**Purchase Specifications for a
6–13NM+ Marine Lantern**

**Overview**

This specification is for a 6–13NM+ marine lantern.

The lantern shall have a PC or IR programmer for setup, diagnostic and testing.

The manufacturer will be able to provide the option of a self-contained, solar powered assembly housed in a weatherproof enclosure including solar array and sealed battery.

**1.0 Light Characteristics**

The lantern shall be available in 2.5 degree, 5 degree and 10 degree models.

The lantern’s light source will be high efficiency LEDs.

The lantern output shall be available in red, green, white and yellow.

The lantern shall have a maximum luminous intensity (dependent on model) of up to:

- Red lantern output 5,498cd

- Green lantern output 6,594cd

- White lantern output 9,424cd

- Yellow lantern output 4,259cd

The lantern shall have a visible range of 6–13NM+ (AT @ 0.74).

The lantern shall have a horizontal output of 0-360 degrees.

The lantern shall have a vertical divergence of 2.5 degrees, 5 degrees or 10 degrees dependent on model.

The lantern shall have up to 310 user-adjustable flash characters including 256 IALA recommended and 1 custom.

The intensity of the lantern shall be user-adjustable.

**2.0 Electrical Characteristics**

The lantern shall have a typical power draw variable up to 22 watts.

The lantern shall have polarity protected circuit protection.

The lantern shall have a nominal voltage of 12-24VDC.

The lantern shall have an operating temperature range between -40 to 80°C.

**3.0 Physical Characteristics**

The body of the lantern shall be manufactured from 7-stage powder coated aluminium.

The lantern lens shall be UV-stabilised acrylic.

The lantern shall have a lens diameter of up to 224mm (8¾ inches) dependent on model.

The lantern shall have a mounting pattern using 3 x 4 hole 200mm bolt pattern.

The lantern shall have a height of up to 231mm (9⅛inches) dependent on model.

The lantern shall have a width of 230mm (9inches).

The lantern shall have a mass up to 5.5kg (12¼lbs) dependent on model.

The lantern shall have a life expectancy of up to 12 years.

**4.0 Environmental Standards**

The lantern shall meet the following environmental standards:

* Shock: MIL-STD-202G Test Condition H, Method 213B 30G vertical and 35G horizontal shock
* Vibration: MIL-STD-202G, Test Condition B, Method 204D 5G in all axes
* Immersion: MIL-STD-202G, Method 104A
* Salt Fog: Rated to withstand continuous exposure to salt water and spray
* Ice Loading: Rated to withstand 22kg/m2
* Wind Exposure: Rated to withstand 140knots
* Hail Impact: Rated to withstand 25mm diameter ice ball impact at 20m/s
* Humidity: 0 – 100%, condensing
* Driving Rain: at 45° from vertical

**5.0 Options**

The lantern shall be offered with the following options available from the manufacturer:

* GPS synchronisation
* AIS Type 1 or Type 3
* GSM monitoring and control system
* RS232/422/485 port
* General purpose inputs (2) and outputs (2)
* Variety of solar/battery configurations
* Serial programming cable
* Hard-wire synchronisation

**6.0 Certifications**

The lantern shall be IP68 waterproof.

The lantern shall meet IALA E-200-1 Signal Colours.

The manufacturer shall be ISO9001:2008 certified.

The lantern shall meet the following CE and electrical certifications:

* FCC Part 15 Rules & ICES-003.
* EN61000-6-1: 2007 (IEC61000-6-1:2005) Part 6-1 Immunity.
* EN61000-6-3: 2007 (IEC61000-6-3: 2006) Electromagnetic compatibility (EMC) - Part 6-3 Emission.
* IEC61000-4-2: 2008 Ed 2 Part 4-2 Electrostatic discharge immunity test Level 4.
* IEC61000-4-3: 2010 Ed 3.2 Part 4-3. Radiated, radio-frequency, electromagnetic field immunity.
* IEC61000-4-6: 2008 Ed3. , Electromagnetic compatibility (EMC) - Part 4-6 Immunity.

**7.0 Warranty**

The lantern shall have a three (3) year warranty, excluding battery which will have a warranty of one (1) year.