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1.0 INTRODUCTION

1.1 Background

The Marine Aids to Navigation (ATON) System of the United States is an extensive and comprehensive array of devices external to a vessel. It is intended to assist a navigator in determining his position, plotting a safe course, identifying obstructions to navigation, and to promote safe and economic movement of commercial traffic. The United States Coast Guard (USCG) operates and administers this system which serves the needs of and benefits the maritime commerce, the general boating public and the armed forces. A subgroup of this system is the Short Range Aids (SRA) to navigation system including navigational devices within visual, audible, radar or low power radiobeacon range. 

In order to research the potential technologies which could advance the state of the art in buoys as aids to navigation, the USCG has initiated the "New Buoy Systems" project. The Buoy Technology Survey is the first step in this new project with the purpose of conducting an overall technology assessment of buoy systems. This is to be accomplished by the following three tasks:

TASK A - Review of the research and development efforts by the USCG on aid to navigation buoy development since 1962.

TASK B - Worldwide survey of existing buoy technology and compilation of survey data in a computer database.

TASK C - Formulation of recommendations for the development of improved aid to navigation buoys for the USCG.

The first task, "USCG Buoy Development Review", has been completed and results presented in a final report.1

The current report is concerned with Task B of the project; it presents the results of a worldwide buoy technology survey and of the development of a computerized "Buoy Technology Information System (BTIS)".

1.2 Objective

The main concern of the overall project is the buoy platform and excludes the direct and detailed consideration of such related matters as mooring systems, signalling devices, and the much broader consideration of SRA type, arrangement and effectiveness. The fact that the mooring system and signalling devices are sometimes integrated with the platform has resulted in

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Research & Development Center
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BUOY TECHNOLOGY SURVEY
WORLDWIDE BUOY TECHNOLOGY SURVEY

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DEPARTMENT OF TRANSPORTATION
U. S. COAST GUARD
OFFICE OF ENGINEERING, LOGISTICS AND DEVELOPMENT
WASHINGTON, DC 20593-0001

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.


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).

FLOATING AIDS
BUOYS
ARTICULATED BEACONS
NAVIGATION AUTHORITIES

WORLDWIDE MFG.
BTIS DATABASE

DOCUMENT IS AVAILABLE TO THE U. S. PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE SPRINGFIELD, VA 22161

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UNCLASSIFIED

2231
# METRIC CONVERSION FACTORS

## Approximate Conversions to Metric Measures

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| ft^2 | square feet | 0.09 | square meters | m^2 |
| yd^2 | square yards | 0.83 | square meters | m^2 |
| m^2 | square meters | 1.00 | square kilometers | km^2 |

| **MASS (WEIGHT)** | | | | |
| oz | ounces | 0.028 | grams | g |
| lb | pounds | 0.454 | kilograms | kg |
| ton | short tons (2000 lb) | 0.907 | tonnes (1000 kg) | t |

| **VOLUME** | | | | |
| tsp | teaspoons | 0.5 | milliliters | ml |
| tbsp | table spoons | 1.5 | milliliters | ml |
| c | fluid ounces | 30 | milliliters | ml |
| pt | pints | 16 | liters | l |
| qt | quarts | 95 | liters | l |
| gal | gallons | 3.8 | liters | l |
| cu ft | cubic feet | 0.03 | cubic meters | m^3 |
| cu yd | cubic yards | 0.16 | cubic meters | m^3 |

| **TEMPERATURE (FAHRENHEIT)** | | | | |
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<td>12 M3 Lighted Buoy With Tail</td>
<td>France</td>
</tr>
<tr>
<td>18 M3 Lighted Buoy With Tail</td>
<td>France</td>
</tr>
<tr>
<td>7.5 M3 Lighted Buoy With Tail</td>
<td>France</td>
</tr>
<tr>
<td>DELPHINE Flat Bottom Lighted</td>
<td>France</td>
</tr>
<tr>
<td>DELPHINE Improved Stability</td>
<td>France</td>
</tr>
<tr>
<td>Flat Bottom Lighted 5 cu. m.</td>
<td>France</td>
</tr>
<tr>
<td>Intermediate Buoy-Lighted</td>
<td>France</td>
</tr>
<tr>
<td>Lighted Marina Buoy</td>
<td>France</td>
</tr>
<tr>
<td>Marina Buoy-Cardinal Unlighted</td>
<td>France</td>
</tr>
<tr>
<td>Marina Buoy-Lateral Unlighted</td>
<td>France</td>
</tr>
<tr>
<td>NOLWEN Flat Bottom Form Tower</td>
<td>France</td>
</tr>
<tr>
<td>NOLWEN Flat Bottom Lattice Twr</td>
<td>France</td>
</tr>
<tr>
<td>NOLWEN II Type Lighted Buoy</td>
<td>France</td>
</tr>
<tr>
<td>NOLWEN Tail-Tube Solar</td>
<td>France</td>
</tr>
<tr>
<td>Polyester Buoy</td>
<td>France</td>
</tr>
<tr>
<td>ARTEMIS Lighted Buoy</td>
<td>France MFG-1</td>
</tr>
<tr>
<td>DAPHNE Lighted Buoy</td>
<td>France MFG-1</td>
</tr>
<tr>
<td>Inland lighted STD steel</td>
<td>Germany</td>
</tr>
<tr>
<td>Inland Unlighted STD Steel</td>
<td>Germany</td>
</tr>
<tr>
<td>Leuchttonne 61</td>
<td>Germany</td>
</tr>
<tr>
<td>Leuchttonne 61 with reflector</td>
<td>Germany</td>
</tr>
<tr>
<td>Leuchttonne 72</td>
<td>Germany</td>
</tr>
<tr>
<td>Leuchttonne 81 Emden</td>
<td>Germany</td>
</tr>
<tr>
<td>Leuchttonne 51 standard</td>
<td>Germany</td>
</tr>
<tr>
<td>Leuchttonne 81-High Tower I</td>
<td>Germany</td>
</tr>
<tr>
<td>Leuchttonne 81-High Tower II</td>
<td>Germany</td>
</tr>
<tr>
<td>Modular Buoy</td>
<td>Germany</td>
</tr>
<tr>
<td>T-86 Conical Buoy-Unlighted</td>
<td>Germany</td>
</tr>
<tr>
<td>T-86 Spar Buoy-Unlighted</td>
<td>Germany</td>
</tr>
</tbody>
</table>
## DISTRIBUTION OF BUOY RECORDS IN BTIS DATABASE

### BY COUNTRIES AND MANUFACTURERS

<table>
<thead>
<tr>
<th>Country</th>
<th>Authority/Mfg.</th>
<th>No. of Records</th>
<th>Name of Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Authority</td>
<td>1</td>
<td>Dept. of Trans. &amp; Comm'cn</td>
</tr>
<tr>
<td>Canada</td>
<td>Authority</td>
<td>31</td>
<td>Canadian Coast Guard</td>
</tr>
<tr>
<td>China (P.R. of)</td>
<td>Manufacturer 1</td>
<td>2</td>
<td>Shanghai Nav Aids Fact.</td>
</tr>
<tr>
<td>Denmark</td>
<td>Authority</td>
<td>24</td>
<td>Farvandsvaesenet</td>
</tr>
<tr>
<td>England</td>
<td>Authority</td>
<td>34</td>
<td>Trinity House</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 1</td>
<td>24</td>
<td>Balmoral</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 2</td>
<td>6</td>
<td>Reinforced Plastic Str.</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 3</td>
<td>27</td>
<td>Pharos Marine</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 4</td>
<td>1</td>
<td>Hippo Marine</td>
</tr>
<tr>
<td>Finland</td>
<td>Authority</td>
<td>10</td>
<td>Merenkulkuhallitus</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 1</td>
<td>1</td>
<td>KMW Pipe</td>
</tr>
<tr>
<td>France</td>
<td>Authority</td>
<td>15</td>
<td>Phares &amp; Balises</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 1</td>
<td>2</td>
<td>Gisman</td>
</tr>
<tr>
<td>Germany</td>
<td>Authority</td>
<td>12</td>
<td>Seezeichenversuchsfeld</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 1</td>
<td>12</td>
<td>Pintsch Bamag</td>
</tr>
<tr>
<td>India</td>
<td>Manufacturer 1</td>
<td>4</td>
<td>ANA Nav Aids</td>
</tr>
<tr>
<td>Italy</td>
<td>Manufacturer 1</td>
<td>2</td>
<td>Resinex Offshore</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 2</td>
<td>1</td>
<td>Floatex</td>
</tr>
</tbody>
</table>
## DISTRIBUTION OF BUOY RECORDS IN BTIS DATABASE

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<table>
<thead>
<tr>
<th>Country</th>
<th>Authority/Mfg.</th>
<th>No. of Records</th>
<th>Name of Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>Authority</td>
<td>15</td>
<td>Maritime Safety Agency</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 1</td>
<td>5</td>
<td>Nippon Kogi Kogyo</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 2</td>
<td>19</td>
<td>Rykkskuseisha</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 3</td>
<td>21</td>
<td>Zeni Lite Buoy</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>Authority</td>
<td>2</td>
<td>DGSN</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 1</td>
<td>5</td>
<td>Stromag/P. Bamag</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 2</td>
<td>1</td>
<td>All Marine</td>
</tr>
<tr>
<td>Norway</td>
<td>Authority</td>
<td>6</td>
<td>Kystdirektoratet</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 1</td>
<td>11</td>
<td>Ticon Plast</td>
</tr>
<tr>
<td>South Africa</td>
<td>Authority</td>
<td>1</td>
<td>S.A. Harbors Authority</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>Authority</td>
<td>51</td>
<td>U.S. Coast Guard</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 1</td>
<td>11</td>
<td>Tideland Signals</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 2</td>
<td>19</td>
<td>Automatic Power</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 3</td>
<td>1</td>
<td>Gilman Corp.</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 4</td>
<td>3</td>
<td>Urethane Technologies</td>
</tr>
<tr>
<td></td>
<td>Manufacturer 5</td>
<td>1</td>
<td>Seaward International</td>
</tr>
</tbody>
</table>

**Total Number of Records in BTIS Database** 381
GENERAL INFORMATION

Name of Buoy: 8 x 2S LIGHTED BUOY

Country of Use: Australia

Function: For use in coastal waterways.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 11,600 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 27.21 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 8.00 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: Steel
Hull Filling:
Tower: Steel
Topmark:
Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: Disc
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources: Solar panels & battery
Lighting Equipment: Electric lantern
Sound Equipment:
Other Payload: Radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 1.125 In.
Length: 27.0 Ft.
Mooring Line: Size: 1.625 In.
Type: Short link chain
Sinker Size: 8,000 Lbs.
Topmark Type:
Number of Padeyes: 4

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:
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Tower and tail tube assemblies are bolted to the hull to make them easier to transport.

Stability Notes:
Based on USCG 8x26 buoy but tail tube is extended by 2 ft. to lower the CG to improve stability.

General Notes

Manufacturers:
Source of Design: Dept of Transp.&Comm
Drawing Reference: Aust-1
GENERAL INFORMATION

Name of Buoy: FA-1001 1.4M LR

Country of Use: Canada

Function: Lighted buoy with variable counter weights for wide range of water depths.
For exposed to partially protected fresh water, rivers.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,876 Lbs.
Buoy Draft: 7.28 Ft.
Overall Buoy Length: 17.25 Ft.
Focal Height of Light: 9.31 Ft.
Buoy Beam or Diameter: 4.59 Ft.
Freeboard No Mooring: 2.57 Ft.
Minimum: 0.98 Ft.
Pounds Per Inch Immersion: 90 Lbs.
Metacentric Height: 0.37 Ft.
Reserve Buoyancy: 1,050 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: Variable External
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: 62-12 batteries, (2 pockets)
Lighting Equipment: Electric lantern, 155 or 200 mm
Sound Equipment: none
Other Payload: Radar reflector or RACON
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 1.125 In.
Length: 13.1 Ft.
Mooring Line: Size: 1.125 In.
Type: Steel Chain
Sinker Size: 2,646 Lbs.
Topmark Type: Cardinal, optional
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM, rivers
Nominal Visual Range of Daymark: 1.9 Nmi.
Radar Range: 3.2 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth Minimum: 13 Ft.
Maximum: 280 Ft.
Reflective Material Type: 4 Retroreflective Ident. Plates
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Bushings in mooring lugs are designed to last at least 3 years.

Special Features:

Stability Notes:
In tides and winds to 38 knots its stability is good. In ice floes and under superstructure icing conditions its response is poor. Performance good in waves to 3' and breakers to 7'.

General Notes
Replaces buoy No. CR-15006
Radar reflector is omnidirectional.

Manufacturers: Georgetown SY
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 1 & 4
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: FA-1004 1.8m LR
Country of Use: Canada
Function: Lighted Buoy intended for seasonal (ie. summer) operation, having a small battery storage capacity.
For exposed to partially protected salt & fresh water.
Date Of Last Update For This Record: 07/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 6,044 Lbs.
Buoy Draft: 7.04 Ft.
Overall Buoy Length: 19.92 Ft.
Focal Height of Light: 11.88 Ft.
Buoy Beam or Diameter: 6.07 Ft.
Freeboard: No Mooring: 3.34 Ft.
           Minimum: 1.00 Ft.
Pounds Per Inch Immersion: 151 Lbs.
Metacentric Height: 0.78 Ft.
Reserve Buoyancy: 1,800 Lbs.
Wave Motion Response: Wave following
Construction Material:
Hull Shell : Steel
Hull Filling : Steel
Tower : Steel
Topmark :
Counterweight: Cast Iron

Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: External
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: 62-12 batteries, (2 pockets)
Lighting Equipment: Electric lantern, 155 or 200mm
Sound Equipment: None
Other Payload: Radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 1.125 In.
Length: 12.2 Ft.
Mooring Line: Size: 1.125 In.
Type: Steel Chain
Sinker Size: 5,513 Lbs.
Topmark Type: Cardinal, optional
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.3 Nmi.
Radar Range: 4.3 Nmi.
Maximum Current: 0.3 Kts.
Mooring Depth: Minimum: 26 Ft.
Maximum: 207 Ft.
Reflective Material Type: 4 Retroreflective Ident.Plates
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Bushings in mooring lugs are designed to last at least 3 years.

Special Features:

Stability Notes:
Good in tides and wind to 35 knots. Poor in ice. Good to acceptable in short waves to 20', long waves to 26', and breaking waves to 13'.

General Notes
Replaces Buoy CR-15005.

Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 1 & 5
GENERAL INFORMATION

Name of Buoy: FA-1007 2.9m LBR

Country of Use: Canada

Function: Lighted bell buoy (short hull)

For exposed and partially protected salt water.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 9,828 Lbs.
Buoy Draft: 8.03 Ft.
Overall Buoy Length: 22.66 Ft.
Focal Height of Light: 13.95 Ft.
Buoy Beam or Diameter: 9.58 Ft.
Freeboard: No Mooring: 1.64 Ft.
Minimum: 0.74 Ft.

Pounds Per Inch Immersion: 380 Lbs.

Metacentric Height: 1.73 Ft.

Reserve Buoy: 3,322 Lbs.

Wave Motion Response: Wave following

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

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical
Counterweight Type: External Tube
RELATED EQUIPMENT:

Number of Power Sources: 6
Type of Power Sources: 62-12 batteries, (2 pockets)
Lighting Equipment: Electric lantern, 155 or 200mm
Sound Equipment: Wave actuated bell
Other Payload: Radar reflector
Daymark Area: 0.0 Sq. Ft.

Bridle Size: Chain Size: 1.250 In.
Length : 15.1 Ft.

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

Sinker Size: 8,820 Lbs.
Topmark Type: Cardinal, optional
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EF

Nominal Visual Range of Daymark: 2.6 Nmi.
Radar Range: 4.8 Nmi.
Maximum Current: 6.0 Kts.
Mooring Depth: Minimum: 32 Ft.
Maximum: 184 Ft.

Reflective Material Type: 4 Retroreflective Ident. Plates
ADDITIONAL DATA

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

Service Life: 30.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Bushing in mooring lugs are designed to last at least 3 years.

Special Features:

Stability Notes:
Good in tides and wind to 35 knots. Acceptable in ice conditions. Good in short choppy waves to 20', long waves to 26' and breaking waves to 39'.

General Notes
Replaces Buoy No. CR-15004

Radar reflector is omnidirectional.

Manufacturers: Georgetown, Fairway
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 1 & 6
FA-1007 2.9m LBR

Cumulative Area
Name of Buoy: FA-1010 2.9m LWR
Country of Use: Canada
Function: Lighted whistle buoy
For exposed deep salt water.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 12,140 Lbs.
Buoy Draft: 17.61 Ft.
Overall Buoy Length: 34.32 Ft.
Focal Height of Light: 16.05 Ft.
Buoy Beam or Diameter: 9.58 Ft.
Freeboard: No Mooring: 3.23 Ft.
Minimum: 0.82 Ft.
Pounds Per Inch immersion: 375 Lbs.
Metacentric Height: 1.96 Ft.
Reserve Buoyancy: 3,690 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 Tube
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: 62-12 batteries, (2 pockets)
Lighting Equipment: Electric lantern, 155 or 200mm
Sound Equipment: Wave actuated whistle, 0.25m
Other Payload: Radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 1.125 In.
Length: 12.0 Ft.
Mooring Line: Size: 1.125 In.
Type: Steel Chain
Sinker Size: 11,025 Lbs.
Topmark Type: Cardinal, optional
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EF
Nominal Visual Range of Daymark: 2.9 Nmi.
Radar Range: 4.8 Nmi.
Maximum Current: 6.0 Kts.
Moor'ing Depth: Minimum: 33 Ft.
Maximum: 515 Ft.
Reflective Material Type: 4 Retroreflective Ident. Plates
ADDITIONAL DATA

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

Service Life: 30.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushings in mooring lugs are designed to last at least 3 years.

Special Features:
Chafing bars on tailtube and a short bridle provide some roll damping to the buoy.

Stability Notes:
In tides and winds to 54 knots, stability is good; in ice-flows - acceptable; in supersturcture icing - poor; in short, choppy waves to 13', long rolling waves to 26' breaking waves to 40' - performance is good.

General Notes
Replaces buoy No. CR-15003.

Radar reflector is omnidirectional.

Manufacturers: Georgetown, Fairway

Source of Design: Canadian Coast Guard

Drawing Reference: Canada 1 & 7
FA-1010 2.9m LWR

Cumulative Area

Area, Ft²

Height, Ft
Name of Buoy: FA-1015 3.0m SCOW

Country of Use: Canada

Function: Lighted Scow.

For shallow water, moderate current.

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

Buoy Weight: 1,700 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 10.00 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 5.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.66 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 : Steel
                        Tower : Steel
                        Topmark:
                        Counterweight:

Coating/Coloring System:
Subdivision: 4 Compartment
Hull Type: Scow
Counterweight Type: none
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: 62-R12 batteries, (1 pocket)
Lighting Equipment: Electric lantern, 155mm
Sound Equipment: none
Other Payload: none

Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.750 In.
            Length : 6.9 Ft.
Mooring Line: Size: 0.750 In.
             Type: Steel Chain
Sinker Size: 880 Lbs.
Topmark Type: None
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: PM
Nominal Visual Range of Daymark: 0.0 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 4.0 Kts.
Mooring Depth: Minimum: 6 Ft.
               Maximum: 26 Ft.
Reflective Material Type: 2 Retroreflective Ident. Plates
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushings in the mooring lugs are designed to last at least 3 years.

Special Features:

Stability Notes:
Acceptable in tides & winds to 22 knots; poor in ice; very poor in any waves in excess of 3'.

General Notes

Manufacturers:
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 1 & 8
GENERAL INFORMATION

Name of Buoy: FA-1017 1.8m LR

Country of Use: Canada

Function: Lighted buoy intended for extended operation (same design as FA-1004, but with larger battery capacity). For exposed coastal to partially protected salt water.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 6,363 Lbs.
Buoy Draft: 7.21 Ft.
Overall Buoy Length: 20.58 Ft.
Focal Height of Light: 11.57 Ft.
Buoy Beam or Diameter: 6.07 Ft.
Freeboard: No Mooring: 3.17 Ft.
Minimum: 1.00 Ft.
Pounds Per Inch Immersion: 151 Lbs.
Metacentric Height: 0.62 Ft.
Reserve Buoyancy: 1,800 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

B-23
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: 62-12 batteries, (2 pockets)
Lighting Equipment: Electric lantern, 155 or 200mm
Sound Equipment: none
Other Payload: Radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 1.125 In.
Length: 12.0 Ft.
Mooring Line: Size: 1.125 In.
Type: Steel Chain
Sinker Size: 5,510 Lbs.
Topmark Type: Cardinal, optional
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.3 Nmi.
Radar Range: 4.3 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth: Minimum: 26 Ft.
Maximum: 150 Ft.
Reflective Material Type: 4 Retroreflective Ident. Plates
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushings in the mooring lugs are designed to last at least 3 years.

Special Features:
Some design as 1.8 x 5.8L, FA-1004, but with larger battery capacity (12 versus 2) for greater endurance.

Stability Notes:
Good in tides, acceptable in winds to 35 knots; poor response to ice floes and superstructure icing; in short, choppy waves to 20' long rolling waves to 26' and breaking waves to 13' stability is good.

General Notes
Replaces buoy No. CR-15005
Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 1 & 9

B-25
FA-1017 1.8m LR

Cumulative Area

Height, Ft

Area, Ft²

0 1 2 3 4 5 6 7 8 9 10 11 12
Name of Buoy: FA-1019 1.5m DISCUS
Country of Use: Canada
Function: Lighted buoy; with Can or Conical radar reflecting daymark.
For protected and shallow water.

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

Buoy Weight: 284 Lbs.
Buoy Draft: 0.98 Ft.
Overall Buoy Length: 6.71 Ft.
Focal Height of Light: 5.13 Ft.
Buoy Beam or Diameter: 4.92 Ft.
Freeboard No Mooring: 0.89 Ft.
Minimum: 0.25 Ft.
Pounds Per Inch Immersion: 70 Lbs.
Metacentric Height: 1.55 Ft.
Reserve Buoyancy: 210 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: 5000 Series Aluminum
Hull Filling: Tower: 5000 Series Aluminum
Topmark: Counterweight:
Coating/Coloring System: none
Subdivision: none
Hull Type: Discus
Counterweight Type: none
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: 62-R12 batteries, (1 pocket)
Lighting Equipment: Electric lantern
Sound Equipment: none
Other Payload: Radar reflecting daymark
Daymark Area: 4.8 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.750 In.
Type: Steel Chain
Sinker Size: 1,100 Lbs.
Topmark Type: None
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
Nominal Visual Range of Daymark: 1.5 Nmi.
Radar Range: 3.5 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth Minimum: 2 Ft.
Maximum: 53 Ft.
Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushings in the mooring lug are designed to last at least 3 years.

Special Features:
Optional 1.6 foot extension for light for higher focal plane.

Floodable lower chamber serves as water ballast.

Stability Notes:
Acceptable in tides and wind to 22 knots; very poor in ice;
acceptable in short choppy waves to 3', poor in all other types of waves.

General Notes
Minimum mooring depth based on buoy draft. Metacentric height calculated for buoy with 2 batteries installed.
Replaces buoy No. AR-15517, CR-15494 and 30" dia. river buoy (old).

Manufacturers: Fairway Ind.
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 1 & 10
GENERAL INFORMATION

Name of Buoy: FA-2001 0.8m Coastal Can

Country of Use: Canada

Function: Unlighted Can buoy, with Can or Spherical radar reflecting daymark.
For protected salt water.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 364 Lbs.
Buoy Draft: 2.30 Ft.
Overall Buoy Length: 5.50 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 2.62 Ft.
Freeboard No Mooring: 1.80 Ft.
Minimum: 0.74 Ft.
Pounds Per Inch Immersion: 28 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 248 Lbs.
Wave Motion Response: Wave Following

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

Coating/Coloring System:

Subdivision: none
Hull Type: Cylindrical, sph.bot
Counterweight Type: External Ball Option

B-31
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: 2.6 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.

Mooring Line: Size: 0.500 In.
Type: Steel Chain
Sinker Size: 880 Lbs.
Topmark Type: none
Number of Padeyes: 5

OPERATING CHARACTERISTICS

Operating Environment: PM, tidal zone
Nominal Visual Range of Daymark: 1.4 Nmi.
Radar Range: 3.0 Nmi.
Maximum Current: 2.0 Kts.
Mooring Depth Minimum: 5 Ft.
Maximum: 98 Ft.

Reflective Material Type: B-32
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Bushings in the mooring lug are designed to last at least 3 years.

Special Features:

Stability Notes:
Unstable without 200lb minimum chain mooring or extrnl ball counterweight; GM = 0.89 feet. Good in tides and wind to 27 knots; Acceptable in ice; Acceptable in short, choppy waves to 3',long rolling waves to 13' and breaking waves to 20'.

General Notes:
Replaces buoy No. CR-15001.

Manufacturers: Fairway Ind.
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 11
FA-2001 0.8m Coastal Can

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: FA-2002 0.8m Coastal Conical

Country of Use: Canada

Function: Unlighted Conical (Nun) buoy, with radar reflecting daymark.

For protected salt water.

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

PHYSICAL CHARACTERISTICS

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<th>Value</th>
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<td>Buoy Weight</td>
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<tr>
<td>Buoy Draft</td>
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<td>Overall Buoy Length</td>
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<td>Focal Height of Light</td>
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<td>Buoy Beam or Diameter</td>
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<td>Freeboard No Mooring</td>
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<td>Freeboard Minimum</td>
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<td>Pounds Per Inch Immersion</td>
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<td>Metacentric Height</td>
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<td>Reserve Buoyancy</td>
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<td>Wave Motion Response</td>
<td>Wave following</td>
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<td>Hull Filling:</td>
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<td>Tower:</td>
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<td>Topmark:</td>
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<td>Counterweight: Concrete</td>
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<td>Counterweight Type</td>
<td>Internal</td>
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</table>

B-35
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: 1.1 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.500 In.
Type: Steel Chain
Sinker Size: 880 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, tidal zone
Nominal Visual Range of Daymark: 1.0 Nmi.
Radar Range: 2.3 Nmi.
Maximum Current: 2.0 Kts.
Mooring Depth
Minimum: 3 Ft.
Maximum: 63 Ft.
Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushings in the mooring lug are designed to last at least 3 years.

Special Features:

Stability Notes:
Good in tides and wind to 30 knots; Acceptable in ice; Good in short choppy waves to 10'.

General Notes
Minimum mooring depth based on buoy draft.

Replaces buoy No. CR-15002

Manufacturers: Fairway Ind.
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 12
FA-2002 0.8m Coastal Conical

Cumulative Area

Height, Ft

Area, Ft²
GENERAL INFORMATION

Name of Buoy: FA-2003 1.2m Coastal Can

Country of Use: Canada

Function: Unlighted Can buoy, with Can or Spherical radar reflecting daymark.

For semi-exposed salt water.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 926 Lbs.
Buoy Draft: 2.66 Ft.
Overall Buoy Length: 7.63 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 3.94 Ft.
Freeboard No Mooring: 3.05 Ft.
Minimum: 1.31 Ft.
Pounds Per Inch Immersion: 63 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 992 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: Steel
                      Hull Filling:
                      Tower:
                      Topmark:
                      Counterweight: Cast Iron

Coating/Coloring System:
Subdivision: None
Hull Type: Cylindrical, Sph.Bot
Counterweight Type: Optional Ext. Ball
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: 5.8 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
        Length : 0.0 Ft.
Mooring Line: Size: 0.750 In.
        Type: Steel Chain
Sinker Size: 3,090 Lbs.
Topmark Type: none
Number of Padeyes: 5

OPERATING CHARACTERISTICS

Operating Environment: SM, tidal zone
Nominal Visual Range of Daymark: 1.9 Nmi.
Radar Range: 3.9 Nmi.
Maximum Current: 4.0 Kts.
Mooring Depth Minimum: 6 Ft.
        Maximum: 160 Ft.

Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushings in the mooring lug are designed to last at least 3 years.

Special Features:

Stability Notes:
Unstable without 530 lbs of chain mooring or external ball counterweight; GM = -1.47 Good stability in tides & wind to 49 knots; Acceptable in ice; Acceptable in short choppy waves to 3', long rolling waves to 13' & breaking waves to 20'.

General Notes
Replaces buoy No. CR-15001

Manufacturers: Fairway Ind.
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 13
FA-2003 1.2m Coastal Can

Cumulative Area

Area, Ft²

Height, Ft
GENERAL INFORMATION

Name of Buoy: FA-2004 1.2m Coastal Conical

Country of Use: Canada

Function: Unlighted Conical (Nun) buoy, with radar reflecting daymark.

For semi-exposed saltwater.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 549 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 7.30 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 3.94 Ft.

Freeboard No Mooring: 0.00 Ft.
Minum: 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: Concrete

Coating/Coloring System:

Subdivision: None

Hull Type: Conical Top, Sph, Bot

Counterweight Type: Internal
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources: none
Lighting Equipment: one
Sound Equipment: none
Other Payload: Radar reflecting daymark
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.875 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: SM, tidal zone
Nominal Visual Range of Daymark: 0.0 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth Minimum: 4 Ft.
Maximum: 164 Ft.
Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.  
Maintenance Interval: 0 Mos.

Maintenance Notes:  
The bushings in the mooring lug are designed to last at least 3 years.

Special Features:

Stability Notes:

General Notes  
Minimum mooring depth based on buoy draft.

Replaces buoy No. CR-15002.

Manufacturers: Fairway Ind.  
Source of Design: Canadian Coast Guard  
Drawing Reference: Canada 2
GENERAL INFORMATION

Name of Buoy: FA-2005 1.6m Coastal Can

Country of Use: Canada

Function: Unlighted Can buoy, with Can or Spherical radar reflecting daymark.

For semi-exposed salt water.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,645 Lbs.
Buoy Draft: 2.87 Ft.
Overall Buoy Length: 9.86 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 5.25 Ft.
Freeboard No Mooring: 4.51 Ft.
               Minimum: 1.97 Ft.
Pounds Per Inch Immersion: 112 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 2,645 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell : Steel
                     Hull Filling :
                     Tower :
                     Topmark :
                     Counterweight: Cast Iron

Coating/Coloring System:

Subdivision: None

Hull Type: Cylindrical, Sph.Bot

Counterweight Type: Optional Ext. Ball
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: 10.3 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.

Mooring Line: Size: 0.750 In.
Type: Steel Chain
Sinker Size: 4,410 Lbs.
Topmark Type: none
Number of Padeyes: 5

OPERATING CHARACTERISTICS

Operating Environment: SF, tidal zone
Nominal Visual Range of Daymark: 2.3 Nmi.
Radar Range: 4.7 Nmi.
Maximum Current: 5.0 Kts.
Mooring Depth Minimum: 6 Ft.
Maximum: 413 Ft.
Reflective Material Type: 8-47
ADDITIONAL DATA

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

Service Life: 30.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushings in the mooring lug are designed to last at least 3 years.

Special Features:

Stability Notes:
Unstable without 1200 pounds of mooring chain or external ball counterweight; GM = 2.01 feet. Good stability in tide and wind to 51 knots; good in ice; acceptable in short choppy waves to 7' and long rolling waves to 20'.

General Notes
Replaces buoy No. CR-15001

Manufacturers: Fairway Ind.
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 14
FA-2005 1.6m Coastal Can

Cumulative Area

Area, Ft²

Height, Ft
GENERAL INFORMATION

Name of Buoy: FA-2006 1.6m Coastal Conical

Country of Use: Canada

Function: Unlighted Conical (Nun) buoy, with radar reflecting daymark.
For semi-exposed salt water.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,400 Lbs.
Buoy Draft: 2.68 Ft.
Overall Buoy Length: 9.27 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 5.25 Ft.
Freaboard No Mooring: 4.44 Ft.
Minimum: 2.50 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.16 Ft.
Reserve Buoyancy: 1,389 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: Steel
Hull Filling:
Tower:
Topmark:
Counterweight: Concrete
Coating/Coloring System:
Subdivision: none
Hull Type: Conical Top, Sph.Bot
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: 0.750 In.
Type: Steel Chain
Sinker Size: 4,410 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: SM, tidal zone
Nominal Visual Range of Daymark: 1.9 Nmi.
Radar Range: 3.8 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth Minimum: 3 Ft.
Maximum: 280 Ft.
Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 30.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushings in the mooring lug are designed to last at least 3 years.

Special Features:

Stability Notes:
Acceptable stability in tides and wind to 50 knots;
acceptable in ice; good in short, choppy wave to 7' and long rolling waves to 20' high.

General Notes
Minimum mooring depth based on buoy draft.
Replaces buoy No. CR-15002

Manufacturers: Fairway Ind.
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 15
FA-2006 1.6m Coastal Conical

Cumulative Area
GENERAL INFORMATION

Name of Buoy: FA-2007 2.0m Coastal Conical

Country of Use: Canada

Function: Unlighted Conical (Nun) buoy, with radar reflecting daymark.

For exposed saltwater.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,018 Lbs.
Buoy Draft: 2.77 Ft.
Overall Buoy Length: 11.24 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 6.56 Ft.
Freeboard No Mooring: 5.93 Ft.
Minimum: 4.03 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.20 Ft.
Reserve Buoyancy: 4,145 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: Steel
Hull Filling:
Tower:
Topmark:
Counterweight: Concrete

Coating/Coloring System:

Subdivision: None
Hull Type: Conical Top, Sph.Bot
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: 3.8 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.

Mooring Line: Size: 0.750 In.
Type: Steel Chain

Sinker Size: 4,410 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: EF, tidal zone

Nominal Visual Range of Daymark: 2.3 Nmi.
Radar Range: 4.6 Nmi.
Maximum Current: 5.0 Kts.
Mooring Depth Minimum: 3 Ft.
Maximum: 460 Ft.

Reflective Material Type:
### ADDITIONAL DATA

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<th>Service Life:</th>
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<tr>
<td>Maintenance Interval:</td>
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**Maintenance Notes:**
- The bushings in the mooring lug are designed to last at least 3 years.

**Special Features:**

**Stability Notes:**
- Good stability in tides and wind to 50 knots; acceptable in ice; acceptable in short, choppy waves to 7', long rolling waves to 20' and breaking waves to 20' high.

**General Notes**
- Minimum mooring depth based on buoy draft.

**Replaces buoy No. CR-15002.**

**Manufacturers:**
- Fairwy Ind.

**Source of Design:**
- Canadian Coast Guard

**Drawing Reference:**
- Canada 2 & 16
FA-2007 2.0m Coastal Conical

Cumulative Area
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: FA-2008 0.9m River Conical

Country of Use: Canada

Function: Unlighted river buoy, with Conical radar reflecting daymark.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,047 Lbs.
Buoy Draft: 5.02 Ft.
Overall Buoy Length: 9.84 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 3.00 Ft.
Freeboard: No Mooring: 2.33 Ft.
Minimum: 0.95 Ft.
Pounds Per Inch Immersion: 37 Lbs.
Metacentric Height: 0.04 Ft.
Reserve Buoyancy: 422 Lbs.

Wave Motion Response:

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

Coating/Coloring System:

Subdivision: Horiz. Bhd, Mid Hull
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: 5.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.500 In.
Type: Steel Chain
Sinker Size: 3,310 Lbs.
Topmark Type: none
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, rivers
Nominal Visual Range of Daymark: 1.5 Nmi.
Radar Range: 3.9 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth:
Minimum: 6 Ft.
Maximum: 164 Ft.
Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushing in the mooring lug is designed to last at least 3 years.

Special Features:
Buoy has 9 additional vertical positions for lateral attachment of the mooring to accommodate a range of currents.

Stability Notes:
Very good stability in current & winds to 43 knots, acceptable in ice; acceptable in short, choppy waves to 3'; long rolling waves to 13' and breaking waves to 20'.

General Notes
Minimum mooring depth based on buoy draft, not CCG recommendations.

Replaces buoy No. CR-14765B

Manufacturers:
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 17
Name of Buoy: FA-2009 0.9m River Can

Country of Use: Canada

Function: Unlighted river buoy, with Can radar reflecting daymark.

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

Buoy Weight: 1,094 Lbs.
Buoy Draft: 5.13 Ft.
Overall Buoy Length: 8.86 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 3.00 Ft.
Freeboard: No Mooring: 2.22 Ft.
Minimum: 0.85 Ft.
Pounds Per Inch Immersion: 37 Lbs.
Metacentric Height: 0.05 Ft.
Reserve Buoyancy: 379 Lbs.

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

Coating/Coloring System:
- Horiz. Bhd, Mid Hull

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: 4.5 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.500 In.
Type: Steel Chain
Sinker Size: 3,310 Lbs.
Topmark Type: None
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, rivers
Nominal Visual Range of Daymark: 1.5 Nmi.
Radar Range: 3.9 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth: Minimum: 6 Ft.
Maximum: 164 Ft.
Reflective Material Type: 8-63
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushing in the mooring lug is designed to last at least 3 years.

Special Features:
Buoy has 9 additional vertical positions for lateral attachment of the mooring to accommodate a range of currents.

Stability Notes:
Good stability in current and winds to 43 knots; acceptable in ice floes; acceptable in short, choppy wave to 3', long rolling waves to 13' and breaking waves to 20'.

General Notes
Minimum mooring depth based on buoy draft, not CCG recommended practice.

Replaces buoy No. CR-14765B.

Manufacturers:
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 18
FA–2009 0.9m River Can
Cumulative Area

Area, $A \sim 2$

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: FA-2010 1.2m River Conical
Country of Use: Canada
Function: Unlighted river buoy, with Conical radar reflecting daymark.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,838 Lbs.
Buoy Draft: 7.22 Ft.
Overall Buoy Length: 15.58 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 4.00 Ft.
Freeboard: No Mooring: 3.77 Ft.
            Minimum: 2.03 Ft.
Pounds Per Inch Immersion: 66 Lbs.
Metacentric Height: 0.12 Ft.
Reserve Buoyancy: 1,611 Lbs.
Wave Motion Response:
Construction Material: Hull Shell : Steel
                    Hull Filling : Tower : Topmark :
                      Internal
Coating/Coloring System: Horiz. Bhd. Mid Hull
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: 11.5 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.750 In.
Type: Steel Chain
Sinker Size: 3,970 Lbs.
Topmark Type: none
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, rivers
Nominal Visual Range of Daymark: 2.0 Nmi.
Radar Range: 5.7 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth: Minimum: 8 Ft.
Maximum: 160 Ft.

Reflective Material Type:
ADDITIONAL DATA

Cost: Replacement: 80
Preparation: 80
Monthly Servicing: 80

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushing in the mooring lug is designed to last at least 3 years.

Special Features:
Buoy has 10 additional vertical positions for lateral attachment of the mooring to accommodate a range of currents.

Stability Notes:
Very good stability in current and wind to 50 knots; good in ice floes; very good in short, choppy waves to 2' and long rolling waves to 7' high.

General Notes
Minimum mooring depth based on buoy draft, not CCG recommended practice.

Replaces buoy No. CR-14765A.

Manufacturers:

Source of Design: Canadian Coast Guard

Drawing Reference: Canada 2 & 19
## OTIS Buoy Record

### GENERAL INFORMATION

**Name of Buoy:** FA-2011 1.2m River Can  
**Country of Use:** Canada  
**Function:** Unlighted river buoy, with Can radar reflecting daymark.

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

### PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buoy Weight</td>
<td>3,065 Lbs.</td>
</tr>
<tr>
<td>Buoy Draft</td>
<td>7.51 Ft.</td>
</tr>
<tr>
<td>Overall Buoy Length</td>
<td>14.27 Ft.</td>
</tr>
<tr>
<td>Focal Height of Light</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter</td>
<td>4.00 Ft.</td>
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<tr>
<td>Freeboard:</td>
<td></td>
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<tr>
<td>No Mooring:</td>
<td>3.48 Ft.</td>
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<td>Minimum:</td>
<td>1.74 Ft.</td>
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<tr>
<td>Pounds Per Inch Immersion</td>
<td>66 Lbs.</td>
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<tr>
<td>Metacentric Height</td>
<td>0.06 Ft.</td>
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<tr>
<td>Reserve Buoyancy:</td>
<td>1,377 Lbs.</td>
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<tr>
<td>Wave Motion Response</td>
<td></td>
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<tr>
<td>Construction Material:</td>
<td></td>
</tr>
<tr>
<td>Hull Shell</td>
<td>Steel</td>
</tr>
<tr>
<td>Hull Filling</td>
<td></td>
</tr>
<tr>
<td>Tower</td>
<td></td>
</tr>
<tr>
<td>Topmark</td>
<td></td>
</tr>
<tr>
<td>Counterweight:</td>
<td>Concrete</td>
</tr>
<tr>
<td>Coating/Coloring System:</td>
<td></td>
</tr>
<tr>
<td>Subdivision:</td>
<td>Moriz. Bhd, Mid Hull</td>
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<tr>
<td>Hull Type:</td>
<td>Cylindrical</td>
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<tr>
<td>Counterweight Type:</td>
<td>Internal</td>
</tr>
</tbody>
</table>
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: 13.1 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.750 In.
Type: Steel Chain
Sinker Size: 3,970 Lbs.
Topmark Type: none
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM. rivers
Nominal Visual Range of Daymark: 2.0 Nmi.
Radar Range: 5.3 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth: Minimum: 8 Ft.
Maximum: 160 Ft.
Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 25.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The bushing in the mooring lug is designed to last at least 3 years.

Special Features:
Buoy 10 additional vertical positions for lateral attachment of the mooring to accommodate a range of currents.

Stability Notes:
Very good stability in current and winds to 50 knots; good in ice floes; very good in short, choppy waves to 2' and long rolling waves to 7' high.

General Notes
Minimum mooring depth based on buoy draft, not CCG recommended practice.

Replaces buoy No. CR-14765A.

Manufacturers:
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 20
FA–2011 1.2m River Can

Cumulative Area

Area, Ft^2

Height, Ft

B-23
Name of Buoy: FA-2012 0.6m Mackenzie River-C
Country of Use: Canada
Function: Unlighted river buoy, with Can daymark.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 271 Lbs.
Buoy Draft: 4.70 Ft.
Overall Buoy Length: 8.79 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 2.00 Ft.
Freeboard: No Mooring: 3.54 Ft.
            Minimum: 3.15 Ft.
Pounds Per Inch Immersion: 16 Lbs.
Metacentric Height: 0.21 Ft.
Reserve Buoyancy: 619 Lbs.

Wave Motion Response:

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

Coating/Coloring System:

Subdivision: Horiz. Bhd, near WL
Hull Type: Cylindrical
Counterweight Type: External Plate
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources: none
Lighting Equipment: none
Sound Equipment: none
Other Payload: none

Daymark Area: 6.7 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.

Mooring Line: Size: 0.500 In.
Type: Steel Wire Rope

Sinker Size: 1,323 Lbs.
Topmark Type: none

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, rivers
Nominal Visual Range of Daymark: 1.5 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 4.5 Kts.
Mooring Depth: Minimum: 5 Ft.
Maximum: 95 Ft.

Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 8.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The buoy's impact resistance to collisions with logs, driftwood and ice is acceptable.

Special Features:
Buoy has flat plate keel/rudder with ballast welded at bottom, and 5 vertical positions for lateral attachment of the mooring to accommodate a range of currents.

Stability Notes:
This buoy is not well suited for tidal conditions. Has acceptable stability in winds to 30 knots; acceptable stability in short choppy waves to 7' and breaking waves to 10'. The buoy performs well in ice floes.

General Notes
Minimum mooring depth based on buoy draft, not CCG recommended practice.

Replaces buoy no. CR-15356.

Manufacturers:
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 21
FA–2012 0.6m Mackenzie River–C

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: FA-2013 0.6m Mackenzie River-N

Country of Use: Canada

Function: Unlighted river buoy, Conical (Nun) daymark.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 218 Lbs.
Buoy Draft: 4.39 Ft.
Overall Buoy Length: 8.72 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 2.00 Ft.
Freeboard: No Mooring: 3.85 Ft.
        Minimum: 3.41 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.46 Ft.
Reserve Buoyancy: 296 Lbs.
Wave Motion Response:

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

Coating/Coloring System:

Subdivision: Horiz. Bhd. near WL
Hull Type: Conical
Counterweight Type: External Plate

B-78
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources: none
Lighting Equipment: none
Sound Equipment: none
Other Payload: none
Daymark Area: 4.3 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.500 In.
Type: Steel Wire Rope
Sinker Size: 1,323 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: SM, rivers
Nominal Visual Range of Daymark: 1.4 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 4.5 Kts.
Mooring Depth: Minimum: 5 Ft.
Maximum: 82 Ft.
Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 8.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
The buoy's impact resistance to collisions with logs, driftwood and ice is acceptable.

Special Features:
Buoy has flat plate keel/rudder with ballast welded at bottom, and 5 vertical positions for lateral attachment of the mooring to accommodate a range of currents.

Stability Notes:
This buoy is not well suited for tidal conditions. It has acceptable stability in winds to 30 knots; acceptable stability in short, choppy waves to 7' and breaking waves to 10'. The buoy performs well in ice floes.

General Notes
Minimum mooring depth based on buoy draft, not CCG recommended practice.

Replaces buoy No. CR-15356

Manufacturers:

Source of Design: Canadian Coast Guard

Drawing Reference: Canada 2 & 22
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: FA-2014 Canol Type Boat

Country of Use: Canada

Function: Unlighted river buoy, with Can or conical daymark.

For swift current & shallow water.

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

PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Buoy Weight:</td>
<td>147 Lbs.</td>
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<tr>
<td>Buoy Draft:</td>
<td>1.20 Ft.</td>
</tr>
<tr>
<td>Overall Buoy Length:</td>
<td>7.97 Ft.</td>
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<tr>
<td>Focal Height of Light:</td>
<td>0.00 Ft.</td>
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<tr>
<td>Buoy Beam or Diameter:</td>
<td>1.67 Ft.</td>
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<tr>
<td>Freeboard:</td>
<td>No Mooring: 0.45 Ft.</td>
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<tr>
<td></td>
<td>Minimum: 0.00 Ft.</td>
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<tr>
<td>Pounds Per Inch Immersion:</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Metacentric Height:</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Reserve Buoyancy:</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Wave Motion Response:</td>
<td>Wave Following</td>
</tr>
<tr>
<td>Construction Material:</td>
<td>Hull Shell: Steel</td>
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<tr>
<td></td>
<td>Hull Filling:</td>
</tr>
<tr>
<td></td>
<td>Tower: 5000 Series Aluminum</td>
</tr>
<tr>
<td></td>
<td>Topmark:</td>
</tr>
<tr>
<td></td>
<td>Counterweight:</td>
</tr>
<tr>
<td>Coating/Coloring System:</td>
<td>none</td>
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<td>Subdivision:</td>
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</tr>
<tr>
<td>Hull Type:</td>
<td>Boat</td>
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<tr>
<td>Counterweight Type:</td>
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</tbody>
</table>

B-82
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources: none
Lighting Equipment: none
Sound Equipment: none
Other Payload: none

Daymark Area: 3.5 Sq. Ft.

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

Mooring Line: Size: 0.375 In.
Type: Steel Chain

Sinker Size: 1,575 Lbs.

Topmark Type: none

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PF, rivers

Nominal Visual Range of Daymark: 0.0 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 8.0 Kts.

Mooring Depth:
Minimum: 2 Ft.
Maximum: 26 Ft.

Reflective Material Type:

B-83
ADDITIONAL DATA

Cost: Replacement: $80
Preparation: $80
Monthly Servicing: $80

Service Life: 8.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Buoy has a large flat plate skeg for directional stability.

Stability Notes:
It has poor stability in winds over 22 knots, ice floes and icing, and any wave pattern over 2' high.

General Notes
Minimum mooring depth based on buoy draft. For conical daymark, buoy weight = 140 lbs and daymark area = 2.3 sq. ft. Replaces buoy No's CR-15291 and CR-15457.

Manufacturers:
Source of Design: Canadian Coast Guard
Drawing Reference: Canada 2 & 25
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: FA-2015 0.4m Mackenzie River-C

Country of Use: Canada

Function: Unlighted river buoy with Can daymark.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 159 Lbs.
Buoy Draft: 4.14 Ft.
Overall Buoy Length: 6.14 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 1.51 Ft.
Freeboard: No Mooring: 1.76 Ft.
           Minimum: 1.48 Ft.
Pounds Per Inch Immersion: 9 Lbs.
Metacentric Height: 0.95 Ft.
Reserve Buoyancy: 165 Lbs.

Wave Motion Response:
Construction Material:
  Hull Shell : Steel
  Hull Filling :
  Tower :
  Topmark :
  Counterweight: Steel

Coating/Coloring System:
Subdivision: Horiz. Bhd. near WL
Hull Type: Cylindrical
Counterweight Type: External Plate
## 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

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buoy Weight</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Buoy Draft</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Overall Buoy Length</td>
<td>38.05 Ft.</td>
</tr>
<tr>
<td>Focal Height of Light</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter</td>
<td>10.50 Ft.</td>
</tr>
<tr>
<td>Freeboard</td>
<td>No Mooring: 0.00 Ft.</td>
</tr>
<tr>
<td></td>
<td>Minimum: 0.00 Ft.</td>
</tr>
<tr>
<td>Pounds Per Inch Immersion</td>
<td>462 Lbs.</td>
</tr>
<tr>
<td>Metacentric Height</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Reserve Buoyancy</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Wave Motion Response</td>
<td>Wave following</td>
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<tr>
<td>Construction Material</td>
<td>Hull Shell: Steel</td>
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<tr>
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<td>Hull Filling:</td>
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<tr>
<td></td>
<td>Tower: Steel</td>
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<td></td>
<td>Topmark:</td>
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<td>Counterweight: Cast Iron.</td>
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<tr>
<td>Coating/Coloring System</td>
<td>Zinc primer/synth. resin paint</td>
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<tr>
<td>Subdivision</td>
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<tr>
<td>Hull Type</td>
<td>Cylindrical</td>
</tr>
<tr>
<td>Counterweight Type</td>
<td>External tail tube</td>
</tr>
</tbody>
</table>
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: B-817
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

B-818
L-3 (10.5x38 L) Wave Generator

Cumulative Area

Area, Ft²

Height, Ft
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

B-820
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: B-821
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 & 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: Steel
- Counterweight: Cast Iron

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

Subdivision: Foamfilled curercomp

Hull Type: Cylindrical

Counterweight Type: External tail tube

B-823
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:

B-824
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: Marit.Safety Agency
Drawing Reference: Japan 1 & 7
L-4 (20x53 LR) Wave Generator

Cumulative Area

Area, ft$^2$

Height, Ft
STIS Buoy Record

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:

B-827
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: B-828
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

B-829
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.
Minimun: 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: B-831
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: Maritim. Safety Agency

Drawing Reference: Japan 1 & 8
L-6 (16x25 LR)

Cumulative Area

Area, Ft^2

Height, Ft
**BTIS Buoy Record**

**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**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buoy Weight</td>
<td>9,280 Lbs.</td>
</tr>
<tr>
<td>Buoy Draft</td>
<td>8.43 Ft.</td>
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<tr>
<td>Overall Buoy Length</td>
<td>22.41 Ft.</td>
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<tr>
<td>Focal Height of Light</td>
<td>13.17 Ft.</td>
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<tr>
<td>Buoy Beam or Diameter</td>
<td>6.89 Ft.</td>
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<tr>
<td>Freeboard</td>
<td>No Mooring: 2.43 Ft.</td>
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<tr>
<td></td>
<td>Minimum: 0.00 Ft.</td>
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<tr>
<td>Pounds Per Inch Immersion</td>
<td>199 Lbs.</td>
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<td>Metacentric Height</td>
<td>1.02 Ft.</td>
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<td>Reserve Buoyancy</td>
<td>0 Lbs.</td>
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<tr>
<td>Wave Motion Response</td>
<td>Wave following</td>
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<tr>
<td>Construction Material</td>
<td>Hull Shell : Steel</td>
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<tr>
<td></td>
<td>Hull Filling :</td>
</tr>
<tr>
<td></td>
<td>Tower : Steel</td>
</tr>
<tr>
<td></td>
<td>Topmark :</td>
</tr>
<tr>
<td></td>
<td>Counterweight: Cast Iron</td>
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<tr>
<td>Coating/Coloring System</td>
<td>Zinc primer/synth. resin paint</td>
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<tr>
<td>Subdivision</td>
<td>None</td>
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<tr>
<td>Hull Type</td>
<td>Cylindrical</td>
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<tr>
<td>Counterweight Type</td>
<td>External tail tube</td>
</tr>
</tbody>
</table>

B-834
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
Sinker 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**
Metacentric 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 (6.9×22 L)

Cumulative Area

Area, Ft²
0 5 10 15 20 25 30 35
0 1 2 3 4 5 6 7 8 9 10 11 12
Height, Ft
BTIS Buoy Record

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

B-838
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:

B-839
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
Metacentric height based on buoy weight including power source.

Manufacturers: Gakuyo Toki Kogyo Co

Source of Design: Marita. Safety Agency

Drawing Reference: Japan 1 & 10

B-840
Name of Buoy: Segiyosetoho Resilient Bccon.

Country of Use: Japan

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

Date Of Last Update For This Record: 05/20/50

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: Steel
                      Tower: Steel
                      Topmark: Steel
                      Counterweight: Steel

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: 8-843
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: Maritma.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

B-845
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: 2.7 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 7 Ft.
Maximum: 0 Ft.
Reflective Material Type:
U-H Conical (NUN)

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

Area, Ft^2

Height, Ft
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

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: B-850
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: Maritime 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
Sinker Size: 4,410 Lbs.
Topmark Type: None
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: SW
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:
U-HP Plastic CAN

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

Area, Ft²

Height, Ft
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: B-857
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

Area, Ft²

Height, Ft

60 55 50 45 40 35 30 25 20 15 10 5 0

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

B-859
BTIS Buoy Record

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.
Minum: 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 : Steel
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:
**NKK 1.5m (4.9 x 22 LR)**

**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

B-862
NKK 1.5m (4.9 x 22 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
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: Aluminum
Tower: Aluminum
Topmark: Steel
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**

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<th>Replacement:</th>
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<table>
<thead>
<tr>
<th>Service Life:</th>
<th>0.0 Yrs.</th>
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</thead>
<tbody>
<tr>
<td>Maintenance Interval:</td>
<td>0 Mos.</td>
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</tbody>
</table>

**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

Area, Ft²

Height, Ft
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: Aluminum
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: B-869
## 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 \((3.75 \times 10^L)\)

Cumulative Area

![Graph showing cumulative area vs. height in feet. The graph plots area in square feet against height in feet.]
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: Towel: Aluminum
Topmark: Steel
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

Area, Ft^2

Height, Ft
BTIS Buoy Record

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: Foam Filled
Subdivision: Foam Filled
Hull Type: Cylindrical
Counterweight Type: External tail tube

B-876
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: Packed dry cell batts. 12v 400Ah
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: 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

Area, Ft^2

Height, Ft
BTIS Buoy Record

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

B-880
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

Sinker 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

[Graph showing cumulative area vs. height in feet]
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

Sinker 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
### GENERAL INFORMATION

**Name of Buoy:** H-290 (4.9 x 19 ft.)

**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

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Buoy Weight</td>
<td>2,426 Lbs.</td>
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<tr>
<td>Buoy Draft</td>
<td>8.40 Ft.</td>
</tr>
<tr>
<td>Overall Buoy Length</td>
<td>19.26 Ft.</td>
</tr>
<tr>
<td>Focal Height of Light</td>
<td>10.26 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter</td>
<td>4.92 Ft.</td>
</tr>
<tr>
<td>Freeboard</td>
<td>No Mooring: 0.00 Ft.</td>
</tr>
<tr>
<td></td>
<td>Minimum: 0.00 Ft.</td>
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<tr>
<td>Pounds Per Inch Immersion</td>
<td>102 Lbs.</td>
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<tr>
<td>Metacentric Height</td>
<td>0.00 Ft.</td>
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<tr>
<td>Reserve Buoyancy</td>
<td>0 Lbs.</td>
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<tr>
<td>Wave Motion Response</td>
<td>Wave following</td>
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<tr>
<td>Construction Material</td>
<td>Hull Shell: Steel</td>
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<tr>
<td></td>
<td>Hull Filling: Steel</td>
</tr>
<tr>
<td></td>
<td>Tower: Steel</td>
</tr>
<tr>
<td></td>
<td>Topmark:</td>
</tr>
<tr>
<td></td>
<td>Counterweight:</td>
</tr>
<tr>
<td>Coating/Coloring System</td>
<td></td>
</tr>
<tr>
<td>Subdivision</td>
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</tr>
<tr>
<td>Hull Type</td>
<td>Cylindrical</td>
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<tr>
<td>Counterweight Type</td>
<td>External tail tube</td>
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</tbody>
</table>

B-888
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
### 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

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<thead>
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<th>Characteristic</th>
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<td><strong>Buoy Weight:</strong></td>
<td>1,173 Lbs.</td>
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<tr>
<td><strong>Buoy Draft:</strong></td>
<td>7.86 Ft.</td>
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<td><strong>Overall Buoy Length:</strong></td>
<td>17.55 Ft.</td>
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<td><strong>Focal Height of Light:</strong></td>
<td>9.38 Ft.</td>
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<td><strong>Buoy Beam or Diameter:</strong></td>
<td>3.94 Ft.</td>
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<td><strong>Freeboard:</strong></td>
<td>No Mooring: 0.00 Ft.</td>
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<td>Minimum: 0.00 Ft.</td>
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<td><strong>Pounds Per Inch Immersion:</strong></td>
<td>65 Lbs.</td>
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<td><strong>Metacentric Height:</strong></td>
<td>0.00 Ft.</td>
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<tr>
<td><strong>Reserve Buoyancy:</strong></td>
<td>0 Lbs.</td>
</tr>
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<td><strong>Wave Motion Response:</strong></td>
<td>Wave following</td>
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<td><strong>Construction Material:</strong></td>
<td>Hull Shell: Steel</td>
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<td>Hull Filling: Steel</td>
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<td>Tower: Steel</td>
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<td></td>
<td>Topmark:</td>
</tr>
<tr>
<td></td>
<td>Counterweight:</td>
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**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:

B-893
### ADDITIONAL DATA

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<th>Cost:</th>
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**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
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: M-350T (6.4 x 25 LR)
Country of Use: Japan MFG
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.
Fresnoad: 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: Steel
                     Tower: Steel
                     Topmark: 
                     Counterweight: Cast Iron
Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: External tail tube

B-896
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

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<th>Japan MFG 2-7</th>
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</table>
M-350T (6.4 x 25 LR)

Cumulative Area

Area, Ft²

Height, Ft

B-899
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
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
Length and draft depend on 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

Area, Ft^2

Height, Ft
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:

B-908
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

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### 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
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
The buoy weight shown on page 1 includes battery.

Manufacturers:
Source of Design: Adm of Navig & Hydro
Drawing Reference: Denmark 14
Type 25, Cylindrical Top

Cumulative Area

Area, Ft$^2$

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Type 26, Conical Top, Lighted

Country of Use: Denmark

Function: This is a lighted buoy used for marking the waterways.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,974 Lbs.

Buoy Draft: 8.86 Ft.

Overall Buoy Length: 20.34 Ft.

Focal Height of Light: 9.84 Ft.

Buoy Beam or Diameter: 3.61 Ft.

Freeboard: No Mooring: 1.15 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 : Plastic
Topmark :
Counterweight: Cast Iron

Coating/Coloring System:

Subdivision: Four Compartment

Hull Type: Cylindrical

Counterweight Type: Rings at Bottom

B-184
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Battery
Lighting Equipment: Electric Lantern
Sound Equipment:
Other Payload: Aluminum 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: Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM & SM
Nominal Visual Range of Daymark: 2.3 Nmi.
Radar Range: 5.7 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:
Fifth (50) of these buoys were built using hulls of Type 22 buoy.

Special Features:
50 of this type uses type 22 hulls.
This type buoy has an aluminum radar reflector and a plastic superstructure (integral).

Stability Notes:

General Notes
The buoy weight shown on page 1 includes battery.

Manufacturers:
Source of Design: Adm of Navig & Hydro
Drawing Reference: Denmark 5
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Type 31, Cylind. Top, Lighted

Country of Use: Denmark

Function: This is a lighted buoy used to mark the waterways.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,870 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 20.51 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 3.61 Ft.

Freeboard: No Mooring:
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: Steel
Tower: Steel
Topmark:
Counterweight: Concrete

Coating/Coloring System:

Subdivision: 2 Compartment

Hull Type: Cylindrical

Counterweight Type: Intrnl @ Cone Bottom
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Battery
Lighting Equipment: 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: 0.000 In.
   Type: Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral
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

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**Special Features:**

**Stability Notes:**

**General Notes**

The buoy weight shown on page 1 includes battery.

**Manufacturers:**

<table>
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<td>Denmark 13</td>
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</table>
Type 31, Cylind. Top, Lighted

Cumulative Area

Area, Ft²

Height, Ft

0 2 4 6 8 10 12

30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Battery
Lighting Equipment: 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: 0.000 In.
Type: Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM & SM
Nominal Visual Range of Daymark: 2.1 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:
Buoy hull interchangeable with Type 31 cylindrical (CAN) top buoy.

Special Features:

Stability Notes:

General Notes
Total weight shown on page 1 includes the weight of batteries.

Manufacturers:

Source of Design: Adm of Navig & Hydro
Drawing Reference: Denmark 4
Type 32, Conical Top, Lighted

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: Type 43 Ocean Conical, Lighted

Country of Use: Denmark

Function: The largest buoy is Type 43. There are only 9 of this type. They replace the lightships of which there were 12, but none are left as of 1990.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 17,660 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 34.61 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 9.43 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 : Steel
                      Tower : Steel
                      Topmark : Steel
                      Counterweight: Cast Iron

Coating/Coloring System:

Subdivision: One Compartment
Hull Type: Cylindrical
Counterweight Type: External Tube
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: Electric Battery
Lighting Equipment: 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: 0.000 In.
Type: Chain
Sinker Size: 0 Lbs.
Topmark Type: 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: 0 Ft.

Reflective Material Type:

B-197
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
The buoy weight on page 1 includes battery.

Manufacturers:
Source of Design: Adm of Navig & Hydro
Drawing Reference: Denmark 6

B-198
GENERAL INFORMATION

Name of Buoy: Type 52 Ocean Conical, Lighted

Country of Use: Denmark

Function: This type is used mostly for RACON applications. There are approximately 20 of these buoys.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 32.81 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: Steel & Concrete

Coating/Coloring System: One Compartment
Hull Type: Cylindrical
Counterweight Type: Extnl Tube & Intrnl
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Battery
Lighting Equipment: 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: 0.000 In.
Type: Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral
Number of Padeyes: 1

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:
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Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Manufacturers:

Source of Design: Adm of Navig & Hydro

Drawing Reference: Denmark 7
Name of Buoy: Type 62 Conical, Lighted

Country of Use: Denmark

Function: This is a lighted buoy. Maybe used inland and/or between islands at shallow water locations.

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

Buoy Weight: 2,866 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 8.92 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 4.92 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:
Subdivision:
Hull Type: Cylindrical
Counterweight Type:
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: Electric 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: 0.000 In.
Type: Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: 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
The buoy weight on page 1 includes battery.

Manufacturers:

Source of Design: Ads of Navig & Hydro

Drawing Reference: Denmark 9
Name of Buoy: Vager I Unlighted

Country of Use: Denmark

Function: This is an unlighted buoy used to mark the waterways.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 810 Lbs.
Buoy Draft: 8.07 Ft.
Overall Buoy Length: 14.67 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 3.45 Ft.
Freeboard: No Mooring: 2.43 Ft.
Minimum: 0.94 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 3.30 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell : Steel
Hull Filling:
Tower : Steel
Topmark :
Counterweight: Steel
Coating/Coloring System:
Subdivision: One Compartment
Hull Type: Cone
Counterweight Type: External Bar
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: Chain
Sinker Size: 950 Lbs.
Topmark Type: Lateral
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: SM (Est.)
Nominal Visual Range of Daymark: 1.9 Nmi.
Radar Range: 4.4 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type:

B-206
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: Adm of Navig & Hydro

Drawing Reference: Denmark 20
Vager! Unlighted

Cumulative Area

Area, Ft^2 vs Height, Ft
Name of Buoy: Vager II Unlighted

Country of Use: Denmark

Function: This is an unlighted buoy.

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

Buoy Weight: 486 Lbs.
Buoy Draft: 6.40 Ft.
Overall Buoy Length: 12.29 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 2.79 Ft.
Freeboard: No Mooring: 2.17 Ft.
           Minimum: 0.90 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 2.35 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following

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

Coating/Coloring System:
Subdivision: One Compartment
Hull Type: Cone
Counterweight Type: External Bar

B-209
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: Chain
Sinker Size: 700 Lbs.
Topmark Type: Lateral
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: SM & PM (Est)
Nominal Visual Range of Daymark: 1.5 Nmi.
Radar Range: 3.8 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-210
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: Adm of Navig & Hydro
Drawing Reference: Denmark 21
Vager II Unlighted

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: Vager III Unlighted
Country of Use: Denmark
Function: This is an unlighted buoy.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 282 Lbs.
Buoy Draft: 5.09 Ft.
Overall Buoy Length: 9.84 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 2.30 Ft.
Freeboard: No Mooring: 1.77 Ft.
Minimum: 0.66 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 1.94 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell : Steel
Hull Filling:
Tower : Steel
Topmark
Counterweight: Steel
Coating/Coloring System: One Compartment
Hull Type: Cone
Counterweight Type: External Bar
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: Chain
Sinker Size: 300 Lbs.
Topmark Type: Lateral
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: SM & PM (Est)
Nominal Visual Range of Daymark: 1.4 Nmi.
Radar Range: 3.4 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.

Reflective Material Type:
### ADDITIONAL DATA

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**Special Features:**

**Stability Notes:**

**General Notes**

**Manufacturers:**

**Source of Design:** Adm of Navig & Hydro

**Drawing Reference:** Denmark 22
Name of Buoy: Vager IV Unlighted
Country of Use: Denmark
Function: This is an unlighted buoy.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 170 Lbs.
Buoy Draft: 4.26 Ft.
Overall Buoy Length: 8.20 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 1.64 Ft.
Freeboard: No Mooring: 1.25 Ft.
Minimum: 0.55 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.66 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following

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

Coating/Coloring System: One Compartment

Hull Type: Cone
Counterweight Type: External Bar

B-217
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: Chain
Sinker Size: 80 Lbs.
Topmark Type: Lateral
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: SM & PM (Est)
Nominal Visual Range of Daymark: 1.2 Nmi.
Radar Range: 2.6 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type:

B-218
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: Adm of Navig & Hydro
Drawing Reference: Denmark 23
Vager IV Unlighted

Cumulative Area

Area, Ft²

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: 9'0" General Purpose Unlighted

Country of Use: England

Function: For use with standard cage or batwing daymarks, wave actuated bell where required, and radar reflector.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 7,056 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 16.25 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 9.00 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 340 Lbs.

Metacentric Height: 0.00 Ft.

 Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell: Steel

Hull Filling: Steel

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: none
Lighting Equipment: none
Sound Equipment: Wave actuated bell, where reqd
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: none
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM, Shallow Water
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: B-221
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:
Has free flooding keel for water ballast.

General Notes

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 12
GENERAL INFORMATION

Name of Buoy: Cardinal Class I, 10x50 LWBR
Country of Use: England
Function: Acetylene gas buoy, with wave actuated bell, and whistle or LIHA 600 electric fog signal.
Exposed deep water.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 20,375 Lbs.
Buoy Draft: 22.70 Ft.
Overall Buoy Length: 49.63 Ft.
Focal Height of Light: 19.40 Ft.
Buoy Beam or Diameter: 10.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
             Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 419 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell : Steel
                      Hull Filling : Steel
                      Tower : Steel
                      Topmark : Steel
                      Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:
Hull Type: Cylindrical
Counterweight Type: External tail tube

E-223
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: 2xElect.batt.packs, 2xAcet.cyl.
Lighting Equipment: 200mm Acetylene lantern
Sound Equipment: Wave act.whist.or el.fog signl
Other Payload: Wave act. bell, Radar reflectr
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 Cardinal
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.9 Nmi.
Radar Range: 5.7 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-224
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Internal chain is provided to limit fouling in tail tube.

Stability Notes:

General Notes:

Radar reflector is omnidirectional.

Manufacturers:

Source of Design: Trinity House

Drawing Reference: England 5
Cardinal Class I, 10x50 LWBR

Cumulative Area

Area, Ft²

Height, Ft

B-226
GENERAL INFORMATION

Name of Buoy: Cardinal Class I, 10x51 LWBR

Country of Use: England

Function: Acetylene gas buoy, with wave actuated whistle or bell, and AGA LIHA 600 electric fog signal.

Exposed Deep Water.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 21.047 Lbs.
Buoy Draft: 22.80 Ft.
Overall Buoy Length: 50.71 Ft.
Focal Height of Light: 19.00 Ft.
Buoy Beam or Diameter: 10.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 419 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

B-227
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: 2xElect.batt.pack, 2xAcet.cyl.
Lighting Equipment: 375mm Dalen acetylene lantern
Sound Equipment: Wave act. whistle or bell
Other Payload: AGA LIHA 600 el. fog sig, Rad R
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.
Moor Line: Size: 0.000 In.
Type: Steel Chain
Sink Size: 0 Lbs.
Topmark Type: Various Cardinal
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 3.1 Nmi.
Radar Range: 5.3 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.

Reflective Material Type: B-228
# ADDITIONAL DATA

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<table>
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<th>Service Life:</th>
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</thead>
<tbody>
<tr>
<td>Maintenance Interval:</td>
<td>0 Mos.</td>
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</tbody>
</table>

Maintenance Notes:

- **Special Features:**
  - Internal chain is provided to limit fouling in tail tube.

Stability Notes:

General Notes

- Radar reflector is omnidirectional.

Manufacturers:

- **Source of Design:** Trinity House
- **Drawing Reference:** England 4
Cardinal Class I, 10x51 LWBR

Cumulative Area

Area, Ft$^2$

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Cardinal Class II Pillar Mk. I

Country of Use: England

Function: Acetylene gas bouy, wave actuated bell fitted when required.

Moderate to shallow water.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 10,696 Lbs.

Buoy Draft: 4.50 Ft.

Overall Buoy Length: 17.83 Ft.

Focal Height of Light: 8.60 Ft.

Buoy Beam or Diameter: 10.00 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 419 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

B-231
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: AK130 Acetylene cylinders.
Lighting Equipment: 200mm Acetylene lantern
Sound Equipment: Wave actuated bell (when reqd)
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 Cardinal
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM, shallow water
Nominal Visual Range of Daymark: 2.4 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:
Has free flooding keel for water ballast.

General Notes
Weight includes 922 pound bell.

Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 7
Cardinal Class II Pillar Mk. I

Cumulative Area

Area, Ft$^2$

Height, Ft

50
45
40
35
30
25
20
15
10
5
0
0
1
2
3
4
5
6
7
8
9
10
11

B-234
Name of Buoy: Class 1 Can
Country of Use: England
Function: Standard Unlighted Buoy

Date Of Last Update For This Record: 10/30/90

Buoy Weight: 8,736 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 12.67 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 12.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimun: 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:
Coating/Coloring System:
Subdivision: Horiz, near WL
Hull Type: Dished
Counterweight Type:

B-235
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 3.5 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
               Maximum: 0 Ft.
Reflective Material Type: B-236
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: Trinity House
Drawing Reference: England 15

B-237
Class 1 Can Cumulative Area

Area, Ft$^2$ Height, Ft

B-238
GENERAL INFORMATION

Name of Buoy: Class 1 Conical
Country of Use: England
Function: Standard Unlighted Buoy

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 8,736 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 16.33 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 12.00 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: Steel
Hull Filling:
Tower:
Topmark:
Counterweight:
Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:

D-239
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: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type: none

Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 3.5 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

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

Reflective Material Type: B-240
**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: Trinity House  
Drawing Reference: England 15

B-241
Class 1 Conical

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: Class 1 Spherical
Country of Use: England
Function: Standard Unlighted Buoy

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 8,176 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 12.67 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 12.00 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: Steel
Hull Filling:
Tower:
Topmark:
Counterweight:
Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:

B-243
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

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:

Stability Notes:

General Notes

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 15
# BTIS Buoy Record

## GENERAL INFORMATION

Name of Buoy: Class 2 Can  
Country of Use: England  
Function: Standard Unlighted Buoy.

Date Of Last Update For This Record: 10/30/90

## PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Buoy Weight</td>
<td>6,386 Lbs.</td>
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<tr>
<td>Buoy Draft</td>
<td>0.00 Ft.</td>
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<tr>
<td>Overall Buoy Length</td>
<td>10.50 Ft.</td>
</tr>
<tr>
<td>Focal Height of Light</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter</td>
<td>10.00 Ft.</td>
</tr>
</tbody>
</table>
| 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:  
|                               | Topmark:  
|                               | Counterweight:  |
| Coating/Coloring System        | Horiz. near WL |
| Subdivision                    | Dished      |
| Hull Type                      |              |
| Counterweight Type             |              |

B-246
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

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: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 15
Class 2 Can

Cumulative Area

Area, Ft\(^2\)

Height, Ft
Name of Buoy: Class 2 Conical  
Country of Use: England  
Function: Standard Unlighted Buoy.  

Date Of Last Update For This Record: 10/30/90  

PHYSICAL CHARACTERISTICS  
Buoy Weight: 6,273 Lbs.  
Buoy Draft: 0.00 Ft.  
Overall Buoy Length: 13.50 Ft.  
Focal Height of Light: 0.00 Ft.  
Buoy Beam or Diameter: 10.00 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 : Steel  
Hull Filling :  
Tower :  
Topmark :  
Counterweight:  

Coating/Coloring System:  
Subdivision: Horiz., near WL  
Hull Type: Dished  
Counterweight Type:  

B-250
Class 2 Conical

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: Steel Chain

Sinker Size: 0 Lbs.
Topmark Type: none

Number of Padeyes: 1

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:

B-251
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: Trinity House
Drawing Reference: England 15
Class 2 Conical

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: Class 2 Spherical
Country of Use: England
Function: Standard Unlighted Buoy

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 6,048 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 10.50 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 10.00 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 : Steel
Hull Filling: Tower:
Topmark:
Counterweight:

Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:

B-254
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: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type: none

Number of Padeyes: 1

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:

B-255
## ADDITIONAL DATA

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<td>Preparation: 0 $0</td>
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<tr>
<td></td>
<td>Monthly Servicing: 0 $0</td>
</tr>
</tbody>
</table>

**Service Life:** 0.0 Yrs.

**Maintenance Interval:** 0 Mos.

**Maintenance Notes:**

**Special Features:**

**Stability Notes:**

**General Notes**

**Manufacturers:**

**Source of Design:** Trinity House

**Drawing Reference:** England 15
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Class 3 Can
Country of Use: England
Function: Standard Unlighted Buoy

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 4,032 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 8.50 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 8.00 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: Steel
                             Hull Filling: Tower:
                             Topmark: Counterweight:
Coating/Coloring System:
Subdivision: Horiz, near WL
Hull Type: Dished
Counterweight Type:

B-257
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: Steel Chain

Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: SM
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: $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: Trinity House
Drawing Reference: England 15
Class 3 Can

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: Class 3 Conical
Country of Use: England
Function: Standard Unlighted Buoy

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,943 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 10.83 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 8.00 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 : Steel
                     Hull Filling :
                     Tower :
                     Topmark :
                     Counterweight:

Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:

B-261
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

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: 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:

Source of Design: Trinity House

Drawing Reference: England 15
Class 3 Conical

Cumulative Area

Area, Ft$^2$

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Class 3 Spherical
Country of Use: England
Function: Standard Unlighted Buoy

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,808 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 8.50 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 8.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minum: 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: 

Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:

B-265
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

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:

B-266
Class 3 Spherical

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: Trinity House
Drawing Reference: England 15
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Class 4 Can
Country of Use: England
Function: Standard Unlighted Buoy

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,352 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 6.33 Ft.
Focal Height of Light: 0.00 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: Wave following
Construction Material: Hull Shell: Steel
Hull Filling:
Tower:
Topmark:
Counterweight:

Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:

B-268
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: Steel Chain

Sinker Size: 0 Lbs.
Topmark Type: none

Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: 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:
  Source of Design: Trinity House
  Drawing Reference: England 15
Class 4 Can

Cumulative Area

Area, Ft$^2$

Height, Ft

0 1 2 3 4 5

0 2 4 6 8 10 12 14 16 18 20 22 24
GENERAL INFORMATION

Name of Buoy: Class 4 Conical
Country of Use: England
Function: Standard Unlighted Buoy

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,352 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 8.17 Ft.
Focal Height of Light: 0.00 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: Wave following
Construction Material: Hull Shell: Steel
Hull Filling:
Tower:
Topmark:
Counterweight:

Coating/Coloring System:

Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type: B-272
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: 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:

B-273
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: Trinity House
Drawing Reference: England 15
Class 4 Conical Cumulative Area

Area, ft²

Height, ft

24 22 20 18 16 14 12 10 8 6 4 2 0

0 1 2 3 4 5 6 7
GENERAL INFORMATION

Name of Buoy: Class 4 Spherical
Country of Use: England
Function: Standard Unlighted Buoy

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,353 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 6.33 Ft.
Focal Height of Light: 0.00 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: Wave following
Construction Material: Hull Shell: Steel
Hull Filling:
Tower:
Topmark:
Counterweight:
Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
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:
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: Trinity House
Drawing Reference: England 15
GENERAL INFORMATION

Name of Buoy: Class 5 Can
Country of Use: England
Function: Standard Unlighted Buoy

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,792 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 5.25 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 : Steel
Hull Filling :
Tower :
Topmark :
Counterweight:
Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:
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.
Moor Line: Size: 0.000 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: 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

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<tr>
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B-281
Class 5 Can

Cumulative Area

Area, Fl-2

Height, Fl
GENERAL INFORMATION

Name of Buoy: Class 5 Conical
Country of Use: England

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,792 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 6.75 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: Steel
Hull Filling:
Tower:
Topmark:
Counterweight:
Coating/Coloring System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:
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: Steel Chain

Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: 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:

Source of Design: Trinity House
Drawing Reference: England 15
Class 5 Conical

Cumulative Area

Area, Ft$^2$

Height, Ft.
GENERAL INFORMATION

Name of Buoy: Class 5 Spherical
Country of Use: England
Function: Standard Unlighted Buoy

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,680 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 5.25 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: Steel
Hull Filling:
Tower:
Topmark:
Counterweight:

Coating/Color: System:
Subdivision: Horiz., near WL
Hull Type: Dished
Counterweight Type:
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: 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: B-288
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: Trinity House
Drawing Reference: England 15
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Class V conical, lighted

Country of Use: England

Function: Fiberglass, Motivators Type.

Used - River exe.
Shallow water.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 400 Lbs.

Buoy Draft: 1.15 Ft.

Overall Buoy Length: 7.80 Ft.

Focal Height of Light: 6.00 Ft.

Buoy Beam or Diameter: 4.75 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 : Fiberglass GRP
Hull Filling : Foam
Tower : Fiberglass GRP
Topmark : Counterweight:

Coating/Coloring System:

Subdivision: Foam filled

Hull Type: Cylindrical, Dished

Counterweight Type:

B-290
**RELATED EQUIPMENT**

- Number of Power Sources: 1
- Type of Power Sources: Battery pack integ. w/lantern
- Lighting Equipment: "Stone-Platt" 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: 2

**OPERATING CHARACTERISTICS**

- Operating Environment: PM, rivers, shallow
- Nominal Visual Range of Daymark: 2.0 Nmi.
- Radar Range: 0.0 Nmi.
- Maximum Current: 0.0 Kts.
- Mooring Depth:
  Minimum: 2 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
Weight includes battery pack.

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 14

B-292
Class V Conical, Lighted

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: High Focal Plane, 10x39 LWR

Country of Use: England

Function: Acetylene lantern with wave actuated whistle and/or bell.

For exposed locations.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 17,895 Lbs.

Buoy Draft: 20.00 Ft.

Overall Buoy Length: 39.00 Ft.

Focal Height of Light: 17.40 Ft.

Buoy Beam or Diameter: 10.00 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 419 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel

Hull Filling : Steel

Tower : Steel

Topmark :

Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

B-294
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: A130 Acetylene cylinder
Lighting Equipment: 200mm Acetylene lantern
Sound Equipment: Wave pow. air whistle or 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type:
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 3.0 Nmi.
Radar Range: 6.2 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
               Maximum: 0 Ft.
Reflective Material Type: B-295
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Internal chain is provided to limit fouling in tail tube.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 3
High Focal Plane, 10x39 LWR

Cumulative Area

Area, Ft²

Height, Ft

B-297
GENERAL INFORMATION

Name of Buoy: High Focal Plane, 10x43 LWR

Country of Use: England

Function: Acetylene lantern with wave actuated whistle & CO2 powered automatic bell.

For exposed locations.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 24,083 Lbs.

Buoy Draft: 22.40 Ft.

Overall Buoy Length: 43.25 Ft.

Focal Height of Light: 19.20 Ft.

Buoy Beam or Diameter: 10.00 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 419 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell: Steel

Hull Filling: Steel

Tower: Steel

Topmark: Cast Iron

Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube
RELATED EQUIPMENT

Number of Power Sources: 8

Type of Power Sources: 2 Acetylene botts, 6 CO2 cylind

Lighting Equipment: 200mm Acetylene lantern

Sound Equipment: Wave act.whistle, CO2, pow.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: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type:

Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 3.0 Nmi.

Radar Range: 6.2 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:
Internal chain is provided to limit fouling in tail tube.

Stability Notes:

General Notes
Weight includes 2 acetylene and 6 CO2 cylinders.
Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 2
GENERAL INFORMATION

Name of Buoy: High Focal Plane, 10x44 LWR

Country of Use: England

Function: 375mm DALEN light, wave powered whistle and automatic electric powered fog signal.

For exposed locations

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 23,400 Lbs.
Buoy Draft: 22.10 Ft.
Overall Buoy Length: 44.08 Ft.
Focal Height of Light: 20.00 Ft.
Buoy Beam or Diameter: 10.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 419 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: 42

Type of Power Sources: 40Batt. 2packs, 2 Acetyl.botts

Lighting Equipment: AGA 375mm Dalen lantern

Sound Equipment: Wave powered air whistle

Other Payload: Auto.elect fog sig, Radar Ref

Daymark Area: 30.0 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: 4

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 3.2 Nmi.

Radar Range: 4.5 Nmi.

Maximum Current: 0.0 Kts.

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

Reflective Material Type:

B-303
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Internal chain is provided to limit fouling in tail tube.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers:

Source of Design: Trinity House

Drawing Reference: England 1

B-304
High Focal Plane, 10x44 LWR

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: Keel Type Auto CO2 Bell, Light

Country of Use: England

Function: Acetylene lantern, automatic CO2 actuated bell, cage type superstructure.

Moderate water depth.

Date Of Last Update For This Record: 11/09/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 16,577 Lbs.
Buoy Draft: 8.10 Ft.
Overall Buoy Length: 19.75 Ft.
Focal Height of Light: 10.10 Ft.
Buoy Beam or Diameter: 10.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 419 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: Steel
Hull Filling: Steel
Tower: Steel
Topmark:
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical
Counterweight Type: External skirt keel

B-306
Keel Type Auto CO2 Bell, Light  
Page 2 of 3

RELATED EQUIPMENT

Number of Power Sources: 6  
Type of Power Sources: 4 CO2 cylnd, 2 Acetylene cylnd  
Lighting Equipment: 200mm Acetylene Lantern  
Sound Equipment: CO2 actuated bell  
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:  
Number of Padeyes: 4

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:  

B-307
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:
Has free flooding lower chamber (keel) for ballast.

General Notes
Weight includes CO2 and acetylene gas cylinders.

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 10

B-308
Name of Buoy: Keel Type Lighted Gas

Country of Use: England

Function: Acetylene gas buoy, with cage type daymark superstructure, and AGA LIHA 600 electric fog signal.

Moderate water depth.

Date Of Last Update For This Record: 10/30/90

Physicall Characteristics

Buoy Weight: 13,654 Lbs.
Buoy Draft: 11.50 Ft.
Overall Buoy Length: 21.75 Ft.
Focal Height of Light: 7.40 Ft.
Buoy Beam or Diameter: 10.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 419 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following

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

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical
Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: 2xElect.batt.packs, 2xAcet.cyl.
Lighting Equipment: 200mm Acetylene lantern
Sound Equipment: AGA LIHA 600 elect. fog signal
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: none
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 0.0 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:

Stability Notes: Has free flooding keel for water ballast.

General Notes

Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 8
Keel Type Lighted Gas

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: Lighted Vessel Watch
Country of Use: England
Function: Standard unlighted buoy, small type.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,625 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 8.25 Ft.
Focal Height of Light: 0.00 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: Wave following
Construction Material: Hull Shell: Steel
Hull Filling:
Tower:
Topmark:
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: CAN

Counterweight Type:
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: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type: none

Number of Padeyes: 1

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: B-315
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: Trinity House

Drawing Reference: England 16
GENERAL INFORMATION

Name of Buoy: Short Pillar Lighted Acetylene

Country of Use: England

Function: Acetylene lantern on short pillar trestle, alternately fitted with radar reflector and topmark, or lantern and topmark.

Moderate to shallow water.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 9,047 Lbs.

Buoy Draft: 4.90 Ft.

Overall Buoy Length: 19.25 Ft.

Focal Height of Light: 13.50 Ft.

Buoy Beam or Diameter: 10.00 Ft.

Freesboard: No Mooring: 0.00 Ft.

Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 419 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

B-317
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: A130 Acetylene cylinders
Lighting Equipment: 200mm Acetylene 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: Optional Cardinal
Number of Padeyes: 4

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:

B-318
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:
Has free flooding lower chamber (keel) for water ballast.

General Notes

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 6

B-319
Short Pillar Lighted Acetylene

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: Small Electric Lighted, "Bury"
Country of Use: England
Function: Electric lantern, with wing daymark superstructure.
For shallow water, grounding at low tide. Has chisel point bottom.

Date Of Last Update For This Record: 11/09/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,565 Lbs.
Buoy Draft: 5.90 Ft.
Overall Buoy Length: 13.63 Ft.
Focal Height of Light: 6.90 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:

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

Coating/Coloring System:
Subdivision:
Hull Type: Conical bel WL, Cyl
Counterweight Type: External
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: 2 Battery pockets (6 in each)
Lighting Equipment: "Stone Chance" 200mm Lantern
Sound Equipment: None
Other Payload:

Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 5.5 Ft.
Mooring Line: Size: 0.000 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
Nominal Visual Range of Daymark: 1.9 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 7 Ft.
Maximum: 0 Ft.

Reflective Material Type: B-322
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Chisel point on ballast weight to anchor on grounding.

Stability Notes:

General Notes

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 13
Small Electric Lighted, "Bury"

Cumulative Area

Area, Ft^2

Height, Ft

B-32A
GENERAL INFORMATION

Name of Buoy: Special Can
Country of Use: England
Function: Standard unlighted buoy, small type, river exe.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 869 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 6.33 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 3.75 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:
Topmark:
Counterweight:

Coating/Coloring System:
Subdivision: Horiz., mid section
Hull Type: CAN top, conical bot.

Counterweight Type:

B-325
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.
Moorings Line: Size: 0.000 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, Rivers
Nominal Visual Range of Daymark: 0.0 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Moorings Depth:
Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-326
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: Trinity House

Drawing Reference: England 16
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Spherical Mooring

Country of Use: England

Function: Standard unlighted buoy, small type.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,120 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 5.50 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 5.50 Ft.
Freeboard: No Mooring:
Minum: 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:
Coating/Coloring System:
Subdivision:
Hull Type: Spherical
Counterweight Type:

B-328
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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: None
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: 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:

Source of Design: Trinity House

Drawing Reference: England 16
**GENERAL INFORMATION**

Name of Buoy: Spherical Top  
Country of Use: England  
Function: Standard unlighted buoy, small type, river exe.  

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

**PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Buoy Weight:</td>
<td>811 Lbs.</td>
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<tr>
<td>Buoy Draft:</td>
<td>0.00 Ft.</td>
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<tr>
<td>Overall Buoy Length:</td>
<td>7.50 Ft.</td>
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<td>Focal Height of Light:</td>
<td>0.00 Ft.</td>
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<tr>
<td>Buoy Beam or Diameter:</td>
<td>3.75 Ft.</td>
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<tr>
<td>Freeboard:</td>
<td>No Mooring: 0.00 Ft.</td>
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<td></td>
<td>Minimum: 0.00 Ft.</td>
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<tr>
<td>Pounds Per Inch Immersion:</td>
<td>0 Lbs.</td>
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<td>Metacentric Height:</td>
<td>0.00 Ft.</td>
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<tr>
<td>Reserve Buoyancy:</td>
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<td>Wave Motion Response:</td>
<td>Wave following</td>
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<td>Construction Material:</td>
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<td>Hull Filling:</td>
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<td>Tower:</td>
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<td></td>
<td>Topmark:</td>
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<td></td>
<td>Counterweight:</td>
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<td>Coating/Coloring System:</td>
<td>Horiz., mid section</td>
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<tr>
<td>Subdivision:</td>
<td>Conical Bottom</td>
</tr>
<tr>
<td>Counterweight Type:</td>
<td>B-331</td>
</tr>
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</table>


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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: none
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, Rivers
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: B-332
### ADDITIONAL DATA

<table>
<thead>
<tr>
<th>Description</th>
<th>Data</th>
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<td>Cost</td>
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<tr>
<td></td>
<td>Preparation: $0</td>
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<td>Monthly Servicing: $0</td>
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<td>Service Life</td>
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<td>Maintenance Interval</td>
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<td>Maintenance Notes</td>
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<tr>
<td>Special Features</td>
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<tr>
<td>Stability Notes</td>
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<tr>
<td>General Notes</td>
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</tr>
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</table>

**Manufacturers:**

- **Source of Design:** Trinity House
- **Drawing Reference:** England 16

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B-333
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Standard GRP 3 Meter Lighted.

Country of Use: England

Function: Lighted gas buoy, cage type superstructure.

Moderate to shallow water.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,300 Lbs.
Buoy Draft: 3.30 Ft.
Overall Buoy Length: 15.09 Ft.
Focal Height of Light: 9.20 Ft.
Buoy Beam or Diameter: 9.82 Ft.
Freeboard: No Mooring: 2.10 Ft.
Minum: 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 : Fiberglass GRP
Hull Filling : Baltec foam
Tower : Fiberglass GRP
Topmark : 
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical
Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 9
Type of Power Sources: AL 21 Acetylene cylinders
Lighting Equipment: 200mm Acetylene 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: none
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 3.0 Nmi.
Radar Range: 5.7 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
        Maximum: 0 Ft.
Reflective Material Type: 8-335
ADDITIONAL DATA

Cost: Replace: $0
Prep: $0
Monthly Servicing: $0

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Has marine grade rubber fender.

Stability Notes:

General Notes
This buoy can alternately be fitted by Balmoral with pillar or batwing daymarks, various topmarks, and an electric beacon with primary or solar powered batteries.
Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Trinity House
Drawing Reference: England 11
Standard GRP 3 Meter Lighted

Cumulative Area

Area, Ft$^2$

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Std 4 Pocket Lighted Acetylene

Country of Use: England

Function: Lighted acetylene gas buoy with cage type daymark superstructure. Can alternately be fitted with trestle superstructure with batwing daymarks and or wave actuated bell. Moderate to shallow draft.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 8,425 Lbs.
Buoy Draft: 4.80 Ft.
Overall Buoy Length: 17.50 Ft.
Focal Height of Light: 11.20 Ft.
Buoy Beam or Diameter: 10.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
            Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 419 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell : Steel
                        Hull Filling : Steel
                        Tower : Steel
                        Topmark :
                        Counterweight:
Coating/Coloring System: 
Subdivision: 
Hull Type: Cylindrical
Counterweight Type: External skirt keel

B-338
RELATED EQUIPMENT

Number of Power Sources: 4

Type of Power Sources: A130 Acetylene cylinders

Lighting Equipment: 200mm Acetylene lantern

Sound Equipment: Optional motion actuated bell

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: 4

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 3.0 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:
Has free flooding lower chamber (keel) for water ballast.

General Notes

Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Trinity House
Drawing Reference: England 9
Std 4 Pocket Lighted Acetylene

Cumulative Area

Area, Ft²

Height, Ft
Name of Buoy: Wreck/Nun
Country of Use: England
Function: Standard unlighted buoy, small type, river exe.

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

Buoy Weight: 615 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 7.17 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 3.83 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: 
                     Topmark: 
                     Counterweight: 

Coating/Coloring System:
Subdivision: Horiz., Mid Section
Hull Type: NUN
Counterweight Type: 

B-342
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: Steel Chain

Sinker Size: 0 Lbs.
Topmark Type: none

Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, Rivers

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:

Source of Design: Trinity House
Drawing Reference: England 16
GENERAL INFORMATION

Name of Buoy: 950 Series Marker (3.1x5.8 L)
Country of Use: England MFG 1
Function: Lighted inshore buoy, with lateral daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 425 Lbs.
Buoy Draft: 2.00 Ft.
Overall Buoy Length: 5.79 Ft.
Focal Height of Light: 3.48 Ft.
Buoy Beam or Diameter: 3.11 Ft.
Freeboard: No Mooring: 0.30 Ft.
Minum: 0.00 Ft.
Pounds Per Inch Immersion: 41 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following

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

Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Cylindrical
Counterweight Type: Internal
RELATED EQUIPMENT

Number of Power Sources: 3
Type of Power Sources: Balmoral PB1 Dry cell 4.5v40Ah
Lighting Equipment: 40mm 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: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
Nominal Visual Range of Daymark: 1.7 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 2 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-346
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.
Maintenance Notes:

Special Features:
Buoy includes rubber fender.

Stability Notes:

General Notes

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-1&1-15

B-347
950 Series Marker (3.1 x 5.8 L)

Cumulative Area

Area, Ft²

Height, Ft
GENERAL INFORMATION

Name of Buoy: EF120L Marker Buoy (3.9x9 L)

Country of Use: England MFG 1

Function: Lighted inshore buoy, used by fish farmers, small ports and marinas with Can or Conical daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 333 Lbs.

Buoy Draft: 3.39 Ft.

Overall Buoy Length: 9.15 Ft.

Focal Height of Light: 4.98 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: Balthane elastomer
Hull Filling: Baltec foam
Tower: Fiberglass GRP
Topmark:  
Counterweight: Electric battery

Coating/Coloring System: Moulded-in color, IALA system

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: Internal tail tube

B-349
EF120L Marker Buoy (3.9x9 L)

RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral DB3 Battery 12v 120ah
Lighting Equipment: 65mm Electric Lantern
Sound Equipment: Optional Wave Actuated Bell
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: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
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:

B-350
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:
Service period for battery (depending on light power) is 32 days (20w) to 318 days (2w).

Special Features:
Single mooring eye at bottom of tail tube.
Elastomer coating is highly abrasion resistant.

Stability Notes:

General Notes

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-1, 1-2
EF120L Marker Buoy (3.9\times9\text{ L})

Cumulative Area

Area, \text{ Ft}^2

Height, \text{ Ft}
NAME OF BUOY: EF15L Class V (4.9x10 LR)

COUNTRY OF USE: England MFG 1

FUNCTION: Lighted inshore buoy, with Can or Conical daymark, for use in small ports.

DATE OF LAST UPDATE FOR THIS RECORD: 10/30/90

PHYSICAL CHARACTERISTICS

BUOY WEIGHT: 1,709 Lbs.

BUOY DRAFT: 3.83 Ft.

OVERALL BUOY LENGTH: 10.10 Ft.

FOCAL HEIGHT OF LIGHT: 5.79 Ft.

BUOY BEAM OR DIAMETER: 4.92 Ft.

FREEBOARD: No Mooring: 1.42 Ft.
Minimum: 0.84 Ft.

POUNDS PER INCH IMMERSION: 102 Lbs.

METACENTRIC HEIGHT: 0.00 Ft.

RESERVE BUOYANCY: 1,019 Lbs.

WAVE MOTION RESPONSE: Wave following

CONSTRUCTION MATERIAL:
- Hull Shell: Balthane elastomer
- Hull Filling: Baltec Foam
- Tower: Fiberglass GRP
- Topmark: Balthane elastomer
- Counterweight: Cast Iron

COATING/COLORING SYSTEM: Moulded-in color, IALA system

SUBDIVISION: Foam filled

HULL TYPE: Cylindrical

COUNTERWEIGHT TYPE: Ballast skirt

B-353
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel chain
Sinker Size: 0 Lbs.
Topmark Type: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
Nominal Visual Range of Daymark: 2.0 Nmi.
Radar Range: 2.6 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:
- Single and bridle mooring eyes.
- Elastomer coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-16 1-3
EF15L Class V (4.9x10 LR)

Cumulative Area

Height, Ft

Area, Ft²
## GENERAL INFORMATION

**Name of Buoy:** EF15P Class V (4.9x14 LR)  
**Country of Use:** England MFG 1  
**Function:** Lighted inshore buoy, with pillar daymark, for use in small ports.

**Date of Last Update For This Record:** 10/30/90

## PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buoy Weight:</strong></td>
<td>1,709 Lbs.</td>
</tr>
<tr>
<td><strong>Buoy Draft:</strong></td>
<td>3.83 Ft.</td>
</tr>
<tr>
<td><strong>Overall Buoy Length:</strong></td>
<td>14.44 Ft.</td>
</tr>
<tr>
<td><strong>Focal Height of Light:</strong></td>
<td>5.95 Ft.</td>
</tr>
<tr>
<td><strong>Buoy Beam or Diameter:</strong></td>
<td>4.92 Ft.</td>
</tr>
<tr>
<td><strong>Freeboard:</strong></td>
<td>No Mooring: 1.42 Ft.</td>
</tr>
<tr>
<td></td>
<td>Minimum: 0.84 Ft.</td>
</tr>
<tr>
<td><strong>Pounds Per Inch Immersion:</strong></td>
<td>102 Lbs.</td>
</tr>
<tr>
<td><strong>Metacentric Height:</strong></td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td><strong>Reserve Buoyancy:</strong></td>
<td>1,019 Lbs.</td>
</tr>
<tr>
<td><strong>Wave Motion Response:</strong></td>
<td>Wave following</td>
</tr>
</tbody>
</table>
| **Construction Material:**      | Hull Shell: Balthane elastomer  
                                 | Hull Filling: Baltec Foam  
                                 | Tower: Fiberglass GRP  
                                 | Topper: Balthane elastomer  
                                 | Counterweight: Cast Iron    |
| **Coating/Coloring System:**    | Moulded-in color, IALA system |
| **Subdivision:**                | Foam filled            |
| **Hull Type:**                  | Cylindrical            |
| **Counterweight Type:**         | Ballast skirt          |
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Halmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Cardinal or Lateral
Number of Padeys: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
Nominal Visual Range of Daymark: 1.9 Nmi.
Radar Range: 2.7 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:
- Single and bridle mooring eyes.
- Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-1&1-4
EF15P Class V (4.9x14 LR)

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: EF18L Class IV (5.9x13 LR)

Country of Use: England MFG 1

Function: Lighted buoy, with can or conical daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,966 Lbs.

Buoy Draft: 4.96 Ft.

Overall Buoy Length: 13.12 Ft.

Focal Height of Light: 7.58 Ft.

Buoy Beam or Diameter: 5.91 Ft.

Freeboard: No Mooring: 1.93 Ft.

Minimum: 1.28 Ft.

Pounds Per Inch Immersion: 146 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 2,240 Lbs.

Wave Motion Response: Wave following

Construction Material:
- Hull Shell: Balthane elastomer
- Hull Filling: Baltec Foam
- Tower: Fiberglass GRP
- Topmark: Balthane elastomer
- Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color, IALA system

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: Ballast skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional Wave actuated 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water
Nominal Visual Range of Daymark: 2.2 Nmi.
Radar Range: 2.8 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 5 Ft.
Maximum: 0 Ft.

Reflective Material Type:

B-362
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
- Single and bridle mooring eyes.
- Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes
- Buoy weight includes battery pack.
- Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-1&1-5
EF18L Class IV (5.9x13 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
**GENERAL INFORMATION**

Name of Buoy: EF18P Class IV (5.9x18 LR)

Country of Use: England MFG 1

Function: Lighted buoy, with pillar daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

**PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buoy Weight</td>
<td>3,032 Lbs.</td>
</tr>
<tr>
<td>Buoy Draft</td>
<td>5.00 Ft.</td>
</tr>
<tr>
<td>Overall Buoy Length</td>
<td>18.27 Ft.</td>
</tr>
<tr>
<td>Focal Height of Light</td>
<td>7.60 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter</td>
<td>5.91 Ft.</td>
</tr>
<tr>
<td>Freeboard</td>
<td>No Mooring: 1.89 Ft. Minimum: 1.24 Ft.</td>
</tr>
<tr>
<td>Pounds Per Inch Immersion</td>
<td>146 Lbs.</td>
</tr>
<tr>
<td>Metacentric Height</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Reserve Buoyancy</td>
<td>2,180 Lbs.</td>
</tr>
<tr>
<td>Wave Motion Response</td>
<td>Wave following</td>
</tr>
<tr>
<td>Coating/Coloring System</td>
<td>Moulded-in color, IALA system</td>
</tr>
<tr>
<td>Subdivision</td>
<td>Foam filled</td>
</tr>
<tr>
<td>Hull Type</td>
<td>Cylindrical</td>
</tr>
<tr>
<td>Counterweight Type</td>
<td>Ballast skirt</td>
</tr>
</tbody>
</table>

**B-365**
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel chain
Sinker Size: 0 Lbs.
Topmark Type: Cardinal or Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water
Nominal Visual Range of Daymark: 2.0 Nmi.
Radar Range: 2.7 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 6 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-366
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
- Single and bridle mooring eyes. Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-161-6

* Drawing Reference: England MFG 1-161-6
GENERAL INFORMATION

Name of Buoy: EF20L (6.5x13 LR)
Country of Use: England MFG 1
Function: Lighted buoy, with lateral daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,583 Lbs.
Buoy Draft: 5.09 Ft.
Overall Buoy Length: 13.35 Ft.
Focal Height of Light: 8.39 Ft.
Buoy Beam or Diameter: 6.56 Ft.
Freeboard: No Mooring: 1.80 Ft.
Minimum: 1.26 Ft.
Pounds Per Inch Immersion: 181 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 2,740 Lbs.
Wave Motion Response: Wave following

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

Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Cylindrical
Counterweight Type: Ballast Skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen Pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated bell
Other Payload: Radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Moor Line: Size: 0.000 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 2.1 Nmi.
Radar Range: 2.9 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 6 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-370
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
- Single and bridle mooring eyes.
- Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-16-1-7
SG2 Spar (1.3x20 LRS)

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: EF20P (6.6x18 LR)

Country of Use: England MFG 1

Function: Lighted buoy, with pillar daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,583 Lbs.
Buoy Draft: 5.09 Ft.
Overall Buoy Length: 18.37 Ft.
Focal Height of Light: 8.40 Ft.
Buoy Beam or Diameter: 6.56 Ft.
Freeboard: No Mooring: 1.80 Ft.
Minimum: 1.26 Ft.
Pounds Per Inch Immersion: 181 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 2,740 Lbs.
Wave Motion Response: Wave following

Construction Material: Hull Shell : Balthane, elastomer
Hull Filling : Baltec foam
Tower : Fiberglass GRP
Topmark : Balthane elastomer
Counterweight: Cast iron

Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Cylindrical
Counterweight Type: Ext. ballast skirt
### RELATED EQUIPMENT

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Power Sources:</td>
<td>1</td>
</tr>
<tr>
<td>Type of Power Sources:</td>
<td>Balmoral Solargen pack</td>
</tr>
<tr>
<td>Lighting Equipment:</td>
<td>85mm electric lantern</td>
</tr>
<tr>
<td>Sound Equipment:</td>
<td>Optional wave actuated bell</td>
</tr>
<tr>
<td>Other Payload:</td>
<td>Radar reflector</td>
</tr>
<tr>
<td>Daymark Area:</td>
<td>0.0 Sq. Ft.</td>
</tr>
<tr>
<td>Bridle Size:</td>
<td>Chain Size: 0.000 In.</td>
</tr>
<tr>
<td></td>
<td>Length : 0.0 Ft.</td>
</tr>
<tr>
<td>Mooring Line:</td>
<td>Size: 0.000 In.</td>
</tr>
<tr>
<td></td>
<td>Type: Steel chain</td>
</tr>
<tr>
<td>Sinker Size:</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Topmark Type:</td>
<td>Cardinal or Laterl</td>
</tr>
<tr>
<td>Number of Padeyes:</td>
<td>2</td>
</tr>
</tbody>
</table>

### OPERATING CHARACTERISTICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Environment:</td>
<td>SM</td>
</tr>
<tr>
<td>Nominal Visual Range of Daymark:</td>
<td>2.1 Nmi.</td>
</tr>
<tr>
<td>Radar Range:</td>
<td>2.8 Nmi.</td>
</tr>
<tr>
<td>Maximum Current:</td>
<td>0.0 Kts.</td>
</tr>
<tr>
<td>Mooring Depth:</td>
<td>Minimum: 6 Ft.</td>
</tr>
<tr>
<td></td>
<td>Maximum: 0 Ft.</td>
</tr>
</tbody>
</table>

Reflective Material Type:
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:
Elastomer hull coating is highly abrasion resistant.

Special Features:
Single and bridle mooring eyes.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-16 1-8

B-375
GENERAL INFORMATION

Name of Buoy: EF25L Class III (8.2x16 LR)

Country of Use: England MFG 1

Function: Lighted buoy, with lateral daymark, for semi-exposed location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 8,324 Lbs.
Buoy Draft: 7.04 Ft.
Overall Buoy Length: 16.47 Ft.
Focal Height of Light: 9.86 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard: No Mooring: 2.48 Ft.
           Minimum: 1.81 Ft.
Pounds Per Inch Immersion: 282 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 6,133 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell: Balthane elastomer
                      Hull Filling: Baltec Foam
                      Tower: Fiberglass GRP
                      Topmark: Balthane elastomer
                      Counterweight: Cast Iron
Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Cylindrical
Counterweight Type: Ext. ballast skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel Chain

Sinker Size: 0 Lbs.
Topmark Type: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 2.8 Nmi.
Radar Range: 3.1 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 8 Ft.
Maximum: 0 Ft.

Reflective Material Type:
### ADDITIONAL DATA

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost:</td>
<td>Replacement: $0</td>
</tr>
<tr>
<td></td>
<td>Preparation: $0</td>
</tr>
<tr>
<td></td>
<td>Monthly Servicing: $0</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Life:</td>
<td>0.0 Yrs.</td>
</tr>
<tr>
<td>Maintenance Interval:</td>
<td>0 Mos.</td>
</tr>
</tbody>
</table>

Maintenance Notes:

**Special Features:**
- Single and bridle mooring eyes.
- Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.

Source of Design: Balmoral Group Ltd.

Drawing Reference: England MFG 1-161-9
EF25L Class III (8.2x16 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
### GENERAL INFORMATION

**Name of Buoy:** EF25P Class III (8.2x25 LR)

**Country of Use:** England MFG 1

**Function:** Lighted buoy, with pillar daymark, for semi-exposed location.

**Date Of Last Update For This Record:** 10/30/90

### PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buoy Weight:</strong></td>
<td>8,103 Lbs.</td>
</tr>
<tr>
<td><strong>Buoy Draft:</strong></td>
<td>6.87 Ft.</td>
</tr>
<tr>
<td><strong>Overall Buoy Length:</strong></td>
<td>24.80 Ft.</td>
</tr>
<tr>
<td><strong>Focal Height of Light:</strong></td>
<td>11.50 Ft.</td>
</tr>
<tr>
<td><strong>Buoy Beam or Diameter:</strong></td>
<td>8.20 Ft.</td>
</tr>
<tr>
<td><strong>Freeboard:</strong></td>
<td>No Mooring</td>
</tr>
<tr>
<td></td>
<td>Minimum: 2.64 Ft.</td>
</tr>
<tr>
<td></td>
<td>Maximum: 1.97 Ft.</td>
</tr>
<tr>
<td><strong>Pounds Per Inch Immersion:</strong></td>
<td>282 Lbs.</td>
</tr>
<tr>
<td><strong>Metacentric Height:</strong></td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td><strong>Reserve Buoyancy:</strong></td>
<td>6,688 Lbs.</td>
</tr>
<tr>
<td><strong>Wave Motion Response:</strong></td>
<td>Wave following</td>
</tr>
<tr>
<td><strong>Construction Material:</strong></td>
<td>Hull Shell: Balthane elastomer</td>
</tr>
<tr>
<td></td>
<td>Hull Filling: Baltec Foam</td>
</tr>
<tr>
<td></td>
<td>Tower: Fiberglass GRP</td>
</tr>
<tr>
<td></td>
<td>Topmark: Balthane elastomer</td>
</tr>
<tr>
<td></td>
<td>Counterweight: Cast Iron</td>
</tr>
<tr>
<td><strong>Coating/Coloring System:</strong></td>
<td>Moulded-in color, IALA system</td>
</tr>
<tr>
<td><strong>Subdivision:</strong></td>
<td>Foam filled</td>
</tr>
<tr>
<td><strong>Hull Type:</strong></td>
<td>Cylindrical</td>
</tr>
<tr>
<td><strong>Counterweight Type:</strong></td>
<td>Ext. ballast skirt</td>
</tr>
</tbody>
</table>
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel chain
Sinker Size: 0 Lbs.
Topmark Type: Cardinal or Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 3.4 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.
Maintenence Interval: 0 Mos.

Maintenance Notes:

Special Features:
Single and bridle mooring eyes.
Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-161-10
EF25P Class III (8.2x25 LR)

Cumulative Area

Height, Ft

Area, Ft^2

35 30 25 20 15 10 5 0

0 1 2 3 4 5 6 7 8 9 10 11 12
GENERAL INFORMATION

Name of Buoy: EF30L Class II (9.8x18 LR)

Country of Use: England MFG 1

Function: Lighted offshore buoy, with lateral daymark.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 10,860 Lbs.

Buoy Draft: 8.75 Ft.

Overall Buoy Length: 18.41 Ft.

Focal Height of Light: 9.20 Ft.

Buoy Beam or Diameter: 9.84 Ft.

Freeboard: No Mooring: 2.31 Ft.
            Minimum: 1.75 Ft.

Pounds Per Inch Immersion: 407 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 8,560 Lbs.

Wave Motion Response: Wave following

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

Coating/Coloring System: Moulded-in color, IALA system

Subdivision: Foam filled

Hull Type: Cylind. hourglass

Counterweight Type: Ext. ballast skirt

B-385
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 3.0 Nmi.
Radar Range: 3.3 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 9 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-386
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 eye.
Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-1&1-11
EF30L Class II (9.8x18 LR)

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: EF30P Class II (9.8x27 LR)

Country of Use: England MFG 1

Function: Lighted offshore buoy, with pillar daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 9,860 Lbs.
Buoy Draft: 8.75 Ft.
Overall Buoy Length: 26.77 Ft.
Focal Height of Light: 11.17 Ft.
Buoy Beam or Diameter: 9.84 Ft.
Freeboard: No Mooring: 2.31 Ft.
Minimum: 1.55 Ft.
Pounds Per Inch Immersion: 407 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 7,567 Lbs.
Wave Motion Response: Wave following

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

Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Cylind. hourglass
Counterweight Type: Ext. Ballast Skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Cardinal or Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 3.3 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 eye.
- Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

- Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-16-12
EF30P Class II (9.8x27 LR)

Cumulative Area

Area, Ft²

Height, Ft

40 35 30 25 20 15 10 5 0

0 1 2 3 4 5 6 7 8 9 10 11 12

B-392
GENERAL INFORMATION

Name of Buoy: EF36L Class I (11.8x18 LR)

Country of Use: England MFG 1

Function: Lighted offshore buoy, with lateral daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 12,290 Lbs.
Buoy Draft: 4.91 Ft.
Overall Buoy Length: 18.37 Ft.
Focal Height of Light: 13.13 Ft.
Buoy Beam or Diameter: 11.81 Ft.
Freeboard: No Mooring: 2.30 Ft.
                Minimum: 2.01 Ft.
Pounds Per Inch Immersion: 585 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 14,135 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell: Balthane elastomer
                     Hull Filling: Baltec Foam
                     Tower: Fiberglass GRP
                     Topmark: Balthane elastomer
                     Counterweight: Cast Iron
Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Cylindrical
Counterweight Type: Ext. ballast skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 3.4 Nmi.
Radar Range: 3.6 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:
Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-161-13

B-395
EF36L Class I (11.8x18 LR)

Cumulative Area

Area, Fl-2

Height, Fl

B-396
GENERAL INFORMATION

Name of Buoy: EF36P Class I (11.8x27 LR)

Country of Use: England MFG 1

Function: Lighted offshore buoy, with pillar daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 12,070 Lbs.

Buoy Draft: 4.91 Ft.

Overall Buoy Length: 26.57 Ft.

Focal Height of Light: 18.37 Ft.

Buoy Beam or Diameter: 11.81 Ft.

Freeboard: No Mooring: 2.30 Ft.
Minimum: 2.01 Ft.

Pounds Per Inch Immersion: 585 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 14,135 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell: Balthane elastomer
Hull Filling: Baltec foam
Tower: Fiberglass GRP
Topmark: Balthane elastomer
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in colr, IALA system

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type: Ext. ballast skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel Chain

Sinker Size: 0 Lbs.
Topmark Type: Cardinal or Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 3.0 Nmi.
Radar Range: 3.6 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:
Elastomer hull coating is highly abrasion resistant.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-1&1-14
EF36P Class I (11.8x27 LR)

Cumulative Area

Area, Ft²

Height, Ft

B-400
GENERAL INFORMATION

Name of Buoy: Lll (3.6 x 6.7 LR)

Country of Use: England MFG 1

Function: Lighted buoy, with lateral daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 439 Lbs.
Buoy Draft: 2.36 Ft.
Overall Buoy Length: 6.74 Ft.
Focal Height of Light: 3.71 Ft.
Buoy Beam or Diameter: 3.61 Ft.
Freeboard: No Mooring: 1.58 Ft.
            Minimum: 1.21 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 : Fiberglass FRP
Hull Filling : Baltec foam
Tower : Fiberglass GRP
Topmark : Balthane elastomer
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Hourglass
Counterweight Type: Ext. ballast skirt

B-401
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Bal.DB4 dry cell batt.12v160Ah
Lighting Equipment: 85mm 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: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
Nominal Visual Range of Daymark: 1.5 Nmi.
Radar Range: 2.7 Nmi.
Maximum Current: 0.0 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:
Buoy includes rubber fender.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-1&1-16
L11 (3.6x6.7 LR)

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: L16 (5.3x9.2 LR)

Country of Use: England MFG 1

Function: Lighted buoy, with lateral daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 860 Lbs.
Buoy Draft: 3.38 Ft.
Overall Buoy Length: 9.20 Ft.
Focal Height of Light: 5.34 Ft.
Buoy Beam or Diameter: 5.25 Ft.
Freeboard: No Mooring: 2.36 Ft.
Minimum: 1.70 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 : Fiberglass GRP
Hull Filling : Baltec foam
Tower : Fiberglass GRP
Topmark : Balthane elastomer
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in colr, IALA system
Subdivision: Foam filled
Hull Type: Hourglass
Counterweight Type: Ext. ballast skirt

B-405
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Bal.DB9 dry cell batt.15v370Ah
Lighting Equipment: 85mm 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: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water
Nominal Visual Range of Daymark: 2.0 Nmi.
Radar Range: 3.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 4 Ft.
    Maximum: 0 Ft.
Reflective Material Type: B-406
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Buoy includes rubber fender.

Stability Notes:

General Notes
An optional solar powered version is available.

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-161-18

B-407
L16 (5.3x9.2 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
Name of Buoy: L21 (6.9x12 LR)

Country of Use: England MFG 1

Function: Lighted buoy, with lateral daymark, for semi-exposed location.

Date Of Last Update For This Record: 10/30/90

Buoy Weight: 2,510 Lbs.
Buoy Draft: 4.54 Ft.
Overall Buoy Length: 12.14 Ft.
Focal Height of Light: 6.94 Ft.
Buoy Beam or Diameter: 6.89 Ft.
Freeboard: No Mooring: 2.76 Ft.
Minimum: 2.15 Ft.
Pounds Per Inch Immersion: 199 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell : Fiberglass GRP
Hull Filling : Baltec foam
Tower : Fiberglass GRP
Topmark : Balhane elastomer
Counterweight: Cast Iron
Coating/Coloring System: Moulded-incolor, IALA system
Subdivision: Foam filled
Hull Type: Hourglass
Counterweight Type: Ext. ballast skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Bal.DB9 dry cell batt. 15v 370Ah
Lighting Equipment: 85mm 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: Optional special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water
Nominal Visual Range of Daymark: 2.4 Nmi.
Radar Range: 3.3 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 5 Ft.
               Maximum: 0 Ft.

Reflective Material Type: B-410
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.
Maintenance Notes:

Special Features:
- Buoy includes rubber fender.
  An optional solar powered version is available.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-161-20
L21 (6.9 x 12 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: L40 (13.1x18 LR)

Country of Use: England MFG 1

Function: Lighted offshore buoy, with lateral daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 15,430 Lbs.

Buoy Draft: 5.40 Ft.

Overall Buoy Length: 18.37 Ft.

Focal Height of Light: 12.50 Ft.

Buoy Beam or Diameter: 13.12 Ft.

Freeboard: No Mooring: 3.95 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: Fiberglass GRP
- Hull Filling: Baltec foam
- Tower: Fiberglass GRP
- Topmark: Balthane elastomer

Coating/Coloring System: Moulded-in color, IALA system

Subdivision: Foam filled

Hull Type: Tapered Cylinder

Counterweight Type:

B-413
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Balmoral Solargen pack
Lighting Equipment: 85mm 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: Optional Special
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM, shallow water
Nominal Visual Range of Daymark: 3.3 Nmi.
Radar Range: 3.1 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:
Buoy includes rubber fender.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-1&1-22

B-415
L40 (13.1 x 18 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: P11 (3.6x10 LR)
Country of Use: England MFG 1
Function: Lighted buoy, with pillar daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 395 Lbs.
Buoy Draft: 2.36 Ft.
Overall Buoy Length: 10.45 Ft.
Focal Height of Light: 4.21 Ft.
Buoy Beam or Diameter: 3.61 Ft.
Freeboard: No Mooring: 1.58 Ft.
Minimum: 1.24 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 : Fiberglass GRP
                      Hull Filling : Baltec foam
                      Tower : Fiberglass GRP
                      Topmark : Balthane elastomer
                      Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Hourglass
Counterweight Type: Ext. ballast skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Bal.DB4 Dry cell batt 12v160Ah
Lighting Equipment: 85mm 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: 0.000 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Cardinal or Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
Nominal Visual Range of Daymark: 1.5 Nmi.
Radar Range: 2.7 Nmi.
Maximum Current: 0.0 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:
Buoy includes rubber fender.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-161-17
P11 (3.6x10 LR)

Cumulative Area

![Graph showing cumulative area vs. height, with increments in area from 0 to 8 and height from 0 to 5 feet.]
GENERAL INFORMATION

Name of Buoy: P16 (5.3x13 LR)
Country of Use: England MFG 1
Function: Lighted buoy, with pillar daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 970 Lbs.
Buoy Draft: 3.40 Ft.
Overall Buoy Length: 12.86 Ft.
Focal Height of Light: 6.66 Ft.
Buoy Beam or Diameter: 5.25 Ft.
Freeboard: No Mooring: 2.39 Ft.
Minimum: 1.82 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: Fiberglass GRP
Hull Filling: Baltec foam
Tower: Fiberglass GRP
Topmark: Balthane elastomer
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Hourglass
Counterweight Type: Ext. ballast skirt
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Bal.DB9 Dry cell batt.15v370Ah
Lighting Equipment: 85mm 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: Cardinal or Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water
Nominal Visual Range of Daymark: 1.9 Nmi.
Radar Range: 3.3 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 4 Ft.
Maximum: 0 Ft.
Reflective Material Type:

B-422
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Buoy includes rubber fender.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-161-19
Name of Buoy: P21 (6.9x17 LR)
Country of Use: England MFG 1
Function: Lighted buoy, with Pillar daymark, for semi-exposed location.

Date Of Last Update For This Record: 10/30/90

Buoy Weight: 2,620 Lbs.
Buoy Draft: 4.54 Ft.
Overall Buoy Length: 17.47 Ft.
Focal Height of Light: 9.08 Ft.
Buoy Beam or Diameter: 6.89 Ft.

Freeboard: No Mooring: 2.76 Ft.
Minimum: 1.70 Ft.

Pounds Per Inch Immersion: 199 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following

Construction Material: Hull Shell: Fiberglass GRP
Hull Filling: Baltec foam
Tower: Fiberglass GRP
Topmark: Balthane elastomer
Counterweight: Cast Iron

Coating/Coloring System: Moulded-in color, IALA System
Subdivision: Foam filled
Hull Type: Hourglass
Counterweight Type: Ext. ballast skirt

B-425
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Bal.DB9 Dry cellbatt.15v370Ah
Lighting Equipment: 85mm 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: Cardinal or Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water
Nominal Visual Range of Daymark: 2.4 Nmi.
Radar Range: 3.2 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:
  Buoy includes rubber fender.
  An optional solar powered version is available.

Stability Notes:

General Notes

  Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.

Source of Design: Balmoral Group Ltd.

Drawing Reference: England MFG 1-1&1-21
P21 (6.9x17 LR)

Cumulative Area

Height, Ft

Area, Ft²

28 26 24 22 20 18 16 14 12 10 8 6 4 2 0

10 9 8 7 6 5 4 3 2 1 0

B-428
Name of Buoy: P40 (13.1x30 LR)
Country of Use: England MFG 1
Function: Lighted offshore buoy, with pillar daymark.

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

Buoy Weight: 16,270 Lbs.
Buoy Draft: 5.40 Ft.
Overall Buoy Length: 29.70 Ft.
Focal Height of Light: 21.30 Ft.
Buoy Beam or Diameter: 13.12 Ft.
Freeboard: No Mooring: 3.95 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 : Fiberglass GRP
Hull Filling : Baltec foam
Tower : Fiberglass GRP
Topmark : Balthane elastomer
Counterweight: B-429
Coating/Coloring System: Moulded-in colr, IALA system
Subdivision: Foam filled
Hull Type: Tapered cylinder
Counterweight Type:

B-429
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: Bal.DB9 Dry cell batt.15v370Ah
Lighting Equipment: 85mm 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: Cardinal or Lateral
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM, Shallow Water
Nominal Visual Range of Daymark: 3.3 Nmi.
Radar Range: 4.3 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 6 Ft.
              Maximum: 0 Ft.
Reflective Material Type: B-430
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Buoy includes rubber fender.
An optional solar powered version is available.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.

Source of Design: Balmoral Group Ltd.

Drawing Reference: England MFG 1-161-23
P40 (13.1 x 30 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: SG2 Spar (1.3x20 LRS)
Country of Use: England MFG 1
Function: Lighted spar buoy.

Date of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 485 Lbs.
Buoy Draft: 11.00 Ft.
Overall Buoy Length: 20.00 Ft.
Focal Height of Light: 6.56 Ft.
Buoy Beam or Diameter: 1.31 Ft.
Freeboard: No Mooring: 5.91 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 9 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Decoupled
Construction Material: Hull Shell: GRP/Foam sandwich
Hull Filling:
Tower:
Topmark: Balthane elastomer
Counterweight: Electric battery
Coating/Coloring System: Moulded-in color, IALA system
Subdivision:
Hull Type: Spar, hexagonal sect
Counterweight Type: Internal

B-433
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Bal.DB9 drycellbatt.15vx370Ah
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Cardinal or Laternal
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 1.5 Nmi.
Radar Range: 2.4 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 12 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:
Buoy includes rubber fenders along length.
An optional solar powered version is available.

Stability Notes:
Buoy is unstable without electric battery as ballast (132 lb) plus a minimum mooring weight of 280 lb.

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.

Source of Design: Balmoral Group Ltd.

Drawing Reference: England MFG 1-161-24
SG2 Spar (1.3x20 LRS)

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: SG7 Spar (1.3x17 LRS)

Country of Use: England MFG 1

Function: Lighted spar buoy.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 386 Lbs.

Buoy Draft: 9.02 Ft.

Overall Buoy Length: 16.73 Ft.

Focal Height of Light: 5.58 Ft.

Buoy Beam or Diameter: 1.31 Ft.

Freeboard: No Mooring: 4.92 Ft.

Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 9 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled

Construction Material: Hull Shell: GRP/foam sandwich

Hull Filling: Tower:

Topmark: Balthane elastomer

Counterweight: Electric battery

Coating/Coloring System: Moulded-in color, IALA system

Subdivision:

Hull Type: Spar, hexagonal sect

Counterweight Type: Internal
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Bal.DB9 dry cell batt.15v370Ah
Lighting Equipment: 85mm electric lantern
Sound Equipment: Optional wave actuated 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Cardinal or Laternal
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 1.4 Nmi.
Radar Range: 2.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 10 Ft.
   Maximum: 0 Ft.
Reflective Material Type: B-438
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Buoy includes rubber fenders along length.
An optional solar powered version is available.

Stability Notes:
Buoy is unstable without electric battery as ballast (132 lb), plus a minimum mooring weight of 176 lb.

General Notes

Radar reflector is omnidirectional.

Manufacturers: Balmoral Group Ltd.
Source of Design: Balmoral Group Ltd.
Drawing Reference: England MFG 1-161-24
SG7 Spar (1.3x17 LRS)

Cumulative Area

[Graph showing cumulative area vs. height in feet]
GENERAL INFORMATION

Name of Buoy: Class II, Reinf. Plastic Struc

Country of Use: England MFG 2

Function: Lighted or unlighted electric or gas buoy, can be fitted with lateral or batwing daymarks, or pillar daymark and cardinal topmark.

Date Of Last Update For This Record: 07/27/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 6,721 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 12.00 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 9.00 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 340 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following

Construction Material: Hull Shell : GRP, rubber fender
Hull Filling : foam
Tower : GRP or Steel
Topmark : GRP
Counterweight:

Coating/Coloring System: Moulded-in color
Subdivision: Foam filled
Hull Type: Cylindrical
Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric or Acetylene cylinder
Lighting Equipment: Electric or Acetylene 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: 1.375 In.
Type: Steel Chain

Sinker Size: 4,480 Lbs.
Topmark Type: Optional Cardinal
Number of Padeyes: 2

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: B-442
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
  Maximum weight of chain 3 tons.

Manufacturers: Reinf. Plastic Struct
Source of Design: R.P.S. (Lewes), Ltd.
Drawing Reference: England MFG 2-1
GENERAL INFORMATION

Name of Buoy: Class III, Reinf. Plastic Str.

Country of Use: England MFG 2

Function: Lighted or unlighted electric or gas buoy, can be fitted with lateral or batwing daymarks, or pillar daymark and cardinal topmark.

Date Of Last Update For This Record: 07/27/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 4,939 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 10.00 Ft.
Focal Height of Light: 0.00 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: GRP, rubber fender
Hull Filling: foam
Tower: GRP or Steel
Topmark: GRP
Counterweight:
Coating/Coloring System: Moulded-in color
Subdivision: Foam filled
Hull Type: Cylindrical, tapered
Counterweight Type: Internal or Tube
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric or Acetylene cylinder
Lighting Equipment: Electric or Acetylene 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: 1.250 In.
Type: Steel Chain
Sinker Size: 4,480 Lbs.
Topmark Type: Optional Cardinal
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: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type:

B-445
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
Maximum weight of chain 2 tons.

Manufacturers: Reinf. Plastic Struct
Source of Design: R.P.S. (Lewes), Ltd.
Drawing Reference: England MFG 2-1
GENERAL INFORMATION

Name of Buoy: Class V, Reinf. Plastic Struct

Country of Use: England MFG 2

Function: Lighted or unlighted electric or gas buoy, fitted with lateral daymark. Can also be fitted with pillar daymark and cardinal topmark.

Date Of Last Update For This Record: 07/27/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 750 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 6.00 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 5.50 Ft.
Freeboard: No Mooring: 0.00 Ft.
            Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 127 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell : GRP, rubber fender
                     Hull Filling : foam
                     Tower : GRP or Steel
                     Topmark : GRP
                     Counterweight: 
Coating/Coloring System: Moulded-in color
Subdivision: Foam filled
Hull Type: Cylindrical dished
Counterweight Type: Internal
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric or Acetylene cylinder
Lighting Equipment: Electric or Acetylene 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 Linc: Size: 0.750 In.
Type: Steel Chain
Sinker Size: 750 Lbs.
Topmark Type: Optional Cardinal
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
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: B-448
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
Maximum weight of chain 800 lb. with 200 lb. of internal ballast.

Manufacturers: Reinf. Plastic Struct
Source of Design: R.P.S. (Lewes), Ltd.
Drawing Reference: England MFG 2-1
GENERAL INFORMATION

Name of Buoy: Class VI, Conical

Country of Use: England MFG 2

Function: Lighted or unlighted buoy, fitted with lateral daymark. Can also be fitted with pillar daymark and cardinal topmark.

Date Of Last Update For This Record: 07/27/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 0.00 Ft.

Overall Buoy Length: 5.00 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 3.50 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: Wave following

Construction Material:
- Hull Shell: GRP
- Hull Filling: foam
- Tower: GRP
- Topmark: GRP
- Counterweight:

Coating/Coloring System: Moulded-in color

Subdivision:

Hull Type: Conical

Counterweight Type: Internal
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric battery
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: 0.625 In.
              Type: Steel Chain
Sinker Size: 400 Lbs.
Topmark Type: Optional Cardinal
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: 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
Maximum soaring weight: 250 lb.

Manufacturers: Reinf. Plastic Struct
Source of Design: R.P.S. (Lawes), Ltd.
Drawing Reference: England MFG 2-1
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Class VI, Dished

Country of Use: England MFG 2

Function: Lighted or unlighted buoy, fitted with lateral daymark. Can be fitted with pillar daymark and cardinal topmark.

Date Of Last Update For This Record: 07/27/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 3.17 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 3.50 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: Wave following

Construction Material: Hull Shell: GRP
                     Hull Filling: foam
                     Tower: GRP
                     Topmark: GRP
                     Counterweight:

Coating/Coloring System: Moulded-in color
Subdivision: Foam filled
Hull Type: Cylindrical, dished
Counterweight Type: Internal
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric battery
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: 0.625 In.
Type: Steel Chain

Sinker Size: 400 Lbs.
Topmark Type: Optional Cardinal

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, Shallow Water

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
  Maximum mooring weight: 250 lb.

Manufacturers: Reinf.Plastic Struct
Source of Design: R.P.S. (Lewes), Ltd.
Drawing Reference: England MFG 2-1

B-455
**GENERAL INFORMATION**

**Name of Buoy:** Reinforced Plastic Struct-SPAR

**Country of Use:** England MFG 2

**Function:** Lighted or unlighted spar buoy, with optional topmark.

**Date Of Last Update For This Record:** 10/30/90

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**PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buoy Weight:</strong></td>
<td>600 Lbs.</td>
</tr>
<tr>
<td><strong>Buoy Draft:</strong></td>
<td>8.75 Ft.</td>
</tr>
<tr>
<td><strong>Overall Buoy Length:</strong></td>
<td>19.75 Ft.</td>
</tr>
<tr>
<td><strong>Focal Height of Light:</strong></td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td><strong>Buoy Beam or Diameter:</strong></td>
<td>2.00 Ft.</td>
</tr>
<tr>
<td><strong>Freeboard:</strong></td>
<td>No Mooring: 0.00 Ft. Minimum: 0.00 Ft.</td>
</tr>
<tr>
<td><strong>Pounds Per Inch Immersion:</strong></td>
<td>17 Lbs.</td>
</tr>
<tr>
<td><strong>Metacentric Height:</strong></td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td><strong>Reserve Buoyancy:</strong></td>
<td>0 Lbs.</td>
</tr>
</tbody>
</table>

**Wave Motion Response:** Decoupled

**Construction Material:**
- Hull Shell : GRP
- Hull Filling : foam
- Tower : GRP
- Topmark : GRP
- Counterweight:

**Coating/Coloring System:** Moulded-in color

**Subdivision:** Foam filled

**Hull Type:** SPAR

**Counterweight Type:** Extrn1.ball or morng

B-456
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric battery
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 Ch. in
Sinker Size: 300 Lbs.
Topmark Type: Optional Cardinal
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 1.9 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:

Stability Notes:

General Notes
Mooring and external ballast to be chosen to equal 600 lbs for vertical riding.

Manufacturers: Reinf. Plastic Struc
Source of Design: R.P.S. (Lewes), Ltd.
Drawing Reference: England MFG 2-1
Reinforced Plastic Struct–SPAR

Cumulative Area

Area, Ft²

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BC-21 Catamaran (6.6x9.8 LR)
Country of Use: England MFG 3
Function: Lighted inshore GRP catamaran buoy, for estuaries, shallow and fast flowing.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 430 Lbs.
Buoy Draft: 0.66 Ft.
Overall Buoy Length: 9.80 Ft.
Focal Height of Light: 5.25 Ft.
Buoy Beam or Diameter: 6.60 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: Fiberglass GRP
Hull Filling: Polyurethane foam
Tower: Galvaniz. Steel mast
Topmark: 
Counterweight:
Coating/Coloring System: Moulded-in color on hull
Subdivision: Foam filled
Hull Type: Catamaran
Counterweight Type: none
RELATED EQUIPMENT

Number of Power Sources: 15
Type of Power Sources: PM-1015 Primary bat 1.3v1200Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: RBS-13.5/20 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.472 In.
Type: Steel Chain
Sinker Size: 550 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: PF, shallow
Nominal Visual Range of Daymark: 2.2 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
Has symmetrical catamaran hulls, batwing daymarks.
155 lb. maximum mooring weight.
A solar powered option is available.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 & 3-2
BC-21 Catamaran (6.6x9.8 LR)

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BC-22 Catamaran (9.0x16 LR)

Country of Use: England MFG 3

Function: Lighted inshore GRP catamaran buoy, for estuaries, shallow and fast flowing.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 1,740 Lbs.
Buoy Draft: 0.98 Ft.
Overall Buoy Length: 16.00 Ft.
Focal Height of Light: 9.00 Ft.
Buoy Beam or Diameter: 9.02 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: Fiberglass GRP
Hull Filling: Polyurethane foam
Tower: Galv. Steel tube
Topmark:
Counterweight:
Coating/Coloring System: Moulded-in color on hull
Subdivision: Foam filled
Hull Type: Catamaran
Counterweight Type: none
RELATED EQUIPMENT

Number of Power Sources: 30
Type of Power Sources: PM-1015 Primary bat 1.3v1200Ah
Lighting Equipment: 155mm Electric lantern
Sound Equipment: none
Other Payload: RBSM-30-10 radar reflector
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: 550 Lbs.
Topmark Type: Various
Number of Radeyes: 6

OPERATING CHARACTERISTICS

Operating Environment: SF, shallow
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: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Has planing catamaran hulls.

Stability Notes:

General Notes
500 lb. maximum mooring weight.
A solar powered option is available.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 63-2
BC – 22 Catamaran (9.0 x 16 LR)

Cumulative Area

Area, Ft²

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BS-13 (3.3x5.8 LR)

Country of Use: England MFG 3

Function: Lighted inshore buoy.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 287 Lbs.

Buoy Draft: 1.31 Ft.

Overall Buoy Length: 5.80 Ft.

Focal Height of Light: 3.94 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: Fiberglass GRP

Hull Filling: Polyurethane foam

Tower: GRP

Topmark: GRP

Counterweight:

Coating/Coloring System: Moulded-in color

Subdivision: Foam filled

Hull Type: Cylindrical

Counterweight Type:
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-1015 Primary bat 1.3v1200Ah
Lighting Equipment: 85mm electric lantern
Sound Equipment: none
Other Payload: RBS-13.5/20 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.
Mooring Line: Size: 0.472 In.
Type: Steel Chain
Sinker Size: 550 Lbs.
Topmark Type: Various
Number of Padeyes: 1

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water
Nominal Visual Range of Daymark: 1.7 Nmi.
Radar Range: 1.5 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 2 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
  200 lb. maximum mooring weight.
  A solar powered option is available.
  Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 &3-3
BS-13 (3.3x5.8 LR)

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BS-14 (3.6x5.7 LR)
Country of Use: England MFG 3
Function: Lighted inshore buoy.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 556 Lbs.
Buoy Draft: 1.54 Ft.
Overall Buoy Length: 5.70 Ft.
Focal Height of Light: 3.61 Ft.
Buoy Beam or Diameter: 3.61 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 : Fiberglass GRP
                     Hull Filling : Poloyurethane foam
                     Tower :
                     Topmark :
                     Counterweight:
Coating/Coloring System: Moulded-in color
Subdivision: Foam filled
Hull Type: Cylindrical
Counterweight Type:

B-472
RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: PM-318 Primary batt 18v 300Ah

Lighting Equipment: 85mm electric lantern

Sound Equipment: none

Other Payload: RBS-13.5/20 radar reflector

Daymark Area: 0.0 Sq. Ft.

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

Mooring Line: Size: 0.472 In.
Type: Steel Chain

Sinker Size: 550 Lbs.

Topmark Type: Various

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM, shallow water

Nominal Visual Range of Daymark: 1.9 Nmi.

Radar Range: 1.5 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 2 Ft.
Maximum: 0 Ft.

Reflective Material Type: B-473
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
220 lb. maximum mooring weight.
A solar powered option is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 63-3
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BS-16 (5.3x8.1 LR)

Country of Use: England MFG 3

Function: Lighted buoy, for semi-protected location.

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

PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Buoy Weight</td>
<td>1,808 Lbs.</td>
</tr>
<tr>
<td>Buoy Draft</td>
<td>1.64 Ft.</td>
</tr>
<tr>
<td>Overall Buoy Length</td>
<td>8.10 Ft.</td>
</tr>
<tr>
<td>Focal Height of Light</td>
<td>5.91 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter</td>
<td>5.25 Ft.</td>
</tr>
<tr>
<td>Freeboard</td>
<td>No</td>
</tr>
<tr>
<td>No Mooring</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.00 Ft.</td>
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<tr>
<td>Pounds Per Inch Immersion</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Metacentric Height</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Reserve Buoyancy</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Wave Motion Response</td>
<td>Wave following</td>
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<tr>
<td>Construction Material:</td>
<td>Hull Shell: Fiberglass GRP</td>
</tr>
<tr>
<td></td>
<td>Hull Filling: Polurethane foam</td>
</tr>
<tr>
<td></td>
<td>Tower: GRP</td>
</tr>
<tr>
<td></td>
<td>Topmark</td>
</tr>
<tr>
<td></td>
<td>Counterweight:</td>
</tr>
<tr>
<td>Coating/Coloring System:</td>
<td>Moulded-in color</td>
</tr>
<tr>
<td>Subdivision:</td>
<td>Foam filled</td>
</tr>
<tr>
<td>Hull Type:</td>
<td>Cylindrical</td>
</tr>
<tr>
<td>Counterweight Type:</td>
<td></td>
</tr>
</tbody>
</table>
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-1015 Primary bat 1.3v1200Ah
Lighting Equipment: 85mm electric lantern
Sound Equipment: none
Other Payload: RBS-13.5 5/20 radar reflector

Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.

Mooring Line: Size: 0.472 In.
Type: Steel Chain

Sinker Size: 1,100 Lbs.
Topmark Type: Various
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: SM, shallow water
Nominal Visual Range of Daymark: 2.1 Nmi.
Radar Range: 2.1 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 2 Ft.
                         Maximum: 0 Ft.

Reflective Material Type:
### ADDITIONAL DATA

<table>
<thead>
<tr>
<th>Cost:</th>
<th>Replacement: $0</th>
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<tbody>
<tr>
<td></td>
<td>Preparation: $0</td>
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<tr>
<td></td>
<td>Monthly Servicing: $0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service Life:</th>
<th>0.0 Yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance Interval:</td>
<td>0 Mos.</td>
</tr>
<tr>
<td>Maintenance Notes:</td>
<td></td>
</tr>
</tbody>
</table>

**Special Features:**

- 510 lb. maximum mooring weight.
- A solar powered option is available.
- Radar reflector is omnidirectional.

**General Notes**

Manufacturers: Pharos Marine, Ltd

Source of Design: Pharos Marine, Ltd

Drawing Reference: England MFG 3-1 63-3
BS-16 (5.3x8.1 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: BS-1830 (5.9x17 LR)

Country of Use: England MFG 3

Function: Lighted buoy, with skirt keel and batwing daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 4,850 Lbs.
Buoy Draft: 6.56 Ft.
Overall Buoy Length: 17.00 Ft.
Focal Height of Light: 9.84 Ft.
Buoy Beam or Diameter: 5.90 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 146 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel, 6mm PL
Hull Filling: Tower: Steel
Topmark: Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-164 radar reflector
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: 2,200 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 2.4 Nmi.
Radar Range: 3.9 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
840 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 &3-4
BS–1830 (5.9x17 LR)

Cumulative Area

Area, Ft²

Height, Ft
**BTIS Buoy Record**

**GENERAL INFORMATION**

Name of Buoy: BS-2230 (7.2x17 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with skirt keel and batwing daymark.

Date Of Last Update For This Record: 10/30/90

**PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Buoy Weight</td>
<td>8,600 Lbs.</td>
</tr>
<tr>
<td>Buoy Draft</td>
<td>6.89 Ft.</td>
</tr>
<tr>
<td>Overall Buoy Length</td>
<td>17.30 Ft.</td>
</tr>
<tr>
<td>Focal Height of Light</td>
<td>9.84 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter</td>
<td>7.22 Ft.</td>
</tr>
<tr>
<td>Freeboard:</td>
<td></td>
</tr>
<tr>
<td>No Mooring</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Pounds Per Inch Immersion</td>
<td>219 Lbs.</td>
</tr>
<tr>
<td>Metacentric Height</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Reserve Buoyancy</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Wave Motion Response</td>
<td>Wave following</td>
</tr>
<tr>
<td>Construction Material</td>
<td></td>
</tr>
<tr>
<td>Hull Shell</td>
<td>Steel, 8mm Pl</td>
</tr>
<tr>
<td>Hull Filling</td>
<td></td>
</tr>
<tr>
<td>Tower</td>
<td>Steel</td>
</tr>
<tr>
<td>Topmark</td>
<td></td>
</tr>
<tr>
<td>Counterweight</td>
<td>Cast Iron</td>
</tr>
</tbody>
</table>

Coating/Coloring System: 

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-16 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 1.250 In.
Type: Steel Chain
Sinker Size: 3,310 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 3.8 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-485
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
2430 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 63-4
BS-2230 (7.2x17 LR)

Cumulative Area

Area, Ft^2

Height, Ft

0  1  2  3  4  5  6  7  8  9  10  11  12

0  5  10  15  20  25  30  35  40  45
GENERAL INFORMATION

Name of Buoy: BS-2240 (7.2x21 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with skirt keel and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 8,620 Lbs.

Buoy Draft: 6.90 Ft.

Overall Buoy Length: 20.60 Ft.

Focal Height of Light: 13.12 Ft.

Buoy Beam or Diameter: 7.22 Ft.

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

Pounds Per Inch Immersion: 219 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell: Steel, 8mm PL
                      Hull Filling:  
                      Tower: Steel
                      Topmark:        
                      Counterweight: Cast Iron

Coating/Coloring System: 

Subdivision:  

Hull Type: Cylindrical

Counterweight Type: External skirt keel

B-488
RELATED EQUIPMENT

Number of Power Sources: 12

Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Optional SR-166 radar reflector

Daymark Area: 0.0 Sq. Ft.

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

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

Sinker Size: 3,310 Lbs.

Topmark Type: Various

Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 2.9 Nmi.

Radar Range: 5.4 Nmi.

Maximum Current: 0.0 Kts.

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

Reflective Material Type:

B-489
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
2430 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 63-4
BS-2240 (7.2x21 LR)

Cumulative Area

Area, Ft^2

Height, Ft
**BTIS Buoy Record**

**GENERAL INFORMATION**

Name of Buoy: BS-2630 (8.5x17 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with skirt keel and batwing daymark.

Date Of Last Update For This Record: 10/30/90

**PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Buoy Weight:</td>
<td>9,900 Lbs.</td>
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<tr>
<td>Overall Buoy Length:</td>
<td>17.00 Ft.</td>
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<tr>
<td>Focal Height of Light:</td>
<td>9.84 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter:</td>
<td>8.53 Ft.</td>
</tr>
<tr>
<td>Freeboard:</td>
<td>No Mooring: 0.00 Ft.</td>
</tr>
<tr>
<td>Metacentric Height:</td>
<td>0.00 Ft.</td>
</tr>
<tr>
<td>Reserve Buoyancy:</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Wave Motion Response:</td>
<td>Wave following</td>
</tr>
<tr>
<td>Construction Material:</td>
<td>Hull Shell: Steel, 8mm PL</td>
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<tr>
<td></td>
<td>Hull Filling:</td>
</tr>
<tr>
<td></td>
<td>Tower: Steel</td>
</tr>
<tr>
<td></td>
<td>Topmark:</td>
</tr>
<tr>
<td></td>
<td>Counterweight: Cast Iron</td>
</tr>
</tbody>
</table>

Coating/Coloring System:

- Subdivision:
- Hull Type: Cylindrical
- Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 12

Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Optional SR-164 radar reflector

Daymark Area: 0.0 Sq. Ft.

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

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

Sinker Size: 3,310 Lbs.

Topmark Type: Various

Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 2.4 Nmi.

Radar Range: 3.7 Nmi.

Maximum Current: 0.0 Kts.

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

Reflective Material Type: B493
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
3970 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 63-4
Name of Buoy: BS-2640 (8.5x20 LR)
Country of Use: England MFG 3
Function: Lighted offshore buoy, with skirt keel and batwing daymark.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 9,920 Lbs.
Buoy Draft: 6.56 Ft.
Overall Buoy Length: 20.30 Ft.
Focal Height of Light: 13.12 Ft.
Buoy Beam or Diameter: 8.53 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 305 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell : Steel, 8mm PL
Hull Filling: Tower : Steel
Topmark : Counterweight: Cast Iron

Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-166 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
  Length: 0.0 Ft.
Mooring Line: Size: 1.250 In.
  Type: Steel Chain
Sinker Size: 3,310 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 5.1 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
- 3970 lb. maximum mooring weight.
- A solar powered option is available.
- An optional marine grade fender is available.
- Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd

Source of Design: Pharos Marine, Ltd

Drawing Reference: England MFG 3-1 & 3-4
BS-2640 (8.5x20 LR)

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BS-2650 (8.5x24 LR)
Country of Use: England MFG 3
Function: Lighted offshore buoy, with skirt keel and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 9,940 Lbs.
Buoy Draft: 6.56 Ft.
Overall Buoy Length: 23.50 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: 305 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell: Steel, 8mm PL
                     Hull Filling:  
                     Tower: Steel
                     Topmark:  
                     Counterweight: Cast Iron
Coating/Coloring System:  
Subdivision:  
Hull Type: Cylindrical
Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 250mm electric lantern
Sound Equipment: none
Other Payload: Option 1 SR-166 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 1.250 In.
Type: Steel Chain
Sinker Size: 3,310 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.9 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:

Stability Notes:

General Notes
3970 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd

Source of Design: Pharos Marine, Ltd

Drawing Reference: England MFG 3-1 &3-4
BS-2650 (8.5 x 24 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: BS-3030 (9.8x17 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with skirt keel and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 13,870 Lbs.
Overall Buoy Length: 17.00 Ft.
Focal Height of Light: 9.84 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, 8mm PL
Hull Filling : Tower : Steel
Topmark : Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical
Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: Optionl SR-164 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.
Mooring Line: Size: 1.375 In.
Type: Steel Chain
Sinker Size: 4,410 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.1 Nmi.
Radar Range: 3.9 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
5510 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 3-4
BS-3030 (9.8x17 LR)

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: BS-3040 (9.8x20 LR)
Country of Use: England MFG 3
Function: Lighted offshore buoy, with skirt keel and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 13,890 Lbs.
Buoy Draft: 6.56 Ft.
Overall Buoy Length: 20.30 Ft.
Focal Height of Light: 13.12 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, 8mm PL
Hull Filling: Tower: Steel
Topmark: Counterweight: Cast Iron
Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: Option1 SR-166 radar reflector

Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.
Mooring Line: Size: 1.375 In.
Type: Steel Chain
Sinker Size: 4,410 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 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
5510 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 & 3-4
BS-3040 (9.8x20 LR)

Cumulative Area

Area, Ft²

Height, Ft

B-511
GENERAL INFORMATION

Name of Buoy: BS-3050 (9.8x24 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with skirt keel and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 13,910 Lbs.

Buoy Draft: 6.56 Ft.

Overall Buoy Length: 23.50 Ft.

Focal Height of Light: 16.40 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, 8mm PL
Hull Filling:
Tower: Steel
Topmark:
Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External skirt keel

B-512
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 primary bat 1.3v4800Ah
Lighting Equipment: 250mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-166 radar reflectr
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.
Mooring Line: Size: 1.375 In.
Type: Steel Chain
Sinker Size: 4,410 Lbs.
Topmark Type: various
Number of Padeyes: 4

OPERATING CHARACTERISTICS
Operating Environment: EM
Nominal Visual Range of Daymark: 2.8 Nmi.
Radar Range: 5.7 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-513
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
5510 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 & 3-4
BS-3050 (9.8x24 LR)

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BS-41 MKII (7.6x21 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 5,070 Lbs.
Buoy Draft: 6.89 Ft.
Overall Buoy Length: 20.90 Ft.
Focal Height of Light: 13.45 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 : Fiberglass GRP
                      Hull Filling : Polyurethane foam
                      Tower : Galvanized steel
                      Topmark :
                      Counterweight: Cast Iron
Coating/Coloring System: Moulded-in color
Subdivision: Foam filled
Hull Type: Cylindrical
Counterweight Type: External skirt keel
RELATED EQUIPMENT

Number of Power Sources: 48
Type of Power Sources: PM-1015 Primary bat 1.3vl200Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: SR-166 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: Steel Chain
Sinker Size: 2,200 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.7 Nmi.
Radar Range: 5.1 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:
Buoy includes a marine grade rubber fender.

Stability Notes:

General Notes
1550 lb. maximum mooring weight.
A solar powered option is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 & 3-3
BS-41 MKII (7.6x21 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

- 0
- 5
- 10
- 15
- 20
- 25
- 30
- 35
- 40
- 45
- 50

- BS-419

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
GENERAL INFORMATION

Name of Buoy: BT-1115 (3.6x10 LR)

Country of Use: England MFG 3

Function: Lighted inshore buoy, with tail tube and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 635 Lbs.
Buoy Draft: 4.59 Ft.
Overall Buoy Length: 10.00 Ft.
Focal Height of Light: 4.92 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 : Steel, 3mm PL
Hull Filling:
Tower : Steel Tube
Topmark :
Counterweight:

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: Internal tail tube

B-520
RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: PM-318 Primary batt. 18v 300Ah

Lighting Equipment: 85mm electric lantern

Sound Equipment: none

Other Payload: Opt. RBS13.5/20 radar reflector

Daymark Area: 0.0 Sq. Ft.

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

Mooring Line: Size: 0.394 In.
Type: Steel Chain

Sinker Size: 550 Lbs.

Topmark Type: none

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM

Nominal Visual Range of Daymark: 1.5 Nmi.

Radar Range: 2.1 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
155 lb. maximum mooring weight.
A solar powered option is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 63-5
BT-1115 (3.6x10 LR)
Name of Buoy: BT-1125 (3.6x13 LR)

Country of Use: England MFG 3

Function: Lighted inshore buoy, with tail tube and batwing daymark.

Date Of Last Update For This Record: 10/30/90

Buoy Weight: 645 Lbs.
Buoy Draft: 4.60 Ft.
Overall Buoy Length: 13.30 Ft.
Focal Height of Light: 8.20 Ft.
Buoy Beem 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 : Steel, 3mm PL
Hull Filling:
Tower : Steel Tube
Topmark :
Counterweight:
Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: Internal tail tube
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: PM-318 Primary batt. 18v 300Ah
Lighting Equipment: 85mm electric lantern
Sound Equipment: none
Other Payload: Opt. RBS13.5/20 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 0.394 In.
Type: Steel Chain
Sinker Size: 550 Lbs.
Topmark Type: none
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM
Nominal Visual Range of Daymark: 2.0 Nmi.
Radar Range: 2.4 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
155 lb. maximum mooring weight.
A solar powered option is available.

Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd

Source of Design: Pharos Marine, Ltd

Drawing Reference: England MFG 3-1 &3-5
BT-1125 (3.6x13 LR)

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: BT-1830 (5.9x23 LR)

Country of Use: England MFG 3

Function: Lighted buoy, with tail tube and batwing daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 5,000 Lbs.

Buoy Draft: 12.45 Ft.

Overall Buoy Length: 22.90 Ft.

Focal Height of Light: 9.84 Ft.

Buoy Beam or Diameter: 5.90 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minum: 0.00 Ft.

Pounds Per Inch Immersion: 146 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell: Steel, 6mm PL

Hull Filling: Steel

Tower: Steel

Topmark: Cast Iron

Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-164 radar reflector

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: 2,210 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 2.4 Nmi.
Radar Range: 3.8 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-529
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
840 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 & 3-5
BT-1830 (5.9x23 LR)

Cumulative Area

Area, Fl-2

Height, Ft

0 2 4 6 8 10 11 12

B-531
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BT-1840 (5.9x26 LR)
Country of Use: England MFG 3
Function: Lighted buoy, with tail tube and batwing daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 5,020 Lbs.
Buoy Draft: 12.47 Ft.
Overall Buoy Length: 26.20 Ft.
Focal Height of Light: 13.12 Ft.
Buoy Beam or Diameter: 5.90 Ft.
Freeboard: No Mooring: 0.00 Ft.
Maximum: 0.00 Ft.
Pounds Per Inch Immersion: 146 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell: Steel, 6mm PL
Hull Filling: Tower: Steel
Topmark: Counterweight: Cast Iron

Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: External tail tube

B-532
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 155mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-166 radar reflectr

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: 2,210 Lbs.

Topmark Type: Various

Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM
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: 0-533
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
840 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 63-5
Name of Buoy: BT-2240 (7.2x25 LR)
Country of Use: England MFG 3
Function: Lighted buoy, with tail tube and batwing daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 7,710 Lbs.
Buoy Draft: 11.15 Ft.
Overall Buoy Length: 24.90 Ft.
Focal Height of Light: 13.12 Ft.
Buoy Beam or Diameter: 7.22 Ft.
Freeboard: No Mooring: 0.00 Ft.
           Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 219 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell : Steel, 8mm PL
                      Hull Filling : Steel
                      Tower : Steel
                      Topmark : Steel
                      Counterweight: Cast Iron

Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: External tail tube
RELATED EQUIPMENT

Number of Power Sources: 12

Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah

Lighting Equipment: 155mm electric lantern

Sound Equipment: none

Other Payload: Optional SR-166 radar reflector

Daymark Area: 0.0 Sq. Ft.

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

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

Sinker Size: 3,310 Lbs.

Topmark Type: Various

Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: SM

Nominal Visual Range of Daymark: 2.7 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
  2430 lb. maximum mooring weight.
  A solar powered option is available.
  An optional marine grade fender is available.
  Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 &3-5
BT-2240 (7.2x25 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BT-2250 (7.2x28 LR)
Country of Use: England MFG 3
Function: Lighted buoy, with tail tube and batwing daymark, for semi-protected location.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 7,730 Lbs.
Buoy Draft: 11.16 Ft.
Overall Buoy Length: 28.20 Ft.
Focal Height of Light: 16.40 Ft.
Buoy Beam or Diameter: 7.22 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 219 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell: Steel, 8mm PL
Hull Filling: Steel
Tower: Steel
Topmark: Cast Iron
Counterweight: Cast Iron

Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: External tail tube
### RELATED EQUIPMENT

- **Number of Power Sources:** 12
- **Type of Power Sources:** PM-4015 primary bat 1.3v4800Ah
- **Lighting Equipment:** 155mm electric lantern
- **Sound Equipment:** none
- **Other Payload:** Optional SR-166 radar reflector
- **Daymark Area:** 0.0 Sq. Ft.
- **Bridle Size:** Chain Size: 0.000 In.
  - Length: 0.0 Ft.
- **Mooring Line:** Size: 1.250 In.
  - Type: Steel Chain
- **Sinker Size:** 3,310 Lbs.
- **Topmark Type:** various
- **Number of Padeyes:** 4

### OPERATING CHARACTERISTICS

- **Operating Environment:** SM
- **Nominal Visual Range of Daymark:** 2.9 Nmi.
- **Radar Range:** 5.6 Nmi.
- **Maximum Current:** 0.0 Kts.
- **Moorinc Depth:**
  - Minimum: 0 Ft.
  - Maximum: 0 Ft.
- **Reflective Material Type:** B-541
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
2430 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 & 5-5
BT-2250 (7.2 x 28 LR)

Cumulative Area

Area, Ft$^2$

Height, Ft
**GENERAL INFORMATION**

Name of Buoy: BT-2640 (8.5x25 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with tail tube and batwing daymark.

Date Of Last Update For This Record: 10/30/90

**PHYSICAL CHARACTERISTICS**

Buoy Weight: 9,030 Lbs.

Buoy Draft: 11.15 Ft.

Overall Buoy Length: 24.80 Ft.

Focal Height of Light: 13.12 Ft.

Buoy Beam or Diameter: 8.53 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 305 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell: Steel, 8mm PL
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: 12

Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah

Lighting Equipment: 250mm electric lantern

Sound Equipment: none

Other Payload: Optional SR-166 radar reflector

Daymark Area: 0.0 Sq. Ft.

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

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

Sinker Size: 4,410 Lbs.

Topmark Type: Various

Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 2.5 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
3970 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 &3-5
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BT-2650 (8.5x28 LR)
Country of Use: England MFG 3
Function: Lighted offshore buoy, with tail tube and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 9,050 Lbs.
Buoy Draft: 11.16 Ft.
Overall Buoy Length: 28.10 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: 305 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave following
Construction Material: Hull Shell: Steel, 8mm PL
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: 12
Type of Power Sources: PM-4015 primary bat 1.3v4800Ah
Lighting Equipment: 250mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-166 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 1.250 In.
Type: Steel Chain
Sinker Size: 4,410 Lbs.
Topmark Type: various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.8 Nmi.
Radar Range: 5.7 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth:
Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type:
AJDITIONAL 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
3970 lb. maximum mooring weight.  
A solar powered option is available. 
An optional marine grade fender is available. 
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd  
Source of Design: Pharos Marine, Ltd  
Drawing Reference: England MFG 3-1 63-5
BT-2650 (8.5x28 LR)

Cumulative Area

Area, Ft^2

Height, Ft

50 45 40 35 30 25 20 15 10 5 0

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
**GENERAL INFORMATION**

Name of Buoy: BT-2665 (8.5x35 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with tail tube and batwing daymark.

Date Of Last Update For This Record: 10/30/90

**PHYSICAL CHARACTERISTICS**

Buoy Weight: 10,140 Lbs.

Buoy Draft: 12.80 Ft.

Overall Buoy Length: 34.70 Ft.

Focal Height of Light: 21.33 Ft.

Buoy Beam or Diameter: 8.53 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 305 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave following

Construction Material: Hull Shell : Steel, 8mm PL

Hull Filling:

Tower : Steel

Topmark:

Counterweight: Cast Iron

Coating/Coloring System:

Subdivision:

Hull Type: Cylindrical

Counterweight Type: External tail tube

B-552
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 250mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-166 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 1.250 In.
Type: Steel Chain
Sinker Size: 4,410 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 3.0 Nmi.
Radar Range: 6.2 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
3970 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 &3-5
BT-2665 (8.5x35 LR)

Cumulative Area

Area, Ft²

Height, Ft

B-555
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BT-3040 (9.8x25 LR)
Country of Use: England MFG 3
Function: Lighted offshore buoy, with tail tube and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 11,010 Lbs.
Buoy Draft: 11.15 Ft.
Overall Buoy Length: 24.80 Ft.
Focal Height of Light: 13.12 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, 8mm PL
Hull Filling:
Tower: Steel
Topmark:
Counterweight: Cast Iron

Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical
Counterweight Type: External tail tube

B-556
RELATED EQUIPMENT

Number of Power Sources: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 250mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-166 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 1.375 In.
Type: Steel Chain
Sinker Size: 6,610 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.7 Nmi.
Radar Range: 5.5 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
7060 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 & 3-5
BT-3040 (9.8x25 LR)

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BT-3050 (9.8x28 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with tail tube and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 11,030 Lbs.

Buoy Draft: 11.16 Ft.

Overall Buoy Length: 28.10 Ft.

Focal Height of Light: 16.40 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, 8mm PL
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: 12
Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah
Lighting Equipment: 250mm electric lantern
Sound Equipment: none
Other Payload: Optional SR-166 radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.
Mooring Line: Size: 1.375 In.
Type: Steel Chain
Sinker Size: 6,610 Lbs.
Topmark Type: Various
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.7 Nmi.
Radar Range: 5.9 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
7060 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 & 3-5
BT-3050 (9.8x28 LR)

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: BT-3065 (9.8x33 LR)

Country of Use: England MFG 3

Function: Lighted offshore buoy, with tail tube and batwing daymark.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 11,050 Lbs.
Buoy Draft: 11.16 Ft.
Overall Buoy Length: 33.00 Ft.
Focal Height of Light: 21.33 Ft.
Buoy Beam or Diameter: 9.84 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minum: 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, 8mm Pl
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: 12

Type of Power Sources: PM-4015 Primary bat 1.3v4800Ah

Lighting Equipment: 250mm electric lantern

Sound Equipment: none

Other Payload: Optional SR-166 radar reflector

Daymark Area: 0.0 Sq. Ft.

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

Mooring Line: Size: 1.375 In.
Type: Steel Chain

Sinker Size: 6,610 Lbs.

Topmark Type: Various

Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 3.0 Nmi.

Radar Range: 6.2 Nmi.

Maximum Current: 0.0 Kts.

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

Reflective Material Type: B-565
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
7060 lb. maximum mooring weight.
A solar powered option is available.
An optional marine grade fender is available.
Radar reflector is omnidirectional.

Manufacturers: Pharos Marine, Ltd
Source of Design: Pharos Marine, Ltd
Drawing Reference: England MFG 3-1 &3-5
GENERAL INFORMATION

Name of Buoy: ELASTOMER "SOFT" BUOY

Country of Use: England Mfg-4

Function: A lightweight buoy with light for use as a sea buoy by adding a tail tube.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 0.00 Ft.
Focal Height of Light: 7.38 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard No Mooring: 0.00 Ft.
Minumum: 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: Polyureth Elastomer
  Hull Filling: Polyethylene Foam
  Tower:
  Topmark:
  Counterweight:
Coating/Coloring System:
Subdivision:
Hull Type: Cylindrical/conical
Counterweight Type: Cast iron rings

B-568
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources: Solar panels & battery
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: 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:

B-569
ADDITIONAL DATA

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

Maintenance Notes:
By counter ballasting with extra heavy chain, the chain's service period is extended.

Special Features:
Polyurethane elastomer can be sprayed or moulded into various densities of polyethylene foam.

Stability Notes:
The buoy is unsinkable unless severely damaged.

General Notes
The buoy's draft, overall length and weight will vary depending on the length of tail tube added.

Manufacturers: Hippo MarineProducts
Source of Design: Hippo Marine
Drawing Reference: England Mfg 4-1

B-570
GENERAL INFORMATION

Name of Buoy: 1.0m x 10m Plastic Pillar

Country of Use: Finland

Function: Lighted pillar buoy with prestressed mooring and built in radar reflector. For year-round use in areas of moderate ice action and ice thicknesses less than 30 cm.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 19.70 Ft.

Overall Buoy Length: 33.20 Ft.

Focal Height of Light: 13.50 Ft.

Buoy Beam or Diameter: 3.28 Ft.

Freeboard: No Mooring: 0.00 Ft.
Minimum: 13.10 Ft.

Pounds Per Inch Immersion: 45 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled

Construction Material:
Hull Shell: HD Polyethylene Pipe
Hull Filling: Exp.Polystyrene Foam
Tower: 
Topmark: 
Counterweight:

Coating/Coloring System: Moulded-in color, IALA system

Subdivision: foam filled

Hull Type: cylindrical pillar

Counterweight Type: none
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Batteries
Lighting Equipment: MPV-3 Electric lantern
Sound Equipment: none
Other Payload: SR-6 Radar Reflector, built-in
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length : 0.0 Ft.
Mooring Line: Size: 1.250 In.
Type: Steel Chain
Sinker Size: 44,100 Lbs.
Topmark Type: none
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: SM, ice
Nominal Visual Range of Daymark: 2.8 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 25 Ft.
Maximum: 0 Ft.
Reflective Material Type: Retroreflecting Number & Strip

B-572
ADDITIONAL DATA

Cost: Replacement: $12,700
Preparation: $0
Monthly Servicing: $0

Service Life: 10.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:
Good resistance to ice damage due to low adhesion of ice to polyethylene.

Special Features:
- Buoy uses prestressed mooring providing exact location.
- Sinker is divided into 4 parts with & conical pin, to allow setting with 12 ton crane.

Stability Notes:
Unstable without mooring.

General Notes
Replaces steel floatant beacon, and wooden archipelago spar.

Manufacturers: KWH Pipe
Source of Design: Nat'l Board of Navig
Drawing Reference: Finland 1, 4 & 5
1.0m x 10m Plastic Pillar

Cumulative Area

Area, Fl-2 vs Height, Fl
Name of Buoy: 1.6m x 14m Plastic Pillar

Country of Use: Finland

Function: Lighted Pillar buoy with prestressed mooring and built-in radar reflector. For year-round use in areas of moderate to severe ice action.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.
Overall Buoy Length: 45.90 Ft.
Focal Height of Light: 20.10 Ft.
Buoy Beam or Diameter: 5.25 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 19.70 Ft.
Pounds Per Inch Immersion: 115 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Decoupled

Construction Material: Hull Shell: HD Polyethylene Pipe
Hull Filling: Exp. Polystyrene Foam
Tower:
Topmark:
Counterweight:

Coating/Coloring System: Moulded-in color, IALA system
Subdivision: Foam filled
Hull Type: Cylindrical Pillar
Counterweight Type: None
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Batteries
Lighting Equipment: MPV-3 Electric Lantern
Sound Equipment: None
Other Payload: Radar Reflector, built-in
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
               Length : 0.0 Ft.
Mooring Line: Size: 1.250 In.
               Type: Steel Chain
Sinker Size: 110,250 Lbs.
Topmark Type: None
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EM, Ice
Nominal Visual Range of Daymark: 3.7 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 30 Ft.
               Maximum: 0 Ft.
Reflective Material Type: Retroreflecting Number & Strip
ADDITIONAL DATA

Cost:                    Replacement: $35,700
Preparation:             $0
Monthly Servicing:       $0

Service Life:            10.0 Yrs.
Maintenance Interval:    0 Mos.

Maintenance Notes:
Good resistance to ice damage due to low adhesion of ice to polyethylene.

Special Features:
Buoy uses prestressed mooring providing exact location.

Stability Notes:
Unstable without mooring.

General Notes
Replaces wooden offshore spar.

Manufacturers:           KWH Pipe
Source of Design:         Nat'l Board of Navig
Drawing Reference:       Finland 1
1.6m x 14m Plastic Pillar

Cumulative Area

Area, Ft²

Height, Ft
GENERAL INFORMATION

Name of Buoy: 160mm x 6m Plastic Spar

Country of Use: Finland

Function: Unlighted spar buoy, with prestressed mooring, for protected channels.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 58 Lbs.
Buoy Draft: 9.84 Ft.
Overall Buoy Length: 19.68 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 0.53 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 8.20 Ft.
Pounds Per Inch Immersion: 1 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Decoupled

Construction Material: Hull Shell: HD Polyethylene Pipe
Hull Filling: Exp.Polystyrene Foam
Tower:
Topmark:
Counterweight:

Coating/Coloring System: Mouldedin-color, IALA system
Subdivision: Foam Filled
Hull Type: Spar
Counterweight Type: None
RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources: None

Lighting Equipment: None

Sound Equipment: None

Other Payload: Radar Reflector, built-in

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: 2,650 Lbs.

Topmark Type: None

Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: PM, Ice

Nominal Visual Range of Daymark: 1.3 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 12 Ft.
Maximum: 0 Ft.

Reflective Material Type: Retroreflective strip(s)

B-580
ADDITIONAL DATA

Cost: Replacement: $450
Preparation: $0
Monthly Servicing: $0

Service Life: 10.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Good resistance to ice damage due to low adhesion of ice to polyethylene.

Special Features:
Buoy uses prestressed mooring providing exact position.
Retroreflective strips are fixed in milled grooves on top of the spar.

Stability Notes:
Unstable without mooring.

General Notes
Replaces wooden inland spar used earlier in Finland.

Manufacturers: KWH Pipe
Source of Design: Nat'l Board of Navig
Drawing Reference: Finland 1, 5 & 6
160mm x 6m Plastic Spar

Cumulative Area

Area, Ft$^2$

Height, Ft
Name of Buoy: 225mm x 6 m Lighted Plast.Spar

Country of Use: Finland

Function: Lighted spar Buoy, with slack mooring, for protected channels.

Date Of Last Update For This Record: 10/30/90

Buoy Weight: 110 lbs.
Buoy Draft: 12.80 Ft.
Overall Buoy Length: 20.50 Ft.
Focal Height of Light: 7.50 Ft.
Buoy Beam or Diameter: 0.74 Ft.
Freeboard: No Mooring: 0.00 Ft.
            Minimum: 7.20 Ft.
Pounds Per Inch Immersion: 2 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Decoupled

Construction Material: Hull Shell: HD Polyethylene Pipe
                      Hull Filling: Exp.Polystyrene Foam
                      Tower: Topmark
                      Counterweight: Electric Battery

Coating/Coloring System: Moulded-in Color, IALA System
Subdivision: Foam Filled
Hull Type: Spar
Counterweight Type: Internal

B-583
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Battery
Lighting Equipment: VP-3 Electric Lantern
Sound Equipment: None
Other Payload: Radar Reflector, Built-in
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: 3,970 Lbs.
Topmark Type:
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: PM, Ice
Nominal Visual Range of Daymark: 1.4 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 8 Ft.
Maximum: 0 Ft.
Reflective Material Type: Retroreflective Strip(s)
**ADDITONAL DATA**

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

**Service Life:** 10.0 Yrs.  
**Maintenance Interval:** 0 Mos.  

**Maintenance Notes:**  
Good resistance to ice damage due to low adhesion of ice to polyethylene.  

**Special Features:**  
Retroreflective strips are fixed in milled grooves on the upper part of spar near the top.  

**Stability Notes:**  

**General Notes**  
Replaces wooden inland spar.  

**Manufacturers:** KWH Pipe  
**Source of Design:** Nat'l Board of Navig  
**Drawing Reference:** Finland 1, 5 & 6  

B-585
225mm x 6m Lighted Plast. Spar

Cumulative Area

Area, Ft\(^2\)

Height, Ft

B-586
**BTIS Buoy Record**

**GENERAL INFORMATION**

Name of Buoy: 225mm x 7m Plastic Spar

Country of Use: Finland

Function: Unlighted spar buoy with prestressed mooring, for protected channels.

Date Of Last Update For This Record: 10/30/90

**PHYSICAL CHARACTERISTICS**

- **Buoy Weight:** 122 Lbs.
- **Buoy Draft:** 11.50 Ft.
- **Overall Buoy Length:** 23.00 Ft.
- **Focal Height of Light:** 0.00 Ft.
- **Buoy Beam or Diameter:** 0.74 Ft.
- **Freeboard:** No Mooring: 0.00 Ft.
  - Minimum: 11.50 Ft.
- **Pounds Per Inch Immersion:** 2 Lbs.
- **Metacentric Height:** 0.00 Ft.
- **Reserve Buoyancy:** 0 Lbs.
- **Wave Motion Response:** Decoupled
- **Construction Material:** Hull Shell: HD Polyethylene Pipe
  - Hull Filling: Exp.Polystyrene Foam
  - Tower:
  - Topmark:
  - Counterweight:
- **Coating/Coloring System:** Moulded-in color, IALA system

Subdivision: Foam filled

Hull Type: Spar

Counterweight Type: None
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources: none
Lighting Equipment: none
Sound Equipment: none
Other Payload: built-in 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: 3,970 Lbs.
Topmark Type: none
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: PM, Ice
Nominal Visual Range of Daymark: 1.7 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 15 Ft.
Maximum: 0 Ft.
Reflective Material Type: Retroreflective Strip(s)
ADDITIONAL DATA

Cost: Replacement: $655
Preparation: $0
Monthly Servicing: $0

Service Life: 10.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Good resistance to ice damage due to low adhesion of ice to polyethylene.

Special Features:
Buoy uses prestressed mooring providing exact location.
Retroreflective strips are fixed in milled grooves on the top part of spar.

Stability Notes:
Replaces wooden inland spar.

General Notes

Manufacturers: KWH Pipe
Source of Design: Nat'l Board of Navig
Drawing Reference: Finland 1, 5 & 6
225mm x 7m Plastic Spar

Cumulative Area

Area, Ft²

Height, Ft
GENERAL INFORMATION

Name of Buoy: 3m x 17m Steel Ice Buoy

Country of Use: Finland

Function: Steel lighted buoy for exposed locations with severe ice action.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 36.50 Ft.

Overall Buoy Length: 56.30 Ft.

Focal Height of Light: 19.90 Ft.

Buoy Beam or Diameter: 9.84 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minimum: 19.70 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: Steel

Coating/Coloring System: Epoxy 500mg Th, IALA colors

Subdivision: Three Compartment

Hull Type: Cylindrical, Tapered

Counterweight Type: External Ring, Vari

B-591
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Battery Pack
Lighting Equipment: MPV-3 Electric Lantern
Sound Equipment: None
Other Payload: Radar Reflector, built-in
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: 134,400 Lbs.
Topmark Type: None
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: EM, Ice
Nominal Visual Range of Daymark: 4.2 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 37 Ft.
Maximum: 0 Ft.

Reflective Material Type: B-592
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: Nat'l Board of Navig
Drawing Reference: Finland 1
3m x 17m Steel Ice Buoy

Cumulative Area

Area, Ft²

Height, Ft
**GENERAL INFORMATION**

**Name of Buoy:** 50/120 Plastic Spar Unlighted  
**Country of Use:** Finland  
**Function:** Unlighted spar buoy, with prestressed mooring, for protected yachting channels and low water depth.

**Date Of Last Update For This Record:** 10/30/90  

**PHYSICAL CHARACTERISTICS**

- **Buoy Weight:** 0 Lbs.  
- **Buoy Draft:** 4.25 Ft.  
- **Overall Buoy Length:** 9.85 Ft.  
- **Focal Height of Light:** 0.00 Ft.  
- **Buoy Beam or Diameter:** 0.36 Ft.  
- **Freeboard:** No Mooring: 0.00 Ft.  
  Minimum: 5.60 Ft.  
- **Pounds Per Inch Immersion:** 0 Lbs.  
- **Metacentric Height:** 0.00 Ft.  
- **Reserve Buoyancy:** 0 Lbs.  
- **Wave Motion Response:** Decoupled  
- **Construction Material:**  
  - Hull Shell: HD Polyethylene Pipe  
  - Hull Filling: Exp.Polystyrene Foam  
  - Tower:  
  - Topmark:  
  - Counterweight:  
- **Coating/Coloring System:** Moulded-in Color, IALA System  
- **Subdivision:** Foam Filled  
- **Hull Type:** Spar  
- **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: Polypropylene Rope
Sinker Size: 220 Lbs.
Topmark Type: None
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: PM, Ice
Nominal Visual Range of Daymark: 0.7 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 5 Ft.
Maximum: 0 Ft.
Reflective Material Type: Retroreflective strips
ADDITIONAL DATA

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

Service Life: 10.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:
Good resistance to ice damage due to low adhesion of ice to polyethylene.

Special Features:
Buoy uses prestressed mooring providing an exact position.

Stability Notes:
Unstable without mooring.

General Notes
Replaces wooden inshore spar. Top part of buoy is of 50mm. (approx. 2 inch.) diameter, and the bottom floating part is 120mm (approx. 4.72 inch).

Manufacturers: KWH Pipe
Source of Design: Nat'l Board of Navig
Drawing Reference: Finland 1 & 5

B-597
50/120 Plastic Spar Unlighted

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: 500mm x 6m Plastic Pillar

Country of Use: Finland

Function: Lighted pillar buoy with prestressed mooring and built-in radar reflector. For year-round use in areas of moderate ice action and ice thicknesses less than 30 cm.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.
Buoy Draft: 11.80 Ft.
Overall Buoy Length: 20.00 Ft.
Focal Height of Light: 8.20 Ft.
Buoy Beam or Diameter: 1.64 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 7.90 Ft.
Pounds Per Inch Immersion: 11 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Decoupled

Construction Material: Hull Shell : HD Polyethylene Pipe
Hull Filling : Exp.Polystyrene Foam
Tower : 
Topmark :
Counterweight:

Coating/Coloring System: Moulded-in color, IALA system

Subdivision: foam filled
Hull Type: cylindrical pillar
Counterweight Type: none

B-599
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Batteries
Lighting Equipment: MPV-3 Electric Lantern
Sound Equipment: none
Other Payload: Radar Reflector, Built-in
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: 26,460 Lbs.
Topmark Type: none
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: SM, Ice
Nominal Visual Range of Daymark: 1.9 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 15 Ft.
    Maximum: 0 Ft.
Reflective Material Type: Retroreflecting Number & Strip

B-600
ADDITIONAL DATA

Cost: Replacement: $4,200
Preparation: 0
Monthly Servicing: 0

Service Life: 10.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Good resistance to ice damage due to low adhesion of ice to polyethylene

Special Features:
Buoy uses pre-stressed mooring providing exact location.
Retroreflective strips are fixed in milled grooves on the top part of pillar.

Stability Notes:
Unstable without mooring.

General Notes
Replaces wooden archipelago spar.

Manufacturers: KWH Pipe
Source of Design: Nat'l Board of Navig
Drawing Reference: Finland 1, 4 & 5
500mm x 6m Plastic Pillar

Cumulative Area

Area, Ft$^2$

Height, Ft

14 12 10 8 6 4 2 0

B-602
Name of Buoy: JPK 130-1050 Steel Ice Buoy

Country of Use: Finland

Function: Standard Steel Lighted Buoy for semiexposed locations with severe ice action.

Date Of Last Update For This Record: 10/30/90

Buoy Weight: 7,737 Lbs.
Overall Buoy Length: 34.45 Ft.
Focal Height of Light: 13.50 Ft.
Buoy Beam or Diameter: 4.27 Ft.
Freeboard: No Mooring: 13.12 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 76 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Decoupled/Following

Construction Material:
Hull Shell: Steel, RAEX 490
Hull Filling:
Tower:
Topmark:
Counterweight: Steel

Coating/Coloring System: Epoxy/IALA Colors
Subdivision: 5WT Compartments
Hull Type: Cylindrical, Tapered
Counterweight Type: External Rings(Var.)
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Batteries
Lighting Equipment: MPV-3 Electric Lantern
Sound Equipment: None
Other Payload: Built-in Radar Reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 1.250 In.
Type: Steel Chain
Sinker Size: 26,500 Lbs.
Topmark Type: None
Number of Padeyes: 8

OPERATING CHARACTERISTICS

Operating Environment: SM, Ice
Nominal Visual Range of Daymark: 2.7 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 22 Ft.
Maximum: 0 Ft.

Reflective Material Type:
ADDITIONAL DATA

Cost:  
Replacement: $11,600
Preparation: $0
Monthly Servicing: $0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Battery lasts about 3 months depending on light characteristics. Buoy can be lifted aboard tender for minor repairs without diver while attached to mooring.

Special Features:
- 24 m2 radar reflector provides poor visibility on radar.
- Uses light shades of IALA colors.

Stability Notes:
The 1970 design has 4 compartments, and the 1989 design (of similar dimensions and designation) has five.

General Notes
The characteristics given in this record are for the 1989 buoy, which is shown in illustration Finland 3. The 1970 design is shown in illustration Finland 2.

Manufacturers:
Source of Design: Bd. of Navigation
Drawing Reference: Finland 1, 2 and 3

B-605
JPK 130−1050 Steel Ice Buoy

Cumulative Area

Area, Ft−2

Height, Ft
GENERAL INFORMATION

Name of Buoy: JPK 130-550 Steel Ice Buoy

Country of Use: Finland

Function: Shallow Water Steel Lighted Buoy for partially protected locations with severe ice action.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,090 Lbs.
Buoy Draft: 10.83 Ft.
Overall Buoy Length: 18.00 Ft.
Focal Height of Light: 7.50 Ft.
Buoy Beam or Diameter: 4.27 Ft.
Freeboard: No Mooring: 7.17 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, Grades 37&52
                     Hull Filling :
                     Tower :
                     Topmark :
                     Counterweight: Steel
Coating/Coloring System: Epoxy/IALA Colors
Subdivision: Three Compartment
Hull Type: Conical
Counterweight Type: External Rings(Var.)
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Electric Batteries
Lighting Equipment: MPV-3 Electric Lantern
Sound Equipment: None
Other Payload: Built-in 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: 17,640 Lbs.
Topmark Type: None
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: SM, Ice, Shallow Wtr
Nominal Visual Range of Daymark: 2.1 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 11 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-608
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 3 Mos.

Maintenance Notes:
- Battery lasts about 3 months, depending on light characteristics.
- Buoy can be lifed aboard tender for minor repairs without diver, (i.e. with anchor attached)

Special Features:
- Radar reflector 20-30m2 in X-Band - poor visibility on radar.
- Uses light shades of IALA colors: yellow, red & green.

Stability Notes:

General Notes

Manufacturers:

Source of Design: Board of Navigation

Drawing Reference: Finland 1 & 2

B-609
JPK 130–550 Steel Ice Buoy

Cumulative Area

Area, Ft^2 vs Height, Ft
GENERAL INFORMATION

Name of Buoy: 90/160 Plastic Spar

Country of Use: Finland MFG-1

Function: Unlighted spar buoy, with prestressed mooring, for protected yachting channels.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 0 Lbs.

Buoy Draft: 4.25 Ft.

Overall Buoy Length: 9.85 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 0.53 Ft.

Freeboard: No Mooring: 0.00 Ft.

Minimum: 5.60 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Decoupled

Construction Material: Hull Shell : HD Polyethylene Pipe
Hull Filling : Exp.Polystyrene Foam
Tower :
Topmark :
Counterweight:

Coating/Coloring System: Moulded-in Color, IALA System

Subdivision: Foam Filled

Hull Type: Spar

Counterweight Type: None
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources: None
Lighting Equipment: None
Sound Equipment: None
Other Payload: Copper Sheet 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: Polypropylene Rope

Sinker Size: 440 Lbs.

Topmark Type: None
Number of Padeyes: 0

OPERATING CHARACTERISTICS

Operating Environment: PM, Ice
Nominal Visual Range of Daymark: 1.2 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 5 Ft.
Maxium: 0 Ft.

Reflective Material Type: Scotchlite Hi Strips
ADDITIONAL DATA

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

Service Life: 10.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:
Good resistance to ice damage due to low adhesion of ice to polyethylene.

Special Features:
Buoy uses prestressed mooring providing an exact position.
Retroreflective strips are fixed in milled grooves on the upper part of spar.

Stability Notes:
Unstable without mooring.

General Notes
- Replaces wooden inland spar.
- This manufacturer is also the manufacturer of all plastic buoys used by the Board of Navigation from 500mm diameter to 1600mm diameter.

Manufacturers: KWH Pipe
Source of Design: Board of Navigation
Drawing Reference: Finland 1 & 5
90/160 Plastic Spar

Cumulative Area

Area, Ft²

Height, Ft
GENERAL INFORMATION

Name of Buoy: 12 M3 Lighted Buoy With Tail

Country of Use: France

Function: Used for marking the limits of a channel with precision or indicating an isolated danger. Can be equipped with a bell or an air whistle.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 22,330 Lbs.
Buoy Draft: 21.70 Ft.
Overall Buoy Length: 46.73 Ft.
Focal Height of Light: 20.34 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard: No Mooring: 2.40 Ft.
Minimum: 1.41 Ft.
Pounds Per Inch Immersion: 260 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 4,970 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: Steel
Hull Filling: Steel
Tower: Steel
Topmark: Steel
Counterweight: Cast Iron
Coating/Coloring System: Two Coats of "Corroless"
Subdivision: One Compartment
Hull Type: Cylindrical
Counterweight Type: Rings Fixed On Tail

B-615
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Propane Gas - 500 kg
Lighting Equipment: Gas lantern
Sound Equipment: Bell or whistle or none
Other Payload: Passive radar reflector
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: 0 Lbs.
Topmark Type: Lateral
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: SM
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: $33,300  
Preparation: $0  
Monthly Servicing: $0

Service Life:  0.0 Yrs.  
Maintenance Interval:  0 Mos.  
Maintenance Notes:

Special Features:  
Buoy body serves as gas tank; contains 500 kg. (approx. 1100 lbs.) of propane in liquid and gas state.

Stability Notes:

General Notes  
Weight of buoy with bell 22,914 lbs.  
Weight of buoy with whistle 22,804.  
The shape of buoy top is elliptical and the buoy bottom is conical

Manufacturers:  
Source of Design: Phares & Balises

Drawing Reference: France - 12

B-617
12 M3 Lighted Buoy With Tail

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: 18 M3 Lighted Buoy With Tail

Country of Use: France

Function: Used for marking channels or isolated dangers. Can have bell or whistle installed.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 27,627 Lbs.
Buoy Draft: 26.83 Ft.
Overall Buoy Length: 56.39 Ft.
Focal Height of Light: 24.97 Ft.
Buoy Beam or Diameter: 9.84 Ft.

Freeboard: No Mooring: 3.59 Ft.
Minimum: 1.67 Ft.
Pounds Per Inch Immersion: 383 Lbs.

Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 8,500 Lbs.

Wave Motion Response: Wave Following

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

Coating/Coloring System: Two Coats of "Corroless"

Subdivision: One Compartment

Hull Type: Cylindrical

Counterweight Type: Rings fixed on tail

B-619
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Propane gas - 600 kg
Lighting Equipment: Gas lantern
Sound Equipment: Bell or whistle or none
Other Payload: Passive radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Moor Line: Size: 1.375 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: 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: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-620
ADDITIONAL DATA

Cost: 
  Replacement: $44,600
  Preparation: $0
  Monthly Servicing: $0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
  Buoy body serves as gas tank and contains 600 kg. (approx. 1350 lbs.) of propane in liquid and gaseous state.

Stability Notes:

General Notes
  Weight of buoy with bell 28210 lbs.
  Weight of buoy with whistle 28100 lbs.
  The shape of buoy at top is elliptical and at bottom, conical.

Manufacturers:

Source of Design: Phares & Balises

Drawing Reference: France - 13
18 M3 Lighted Buoy With Tail

Cumulative Area

Area, Ft²

Height, Ft

B-622
GENERAL INFORMATION

Name of Buoy: 7.5 M3 Lighted Buoy With Tail

Country of Use: France

Function: Used for marking the limits of a channel with precision or indicating an isolated danger. Can be equipped with a bell or an air whistle.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 12,671 Lbs.
Buoy Draft: 16.33 Ft.
Overall Buoy Length: 33.54 Ft.
Focal Height of Light: 10.72 Ft.
Buoy Beam or Diameter: 7.22 Ft.
Freeboard: No Mooring: 2.53 Ft.
Minimum: 1.47 Ft.
Pounds Per Inch Immersion: 208 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 3,310 Lbs.
Wave Motion Response: Wave Following

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

Coating/Coloring System: "Two Coats of "Corroless"
Subdivision: One Compartment
Hull Type: Cylindrical
Counterweight Type: Rings placed on tail
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Propane Gas - 350 Kg
Lighting Equipment: Gas Lantern
Sound Equipment: Bell or Whistle (or no sound)
Other Payload: Passive 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: SM
Nominal Visual Range of Daymark: 2.1 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: $19,400
     Preparation: $0
     Monthly Servicing: $0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Buoy body serves as a propane tank - contains 350 kg.
(Approx. 800 lbs.) of propane in liquid and gas state.

Stability Notes:

General Notes
Buoy weight with bell: 13267 lbs.
Buoy weight with whistle: 13035 lbs.
Top of buoy hull is elliptical and bottom is conical in shape.

Manufacturers:
Source of Design: Phares & Balises

Drawing Reference: France - 11

B-625
7.5 M3 Lighted Buoy With Tail

Cumulative Area

Area, Ft^2

Height, Ft

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

26 24 22 20 18 16 14 12 10 8 6 4 2 0
GENERAL INFORMATION

Name of Buoy: DELPHINE Flat Bottom Lighted

Country of Use: France

Function: For use in protected, normal or moderately exposed shallow water areas with all types of lateral, cardinal, or special marks.

Date Of Last Update For This Record: 01/25/91

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,530 Lbs.
Buoy Draft: 2.49 Ft.
Overall Buoy Length: 15.42 Ft.
Focal Height of Light: 10.50 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard No Mooring: 0.00 Ft.
Minimun: 1.71 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 : GRP
Hull Filling : GRP
Tower : GRP
Topmark :
Counterweight: Cast Iron

Coating Coloring System: GRP tinted with gelcoat
Subdivision: Four compartments
Hull Type: Discus
Counterweight Type: Internal at bottom

B-627
RELATED EQUIPMENT

Number of Power Sources: 5
Type of Power Sources: 20 W Solar Panels & Battery
Lighting Equipment: 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: 0.000 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral/Cardinal
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 4.4 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type:
ADDITIOINAL DATA

Cost: Replacement: $11,700
Preparation: $0
Monthly Servicing: $0

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.

Maintenance Notes:
Has one manhole for each compartment for easy access to service and repair.

Special Features:
All metallic inserts used on GRP are stainless steel.
Lifting padeyes and attachment bolts are hot galvanized steel.

Stability Notes:
Roll period 2 sec.

General Notes
Four lugs at bottom of buoy allow for lateral mooring or the use of a bridle arrangement.
Radar reflector is omnidirectional.

Manufacturers: Gisman
Source of Design: Phares & Balises
Drawing Reference: France-14
DELPHINE Flat Bottom Lighted

Cumulative Area

Area, Fl.-2

Height, Ft.

35 30 25 20 15 10 5 0

0 1 2 3 4 5 6 7 8 9 10 11 12 13

S-630
GENERAL INFORMATION

Name of Buoy: DELPHINE Improved Stability

Country of Use: France

Function: A buoy with skirt for protected, normal, or moderated exposed medium depth (up to 100ft) areas with any type of lateral cardinal, or special mark.

Date Of Last Update For This Record: 01/25/91

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,310 Lbs.
Buoy Draft: 6.23 Ft.
Overall Buoy Length: 19.69 Ft.
Focal Height of Light: 10.83 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: Wave Following

Construction Material: Hull Shell: GRP
Hull Filling: Tower: GRP
Topmark: Counterweight: Sti Shot or Pig Iron

Coating Coloring System: GRP tinted with Gelcoat

Subdivision: Four Compartments
Hull Type: Discus
Counterweight Type: Internal Tail-Tube

8-631
RELATED EQUIPMENT

Number of Power Sources: 5
Type of Power Sources: 20w solar panels and battery
Lighting Equipment: 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: 0.000 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral or Cardinal
Number of Padeyes: 4

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 4.4 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type: B-632
ADDITIONAL DATA

Cost: Replacement: $11,700
      Preparation:  $0
      Monthly Servicing: $0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
- Each hull compartment has a manhole for easy access during servicing.

Special Features:
- All metallic inserts on GRP hull are stainless steel. Bolts and padeyes are hot galvanized steel.

Stability Notes:
- Roll period 2.5 sec.
- Separate battery compartment.

General Notes
- The skirt has a trapezoidal top, an offset middle tail, and a hexagonal plate at bottom end which acts as a damper of buoy motions.
- Radar reflector is omnidirectional.

Manufacturers: Gisman
Source of Design: Phares & Balises
Drawing Reference: France-15
DELPHINE Improved Stability

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: Flat Bottom Lighted 5 cu. m.

Country of Use: France

Function: Used in relatively calm areas for channel and isolated danger markers. This is an old buoy.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 7,991 Lbs.

Buoy Draft: 5.89 Ft.

Overall Buoy Length: 20.87 Ft.

Focal Height of Light: 9.50 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 2.21 Ft.
            Minimum: 1.66 Ft.

Pounds Per Inch Immersion: 230 Lbs.

Metacentric Height: 0.00 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

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

Coating/Coloring System: "Corroless" - Two Coats

Subdivision: Two Compartments

Hull Type: Bi-Conical

Counterweight Type: Rings Placed on Tail

B-635
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Propane Bottle - 250 Kg
Lighting Equipment: Gas Lantern
Sound Equipment:
Other Payload: Passive 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: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type:
Number of Padeyes: 3

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:
ADDITIONAL DATA

Cost: Replacement: $18,800
Preparation: $0
Monthly Servicing: $0

Service Life: 0.0 Yrs.
Maintenance Interval: 24 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes

Manufacturers:
Source of Design: Phares & Balises
Drawing Reference: France - 2
Flat Bottom Lighted 5 cu. m.

Cumulative Area

Area, Ft²

Height, Fl
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Intermediate Buoy-Lighted

Country of Use: France

Function: For use in water depths not more than 25 meters. Mostly used in exposed areas; may be equipped with lateral or cardinal topmarks; may rest at bottom at low tide.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 3,179 Lbs.

Buoy Draft: 1.64 Ft.

Overall Buoy Length: 11.26 Ft.

Focal Height of Light: 10.44 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 1.03 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 : Rubber

Counterweight: None

Coating/Coloring System: Universal Epoxy

Subdivision:

Hull Type: Cylindrical

Counterweight Type: None
RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: 9 V 50 AH Mazda Batteries
Lighting Equipment: Alum Type 7610 Lantern 45mm
Sound Equipment:
Other Payload:
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 1.000 In.
Length: 6.6 Ft.
Mooring Line: Size: 1.181 In.
Type: Steel Chain
Sinker Size: 4,480 Lbs.
Topmark Type: Lateral or Cardinal
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth:
Minimum: 0 Ft.
Maximum: 80 Ft.
Reflective Material Type: N/A
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.
Maintenance Interval: 22 Mos.

Maintenance Notes:

Special Features:

Stability Notes:

General Notes
Can also be used as unlighted buoy if not fitted with batteries and lantern.

Manufacturers:
Source of Design: Phares & Balises
Drawing Reference: France - 1
Intermediate Buoy–Lighted

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: Lighted Marina Buoy

Country of Use: France

Function: Flat bottom buoy for use in shallow protected waters. Can be equipped with cylindrical or conical (can or nun) type tops.

Date Of Last Update For This Record: 01/25/91

PHYSICAL CHARACTERISTICS

Buoy Weight: 715 Lbs.
Buoy Draft: 1.25 Ft.
Overall Buoy Length: 0.00 Ft.
Focal Height of Light: 4.92 Ft.
Buoy Beam or Diameter: 4.59 Ft.
Freeboard No Mooring: 1.64 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 471 Lbs.
Wave Motion Response: Wave Following

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

Coating Coloring System:

Subdivision: Four Compartments
Hull Type: Discus
Counterweight Type: Bell At Buoy Bottom

B-643
Lighted Marina Buoy

RELATED EQUIPMENT

Number of Power Sources: 4
Type of Power Sources: 10W Solar Panels-12V/24AH Bat
Lighting Equipment: 5W Electric Lantern
Sound Equipment:
Other Payload: 300mm dia 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: Lateral
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: 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: $2,850
Preparation: $0
Monthly Servicing: $0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
All metallic attachment elements are stainless steel.
Eyebolts for lifting and mooring chain are galvanized steel.

Stability Notes:
Roll periods are 1.8 sec for conical and 2.0 sec for cylindrical types.

General Notes
In addition to the three compartments this buoy has a separate "energy" compartment.

Manufacturers: Gisman

Source of Design: Phares & Balises

Drawing Reference: Franco-10
GENERAL INFORMATION

Name of Buoy: Marina Buoy-Cardinal Unlighted

Country of Use: France

Function: Flat bottom buoy for use in shallow protected waters. Can be fitted with any cardinal directional topmark.

Date Of Last Update For this Record: 01/25/91

PHYSICAL CHARACTERISTICS

Buoy Weight: 640 Lbs.
Buoy Draft: 1.18 Ft.
Overall Buoy Length: 7.64 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 4.59 Ft.
Freeboard No Mooring: 1.71 Ft.
           Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 554 Lbs.
Wave Motion Response: Wave Following
Construction Material:
    Hull Shell : GRP
    Hull Filling :
    Tower : GRP
    Topmark : GRP
    Counterweight: Cast Iron

Coating Coloring System:
Subdivision: 3 Compartments
Hull Type: Discus
Counterweight Type: Bell At Buoy Bottom
RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources:

Lighting Equipment:

Sound Equipment:

Other Payload: 300mm Specter 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: Cardinal (Triangles)

Sinker Size: 0 Lbs.

Topmark Type: Cardinal (Triangles)

Number of Padeyes: 3

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: 0 Ft.
Maximum: 0 Ft.

Reflective Material Type:
ADDITIONAL DATA

Cost: Replacement: $2,850  
Preparation:  $0  
Monthly Servicing:  $0

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
All metallic attachment parts are stainless steel. Lifting and mooring eyebolts are galvanized steel.

Stability Notes:
Roll period: 2 sec.

General Notes
The spar tower has a diameter of 11.80 inch and a height of 4.76 ft.

Manufacturers: Gisman
Source of Design: Phares & Balises
Drawing Reference: France-10
Marina Buoy—Cardinal Unlighted

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: Marina Buoy-Lateral Unlighted
Country of Use: France
Function: Flat bottom buoys made of fiberglass for use in protected shallow water areas. Can be equipped with CAN or NUN type tops.

Date Of Last Update For This Record: 01/25/91

PHYSICAL CHARACTERISTICS

Buoy Weight: 655 Lbs.
Buoy Draft: 1.21 Ft.
Overall Buoy Length: 5.51 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 4.59 Ft.
Freeboard No Mooring: 1.68 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 525 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell : GRP
Hull Filling :
Tower : GRP
Topmark :
Counterweight: Cast Iron

Coating/Coloring System:
Subdivision: 3 Compartment
Hull Type: Discus
Counterweight Type: Bell At Buoy bottom

B-650
RELATED EQUIPMENT

Number of Power Sources: 0

Type of Power Sources:

Lighting Equipment:

Sound Equipment:

Other Payload: 300mm Dia Specter 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: 3

OPERATING CHARACTERISTICS

Operating Environment: PM

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:

B-651
ADDITIONAL DATA

Cost: Replacement: $2,850
Preparation: $0
Monthly Servicing: $0

Service Life: 0.0 Yrs.
Maintenance Interval: 0 Mos.
Maintenance Notes:

Special Features:
All metallic attachment elements are stainless steel.
Lifting and mooring eyebolts are galvanized steel.

Stability Notes:
Roll period = 1.5 sec for NUN and 1.7 sec for CAN types.

General Notes
Diameter of CAN top 2.62 ft. Height also 2.62 ft.
Diameter of NUN type top 3.28 ft. at base and height 3.17 ft. Overall length of NUN buoy is 6.06 ft.

Manufacturers: Gisman
Source of Design: Phares & Balises
Drawing Reference: France-10
Marina Buoy—Lateral Unlighted

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: NOLWEN Flat Bottom Form Tower

Country of Use: France

Function: Variation of Nolwen type buoy for use in shallow water areas with cylindrical, conical, or spherical form superstructure.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 8,333 Lbs.

Buoy Draft: 6.04 Ft.

Overall Buoy Length: 16.59 Ft.

Focal Height of Light: 11.40 Ft.

Buoy Beam or Diameter: 7.87 Ft.

Freeboard: No Mooring: 0.00 Ft.
         Minimum: 1.74 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 1.84 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

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

Coating/Coloring System: Epoxy-Zinc Silicate

Subdivision: One Compartment

Hull Type: Cylindrical-Conical

Counterweight Type: Fixed to buoyskirt

B-654
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: Solar panels and batteries
Lighting Equipment: 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: 1.378 In.
Type: Steel Chain

Sinker Size: 0 Lbs.
Topmark Type: Lateral

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.1 Nmi.
Radar Range: 3.7 Nmi.
Maximum Current: 0.0 Kts.

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

Reflective Material Type: B-655
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Can only be fitted with "Legere" type solar equipment and 300mm dia reflector.

Special Features:

Stability Notes:
Roll period is 2.6 sec. (For cylindrical tower only) - The GM valve of 1.84 ft. is also for cylindrical version only.

General Notes
Buoy weight with solar equipment and 50 ft. of 1.378" dia. chain is 9584 lbs.

Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Phares & Balises
Drawing Reference: France - 5

B-656
NOLWEN Flat Bottom Form Tower

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: NOLWEN Flat Bottom Lattice Twr

Country of Use: France

Function: Variation of Nolwen type buoy for use in shallow water areas with lattice type superstructure.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 8,333 Lbs.
Buoy Draft: 6.00 Ft.
Overall Buoy Length: 24.05 Ft.
Focal Height of Light: 11.45 Ft.
Buoy Beam or Diameter: 7.87 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 1.77 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 1.54 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: Steel
Hull Filling:
Tower: Steel
Topmark: Steel
Counterweight: Steel
Coating/Coloring System: Epoxy/Zinc Silicate
Subdivision: One Compartment
Hull Type: Cylindrical/Conical
Counterweight Type: Fixed to Buoy Skirt

B-658
RELATED EQUIPMENT

Number of Power Sources: 2

Type of Power Sources: Solar panels and batteries

Lighting Equipment: Electric lantern

Sound Equipment:

Other Payload: 300mm dia. reflector

Daymark Area: 0.0 Sq. Ft.

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

Mooring Line: Size: 1.387 In.
             Type: Steel Chain

Sinker Size: 0 Lbs.

Topmark Type: Any lateral/cardinal

Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 2.4 Nmi.

Radar Range: 3.9 Nmi.

Maximum Current: 0.0 Kts.

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

Reflective Material Type:
ADDITIONAL DATA

Cost: Replacement: $16,350
Preparation: $0
Monthly Servicing: $0

Service Life: 0.0 Yrs.
Maintenance Interval: 24 Mos.
Maintenance Notes:

Special Features:
Can be fitted with heavy duty (Lourde) or light duty (Legere) lanterns with "Metropole" or "Equateur" solar equipment.

Stability Notes:
Roll period = 3.06 sec.

General Notes
Buoy weight with solar equipment and 50 ft of 1.378" chain is 9584 lbs.
Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Phares & Balises
Drawing Reference: France - 4
NOLWEN Flat Bottom Lattice Twr

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: NOLWEN II Type Lighted Buoy

Country of Use: France

Function: A deep water buoy that has a cylindrical hull of Nolwen type, a tail-tube and spar type superstructure.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 7,439 Lbs.
Buoy Draft: 12.55 Ft.
Overall Buoy Length: 26.25 Ft.
Focal Height of Light: 10.71 Ft.
Buoy Beam or Diameter: 7.87 Ft.
Freeboard: No Mooring: 3.37 Ft.
            Minimum: 2.51 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: Steel
Coating/Coloring System: Epoxy-Zinc Silicate
Subdivision: One Compartment
Hull Type: Cylindrical
Counterweight Type: Bolted To Tail-Tube

B-662
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: Electric Batteries
Lighting Equipment: 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: 0.000 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Lateral/Cardinal
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.9 Nmi.
Radar Range: 4.5 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type:

B-663
**ADDITIONAL DATA**

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<td>Preparation:</td>
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<td>Monthly Servicing:</td>
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Service Life: 0.0 Yrs.

Maintenance Interval: 24 Mos.

Maintenance Notes:

Special Features:
Buoy hull is cylindrical only as different from other Nolwen buoys which have cylindrical/conical hulls. Spar type tower contains electrical equipment.

Stability Notes:
May be powered by propane or butane gas containers installed in buoy hull (special compartment). Weight of chain is 2650 lbs.

General Notes

Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Phares & Balises
Drawing Reference: France - 6
NOLWEN II Type Lighted Buoy

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: NOLWEN Tail-Tube Solar

Country of Use: France

Function: Variation of Nolwen type buoy for use in deep water areas.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 7,494 Lbs.
Buoy Draft: 13.36 Ft.
Overall Buoy Length: 34.63 Ft.
Focal Height of Light: 14.68 Ft.
Buoy Beam or Diameter: 7.87 Ft.
Freeboard: No Mooring: 0.00 Ft.
Minimum: 1.72 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 1.25 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: Steel
Hull Filling: Tower: Steel
Topmark: Steel
Counterweight: Steel
Coating/Coloring System: Epoxy/Zinc Silicate
Subdivision: One Compartment
Hull Type: Cylindrical/Conical
Counterweight Type: Bolted to tail-tube
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: Solar panels and batteries
Lighting Equipment: Electric lantern
Sound Equipment:
Other Payload: 600 or 300mm dia radar reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.000 In.
Length: 0.0 Ft.
Mooring Line: Size: 1.378 In.
Type: Steel Chain
Sinker Size: 0 Lbs.
Topmark Type: Any lateral/cardinal
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 4.6 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type:
### ADDITIONAL DATA

**Cost:**
- Replacement: $16,350
- Preparation: $0
- Monthly Servicing: $0

**Service Life:** 0.0 Yrs.

**Maintenance Interval:** 24 Mos.

**Maintenance Notes:**
- The buoy hull is a steel tank and is inspected by Burcan Verites as pressure vessel.

**Special Features:**
- Can have heavy duty (Lourde) or light duty (Legere) type lanterns with "Metropole" or "Equateur" type solar equipment.

**Stability Notes:**
- Roll period 4.37 sec.

**General Notes**
- Buoy weight with solar equipment and 100 ft. of 1.378 dia. chain is 9698 lbs.
- Radar reflector is omnidirectional.

**Manufacturers:**
- Source of Design: Phares & Balises
- Drawing Reference: France - 3

B-668
NOLWEN Tail—Tube Solar

Cumulative Area

Area, Ft²

Height, Ft
GENERAL INFORMATION

Name of Buoy: Polyester Buoy
Country of Use: France
Function: For marking rivers and protected shallow water areas. Can be fitted with spherical, conical, or cylindrical towers.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 181 Lbs.
Buoy Draft: 1.23 Ft.
Overall Buoy Length: 5.15 Ft.
Focal Height of Light: 2.93 Ft.
Buoy Beam or Diameter: 3.48 Ft.
Freeboard: No Mooring:
Minimum: 0.86 Ft.
Pounds Per Inch Immersion: 34 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 368 Lbs.
Wave Motion Response: Wave Following
Construction Material:
Hull Shell: Polyester
Hull Filling:
Tower: Polyester
Topmark:
Counterweight: Concrete

Coating/Coloring System:
Subdivision: Two Compartment
Hull Type: Bi-Conical
Counterweight Type: Internal

B-670
RELATED EQUIPMENT

- Number of Power Sources: 2
- Type of Power Sources: Magnezium Bioxyde Batteries
- Lighting Equipment: 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: 0.000 In.
    - Type:
  - Sinker Size: 0 Lbs.
  - Topmark Type: Lateral
  - Number of Padeyes: 2

OPERATING CHARACTERISTICS

- Operating Environment: PM
- Nominal Visual Range of Daymark: 1.2 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:
Nominal life of lamp 500 hours.

Special Features:
A photocell installed on the spherical tower controls the functioning of the light. Flash sequence is controlled by an electronic programmer.

Stability Notes:
Weight of bare buoy hull is 128 lbs.

General Notes
Cylindrical (can) and conical (nun) type buoys can also be equipped with four solar panels (5W, 12V) and 12V 24 Ah battery.

Manufacturers:
Source of Design: Phares & Balises
Drawing Reference: France-7, 8, 9
Polyester Buoy (Spherical)

Cumulative Area

Area, Ft$^2$

Height, Ft
Name of Buoy: ARTEMIS Lighted Buoy

Country of Use: France MFG-1

Function: A hemispherical shaped buoy developed by Gisman Co.

Date Of Last Update For This Record: 10/30/90

Buoy Weight: 2,556 Lbs.

Buoy Draft: 4.59 Ft.

Overall Buoy Length: 16.40 Ft.

Focal Height of Light: 11.81 Ft.

Buoy Beam or Diameter: 9.00 Ft.

F: seaboard: No Mooring: 1.64 Ft.

Minimum: 1.29 Ft.

Pounds Per Inch Immersion: 266 Lbs.

Metacentri Height: 4.30 Ft.

Reserve Buoyancy: 9,560 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell: GRP Composite
Hull Filling: Closed Cell Foam
Tower: GRP
Topmark:
Counterweight: Stl Shot And Rings

Coating/Coloring System:

Subdivision: Hull Filled

Hull Type: Hemispherical

Counterweight Type: Fixed&Variable Rings

B-676
RELATED EQUIPMENT

Number of Power Sources: 6

Type of Power Sources: 5 Solar Panels And Battery

Lighting Equipment: 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: 0.000 In.
Type:

Sinker Size: 0 Lbs.

Topmark Type: Cardinal

Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM

Nominal Visual Range of Daymark: 2.4 Nmi.

Radar Range: 0.0 Nmi.

Maximum Current: 0.0 Kts.

Mooring Depth: Minimum: 10 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:
Superstructure is a tube with a pentagonal platform at mid-height for solar panels. At top of the slanted panels is another pentagonal platform supporting the lantern and the topmark.

Stability Notes:
Roll period: 3.8 sec.

General Notes:

Manufacturers: Gisman Co.
Source of Design: Gisman
Drawing Reference: France MFG 1-1
ARTEMIS Lighted Buoy

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: DAPHNE Lighted Buoy

Country of Use: France MFG-1

Function: A new toroid shaped buoy developed by Gisman Co.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 2,476 Lbs.
Buoy Draft: 1.80 Ft.
Overall Buoy Length: 16.00 Ft.
Focal Height of Light: 10.80 Ft.
Buoy Beam or Diameter: 8.53 Ft.
Freeboard: No Mooring: 2.13 Ft.
Minimum: 1.97 Ft.
Pounds Per Inch Immersion: 191 Lbs.
Metacentric Height: 3.84 Ft.
Reserve Buoyancy: 7,750 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell: GRP Composite
Hull Filling: Closed Cell Foam
Tower: GRP
Topmark:
Counterweight:
Coating/Coloring System:
Subdivision: Hull Filled
Hull Type: Double Toroid
Counterweight Type: Inside Skirt

B-680
RELATED EQUIPMENT

Number of Power Sources: 6
Type of Power Sources: 5 Solar Panels & Battery
Lighting Equipment: 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: 0.000 In.
   Type:
Sinker Size: 0 Lbs.
Topmark Type: Cardinal
Number of Padeyes: 6

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: 10 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:
Superstructure is a pyramid of five tubular legs supporting two pentagon shaped platforms: the lower for solar panels, the upper for the lantern and topmark.

Stability Notes:
Roll period: 4.2 sec.

General Notes:
The buoy skirt has holes at the bottom part.

Manufacturers: Gisman
Source of Design: Gisman
Drawing Reference: France MFG 1-2
**GENERAL INFORMATION**

Name of Buoy: Inland lighted STD steel  
Country of Use: Germany  
Function: Lighted version of the standard inland waterways buoy. The original name is "Yellow Light Buoy" and is used for marking anchor locations.

Date Of Last Update For This Record: 11/09/90

**PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buoy Weight</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Buoy Draft</td>
<td>2.95 Ft.</td>
</tr>
<tr>
<td>Overall Buoy Length</td>
<td>7.40 Ft.</td>
</tr>
<tr>
<td>Focal Height of Light</td>
<td>3.87 Ft.</td>
</tr>
<tr>
<td>Buoy Beam or Diameter</td>
<td>3.44 Ft.</td>
</tr>
</tbody>
</table>
| Freeboard                       | No Mooring: 0.00 Ft.  
|                                 | Minimum: 0.00 Ft.   |
| Pounds Per Inch Immersion       | 0 Lbs.         |
| Metacentric Height             | 0.00 Ft.       |
| Reserve Buoyancy                | 880 Lbs.       |
| Wave Motion Response            | Wave Following |
| Construction Material           | Hull Shell : Sheet Steel (1.75mm)  
|                                 | Hull Filling : Rigid Polyurethane  
|                                 | Tower :  
|                                 | Topmark : Polyethylene  
|                                 | Counterweight: Cast Iron |
| Coating/Coloring System         | Ordinary & Fluorescent Colors |
| Subdivision                     | Hull Filled    |
| Hull Type                       | Cylindrical/Conical |
| Counterweight Type              | Ringson External Tube |
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Battery Set
Lighting Equipment: GV 0.71A Signal 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: 0.394 In.
   Type: Chn/WR/Plast Rope
Sinker Size: 400 Lbs.
Topmark Type:
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM
Nominal Visual Range of Daymark: 1.4 Nmi.
Radar Range: 1.9 Nmi.
Maximum Current: 3.5 Kts.
Mooring Depth: Minimum: 0 Ft.
   Maximum: 0 Ft.
Reflective Material Type: 3M ScotchliteEng.Gr.Series2270
ADDITIONAL DATA

Cost: Replacement: $1,440
      Preparation: $0
      Monthly Servicing: $0

Service Life: 10.0 Yrs.

Maintenance Interval: 24 Mos.

Maintenance Notes:
Can be handled by two persons or by davits on a ton boats.
Special care needed in welding sheet steel skin. Only minor
local burning of the PU foam is allowable.

Special Features:

Stability Notes:
Sinker size given is for direct mooring form the side in low
current areas.

General Notes
Cost info from MR. Kuhlbrodt of SZVF
(Seezeichenversuchsfeld)

Radar reflector is omnidirectional.

Manufacturers: Weiselerbojen

Source of Design: SZVF

Drawing Reference: Germany-9
Inland Lighted STD Steel

Cumulative Area

Area, ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: Inland Unlighted STD Steel

Country of Use: Germany

Function: Original name: Binnenfahrwassertonne. A standard buoy developed in 1970 for use in all German inland waterways.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 106 Lbs.
Buoy Draft: 0.00 Ft.
Overall Buoy Length: 7.09 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 3.44 Ft.
Freeboard: No Mooring: 0.00 Ft. Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.00 Ft.
Reserve Buoyancy: 880 Lbs.

Wave Motion Response: Wave Following

Construction Material: Hull Shell : Sheet Steel (1.75mm)
                      Hull Filling : Rigid Polyurethane
                      Tower :
                      Topmark : Polyurethylene
                      Counterweight: Cast Iron

Coating/Coloring System: Ordinary and Fluorescent Color

Subdivision: Hull Filled

Hull Type: Cylindrical/Conical

Counterweight Type: External Tube-rings
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources:
Lighting Equipment:
Sound Equipment:
Other Payload: Reflector built-in to topmark
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 0.394 In.
   Length : 0.0 Ft.
Mooring Line: Size: 0.000 In.
   Type: Chn/Wr/Plastic Rope
Sinker Size: 400 Lbs.
Topmark Type: Can/Nun/Ball/Spar
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: PM
Nominal Visual Range of Daymark: 1.7 Nmi.
Radar Range: 0.0 Nmi.
Maximum Current: 3.0 Kts.
Mooring Depth: Minimum: 0 Ft.
   Maximum: 0 Ft.
Reflective Material Type: 3M Scotchlite Eng. Gr. Ser.3270
ADDITIONAL DATA

Cost: Replacement: $650

Preparation: $0

Monthly Servicing: $0

Service Life: 10.0 Yrs.

Maintenance Interval: 24 Mos.

Maintenance Notes:
Can be handled manually by two persons or with davits on aton boats. Can be repaired without problems but with special care in welding sheet steel skin. Only minor local burning of the PU foam is allowable.

Special Features:
This buoy may be equipped with can or nun or ball or a cylindrical spar (Bober) type topmarks. It has also been manufactured in GRP instead of steel. Weight of the GRP buoy is 82 lbs.

Stability Notes:
Sinker size shown (400 lbs) is for direct mooring in low current areas. In high current areas a ground chain is also used. In waters with shifting and/or rock & gravel bottom, chain may be shackled to up to 900 lbs sinkers, or stlpiles.

General Notes
Weight/Dimensions and cost shown are for the version with a can or nun type daymark (with built-in radar reflectors) and with tail tube and two ballast weights. Cost info from SZVF.

Manufacturers: Weiselerbojen

Source of Design: Seezeichen VF

Drawing Reference: Germany-10
Inland Unlighted STD Steel

Cumulative Area

Area, Ft²

0 1 2 3 4 5 6 7 8 9

Height, Ft
GENERAL INFORMATION

Name of Buoy: Leuchttonne 61
Country of Use: Germany

Function: A lighted buoy of 1961 design for use in port approaches and coastal areas up to a water depth of 50 ft.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 10,839 Lbs.
Buoy Draft: 14.70 Ft.
Overall Buoy Length: 35.10 Ft.
Focal Height of Light: 12.14 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard: No Mooring: 0.72 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 2.13 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: Ordinary & fluorescent colors
Subdivision:
Hull Type: Cylindrical/Conical
Counterweight Type: External Half Rings
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Propane Container - 300 Kg
Lighting Equipment: Gas 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: 0.000 In.
Type:
Sinker Size: 0 Lbs.
Topmark Type: Cardinal
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: 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: 50 Ft.

Reflective Material Type:

B-692
ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
Propane container can only be removed and replaced after removing the superstructure. Since it is very difficult to do this at sea, propane replacement should be done on shore during overhaul.

Special Features:
Buoy hull and tailtube and superstructure are interchangeable with those of the 1972 and 1982 design lighted buoys.

Stability Notes:
Period of roll is 4.33 sec.

General Notes
Tail tube may be of the 3-leg open structure or monotude closed-end design.

Manufacturers: F Hebold
Source of Design: Seezeichen VF
Drawing Reference: Germany-3
Leuchttone 61

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: Leuchttonne 61 with reflector

Country of Use: Germany

Function: Modified version of the 1961 lighted buoy. Superstructure is altered to contain a radar reflector so that the buoy can be used in deeper waters.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 11,082 Lbs.

Buoy Draft: 14.78 Ft.

Overall Buoy Length: 36.25 Ft.

Focal Height of Light: 15.06 Ft.

Buoy Beam or Diameter: 8.20 Ft.

Freeboard: No Mooring: 0.69 Ft.
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 1.64 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: Ordinary & fluorescent colors

Subdivision:

Hull Type: Cylindrical/Conical

Counterweight Type: External Half Rings
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: 300 KG Propane Container
Lighting Equipment: Gas Lantern
Sound Equipment:
Other Payload: SR-900 mm 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
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 5.6 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 50 Ft.

Reflective Material Type:
## ADDITIONAL DATA

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<th>Cost:</th>
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<td>Preparation:</td>
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</tr>
<tr>
<td></td>
<td>Monthly Servicing:</td>
<td>$0</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Service Life:</th>
<th>0.0 Yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance Interval:</td>
<td>0 Mos.</td>
</tr>
</tbody>
</table>

**Maintenance Notes:**
- Propane container replacement requires removal of superstructure.

**Special Features:**
- Buoy hull, tailtube, and superstructure are interchangeable with those of the 1972 and 1981 design lighted buoys.

**Stability Notes:**
- Period of roll is 5.46 sec.

**General Notes**
- Tail tube may be of the 3-leg open structure or monotube closed-end design.
- Radar reflector is omnidirectional.

**Manufacturers:**
- Source of Design: Seezeichen VF
- Drawing Reference: Germany-4

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B-697
Leuchttonne 61 with Reflector

Cumulative Area

Area, Ft^2

Height, Ft
GENERAL INFORMATION

Name of Buoy: Leuchttonne 72

Country of Use: Germany

Function: A modified version of 1961 lighted buoy with hull thickness reduced from 12 to 6 mm and lighter superstructure for use in deep waters.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 8,962 Lbs.

Buoy Draft: 13.91 Ft.

Overall Buoy Length: 37.85 Ft.

Focal Height of Light: 13.71 Ft.

Buoy Beam or Diameter: 8.20 Ft.

Freeboard: No Mooring: 1.51 Ft.
Minimum: 0.00 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 2.53 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

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

Coating/Coloring System: Ordinary & fluorescent colors

Subdivision:

Hull Type: Cylindrical/Conical

Counterweight Type: External Half Rings
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: 300 KG Propane Bottle
Lighting Equipment: Gas 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: 0.000 In.
    Type:
Sinker Size: 0 Lbs.
Topmark Type: Cardinal
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.4 Nmi.
Rada. 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:
Propane container can only be exchanged after removing the superstructure.

Special Features:
Hull, tube, tower, and their parts are interchangeable with the 1961 and 1981 design lighted buoys.

Stability Notes:
Period of roll is 4.59 sec.

General Notes
The superstructure of this buoy proved to be the weak point. Large radar reflectors could not be installed. Led to the 1981 lighted buoy design.

Manufacturers:
Source of Design: Seezeichen VF
Drawing Reference: German-5
Leuchttonne 72

Cumulative Area

Area, Ft\(^2\)

Height, Ft
GENERAL INFORMATION

Name of Buoy: Leuchttonne 81 Emden

Country of Use: Germany

Function: A modified version of standard 1981 lighted ocean buoy using Emden style lantern support per dwg S985.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 11,085 Lbs.
Buoy Draft: 14.70 Ft.
Overall Buoy Length: 38.95 Ft.
Focal Height of Light: 14.97 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard: No Mooring: 0.69 Ft.
            Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 1.64 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: Ordinary & fluorescent colors

Subdivision:

Hull Type: Cylindrical/Conical
Counterweight Type: External Half Rings
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Propane Container - 300 Kg
Lighting Equipment: Gas Lantern
Sound Equipment:
Other Payload: Radar Reflector - SR6 900 mm
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
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 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:
Replacement of propane container at site very difficult.
Must be scheduled to coincide with buoy overhaul on shore.

Special Features:
Tail Tube is interchangeable with all LT81, LT72, and LT61 buoys.

Stability Notes:
Roll period: 5.46 sec.

General Notes
Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Seezeichen VF
Drawing Reference: Germany-11
GENERAL INFORMATION

Name of Buoy: Leuchttonne 81 standard

Country of Use: Germany

Function: A lighted ocean buoy developed in 1981 by The Federal Waterways Authority - equipped with lantern support of dwg no. S924.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 9,360 Lbs.
Buoy Draft: 14.01 Ft.
Overall Buoy Length: 37.85 Ft.
Focal Height of Light: 14.73 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard: No Mooring: 1.41 Ft.
          Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 1.85 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: Ordinary & fluorescent colors

Subdivision:

Hull Type: Cylindrical/Conical

Counterweight Type: Half rings-External

B-707
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: Propane Container - 300 Kg
Lighting Equipment: Gas Lantern

Sound Equipment:

Other Payload: SR6-900 mm Dia 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
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 5.3 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.

Reflective Material Type:

B-708
ADDITIONAL DATA

Cost: Replacement: $11,000  
Preparation:   $0  
Monthly Servicing: $0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:
Propane container can only be exchanged after removing the superstrutre - exchange at sea is difficult - maintenance must be so scheduled that exchange can be made on shore.

Special Features:
Tail tubes, buoy hulls, superstrutre and all parts thereof are interchangeable with those of the 1961 and 1972 design lighted buoys.

Stability Notes:
Period of rollf 5.48 sec.

General Notes
Tail tube may be there legged open structure or monotube closed design type.

Radar reflector is omnidirectional.

Manufacturers: F Hebold & Others

Source of Design: Seezeichen VF

Drawing Reference: Germany-6
Leuchtonne 81 Standard

Cumulative Area

Area, Ft$^2$

Height, Ft
GENERAL INFORMATION

Name of Buoy: Leuchttonne 81-High Tower I

Country of Use: Germany

Function: An alternative version of standard 1981 lighted ocean buoy with a 2 meter high lantern support per dwg S986.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 9,558 Lbs.
Buoy Draft: 14.07 Ft.
Overall Buoy Length: 48.79 Ft.
Focal Height of Light: 18.02 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard: No Mooring: 1.35 Ft.
Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 1.32 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: Ordinary & fluorescent colors
Subdivision:
Hull Type: Cylindrical/Conical
Counterweight Type: Extnl Half Rings

B-711
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: 300 KG Propane Container
Lighting Equipment: Gas Lantern
Sound Equipment:
Other Payload: SR-6 900mm 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
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 5.4 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.

Reflective Material Type:

B-712
ADDITIONAL DATA

Cost: Replacement: $11,000
Preparation: $0
Monthly Servicing: $0

Service Life: 30.0 Yrs.

Maintenance Interval: 12 Mos.

Maintenance Notes:
Propane container can only be replaced after removing the superstructure. Exchange at sea is difficult must be scheduled to coincide with overhaul period on shore.

Special Features:
Components including hull, superstructure, tailtube and their parts are interchangeable with the lighted buoys of 1961 and 1972 design.

Stability Notes:
Roll Period 7.1 sec.

General Notes
Tail tube may be or three leg open structure or closed end monotube design.

Radar reflector is omnidirectional.

Manufacturers:
Source of Design: Seezeichen VF

Drawing Reference: Germany-8
Leuchtonne 8-1—High Tower I

Cumulative Area

Area, Ft^2

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: Leuchttonne 81-High Tower II

Country of Use: Germany

Function: An alternative version of standard LT 81 with a 2 meter high lantern support per dwg S986 and 320 kg additional ballast.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 10,265 Lbs.
Buoy Draft: 14.27 Ft.
Overall Buoy Length: 48.79 Ft.
Focal Height of Light: 17.82 Ft.
Buoy Beam or Diameter: 8.20 Ft.
Freeboard: No Mooring: 1.15 Ft.
            Minimum: 0.00 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 2.10 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following
Construction Material: Hull Shell : Steel
                      Hull Filling : Steel
                      Tower : Steel
                      Topmark : Steel
                      Counterweight: Cast Iron
Coating/Coloring System: Ordinary & fluorescent colors
Subdivision:
Hull Type: Cylindrical/Conical
Counterweight Type: External Half Rings

B-715
RELATED EQUIPMENT

Number of Power Sources: 1
Type of Power Sources: 300 kg propane container
Lighting Equipment: Gas lantern
Sound Equipment:
Other Payload: SF-6 900 mm 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
Number of Padeyes: 3

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.7 Nmi.
Radar Range: 5.9 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.  
Maximum: 0 Ft.

Reflective Material Type:
ADDITIONAL DATA

Cost: Replacement: $11,000
Preparation: $0
Monthly Servicing: $0

Service Life: 30.0 Yrs.
Maintenance Interval: 12 Mos.

Maintenance Notes:
Propane container can only be replaced after removing the superstructure. Exchange at sea is difficult - must be scheduled to coincide with overhaul period on shore.

Special Features:
Components of this buoy including tail tube, buoy hull, superstructure and parts thereof are interchangeable with the 1961 and 1972 design lighted buoys.

Stability Notes:
Period of roll 5.94 sec.

General Notes
Tail tube may be of three leg open structure or closed end monotube design.

Manufacturers: F Hebolde & Others
Source of Design: Seezeichen VF
Drawing Reference: Germany-7

B-717
Leuchtonne 81—High Tower II

Cumulative Area

Area, Ft$^2$

Height, Ft
Name of Buoy: Modular Buoy

Country of Use: Germany

Function: A large experimental buoy developed with the purpose of replacing lightships with floating aids. Floating behavior still under investigation to optimize the buoy for use on major landfall positions.

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

Buoy Weight: 0 Lbs.
Buoy Draft: 25.92 Ft.
Overall Buoy Length: 53.22 Ft.
Focal Height of Light: 22.97 Ft.
Buoy Beam or Diameter: 11.48 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: Aluminum
Topmark:
Counterweight: Steel

Coating/Coloring System:
Subdivision: 3 Compartment
Hull Type: Cylindrical
Counterweight Type: Tail Tube Ballast
RELATED EQUIPMENT

Number of Power Sources: 2
Type of Power Sources: Solar panels and gas cylinders
Lighting Equipment: Gas Lantern
Sound Equipment:
Other Payload: Racon and 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: EM
Nominal Visual Range of Daymark: 3.7 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:
Maintenance-free term of duty of more than one year is sought with this buoy.

Special Features:
This buoy can be both assembled and disassembled while afloat and the three components (hull, superstructure, and tail tube) can be separately handled by existing buoy tenders.

Stability Notes:
Excessive tilt (up to 30 degrees) has been recorded.

General Notes
Solar energy is stored in a battery which provides power.

Source of Design: Seezeichenversuchsfli
Drawing Reference: Germany - 12
Modular Buoy

Cumulative Area

Area, Ft²

Height, Ft
BTIS Buoy Record

GENERAL INFORMATION

Name of Buoy: T-86 Conical Buoy-Unlighted.

Country of Use: Germany

Function: Unlighted deepwater buoy.

Date Of Last Update For This Record: 10/30/90

PHYSICAL CHARACTERISTICS

Buoy Weight: 6,150 Lbs.

Buoy Draft: 9.74 Ft.

Overall Buoy Length: 20.28 Ft.

Focal Height of Light: 0.00 Ft.

Buoy Beam or Diameter: 4.92 Ft.

Freeboard: No Mooring: 2.49 Ft.
Minimum: 1.90 Ft.

Pounds Per Inch Immersion: 0 Lbs.

Metacentric Height: 0.98 Ft.

Reserve Buoyancy: 0 Lbs.

Wave Motion Response: Wave Following

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

Coating/Coloring System: Ordinary & fluorescent colors

Subdivision:

Hull Type: Cylinder/Cone Bottom

Counterweight Type:

B-723
T-86 Conical Buoy-Unlighted.

RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources:
Lighting Equipment:
Sound Equipment:
Other Payload:
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 1.024 In.
Length: 16.0 Ft.
Mooring Line: Size: 0.000 In.
Type: 1.024 Steel Chain
Sinker Size: 0 Lbs.
Topmark Type:
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 5.1 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.
Reflective Material Type:

B-724
T-86 Conical Buoy-Unlighted.
Page 3 of 3

ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:
May be moored by bridle off two side padeyes or direct line off bottom padeye.

Special Features:
Roll period is 4.7 sec without mooring and 3.5 sec with 100 ft. chain from bottom eye. GM increases to 1.90 ft. for this case.

Stability Notes:

General Notes

Radar reflector is omnidirectional.

Manufacturers: F. Hebold
Source of Design: Seezeichenversuchsf
Drawing Reference: Germany-2

B-725
GENERAL INFORMATION

Name of Buoy: T-86 Spar Buoy-Unlighted

Country of Use: Germany

Function: Unlighted deepwater buoy.

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

PHYSICAL CHARACTERISTICS

Buoy Weight: 6,170 Lbs.
Buoy Draft: 9.74 Ft.
Overall Buoy Length: 24.50 Ft.
Focal Height of Light: 0.00 Ft.
Buoy Beam or Diameter: 4.92 Ft.
Freeboard: No Mooring: 2.49 Ft.
Minimum: 1.90 Ft.
Pounds Per Inch Immersion: 0 Lbs.
Metacentric Height: 0.72 Ft.
Reserve Buoyancy: 0 Lbs.
Wave Motion Response: Wave Following

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

Coating/Coloring System: Ordinary & fluorescent colors

Subdivision:

Hull Type: Cylinder/Cone Bottom

Counterweight Type:
RELATED EQUIPMENT

Number of Power Sources: 0
Type of Power Sources:
Lighting Equipment:
Sound Equipment:
Other Payload: Small Radar Reflector
Daymark Area: 0.0 Sq. Ft.
Bridle Size: Chain Size: 1.024 In.
Length: 16.0 Ft.
Mooring Line: Size: 1.024 In.
Type: 1.024 Steel Chain
Sinker Size: 0 Lbs.
Topmark Type:
Number of Padeyes: 2

OPERATING CHARACTERISTICS

Operating Environment: EM
Nominal Visual Range of Daymark: 2.5 Nmi.
Radar Range: 5.4 Nmi.
Maximum Current: 0.0 Kts.
Mooring Depth: Minimum: 0 Ft.
Maximum: 0 Ft.

Reflective Material Type:

B-728
T-86 Spar Buoy-Unlighted

ADDITIONAL DATA

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

Service Life: 0.0 Yrs.

Maintenance Interval: 0 Mos.

Maintenance Notes:

Special Features:
Mooring may be by bridle using two side padeyes or direct line from bottom eye.

Stability Notes:
Roll period is 6.5 sec without mooring and 4.4 sec with 100 ft. of chain from bottom. Eye-GM increases to 1.64 ft for this case.

General Notes

Radar reflector is omnidirectional.

Manufacturers: F. Hebold & Others

Source of Design: Seezeichenversuchsf

Drawing Reference: Germany-1