


POINT HELIPORT LIGHTS PHL LED COMBINATION PERIMETER & FLOODLIGHT

Compliances: ETL Listed per UL50 & UL1598 US & CSA C22.2 Canada
 FAA AC 150/5390-2B Heliport Design Guide
 ICAO Annex 14, Volume II
 Transport Canada TP14371, AGA 7.17

The PHL elevated LED lights mark the perimeter (FATO) of a heliport. The FAA recommended perimeter color is green. The international recommended color is yellow. The recommendations are not legally mandated. The purpose of the PHL's halogen floodlight is to provide a cone of light "washing" the pad surface to provide better depth perception to the pilot than simply having perimeter lights. It improves conspicuity to the pilot but does not provide even illumination of the pad surface that may be required for other reasons. The floodlight includes a metal stone guard to protect the lens and a hood to reduce glare to the pilot. The overall height is 14-inches for compatibility with standard height PEL's to be used together on the same perimeter. The colored LED perimeter light and the halogen floodlight may be separately circuited if independent control is required.

See file 0MOUNTINGS for mounting details

See Photometrics page 2, Specifications page 3 & Photograph of Demonstration Heliport page 4

Point Type	Color	Voltage	Array	Floodlight	Mounting & Options
	G: Green	1: 120v	H: note 1	300: 300 watts	VB: Variable Brightness
	Y: Yellow	2: 220v	P: note 2	500: 500 watts	PLB: Base & Gasket
	C: White				PLS: Shallow Base
	R: Red				GR: Ground Lug in Base
	B: Blue				DH: Drain Hole in Base
		* The floodlight voltage will match the perimeter light Dimming option -VB does NOT apply to the floodlight			

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)

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.

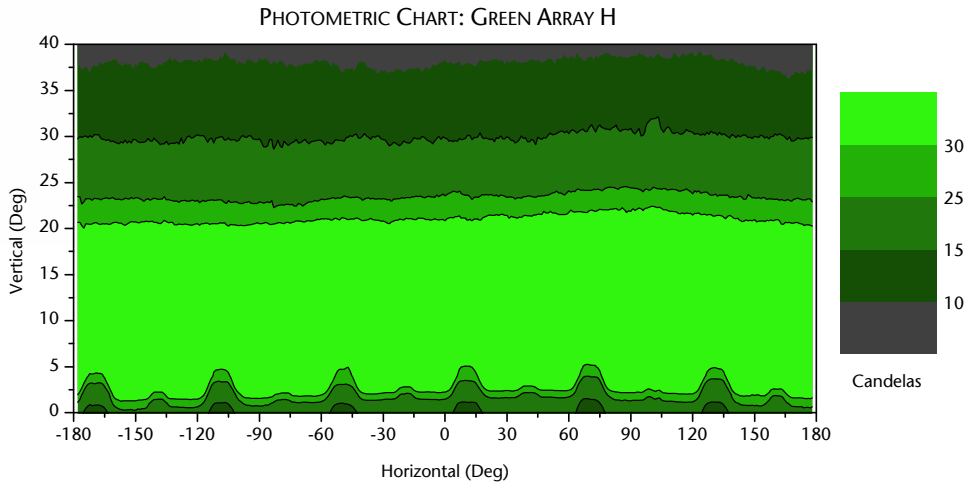
Intertek ETL SEMKO Control Number:
3030033

PHL-57003-Y-1P-500
SHOWN WITH PL40301 BASEPLATE



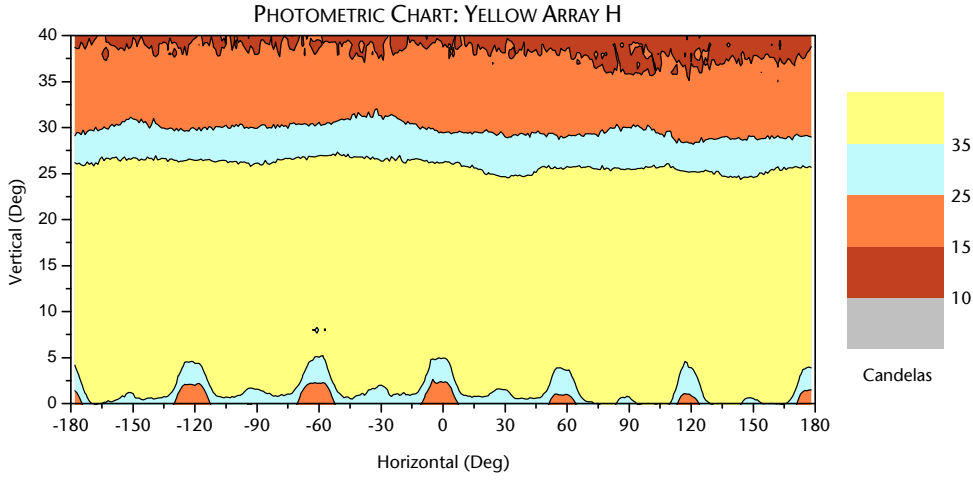


LED Array H in Green:
Average Peak Beam
50 cd at 12-deg V



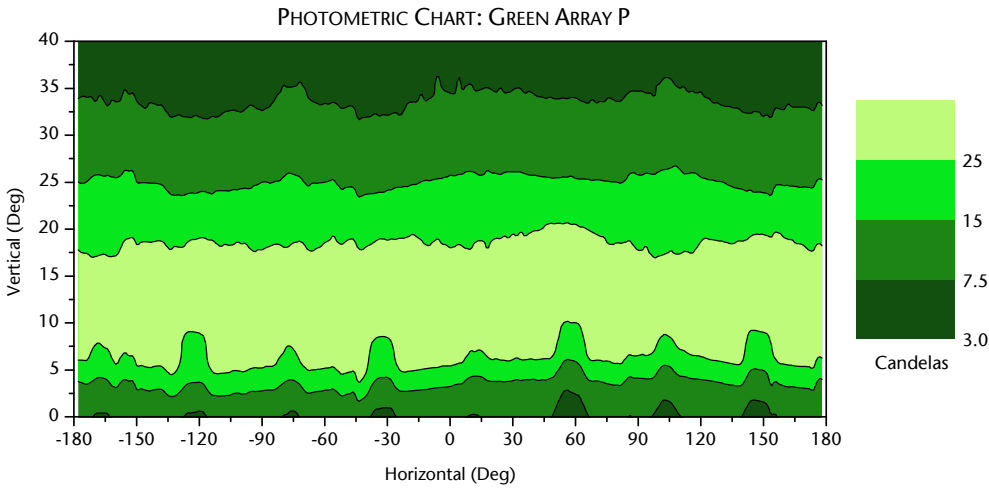
ICAO Annex 14
Volume II, Chapter 5:
Minimum 25 cd
at 10 & 20 deg V

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

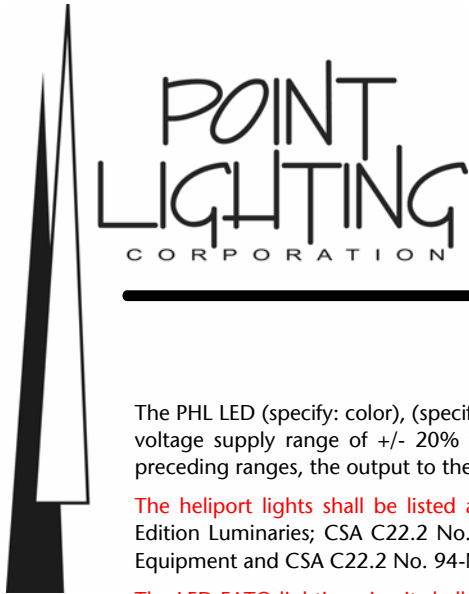


The lights are dimmable
by installing:
POINT LIGHTING CORP
PHC-61002
Heliport Controller

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 HELIPORT LIGHTS PHL LED COMBINATION PERIMETER & FLOODLIGHT

PHL LED SPECIFICATIONS

The PHL 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. LED conforms to IP66 ingress protection.

The LED FATO lighting circuit 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)

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.

The floodlight shall include a metal stone guard to protect the lens and shall include a hood to reduce glare for the pilot. The halogen floodlight component is intended to be aimed horizontally toward the center of the helipad.

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 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.

Option -VB: This option applies only to the LED FATO light circuit, not the floodlight (circuited separately).

The LED aviation elevated light shall be POINTSPEC Series PHL-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 HELIPORT LIGHTS PHL LED COMBINATION PERIMETER & FLOODLIGHT

DEMONSTRATION LED LIGHTING SYSTEM AT POINT LIGHTING CORPORATION
LED PEL & LED PHL PERIMETER LED PWC WIND CONE WITH LED POL



Instruction Sheet: IS57003			Replacement Parts	
LED Life (hours): 100,000			PL10619-Y	Lens, Outer Yellow
<u>Volts</u>	<u>Watts (P)</u>	<u>Watts (H)</u>	PL10619-G	Lens, Outer Green
120	5.7	7.7	PL10039	Clamp Band
220	5.6	7.6	PL10049-8	Gasket, Lens
12	5.6	8.4	PL10630-H-6Y	LED Array H, Yellow
24	5.5	8.2	PL10630-P-4Y	LED Array P, Yellow
Height:	16.2 (411)		PL10630-H-6G	LED Array H, Green
Base Diameter:	8.0 (203)		PL10630-P-4G	LED Array P, Green
PLB Depth:	10.0 (254)		PL10750-x-00	Power Supply Subassy
PLS Depth:	4.0 (102)		PL10341-300	Lamp 300w Halogen
Weight:	4.0 lbs	1.8 kg	PL10341-500	Lamp 500w Halogen
Volume:	0.5 ft ³	.014 m ³	PL10040	Breakable Coupling

POINT LIGHTING CORPORATION

Mail: P.O. Box 686, Simsbury, CT 06070
Tel 01 860.243.0600
email: PointLighting@earthlink.net

Plant: West Dudley Town Rd, Bloomfield, CT
USA
Fax 01 860.243.0665
website: www.PointLighting.com