



POINT HELIDECK LIGHTS PRL-LSM LED LOW SURFACE MOUNT LIGHT

Compliances: ETL Listed to UL 1598 US & CSA C22.2 No.250.0-04 Canada
 ETL Listed to UL 1598A Marine Vessels
 FAA AC 150/5390-2B Heliport Design Guide
 ICAO Annex 14, Volume II
 UK CAA CAP 437, Chapter 4, paragraph 3.1
 Transport Canada TP14371, AGA 7.17
 American Bureau of Shipping (ABS) Type Approved Product

The PRL-LSM LED 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 PRL provides better visibility and circling guidance than comparable lights with metal covers and incandescent lamps. The lens and optical assembly are sealed mechanically without the use of chemical sealants. The cable may enter via conduit or a watertight compression fitting. Silicone-filled wire connectors and ground lug are included for installer use. For offshore helidecks, use option -MT Marine Treatment. See specifications page 3.

See file 0MOUNTINGS detail H26

Standard with 2 x 1-inch NPT at entries 0 & 180-degrees

Point Type	Voltage	Array	Color	Mounting & Options
PRL-97002 	1: 120v	P: note 1	G: Green	VB: Variable Brightness
	2: 220v	H: note 2	Y: Yellow	LSM: Low Surface Mount Base
	3: 12v DC	F: note 3	C: White	MT: Marine Treatment
	4: 24v DC	N: NVG	R: Red B: Blue IR: Infrared NVG	CF: Cable Gland (NPT only) M2x: Metric Thread (M20 or M25) NC: NVG compatibility*

Note 1: Array P is good for general use fixed brightness (no dimming) at approximately PHC brightness step 2.

Note 2: Array H exceeds ICAO Annex 14, Vol II and is suggested for use with the dimmable PHC controller (add option -VB).

Note 3: Array F is for offshore CAP 437 compliance.

* For use with visible (non-IR) arrays P or H; adds IR LEDs. Option -NC2 is IR or visible mode switchable.

PRL-97002-1F-G-LSM-MT-CF
WITH MARINE TREATMENT



PRL-97002-1H-G-LSM-CF
STANDARD UNIT

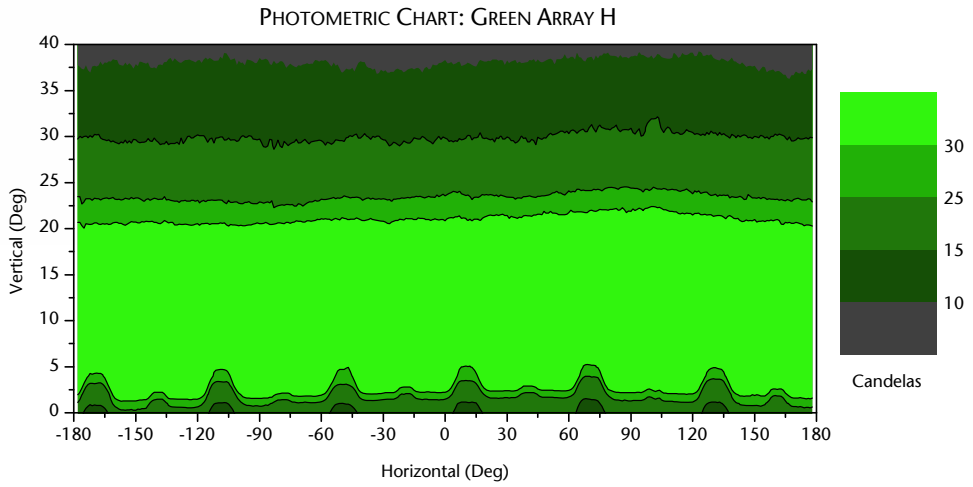


Option -MT is recommended for all marine, high salt content air and other corrosive environments. *The fixture shall be treated for marine conditions by cleaning per US MIL method III of TT-C-490, chromate priming per US MIL-C-5541, epoxy powder base coat and glossy polyester powdercoat finish coat in color RAL 6003 (FED-STD-595 color #14097) green. Oven cured per US MIL-PRF-24712A.*



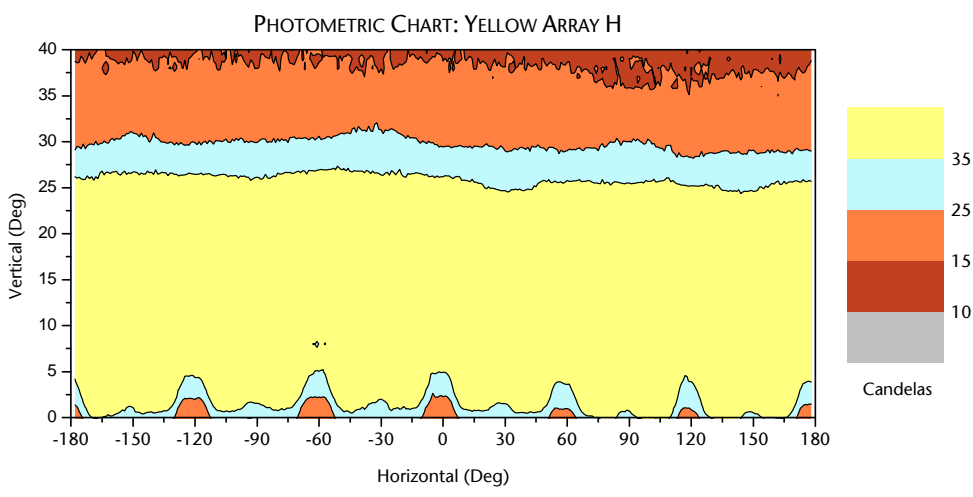


LED Array H in Green:
Average Peak Beam
50 cd at 12-deg V



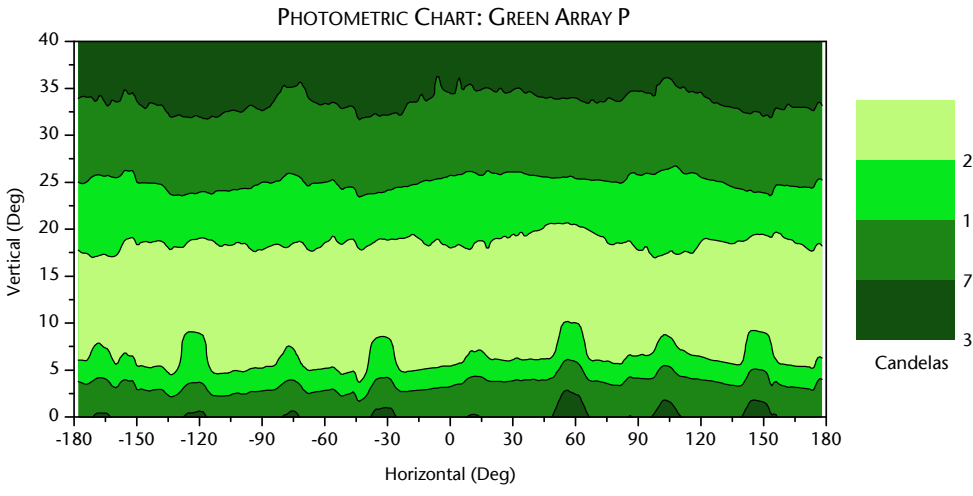
ICAO Annex 14
Volume II, Chapter 5:
Minimum 25 cd
at 10 & 20 deg V

LED Array H in Yellow:
Average Peak Beam
60 cd at 15-deg V

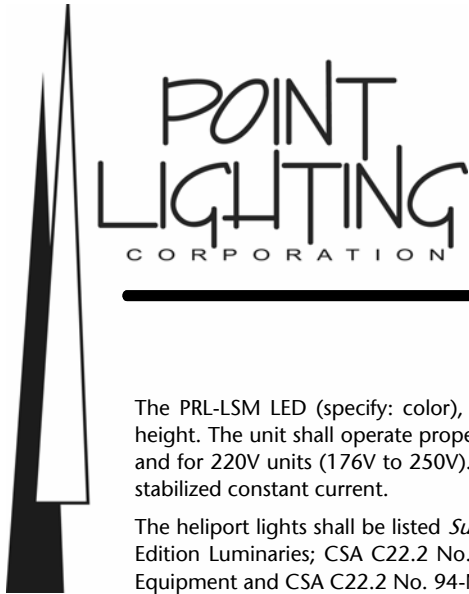


The lights are dimmable
by installing:
POINT LIGHTING CORP
PHC-61002
Heliport Controller

LED Array P in Green:
Average Peak Beam
30 cd at 12-deg V



"LED signals can be expected to provide an additional margin of conspicuity over incandescent light sources with the same luminous intensity."
--- Transport Canada 2003 Study TP14043E



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PRL-LSM LED SPECIFICATIONS

The PRL-LSM LED (specify: color), (specify: voltage) 50/60 Hz surface mounted light shall not exceed 150mm in height. The unit shall operate properly within an input voltage supply range of +/- 20% for 120V units (93V to 144V) and for 220V units (176V to 250V). Within the preceding ranges, the output to the LED board shall be a controlled, stabilized constant current.

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. 250.0-04, 2nd Edition; UL50 11th Edition Standard for Enclosures for Electrical Equipment and CSA C22.2 No. 94-M91 Special Purpose Enclosures. Sealed to IP66 ingress protection.

The light shall be cast aluminum and assembled with all stainless steel hardware. 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 watertight cable compression fitting(s). The manufacturer shall include silicone-filled wire 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 to exceed (see chart next page).

The light casting shall be powdercoat painted aviation yellow* for corrosion resistance certified by the manufacturer to comply with the US Military Standard Salt Fog Test conducted per MIL-STD-810E, Method 509.3, Procedure I. All hardware shall be stainless steel. The colored outer glass lens shall be smooth and rounded to reduce the adhesion of dirt, ice and snow. The glass color shall be matched to the LED wavelength 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).

* Option -MT: The fixture shall be treated for marine conditions by cleaning per US MIL method III of TT-C-490, chromate priming per US MIL-C-5541, epoxy powder base coat and glossy polyester powdercoat finish coat in color RAL 6003 (FED-STD-595 color #14097) dark green. Oven cured per US MIL-PRF-24712A.

The color emitting LEDs shall meet the chromaticity requirements of US MIL-C-25050. The high output LED's shall not exceed six (6) in number and shall be the latest technology providing uniform light output over the range three (3) to twenty (20) degrees vertical and 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. Note: It is strongly recommended that the circuit also be directly protected by a Point Lighting Corporation surge suppression device such as a PHC, SPU or PRC unit.

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

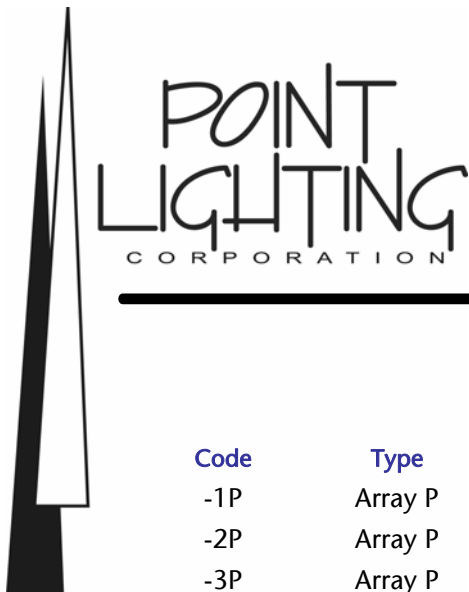
The LED aviation inset light shall be POINTSPEC Series PRL-97002-LSM manufactured by Point Lighting Corporation.

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

The amount of useable 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.



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POWER CONSUMPTION

Code	Type	Voltage	Frequency	Watts*	mA	VA*
-1P	Array P	120 AC	50/60 Hz	5.7	58	7.0
-2P	Array P	220 AC	50/60 Hz	5.6	33	7.2
-3P	Array P	12 DC	---	5.6	470	---
-4P	Array P	24 DC	---	5.5	230	---
-1H	Array H	120 AC	50/60 Hz	7.7	80	9.6
-2H	Array H	220 AC	50/60 Hz	7.6	43	9.5
-3H	Array H	12 DC	---	8.4	700	---
-4H	Array H	24 DC	---	8.3	340	---
-1F	Array F	120 AC	50/60 Hz	9.7	91	10.8
-2F	Array F	220 AC	50/60 Hz	9.7	49	10.8
-3F	Array F	12 DC	---	13.0	960	13.0
-4F	Array F	24 DC	---	13.0	540	13.0

*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.

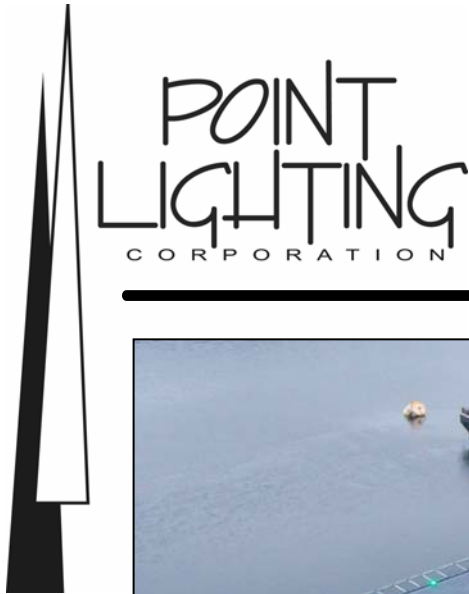
RECOMMENDED TOOLS

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.



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

PL10839
Tool, Preset Torque Wrench Kit
For the socket head screws fixing the PRL lens clamp ring and for fixing the power supply subassembly.
Consult the factory and the manual before attempting field repair.



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Night Vision Goggles (NVG)

Point Lighting Corporation offers several options for combining infrared and color LEDs to render our lights visible with and without NVG. Please contact us with your specific application requirements.

Instruction Sheet: IS97002-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

PL10523-G	Lens, Green
PL10523-Y	Lens, Yellow
PL10630-H-6G	LED Array H, Green
PL10630-H-6Y	LED Array H, Yellow
PL10630-P-4G	LED Array P, Green
PL10630-P-4Y	LED Array P, Yellow
PL10530	Gasket, Lens Upper
PL10531	Gasket, Lens Lower
PL10532	Gasket, Lamp Housing
PL10049-4	Gasket, Base
PL10524-118	Screw, Socket Head
PL10839	Tool, preset torque wrench kit
PL10860	Tool, T-handle wrench

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