
ILLUMINATOR
OPERATION AND MAINTENANCE MANUAL

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WARRANTY

ROS, Inc. (hereinafter called "**ROS**") warrants its products as stated below subject to the conditions specified.

ROS warrants its products, when operated under normal conditions, to be free from defects in material or workmanship for a period of one year from the date of purchase provided that inspection by **ROS** discloses that such defects developed under normal and proper use. **ROS** products repaired or replaced pursuant to this warranty shall be warranted for the unexpired portion of the warranty applying to the original product. The liability of **ROS** under this warranty shall exist subject to the following conditions:

- (a) Purchaser properly notifies ROS of such defects and the defective product is returned to ROS; transportation charges paid by Purchaser.
- (b) ROS shall be released from all obligations under its warranty in the event repairs or modifications are made by persons not authorized by ROS.
- (c) Representations and warranties made by any person, including distributors and representatives of ROS, which are inconsistent or conflict with the terms of this warranty, shall not be binding upon ROS unless reduced to writing and approved by an officer of ROS. ROS shall in no event be liable for other direct, special, incidental, consequential, indirect or penal damages.
- (d) The laws of the State of California shall govern this warranty.

In the event the defect is determined to be within the terms of this warranty then **ROS** agrees to repair and/or replace (at **ROS**' discretion) the product or defective portion at no charge to the Purchaser. This warranty does not apply to expendable items or to normal wear-and-tear, and is conditional upon performance of normal preventative maintenance procedures.

Our commitment to quality and customer service directs us to constantly strive to improve our products. The materials and specifications presented in our manuals and data sheets are correct and accurate to the best of our knowledge, and are presented in good faith. However, the information is not guaranteed and is subject to change without notice.

LIMITATIONS OF REMEDIES

Purchaser assumes all risk and liability for results obtained in any installation, operation, or use of the product. Purchaser's sole remedy for any breach of warranty by vendor shall be limited to the "express remedies" set forth above. Otherwise, in no event shall vendor, its agents, or employees be liable to the original purchaser or any third party for any consequential or incidental damages or expenses of any nature arising directly out of or in connection with the use of vendor projects, even if vendor has been advised of the possibility of such damages or expenses. In any event, unless otherwise contrary to state law, vendor liability under this limited warranty shall not exceed the purchase price of the product.

Customer Assistance

ROS, Inc. uses a worldwide network of stocking distributors and representatives who are familiar with our products and are able to provide assistance during installation and/or operation of these products.

If you have any questions or problems with this product that are not covered by this manual or instruction, please contact our agent in your area, or contact us directly by phone or FAX or e-mail.

TEL: (001) 858-565-8500

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Sales: sales@rosys.com
Web Site: www.rosys.com
Technical Support: support@rosys.com

Change Record

<u>REV</u>	<u>DESCRIPTION</u>	<u>DATE</u>
A	SEE EC-03428	16NOV21

1. Introduction

The Illuminator Droplight (Figure 1) is a cost-effective, high-intensity drop light for nuclear inspection and pool illumination. It provides 30 k lumens (dimnable), and is light-weight and robust. All components are FME compliant.



Figure 1. Illuminator Droplight

2. Product Specifications

Table 1 shows the specifications for the Illuminator Droplight. The outline is shown in Figure 2 with the standard 28 deg light head angle.

Table 1. Specifications

Power	100-240 VAC, 50-60 Hz, 2 A
Weight, Power Supply	6.5 lb (2.9 kg)
Weight, Light Head	3.9 lb (1.8 kg) in air 2.5 lb (1.3 kg) in water
Weight, cable	.083 lb/ft (.12 kg/m) in air .037 lb/ft (.55 kg/m) in water
Light output (at 1 m in air)	30 k lumens 10 k lux
Beam angle	115 deg in air 80 deg in water
Wetted materials	Cable: polyurethane / neoprene Light head: acrylic, 304 stainless, hard anodized aluminum
Light head angle	28 deg from horizontal standard. Other options available

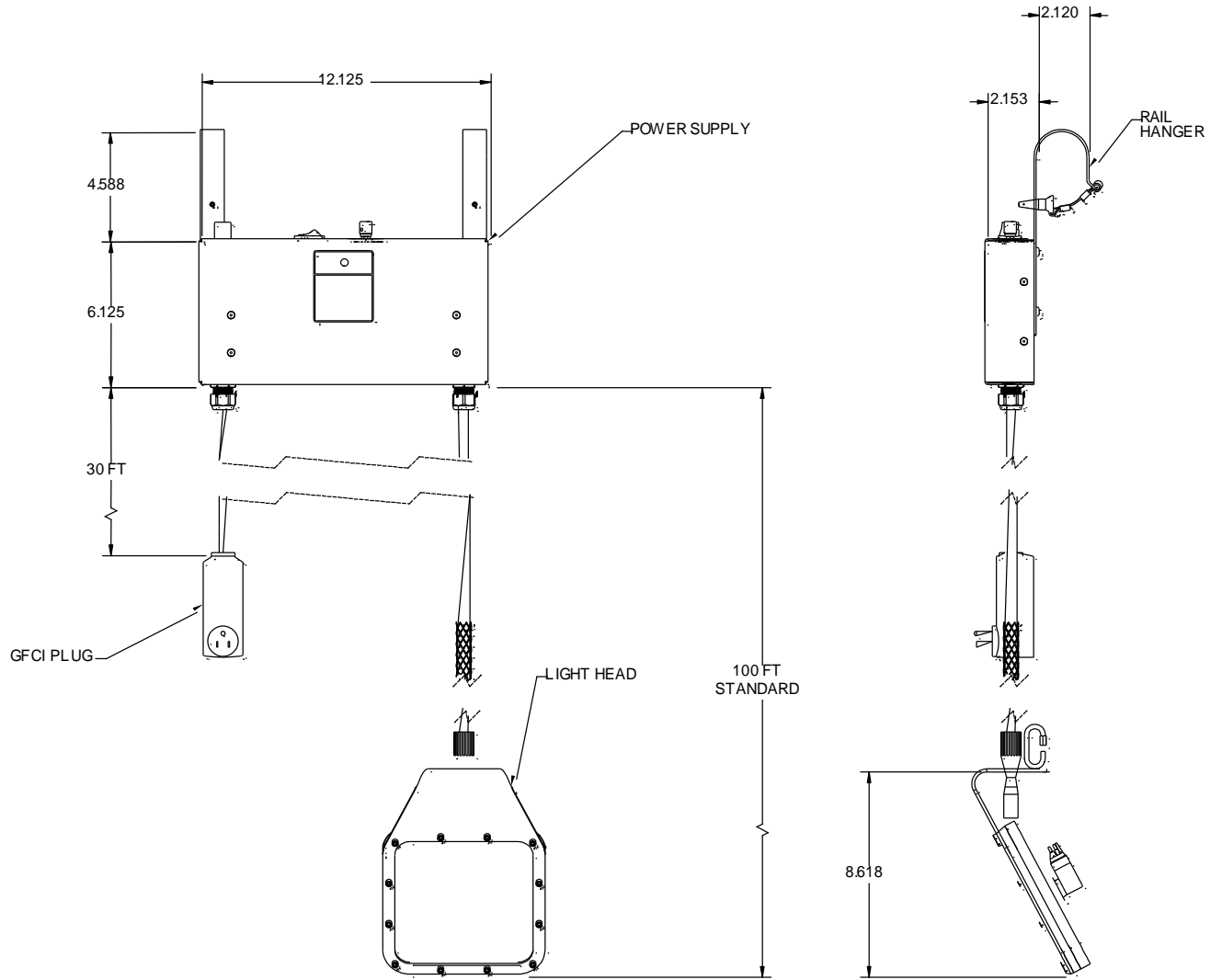


Figure 2. Illuminator Outline

3. Installation

The Illuminator droplight is not intended for permanent installation.

4. Operation

The following sections contain guidance on Illuminator operation.

4.1. Setup

Use the following procedure before operating the light. Refer to Figure 3.

1. Inspect cables and connections for damage that may cause a short.
2. Verify the DC power cable is connected to the light head and the locking sleeve is tightened over the connector. Pull on the cable to verify the connection.

NOTE

It is virtually impossible to pull the strain relief along the cable. If it is necessary to move the strain relief in order to connect the connecting link, push the strain relief, rather than pull it.

3. Connect the connecting link between the strain relief and the light head and tighten it.
4. Ensure the power is off.
5. Connect the power plug to a suitable outlet (see Table 1).

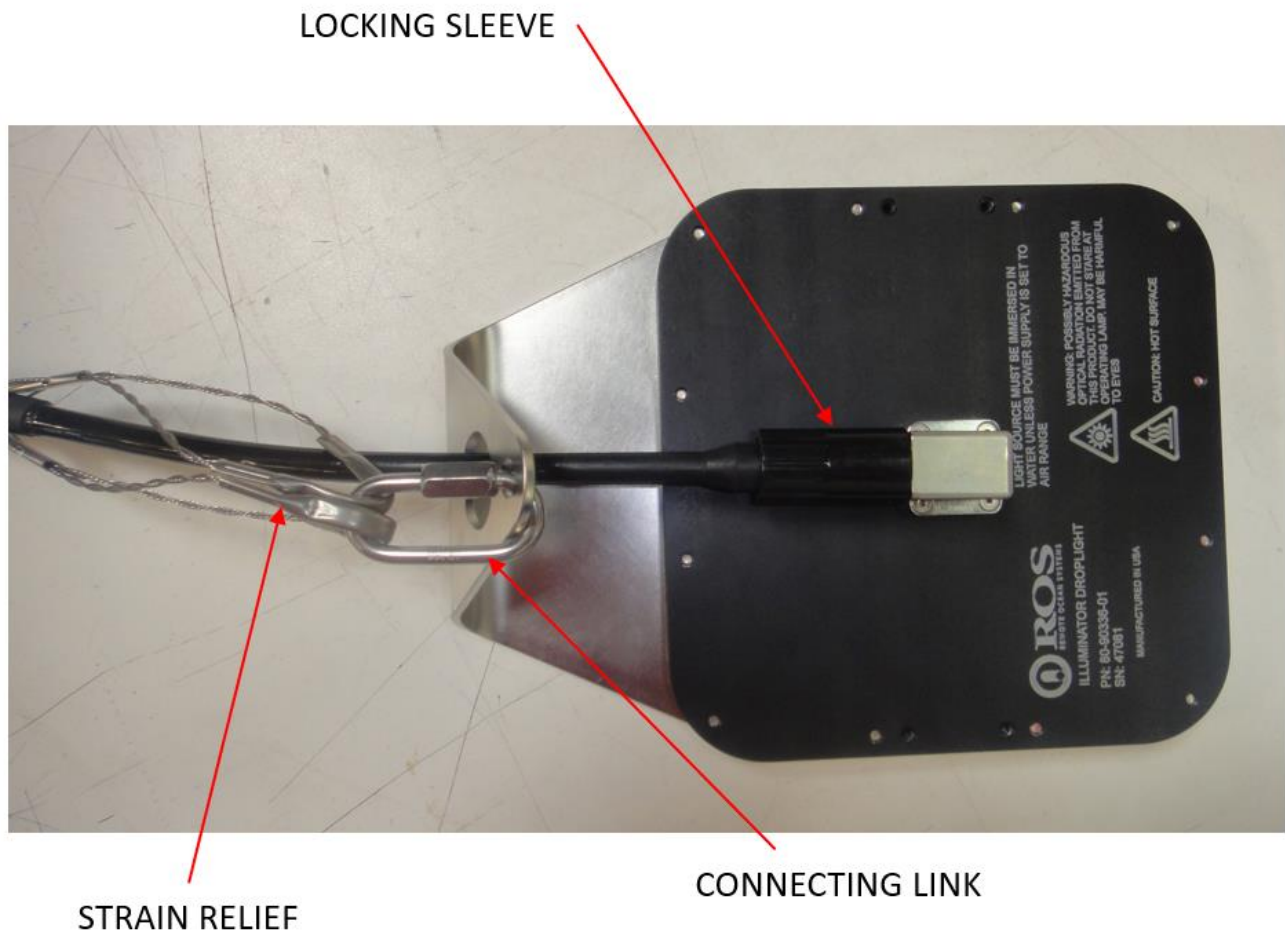


Figure 3. Light Head Connection

4.2. Operation

Table 2 contains the list of controls and their function. Figure 4 illustrates the controls in Table 2.

CAUTION

The unit should not be operated in the WATER ONLY range unless the light head is submerged. Operating the unit at high power in air will eventually result damage from overheating.

Table 2. Front Panel Controls

Control	Description
Dimmer	Controls the intensity of the drop light. Operate in the black (air) range unless the light head is submerged.
Power Switch	Turns power on or off. Illuminated when power is available.
Fuse Holder	Not used during normal operation

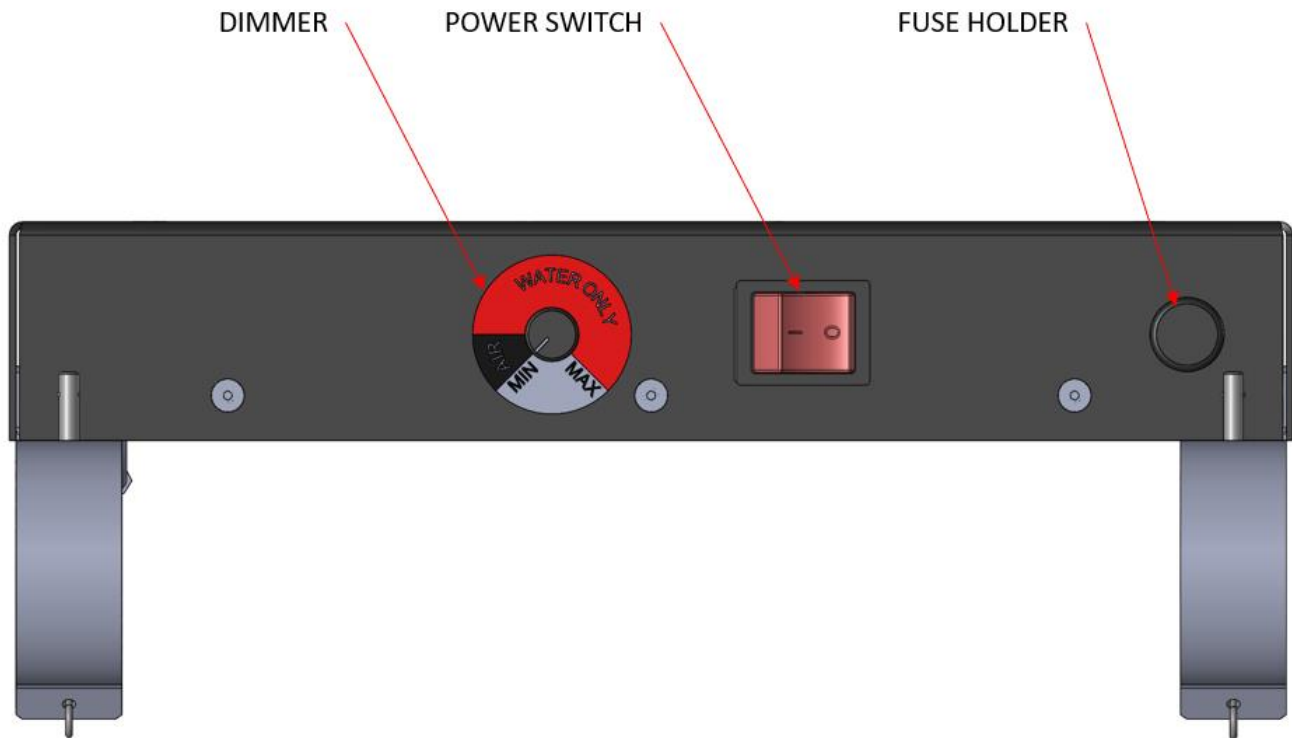


Figure 4. Front Panel Controls

5. Maintenance

The Illuminator power supply has no user serviceable parts. The Illuminator light head may be serviced as shown in the following procedures.

CAUTION

The light head should be serviced only by qualified technicians trained to solder.

5.1. Replace the LED Array

To replace the LED array, proceed as follows. Refer to Figure 5, Figure 6 and Figure 7.

1. Turn off the light and disconnect it from power.
2. Disconnect the light head from the power supply.
3. Remove and save the captive screws (item 100) attaching the bezel (item 10).
4. Remove and save the bezel, window (item 30), o-ring (item 110).

NOTE

The LED array and housing form an efficient heat sink which may make soldering difficult. Use sufficient heat to form a wetted solder joint. Heating the solder joint may be made easier by preheating the unit prior to soldering.

5. De-solder the white and black wires from the solder points on the LED array (item 30).
6. Remove and save the screws (item 80) attaching the LED array.
7. Remove and discard the LED array.
8. Install the replacement array as shown, and replace the screws (item 80).
9. Solder the white and black wires to the solder points:
 - White to +
 - Black to -
10. Using a multimeter, verify isolation (infinite resistance) between
 - The + pad and the bare metal of the housing.
 - The - pad and the bare metal of the housing.
11. Inspect and clean the light head, paying special attention to the o-ring groove.

NOTE

The o-ring of the light head is installed without lubricant.

12. Inspect the o-ring for damage, replace if necessary.
13. Replace the o-ring, window and bezel.
14. Replace the captive screws and tighten.
15. Verify the o-ring is not pinched.
16. Verify the o-ring is compressed and there is no gap between the window and the housing.

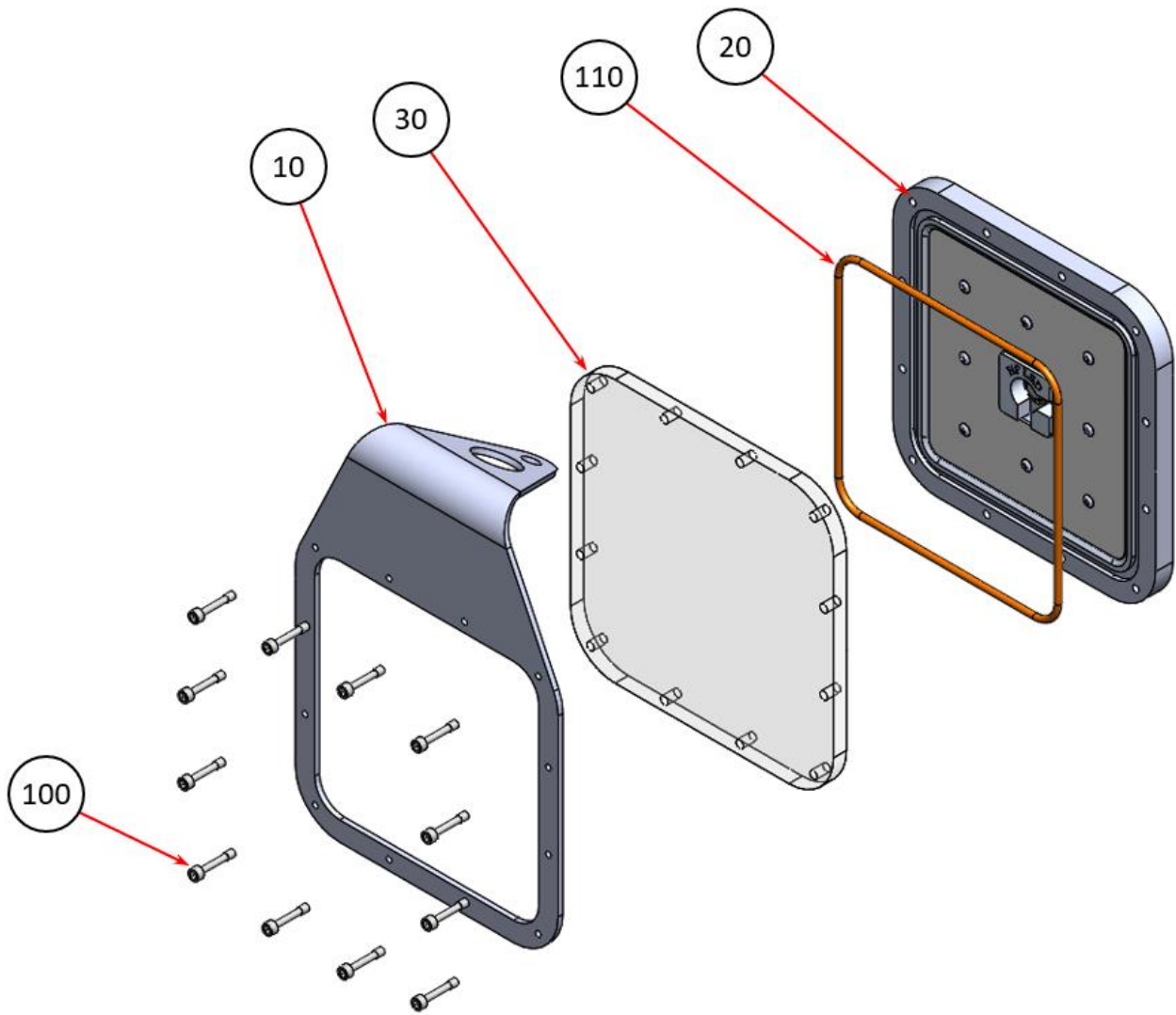


Figure 5. Accessing the LED Array

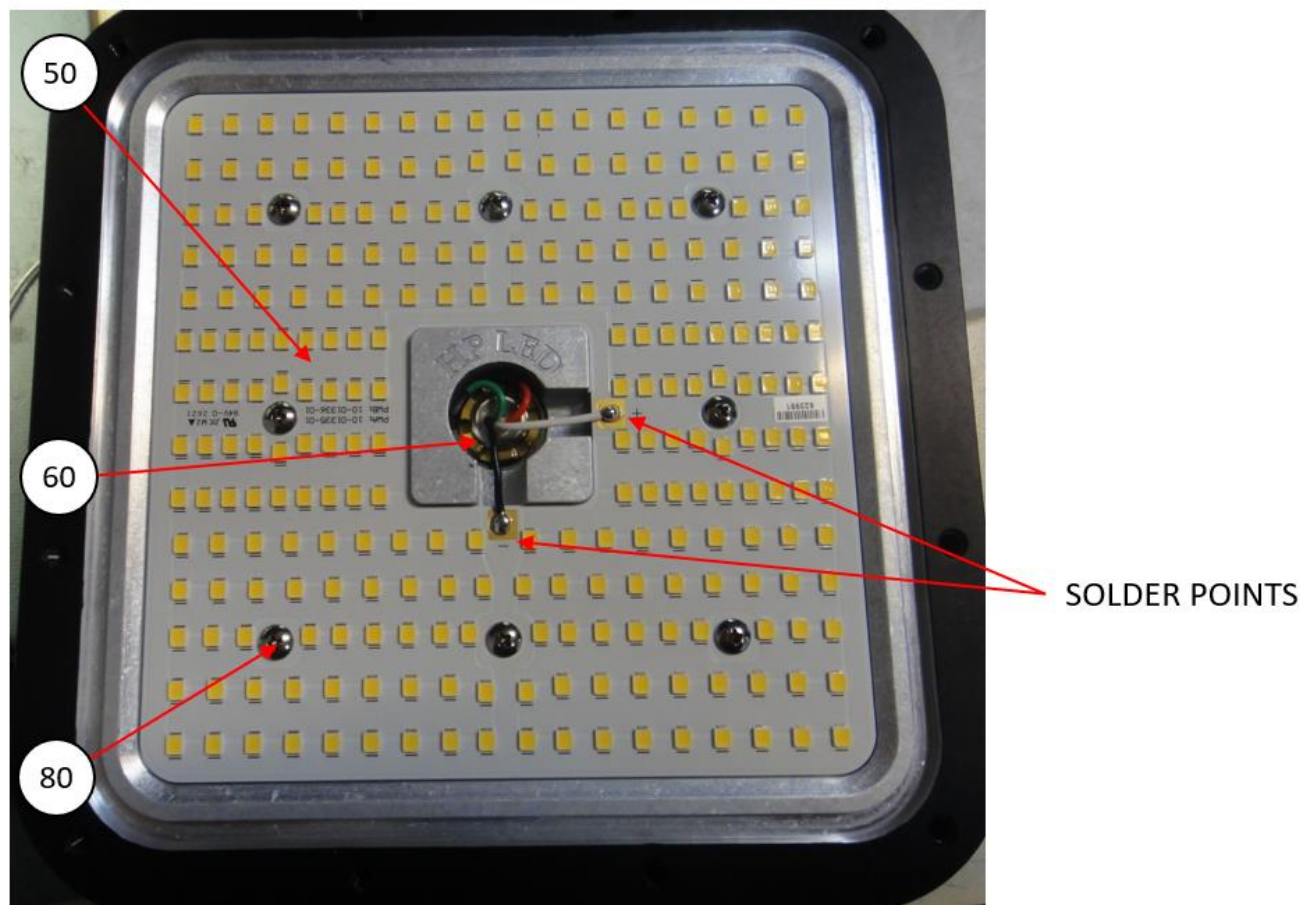


Figure 6. Removing the LED Array

6. Troubleshooting

This section provides guidance for those problems with the Illuminator most likely to be encountered. Contact ROS if further help is needed.

CAUTION

Troubleshooting should be performed only by trained technicians.

6.1. No Light

If the light does not come on, consider the following guidance.

1. Verify the unit is plugged in
2. Verify the power switch is lit. If not lit:
 - a. Verify the GFI button on the power plug is reset
 - b. Verify the fuse is not blown.

CAUTION

A blown fuse may be a sign of a potentially dangerous short circuit. Determine the cause of the blown fuse prior to returning the unit to service.

3. Verify the power switch is on
4. Turn the dimmer all the way clockwise.

6.2. Dim Light

If the light is unexpectedly dim, consider the following guidance.

1. Verify the dimmer switch is turned up.
2. Verify the supply voltage is in accordance with Table 1.
3. Inspect the LED array. The LEDs should be yellow. Brown LEDs, or LEDs with brown or blackened stripes have reached the end of their life and must be replaced.

7. Parts List

Table 3 contains a list of parts available for use with the Illuminator droplight light head. Figure 7 is an exploded view. There are no user serviceable parts in the Illuminator power supply.

Table 3. Parts List

Item	Qty	Part No.	Description
10	1	80-90350-01	BEZEL 28 DEG ILLUMINATOR DROPLIGHT 304SS
20	1	80-90338-01	HSG ILLUMINATOR DROPLIGHT AL
30	1	80-90339-01	WINDOW ILLUMINATOR DROPLIGHT PLEXIGLASS
40	1	80-90348-01	ADAPTER CONN ILLUMINATOR DROPLIGHT 304SS
50	1	10-01335-01	PWA SNGL BD ARRAY HP-LED
60	1	60-01132-4	CONN 4P MALE MCBHRA4M-SS 1/2 IN TL
70	1	60-04090-4	NUT SLOTTED BRASS 7/16-20
80	8	62-21051-4	SCREW THPH 4-40X0.25 IN 316SS
90	4	62-00342-4	SCREW FHHX 4-40X0.5 IN 316SS
100	12	62-01693-4	SCREW CAPTIVE SHHX 8-32X0.875 IN 316SS
110	1	60-22261-4	O-RING 2-261 SILICONE SHORE 70
120	0	60-02043-4	VIBRA-TITE THREAD LOCKING COMPOUND
130	0	60-80360-4	THREADLOCKER ADHESIVE MED W/PRIMER
140	1	60-22018-4	O-RING 2-018 SILICONE SHORE 70
150	1	60-22014-4	O-RING 2-014 SILICONE SHORE 70
160	0	82-00014-4	TUBING HEATSHRINK 1/8 IN DIA 0.042 IN
170	1	62-20598-4	TERMINAL RING 22-18AWG #4 NON-INSULATED
180	1	62-21055-4	SCREW THPH 4-40X0.125 IN 18-8SS

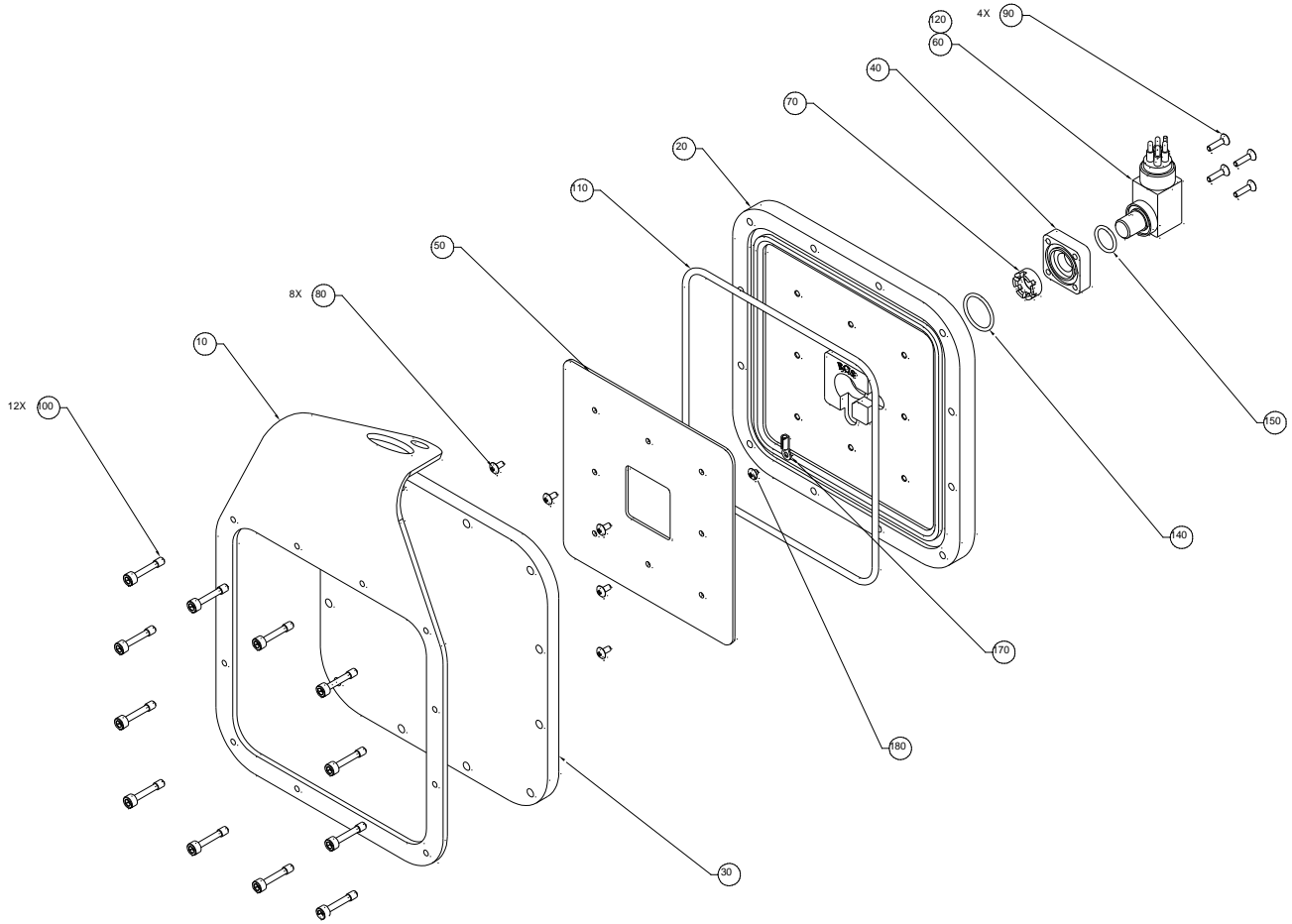


Figure 7. Exploded View

8. Changing Cable

CONNECT ITEM 80 (CA-145-01-50) TO ITEM 40 (Power SUPPLY OUTPUT) USING [2x] ITEM 360 (60-80445-4 SPLICE BUTT CRIMP)

COLOR CODE:

ITEM 80	ITEM 40
BLK	BLK
WHT	RED

PERFORM A PULL TEST ON THE SPLICE BUTT CRIMP TO ENSURE THE CRIMP DOESN'T COME APART OR DETACH FROM THE POWER SUPPLY OUTPUT CABLE.

CUT OFF EXTRA WIRES FROM ITEM 80 (CA-145-01-50) AND HEAT SHRINK

