**Purchase Specifications for a**

**3 – 5 NM Solar Marine Lantern**

**Overview**

This specification is for a 3–5NM solar lantern.

The lantern shall have the ability to be remotely programed and maintained utilizing Bluetooth® technology at a distance of 50 meters/164 feet.

**Light Characteristics**

The lantern shall utilize a single, high efficiency LED light source.

The lantern shall have up to 256 IALA flash characters with an additional 54 popular custom characters.

The lantern shall have user-definable flash characters.

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

The lantern shall have a maximum luminous intensity output of 131cd white at 7.5-degree divergence, or 183cd white at 5-degree divergence.

The lantern shall have a visible range of 3-5NM/5.5-9 km.

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

The lantern shall have multiple, user-adjustable intensity settings.

The lantern shall have a vertical divergence of up to 7.5 degrees as standard, or 5 degrees as an option.

The lantern shall utilize a LED light source with a life expectancy of up to 100,000 hours.

1. **Electrical Characteristics**

The lantern shall have integrated polarity protected circuit protection.

The lantern shall have nominal voltage of 3.6 VDC.

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

1. **Solar Characteristics**

The lantern shall have two monocrystalline solar modules.

Each of the lantern’s two solar modules shall be 2.5 watts.

**4.0 Power Supply**

The lantern shall utilize a user-replaceable high grade, nickel metal hydride battery.

The lantern shall utilize a battery with a standard capacity of 17.2 Ah.

The lantern shall have an optional battery with a capacity of 21.5 Ah.

The lantern shall have a nominal voltage of 3.6 V.

 **5.0 Physical Characteristics**

The body of the lantern shall be manufactured from UV-stabilized Lexan® Polycarbonate.

The lens of the lantern shall be manufactured from UV-stabilized Lexan® Polycarbonate.

The lens design shall be a single LED optic.

The lantern shall have a mounting base with three different bolt patterns, including a 3 and 4 hole 200 mm pattern, a 3 hole 150mm bolt pattern, and a 4 hole 162 mm bolt pattern.

The lantern shall have a height of 314mm or 12 3/8 inches.

The lantern shall have a width of 231mm or 9 1/8 inches.

The lantern shall have a net weight mass of 2.5kg or 5.5lbs, dependent on options.

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

**6.0 Options**

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

* GPS synchronization
* GSM monitoring and control system
* Bird deterrent
* Charge Port
* IR programmer
* External Switch
* 21.5 Ah battery

**7.0 Certifications**

The lantern shall be IP68 waterproof.

The manufacturer shall be ISO9001:2015 certified.

The lantern shall meet the following certifications; IFCC 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.

The lantern shall meet IALA recommendation E-200-1 Signal colours

**8.0 Warranty**

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