**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 (9⅛ 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-STD202G, 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.