POINT HELIDECK LIGHTS
PRL-EX-LSM LED v4
CLASS I, DIVISION 2 & ZONE 2

Compliances:
ETL Listed Class I, Division 2, Groups A B C D, T6 at -40 deg C to +55 deg C
ETL Listed Class I, Zone 2, Groups IIA, IIB+H2, IIC T6 at -40 deg C to +55 deg C
ETL Listed to UL 844 & UL 1598
ETL Listed to UL 1598A Marine Vessels at -40 deg C to +55 deg C
ETL Listed to CSA C22.2 No. 137-M1981 & No. 250.0-08 Canada
FAA AC 150/5390-2B Heliport Design Guide
Registered ISO 9001:2008
ICAO Annex 14, Volume II
UK CAA CAP 437 & Transport Canada TP14371, AGA 7.17
IMO 2009 MODU Code (2010) paragraph 13.5.20
American Bureau of Shipping (ABS) Type Approved Product
ABS Green Passport per MEPC179(59)

The PRL-EX-LSM is an 8-inch diameter surface mounted light less than 6-inches high used for metal helidecks or existing pavement heliports on the FATO perimeter. The lens and optical assembly are sealed mechanically without the use of chemical sealants.
Silicone-filled wire connectors are included. Standard with our marine treatment finish and ground lug. Standard with 2 x 1-inch NPT entries at 0 & 180-degrees See file 0MOUNTINGS Detail H14

Point Type — Voltage — Array — Color — EX — Mounting & Options
PRL-97004
1: 120v H: Heliport G: Green EX: Class I VB: Variable Brightness
2: 220v C: CAP 437 Y: Yellow Div 2 LSM: Low Surface Mount
3: 12v DC N: NVG * W: White Zone 2 M20: Metric M20
4: 24v DC B: Blue M25: Metric M25
R: Red NC: NVG compatibility**
IR: Infrared NVG TB: Terminal Blocks

Note: Array H brightness exceeds ICAO Annex 14
* For NVG tactical use only: PRL-97704-1N-IR-LSM-MT
** For use with visible (non-IR) array; adds IR LEDs.

The Marine Treatment finish is used for all marine, high salt content air and other corrosive environments. The fixture shall be treated for marine conditions by cleaning per US Department of Defense TT-C-490 method III, pretreated with chrome-free aluminum conversion coating per US MIL-C-5341 type II, epoxy powder base coat primer and glossy polyester powder coat finish in color RAL 6003 (FED-STD-595 color #14097) dark green. Powder coating per US Department of Defense MIL-PRF-24712A type VI and oven cured.

All external hardware is grade 316 (A4) stainless steel.
Metal castings are copper-free (< 0.25%) heat treated aluminum.

Intertek Control Number: 3030033

The PRL v4 H array is 4.5 watts at 120-220V
The PRL v4 C array is 7.4 watts at 120-220V

PRL-97004-1C-G-EX-LSM

CLEAR LENS BUT GREEN LIGHT PRODUCED
COLOR CODED LED BOARD
POINT HELIDeCK LIGHTS
PRL-EX-LSM LED v4
CLASS I, DIVISION 2 & ZONE 2

PRL-EX-LSM LED SPECIFICATIONS

The PRL-EX-LSM (specify: color), (specify: voltage) 50/60 Hz surface mounted LED light shall not exceed 150mm in height. The unit shall operate properly within an input voltage supply range of 93V to 144V for 120V units and for 176V to 250V for 220V units. Within the preceding ranges, the output to the LED board shall be a controlled, stabilized constant current.

The lights shall be listed and labeled for use in hazardous locations: Class I, Division 2, Groups A, B, C, D & T6 and Class I, Zone 2, Groups IIA, IIB+H, IIC with a temperature rating of T6 per UL844 & CSA C22.2 No. 137-M1981.

The heliport lights shall be listed Suitable for Use in Wet Locations to UL1598A Marine Vessels (for AC), UL1598 2nd Edition Luminaries; CSA C22.2 No. 250.0-08, 2nd Edition; UL50 11th Edition Standard for Enclosures for Electrical Equipment and CSA C22.2 No. 94-M91 Special Purpose Enclosures for use at -40 deg C to +55 deg C and sealed to IP66 ingress protection.

The light shall be cast aluminum copper-free, heat treated and assembled with all external hardware grade 316 (A4) stainless steel. The lens and lamp housing (optical assembly) shall be sealed mechanically without the use of chemical sealants. Entry to the light housing shall be by means of conduit or cable gland(s) (by others). The manufacturer shall include silicone-filled wire nut connectors for use by the installer for watertight connections.

The LED lighting circuits shall be remotely dimmable by means of a heliport controller designed and produced by the lighting manufacturer. Option -VB: For use with the PHC-61002 or PHC-61003 adjustable brightness heliport controller, this option is required. The PHC Heliport Lighting Controller shall incorporate an IEC approved surge suppressor and current limiting circuit breakers on each load output.

The photometric performance shall exceed 25 candelas over a range defined by ICAO Annex 14, Volume II, Figure 5-9. The LED light shall have a tested and verified power consumption not exceed (see chart next page).

The fixture shall be treated for marine conditions by cleaning per US Department of Defense TT-C-490 method III, pretreated with chrome-free aluminum conversion coating per US MIL-C-5541 type II, epoxy powder base coat primer and glossy polyester powder coat finish in color RAL 6003 (FED-STD-595 color #14097) dark green. Powder coating per US Department of Defense MIL-PRF-24712A type VI and oven cured.

The outer glass lens shall be smooth and rounded to reduce the adhesion of dirt, ice and snow. The glass shall be clear to maximize light transmissivity.

The unit shall be warranted to withstand an ambient temperature range of: +130 deg F (+55 deg C) to -67 deg F (-55 deg C).

The color emitting LEDs shall meet the chromaticity requirements of US MIL-C-25050. The high output LED’s be the latest technology providing uniform light output in 360 degrees horizontal. The LED average life shall exceed 100,000 hours. The LEDs shall be soldered in a factory set position to insure consistent light output. Wire mounted raised LEDs that can be bent out of position shall be unacceptable and cause for rejection. The LED board shall be treated with a protective dielectric conformal coating for protection from moisture and corrosion.

The power supply board shall include short circuit and open circuit protection and the unit shall be protected from line surges by metal oxide varistors (MOVs). There shall be a clear design element for the dissipation of LED heat to insure the LEDs do not fail prematurely.

PRL shall be secured to the LSM mounting base by three (3) socket head stainless steel screws supplied by the manufacturer. A ground lug is included as standard.

The LED helideck light shall be POINTSPEC Series PRL-97004-EX-LSM manufactured by Point Lighting Corporation.

Myth: All LED’s have a useful life of 100,000 hours

The amount of usable light—about 70% of original light output—from some LED’s has been shown to be very short depending on the color and manufacturer of the LED. That is why the quality of the LED array and power supply is very important and they should be of the latest technology as used by Point Lighting Corporation.

Myth: LED’s do not create heat

LED’s do create heat, but the heat generated is retained within the LED array and needs to be dissipated. Without a proper design, the LED will fail very early in life. The PRL LED array design incorporates an aluminum heat sink to dissipate the heat. Some competitors’ lights—by design—cannot handle the heat.
**POWER CONSUMPTION**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Voltage</th>
<th>Frequency</th>
<th>Watts*</th>
<th>VA*</th>
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<tbody>
<tr>
<td>-1H</td>
<td>Array H</td>
<td>120 AC</td>
<td>50/60 Hz</td>
<td>4.5</td>
<td>5.24</td>
</tr>
<tr>
<td>-2H</td>
<td>Array H</td>
<td>220 AC</td>
<td>50/60 Hz</td>
<td>4.5</td>
<td>5.47</td>
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<tr>
<td>-3H</td>
<td>Array H</td>
<td>12 DC</td>
<td>---</td>
<td>4.0</td>
<td>---</td>
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<tr>
<td>-4H</td>
<td>Array H</td>
<td>24 DC</td>
<td>---</td>
<td>4.0</td>
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</tr>
<tr>
<td>-1C</td>
<td>Array C</td>
<td>120 AC</td>
<td>50/60 Hz</td>
<td>7.4</td>
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</tr>
<tr>
<td>-2C</td>
<td>Array C</td>
<td>220 AC</td>
<td>50/60 Hz</td>
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<td>8.0</td>
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<tr>
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<td>Array C</td>
<td>24 DC</td>
<td>---</td>
<td>6.0</td>
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</tbody>
</table>

Option –NC Add 1.0 watt and 1.1 VA

*Power consumption for AC units includes the effect of the unit’s power factor which accounts for the difference between watts and volt-amperes. Measurements were made at the nominal AC voltages. The operating range for 120v units is 93 - 144v. The operating range for 220v units is 176 - 250v.

Point Lighting Corporation recommends return for factory repair and refurbishment of LED PRL-EX lights

**RECOMMENDED TOOLS**

Point Lighting Corporation recommends return for factory repair and refurbishment of LED PRL lights. In the event of field service, the PL10839 preset torque wrench kit use with the instruction manual is recommended to assure proper resealing of the fixture.

**PL10839**
Tool, Preset Torque Wrench Kit
For the socket head screws fixing the PRL lens clamp ring and for fixing the power supply subassembly.

**PL10860**
Tool, T-handle Wrench
For the three socket head screws fixing the PRL optical subassembly to the LSM mounting base.

Consult the factory and the manual before attempting field repair.
Point Lighting Corporation offers several options for combining infrared and color LEDs to render our lights visible with and without NVG. Select option -NC.

### Night Vision Goggles (NVG)

- **Instruction Sheet:** IS97004-EX-LSM
- **LED Life (hours):** 100,000
- **Housing Dia:** 8.0 (203)
- **Height:** 5.75 (146)
- **Bolt Circle (4):** 9.75 (248)
- **Bolt Hole diam:** 0.406-inch 10.3 mm
- **Weight:** 12.0 lbs 5.5 kg

### Replacement Parts

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>PL10523-C</td>
<td>Lens, Clear*</td>
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<tr>
<td>PL10901-G-C</td>
<td>LED Array C, Green</td>
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<tr>
<td>PL10901-G-H</td>
<td>LED Array H, Green</td>
</tr>
<tr>
<td>PL10926-G-C</td>
<td>LED Array C, Green with -NC</td>
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<tr>
<td>PL10926-G-H</td>
<td>LED Array H, Green with -NC</td>
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<tr>
<td>PL10530</td>
<td>Gasket, Lens Upper</td>
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<tr>
<td>PL10531</td>
<td>Gasket, Lens Lower</td>
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<tr>
<td>PL10532</td>
<td>Gasket, Lamp Housing</td>
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<tr>
<td>PL10049-4-6</td>
<td>Gasket, Base</td>
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<tr>
<td>PL10524-118</td>
<td>Screw, Socket Head</td>
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<tr>
<td>PL10839</td>
<td>Tool, preset torque wrench kit</td>
</tr>
<tr>
<td>PL10860</td>
<td>Tool, T-handle wrench</td>
</tr>
</tbody>
</table>

* All PRL v4 lights use a clear outer lens.