

HELIPORT LIGHTING  
SPECIFICATION GUIDE  
INCANDESCENT LIGHT SOURCES\*

POINT HELIPORT LIGHTS  
POINTUSA®

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The following pages provide suggested lighting equipment specifications for simple private-use ground based heliports. There are many variables including site location, site use, level of operations, type of aircraft, ground traffic, etc. Point Lighting Corporation suggestions draw on FAA heliport recommendations contained in FAA Advisory Circular 150/5390-2B. This AC is advisory only and does not establish required practices. The FAA AC is a recommendation, not a requirement as quoted: " *This AC is not mandatory and does not constitute a regulation except when Federal funds are specifically dedicated for heliport construction.* "

**Final Approach and Takeoff Area (FATO).** *A defined area over which the final phase of the approach to a hover, or a landing is completed and from which the takeoff is initiated.*

**Touchdown and Lift-off Area (TLOF).** *A load bearing, generally paved area, normally centered in the FATO, on which the helicopter lands or takes off.*

FAA Advisory Circular 150/5390-2B makes the above distinctions where the FATO is considered to be larger than, and encompass, the TLOF and both may be marked with separate perimeter lighting. In our experience with private use heliports, the FATO and TLOF are usually the same and there is one set of perimeter lights. The separate TLOF, where it exists, may be considered to be the "touchdown zone" and will normally be marked with inset lights.

The FAA has recently changed Advisory Circular 150/5390-2B to recommend green heliport perimeter lights in place of the yellow lights it has long suggested for use. The FAA recommendation is now for green perimeter lights, but you and your customer may decide the aviation color to use at your site. For similar conspicuity, a green incandescent heliport fixture will require a higher wattage lamp than a yellow fixture. For export sites, we continue to recommend yellow perimeter lights.

Point Lighting Corporation recommends the use standard elevated airfield lights using FAA certified frangible (breakable) couplings and not rigid lights of 8-inch or any other height.

It is the owner's responsibility to determine site specific requirements. Upon request, Point Lighting will provide technical assistance in determining the material suitable for the application. In all cases, the owner is responsible to make the final decision for equipment selection.

SQUARE HELIPORTS:

We recommend the owner install Point Lighting PEL's and PHL's equally spaced on a square 10-ft (3m) outside the lined paved load-bearing landing area with one PHL at each of the four corners and two PEL's per side so that all perimeter lights are equally spaced not to exceed 25-ft (7.5m). This is for heliports with a landing area of 55-ft per side or less. This means the perimeter lights form a square 75-ft (22.5m) per side or less. Larger heliport TLOF's will require more lights per side. Perimeter lights are to be aviation green in color. Note: Aviation yellow (amber) has been in long use and may be considered. PRL inset lights may be substituted for the above PEL and PHL elevated lights and may be installed directly on the lined perimeter of the landing area.

ROUND HELIPORTS:

We recommend the owner install four (4) each Point Lighting PEL's and PHL's equally spaced on a circle 10-ft (3m) outside the lined paved load-bearing landing area alternating PHL's and PEL's so that all perimeter lights are equally spaced but not to exceed 25-ft (7.5m) apart. If the spacing exceeds 25-ft due to the size of the pad, add pairs of lights until the spacing is less than 25-ft keeping an even number of lights (such as 5 PEL's and 5 PHL's). All PEL's may be used if desired or a smaller number of PHL's. The minimum total number of perimeter lights shall be a minimum of eight (8). Perimeter light are to be aviation green in color. Note: Aviation yellow (amber) has been in long use and may be considered. PRL inset lights may be substituted for the above PEL and PHL elevated lights and may be installed directly on the lined perimeter of the landing area.

For optional mounting arrangements, see page HL-1.1.1

- Incandescent and quartz halogen lamps only. These fixtures are lower initial cost than LED light sources, but will consume more energy and have a shorter average lamp life. For LED options, see section HL-1.0

#### SNOW REMOVAL

Use of an L-852E light, a PRL light or any other inset heliport light will not prevent snow plowing damage. Inset lights cost much more to purchase and to maintain than elevated lights. Snow removal considerations should not be the reason to select inset lights.

We recommend that inset lights be used on the TLOF (touchdown zone) perimeter, if required, or the FATO perimeter where traffic rollover is present. Whether inset or elevated lights are used, the system should be turned ON during snow removal so the lights can be seen during snow removal.

Inset heliport lights are semi-flush, not flush, and will be damaged or destroyed by a metal bladed snowplow. Normal procedure is to educate the snowplow crew to plow around the lights and then remove the remaining snow at the lights by hand.

On the pages that follow, there is a section specifying 120v equipment and then a section based on 220-240v equipment.

STANDARD SPECIFICATION FOR 120 VOLT SYSTEM

Item 1 PEL Elevated Perimeter Lights Quantity 8

Each light is mounted on an FAA certified breakable coupling screwed into a baseplate to break off cleanly when struck. The galvanized PLB light base accepts 1-inch conduit below grade. All hardware is stainless steel and the lights and baseplate are powdercoat painted aviation yellow for corrosion resistance that meets the US Military Standard Salt Fog Test conducted per MIL-STD-810E, Method 509.3, Procedure I.

PEL-50000-G-69A-14-PLB	Elevated edge light 120v includes: Point Light Base PLB-40300 (specify 2 or 4-way hubs) Baseplate PL40301 Gasket PL10049-4
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Item 1  
Alternate: PRL Inset Perimeter Lights Quantity 12 \*

The inset light shall be cast aluminum and assembled with all stainless steel hardware. All exterior stainless steel hardware shall be recessed so as not to protrude above the fixture surface. The highest point of the lens shall not exceed 0.75-inch (19-mm) above finished grade. All exterior cast aluminum parts shall be powdercoat painted aviation yellow for corrosion resistance and certified by the manufacturer to meet the US Military Standard Salt Fog Test conducted per MIL-STD-810E, Method 509.3, Procedure I. The green lens shall be soda lime glass cast by the manufacturer to withstand temperature cycling. The lens shall be certified by the manufacturer to meet the chromaticity requirements of US Military Standard MIL-C-25050 and FAA Advisory Circular 150/5345-46. The standard aviation colors shall be obtained without the use of a separate color filter. The lens and lamp housing (optical assembly) shall be sealed mechanically without the use of chemical sealants. The inset light shall use an incandescent medium screw base lamp rated for a minimum average lamp life of 8000 hours. The fixture shall be capable of being relamped without removing the fixture from its mounting base. Flexible epoxy sealant may be used to moisture seal the fixture and pavement interface and will not have to be disturbed for relamping. The inset light shall be prewired with 3-conductor (line, neutral, ground) type SOW cable. Entry to the light housing shall be by means of a watertight cable compression fitting. The manufacturer shall include three (3) epoxy-filled wire nuts for use by the installer for watertight connections.

\* PRL's may replace all elevated PEL's and PHL's

PRL-90000-2-G-69A-PLB  Suggested Lamps: 69w or 116w	Inset edge light 120v includes: Point Light Base PLB-40300 (specify 2 or 4-way hubs) Gasket PL10049-4
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Item 2 PHL Elevated Perimeter Lights Quantity 4

Each light is mounted on an FAA certified breakable coupling screwed into a baseplate to break off cleanly when struck. This is a combination perimeter light and hooded quartz halogen floodlight bronze finished with wire lens guard. The floodlight should be aimed toward the center of the pad and "washes" light across the pavement surface. The galvanized PLB light base accepts 1-inch conduit below grade. All hardware is stainless steel and the lights and baseplate are powdercoat painted aviation yellow for corrosion resistance that meets the US Military Standard Salt Fog Test conducted per MIL-STD-810E, Method 509.3, Procedure I.

PHL-50000-G-69A-500-PLB  Suggested Lamps: 69w 300w or 500w	Elevated edge light 120v includes: Floodlight 500-watts 120v Point Light Base PLB-40300 (specify 2 or 4-way hubs) Baseplate PL40301 Gasket PL10049-4
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\* For floodlight only (no perimeter light), use Low Mount Floodlight PHF-53002-500Q-PLB

# HELIPORT LIGHTING

# SPECIFICATION GUIDE

# INCANDESCENT LIGHT SOURCES

Item 3 PEL Landing Direction Lights Quantity 5

Landing direction lights are optional as desired for guidance. These five lights are installed with 15-ft (4.5m) spacing in a straight line extending outward from the perimeter lights in the preferred direction of approach. See Item 1: PEL

PEL-50000-Y-40A-14-PLB

Suggested Lamps: 40w or 69w

Elevated edge light 120v includes:

Point Light Base PLB-40300 (specify 2 or 4-way hubs)

Baseplate PL40301

Gasket PL10049-4

Item 4 PRL Inset TLOF (Touchdown) Lights Quantity 8

TLOF or touchdown zone lights are optional to be installed within 1-ft of the markings delineating or outlining the circular TLOF. The even number of lights are to be spaced not to exceed 25-ft (7.5m). These lights have 69w lamps fitted with green lenses and include the base for mounting. For specs see Item 1 Alternate: PRL

PRL-90000-2-G-69A-PLB

Suggested Lamps: 69w or 116w

Inset TLOF light includes:

Point Light Base PLB-40300 (specify 2 or 4-way hubs)

Gasket PL10049-4

Item 5 PWC Externally Lighted Wind Cone L-806 Quantity 1

The wind cone shall be FAA type L-806 frangible style I lighted with four (4) floodlights with 120w, 120v PAR 38 lamps and an FAA certified L-810 red obstruction light on top. The 8-ft tapered windsock shall be orange nylon mounted on an aluminum basket assembly. The overall height shall not exceed 12-ft so it is servicable by ladder. The breakable coupling at the bottom of the pole shall be 2-inch and mount on a floor flange for use with anchor bolts (by others). See Wind Cone section for the complete specification.

PWC-8061L-1-ON-FF

Wind Cone with pole, floor flange, sock & lamps

Optional: For roof mounting or roof level heliports, we suggest adding the following options to improve safety.

-G: Rigid coupling in place of the frangible coupling

-T: Stainless steel tether kit

Optional: To replace the external floodlighting assembly with two lamps internal to the windsock, add option -B

Item 5

Alternate: PWC Lighted Wind Cone L-807 Quantity 1

The wind cone shall be FAA type L-807 hinged pole type lighted with four (4) floodlights 120w, 120v PAR 38 lamps and an FAA certified L-810 red obstruction light on top. The 8-ft tapered windsock shall be orange nylon mounted on an aluminum basket assembly. See Wind Cone section for the complete specification.

PWC-8071L-1-ON-HBA

Wind Cone with pole, sock & lamps

Optional: For roof mounting or roof level heliports, we suggest adding the following option to improve safety.

-T: Stainless steel tether kit to secure the upper bearing assembly

Optional: To replace the external floodlighting assembly with two lamps internal to the windsock, add option -B

Export: For export destinations, crating of the pole option -A is required.

Item 6 Heliport Floodlight Assembly Quantity 2

The optional PHF floodlight assembly aids in the general illumination. Anchor bolts are included. The two quartz halogen floodlights each are bronze finished with wire lens guard and a small hood to provide beam cutoff when viewed during the pilot's approach. Includes a center mounted red POL obstruction light. The overall height is less than 10-ft (3m).

PHF-53001-500Q

Heliport Floodlight Assembly 120v

Item 7                    PRC Radio Controller                    Quantity 1

The optional radio controller on the ground will receive signals from the pilot by "keying" his microphone on the specified frequency. Includes remote antenna & 50-ft cable. Use of the PRC requires a PHC below to switch the power.

PRC-1T2-1-xxx.xxx                    FAA Radio Controller: 1-circuit 120v

Item 8                    PHC Heliport Lighting Controller                    Quantity 1

The controller includes a wall-mounted NEMA 4X enclosure with an ON-OFF-AUTO switch on the door, five (5) circuit switches and status lights. The radio controller above or FAA photoelectric controller will operate the system in the AUTO position. See complete specifications on page HL-4.1.1.

PHC-61001-1                    Heliport Lighting Controller 120v

Item 9                    PMB Heliport Identification Beacon                    Quantity 1

The optional PMB green flashing 300mm International Morse Code beacon is specified for use on airfields and heliports. It complies with ICAO Annex 14\* for Identification Beacons. The beacon is factory programmed to flash a customer specified identifier, radio frequency or other message in Morse Code. The PPC photoelectric controller (option -P ) provides automatic lighting activation at dusk per FAA specifications. \* Note: Complies with Annex 14 paragraphs 5.3.3.8 thru 13. Standard color is green but white is used in some jurisdictions.

PMB-33000-G-700-P                    Heliport Morse Code Beacon 120v

Item 10                    PRB Rotating 3-Lamp Beacon                    Quantity 1

The optional PRB FAA L-801H heliport rotating beacon can be seen by the pilot over 35-miles (58-km) distant under VFR conditions. The speed of rotation is 12 rpm producing 36 flashes per minute for the three lamp beacon with clear, green & yellow filters. The lamp life is 10,000-hours with the 175-watt metal halide high intensity discharge lamps equaling the output of other beacons using high wattage, short life incandescent lamps. The standard unit is painted international aviation orange and includes a heater kit.

PRB-175/3-CGY-1                    Heliport Rotating Beacon 120v, 60Hz

Item 11                    FAA Obstruction Lights                    Quantity (as required)

All high points on the surrounding buildings shall be marked by red obstruction lights. The POINTSPEC Series red steady-burning aviation obstruction light shall be FAA L-810 certified. It shall be configured as a 120v double unit with one lamp operating and one lamp standby. Upon failure of the operating lamp, power shall be transferred to the standby lamp by means of a current sensing encapsulated electronic module. Alarm sensing, if any, shall be remote from the light unit. There shall be a minimum of 100 cubic inches of enclosed wiring space accessible from the front of the light unit. The lenses of the L-810 light heads and the wiring access cover shall be secured to the unit with tethers. The wiring access cover shall be gasketed to be watertight and have captive screws. The entire light unit 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 red glass lens shall be Fresnel military Type M-1 shall be certified to meet U.S. military specifications MIL-L-7082D, MIL-C-7989B and the chromaticity requirements of MIL-C-25050. There shall be a Point Lighting PPC mounted and prewired to the POL to comply with FAA required footcandle specifications. The unit shall use a thermal time delay relay that prevents the accidental turn-off of the lights due to stray lighting incidence. The unit shall be rated for 5000 on-off operations minimum and the plug-in photocell module shall be replaceable.

POL-20000-R-116-34B-DT-P                    POINTSPEC double light with lamps, transfer relay & PPC

STANDARD SPECIFICATION FOR 220-240 VOLT SYSTEM

Item 1 PEL Elevated Perimeter Lights Quantity 8

Each light is mounted on an FAA certified breakable coupling screwed into a baseplate to break off cleanly when struck. The galvanized PLB light base accepts 1-inch conduit below grade. All hardware is stainless steel and the lights and baseplate are powdercoat painted aviation yellow for corrosion resistance that meets the US Military Standard Salt Fog Test conducted per MIL-STD-810E, Method 509.3, Procedure I.

PEL-50000-Y-60A2-14-PLB  Suggested Lamps: 40w or 60w	Elevated edge light 230v includes: Point Light Base PLB-40300 (specify 2 or 4-way hubs) Baseplate PL40301 Gasket PL10049-4
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Item 1  
 Alternate: PRL Inset Perimeter Lights Quantity 12 \*

The inset light shall be cast aluminum and assembled with all stainless steel hardware. All exterior stainless steel hardware shall be recessed so as not to protrude above the fixture surface. The highest point of the lens shall not exceed 0.75-inch (19-mm) above finished grade. All exterior cast aluminum parts shall be powdercoat painted aviation yellow for corrosion resistance and certified by the manufacturer to meet the US Military Standard Salt Fog Test conducted per MIL-STD-810E, Method 509.3, Procedure I. The yellow lens shall be soda lime glass cast by the manufacturer to withstand temperature cycling. The lens shall be certified by the manufacturer to meet the chromaticity requirements of US Military Standard MIL-C-25050 and FAA Advisory Circular 150/5345-46. The standard aviation colors shall be obtained without the use of a separate color filter. The lens and lamp housing (optical assembly) shall be sealed mechanically without the use of chemical sealants. The inset light shall use an incandescent medium screw base lamp rated for a minimum average lamp life of 8000 hours. The fixture shall be capable of being relamped without removing the fixture from its mounting base. Flexible epoxy sealant may be used to moisture seal the fixture and pavement interface and will not have to be disturbed for relamping. The inset light shall be prewired with 3-conductor (line, neutral, ground) type SOW cable. Entry to the light housing shall be by means of a watertight cable compression fitting. The manufacturer shall include three (3) epoxy-filled wire nuts for use by the installer for watertight connections.

\* PRL's may replace all elevated PEL's and PHL's

PRL-90000-2-Y-60A2-PLB  Suggested Lamps: 60w or 116w	Inset edge light 230v includes: Point Light Base PLB-40300 (specify 2 or 4-way hubs) Gasket PL10049-4
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Item 2 PHL Elevated Perimeter Lights Quantity 4

Each light is mounted on an FAA certified breakable coupling screwed into a baseplate to break off cleanly when struck. This is a combination perimeter light and hooded quartz floodlight bronze finished with wire lens guard. The floodlight should be aimed toward the center of the pad and "washes" light across the pavement surface. The galvanized PLB light base accepts 1-inch conduit below grade. All hardware is stainless steel and the lights and baseplate are powdercoat painted aviation yellow for corrosion resistance that meets the US Military Standard Salt Fog Test conducted per MIL-STD-810E, Method 509.3, Procedure I.

PHL-50000-Y-60A2-500-PLB*  Suggested Lamps: 40w or 60w 300w or 500w	Elevated edge light 230v includes: Floodlight 500-watts 230v Point Light Base PLB-40300 (specify 2 or 4-way hubs) Baseplate PL40301 Gasket PL10049-4
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\* For floodlight only (no yellow perimeter light), use Low Mount Floodlight PHF-53002-500Q2-PLB

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Item 3 PEL Landing Direction Lights Quantity 5

Landing direction lights are optional as desired for guidance. These five lights are installed with 15-ft (4.5m) spacing in a straight line extending outward from the perimeter lights in the preferred direction of approach. See Item 1: PEL

PEL-50000-Y-60A2-14-PLB  
Suggested Lamps: 40w or 60w  
Elevated edge light 230v includes:  
Point Light Base PLB-40300 (specify 2 or 4-way hubs)  
Baseplate PL40301  
Gasket PL10049-4

Item 4 PRL Inset TLOF (Touchdown) Lights Quantity 8

TLOF or touchdown zone lights are optional to be installed within 1-ft of the markings delineating or outlining the circular TLOF. The even number of lights are to be spaced not to exceed 25-ft (7.5m). These lights have 60w lamps fitted with green lenses and include the base for mounting. For specs see Item 1 Alternate: PRL

PRL-90000-2-G-60A2-PLB  
Suggested Lamps: 60w or 116w  
Inset TLOF light includes:  
Point Light Base PLB-40300 (specify 2 or 4-way hubs)  
Gasket PL10049-4

Item 5 PWC Lighted Wind Cone L-806 Quantity 1

The wind cone shall be FAA type L-806 frangible style I lighted with four (4) floodlights with 150w, 230v PAR 38 lamps and an FAA red obstruction light on top. The 8-ft tapered windsock shall be orange nylon mounted on an aluminum basket assembly. The overall height shall not exceed 12-ft so it is servicable by ladder. The breakable coupling at the bottom of the pole shall be 2-inch and mount on a floor flange for use with anchor bolts (by others). See Wind Cone section for the complete specification.

PWC-8061L-2-ON-FF Wind Cone with pole, floor flange, sock & lamps

Optional: For roof mounting or roof level heliports, we suggest adding the following options to improve safety.

-G: Rigid coupling in place of the frangible coupling  
-T: Stainless steel tether kit

Optional: To replace the external floodlighting assembly with two lamps internal to the windsock, add option -B

Item 5  
Alternate: PWC Lighted Wind Cone L-807 Quantity 1

The wind cone shall be FAA type L-807 hinged pole type lighted with four (4) floodlights 150w, 230v PAR 38 lamps and an FAA red obstruction light on top. The 8-ft tapered windsock shall be orange nylon mounted on an aluminum basket assembly. See Wind Cone section for the complete specification.

PWC-8071L-2-ON-HBA Wind Cone with pole, sock & lamps

Optional: For roof mounting or roof level heliports, we suggest adding the following option to improve safety.

-T: Stainless steel tether kit to secure the upper bearing assembly

Optional: To replace the external floodlighting assembly with two lamps internal to the windsock, add option -B

Export: For export destinations, crating of the pole option -A is required.

Item 6 Heliport Floodlight Assembly Quantity 2

The optional PHF floodlight assembly aids in the general illumination. Anchor bolts are included. The two quartz halogen floodlights each are bronze finished with wire lens guard and a small hood to provide beam cutoff when viewed during the pilot's approach. Includes a center mounted red POL obstruction light. The overall height is less than 10-ft (3m).

PHF-53001-500Q2 Heliport Floodlight Assembly 230v

# HELIPORT LIGHTING

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Item 7                    PRC Radio Controller                    Quantity 1

The optional radio controller on the ground will receive signals from the pilot by "keying" his microphone on the specified frequency. Includes remote antenna & 50-ft cable. Use of the PRC requires a PHC below to switch the power.

PRC-1T2-2-xxx.xxx                    FAA Radio Controller: 1-circuit 230v

Item 8                    PHC Heliport Lighting Controller                    Quantity 1

The controller includes a wall-mounted NEMA 4X enclosure with an ON-OFF-AUTO switch on the door, five (5) circuit switches and status lights. The radio controller above or FAA photoelectric controller will operate the system in the AUTO position. See complete specifications on page HL-4.1.1.

PHC-61001-2                    Heliport Lighting Controller 230v

Item 9                    PMB Heliport Identification Beacon                    Quantity 1

The optional PMB green flashing 300mm International Morse Code beacon is specified for use on airfields and heliports. It complies with ICAO Annex 14\* for Identification Beacons. The beacon is factory programmed to flash a customer specified identifier, radio frequency or other message in Morse Code. The PPC photoelectric controller (option -P ) provides automatic lighting activation at dusk per FAA specifications. \* Note: Complies with Annex 14 paragraphs 5.3.3.8 thru 13. Standard color is green but white is used in some jurisdictions.

PMB-33000-G-702-P                    Heliport Morse Code Beacon 230v

Item 10                    PRB Rotating 2-Lamp Beacon                    Quantity 1

The optional PRB FAA L-801 heliport rotating beacon can be seen by the pilot over 35-miles (58-km) distant under VFR conditions. The speed of rotation is 12 rpm producing 24 flashes per minute for the two lamp beacon with clear & yellow filters. The lamp life is 10,000-hours with the 175-watt metal halide high intensity discharge lamps equaling the output of other beacons using high wattage, short life incandescent lamps. The standard unit is painted international aviation orange and includes a heater kit.

PRB-175/2-CY-2                    Heliport Rotating Beacon 230v, 50Hz

Item 11                    FAA Obstruction Lights                    Quantity (as required)

All high points on the surrounding buildings shall be marked by red obstruction lights. The POINTSPEC Series red steady-burning aviation obstruction light shall be configured as a 220-240v double unit with one lamp operating and one lamp standby. Upon failure of the operating lamp, power shall be transferred to the standby lamp by means of a current sensing encapsulated electronic module. Alarm sensing, if any, shall be remote from the light unit. There shall be a minimum of 100 cubic inches of enclosed wiring space accessible from the front of the light unit. The lenses of the light heads and the wiring access cover shall be secured to the unit with tethers. The wiring access cover shall be gasketed to be watertight and have captive screws. The entire light unit 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 red glass lens shall be Fresnel military Type M-1 and shall be certified to meet U.S. military specifications MIL-L-7082D, MIL-C-7989B and the chromaticity requirements of MIL-C-25050. There shall be a Point Lighting PPC mounted and prewired to the POL to comply with FAA required footcandle specifications. The unit shall use a thermal time delay relay that prevents the accidental turn-off of the lights due to stray lighting incidence. The unit shall be rated for 5000 on-off operations minimum and the plug-in photocell module shall be replaceable.

POL-20000-R-116A2-34B-DT-P                    POINTSPEC double light with lamps, transfer relay & PPC