



# POINT ELEVATED LIGHTS PEL LED HELIPORT PERIMETER & LEAD-IN 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  
 Transport Canada TP14371, AGA 7.17

The PEL AC and DC voltage powered elevated LED lights mark the FATO perimeter of a heliport and mark the preferred direction of helicopter approach. The FAA and ICAO recommended color is green. The recommendation is not legally mandated.

The fixture consists of an outer glass lens mounted on a yellow powdercoat painted cast aluminum housing secured by a gasket and permanently sealed. The PEL's upper assembly mounts on a pipe extension into the diecast aluminum FAA certified breakable coupling. The electronic power supply is potted to be watertight in the fixture head assembly. Almost any mounting requirement can be accommodated by POINT LIGHTING CORPORATION. See file 0MOUNTINGS for mounting details

Point Type	Color	Voltage	Array	Height	Mounting & Options
PEL-57003	G: Green	1: 120v	H: note 1	14: 14 inches	VB: Variable Brightness
	Y: Yellow	2: 220v	P: note 2	24: 24 inches	PLB: Base & Gasket
	C: White	3: 12v DC	F: note 3	30: 30 inches	PLS: Shallow Base
	R: Red	4: 24v DC	N: NVG *		GR: Ground Lug in Base
	B: Blue				DH: Drain Hole in Base
	IR: Infrared				MT: Marine Treatment



Note 1: Array H brightness exceeds ICAO Annex 14. Use with the dimmable PHC controller & option -VB.  
 Note 2: Array P should be used when a fixed brightness is desired (no dimming)  
 Note 3: Array F exceeds *enhanced brightness* as defined by UK CAA CAP 437 (2007).

\* For NVG tactical use only: PEL-57003-IR-1N-14-PLB-MT



**Important:**

LEDs produce monochromatic light of one wavelength. The conspicuity (perceived intensity) of LEDs is considered much higher than incandescent light of the same candelas output. The ICAO Annex 14 photometric recommendation of 25 candelas, which was set based on incandescent light sources, will appear very bright when produced by LEDs. It is strongly recommended that Array H be used with a dimmable Point Lighting Corporation PHC controller to accommodate varying site conditions and local preferences.

For mounting options & plan details, see file 0MOUNTINGS

All details are available as AutoCAD files for insertion in project plans.

Intertek ETL SEMKO Control Number: 3030033

PEL-57003-G-1P-14  
SHOWN WITH PL40301 BASEPLATE

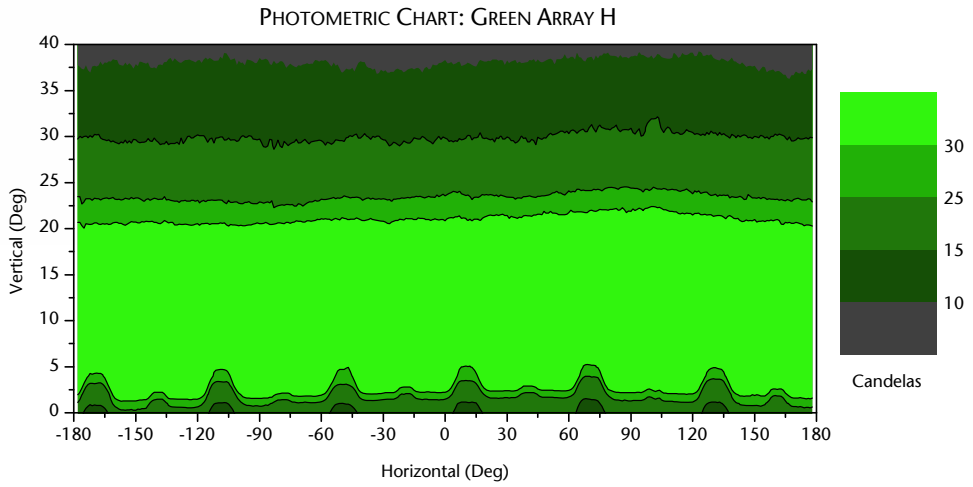




# POINT LIGHTING CORPORATION

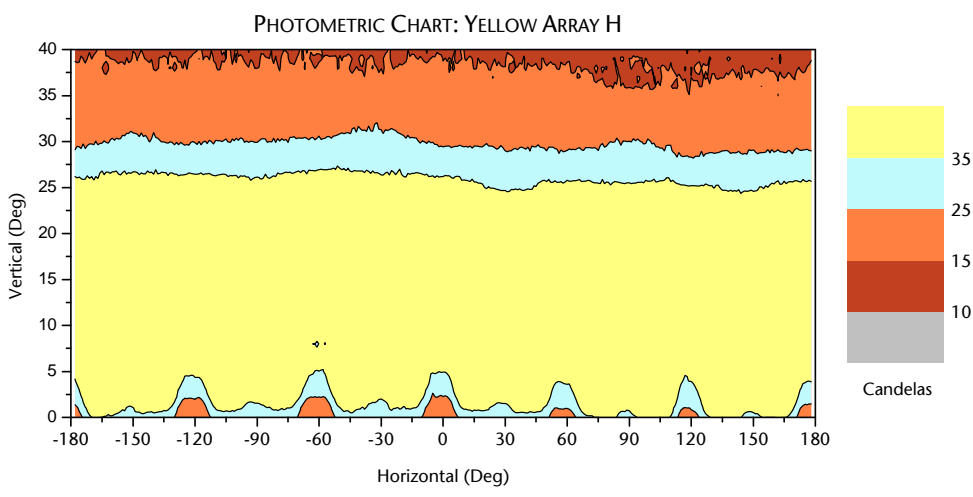
## POINT ELEVATED LIGHTS PEL LED HELIPORT PERIMETER & LEAD-IN LIGHT

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



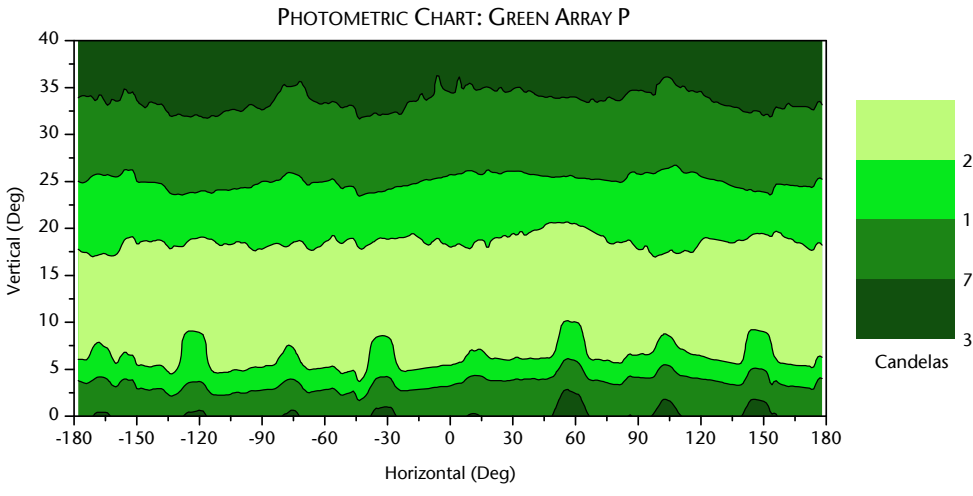
ICAO Annex 14  
Volume II, Chapter 5:  
Minimum 25 cd  
at 10 & 20 deg V

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

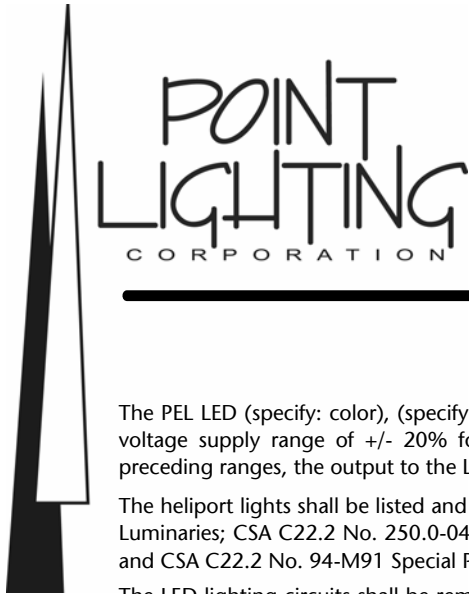


The lights are dimmable  
by installing:  
POINT LIGHTING CORP  
PHC-61002  
Heliport Controller

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



# POINT ELEVATED LIGHTS PEL LED HELIPORT PERIMETER & LEAD-IN LIGHT

## PEL LED SPECIFICATIONS

The PEL LED (specify: color), (specify: voltage) 50/60 Hz aviation elevated light 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 array shall be a controlled, stabilized constant current.

The heliport lights shall be listed and labeled *Suitable for Use in Wet Locations* in accordance with 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 conform to IP66 ingress protection.

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:

- 7.7-watts and 9.6 VA at 120v AC (Array H)
- 5.7-watts and 7.0 VA at 120v AC (Array P)
- 9.7-watts & 10.8 VA at 120v AC (Array F)

The unit shall have passed the US Military Standard tests: the constant high temperature test to +130 deg F (+55 deg C) and the constant low temperature test to -67 deg F (-55 deg C) conducted in accordance with US MILSTD-810E, Method 501.3, Procedure II; the wind-blown rain test that has been conducted in accordance with US MIL-STD-810E, Method 506.3, Procedure I; and the humidity test shall be in accordance with US MIL-STD-810E, Method 507.3, Procedure I. The complete test regime shall exceed the requirements of NEMA 4X and IP 65. The light head 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 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 five (5) 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. DC light fixtures shall be reverse polarity protected.

The aluminum mounting base shall be PLB-40300 (option -PLB) with two (2) 1-inch NPT hubs located at 0 & 180 degrees near the bottom of the 10-inch deep base. The base shall have an option for 4-way hubs in place of the standard two hubs. The PL40301 baseplate shall be powdercoat painted aviation yellow to match the light fixture. The baseplate shall be affixed to the base by three (3) stainless steel screws.

The LED aviation elevated light shall be POINTSPEC Series PEL-57003 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.



POINT ELEVATED LIGHTS  
 PEL LED  
 HELIPORT PERIMETER & LEAD-IN LIGHT



Instruction Sheet: IS57003  
 LED Life (hours): 100,000

Volts	Watts (P)	Watts (H)
120	5.7	7.7
220	5.6	7.6
12	5.6	8.4
24	5.5	8.2

Height: 14.0 (355)  
 Base Diameter: 8.0 (203)  
 PLB Depth: 10.0 (254)  
 PLS Depth: 4.0 (102)

Weight: 4.0 lbs 1.8 kg  
 Volume: 0.5 ft<sup>3</sup> .014 m<sup>3</sup>

Replacement Parts & Tools

Note: The PEL optical subassembly is permanently sealed to prevent moisture penetration and it is not servicable.

- PL10038 Pipe Extension
- PL10040 Breakable Coupling
- PL40301 Baseplate
- PL10049-4 Gasket, Baseplate
- PL10192-75 Circular Bubble Level



POINT LIGHTING CORPORATION

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