

## **INSTRUCTION SHEET PRL-97x04** AC AND DC VOLTAGES

The PRL LED Point Rollover Light is used for heliport TLOF and FATO applications where an inset light is required. The thick soda lime glass dome lens will withstand high rollover loads. The lens and optical assembly are sealed mechanically without the use of chemical sealants. The PRL LED version uses high output LED's providing uniform light output and long life.

Array-

## CATALOG NUMBERING SYSTEM

### Point Type-

PRL -97004: 8" Fixture, 7" Bolt Circle 97704: 12" Fixture, 10 1/4" Bolt Circle 97804: 12" Fixture, 11 1/4" Bolt Circle

1: 120V<sup>1</sup> H: H Array 2: 220V<sup>2</sup> C: C Array 3: 12VDC <sup>3</sup> N: NVG\* 4: 24VDC 3 V: V Array

Voltage-

Color-B: Blue G: Green IR: Infrared\* R: Red F: F Array Y: Yellow W: White

MT: Marine Treatment PLB: Base & Gasket PLS: Shallow Base & Gasket NC: NVG Compatibility\*\* GR: Ground Lug in Base

Options

Note 1: 120 VAC 50/60 Hz (+/- 20%) Note 2: 220 VAC 50/60 Hz (176-250V) Note 3: All voltages +/-10% tolerance

\* For NVG tactical use only: PRL-97004-1N-IR-MT-PLB \*\* For use with visible (non-IR) arrays H, C, V, of F; adds IR LEDs



**CONFORMS TO: UL STD 1598 UL STD 1598A CERTIFIED TO:** CSA STD C22.2 No. 250.0

PRL-97004-1H-G-PLS-GR WITH PLS RECESSED BASE, GASKET & GROUND



### IMPORTANT NOTICE

The installer assumes full responsibility for the proper application and safe installation of this unit in accordance with these instructions, the National Electric Code, and all other state and local codes and practices. POINT LIGHTING CORPORATION accepts no responsibility for damages to property or injury to personnel for the improper use of this product or its failure under any circumstances. POINT LIGHTING CORPORATION's warranty is limited to the replacement of the defective unit only if the failure is the result of a manufacturing defect.



### WARNINGS

THERE ARE NO SERVICEABLE PARTS INSIDE THE FIXTURE. DO NOT OPEN THE FIXTURE. OPENING THE FIXTURE WILL VOID THE WARRANTY UNLESS APPROVED BY POINT LIGHTING. IN THE EVENT OF A FAILURE CONTACT POINT LIGHTING FOR SUPPORT.

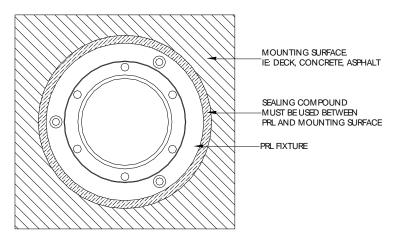
FOR THE POINT LIGHTING LIMITED WARRANTY TO BE IN EFFECT, AN LED HELIPORT LIGHTING SYSTEM MUST BE CONNECTED TO A PHC Heliport Lighting Controller with integral surge protection. The lights are warranted against failure from all causes for one year from date of shipment when properly installed with a PHC Heliport Lighting Controller.

AN LED LIGHT INCORPORATES AN ELECTRONIC POWER SUPPLY AND NEEDS TO BE PROTECTED FROM TRANSIENT VOLTAGE SPIKES AND OTHER SURGES. SURGES MUST BE CLAMPED AND SHUNTED TO GROUND TO PREVENT EQUIPMENT DAMAGE. SURGES CAN ORIGINATE FROM EXTERNAL SOURCES SUCH AS LIGHTNING STRIKES AS WELL AS SOURCES INTERNAL TO THE SITE ELECTRICAL SYSTEM SUCH AS AIR CONDITIONERS, ELEVATORS, AND SWITCHING POWER SUPPLIES. THESE INTERNAL TRANSIENTS WILL AFFECT ANY LOAD CONNECTED TO THE SAME DISTRIBUTION PANEL.

SNOW REMOVAL: ALL INSET LIGHTS ARE SUBJECT TO SNOWPLOW DAMAGE. THE PRL IS DESIGNED FOR CONTROLLED IMPACT DURING LANDING AND TIRE ROLLOVER, BUT NOT THE SHEARING FORCES OF A PLOW. THE SYSTEM SHOULD BE TURNED ON DURING SNOW REMOVAL SO THE LIGHTS CAN BE AVOIDED AND TO AID MELTING. INSET LIGHTS ARE SEMI-FLUSH, NOT FULLY FLUSH, AND WILL BE DAMAGED OR DESTROYED BY A METAL BLADE SNOWPLOW. EDUCATE THE SNOW REMOVAL CONTRACTOR TO PLOW AROUND THE LIGHTS AND THEN REMOVE THE SNOW FROM THE LIGHTS BY HAND.

TURN OFF THE ELECTRICITY AT THE SOURCE BEFORE INSTALLING.

WHEN INSTALLED WITH A BASE, IT IS POSSIBLE THAT WATER MAY ACCUMULATE IN THE CONDUIT AND POOL IN THE BOTTOM OF THE BASE. FOR THIS REASON, WIRE NUTS MUST BE KEPT OFF THE BOTTOM OF THE BASE TO AVOID CONTACT WITH WATER. ALTHOUGH THE GASKETS WILL LIMIT WATER SEEPAGE INTO THE BASE FROM THE SURFACE, A BEAD OF FLEXIBLE SEALER **MUST** BE PLACED IN THE GAP BETWEEN THE RECESSED INSET LIGHT AND THE PAVEMENT. THIS MAY BE ANY HIGH QUALITY FLEXIBLE PAVEMENT SEALER. IT IS MANDATORY THAT THE OUTER RING SURFACE BE INSTALLED FLUSH WITH THE PAVEMENT TO AVOID WATER POOLING ON THE LIGHT. IF IT IS TOO LOW, PURCHASE AND INSTALL SPACER RINGS AS REQUIRED.



DO NOT ATTEMPT TO MEASURE THE OUTPUT OF THE LED POWER SUPPLY. DOING SO MAY DAMAGE THE POWER SUPPLY AND VOID ANY WARRANTY.

DO NOT ATTEMPT TO PERFORM ANY TYPE OF HI POTENTIAL (HI-POT) OR INSULATION RESISTANCE TESTING ON THE FIXTURE. YOU WILL DAMAGE THE FIXTURE AND VOID YOUR WARRANTY.

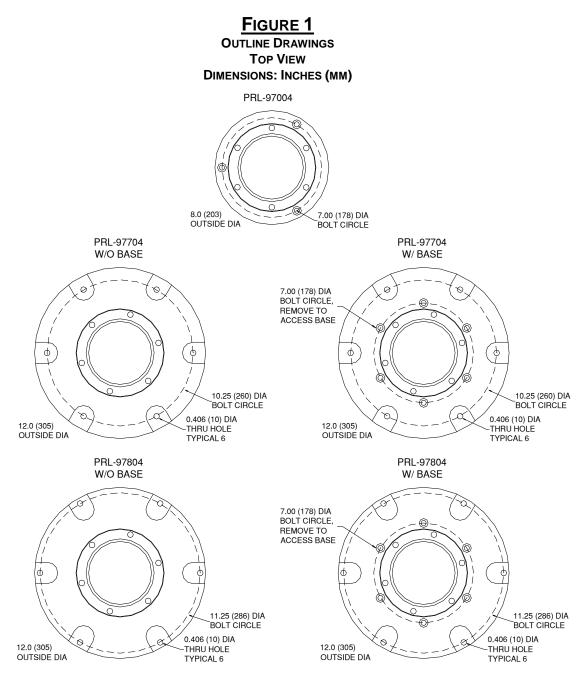
NOTE: THIS PRODUCT CONTAINS METAL OXIDE VARISTOR TYPE SURGE PROTECTION. DUE TO THE LEAKAGE CURRENT INHERENT IN THIS SURGE PROTECTION, POINT LIGHTING DOES NOT RECOMMEND USING GROUND FAULT INTERRUPTER OR SIMILAR TYPE CIRCUIT BREAKERS. CIRCUIT BREAKERS SUCH AS GFI (GROUND FAULT INTERRUPTER), ELCB (EARTH LEAKAGE CIRCUIT BREAKER) OR SIMILAR TYPE CIRCUIT BREAKERS MAY EXPERIENCE NUISANCE TRIPPING.





### **INSTRUCTIONS**

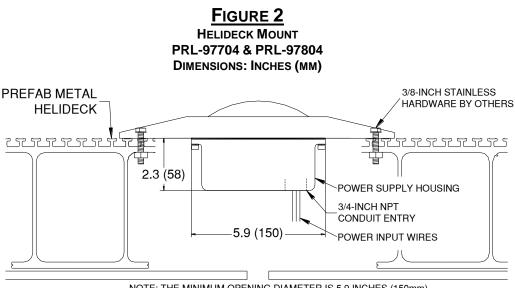
The PRL fixture comes in several different configurations. PRL-97004 is an 8-inch outside diameter and is used with a mounting base. PRL-97704 and PRL-97804 have a 12-inch outside diameter and may be used with or without a mounting base. See **FIGURE 1** below for a top view outline of the different PRL configurations.





## PRL FIXTURES WITHOUT BASE

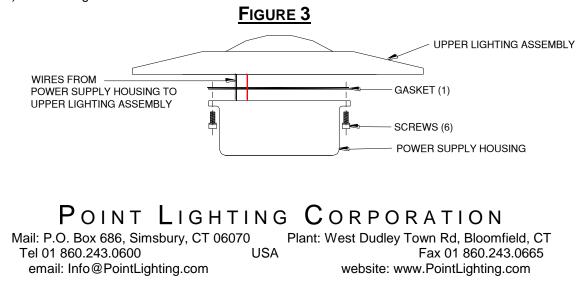
When ordered without a mounting base, the PRL fixture comes with a <sup>3</sup>/<sub>4</sub>-inch NPT hub on the bottom side of the PRL power supply housing. See <u>Figure 2</u>. After securing the fixture to the deck/surface, conduit must be threaded into this hub and properly sealed. The PRL should be secured to the deck using stainless steel hardware. A stainless steel flat washer should be used between the mounting hardware and the fixture Deck mounting hardware is provided by others.



NOTE: THE MINIMUM OPENING DIAMETER IS 5.9 INCHES (150mm)

PRL fixtures without a base are supplied with approximately 3-ft long power input wires. Electrical connections can be made inside a user supplied junction box or the PRL power supply housing. The PRL power supply housing includes a small wiring area. A junction box is the preferred method due to the small size of the PRL power supply housing wiring area.

PRL power supply housing connections may be made by removing the PRL power supply housing. Remove the six (6) screws that secure the power supply housing to the upper lighting assembly. See <u>Figure 3</u>. Take great care not to pull on the LED array wires that run from the power supply housing to the upper lighting assembly. See wiring instruction for further wiring details. Once wiring connections are complete, secure the power supply housing to the upper assembly using the six (6) screws. <u>These screws MUST torque to 25-in-lbs.</u> A torque wrench kit can be purchased from Point Lighting (see Optional Tools on the last page of this manual). See wiring section for further details.



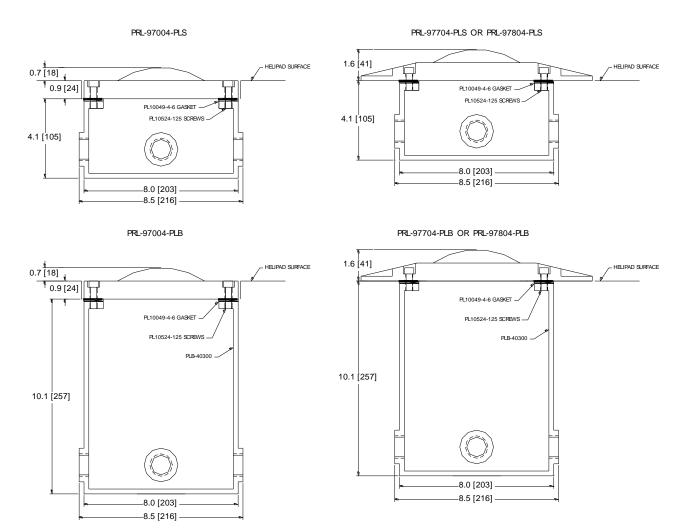


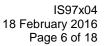
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## **PRL FIXTURES WITH BASE**

The PRL fixture may be installed with either a PLS or PLB base. **FIGURE 4** shows a side view outline drawing. This drawing will aid in your mechanical installation. Further mechanical installation details can be found in the base instruction.

FIGURE 4 OUTLINE DRAWINGS SIDE VIEW DIMENSIONS: INCHES (MM)



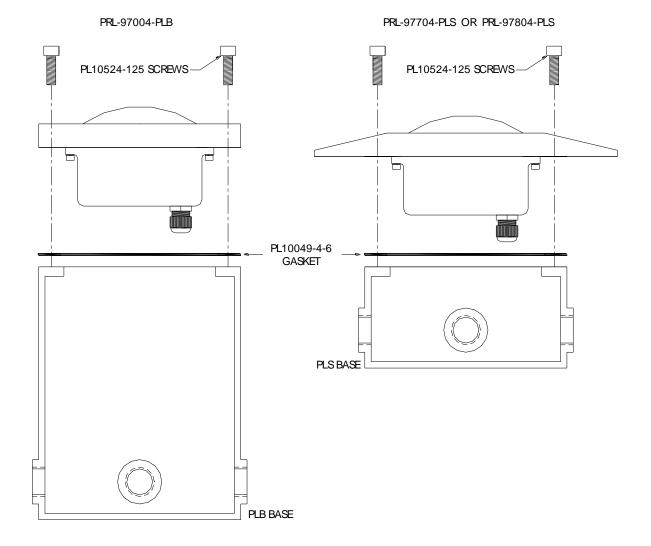




## PRL FIXTURES WITH BASE (CONTINUED)

In some cases, the PRL is shipped with the base. In order to perform wiring, the PRL must be removed from its base. The PRL itself is pre-wired; do not open the PRL fixture without approval from Point Lighting. All electrical connections will be made in the mounting base. See **Figure 5**.

### FIGURE 5 REMOVING FIXTURE FROM BASE

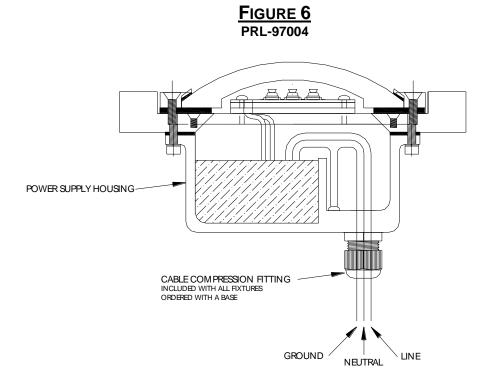


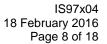


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## PRL FIXTURES WITH BASE (CONTINUED)

When ordered with a mounting base, the PRL fixture comes with a cable compression fitting installed on the bottom side of the PRL Power supply housing. See **Figure 6**.







## **WIRING INSTRUCTIONS**

WARNING: TURN OFF THE ELECTRICITY AT THE SOURCE BEFORE INSTALLING.

WHEN INSTALLED WITH A BASE, IT IS POSSIBLE THAT WATER MAY ACCUMULATE IN THE CONDUIT AND POOL IN THE BOTTOM OF THE BASE. FOR THIS REASON, WIRE NUTS MUST BE KEPT OFF THE BOTTOM OF THE BASE TO AVOID CONTACT WITH WATER. ALTHOUGH THE GASKETS WILL LIMIT WATER SEEPAGE INTO THE BASE FROM THE SURFACE, A BEAD OF FLEXIBLE SEALER MUST BE PLACED IN THE GAP BETWEEN THE RECESSED INSET LIGHT AND THE PAVEMENT. THIS MAY BE ANY HIGH QUALITY FLEXIBLE PAVEMENT SEALER. IT IS MANDATORY THAT THE OUTER RING SURFACE BE INSTALLED FLUSH WITH THE PAVEMENT TO AVOID WATER POOLING ON THE LIGHT. IF IT IS TOO LOW, PURCHASE AND INSTALL SPACER RINGS AS REQUIRED.

### AC FIXTURES:

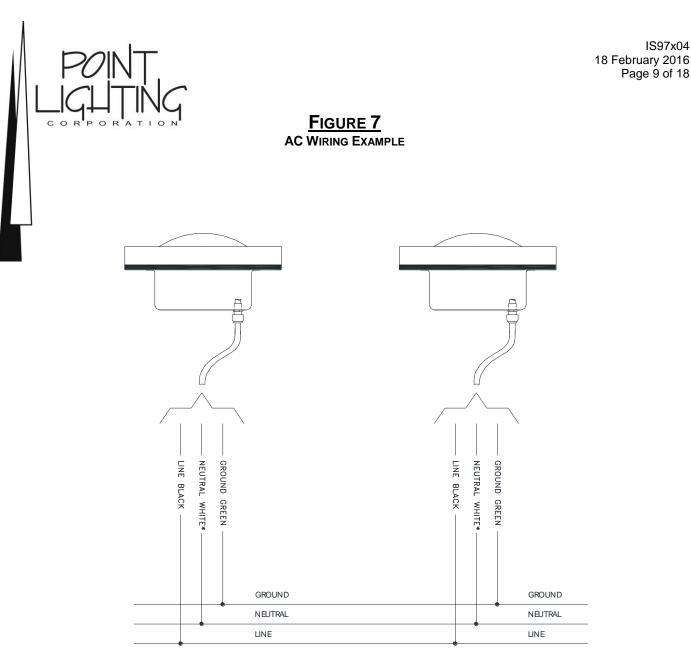
The fixture is shipped fully assembled. The fixture has three (3) 16-AWG wires: Line, Neutral and Ground (Earth). Splice the white (Blue for nominal 220V) wire to the system neutral (zero potential). Splice the black wire to the system line voltage. Connect the green ground wire to the system ground (earth). (See Figure 7)

### DC FIXTURES:

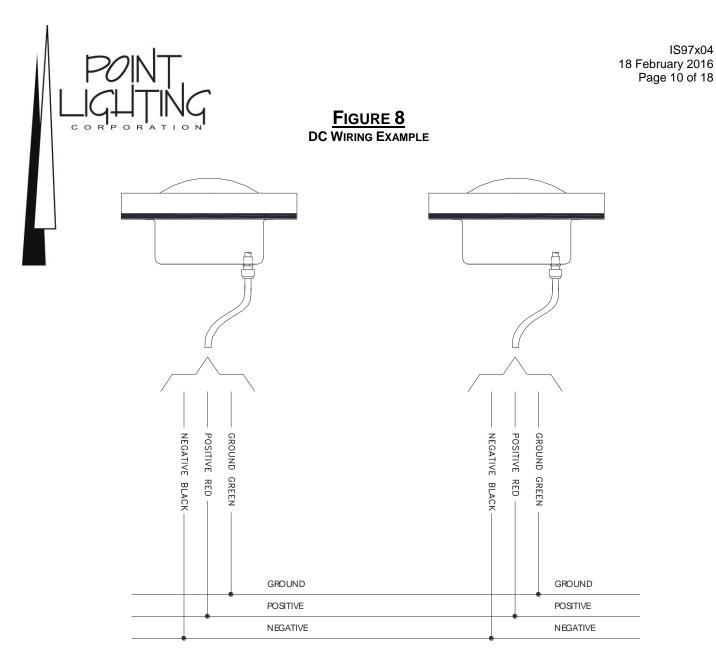
The fixture is shipped fully assembled. The fixture has three (3) 16-AWG wires: Positive (+), Negative (-) and Ground (Earth). Splice the black wire to the system negative (-). Splice the red wire to the system positive (+). Connect the green ground wire to the system ground (earth). (See Figure 8)

Make splices using proper electrical practices according to all applicable NEC and local codes. PL10227-E-6 Epoxy Filled Wire Nuts (DryConn Aqua/Red) are provided for all electrical connections. Strip wires 5/8" and insert into the Wire Nuts. Twist the Wire nut onto wires pushing firmly until hand tight. Remove excess sealant in and around conductors.

Temporarily turn ON the system power to confirm the fixture properly illuminates.



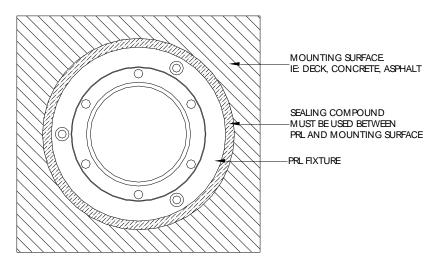
\* 220VAC NOMINAL FIXTURES HAVE BLUE NEUTRAL WIRES





## **POST WIRING INSTRUCTIONS**

After the PRL fixture has been fully wired and tested, it must be secured to the mounting base and sealed in place. Although the gaskets will limit water seepage into the base from the surface, a bead of flexible sealer MUST be placed in the gap between the recessed inset light and the pavement. This may be any high quality flexible pavement sealer. It is mandatory that the outer ring surface be installed flush with the pavement to avoid water pooling on the light. If it is too low, purchase and install spacer rings as required. Further installation details can be found in the PLS or PLB Base instruction manual.



**NOTE: A T-HANDLE WRENCH (PL10860)** MAY BE PURCHASED TO TIGHTEN THE SOCKET HEAD SCREWS THAT SECURE THE **PRL** FIXTURE TO THE MOUNTING BASE. SEE "OPTIONAL TOOLS" SECTION.



## **POWER CONSUMPTION**

Code	Туре	Voltage	Frequency	Watts*	VA*
-1H	Array H	120 AC	50/60 Hz	4.5	5.24
-2H	Array H	220 AC	50/60 Hz	4.5	5.47
-1C	Array C	120 AC	50/60 Hz	7.4	8.4
-2C	Array C	220 AC	50/60 Hz	7.4	8.0
-3H	Array H	12 VDC		4.0	333
-4H	Array H	24 VDC		4	167
-3C	Array C	12 VDC		6.2	517
-4C	Array C	24 VDC		6.0	250

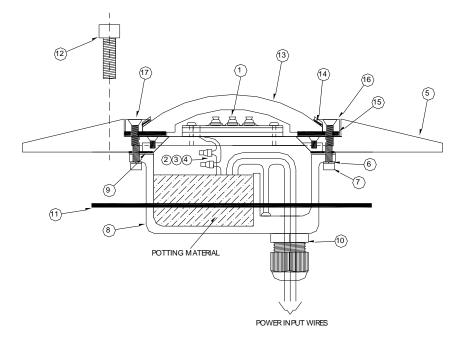
Option –NC Add 1.0 watt and 1.1 VA

\*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.

### WARNING: DO NOT ATTEMPT TO MEASURE THE OUTPUT OF THE LED POWER SUPPLY. DOING SO MAY DAMAGE THE POWER SUPPLY AND VOID ANY WARRANTY.

# FIGURE 9 ASSEMBLY DRAWING **REFERENCE PART LIST** PRL-97004 (12) (14) (15) (5) **P** (2)(3)(4)(9 (11) (8) (10) POTTING MATERIAL POWER IN PUT WIRES

PRL-97704 OR PRL-97804

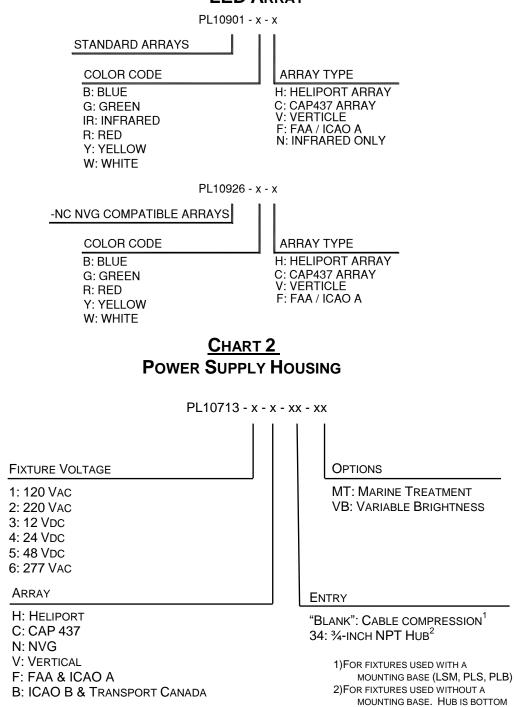




### PARTS LIST PRL-97x04 REFERENCE FIGURE 9

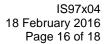
ITEM	PART NUMBER	QTY	DESCRIPTION			
1	See "Chart 1 - LED Array"	1	LED Array			
2	PL10628-20-B	1	LED Array Black Wire			
3	PL10628-20-R	1	LED Array Red Wire			
4	PL10351	2	Pigtail Connectors			
5	PL90102	1	Support Ring PRL 8" Dia (Yellow Paint)			
5	PL90102-MT	1	Support Ring PRL 8" Dia (-MT Green Paint)			
5	PL90105-7	1	Support Ring PRL 12" Dia 10.25" BC (Yellow Paint)			
5	PL90105-7-MT	1	Support Ring PRL 12" Dia 10.25" BC (-MT Green Paint)			
5	PL90105-8	1	Support Ring PRL 12" Dia 11.25" BC (Yellow Paint)			
5	PL90105-8-MT	1	Support Ring PRL 12" Dia 11.25" BC (-MT Green Paint)			
5	PL90105-76	1	Support Ring PRL 12" Dia 10.25" BC + 8" BC (Yellow Paint)			
5	PL90105-76-MT	1	Support Ring PRL 12" Dia 10.25" BC + 8" BC (-MT Green Paint)			
5	PL90105-86	1	Support Ring PRL 12" Dia 11.25" BC + 8" BC (Yellow Paint)			
5	PL90105-86-MT	1	Support Ring PRL 12" Dia 11.25" BC + 8" BC (-MT Green Paint)			
6	PL10190	6	Washer Lock #10 Med Split			
7	PL10528-58	6	Screw 10-32 x 5/8 Socket Head			
8	See "Chart 2 - Power	1	Power Supply Housing			
	Supply Housing"					
9*	PL10532	1	Gasket Lamp Housing			
10**	PL10450-38-P	1	Cable Fitting 3/8-inch			
11	PL10049-4-6	1	Gasket Base			
12	PL10524-125	1	Screw 3/8-16 x 1.25 Socket HD Cap			
13	PL10523-C	1	Lens Clear			
14	PL10530	1	Gasket Upper Lens			
15	PL10531	1	Gasket Lower Lens			
16	PL90100	1	Retaining Ring Lens PRL (Yellow Paint)			
16	PL90100-MT	1	Retaining Ring Lens PRL (-MT Green Paint)			
17	PL10525-34-H	6	Screw 10-32 x 3/4 Hex/Flat HD MS			
	PL10723	1	Base –LSM 2 x 1-inch NPT Hub			
	PL10723-MT	1	Base – LSM 2 x 1-inch NPT Hub Marine Treatment			
	PL10049-4-6	1	Gasket LSM Base			
	PL10839	1	Torque Wrench Kit (Sold Separately)			
*Gasket (item 9) must be replaced when replacing the Power Supply Housing (item 8). Torque wrench must be used, see						
	"Optional Tools" section.					
**Cable	**Cable fitting included only when PRL is used with a mounting base.					

## <u>CHART 1</u> LED ARRAY



POINT LIGHTING CORPORATION Mail: P.O. Box 686, Simsbury, CT 06070 Tel 01 860.243.0600 email: Info@PointLighting.com Plant: West Dudley Town Rd, Bloomfield, CT Fax 01 860.243.0665 website: www.PointLighting.com

ENTRY



### **OPTIONAL TOOLS** SOLD SEPARATELY

ITEM	PART NUMBER	QTY	DESCRIPTION
	PL10839	1	Tool, Torque Wrench Kit
	PL10860	1	Tool, T-handle Wrench



### PL10839 Tool, Preset Torque Wrench Kit

For the socket head screws affixing

the PRL lens clamp ring and for affixing the power supply subassembly.

Consult the factory and the manual before attempting field repair.

PL10860 Tool, T-handle Wrench

For the three socket head screws fixing the PRL fixture to the PLB mounting base.

> POINT LIGHTING CORPORATION Mail: P.O. Box 686, Simsbury, CT 06070 Plant: West Dudley Town Rd, Bloomfield, CT Tel 01 860.243.0600

email: Info@PointLighting.com

USA

Fax 01 860.243.0665 website: www.PointLighting.com



## REPAIR LENS REPLACEMENT

NOTE: ANYTIME THE LENS IS REMOVED, YOU MUST REPLACE THE UPPER AND LOWER LENS GASKETS (ITEMS 14 & 15).

•Loosen the six (6) flat head screws (Item 17) holding the Lens Retaining Ring (Item 16). •Remove the Lens Retaining Ring (Item 16).

•Remove the Lens (Item 13) and the Upper Lens Gasket (item 14).

•Remove the Lower Lens Gasket (Item 15)

### New gaskets MUST be used.

Clean and inspect the Support Ring (Item 5) mounting surface. Dirt on the surface will cause the fixture to leak. If any corrosion or paint damage exsists, you must replace the Support Ring.
Install the Lower Lens Gasket (Item 15)

•Install the Lens (Item 13)

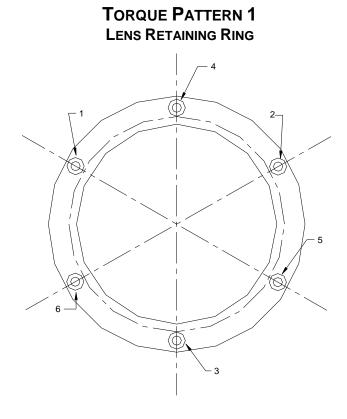
•Install the Upper Lens Gasket (item 14)

•Install Lens Retaining Ring (Item 16).

•Secure the Lens Retaining Ring (Item 16) using the six (6) flat head screws (Item 17).

•Torque the six (6) flat head screws (Item 17) to 25 in-Ibs. See Torque Pattern 1 for torque sequence.

NOTE: WHEN THE LENS REMOVED, THE LENS RETAINING RING (ITEM 16) SCREWS (ITEM 17) MUST BE TORQUE TO 25 IN-LBS. POINT LIGHTING RECOMMENDS USING A TORQUE WRENCH KIT. SEE OPTIONAL TOOL SECTION.





### COMMISSIONING GUIDE

□Confirm the PRL is securely mounted to the structure.

Confirm that all conduit entries are properly sealed.

□Confirm the PRL Power Supply Housing was properly torqued if it was removed during installation. Torque sequence and torque value must follow the instruction specifications. This applies to PRL fixtures without the cable compression fitting installer on the Power Supply Housing.

□Confirm the gap between the PRL outer ring and the mounting surface have been properly sealed. A flexible sealer must be used.

Confirm the installer used the epoxy filled wire nuts provided.

Confirm the installer made sure the wire nuts are not sitting on the bottom of the base where water may accumulate.

Confirm that the system voltage matches the PRL label voltage.

Confirm the PRL is properly connected to system power as shown in the wiring diagram.

□Activate system power.

□Confirm the PRL fixture is illuminated.