

# WORLDWIDE BUOY TECHNOLOGY SURVEY

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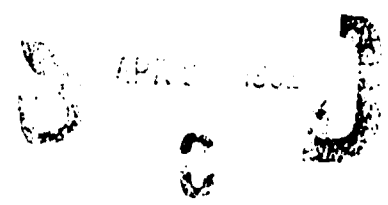
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AVERY POINT, GROTON, CONNECTICUT 06340-6096

## FINAL REPORT

## VOLUME II: APPENDIX B

### BUOY RECORDS

### BOOK 2: GERMANY - USA

### FEBRUARY 1991



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an indirect consideration of these features as will be evident in the material that follows. However, the larger question of type, arrangement and effectiveness of the complete system could not be addressed in detail within the constraints of this project. In an overall evaluation of the SRA system, such considerations should also be addressed. The USCG's Waterway Analysis and Management System (WAMS) is considering this matter as a separate investigation.

→ The objective of Task B, the subject of this report is to conduct surveys of foreign country navigation authorities responsible for buoys and the manufacturers of buoys, both domestic and foreign, and to develop a computer database of the information collected in this project. The task includes the screening of worldwide engineering and technical information on buoy systems, approaches to problem solving (particularly those that have been identified by the USCG), and development of a computer database for use by the USCG which is both relational and retrievable. The completed program is to be developed on a USCG supplied computer and software, and is then to be installed at the USCG R&D Center and at the USCG Headquarters (G-ECV and G-NSR).

In the next task of this project (Task C), buoy technologies will be evaluated in order to identify those that show the most promise for improving the SRA system. This will be accomplished by carrying out a matrix analysis of the technologies to rank them in accordance with their benefits as judged by three measures of merit: average annualized costs, operational effectiveness, and handling safety. The results of Task C will be presented in a separate report.

### 1.3 Approach

→ For accomplishing the goals of this task, two major efforts were undertaken:

- (a) Conducting worldwide surveys *and*
- (b) Developing a relational and retrievable computer database. ←

Within the framework of worldwide surveys, personal interviews were conducted with the national navigation authorities and principal buoy manufacturers and/or designers of nine major countries as specified by the U.S. Coast Guard. In addition, interviews were held with representatives of national authorities and manufacturers from twelve additional countries during the Twelfth Conference of the International Association of Lighthouse Authorities in Veldhoven (the Netherlands) in June 1990. Information on buoy technology were also solicited and obtained by correspondence from other additional sources.

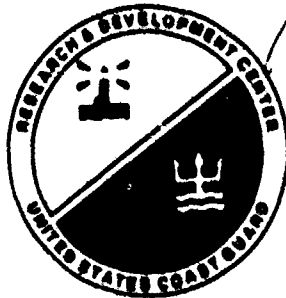
The efforts related to the "Buoy Technology Information Systems" included first the development of a "Database Design" in accordance with the USCG requirements. Upon approval of the Database Design by the USCG, a software package and BTIS Documentation were developed consisting of the

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Technical Report Documentation Page

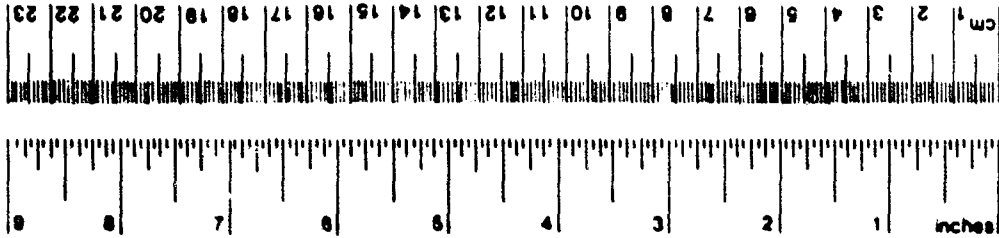
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9. Performing Organization Name and Address M. ROSENBLATT & SON, INC.      USCG R & D CENTER 350 E 104th                              AVERY POINT NEW YORK, NY 10013                      GROTON, CT 06340-6096				10. Work Unit No. (TRAVIS)	
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15. Supplementary Notes REPORT CONSISTS OF THREE VOLUMES: VOLUME I CONTAINS MAIN TEXT OF REPORT PLUS APPENDICES A, D AND E; VOLUME II CONTAINS BUOY RECORDS IN TWO BOOKS; VOLUME III CONTAINS BUOY ILLUSTRATIONS.					
16. Abstract THIS REPORT PRESENTS THE RESULTS OF THE SECOND PART (TASK B) OF THE U.S.C.G. PROJECT "BUOY TECHNOLOGY SURVEY". PERSONAL INTERVIEWS WERE CONDUCTED WITH THE NAVIGATION AUTHORITIES AND BUOY MANUFACTURERS AND DESIGNERS IN CANADA, DENMARK, ENGLAND, FINLAND, FRANCE, GERMANY, JAPAN, THE NETHERLANDS AND NORWAY. NAVIGATION AUTHORITIES AND MANUFACTURERS FROM TWELVE ADDITIONAL COUNTRIES WERE ALSO CONTACTED DURING THE 12TH CONFERENCE OF THE INTERNATIONAL ASSOCIATION OF LIGHTHOUSE AUTHORITIES IN JUNE 1990. RELEVANT DATA WERE OBTAINED FROM THESE SOURCES ON THE PHYSICAL, OPERATIONAL AND PERFORMANCE CHARACTERISTICS OF THEIR FLOATING AIDS TO NAVIGATION. A COMPUTER DATABASE WAS DEVELOPED FOR STORING THE DATA FROM ALL SOURCES CITED AS WELL AS THE DATA RECEIVED DURING TASK A OF THIS PROJECT FROM THE U.S. COAST GUARD AND U.S. MANUFACTURERS. THE DATABASE (BUOY TECHNOLOGY INFORMATION SYSTEM - BTIS) IS BOTH RELATIONAL AND RETRIEVABLE AND IS INTENDED FOR USE BY THE U.S. COAST GUARD. A HARD COPY OF BTIS IS CONTAINED IN APPENDIX B OF THIS REPORT AND IS SUPPORTED BY ILLUSTRATIONS OF ALL BUOYS IN APPENDIX C.  THE RESULTS OF ALL INTERVIEWS AND THE DATA OBTAINED ARE ANALYZED AND TRENDS ARE NOTED WITH REGARD TO IDENTIFICATION OF SIGNIFICANT AREAS FOR DEVELOPMENT OF AID TO NAVIGATION BUOYS FOR USE IN THE NEXT TASK (TASK C: RECOMMENDATIONS FOR DEVELOPMENT OF BUOY TECHNOLOGIES).					
17. Key Words FLOATING AIDS                              WORLDWIDE MFG. BUOYS    BTIS DATABASE ARTICULATED BEACONS NAVIGATION AUTHORITIES			18. Distribution Statement DOCUMENT IS AVAILABLE TO THE U. S. PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE SPRINGFIELD, VA 22161		
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# METRIC CONVERSION FACTORS

## Approximate Conversions to Metric Measures

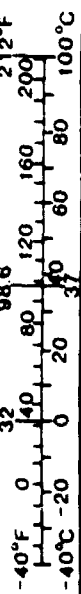
Symbol	When You Know	Multiply By	To Find	Symbol
<b>LENGTH</b>				
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
<b>AREA</b>				
m <sup>2</sup>	square inches	6.5	square centimeters	cm <sup>2</sup>
ft <sup>2</sup>	square feet	0.09	square meters	m <sup>2</sup>
yd <sup>2</sup>	square yards	0.8	square meters	m <sup>2</sup>
mi <sup>2</sup>	square miles	2.6	square kilometers	km <sup>2</sup>
acres	acres	0.4	hectares	ha
<b>MASS (WEIGHT)</b>				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
<b>VOLUME</b>				
tsp	teaspoons	5	milliliters	ml
tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft <sup>3</sup>	cubic feet	0.03	cubic meters	m <sup>3</sup>
yd <sup>3</sup>	cubic yards	0.76	cubic meters	m <sup>3</sup>
<b>TEMPERATURE (EXACT)</b>				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

\* 1 in = 2.54 (exactly)



## Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply By	To Find	Symbol
<b>LENGTH</b>				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
<b>AREA</b>				
cm <sup>2</sup>	square centimeters	0.16	square inches	in <sup>2</sup>
m <sup>2</sup>	square meters	1.2	square yards	yd <sup>2</sup>
km <sup>2</sup>	square kilometers	0.4	square miles	mi <sup>2</sup>
ha	hectares (10,000 m <sup>2</sup> )	2.5	acres	acres
<b>MASS (WEIGHT)</b>				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	short tons
<b>VOLUME</b>				
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	0.125	cups	c
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m <sup>3</sup>	cubic meters	35	cubic feet	ft <sup>3</sup>
m <sup>3</sup>	cubic meters	1.3	cubic yards	yd <sup>3</sup>
<b>TEMPERATURE (EXACT)</b>				
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



Volume II Appendix B Book II Contents

Buoy Name	Country of Use	Drawing Reference
Dpwtr Lt Buoy Type DW180G	Germany MFG-1	Germany MFG 1-1
Dpwtr Lt Buoy Type DW240G	Germany MFG-1	Germany MFG 1-2
Dpwtr Lt Buoy Type DW260G	Germany MFG-1	Germany MFG 1-3
Dpwtr Lt Buoy Type DW280G	Germany MFG-1	Germany MFG 1-4
Shalw Wtr LT Buoy Type SW160E	Germany MFG-1	Germany MFG 1-9
Shalw Wtr Lt Buoy Type SW200E	Germany MFG-1	Germany MFG 1-10
Shalw Wtr Lt Buoy Type SW220E	Germany MFG-1	Germany MFG 1-11
Shalw Wtr Lt Buoy Type SW220G	Germany MFG-1	Germany MFG 1-5
Shalw Wtr Lt Buoy Type SW240G	Germany MFG-1	Germany MFG 1-6
Shalw Wtr Lt Buoy Type SW260E	Germany MFG-1	Germany MFG 1-12
Shalw Wtr Lt Buoy Type SW260G	Germany MFG-1	Germany MFG 1-7
Shalw Wtr Lt Buoy Type SW300G	Germany MFG-1	Germany MFG 1-8
CP-2800 CATAMARAN BUOY	India Mfg-1	India Mfg 1-3
SKP-1600 Nav. Buoy	India Mfg-1	India Mfg 1-1
SKP-2500 NAV BUOY	India Mfg-1	India Mfg 1-2
TT-2600 OPEN SEA NAV BUOY	India Mfg-1	India Mfg 1-4
Deepwater Tension Beacon	Italy MFG 1	Italy MFG 1
Standard Elastic Beacon	Italy MFG 1	Italy MFG 1
Elastic Beacon	Italy MFG 2	Italy MFG 2
L-1 (8.5x31 L) Battery Type	Japan	Japan 1 & 3
L-1 (8.5x31 L) Wave Generator	Japan	Japan 1 & 2
L-2 (9.2x34 L) Battery Type	Japan	Japan 1 & 5
L-2 (9.2x34 L) Wave Generator	Japan	Japan 1 & 4
L-3 (10.5x38 L) Battery Type	Japan	Japan 1
L-3 (10.5x38 L) Wave Generator	Japan	Japan 1 & 6
L-4 (20x53 LR) Wave Generator	Japan	Japan 1 & 7
L-5 (13.1x23 LR)	Japan	Japan 1
L-6 (16x25 LR)	Japan	Japan 1 & 8
L-H (6.9x22 L)	Japan	Japan 1 & 9
L-U (7.9x20 L)	Japan	Japan 1 & 10
Segiyosetoho Resilient Beacon	Japan	Japan 13
U-H Conical (NUN)	Japan	Japan 1 & 11
U-H Cylinder (CAN)	Japan	Japan 1 & 11
U-HP Plastic CAN	Japan	Japan 12
LP-1A (7.2 x 27 LR)	Japan MFG 1	Japan MFG 1-3
NKK 1.5m (4.9 x 22 LR)	Japan MFG 1	Japan MFG 1-2
NLB-1000 (3.28 x 15 L)	Japan MFG 1	Japan MFG 1-1
NLB-600 (1.97 x 10 L)	Japan MFG 1	Japan MFG 1-1
NLB-800 (2.62 x 12 L)	Japan MFG 1	Japan MFG 1-1
AB-200 (3.0 x 15 L)	Japan MFG 2	Japan MFG 2-11
CB-100 (1.6 x 5.9 L)	Japan MFG 2	Japan MFG 2-14
CB-200 (1.6 x 9.3 L)	Japan MFG 2	Japan MFG 2-13
H-290 (4.9 x 19 LR)	Japan MFG 2	Japan MFG 2-8
M-250C (3.9 x 18 L)	Japan MFG 2	Japan MFG 2-9
M-350T (6.4 x 25 LR)	Japan MFG 2	Japan MFG 2-7
MLTV-10RA (5.9 x 57 LS)	Japan MFG 2	Japan MFG 2-15
MLTV-11B (6.6 x 56 LS)	Japan MFG 2	Japan MFG 2-15
MLTV-15RA (7.6 x 72 LS)	Japan MFG 2	Japan MFG 2-15
MLTV-19RA (8.2 x 92 LS)	Japan MFG 2	Japan MFG 2-15
MLTV-7S (4.6 x 36 LS)	Japan MFG 2	Japan MFG 2-15
MS-400 (7.9 x 20 L)	Japan MFG 2	Japan MFG 2-6
MS-500 (9.4 x 24 L)	Japan MFG 2	Japan MFG 2-5
SA-200 (1.6 x 13 L)	Japan MFG 2	Japan MFG 2-12

Buoy Name	Country of Use	Drawing Reference
SAB-300 (3.6 x 18 L)	Japan MFG 2	Japan MFG 2-10
T-11 WAG (9.8 x 45 LR)	Japan MFG 2	Japan MFG 2-1
T-360S WAG (7.3 x 20 L)	Japan MFG 2	Japan MFG 2-2
T3-2 WAG (6.4 x 25 LR)	Japan MFG 2	Japan MFG 2-3
TS-300 WAG (4.5 x 21 L)	Japan MFG 2	Japan MFG 2-4
ZCB-160 (5.3 x 23 L)	Japan MFG 3	Japan MFG 3-1 & 3-3
ZCB-240D (7.9 x 13 L)	Japan MFG 3	Japan MFG 3-1 & 3-3
ZCB-350D (11.5 x 16 LR)	Japan MFG 3	Japan MFG 3-1 & 3-3
ZCB-603D (20x25 LR)	Japan MFG 3	Japan MFG 3-1 & 3-3
ZSB-100 (3.3 x 29 LS)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-120 (3.9 x 35 LS)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-140P (4.6 x 40 LS)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-160 (5.3 x 37 LS)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-210 (6.9 x 49 LS)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-220W (7.2 x 78 LS)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-240 (7.9 x 86 LSR)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-280 (9.2 x 95 LSR)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-300 (9.8 x 117 LSR)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-320 (10.5 x 133 LSR)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-60 (2.0 x 24 LS)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZSB-80 (2.6 x 24 LS)	Japan MFG 3	Japan MFG 3-1 & 3-4
ZWB-115 (3.7 x 18 L)	Japan MFG 3	Japan MFG 3-1 & 3-2
ZWB-120S (3.9 x 9 L)	Japan MFG 3	Japan MFG 3-1 & 3-2
ZWB-130 (4.3 x 15 L)	Japan MFG 3	Japan MFG 3-1 & 3-2
ZWB-160 (5.3 x 20 L)	Japan MFG 3	Japan MFG 3-1 & 3-2
ZWB-250 (8.2 x 30 L)	Japan MFG 3	Japan MFG 3-1 & 3-2
12.5M3 Light buoy (10.5x19 LR)	Netherlands	Netherlands 1 & 3
6.5M3 Light buoy (8.4x17 LR)	Netherlands	Hol 2 & 3
Solar Buoy Type SW160EZ	Netherlands MFG-1	Netherlands MFG 1-1
Solar Buoy Type SW180BZ	Netherlands MFG-1	Netherlands MFG 1-2
Solar Buoy Type SW200EZ	Netherlands MFG-1	Netherlands MFG 1-3
Solar Buoy Type SW220EZ	Netherlands MFG-1	Netherlands MFG 1-4
Solar Buoy Type SW260EZ	Netherlands MFG-1	Netherlands MFG 1-5
ALL WEATHER DUTY BUOY	Netherlands Mfg-2	Netherlands Mfg 2-1
F-180/B-50 Lighted Steel Buoy	Norway	Norway - 5
Seawater Battery Powered Buoy	Norway	Norway - 6
Selco Type 26 Lighted Buoy	Norway	Norway - 4
Selco Type 5 Spar Buoy	Norway	Norway-1
SELCO Type 7 Spar Buoy	Norway	Norway - 2
SELCO Type 8 Spar Buoy	Norway	Norway - 3
SELCO Marker Buoy Type 26A	Norway MFG-1	Norway - MFG-1-11
SELCO Marker Buoy Type 26B	Norway MFG-1	Norway - MFG-1-10
SELCO Type 10 Spherical Buoy	Norway MFG-1	Norway MFG-1-4
SELCO Type 11 Discus Buoy	Norway MFG-1	Norway MFG-1-5
SELCO Type 16 Spar Buoy	Norway MFG-1	Norway MFG-1-6
SELCO Type 23 Elliptical Buoy	Norway MFG-1	Norway - MFG-1-7
SELCO Type 24 Spherical Buoy	Norway MFG-1	Norway - MFG-1-8
SELCO Type 25 Spherical Buoy	Norway MFG-1	Norway MFG-1-9
SELCO Type 4 Spar Buoy	Norway MFG-1	Norway - MFG-1-1
SELCO Type 6 Spar Buoy	Norway MFG-1	Norway MFG-1-2
SELCO Type 9 Spherical Buoy	Norway MFG-1	Norway MFG-1-3
HF 2.4 - D1 LIGHTED BUOY	Peoples Rep of China	China, Mfg 1-2
WAVE POWERED LIGHT BUOY	Peoples Rep of China	China Mfg 1-1

Volume II Appendix B Book II Contents (cont.)

Buoy Name	Country of Use	Drawing Reference
DOUBLE HULL LIGHTED BUOY	South Africa	S. Africa-1
1 CR, 1952 Type Standard	USA	USA-20
1 NR, 1952 Type Standard	USA	USA-21
2 CFR	USA	USA 42
2 CR, 1952 Type Standard	USA	USA-22
2 NFR	USA	USA 42
2 NR, 1952 Type Standard	USA	USA-23
3 CFR	USA	USA 43
3 CI, 1982 Type Standard	USA	USA-26
3 CR, 1952 Type Standard	USA	USA-24
3 NFR	USA	USA 43
3 NI, 1982 Type Standard	USA	USA-27
3 NR, 1952 Type Standard	USA	USA-25
3-1/2x8 LR, 1965 Type Standard	USA	USA-15
4 CFR	USA	USA 44
4 CR, 1952 Type Standard	USA	USA-28
4NFR	USA	USA 44
4NR, 1952 Type Standard	USA	USA-29
5 CFR	USA	USA 45
5 CI, 1981 Type Standard	USA	USA-30
5 CPR, 1972 Type Standard	USA	USA-32
5 NFR	USA	USA 45
5 NI, 1981 Type Standard	USA	USA-31
5 NPR, 1972 Type Standard	USA	USA-33
5X11 LR, 1965 Type Standard	USA	USA-14
6 CFR	USA	USA 46
6 CPR, 1972 Type Standard	USA	USA-38
6 CR, 1952 Type Standard	USA	USA-34
6 CT, 1952 Type Standard	USA	USA-36
6 NFR	USA	USA 46
6 NPR, 1972 Type Standard	USA	USA-39
6 NR, 1952 Type Standard	USA	USA-35
6 NT, 1952 Type Standard	USA	USA-37
6X20 LBR, 1962 Type Standard	USA	USA-12
6X20 LR, 1962 Type Standard	USA	USA-11
7X17 LR, 1962 Type Standard	USA	USA-10
7x20 LI, 1982 Type Standard	USA	USA-13
8X26 LBR, 1962 Type Standard	USA	USA-7
8X26 LGR, 1962 Type Standard	USA	USA-8
8X26 LR, 1962 Type Standard	USA	USA-6
8X26 LNR, 1962 Type Standard	USA	USA-9
8X26 WR, 1962 Type Standard	USA	USA-19
9x20 BR, 1962 Type Standard	USA	USA-17
9x20 GR, 1962 Type Standard	USA	USA-18
9X32 LBR, 1962 Type Standard	USA	USA-2
9X32 LGR, 1962 Type Standard	USA	USA-3
9X32 LR, 1962 Type Standard	USA	USA-1
9X32 LNR, 1962 Type Standard	USA	USA-4
9X35 LR, 1983 Type Standard	USA	USA-5
Discrepancy Buoy	USA	USA-16
FCPR Buoy	USA	USA-40
FNPR Buoy	USA	USA-41
SAB-12 Sent. Articulated Buoy	USA MFG 1	USA MFG 1-9

<b>Zuoy Name</b>	<b>Country of Use</b>	<b>Drawing Reference</b>
SB-138 Sentinel	USA MFG 1	USA MFG 1-4
SB-510 Sentinel	USA MFG 1	USA MFG 1-3
SB-612 Sentinel	USA MFG 1	USA MFG 1-2
SB-826 Sentinel Series C	USA MFG 1	USA MFG 1-1
SB1M Buoy	USA MFG 1	USA MFG 1-8
SB2.5M Buoy	USA MFG 1	USA MFG 1-6
SB2M Buoy	USA MFG 1	USA MFG 1-5
SB3M Buoy	USA MFG 1	USA MFG 1-7
SF-5 Spar Buoy	USA MFG 1	USA MFG 1-10
UF-210 Spherical Buoy	USA MFG 1	USA MFG 1-11
BA-17C (1.7x6.7 C)	USA MFG 2	USA MFG 2-1 & 2-9
BA-17N (1.7x7.2 N)	USA MFG 2	USA MFG 2-1 & 2-9
BA-28C (2.3x7.3 C)	USA MFG 2	USA MFG 2-1 & 2-9
BA-28N (2.3x7.7 N)	USA MFG 2	USA MFG 2-1 & 2-9
BA-323C (1.7x5.5 C)	USA MFG 2	USA MFG 2-1 & 2-9
BA-323N (1.7x5.5 N)	USA MFG 2	USA MFG 2-1 & 2-9
BC-3, Class III (3X8 CR)	USA MFG 2	USA MFG 2-7
BC-4, Class II (4X14 CR)	USA MFG 2	USA MFG 2-7
BC-5, Class I (5X18 CR)	USA MFG 2	USA MFG 2-7
BL-250 (2.5X12 L)	USA MFG 2	USA MFG 2-1 & 2-6
BL-358 (3.5X8.5 LR)	USA MFG 2	USA MFG 2-1 & 2-5
BL-511 (5X12 LR)	USA MFG 2	USA MFG 2-1 & 2-4
BL-620 (6X20 LR)	USA MFG 2	USA MFG 2-1 & 2-2
BL-717 (7X17 LR)	USA MFG 2	USA MFG 2-1 & 2-3
BL-826 (8X27 LR)	USA MFG 2	USA MFG 2-1 & 2-2
BN-3, Class III (3X9 NR)	USA MFG 2	USA MFG 2-8
BN-4, Class II (4X15 NR)	USA MFG 2	USA MFG 2-8
BN-5, Class I (5X20 NR)	USA MFG 2	USA MFG 2-8
Buoyant Beacon	USA MFG 2	USA MFG 2-1 & 2-10
5 CFLR	USA MFG 3	USA MFG 3
CM30	USA MFG 4	USA MFG 4-4
MBP-60	USA MFG 4	USA MFG 4-1 & 4-2
RM-30	USA MFG 4	USA MFG 4-1 & 4-3
ELASTOMER/FOAM SPAR BUOY	USA MFG-5	USA Mfg 5-1

**DISTRIBUTION OF BUOY RECORDS IN BTIS DATABASE**  
**BY COUNTRIES AND MANUFACTURERS**

Country	Authority/Mfg.	No. of Records	Name of Source
Australia	Authority	1	Dept. of Trans. & Comm'n
Canada	Authority	31	Canadian Coast Guard
China (P.R. of)	Manufacturer 1	2	Shanghai Nav Aids Fact.
Denmark	Authority	24	Farvandsvaesnet
England	Authority	34	Trinity House
	Manufacturer 1	24	Balmoral
	Manufacturer 2	6	Reinforced Plastic Str.
	Manufacturer 3	27	Pharos Marine
Finland	Authority	10	Merenkukhallitus
	Manufacturer 1	1	RMI Pipe
France	Authority	15	Pharos & Balises
	Manufacturer 1	2	Glenn
Germany	Authority	12	Seesichtversuchsfeld
	Manufacturer 1	12	Pintech Samag
India	Manufacturer 1	4	AMA Nav Aids
Italy	Manufacturer 1	2	Resines Offshore
	Manufacturer 2	1	Floetex

**DISTRIBUTION OF BUOY RECORDS IN BTIS DATABASE**

**BY COUNTRIES AND MANUFACTURERS**

<b>Country</b>	<b>Authority/Mfg.</b>	<b>No. of Records</b>	<b>Name of Source</b>
<b>Japan</b>	<b>Authority</b>	<b>15</b>	<b>Maritime Safety Agency</b>
	<b>Manufacturer 1</b>	<b>5</b>	<b>Nippon Kogi Kogyo</b>
	<b>Manufacturer 2</b>	<b>19</b>	<b>Ryoskuseisha</b>
	<b>Manufacturer 3</b>	<b>21</b>	<b>Zeni Lite Buoy</b>
<b>The Netherlands</b>	<b>Authority</b>	<b>2</b>	<b>DGM</b>
	<b>Manufacturer 1</b>	<b>5</b>	<b>Stromag/P. Banag</b>
	<b>Manufacturer 2</b>	<b>1</b>	<b>All Marine</b>
<b>Norway</b>	<b>Authority</b>	<b>6</b>	<b>Kystdirektoratet</b>
	<b>Manufacturer 1</b>	<b>11</b>	<b>Ticon Plast</b>
<b>South Africa</b>	<b>Authority</b>	<b>1</b>	<b>S.A. Harbors Authority</b>
<b>U.S.A.</b>	<b>Authority</b>	<b>51</b>	<b>U.S. Coast Guard</b>
	<b>Manufacturer 1</b>	<b>11</b>	<b>Tideland Signals</b>
	<b>Manufacturer 2</b>	<b>19</b>	<b>Automatic Power</b>
	<b>Manufacturer 3</b>	<b>1</b>	<b>Gilman Corp.</b>
	<b>Manufacturer 4</b>	<b>3</b>	<b>Gretham Technologies</b>
	<b>Manufacturer 5</b>	<b>1</b>	<b>Seaward International</b>
<b>Total Number of Records in BTIS Database</b>		<b>381</b>	

## GENERAL INFORMATION

Name of Buoy: Dpwtr Lt Buoy Type DW180G

Country of Use: Germany MFG-1

Function: For use in deep navigable waterways. It has a 4-leg superstructure with access ladder, a central pocket for gas accumulators, and a rubber fender.

Date Of Last Update For This Record: 11/02/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 6,393 Lbs.

Buoy Draft: 11.75 Ft.

Overall Buoy Length: 24.21 Ft.

Focal Height of Light: 12.47 Ft.

Buoy Beam or Diameter: 5.91 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 140 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External/Tail Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Gas (Propane/Acetylene)  
Lighting Equipment: Marine Lantern PE(AE) 200  
Sound Equipment:  
Other Payload: Radar Reflector SR6-600  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.024 In.  
Type: Steel Chain  
Sinker Size: 1,323 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.2 Nmi.  
Radar Range: 5.2 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

**ADDITIONAL DATA**

<b>Cost:</b>	<b>Replacerent:</b>	<b>\$0</b>
	<b>Preparation:</b>	<b>\$0</b>
	<b>Monthly Servicing:</b>	<b>\$0</b>

**Service Life:** 0.0 Yrs.

**Maintenance Interval:** 0 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

**General Notes**

**Radar reflector is omnidirectional.**

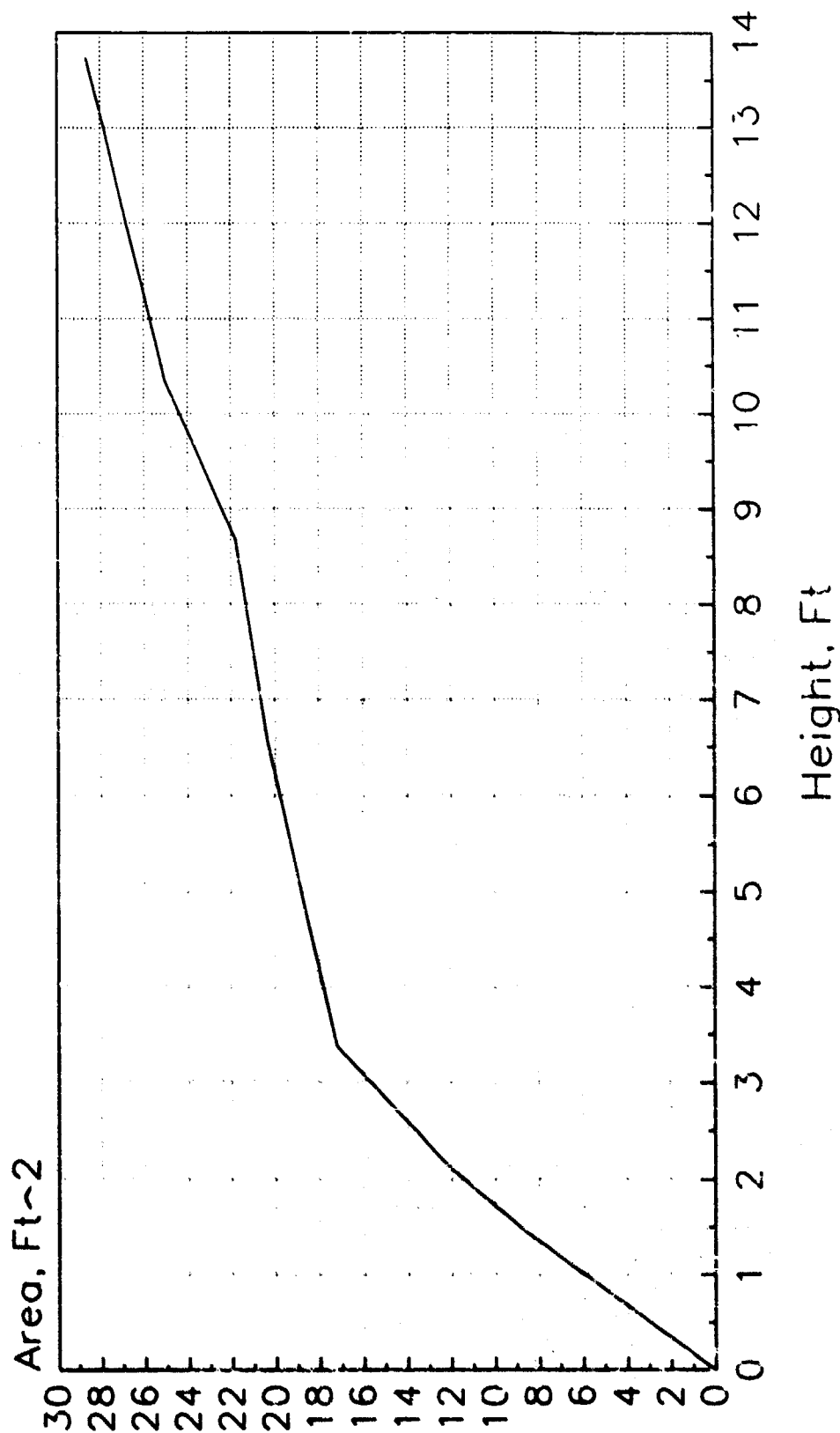
**Manufacturers:** Pintsch Bamag

**Source of Design:** Pintsch Bamag

**Drawing Reference:** Germany MFG 1-1

# Dpwtr Lt Buoy Type DW180G

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Dpwtr Lt Buoy Type DW240G

Country of Use: Germany MFG-1

Function: For marking deep navigable waterways.  
Has daylight slats, pockets (2) for gas  
accumulators and superstructure with  
access ladder.

Date Of Last Update For This Record: 11/02/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 11,023 Lbs.

Buoy Draft: 14.11 Ft.

Overall Buoy Length: 30.84 Ft.

Focal Height of Light: 16.73 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 252 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: Tail Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Gas (Propane/Acetylene)  
Lighting Equipment: Marine Lantern PE(AE)300  
Sound Equipment: None  
Other Payload: Radar Reflector SR6-600  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.417 In.  
Type: Steel Chain  
Sinkers Size: 3,307 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.2 Nmi.  
Radar Range: 5.3 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

**ADDITIONAL DATA**

<b>Cost:</b>	<b>Replacement:</b>	<b>\$0</b>
	<b>Preparation:</b>	<b>\$0</b>
	<b>Monthly Servicing:</b>	<b>\$0</b>

**Service Life:** 0.0 Yrs.

**Maintenance Interval:** 0 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

**General Notes**

**Radar reflector is omnidirectional.**

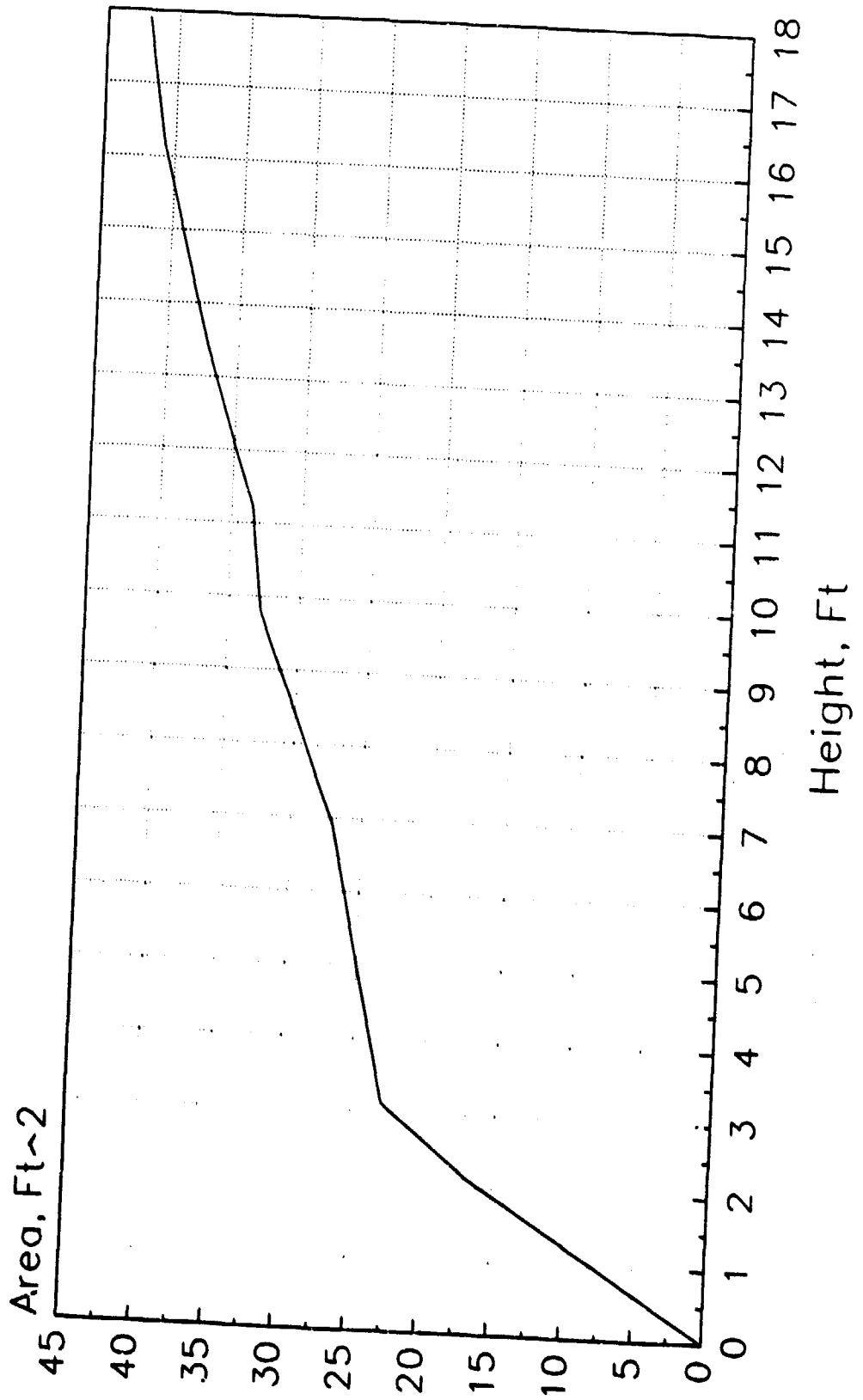
**Manufacturers:** Pintsch Bamag

**Source of Design:** Pintsch Bamag

**Drawing Reference:** Germany MFG 1-2

# Dpwtr Lt Buoy Type DW240G

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Dpwtr Lt Buoy Type DW260G

Country of Use: Germany MFG-1

Function: For use in deep navigable waterways. It has daylight slats, superstructure with access ladder, and central pocket for gas accumulators.

Date Of Last Update For This Record: 11/02/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 11,244 Lbs.

Buoy Draft: 15.09 Ft.

Overall Buoy Length: 33.14 Ft.

Focal Height of Light: 18.05 Ft.

Buoy Beam or Diameter: 8.53 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 296 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External/Tail Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Gas (Propane/Acetylene)  
Lighting Equipment: Marine Lantern PE(AE) 300  
Sound Equipment: None  
Other Payload: Radar Reflector SR6-600  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.417 In.  
Type: Steel Chain  
Sinker Size: 3,307 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.4 Nmi.  
Radar Range: 5.3 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

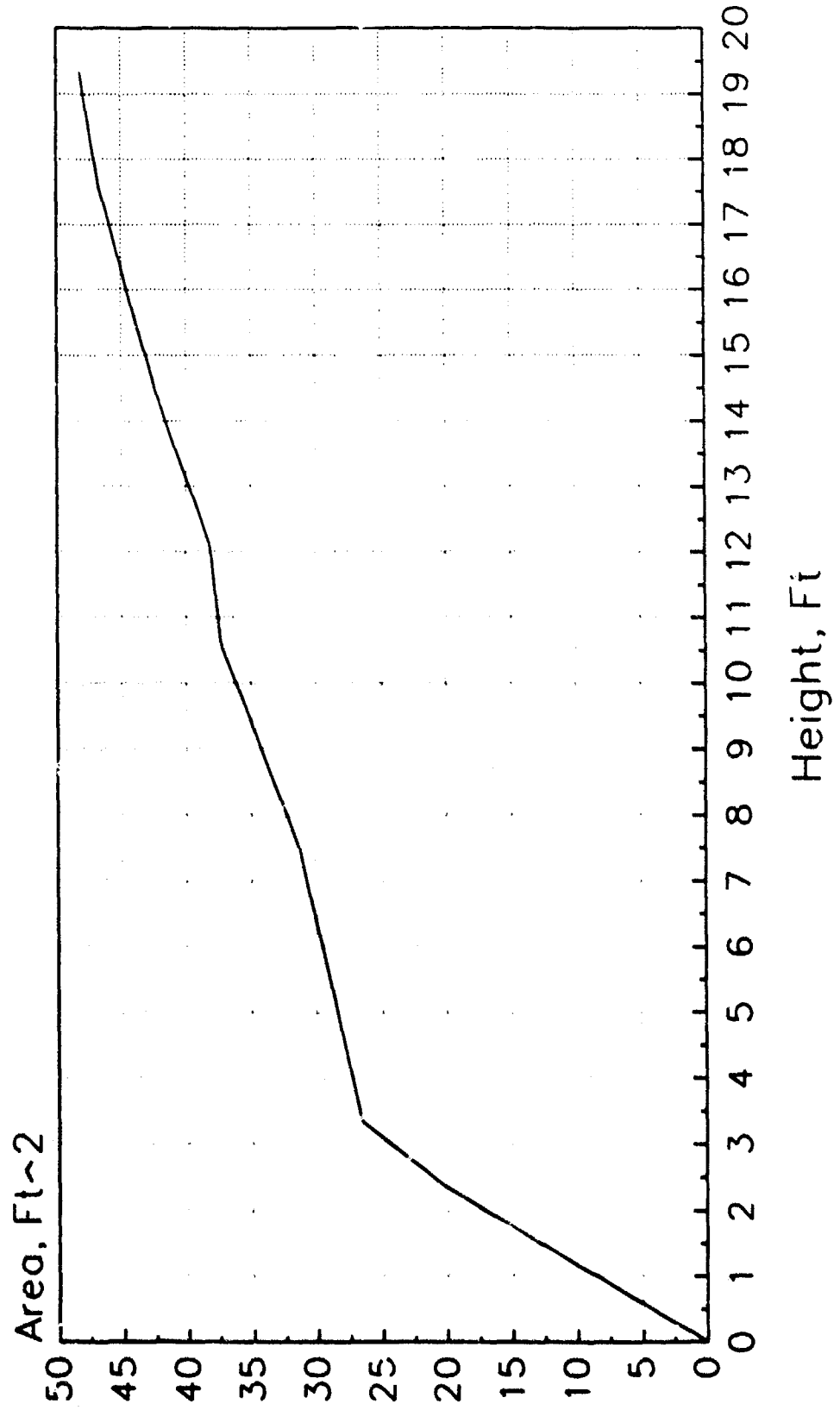
Manufacturers: Pintsch Bamag

Source of Design: Pintsch Bamag

Drawing Reference: Germany MFG 1-3

# Dpwtr Lt Buoy Type DW260G

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Dpwtr Lt Buoy Type DW280G

Country of Use: Germany MFG-1

Function: For use in deep navigable waters. It has daylight slats, superstructure with access ladder, and central pocket for gas accumulators.

Date Of Last Update For This Record: 11/02/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 12,125 Lbs.

Buoy Draft: 14.76 Ft.

Overall Buoy Length: 37.73 Ft.

Focal Height of Light: 22.97 Ft.

Buoy Beam or Diameter: 9.19 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 347 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External/TailTube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Gas (Propane/Acetylene)  
Lighting Equipment: Marine Lantern PE(AE) 300  
Sound Equipment:  
Other Payload: Radar Reflector SR6-800  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.417 In.  
Type:  
Sinkers Size: 3,307 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.9 Nmi.  
Radar Range: 6.9 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

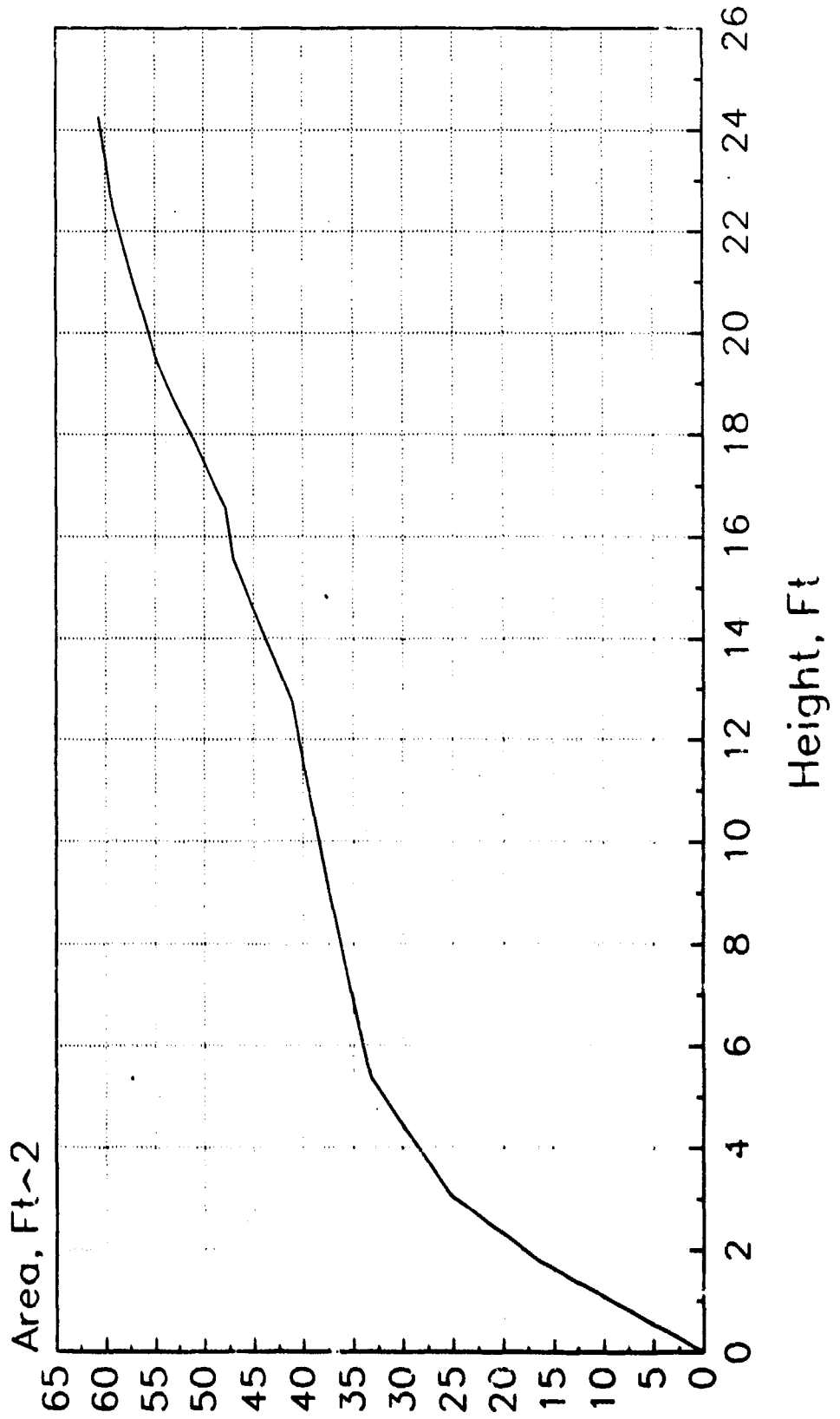
Manufacturers: Pintsch Bamag

Source of Design: Pintsch Bamag

Drawing Reference: Germany MFG 1-4

# Dpwtr Lt Buoy Type DW280G

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Shalw Wtr LT Buoy Type SW160E

Country of Use: Germany MFG-1

Function: For marking shallow navigable waterways.  
Its superstructure includes battery rack. It has the option to carry Wing-Daymarks (can/cone). It carries Solar Modules and has rubber fender.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	1,654 Lbs.
Buoy Draft:	2.63 Ft.
Overall Buoy Length:	9.84 Ft.
Focal Height of Light:	7.22 Ft.
Buoy Beam or Diameter:	5.25 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	112 Lbs.
Metzcentric Haight:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight:
Coating/Coloring System:	Epoxy Coating
Subdivision:	
Hull Type:	Cylindrical
Counterweight Type.	Skirt Keel

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Battery  
Lighting Equipment: Electric Marine Lantern E155  
Sound Equipment: None  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.906 In.  
Type: Steel Chain  
Sinkers Size: 771 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 2.3 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

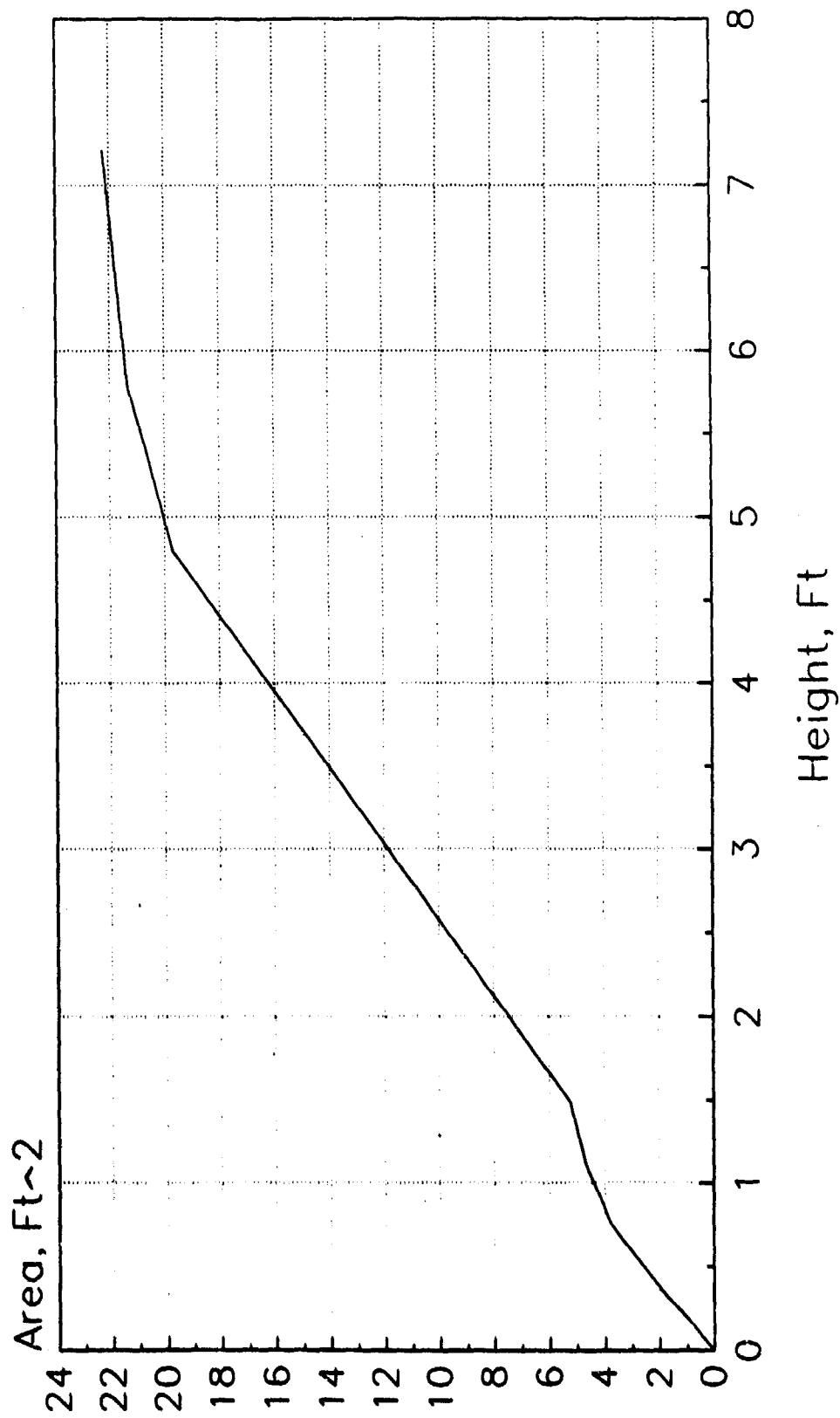
Stability Notes:

General Notes

Manufacturers:                                Pintsch Bamag  
Source of Design:                              Pintsch Bamag  
Drawing Reference:                              Germany MFG 1-9

# Shalw Wtr Lt Buoy Type SW160E

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Shalw Wtr Lt Buoy Type SW200E

Country of Use: Germany MFG-1

Function: For use in shallow navigable waterways.  
It has solar modules, superstructure  
with access ladder, and central pocket  
with battery.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 5,732 Lbs.

Buoy Draft: 6.23 Ft.

Overall Buoy Length: 16.08 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 0.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 175 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External/Skirt Keel

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Battery  
Lighting Equipment: Marine Lantern EE250  
Sound Equipment:  
Other Payload: Radar Reflector SR6-600  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.024 In.  
Type: Steel Chain  
Sinker Size: 2,205 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.0 Nmi.  
Radar Range: 4.5 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

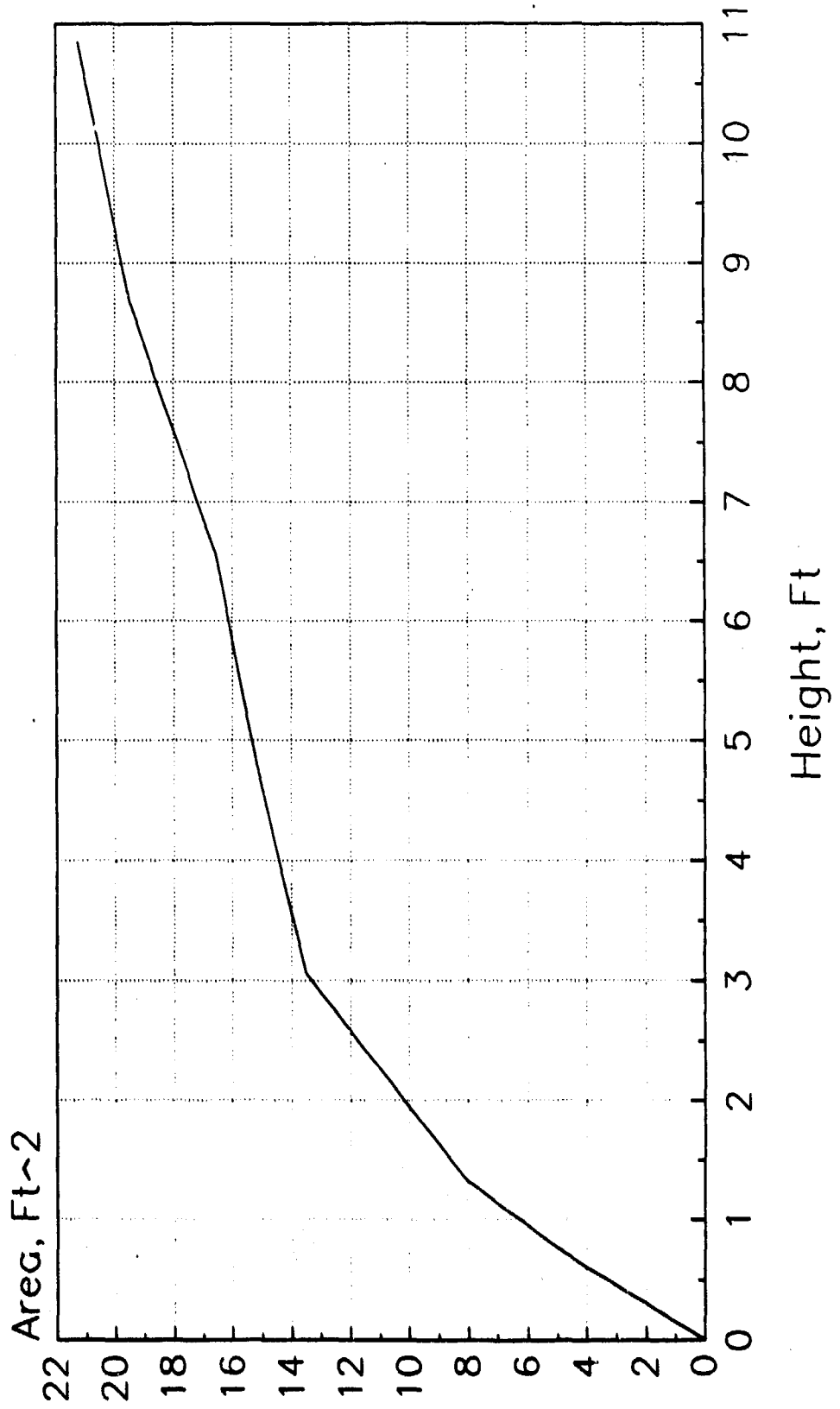
General Notes

Radar reflector is omnidirectional.

Manufacturers:	Pintsch Bamag
Source of Design:	Pintsch Bamag
Drawing Reference:	Germany MFG 1-10

# Shalw Wtr Lt Buoy Type SW200E

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Shalw Wtr Lt Buoy Type SW220E

Country of Use: Germany MFG-1

Function: For use in shallow navigable waterways.  
It has solar modules, superstruture with  
access ladder, central pocket with  
battery, and rubber fender.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 8,819 Lbs.

Buoy Draft: 6.89 Ft.

Overall Buoy Length: 18.37 Ft.

Focal Height of Light: 11.48 Ft.

Buoy Beam or Diameter: 7.22 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 212 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: ExtnlRings SkirtKeel

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Battery  
Lighting Equipment: Marine Lantern EE250  
Sound Equipment:  
Other Payload: Radar Reflector SR6-500  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.181 In.  
Type: Steel Chain  
Sinker Size: 1,984 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 1.9 Nmi.  
Radar Range: 4.3 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$0  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

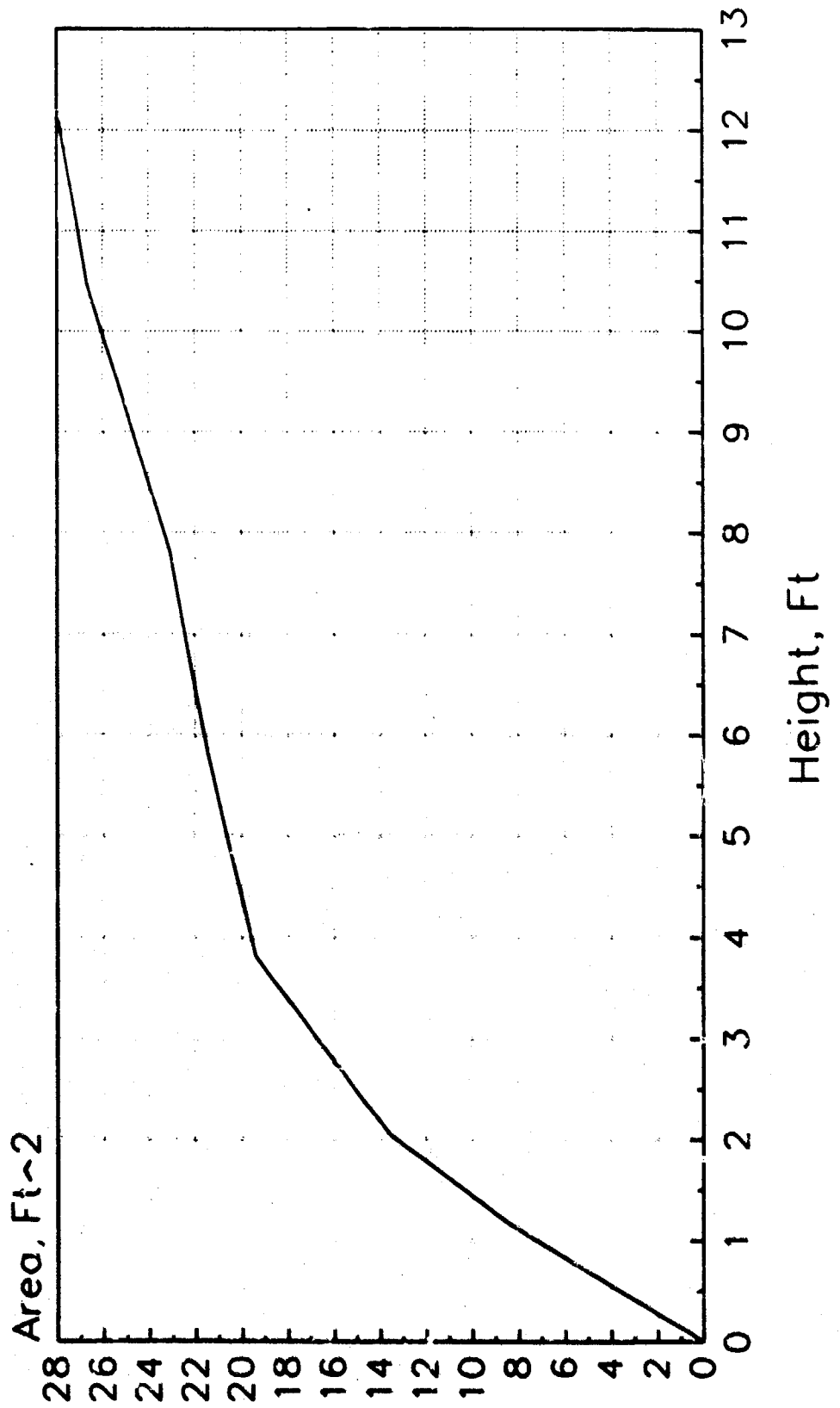
Manufacturers: Pintsch Bamag

Source of Design: Pintsch Bamag

Drawing Reference: Germany MFG 1-11

# Shalw Wtr Lt Buoy Type SW220E

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Shalw Wtr Lt Buoy Type SW220G

Country of Use: Germany MFG-1

Function: For use in shallow navigable waterways.  
It has superstructure with access ladder, central pocket with gas accumulators, and rubber fender.

Date Of Last Update For This Record: 11/02/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 10,141 Lbs.

Buoy Draft: 6.89 Ft.

Overall Buoy Length: 18.70 Ft.

Focal Height of Light: 11.81 Ft.

Buoy Beam or Diameter: 7.22 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 212 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External/Skirt Keel

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Gas (Propane/Acetylene)  
Lighting Equipment: Marine Lantern PE(AE) 200  
Sound Equipment:  
Other Payload: Radar Reflector SR6-600  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.299 In.  
Type: Steel Chain  
Sinker Size: 3,307 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.2 Nmi.  
Radar Range: 4.8 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                Replacement:        \$0  
                         Preparation:         \$0  
                         Monthly Servicing:    \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

    Radar reflector is omnidirectional.

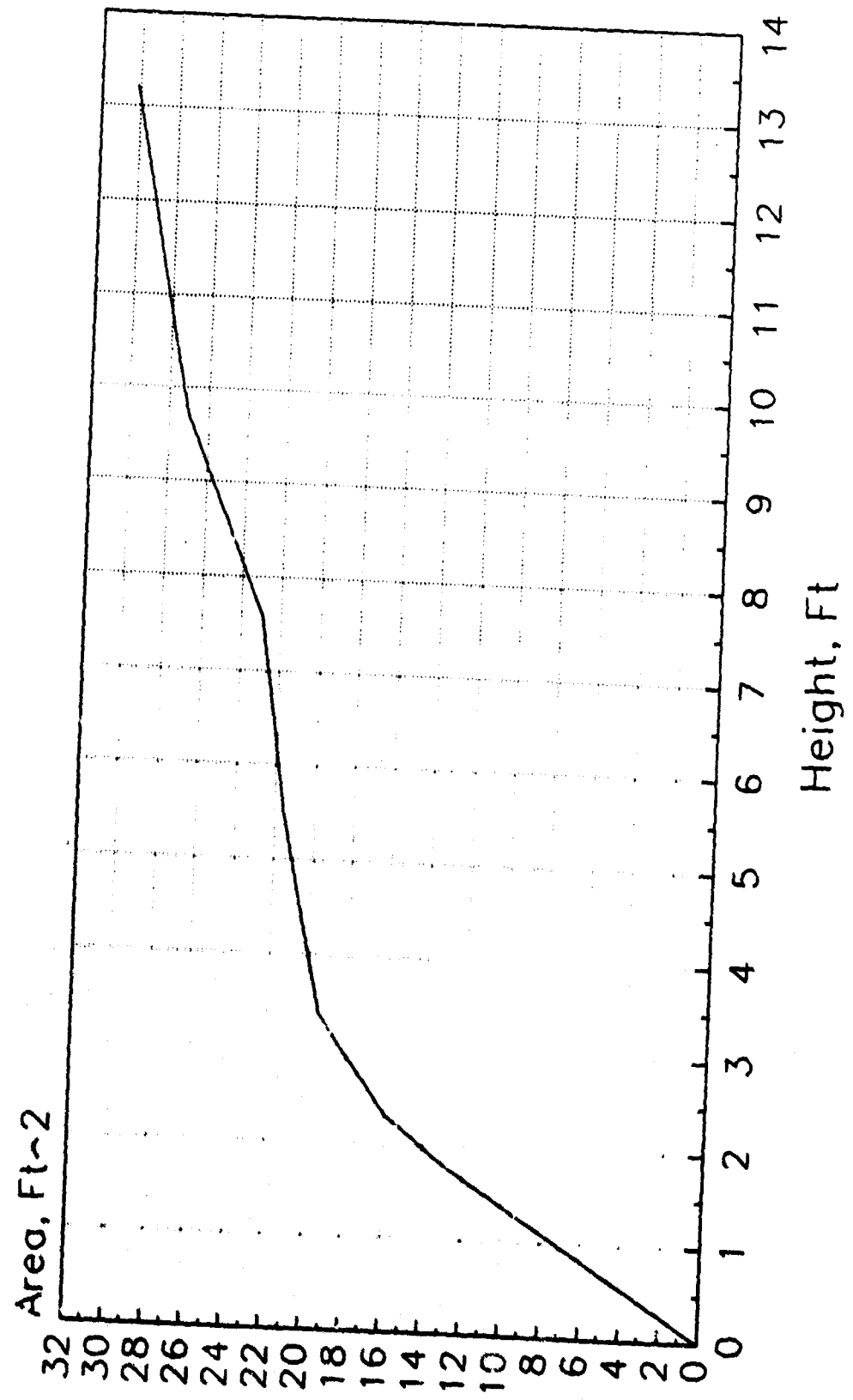
Manufacturers:                                Pintsch Bamag

Source of Design:                              Pintsch Barag

Drawing Reference:                            Germany MFG 1-5

# Shalw Wtr Lt Buoy Type SW220G

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Shalw Wtr Lt Buoy Type SW240G

Country of Use: Germany MFG-1

Function: For use in shallow navigable waterways.  
It has superstructure with access  
ladder, central pocket for gas  
accumulators, and rubber fender.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 12,125 Lbs.

Buoy Draft: 7.22 Ft.

Overall Buoy Length: 22.31 Ft.

Focal Height of Light: 15.09 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 252 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External/Skirt Keel

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Gas (Propane/Acetylene)  
Lighting Equipment: Marine Lantern PE(AE) 200  
Sound Equipment:  
Other Payload: Radar Reflector SR6-600  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.417 In.  
Type: Steel Chain  
Sinker Size: 3,307 Lbs.  
Topmark Type: Laternal/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.4 Nmi.  
Radar Range: 5.3 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

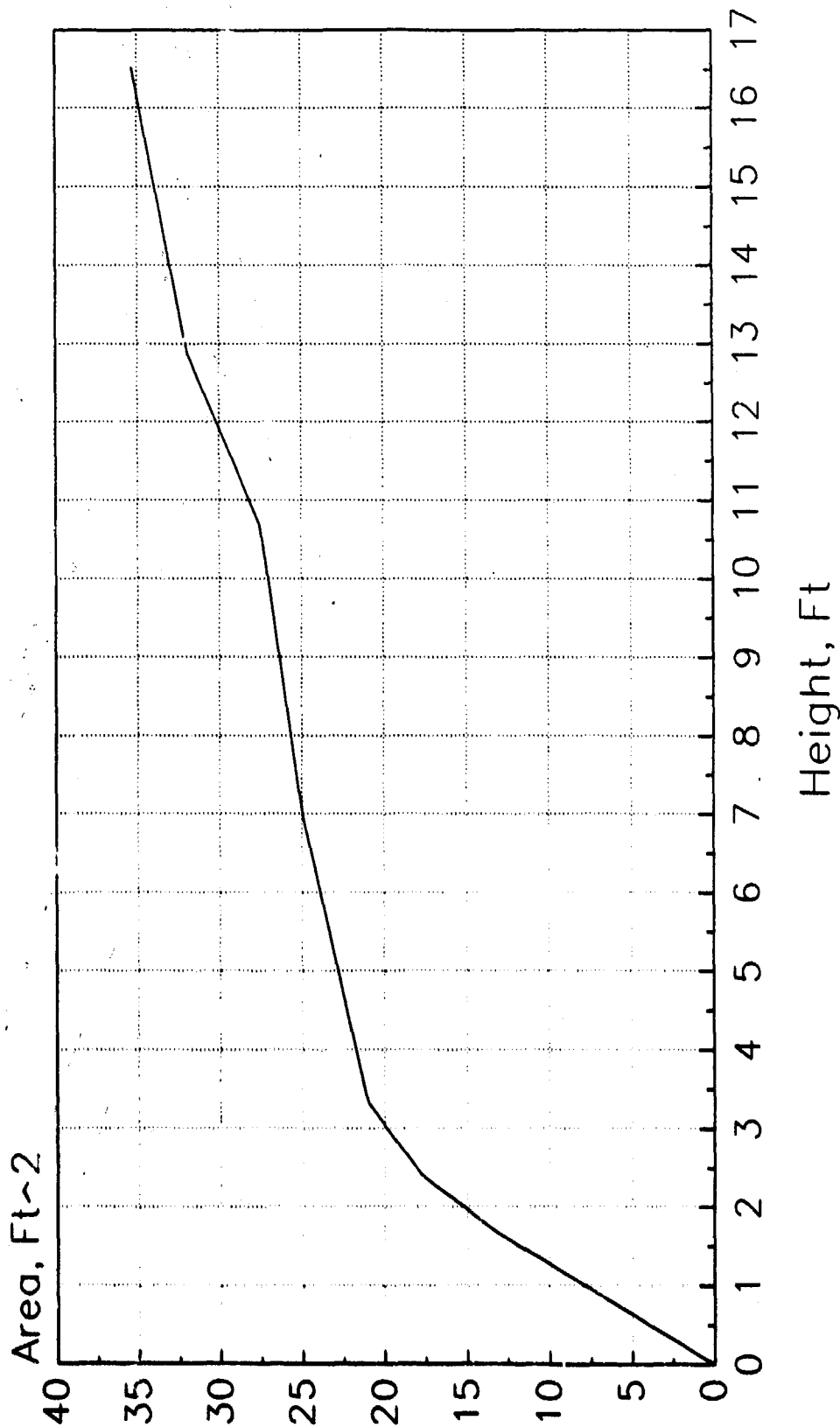
Manufacturers: Pintsch Bamag

Source of Design: Pintsch Bamag

Drawing Reference: Germany MFG 1-6

# Shalw Wtr Lt Buoy Type SW240G

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Shalw Wtr Lt Buoy Type SW260E

Country of Use: Germany MFG-1

Function: For marking shallow navigable waterways.  
It has modules, superstructure with  
access ladder, central pocket with  
battery, and rubber fender.

Date of Last Update For This Record: 11/02/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 10,352 Lbs.

Buoy Draft: 6.40 Ft.

Overall Buoy Length: 21.49 Ft.

Focal Height of Light: 15.09 Ft.

Buoy Beam or Diameter: 8.53 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 296 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External Rings

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Battery  
Lighting Equipment: Marine Lantern EE250  
Sound Equipment: None  
Other Payload: Radar Reflector SR6-500  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.299 In.  
Type: Steel Chain  
Sinker Size: 2,646 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 2.2 Nmi.  
Radar Range: 5.2 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

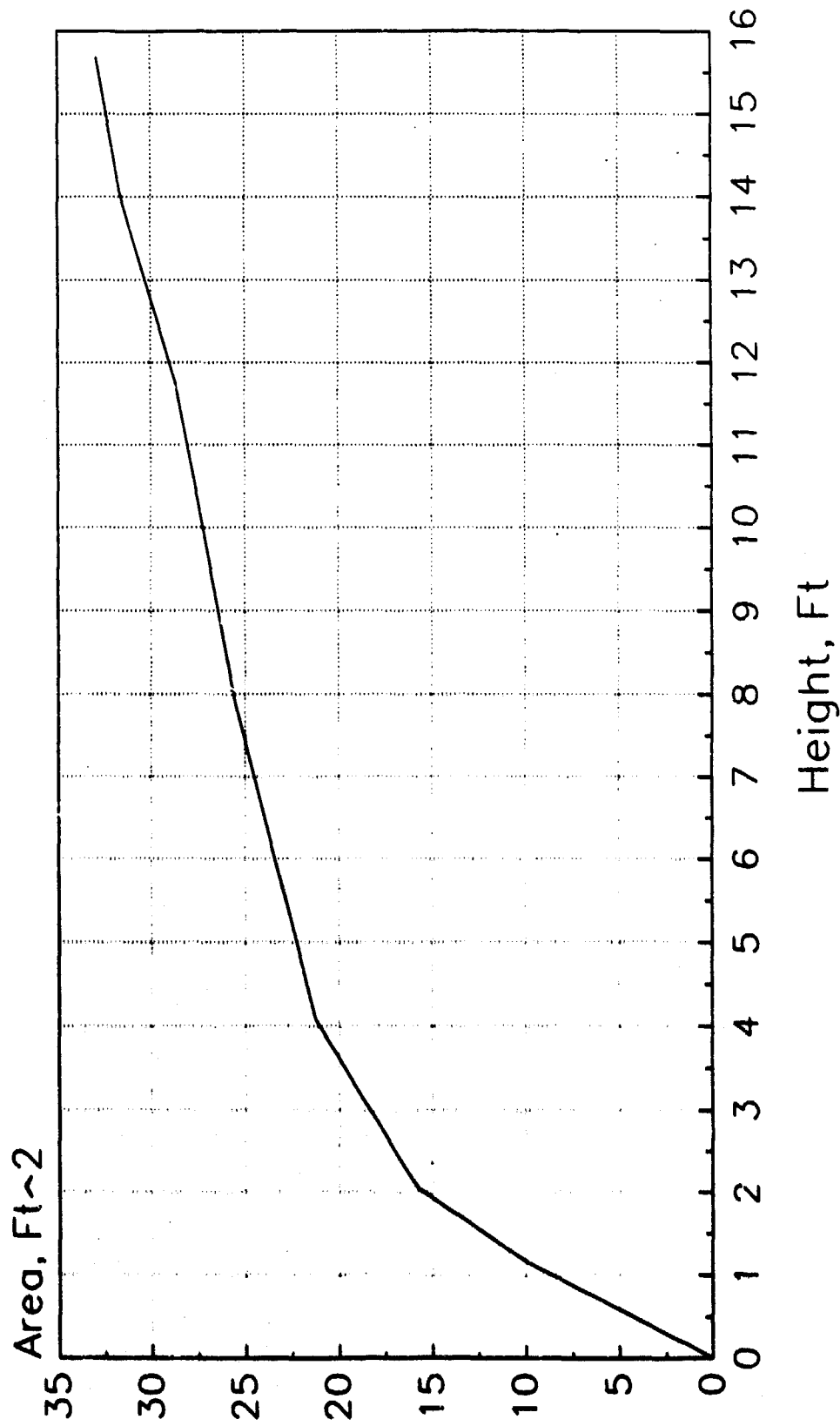
Manufacturers: Pintsch Bamag

Source of Design: Pintsch Bamag

Drawing Reference: Germany MFG 1-12

# Shalw Wtr Lt Buoy Type SW260E

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Shalw Wtr Lt Buoy Type SW260G

Country of Use: Germany MFG-1

Function: For use in shallow navigable waterways.  
It has superstructure with access  
ladder, central pocket for gas  
accumulators, and rubber fender.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 12,787 Lbs.

Buoy Draft: 7.22 Ft.

Overall Buoy Length: 23.62 Ft.

Focal Height of Light: 16.40 Ft.

Buoy Beam or Diameter: 8.53 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 296 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External/Skirt Keel

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Gas (Propane/Acetylene)  
Lighting Equipment: Marine Lantern PE(AE) 300  
Sound Equipment:  
Other Payload: Radar Reflector SR6-600  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.417 In.  
Type: Steel Chain  
Sinkers Size: 3,307 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.5 Nmi.  
Radar Range: 5.2 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

                          Radar reflector is omnidirectional.

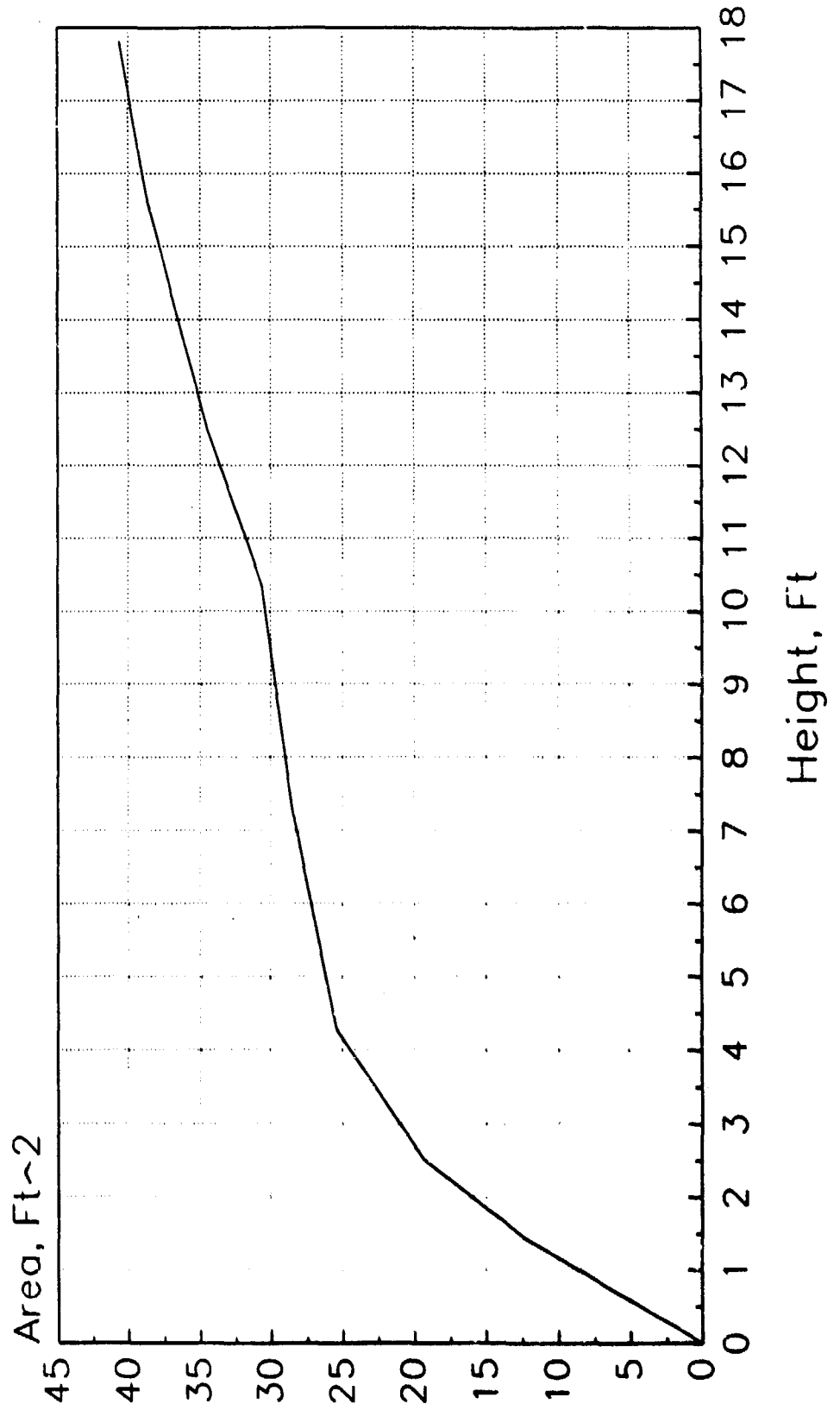
Manufacturers:                                Pintsch Bamag

Source of Design:                             Pintsch Bamag

Drawing Reference:                           Germany MFG 1-7

# Shalw Wtr Lt Buoy Type SW260G

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Shalw Wtr Lt Buoy Type SW300G

Country of Use: Germany MFG-1

Function: For use in shallow navigable waterways.  
It has superstructure with access  
ladder, central pocket for gas  
accumulators, and rubber fender.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 14,991 Lbs.

Buoy Draft: 7.22 Ft.

Overall Buoy Length: 24.93 Ft.

Focal Height of Light: 17.72 Ft.

Buoy Beam or Diameter: 9.84 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 374 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External/Skirt Keel

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Gas (Propane/Acetylene)  
Lighting Equipment: Marine Lantern PE(AE) 300  
Sound Equipment:  
Other Payload: Radar Reflector SR6-600  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.654 In.  
Type: Steel Chain  
Sinker Size: 4,409 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.4 Nmi.  
Radar Range: 5.4 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

**ADDITIONAL DATA**

**Cost:**                **Replacement:**        **\$0**  
                          **Preparation:**         **\$0**  
                          **Monthly Servicing:**   **\$0**

**Service Life:**                            **0.0 Yrs.**

**Maintenance Interval:**                 **0 Mos.**

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

**General Notes**

**Radar reflector is omnidirectional.**

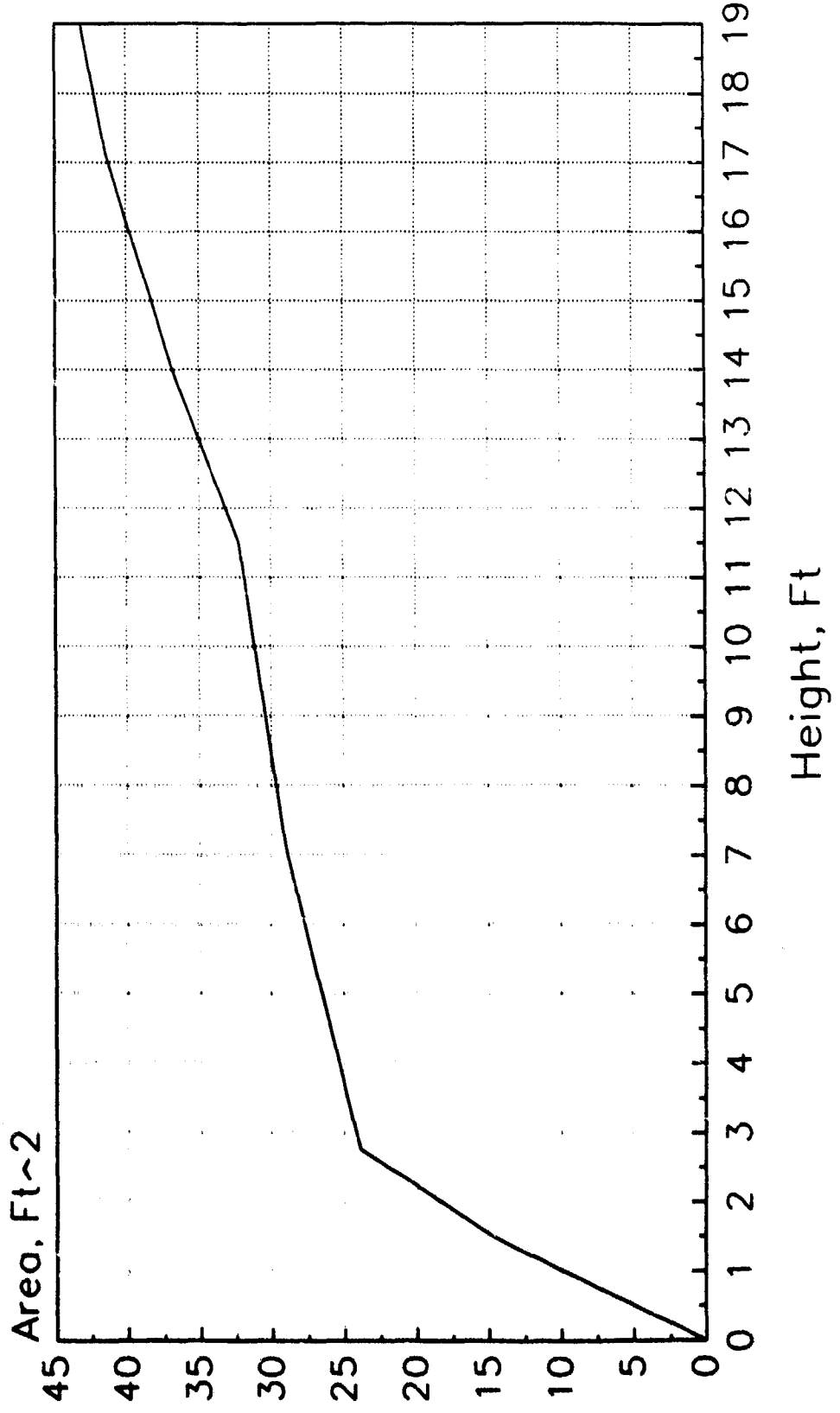
**Manufacturers:**                        **Pintsch Bamag**

**Source of Design:**                     **Pintsch Bamag**

**Drawing Reference:**                   **Germany MFG 1-8**

# Shalw Wtr Lt Buoy Type SW300G

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SKP-1600 Nav. Buoy

Country of Use: India Mfg-1

Function: For use in shallow water and high current applications (harbors, rivers, and estuaries).

Date Of Last Update For This Record: 01/23/91

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,214 Lbs.

Buoy Draft: 1.31 Ft.

Overall Buoy Length: 7.55 Ft.

Focal Height of Light: 6.23 Ft.

Buoy Beam or Diameter: 5.25 Ft.

Freeboard No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 112 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : GRP  
Hull Filling : Polyurethane foam  
Tower : GRP (Daymark)  
Topmark :  
Counterweight:

Coating/Coloring System: Impregnated IALA colors

Subdivision: Foam filled

Hull Type: Cyl skirt keel

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: Gas or solar panel with batt

Lighting Equipment: Gas or electric lantern

Sound Equipment:

Other Payload:

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.748 In.  
Type: Open link chain

Sinker Size: 1,100 Lbs.

Topmark Type:

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM, PM, shallow wtr

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth Minimum: 0 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:        0 Mos.

Maintenance Notes:  
    Lightweight and easy to handle.

Special Features:  
    One centrally located mooring eye.

Stability Notes:  
    According to manufacturer, virtually unsinkable in case of accident.

General Notes  
    Buoy draft, weight, and focal height are without lighting equipment and suspended mooring weight. Lantern weighs 25 kg and mooring 250 kg.

Manufacturers:                    ANA Navaids - India

Source of Design:                ANA

Drawing Reference:                India Mfg 1-1

## GENERAL INFORMATION

Name of Buoy: SKP-2500 NAV BUOY  
Country of Use: India Mfg-1  
Function: General purpose channel marking.

Date Of Last Update For This Record: 01/23/91

## PHYSICAL CHARACTERISTICS

Buoy Weight: 5,298 Lbs.  
Buoy Draft: 4.30 Ft.  
Overall Buoy Length: 17.88 Ft.  
Focal Height of Light: 14.76 Ft.  
Buoy Beam or Diameter: 8.20 Ft.  
Freeboard No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 258 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave fololowing  
Construction Material: Hull Shell : GRP  
Hull Filling : Polyurethane foam  
Tower : Steel angles  
Topmark :  
Counterweight:  
Coating/Coloring System: Impregnated - IALA colors  
Subdivision: Foam filled  
Hull Type: Cyl/cone skirt keel  
Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 4

Type of Power Sources: Gas or solar with battery

Lighting Equipment: Gas or electric lantern

Sound Equipment:

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 1.260 In.  
Type: Open Link Chain

Sinker Size: 3,310 Lbs.

Topmark Type: Optional IALA

Number of Padeyes: 4

## OPERATING CHARACTERISTICS

Operating Environment: PM - Channel

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth Minimum: 0 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:        0 Mos.

Maintenance Notes:  
                          Lightweight and easy to handle.

Special Features:  
                          Two mooring eyes.

Stability Notes:

General Notes  
                          Weight, draft, and focal height shown are without mooring  
                          and lighting. Lantern weighs 45 kg. and mooring 1100 kg.

Manufacturers:                    ANA Navaidis - India

Source of Design:                ANA

Drawing Reference:                India Mfg 1-2

## GENERAL INFORMATION

Name of Buoy: CP-2800 CATAMARAN BUOY

Country of Use: India Mfg-1

Function: For use in rivers where water may vary from dry river bed to 50 ft. depth with current up to 8 knots.

Date Of Last Update For This Record: 01/23/91

## PHYSICAL CHARACTERISTICS

Buoy Weight: 508 Lbs.

Buoy Draft: 0.82 Ft.

Overall Buoy Length: 9.19 Ft.

Focal Height of Light: 5.58 Ft.

Buoy Beam or Diameter: 4.59 Ft.

Freeboard No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 101 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : GRP  
Hull Filling : Foam  
Tower : Steel angles  
Topmark :  
Counterweight:

Coating/Coloring System: Impregnated

Subdivision: Foam filled

Hull Type: 2 Hulls Joined atBow

Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: 1 gas cyl or 2 solar pnls/bat  
Lighting Equipment: gas or electric lantern  
Sound Equipment:  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.492 In.  
Type: Open link chain  
Sinker Size: 0 Lbs.  
Topmark Type:  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: PM (River)  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth Minimum: 0 Ft.  
Maximum: 15 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:        0 Mos.

## Maintenance Notes:

Joining of two hulls at bow prevents floating debris from getting entangled at the small gap between hulls.

## Special Features:

## Stability Notes:

Due to its twin hull construction the buoy will remain stable and upright under all conditions.

## General Notes

- \* Contains only one pocket which can accommodate one gas cylinder or an adequate number of batteries.
- \* Weight excludes mooring and lighting.

Manufacturers:                    ANA Navaidis - India

Source of Design:                ANA

Drawing Reference:               India Mfg 1-3

## GENERAL INFORMATION

Name of Buoy: TT-2600 OPEN SEA NAV BUOY

Country of Use: India Mfg-1

Function: For use in open sea conditions.

Date Of Last Update For This Record: 01/23/91

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 10.83 Ft.

Overall Buoy Length: 29.53 Ft.

Focal Height of Light: 18.70 Ft.

Buoy Beam or Diameter: 8.53 Ft.

Freeboard      No Mooring: 0.00 Ft.  
                  Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 306 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
                          Hull Filling :  
                          Tower : Steel Angle  
                          Topmark :  
                          Counterweight: Steel

Coating/Coloring System:

Subdivision:

Hull Type: Cyl/Dished/Tail Tube

Counterweight Type: Rings

RELATED EQUIPMENT

Number of Power Sources: 4  
Type of Power Sources: Gas cyl's/solar sys pnls w/bat  
Lighting Equipment: Gas or electric lantern  
Sound Equipment:  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Open link chain  
Sinkers Size: 4,415 Lbs.  
Topmark Type: IALA Pillar  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:        0 Mos.

Maintenance Notes:

Special Features:

Two mooring eyes.

Stability Notes:

General Notes

- \* Can be fitted with lateral or cardinal daymark or topmark
- \* Weight, draft, focal height shown are without mooring and lighting.

Manufacturers:                    ANA Navaids - India

Source of Design:                ANA

Drawing Reference:                India Mfg 1-4

## GENERAL INFORMATION

Name of Buoy: Deepwater Tension Beacon

Country of Use: Italy MFG 1

Function: Lighted articulated spar for narrow channels and precise marking.

Date Of Last Update For This Record: 07/30/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 0.00 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 0.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel, Polyethylene  
Hull Filling : Polyurethane foam  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision: Foam filled

Hull Type: Articulated spar

Counterweight Type: none

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Solar panel & storage battery  
Lighting Equipment: Electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: Various  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 100 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Collision by vessels result in less damage than with fixed structure.

Special Features:

Tension mooring results in precise positioning with negligible watch circle.

Stability Notes:

General Notes

Manufacturers:                                Resinex Offshore Srl  
Source of Design:                              Resinex  
Drawing Reference:                              Italy MFG 1

## GENERAL INFORMATION

Name of Buoy: Standard Elastic Beacon

Country of Use: Italy MFG 1

Function: Lighted articulated spar for narrow channels and precise marking.

Date Of Last Update For This Record: 07/30/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 0.00 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 0.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel, Polyethylene  
Hull Filling : Polyurethane foam  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision: Foam filled

Hull Type: Articulated spar

Counterweight Type: none

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Solar panel & storage battery  
Lighting Equipment: Electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Universal Joint  
Sinkers Size: 0 Lbs.  
Topmark Type: Various  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 23 Ft.  
Maximum: 100 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                         Preparation:         \$0  
                         Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

7 to 10 year maintenance interval for structure.  
Collision by vessels result in less damage than with fixed structure.

Special Features:

High focal plane: 16 to 66 feet. Tension mooring results in precise positioning with negligible watch circle. None rotation of mooring allows for optimization of solar panels and for directing of daymarks.

Stability Notes:

General Notes

Manufacturers:                                Resinex Offshore Srl

Source of Design:                              Resinex

Drawing Reference:                            Italy MFG 1

## GENERAL INFORMATION

Name of Buoy: Elastic Beacon

Country of Use: Italy MFG 2

Function: Lighted articulated spar for narrow channels and precise marking.

Date Of Last Update For This Record: 08/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 0.00 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 0.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel, polyethylene  
Hull Filling : Polyurethane foam  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision: Foam filled

Hull Type: Articulated Spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Solar panel & storage battery  
Lighting Equipment: Electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Universal Joint  
Sinkers Size: 0 Lbs.  
Topmark Type: Various  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 40 Ft.  
Maximum: 330 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

## Maintenance Notes:

Long maintenance interval on structure due to lack of chain in mooring. Collision by vessels result in less damage than with fixed structure.

## Special Features:

Tension mooring results in precise positioning with negligible watch circle. Non-rotating mooring allows for optimization of solar panels and for directing of daymarks. High focal plane.

## Stability Notes:

## General Notes

Manufacturers:                            Floatex S.r.l.

Source of Design:                        Floatex

Drawing Reference:                        Italy MFG 2

## GENERAL INFORMATION

Name of Buoy: L-1 (8.5x31 L) Battery Type  
Country of Use: Japan  
Function: Lighted buoy for deep semi-protected waters.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 14,412 Lbs.  
Buoy Draft: 13.12 Ft.  
Overall Buoy Length: 30.67 Ft.  
Focal Height of Light: 16.16 Ft.  
Buoy Beam or Diameter: 8.53 Ft.  
Freeboard: No Mooring: 3.63 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 305 Lbs.  
Metacentric Height: 2.23 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron  
Coating/Coloring System: Zinc primer/synth. resin paint  
Subdivision: None  
Hull Type: Cylindrical  
Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 20  
Type of Power Sources: Air depolarized primary cell  
Lighting Equipment: 250mm electric lantern  
Sour 1 Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/opt.rad.r.  
Daymark Area: 7.7 Sq. Ft.  
Bridle Size: Chain Size: 1.181 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinkers Size: 8,820 Lbs.  
Topmark Type: Optioinal Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 2.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 132 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$20,750  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter with collision marking system.

Stability Notes:

General Notes

Metacentric height based on buoy weight including power source.

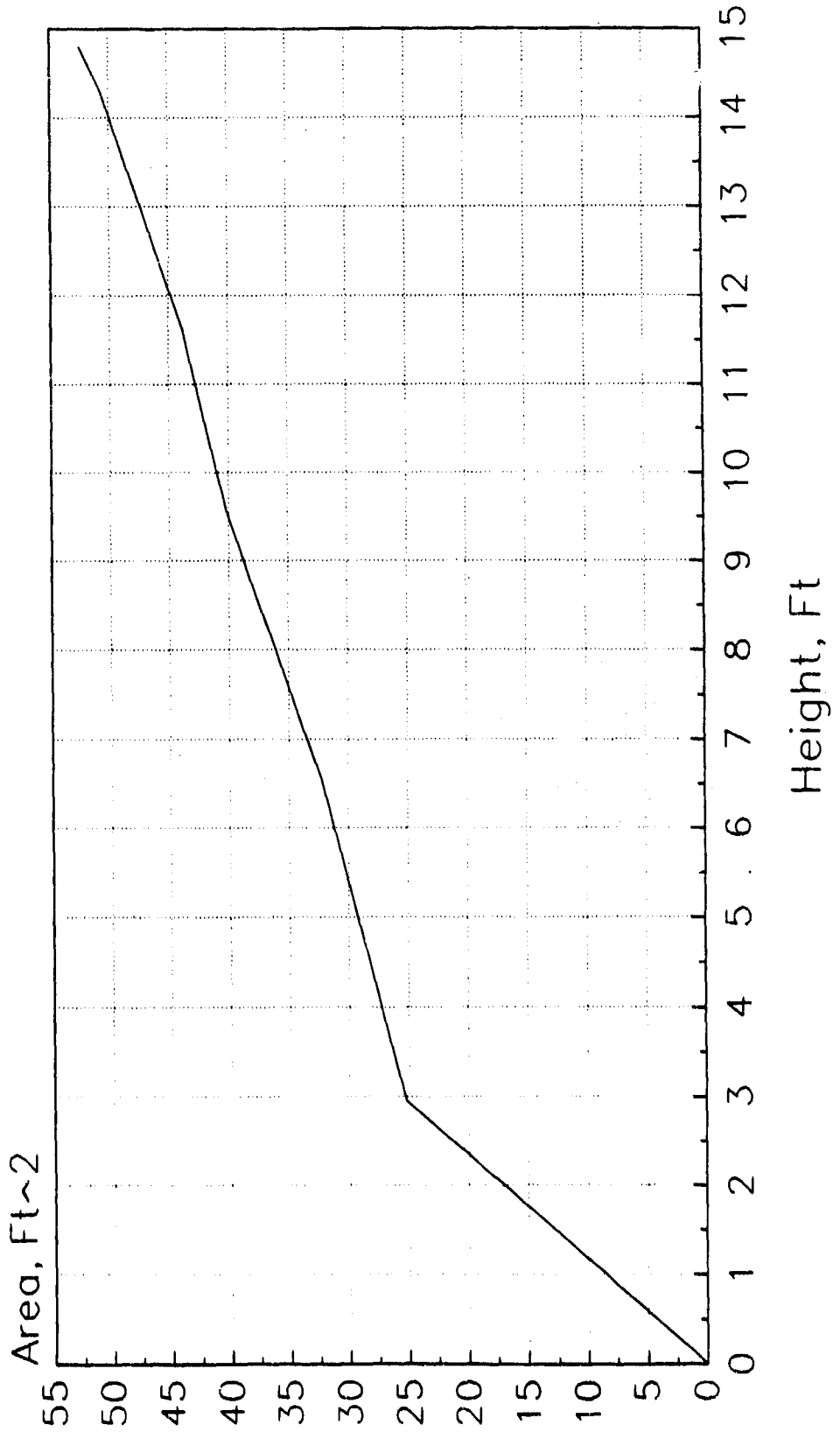
Manufacturers: Gakuyo Toki Kogyo Co

Source of Design: Maritm Safety Agency

Drawing Reference: Japan 1 & 3

# L-1 (8.5x31 L) Battery Type

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: L-1 (8.5x31 L) Wave Generator

Country of Use: Japan

Function: Lighted buoy for deep semi-protected waters, with wave actuated electric power generator.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 13,196 Lbs.

Buoy Draft: 13.64 Ft.

Overall Buoy Length: 30.67 Ft.

Focal Height of Light: 15.64 Ft.

Buoy Beam or Diameter: 8.53 Ft.

Freeboard: No Mooring: 3.11 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 305 Lbs.

Metacentric Height: 2.53 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision: None

Hull Type: Cylindrical

Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 21  
Type of Power Sources: 20 storage batt./wave act.gen.  
Lighting Equipment: 250mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Alram & marking sys/opt.rad. r  
Daymark Area: 7.7 Sq. Ft.  
Bridle Size: Chain Size: 1.181 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinker Size: 8,820 Lbs.  
Topmark Type: Optional Lateral  
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 2.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 132 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                   Replacement: \$20,750  
                          Preparation:      \$0  
                          Monthly Servicing: \$0

Service Life:                                        0.0 Yrs.

Maintenance Interval:                              24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system.

Stability Notes:

General Notes

Metecentric height based on buoy including power source.

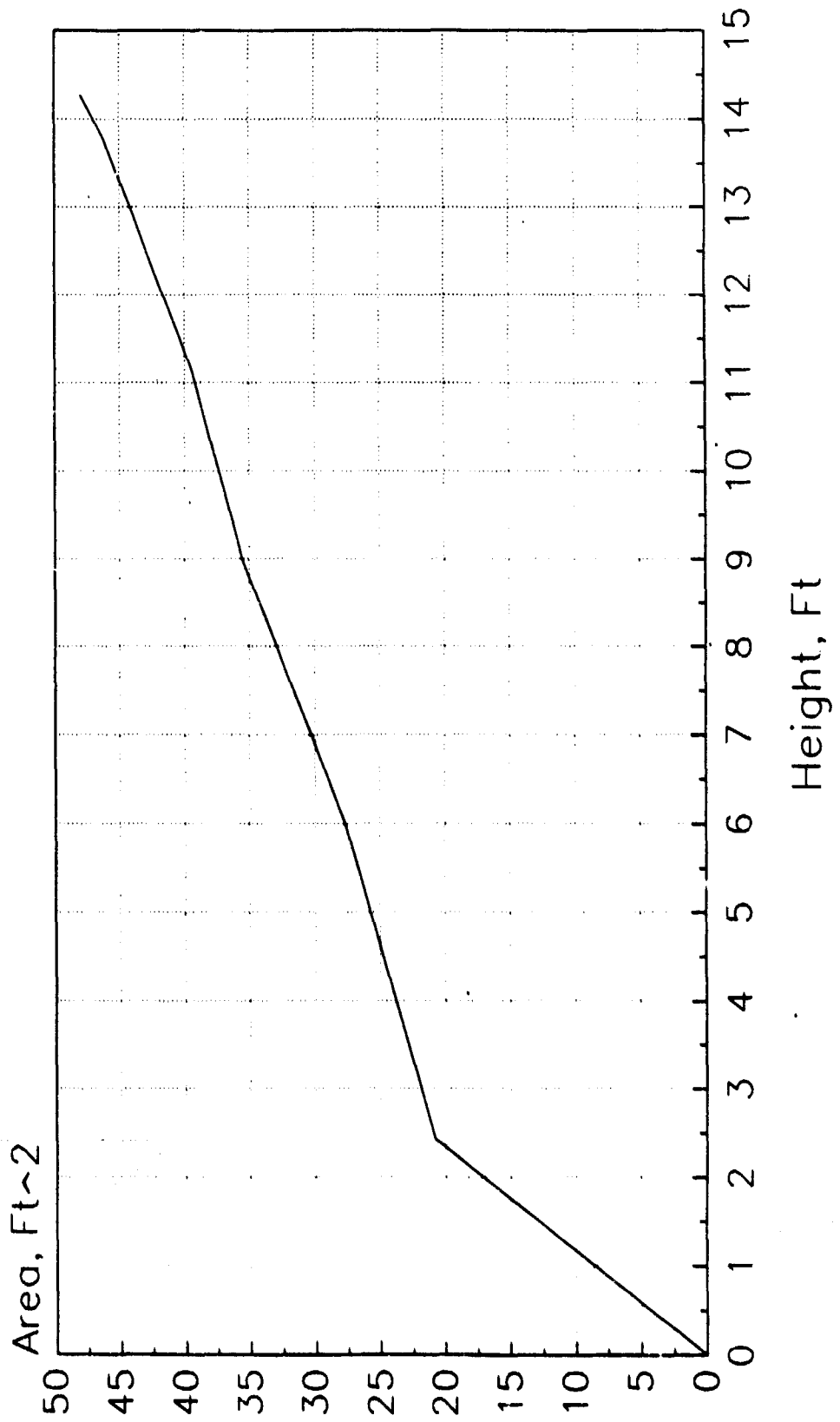
Manufacturers:                                    Ryokuseisha Corp

Source of Design:                                Maritm.Safety Agency

Drawing Reference:                                Japan 1 & 2

# L-1 (8.5x31 L) Wave Generator

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: L-2 (9.2x34 L) Battery Type

Country of Use: Japan

Function: Lighted offshore buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 17,921 Lbs.

Buoy Draft: 13.43 Ft.

Overall Buoy Length: 34.26 Ft.

Focal Height of Light: 19.44 Ft.

Buoy Beam or Diameter: 9.19 Ft.

Freeboard: No Mooring: 4.28 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 354 Lbs.

Metacentric Height: 2.49 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 20  
Type of Power Sources: Air depolarized primary cells  
Lighting Equipment: 250mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/opt.rad.r.  
Daymark Area: 11.1 Sq. Ft.  
Bridle Size: Chain Size: 1.260 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.496 In.  
Type: Steel Chain  
Sinker Size: 8,820 Lbs.  
Topmark Type: Optioina Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.8 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$23,900  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter including collision marking system.

Stability Notes:

General Notes

Metecentric height based on buoy including power source.

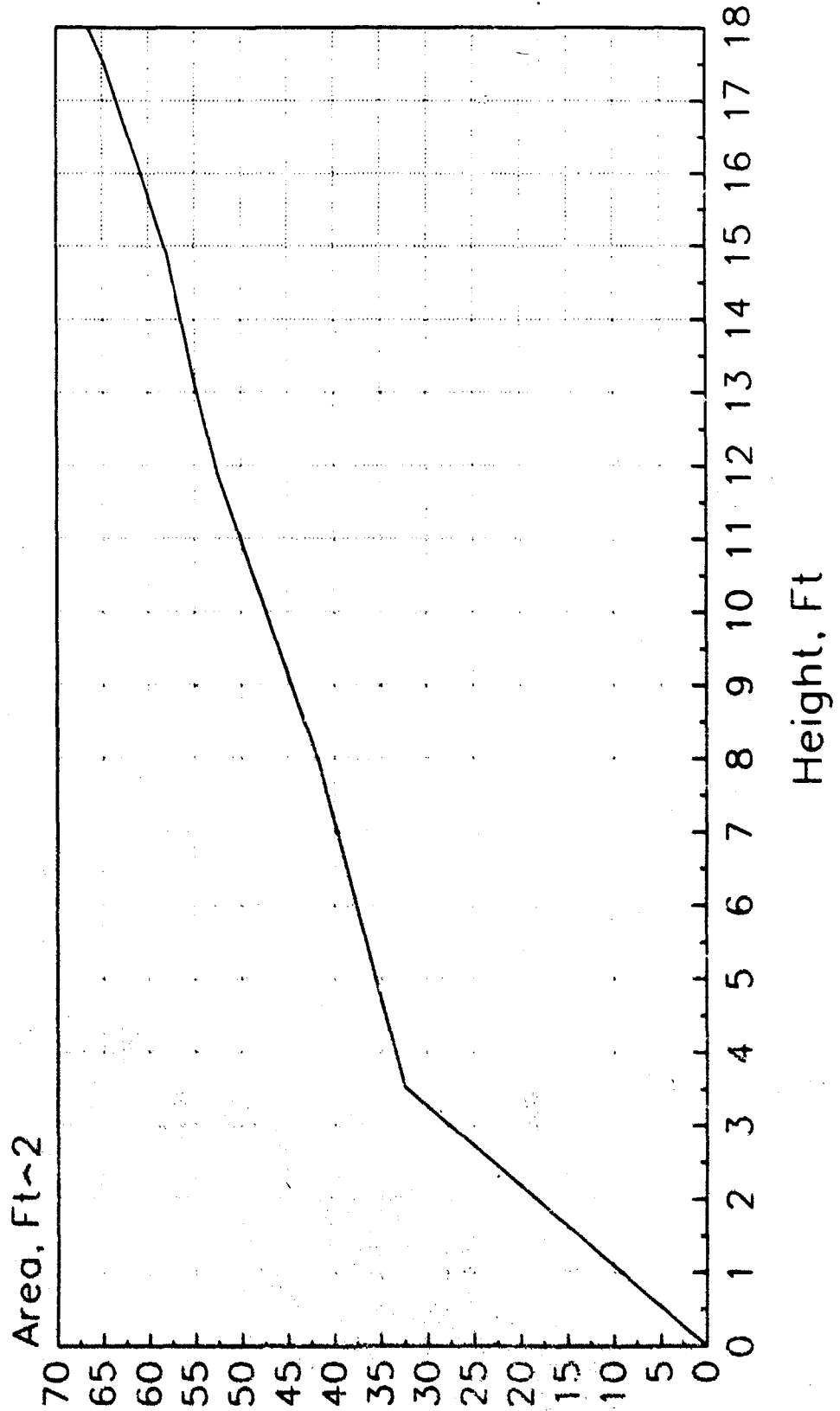
Manufacturers: Nippon Koki Kogyo Co

Source of Design: Maritm. Safety Agency

Drawing Reference: Japan 1 & 5

# L-2 (9.2x34 L) Battery Type

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: L-2 (9.2x34 L) Wave Generator

Country of Use: Japan

Function: Lighted offshore buoy, with wave actuated electric power generator.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 16,618 Lbs.

Buoy Draft: 13.91 Ft.

Overall Buoy Length: 34.26 Ft.

Focal Height of Light: 18.96 Ft.

Buoy Beam or Diameter: 9.19 Ft.

Freeboard: No Mooring: 3.80 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 354 Lbs.

Metacentric Height: 2.89 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/Synth. resin paint

Subdivision: None

Hull Type: Cylindrical

Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 21  
Type of Power Sources: 20 storage batt./wave act. gen  
Lighting Equipment: 250mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/Opt.rad.r.  
Daymark Area: 11.1 Sq. Ft.  
Bridle Size: Chain Size: 1.260 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.496 In.  
Type: Steel Chain  
Sinker Size: 8,820 Lbs.  
Topmark Type: Optional Lateral  
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.8 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement: \$23,000  
                            Preparation:        \$0  
                            Monthly Servicing: \$0

Service Life:                         0.0 Yrs.

Maintenance Interval:                24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system.

Stability Notes:

General Notes

Metacentric height based on buoy including power source.

Manufacturers:                        Gakuyo Toki Koggo Co

Source of Design:                     Maritm. Safety Agency

Drawing Reference:                    Japan 1 & 4

## GENERAL INFORMATION

Name of Buoy: L-3 (10.5x38 L) Battery Type

Country of Use: Japan

Function: Lighted offshore buoy.

Date Of Last Update For This Record: 07/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 38.05 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 10.50 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 462 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision: None

Hull Type: Cylindrical

Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 20  
Type of Power Sources: Air depolarized primary cells  
Lighting Equipment: 250mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/Opt.rad.r.  
Daymark Area: 17.9 Sq. Ft.  
Bridle Size: Chain Size: 1.260 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.496 In.  
Type: Steel Chain  
Sinker Size: 13,230 Lbs.  
Topmark Type: Optional Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 330 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$31,850  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system.

Stability Notes:

General Notes

Metacentric height based on buoy including power source.

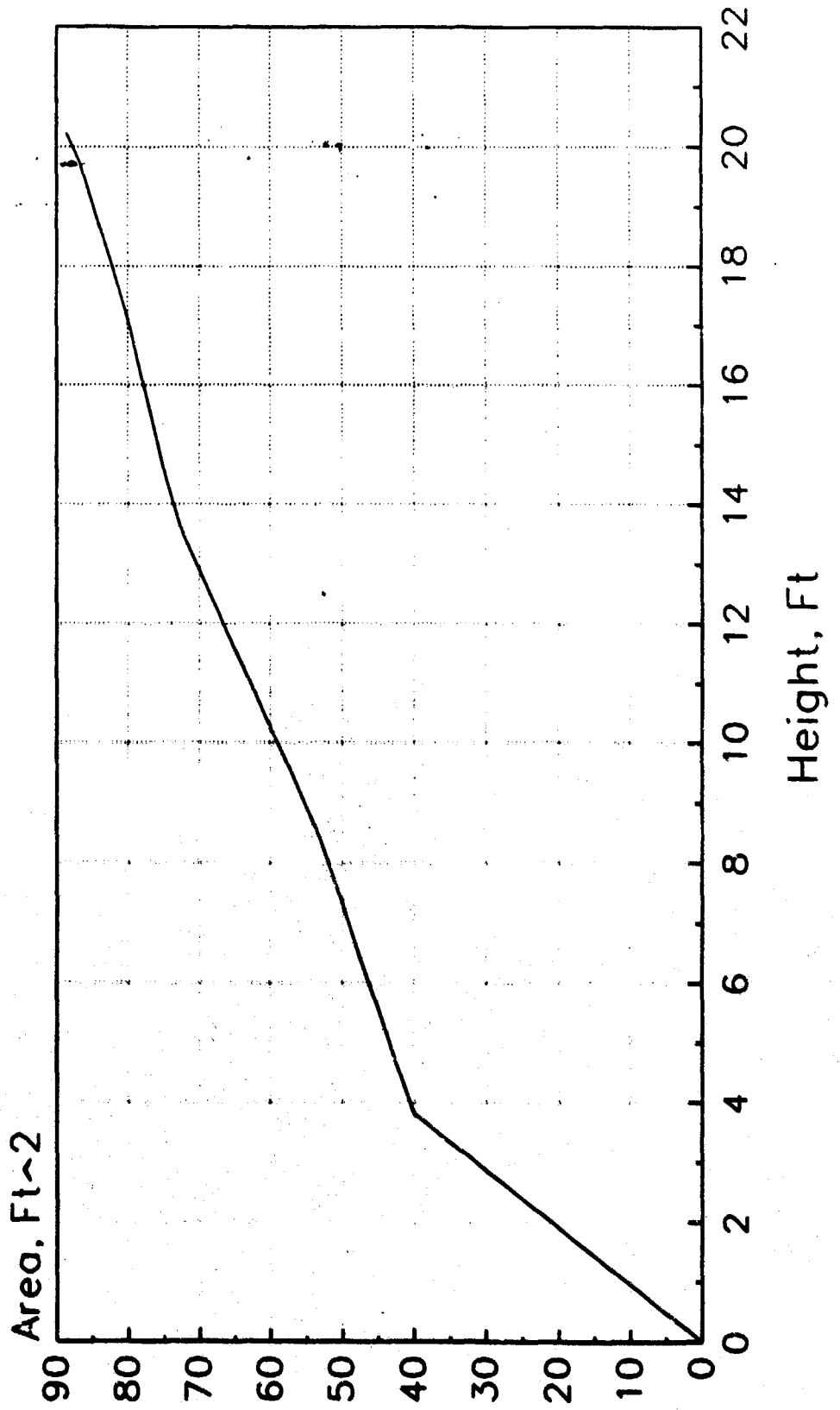
Manufacturers: Zeni, Lite Buoy Co.

Source of Design: Maritm. Safety Agency

Drawing Reference: Japan 1

# L-3 (10.5x38 L) Wave Generator

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: L-3 (10.5x38 L) Wave Generator

Country of Use: Japan

Function: Lighted offshore buoy, with wave  
activated electric power generator.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 23,443 Lbs.

Buoy Draft: 15.13 Ft.

Overall Buoy Length: 38.05 Ft.

Focal Height of Light: 21.53 Ft.

Buoy Beam or Diameter: 10.50 Ft.

Freeboard: No Mooring: 4.40 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 462 Lbs.

Metacentric Height: 4.27 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision: None

Hull Type: Cylindrical

Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 21  
Type of Power Sources: 20 Storage batt./wave act.gen.  
Lighting Equipment: 250mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/opt.rad.r.  
Daymark Area: 17.9 Sq. Ft.  
Bridle Size: Chain Size: 1.260 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.496 In.  
Type: Steel Chain  
Sinker Size: 13,230 Lbs.  
Topmark Type: Optional Lateral  
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 3.2 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 330 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement:\$31,850  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system.

Stability Notes:

General Notes

Metecentric height based on buoy including power source.

Manufacturers: Zeni Lite Buoy Co.

Source of Design: Maritm.Safety Agency

Drawing Reference: Japan 1 & 6

## GENERAL INFORMATION

Name of Buoy: L-4 (20x53 LR) Wave Generator

Country of Use: Japan

Function: Lighted offshore buoy, with wave activated electric power generator, for significant traffic routes.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 77,100 Lbs.

Buoy Draft: 18.54 Ft.

Overall Buoy Length: 52.66 Ft.

Focal Height of Light: 31.43 Ft.

Buoy Beam or Diameter: 19.69 Ft.

Freeboard: No Mooring: 4.27 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 1,626 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling : Foam  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision: Foamfilled cutercomp

Hull Type: Cylindrical

Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Storage batt's./wave act. gen.  
Lighting Equipment: 375mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/radar refl  
Daymark Area: 71.9 Sq. Ft.  
Bridle Size: Chain Size: 2.756 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 2.756 In.  
Type: Steel Chain  
Sinker Size: 220,500 Lbs.  
Topmark Type: Optional Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EF  
Nominal Visual Range of Daymark: 4.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 6.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                Replacement:        \$0  
                         Preparation:            \$0  
                         Monthly Servicing:    \$0

Service Life:                                  0.0 Yrs.

Maintenance Interval:                        24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system. Fender strip around body.

Stability Notes:

General Notes

Weight, draft, freeboard and focal height based on buoy including power source.

The price of this buoy is \$120,000.

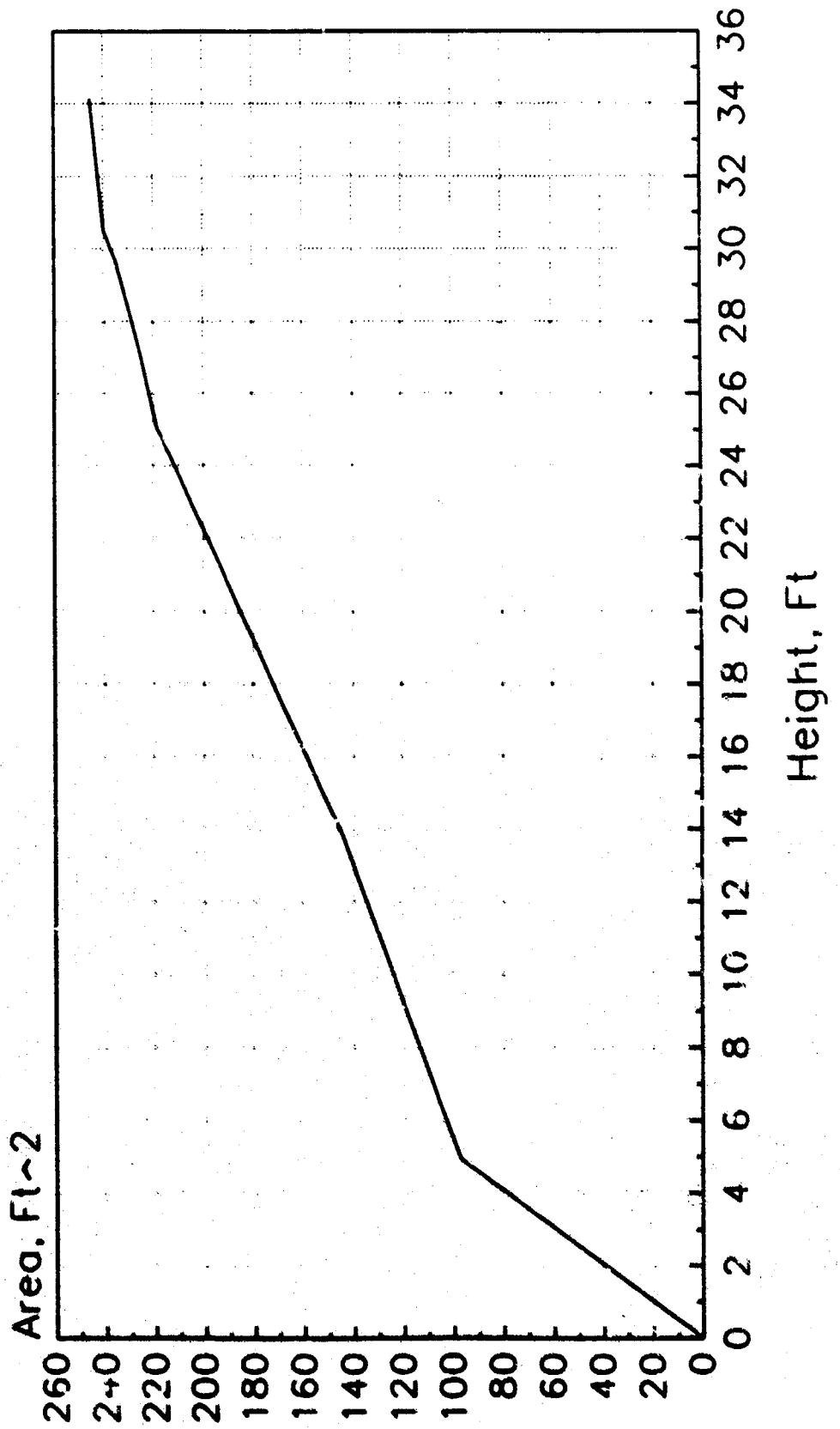
Manufacturers:                                Ryokuseisha Corp.

Source of Design:                            Maritime Safety Agency

Drawing Reference:                         Japan 1 & 7

# L-4 (20x53 LR) Wave Generator

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: L-5 (13.1x23 LR)

Country of Use: Japan

Function: Lighted offshore buoy.

Date Of Last Update For This Record: 10/12/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 22,050 Lbs.

Buoy Draft: 7.00 Ft.

Overall Buoy Length: 22.90 Ft.

Focal Height of Light: 14.10 Ft.

Buoy Beam or Diameter: 13.12 Ft.

Freeboard: No Mooring: 2.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 723 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision:

Hull Type: Discus

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Air depolarized primary cells

Lighting Equipment: 250 or 300mm electric lantern

Sound Equipment: Optional electric fog signal

Other Payload: Alarm & marking sys/radar refl

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 1.496 In.  
Type: Steel Chain

Sinker Size: 22,050 Lbs.

Topmark Type: Optional Lateral

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EF

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 5.0 Kts.

Mooring Depth: Minimum: 8 Ft.  
Maximum: 180 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system. Fender strip around body. Centerline single point mooring.

Stability Notes:

General Notes

Manufacturers:

Source of Design:                            Maritm.Safety Agency

Drawing Reference:                          Japan 1

## GENERAL INFORMATION

Name of Buoy: L-6 (16x25 LR)

Country of Use: Japan

Function: Lighted offshore buoy, with discus type  
hull for strong current and seas.

Date of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 22,930 Lbs.

Buoy Draft: 3.80 Ft.

Overall Buoy Length: 25.03 Ft.

Focal Height of Light: 19.70 Ft.

Buoy Beam or Diameter: 16.40 Ft.

Freeboard: No Mooring: 3.10 Ft.  
Minimum: 0.50 Ft.

Pounds Per Inch Immersion: 1,129 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 6,400 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Concrete

Coating/Coloring System: Zinc primer/Synth. resin Paint

Subdivision: 2 Compartment

Hull Type: Discus

Counterweight Type: Internal

## RELATED EQUIPMENT

Number of Power Sources: 40  
Type of Power Sources: Air Depolarized primary cell  
Lighting Equipment: Electric lantern, 250 or 300mm  
Sound Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/radar refl  
Daymark Area: 98.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.050 In.  
Type: Steel Chain  
Sinker Size: 88,200 Lbs.  
Topmark Type: Optional Lateral  
Number of Padeyes: 3

## OPERATING CHARACTERISTICS

Operating Environment: EF  
Nominal Visual Range of Daymark: 3.6 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 6.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 330 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                   Replacement:\$48,000  
                          Preparation:         \$0  
                          Monthly Servicing:    \$0

Service Life:                           0.0 Yrs.

Maintenance Interval:                 24 Mos.

Maintenance Notes:

## Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system. Fender strip around body. Centerline single point mooring.

Stability Notes:

## General Notes

Weight, draft, freeboard and focal height based on buoy including power source.

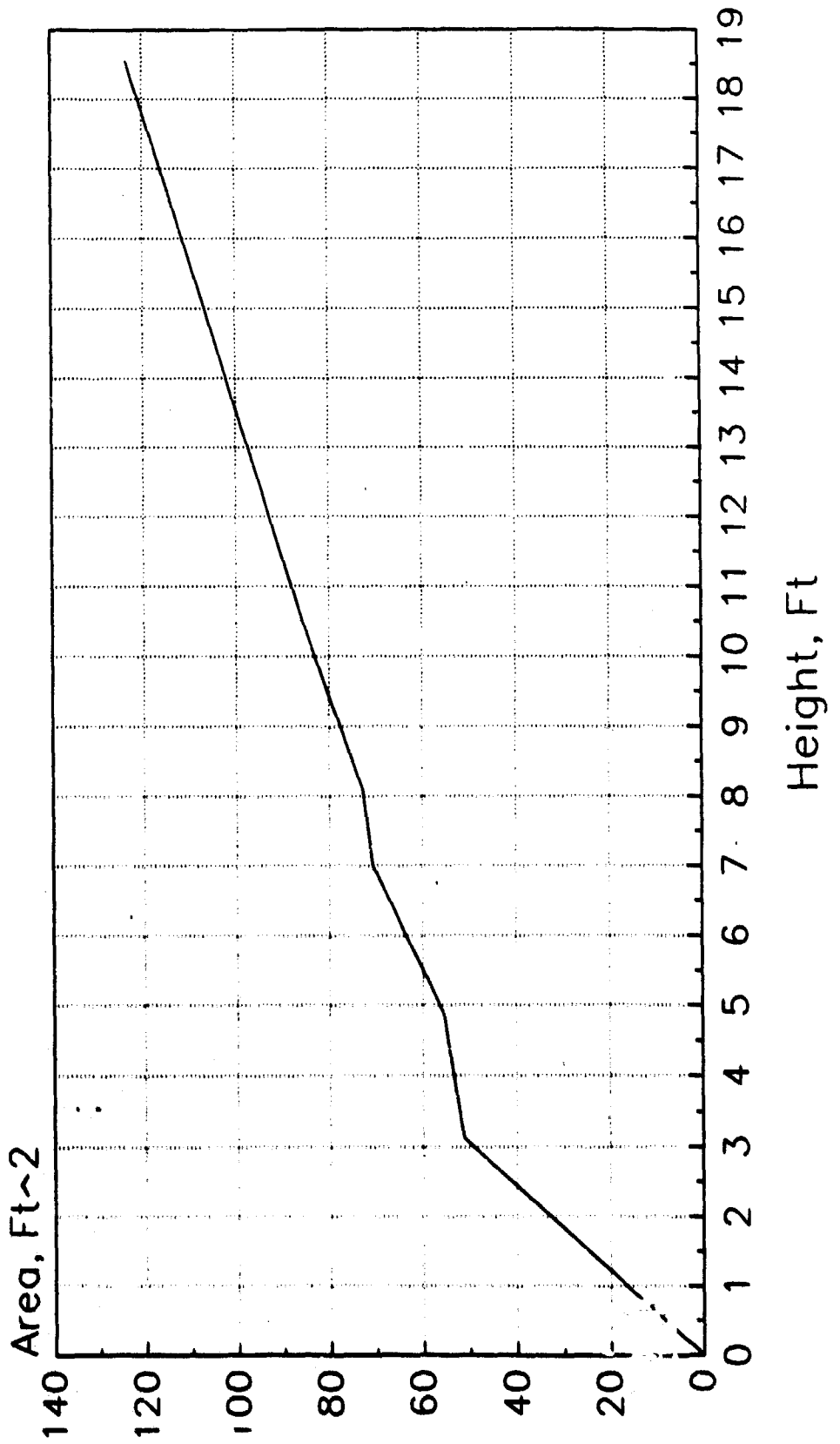
Manufacturers:                         Zeni Lite Buoy Co.

Source of Design:                     Maritm.Safety Agency

Drawing Reference:                    Japan 1 & 8

# L-6 (16x25 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: L-H (6.9x22 L)

Country of Use: Japan

Function: Lighted buoy, for deep protected waters.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 9,280 Lbs.

Buoy Draft: 8.43 Ft.

Overall Buoy Length: 22.41 Ft.

Focal Height of Light: 13.17 Ft.

Buoy Beam or Diameter: 6.89 Ft.

Freeboard: No Mooring: 2.43 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 199 Lbs.

Metacentric Height: 1.02 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision: None

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 10  
Type of Power Sources: Air depolarized primary cells  
Lighting Equipment: 200mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/opt.rad.r.  
Daymark Area: 5.2 Sq. Ft.  
Bridle Size: Chain Size: 1.181 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinkers Size: 8,820 Lbs.  
Topmark Type: Optional Lateral  
Number of Padeyes: 4

## OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 2.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system.

Stability Notes:

General Notes

Metecentric height based on buoy including power source.

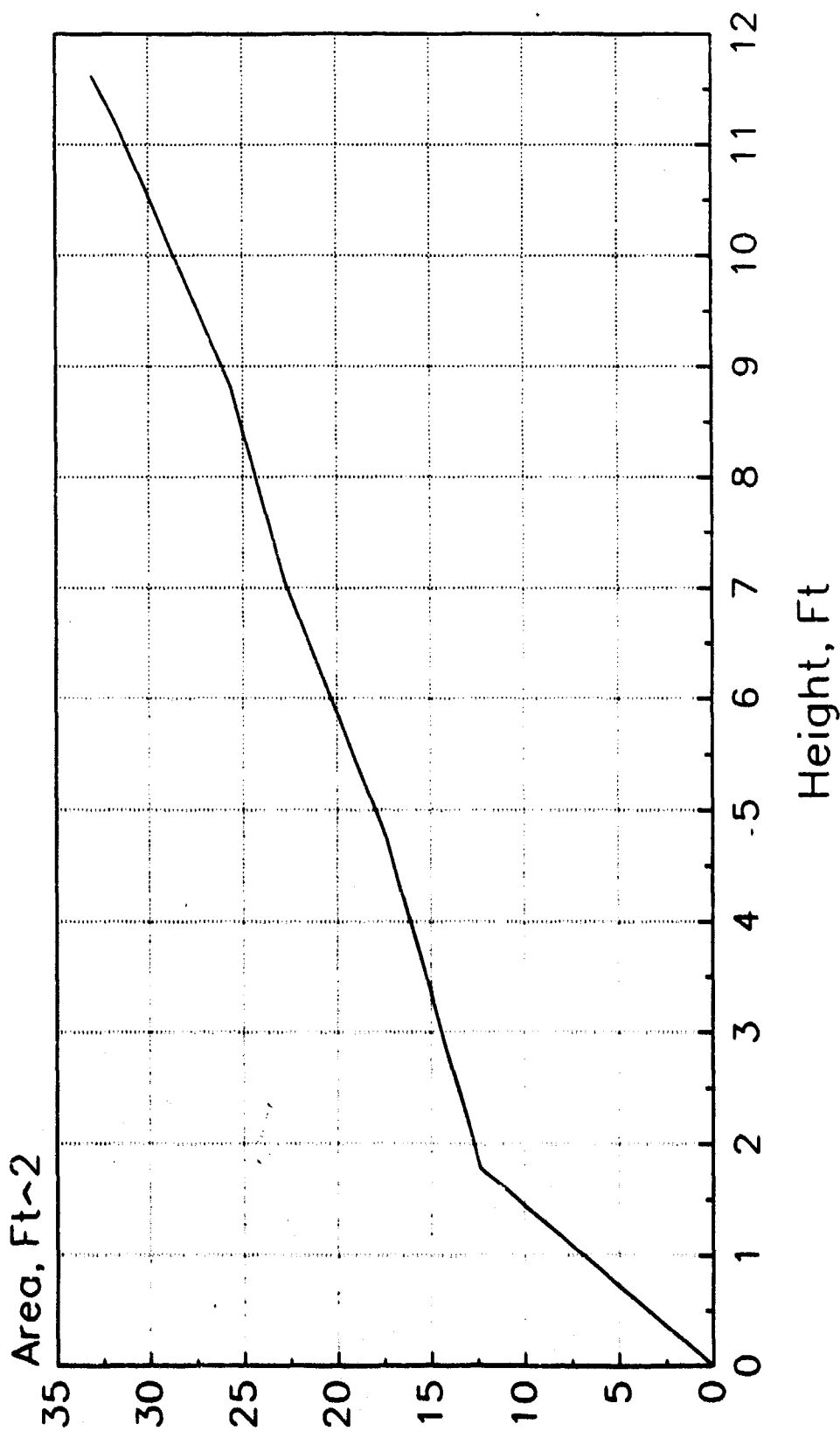
Manufacturers:                                Gakuyo Toki Kogyo Co

Source of Design:                             Maritm.Safety Agency

Drawing Reference:                            Japan 1 & 9

L-H (6.9x22 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: L-U (7.9x20 L)

Country of Use: Japan

Function: Lighted buoy, for shallow water.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 13,550 Lbs.

Buoy Draft: 5.62 Ft.

Overall Buoy Length: 20.37 Ft.

Focal Height of Light: 13.96 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 1.90 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 260 Lbs.

Metacentric Height: 1.12 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision: None

Hull Type: Cylindrical

Counterweight Type: External skirt keel

## RELATED EQUIPMENT

Number of Power Sources: 20  
Type of Power Sources: Air depolarized primary cells  
Lighting Equipment: 200mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Alarm & marking sys/opt.rad.r.  
Daymark Area: 6.2 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinker Size: 8,820 Lbs.  
Topmark Type: Optional Lateral  
Number of Padeyes: 4

## OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water  
Nominal Visual Range of Daymark: 2.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 6 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost: Replacement: \$18,430  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 24 Mos.

Maintenance Notes:

Special Features:

Equipped with lighted buoy monitoring and alarm radio transmitter, including collision marking system. Single point mooring attachment.

Stability Notes:

General Notes

Meteocentric height based on buoy weight including power source.

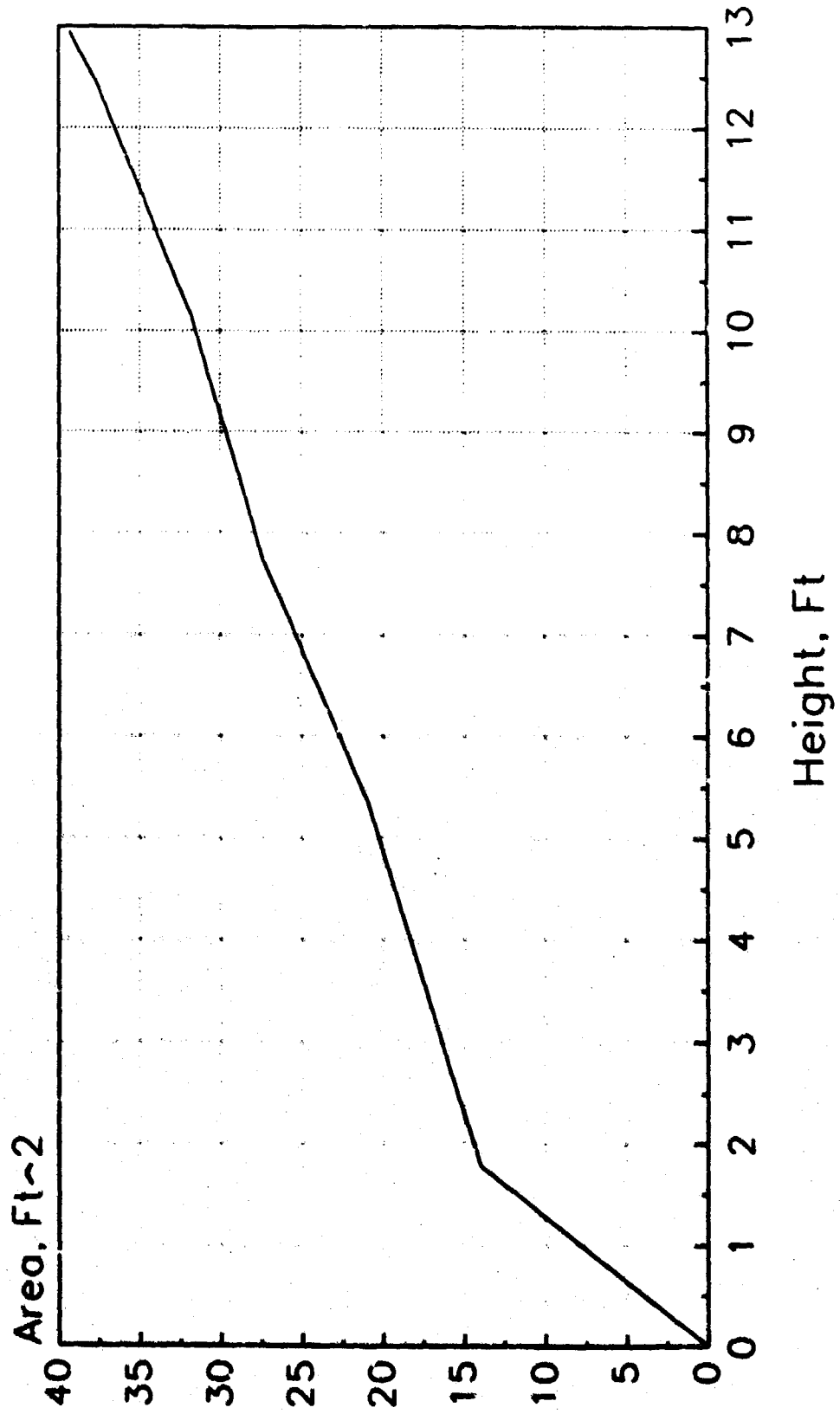
Manufacturers: Gakuyo Toki Kogyo Co

Source of Design: Marita Safety Agency

Drawing Reference: Japan 1 & 10

L-U (7.9x20 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Segiyosetoho Resilient Beccn

Country of Use: Japan

Function: Lighted articulated spar, for precise positioning in exposed deep water.

Date Of Last Update For This Record: 07/20/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 86.95 Ft.

Overall Buoy Length: 136.65 Ft.

Focal Height of Light: 47.57 Ft.

Buoy Beam or Diameter: 4.92 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 102 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated Spar

Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Primary batteries or solar  
Lighting Equipment: 375mm electric lantern  
Sound Equipment: Optional electric fog signal  
Other Payload: Radar refl, monit./alarm Trans  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Universal joint  
Sinker Size: 0 Lbs.  
Topmark Type. Lateral  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EM, deep water  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 96 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$0  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 60 Mos.

Maintenance Notes:

Compliance of system minimizes damage due to vessel collision, compared to a fixed structure.

Special Features:

Articulated mooring maintains precise position, (approx. zero watch circle).

Stability Notes:

Instable without mooring.

General Notes

Manufacturers: Zeni Lite Buoy Co.

Source of Design: Maritm.Safety Agency

Drawing Reference: Japan 13

## GENERAL INFORMATION

Name of Buoy: U-H Conical (NUN)  
Country of Use: Japan  
Function: Unlighted inshore buoy, with Conical  
(NUN) daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 7,240 Lbs.  
Buoy Draft: 6.38 Ft.  
Overall Buoy Length: 14.71 Ft.  
Focal Height of Light: 0.00 Ft.  
Buoy Beam or Diameter: 8.20 Ft.  
Freeboard: No Mooring: 8.33 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 0 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower :  
Topmark :  
Counterweight: Cast Iron  
Coating/Coloring System: Zinc primer/synth. resin paint  
Subdivision:  
Hull Type: Conical top & bottom  
Counterweight Type: External bolt-on

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinkers Size: 8,820 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 2.7 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 7 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                Replacement:        \$0  
                         Preparation:            \$0  
                         Monthly Servicing:    \$0

Service Life:                                  0.0 Yrs.

Maintenance Interval:                          0 Mos.

Maintenance Notes:

Special Features:

Has single mooring attachment lug.

Stability Notes:

General Notes

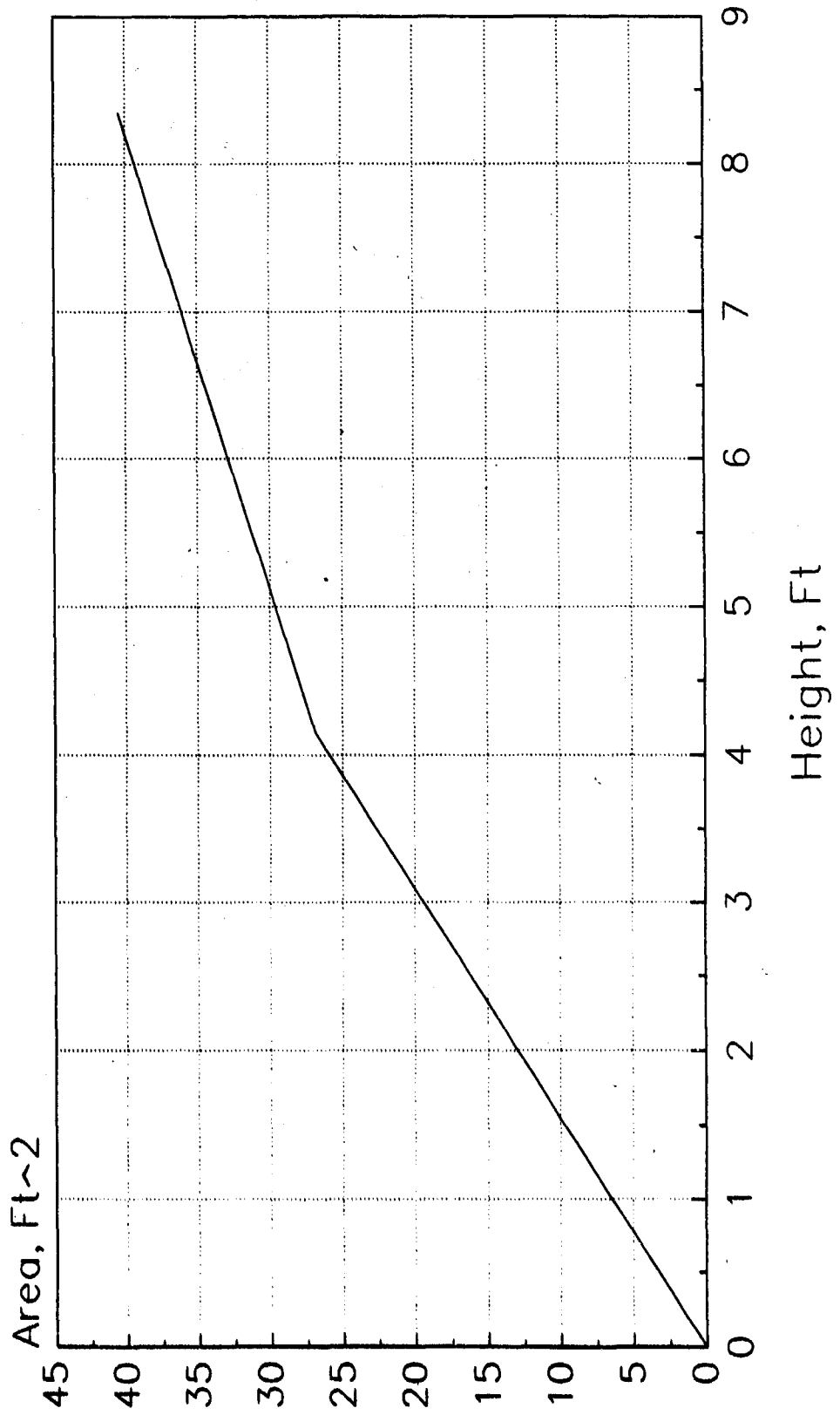
Manufacturers:                                  Gakuyo Toki Kogyo Co

Source of Design:                                Marit. Safety Agency

Drawing Reference:                              Japan 1 & 11

# U-H Conical (NUN)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: U-H Cylinder (CAN)

Country of Use: Japan

Function: Unlighted inshore buoy, with Can  
daymark.

Date Of Last Update For This Record: 07/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 8,800 Lbs.

Buoy Draft: 8.02 Ft.

Overall Buoy Length: 15.37 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 7.22 Ft.

Freeboard: No Mooring: 6.89 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower :  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Zinc primer/synth. resin paint

Subdivision:

Hull Type: Conical bott/Can top

Counterweight Type: External bolt-on

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinker Size: 8,820 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 9 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:               Replacement:       \$0  
                      Preparation:        \$0  
                      Monthly Servicing: \$0

Service Life:                       0.0 Yrs.

Maintenance Interval:               0 Mos.

Maintenance Notes:

Special Features:

    Single mooring attachment lug.

Stability Notes:

General Notes

Manufacturers:                       Gakyo Toki Kogyo Co.

Source of Design:                    Maritm.Safety Agency

Drawing Reference:                   Japan 1 & 11

## GENERAL INFORMATION

Name of Buoy: U-HP Plastic CAN

Country of Use: Japan

Function: Unlighted CAN buoy, fiberglass construction, with internal radar reflector.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 3,464 Lbs.

Buoy Draft: 5.87 Ft.

Overall Buoy Length: 14.08 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 7.22 Ft.

Freeboard: No Mooring: 7.55 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 2.36 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Fiberglass GRP  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color

Subdivision: Foam filled

Hull Type: Tapered cylinder

Counterweight Type: External bolt-on

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: Radar Reflector, Bird Scare  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinkers Size: 4,410 Lbs.  
Topmark Type: None  
Number of Padeyes: 3

## OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 2.4 Nmi.  
Radar Range: 3.7 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 6 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

## Special Features:

Internal SR-6 radar reflector. Bird scare on top. Single mooring attachment on bottom of ballast weight, which is bolted to a flanged pipe extension.

Stability Notes:

## General Notes

Radar reflector is omnidirectional.

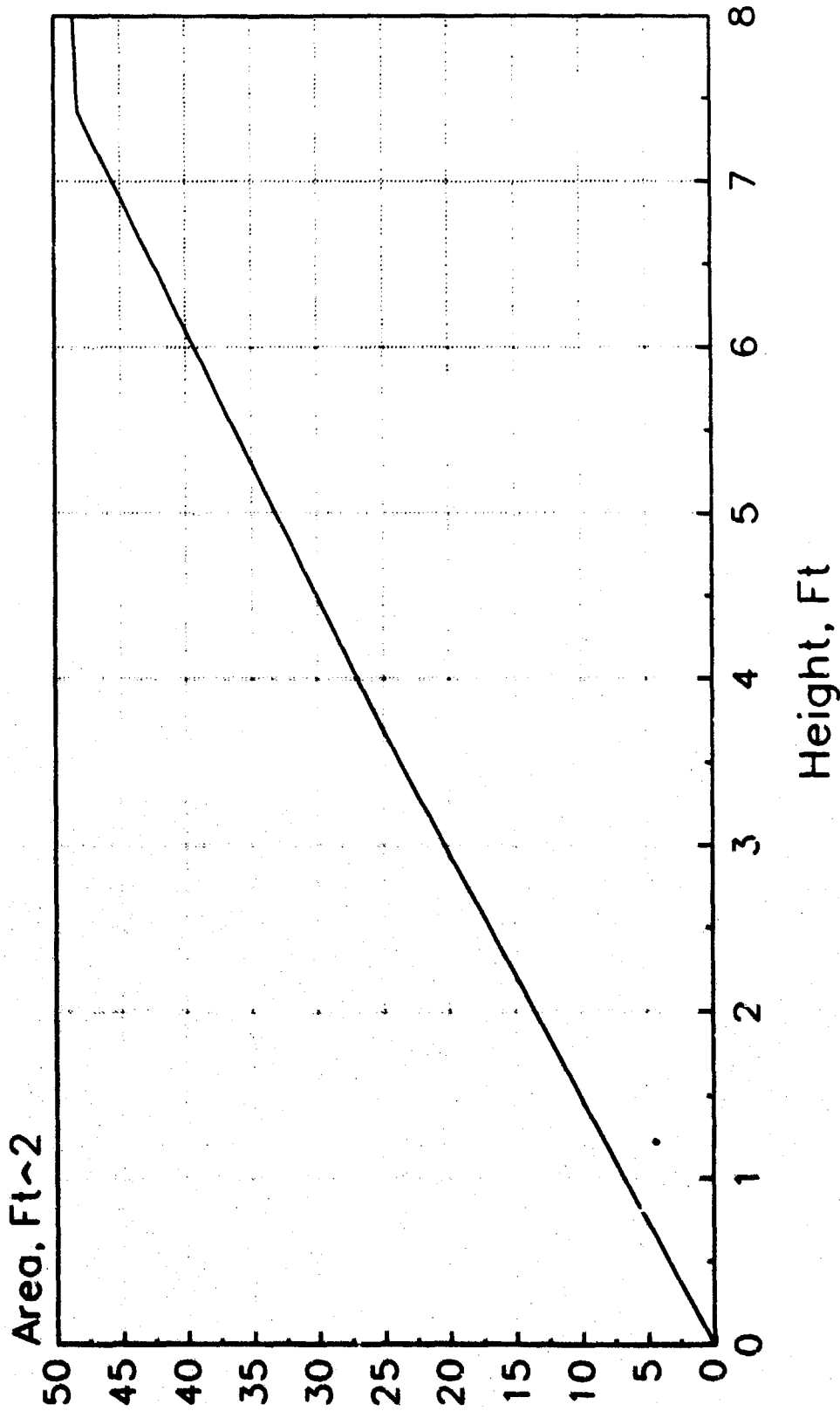
Manufacturers: Nippon Koki Kogyo Co

Source of Design: Nippon Koki Kogyo Co

Drawing Reference: Japan 12

# U-HP Plastic Can

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: LP-1A (7.2 x 27 LR)

Country of Use: Japan MFG 1

Function: Lighted inshore buoy, fiberglass  
construction, with radar reflector.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 4,110 Lbs.

Buoy Draft: 12.10 Ft.

Overall Buoy Length: 27.33 Ft.

Focal Height of Light: 14.64 Ft.

Buoy Beam or Diameter: 7.22 Ft.

Freeboard: No Mooring: 2.17 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 219 Lbs.

Metacentric Height: 3.64 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Fiberglass GRP  
Hull Filling : Foam  
Tower : Fiberglass GRP  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 10  
Type of Power Sources: Air depolarized primary cells  
Lighting Equipment: 250mm electric lantern  
Sound Equipment: None  
Other Payload: SR-6 Radar Reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: Opt. Cardinal or Lat  
Number of Padeyes: 4

## OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 3.0 Nmi.  
Radar Range: 5.6 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:    \$0  
                 Preparation:       \$0  
                 Monthly Servicing:   \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

Special Features:

Centerline single point mooring.  
Weather tight conical tower enclosing batteries.

Stability Notes:

Metacentric height based on buoy weight including batteries.

General Notes

Radar reflector is omnidirectional.

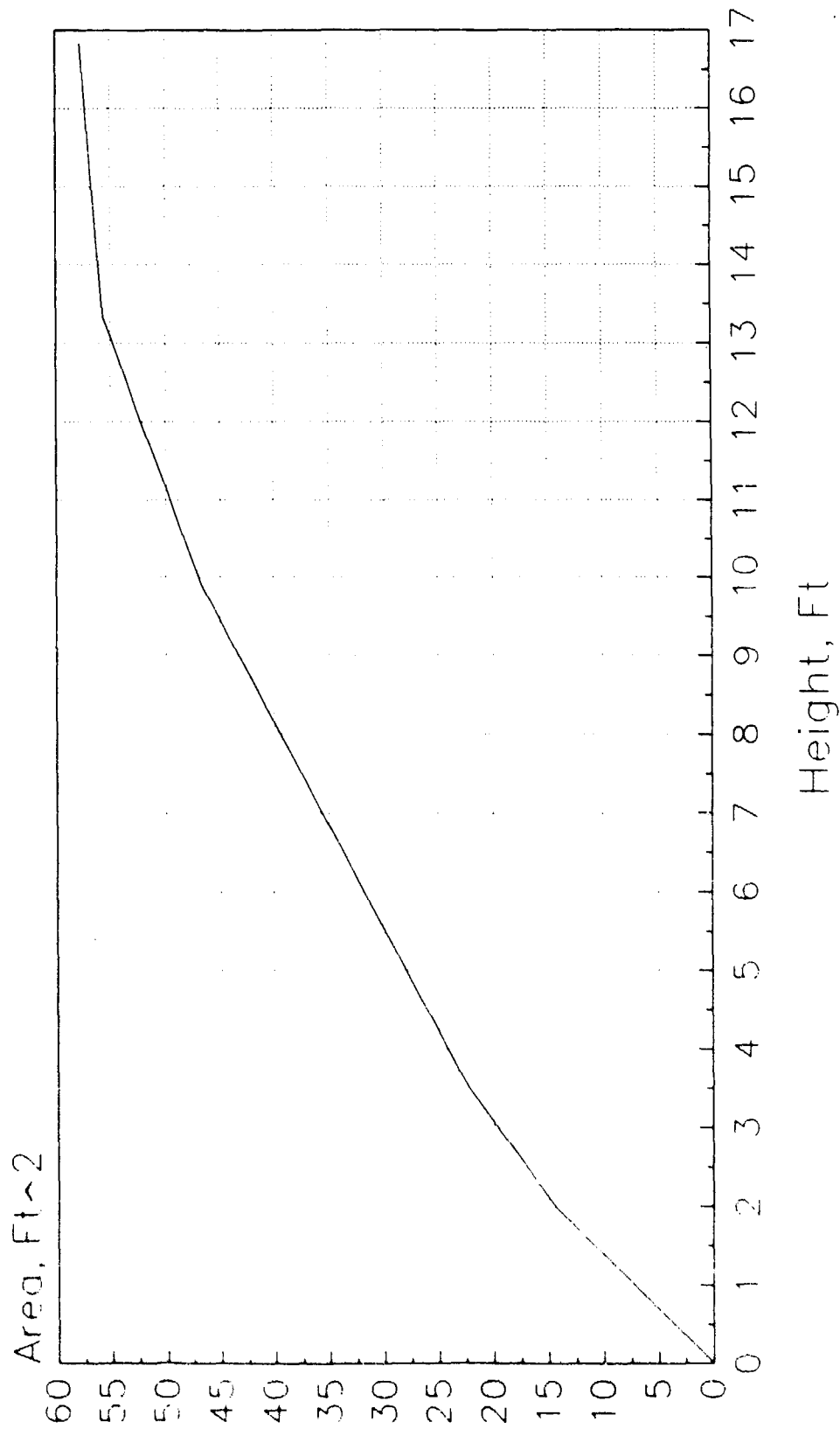
Manufacturers:                            Nippon Koki Kogyo Co

Source of Design:                            Nippon Koki Kogyo Co

Drawing Reference:                            Japan MFG 1-3

# LP-1A (7.2 x 27 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: NKK 1.5m (4.9 x 22 LR)

Country of Use: Japan MFG 1

Function: Lighted inshore buoy, with radar reflector.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 9.10 Ft.

Overall Buoy Length: 21.72 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 4.92 Ft.

Freeboard: No Mooring: 2.30 Ft.  
Minimum: 1.64 Ft.

Pounds Per Inch Immersion: 102 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Air depolarized primary cells  
Lighting Equipment: 250mm electric lantern  
Sound Equipment: none  
Other Payload: SR-6 Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: Opt.Cardinal or Lat.  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 2.3 Nmi.  
Radar Range: 4.4 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 10 Ft.  
Maximum: 80 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Single point mooring attachment at bottom of tail tube.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

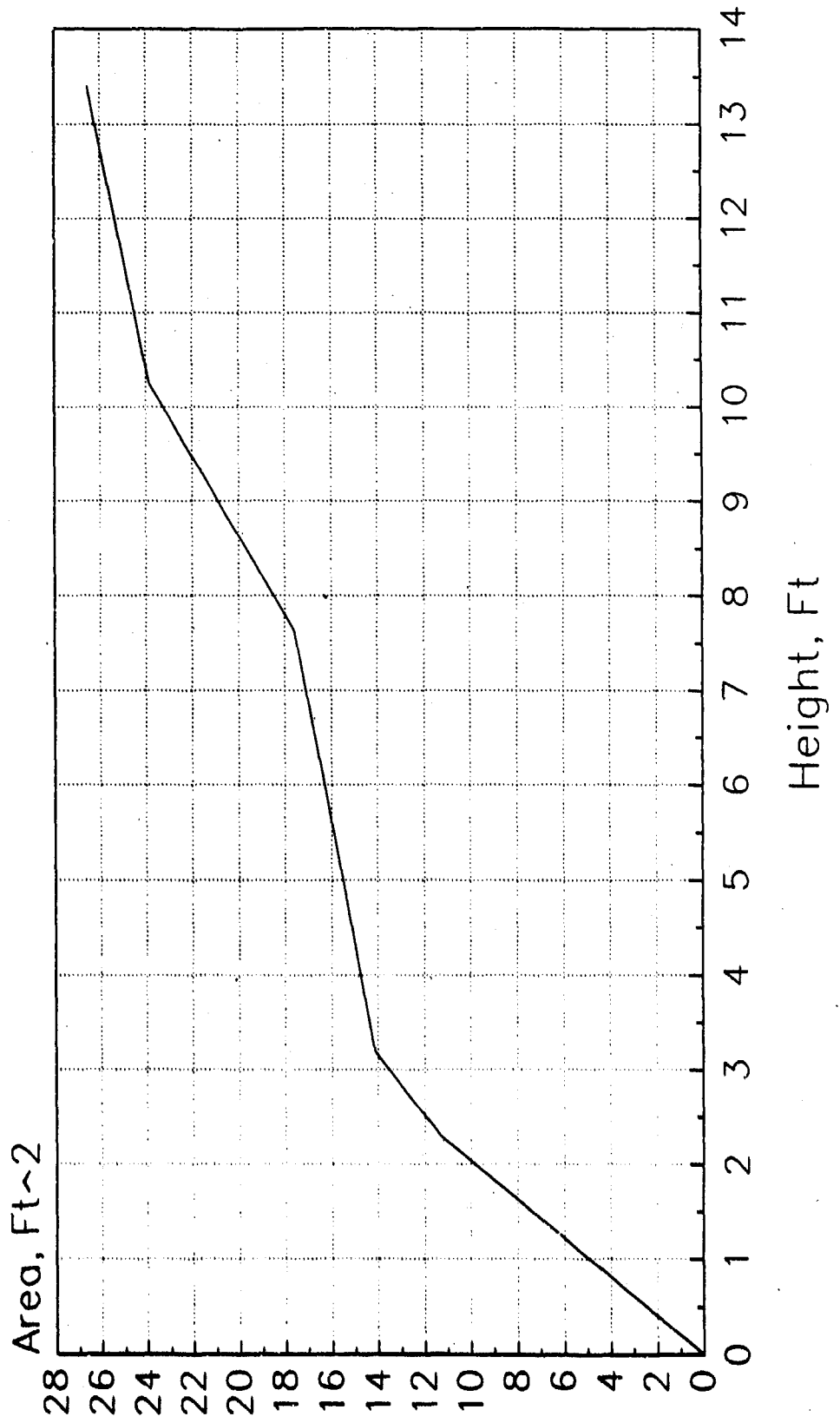
Manufacturers: Nippon Koki Kogyo Co

Source of Design: Nippon Koki Kogyo Co

Drawing Reference: Japan MFG 1-2

# NKK 1.5m (4.9 x 22 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: NLB-1000 (3.28 x 15 L)

Country of Use: Japan MFG 1

Function: Lighted inshore buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 551 Lbs.

Buoy Draft: 5.84 Ft.

Overall Buoy Length: 15.09 Ft.

Focal Height of Light: 8.20 Ft.

Buoy Beam or Diameter: 3.28 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 45 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Aluminum  
Hull Filling :  
Tower : Aluminum  
Topmark :  
Counterweight: Steel

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: Tail Tube

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: USM-1 batteries, 12V x 89.6Ah  
Lighting Equipment: 100 - 175mm electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.433 In.  
Type: Steel Wire Rope  
Sinker Size: 4,410 Lbs.  
Topmark Type: Opt. Lateral or Spec  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 1.6 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 6 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:     \$0  
                 Preparation:       \$0  
                 Monthly Servicing:   \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                   0 Mos.

## Maintenance Notes:

Battery life:    107 days with 5W light or 53 days with 10W light.

## Special Features:

Fins on lower tail tube. Single point mooring attachment at top of tail tube.

## Stability Notes:

## General Notes

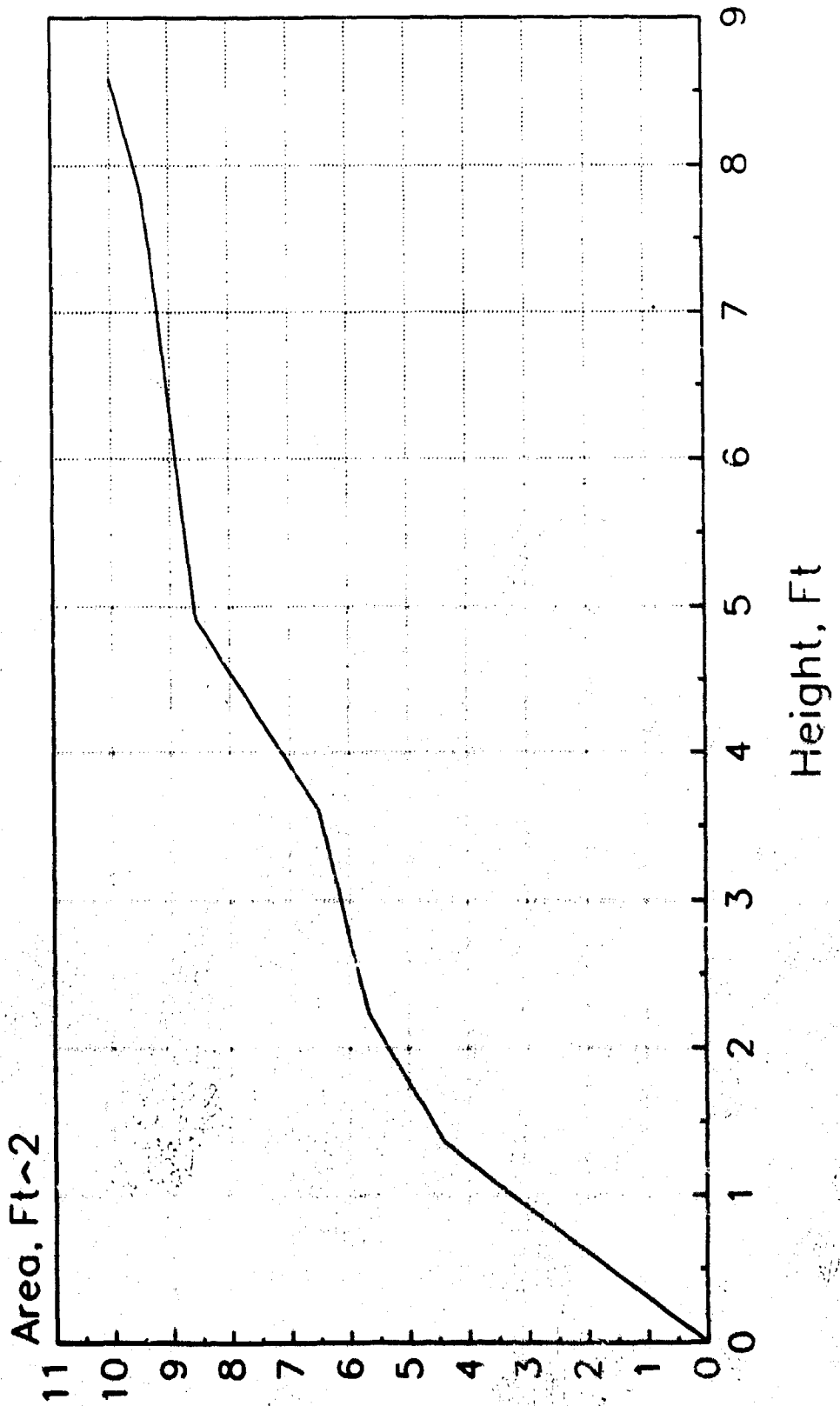
Manufacturers:                          Nippon Koki Kogyo Co

Source of Design:                        Nippon Koki Kogyo Co

Drawing Reference:                        Japan MFG 1-1

NLB-1000 (3.28 x 15 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: NLB-600 (1.97 x 10 L)

Country of Use: Japan MFG 1

Function: Lighted inshore buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 133 Lbs.

Buoy Draft: 3.75 Ft.

Overall Buoy Length: 10.26 Ft.

Focal Height of Light: 5.76 Ft.

Buoy Beam or Diameter: 1.97 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 16 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Aluminum  
Hull Filling :  
Tower : Aluminum  
Topmark :  
Counterweight: Steel

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: Tail Tube

## RELATED EQUIPMENT

Number of Power Sources: 64

Type of Power Sources: USM-1 batteries, 12V x 44.8A

Lighting Equipment: 100 or 120mm electric lantern

Sound Equipment: none

Other Payload: none

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.187 In.  
Type: Steel Wire Rope

Sinker Size: 1,325 Lbs.

Topmark Type: Opt. Lateral or Spec

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM

Nominal Visual Range of Daymark: 1.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

## Maintenance Notes:

Battery life: 53 days with 5W light or 26 days with 10W light.

## Special Features:

Fins on lower tail tube. Single point mooring attachment at top of tail tube.

## Stability Notes:

## General Notes

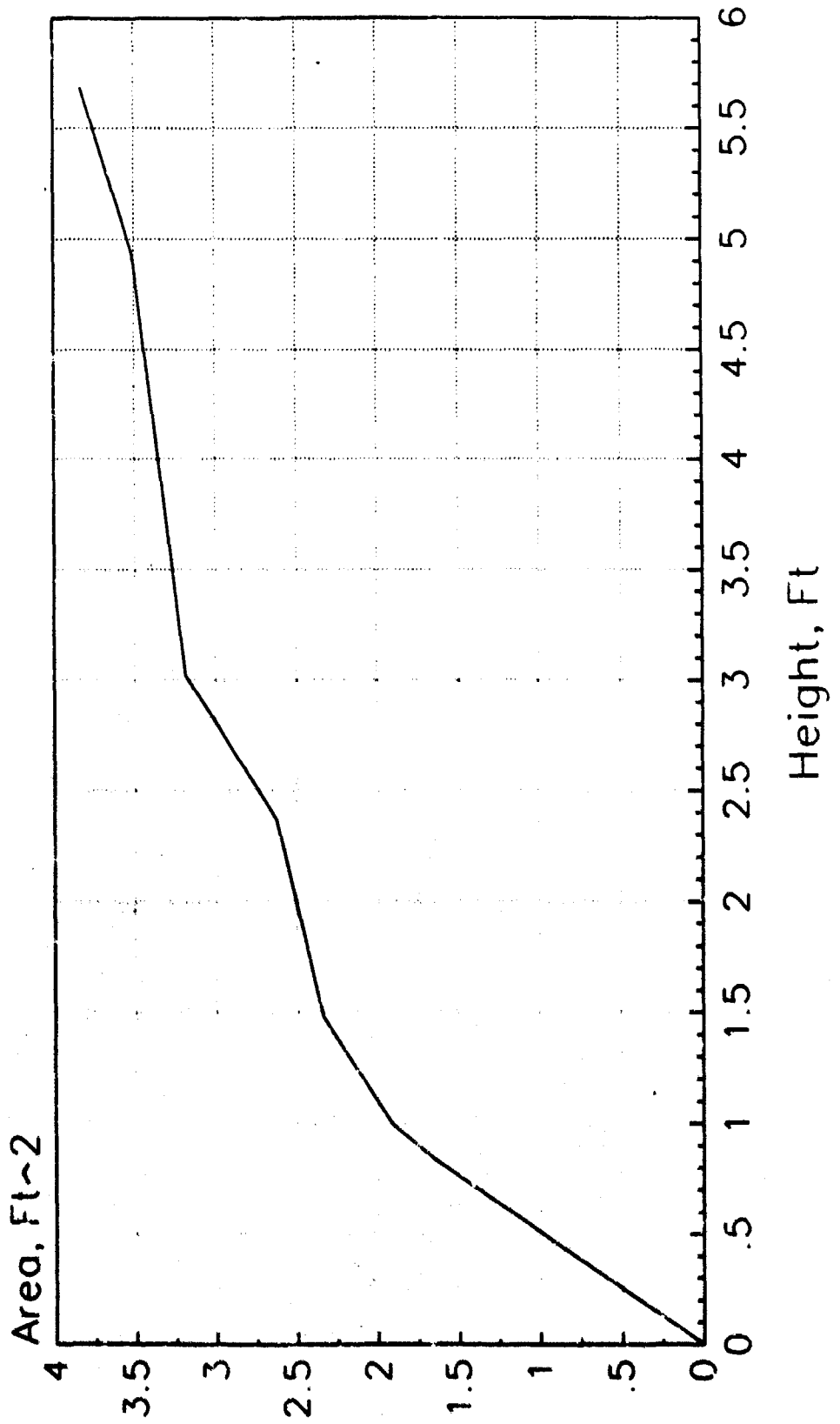
Manufacturers:                                Nippon Koki Kogyo Co

Source of Design:                              Nippon Koki Kogyo Co

Drawing Reference:                            Japan MFG 1-1

# NLB-600 (3.75 x 10 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: NLB-800 (2.62 x 12 L)

Country of Use: Japan MFG 1

Function: Lighted inshore buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 265 Lbs.

Buoy Draft: 4.22 Ft.

Overall Buoy Length: 11.88 Ft.

Focal Height of Light: 6.69 Ft.

Buoy Beam or Diameter: 2.62 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 28 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Aluminum  
Hull Filling :  
Tower : Aluminum  
Topmark :  
Counterweight: Steel

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: Tail Tube

## RELATED EQUIPMENT

Number of Power Sources: 1

Type of Power Sources: USM-1 batteries, 12V x 89.6 Ah

Lighting Equipment: 100-150mm electric lantern

Sound Equipment: none

Other Payload: none

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.315 In.  
Type: Steel Wire Rope

Sinker Size: 2,205 Lbs.

Topmark Type: Opt. Lateral or Spec

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM

Nominal Visual Range of Daymark: 1.2 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 5 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                    0.0 Yrs.

Maintenance Interval:                                    0 Mos.

## Maintenance Notes:

Battery life: 107 days with 5W light or 53 days with 10W light.

## Special Features:

Fins on lower tail tube. Single point mooring attachment at top of tail tube.

## Stability Notes:

## General Notes

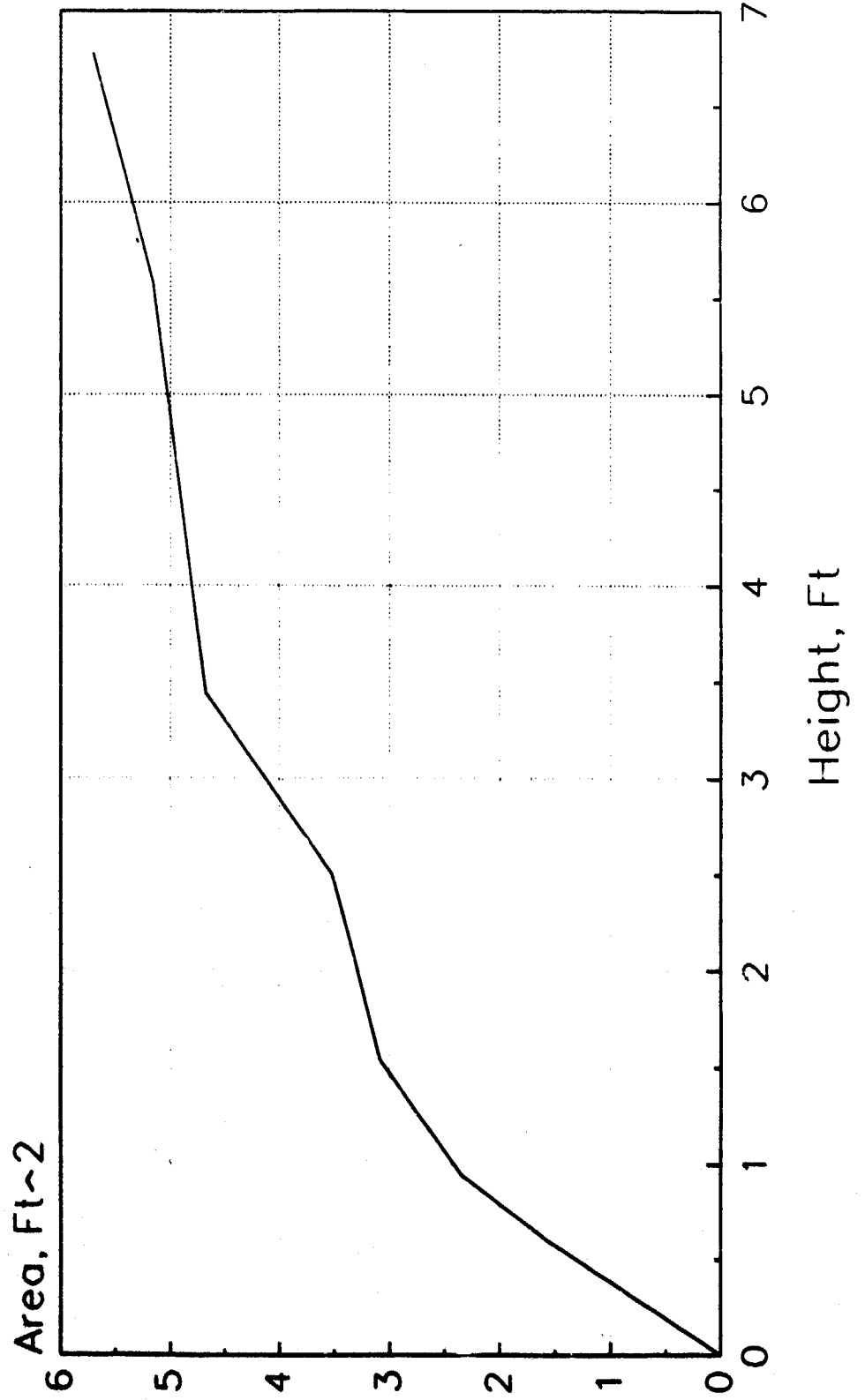
Manufacturers:                                    Nippon Koki Kogyo Co

Source of Design:                                    Nippon Koki Kogyo Co

Drawing Reference:                                    Japan MFG 1-1

# NLB-800 (4.22 x 12 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: AB-200 (3.0 x 15 L)

Country of Use: Japan MFG 2

Function: Lighted inshore buoy, for swift current.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 508 Lbs.

Buoy Draft: 7.62 Ft.

Overall Buoy Length: 14.73 Ft.

Focal Height of Light: 6.79 Ft.

Buoy Beam or Diameter: 2.95 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 37 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Fiberglass GRP  
Hull Filling : Polyurethane Foam  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision: Foam Filled

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 4  
Type of Power Sources: Packed dry cell batts.12v400Ah  
Lighting Equipment: 70mm electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.625 In.  
Type: Steel Chain  
Sinkers Size: 2,205 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PF  
Nominal Visual Range of Daymark: 1.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 5.0 Kts.  
Mooring Depth: Minimum: 8 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                            Preparation:        \$0  
                            Monthly Servicing: \$0

Service Life:                                  0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Has tail tube with current stabilizing fins.

Stability Notes:

General Notes

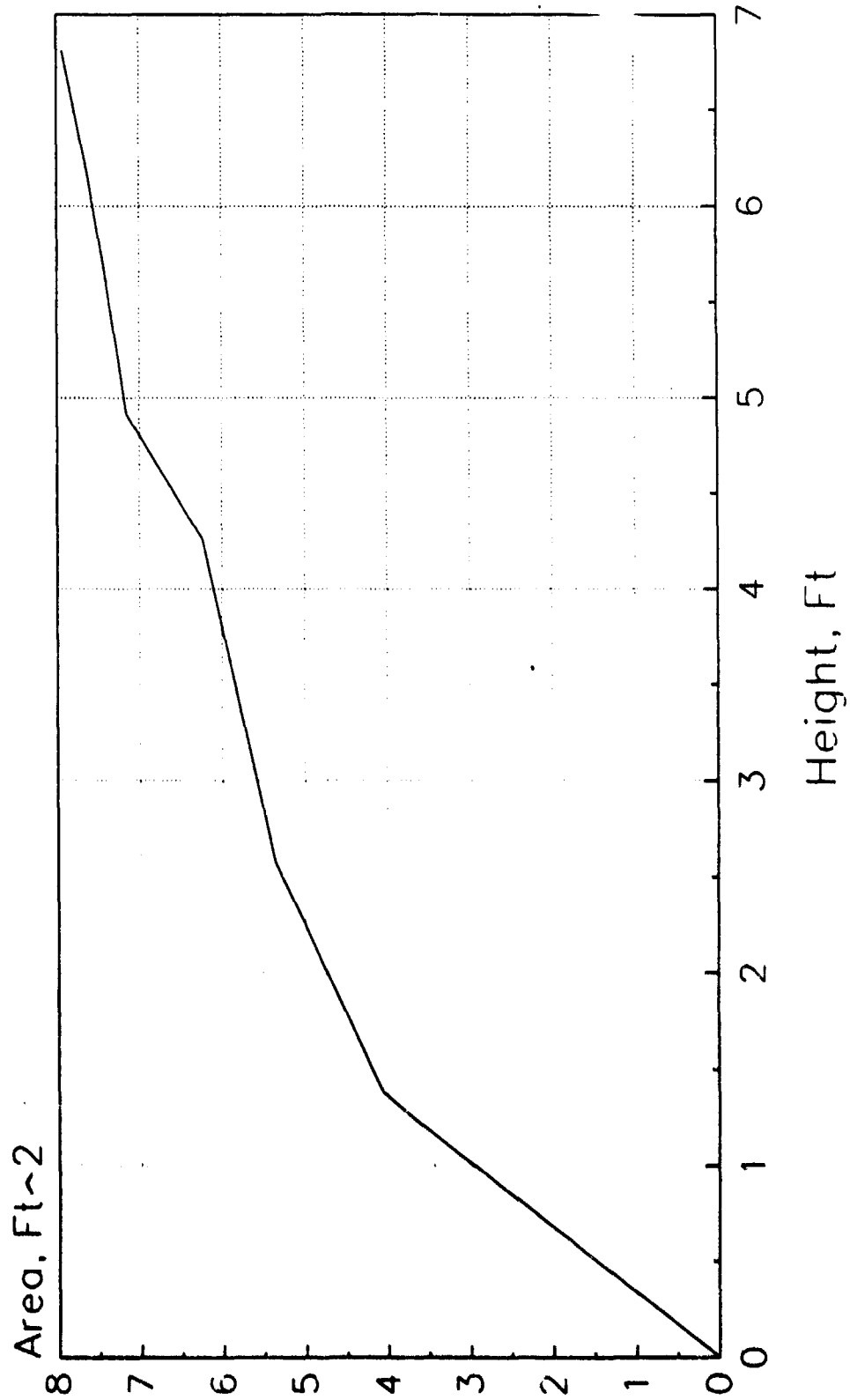
Manufacturers:                                  Ryokuseisha Corp.

Source of Design:                                Ryokuseisha Corp.

Drawing Reference:                                Japan MFG 2-11

AB-200 (3.0 x 15 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: CB-100 (1.6 x 5.9 L)

Country of Use: Japan MFG 2

Function: Lighted inshore buoy for shallow water.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 57 Lbs.

Buoy Draft: 2.24 Ft.

Overall Buoy Length: 5.90 Ft.

Focal Height of Light: 3.35 Ft.

Buoy Beam or Diameter: 1.64 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 11 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : ABS Plastic  
Hull Filling :  
Tower : Aluminum Alloy  
Topmark :  
Counterweight: Battery

Coating/Coloring System:

Subdivision:

Hull Type: Shallow cylinder

Counterweight Type: Internal tail tube

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Packed dry cell batt. 12v200Ah  
Lighting Equipment: 70mm electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Synthetic rope  
Sinkers Size: 220 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 0.3 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:        \$0  
                 Preparation:        \$0  
                 Monthly Servicing:    \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    5 Mos.

## Maintenance Notes:

Maintenance interval based on 170 day battery life.

## Special Features:

## Stability Notes:

## General Notes

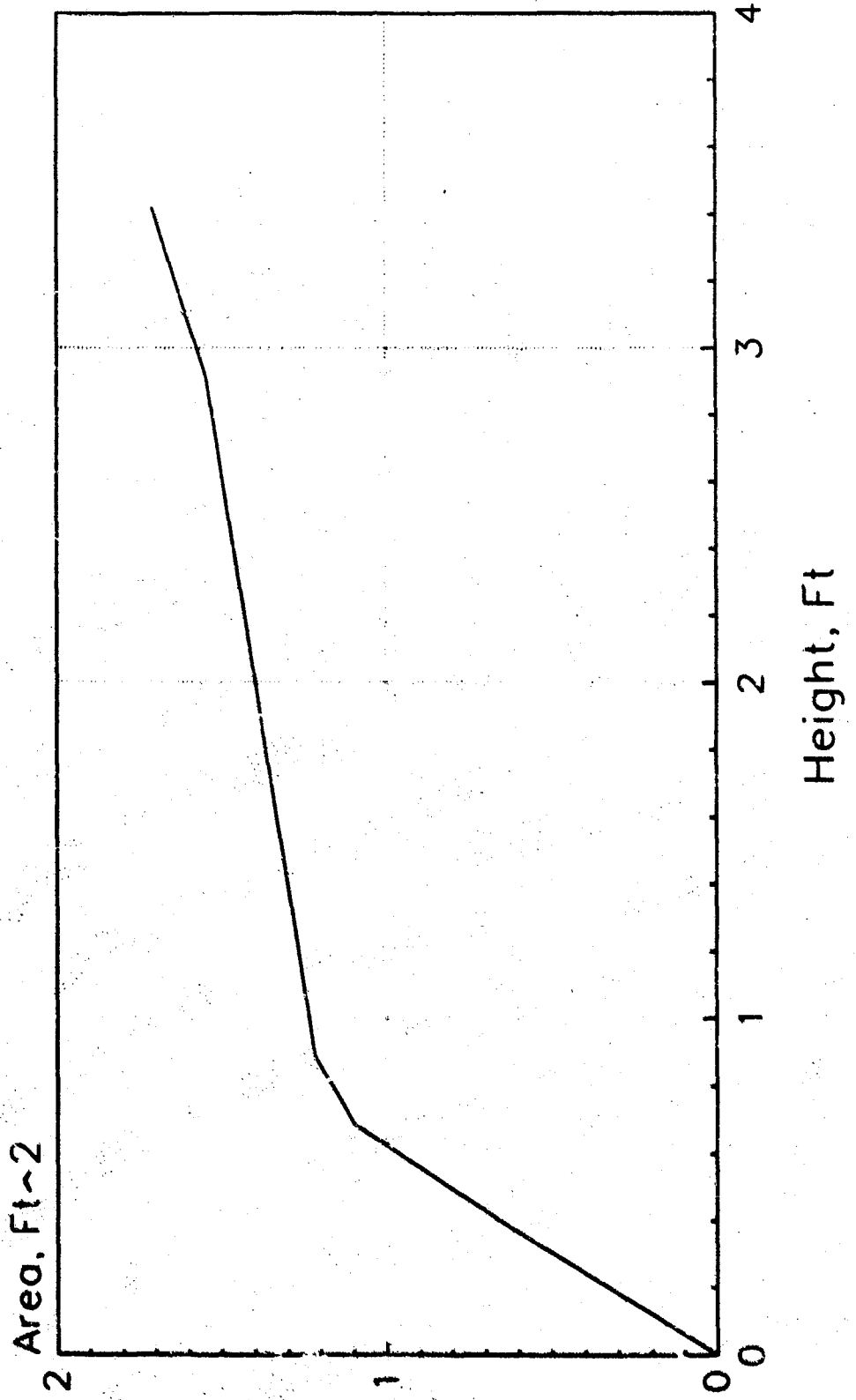
Manufacturers:                            Ryokuseisha Corp.

Source of Design:                         Ryokuseisha Corp.

Drawing Reference:                        Japan MFG 2-14

CB-100 (1.6 x 5.9 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: CB-200 (1.6 x 9.3 L)

Country of Use: Japan MFG 2

Function: Lighted inshore buoy, for shallow water.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 97 Lbs.

Buoy Draft: 2.41 Ft.

Overall Buoy Length: 9.29 Ft.

Focal Height of Light: 6.56 Ft.

Buoy Beam or Diameter: 1.64 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 11 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : ABS Plastic  
Hull Filling :  
Tower : Aluminum Alloy  
Topmark :  
Counterweight: Battery

Coating/Coloring System:

Subdivision:

Hull Type: Shallow cylinder

Counterweight Type: Internal tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Packed dry cell batt. 12v200Ah  
Lighting Equipment: 70mm electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Synthetic Rope  
Sinkers Size: 220 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 0.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      5 Mos.

Maintenance Notes:  
                          Maintenance interval based on 170 day battery life.

Special Features:

Stability Notes:

General Notes

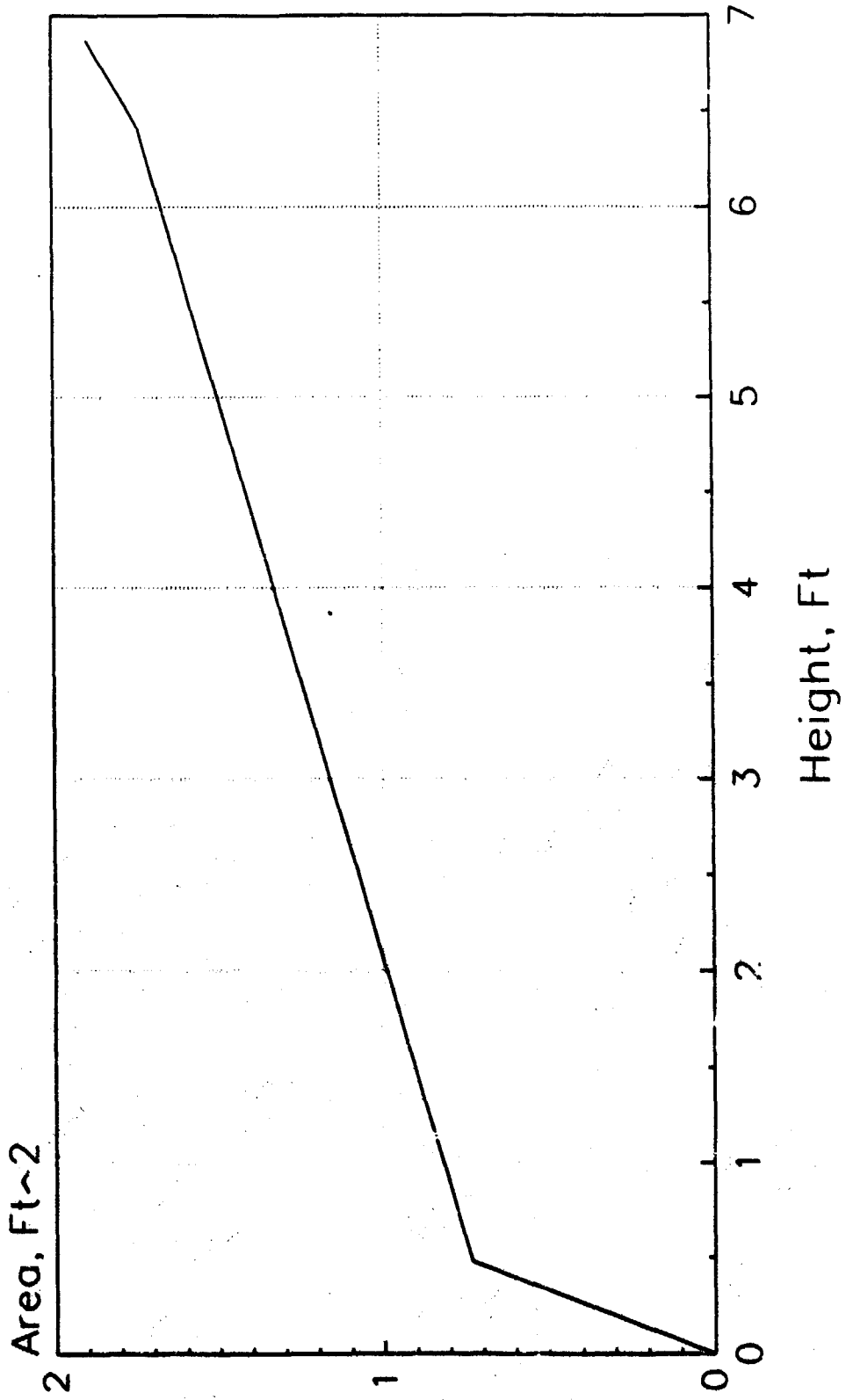
Manufacturers:                                Ryokuseisha Corp.

Source of Design:                              Ryokuseisha Corp.

Drawing Reference:                              Japan MFG 2-13

CB-200 (1.6 x 9.3 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: H-290 (4.9 x 19 LR)

Country of Use: Japan MFG 2

Function: Lighted semi-protected buoy for swift current.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 2,426 Lbs.

Buoy Draft: 8.40 Ft.

Overall Buoy Length: 19.26 Ft.

Focal Height of Light: 10.26 Ft.

Buoy Beam or Diameter: 4.92 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 102 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 3

Type of Power Sources: Primary bat.12v1050Ah or Solar

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 1.000 In.  
Length : 9.8 Ft.

Mooring Line: Size: 1.000 In.  
Type: Steel Chain

Sinker Size: 8,820 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SF

Nominal Visual Range of Daymark: 2.0 Nmi.

Radar Range: 3.2 Nmi.

Maximum Current: 5.0 Kts.

Mooring Depth: Minimum: 11 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:        \$0  
                 Preparation:        \$0  
                 Monthly Servicing:    \$0

Service Life:                      0.0 Yrs.

Maintenance Interval:              0 Mos.

Maintenance Notes:

Special Features:

Has tail tube with current stabilizer fins.

Stability Notes:

General Notes

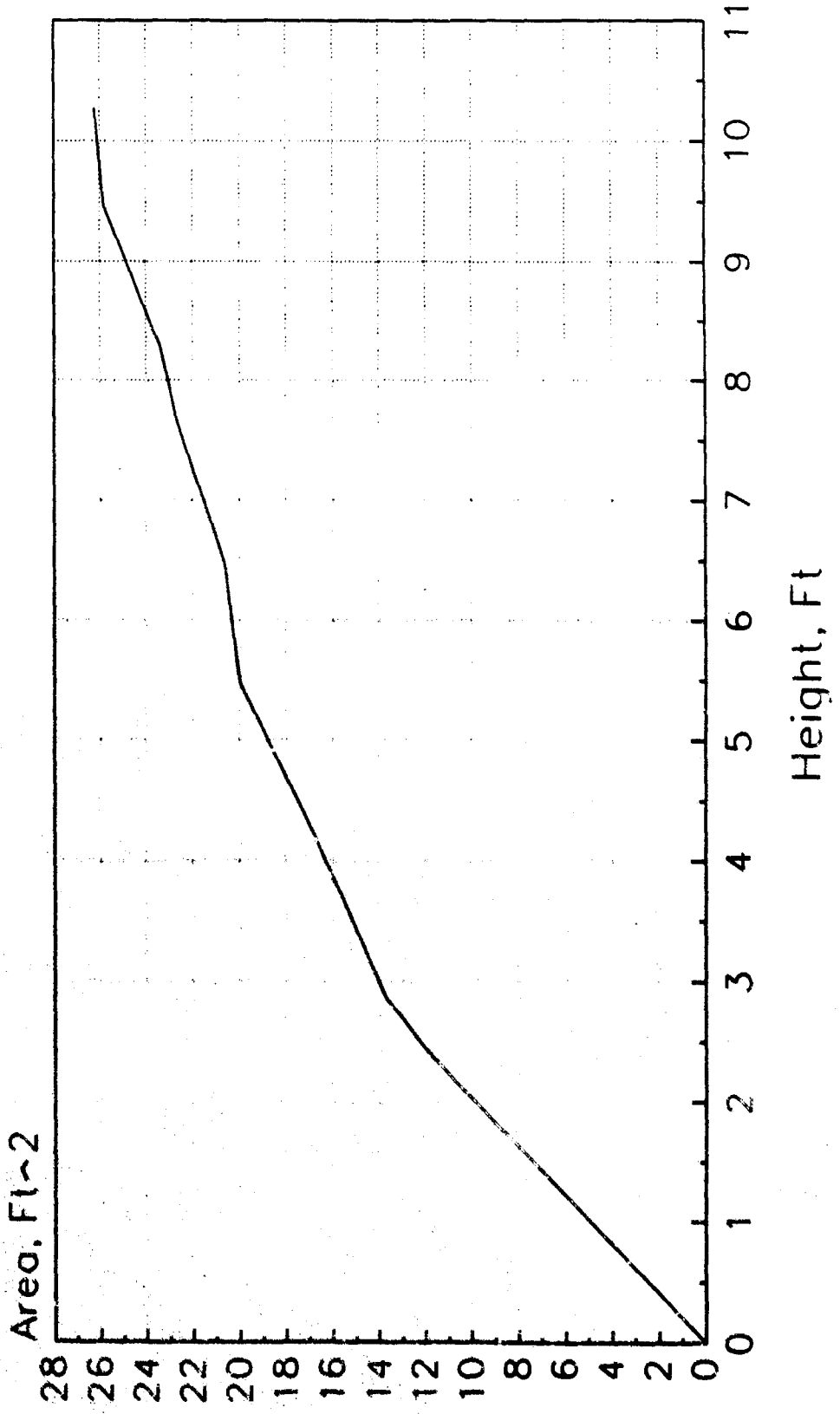
Manufacturers:                      Ryokuseisha Corp.

Source of Design:                    Ryokuseisha Corp.

Drawing Reference:                  Japan MFG 2-8

# H-290 (4.9 x 19 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: M-250C (3.9 x 18 L)

Country of Use: Japan MFG 2

Function: Lighted semi-protected buoy, for swift current.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,173 Lbs.  
Buoy Draft: 7.86 Ft.  
Overall Buoy Length: 17.55 Ft.  
Focal Height of Light: 9.38 Ft.  
Buoy Beam or Diameter: 3.94 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 65 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:  
Coating/Coloring System:  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 9

Type of Power Sources: Primary batt.12v900Ah or Solar

Lighting Equipment: 70mm electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.625 In.  
Length : 8.2 Ft.

Mooring Line: Size: 0.625 In.  
Type: Steel Chain

Sinker Size: 4,410 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SF

Nominal Visual Range of Daymark: 1.9 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 5.0 Kts.

Mooring Depth: Minimum: 10 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

## Special Features:

Has tail tube with current stabilizer fins.

Stability Notes:

General Notes

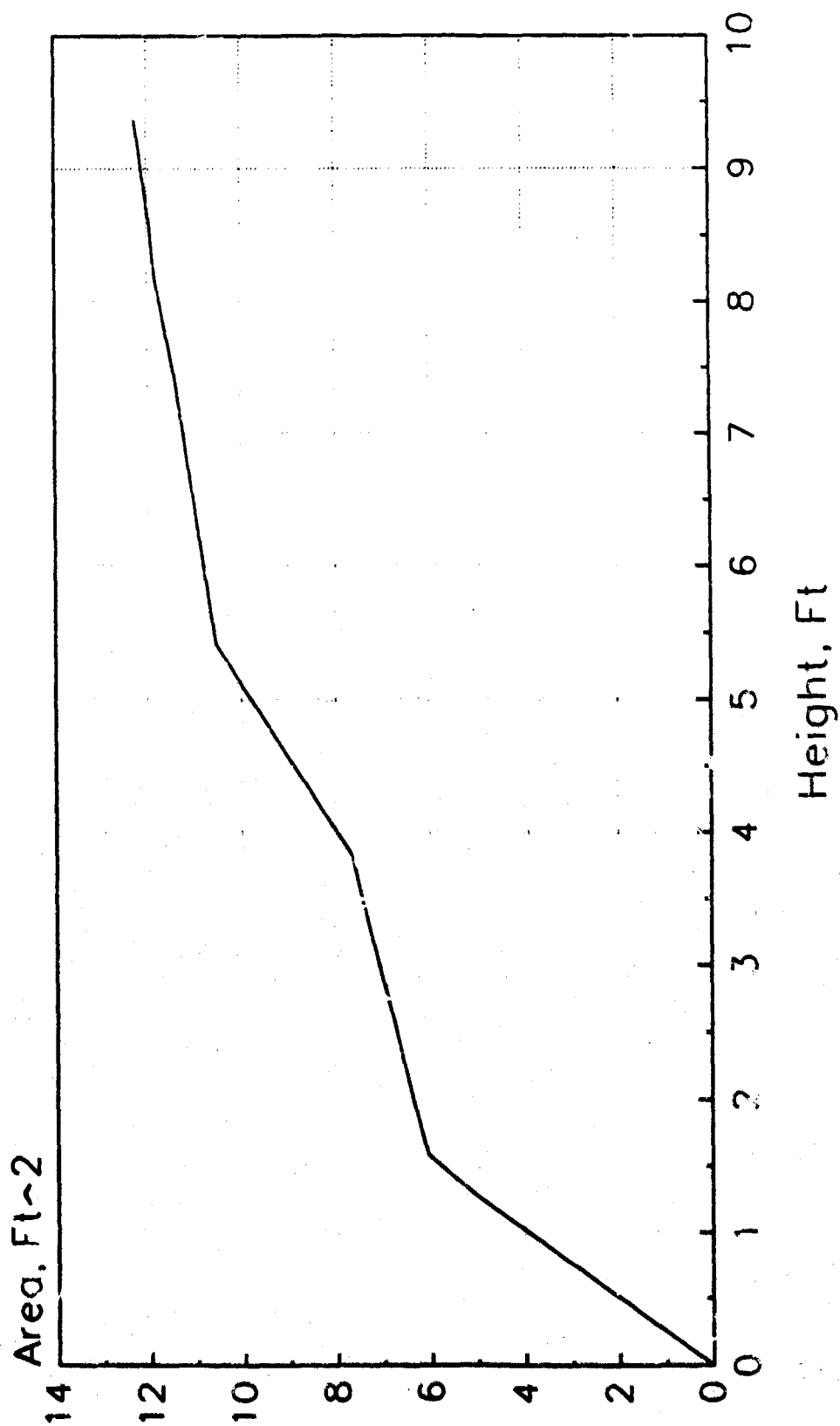
Manufacturers:                                Ryokuseisha Corp.

Source of Design:                             Ryokuseisha Corp.

Drawing Reference:                            Japan MFG 2-9

M-250C (3.9 x 18 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: M-350T (6.4 x 25 LR)

Country of Use: Japan MFG 2

Function: Lighted semi-protected buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 4,525 Lbs.

Buoy Draft: 12.00 Ft.

Overall Buoy Length: 25.13 Ft.

Focal Height of Light: 12.50 Ft.

Buoy Beam or Diameter: 6.40 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 172 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 6

Type of Power Sources: Primary bat. 12v100Ah or Solar

Lighting Equipment: 150mm electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 1.250 In.  
Length : 16.4 Ft.

Mooring Line: Size: 1.250 In.  
Type: Steel Chain

Sinker Size: 11,030 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 2.3 Nmi.

Radar Range: 3.3 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 20 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

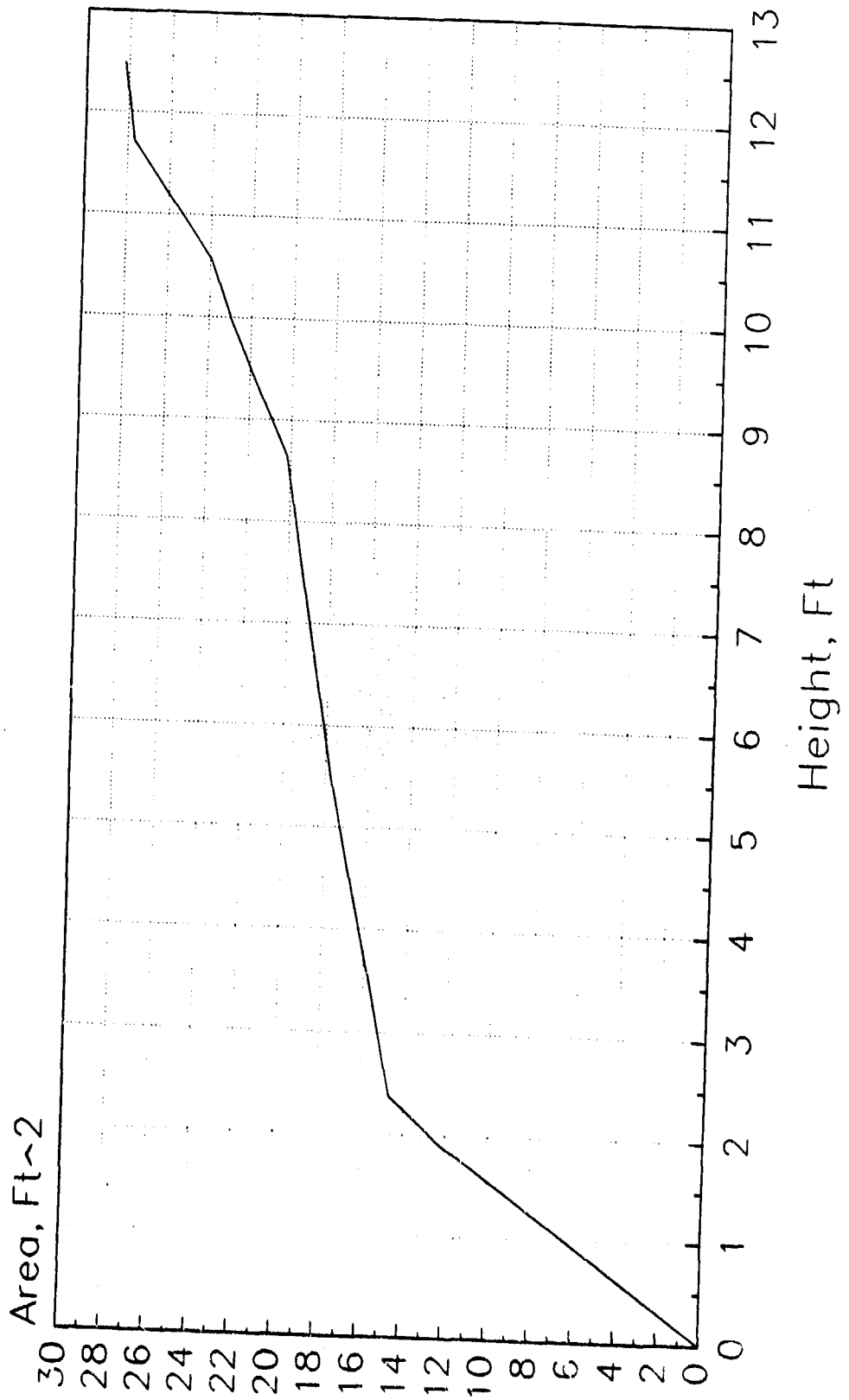
Manufacturers:                                Ryokuseisha Corp

Source of Design:                              Ryokeseisha Corp

Drawing Reference:                              Japan MFG 2-7

# M-350T (6.4 x 25 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: MLTV-10RA (5.9 x 57 LS)

Country of Use: Japan MFG 2

Function: Lighted articulated spar for narrow channels and precise position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 39.37 Ft.

Overall Buoy Length: 57.41 Ft.

Focal Height of Light: 17.73 Ft.

Buoy Beam or Diameter: 5.91 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (Fixed)

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated Spar

Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Solar sys or Primary batteries  
Lighting Equipment: 155mm electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Universal joint  
Sinker Size: 24,260 Lbs.  
Topmark Type: Opt. Cardinal or Lat  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 2.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 31 Ft.  
Maximum: 40 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                    0.0 Yrs.

Maintenance Interval:                                    0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Length and draft depend on water depth.

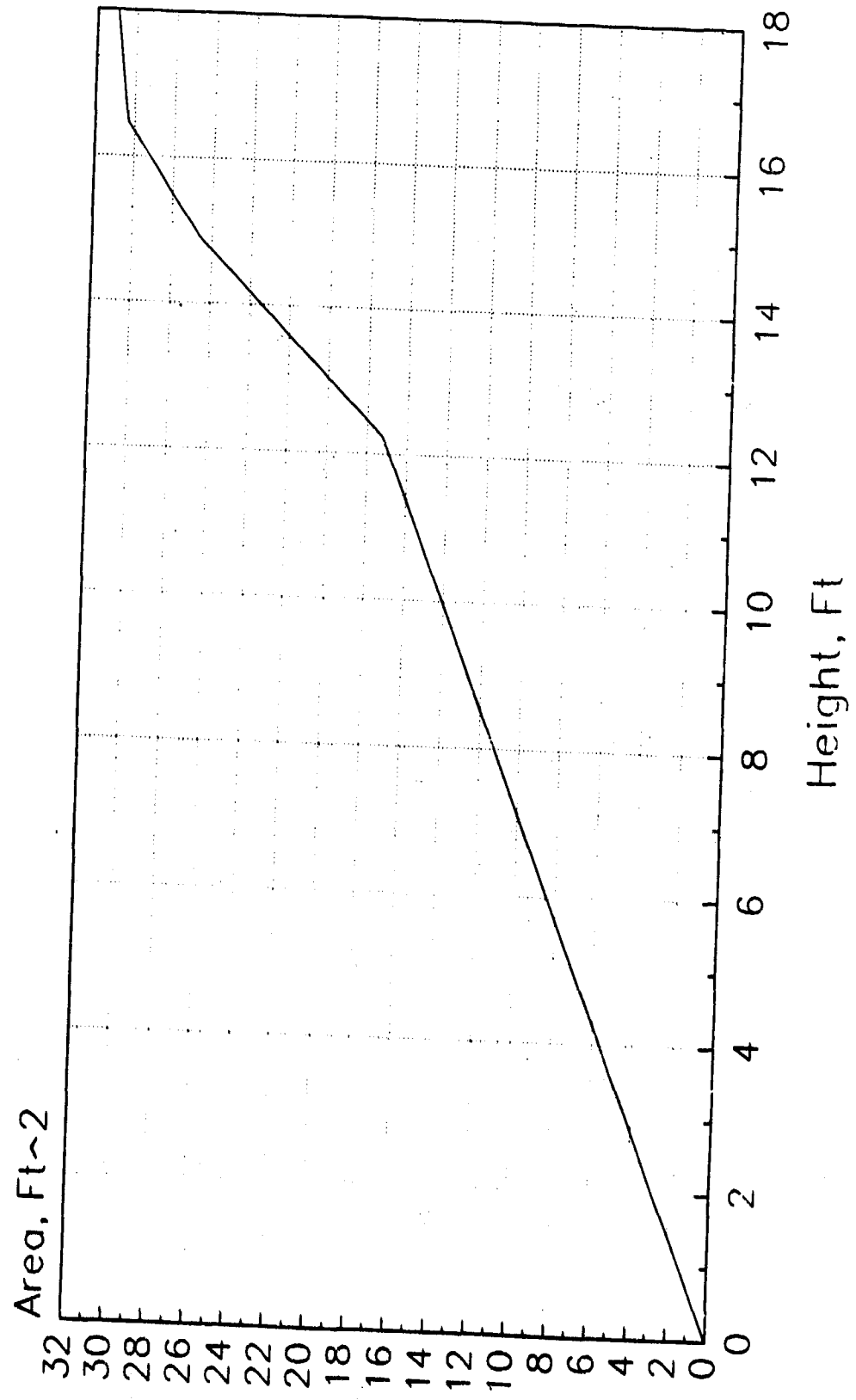
Manufacturers:                                    Ryokuseisha Corp.

Source of Design:                                    Ryokuseisha Corp.

Drawing Reference:                                    Japan MFG 2-15

# MLTV-10RA (5.9 x 57 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: MLTV-11S (6.6 x 56 LS)

Country of Use: Japan MFG 2

Function: Lighted articulated spar for narrow channels and precise position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 36.00 Ft.

Overall Buoy Length: 55.77 Ft.

Focal Height of Light: 19.37 Ft.

Buoy Beam or Diameter: 6.56 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Solar sys or Primary batteries  
Lighting Equipment: 133mm electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Universal joint  
Sinker Size: 11,025 Lbs.  
Topmark Type: Opt. Cardinal or Lat  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 2.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 2.0 Kts.  
Mooring Depth: Minimum: 25 Ft.  
Maximum: 36 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                         Preparation:         \$0  
                         Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Lenth and draft depend water depth.

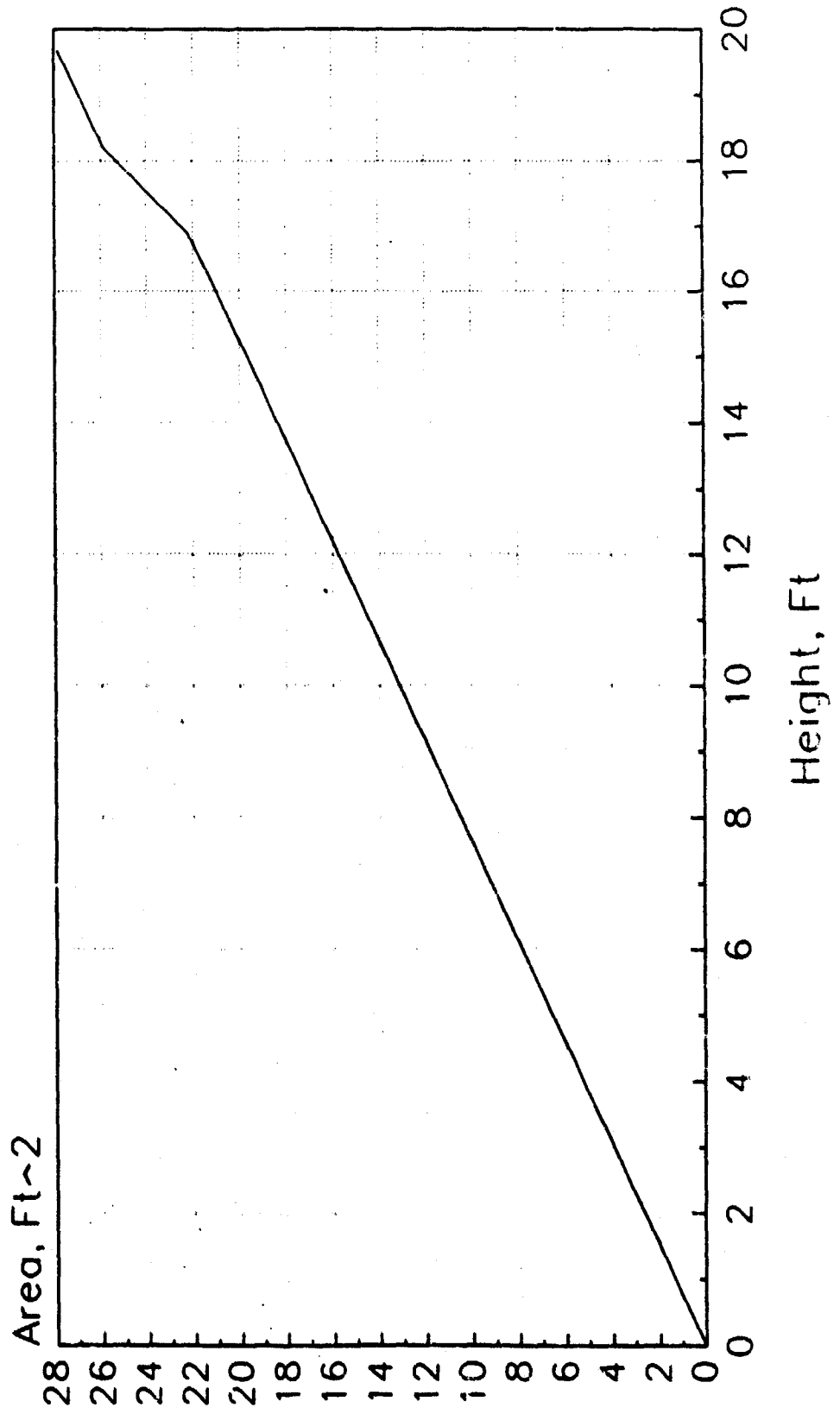
Manufacturers:                                Ryokuseisha Corp.

Source of Design:                             Ryokuseisha Corp.

Drawing Reference:                            Japan MFG 2-15

# MLTV-11S (6.6 x 56 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: MLTV-15RA (7.6 x 72 LS)

Country of Use: Japan MFG 2

Function: Lighted articulated spar for narrow channels and precise position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 49.21 Ft.

Overall Buoy Length: 72.18 Ft.

Focal Height of Light: 22.35 Ft.

Buoy Beam or Diameter: 7.55 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated Spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Solar sys.or primary batteries

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: universal joint

Sinker Size: 22,050 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 2.9 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 39 Ft.  
Maximum: 49 Ft.

Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Lenght and draft depend on water depth.

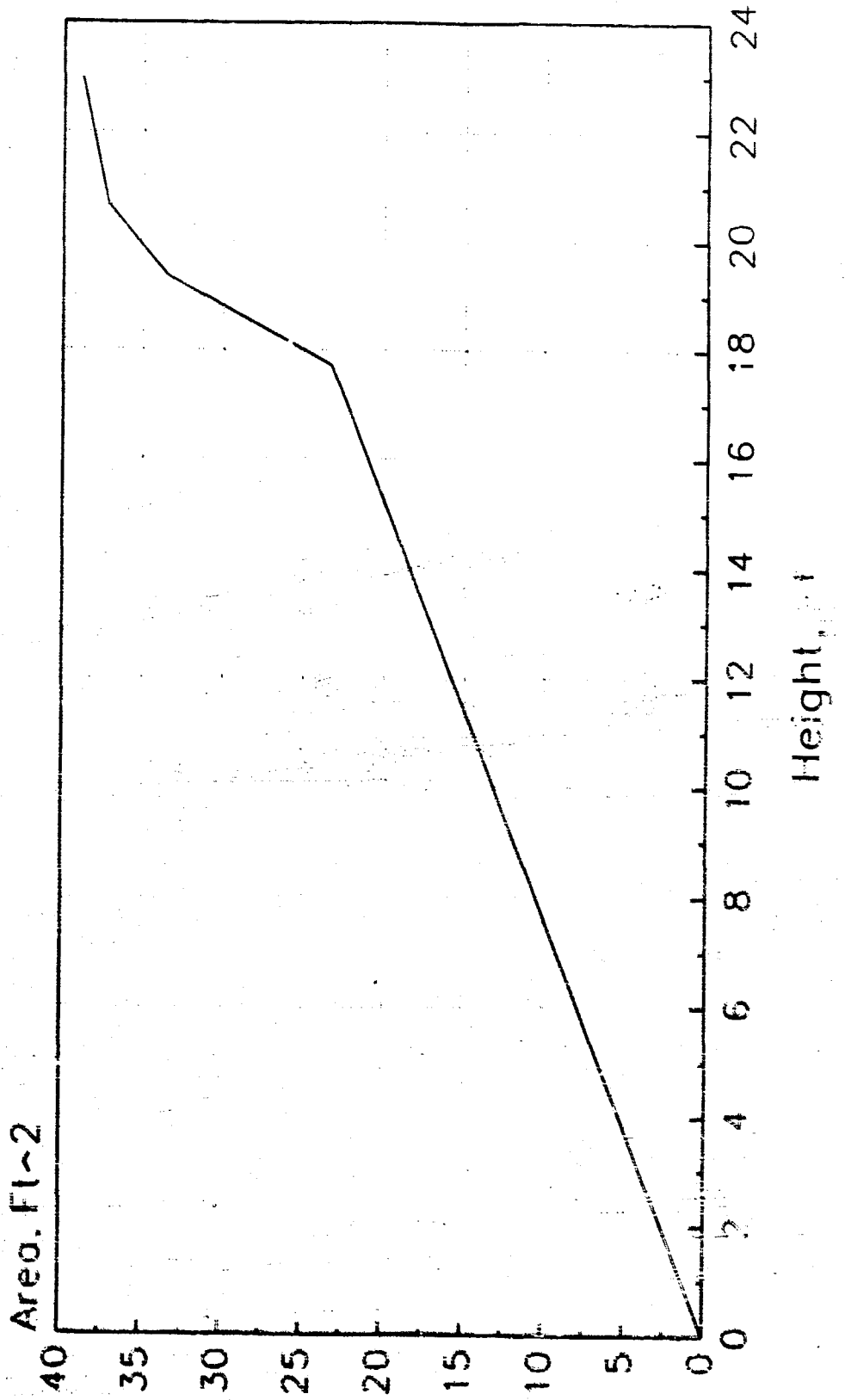
Manufacturers:                                Ryokuseisha Corp.

Source of Design:                             Ryokuseisha Corp.

Drawing Reference:                            Japan MFG 2-15

# MLTV-15RA (7.6 x 72 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: MLTV-19RA (8.2 x 92 LS)

Country of Use: Japan MFG 2

Function: Lighted articulated spar for narrow channels and precise position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 62.34 Ft.

Overall Buoy Length: 91.86 Ft.

Focal Height of Light: 28.91 Ft.

Buoy Beam or Diameter: 8.20 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated Spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Solar sys.or primary batteries

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Universal joint

Sinker Size: 44,100 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 3.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 52 Ft.  
Maximum: 62 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

## General Notes

Lenght and draft depend on water depth.

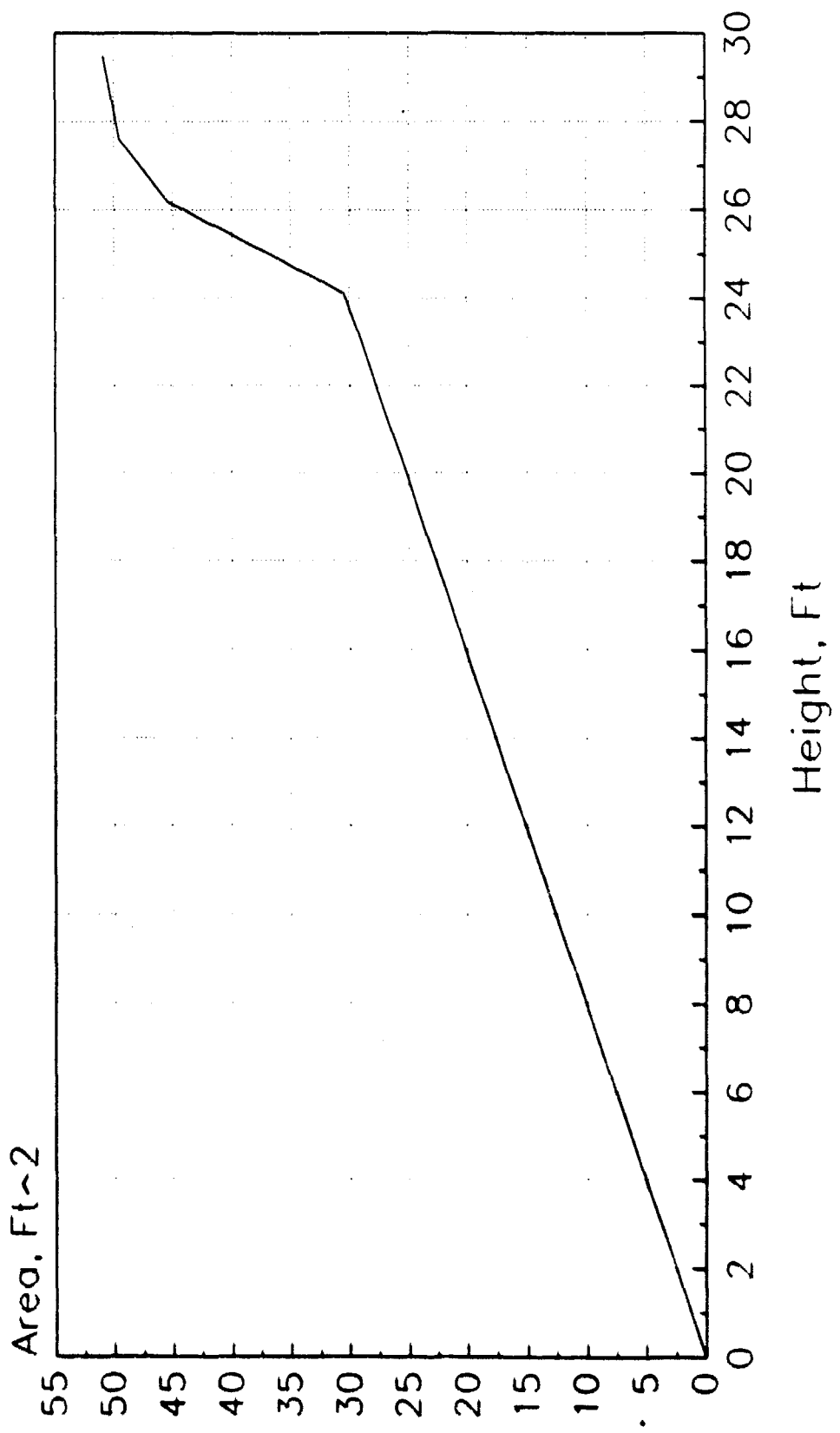
Manufacturers:                              Ryokuseisha Corp.

Source of Design:                            Ryokuseisha Corp.

Drawing Reference:                          Japan MFG 2-15

# MLTV-19RA (8.2 x 92 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: MLTV-7S (4.6 x 36 LS)

Country of Use: Japan MFG 2

Function: Lighted articulated spar for narrow channels and precise position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 23.00 Ft.

Overall Buoy Length: 36.10 Ft.

Focal Height of Light: 12.80 Ft.

Buoy Beam or Diameter: 4.59 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Solar sys or Primary batteries

Lighting Equipment: 133mm electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Universal joint

Sinker Size: 8,820 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 2.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 2.0 Kts.

Mooring Depth: Minimum: 20 Ft.  
Maximum: 23 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:           Replacement:       \$0  
                  Preparation:         \$0  
          Monthly Servicing:     \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                   0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Lenth and draft depend on water depth.

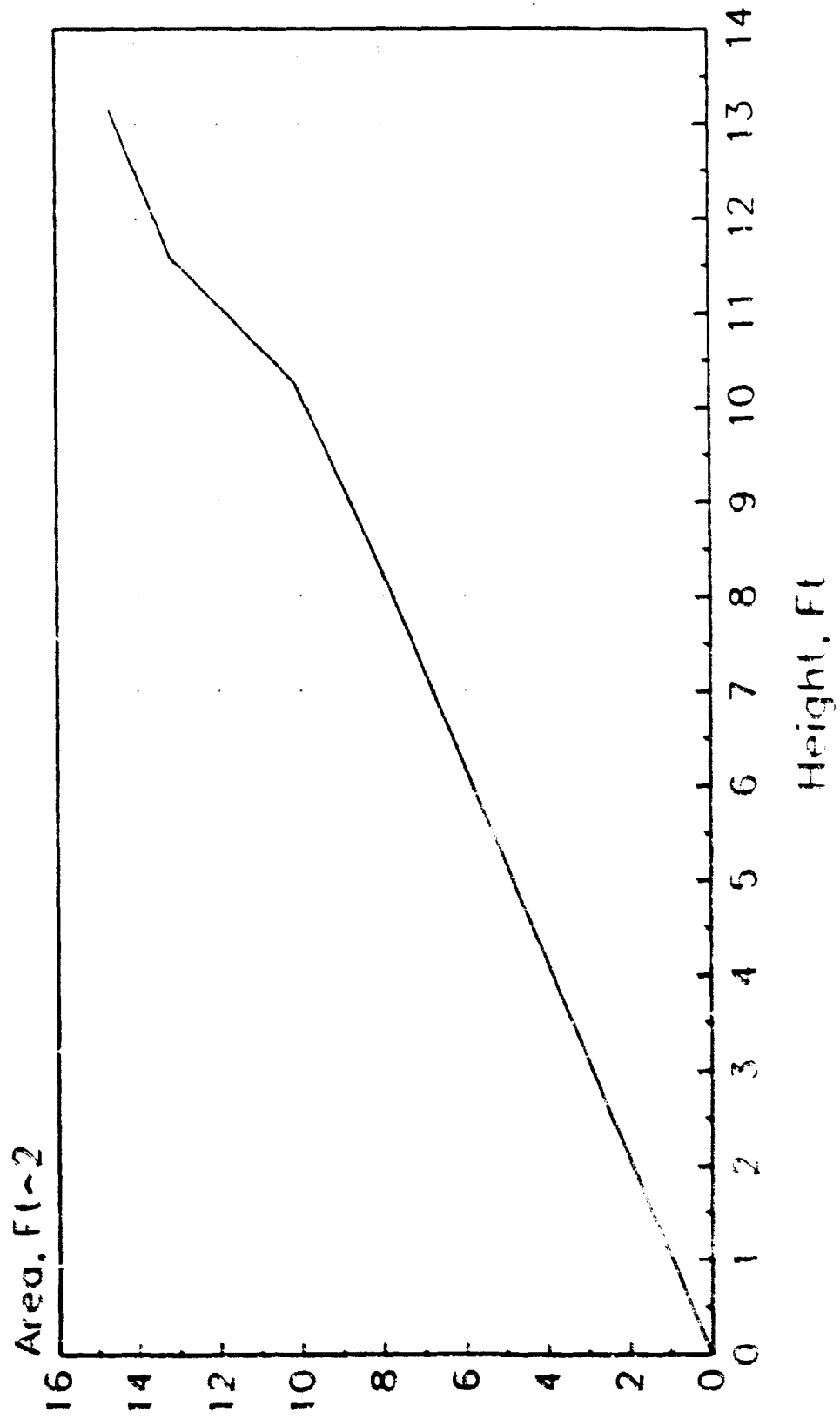
Manufacturers:                        Ryokuseisha Corp.

Source of Design:                     Ryokuseisha Corp.

Drawing Reference:                    Japan MFG 2-15

# MLTV-7S (4.6 x 36 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: MS-400 (7.9 x 20 L)

Country of Use: Japan MFG 2

Function: Lighted semi-protected buoy, for shallow water.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 8,830 Lbs.

Buoy Draft: 5.96 Ft.

Overall Buoy Length: 19.70 Ft.

Focal Height of Light: 13.12 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 260 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External skirt keel

## RELATED EQUIPMENT

Number of Power Sources: 6

Type of Power Sources: Primary bat.12v2100Ah or Solar

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 1.250 In.  
Length : 9.8 Ft.

Mooring Line: Size: 1.250 In.  
Type: Steel Chain

Sinker Size: 22,100 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 4

## OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water

Nominal Visual Range of Daymark: 1.9 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 11 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:        \$0  
                 Preparation:        \$0  
                 Monthly Servicing:    \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:            0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

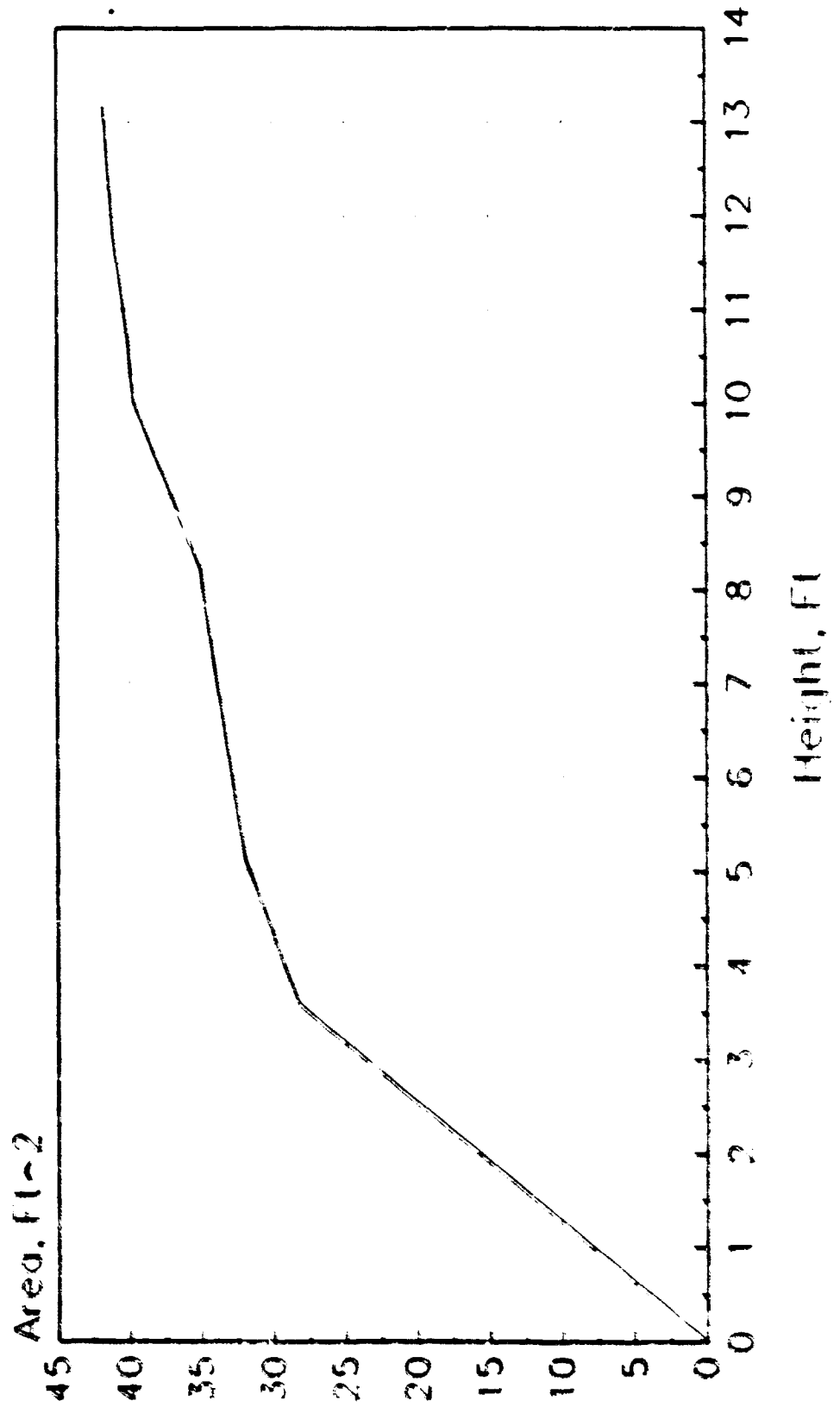
Manufacturers:                    Ryokuseisha Corp

Source of Design:                Ryokuseisha Corp

Drawing Reference:                Japan MFG 2-6

# MS-400 (7.9 x 20 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: MS-500 (9.4 x 24 L)

Country of Use: Japan MFG 2

Function: Lighted offshore buoy, for shallow water.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 12,900 Lbs.

Buoy Draft: 5.62 Ft.

Overall Buoy Length: 23.62 Ft.

Focal Height of Light: 17.39 Ft.

Buoy Beam or Diameter: 9.84 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 407 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External skirt keel

## RELATED EQUIPMENT

Number of Power Sources: 6

Type of Power Sources: Primary bat.12v2100Ah or Solar

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 1.500 In.  
Length : 11.5 Ft.

Mooring Line: Size: 1.500 In.  
Type: Steel Chain

Sinker Size: 22,100 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 4

## OPERATING CHARACTERISTICS

Operating Environment: EM, Shallow Water

Nominal Visual Range of Daymark: 1.9 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 14 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:     \$0  
                 Preparation:       \$0  
                 Monthly Servicing:   \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

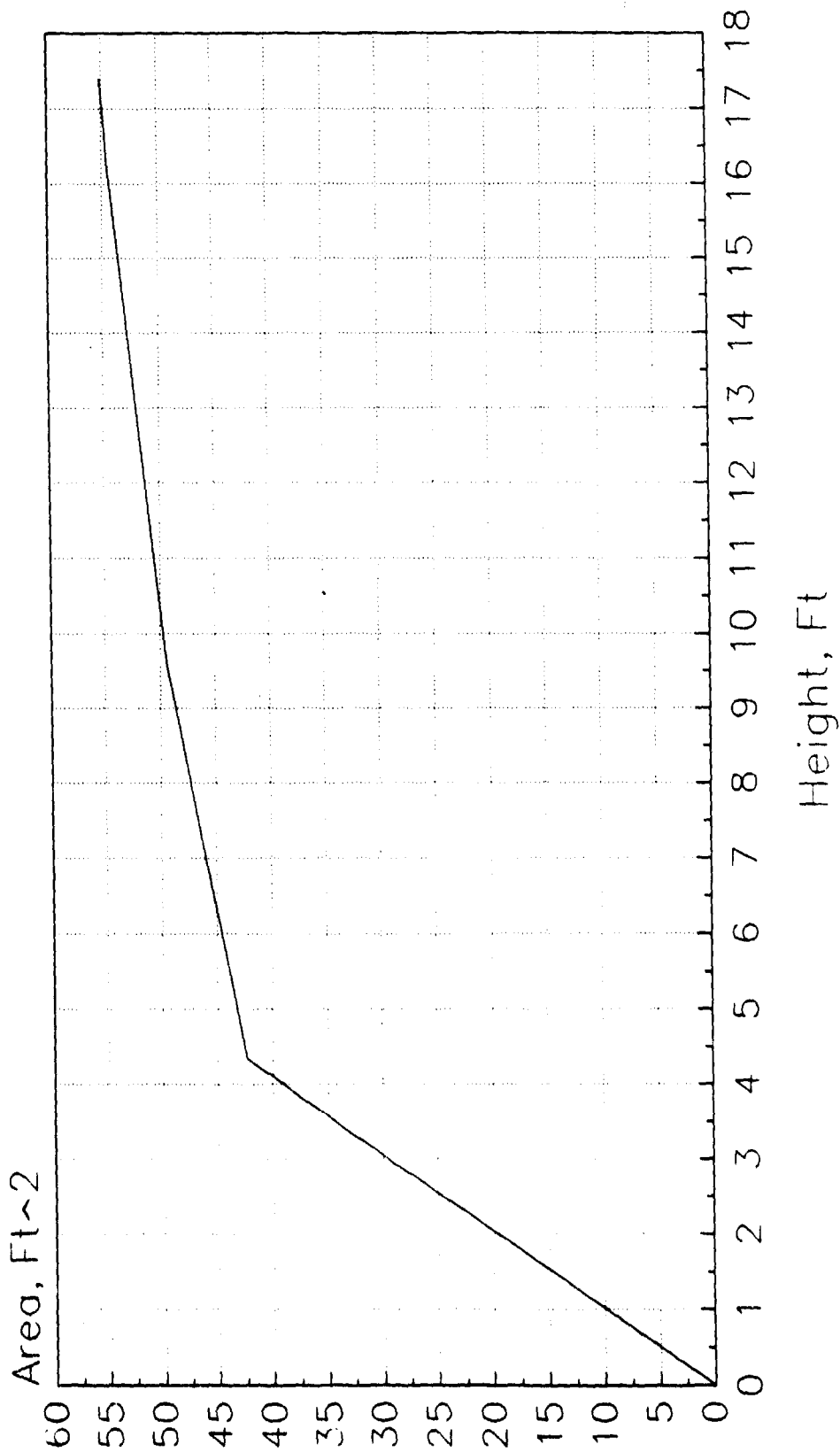
Manufacturers:                            Ryokuseisha Corp.

Source of Design:                            Ryokuseisha Corp.

Drawing Reference:                            Japan MFG 2-5

MS-500 (9.4 x 24 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SA-200 (1.6 x 13 L)

Country of Use: Japan MFG 2

Function: Lighted inshore buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 99 Lbs.

Buoy Draft: 6.38 Ft.

Overall Buoy Length: 13.30 Ft.

Focal Height of Light: 6.60 Ft.

Buoy Beam or Diameter: 1.64 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 11 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : ABS Plastic  
Hull Filling :  
Tower : Aluminum Alloy  
Topmark :  
Counterweight: Battery

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: Internal tail tube

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Packed dry cell batt. 12v200Ah  
Lighting Equipment: 70mm electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.625 In.  
Type: Steel Chain  
Sinkers Size: 330 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 0.9 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 2.6 Kts.  
Mooring Depth: Minimum: 7 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      5 Mos.

## Maintenance Notes:

Maintenance interval based on 170 day battery life.

## Special Features:

## Stability Notes:

## General Notes

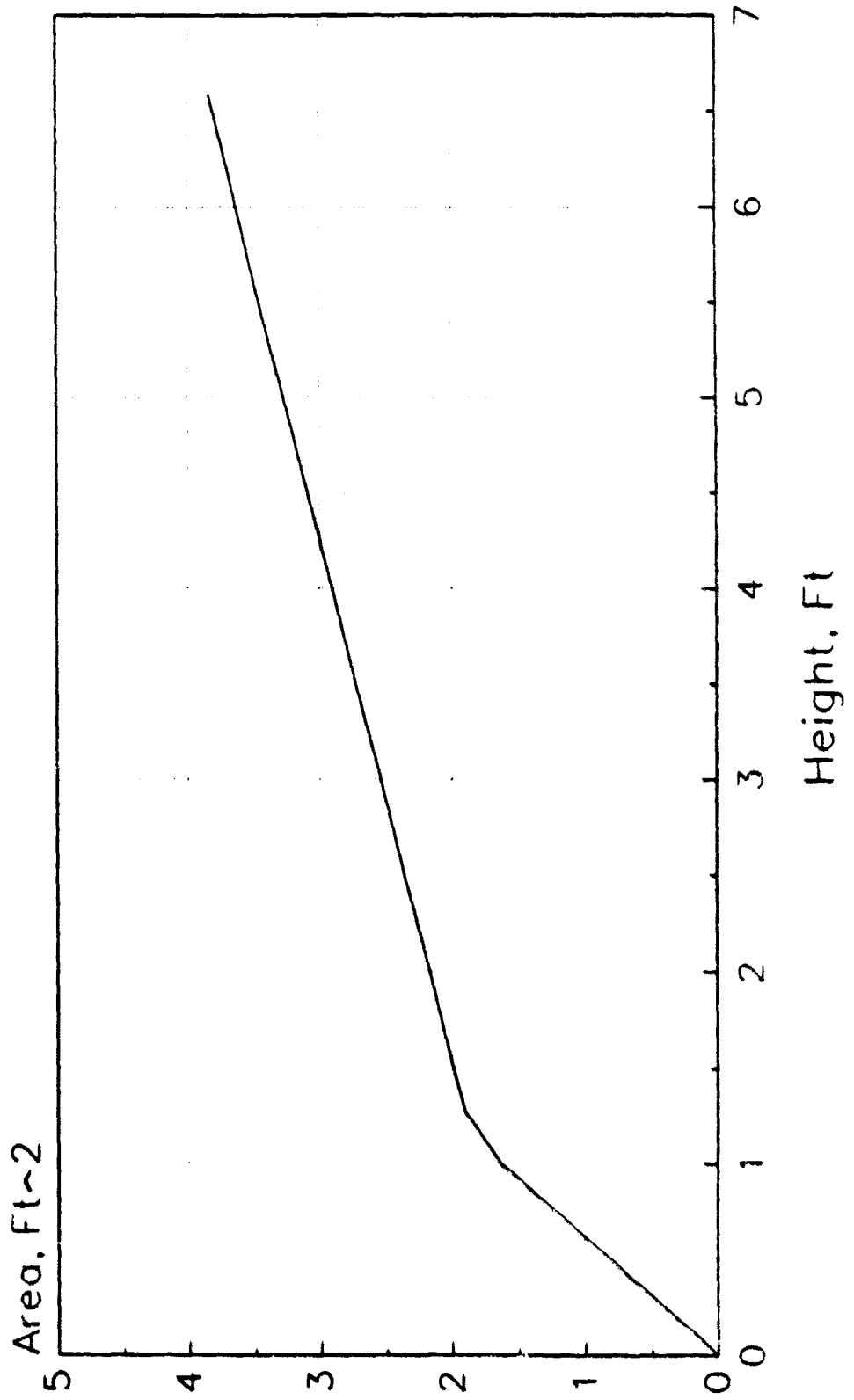
Manufacturers:                              Ryokuseisha Corp.

Source of Design:                            Ryokuseisha Corp.

Drawing Reference:                          Japan MFG 2-12

SA-200 (1.6 x 13 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SAB-300 (3.6 x 18 L)

Country of Use: Japan MFG 2

Function: Lighted inshore buoy for swift current.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 234 Lbs.

Buoy Draft: 7.53 Ft.

Overall Buoy Length: 17.82 Ft.

Focal Height of Light: 9.98 Ft.

Buoy Beam or Diameter: 3.61 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 55 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Polyurethane Foam  
Hull Filling : Polyurethane Foam  
Tower : Aluminum Alloy  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Packed dry battery  
Lighting Equipment: 70mm electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.625 In.  
Type: Steel Chain  
Sinker Size: 4,410 Lbs.  
Topmark Type: none  
Number of Padeyes: 4

## OPERATING CHARACTERISTICS

Operating Environment: PF  
Nominal Visual Range of Daymark: 1.8 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 6.0 Kts.  
Mooring Depth: Minimum: 8 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        4 Mos.

## Maintenance Notes:

Maintenance interval based on battery life of 130 days.

## Special Features:

## Stability Notes:

## General Notes

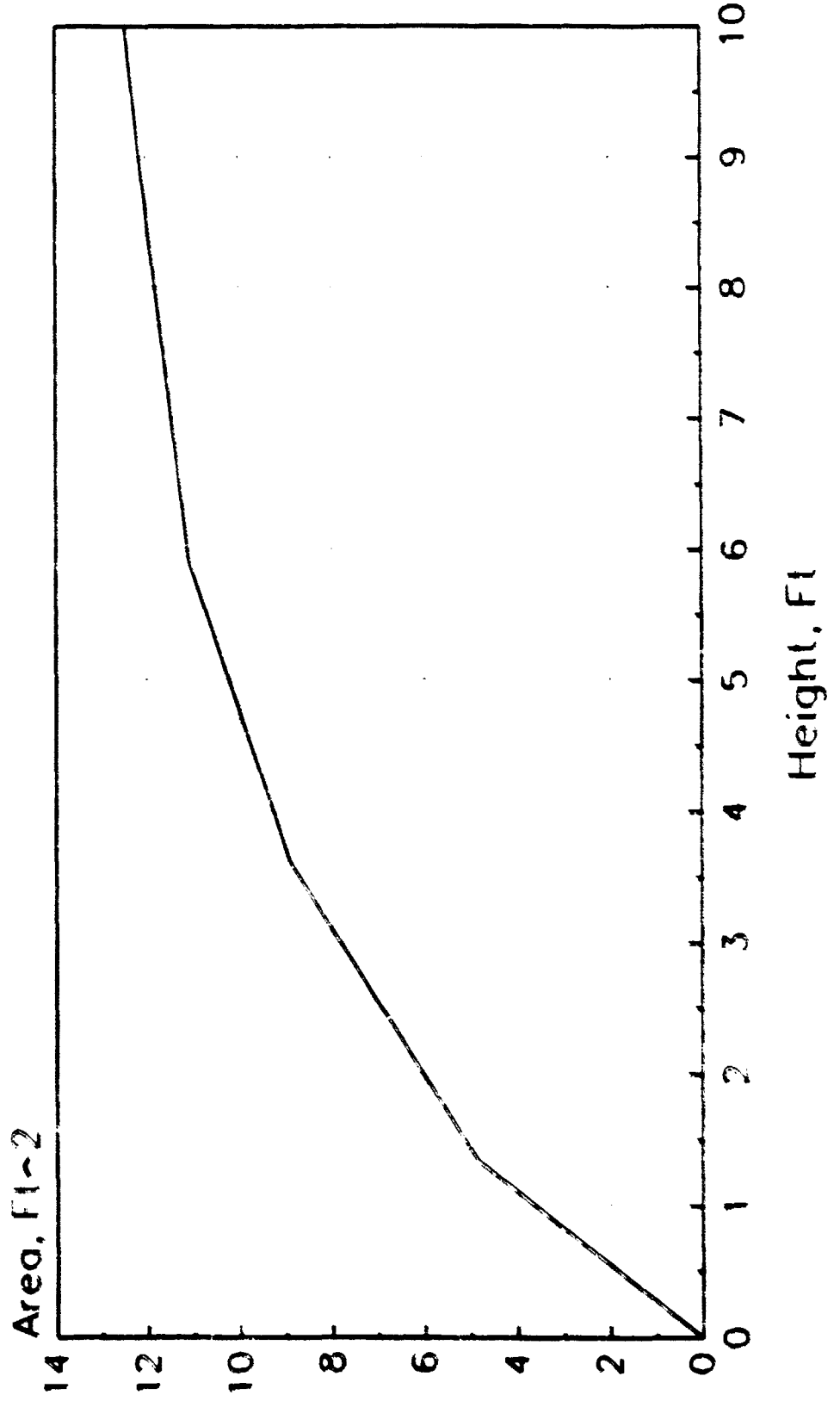
Manufacturers:                                Ryokuseisha Corp.

Source of Design:                             Ryokuseisha Corp.

Drawing Reference:                            Japan MFG 2-10

# SAB-300 (3.6 x 18 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: T-11 WAG (9.8 x 45 LR)

Country of Use: Japan MFG 2

Function: Lighted offshore buoy, with wave  
activated electric generator.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 24,700 Lbs.

Buoy Draft: 22.13 Ft.

Overall Buoy Length: 44.56 Ft.

Focal Height of Light: 21.33 Ft.

Buoy Beam or Diameter: 9.75 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 404 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 7

Type of Power Sources: 6 Stor.batts 12v500Ah/TG-3 WAG

Lighting Equipment: 300mm electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 1.500 In.  
Length : 29.5 Ft.

Mooring Line: Size: 1.500 In.  
Type: Steel Chain

Sinker Size: 22,100 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 4

## OPERATING CHARACTERISTICS

Operating Environment: EF

Nominal Visual Range of Daymark: 3.0 Nmi.

Radar Range: 5.2 Nmi.

Maximum Current: 6.0 Kts.

Mooring Depth: Minimum: 32 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

## General Notes

Wave activated generator or requires a minimum 1.33 foot wave height to charge electric batteries.

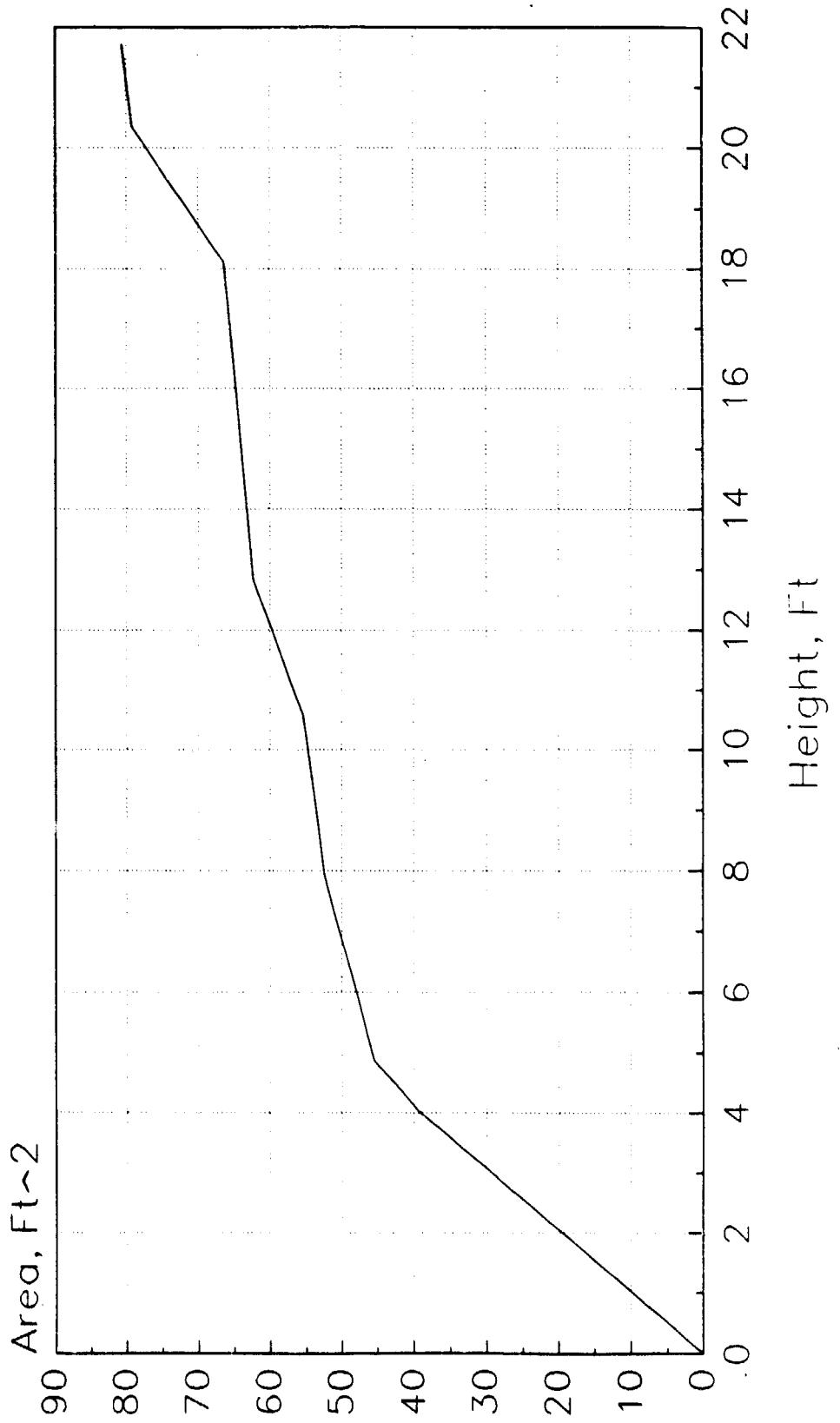
Manufacturers:                                Ryokuseisha Corp.

Source of Design:                              Ryokuseisha Corp.

Drawing Reference:                            Japan MFG 2-1

# T-11 WAG (9.8 x 45 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: T-360S WAG (7.3 x 20 L)

Country of Use: Japan MFG 2

Function: Lighted inshore buoy, for semi-protected shallow water, with wave activated electric generator.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 8,250 Lbs.

Buoy Draft: 7.40 Ft.

Overall Buoy Length: 19.75 Ft.

Focal Height of Light: 11.75 Ft.

Buoy Beam or Diameter: 7.25 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 221 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 7

Type of Power Sources: 6 stor.batts.12v500Ah/TG-3 WAG

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 1.250 In.  
Length : 16.4 Ft.

Mooring Line: Size: 1.250 In.  
Type: Steel Chain

Sinker Size: 22,100 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM, Shallow Water

Nominal Visual Range of Daymark: 2.2 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 19 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                   Replacement:       \$0  
                          Preparation:       \$0  
                          Monthly Servicing: \$0

Service Life:                               0.0 Yrs.

Maintenance Interval:                     0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

## General Notes

Wave activated generator requires a minimum 1.25 foot wave height to generate electricity.

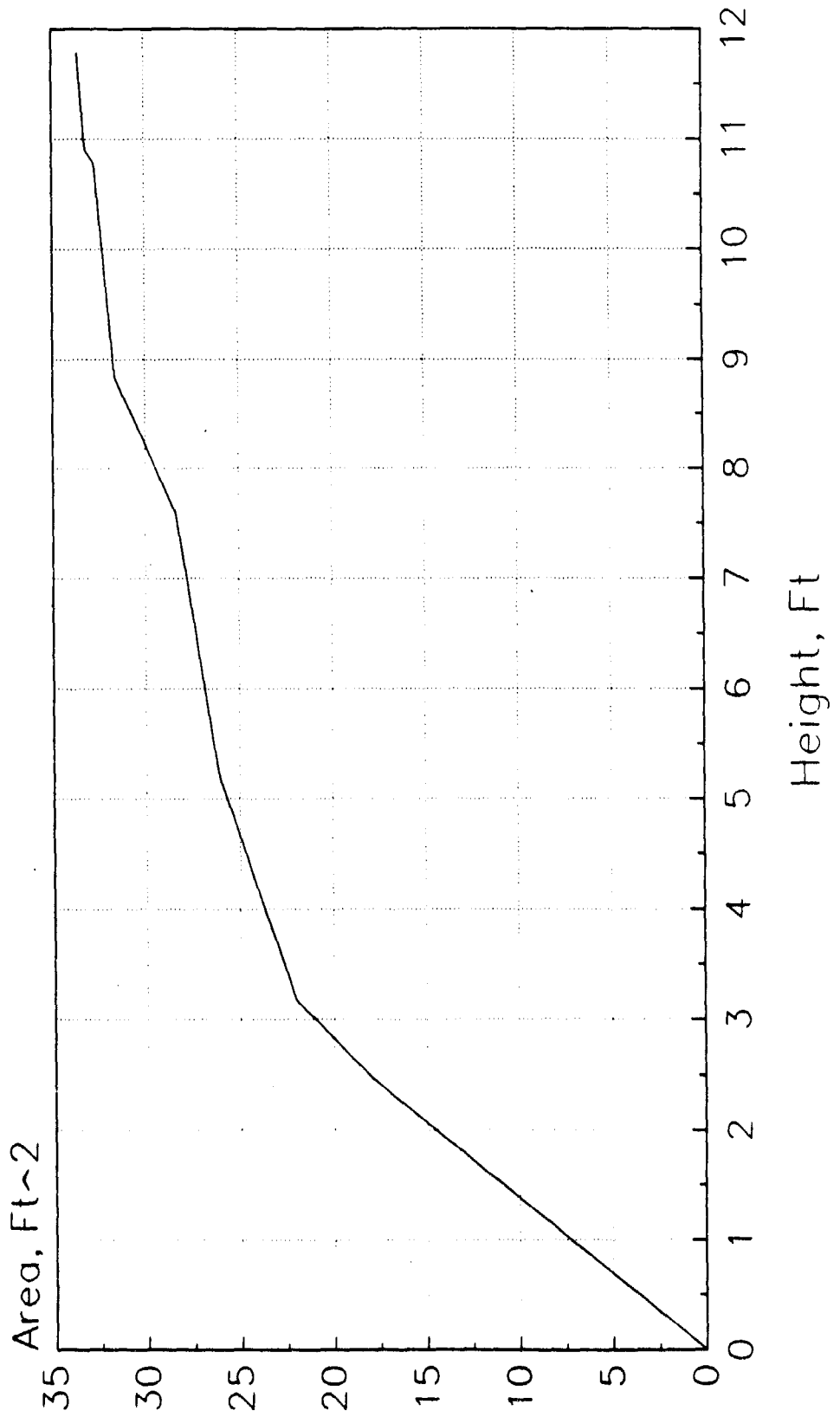
Manufacturers:                             Ryokuseisha Corp.

Source of Design:                         Ryokeseisha Corp.

Drawing Reference:                        Japan MFG 2-2

# T-360S WAG (7.3 x 20 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: T3-2 WAG (6.4 x 25 LR)

Country of Use: Japan MFG 2

Function: Lighted inshore buoy, for semi-protected waters.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 4,630 Lbs.

Buoy Draft: 12.00 Ft.

Overall Buoy Length: 25.13 Ft.

Focal Height of Light: 12.50 Ft.

Buoy Beam or Diameter: 6.40 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 172 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 7

Type of Power Sources: 6 stor.batts.2v500Ah/TG-3 WAG

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 1.250 In.  
Length : 16.4 Ft.

Mooring Line: Size: 1.250 In.  
Type: Steel Chain

Sinker Size: 11,030 Lbs.

Topmark Type: Opt. Cardinal or Lat

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 2.0 Nmi.

Radar Range: 4.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 20 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

ADDITIONAL DATA

Cost:            Replacement:        \$0  
                 Preparation:         \$0  
                 Monthly Servicing:    \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Wave activated generator requires a minimum 1.33 foot wave height to charge batteries.

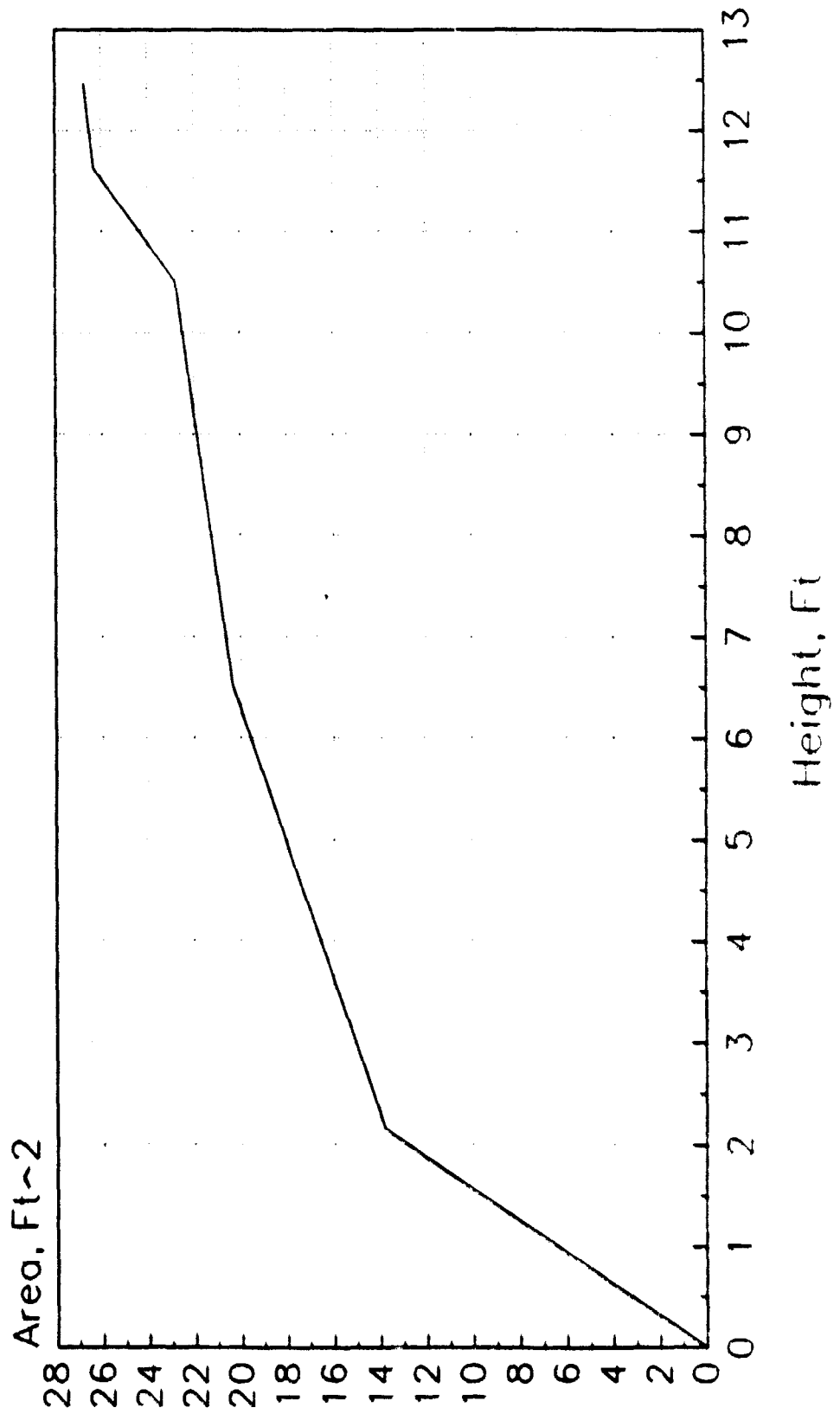
Manufacturers:                            Ryokuseisha Corp.

Source of Design:                         Ryokuseisha Corp.

Drawing Reference:                        Japan MFG 2-3

# T3-2 WAG (6.4 x 25 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: TS-300 WAG (4.5 x 21 L)

Country of Use: Japan MFG 2

Function: Lighted inshore buoy, for semi-protected waters, with wave activated electric generator.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,580 Lbs.

Buoy Draft: 9.75 Ft.

Overall Buoy Length: 21.16 Ft.

Focal Height of Light: 10.79 Ft.

Buoy Beam or Diameter: 4.46 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 84 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

RELATED EQUIPMENT

Number of Power Sources: 3  
Type of Power Sources: 2 stor batts.12v40Ah/TG103 WAG  
Lighting Equipment: 155mm electric lantern  
Sound Equipment: none  
Other Payload: Optional radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.750 In.  
Length : 20.0 Ft.  
Mooring Line: Size: 0.750 In.  
Type: Steel Chain  
Sinker Size: 4,410 Lbs.  
Topmark Type: Opt. Cardinal or Lat  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SF  
Nominal Visual Range of Daymark: 1.9 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 5.0 Kts.  
Mooring Depth: Minimum: 23 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:     \$0  
                 Preparation:       \$0  
                 Monthly Servicing:   \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                   0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Wave activated generatro requires a minimum 0.7 foot wave height to charge batteries.

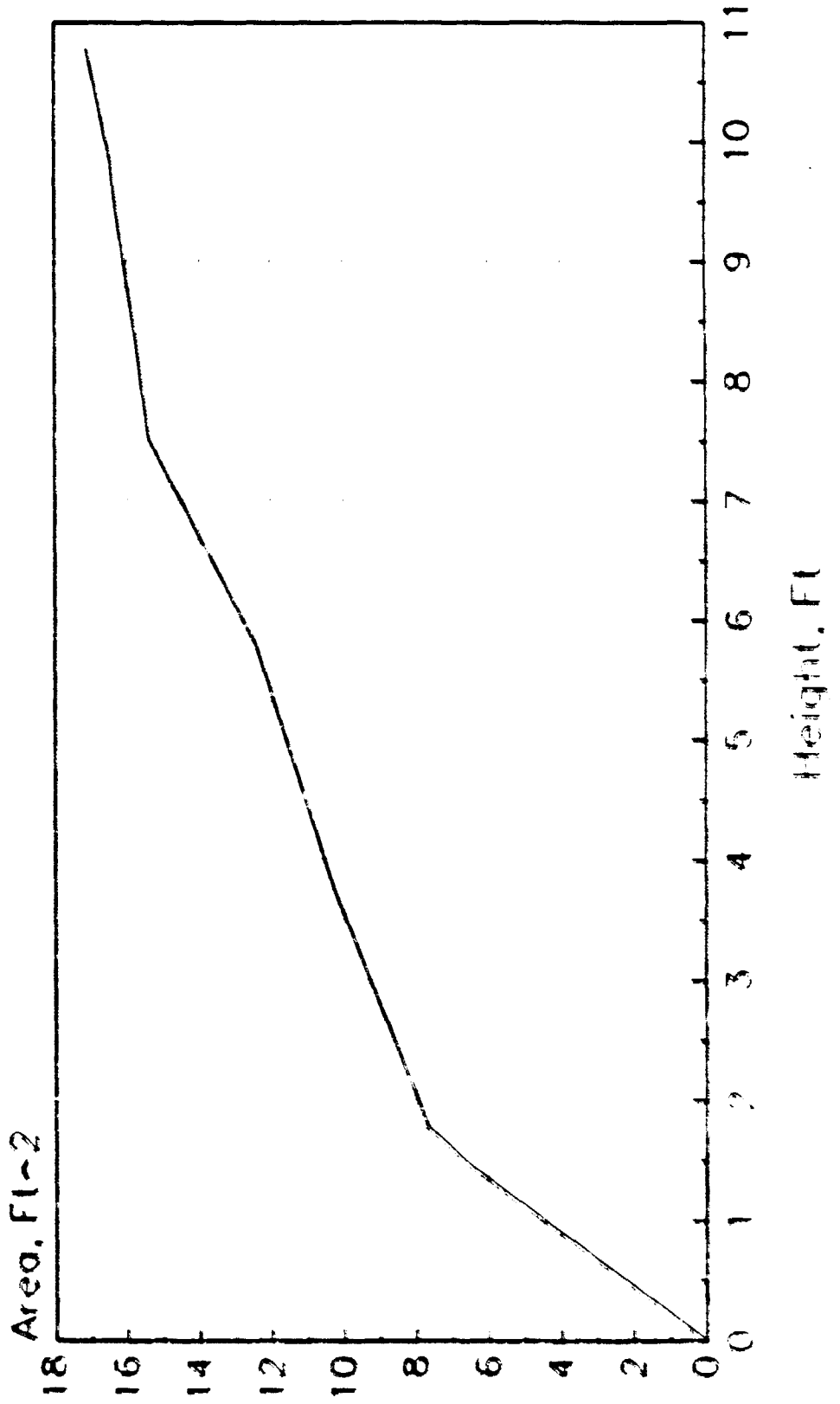
Manufacturers:                            Ryokuseisha Corp.

Source of Design:                           Ryokuseisha Corp.

Drawing Reference:                           Japan MFG 2-4

# TS-300 WAG (4.5 x 21 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZCB-160 (5.3 x 23 L)  
Country of Use: Japan MFG 3  
Function: Lighted buoy, for swift current.

Date Of Last Update For This Record: 07/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 2,760 Lbs.  
Buoy Draft: 10.33 Ft.  
Overall Buoy Length: 0.00 Ft.  
Focal Height of Light: 12.15 Ft.  
Buoy Beam or Diameter: 5.25 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 116 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:  
Coating/Coloring System:  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: Electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type: Opt.Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM, swift current

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 11 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Manufacturers:                                Zeni Lite Buoy Co  
Source of Design:                              Zeni Lite Buoy Co  
Drawing Reference:                              Japan MFG 3-1 & 3-3

## GENERAL INFORMATION

Name of Buoy: ZCB-240D (7.9 x 13 L)

Country of Use: Japan MFG 3

Function: Lighted buoy, for swift current.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 3,969 Lbs.

Buoy Draft: 3.28 Ft.

Overall Buoy Length: 0.00 Ft.

Focal Height of Light: 8.86 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 260 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External skirt keel

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary Batteries

Lighting Equipment: Electric Lantern

Sound Equipment: None

Other Payload: Optional Radar Reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type: SM, swift current

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment:

Nominal Visual Range of Daymark: 1.7 Nmi.

Radar Range: 3.5 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

                          Radar reflector is omnidirectional.

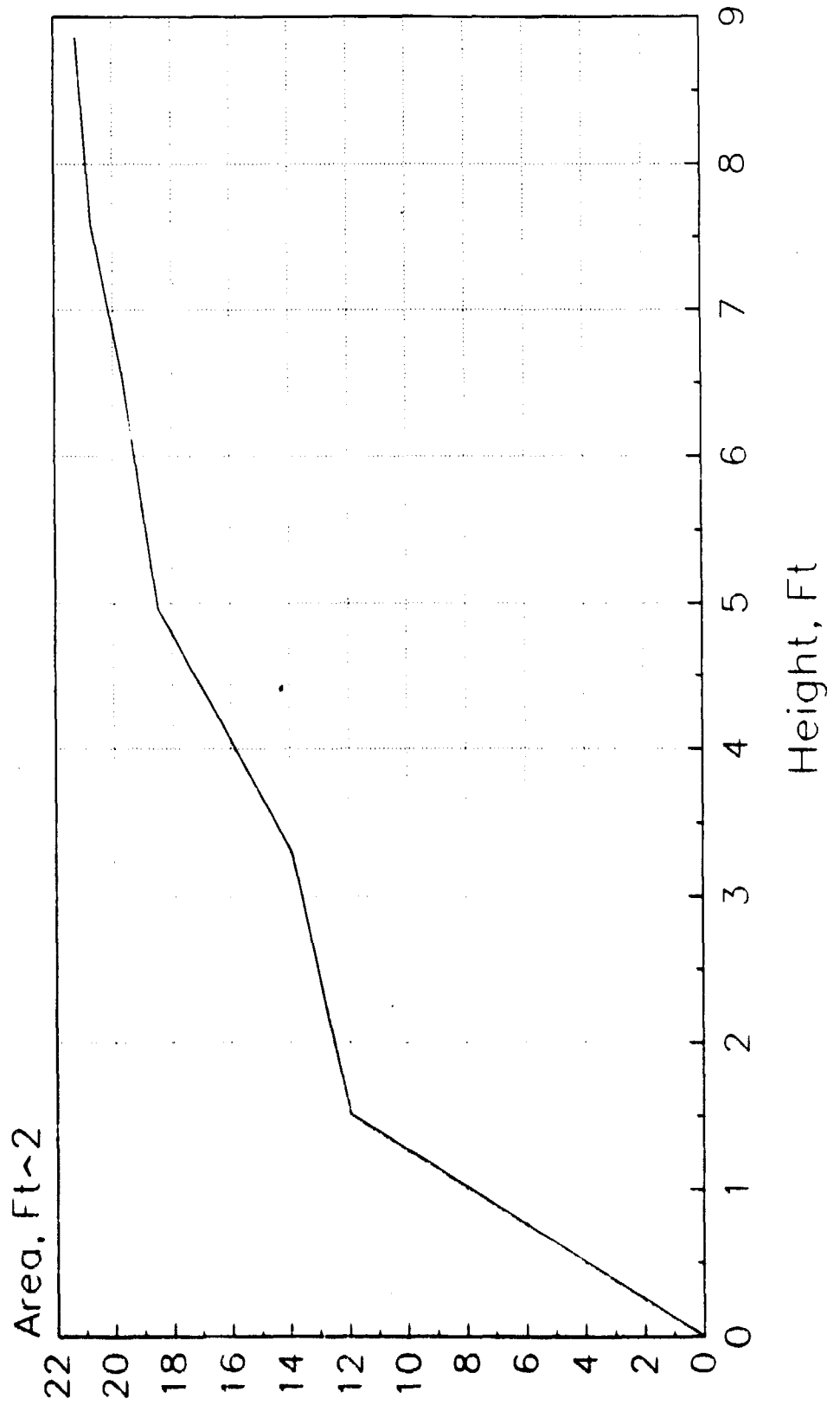
Manufacturers:                                Zeni Lite Buoy Co

Source of Design:                              Zeni Lite Buoy Co

Drawing Reference:                              Japan MFG 3-1 & 3-3

ZCB-240D (7.9 x 13 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZCB-350D (11.5 x 16 LR)  
Country of Use: Japan MFG 3  
Function: Lighted buoy, for swift current.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 11,025 Lbs.  
Buoy Draft: 2.62 Ft.  
Overall Buoy Length: 0.00 Ft.  
Focal Height of Light: 12.47 Ft.  
Buoy Beam or Diameter: 11.48 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 553 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:  
Coating/Coloring System:  
Subdivision:  
Hull Type: Discus  
Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Primary batteries or Solar  
Lighting Equipment: Electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinkers Size: 0 Lbs.  
Topmark Type: Opt. Cardinal or Lat.  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EF  
Nominal Visual Range of Daymark: 2.9 Nmi.  
Radar Range: 4.1 Nmi.  
Maximum Current: 5.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

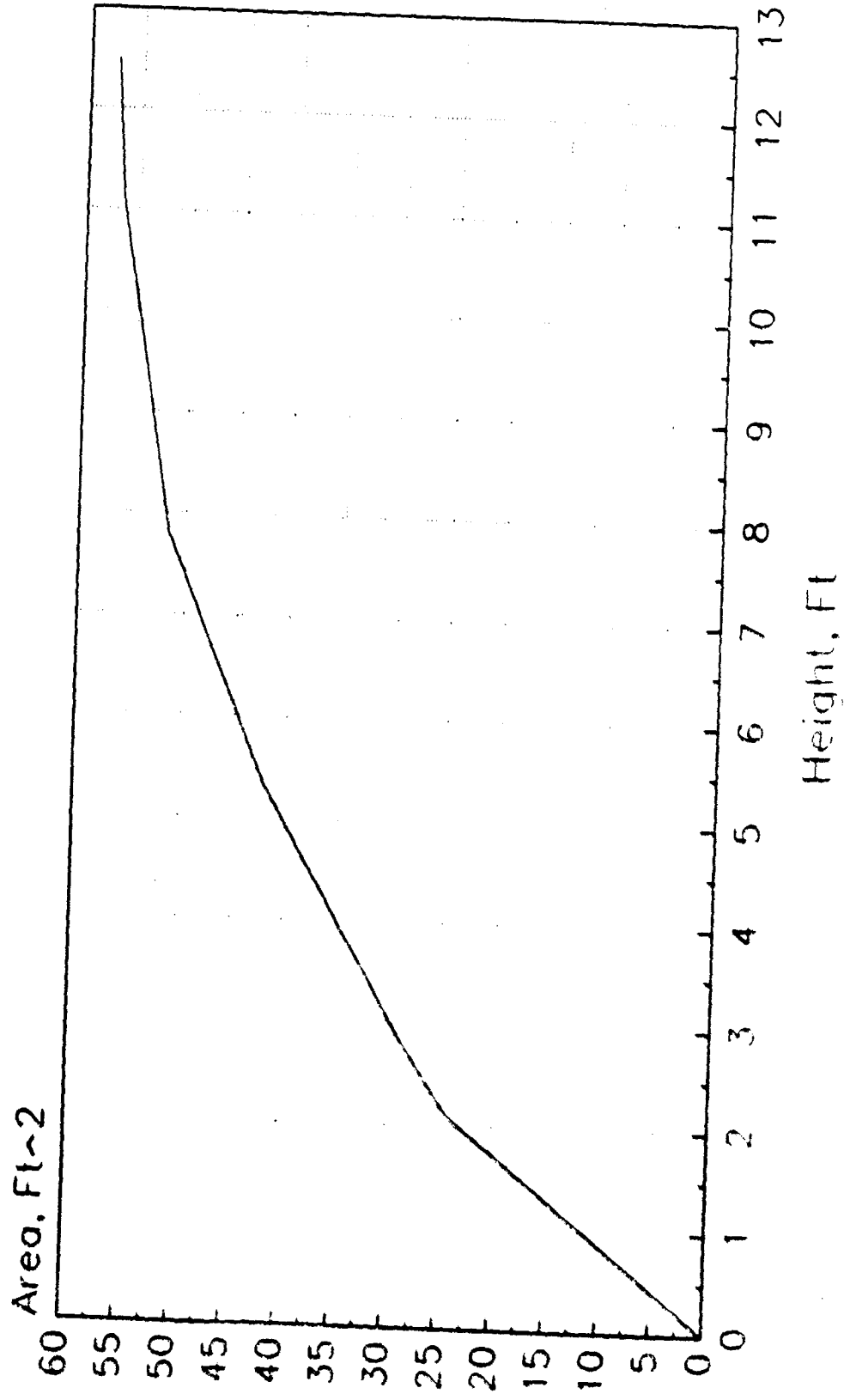
Manufacturers: Zeni Lite Buoy Co

Source of Design: Zeni Lite Buoy Co

Drawing Reference: Japan MFG 3-1 & 3-3

# ZCB-350D (11.5 x 16 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZCB-603D (20x25 LR)

Country of Use: Japan MFG 3

Function: Lighted buoy, for swift current.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 16,980 Lbs.

Buoy Draft: 3.28 Ft.

Overall Buoy Length: 0.00 Ft.

Focal Height of Light: 20.34 Ft.

Buoy Beam or Diameter: 19.69 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 1,626 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Discus

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Primary batteries or Solar  
Lighting Equipment: Electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: Opt. Cardinal or Lat.  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EF  
Nominal Visual Range of Daymark: 3.5 Nmi.  
Radar Range: 5.6 Nmi.  
Maximum Current: 7.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:    \$0  
                 Preparation:       \$0  
                 Monthly Servicing:   \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:            0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

    Radar reflector is omnidirectional.

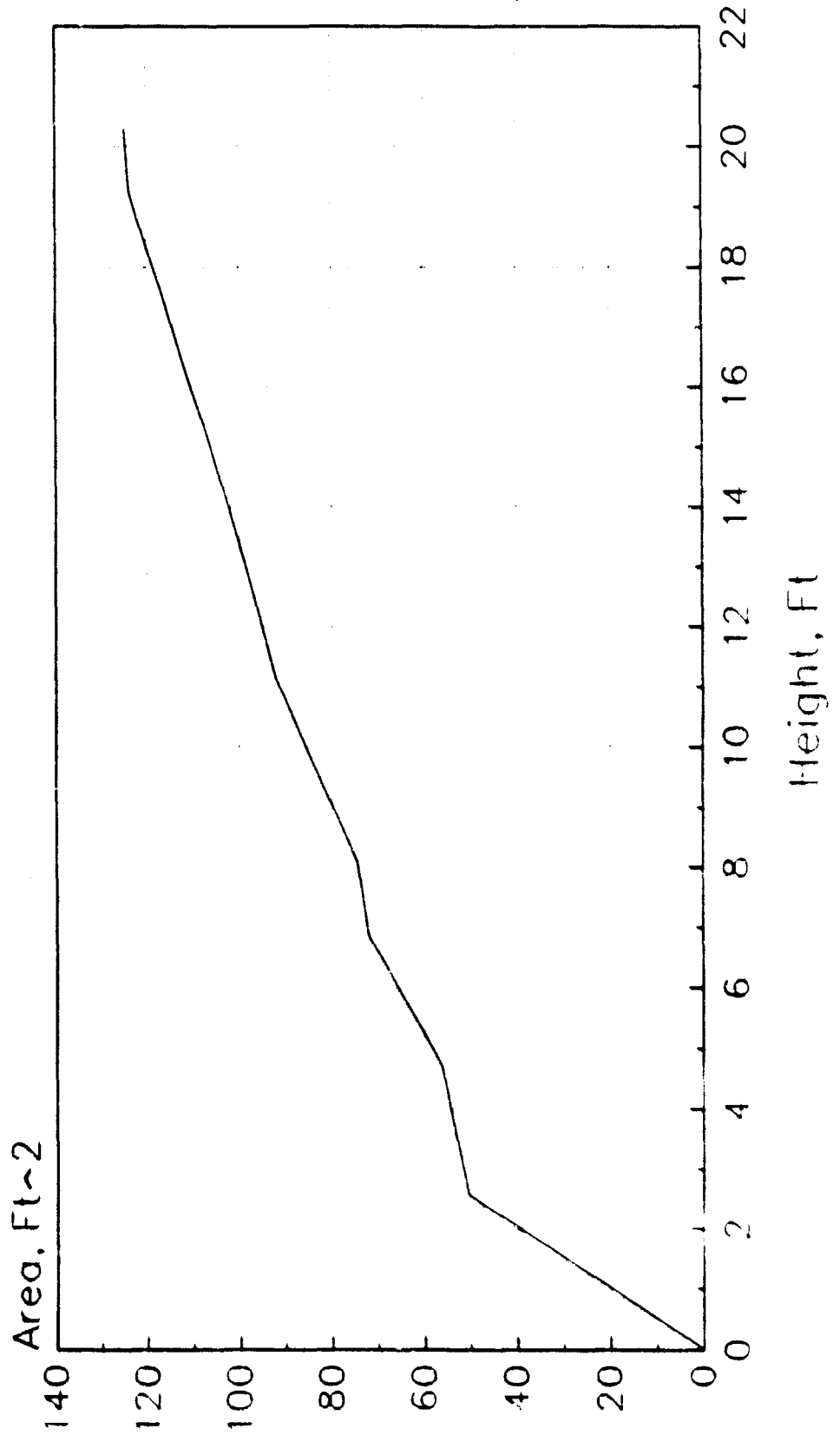
Manufacturers:                    Zeni Lite Buoy Co

Source of Design:                 Zeni Lite Buoy Co

Drawing Reference:                Japan MFG 3-1 & 3-3

# ZCB-603D (20x25 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZSB-100 (3.3 x 29 LS)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for  
semi-protected narrow channels and  
precise position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 551 Lbs.

Buoy Draft: 18.50 Ft.

Overall Buoy Length: 28.87 Ft.

Focal Height of Light: 9.84 Ft.

Buoy Beam or Diameter: 3.28 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Primary batteries  
Lighting Equipment: 155mm Electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.417 In.  
Type: Stl. Chain or Univer  
Sinkers Size: 6,620 Lbs.  
Topmark Type: Opt. Cardinal or Lat.  
Number of Padeyes: 1

## OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 1.6 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 1.0 Kts.  
Mooring Depth: Minimum: 19 Ft.  
Maximum: 50 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                         Preparation:         \$0  
                         Monthly Servicing:  \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to pile beacon but cheaper and easier to install, maintain and move.

Stability Notes:

## General Notes

Recommended max. wind speed: 39 knots; recommended max. wave height: 7 feet. Less vulnerable to collision damage than a pile structure.

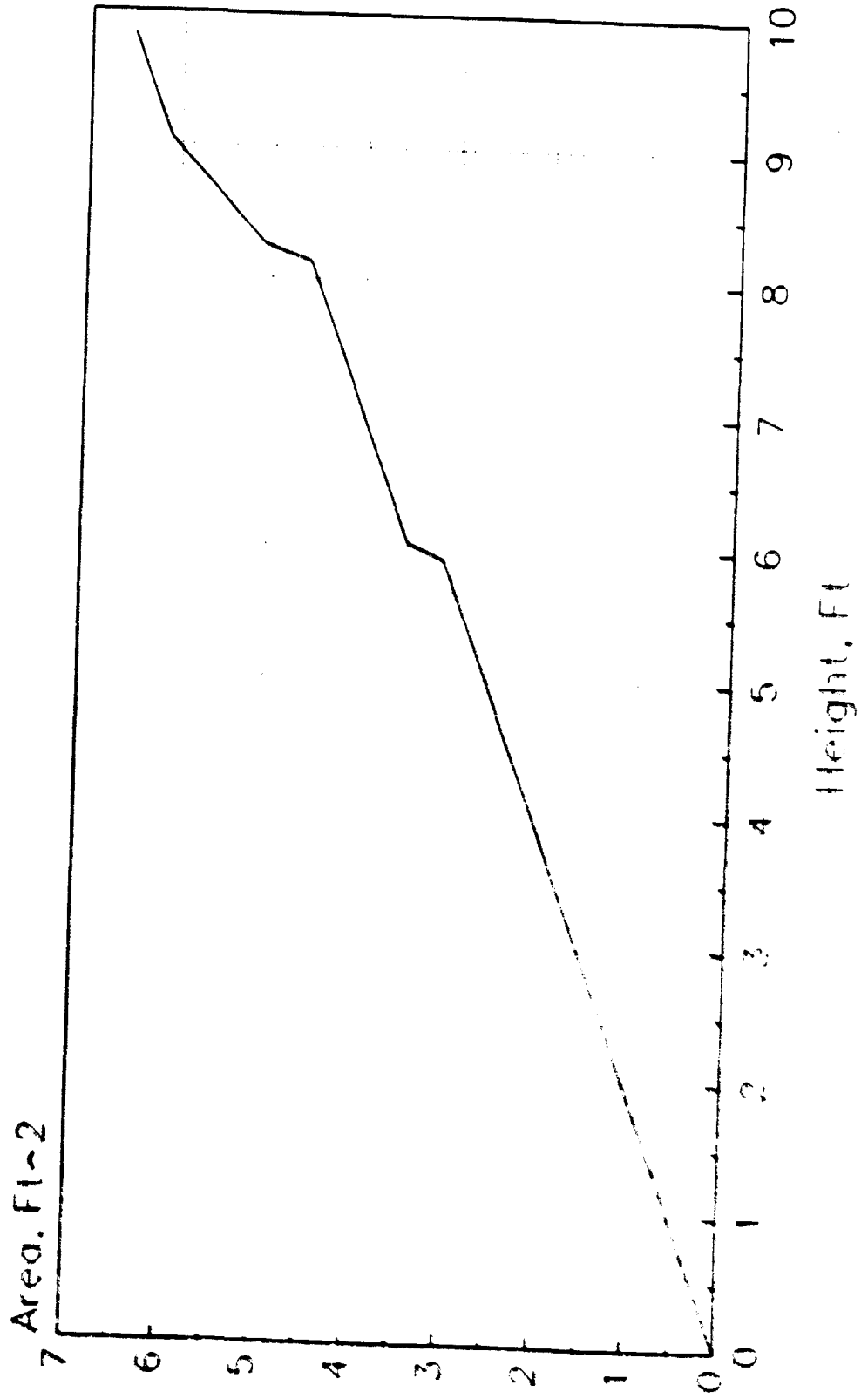
Manufacturers:                            Zeni Lite Buoy Co

Source of Design:                         Zeni Lite Buoy Co

Drawing Reference:                        Japan MFG 3-1 & 3-4

# ZSB-100 (3.3 x 29 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZSB-120 (3.9 x 35 LS)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for  
semi-protected narrow channels and  
precise position.

Date Of Last Update For This Record: 07/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,550 Lbs.

Buoy Draft: 21.50 Ft.

Overall Buoy Length: 35.10 Ft.

Focal Height of Light: 13.12 Ft.

Buoy Beam or Diameter: 3.94 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 155mm Electric lantern

Sound Equipment: none

Other Payload: none

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Stl. Chain or Univer

Sinker Size: 0 Lbs.

Topmark Type: Opt. Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 1.0 Kts.

Mooring Depth: Minimum: 22 Ft.  
Maximum: 66 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:     \$0  
                 Preparation:       \$0  
                 Monthly Servicing:   \$0

Service Life:                      0.0 Yrs.

Maintenance Interval:              0 Mos.

Maintenance Notes:

Special Features:

Similar performance to pile beacon but cheaper and easier to install, maintain and move.

Stability Notes:

General Notes

Recommended max. wind speed: 39 knots; recommended max. wave height: 7 feet. Less vulnerable to collision damage than a pile structure.

Manufacturers:                      Zeni Lite Buoy Co

Source of Design:                    Zeni Lite Buoy Co

Drawing Reference:                  Japan MFG 3-1 & 3-4

## GENERAL INFORMATION

Name of Buoy: ZSB-140P (4.6 x 40 LS)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for  
semi-exposed narrow channels and precise  
position.

Date Of Last Update For This Record: 07/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,765 Lbs.

Buoy Draft: 26.10 Ft.

Overall Buoy Length: 39.70 Ft.

Focal Height of Light: 13.12 Ft.

Buoy Beam or Diameter: 4.59 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (Fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 155mm Electric lantern

Sound Equipment: none

Other Payload: none

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Stl. Chain or Univer

Sinker Size: 0 Lbs.

Topmark Type: Opt.Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 1.0 Kts.

Mooring Depth: Minimum: 27 Ft.  
Maximum: 66 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:     \$0  
                 Preparation:       \$0  
                 Monthly Servicing:   \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                   0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to pile beacon but cheaper and easier to install, maintain and move.

## Stability Notes:

Recommended max. wind speed: 39 knots; recommended max. wave height: 7 feet. Less vulnerable to collision damage than a pile structure.

## General Notes

Manufacturers:                          Zeni Lite Buoy Co

Source of Design:                        Zeni Lite Buoy Co

Drawing Reference:                        Japan MFG 3-1 & 3-4

## GENERAL INFORMATION

Name of Buoy: ZSB-160 (5.3 x 37 LS)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for  
semi-exposed narrow channels and precise  
position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 3,530 Lbs.

Buoy Draft: 20.50 Ft.

Overall Buoy Length: 37.40 Ft.

Focal Height of Light: 16.40 Ft.

Buoy Beam or Diameter: 5.25 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary Batteries

Lighting Equipment: 155 mm Electric lantern

Sound Equipment: none

Other Payload: none

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 1.969 In.  
Type: Stl. Chain or Univer

Sinker Size: 13,230 Lbs.

Topmark Type: Opt. Cardinal or Lat.

Number of Padeyes: 1

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 2.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 1.0 Kts.

Mooring Depth: Minimum: 21 Ft.  
Maximum: 72 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                   Replacement:       \$0  
                          Preparation:       \$0  
                  Monthly Servicing:   \$0

Service Life:                           0.0 Yrs.

Maintenance Interval:                0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to a pile beacon but cheaper and easier to install, maintain and move.

## Stability Notes:

## General Notes

Recommended max. wind speed: 39 knots; recommended max. wave height: 7 feet. Less vulnerable to collision damage than a pile structure.

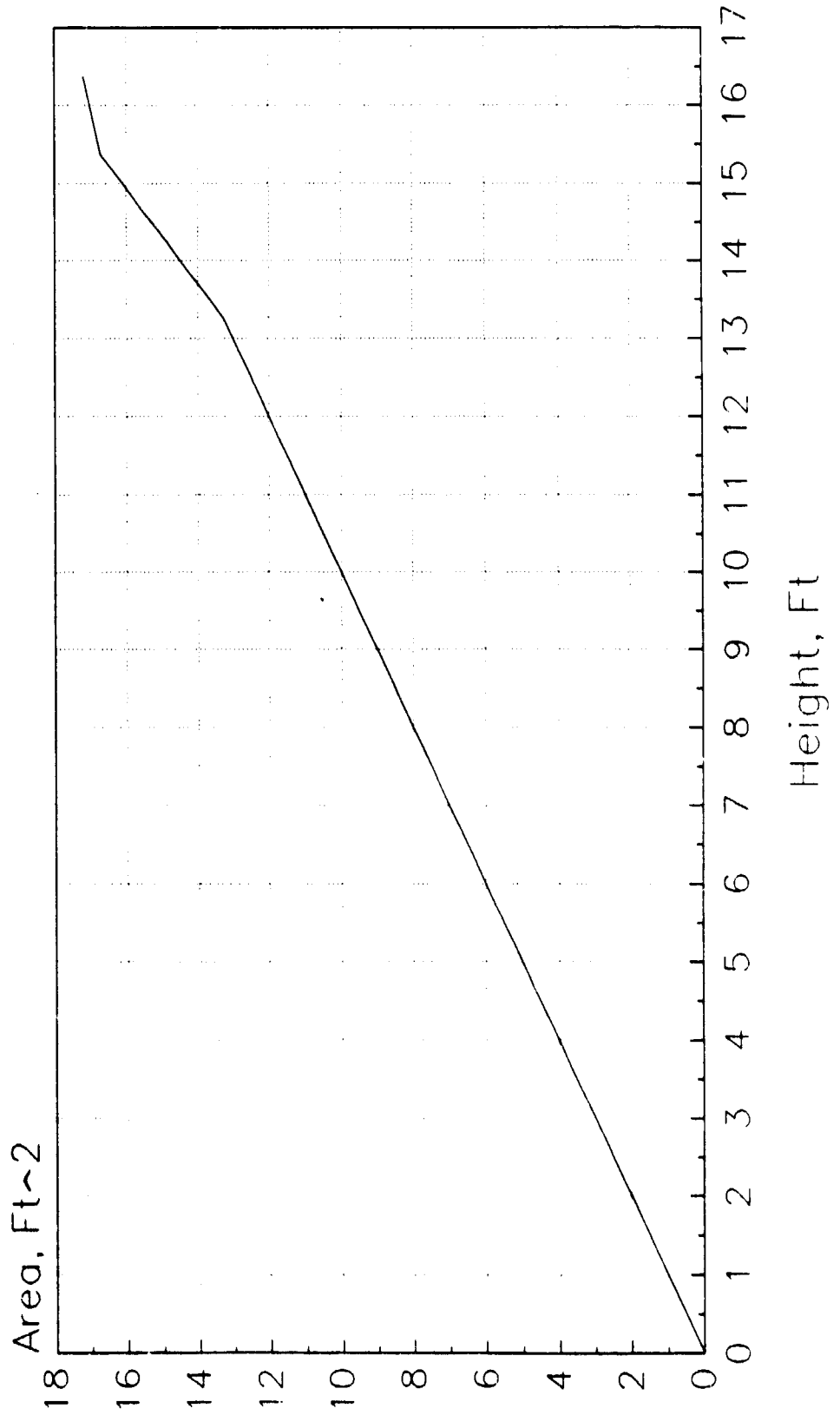
Manufacturers:                       Zeni Lite Buoy Co

Source of Design:                    Zeni Lite Buoy Co

Drawing Reference:                   Japan MFG 3-1 & 3-4

# ZSB-160 (5.3 x 37 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZSB-210 (6.9 x 49 LS)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for exposed narrow channels and precise position marking.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 11,025 Lbs.

Buoy Draft: 30.06 Ft.

Overall Buoy Length: 49.21 Ft.

Focal Height of Light: 18.04 Ft.

Buoy Beam or Diameter: 6.89 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 200mm Electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 2.362 In.  
Type: Stl. Chain or Univer

Sinker Size: 33,100 Lbs.

Topmark Type: Opt.Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 2.5 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 2.0 Kts.

Mooring Depth: Minimum: 31 Ft.  
Maximum: 148 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to a pile beacon but cheaper and easier to install, maintain and more.

Stability Notes:

## General Notes

Recommended max. wind speed: 58 knots; recommended max. wave height: 10 feet. Less vulnerable to collision damage than a pile structure.

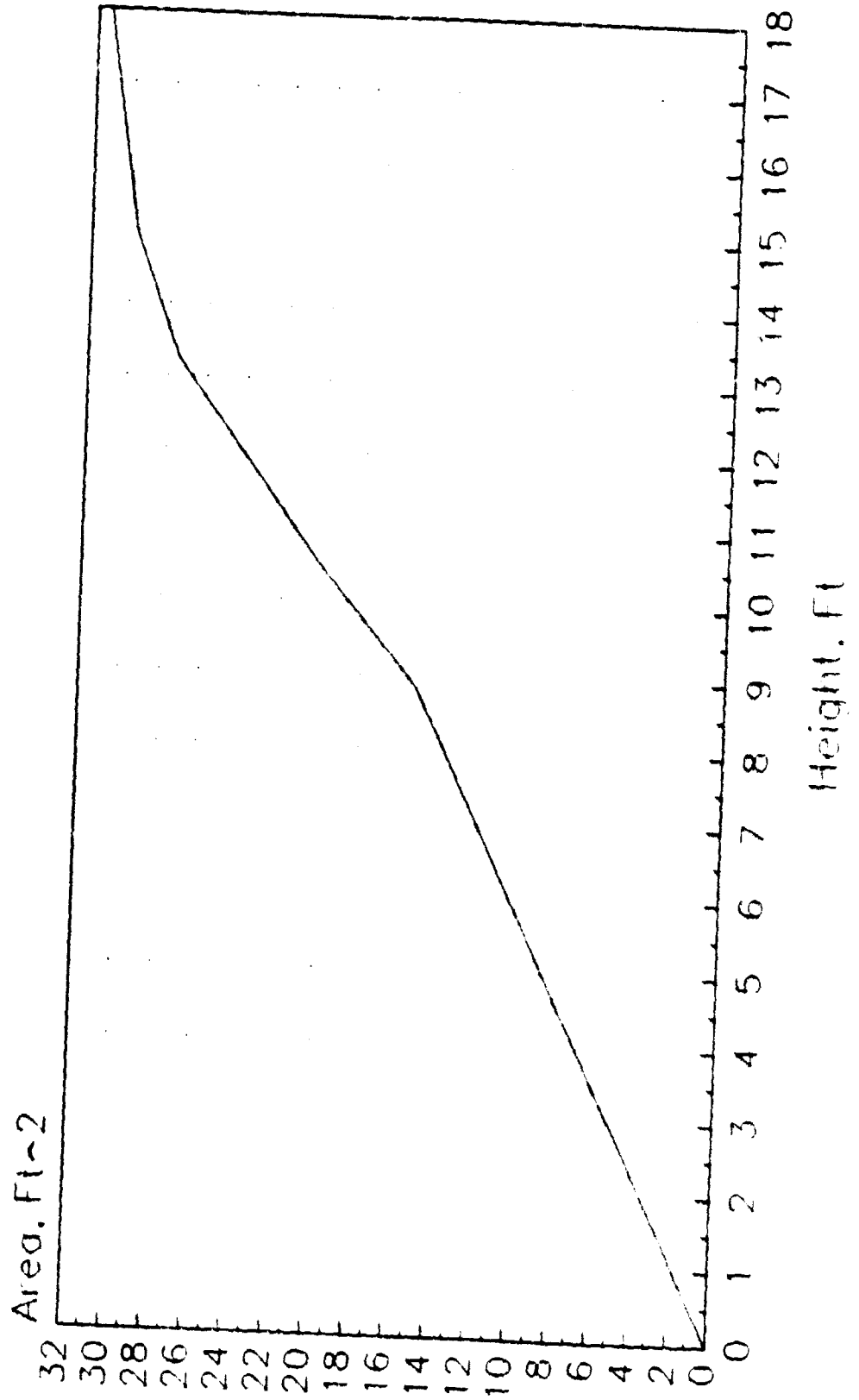
Manufacturers:                                Zeni Lite Buoy Co

Source of Design:                             Zeni Lite Buoy Co

Drawing Reference:                            Japan MFG 3-1 & 3-4

# ZSB-210 (6.9 x 49 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZSB-220W (7.2 x 78 LS)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for exposed narrow channels and precise position marking.

Date Of Last Update For This Record: 07/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 21,830 Lbs.

Buoy Draft: 52.20 Ft.

Overall Buoy Length: 77.76 Ft.

Focal Height of Light: 24.93 Ft.

Buoy Beam or Diameter: 7.22 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 200mm Electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Stl. Chain or Univer

Sinker Size: 0 Lbs.

Topmark Type: Opt. Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 1.0 Kts.

Mooring Depth: Minimum: 53 Ft.  
Maximum: 200 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:               Replacement:       \$0  
                          Preparation:         \$0  
                  Monthly Servicing:     \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

Special Features:

Similar performance to a pile beacon but cheaper and easier to install, maintain and move.

Stability Notes:

General Notes

Recommended max. wind speed: 73 knots; recommended max. wave height: 33 feet. Less vulnerable to collision damage than a pile structure.

Manufacturers:                           Zeni Lite Buoy Co

Source of Design:                        Zeni Lite Buoy Co

Drawing Reference:                      Japan MFG 3-1 & 3-4

## GENERAL INFORMATION

Name of Buoy: ZSB-240 (7.9 x 86 LSR)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for exposed narrow channels and precise position marking.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 15,660 Lbs.

Buoy Draft: 65.00 Ft

Overall Buoy Length: 85.96 Ft.

Focal Height of Light: 19.69 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 300mm Electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Stl. Chain or Univer

Sinker Size: 0 Lbs.

Topmark Type: Opt. Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 3.2 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 2.0 Kts.

Mooring Depth: Minimum: 65 Ft.  
Maximum: 150 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to a pile beacon but cheaper and easier to install, maintain and move.

Stability Notes:

## General Notes

Recommended max. wind speed: 68 knots; recommended max. wave height: 10 feet. Less vulnerable to collision damage than a pile structure.

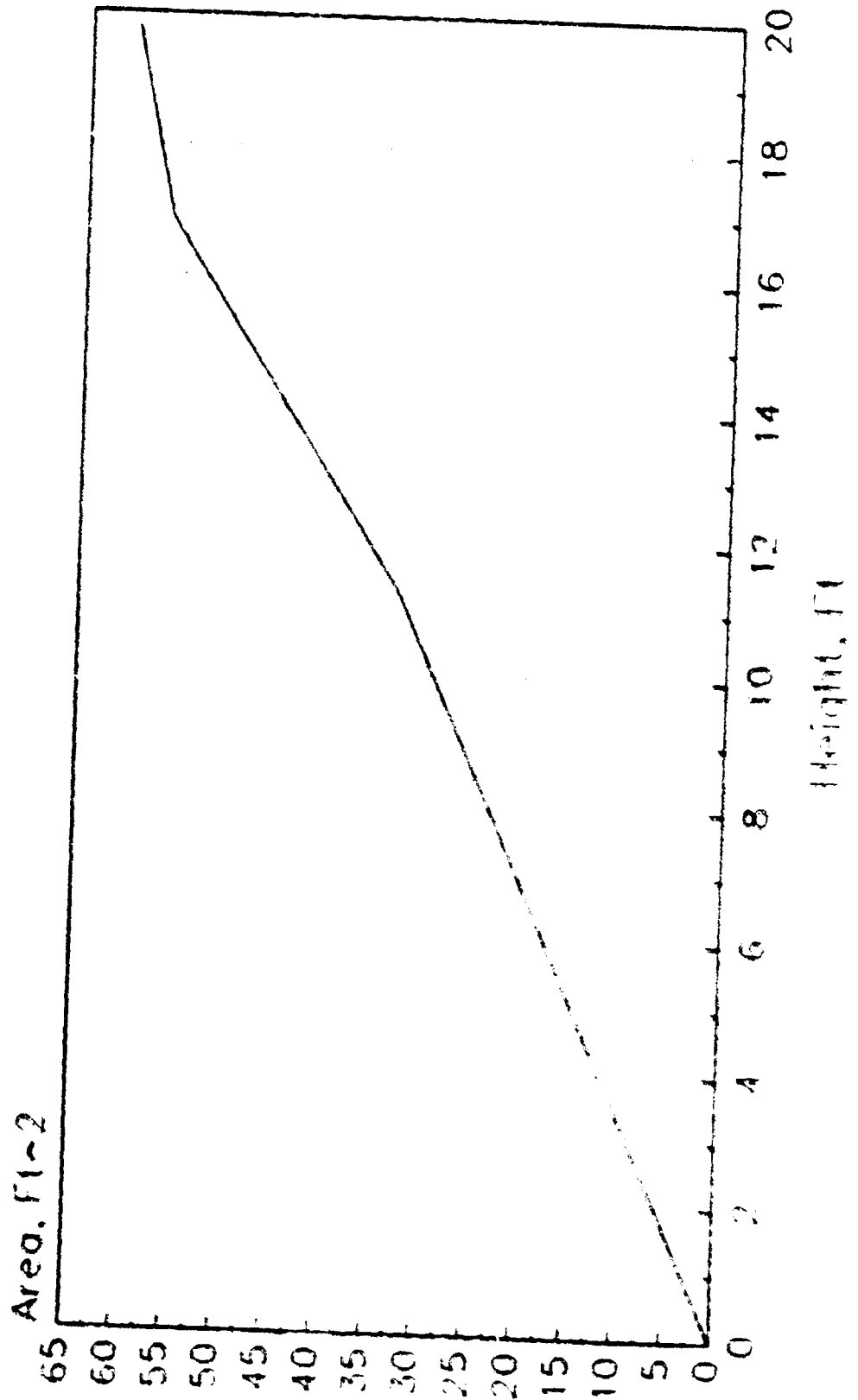
Manufacturers:                            Zeni Lite Buoy Co

Source of Design:                         Zeni Lite Buoy Co

Drawing Reference:                        Japan MFG 3-1 & 3-4

# ZSB-240 (7.9 x 86 LSR)

## Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZSB-280 (9.2 x 95 LSR)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for exposed narrow channels and precise position marking.

Date Of Last Update For This Record: 07/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 20,500 Lbs.

Buoy Draft: 61.10 Ft.

Overall Buoy Length: 95.14 Ft.

Focal Height of Light: 32.81 Ft.

Buoy Beam or Diameter: 9.19 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Primary batteries  
Lighting Equipment: 300mm Electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Stl. Chain or Univer  
Sinker Size: 0 Lbs.  
Topmark Type: Opt. Cardinal or Lat.  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM, current  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Kadar Range: 0.0 Nmi.  
Maximum Current: 3.0 Kts.  
Mooring Depth: Minimum: 61 Ft.  
Maximum: 150 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:        \$0  
                 Preparation:         \$0  
                 Monthly Servicing:     \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to a pile beacon but cheaper and easier to install, maintain and move.

Stability Notes:

## General Notes

Recommended max. wind speed: 58 knots; recommended max. wave height: 10 feet. Less vulnerable to collision damage than as pile structure.

Manufacturers:                            Zeni Lite Buoy Co

Source of Design:                           Zeni Lite Buoy Co

Drawing Reference:                        Japan MFG 3-1 & 3-4

## GENERAL INFORMATION

Name of Buoy: ZSB-300 (9.8 x 117 LSR)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for exposed narrow channels and precise position marking.

Date Of Last Update For This Record: 07/21/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 29,100 Lbs.

Buoy Draft: 83.30 Ft.

Overall Buoy Length: 117.45 Ft.

Focal Height of Light: 32.81 Ft.

Buoy Beam or Diameter: 9.84 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 375mm Electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Stl. chain or Univer

Sinker Size: 0 Lbs.

Topmark Type: Opt.Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM, swift current

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 84 Ft.  
Maximum: 164 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to a pile beacon but cheaper and easier to install, maintain and move.

Stability Notes:

## General Notes

Recommended max. wind speed: 58 knots; recommended max. wave height: 10 feet. Less vulnerable to collision damage than a pile structure.

Manufacturers: Zeni Lite Buoy Co

Source of Design: Zeni Lite Buoy Co

Drawing Reference: Japan MFG 3-1 & 3-4

## GENERAL INFORMATION

Name of Buoy: ZSB-320 (10.5 x 133 LSR)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for exposed narrow channels and precise position marking.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 37,500 Lbs.

Buoy Draft: 99.10 Ft.

Overall Buoy Length: 133.20 Ft.

Focal Height of Light: 32.81 Ft.

Buoy Beam or Diameter: 10.50 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated Spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 375mm Electric lantern

Sound Equipment: none

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Stl. chain or univer

Sinker Size: 0 Lbs.

Topmark Type: Opt.Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM, swift current

Nominal Visual Range of Daymark: 3.6 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 4.0 Kts.

Mooring Depth: Minimum: 100 Ft.  
Maximum: 200 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:        \$0  
                 Preparation:            \$0  
                 Monthly Servicing:      \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to a pile beacon but cheaper and easier to install, maintain and move.

Stability Notes:

## General Notes

Recommended max. wind speed: 58 knots; recommended max. wave height: 10 feet. Less vulnerable to collision damage than a pile structure.

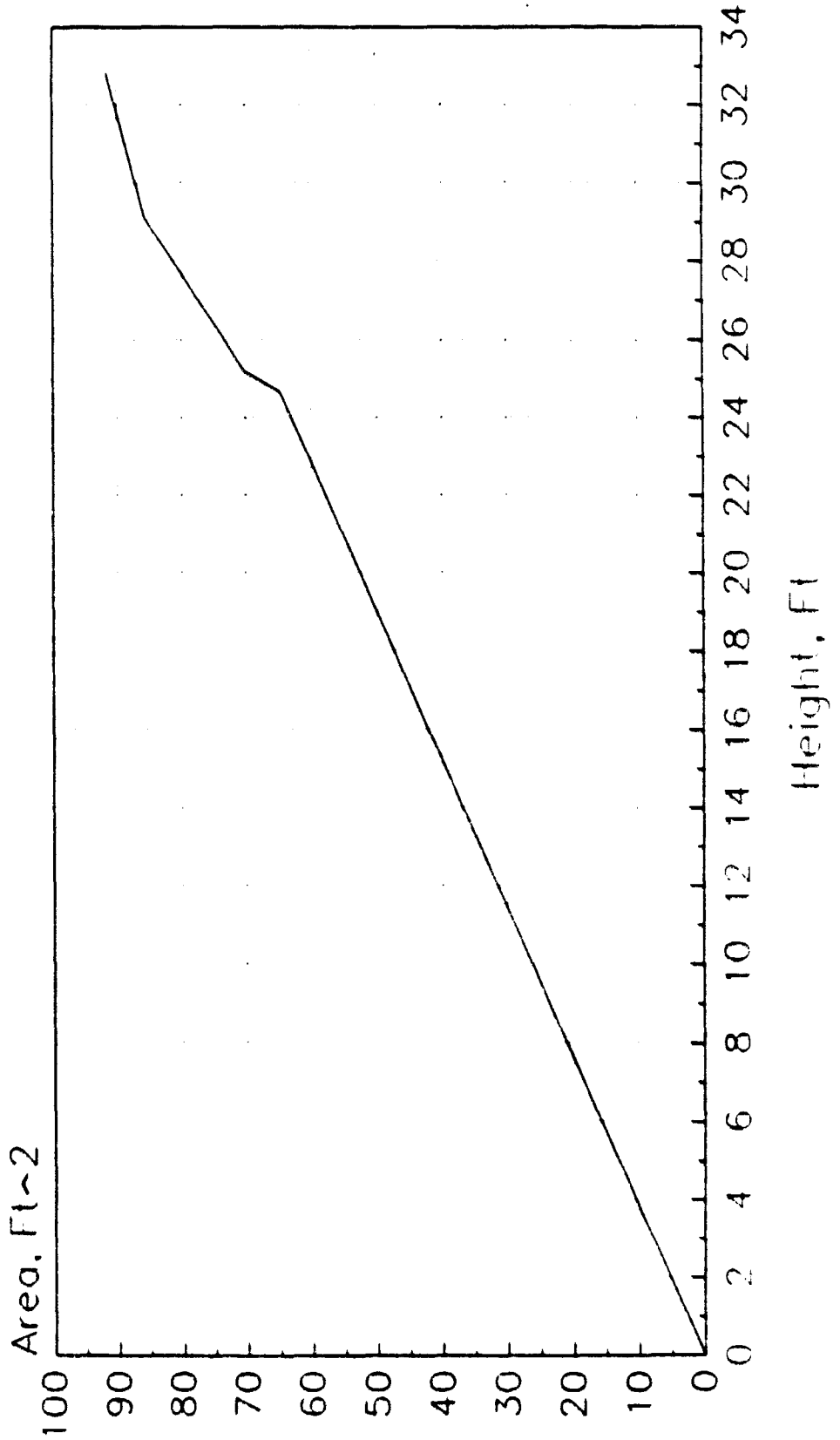
Manufacturers:                            Zeni Lite Buoy Co

Source of Design:                         Zeni Lite Buoy Co

Drawing Reference:                        Japan MFG 3-1 & 3-4

# ZSB-320 (10.5 x 133 LSR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZSB-60 (2.0 x 24 LS)

Country of Use: Japan MFG 3

Function: Lighted articulated spar, for protected  
narrow channels and precise position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 220 Lbs.

Buoy Draft: 15.30 Ft.

Overall Buoy Length: 23.95 Ft.

Focal Height of Light: 8.20 Ft.

Buoy Beam or Diameter: 1.97 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 50mm Electric lantern

Sound Equipment: none

Other Payload: none

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.866 In.  
Type: Steel Chain or Univ.

Sinker Size: 2,210 Lbs.

Topmark Type: Opt.Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM

Nominal Visual Range of Daymark: 1.2 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.5 Kts.

Mooring Depth: Minimum: 16 Ft.  
Maximum: 33 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost: Replacement: \$0  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

## Special Features:

Similar performance to pile beacon but cheaper and easier to install, maintain and move.

Stability Notes:

## General Notes

Recommended max wind speed: 39 knots; recommended max wave height: 3 feet. Less vulnerable to collision damage than pile structure.

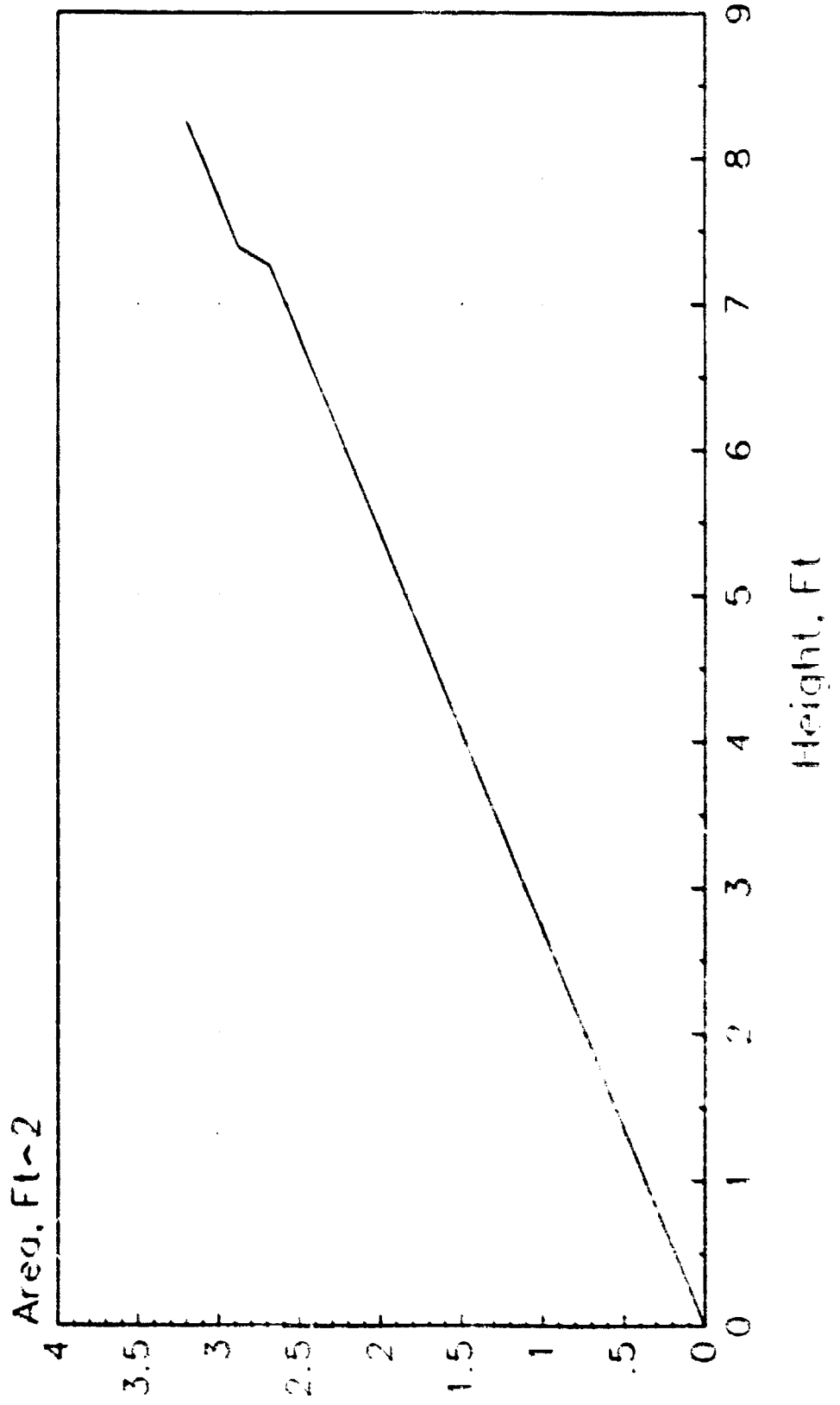
Manufacturers: Zeni Lite Buoy Co

Source of Design: Zeni Lite Buoy Co

Drawing Reference: Japan MFG 3-1 & 3-4

# ZSB-60 (2.0 x 24 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZSB-80 (2.6 x 24 LS)

Country of Use: Japan MFG 3

Function: Lighted articulated Spar, for protected narrow channels and precise position.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 573 Lbs.

Buoy Draft: 15.60 Ft.

Overall Buoy Length: 24.28 Ft.

Focal Height of Light: 8.20 Ft.

Buoy Beam or Diameter: 2.62 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled (fixed)

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Articulated spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: 85mm Electric lantern

Sound Equipment: None

Other Payload: None

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.866 In.  
Type: Stl.Chain or Univers

Sinker Size: 4,410 Lbs.

Topmark Type: Opt.Cardinal or Lat.

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM

Nominal Visual Range of Daymark: 1.2 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.5 Kts.

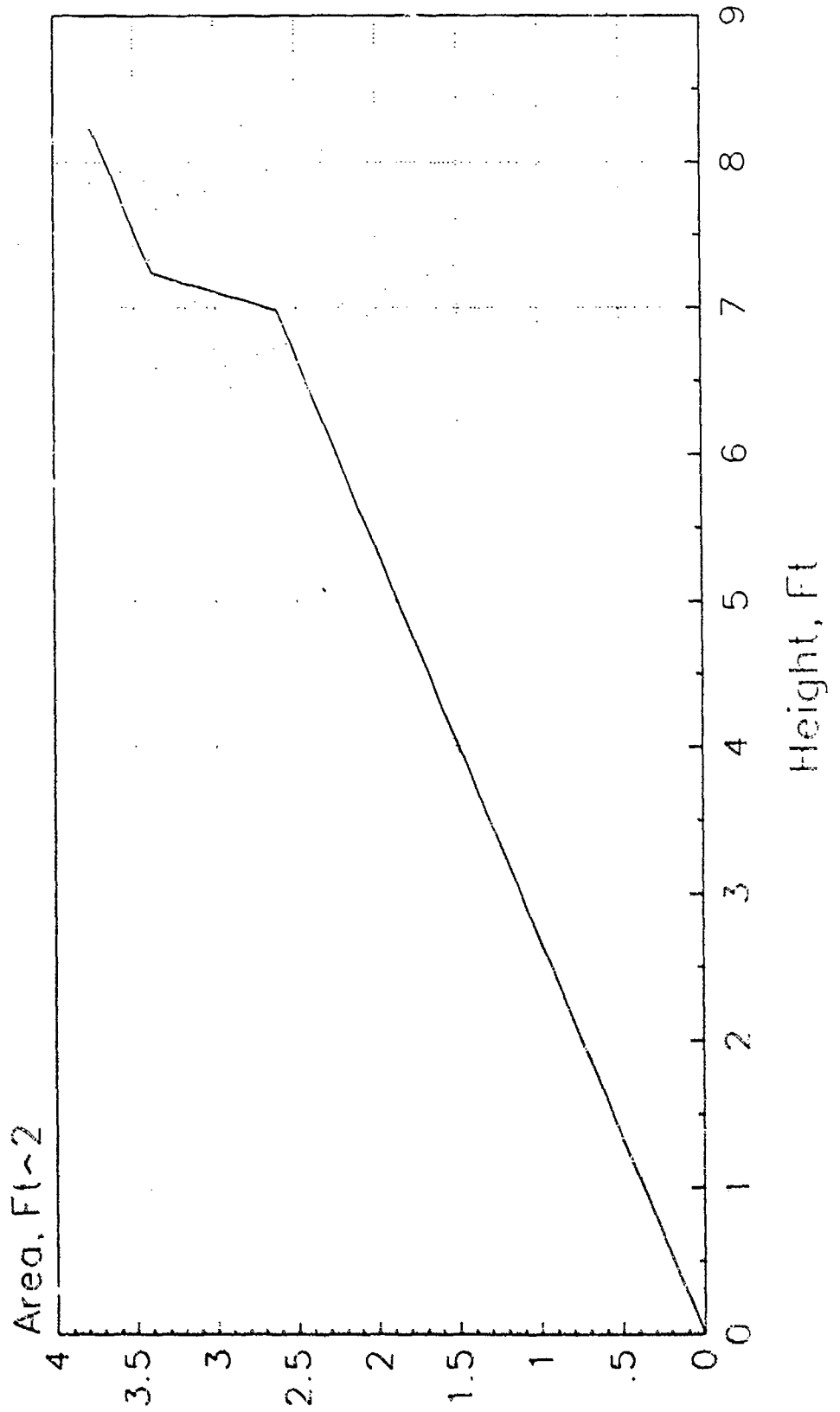
Mooring Depth: Minimum: 16 Ft.  
Maximum: 33 Ft.

Reflective Material Type:



# ZSB-80 (2.6 x 24 LS)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZWB-115 (3.7 x 18 L)

Country of Use: Japan MFG 3

Function: Lighted buoy, for high breaking wave conditions.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,455 Lbs.  
Buoy Draft: 7.48 Ft.  
Overall Buoy Length: 0.00 Ft.  
Focal Height of Light: 9.51 Ft.  
Buoy Beam or Diameter: 3.77 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 59 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron  
Coating/Coloring System:  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Primary batteries  
Lighting Equipment: Electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM, breaking waves  
Nominal Visual Range of Daymark: 1.7 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 8 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

<b>Cost:</b>	<b>Replacement:</b>	\$0
	<b>Preparation:</b>	\$0
	<b>Monthly Servicing:</b>	\$0

**Service Life:** 0.0 Yrs.

**Maintenance Interval:** 0 Mos.

**Maintenance Notes:**

**Special Features:**

Anti wave skirt below buoy body designed to reduce motions, giving better visibility.

**Stability Notes:**

**General Notes**

Buoy is designed to be submerged in breaking waves.

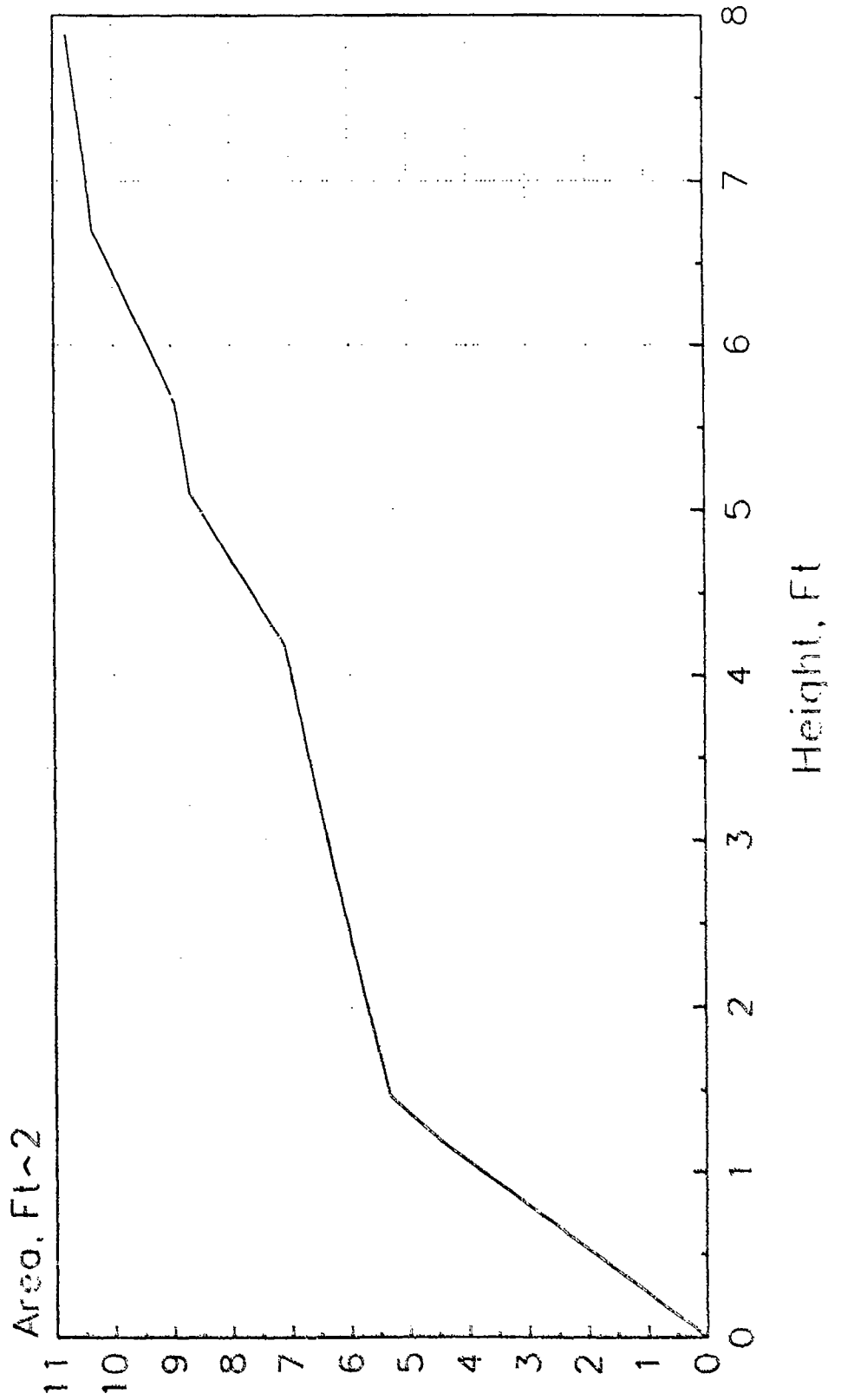
**Manufacturers:** Zeni Lite Buoy Co

**Source of Design:** Zeni Lite Buoy Co

**Drawing Reference:** Japan MFG 3-1 & 3-2

ZWB-115 (3.7 x 18 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZWB-120S (3.9 x 9 L)

Country of Use: Japan MFG 3

Function: Lighted buoy, for high breaking wave conditions.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 904 Lbs.  
Buoy Draft: 3.48 Ft.  
Overall Buoy Length: 0.00 Ft.  
Focal Height of Light: 4.59 Ft.  
Buoy Beam or Diameter: 3.94 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 65 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:  
Coating/Coloring System:  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Primary batteries  
Lighting Equipment: Electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM, breaking waves  
Nominal Visual Range of Daymark: 1.1 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

**ADDITIONAL DATA**

**Cost:**            **Replacement:**        **\$0**  
                  **Preparation:**         **\$0**  
                  **Monthly Servicing:**    **\$0**

**Service Life:**                    **0.0 Yrs.**

**Maintenance Interval:**            **0 Mos.**

**Maintenance Notes:**

**Special Features:**

Anti wave skirt below buoy body designed to reduce motions,  
giving better visibility.

**Stability Notes:****General Notes**

Buoy is designed to be submerged in breaking waves.

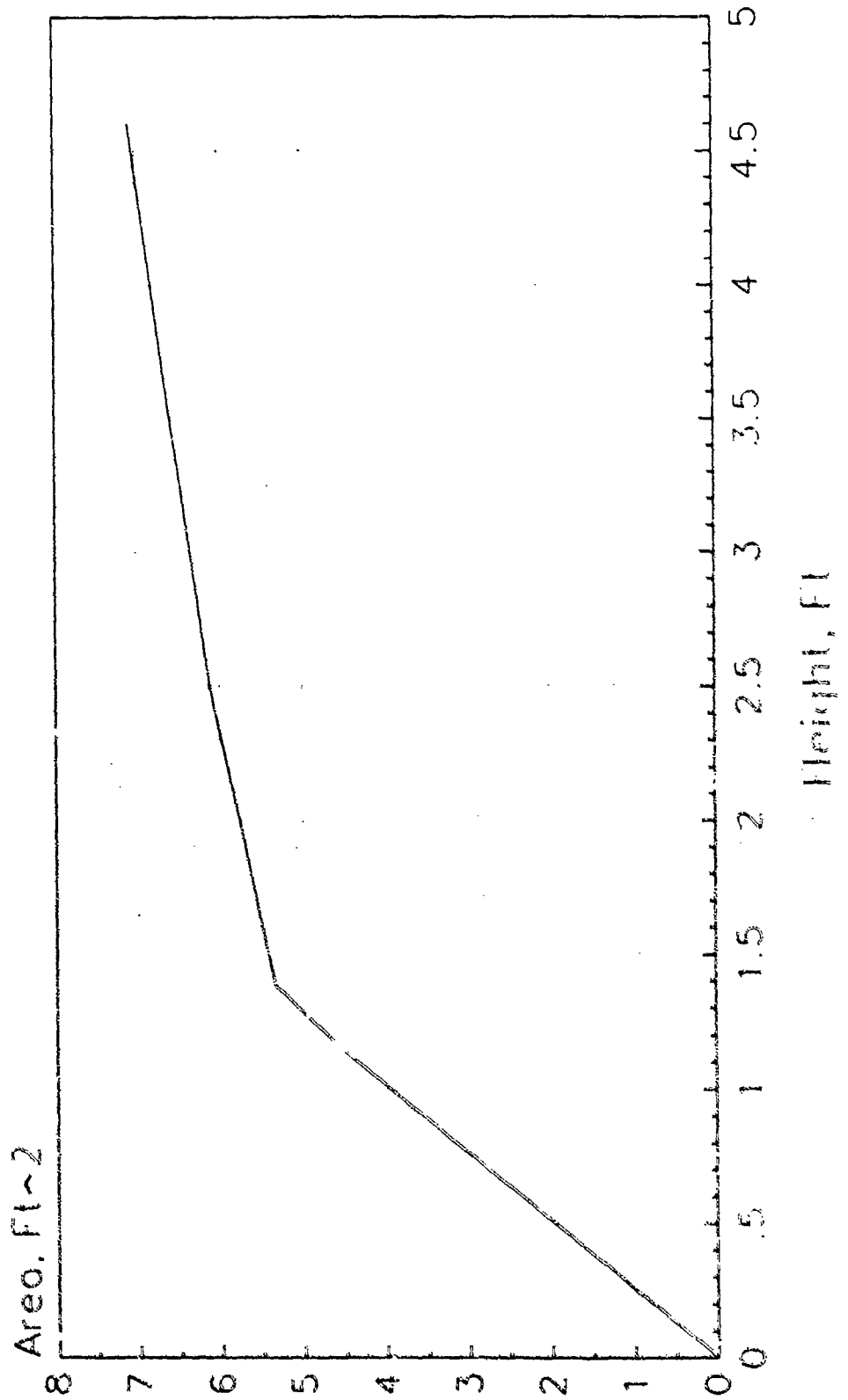
**Manufacturers:**                    **Zeni Lite Buoy Co**

**Source of Design:**                 **Zeni Lite Buoy Co**

**Drawing Reference:**                **Japan MFG 3-1 & 3-2**

ZWB-120S (3.9 x 9 L)

Cumulative Area



B-1017

## GENERAL INFORMATION

Name of Buoy: ZWB-130 (4.3 x 15 L)

Country of Use: Japan MFG 3

Function: Lighted buoy, for high breaking wave conditions.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,036 Lbs.  
Buoy Draft: 4.27 Ft.  
Overall Buoy Length: 0.00 Ft.  
Focal Height of Light: 10.17 Ft.  
Buoy Beam or Diameter: 4.27 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 76 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Aluminum Alloy  
Hull Filling :  
Tower : Aluminum Alloy  
Topmark :  
Counterweight:  
Coating/Coloring System:  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: Primary batteries  
Lighting Equipment: Electric lantern  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM, breaking waves  
Nominal Visual Range of Daymark: 1.8 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 5 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost: Replacement: \$0  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Anti-wave skirt below buoy body designed to reduce motions, giving better visibility.

Stability Notes:

General Notes

Buoy is designed to be submerged in breaking waves.

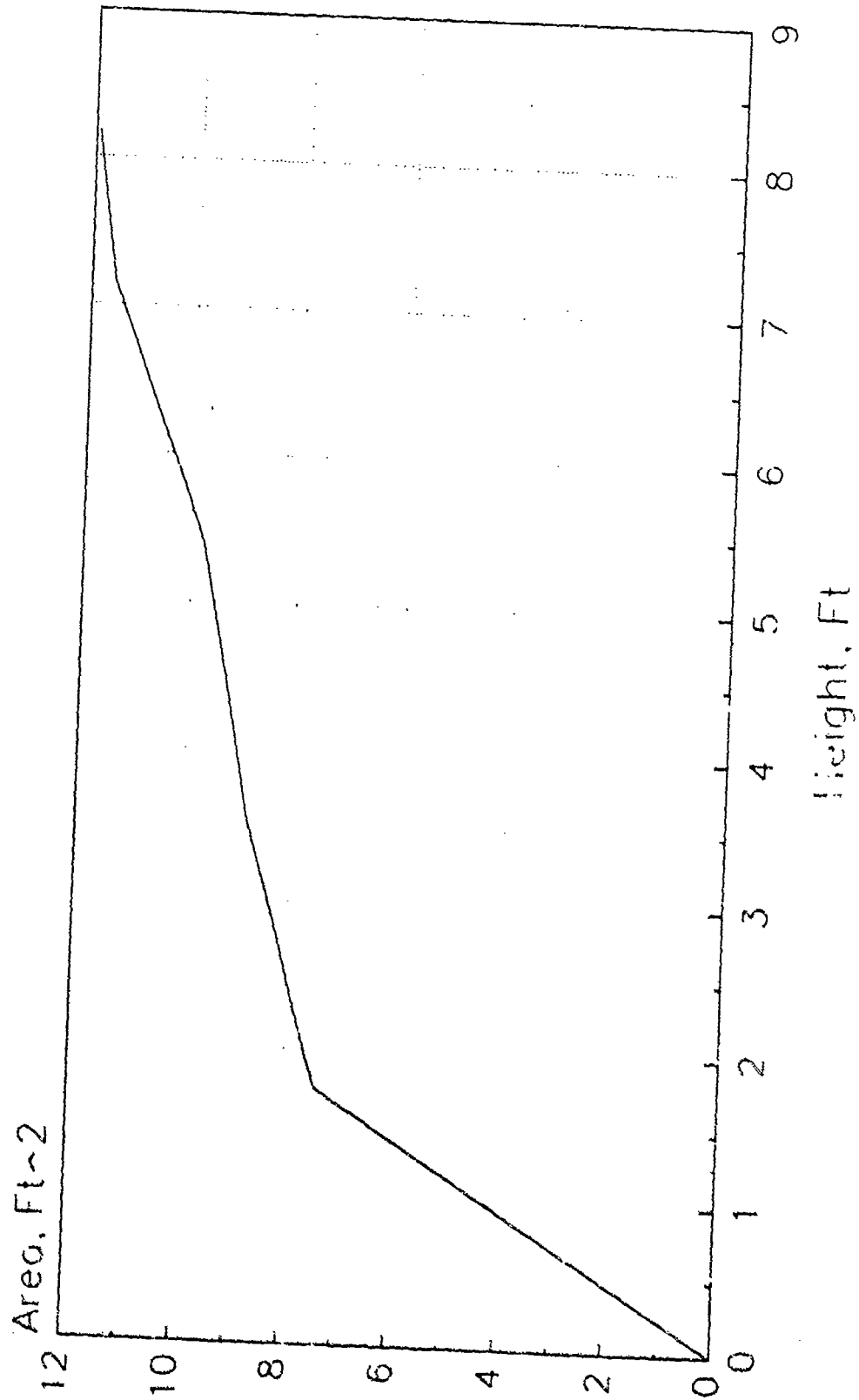
Manufacturers: Zeni Lite Buoy Co

Source of Design: Zeni Lite Buoy Co

Drawing Reference: Japan MFG 3-1 & 3-2

ZWB-130 (4.3 x 15 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZWB-160 (5.3 x 20 L)

Country of Use: Japan MFG 3

Function: Lighted buoy, for high breaking wave conditions.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 3,750 Lbs.

Buoy Draft: 6.59 Ft.

Overall Buoy Length: 0.00 Ft.

Focal Height of Light: 12.47 Ft.

Buoy Beam or Diameter: 5.25 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 116 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: Electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type: none

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM, breaking waves

Nominal Visual Range of Daymark: 2.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 7 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                   Replacement:     \$0  
                          Preparation:     \$0  
                          Monthly Servicing: \$0

Service Life:                               0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

## Special Features:

Anti wave skirt below buoy body designed to reduce motions,  
giving better visibility.

Stability Notes:

## General Notes

Buoy is designed to be submerged in breaking waves.

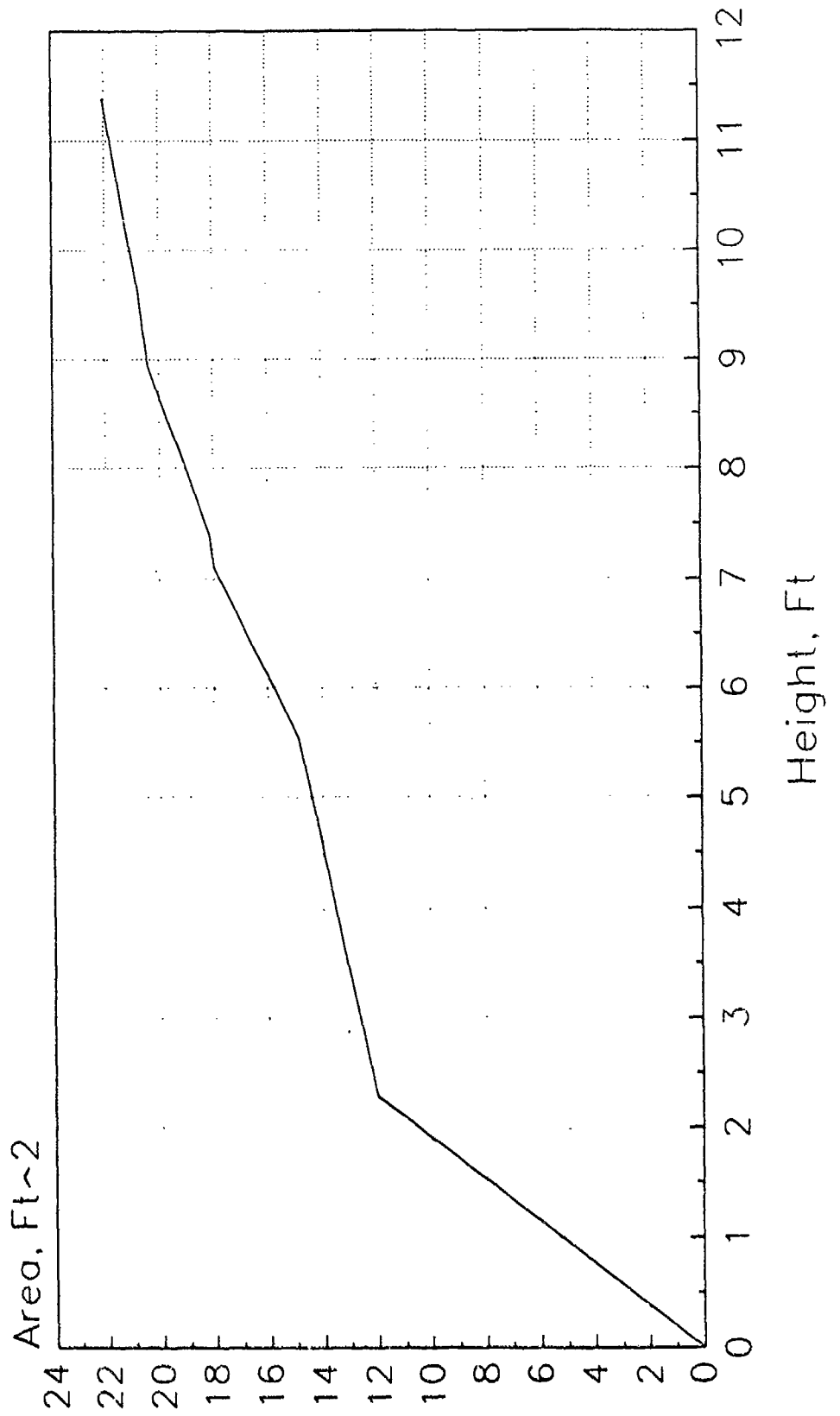
Manufacturers:                           Zeni Lite Buoy Co

Source of Design:                        Zeni Lite Buoy Co

Drawing Reference:                       Japan MFG 3-1 & 3-2

ZWB-160 (5.3 x 20 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ZWB-250 (8.2 x 30 L)

Country of Use: Japan MFG 3

Function: Lighted buoy, for high breaking wave conditions.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 7,950 Lbs.  
Buoy Draft: 9.97 Ft.  
Overall Buoy Length: 0.00 Ft.  
Focal Height of Light: 18.70 Ft.  
Buoy Beam or Diameter: 8.20 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 282 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel & Aluminum  
Hull Filling :  
Tower : Steel & Aluminum  
Topmark :  
Counterweight:  
Coating/Coloring System:  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Primary batteries

Lighting Equipment: Electric lantern

Sound Equipment: none

Other Payload: Optional radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type: none

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM, breaking waves

Nominal Visual Range of Daymark: 3.0 Nmi

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 10 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Anti-wave skirt below buoy body designed to reduce motions,  
giving better visibility.

Stability Notes:

General Notes

Buoy is designed to be submerged in breaking waves.

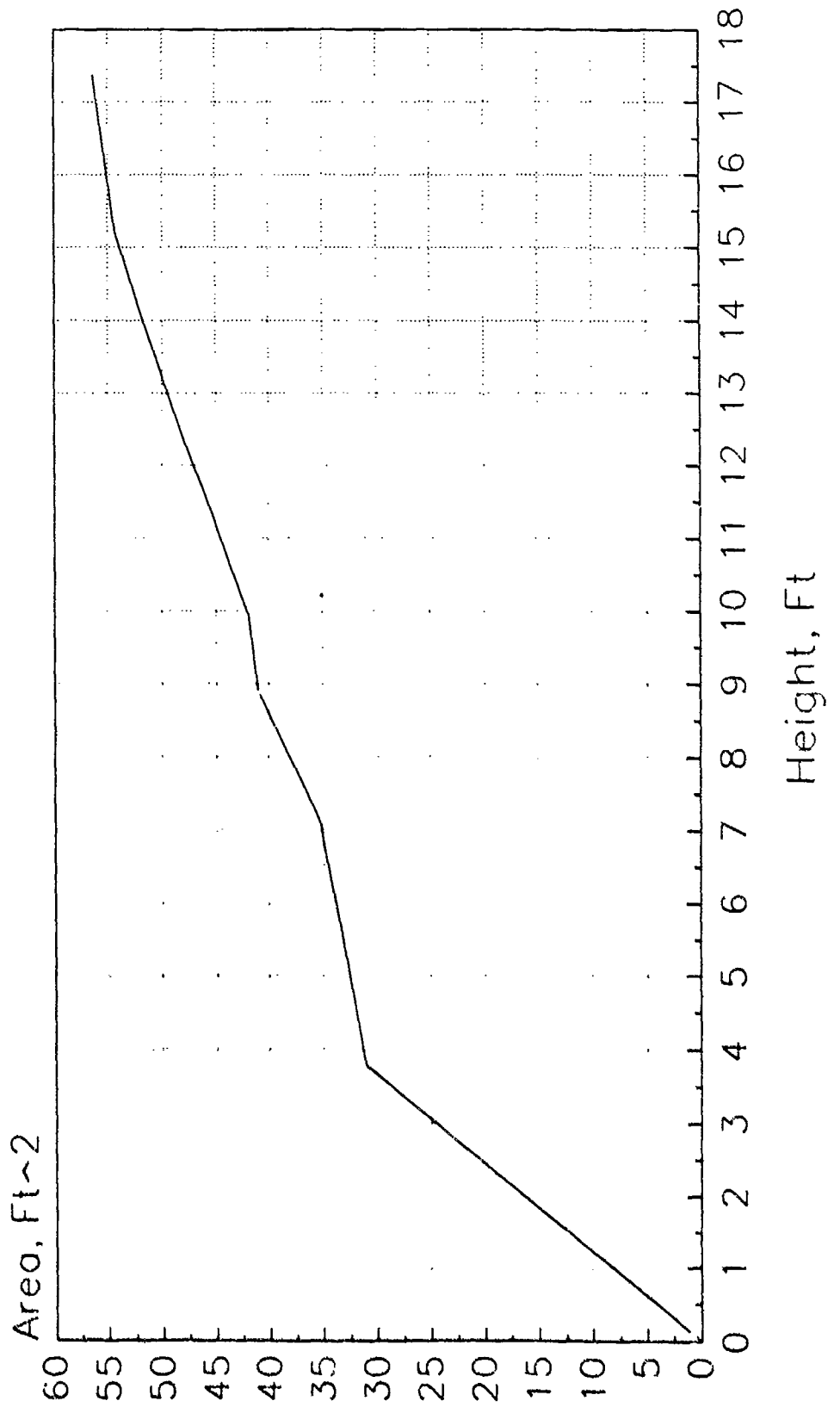
Manufacturers:                                Zeni Lite Buoy Co

Source of Design:                              Zeni Lite Buoy Co

Drawing Reference:                            Japan MFG 3-1 & 3-2

# ZWB-250 (8.2 x 30 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 12.5M3 Light buoy (10.5x19 LR)

Country of Use: Netherlands

Function: Lighted offshore buoy

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 11,025 Lbs.  
Buoy Draft: 4.76 Ft.  
Overall Buoy Length: 19.30 Ft.  
Focal Height of Light: 13.61 Ft.  
Buoy Beam or Diameter: 10.50 Ft.  
Freeboard: No Mooring: 3.30 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 463 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:  
Coating/Coloring System: Epoxy Coating  
Subdivision:  
Hull Type: Cylind., skirt keel  
Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 10  
Type of Power Sources: AC delco 160Ah bat./AD810solar  
Lighting Equipment: ML 140 electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 32.3 Sq. Ft.  
Bridle Size: Chain Size: 1.260 In.  
Length : 15.7 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinker Size: 6,615 Lbs.  
Topmark Type: Various Card.or Lat.  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM, Northsea  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 2.0 Kts.  
Mooring Depth: Minimum: 18 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: 600mm Octaedew

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0
Service Life:		0.0 Yrs.
Maintenance Interval:		24 Mos.
Maintenance Notes:		

Special Features:

Stability Notes:

General Notes

Manufacturers:	Genius Fabricage BV
Source of Design:	DGSM
Drawing Reference:	Netherlands 1 & 3

## GENERAL INFORMATION

Name of Buoy: 6.5M3 Light buoy (8.4x17 LR)

Country of Use: Netherlands

Function: Lighted buoy for semi-protected and inshore waters.

Date Of Last Update For This Record: 07/30/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 8,820 Lbs.  
Buoy Draft: 4.92 Ft.  
Overall Buoy Length: 17.39 Ft.  
Focal Height of Light: 11.91 Ft.  
Buoy Beam or Diameter: 8.40 Ft.  
Freeboard: No Mooring: 2.13 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 296 Lbs.  
Metacentric Height: 1.15 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:  
Coating/Coloring System: Epoxy coating  
Subdivision:  
Hull Type: Cylind., skirt keel  
Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 40  
Type of Power Sources: AC delco 160Ah batAD810 solar  
Lighting Equipment: MF 140 electric lantern  
Sound Equipment: none  
Other Payload: Radar reflector  
Daymark Area: 26.9 Sq. Ft.  
Bridle Size: Chain Size: 1.142 In.  
Length : 15.2 Ft.  
Mooring Line: Size: 1.142 In.  
Type: Steel chain  
Sinker Size: 4,410 Lbs.  
Topmark Type: Various Card.or Lat.  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 2.0 Kts.  
Mooring Depth: Minimum: 18 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: 600mm Ocetaedew

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0
Service Life:		0.0 Yrs.
Maintenance Interval:		24 Mos.
Maintenance Notes:		

Special Features:

Stability Notes:

General Notes

Manufacturers:	Genius Fabricage BV
Source of Design:	DGSM
Drawing Reference:	Hol 2 & 3

## GENERAL INFORMATION

Name of Buoy: Solar Buoy Type SW160EZ

Country of Use: Netherlands MFG-1

Function: For use in shallow navigable waterways.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	1,654 Lbs.
Buoy Draft:	1.64 Ft.
Overall Buoy Length:	9.84 Ft.
Focal Height of Light:	8.20 Ft.
Buoy Beam or Diameter:	5.25 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	112 Lbs.
Metacentric Height:	0.76 Ft.
Reserve Buoyancy:	1,102 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Steel Counterweight:
Coating/Coloring System:	Epoxy Coating
Subdivision:	
Hull Type:	Cylindrical
Counterweight Type:	Skirt Keel

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: SolarPnl 12v140w, Bat.12v600a/h  
Lighting Equipment: Lantern EE250 P-LC  
Sound Equipment:  
Other Payload: Radar Reflector SR6-500  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.906 In.  
Type: Steel Chain  
Sinker Size: 2,205 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.0 Nmi.  
Radar Range: 3.8 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

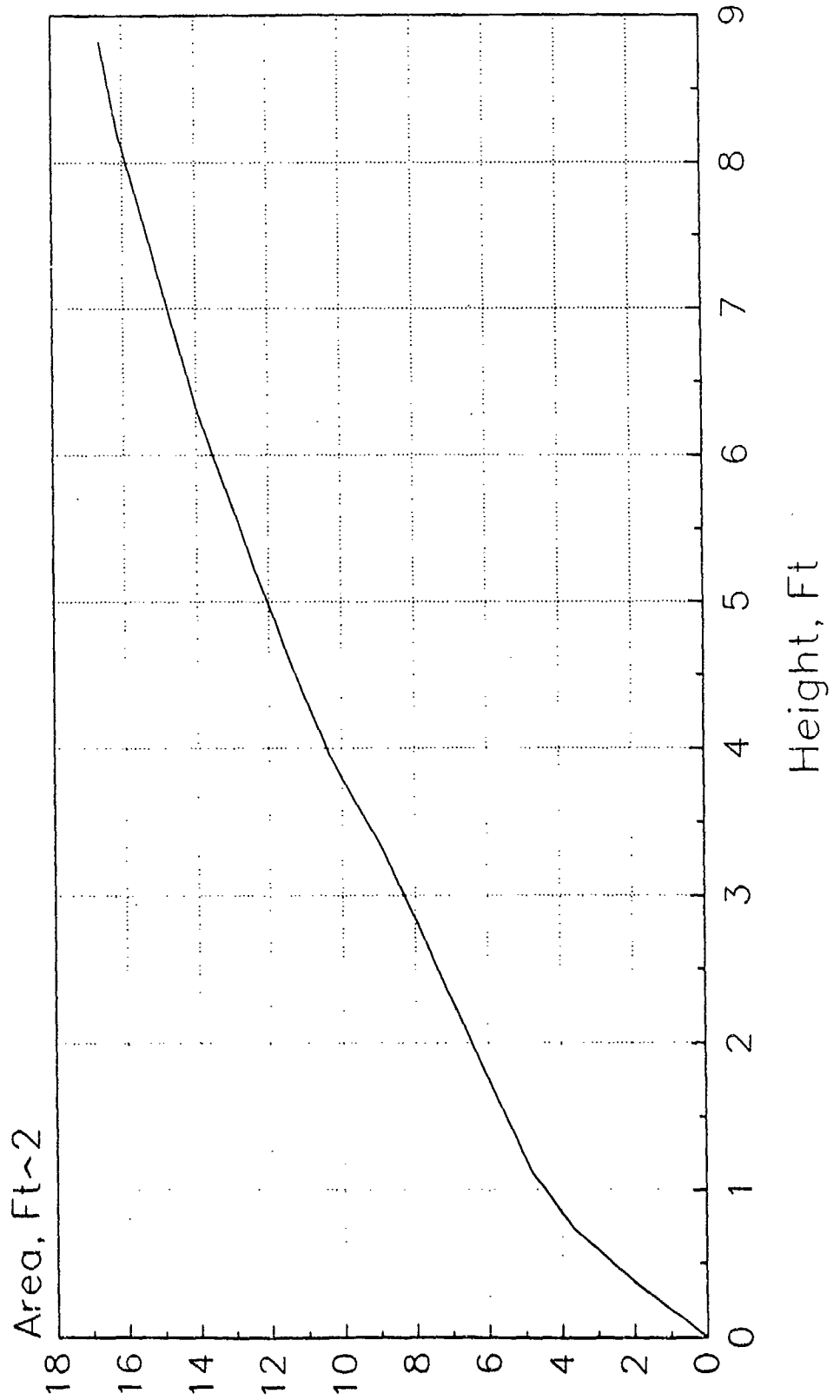
Manufacturers:                              Stromag/PintschBamag

Source of Design:                           Pintsch Bamag

Drawing Reference:                         Netherlands MFG 1-1

# Solar Buoy Type SW160EZ

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Solar Buoy Type SW180BZ  
Country of Use: Netherlands MFG-1  
Function: For use in shallow navigable waterways.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 6,460 Lbs.  
Buoy Draft: 6.56 Ft.  
Overall Buoy Length: 18.05 Ft.  
Focal Height of Light: 11.48 Ft.  
Buoy Beam or Diameter: 5.91 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 142 Lbs.  
Metacentric Height: 0.82 Ft.  
Reserve Buoyancy: 3,748 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark : Steel  
Counterweight: Cast Iron  
Coating/Coloring System: Epoxy Coating  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External Rings

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Solar Panels 12v60w  
Lighting Equipment: Lantern EE250 P-LC  
Sound Equipment:  
Other Payload: Radar Reflector SR6-500  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.024 In.  
Type: Steel Chain  
Sinkers Size: 4,409 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.2 Nmi.  
Radar Range: 4.7 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

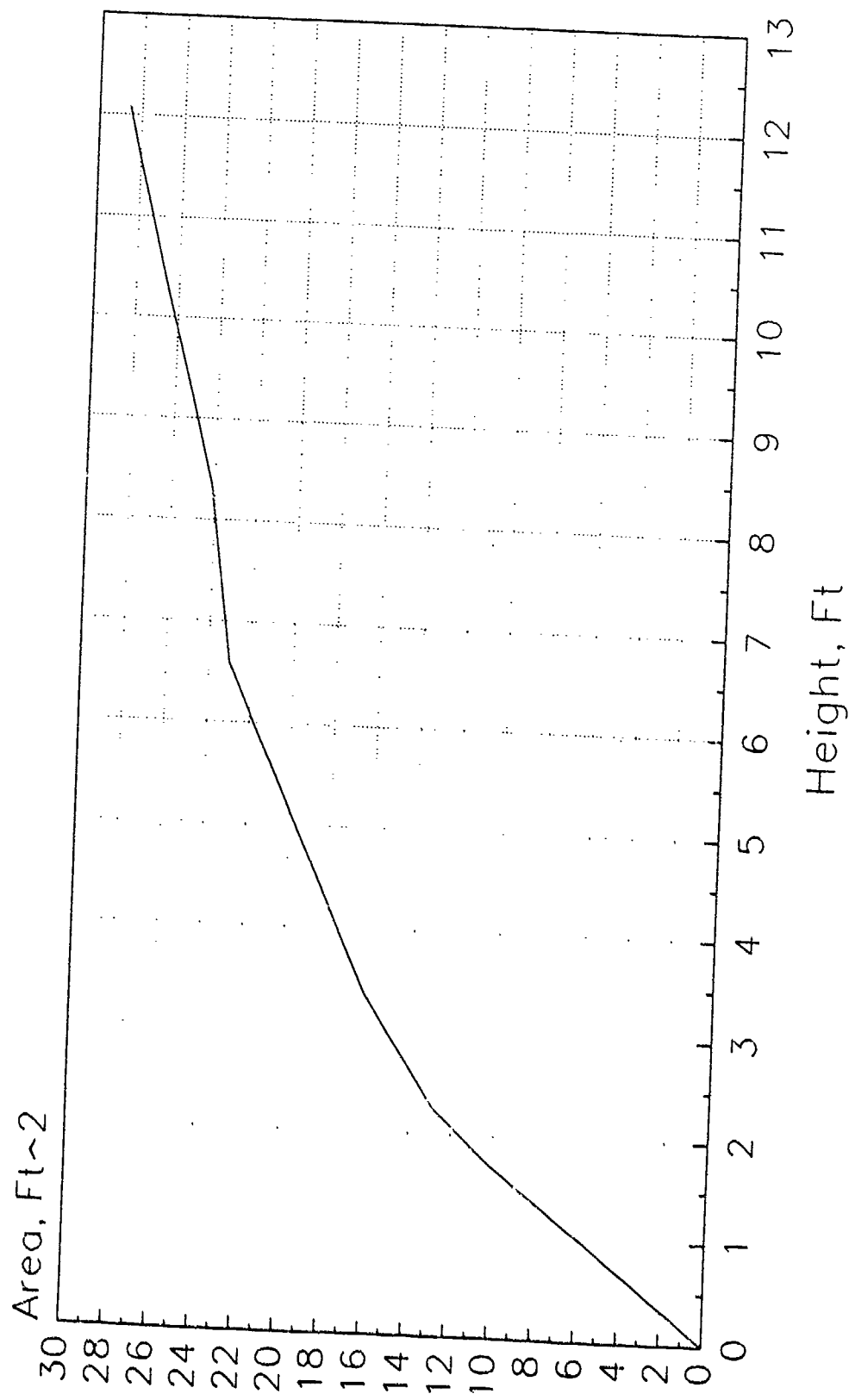
Manufacturers:                                Stromag/PintschBamag

Source of Design:                              Pintsch Bamag

Drawing Reference:                            Netherlands MFG 1-2

# Solar Buoy Type SW180BZ

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Solar Buoy Type SW200EZ

Country of Use: Netherlands MFG-1

Function: For use in shallow navigable waters.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 5,732 Lbs.

Buoy Draft: 6.23 Ft.

Overall Buoy Length: 16.08 Ft.

Focal Height of Light: 9.84 Ft.

Buoy Beam or Diameter: 6.56 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 175 Lbs.

Metacentric Height: 0.76 Ft.

Reserve Buoyancy: 3,968 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark : Steel  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy Coating

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External Ring

## RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: SolarPnl 12v60w,Batt.12v600a/h

Lighting Equipment: Lantern EE250 250 P-LC

Sound Equipment:

Other Payload: Radar Reflector SR6-500

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 1.024 In.  
Type: Steel Chain

Sinker Size: 4,409 Lbs.

Topmark Type: Lateral

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM/PM

Nominal Visual Range of Daymark: 2.0 Nmi.

Radar Range: 4.5 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

ADDITIONAL DATA

Cost:                   Replacement:       \$0  
                          Preparation:       \$0  
                          Monthly Servicing: \$0

Service Life:                               0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

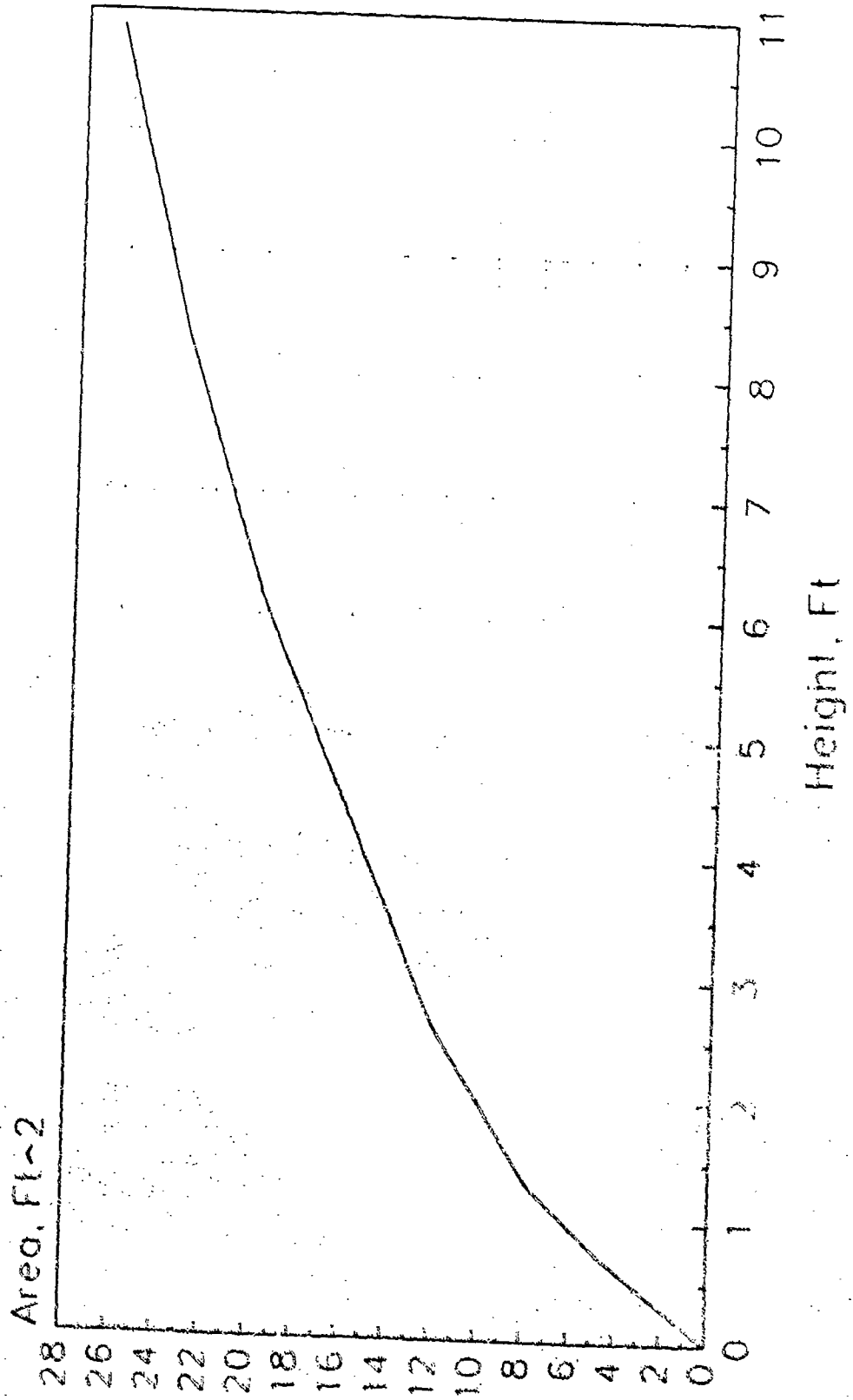
General Notes

Radar reflector is omnidirectional.

Manufacturers:                           Stromag/PintschBamag  
Source of Design:                        Pintsch Bamag  
Drawing Reference:                        Netherlands MFG 1-3

# Solar Buoy Type SW200EZ

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Solar Buoy Type SW220EZ

Country of Use: Netherlands MFG-1

Function: For use in shallow navigable waterways.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	8,708 Lbs.
Buoy Draft:	6.89 Ft.
Overall Buoy Length:	18.37 Ft.
Focal Height of Light:	11.48 Ft.
Buoy Beam or Diameter:	7.22 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	212 Lbs.
Metacentric Height:	0.92 Ft.
Reserve Buoyancy:	5,953 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Steel Counterweight: Cast Iron
Coating/Coloring System:	Epoxy Coating
Subdivision:	
Hull Type:	Cylindrical
Counterweight Type:	External Rings

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Solar Panel 12v60w  
Lighting Equipment: Lantern EE100P  
Sound Equipment:  
Other Payload: Radar Reflector SR6-500  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.181 In.  
Type: Steel Chain  
Sinker Size: 6,614 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 1.9 Nmi.  
Radar Range: 4.3 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0
Service Life:		0.0 Yrs.
Maintenance Interval:		0 Mos.
Maintenance Notes:		

Special Features:

Stability Notes:

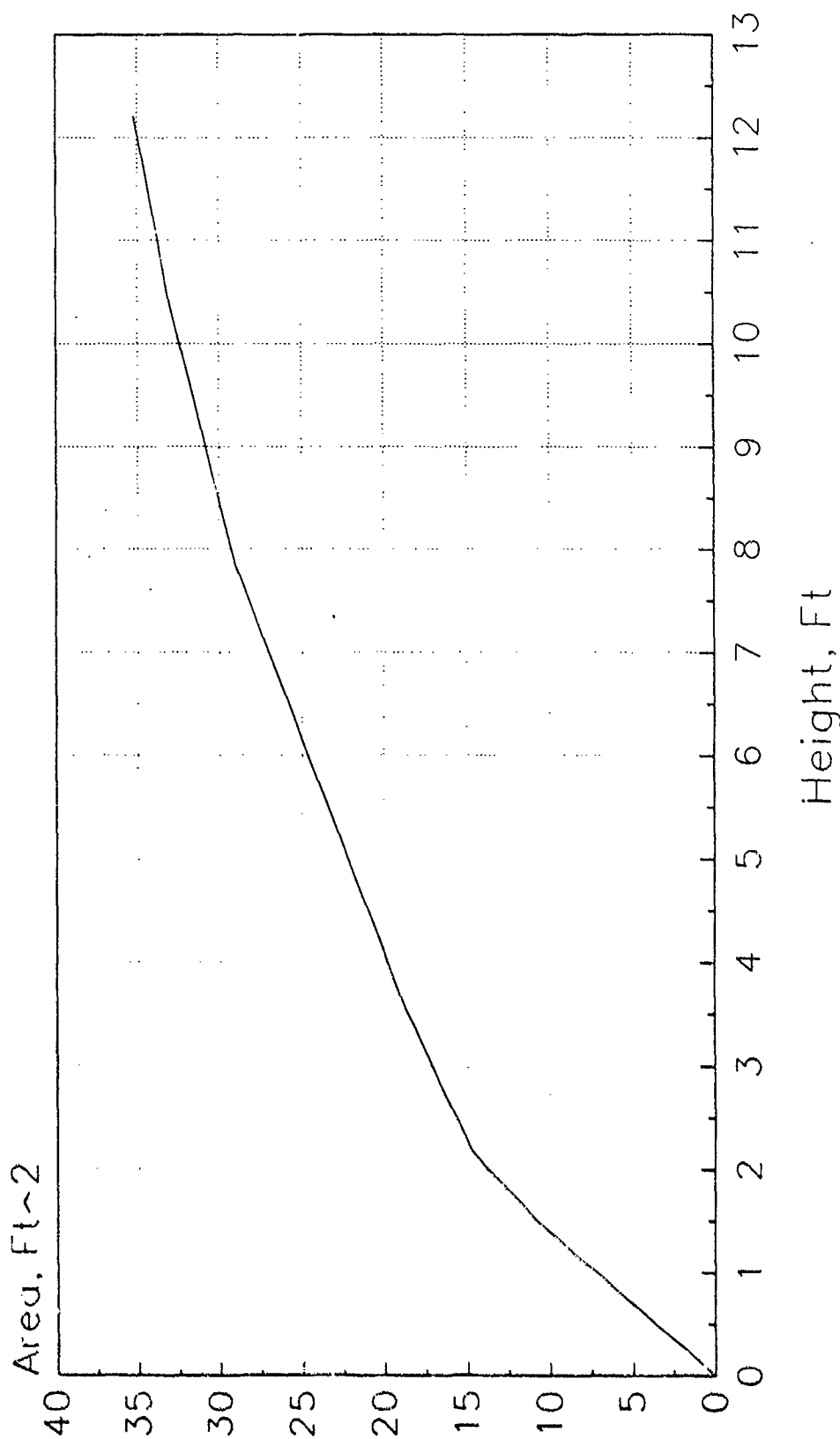
General Notes

Radar reflector is omnidirectional.

Manufacturers:	Stromag/PintschBamag
Source of Design:	Pintsch Bamag
Drawing Reference:	Netherlands MFG 1-4

# Solar Buoy Type SW220EZ

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Solar Buoy Type SW260EZ

Country of Use: Netherlands MFG-1

Function: For use in shallow navigable waterways.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 10,362 Lbs.  
Buoy Draft: 6.23 Ft.  
Overall Buoy Length: 21.33 Ft.  
Focal Height of Light: 15.09 Ft.  
Buoy Beam or Diameter: 8.53 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 296 Lbs.  
Metacentric Height: 1.12 Ft.  
Reserve Buoyancy: 8,334 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark : Steel  
Counterweight: Cast Iron  
Coating/Coloring System: Epoxy Coating  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External Rings

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Solar Panel 12v60w  
Lighting Equipment: Lantern EE100P  
Sound Equipment:  
Other Payload: Radar Reflector SR6-500  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.181 In.  
Type: Steel Chain  
Sinkers Size: 8,819 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.5 Nmi.  
Radar Range: 4.8 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Radar reflector is omnidirectional.

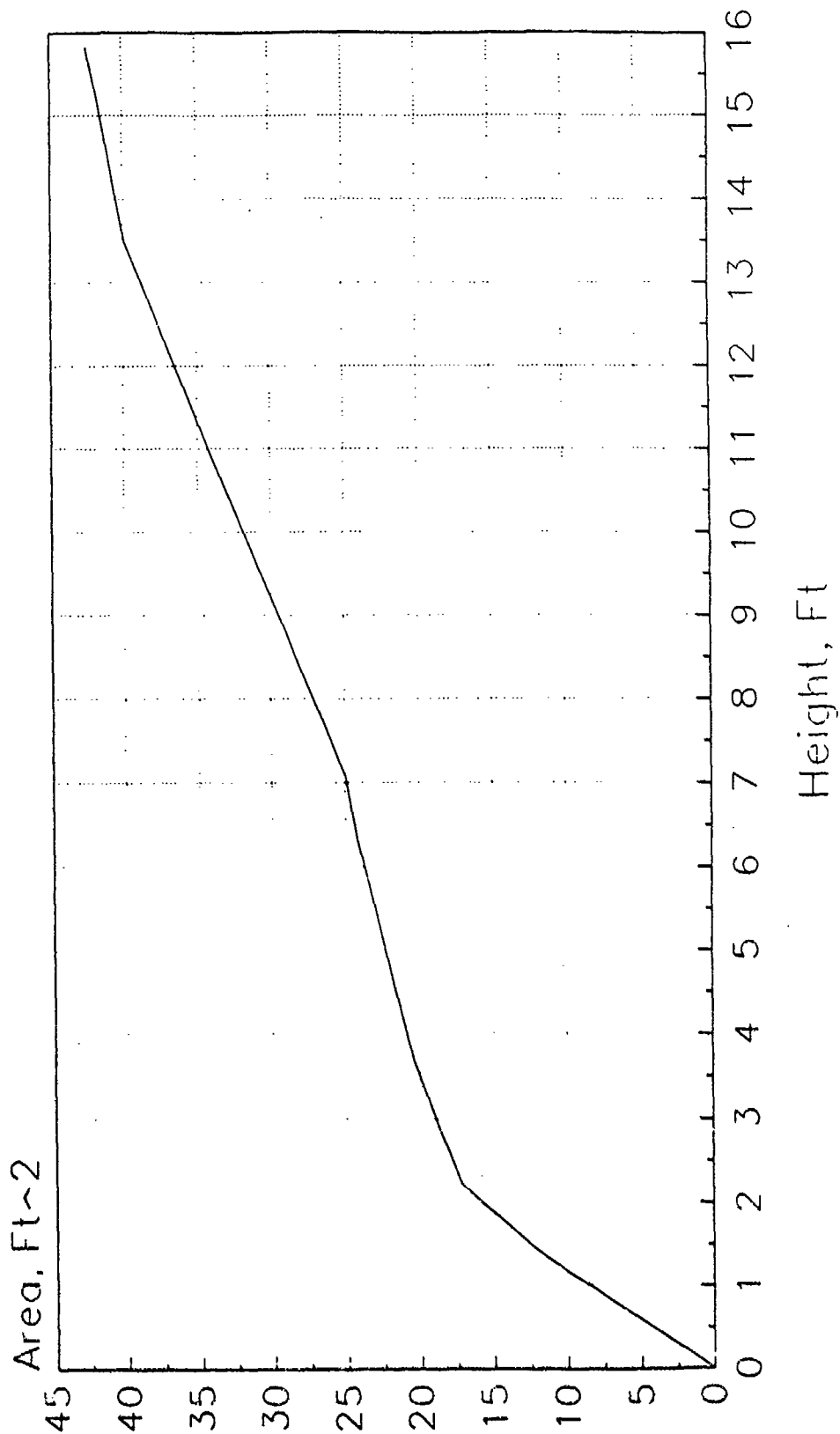
Manufacturers:                                Stromag/PintschBamag

Source of Design:                              Pintsch Bamag

Drawing Reference:                            Netherlands MFG 1-5

# Solar Buoy Type SW260EZ

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ALL WEATHER DUTY BUOY

Country of Use: Netherlands Mfg-2

Function: A steel buoy for use in ice conditions  
with or without light.

Date Of Last Update For This Record: 01/24/91

## PHYSICAL CHARACTERISTICS

Buoy Weight:	0 Lbs.
Buoy Draft:	8.10 Ft.
Overall Buoy Length:	16.34 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	6.56 Ft.
Freeboard	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	0 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight:
Coating/Coloring System:	Special ice resistant coating
Subdivision:	3 WT. Compts.
Hull Type:	Conical-top & bottom
Counterweight Type:	

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: PM-318 battery  
Lighting Equipment: 10 w light, LBA 85 lens  
Sound Equipment:  
Other Payload: Radar Reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.142 In.  
Type: Open Link Chain  
Sinker Size: 11,000 Lbs.  
Topmark Type: IALA (SS Holder)  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: EM/SM/PM, Ice&FastWtr  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 3.0 Nmi.  
Maximum Current: 6.0 Kts.  
Mooring Depth Minimum: 0 Ft.  
Maximum: 115 Ft.  
Reflective Material Type: Integral radar reflector

## ADDITIONAL DATA

Cost:                    Replacement: \$24,300  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:        0 Mos.

Maintenance Notes:

## Special Features:

- \* Stabilizing fin
- \* Lantern & radar reflector are covered in an ice resistant cage.

## Stability Notes:

Waterline below max. dia. creating additional buoyancy to withstand overturning by ice, etc.

## General Notes

- \* A series of buoys ranging in diameter from 5.25 ft to 11.80 ft are under development.
- \* Prototype model tested.

Manufacturers:                    All Marine

Source of Design:                All Marine

Drawing Reference:               Netherlands Mfg 2-1

## GENERAL INFORMATION

Name of Buoy: F-180/B-50 Lighted Steel Buoy

Country of Use: Norway

Function: This is the typical steel buoy used by the Norwegian Coast Directorate in marking waterways for guidance in mariners.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	3,197 Lbs.
Buoy Draft:	11.16 Ft.
Overall Buoy Length:	22.97 Ft.
Focal Height of Light:	11.81 Ft.
Buoy Beam or Diameter:	5.25 Ft.
Freeboard:	No Mooring: 4.92 Ft. Minimum: 1.97 Ft.
Pounds Per Inch Immersion:	0 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Steel Counterweight: Cast Steel
Coating/Coloring System:	Primers and Coloring
Subdivision:	One Compartment
Hull Type:	Can/Nun
Counterweight Type:	External rings

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell Battery  
Lighting Equipment: AGA LBEA 85 (electric lantern)  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 91.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.500 In.  
Type: Long Link Chain  
Sinkers Size: 5,512 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment:  
Nominal Visual Range of Daymark: 2.3 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 16 Ft.  
Maximum: 49 Ft.  
Reflective Material Type: Scotchlite Hi

ADDITIONAL DATA

Cost:                      Replacement: \$25,000  
                                Preparation:         \$0  
                                Monthly Servicing:     \$0

Service Life:                      20.0 Yrs.

Maintenance Interval:              12 Mos.

Maintenance Notes:

    Buoy replaced - mooring inspected only in case of damage.  
    Only minor/replacements on site.

Special Features:

Stability Notes:

General Notes

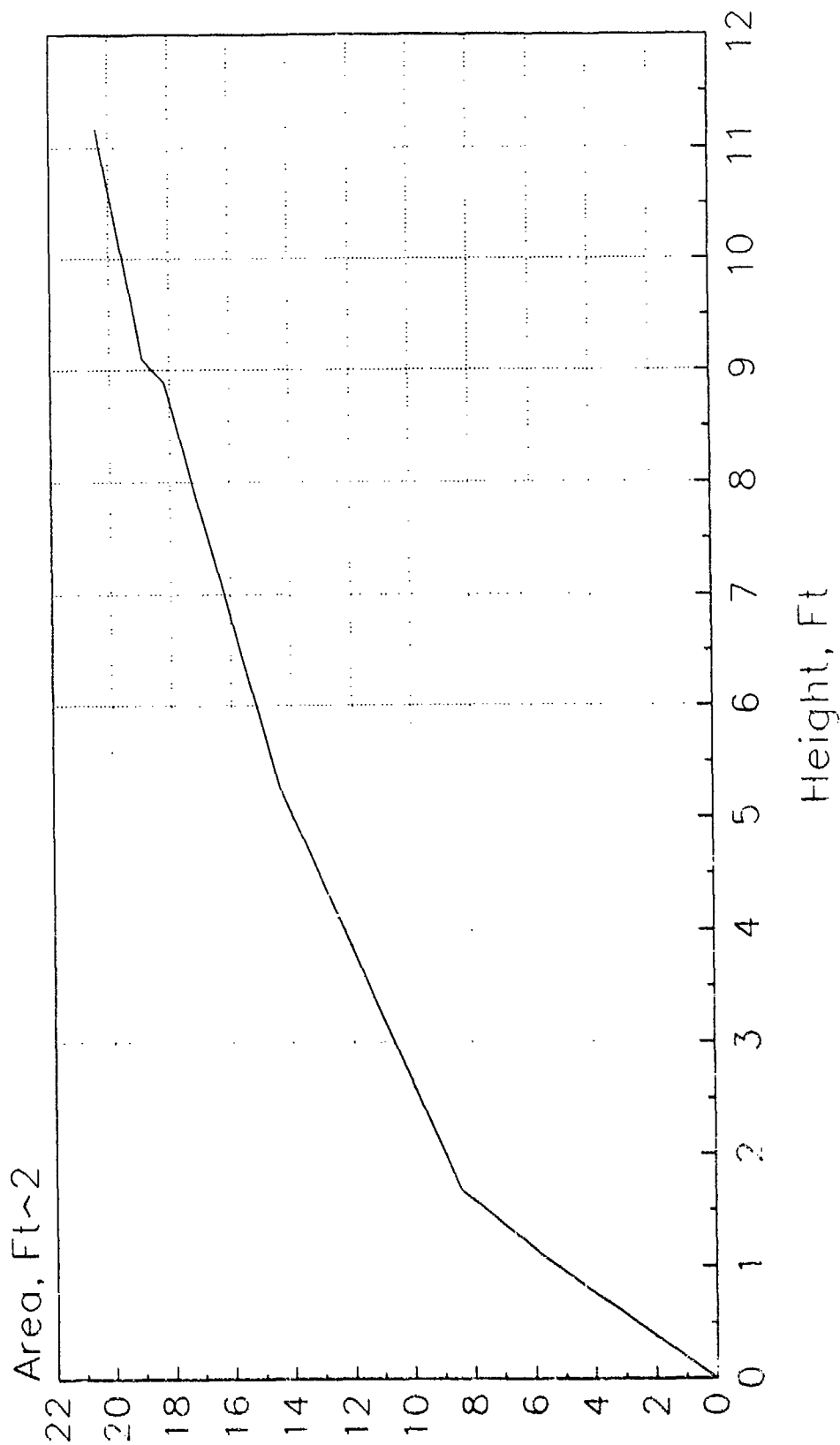
Manufacturers:

Source of Design:                      Coast Directorate

Drawing Reference:                      Norway - 5

# F-180/B50 Type Lighted Steel Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Seawater Battery Powered Buoy

Country of Use: Norway

Function: Special buoy developed by Alcatel for the Norwegian Coast Directorate to test the novel seawater battery application to light buoys.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 19.00 Ft.

Overall Buoy Length: 29.53 Ft.

Focal Height of Light: 9.50 Ft.

Buoy Beam or Diameter: 7.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell :  
Hull Filling :  
Tower :  
Topmark :  
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical/Conical

Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Seawater Batt & Secondary Batt  
Lighting Equipment: Pharos Marine Lantern LBEA-85  
Sound Equipment:  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type:  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM and PM  
Nominal Visual Range of Daymark: 2.3 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                   Replacement:         \$0  
                          Preparation:         \$0  
                  Monthly Servicing:         \$0

Service Life:                             0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

    Prototype tests showed that more than two years of continuous operation without battery power is possible

Special Features:

    The seawater battery is secured to a heavy steel plate with a larger diameter than the battery to protect it against the mooring chain.

Stability Notes:

General Notes

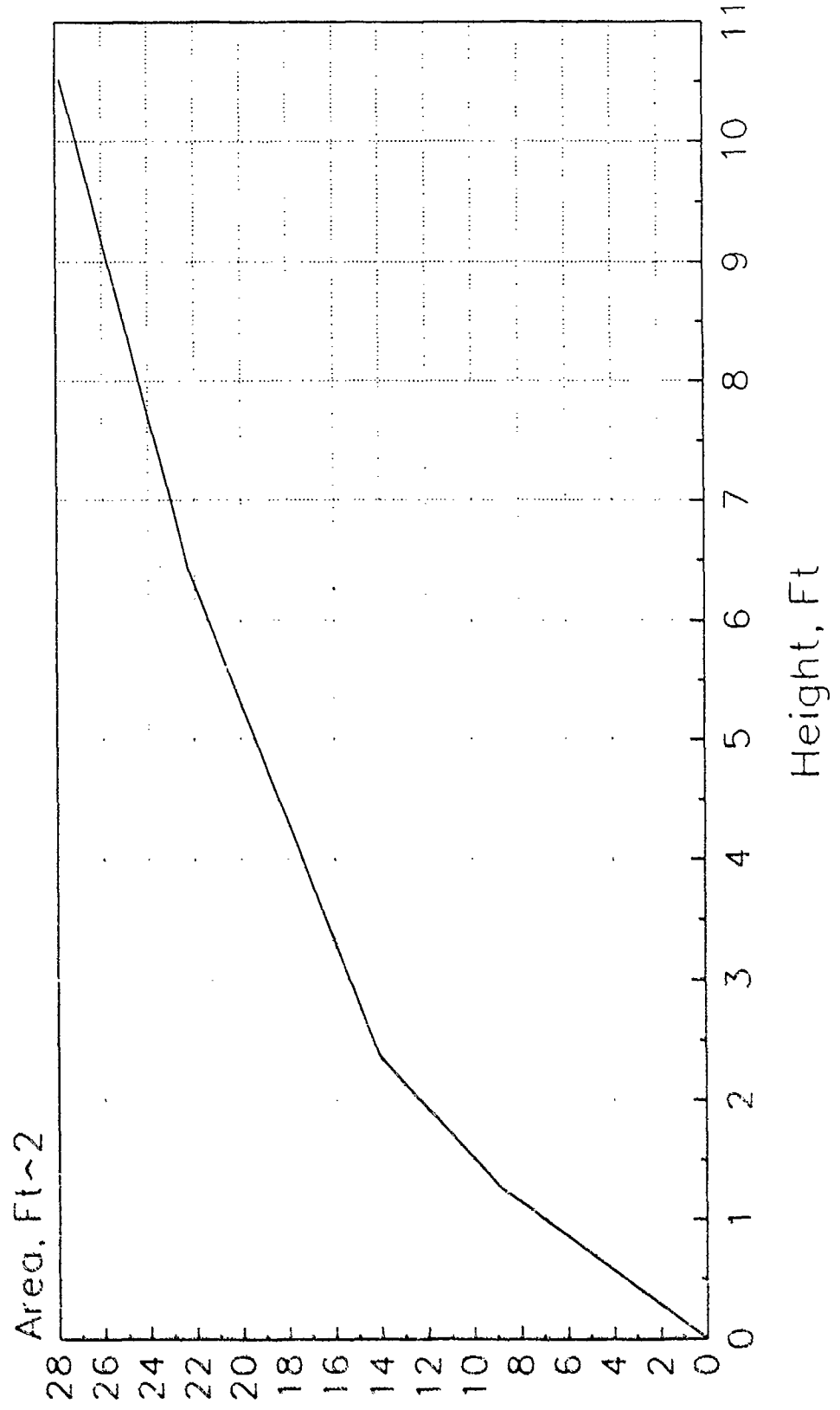
Manufacturers:                           Alcatel STK

Source of Design:                        Veritas Offshore Tec

Drawing Reference:                       Norway - 6

# Seawater Battery Powered Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Selco Type 26 Lighted Buoy

Country of Use: Norway

Function: A lighted buoy of fiberglass hull. Used by the Norwegian Coast Directorate in marking congested waterways for guidance to mariners.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,102 Lbs.  
Buoy Draft: 5.25 Ft.  
Overall Buoy Length: 13.12 Ft.  
Focal Height of Light: 7.87 Ft.  
Buoy Beam or Diameter: 3.28 Ft.  
Freeboard: No Mooring: 3.28 Ft.  
Minimum: 0.98 Ft.  
Pounds Per Inch Immersion: 0 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response:  
Construction Material: Hull Shell : Fiberglass  
Hull Filling : Plastic foam  
Tower : Fiberglass  
Topmark : Aluminum  
Counterweight: Steel  
Coating/Coloring System: Pigmented - IALA Coloring  
Subdivision: Hull Filled  
Hull Type: Can/Tube  
Counterweight Type: Internal

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell Battery  
Lighting Equipment: AGA LBEA83 (Electric Lantern)  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 19.2 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.000 In.  
Type: Long Link Chain  
Sinkers Size: 3,307 Lbs.  
Topmark Type: Lateral/Cardinal  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 1.2 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 13 Ft.  
Maximum: 29 Ft.  
Reflective Material Type: Scotchlite Hi

ADDITIONAL DATA

Cost: Replacement: \$4,000  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 15.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Buoy replaced - mooring inspected only in case of damage or loss. No on-site repairs.

Special Features:

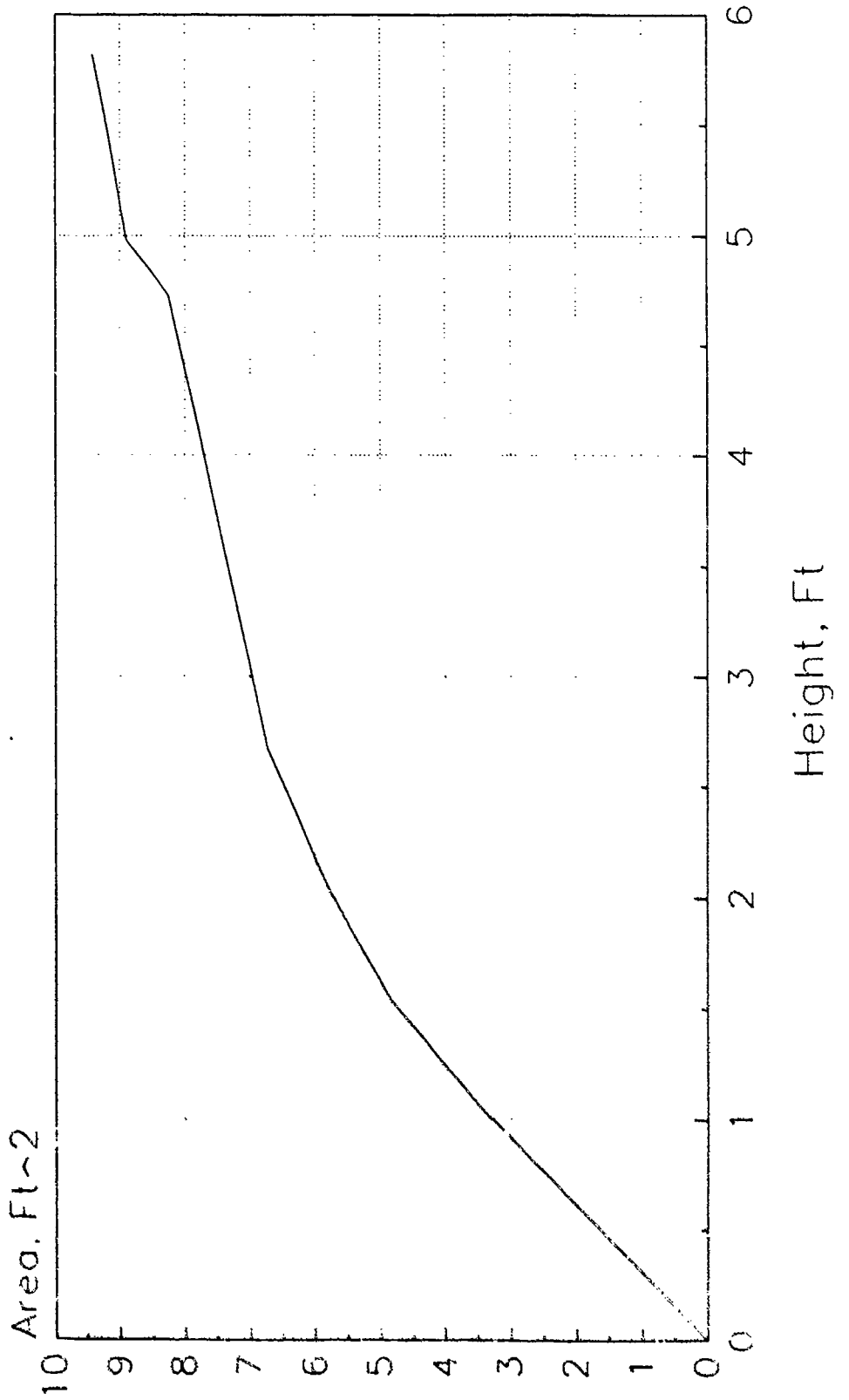
Stability Notes:

General Notes

Manufacturers: Ticon Plast A/S  
Source of Design: Coast Directorate  
Drawing Reference: Norway - 4

# Selco Type 26 Lighted Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Selco Type 5 Spar Buoy

Country of Use: Norway

Function: An unlighted buoy of fiberglass hull.  
Used by the Norwegian Coast Directorate  
in marking waterways for guidance to  
markers.

Date of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	110 Lbs.
Buoy Draft:	4.92 Ft.
Overall Buoy Length:	14.11 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	1.38 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	0 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Decoupled
Construction Material:	Hull Shell : Fiberglass Hull Filling : Plastic foam Tower : Fiberglass Topmark : Aluminum Counterweight: Chain (steel)
Coating/Coloring System:	Pigmented - IALA Coloring
Subdivision:	Hull Filled
Hull Type:	Tube
Counterweight Type:	External

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 17.2 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.875 In.  
Type:  
Sinker Size: 1,764 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment:  
Nominal Visual Range of Daymark: 1.3 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 29 Ft.  
Reflective Material Type: Scotchlite Hi

ADDITIONAL DATA

Cost:	Replacement:	\$800
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 15.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Buoy replaced - mooring inspected only in case of damage of loss. No repairs on site.

Special Features:

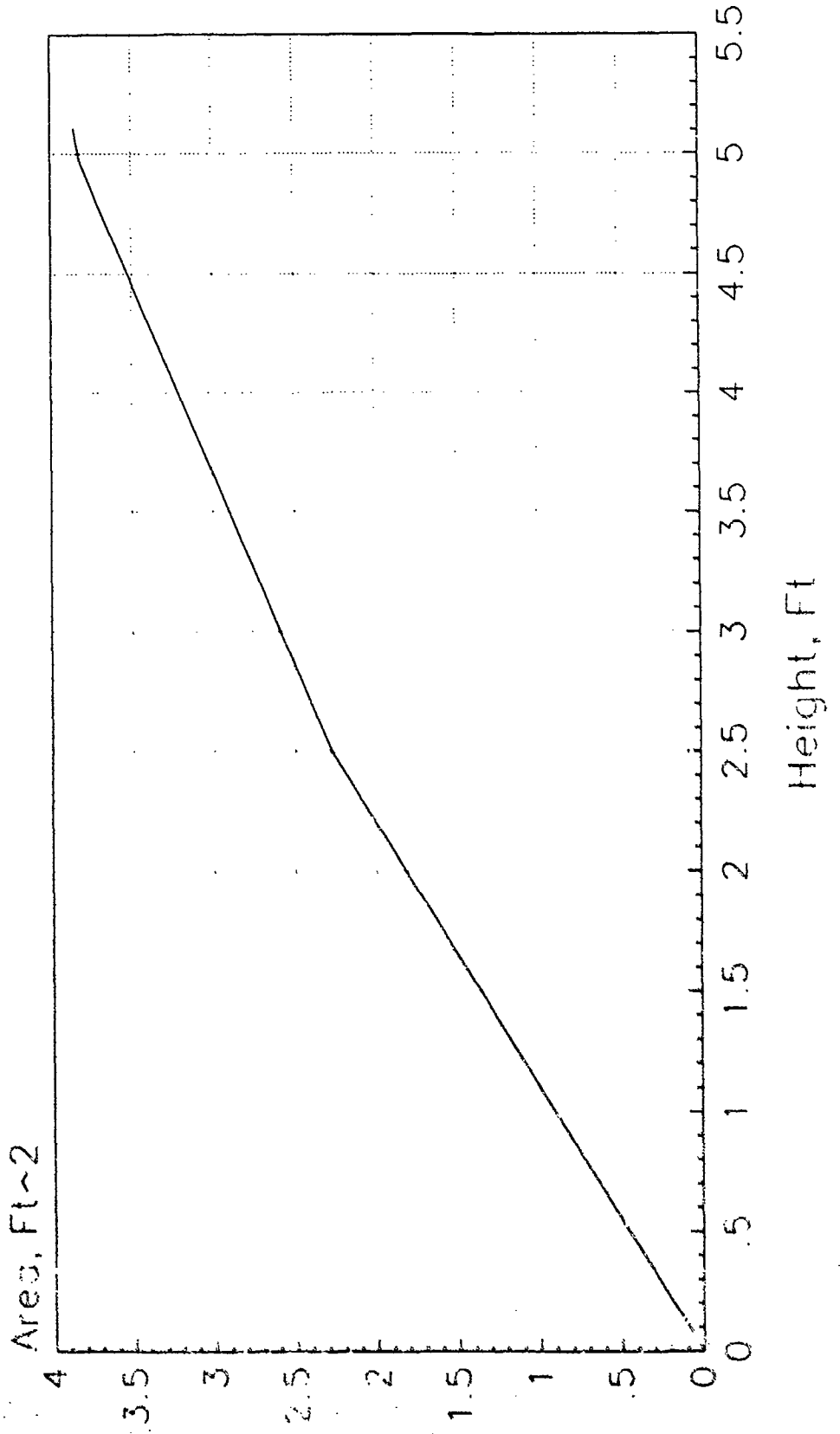
Stability Notes:

General Notes

Manufacturers:	Ticon Plast A/S
Source of Design:	Coast Directorate
Drawing Reference:	Norway-1

# SELCO Type 5 Spar Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SELCO Type 7 Spar Buoy

Country of Use: Norway

Function: This is a lighted navigational aid.  
Norwegian Coast Directorate has a small  
number of these buoys in use in the  
waterways.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	308 Lbs.
Buoy Draft:	6.72 Ft.
Overall Buoy Length:	20.01 Ft.
Focal Height of Light:	13.29 Ft.
Buoy Beam or Diameter:	1.90 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	0 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Bucyancy:	0 Lbs.
Wave Motion Response:	Decoupled
Construction Material:	Hull Shell : Rigid Plastic Hull Filling : Plastic Foam Tower : Rigid Plastikc Topmark : Counterweight: Chain (Steel)
Coating/Coloring System:	Pigmented - IALA Colors
Subdivision:	Hull Filled
Hull Type:	Conical
Counterweight Type:	External (440lb)

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell Battery  
Lighting Equipment: Electric Lantern  
Sound Equipment: None  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: EM & PM  
Nominal Visual Range of Daymark: 1.8 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$4,500  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 15.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

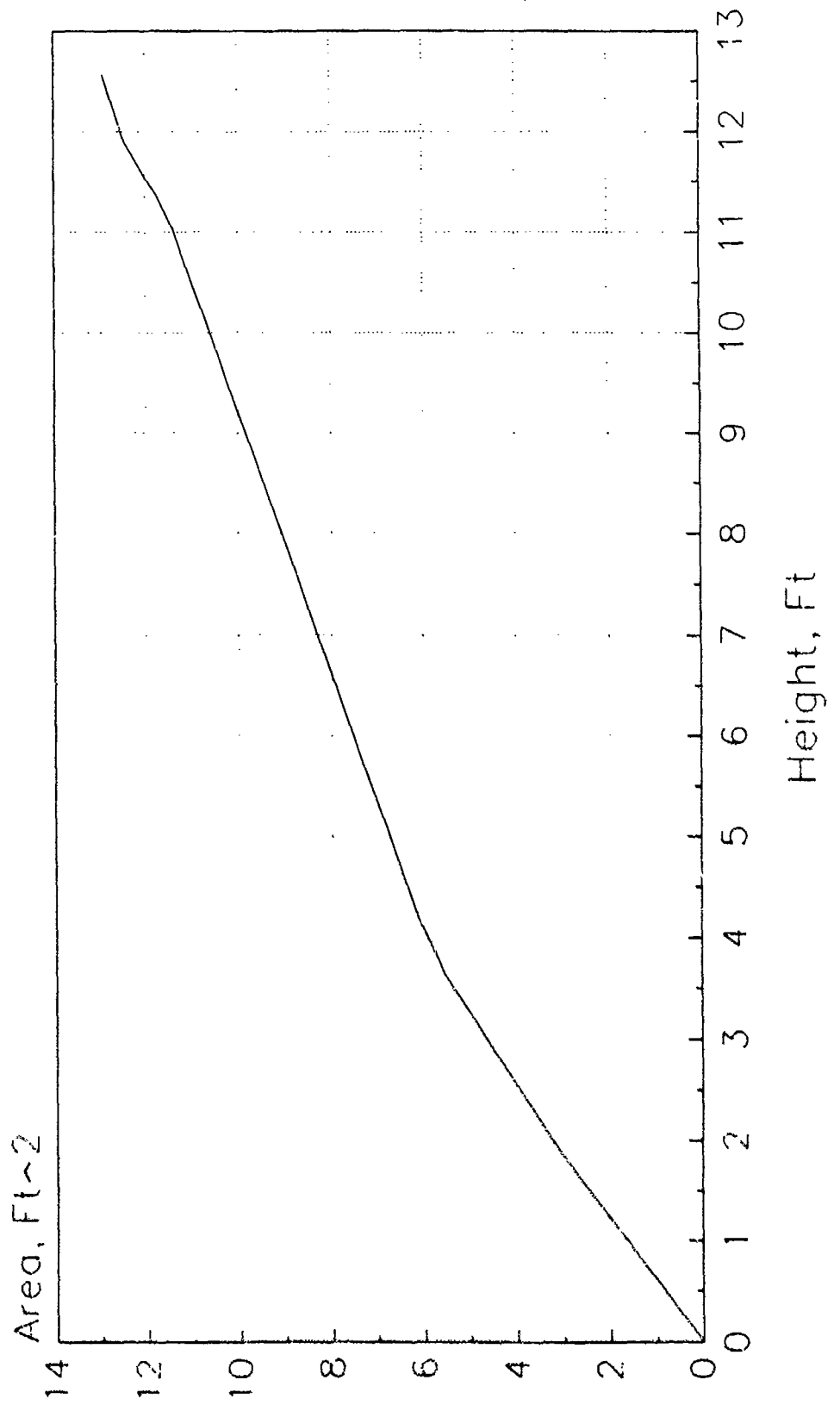
Manufacturers: Ticon Plast A/S

Source of Design: Coast Directorate

Drawing Reference: Norway - 2

# SELCO Type 7 Spar Buoy

Cumulative Area



GENERAL INFORMATION

Name of Buoy: SELCO Type 8 Spar Buoy

Country of Use: Norway

Function: This is a lighted navigational aid.  
Norwegian Coast Directorate has a small number of these buoys in the waterways.

Date Of Last Update For This Record: 11/01/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 330 Lbs.

Buoy Draft: 9.02 Ft.

Overall Buoy Length: 16.40 Ft.

Focal Height of Light: 7.38 Ft.

Buoy Beam or Diameter: 2.63 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled

Construction Material: Hull Shell : Rigid Plastic  
Hull Filling : Plastic Foam  
Tower : Rigid Plastic  
Topmark :  
Counterweight:

Coating/Coloring System: Pigmented - IALA Coloring

Subdivision: Hull Filled

Hull Type: Conical

Counterweight Type: 1300 lb. Ballast

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell Battery  
Lighting Equipment: Electric Lantern  
Sound Equipment: None  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: None  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM & PM  
Nominal Visual Range of Daymark: 2.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$5,000  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 15.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

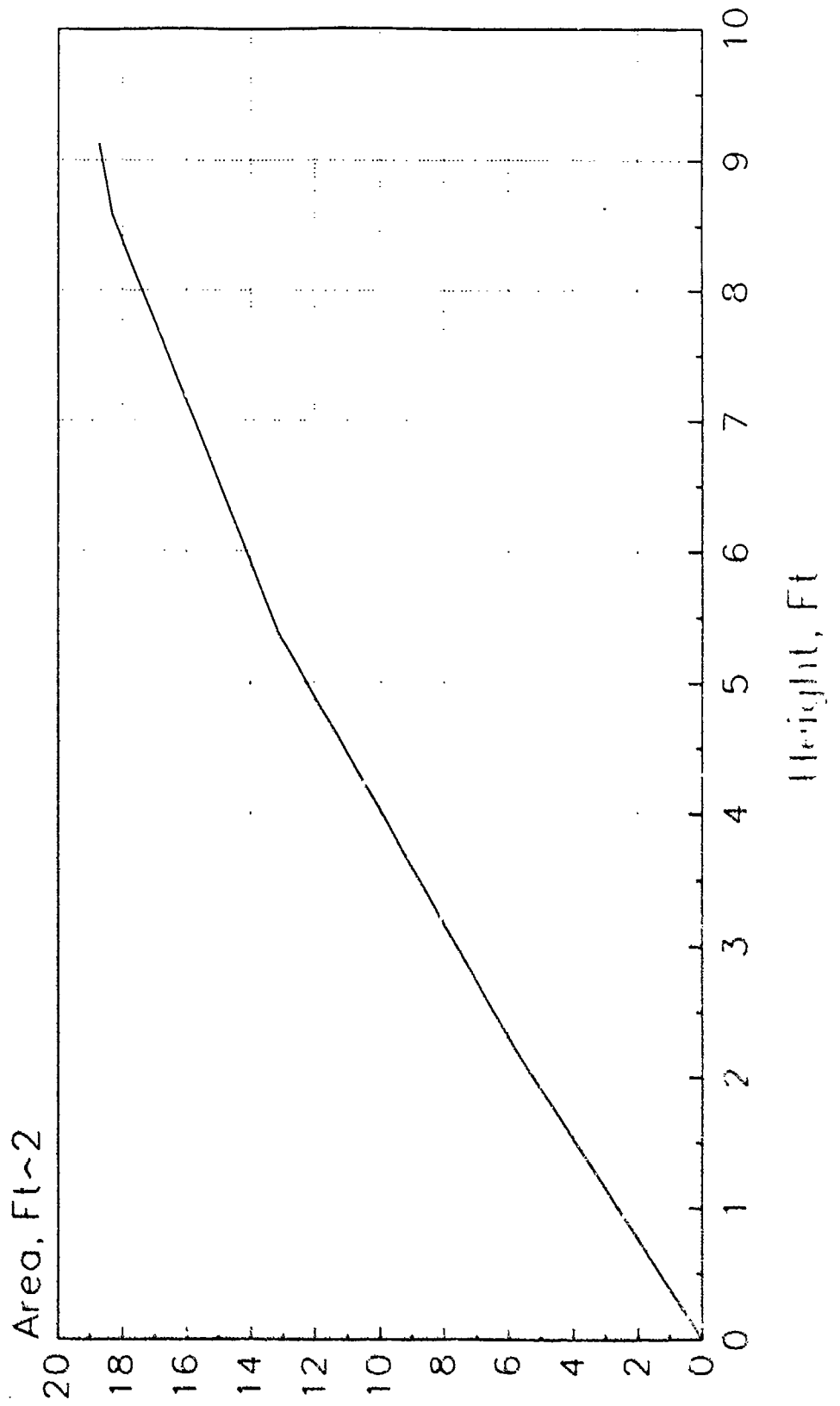
Stability Notes:

General Notes

Manufacturers: Ticon Plast A/S  
Source of Design: Coast Directorate  
Drawing Reference: Norway - 3

# SELCO Type 8 Spar Buoy

Cumulative Area



GENERAL INFORMATION

Name of Buoy: SELCO Marker Buoy Type 26A

Country of Use: Norway MFG-1

Function: A lighted buoy for use in congested shipping lanes that expose buoys to collision; Geometrically similar to Coast Directorates Type 26 but with a square shaped hull of resilient plastic material.

Date Of Last Update For This Record: 11/01/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,060 Lbs.

Buoy Draft: 5.25 Ft.

Overall Buoy Length: 12.96 Ft.

Focal Height of Light: 7.71 Ft.

Buoy Beam or Diameter: 3.28 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Resilient Plastic  
Hull Filling : Foam  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System: Pigmented - IALA Coloring

Subdivision: Hull Filled

Hull Type: Cylindrical/Tube

Counterweight Type: 1000 lb. Ballast

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell Battery  
Lighting Equipment: Electric Lantern  
Sound Equipment: None  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: None  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 1.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                30.0 Yrs.

Maintenance Interval:                        24 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

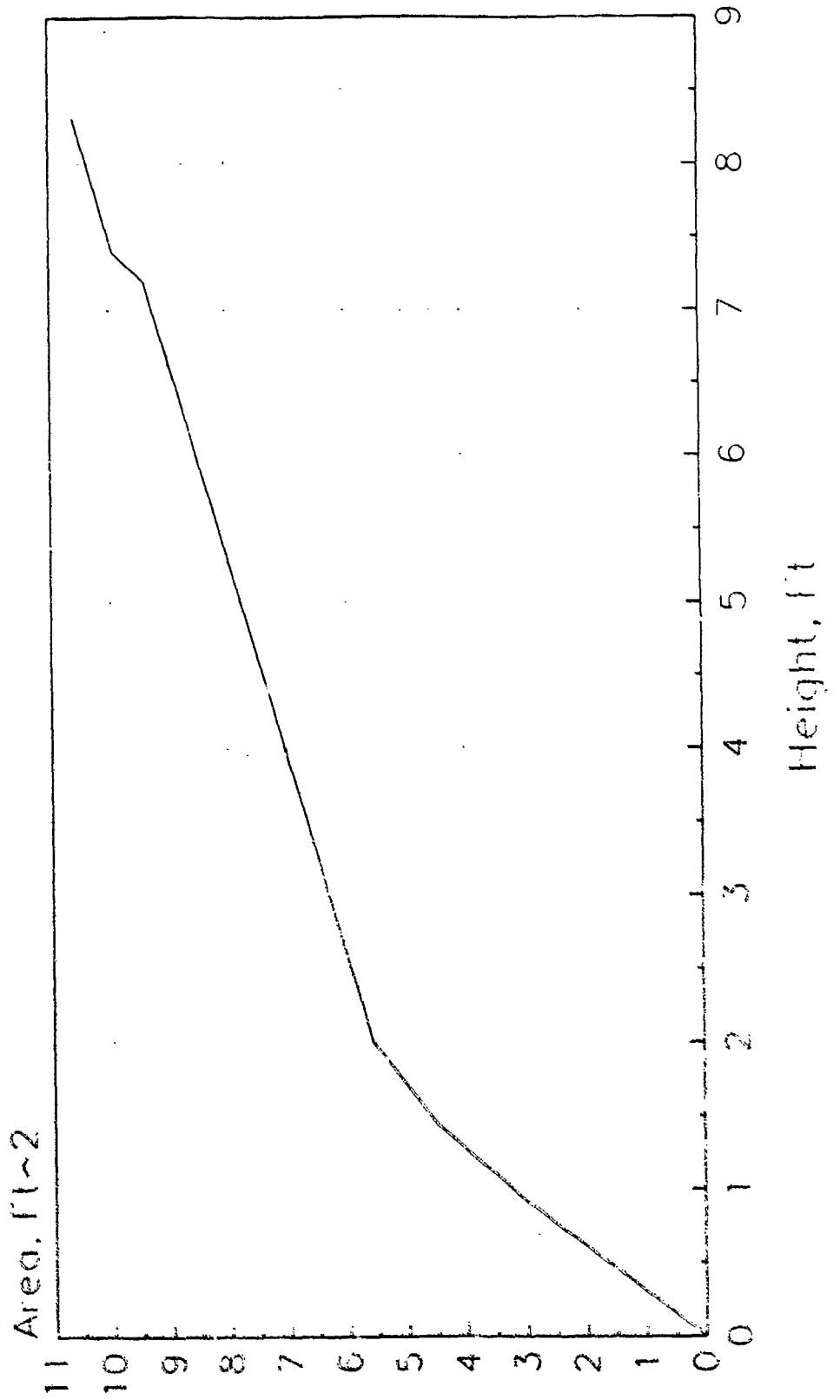
Manufacturers:                                Ticon Plast A/S

Source of Design:                              Coast Directorate

Drawing Reference:                             Norway - MFG-1-11

# SELCO Marker Buoy Type 26A

Cumulative Area



GENERAL INFORMATION

Name of Buoy: SELCO Marker Buoy Type 26B

Country of Use: Norway MFG-1

Function: A lighted buoy for use in congested shipping lanes that expose buoys to collision. It is also equipped with a wave-actuated bell.

Date Of Last Update For This Record: 11/01/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,325 Lbs.  
Buoy Draft: 7.54 Ft.  
Overall Buoy Length: 18.37 Ft.  
Focal Height of Light: 10.83 Ft.  
Buoy Beam or Diameter: 3.28 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 0 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Resilient Plastic  
Hull Filling : Foam  
Tower : Steel  
Topmark : Aluminum  
Counterweight:  
Coating/Coloring System: Pigmented - IALA Coloring  
Subdivision: Hull Filled  
Hull Type: Cylindrical/Tube  
Counterweight Type: 1325 lb. Ballast

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell Battery  
Lighting Equipment: Electric Lantern  
Sound Equipment: Bell  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: Double Cone X  
Number of Padeyes: 2

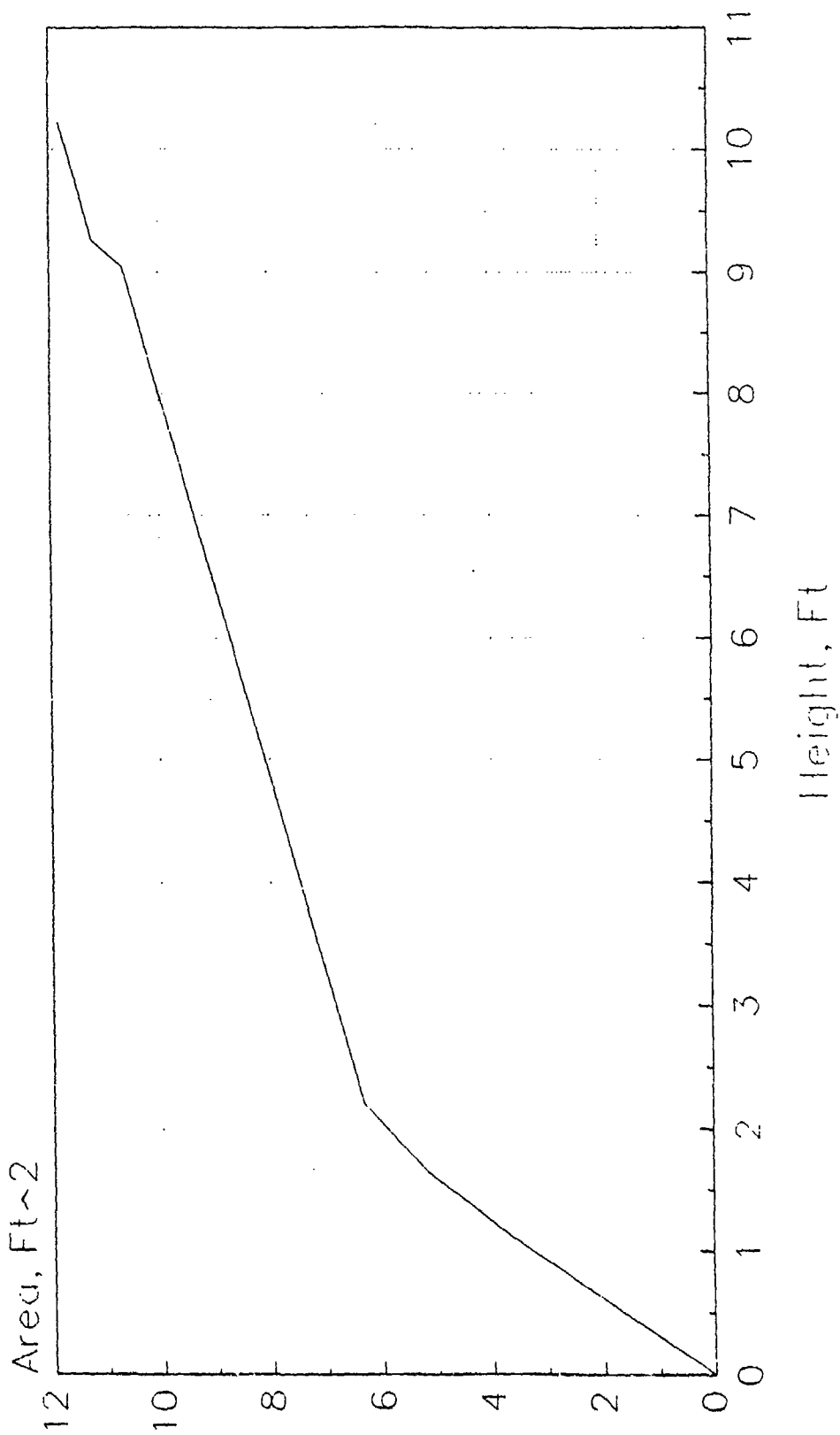
OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 1.7 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:



# SELCO Marker Buoy Type 26B

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SELCO Type 10 Spherical Buoy

Country of Use: Norway MFG-1

Function: This is a lighted navigational aid. The fiberglass hull is spherical (same as Type 9) but the upper part is a cylindrical (CAN) configuration for deployment in shallow water areas as starboard mark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	408 Lbs.
Buoy Draft:	3.45 Ft.
Overall Buoy Length:	10.34 Ft.
Focal Height of Light:	6.89 Ft.
Buoy Beam or Diameter:	4.00 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	0 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Rigid Plastic Hull Filling : Plastic Foam Tower : Rigid Plastic Topmark : Counterweight:
Coating/Coloring System:	Pigmented - IALA Coloring
Subdivision:	Hull Filled
Hull Type:	Spherical
Counterweight Type:	770 lb. Ballast

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell Battery  
Lighting Equipment: Electric Lantern  
Sound Equipment: None  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

## OPERATING CHARACTERISTICS

Operating Environment: EM & PM Shallow Wtr  
Nominal Visual Range of Daymark: 1.8 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 32 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 15.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

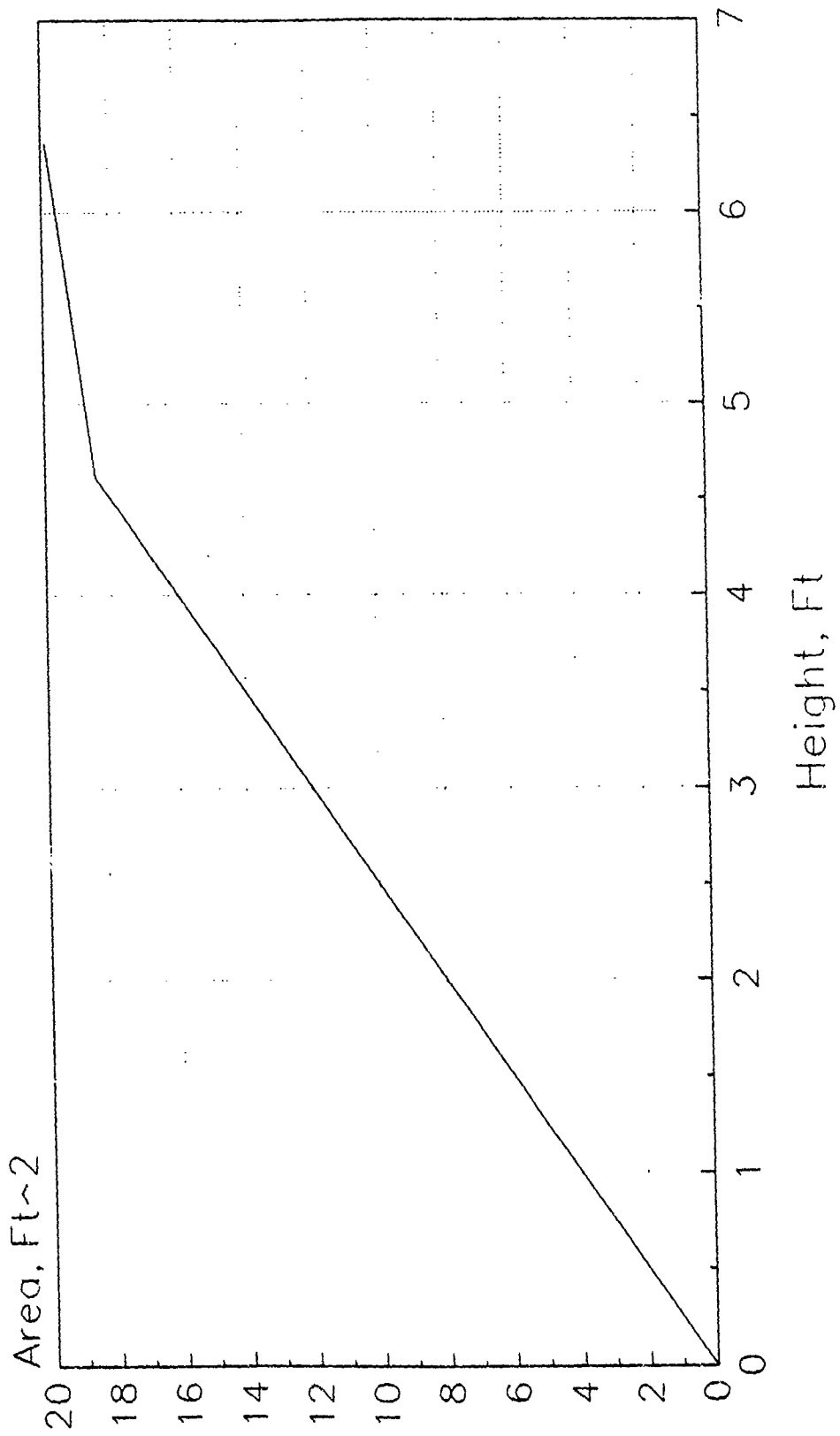
Manufacturers: Ticon Plast A/S

Source of Design: Ticon Plast A/S

Drawing Reference: Norway MFG-1-4

# SELCO Type 10 Spherical Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SELCO Type 11 Discus Buoy

Country of Use: Norway MFG-1

Function: This is a lighted navigational aid.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 806 Lbs.  
Buoy Draft: 5.25 Ft.  
Overall Buoy Length: 15.09 Ft.  
Focal Height of Light: 9.84 Ft.  
Buoy Beam or Diameter: 7.55 Ft.  
Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 0 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Rigid Plastic  
Hull Filling : Foam  
Tower : Rigid Plastic  
Topmark :  
Counterweight:  
Coating/Coloring System: Pigmented 1. GRP-IALA Coloring  
Subdivision: Hull Filled  
Hull Type: Discus  
Counterweight Type: 1250 lb. Ballast

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell  
Lighting Equipment: Electric Lantern  
Sound Equipment: None  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: None  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM & PM  
Nominal Visual Range of Daymark: 1.9 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 15.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

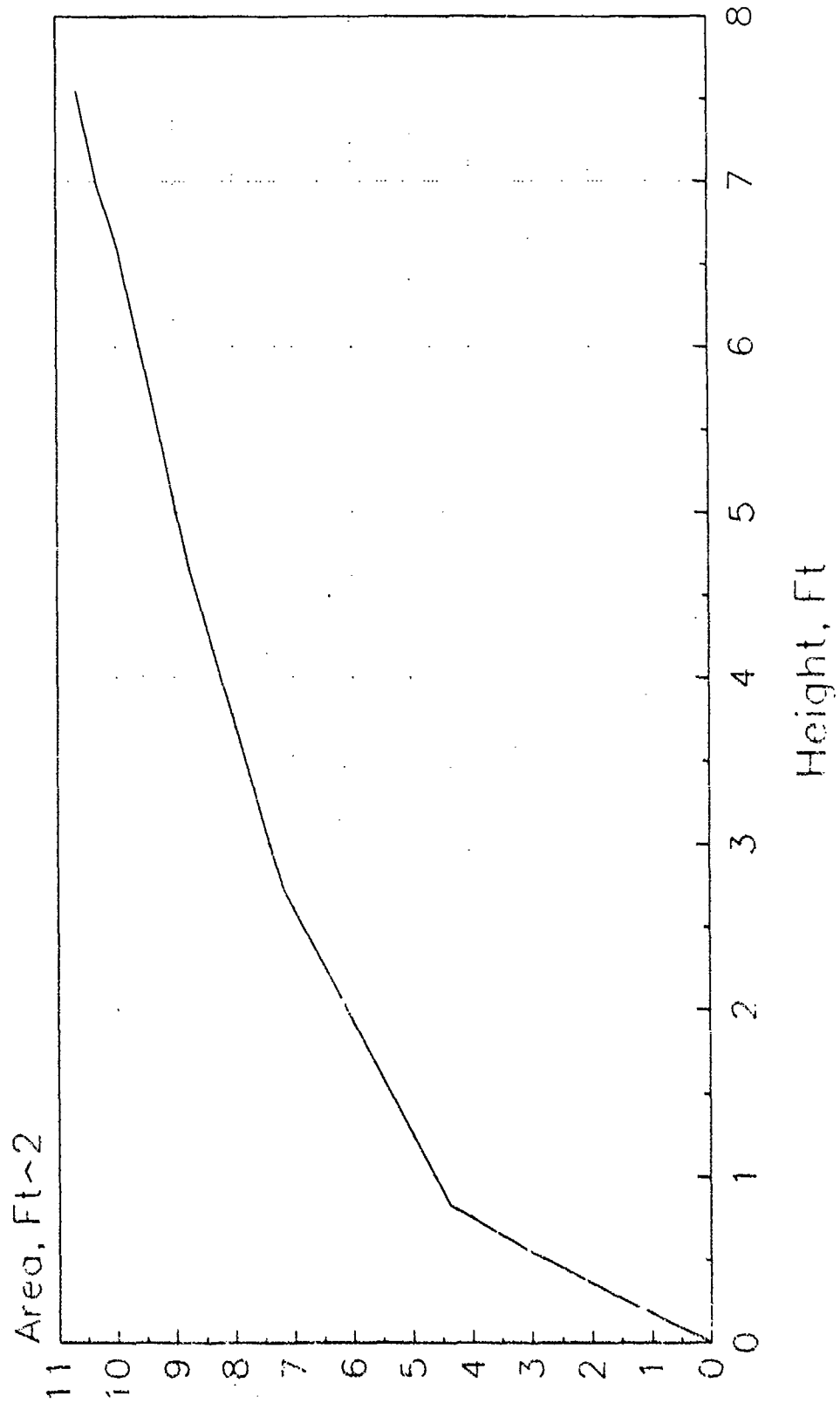
Manufacturers: Ticon Plast A/S

Source of Design: Ticon Plast A/S

Drawing Reference: Norway MFG-1-5

# SELCO Type 11 Discus Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SELCO Type 16 Spar Buoy

Country of Use: Norway MFG-1

Function: This is a lighted navigational aid fitted with a special topmark and a bell.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	540 Lbs.
Buoy Draft:	9.02 Ft.
Overall Buoy Length:	23.46 Ft.
Focal Height of Light:	14.44 Ft.
Buoy Beam or Diameter:	2.30 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	0 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Decoupled
Construction Material:	Hull Shell : Rigid Plastic Hull Filling : Plastic Foam Tower : Rigid Plastic Topmark : Rigid Plastic Counterweight:
Coating/Coloring System:	Pigmented - IALA Coloring
Subdivision:	Hull Filled
Hull Type:	Conical
Counterweight Type:	1100 lb. Ballast

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry Cell Battery  
Lighting Equipment: Electric Lantern  
Sound Equipment: Bell  
Other Payload: Radar reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type:  
Sinker Size: 0 Lbs.  
Topmark Type: Cardinal - Special  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 15.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

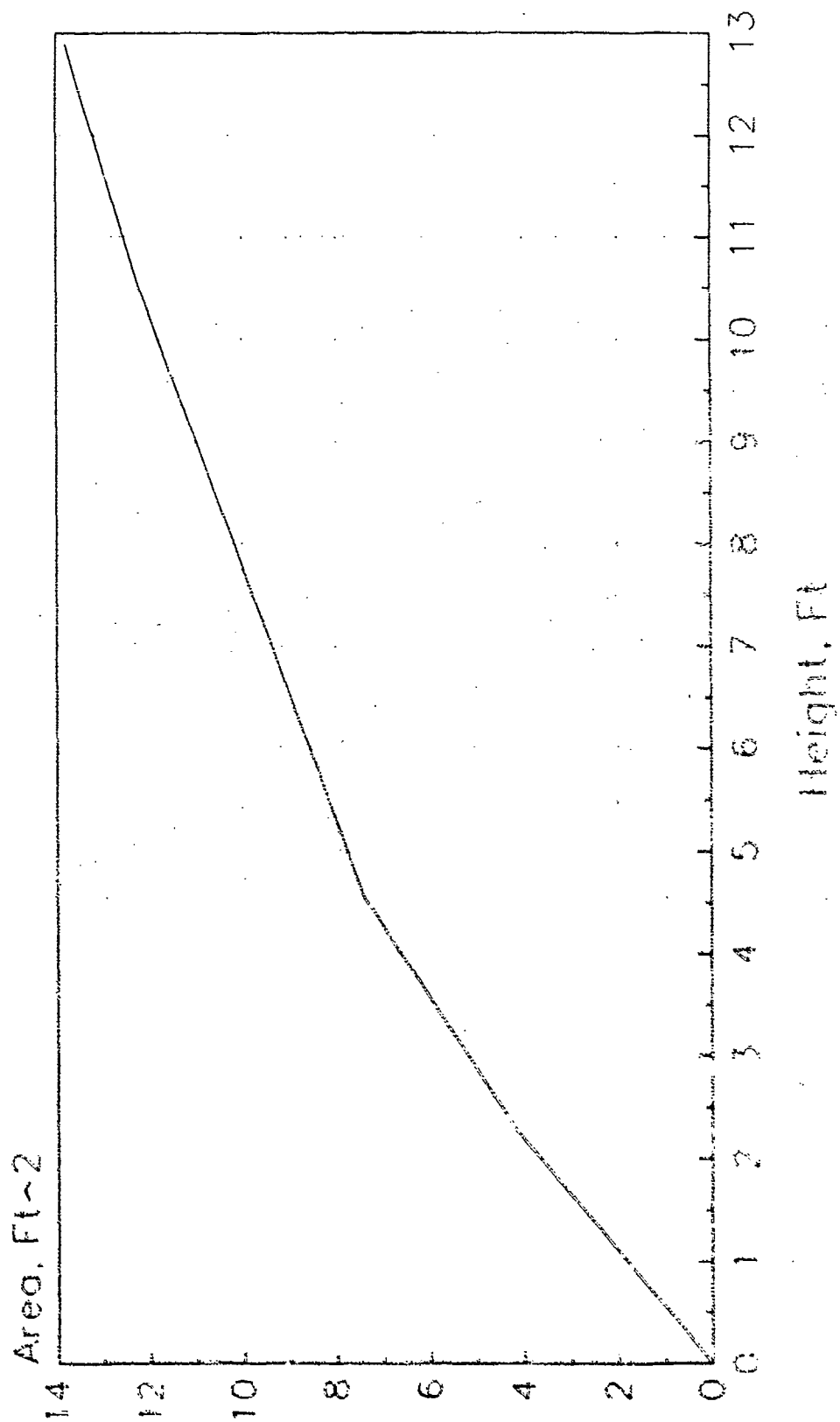
Manufacturers: Ticon Plast A/S

Source of Design: Ticon Plast A/S

Drawing Reference: Norway MFG-1-6

# SELCO Type 16 Spar Buoy

Cumulative Area



GENERAL INFORMATION

Name of Buoy: SELCO Type 23 Elliptical Buoy

Country of Use: Norway MFG-1

Function: This is an unlighted navigational aid.

Date Of Last Update For This Record: 11/01/90

PHYSICAL CHARACTERISTICS

Buoy Weight:	88 Lbs.
Buoy Draft:	1.97 Ft.
Overall Buoy Length:	3.94 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	2.00 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	0 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Rigid Plastic Hull Filling : Plastic Foam Tower : Rigid Plastic Topmark : Counterweight:
Coating/Coloring System:	Pigmented - IALA Coloring
Subdivision:	Hull Filled
Hull Type:	Elliptical
Counterweight Type:	90 lb. Ballast

## ADDITIONAL DATA

Cost:            Replacement:    \$809  
                 Preparation:       \$0  
                 Monthly Servicing:    \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

## Maintenance Notes:

"Surlyn" skin/foam construction has higher impact resistance than steel or GRP construction with a longer survival rate in high traffic areas.

## Special Features:

## Stability Notes:

## General Notes

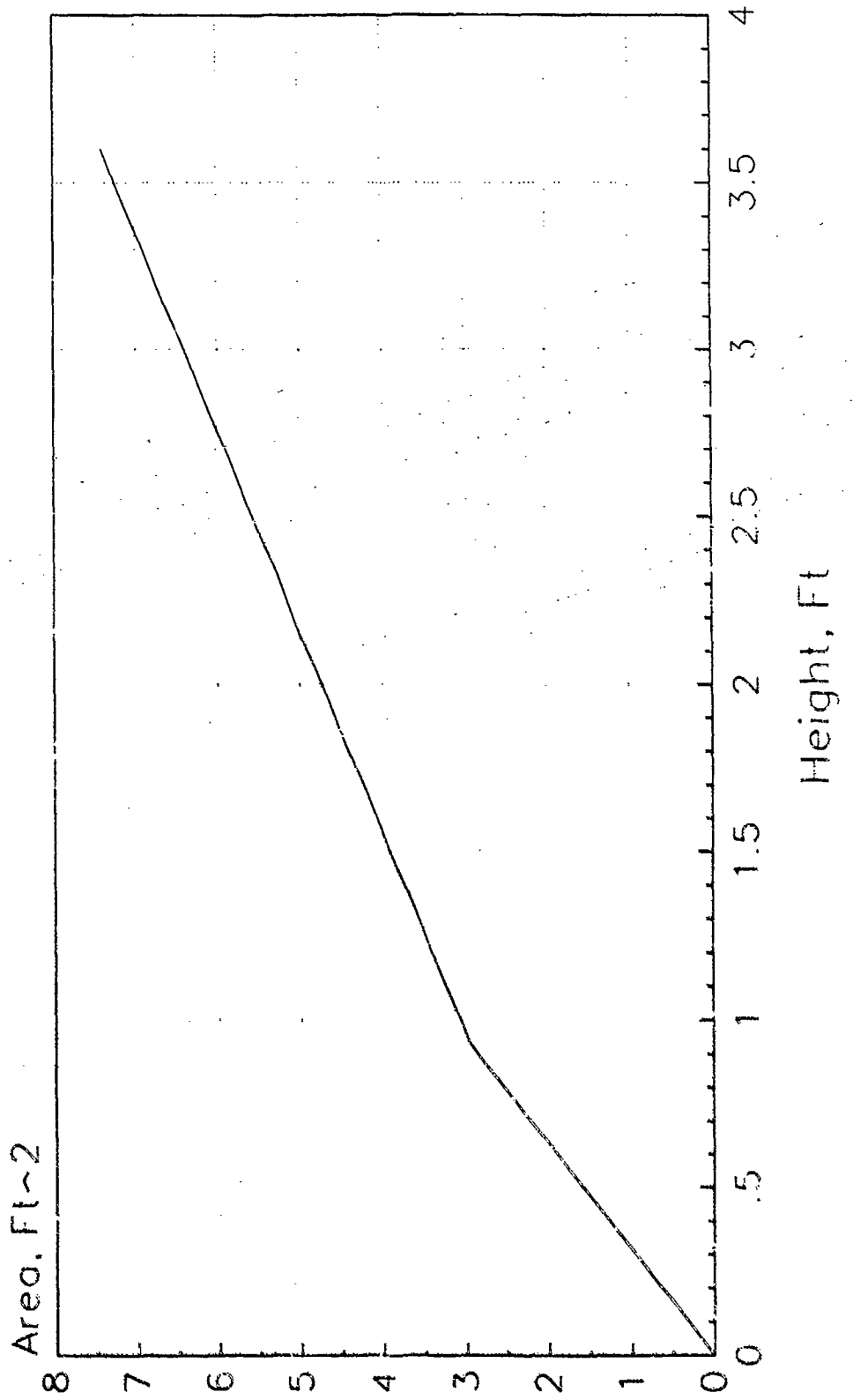
Manufacturers:                            Gilman; Urethane Tech

Source of Design:                            USCG

Drawing Reference:                            USA 45

5 CFR

Cumulative Area: \_\_\_\_\_



## GENERAL INFORMATION

Name of Buoy: 5 CI, 1981 Type Standard

Country of Use: USA

Function: The 5CI buoy is designed and constructed for use in ice conditions where an unlighted buoy is required.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 700 Lbs.

Buoy Draft: 5.08 Ft.

Overall Buoy Length: 8.17 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 2.30 Ft.

Freeboard: No Mooring: 3.08 Ft.  
Minimum: 2.33 Ft.

Pounds Per Inch Immersion: 22 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower :  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: One Compartment

Hull Type: Can

Counterweight Type: Internal

**RELATED EQUIPMENT**

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.500 In.  
Type: Steel Chain  
Sinker Size: 2,000 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

**OPERATING CHARACTERISTICS**

Operating Environment: Ice  
Nominal Visual Range of Daymark: 1.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 3.0 Kts.  
Mooring Depth: Minimum: 10 Ft.  
Maximum: 50 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                                 Preparation:        \$0  
                                 Monthly Servicing: \$0

Service Life:                                30.0 Yrs.

Maintenance Interval:                      12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Nonstandard substitutes for this buoy are 5C 1952 type and 5C 1942 type.

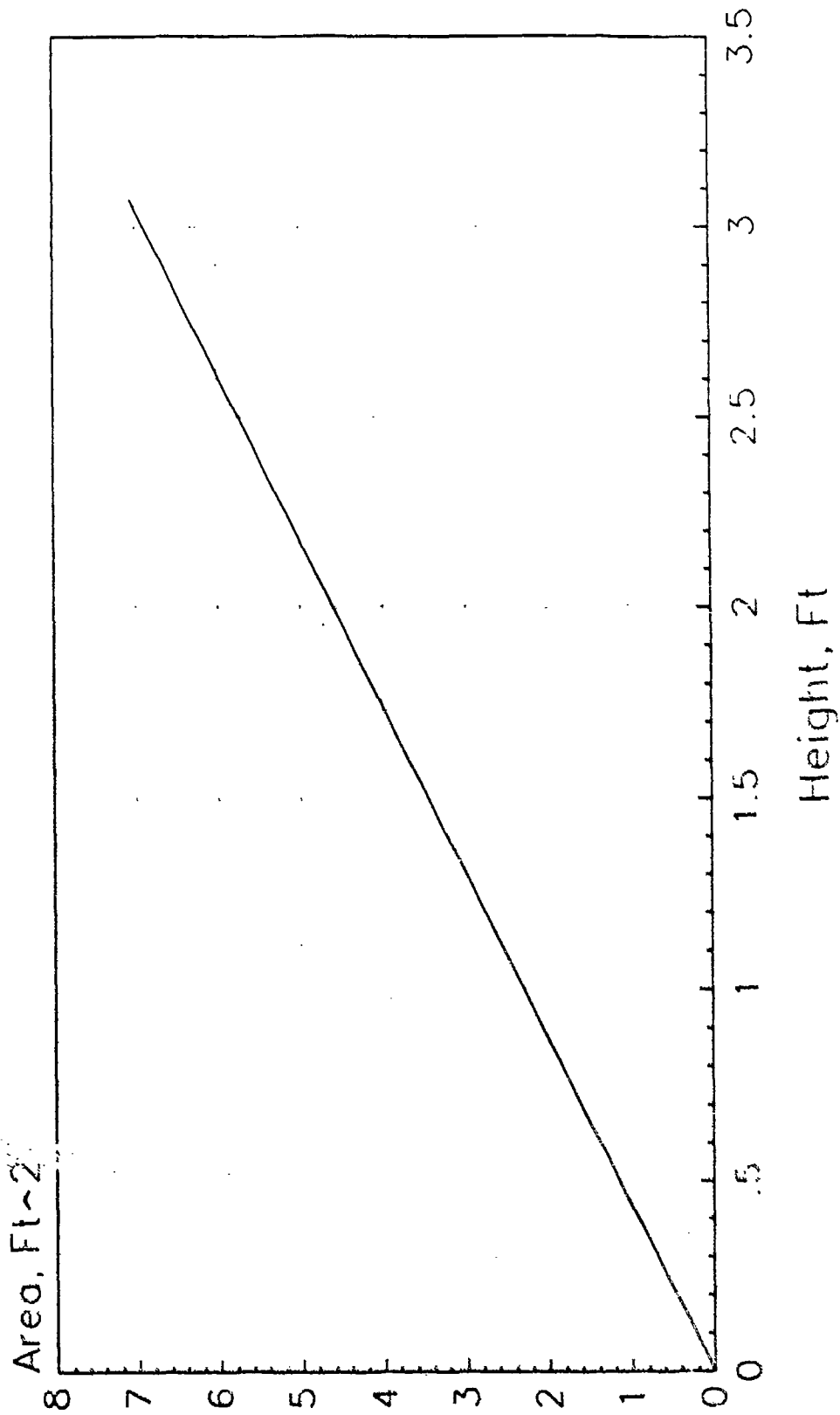
Manufacturers:

Source of Design:                            USCG

Drawing Reference:                          USA-30

5 Cl

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 5 CPR, 1972 Type Standard

Country of Use: USA

Function: The 5 CPR buoy is designed and constructed for protected locations, where an unlighted CAN buoy is required. This buoy is foam filled. It should not be used in ice.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 150 Lbs.

Buoy Draft: 4.00 Ft.

Overall Buoy Length: 7.33 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 2.33 Ft.

Freeboard: No Mooring: 0.67 Ft.  
Minimum: 0.25 Ft.

Pounds Per Inch Immersion: 22 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : GRP  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: Hull Filled

Hull Type: CAN

Counterweight Type: External

## RELATED EQUIPMENT

Number of Power Sources: 0  
 Type of Power Sources: None  
 Lighting Equipment: None  
 Sound Equipment: None  
 Other Payload: Radar Reflector  
 Daymark Area: 0.0 Sq. Ft.  
 Bridle Size: Chain Size: 0.000 In.  
 Length : 0.0 Ft.  
 Mooring Line: Size: 0.438 In.  
 Type: Steel Chain  
 Sinker Size: 500 Lbs.  
 Topmark Type: None  
 Number of Padeyes: 1

## OPERATING CHARACTERISTICS

Operating Environment: FM  
 Nominal Visual Range of Daymark: 1.4 Nmi.  
 Radar Range: 0.0 Nmi.  
 Maximum Current: 0.0 Kts.  
 Mooring Depth: Minimum: 0 Ft.  
 Maximum: 0 Ft.  
 Reflective Material Type:

**ADDITIONAL DATA**

**Cost:**                      **Replacement:**      \$591  
                                  **Preparation:**        \$0  
                                  **Monthly Servicing:**      \$6

**Service Life:**                                      10.0 Yrs.

**Maintenance Interval:**                                      12 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

**General Notes**

Standard substitute for this buoy is 5 CPR 1972 design of 7'-7" overall length.

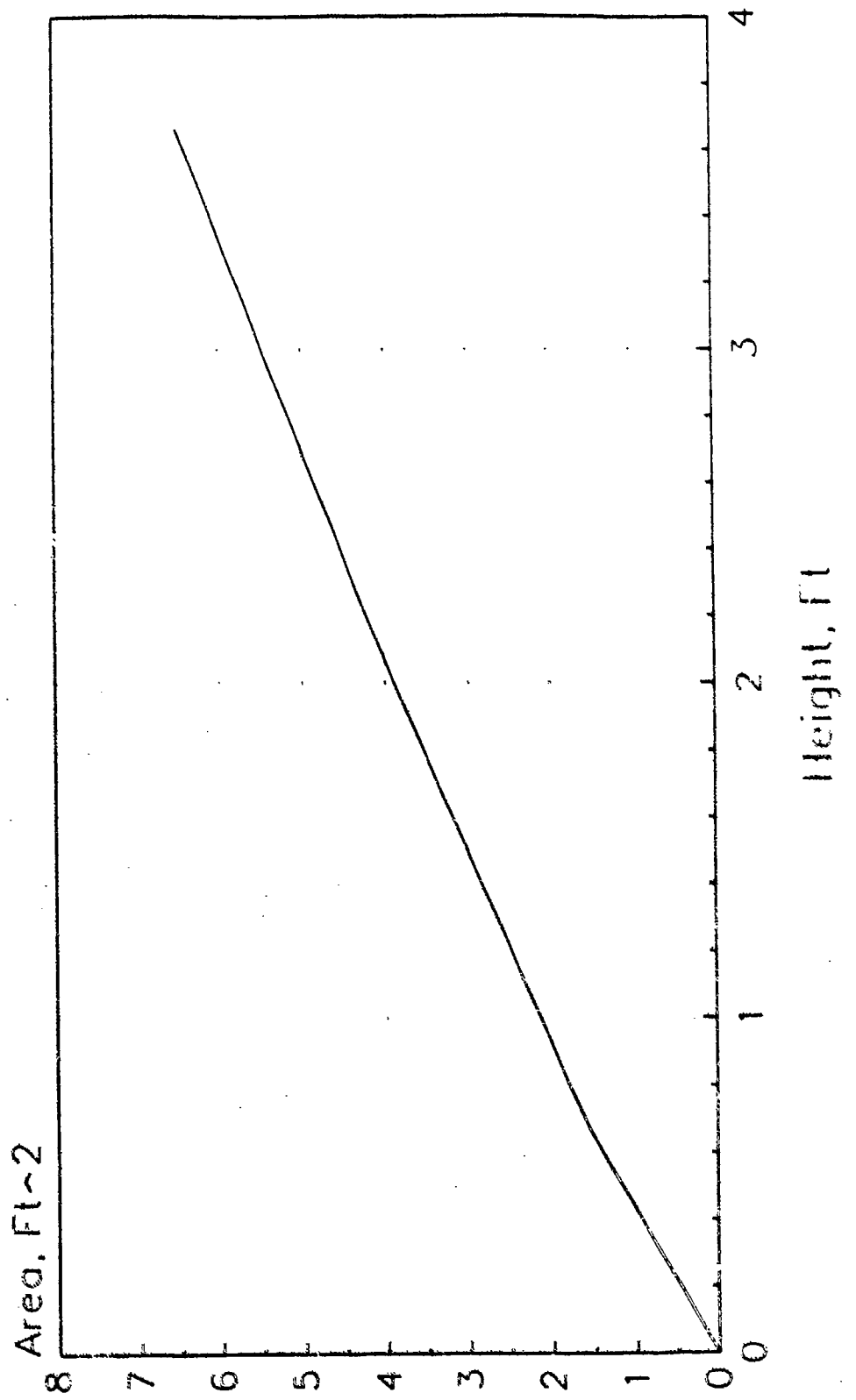
**Manufacturers:**                                      Automatic Power, Inc

**Source of Design:**                                      USCG

**Drawing Reference:**                                      USA-32

# 5 CPR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 5 NFR

Country of Use: USA

Function: Unlighted 5th Class buoy, with NUN daymark. "Surlyn" skin/foam construction for durability in heavy traffic channels. For fast current where debris is not a problem.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	122 Lbs.
Buoy Draft:	0.00 Ft.
Overall Buoy Length:	7.77 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	3.00 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	38 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave following
Construction Material:	Hull Shell : "Surlyn" plastic skin Hull Filling : "Surlyn" foam Tower : Topmark : Counterweight: Steel pipe
Coating/Coloring System:	Moulded-in color, red
Subdivision:	Foam filled
Hull Type:	Cylindrical
Counterweight Type:	Tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Internal radar reflector  
Daymark Area: 4.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 1

## OPERATING CHARACTERISTICS

Operating Environment: PF  
Nominal Visual Range of Daymark: 1.5 Nmi.  
Radar Range: 2.3 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: "3M" Retro-reflective film

## ADDITIONAL DATA

Cost:                    Replacement:    \$898  
                          Preparation:    \$0  
                          Monthly Servicing: \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:            0 Mos.

## Maintenance Notes:

"Surlyn" skin/foam construction has higher impact resistance than steel or GRP construction with a longer survival rate in high traffic areas.

## Special Features:

## Stability Notes:

## General Notes

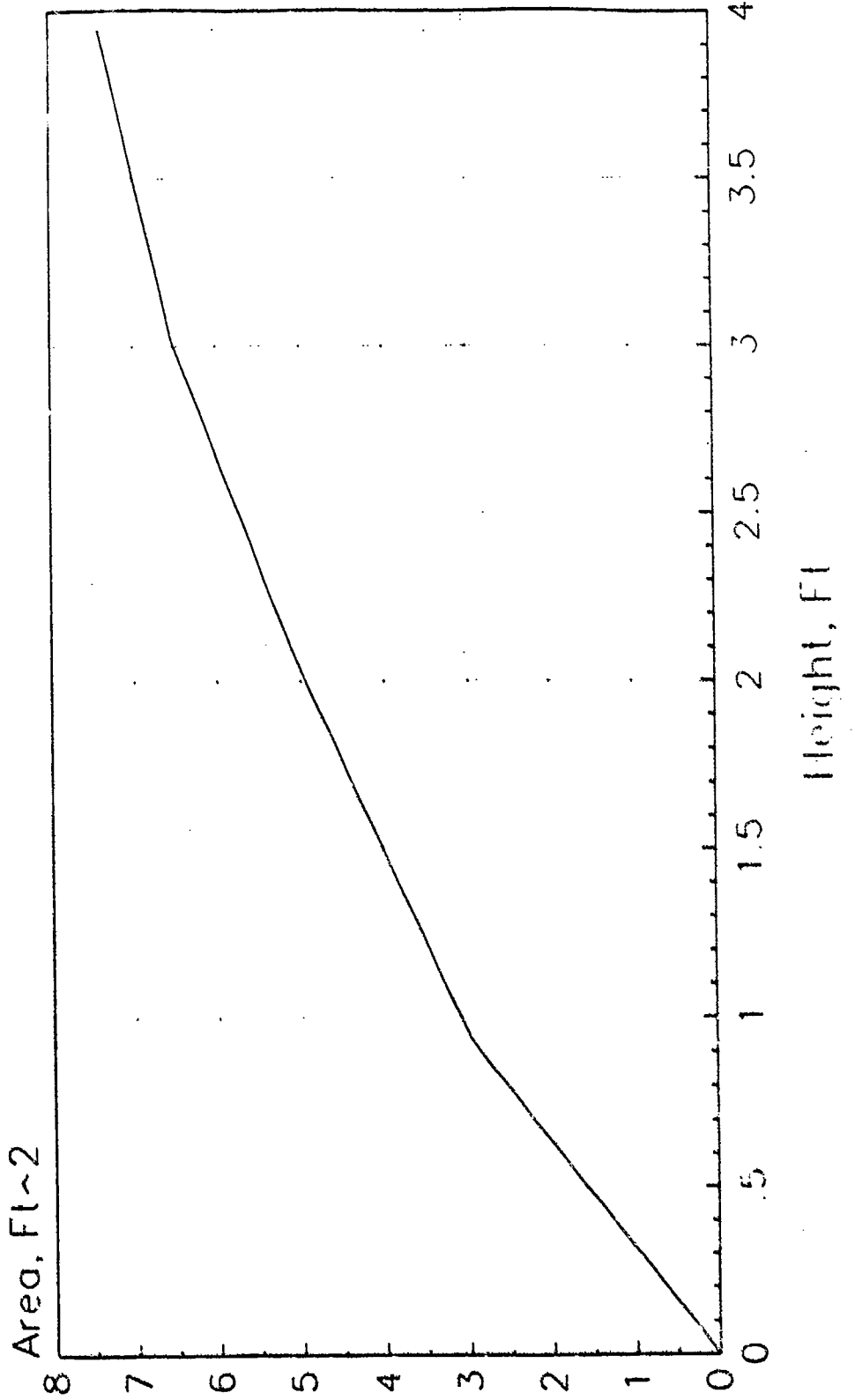
Manufacturers:                    Gilman;Urethane Tech

Source of Design:                    USCG

Drawing Reference:                    USA 45

# 5 NFR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 5 NI, 1981 Type Standard

Country of Use: USA

Function: The 5 NI buoy is designed and constructed for use in ice conditions where an unlighted nun buoy is required.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 695 Lbs.

Buoy Draft: 5.08 Ft.

Overall Buoy Length: 9.17 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 2.30 Ft.

Freeboard: No Mooring: 4.08 Ft.  
Minimum: 3.33 Ft.

Pounds Per Inch Immersion: 22 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower :  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: One Compartment

Hull Type: Nun

Counterweight Type: Internal

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.500 In.  
Type: Steel Chain  
Sinkers Size: 2,000 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: Ice  
Nominal Visual Range of Daymark: 1.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 3.0 Kts.  
Mooring Depth: Minimum: 10 Ft.  
Maximum: 50 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                30.0 Yrs.

Maintenance Interval:                      12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Nonstandard substitutes are 5N 1952 Type, 5N 1942 Type.

Manufacturers:

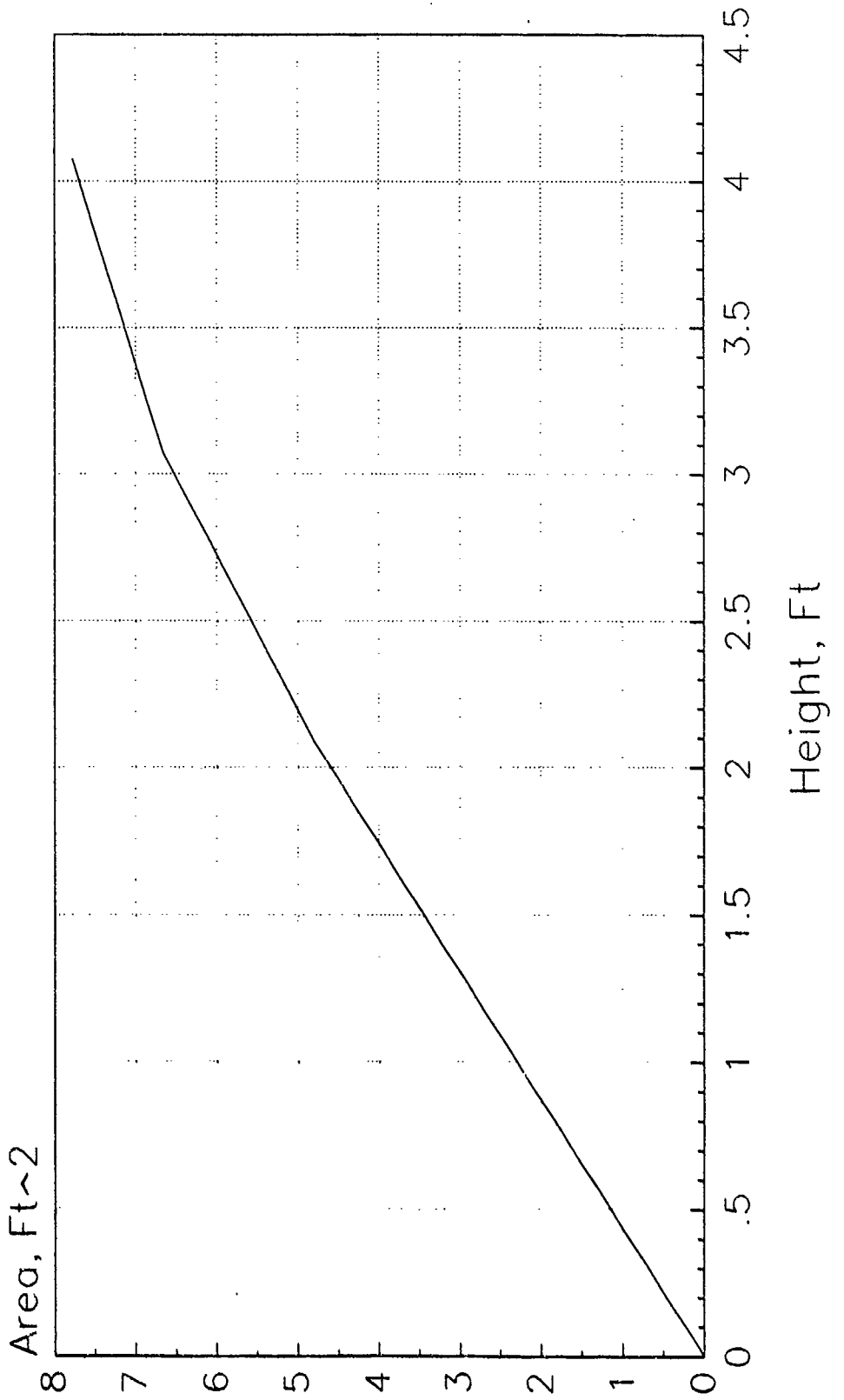
Source of Design:                            USCG

Drawing Reference:                         USA-31

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5 NI

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 5 NPR, 1972 Type Standard

Country of Use: USA

Function: The 5 NPR buoy is designed and constructed for protected locations, where an unlighted NUN buoy is required. This buoy is foam filled. It should not be used in ice.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 150 Lbs.

Buoy Draft: 4.00 Ft.

Overall Buoy Length: 7.67 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 2.33 Ft.

Freeboard: No Mooring: 0.67 Ft.  
Minimum: 0.25 Ft.

Pounds Per Inch Immersion: 22 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : GRP  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Epoxy, Anti-/Fouling, Vinyl

Subdivision: Hull filled

Hull Type: NUN

Counterweight Type: External

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload:  
Daymark Area: 5.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.438 In.  
Type: Steel Chain  
Sinker Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 1.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 3.0 Kts.  
Mooring Depth: Minimum: 5 Ft.  
Maximum: 35 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:            Replacement:    \$591  
                 Preparation:       \$0  
                 Monthly Servicing:    \$6

Service Life:                            10.0 Yrs.

Maintenance Interval:                   12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

## General Notes

Standard substitute for this buoy is a 5 NPR 1972 design of 7'-9" overall lengths.

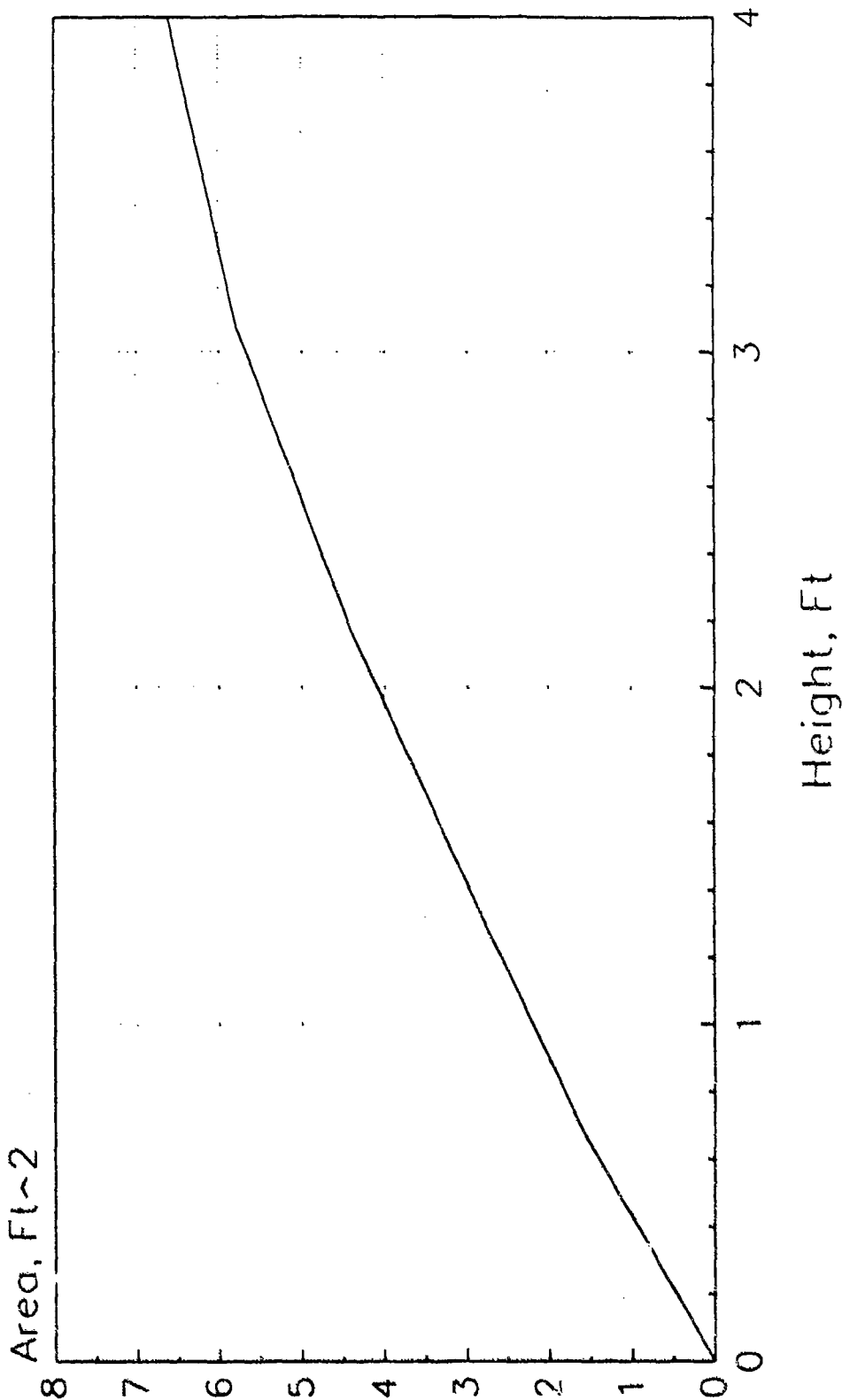
Manufacturers:                            Automatic Power, Inc

Source of Design:                            USCG

Drawing Reference:                            USA-33

5 NPR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 5X11 LR, 1965 Type Standard

Country of Use: USA

Function: The 5x11 LR buoy is designed and constructed for protected locations. This buoy configuration cannot have a sound signal installed.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 3,004 Lbs.  
Buoy Draft: 4.08 Ft.  
Overall Buoy Length: 11.67 Ft.  
Focal Height of Light: 7.42 Ft.  
Buoy Beam or Diameter: 5.00 Ft.  
Freeboard: No Mooring: 2.17 Ft.  
Minimum: 0.75 Ft.  
Pounds Per Inch Immersion: 105 Lbs.  
Metacentric Height: 0.73 Ft.  
Reserve Buoyancy: 1,981 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron  
Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl  
Subdivision: Two Compartments  
Hull Type: Cylindrical  
Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Electric Battery B10  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: None  
Other Payload: Radar Reflector  
Daymark Area: 11.0 Sq. Ft.  
Bridle Size: Chain Size: 1.000 In.  
Length : 12.0 Ft.  
Mooring Line: Size: 0.750 In.  
Type: Steel Chain  
Sinker Size: 4,000 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 2.0 Nmi.  
Radar Range: 4.9 Nmi.  
Maximum Current: 3.0 Kts.  
Mooring Depth: Minimum: 10 Ft.  
Maximum: 160 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

**ADDITIONAL DATA**

**Cost:**                    **Replacement:**        \$0  
                              **Preparation:**         \$0  
                              **Monthly Servicing:**   \$0

**Service Life:**                                30.0 Yrs.

**Maintenance Interval:**                    12 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

The values obtained for metacentric height and reserve buoyancy include bridle and US1010 Power Unit.

**General Notes**

Standard and nonstandard substitutes for this buoy are 5x11LR 1962, 5x11LR 1952, 5x10L 1942.

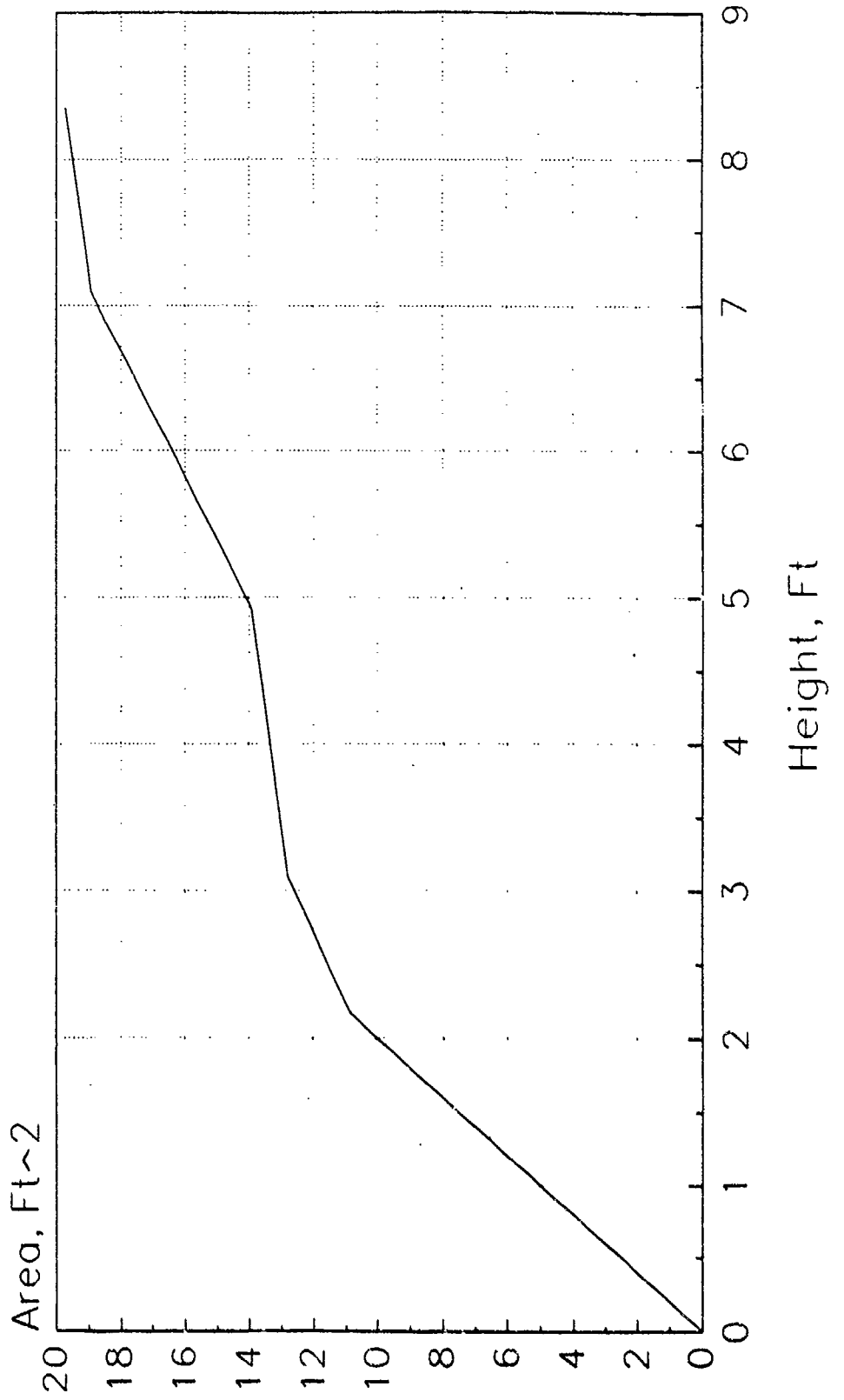
**Manufacturers:**

**Source of Design:**                            USCG

**Drawing Reference:**                        USA-14

5x11 LR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 6 CFR

Country of Use: USA

Function: Unlighted 6th Class buoy, with CAN daymark. "Surlyn" skin/foam construction for durability in heavy traffic channels. For fast current where debris is not a problem.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	48 Lbs.
Buoy Draft:	0.00 Ft.
Overall Buoy Length:	5.16 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	2.00 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	17 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave following
Construction Material:	Hull Shell : "Surlyn" plastic skin Hull Filling : "Surlyn" foam Tower : Topmark : Counterweight: Steel pipe
Coating/Coloring System:	Moulded-in color, green or wht
Subdivision:	Foam filled
Hull Type:	Cylindrical
Counterweight Type:	Tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Internal radar reflector  
Daymark Area: 1.9 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 1

## OPERATING CHARACTERISTICS

Operating Environment: PF  
Nominal Visual Range of Daymark: 1.0 Nmi.  
Radar Range: 1.2 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: "3M" Retro-reflective film

## ADDITIONAL DATA

Cost: Replacement: \$377  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

## Maintenance Notes:

"Surlyn" skin/foam construction has higher impact resistance than steel or GRP construction with a longer survival rate in high traffic areas.

## Special Features:

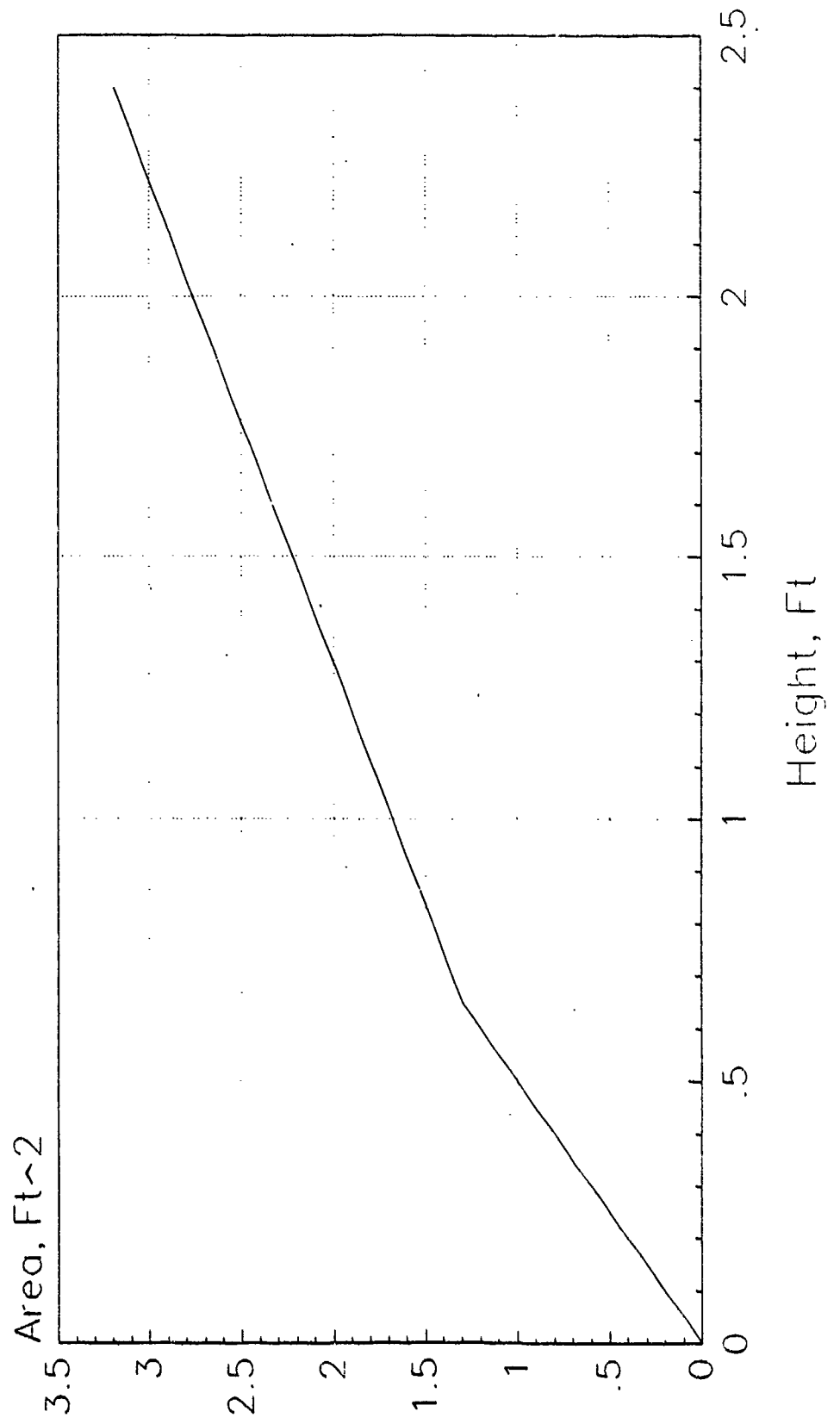
## Stability Notes:

## General Notes

Manufacturers: Gilman;Urethane Tech  
Source of Design: USCG  
Drawing Reference: USA 46

# 6 CFR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 6 CPR, 1972 Type Standard

Country of Use: USA

Function: The 6 CPR buoy is designed and constructed for protected locations, where an unlighted CAN buoy is required. This buoy is foam filled. It should not be used in ice.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	85 Lbs.
Buoy Draft:	4.00 Ft.
Overall Buoy Length:	6.44 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	2.33 Ft.
Freeboard:	No Mooring: 0.71 Ft. Minimum: 0.25 Ft.
Pounds Per Inch Immersion:	22 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : GRP Hull Filling : Foam Tower : Topmark : Counterweight: Steel
Coating/Coloring System:	Epoxy, Anti-Fouling, Vinyl
Subdivision:	Hull Filled
Hull Type:	CAN
Counterweight Type:	External

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 2.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.438 In.  
Type: Steel Chain  
Sinkers Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 1.1 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 3.0 Kts.  
Mooring Depth: Minimum: 5 Ft.  
Maximum: 35 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$413
	Preparation:	\$0
	Monthly Servicing:	\$6

Service Life: 10.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Standard substitute for this buoy is 6 CPR 1972 design of 5'-4" overall length.

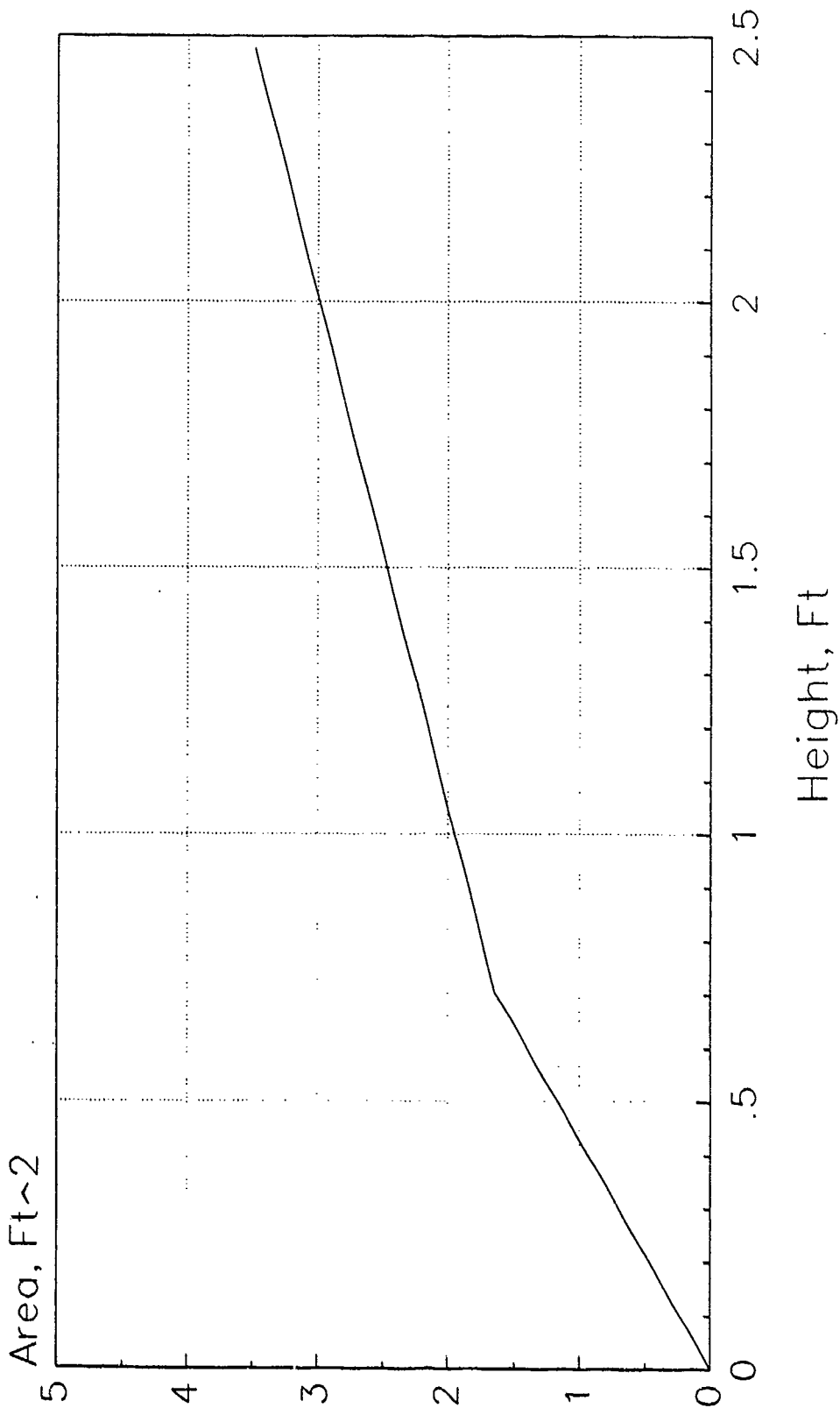
Manufacturers: Rolyan Mfg. Co., Inc.

Source of Design: USCG

Drawing Reference: USA-38

# 6 CPR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 6 CR, 1952 Type Standard

Country of Use: USA

Function: The 6 CR buoy is designed and constructed for river environments and protected locations, where an unlighted CAN buoy is required. This buoy is foam filled.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	160 Lbs.
Buoy Draft:	3.83 Ft.
Overall Buoy Length:	7.25 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	1.50 Ft.
Freeboard:	No Mooring: 2.50 Ft. Minimum: 0.50 Ft.
Pounds Per Inch Immersion:	9 Lbs.
Metacentric Height:	0.33 Ft.
Reserve Buoyancy:	262 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Foam Tower : Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-Fouling, Vinyl
Subdivision:	Hull Filled
Hull Type:	CAN
Counterweight Type:	External

**RELATED EQUIPMENT**

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: Radar Reflectro  
Daymark Area: 4.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.438 In.  
Type: SteelChain &WireRope  
Sinker Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 2

**OPERATING CHARACTERISTICS**

Operating Environment: PM, Rivers  
Nominal Visual Range of Daymark: 1.0 Nmi.  
Radar Range: 2.7 Nmi.  
Maximum Current: 2.5 Kts.  
Mooring Depth: Minimum: 6 Ft.  
Maximum: 60 Ft.  
Reflective Material Type:

**ADDITIONAL DATA**

<b>Cost:</b>	<b>Replacement:</b>	<b>\$259</b>
	<b>Preparation:</b>	<b>\$0</b>
	<b>Monthly Servicing:</b>	<b>\$0</b>

**Service Life:** 30.0 Yrs.

**Maintenance Interval:** 12 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

**General Notes**

Nonstandard substitutes for this buoy are 6C 1942 designs of 6'-2" and 6'-7" overall length.

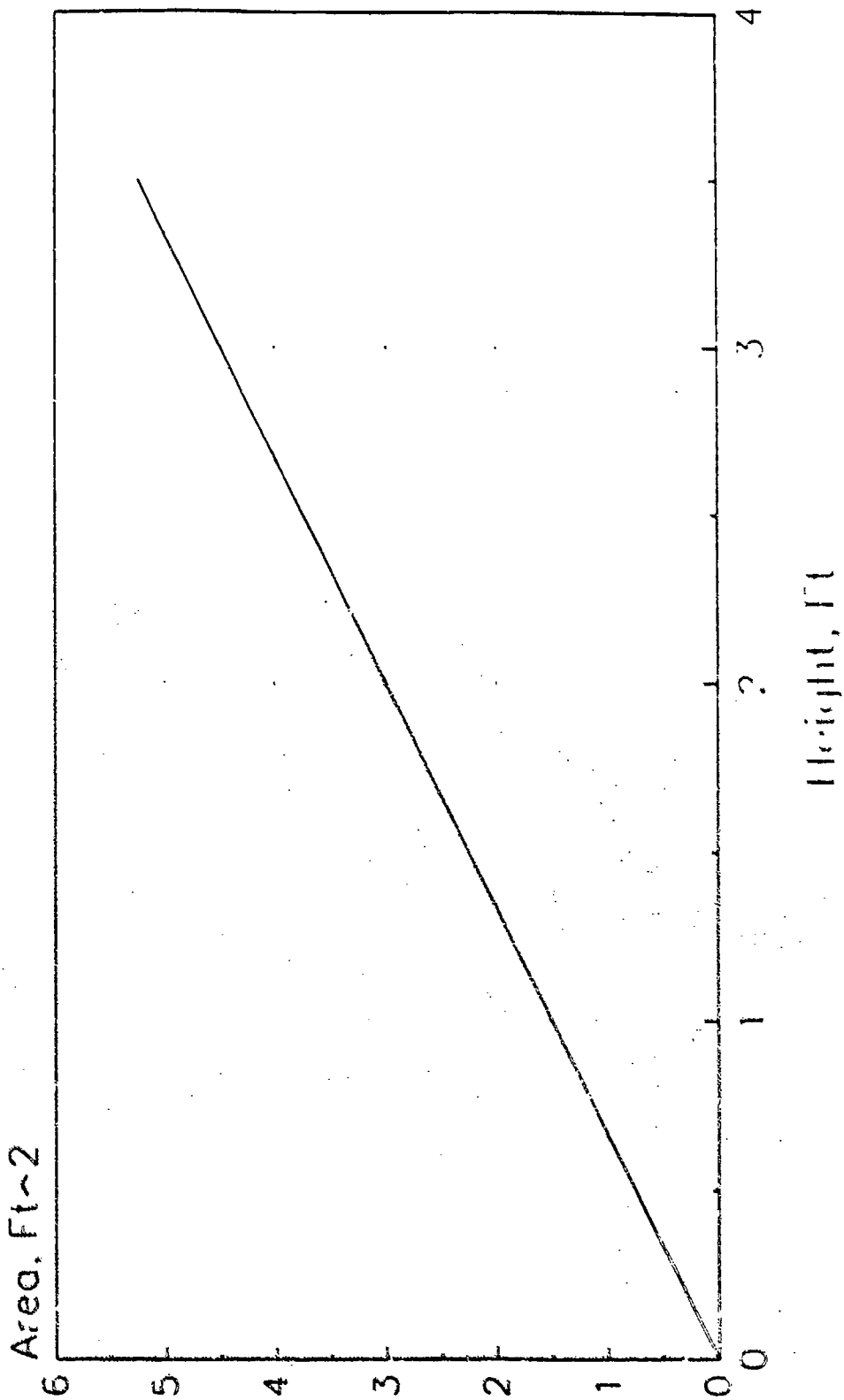
**Manufacturers:**

**Source of Design:** USCG

**Drawing Reference:** USA-34

6 CR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 6 CT, 1952 Type Standard

Country of Use: USA

Function: The 6 CT buoy is designed and constructed for river environments, where a radar reflector is not required. This buoy is foam filled.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 165 Lbs.

Buoy Draft: 4.00 Ft.

Overall Buoy Length: 7.00 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 1.50 Ft.

Freeboard: No Mooring: 2.75 Ft.  
Minimum: 1.05 Ft.

Pounds Per Inch Immersion: 9 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: Hull filled

Hull Type: CAN

Counterweight Type: External

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 4.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.438 In.  
Type: SteelChain &WireRope  
Sinker Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, Rivers  
Nominal Visual Range of Daymark: 0.8 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 2.5 Kts.  
Mooring Depth: Minimum: 5 Ft.  
Maximum: 37 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$259
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Nonstandard substitutes for this buoy are 6C 1942 designs of 6'-2" and 6'-7" overall length.

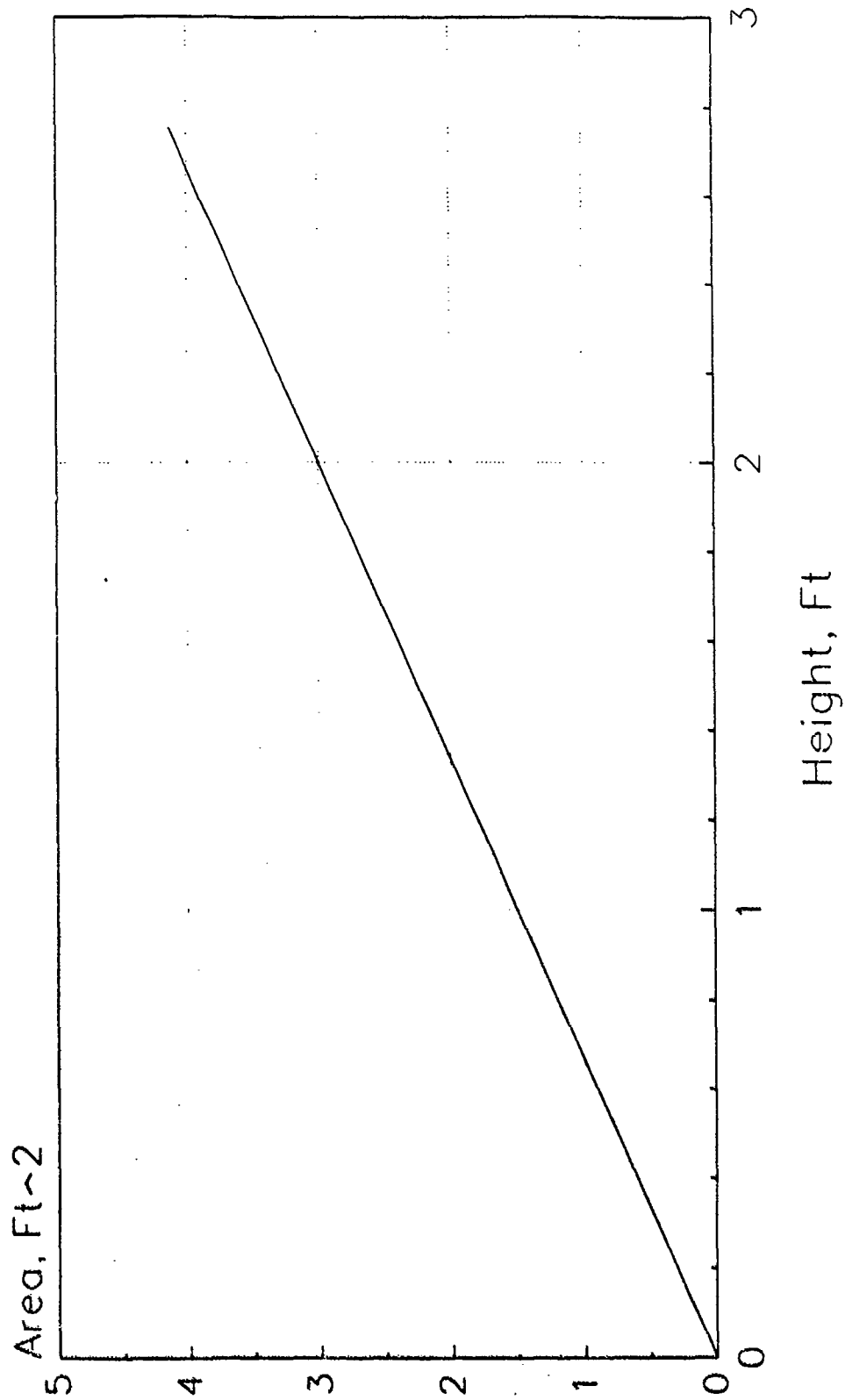
Manufacturers:

Source of Design: USCG

Drawing Reference: USA-36

6 CT

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 6 NFR

Country of Use: USA

Function: Unlighted 6th Class buoy, with NUN daymark. "Surlyn" skin/foam construction for durability in heavy traffic channels. For fast current where debris is not a problem.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	48 Lbs.
Buoy Draft:	0.00 Ft.
Overall Buoy Length:	5.16 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	2.00 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	17 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave following
Construction Material:	Hull Shell : "Surlyn" plastic skin Hull Filling : "Surlyn" foam Tower : Topmark : Counterweight: Steel pipe
Coating/Coloring System:	Moulded-in color, red
Subdivision:	Foam filled
Hull Type:	Cylindrical
Counterweight Type:	Tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Internal radar reflector  
Daymark Area: 1.9 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 1

## OPERATING CHARACTERISTICS

Operating Environment: PF  
Nominal Visual Range of Daymark: 1.0 Nmi.  
Radar Range: 1.2 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: "3M" Retro-reflective film

**ADDITIONAL DATA**

**Cost:**                    **Replacement:**     \$427  
                              **Preparation:**        \$0  
                              **Monthly Servicing:**   \$0

**Service Life:**    0.0 Yrs.

**Maintenance Interval:**    0 Mos.

**Maintenance Notes:**

"Surlyn" skin/foam construction has higher impact resistance than steel or GRP construction with a longer survival rate in high traffic areas.

**Special Features:****Stability Notes:****General Notes**

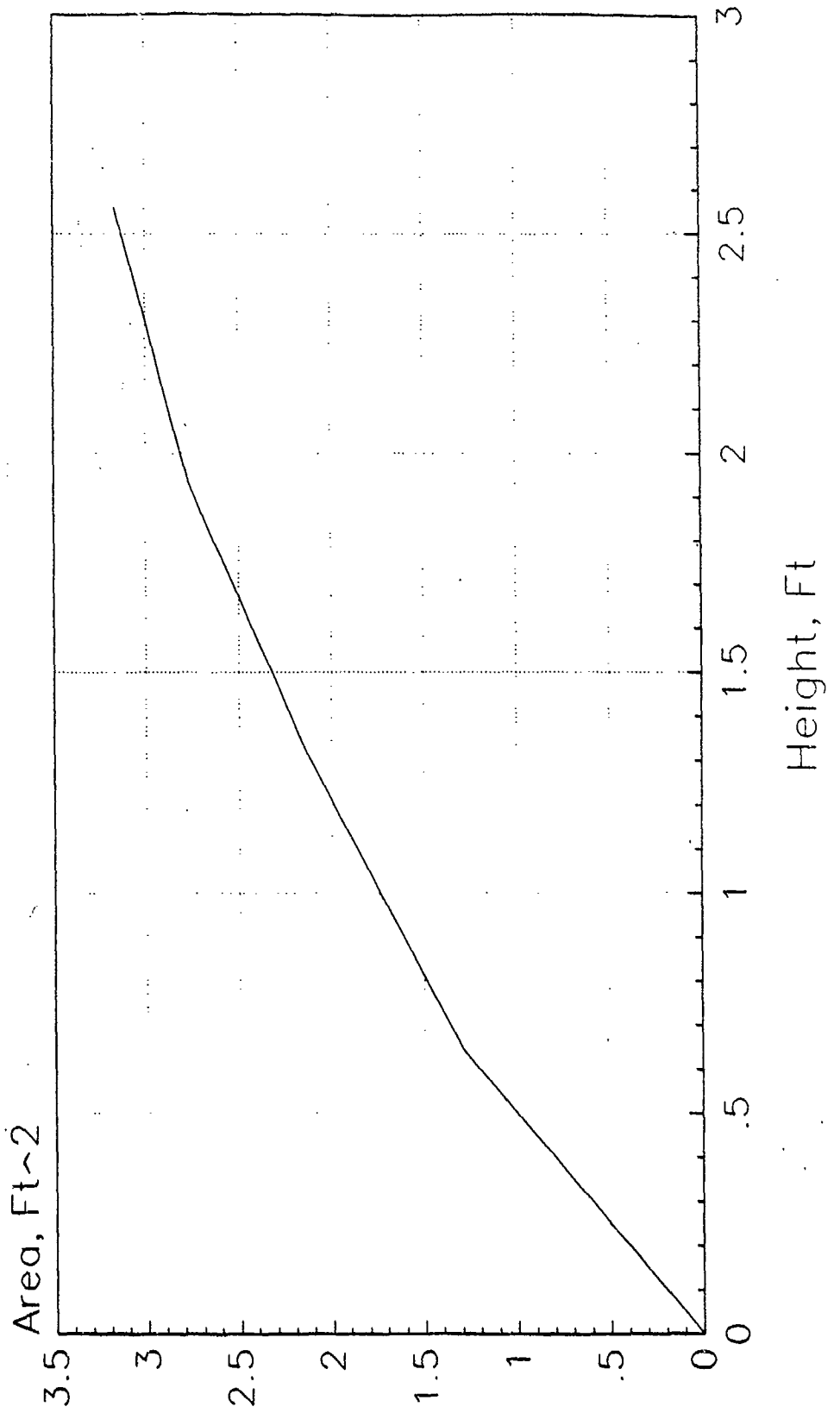
**Manufacturers:**    Gilman; Urethane Tech

**Source of Design:**    USCG

**Drawing Reference:**    USA 46

6 NFR

Cumulative Area



B-1241

## GENERAL INFORMATION

Name of Buoy: 6 NPR, 1972 Type Standard

Country of Use: USA

Function: The 6 NPR buoy is designed and constructed for protected locations, where an unlighted NUN buoy is required. This buoy is foam filled. It should not be used in ice.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	85 Lbs.
Buoy Draft:	4.00 Ft.
Overall Buoy Length:	6.56 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	2.33 Ft.
Freeboard:	No Mooring: 0.71 Ft. Minimum: 0.25 Ft.
Pounds Per Inch Immersion:	22 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : GRP Hull Filling : Foam Tower : Topmark : Counterweight: Steel
Coating/Coloring System:	Epoxy, Anti-Fouling, Vinyl
Subdivision:	Hull Filled
Hull Type:	NUN
Counterweight Type:	External

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 2.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.438 In.  
Type: Steel Chain  
Sinker Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 1.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 3.0 Kts.  
Mooring Depth: Minimum: 5 Ft.  
Maximum: 35 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$413
	Preparation:	\$0
	Monthly Servicing:	\$6

Service Life: 10.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Standard substitute for this buoy is 6 NPR 1972 design of 5'-6" overall length.

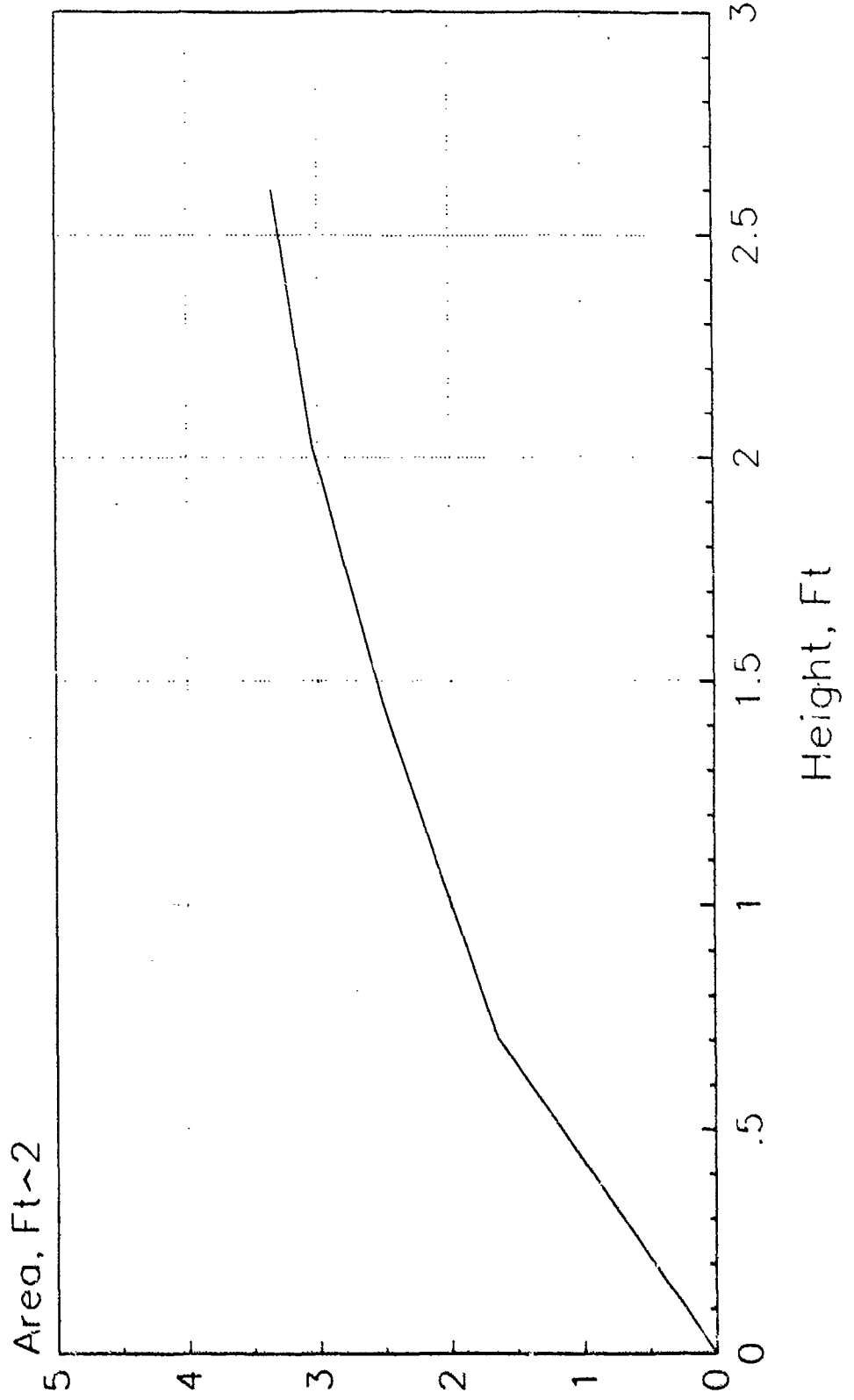
Manufacturers: Rolyan Mfg.Co., Inc.

Source of Design: USCG

Drawing Reference: USA-39

6 NPR

Cumulative Area



B-1245

## GENERAL INFORMATION

Name of Buoy: 6 NR, 1952 Type Standard

Country of Use: USA

Function: The 6 NR buoy is designed and constructed for river environments and protected locations, where an unlighted NUN buoy is required. This buoy is foam filled.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 165 Lbs.

Buoy Draft: 4.00 Ft.

Overall Buoy Length: 8.67 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 1.50 Ft.

Freeboard: No Mooring: 2.67 Ft.  
Minimum: 0.50 Ft.

Pounds Per Inch Immersion: 9 Lbs.

Metacentric Height: 0.17 Ft.

Reserve Buoyancy: 257 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: Hull Filled

Hull Type: NUN

Counterweight Type: External

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: Radar Reflector  
Daymark Area: 4.1 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.438 In.  
Type: SteelChain &WireRope  
Sinker Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM and Rivers  
Nominal Visual Range of Daymark: 1.1 Nmi.  
Radar Range: 3.0 Nmi.  
Maximum Current: 2.5 Kts.  
Mooring Depth: Minimum: 6 Ft.  
Maximum: 64 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:	Replacement:	\$259
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

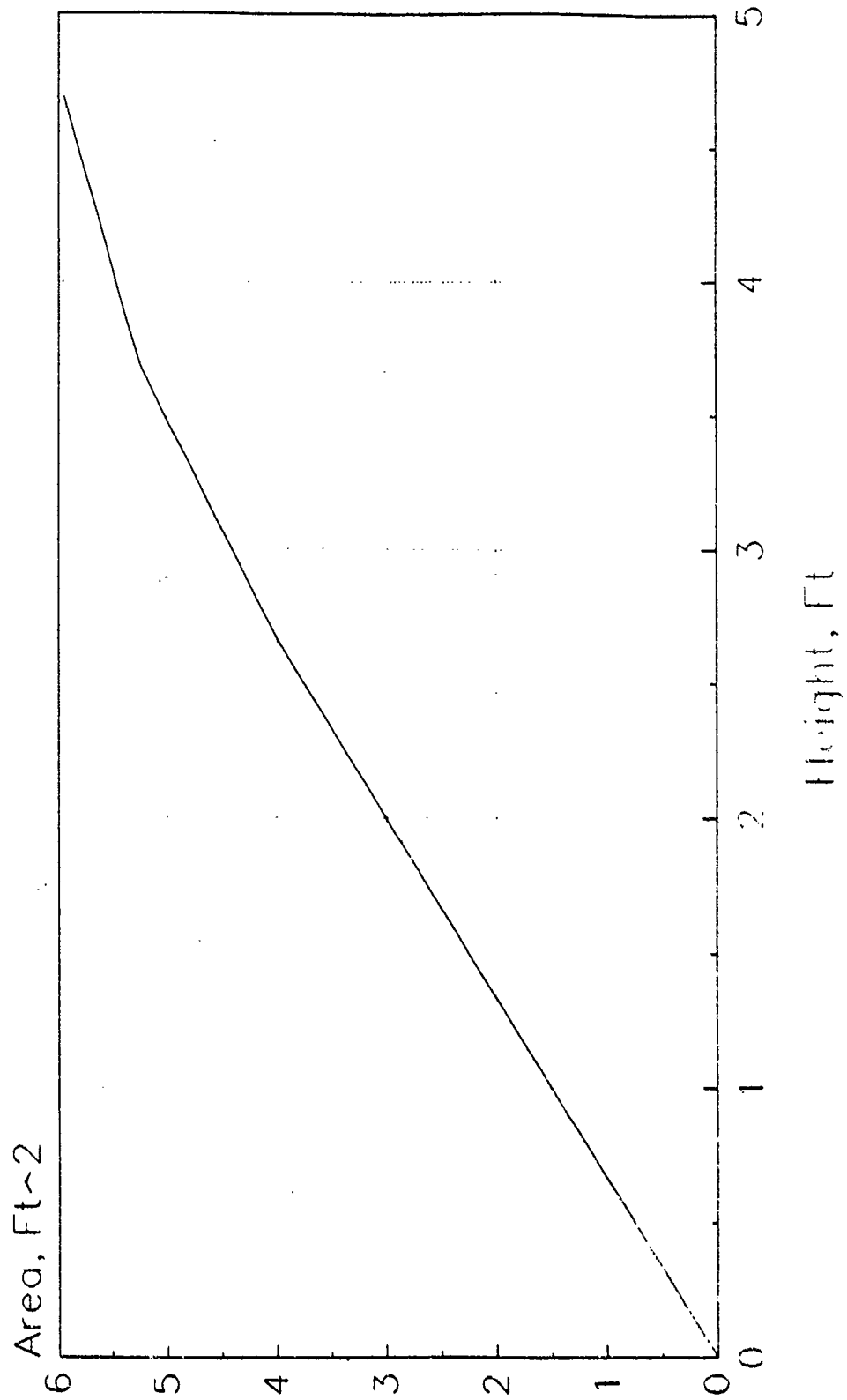
Nonstandard substitutes for this buoy are 6C1942 designs of 6'-2" and 6'-7" overall length.

Manufacturers:

Source of Design:	USCG
Drawing Reference:	USA-35

6 NR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 6 NT, 1952 Type Standard

Country of Use: USA

Function: The 6 NT buoy is designed and constructed for river environments, where a radar reflector is not required. This buoy is foam filled.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	170 Lbs.
Buoy Draft:	4.00 Ft.
Overall Buoy Length:	8.67 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	1.50 Ft.
Freeboard:	No Mooring: 4.17 Ft. Minimum: 2.50 Ft.
Pounds Per Inch Immersion:	6 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Foam Tower : Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-fouling, Vinyl
Subdivision:	Hull Filled
Hull Type:	NUN
Counterweight Type:	External

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 4.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.438 In.  
Type: SteelChain &WireRope  
Sinker Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, Rivers  
Nominal Visual Range of Daymark: 1.1 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 2.5 Kts.  
Mooring Depth: Minimum: 6 Ft.  
Maximum: 49 Ft.  
Reflective Material Type:

**ADDITIONAL DATA**

**Cost:**            **Replacement:**    \$259  
                    **Preparation:**       \$0  
                    **Monthly Servicing:**    \$0

**Service Life:**                            30.0 Yrs.

**Maintenance Interval:**                    12 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

**General Notes**

Non-standard substitutes for this buoy are 6N 1942 designs of 7'-4" and 7'-9" overall length.

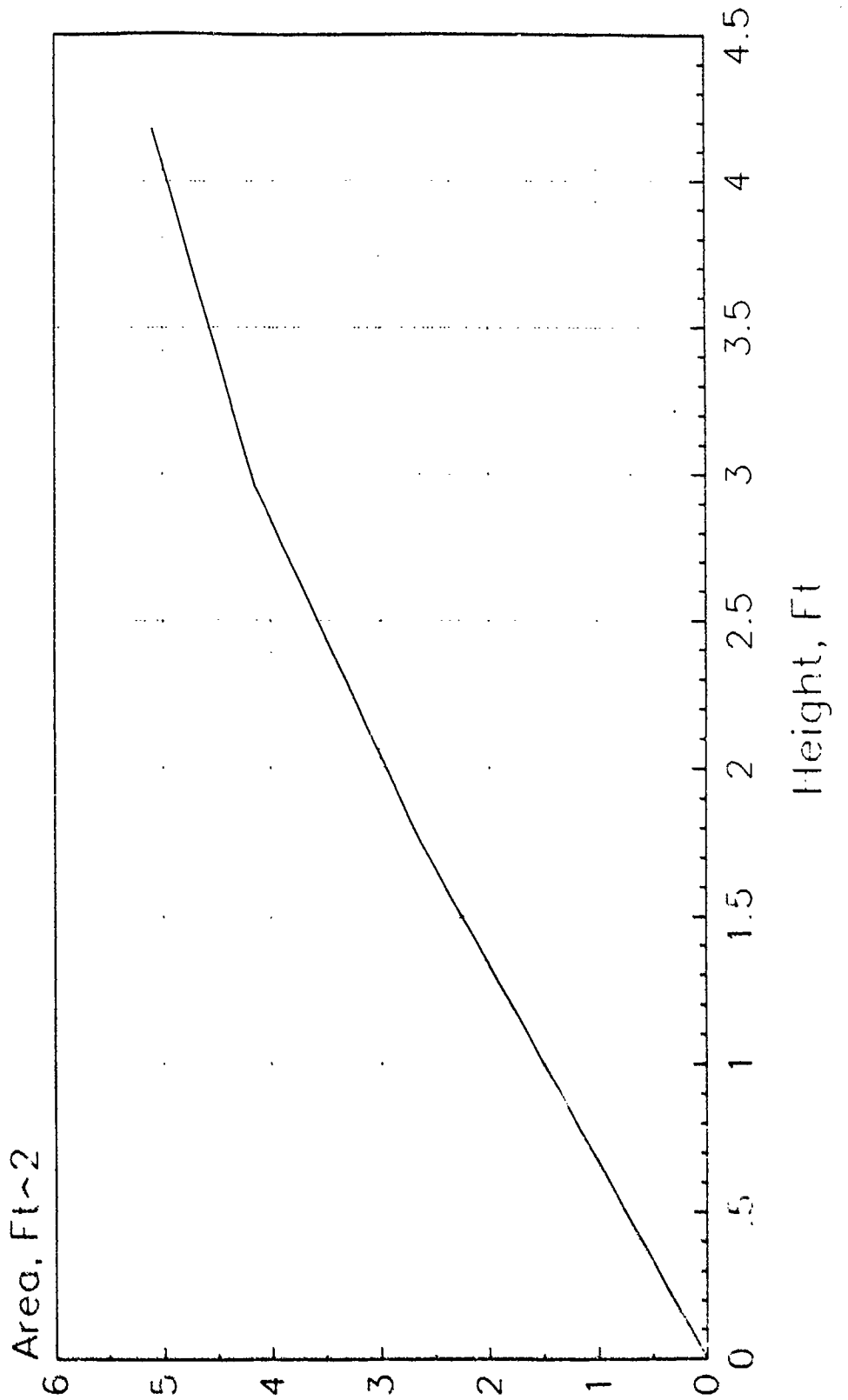
**Manufacturers:**

**Source of Design:**                    USCG

**Drawing Reference:**                    USA-37

6 NT

Cumulative Area



B-1253

## GENERAL INFORMATION

Name of Buoy: 6X20 LBR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for semiexposed or protected locations, this buoy configuration is used with an 85-lb bell, wave-actuated sound signal. The basic buoy is the same as th 6X20 LR.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 6,270 Lbs.

Buoy Draft: 8.83 Ft.

Overall Buoy Length: 19.56 Ft.

Focal Height of Light: 10.67 Ft.

Buoy Beam or Diameter: 6.00 Ft.

Freeboard: No Mooring: 2.25 Ft.  
Minimum: 1.00 Ft.

Pounds Per Inch Immersion: 150 Lbs.

Metacentric Height: 1.03 Ft.

Reserve Buoyancy: 2,347 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy, Anti-fouling, Vinyl

Subdivision: Two Compartments

Hull Type: Cylindrical

Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: 85-lb bell  
Other Payload: Radar Reflector  
Daymark Area: 15.0 Sq. Ft.  
Bridle Size: Chain Size: 1.000 In.  
Length : 12.0 Ft.  
Mooring Line: Size: 1.125 In.  
Type: Steel Chain  
Sinkers Size: 5,000 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM or PM  
Nominal Visual Range of Daymark: 2.1 Nmi.  
Radar Range: 5.6 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 20 Ft.  
Maximum: 90 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

**ADDITIONAL DATA**

**Cost:**                **Replacement:**        \$0  
                         **Preparation:**         \$0  
                         **Monthly Servicing:**    \$0

**Service Life:**                               30.0 Yrs.

**Maintenance Interval:**                     12 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

In determining values for metacentric height and reserve buoyancy, the bridle and US3010 Power Unit have been included.

**General Notes**

Standard and non-standard substitutes for this buoy are 6x20LBR 1952, 6x20LB 1942.

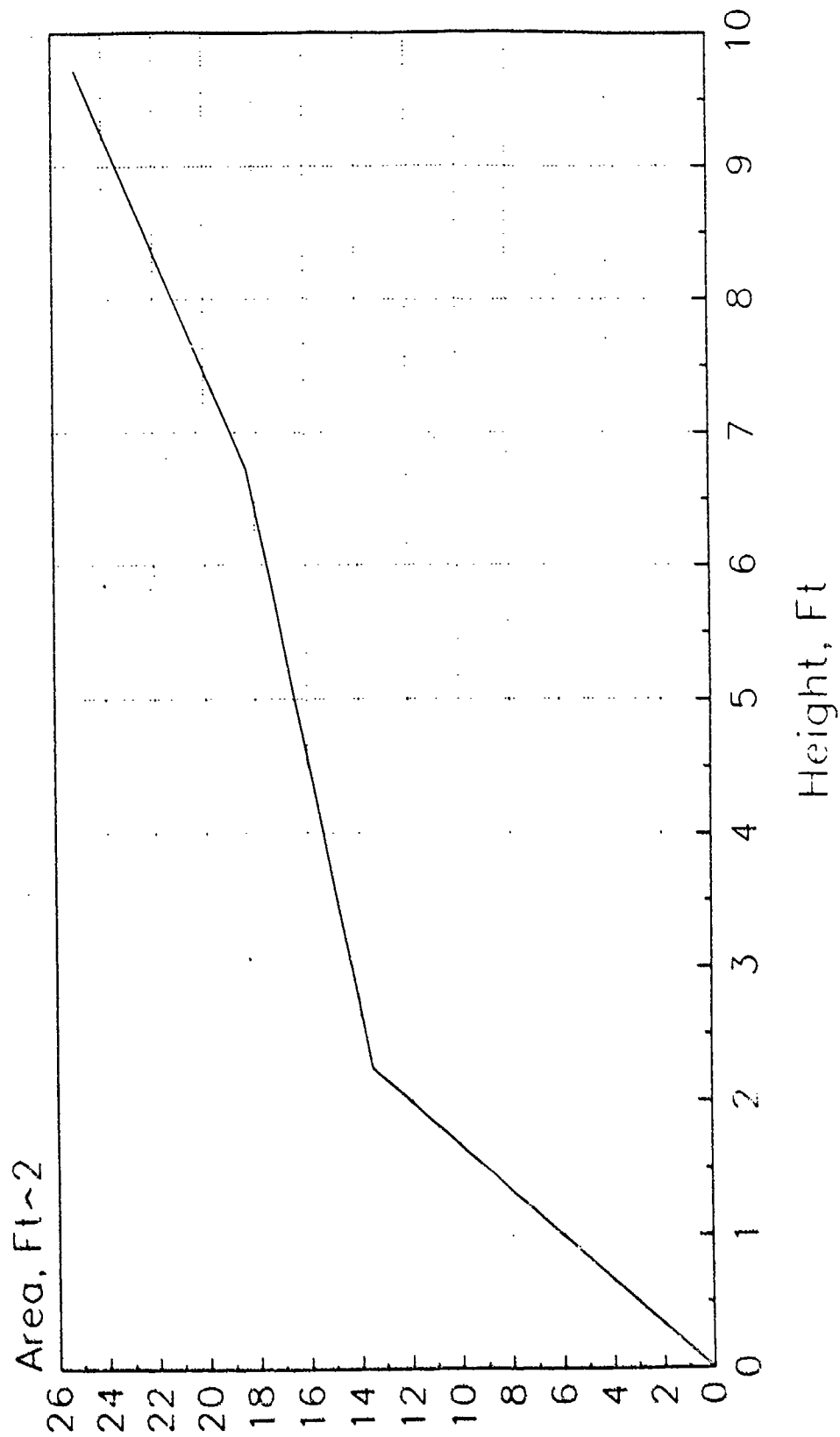
**Manufacturers:**

**Source of Design:**                         USCG

**Drawing Reference:**                       USA-12

6x20 LBR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 6X20 LR, 1962 Type Standard

Country of Use: USA

Function: The 6X20 LR buoy is designed and constructed for semiexposed or protected locations. This buoy configuration is used when a sound signal is not required.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 6,023 Lbs.

Buoy Draft: 8.67 Ft.

Overall Buoy Length: 19.55 Ft.

Focal Height of Light: 10.83 Ft.

Buoy Beam or Diameter: 6.00 Ft.

Freeboard: No Mooring: 2.42 Ft.  
Minimum: 1.00 Ft.

Pounds Per Inch Immersion: 150 Lbs.

Metacentric Height: 1.21 Ft.

Reserve Buoyancy: 2,595 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy, Anti-fouling, Vinyl

Subdivision: Two Compartment

Hull Type: Cylindrical

Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern, 155 mm  
Sound Equipment: None  
Other Payload: Radar Reflector  
Daymark Area: 15.0 Sq. Ft.  
Bridle Size: Chain Size: 1.000 In.  
Length : 12.0 Ft.  
Mooring Line: Size: 1.125 In.  
Type: Steel Chain  
Sinker Size: 5,000 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM or PM  
Nominal Visual Range of Daymark: 2.0 Nmi.  
Radar Range: 5.6 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 20 Ft.  
Maximum: 85 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                            30.0 Yrs.

Maintenance Interval:                    12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

In determining values for metacentric height and reserve buoyancy, the bridle and US3010 Power Unit have been included.

General Notes

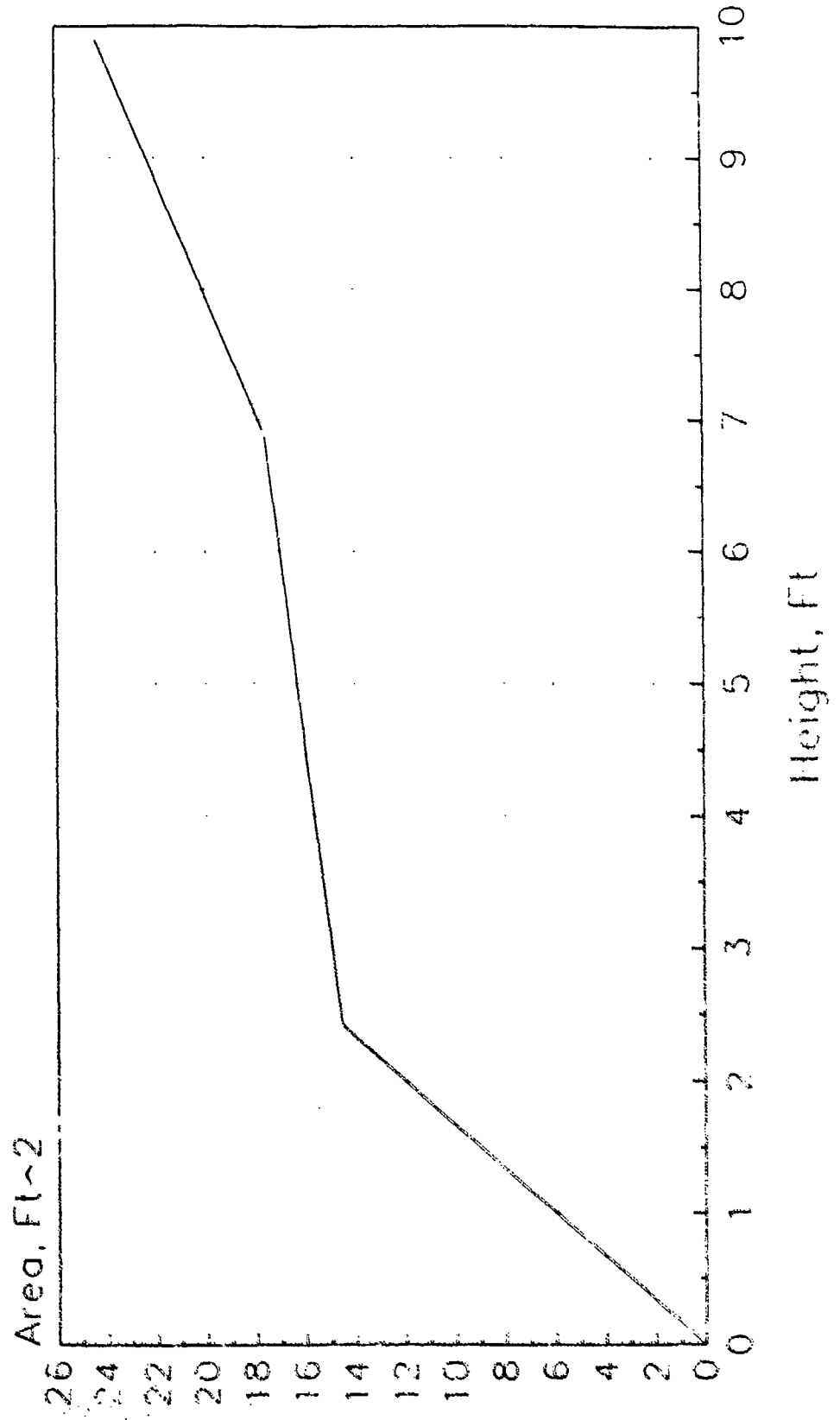
Manufacturers:

Source of Design:                    USCG

Drawing Reference:                    USA-11

6x20 LR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 7X17 LR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for semi-exposed locations, this buoy can be modified to install an 85 lb. bell. It is very effective in shallow water areas due to its flat bottom.

Date Of Last Update For This Record: 07/30/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 7,810 Lbs.  
Buoy Draft: 5.50 Ft.  
Overall Buoy Length: 17.08 Ft.  
Focal Height of Light: 11.67 Ft.  
Buoy Beam or Diameter: 7.00 Ft.  
Freeboard: No Mooring: 3.00 Ft.  
Minimum: 1.00 Ft.  
Pounds Per Inch Immersion: 205 Lbs.  
Metacentric Height: 0.80 Ft.  
Reserve Buoyancy: 5,530 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron  
Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl  
Subdivision: Two Compartment  
Hull Type: Cylinder  
Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: Can be mod. to instl. 85lb bel  
Other Payload: Can have radar reflector added  
Daymark Area: 22.3 Sq. Ft.  
Bridle Size: Chain Size: 1.250 In.  
Length : 15.0 Ft.  
Mooring Line: Size: 1.125 In.  
Type: Steel Chain  
Sinkers Size: 6,500 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 2.3 Nmi.  
Radar Range: 2.7 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 15 Ft.  
Maximum: 185 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

In determining values for metacentric height and reserve buoyancy, the bridle and US3010 Power Unit have been included.

General Notes

Older substitutes and variables of this buoy are 7x17LR 1952 and 7x15L 1942, and 7x18L 1928.

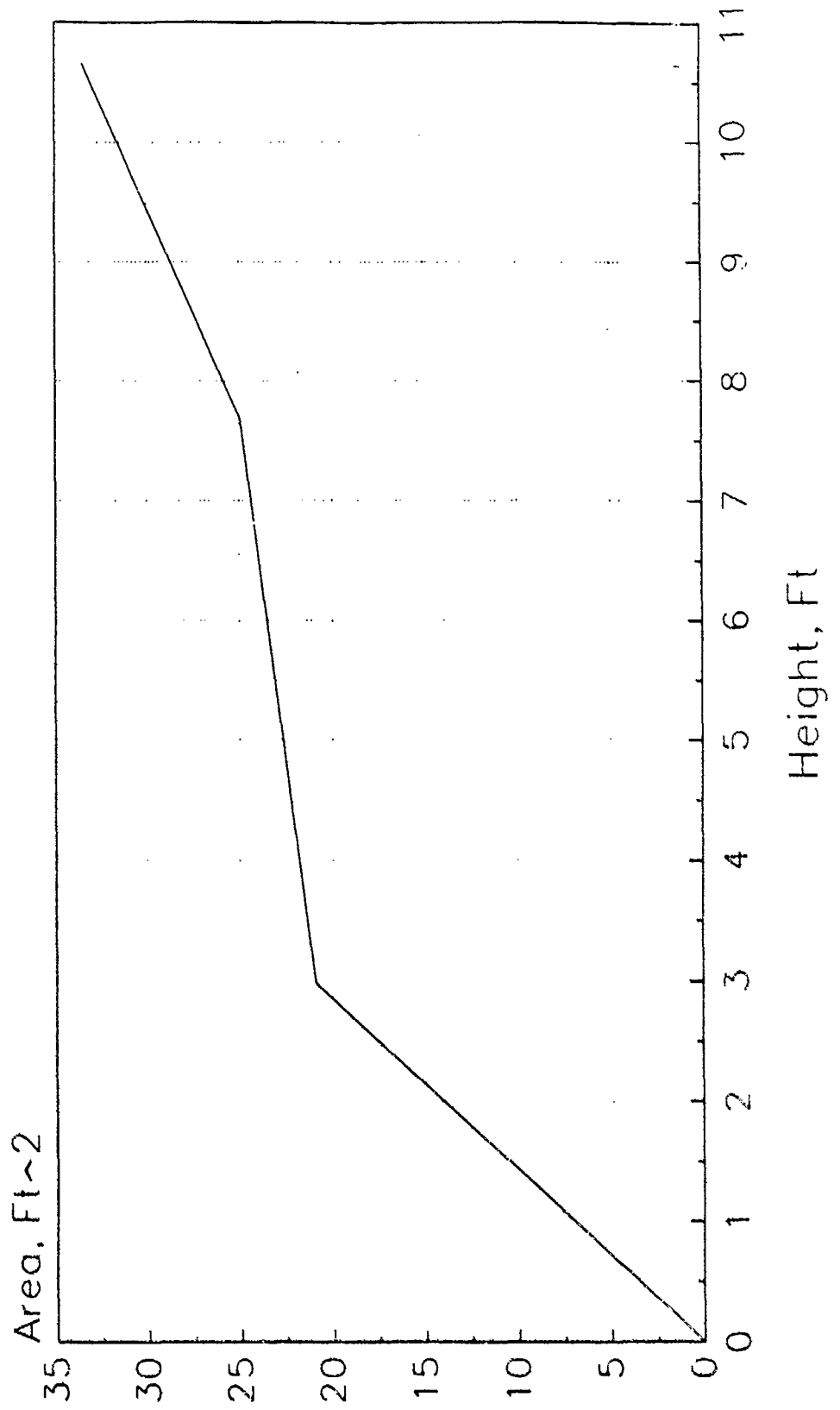
Manufacturers:

Source of Design: USCG

Drawing Reference: USA-10

7x17 LR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 7x20 LI, 1982 Type Standard

Country of Use: USA

Function: The 7x20 LI buoy is designed and constructed for use as a seasonal aid on stations subjected to ice conditions.

Date Of Last Update For This Record: 11/09/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 6,010 Lbs.  
Buoy Draft: 10.33 Ft.  
Overall Buoy Length: 20.42 Ft.  
Focal Height of Light: 9.83 Ft.  
Buoy Beam or Diameter: 7.00 Ft.  
Freeboard: No Mooring: 3.58 Ft.  
Minimum: 3.00 Ft.  
Pounds Per Inch Immersion: 170 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 6,120 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron  
Coating/Coloring System: Epoxy, Anti-fouling, Vinyl  
Subdivision: One Compartment  
Hull Type: Conical  
Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Ice buoy dry cell  
Lighting Equipment: Lexan dome w/155mm lantern  
Sound Equipment: None  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.750 In.  
Type: Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: None  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: Ice - Seasonal Use  
Nominal Visual Range of Daymark: 2.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost:                   Replacement:         \$0  
                          Preparation:         \$0  
                          Monthly Servicing:   \$0

Service Life:                                 30.0 Yrs.

Maintenance Interval:                         12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

When using this buoy, to replace another buoy temporarily, the mooring of the permanent buoy is retained and a 3/4" in. chain is added. Variations are 6x24L1, 6x16L1, 1CTL and 2CTL.

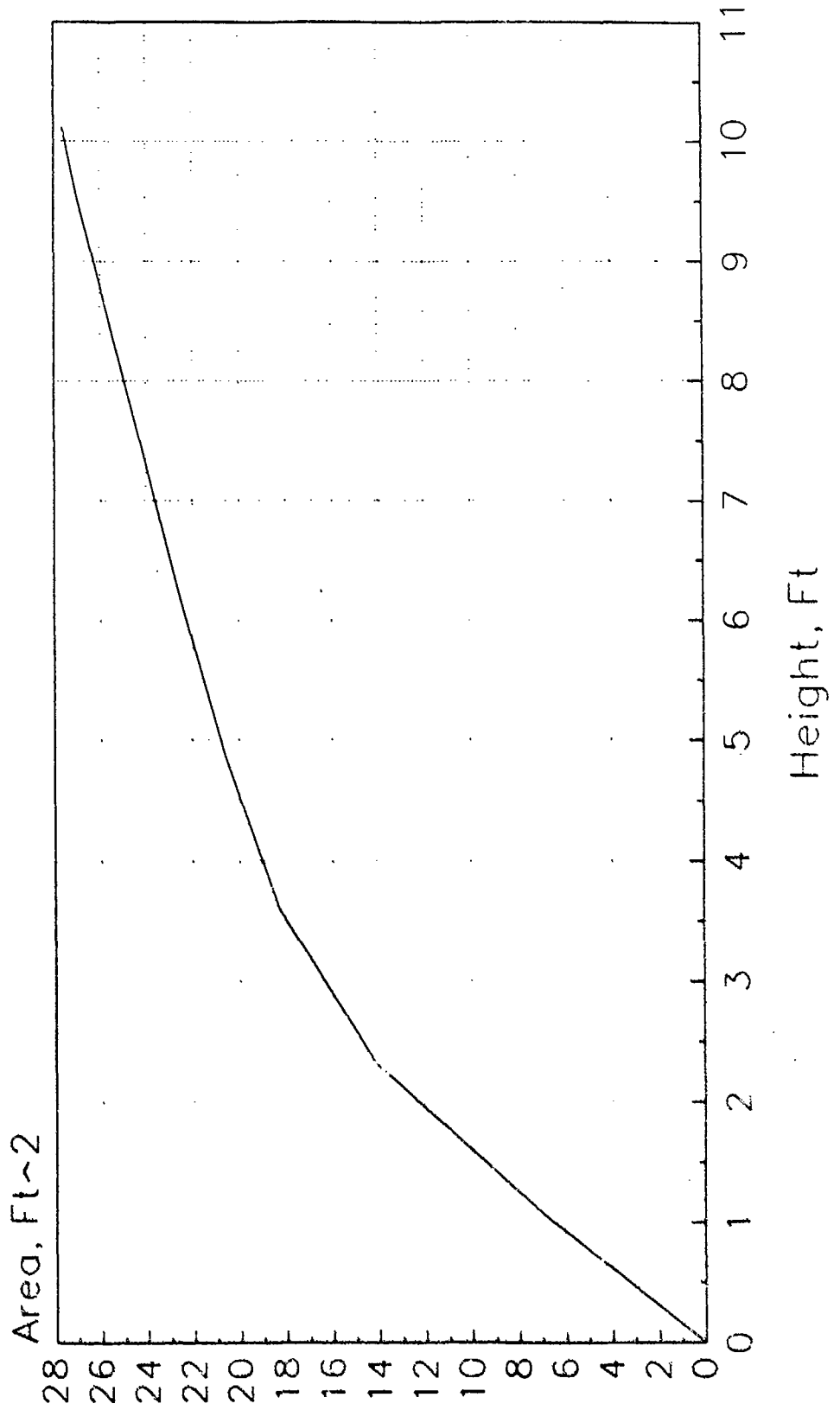
Manufacturers:

Source of Design:                             USCG

Drawing Reference:                            USA-13

7x20 LI

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 8X26 LBR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for exposed and semiexposed locations, this buoy configuration is used with a 225-lb bell, wave-actuated sound signal. The basic buoy is the same as 8X26 LR.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	11,917 Lbs.
Buoy Draft:	10.25 Ft.
Overall Buoy Length:	26.01 Ft.
Focal Height of Light:	15.67 Ft.
Buoy Beam or Diameter:	8.00 Ft.
Freeboard:	No Mooring: 3.08 Ft. Minimum: 1.25 Ft.
Pounds Per Inch Immersion:	270 Lbs.
Metacentric Height:	1.24 Ft.
Reserve Buoyancy:	7,775 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-fouling, Vinyl
Subdivision:	Two Compartment
Hull Type:	Cylindrical
Counterweight Type:	External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: 225-lb Bell  
Other Payload: Radar Reflector  
Daymark Area: 37.5 Sq. Ft.  
Bridle Size: Chain Size: 1.250 In.  
Length : 15.0 Ft.  
Mooring Line: Size: 1.250 In.  
Type: Steel Chain  
Sinkers Size: 8,500 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM or SM  
Nominal Visual Range of Daymark: 2.9 Nmi.  
Radar Range: 7.7 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 25 Ft.  
Maximum: 190 Ft.  
Reflective Material Type: Retroreflective pns & numerals

**ADDITIONAL DATA**

**Cost:**            **Replacement:**        \$0  
                    **Preparation:**          \$0  
                    **Monthly Servicing:**    \$0

**Service Life:**                            30.0 Yrs.

**Maintenance Interval:**                12 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

In determining values for metacentric height and reserve buoyancy, the bridle and US3010 Power Unit have been included.

**General Notes**

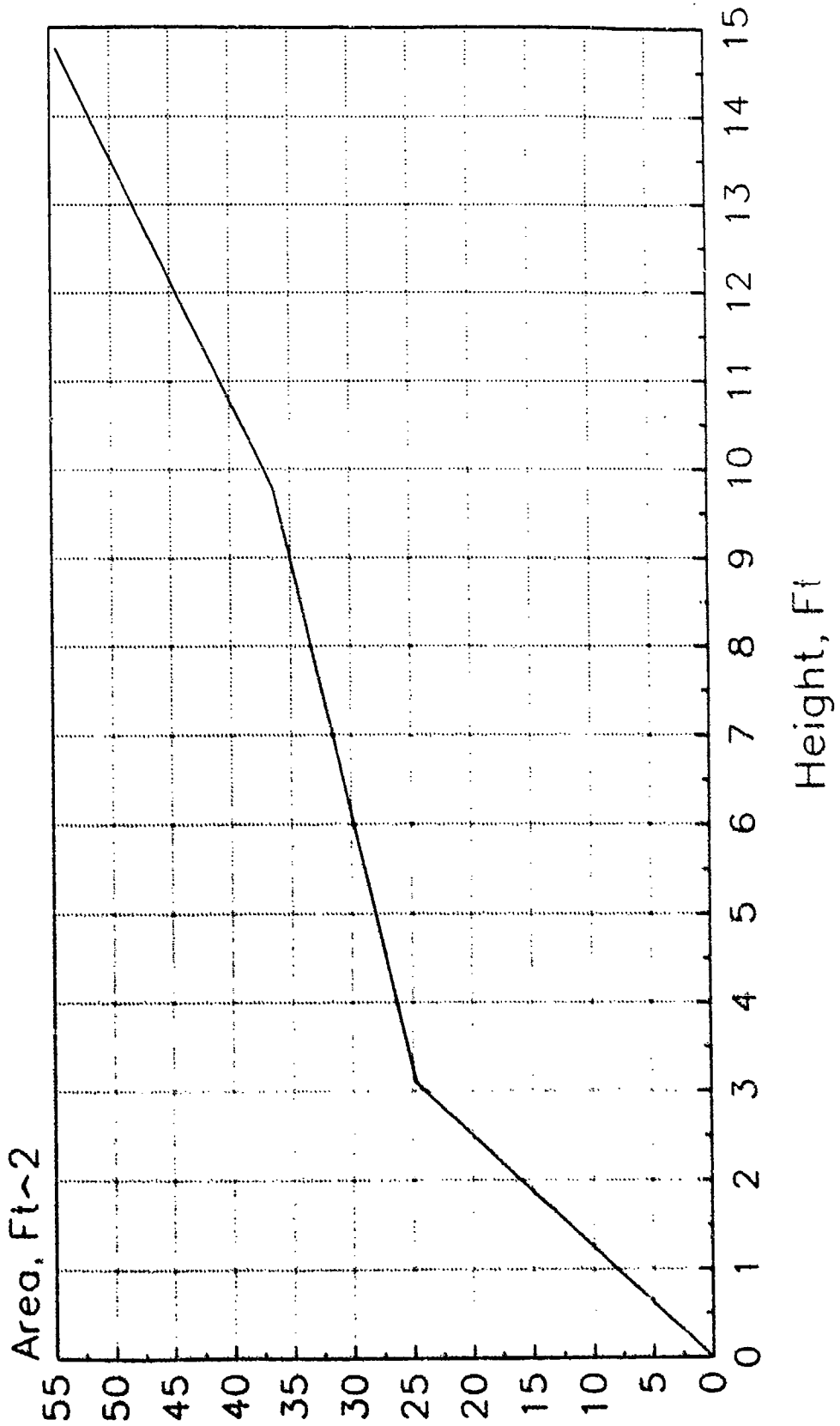
**Manufacturers:**

**Source of Design:**                      USCG

**Drawing Reference:**                    USA-7

8x26 LBR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 8X26 LGR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for exposed or semiexposed locations, this buoy configuration is used with a 20-in diameter, three-gong wave-actuated sound signal. The basic buoy is the same as the 8X26 LR.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	11,853 Lbs.
Buoy Draft:	10.25 Ft.
Overall Buoy Length:	26.01 Ft.
Focal Height of Light:	15.67 Ft.
Buoy Beam or Diameter:	8.00 Ft.
Freeboard:	No Mooring: 3.08 Ft. Minimum: 1.25 Ft.
Pounds Per Inch Immersion:	270 Lbs.
Metacentric Height:	1.24 Ft.
Reserve Buoyancy:	7,774 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-fouling Vinyl
Subdivision:	Two Compartment
Hull Type:	Cylindrical
Counterweight Type:	External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: 3 20-in Gongs  
Other Payload: Radar Reflector  
Daymark Area: 37.5 Sq. Ft.  
Bridle Size: Chain Size: 1.250 In.  
Length : 15.0 Ft.  
Mooring Line: Size: 1.250 In.  
Type: Steel Chain  
Sinker Size: 8,500 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM/SM  
Nominal Visual Range of Daymark: 2.9 Nmi.  
Radar Range: 7.7 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 25 Ft.  
Maximum: 190 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                30.0 Yrs.

Maintenance Interval:                        12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

In determining values for metacentric height and reserve buoyancy, the bridle and US3010 Power Unit have been included.

General Notes

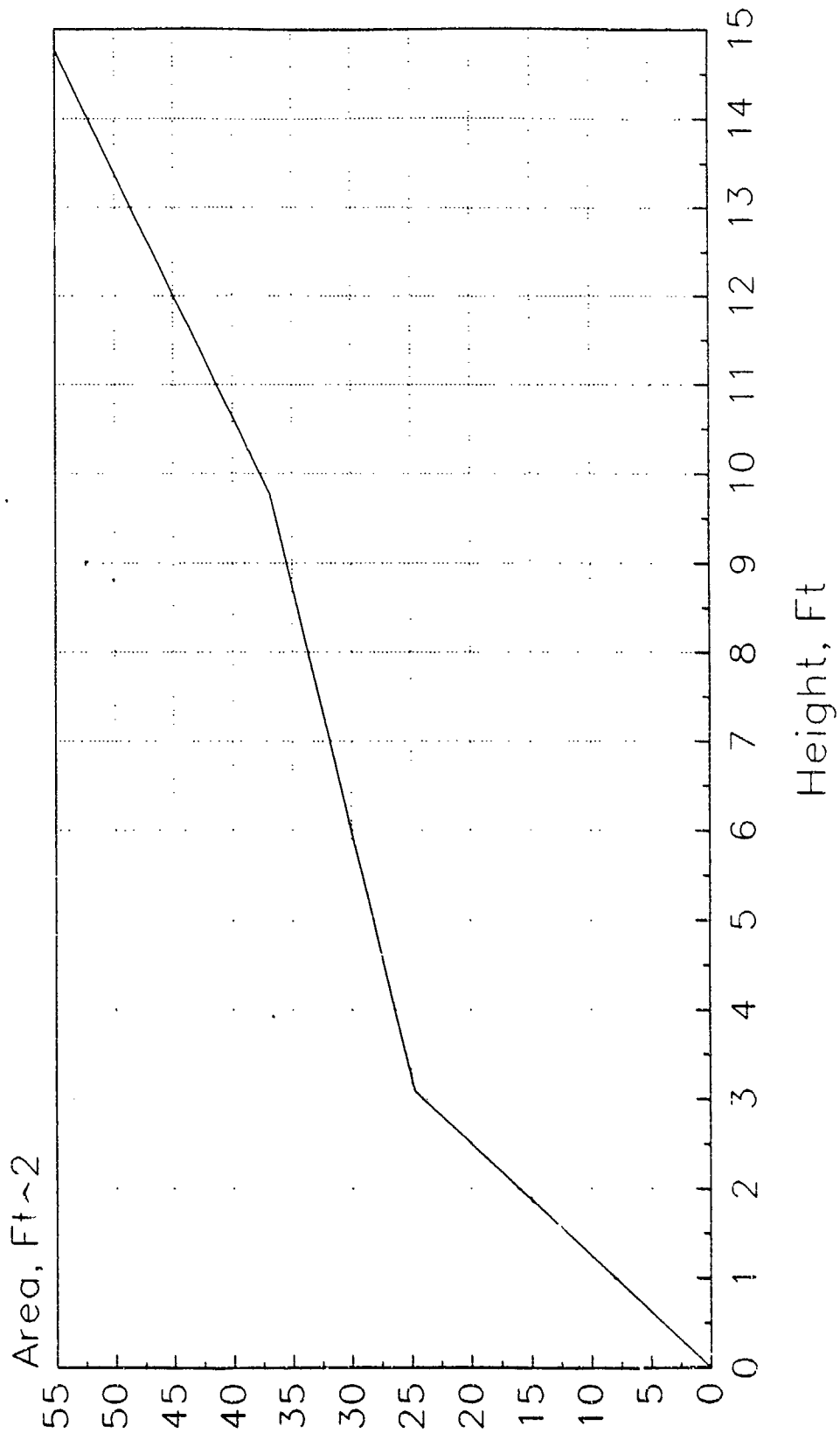
Manufacturers:

Source of Design:                            USCG

Drawing Reference:                          USA-8

# 8x26 LGR

Cumulative Area \_\_\_\_\_



## GENERAL INFORMATION

Name of Buoy: 8X26 LR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for exposed or semiexposed locations, this buoy configuration is used when a sound signal is not required.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 11,382 Lbs.

Buoy Draft: 10.08 Ft.

Overall Buoy Length: 26.01 Ft.

Focal Height of Light: 15.83 Ft.

Buoy Beam or Diameter: 8.00 Ft.

Freeboard: No Mooring: 3.25 Ft.  
Minimum: 1.25 Ft.

Pounds Per Inch Immersion: 270 Lbs.

Metacentric Height: 1.52 Ft.

Reserve Buoyancy: 8,302 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: Two Compartment

Hull Type: Cylindrical

Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: None  
Other Payload: Radar Reflector  
Daymark Area: 37.5 Sq. Ft.  
Bridle Size: Chain Size: 1.250 In.  
Length : 15.0 Ft.  
Mooring Line: Size: 1.250 In.  
Type: Steel Chain  
Sinkers Size: 8,500 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM/SM  
Nominal Visual Range of Daymark: 2.6 Nmi.  
Radar Range: 7.7 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 25 Ft.  
Maximum: 210 Ft.  
Reflective Material Type: Retroreflective Pnl's w/white numls

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

In determining the values for metacentric height and reserve buoyance, the bridle and US3010 Power Unit have been included.

General Notes

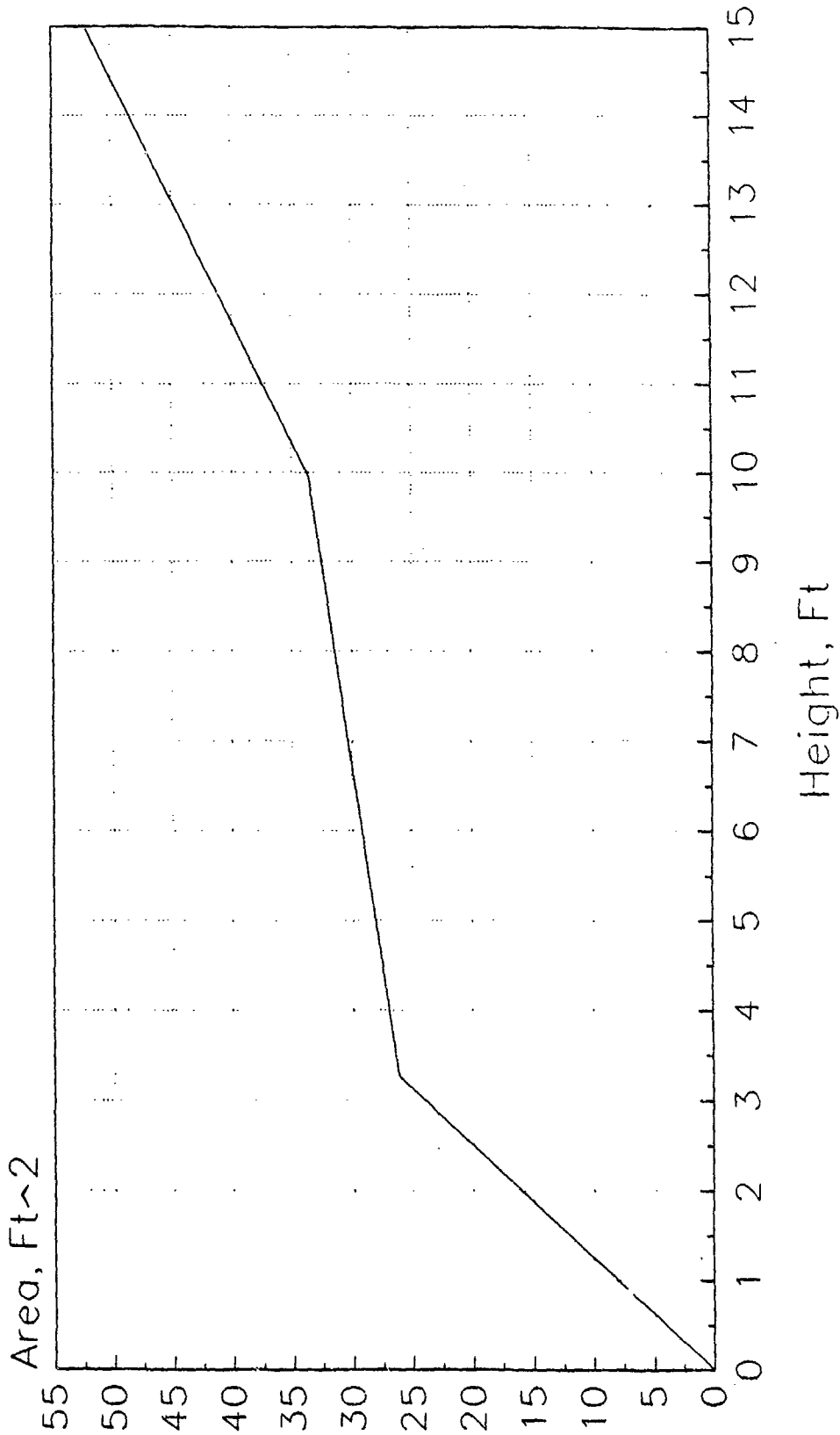
Manufacturers:

Source of Design: USCG

Drawing Reference: USA-6

8x26 LR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 8X26 LWR, 1962 Type Standard

Country of Use: USA

Function: Designed & constructed for exposed or semiexposed locations, this buoy is used with a 4-ball whistle & whistle valve for the wave- actuated sound signal. The buoy body has an open tube running through it to activate the whistle.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 12,131 Lbs.

Buoy Draft: 10.75 Ft.

Overall Buoy Length: 26.01 Ft.

Focal Height of Light: 15.17 Ft.

Buoy Beam or Diameter: 8.00 Ft.

Freeboard: No Mooring: 2.17 Ft.  
Minimum: 1.25 Ft.

Pounds Per Inch Immersion: 250 Lbs.

Metacentric Height: 1.41 Ft.

Reserve Buoyancy: 5,860 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: Two Compartment

Hull Type: Cylindrical

Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electrical Batteries B30  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: 4-Ball Whistle  
Other Payload: Radar Reflector  
Daymark Area: 37.5 Sq. Ft.  
Bridle Size: Chain Size: 1.250 In.  
Length : 15.0 Ft.  
Mooring Line: Size: 1.250 In.  
Type: Steel Chain  
Sinker Size: 8,500 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM/SM  
Nominal Visual Range of Daymark: 2.9 Nmi.  
Radar Range: 7.7 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 25 Ft.  
Maximum: 90 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

**ADDITIONAL DATA**

**Cost:**                    **Replacement:**        \$0  
                              **Preparation:**         \$0  
                              **Monthly Servicing:**   \$0

**Service Life:**                                30.0 Yrs.

**Maintenance Interval:**                    12 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

The values obtained for metacentric height and reserve buoyancy include bridle and US3010 Power Unit.

**General Notes**

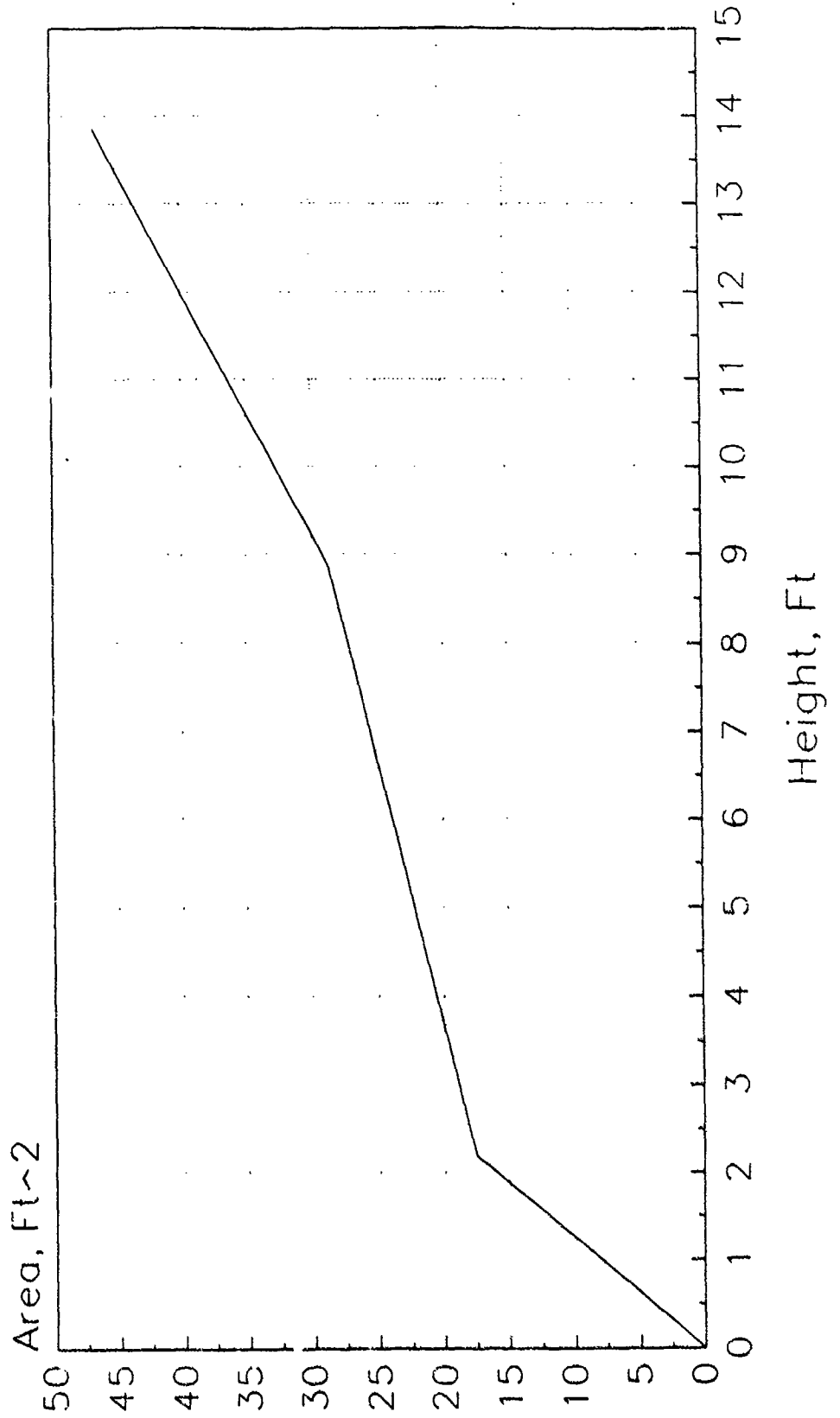
**Manufacturers:**

**Source of Design:**                                USCG

**Drawing Reference:**                                USA-9

# 8x26 LWR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 8X26 WR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for exposed or semiexposed locations, this buoy is the same as 8X26LWR but without lighting equipment. It is used with a four-ball whistle and whistle valve for the wave-actuated signal.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	12,131 Lbs.
Buoy Draft:	10.75 Ft.
Overall Buoy Length:	25.08 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	8.00 Ft.
Freeboard:	No Mooring: 2.17 Ft. Minimum: 1.25 Ft.
Pounds Per Inch Immersion:	250 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-Fouling Vinyl
Subdivision:	Two Compartment
Hull Type:	Cylindrical
Counterweight Type:	External on Tube

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: 4-Ball Whistle  
Other Payload: Radar Reflector  
Daymark Area: 37.5 Sq. Ft.  
Bridle Size: Chain Size: 1.250 In.  
Length : 15.0 Ft.  
Mooring Line: Size: 1.250 In.  
Type: Steel Chain  
Sinker Size: 8,500 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM or SM  
Nominal Visual Range of Daymark: 2.9 Nmi.  
Radar Range: 7.9 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 25 Ft.  
Maximum: 90 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

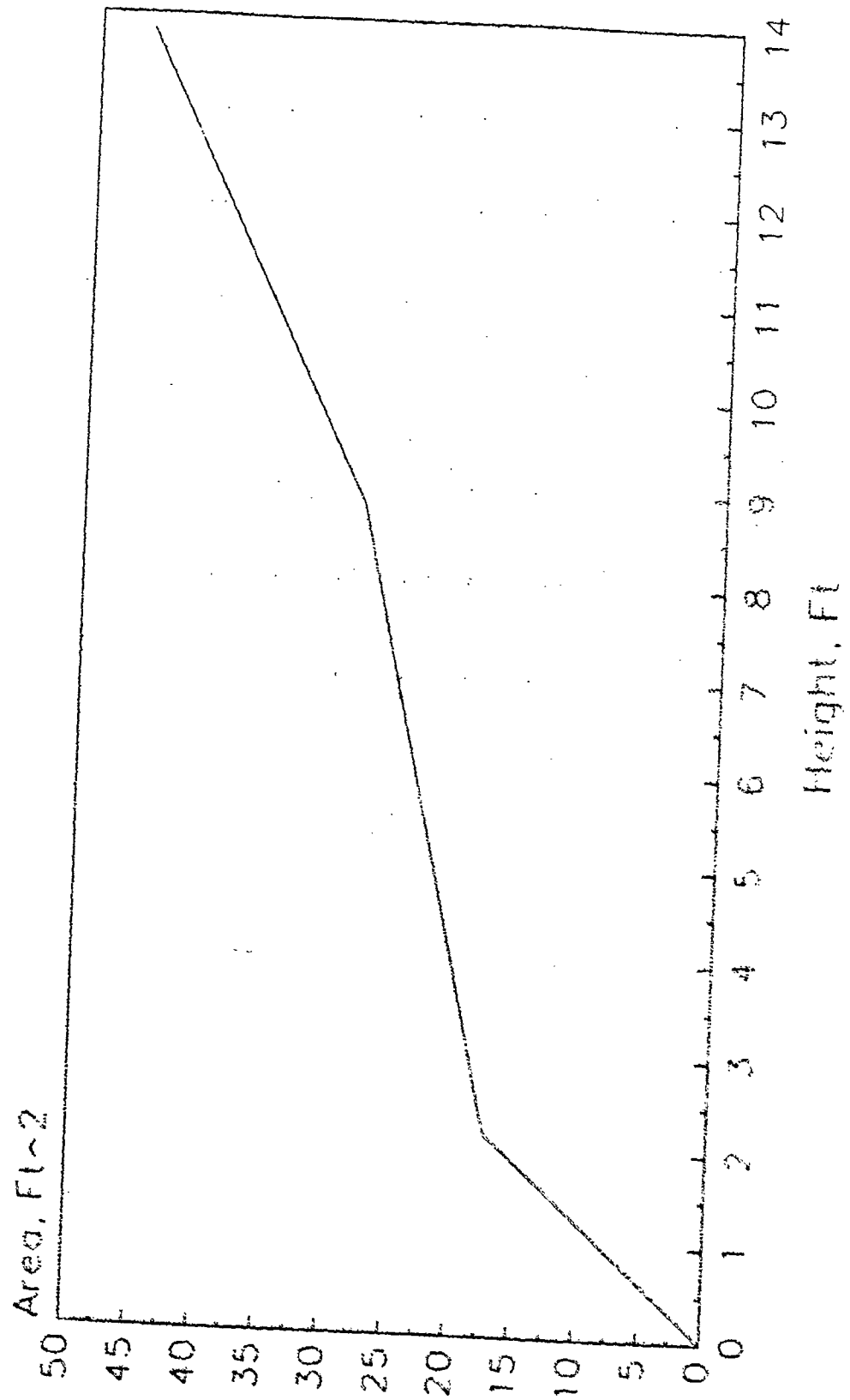
Manufacturers:

Source of Design: USCG

Drawing Reference: USA-19

8x26 WR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 9x20 BR, 1962 Type Standard

Country of Use: USA

Function: This buoy is designed and constructed for exposed locations where a lighted buoy is not necessary, this buoy configuration is used with a 225-lb bell, wave-actuated sound signal.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	8,110 Lbs.
Buoy Draft:	5.42 Ft.
Overall Buoy Length:	19.46 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	9.00 Ft.
Freeboard:	No Mooring: 2.00 Ft. Minimum: 0.75 Ft.
Pounds Per Inch Immersion:	340 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	3,060 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-Fouling Vinyl
Subdivision:	One Compartment
Hull Type:	Conical
Counterweight Type:	Internal

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: 225-lb bell  
Other Payload:  
Daymark Area: 30.0 Sq. Ft.  
Bridle Size: Chain Size: 1.250 In.  
Length : 15.0 Ft.  
Mooring Line: Size: 1.250 In.  
Type: Steel Chain  
Sinkers Size: 5,000 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.7 Nmi.  
Radar Range: 7.7 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 15 Ft.  
Maximum: 200 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                                 Preparation:        \$0  
                                 Monthly Servicing: \$0

Service Life:                                30.0 Yrs.

Maintenance Interval:                        12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

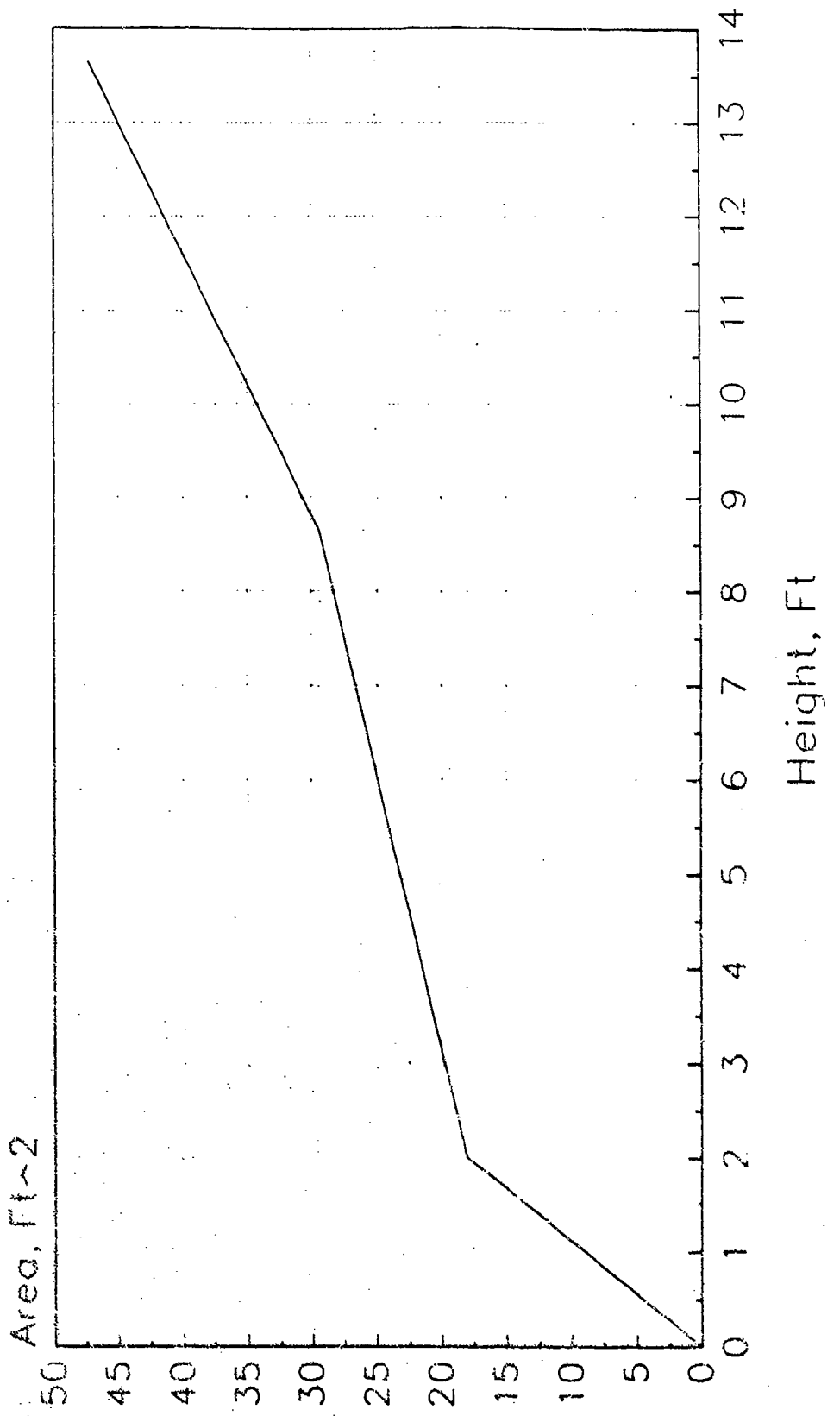
Manufacturers:

Source of Design:                            USCG

Drawing Reference:                           USA-17

9x20 BR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 9x20 GR, 1962 Type Standard

Country of Use: USA

Function: This buoy is designed and constructed for exposed locations where a lighted buoy is not necessary. It is used with a 20-in diameter, three-gong, wave-actuated sound signal.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 8,110 Lbs.

Buoy Draft: 5.42 Ft.

Overall Buoy Length: 19.46 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 9.00 Ft.

Freeboard: No Mooring: 2.00 Ft.  
Minimum: 0.75 Ft.

Pounds Per Inch Immersion: 340 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 3,060 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System: Epoxy, Anti-Fouling Vinyl

Subdivision: One Compartment

Hull Type: Conical

Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: 3 20-in gongs  
Other Payload:  
Daymark Area: 30.0 Sq. Ft.  
Bridle Size: Chain Size: 1.250 In.  
Length : 15.0 Ft.  
Mooring Line: Size: 1.250 In.  
Type: Steel Chain  
Sinkers Size: 5,000 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.7 Nmi.  
Radar Range: 7.7 Nmi.  
Maximum Current: 4.0 Kts.  
Mooring Depth: Minimum: 15 Ft.  
Maximum: 200 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                                 Preparation:        \$0  
                                 Monthly Servicing: \$0

Service Life:                                30.0 Yrs.

Maintenance Interval:                        12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

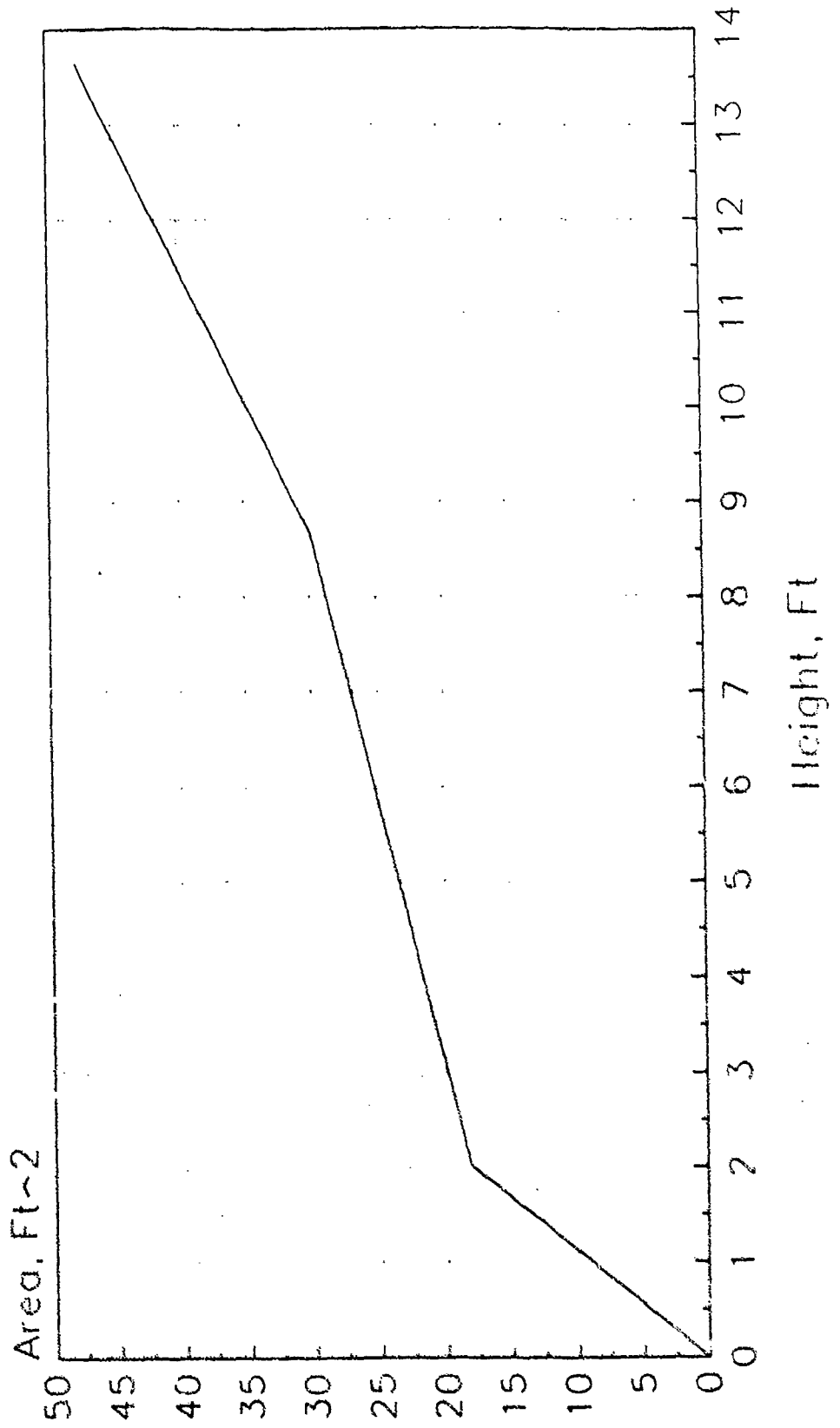
Manufacturers:

Source of Design:                            USCG

Drawing Reference:                          USA-18

9x20 GR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 9X32 LBR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for the most exposed locations, this buoy is used with a 1000-LB bell, wave-actuated sound signal. The basic buoy is the same as the 9X32 LR.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	19,091 Lbs.
Buoy Draft:	12.17 Ft.
Overall Buoy Length:	31.96 Ft.
Focal Height of Light:	19.75 Ft.
Buoy Beam or Diameter:	9.00 Ft.
Freeboard:	No Mooring: 4.00 Ft. Minimum: 1.33 Ft.
Pounds Per Inch Immersion:	340 Lbs.
Metacentric Height:	1.10 Ft.
Reserve Buoyancy:	13,370 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-Fouling, Vinyl
Subdivision:	Two Compartment
Hull Type:	Cylindrical
Counterweight Type:	External Tube

RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: Electric Batteries B30

Lighting Equipment: Electric Lantern, 155mm

Sound Equipment: 1000-LB Bell

Other Payload: Radar Reflector

Daymark Area: 53.0 Sq. Ft.

Bridle Size: Chain Size: 1.500 In.  
Length : 18.0 Ft.

Mooring Line: Size: 1.500 In.  
Type: Steel Chain

Sinker Size: 12,750 Lbs.

Topmark Type: Lateral

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 3.1 Nmi.

Radar Range: 8.1 Nmi.

Maximum Current: 5.0 Kts.

Mooring Depth: Minimum: 30 Ft.  
Maximum: 275 Ft.

Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                    30.0 Yrs.

Maintenance Interval:            12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

The values obtained for metacentric height and reserve buoyancy include bridle and US3010 Power Unit.

General Notes

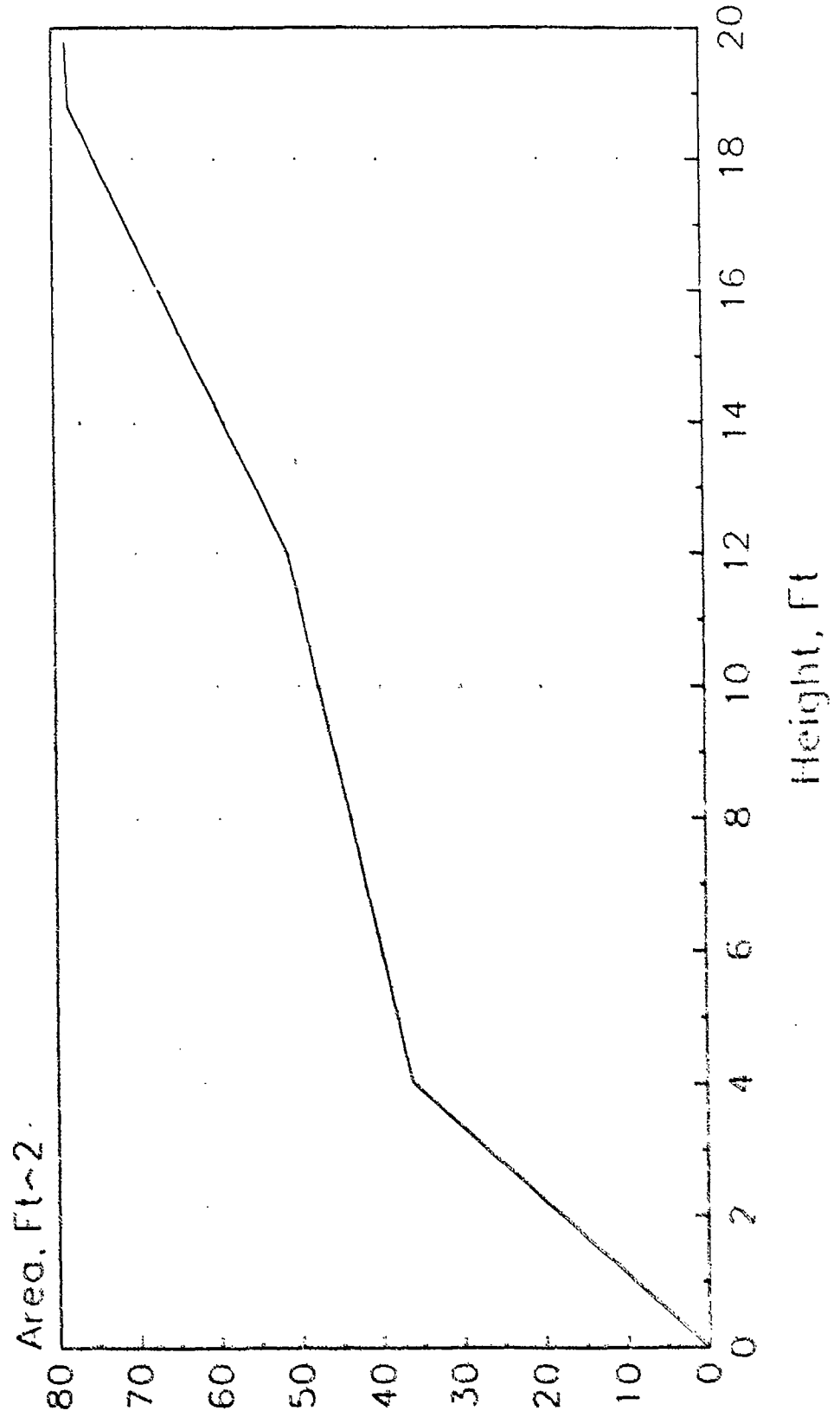
Manufacturers:

Source of Design:                    USCG

Drawing Reference:                    USA-2

9x32 LBR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 9X32 LGR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for the most exposed locations, this buoy is used with a 36-in diameter, four-gong, wave-actuated sound signal. The basic buoy is the same as the 9X32 LR.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	19,391 Lbs.
Buoy Draft:	12.25 Ft.
Overall Buoy Length:	31.96 Ft.
Focal Height of Light:	19.67 Ft.
Buoy Beam or Diameter:	9.00 Ft.
Freeboard:	No Mooring: 3.92 Ft. Minimum: 1.33 Ft.
Pounds Per Inch Immersion:	340 Lbs.
Metacentric Height:	1.02 Ft.
Reserve Buoyancy:	13,742 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-Fouling, Vinyl
Subdivision:	Two Compartment
Hull Type:	Cylindrical
Counterweight Type:	External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: 436-in Gongs  
Other Payload: Radar Reflector  
Daymark Area: 53.0 Sq. Ft.  
Bridle Size: Chain Size: 1.500 In.  
Length : 18.0 Ft.  
Mooring Line: Size: 1.500 In.  
Type: Steel Chain  
Sinkers Size: 12,750 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 3.1 Nmi.  
Radar Range: 8.1 Nmi.  
Maximum Current: 5.0 Kts.  
Mooring Depth: Minimum: 30 Ft.  
Maximum: 265 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                    30.0 Yrs.

Maintenance Interval:            12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

The values obtained metacentric height and reserve buoyancy include bridle and US3010 Power Unit.

General Notes

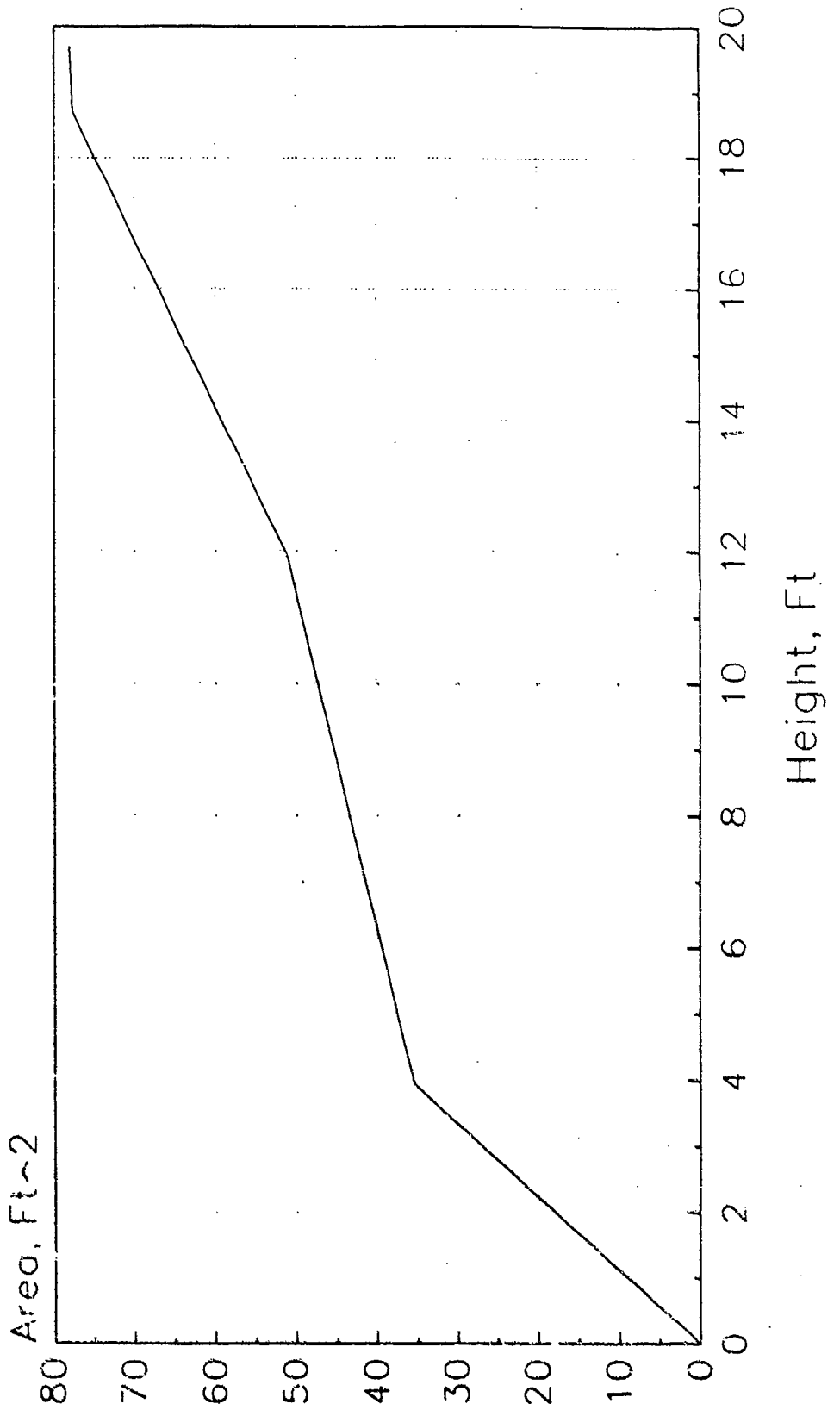
Manufacturers:

Source of Design:                USCG

Drawing Reference:                USA-3

# 9x32 LGR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 9X32 LR, 1962 Type Standard

Country of Use: USA

Function: This buoy is designed and constructed for the most exposed locations. It is used when a sound signal is not required.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 17,443 Lbs.

Buoy Draft: 11.75 Ft.

Overall Buoy Length: 31.96 Ft.

Focal Height of Light: 20.17 Ft.

Buoy Beam or Diameter: 9.00 Ft.

Freeboard: No Mooring: 4.42 Ft.  
Minimum: 1.33 Ft.

Pounds Per Inch Immersion: 340 Lbs.

Metacentric Height: 1.68 Ft.

Reserve Buoyancy: 14,834 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast iron

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: Two Compartment

Hull Type: Cylindrical

Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: None  
Other Payload: Radar Reflector  
Daymark Area: 53.0 Sq. Ft.  
Bridle Size: Chain Size: 1.500 In.  
Length : 18.0 Ft.  
Mooring Line: Size: 1.500 In.  
Type: Steel Chain  
Sinkers Size: 12,750 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 3.0 Nmi.  
Radar Range: 8.1 Nmi.  
Maximum Current: 5.0 Kts.  
Mooring Depth: Minimum: 30 Ft.  
Maximum: 325 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                30.0 Yrs.

Maintenance Interval:                        12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

The values obtained for metacentric height and reserve buoyancy include bridle and US3010 Power Unit.

General Notes

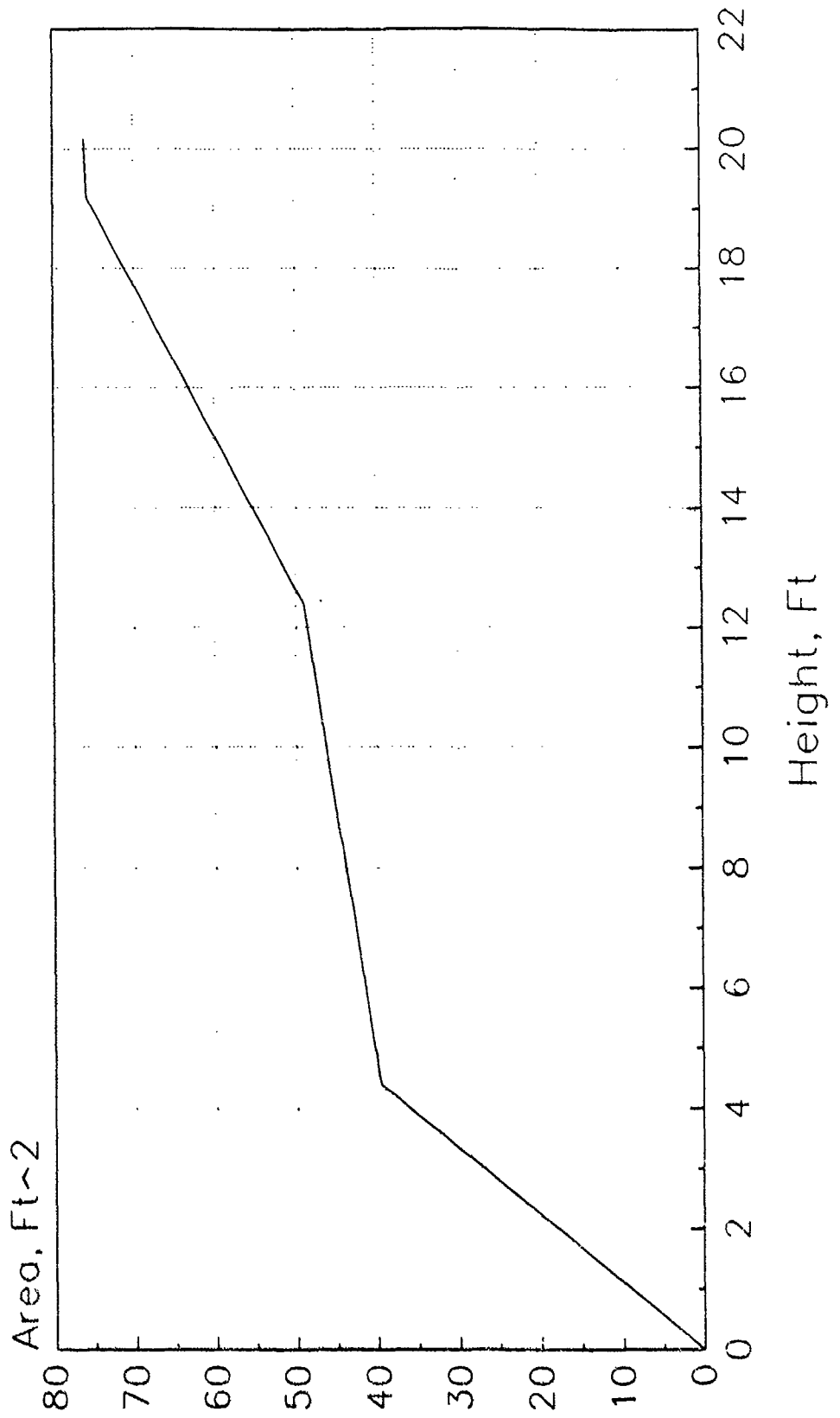
Manufacturers:

Source of Design:                            USCG

Drawing Reference:                          USA-1

9x32 LR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 9X32 LWR, 1962 Type Standard

Country of Use: USA

Function: Designed and constructed for the most exposed locations, this buoy is used with a four-ball whistle and whistle valve for the wave-actuated sound signal. The buoy body has an open tube running thru it to activate

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	18,616 Lbs.
Buoy Draft:	12.92 Ft.
Overall Buoy Length:	31.96 Ft.
Focal Height of Light:	19.00 Ft.
Buoy Beam or Diameter:	9.00 Ft.
Freeboard:	No Mooring: 3.25 Ft. Minimum: 1.33 Ft.
Pounds Per Inch Immersion:	300 Lbs.
Metacentric Height:	1.73 Ft.
Reserve Buoyancy:	9,096 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Steel Hull Filling : Tower : Steel Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Epoxy, Anti-Fouling, Vinyl
Subdivision:	Two Compartment
Hull Type:	Cylindrical
Counterweight Type:	External Tube

RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: Electric Batteries B30

Lighting Equipment: Electric Lantern, 155mm

Sound Equipment: 4-Ball Whistle

Other Payload: Radar Reflector

Daymark Area: 53.0 Sq. Ft.

Bridle Size: Chain Size: 1.500 In.  
Length : 18.0 Ft.

Mooring Line: Size: 1.500 In.  
Type: Steel Chain

Sinker Size: 12,750 Lbs.

Topmark Type: Lateral

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 3.1 Nmi.

Radar Range: 8.1 Nmi.

Maximum Current: 5.0 Kts.

Mooring Depth: Minimum: 30 Ft.  
Maximum: 155 Ft.

Reflective Material Type: Retroreflective pns & numerals

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

The values obtained for metacentric height and reserve buoyancy include bridle and US3010 Power Unit.

General Notes

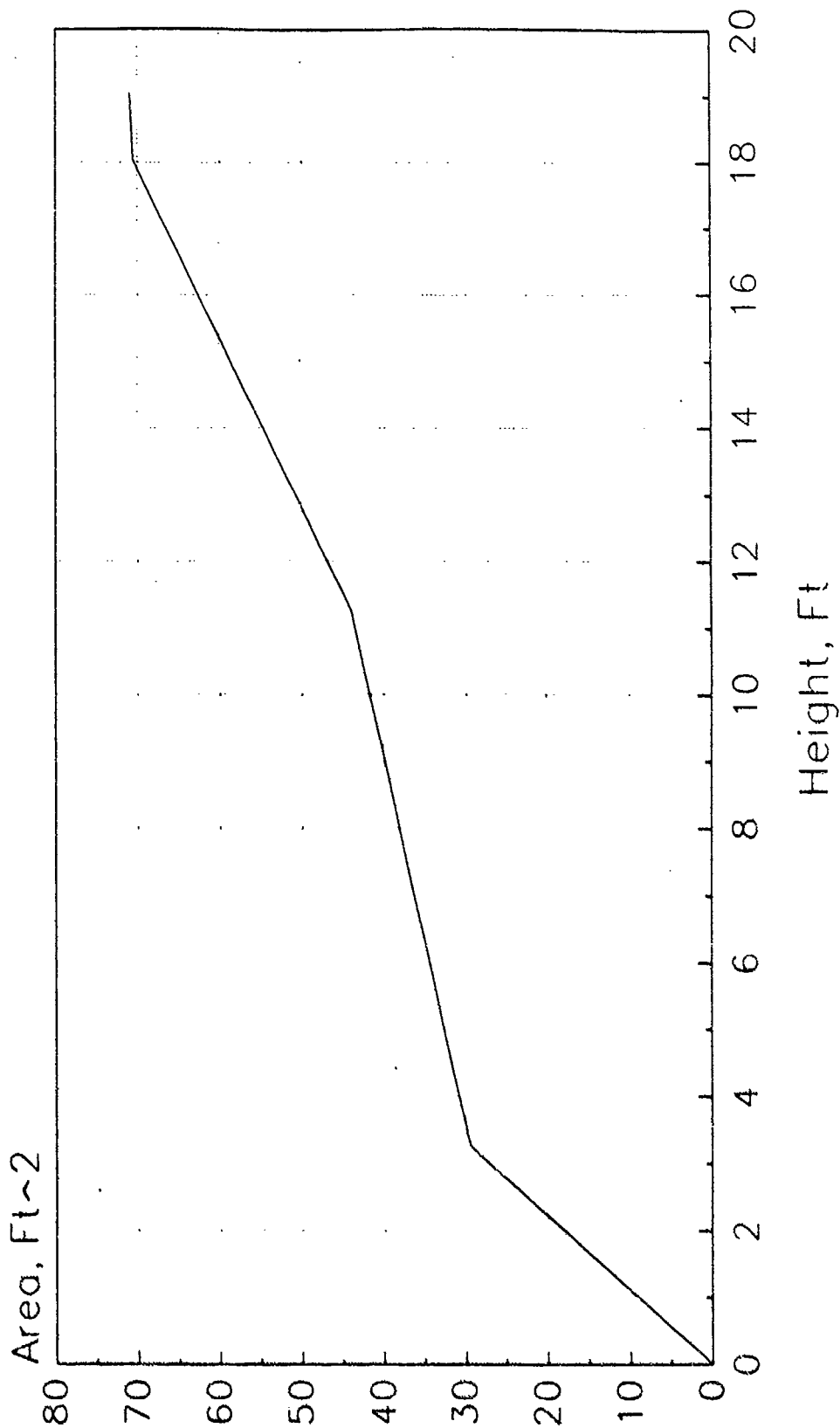
Manufacturers:

Source of Design: USCG

Drawing Reference: USA-4

# 9x32 LWR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: 9X35 LR, 1983 Type Standard

Country of Use: USA

Function: Designed for use in the most exposed locations, this buoy is used with an electronic horn. It maybe equipped with main and passing lights, a racon, and a wave-activated generator. A weather sensing package may also be installed.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 17,700 Lbs.  
Buoy Draft: 15.83 Ft.  
Overall Buoy Length: 34.65 Ft.  
Focal Height of Light: 18.75 Ft.  
Buoy Beam or Diameter: 9.00 Ft.  
Freeboard: No Mooring: 3.00 Ft.  
Minimum: 1.25 Ft.  
Pounds Per Inch Immersion: 300 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 4,500 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Cast Iron  
Coating/Coloring System: Epoxy, Anti-Fouling Vinyl  
Subdivision: Two Compartment  
Hull Type: Cylindrical  
Counterweight Type: External Tube

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: Electric Batteries B30  
Lighting Equipment: Electric Lantern  
Sound Equipment: SA8501/1  
Other Payload: Radar refl, racon & weather pk  
Daymark Area: 54.8 Sq. Ft.  
Bridle Size: Chain Size: 1.500 In.  
Length : 18.0 Ft.  
Mooring Line: Size: 1.500 In.  
Type: Steel Chain  
Sinkers Size: 12,750 Lbs.  
Topmark Type: Lateral  
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 2.9 Nmi.  
Radar Range: 6.9 Nmi.  
Maximum Current: 5.0 Kts.  
Mooring Depth: Minimum: 35 Ft.  
Maximum: 190 Ft.  
Reflective Material Type: Retroreflective pnls & numerals

ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

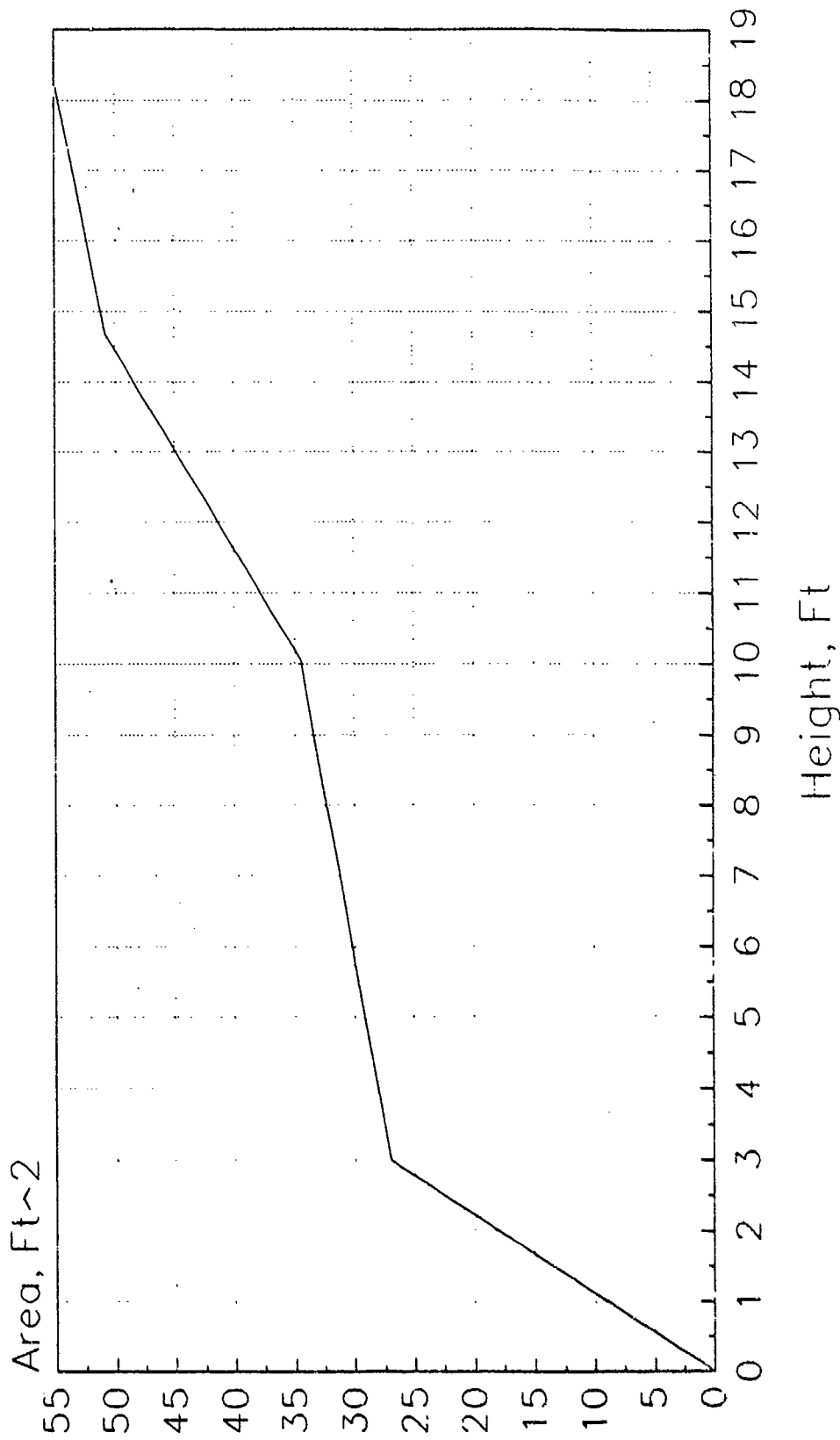
Manufacturers:

Source of Design: USCG

Drawing Reference: USA-5

9x35 LR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Discrepancy Buoy

Country of Usa: USA

Function: The discrepancy buoy is designed to temporarily replace damaged or missing buoys or structure until the discrepancy can be corrected.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 220 Lbs.

Buoy Draft: 4.00 Ft.

Overall Buoy Length: 8.50 Ft.

Focal Height of Light: 4.50 Ft.

Buoy Beam or Diameter: 4.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: One Compartment

Hull Type: Conical

Counterweight Type: Internal

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Hotshot/discrepancybuoybattery  
Lighting Equipment: Electric Lantern, 155mm  
Sound Equipment: None  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.500 In.  
Type: Steel Chain  
Sinker Size: 150 Lbs.  
Topmark Type:  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM/SM/PM Temporary  
Nominal Visual Range of Daymark: 1.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 5.0 Kts.  
Mooring Depth: Minimum: 5 Ft.  
Maximum: 100 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                      0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

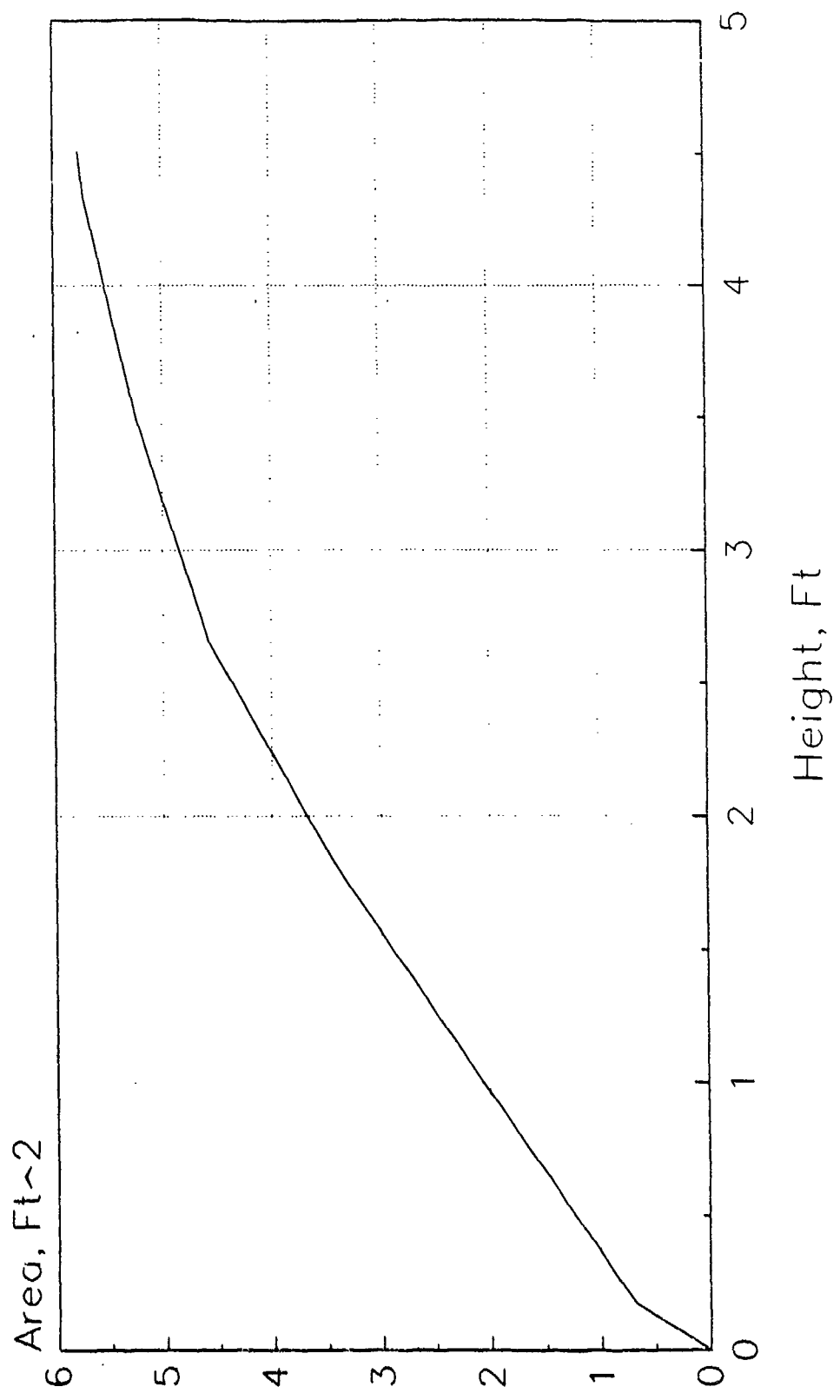
Manufacturers:

Source of Design:                          USCG

Drawing Reference:                        USA-16

# Discrepancy Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: FCPR Buoy

Country of Use: USA

Function: The FCPR buoy is designed and constructed for fast water locations where an unlighted CAN buoy is required. The hull portion of the buoy is foam filled.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 161 Lbs.

Buoy Draft: 0.25 Ft.

Overall Buoy Length: 4.75 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 4.25 Ft.

Freeboard: No Mooring: 1.75 Ft.  
Minimum: 0.08 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 29 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: Hull Filled

Hull Type: CAN

Counterweight Type: Internal

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.500 In.  
Type: SteelChain &WireRope  
Sinker Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EF/SF/PF  
Nominal Visual Range of Daymark: 1.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 7.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 100 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

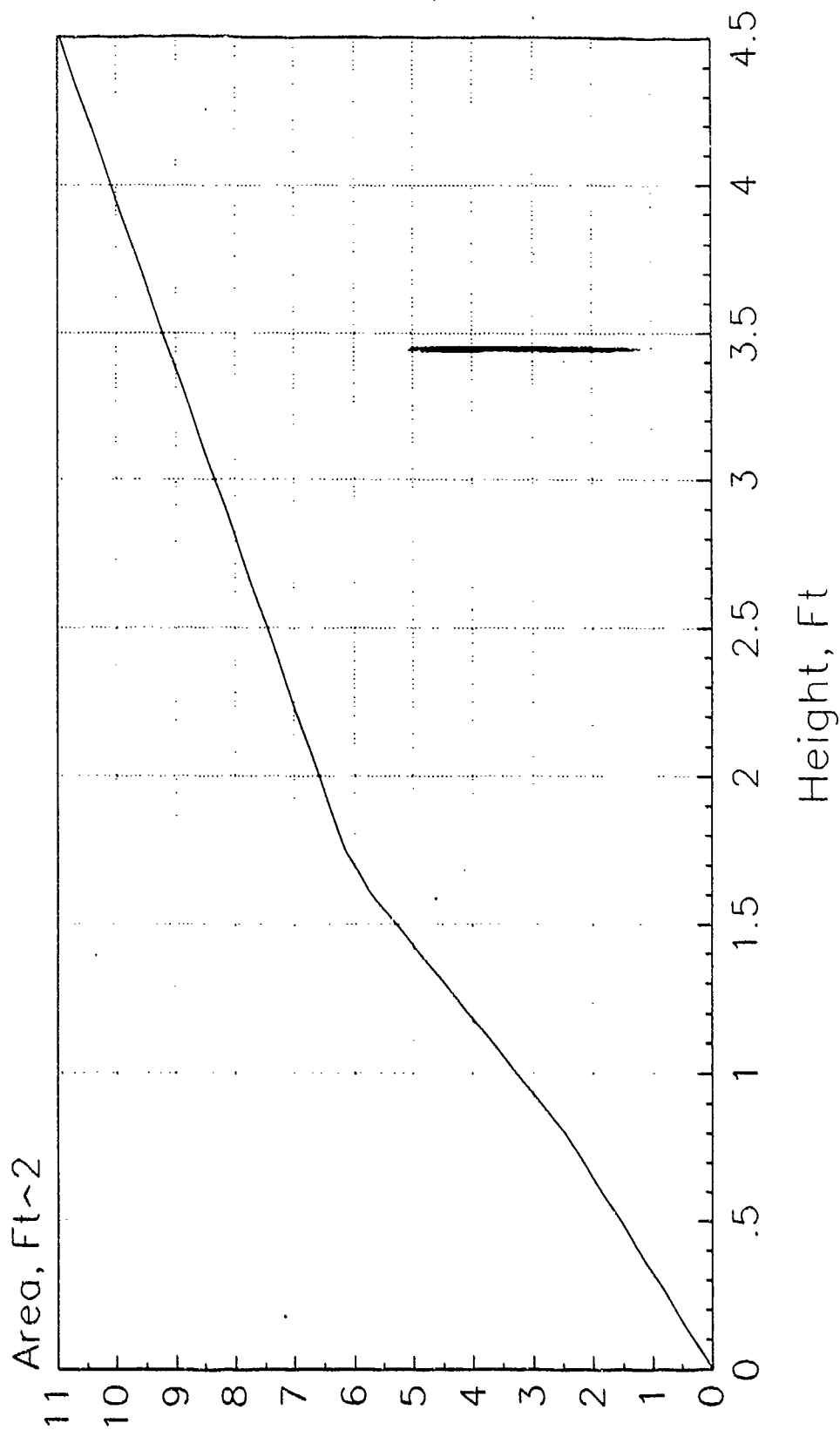
Manufacturers:

Source of Design: USCG

Drawing Reference: USA-40

# FCPR

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: FNPR Buoy

Country of Use: USA

Function: The FNPR buoy is designed and constructed for fast water locations where an unlighted NUN buoy is required. The hull portion of the buoy is foam filled.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 161 Lbs.

Buoy Draft: 0.25 Ft.

Overall Buoy Length: 4.75 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 4.25 Ft.

Freeboard: No Mooring: 1.75 Ft.  
Minimum: 0.08 Ft.

Pounds Per Inch Immersion: 29 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Epoxy, Anti-Fouling, Vinyl

Subdivision: Hull filled

Hull Type: NUN

Counterweight Type: Internal

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.500 In.  
Type: Steel Chain  
Sinker Size: 500 Lbs.  
Topmark Type: None  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EF/SF/PF  
Nominal Visual Range of Daymark: 1.4 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 7.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 100 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                30.0 Yrs.

Maintenance Interval:                        12 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

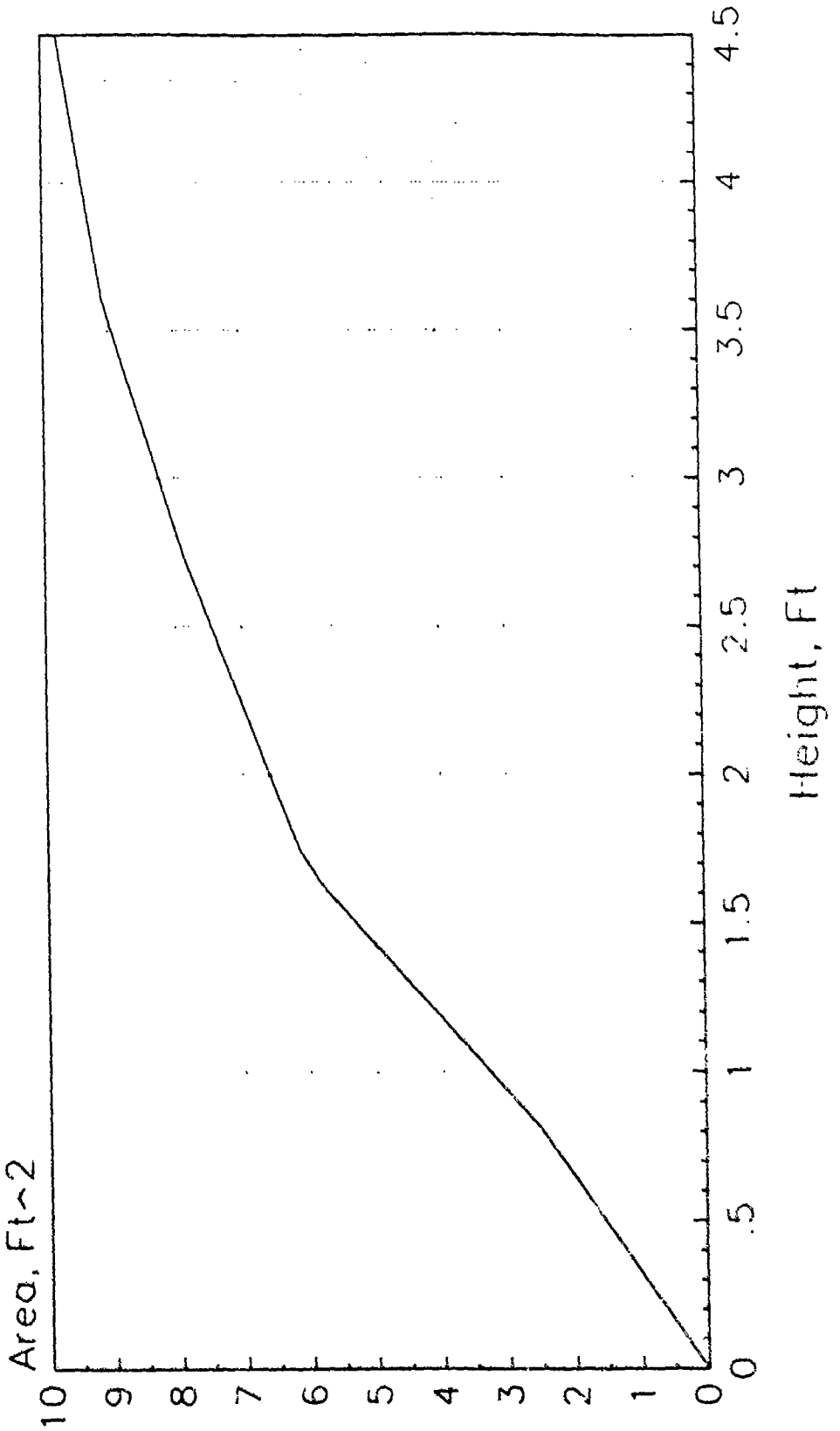
Manufacturers:

Source of Design:                            USCG

Drawing Reference:                           USA-41

FNPR

Cumulative Area



B-1329

## GENERAL INFORMATION

Name of Buoy: SAB-12 Sent. Articulated Buoy

Country of Use: USA MFG 1

Function: For sites where accurate channel marking  
is essential.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 7,300 Lbs.

Buoy Draft: 45.00 Ft.

Overall Buoy Length: 70.00 Ft.

Focal Height of Light: 25.00 Ft.

Buoy Beam or Diameter: 6.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled

Construction Material: Hull Shell : Plastic Foam Sheet  
Hull Filling :  
Tower : Stl-Aluminum Fiberglass  
Topmark :  
Counterweight:

Coating/Coloring System: Epoxy w/antifouling finish

Subdivision:

Hull Type: Cylindrical

Counterweight Type:

RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Solar Panels/Primary Batteryf  
Lighting Equipment: Marine Lantern  
Sound Equipment:  
Other Payload: Radar Reflector, Racon  
Daymark Area: 29.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 2.000 In.  
Type: Steel Chain  
Sinkers Size: 0 Lbs.  
Topmark Type:  
Number of Padeyes: 1

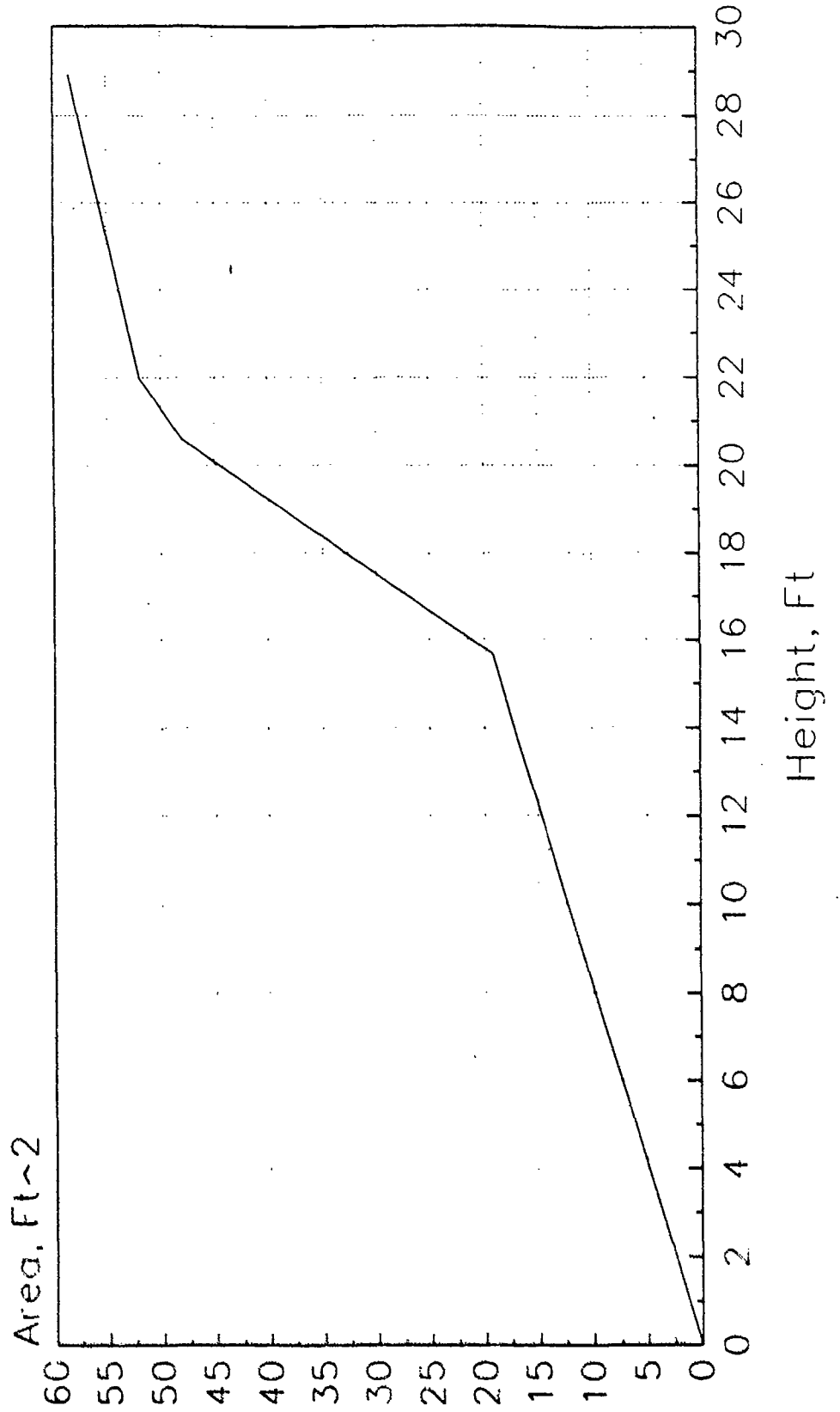
OPERATING CHARACTERISTICS

Operating Environment: EM/SM  
Nominal Visual Range of Daymark: 3.1 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 75 Ft.  
Maximum: 200 Ft.  
Reflective Material Type:



# SAB-12 Sent. Articulated Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SB-138 Sentinel

Country of Use: USA MFG 1

Function: This buoy is suitable for both open sea  
and channel marking applications.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,400 Lbs.  
Buoy Draft: 2.67 Ft.  
Overall Buoy Length: 9.50 Ft.  
Focal Height of Light: 7.00 Ft.  
Buoy Beam or Diameter: 5.75 Ft.  
Freeboard: No Mooring: 1.25 Ft.  
Minimum: 0.50 Ft.  
Pounds Per Inch Immersion: 138 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 828 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Fiberglass  
Hull Filling : Foam  
Tower : Fiberglass  
Topmark :  
Counterweight: Steel Reinf Concrete  
Coating/Coloring System: Permanent molded-in color  
Subdivision: Hull filled  
Hull Type: Cylindrical  
Counterweight Type: Concrete Ballast

## RELATED EQUIPMENT

Number of Power Sources: 1

Type of Power Sources: Solar Energy

Lighting Equipment: ML-140 MaxLumina MarineLantern

Sound Equipment:

Other Payload: Spherical Radar Reflector

Daymark Area: 17.2 Sq. Ft.

Bridle Size: Chain Size: 0.875 In.  
Length : 10.0 Ft.

Mooring Line: Size: 1.125 In.  
Type: Chain

Sinker Size: 6,000 Lbs.

Topmark Type: Lateral/Cardinal

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM/SM

Nominal Visual Range of Daymark: 1.9 Nmi.

Radar Range: 3.1 Nmi.

Maximum Current: 6.0 Kts.

Mooring Depth: Minimum: 200 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0
Service Life:		0.0 Yrs.
Maintenance Interval:		24 Mos.
Maintenance Notes:		

Special Features:

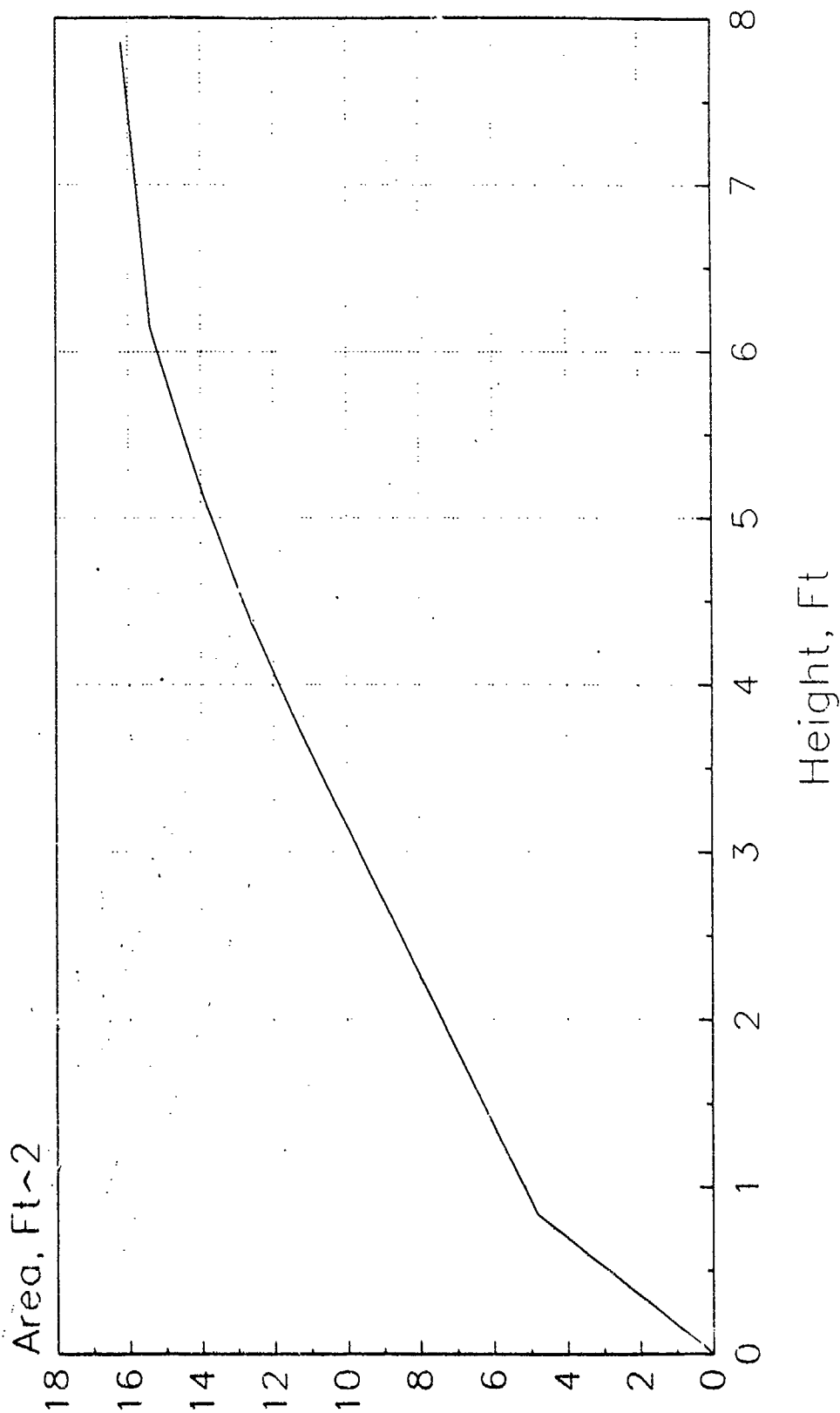
Stability Notes:

General Notes

Manufacturers:	Tideland Signal Corp
Source of Design:	Tideland Signal Corp
Drawing Reference:	USA MFG 1-4

# SB-138 Sentinel

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SB-510 Sentinel

Country of Use: USA MFG 1

Function: For use in channel marking and location marking in rivers, harbors, and entrance waters.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 950 Lbs.

Buoy Draft: 3.79 Ft.

Overall Buoy Length: 10.52 Ft.

Focal Height of Light: 6.11 Ft.

Buoy Beam or Diameter: 5.67 Ft.

Freeboard: No Mooring: 0.50 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 105 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Fiberglass (GRP)  
Hull Filling : Foam (Polyurethane)  
Tower : Fiberglass (GRP)  
Topmark :  
Counterweight: Galv Steel

Coating/Coloring System: Impregnated color

Subdivision: Hull filled

Hull Type: Cylindrical

Counterweight Type: Ballast Plates

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: 2DC-8 Energy Pak Primary Batt.  
Lighting Equipment: ML-155 Lantern w/TF-3B Flasher  
Sound Equipment:  
Other Payload: Corner Radar Reflector  
Daymark Area: 8.0 Sq. Ft.  
Bridle Size: Chain Size: 0.750 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.000 In.  
Type: Polypropylene Chain  
Sinkers Size: 3,000 Lbs.  
Topmark Type: None  
Number of Padeyes: 2

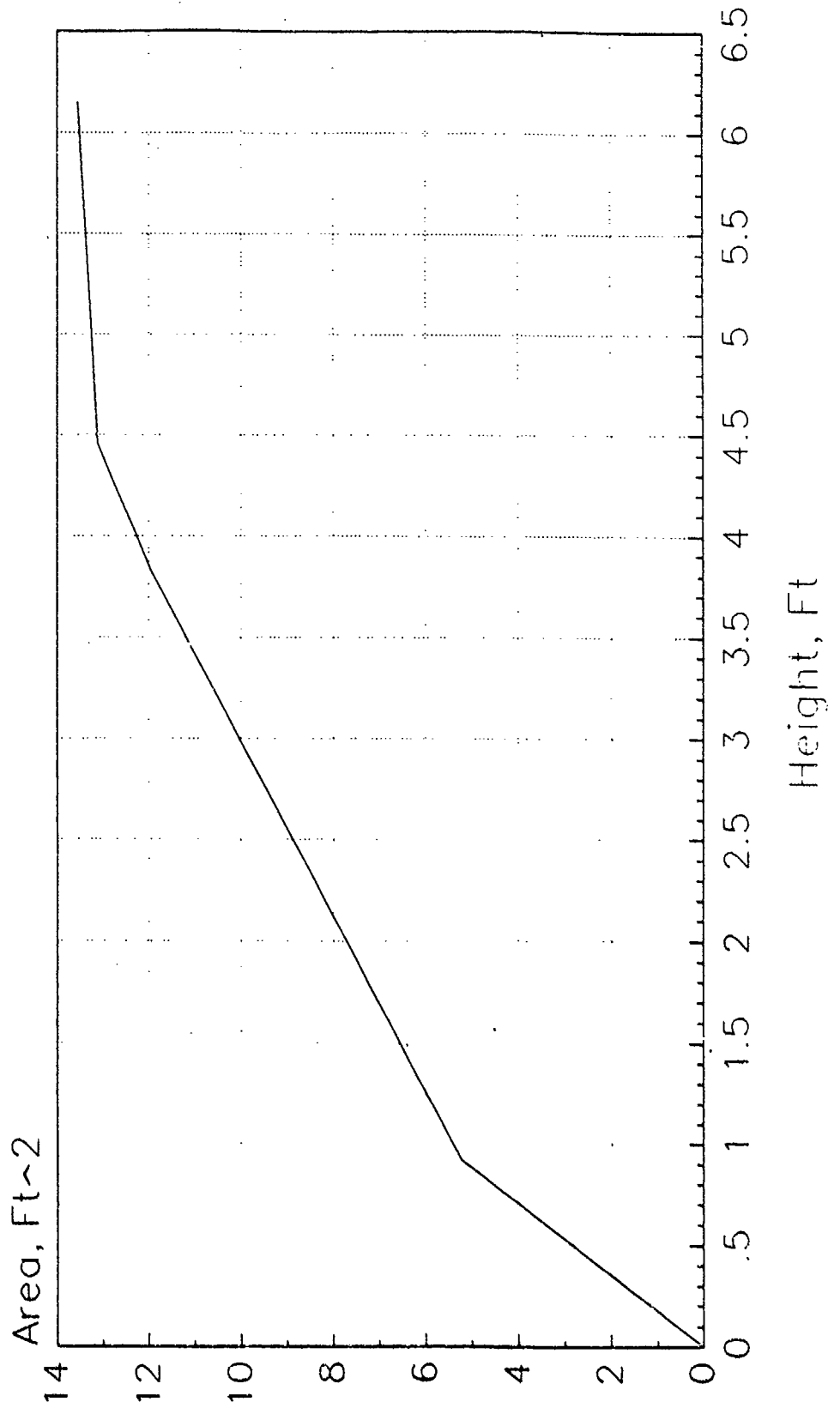
## OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 1.9 Nmi.  
Radar Range: 2.1 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 100 Ft.  
Reflective Material Type:



# SB-510 Sentinel

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SB-612 Sentinel

Country of Use: USA MFG 1

Function: Applications include the demarkation of harbor entrances and channels and the marking of underwater obstructions.

Date Of Last Update For This Record: 11/09/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 875 Lbs.

Buoy Draft: 4.75 Ft.

Overall Buoy Length: 9.75 Ft.

Focal Height of Light: 6.00 Ft.

Buoy Beam or Diameter: 6.00 Ft.

Freeboard: No Mooring: 1.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 120 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Fiberglass (GRP)  
Hull Filling : Foam (Polyurethane)  
Tower : Fiberglass (GRP)  
Topmark :  
Counterweight: Galv Steel

Coating/Coloring System: Impregnated Coloring System

Subdivision: Hull filled

Hull Type: Cylindrical

Counterweight Type: Ballast Plate

## RELATED EQUIPMENT

Number of Power Sources: 1

Type of Power Sources: Primary Batteries

Lighting Equipment: ML-155 Maxlumina Lantern

Sound Equipment:

Other Payload: Spherical Radar Reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 1.000 In.  
Type: Chain

Sinker Size: 4,000 Lbs.

Topmark Type: Lateral/Cardinal

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: EM/SM/PM

Nominal Visual Range of Daymark: 1.8 Nmi.

Radar Range: 2.8 Nmi.

Maximum Current: 6.0 Kts.

Mooring Depth: Minimum: 15 Ft.  
Maximum: 135 Ft.

Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

**Special Features:**

Lantern fitted with TF-3B flasher/lampchanger. It can produce any internationally recognized signal code. The buoy can be optionally equipped with MG-600 "Sola Viva" solar energy power.

**Stability Notes:**

The buoy is virtually unsinkable.

**General Notes**

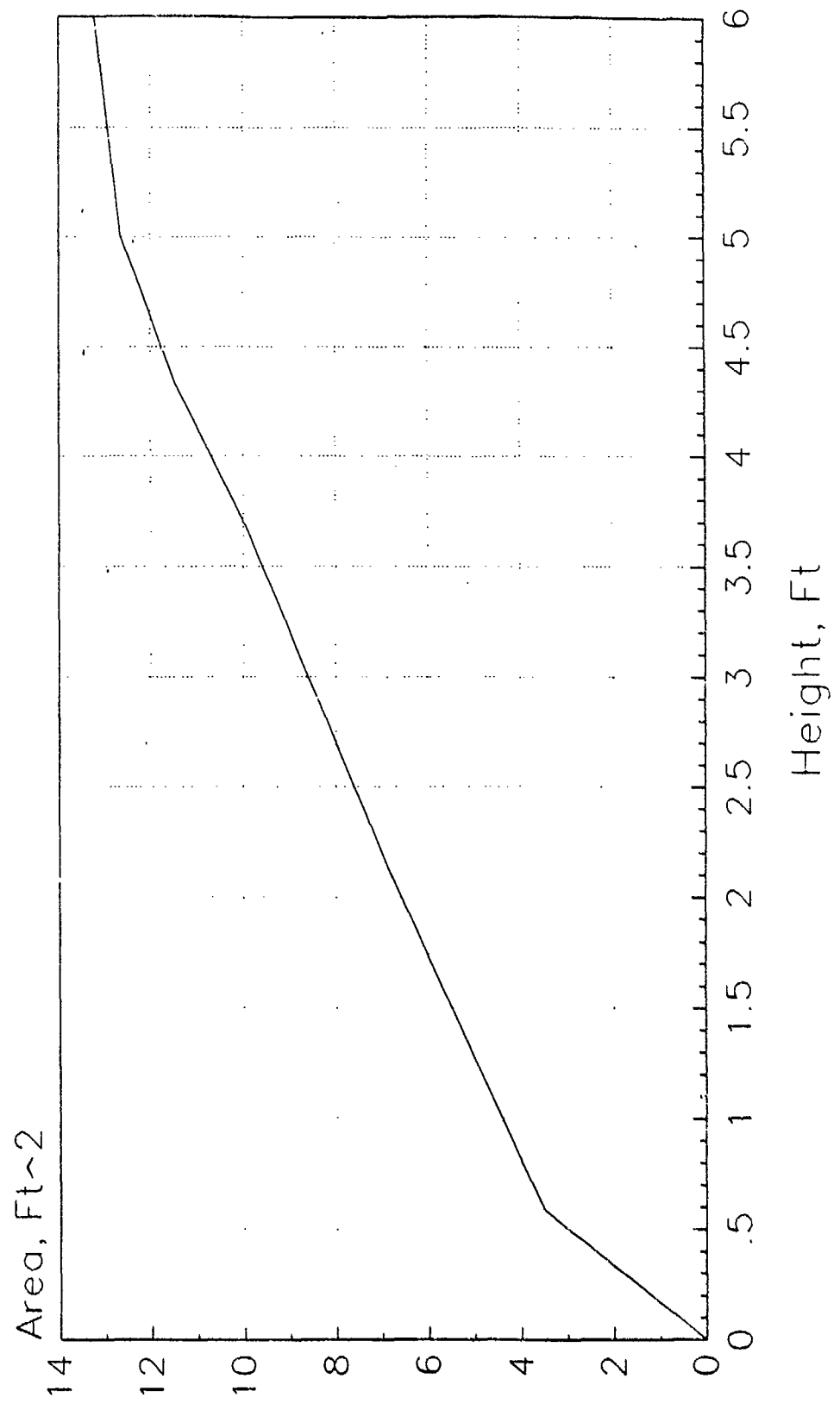
Manufacturers:                            Tideland Signal Corp

Source of Design:                        Tideland Signal Corp

Drawing Reference:                        USA MFG 1-2

# SB-612 Sentinel

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SB-826 Sentinel Series C

Country of Use: USA MFG 1

Function: For aid-to-navigation buoy marking.  
Applications include the marking of  
underwater obstructions, location of  
tanker moorings, harbor entrances and  
channels.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	6,800 Lbs.
Buoy Draft:	8.92 Ft.
Overall Buoy Length:	21.00 Ft.
Focal Height of Light:	13.25 Ft.
Buoy Beam or Diameter:	8.00 Ft.
Freeboard:	No Mooring: 2.08 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	197 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave Following
Construction Material:	Hull Shell : Fiberglass (GRP) Hull Filling : Foam(Polyurethane) Tower : Fiberglass (GRP) Topmark : Counterweight: Concrete
Coating/Coloring System:	Anti-fouling&impregnated color
Subdivision:	Hull filled
Hull Type:	Octagonal
Counterweight Type:	Concrete Ballast

RELATED EQUIPMENT

Number of Power Sources: 2  
Type of Power Sources: 2DC-8 Energy Cell Battery  
Lighting Equipment: ML-155 Max-Lumina Lantern  
Sound Equipment:  
Other Payload: Corner Radar Reflector  
Daymark Area: 16.0 Sq. Ft.  
Bridle Size: Chain Size: 1.125 In.  
Length : 8.0 Ft.  
Mooring Line: Size: 1.125 In.  
Type: Stud Link Chain  
Sinker Size: 10,000 Lbs.  
Topmark Type: None  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM/SM/PM  
Nominal Visual Range of Daymark: 2.9 Nmi.  
Radar Range: 3.9 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 40 Ft.  
Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$0  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

The lantern comes with TF-3B Syncrostat flasher/lampchanger.  
The buoy has the option to carry AB-26 audiobeam 1/2 mile fog signal. The above can produce any internationally recognized signal code.

Stability Notes:

The buoy is virtually unsinkable.

General Notes

Radar reflector is omnidirectional.

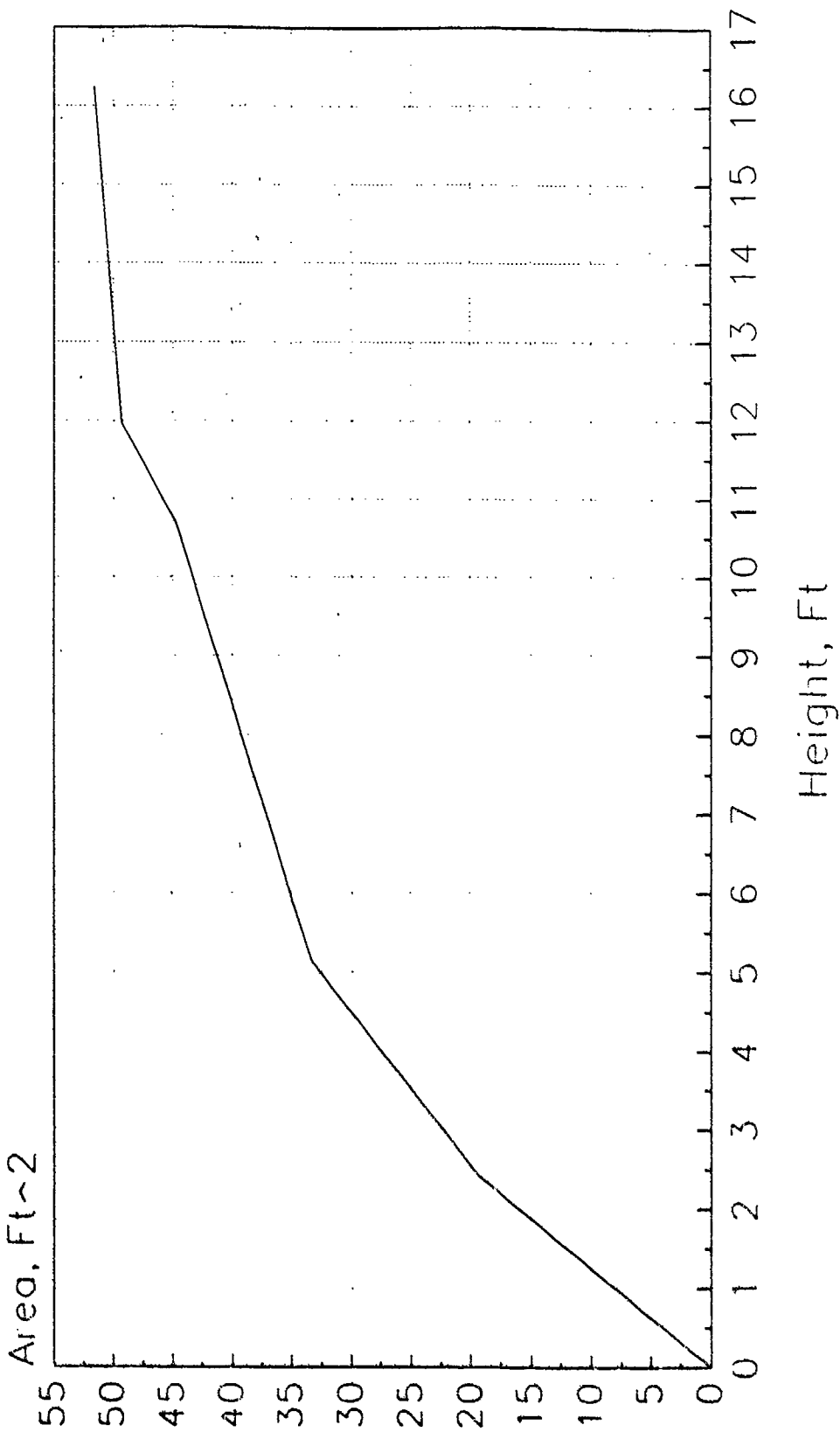
Manufacturers: Tideland Signal Corp

Source of Design: Tideland Signal Corp

Drawing Reference: USA MFG 1-1

# SB-826 Sentinel Series C

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SB1M Buoy

Country of Use: USA MFG 1

Function: Suitable for sheltered waters.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,609 Lbs.  
Buoy Draft: 5.08 Ft.  
Overall Buoy Length: 9.02 Ft.  
Focal Height of Light: 3.94 Ft.  
Buoy Beam or Diameter: 3.28 Ft.  
Freeboard: No Mooring: 1.48 Ft.  
Minimum: 0.33 Ft.  
Pounds Per Inch Immersion: 0 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 176 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Mild Steel 6mm  
Hull Filling :  
Tower : Mild Steel  
Topmark :  
Counterweight: Steel Ballast  
Coating/Coloring System: Antifouling and coloring  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: Extnl Ring Tail Tube

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Solar Panels/Primary Battery  
Lighting Equipment: Lantern  
Sound Equipment:  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.748 In.  
Type: Steel Chain  
Sinker Size: 441 Lbs.  
Topmark Type: None  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: PM  
Nominal Visual Range of Daymark: 1.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                         Preparation:         \$0  
                         Monthly Servicing:   \$0

Service Life:                                0.0 Yrs.

Maintenance Interval:                        0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

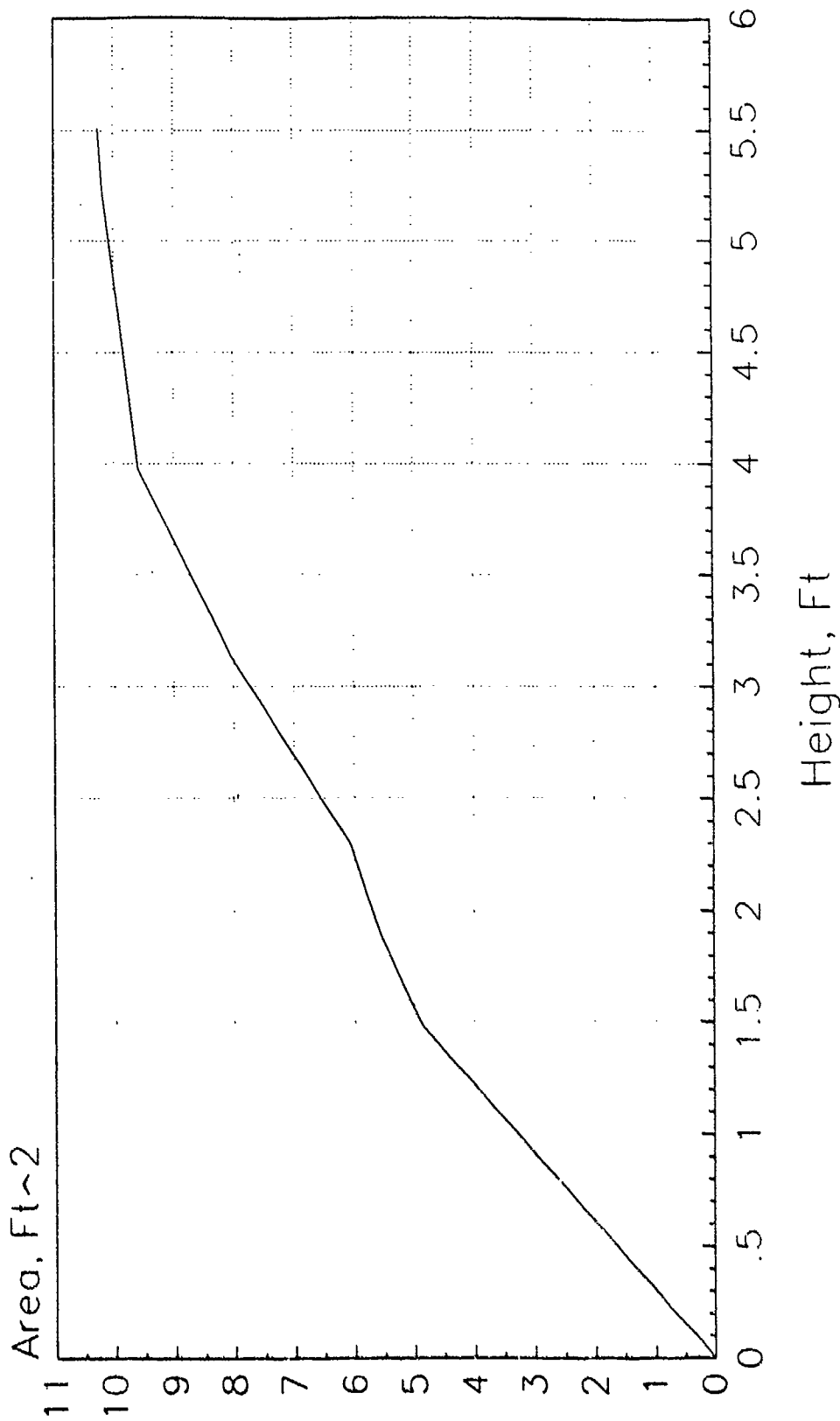
Manufacturers:                                Tideland Signal Corp

Source of Design:                              Tideland Signal Corp

Drawing Reference:                              USA MFG 1-8

# SB1M Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SB2.5M Buoy

Country of Use: USA MFG 1

Function: Designed for use in exposed channels and other similar waters.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 9,480 Lbs.

Buoy Draft: 5.57 Ft.

Overall Buoy Length: 18.69 Ft.

Focal Height of Light: 13.12 Ft.

Buoy Beam or Diameter: 8.20 Ft.

Freeboard: No Mooring: 2.63 Ft.  
Minimum: 0.98 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 3,338 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Mild Steel 10mm  
Hull Filling :  
Tower : Mild Steel  
Topmark :  
Counterweight:

Coating/Coloring System: Antifouling and coloring

Subdivision:

Hull Type: Cylindrical

Counterweight Type: 2.3T Ballast

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Primary batteries/Solar panels  
Lighting Equipment: Lantern  
Sound Equipment:  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinkers Size: 6,283 Lbs.  
Topmark Type:  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: EM/SM  
Nominal Visual Range of Daymark: 2.3 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

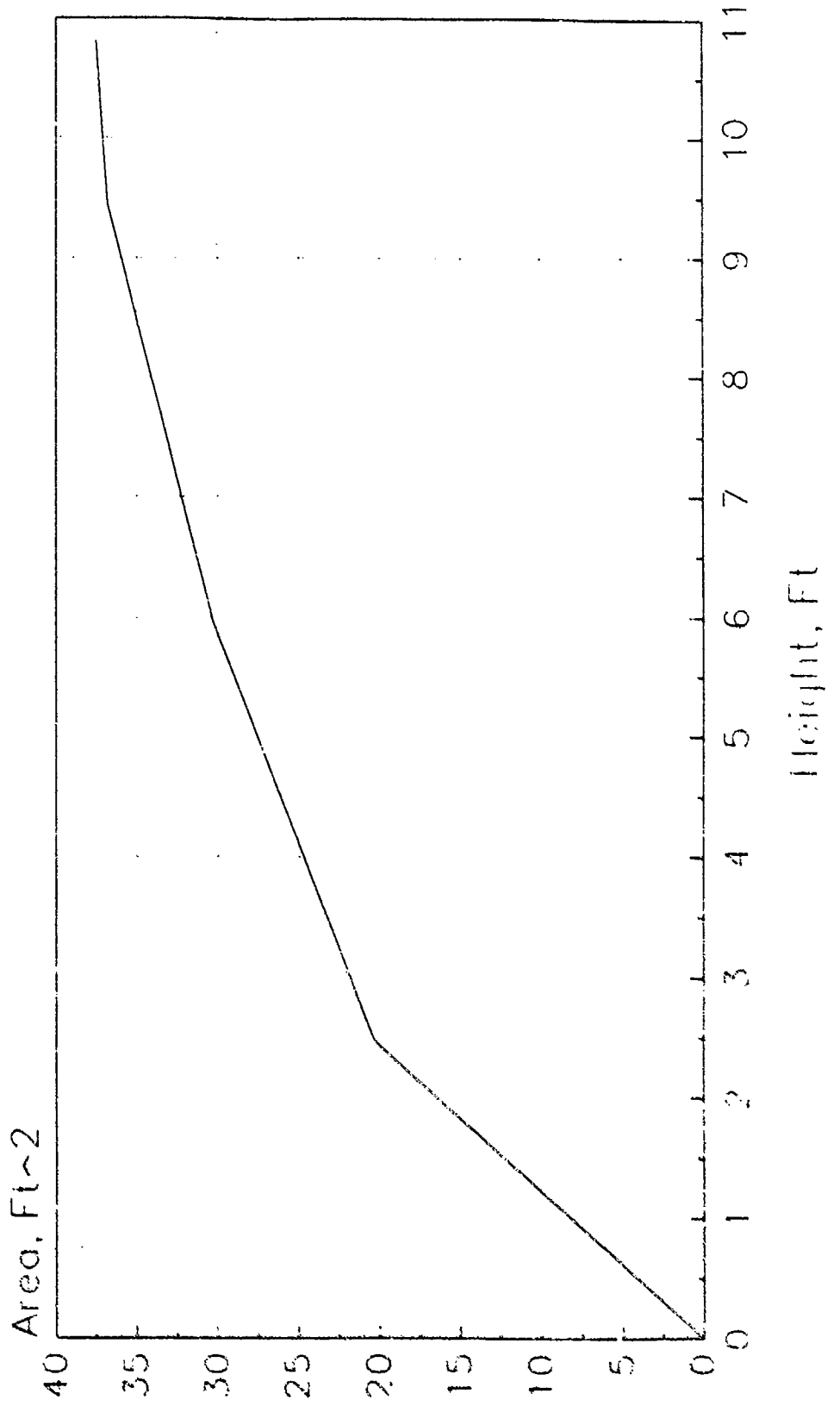
Manufacturers: Tideland Signal Corp

Source of Design: Tideland Signal Corp

Drawing Reference: USA MFG 1-6

# SB2.5M Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SB2M Buoy

Country of Use: USA MFG 1

Function: Intended for use in channels and harbors.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 7,826 Lbs.  
Buoy Draft: 5.57 Ft.  
Overall Buoy Length: 16.07 Ft.  
Focal Height of Light: 10.50 Ft.  
Buoy Beam or Diameter: 6.56 Ft.  
Freeboard: No Mooring: 1.81 Ft.  
Minimum: 0.66 Ft.  
Pounds Per Inch Immersion: 0 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 1,426 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Mild Steel 8 mm  
Hull Filling :  
Tower : Mild Steel  
Topmark :  
Counterweight:  
Coating/Coloring System: Antifouling and coloring  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: 1.35 T Ballast

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Primary Battery/Solar Energy  
Lighting Equipment: Lantern  
Sound Equipment:  
Other Payload: Radar Reflector  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.260 In.  
Type: Steel Chain  
Sinkers Size: 2,976 Lbs.  
Topmark Type:  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM/PM  
Nominal Visual Range of Daymark: 2.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

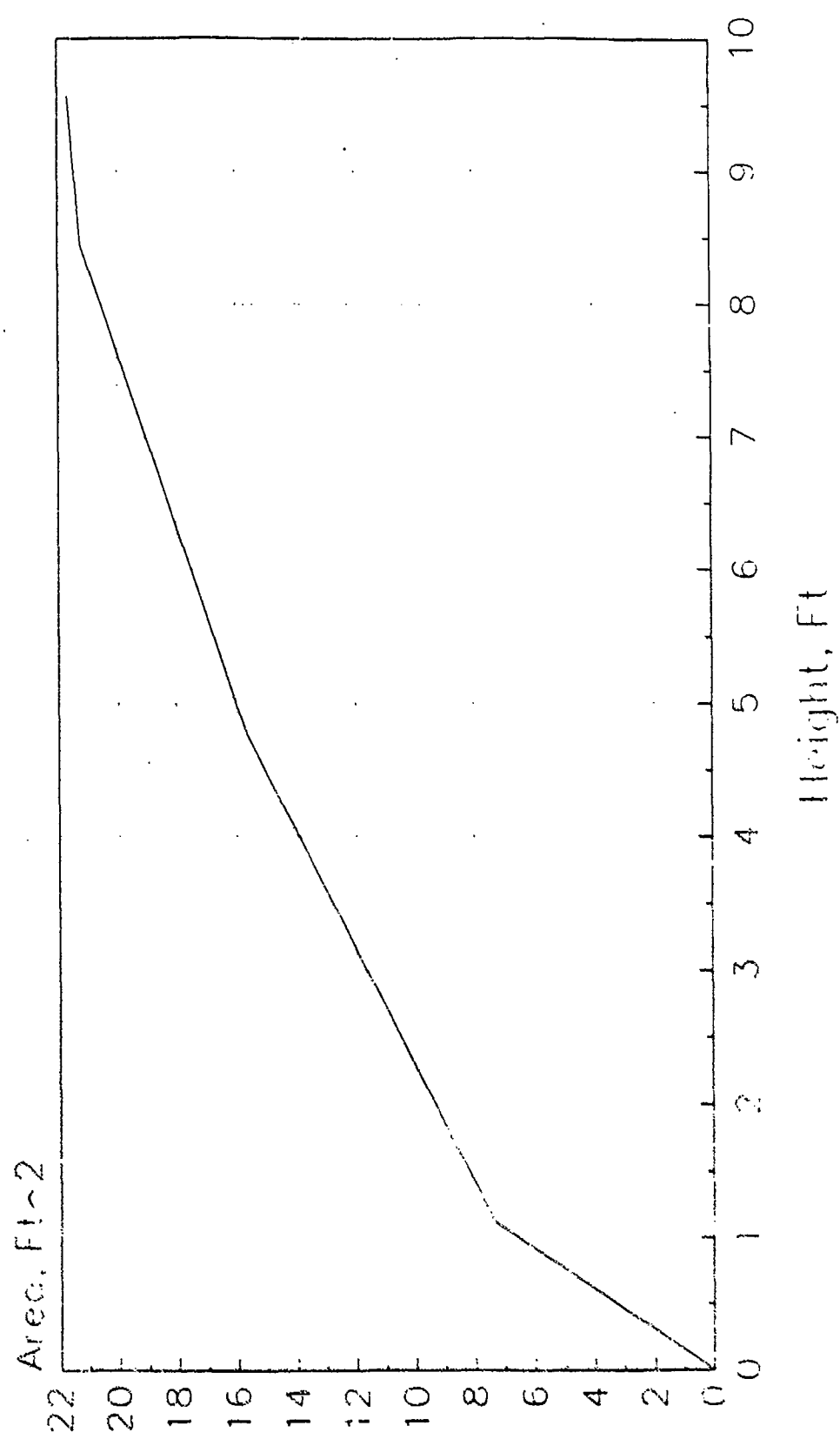
Manufacturers: Tideland Signal Corp

Source of Design: Tideland Signal Corp

Drawing Reference: USA MFG 1-5

# SB2M Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SB3M Buoy  
Country of Use: USA MFG 1  
Function: For use in open seas.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 13,228 Lbs.  
Buoy Draft: 6.12 Ft.  
Overall Buoy Length: 19.24 Ft.  
Focal Height of Light: 13.12 Ft.  
Buoy Beam or Diameter: 9.84 Ft.  
Freeboard: No Mooring: 2.90 Ft.  
Minimum: 0.98 Ft.  
Pounds Per Inch Immersion: 0 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 4,815 Lbs.  
Wave Motion Response: Wave Following  
Construction Material: Hull Shell : Mild Steel 12mm  
Hull Filling :  
Tower : Mild Steel  
Topmark :  
Counterweight:  
Coating/Coloring System: Antifouling and coloring  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: 3.5T Ballast

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Solar Panels/Primary Batteries  
Lighting Equipment: Lantern  
Sound Equipment:  
Other Payload:  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.496 In.  
Type: Steel Chain  
Sinker Size: 5,512 Lbs.  
Topmark Type:  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: EM  
Nominal Visual Range of Daymark: 3.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

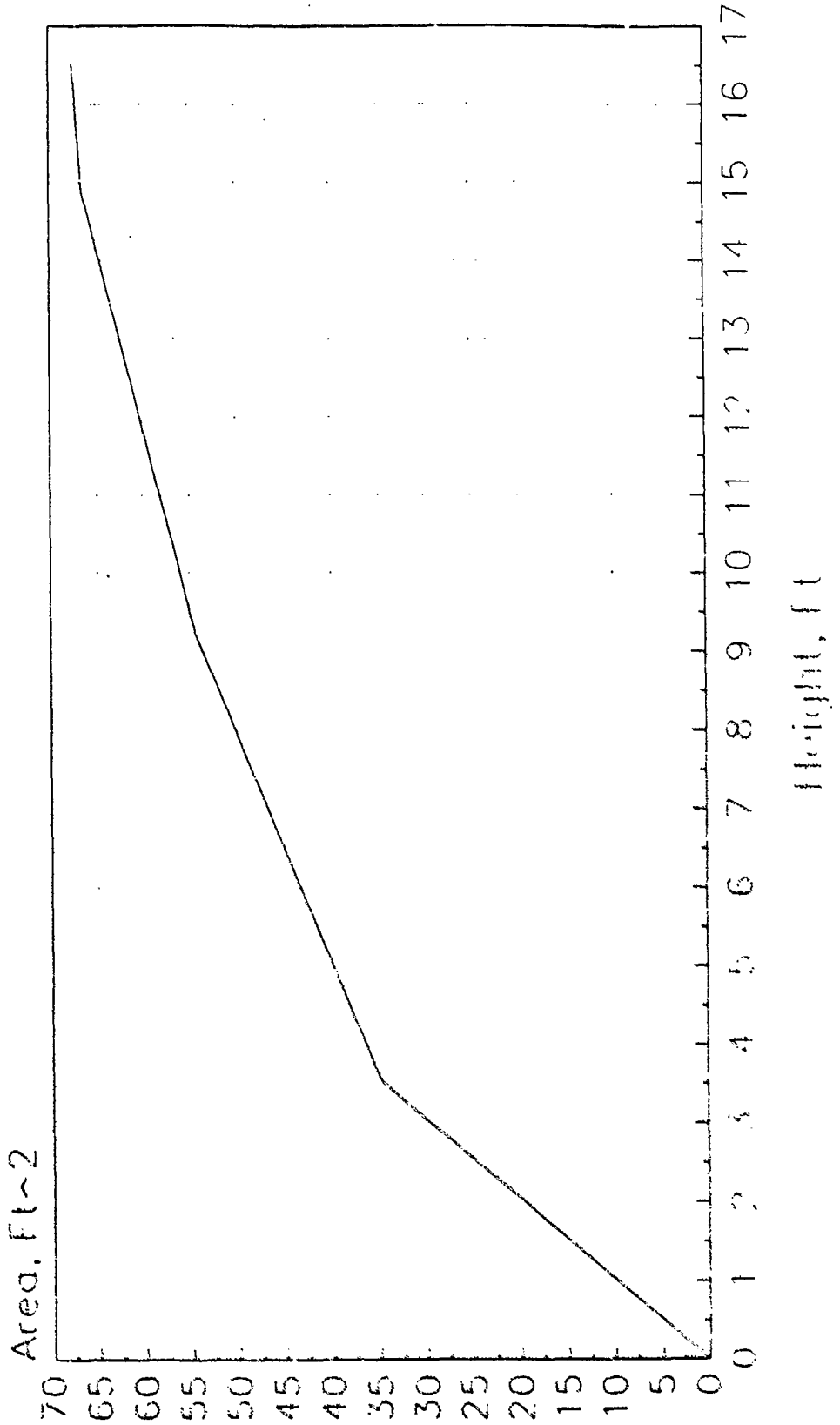
Manufacturers: Tideland Signal Corp

Source of Design: Tideland Signal Corp

Drawing Reference: USA MFG 1-7

# SB3M Buoy

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: SF-5 Spar Buoy

Country of Use: USA MFG 1

Function: NOT AN AID TO NAVIGATION. Used for temporary marking of underwater locations. such as, subsea oil and gas wells. It is lightweight and easily deployable by a diver. It is moored to subsea structure.

Date Of Last Update For This Record: 07/30/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	43 Lbs.
Buoy Draft:	0.00 Ft.
Overall Buoy Length:	10.00 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	0.50 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	4 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	
Construction Material:	Hull Shell : Fiberglass (GRP) Hull Filling : Foam (Polyurethane) Tower : Topmark : Counterweight: Concrete
Coating/Coloring System:	Antifouling and coloring
Subdivision:	Foam filled
Hull Type:	Tubing
Counterweight Type:	Ballast inside bottm

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 2.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Black Polyurethane  
Sinker Size: 0 Lbs.  
Topmark Type: None  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: EM/SM/PM  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type:

## ADDITIONAL DATA

Cost:                   Replacement:         \$0  
                          Preparation:         \$0  
                          Monthly Servicing:   \$0

Service Life:                                 0.0 Yrs.

Maintenance Interval:                         0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Manufacturers:                                 Tideland Signal Corp

Source of Design:                              Tideland Signal Corp

Drawing Reference:                             USA MFG 1-10

## GENERAL INFORMATION

Name of Buoy: UF-210 Spherical Buoy

Country of Use: USA MFG 1

Function: NOT AN AID TO NAVIGATION - This is a subsurface buoy submerged to a depth of 50 feet. It is used for temporary marking of underwtr locations, such as subsea oil and gas wells. It is lightweight and easily deployable by

Date Of Last Update For This Record: 07/30/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 37 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 2.00 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 2.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Fiberglass (GRP) 3mm  
Hull Filling : Foam (Polyurethane)  
Tower :  
Topmark :  
Counterweight:

Coating/Coloring System: White Color-Impregnated

Subdivision: Hull filled

Hull Type: Spherical

Counterweight Type: None

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: None  
Lighting Equipment: None  
Sound Equipment: None  
Other Payload: None  
Daymark Area: 0.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Black Polyurethane  
Sinkers Size: 0 Lbs.  
Topmark Type: None  
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EF/SF/PF  
Nominal Visual Range of Daymark: 0.0 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: None

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Manufacturers:                            Tideland Signal Corp

Source of Design:                            Tideland Signal Corp

Drawing Reference:                            USA MFC 1-11

## GENERAL INFORMATION

Name of Buoy: BA-17C (1.7x6.7 C)

Country of Use: USA MFG 2

Function: Unlighted inshore buoy, with CAN daymark. Available also with optional light and battery, and radar reflector. For marking channels, bays, rivers, and lakes.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 86 Lbs.

Buoy Draft: 3.52 Ft.

Overall Buoy Length: 6.71 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 1.67 Ft.

Freeboard: No Mooring: 3.19 Ft.  
Minimum: 2.86 Ft.

Pounds Per Inch Immersion: 11 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Fiberglass GRP  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: Ext.finned tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 4.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Rope & Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

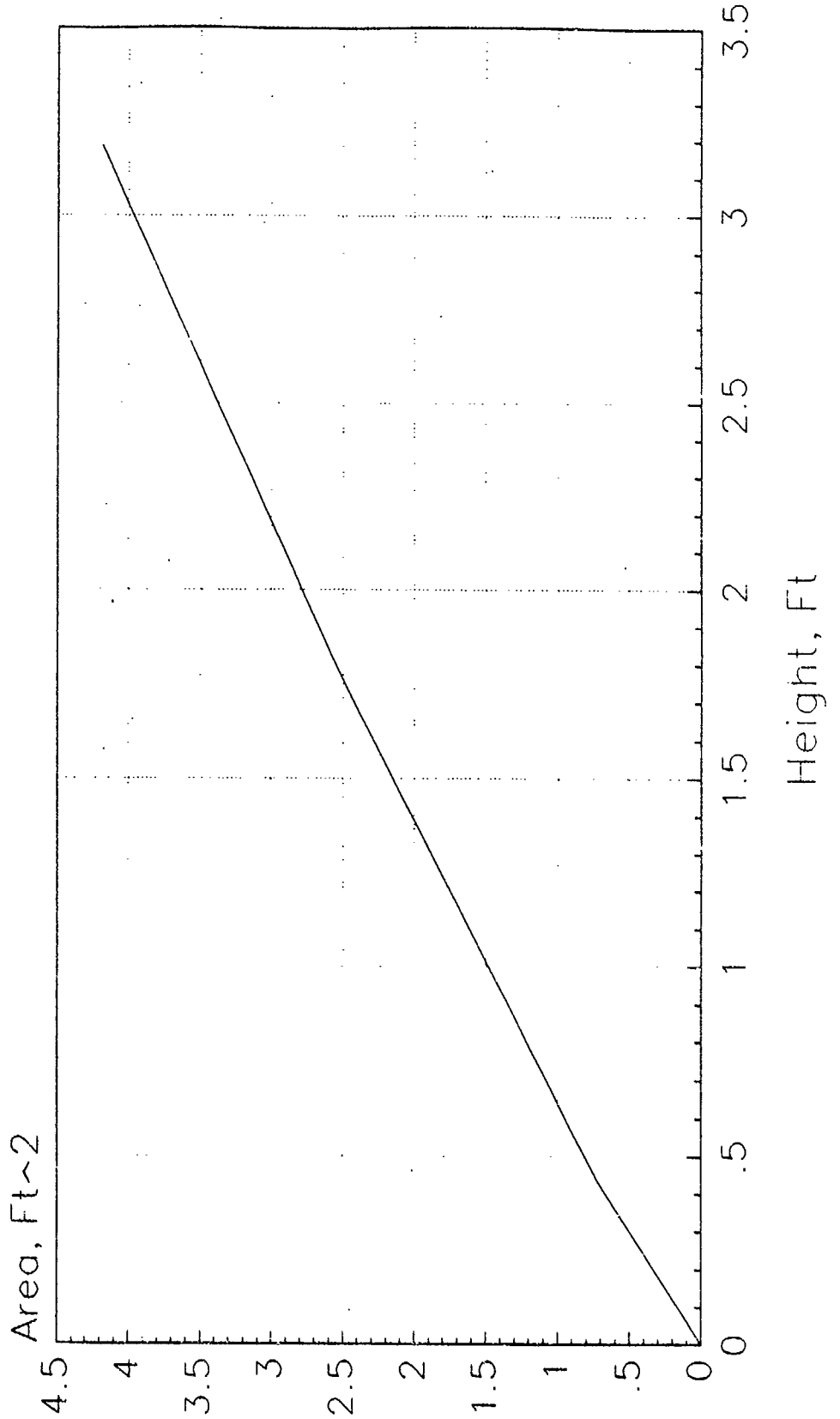
## OPERATING CHARACTERISTICS

Operating Environment: PM, rivers  
Nominal Visual Range of Daymark: 1.3 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail



# BA-17C (1.7x6.7 C)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BA-17N (1.7x7.2 N)

Country of Use: USA MFG 2

Function: Unlighted inshore buoy, with NUN daymark. Available also with optional light and battery, and radar reflector. For marking channels, bays, rivers and lakes.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 84 Lbs.

Buoy Draft: 3.50 Ft.

Overall Buoy Length: 7.20 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 1.67 Ft.

Freeboard: No Mooring: 3.70 Ft.  
Minimum: 3.37 Ft.

Pounds Per Inch Immersion: 11 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Fiberglass GRP  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: Ext.finned tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 4.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Rope & Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

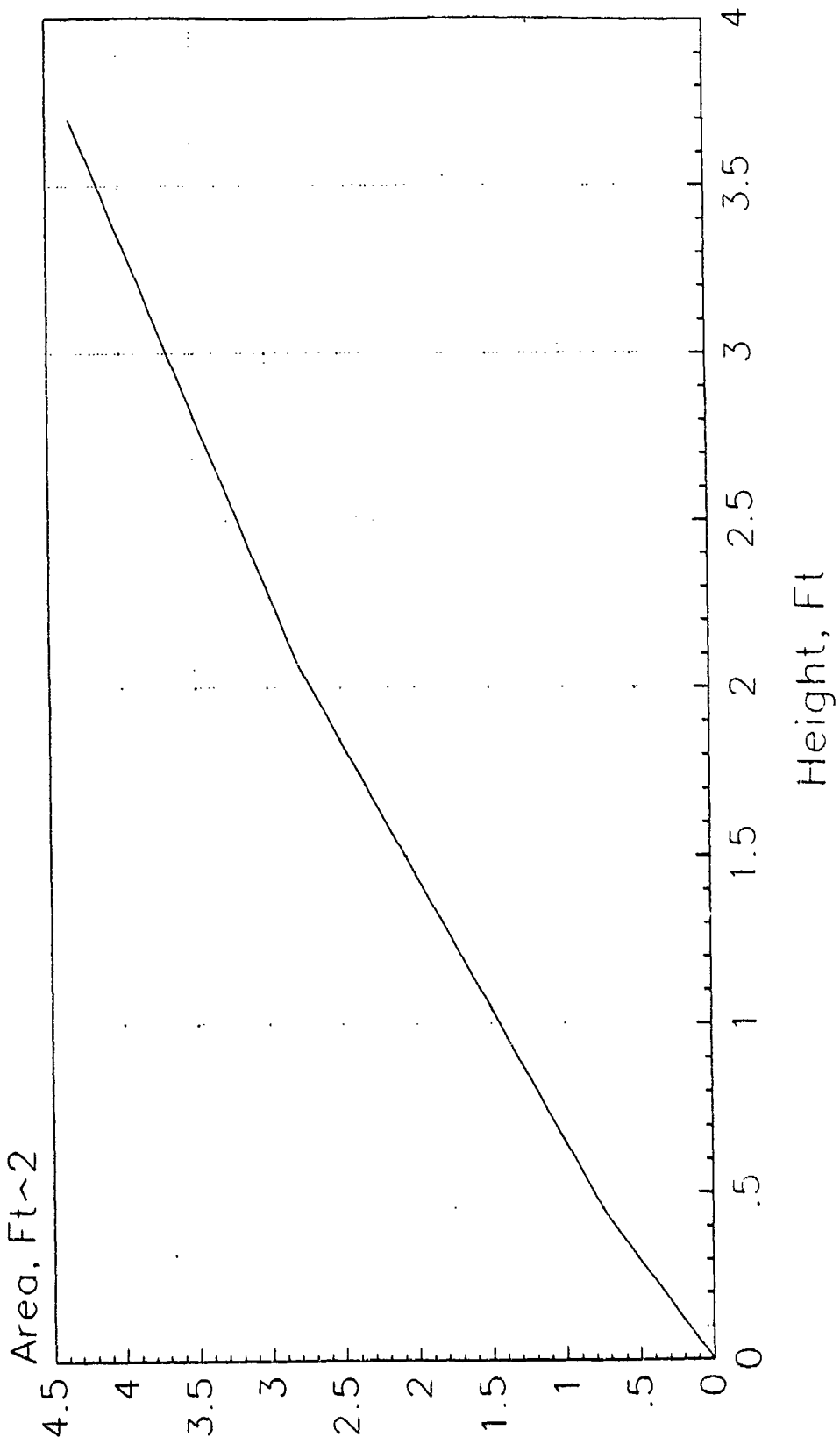
## OPERATING CHARACTERISTICS

Operating Environment: PM, rivers  
Nominal Visual Range of Daymark: 1.3 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail



BA-17N (1.7x7.2 N)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BA-28C (2.3x7.3 C)

Country of Use: USA MFG 2

Function: Unlighted inshore buoy, with CAN daymark. Available also with optional light and battery, and radar reflector. For marking channels, bay, rivers and lakes.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 142 Lbs.

Buoy Draft: 3.67 Ft.

Overall Buoy Length: 7.33 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 2.33 Ft.

Freeboard: No Mooring: 3.67 Ft.  
Minimum: 3.25 Ft.

Pounds Per Inch Immersion: 22 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Fiberglass GRP  
Hull Filling : Foam  
Tower :  
Topmark :  
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: Ext.finned tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 5.6 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Rope & Steel Chain  
Sinkers Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM, rivers  
Nominal Visual Range of Daymark: 1.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail

## ADDITIONAL DATA

Cost:            Replacement:        \$0  
                 Preparation:         \$0  
                 Monthly Servicing:    \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

**Special Features:**

The mooring attaches to a single lug on the tail tube just below hull.

The counterweight is finned for stability in currents, and has flat bottom to allow buoy to stand during storage.

**Stability Notes:**

Maximum mooring weight: 112 lbs.

**General Notes**

A light with batteries is optionally available.

A radar reflector is optionally available.

A thru rod and lifting eye is optionally available.

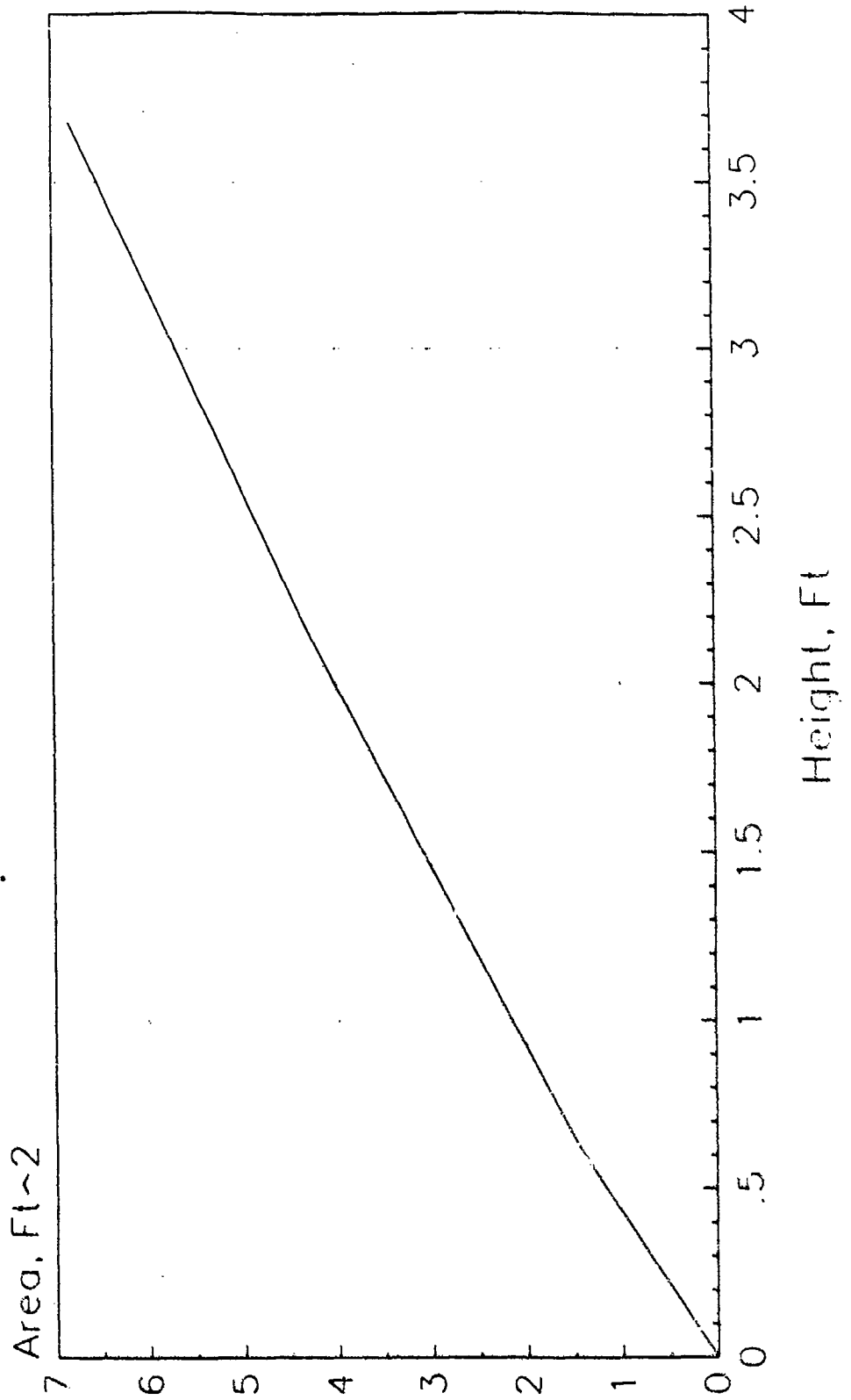
Manufacturers:                            Automatic Power, Inc

Source of Design:                         Automatic Power, Inc

Drawing Reference:                        USA MFG 2-1 & 2-9

BA--28C (2.3x7.3 C)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BA-28N (2.3x7.7 N)

Country of Use: USA MFG 2

Function: Unlighted inshore buoy, with NUN daymark. Available also with optional light and battery, and radar reflector. For marking channels, bays, rivers and lakes.

Date Of Last Update For This Record: 11/02/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	141 Lbs.
Buoy Draft:	3.67 Ft.
Overall Buoy Length:	7.67 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	2.33 Ft.
Freeboard:	No Mooring: 4.00 Ft. Minimum: 3.58 Ft.
Pounds Per Inch Immersion:	22 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave following
Construction Material:	Hull Shell : Fiberglass GRP Hull Filling : Foam Tower : Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Moulded-in color
Subdivision:	Foam filled
Hull Type:	Cylindrical
Counterweight Type:	Ext.finned tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 5.8 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Rope & steel chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

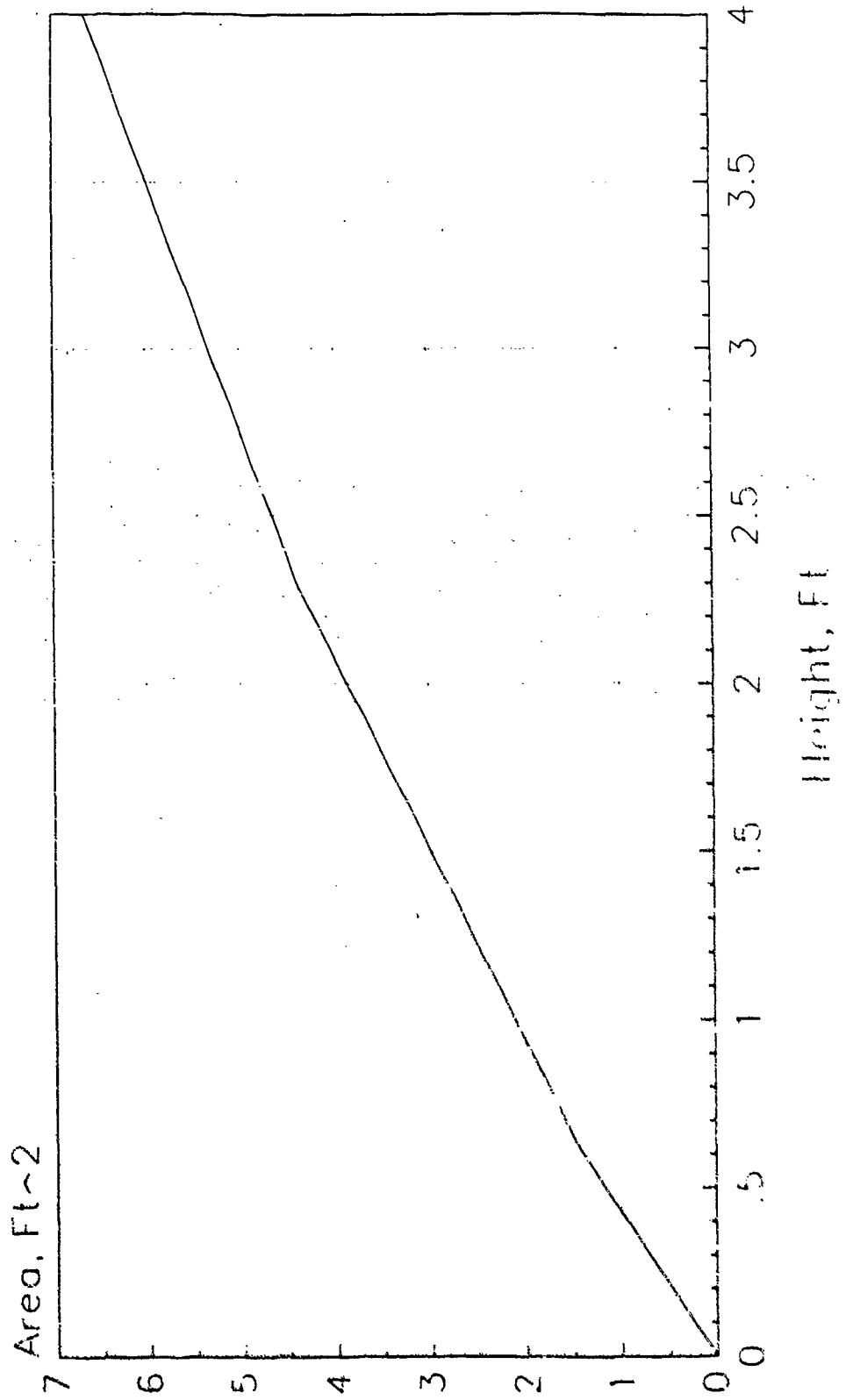
## OPERATING CHARACTERISTICS

Operating Environment: PM, rivers  
Nominal Visual Range of Daymark: 1.5 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail



BA-28N (2.3x7.7 N)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BA-323C (1.7x5.5 C)

Country of Use: USA MFG 2

Function: Unlighted inshore buoy, with CAN daymark. Available also with optional light and battery, and radar reflector. For marking channels, bays, rivers and lakes.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	73 Lbs.
Buoy Draft:	2.50 Ft.
Overall Buoy Length:	5.50 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	1.67 Ft.
Freeboard:	No Mooring: 3.00 Ft. Minimum: 2.71 Ft.
Pounds Per Inch Immersion:	11 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave following
Construction Material:	Hull Shell : Fiberglass GRP Hull Filling : Foam Tower : Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Moulded-in color
Subdivision:	Foam filled
Hull Type:	Cylindrical
Counterweight Type:	Ext.finned tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 3.3 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Rope & steel chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM, rivers, shallow  
Nominal Visual Range of Daymark: 1.2 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking a 'ail

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

## Special Features:

The mooring attaches to a single lug on the tail tube just below hull.

The counterweight is finned for stability in currents, and has flat bottom to allow buoy to stand during storage.

## Stability Notes:

Maximum mooring weight: 40 lbs.

## General Notes

A light with batteries is optionally available.

A radar reflector is optionally available.

A thru rod and lifting eye is optionally available.

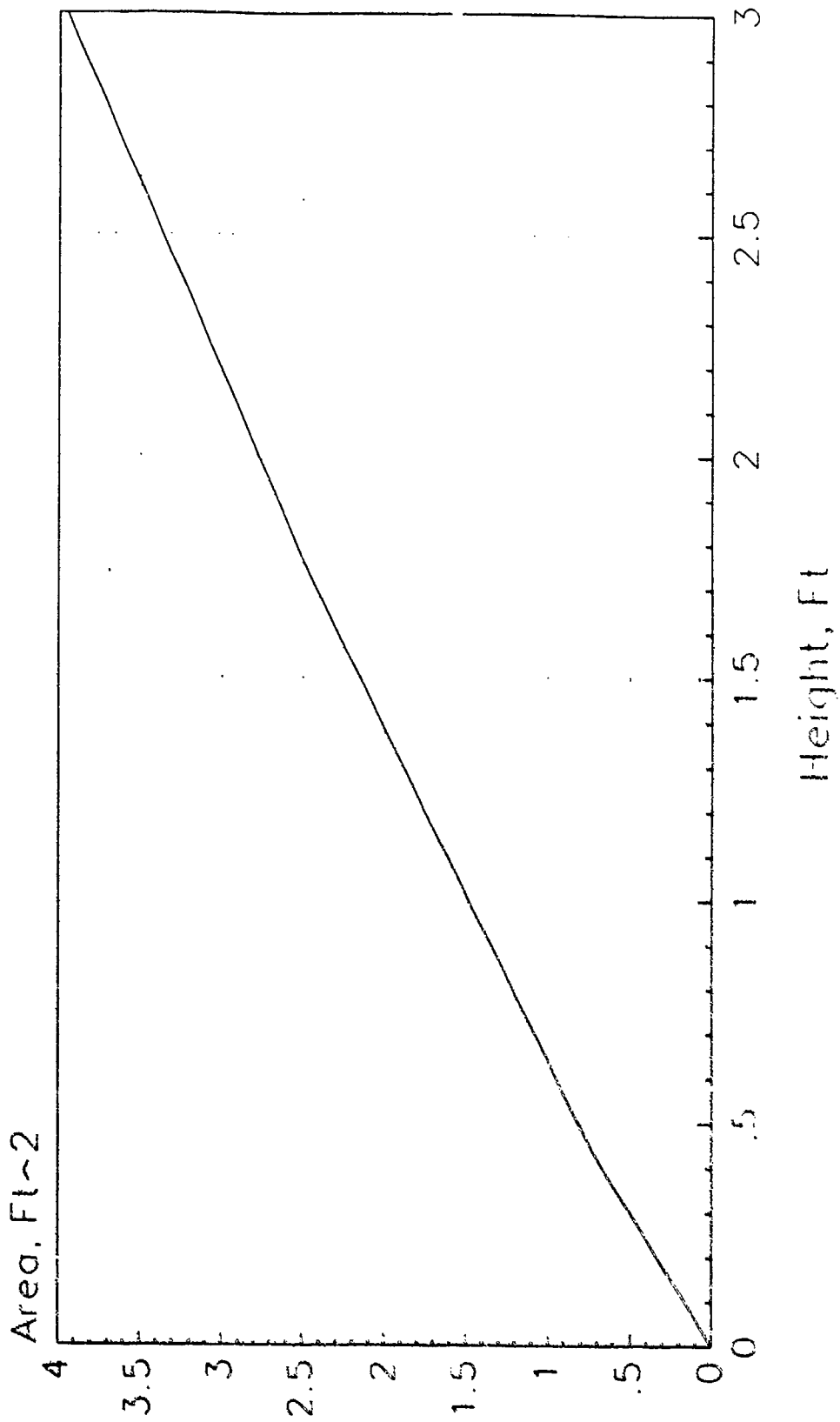
Manufacturers: Automatic Power, Inc

Source of Design: Automatic Power, Inc

Drawing Reference: USA MFG 2-1 & 2-9

BA-323C (1.7x5.5 C)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BA-323N (1.7x5.5 N)

Country of Use: USA MFG 2

Function: Unlighted inshore buoy, with NUN daymark. Available also with optional light and battery, and radar reflector. For marking channels, bays, river and lakes.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	73 Lbs.
Buoy Draft:	2.50 Ft.
Overall Buoy Length:	5.50 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	1.67 Ft.
Freeboard:	No Mooring: 3.00 Ft. Minimum: 2.71 Ft.
Pounds Per Inch Immersion:	11 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave following
Construction Material:	Hull Shell : Fiberglass GRP Hull Filling : Foam Tower : Topmark : Counterweight: Cast Iron
Coating/Coloring System:	Moulded-in color
Subdivision:	Foam filled
Hull Type:	Cylindrical
Counterweight Type:	Ext.finned tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: none  
Daymark Area: 2.8 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Rope & Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: none.  
Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: PM, rivers, shallow  
Nominal Visual Range of Daymark: 1.2 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 3 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                            0.0 Yrs.

Maintenance Interval:                    0 Mos.

Maintenance Notes:

## Special Features:

The mooring attaches to a single lug on the tail tube just below hull.

The counterweight is finned for stability in currents, and has flat bottom to allow buoy to stand during storage.

## Stability Notes:

Maximum mooring weight: 40 lbs.

## General Notes

A light with batteries is optionally available.

A radar reflector is optionally available.

A thru rod and lifting eye is optionally available.

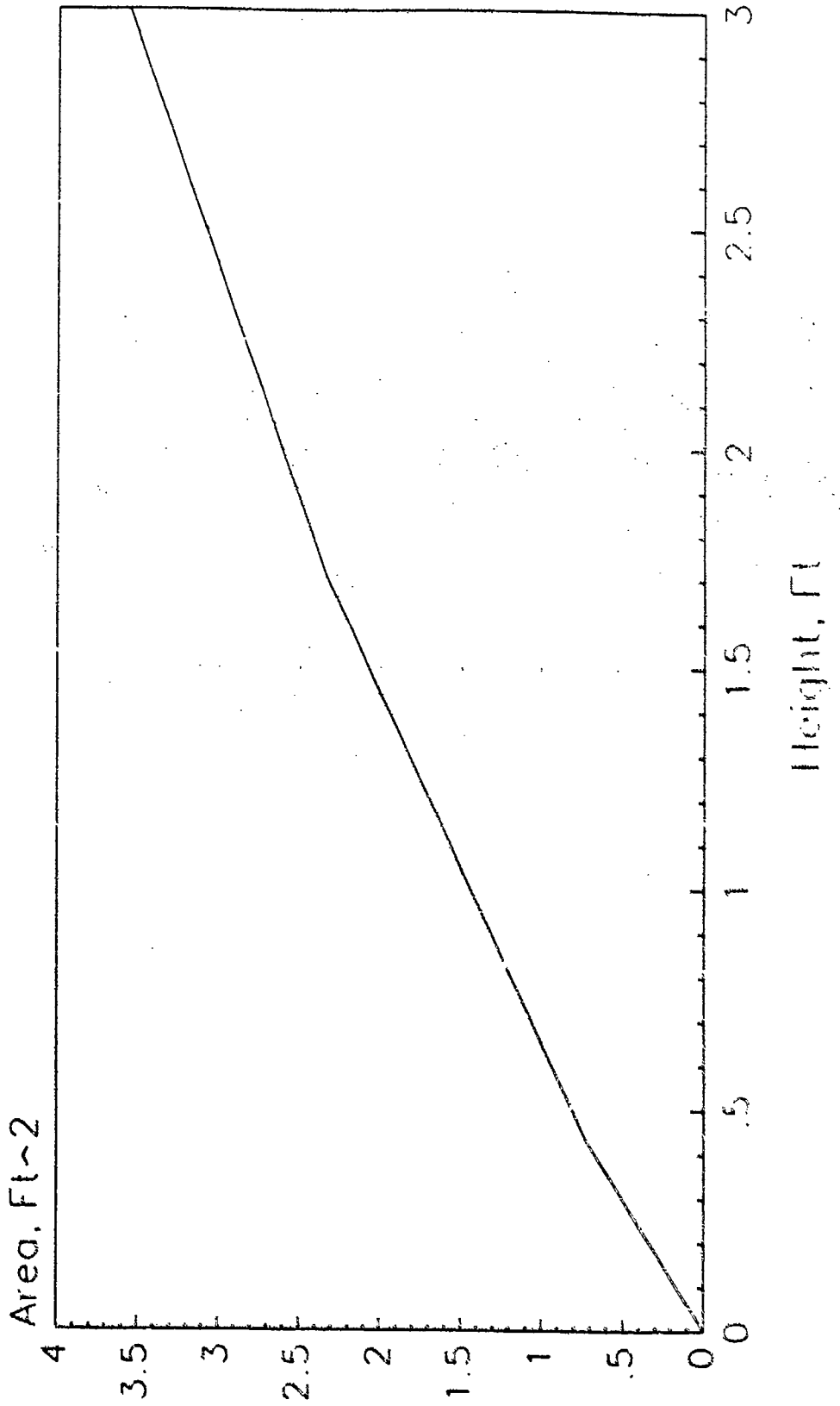
Manufacturers:                            Automatic Power, Inc

Source of Design:                            Automatic Power, Inc

Drawing Reference:                            USA MFG 2-1 & 2-9

BA-323N (1.7x5.5 N)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BC-3, Class III (3X8 CR)

Country of Use: USA MFG 2

Function: Unlighted buoy, with CAN radar reflecting daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 875 Lbs.

Buoy Draft: 3.75 Ft.

Overall Buoy Length: 8.00 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 3.00 Ft.

Freeboard: No Mooring: 2.75 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 38 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling : Foam (optional)  
Tower :  
Topmark :  
Counterweight:

Coating/Coloring System: Antifouling and coloring

Subdivision: Foamfilled(optional)

Hull Type: Cylindrical CAN

Counterweight Type: Internal

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 12.8 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.750 In.  
Type: Steel Chain  
Sinkers Size: 3,000 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow, rivers  
Nominal Visual Range of Daymark: 1.8 Nmi.  
Radar Range: 4.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail

ADDITIONAL DATA

Cost: Replacement: \$0  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 25.0 Yrs.

Maintenance Interval: 72 Mos.

Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

Special Features:

A side plate with 5 additional mooring attachment positions allows for adjustment to various current flow rates.

Stability Notes:

General Notes

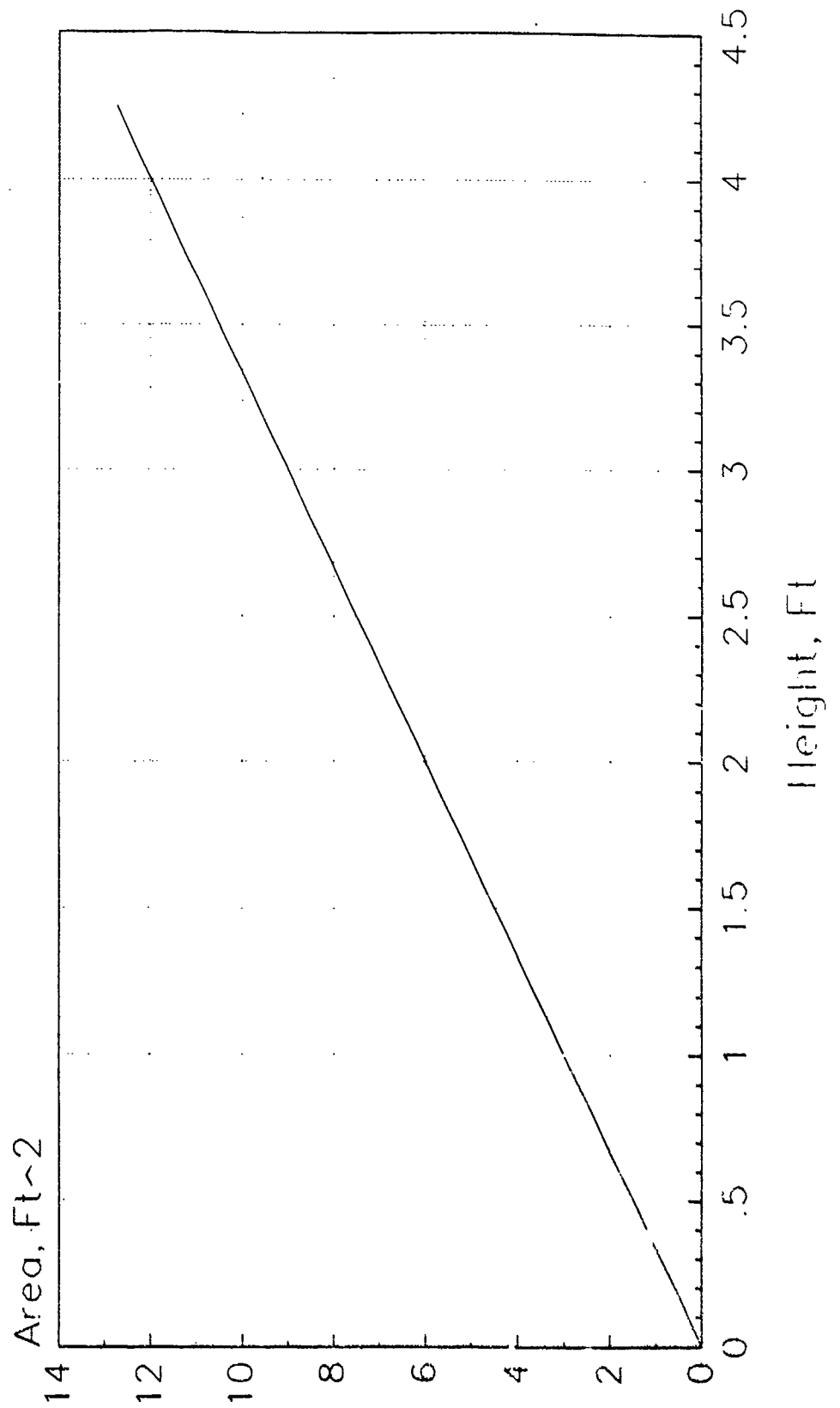
Manufacturers: Automatic Power, Inc

Source of Design: Automatic Power, Inc

Drawing Reference: USA MFG 2-7

# BC-3, Class III (3x8 CR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BC-4, Class II (4X14 CR)

Country of Use: USA MFG 2

Function: Unlighted buoy, with CAN radar reflecting daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 2,565 Lbs.

Buoy Draft: 6.00 Ft.

Overall Buoy Length: 13.50 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 4.00 Ft.

Freeboard: No Mooring: 4.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 67 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling : Foam (optional)  
Tower :  
Topmark :  
Counterweight:

Coating/Coloring System: Antifouling and coloring

Subdivision: Foamfilled(optional)

Hull Type: Cylindrical CAN

Counterweight Type: Internal

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 30.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.125 In.  
Type: Steel Chain  
Sinkers Size: 4,000 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow, rivers  
Nominal Visual Range of Daymark: 2.3 Nmi.  
Radar Range: 5.9 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 6 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail

ADDITIONAL DATA

Cost: Replacement: \$0  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 25.0 Yrs.

Maintenance Interval: 72 Mos.

Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

Special Features:

A side plate with 5 additional mooring attachment positions allows for adjustment to various current flow rates.

Stability Notes:

General Notes

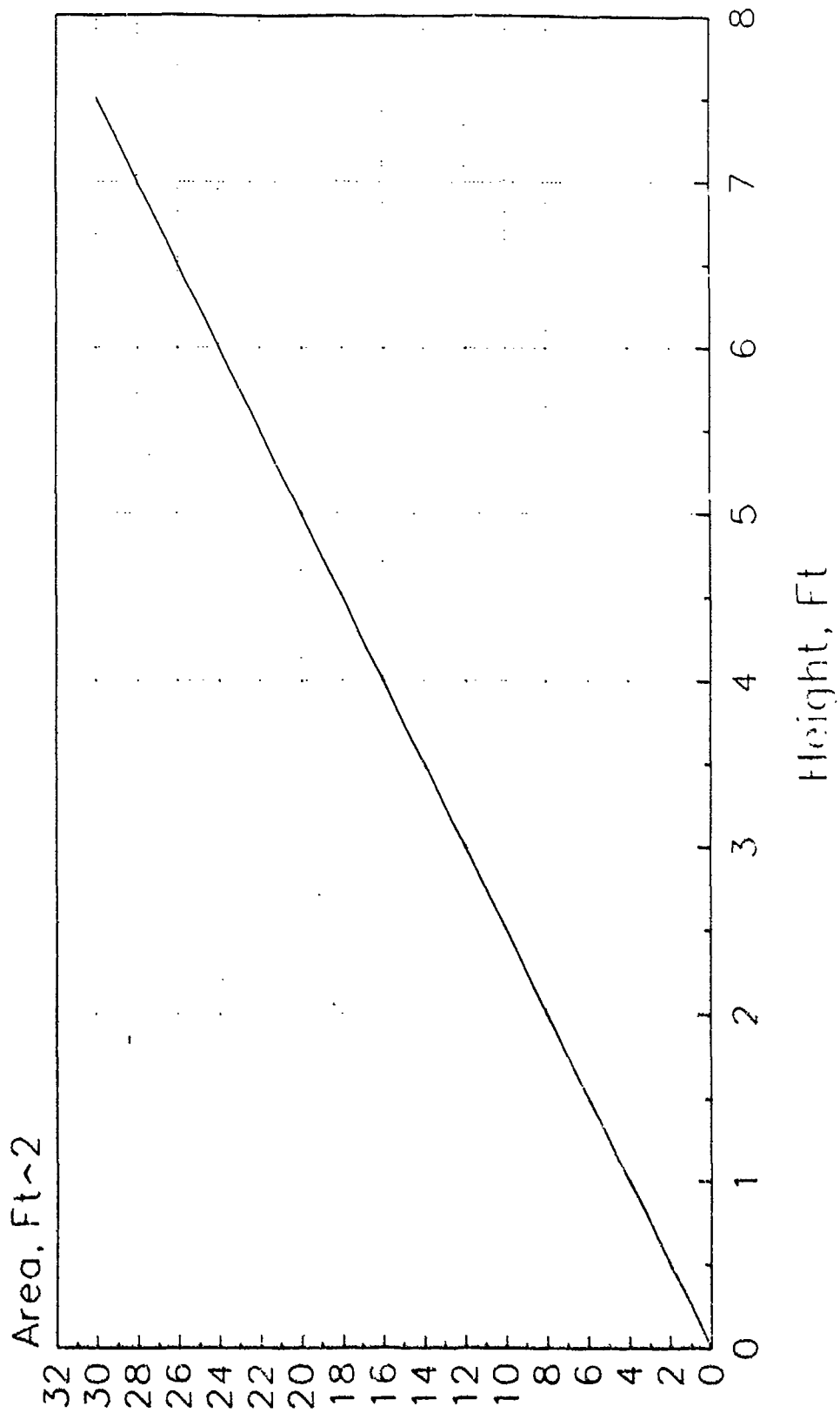
Manufacturers: Automatic Power, Inc

Source of Design: Automatic Power, Inc

Drawing Reference: USA MFG 2-7

# BC-4, Class II (4x14 CR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BC-5, Class I (5X18 CR)  
Country of Use: USA MFG 2  
Function: Unlighted buoy, with CAN radar  
reflecting daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 5,150 Lbs.  
Buoy Draft: 7.75 Ft.  
Overall Buoy Length: 18.25 Ft.  
Focal Height of Light: 0.00 Ft.  
Buoy Beam or Diameter: 5.00 Ft.  
Freeboard: No Mooring: 6.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 105 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response:  
Construction Material: Hull Shell : Steel  
Hull Filling : Foam (optional)  
Tower :  
Topmark :  
Counterweight:  
Coating/Coloring System: Antifouling and coloring  
Subdivision: Foamfilled(optional)  
Hull Type: Cylindrical CAN  
Counterweight Type: Internal

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 52.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.125 In.  
Type: Steel Chain  
Sinker Size: 5,000 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

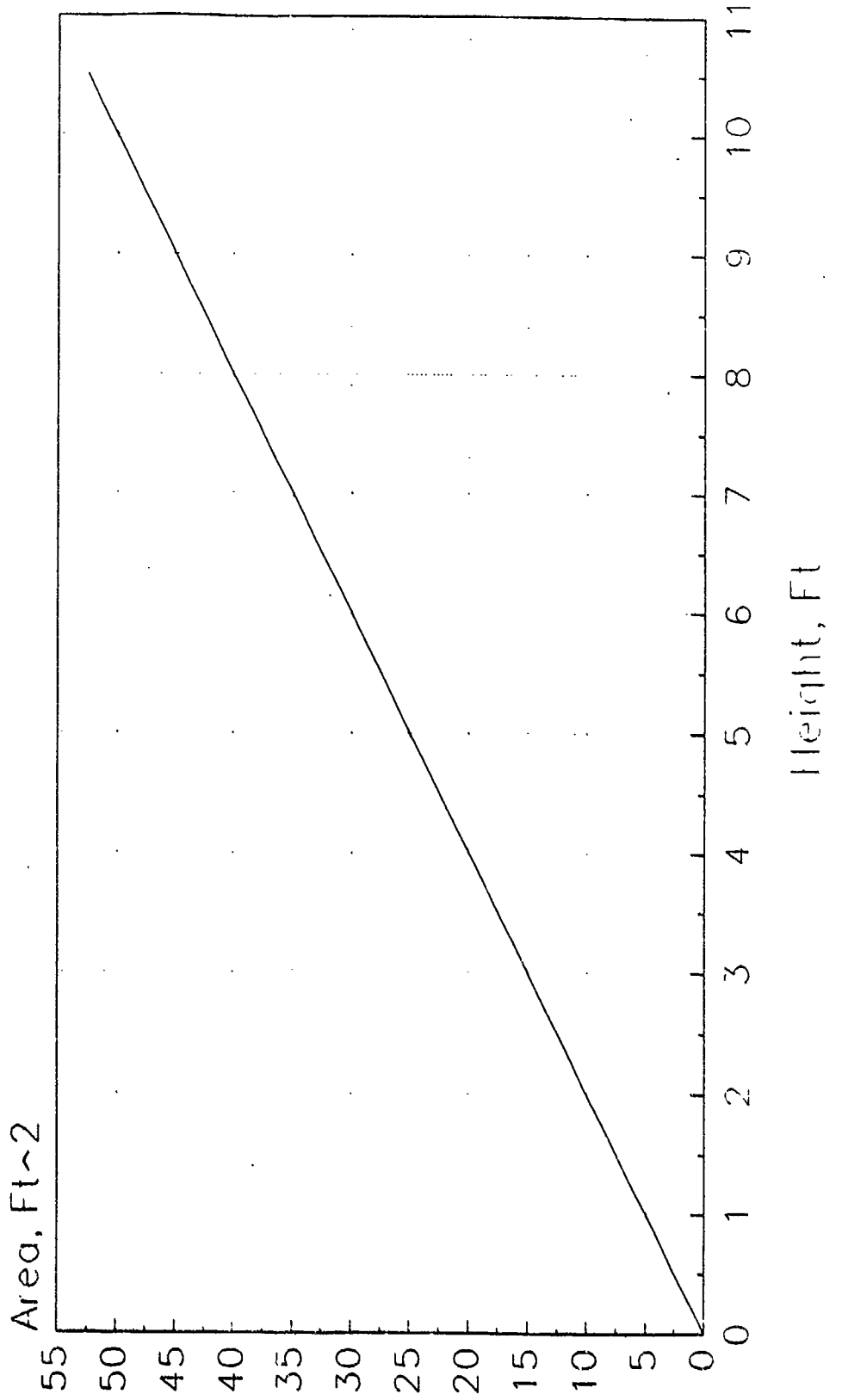
## OPERATING CHARACTERISTICS

Operating Environment: EM, rivers  
Nominal Visual Range of Daymark: 2.5 Nmi.  
Radar Range: 6.9 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 8 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail



# BC-5, Class I (5x18 CR)

Cumulative Area \_\_\_\_\_



## GENERAL INFORMATION

Name of Buoy: BL-250 (2.5X12 L)

Country of Use: USA MFG 2

Function: Lighted inshore buoy, with pillar  
daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 386 Lbs.

Buoy Draft: 4.96 Ft.

Overall Buoy Length: 11.56 Ft.

Focal Height of Light: 6.02 Ft.

Buoy Beam or Diameter: 2.50 Ft.

Freeboard: No Mooring: 0.96 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 24 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:

Coating/Coloring System: Antifouling and coloring

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Dry prim. batt. pack 12v300Ah

Lighting Equipment: 155mm Electric lantern

Sound Equipment: none

Other Payload: none

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.375 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.375 In.  
Type: Steel Chain

Sinker Size: 500 Lbs.

Topmark Type: Optional

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: PM

Nominal Visual Range of Daymark: 1.4 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 7 Ft.  
Maximum: 0 Ft.

Reflective Material Type: Retro-reflective marking avail

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                         Preparation:         \$0  
                         Monthly Servicing:   \$0

Service Life:                                25.0 Yrs.

Maintenance Interval:                        72 Mos.

## Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

## Special Features:

- A solar power system is available.
- A gimbaleed lantern is available.

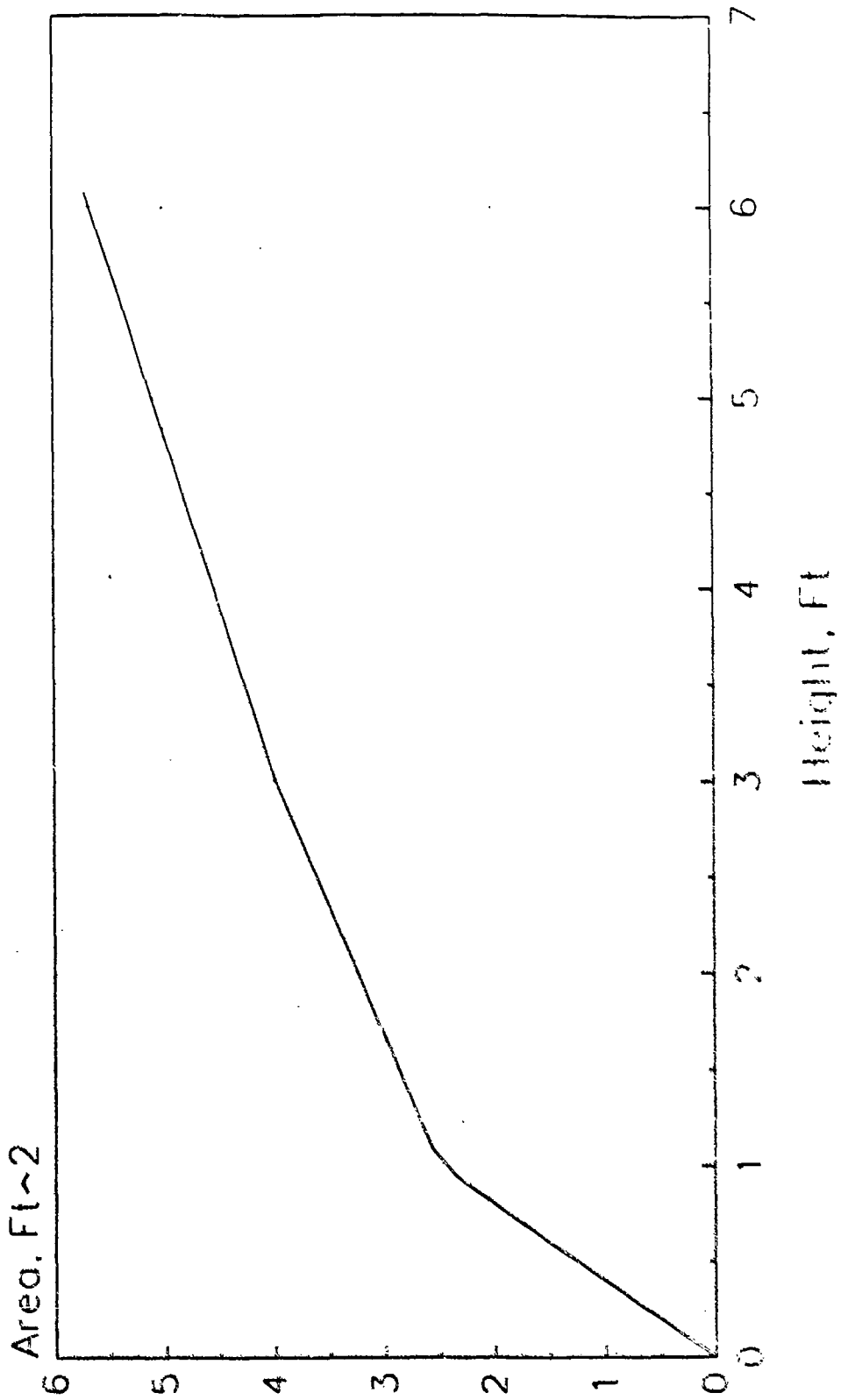
## Stability Notes:

## General Notes

Manufacturers:                                Automatic Power, Inc  
Source of Design:                              Automatic Power, Inc  
Drawing Reference:                              USA MFG 2-1 & 2-6

BL-250 (2.5x12 L)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BL-358 (3.5X8.5 LR)

Country of Use: USA MFG 2

Function: Lighted inshore buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,450 Lbs.  
Buoy Draft: 2.75 Ft.  
Overall Buoy Length: 8.50 Ft.  
Focal Height of Light: 5.17 Ft.  
Buoy Beam or Diameter: 3.50 Ft.  
Freeboard: No Mooring: 0.75 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 50 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel, 10 guage Sht  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:  
Coating/Coloring System: Antifouling and coloring  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External skirt keel

## RELATED EQUIPMENT

Number of Power Sources: 1

Type of Power Sources: Dry Prim. batt. Pack 12v1200Ah

Lighting Equipment: 155mm Electric lantern

Sound Equipment: none

Other Payload: Radar reflecting daymark

Daymark Area: 2.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.750 In.  
Type: Steel chain

Sinker Size: 2,000 Lbs.

Topmark Type: Optional

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water

Nominal Visual Range of Daymark: 1.7 Nmi.

Radar Range: 3.9 Nmi.

Maximum Current: 0.0 Kts.

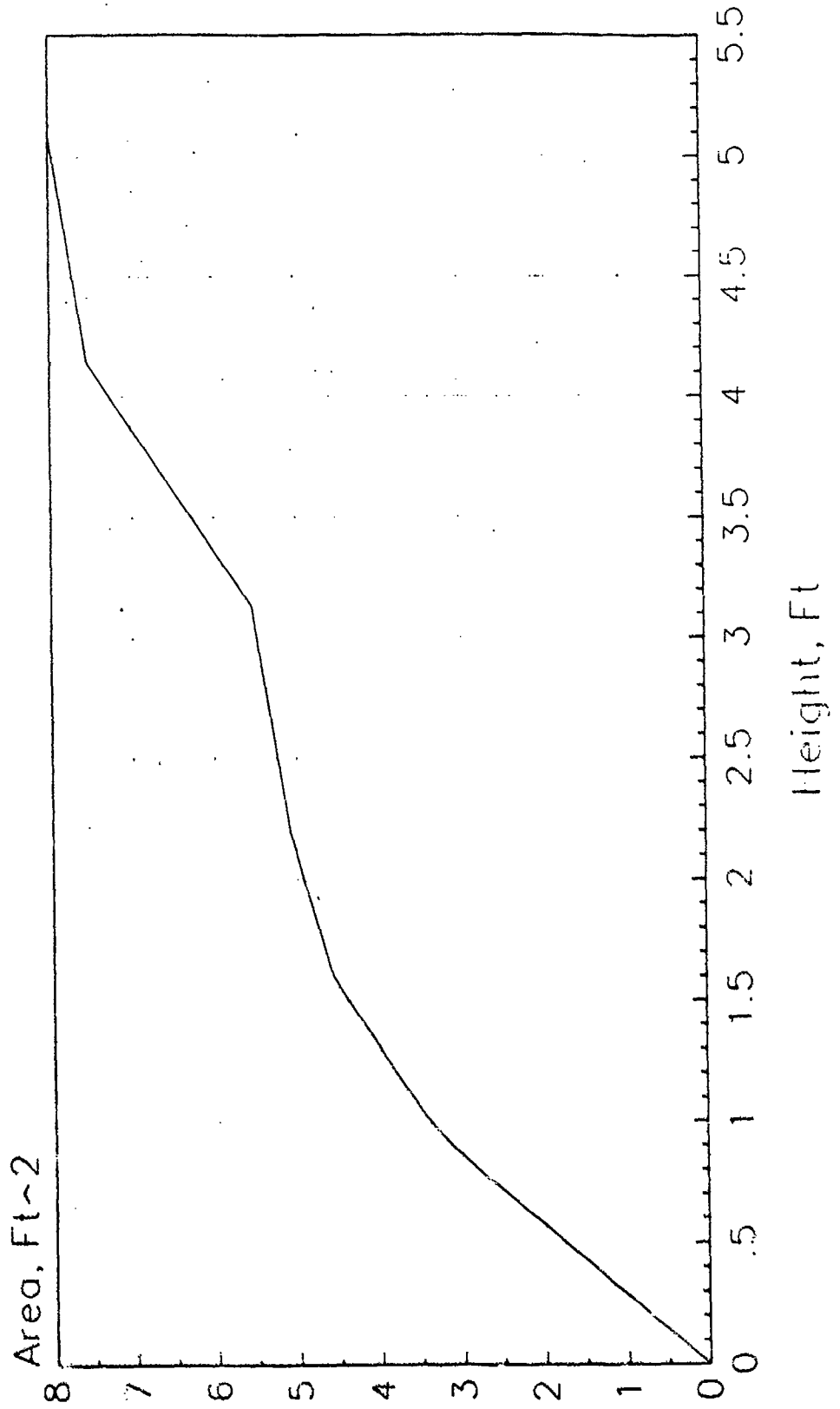
Mooring Depth: Minimum: 5 Ft.  
Maximum: 0 Ft.

Reflective Material Type: Retro-reflective marking avail



BL-358 (3.5x8.5 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BL-511 (5X12 LR)

Country of Use: USA MFG 2

Function: Lighted buoy, for semi-exposed locations.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 3,850 Lbs.  
Buoy Draft: 4.42 Ft.  
Overall Buoy Length: 11.85 Ft.  
Focal Height of Light: 6.83 Ft.  
Buoy Beam or Diameter: 5.00 Ft.  
Freeboard: No Mooring: 0.88 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 105 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel, 1/4" PL  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight:  
Coating/Coloring System: Antifouling and coloring  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External skirt keel

## RELATED EQUIPMENT

Number of Power Sources: 1  
Type of Power Sources: Dry prim. batt. pack 12V1200Ah  
Lighting Equipment: 155mm Electric lantern  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 4.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.750 In.  
Type: Steel Chain  
Sinker Size: 3,000 Lbs.  
Topmark Type: Optional  
Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water  
Nominal Visual Range of Daymark: 2.0 Nmi.  
Radar Range: 5.1 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 7 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                         Preparation:         \$0  
                         Monthly Servicing: \$0

Service Life:                                25.0 Yrs.

Maintenance Interval:                        72 Mos.

## Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

## Special Features:

- A solar power system is available.
- A gimbaled lantern is available.

## Stability Notes:

## General Notes

Bridle has extender arms bolted to buoy body.

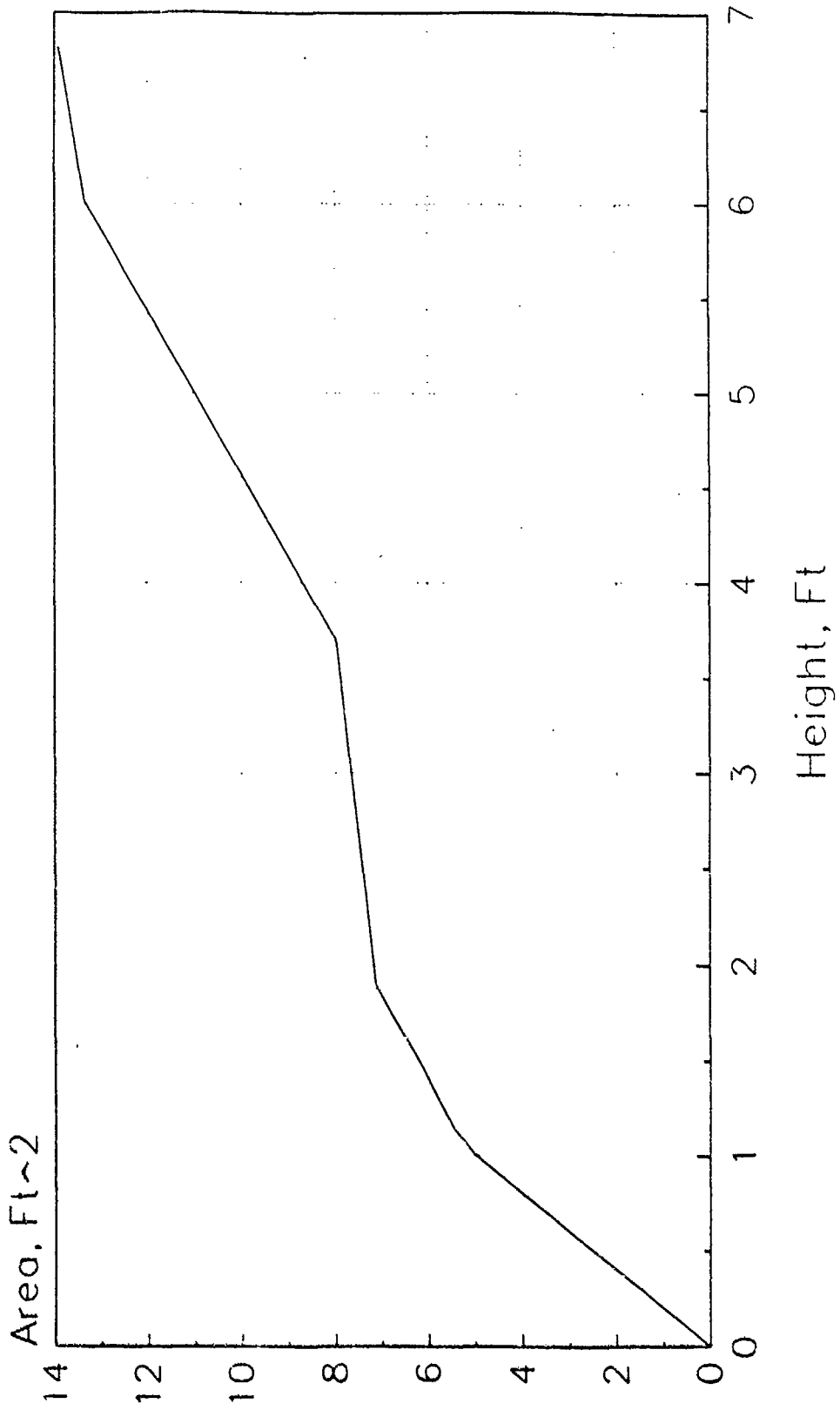
Manufacturers:                                Automatic Power, Inc

Source of Design:                              Automatic Power, Inc

Drawing Reference:                            USA MFG 2-1 & 2-4

BL-511 (5x12 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BL-620 (6X20 LR)

Country of Use: USA MFG 2

Function: Lighted offshore buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 6,000 Lbs.  
Buoy Draft: 9.17 Ft.  
Overall Buoy Length: 20.19 Ft.  
Focal Height of Light: 10.42 Ft.  
Buoy Beam or Diameter: 6.00 Ft.  
Freeboard: No Mooring: 2.00 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 150 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response: Wave following  
Construction Material: Hull Shell : Steel, 1/4" PL  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Steel  
Coating/Coloring System: Antifouling and coloring  
Subdivision:  
Hull Type: Cylindrical  
Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: Wet prim. batt.packs 12v6000Ah

Lighting Equipment: 155mm Electric lantern

Sound Equipment: SA-850/1A optional

Other Payload: Radar reflecting daymark

Daymark Area: 8.0 Sq. Ft.

Bridle Size: Chain Size: 1.125 In.  
Length : 0.0 Ft.

Mooring Line: Size: 1.125 In.  
Type: Steel Chain

Sinker Size: 5,000 Lbs.

Topmark Type: Optional

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 2.1 Nmi.

Radar Range: 5.6 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 10 Ft.  
Maximum: 0 Ft.

Reflective Material Type: Retro-reflective marking avail

## ADDITIONAL DATA

Cost:                   Replacement:       \$0  
                          Preparation:       \$0  
                          Monthly Servicing: \$0

Service Life:                               25.0 Yrs.

Maintenance Interval:                     72 Mos.

## Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

## Special Features:

- A solar power system is available.
- A gimbaleed lantern is available.

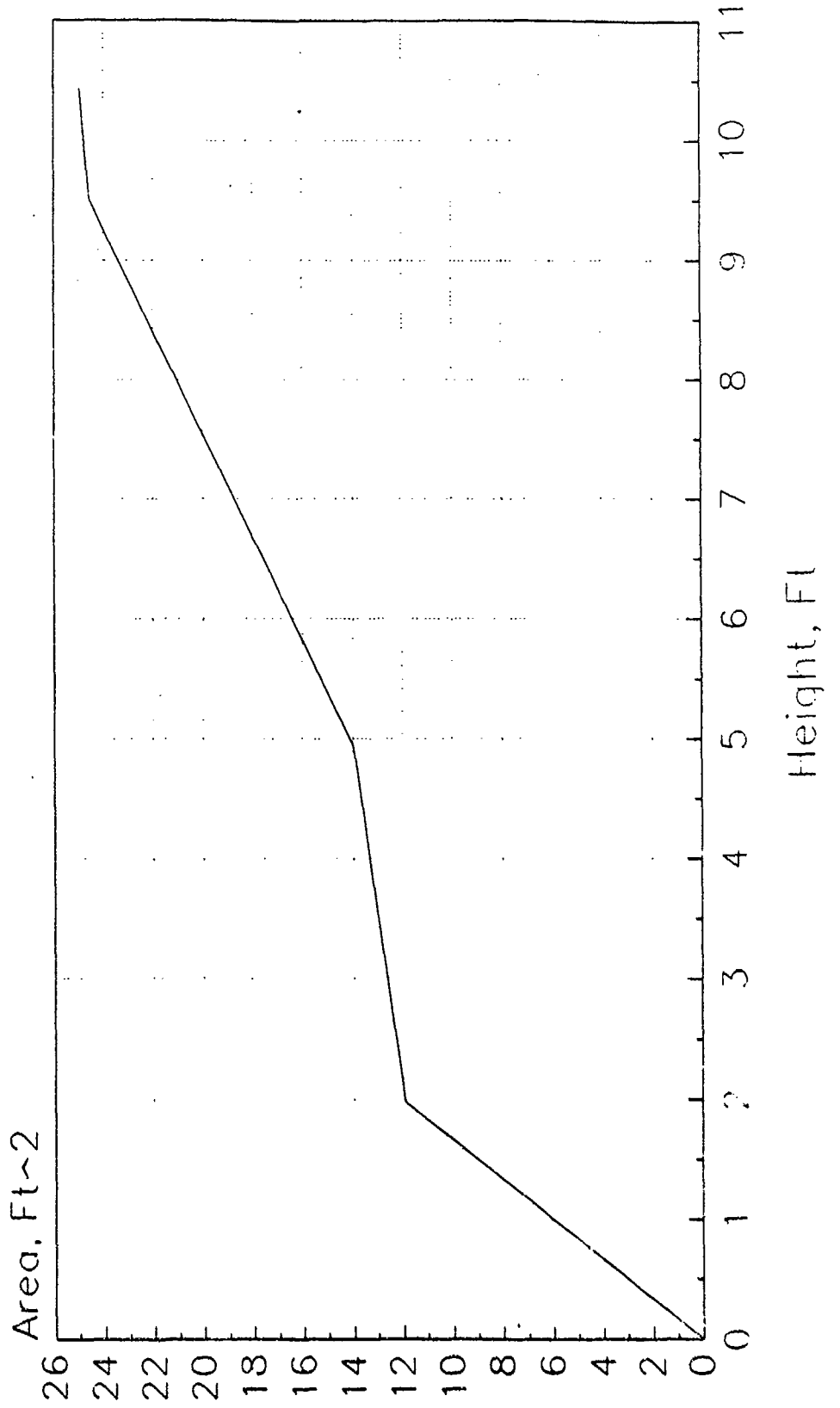
## Stability Notes:

## General Notes

Manufacturers:                             Automatic Power, Inc  
Source of Design:                         Automatic Power, Inc  
Drawing Reference:                         USA MFG 2-1 & 2-2

# BL-620 (6x20 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BL-717 (7X17 LR)

Country of Use: USA MFG 2

Function: Lighted offshore buoy

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 9,200 Lbs.

Buoy Draft: 5.06 Ft.

Overall Buoy Length: 17.00 Ft.

Focal Height of Light: 11.33 Ft.

Buoy Beam or Diameter: 7.00 Ft.

Freeboard: No Mooring: 2.50 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 205 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel, 1/4" PL  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Antifouling and coloring

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External skirt keel

## RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: Dry prim. batt.packs 12v2400Ah

Lighting Equipment: 155mm Electric lantern

Sound Equipment: SA-850/1A Optional

Other Payload: Radar reflecting daymark

Daymark Area: 8.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 1.250 In.  
Type: Steel Chain

Sinker Size: 5,000 Lbs.

Topmark Type: Optional

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: EM, Shallow Water

Nominal Visual Range of Daymark: 2.3 Nmi.

Radar Range: 5.6 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 8 Ft.  
Maximum: 0 Ft.

Reflective Material Type: Retro-reflective marking avail

## ADDITIONAL DATA

Cost:            Replacement:    \$0  
                 Preparation:       \$0  
                 Monthly Servicing: \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:            0 Mos.

## Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

## Special Features:

- A solar power system is available.
- A gimbaleed lantern is available.

## Stability Notes:

## General Notes

Bridle has extender arms bolted to buoy body.

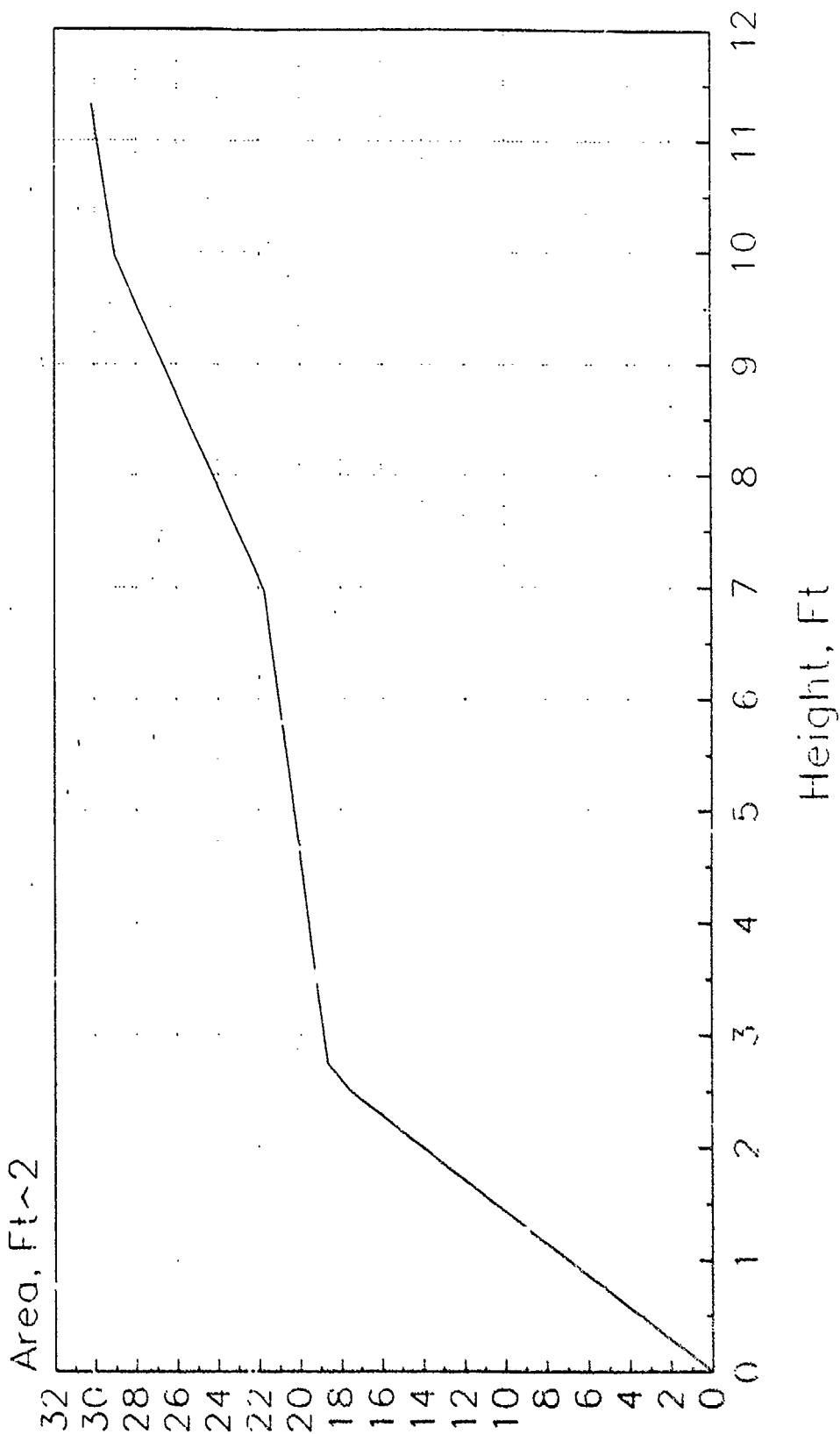
Manufacturers:                    Automatic Power, Inc

Source of Design:                 Automatic Power, Inc

Drawing Reference:                USA MFG 2-1 & 2-3

BL--717 (7x17 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BL-826 (8X27 LR)

Country of Use: USA MFG 2

Function: Lighted offshore buoy.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 13,150 Lbs.

Buoy Draft: 10.92 Ft.

Overall Buoy Length: 26.57 Ft.

Focal Height of Light: 15.06 Ft.

Buoy Beam or Diameter: 8.00 Ft.

Freeboard: No Mooring: 2.50 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 270 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel, 5/16" PL  
Hull Filling :  
Tower : Steel  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Antifouling and coloring

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

## RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: Wet prim.batt. packs 12v6000Ah

Lighting Equipment: 155mm Electric lantern

Sound Equipment: SA-850/1A optional

Other Payload: Radar reflecting daymark

Daymark Area: 19.0 Sq. Ft.

Bridle Size: Chain Size: 1.500 In.  
Length : 0.0 Ft.

Mooring Line: Size: 1.250 In.  
Type: Steel Chain

Sinker Size: 7,000 Lbs.

Topmark Type: Optional

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 2.7 Nmi.

Radar Range: 7.7 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 11 Ft.  
Maximum: 0 Ft.

Reflective Material Type: Retro-reflective marking avail

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                         Preparation:         \$0  
                         Monthly Servicing: \$0

Service Life:                                25.0 Yrs.

Maintenance Interval:                        72 Mos.

## Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

## Special Features:

- A solar power system is available.
- A gimbaled lantern is available.

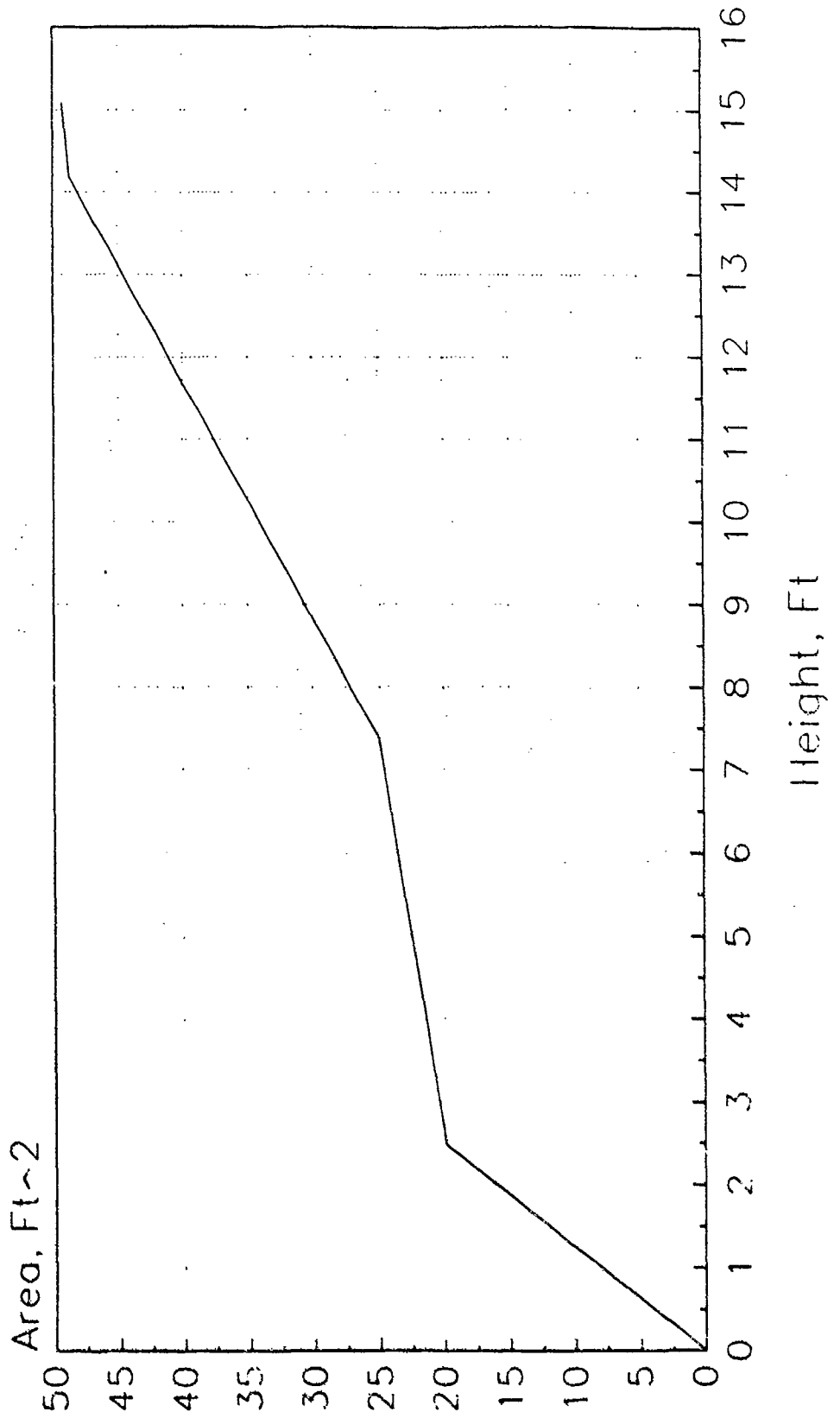
## Stability Notes:

## General Notes

Manufacturers:                                Automatic Power, Inc  
Source of Design:                              Automatic Power, Inc  
Drawing Reference:                              USA MFG 2-1 & 2-2

BL-826 (8x27 LR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BN-3, Class III (3X9 NR)

Country of Use: USA MFG 2

Function: Unlighted buoy, with NUN radar reflecting daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 865 Lbs.

Buoy Draft: 3.75 Ft.

Overall Buoy Length: 9.00 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 3.00 Ft.

Freeboard: No Mooring: 2.75 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 38 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling : Foam (optional)  
Tower :  
Topmark :  
Counterweight:

Coating/Coloring System: Antifouling and color

Subdivision: Foamfilled(optional)

Hull Type: Cylindrical CAN

Counterweight Type: Internal

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 13.3 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.750 In.  
Type: Steel Chain  
Sinker Size: 3,000 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

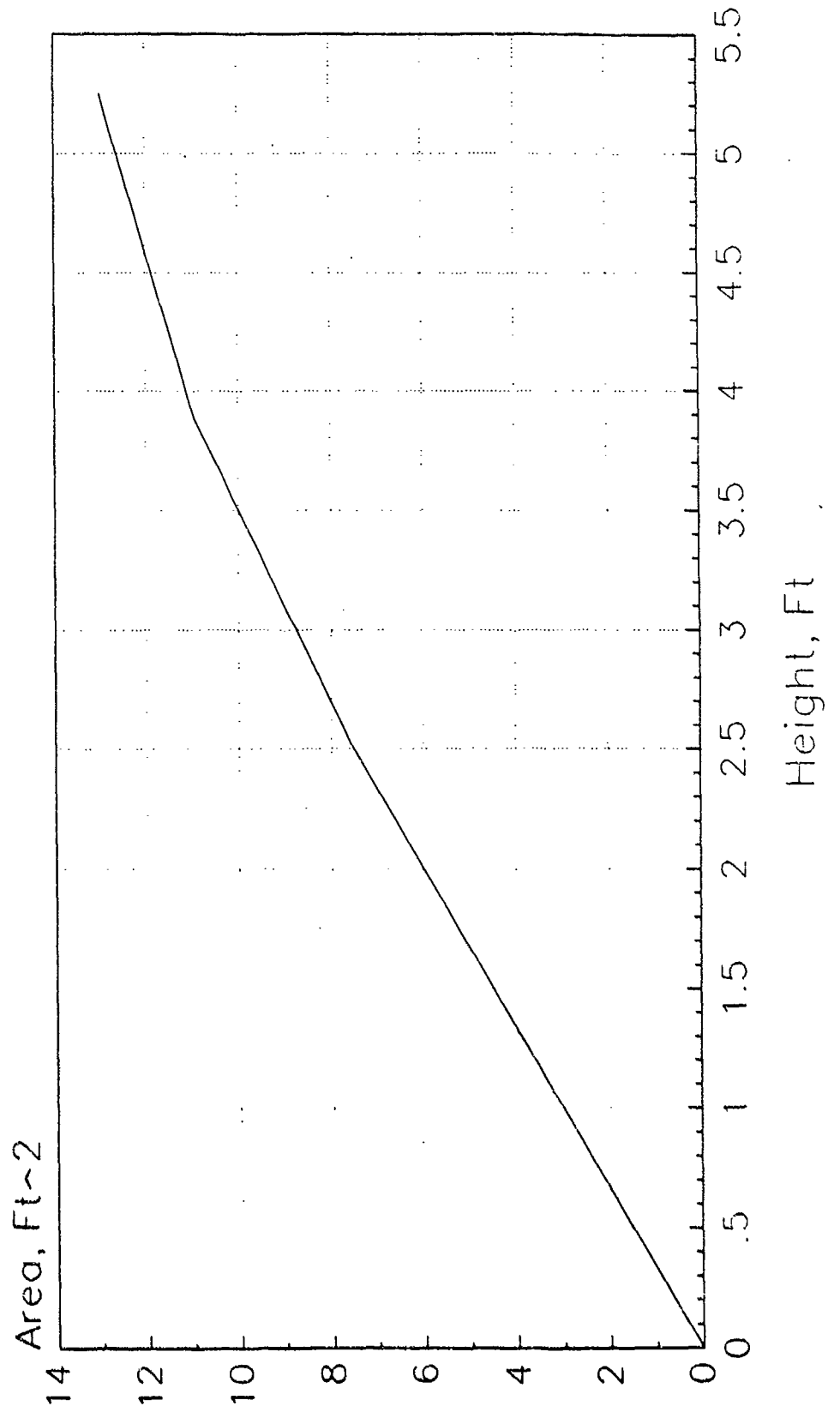
OPERATING CHARACTERISTICS

Operating Environment: PM, shallow, rivers  
Nominal Visual Range of Daymark: 1.7 Nmi.  
Radar Range: 3.7 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 4 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail



# BN-3, Class III (3x9 NR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BN-4, Class II (4X15 NR)

Country of Use: USA MFG 2

Function: Unlighted buoy, with NUN radar reflecting daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 2,465 Lbs.

Buoy Draft: 5.92 Ft.

Overall Buoy Length: 14.50 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 4.00 Ft.

Freeboard: No Mooring: 4.08 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 67 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Steel  
Hull Filling : Foam (optional)  
Tower :  
Topmark :  
Counterweight:

Coating/Coloring System: Antifouling and coloring

Subdivision: Foamfilled(optional)

Hull Type: Cylindrical CAN

Counterweight Type: Internal

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 27.5 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 1.125 In.  
Type: Steel Chain  
Sinkers Size: 4,000 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow, rivers  
Nominal Visual Range of Daymark: 2.2 Nmi.  
Radar Range: 5.3 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 6 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail

ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                                25.0 Yrs.

Maintenance Interval:                      72 Mos.

Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

Special Features:

A side plate with 5 additional mooring attachment positions allows for adjustment to various current flow rates.

Stability Notes:

General Notes

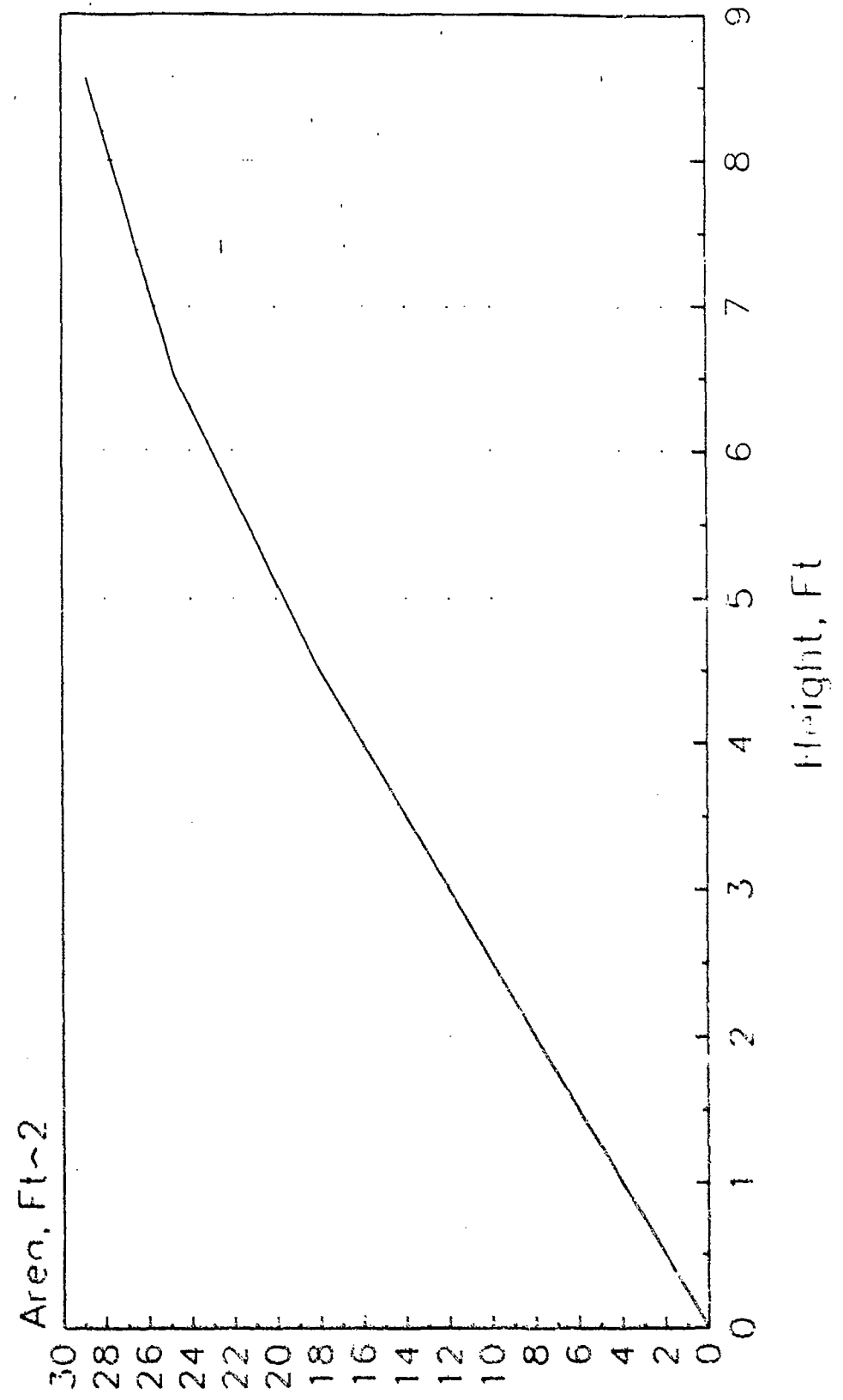
Manufacturers:                              Automatic Power, Inc

Source of Design:                            Automatic Power, Inc

Drawing Reference:                          USA MFG 2-8

# BN-4, Class II (4x15 NR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: BN-5, Class I (5X20 NR)  
Country of Use: USA MFG 2  
Function: Unlighted buoy, with NUN radar  
reflecting daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 4,875 Lbs.  
Buoy Draft: 7.53 Ft.  
Overall Buoy Length: 19.75 Ft.  
Focal Height of Light: 0.00 Ft.  
Buoy Beam or Diameter: 5.00 Ft.  
Freeboard: No Mooring: 6.21 Ft.  
Minimum: 0.00 Ft.  
Pounds Per Inch Immersion: 105 Lbs.  
Metacentric Height: 0.00 Ft.  
Reserve Buoyancy: 0 Lbs.  
Wave Motion Response:  
Construction Material: Hull Shell : Steel  
Hull Filling : Foam (optional)  
Tower :  
Topmark :  
Counterweight:  
Coating/Coloring System: Antifouling and coloring  
Subdivision: Foamfilled(optional)  
Hull Type: Cylindrical CAN  
Counterweight Type: Internal

RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 49.0 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.125 In.  
Type: Steel Chain  
Sinkers Size: 5,000 Lbs.  
Topmark Type: none  
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM, rivers  
Nominal Visual Range of Daymark: 2.5 Nmi.  
Radar Range: 6.2 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 8 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective marking avail

## ADDITIONAL DATA

Cost:	Replacement:	\$0
	Preparation:	\$0
	Monthly Servicing:	\$0

Service Life: 25.0 Yrs.

Maintenance Interval: 72 Mos.

## Maintenance Notes:

Maintenance interval is a normal 6 year projected cycle for blasting and painting. Mooring may require more frequent inspection and service.

## Special Features:

A side plate with 5 additional mooring attachment positions allows for adjustment to various current flow rates.

## Stability Notes:

## General Notes

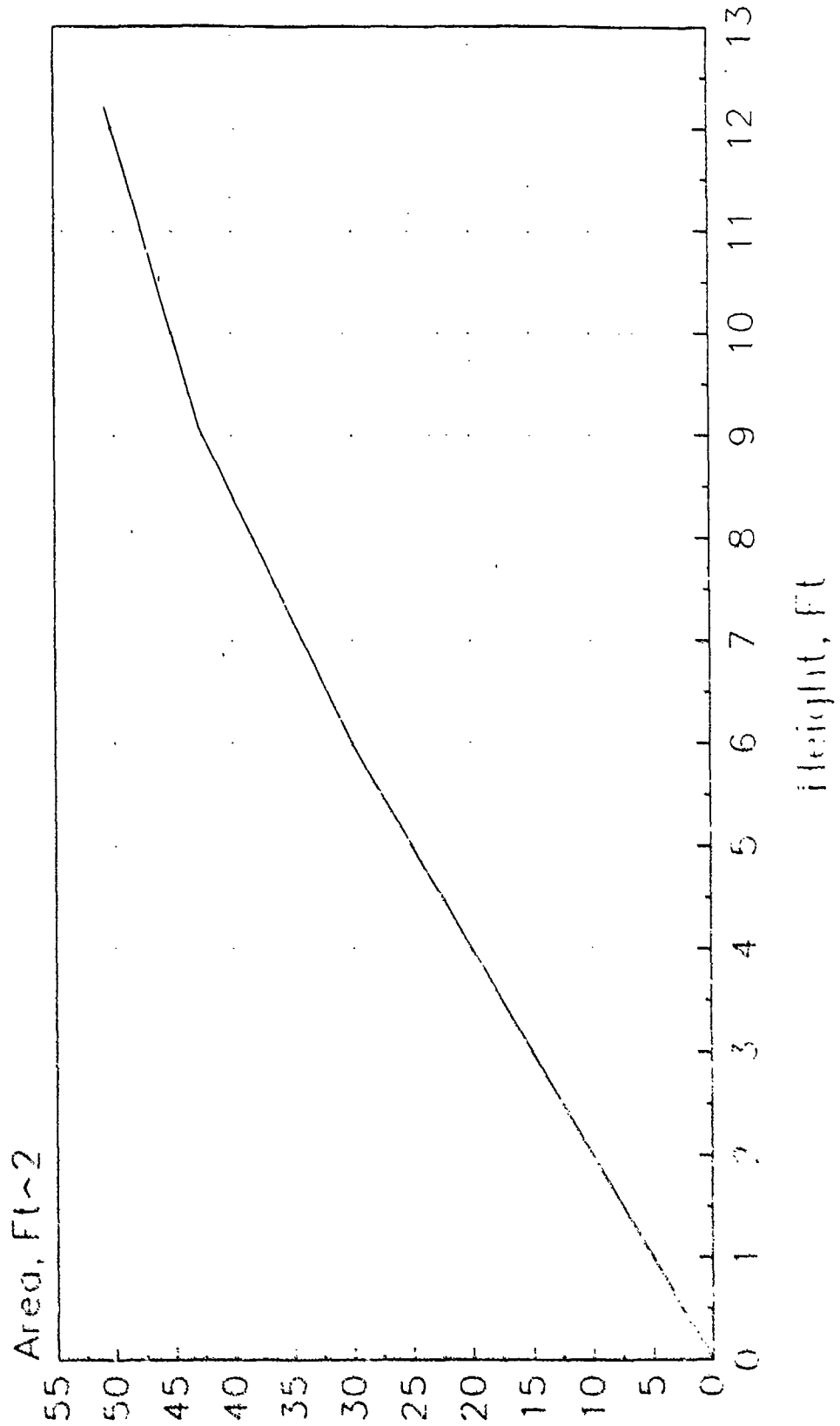
Manufacturers: Automatic Power, Inc

Source of Design: Automatic Power, Inc

Drawing Reference: USA MFG 2-8

# BN--5, Class I (5x20 NR)

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: Buoyant Beacon

Country of Use: USA MFG 2

Function: Articulated spar beacon for narrow channels and precise positioning.

Date Of Last Update For This Record: 07/30/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	0 Lbs.
Buoy Draft:	0.00 Ft.
Overall Buoy Length:	0.00 Ft.
Focal Height of Light:	0.00 Ft.
Buoy Beam or Diameter:	0.00 Ft.
Freeboard:	No Mooring: 0.00 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	0 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Decoupled (fixed)
Construction Material:	Hull Shell : Steel Hull Filling : Polyurethane foam Tower : Steel Topmark : Counterweight:
Coating/Coloring System:	Zinc primer/vinly/antifouling
Subdivision:	Foam filled
Hull Type:	Spar w/buoyant chmbr
Counterweight Type:	none

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: Solar/rechargeable batteries

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Radar reflector optional

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Universal Joint

Sinker Size: 19,500 Lbs.

Topmark Type:

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.

Reflective Material Type: Retro-refl. & flourescent films



## GENERAL INFORMATION

Name of Buoy: 5 CFLR

Country of Use: USA MFG 3

Function: Lighted 5th Class buoy, with CAN daymark. "Surlyn" skin/foam construction for durability in heavy traffic channels. For fast current where debris is not a problem.

Date Of Last Update For This Record: 11/09/90

## PHYSICAL CHARACTERISTICS

Buoy Weight:	200 Lbs.
Buoy Draft:	3.17 Ft.
Overall Buoy Length:	7.33 Ft.
Focal Height of Light:	4.00 Ft.
Buoy Beam or Diameter:	3.17 Ft.
Freeboard:	No Mooring: 0.79 Ft. Minimum: 0.00 Ft.
Pounds Per Inch Immersion:	42 Lbs.
Metacentric Height:	0.00 Ft.
Reserve Buoyancy:	0 Lbs.
Wave Motion Response:	Wave following
Construction Material:	Hull Shell : "Surlyn" plastic skin Hull Filling : "Surlyn" foam Tower : Topmark : Counterweight: Steel pipe & insert
Coating/Coloring System:	Moulded-in color
Subdivision:	Foam filled
Hull Type:	Cylindrical
Counterweight Type:	Internal tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
 Type of Power Sources: Batteries  
 Lighting Equipment: J.A. McDermott Buoy Lantern  
 Sound Equipment: none  
 Other Payload: Internal radar reflector  
 Daymark Area: 4.4 Sq. Ft.  
 Bridle Size: Chain Size: 0.000 In.  
 Length : 0.0 Ft.  
 Mooring Line: Size: 0.000 In.  
 Type: Steel Chain  
 Sinker Size: 0 Lbs.  
 Topmark Type: none  
 Number of Padeyes: 1

## OPERATING CHARACTERISTICS

Operating Environment: PF  
 Nominal Visual Range of Daymark: 1.4 Nmi.  
 Radar Range: 0.0 Nmi.  
 Maximum Current: 0.0 Kts.  
 Mooring Depth: Minimum: 4 Ft.  
 Maximum: 0 Ft.  
 Reflective Material Type: "3M" Retro-reflective film

## ADDITIONAL DATA

Cost:                    Replacement:        \$0  
                          Preparation:        \$0  
                          Monthly Servicing: \$0

Service Life:                    0.0 Yrs.

Maintenance Interval:            0 Mos.

## Maintenance Notes:

"Surlyn" skin/foam construction has higher impact resistance than steel or GRP construction with a longer survival rate in high traffic areas.

## Special Features:

## Stability Notes:

## General Notes

This manufacturer also produces, and supplies to the USCG, the 2nd thru 6th Class FR Series unlighted buoys of CAN and NUN types.

Manufacturers:                    Gilman Corp.

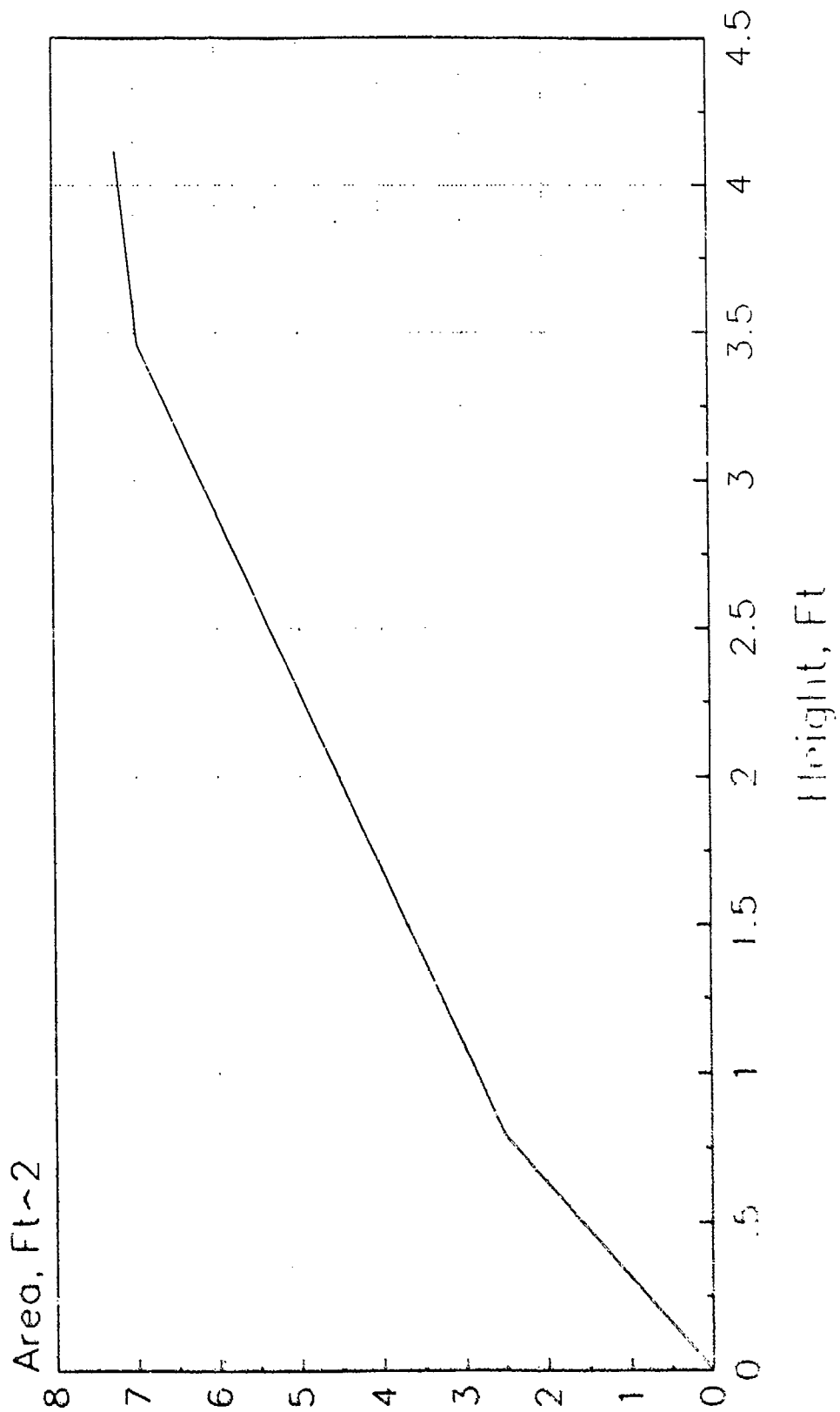
Source of Design:                Gilman Corp.

Drawing Reference:                USA MFG 3

# 5 CFLR

Cumulative Area

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## GENERAL INFORMATION

Name of Buoy: CM30

Country of Use: USA MFG 4

Function: Unlighted channel marker buoy, with CAN  
radar reflecting daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 290 Lbs.

Buoy Draft: 1.20 Ft.

Overall Buoy Length: 5.30 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 2.50 Ft.

Freeboard: No Mooring: 2.83 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 26 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Polyurethane coating  
Hull Filling : Polyethylene foam  
Tower : Steel  
Topmark :  
Counterweight: Steel

Coating/Coloring System: Urethane coated, moulded-in

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: Internal

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 2.7 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinker Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 4

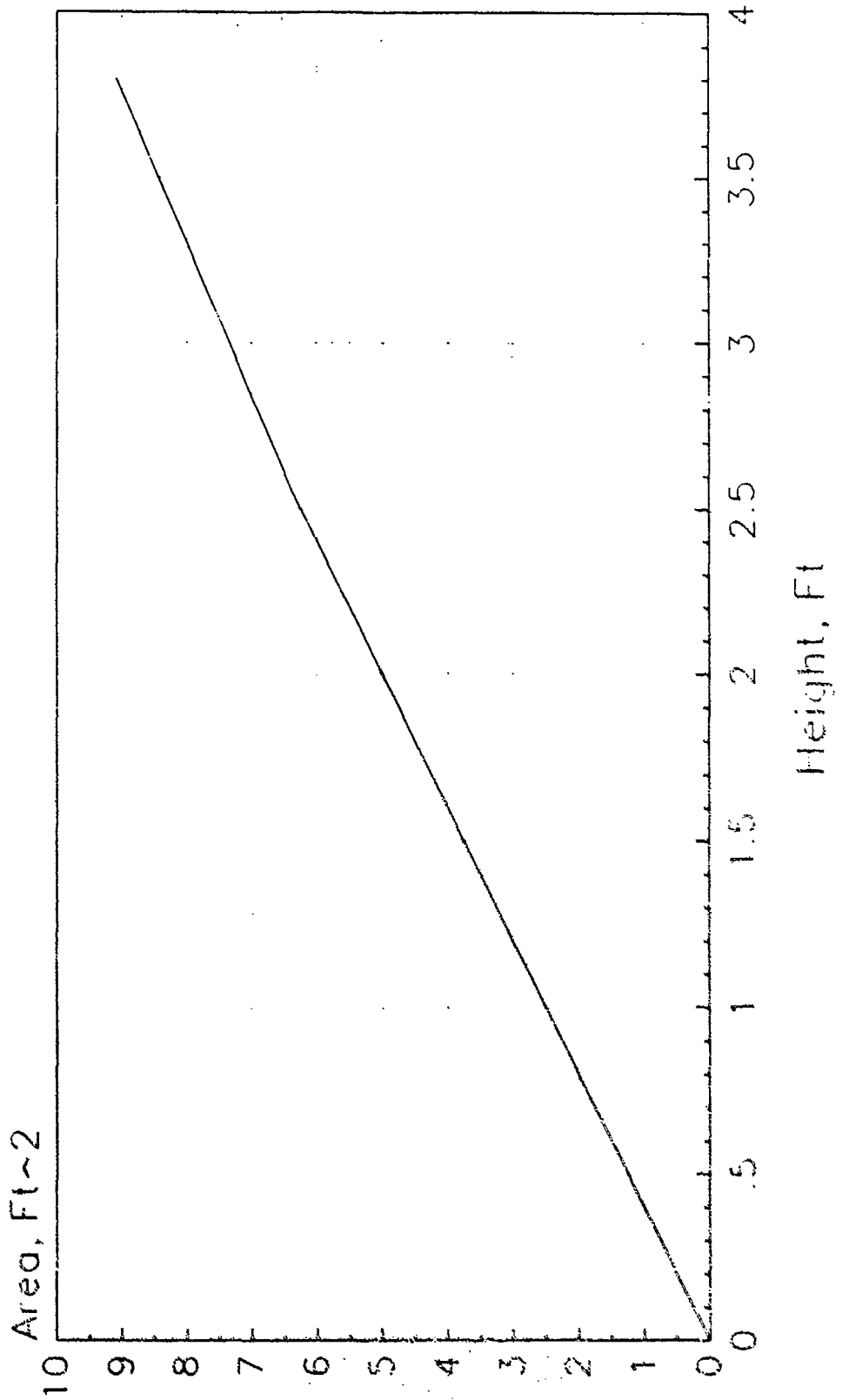
## OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water  
Nominal Visual Range of Daymark: 1.2 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 2 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective film avail.



CM30

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: MBP-60

Country of Use: USA MFG 4

Function: Unlighted buoy, primarily used for marking channels, with CAN or NUN radar reflecting daymark.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 1,436 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 19.50 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 5.00 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 105 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Polyurethane coating  
Hull Filling : Polyethylene foam  
Tower : Aluminum  
Topmark :  
Counterweight:

Coating/Coloring System: Urethane coating

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: Internal tail tube

## RELATED EQUIPMENT

Number of Power Sources: 0  
Type of Power Sources: none  
Lighting Equipment: none  
Sound Equipment: none  
Other Payload: Radar reflecting daymark  
Daymark Area: 33.8 Sq. Ft.  
Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.  
Mooring Line: Size: 0.000 In.  
Type: Steel Chain  
Sinkers Size: 0 Lbs.  
Topmark Type: none  
Number of Padeyes: 1

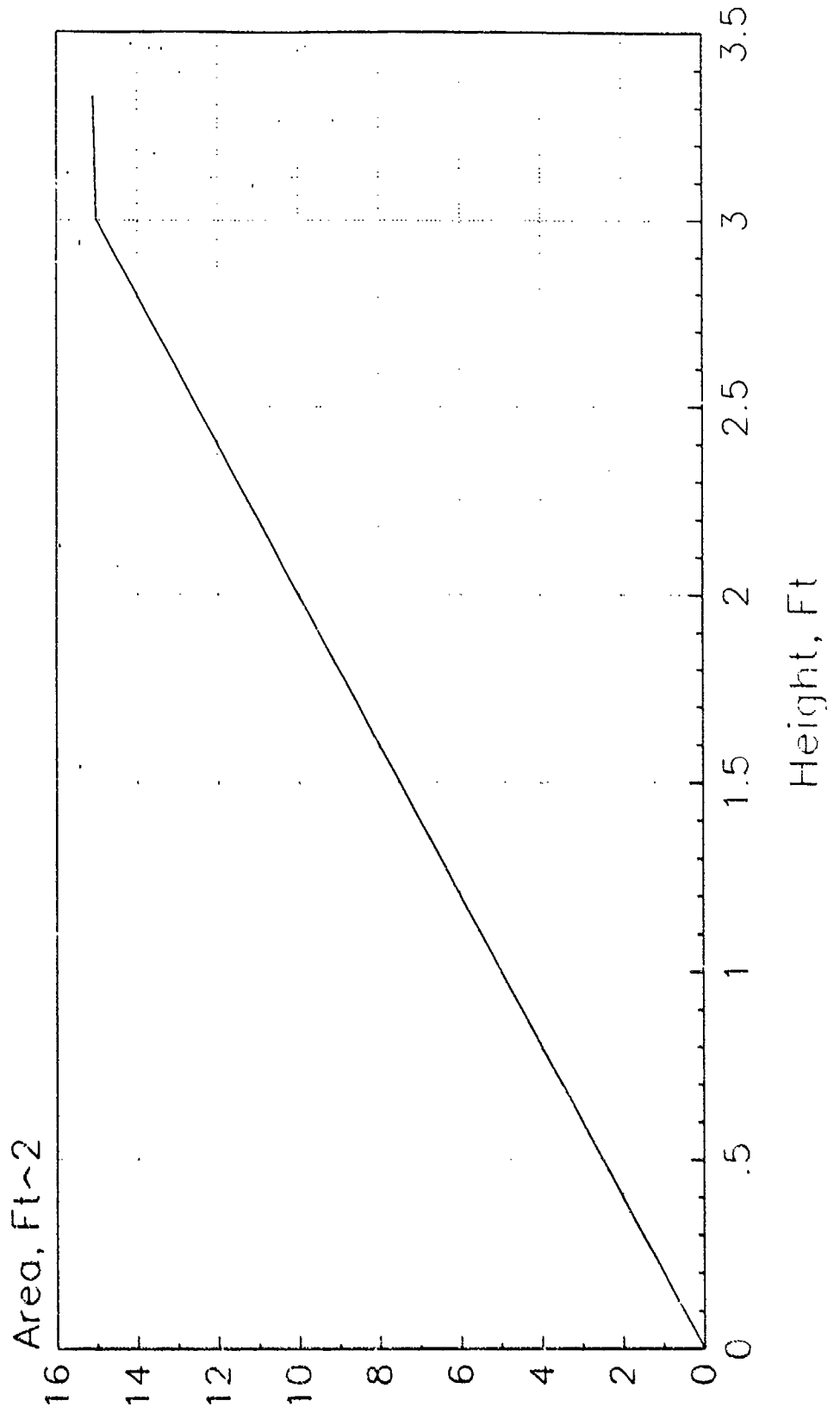
## OPERATING CHARACTERISTICS

Operating Environment: SM  
Nominal Visual Range of Daymark: 1.7 Nmi.  
Radar Range: 0.0 Nmi.  
Maximum Current: 0.0 Kts.  
Mooring Depth: Minimum: 10 Ft.  
Maximum: 0 Ft.  
Reflective Material Type: Retro-reflective film avail.



# MBP-60

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: RM-30

Country of Use: USA MFG 4

Function: Unlighted buoy, primarily used for marking reefs, shipwrecks and fish habitats.

Date Of Last Update For This Record: 11/01/90

## PHYSICAL CHARACTERISTICS

Buoy Weight: 400 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 19.50 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 2.50 Ft.

Freeboard: No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 26 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response:

Construction Material: Hull Shell : Polyurethane coating  
Hull Filling : Polyethylene foam  
Tower : Aluminum  
Topmark : Aluminum  
Counterweight:

Coating/Coloring System:

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: External

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: None

Lighting Equipment: None

Sound Equipment: None

Other Payload: Radar reflecting topmark

Daymark Area: 6.2 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type: Steel chain

Sinker Size: 0 Lbs.

Topmark Type: Diamond

Number of Padeyes: 0

## OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 2.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

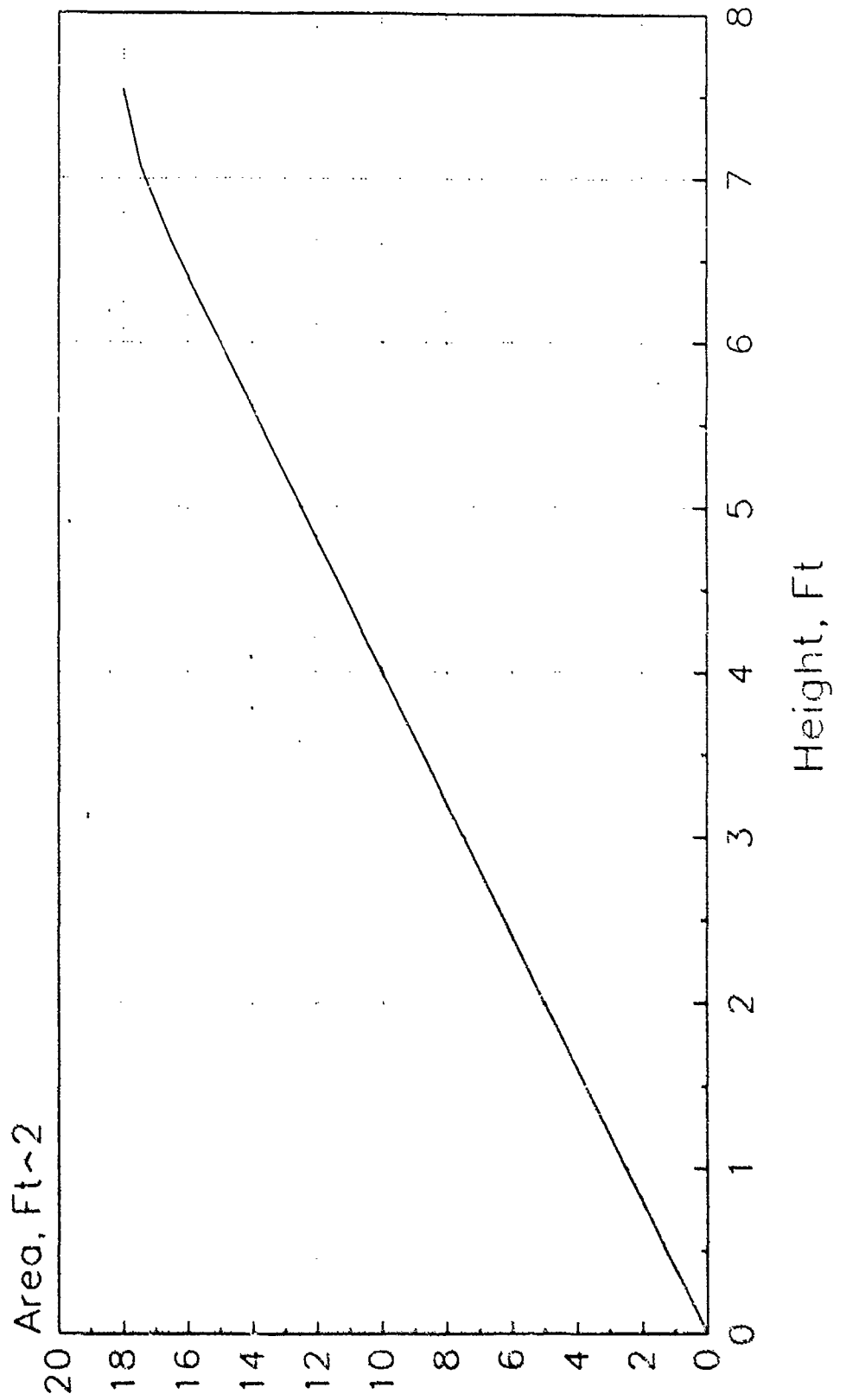
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.

Reflective Material Type: Retro-reflective film avail.



RM-30

Cumulative Area



## GENERAL INFORMATION

Name of Buoy: ELASTOMER/FOAM SPAR BUOY

Country of Use: USA MFG-5

Function: A spar buoy with steel core, rigid closed cell foam around core, flexible foam outside rigid foam, and nylon reinforced elastomeric skin.

Date Of Last Update For This Record: 01/23/91

## PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 18.75 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 5.00 Ft.

Freeboard No Mooring: 0.00 Ft.  
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Elastomer-NylonReinf  
Hull Filling : Rigid Flexible Foam  
Tower : Polyethylene Daymark  
Topmark :  
Counterweight: Chain

Coating/Coloring System: Impregnated into skin

Subdivision:

Hull Type: Cyl/cone spar

Counterweight Type:

## RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources:

Lighting Equipment:

Sound Equipment:

Other Payload: Radar reflector

Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 0.000 In.  
Length : 0.0 Ft.

Mooring Line: Size: 0.000 In.  
Type:

Sinker Size: 0 Lbs.

Topmark Type:

Number of Padeyes: 2

## OPERATING CHARACTERISTICS

Operating Environment:

Nominal Visual Range of Daymark: 0.0 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth Minimum: 0 Ft.  
Maximum: 0 Ft.

Reflective Material Type:

ADDITIONAL DATA

Cost: Replacement: \$0  
Preparation: \$0  
Monthly Servicing: \$0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Manufacturer claims resiliency, little or no maintenance,  
and indefinite life expectancy.

Special Features:

The method or construction, per manufacturer, gives them the  
flexibility to construct buoys of almost any shape,  
buoyancy, color and serviceability.

Stability Notes:

General Notes

Manufacturers: Seaward Int'nl

Source of Design: Seaward

Drawing Reference: USA Mfg 5-1