovea

Subject: DH Procedure: #4

|                | Contrast | 68%   | 54% | 43%   | 34% | 27%   |
|----------------|----------|-------|-----|-------|-----|-------|
| 270th Meridian | mean     | 12.41 |     | 8.67  |     | 4.43  |
|                | S.D.     | .406  |     | .507  |     | .413  |
| 90th Meridian  | mean     | 11.83 |     | 8.04  |     | 4.69  |
|                | S.D.     | .284  |     | .320  |     | .547  |
| 0th Meridian   | mean     | 13.52 |     | 11.77 |     | 8.05  |
|                | S.D.     | 1.298 |     | 1.238 |     | 1.112 |
| 180th Meridian | mean     | 15.82 |     | 12.67 |     | 8.58  |
|                | S.D.     | .528  |     | .623  |     | .673  |
| Contrast       |          | 68%   | 54% | 43%   | 34% | 27%   |

FLASHED TARGET  
SUBJECT: DH  
target size 4.8'  
MERIDIAN:  
270th=1  
90th=2  
0th=3  
180th=4



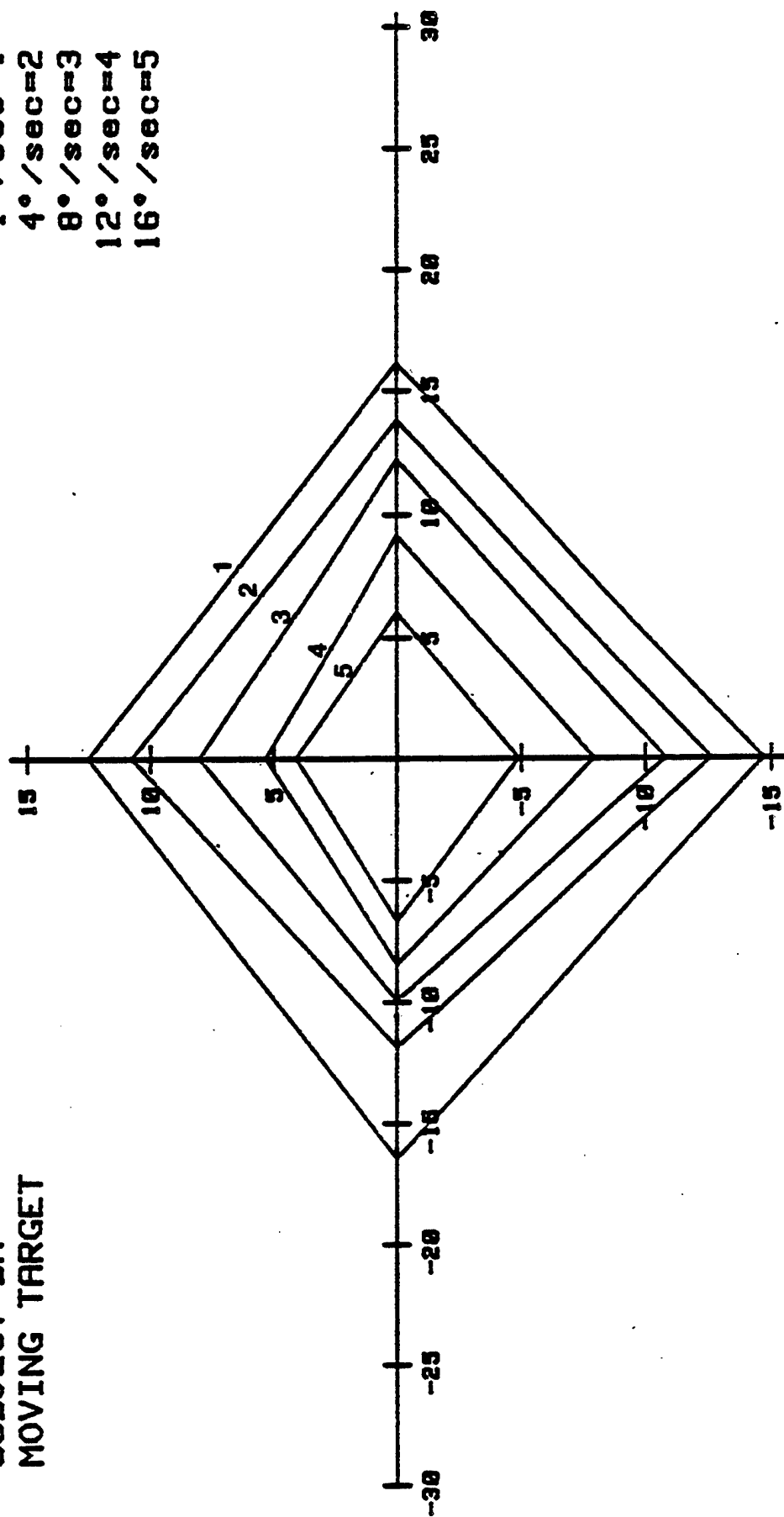
## APPENDIX D

Four Primary Meridian Plots for  
Each Subject and Procedure



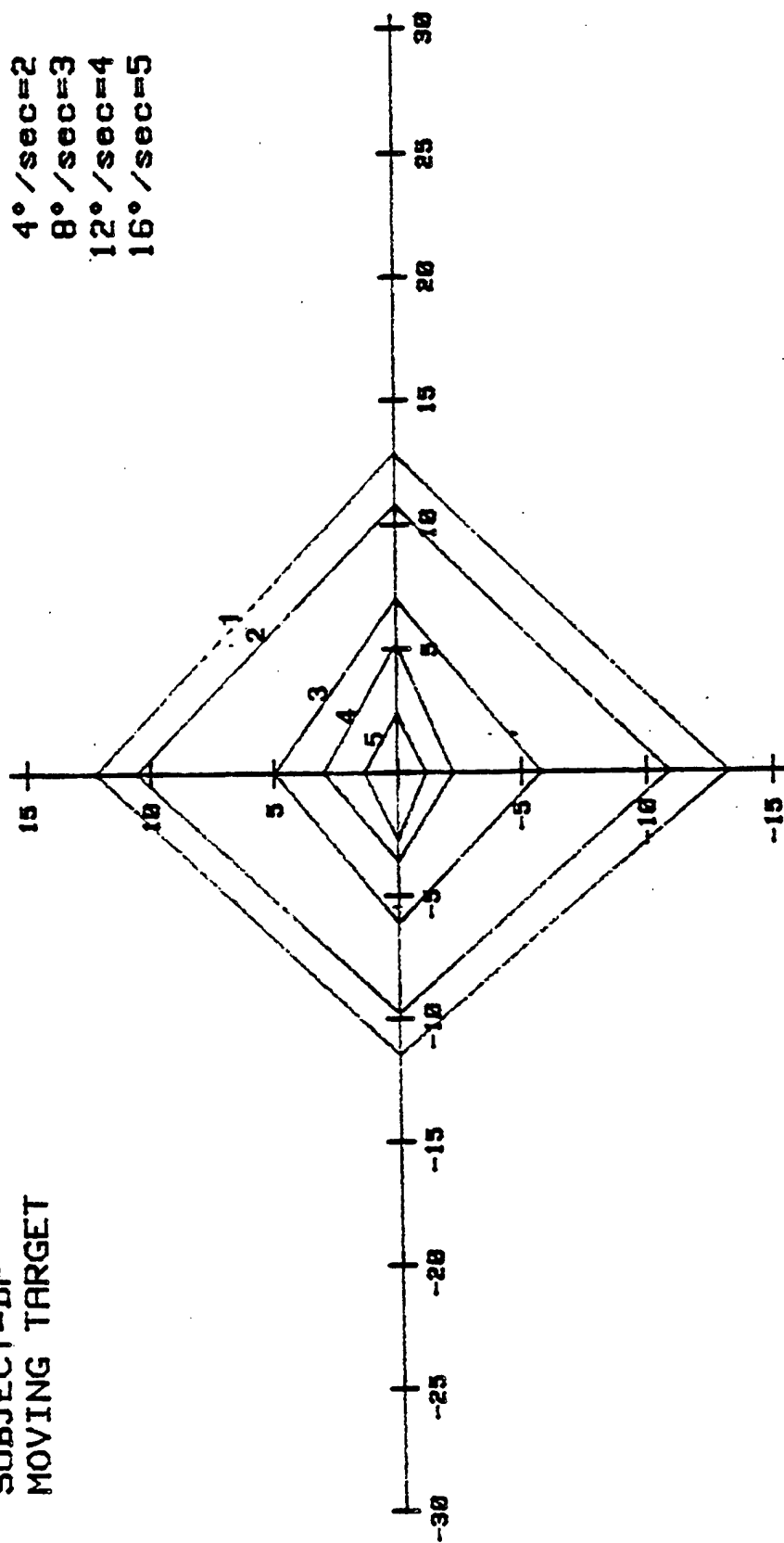
CONTRAST=43%  
 SUBJECT=BM  
 MOVING TARGET

VELOCITY  
 1°/sec=1  
 4°/sec=2  
 8°/sec=3  
 12°/sec=4  
 16°/sec=5

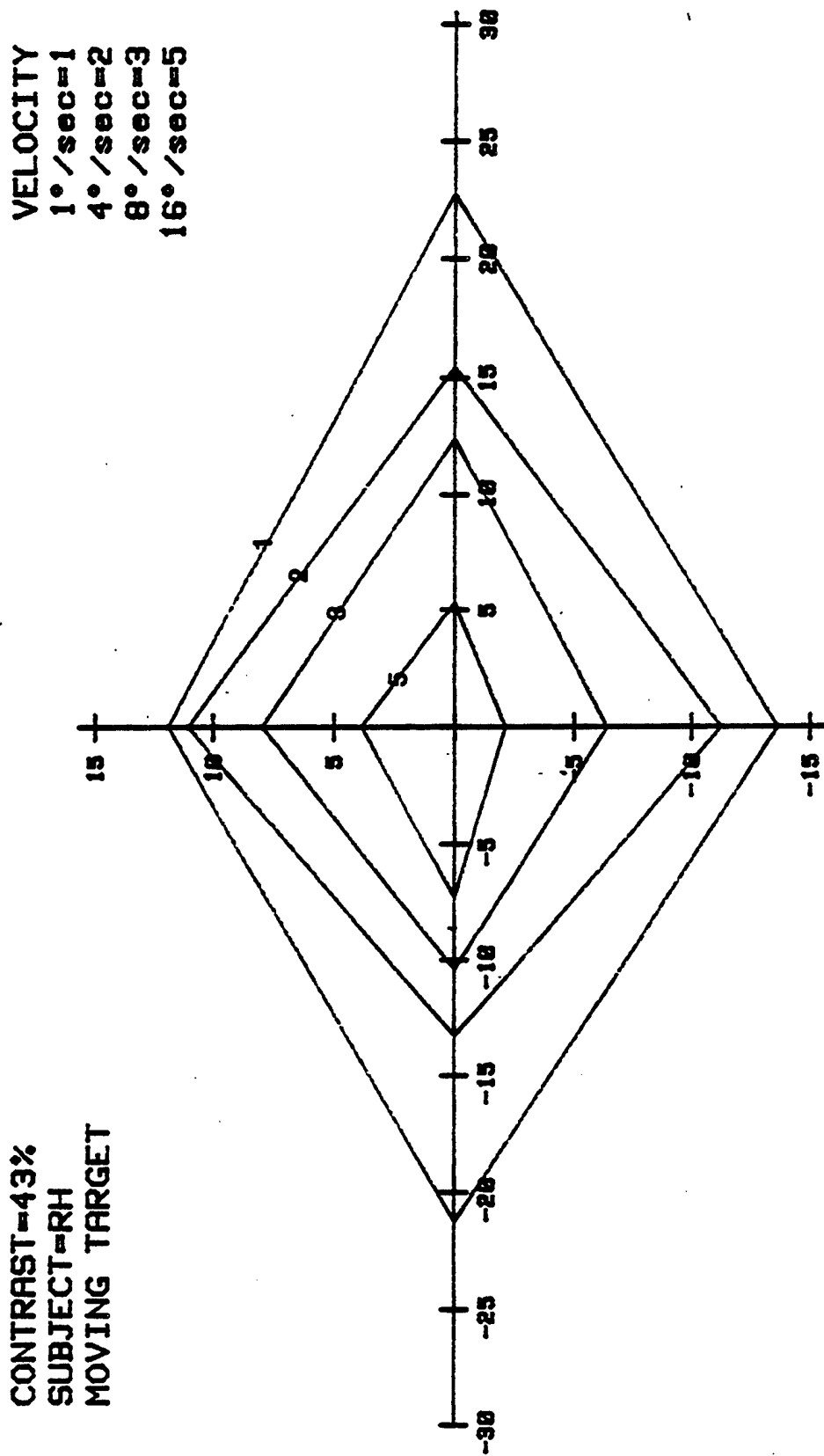


VELOCITY  
 1°/sec=1  
 4°/sec=2  
 8°/sec=3  
 12°/sec=4  
 16°/sec=5

CONTRAST=43%  
 SUBJECT=DP  
 MOVING TARGET

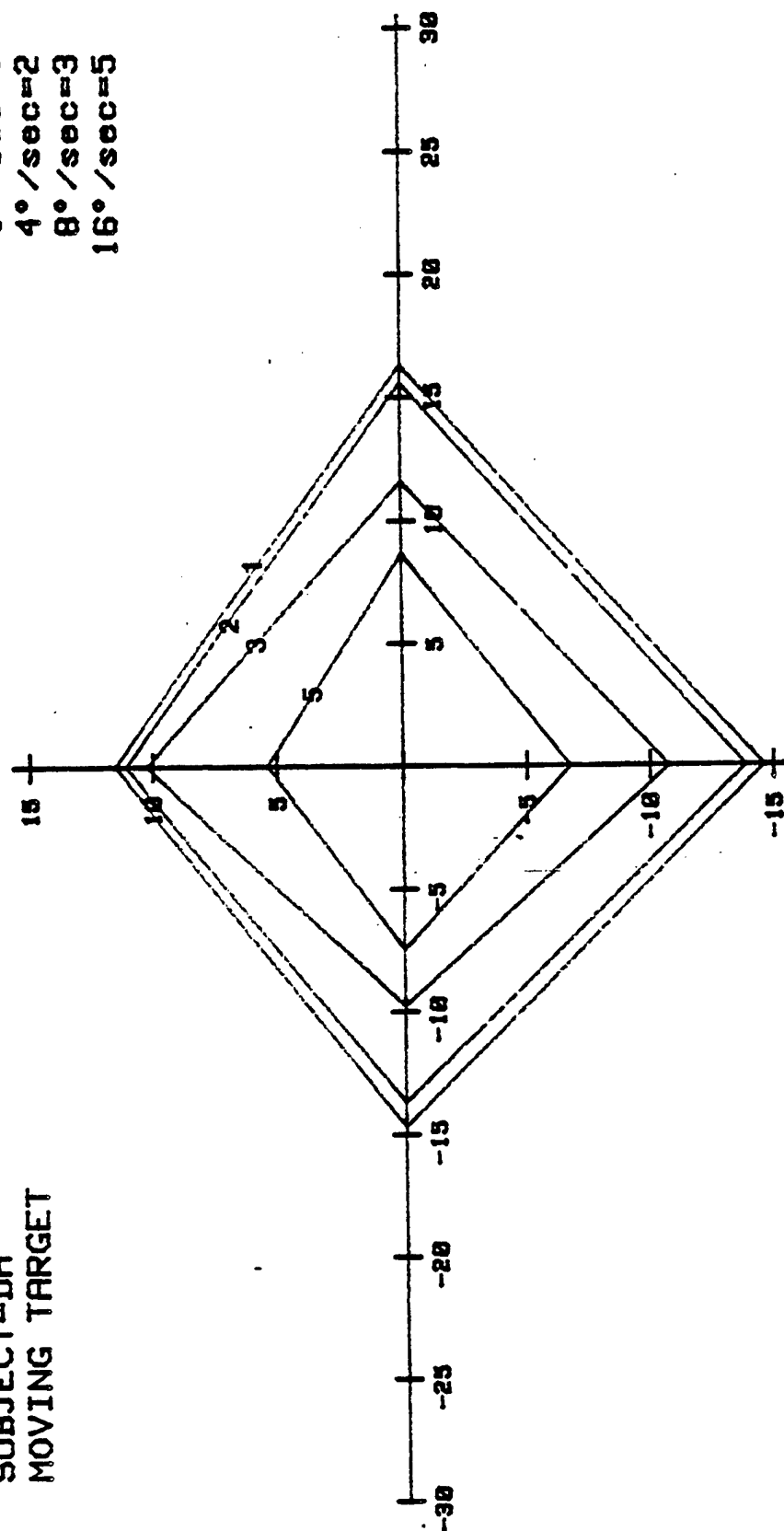


CONTRAST=43%  
 SUBJECT=RH  
 MOVING TARGET



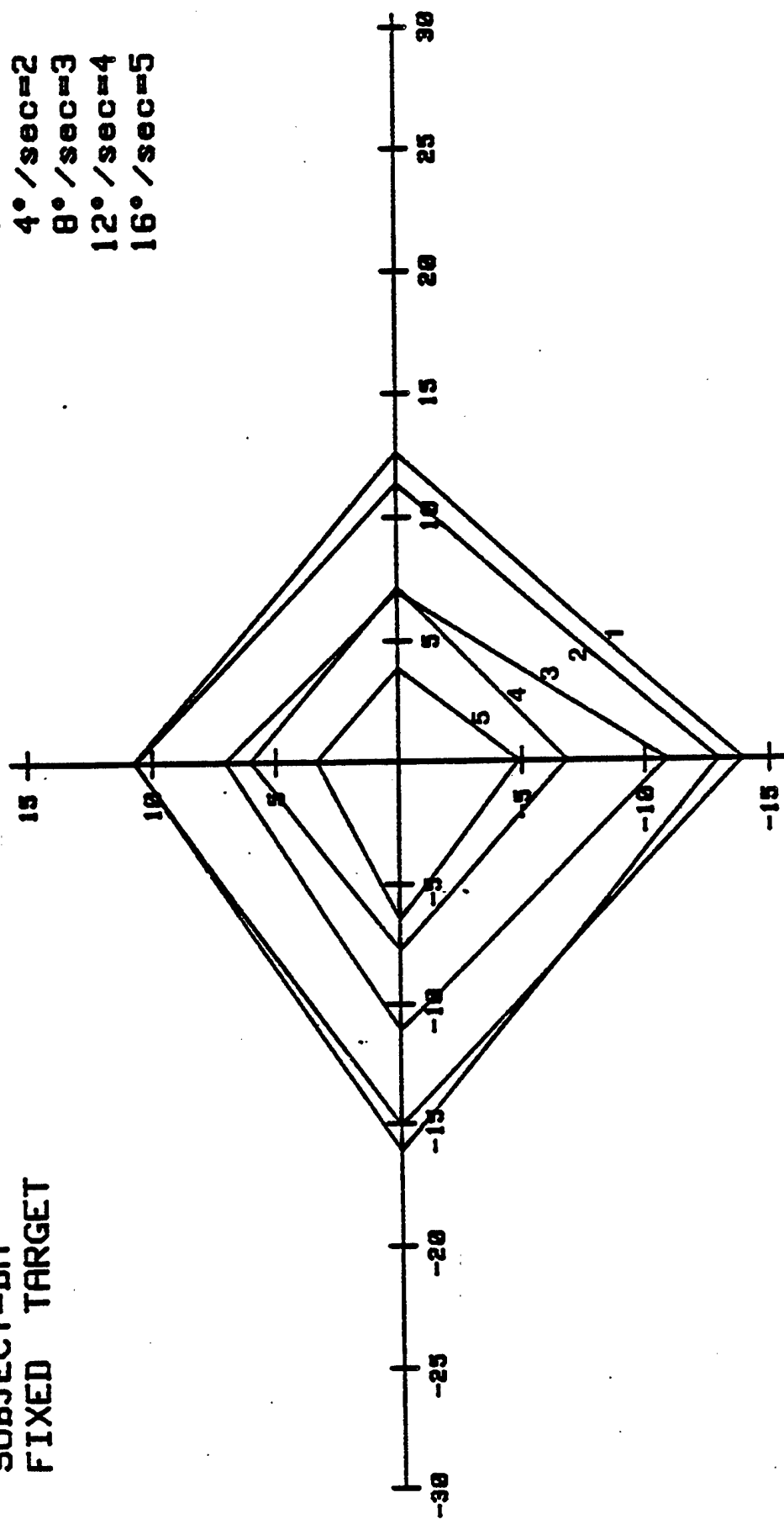
VELOCITY  
 1°/sec=1  
 4°/sec=2  
 8°/sec=3  
 16°/sec=5

CONTRAST=43%  
 SUBJECT=DH  
 MOVING TARGET



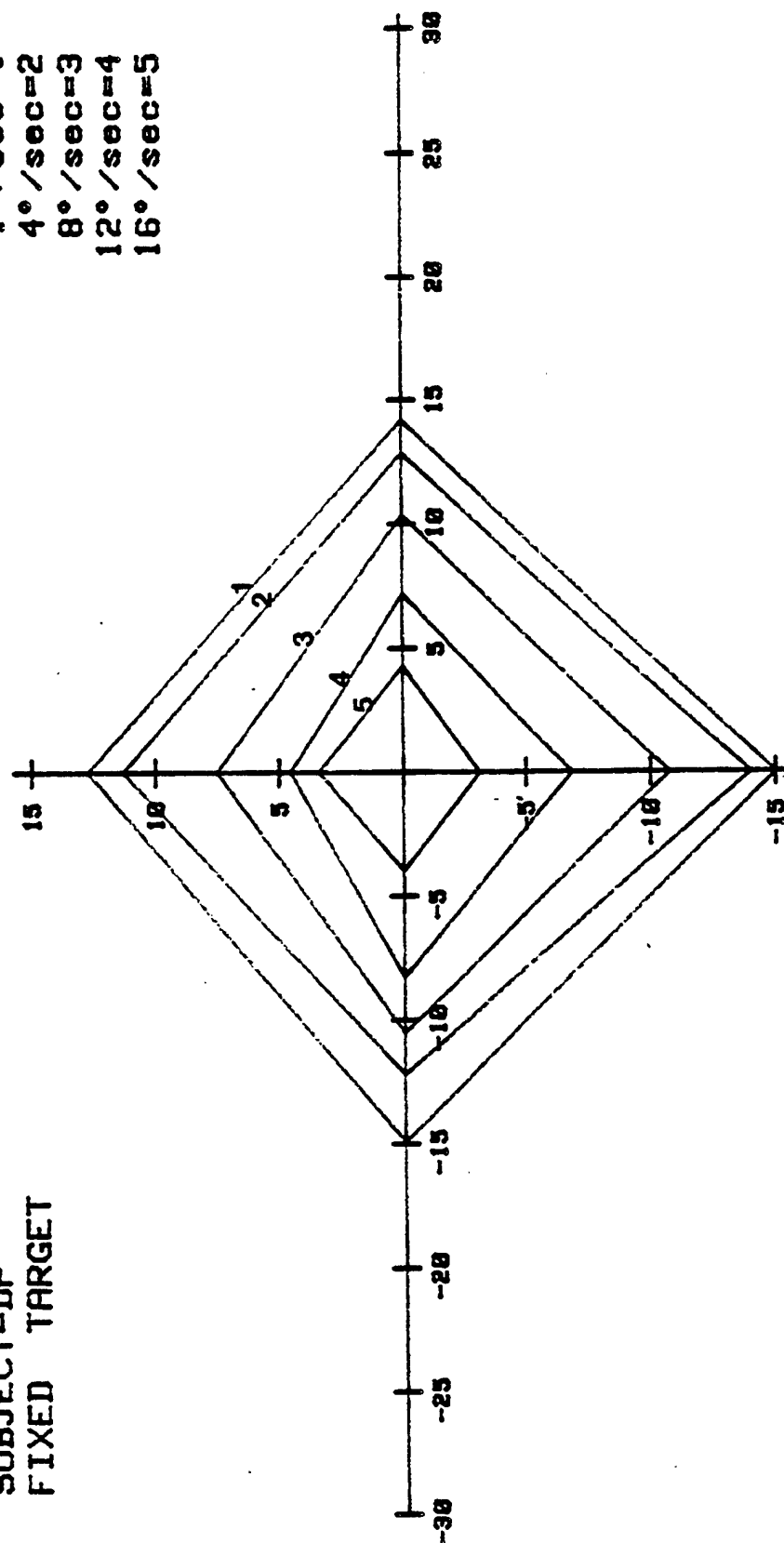
CONTRAST=43%  
 SUBJECT=BM  
 FIXED TARGET

VELOCITY  
 1°/sec=1  
 4°/sec=2  
 8°/sec=3  
 12°/sec=4  
 16°/sec=5



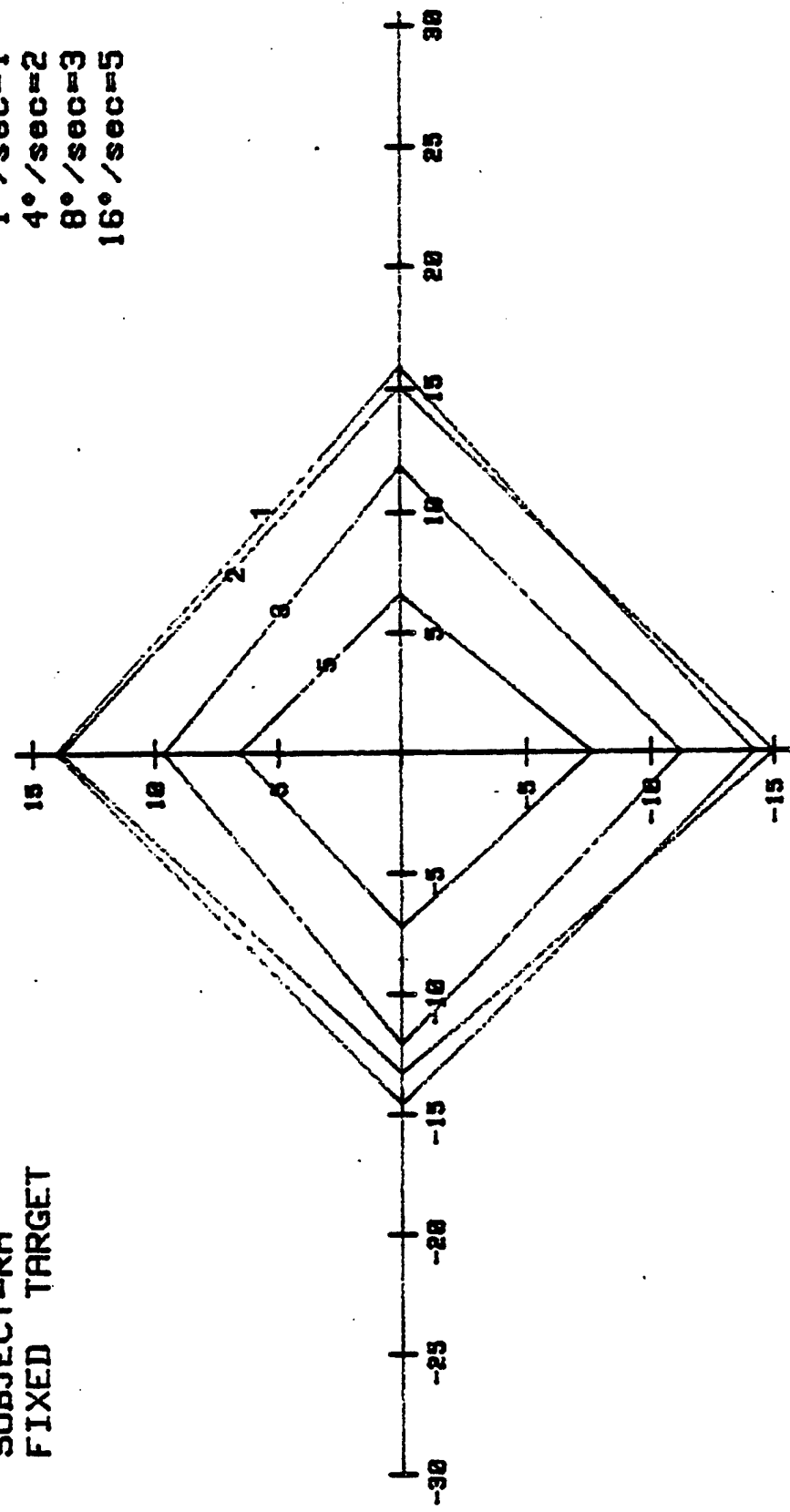
VELOCITY  
 1°/sec=1  
 4°/sec=2  
 8°/sec=3  
 12°/sec=4  
 16°/sec=5

CONTRAST=43%  
 SUBJECT=DP  
 FIXED TARGET



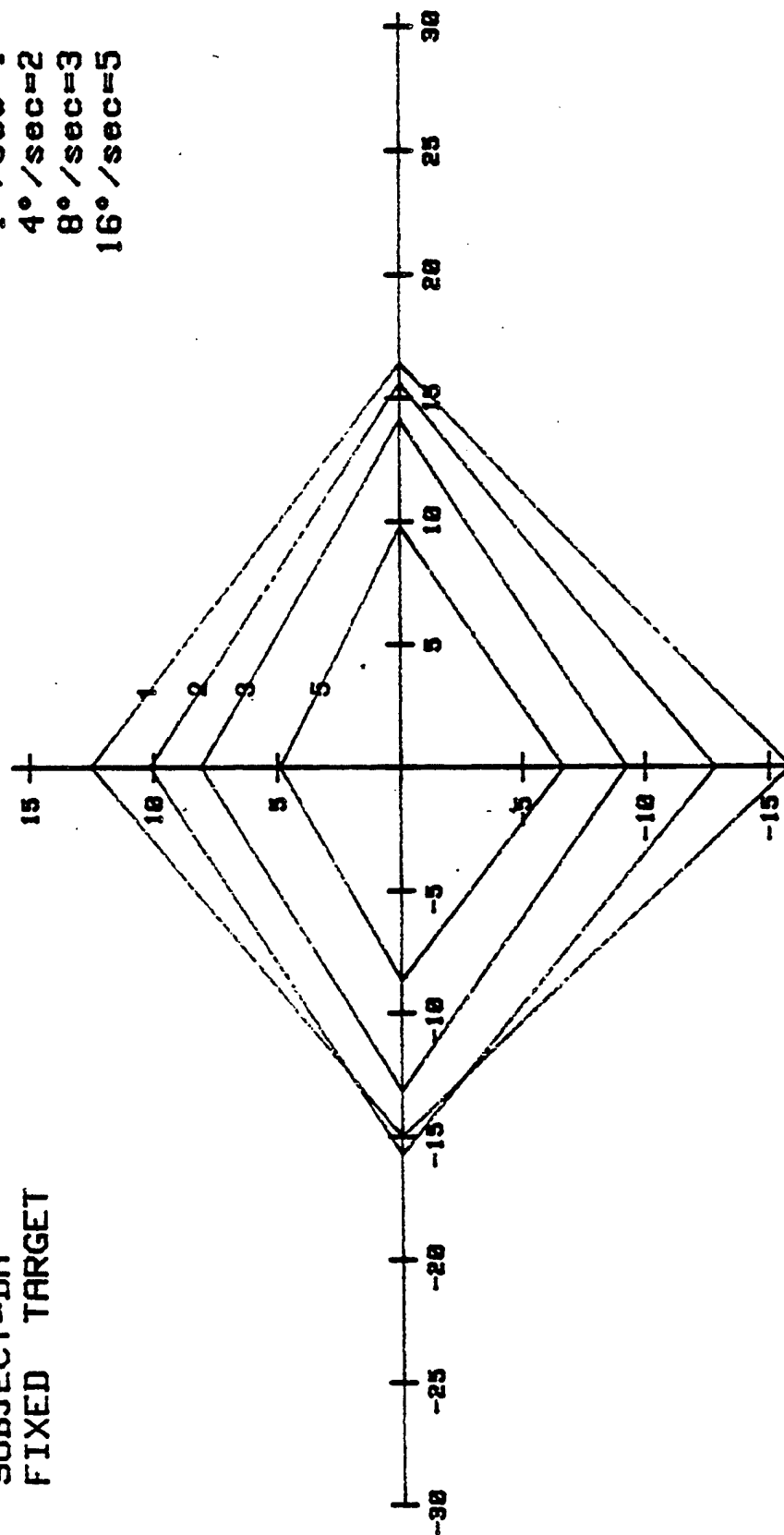
VELOCITY  
 1°/sec=1  
 4°/sec=2  
 8°/sec=3  
 16°/sec=5

CONTRAST=43%  
 SUBJECT=RH  
 FIXED TARGET



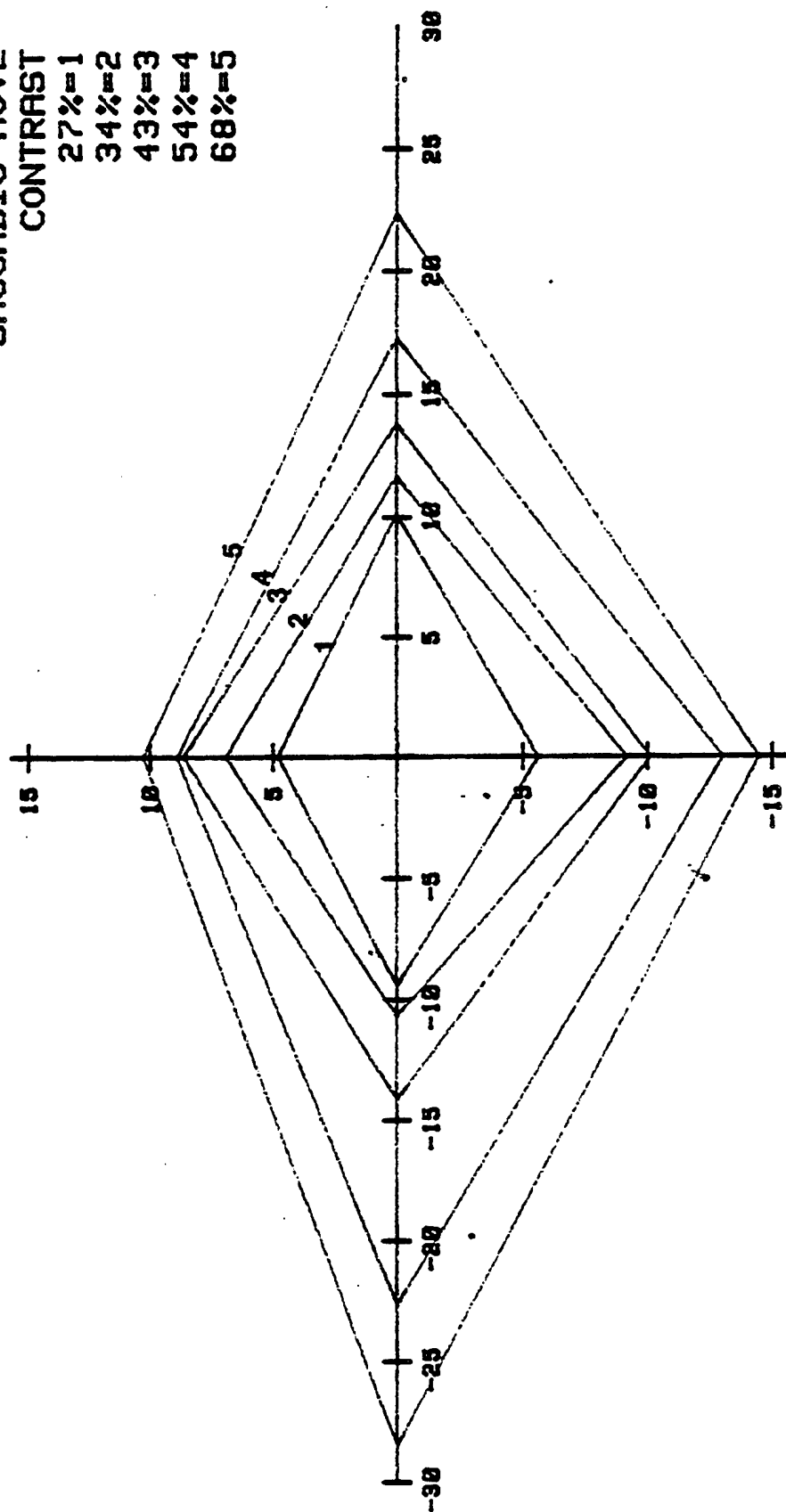
VELOCITY  
 1°/sec=1  
 4°/sec=2  
 8°/sec=3  
 16°/sec=5

CONTRAST=43%  
 SUBJECT=DH  
 FIXED TARGET

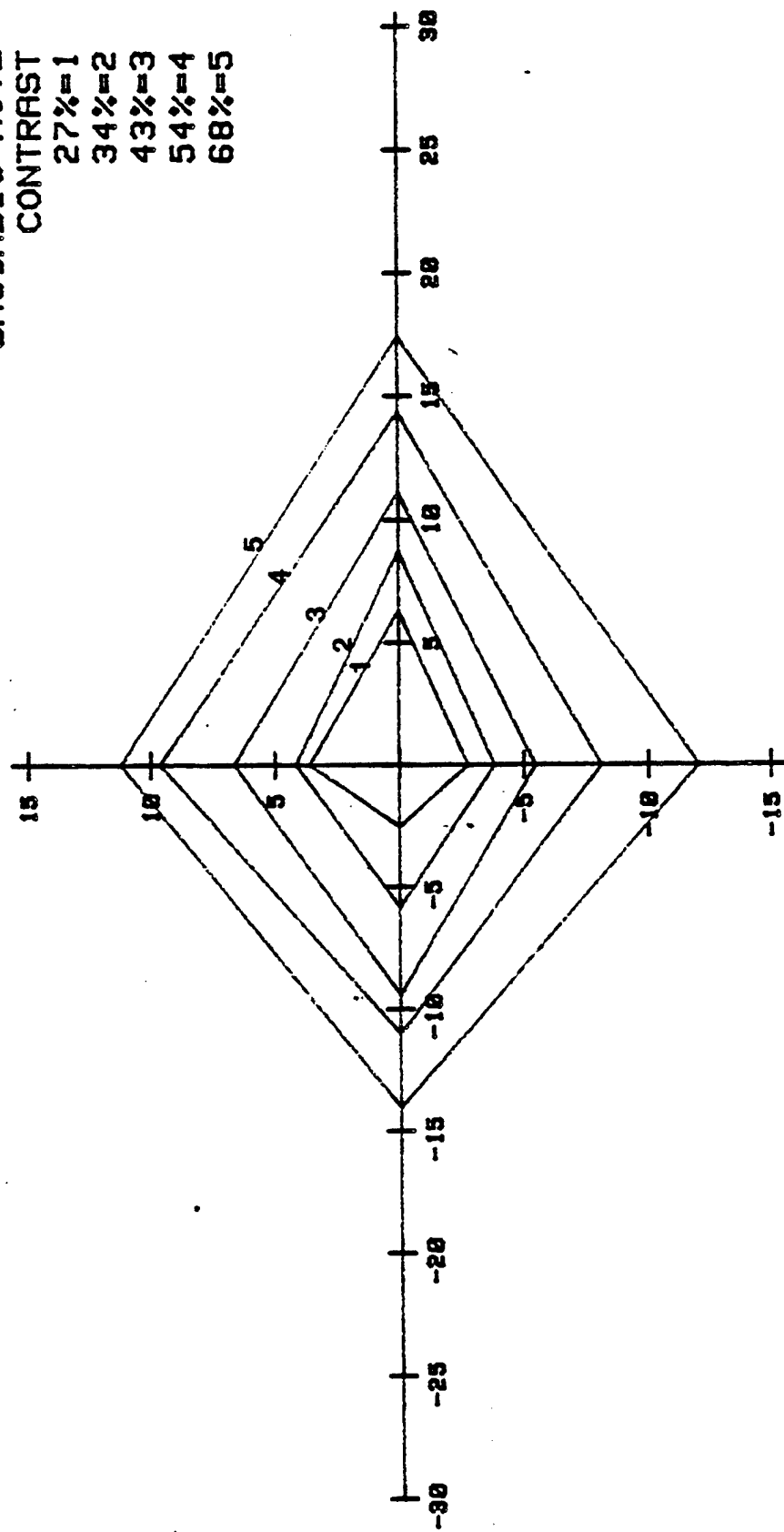




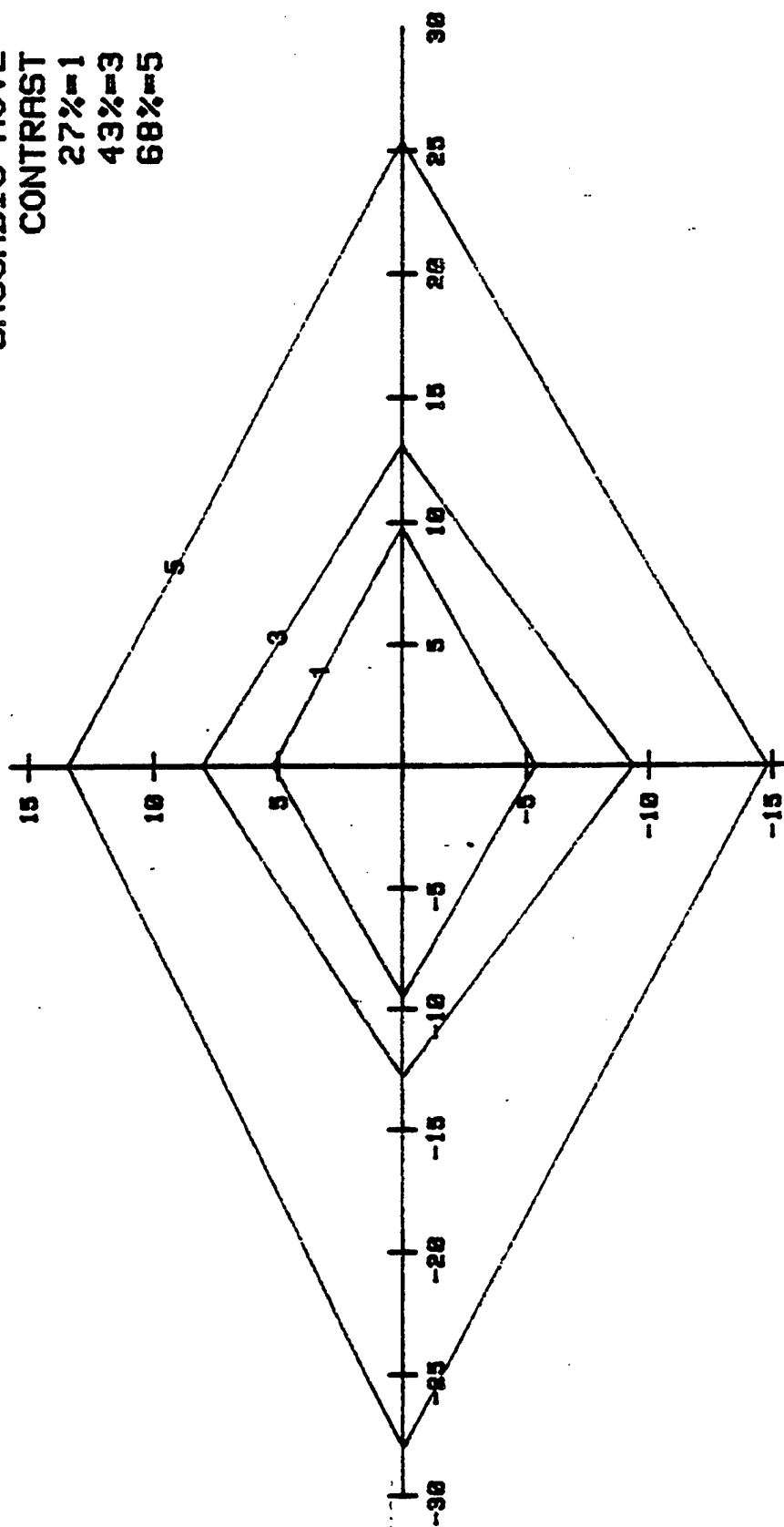
SUBJECT: BM  
 SACCADIC MOVE  
 CONTRAST  
 27%=1  
 34%=2  
 43%=3  
 54%=4  
 68%=5



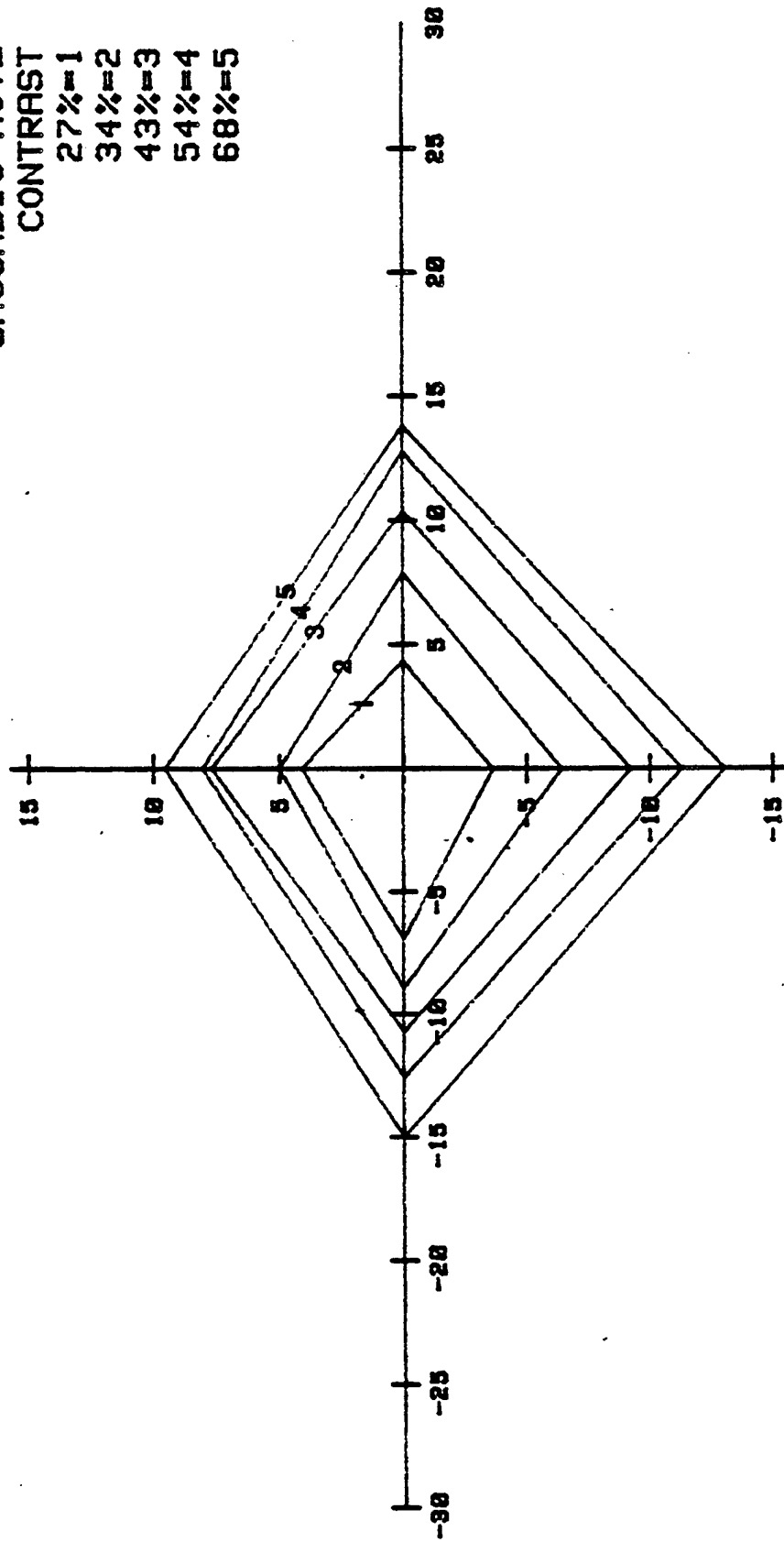
SUBJECT: DP  
 SACCADIC MOVE  
 CONTRAST  
 27%=1  
 34%=2  
 43%=3  
 54%=4  
 68%=5



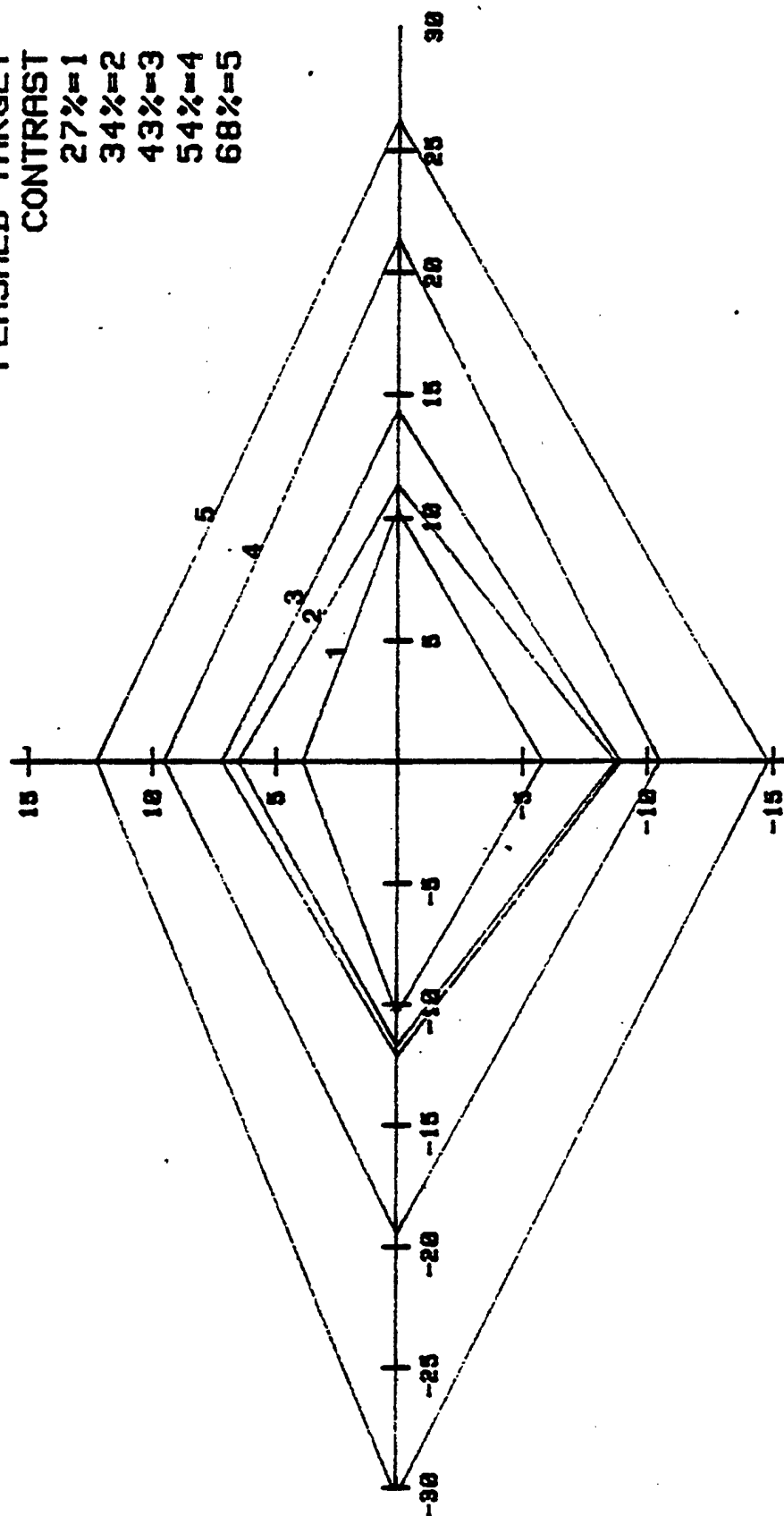
SUBJECT: RH  
 SACCADIC MOVE  
 CONTRAST  
 27% = 1  
 43% = 3  
 68% = 5



SUBJECT: DH  
 SACCADIC MOVE  
 CONTRAST  
 27%=1  
 34%=2  
 43%=3  
 54%=4  
 68%=5



SUBJECT: BM  
 FLASHED TARGET  
 CONTRAST  
 27%=1  
 34%=2  
 43%=3  
 54%=4  
 68%=5



SUBJECT: DP  
 FLASHED TARGET  
 CONTRAST  
 27%=1  
 34%=2  
 43%=3  
 54%=4  
 68%=5

