

Purchase Specifications for a Self-Contained Solar LED Aviation Light

Overview

This specification is for a self-contained solar-powered LED aviation light.

Each light shall be entirely self-contained with 2 x custom solar panels, 3.6v 8Ah NiMH battery, microprocessor-controlled electronics and ultra-high intensity LEDs.

The lights shall be delivered ready to install. The only assembly required will be activation of each individual light and optional mounting accessories.

1.0 Light Characteristics

The light shall use 12 ultra-high intensity LEDs.

The light output shall be available in red, green, white, yellow, blue and sectored combinations.

The light shall have a peak intensity of 9.0cd steady-on (green light output).

The light shall have a horizontal output of 360°.

The light shall have a vertical divergence of 0 - +7°.

The light shall have an omnidirectional 360° LED reflector.

The light shall have a minimum of 250 flash characteristics available. The flash characteristics shall be user adjustable without the need for infrared controllers.

The light shall have intensity adjustments in 25% increments.

2.0 Electrical Characteristics

The light shall have an operating voltage of 3.6v.

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

3.0 Solar Characteristics

The light shall use two multi-crystalline solar modules, angled at 60 degrees.

The output of the solar module shall be 2.5watts.

The solar module efficiency shall be 14%.

Charging regulation shall be microprocessor controlled.

4.0 Power Supply

The light shall use a high grade NiMH battery.

The battery capacity shall be 8Ah.

The nominal voltage shall be 3.6v.

The light shall have an autonomy of at least 14 nights steady-on.

5.0 Physical Characteristics

The light shall be manufactured from UV-stabilised LEXAN® polycarbonate (lens and body).

The light shall have a lens diameter of 140mm (5½ inches).

The light shall have a lens design using external optics with interior flute design.

The light lens shall be pitched to accompany 2 internal solar modules, angled at 60 degrees.

The light shall have a mounting pattern using 6 x 17mm holes on 200mm PCD.

The light shall have a height of 240mm (9½ inches).

The light shall have a width of 231mm (9⅞ inches).

The light shall have a mass of 1.1kg (2⅜lbs).

The light base shall be coloured to indicate the LED output colour during daylight.

6.0 Options

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

- Pilot activated lighting control
- Radio control
- IR LEDs
- External ON/OFF switch
- External battery charging port
- Manual operation

7.0 Environmental Factors

The light shall meet the following environmental factors:

Humidity: 0 to 100%, MIL-STD-810F

Icing: 22kg per square inch

Wind Speed: up to 160kph

Shock: MIL-STD-202G, Test Condition G, Method 213B

Vibration: MIL-STD-202G, Test Condition B, Method 204

8.0 Certifications

The light shall be IP68 waterproof.

The light shall meet CE EN61000-6-3:1997. EN61000-6-1:1997

The manufacturer shall be ISO9001:2008 certified.

9.0 Compliance

The light shall comply with:

- FAA AC150/5370-2E for construction and barricade installations
- ICAO Annex 14 Volume 1, 'Aerodrome Design and Operations', Forth edition July 2004, paragraph 5.3.17.7.

10.0 Warranty

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