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**COOPER** Crouse-Hinds

# Instruction Manual



*Model 4 – LED, Version 2  
Style III*

*Taxiway Centerline Light (TCL) L-852C&D  
Pro-III In-pavement LED Fixture  
8-inch aluminum optical housing with  
ductile iron support ring*

Cooper Industries  
Crouse-Hinds Division  
Airport Lighting Products  
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Windsor, CT 06095

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For Parts or Technical Service Call (860) 683-4300

Instruction Manual  
Model 4 – Style III  
Taxiway Centerline Light L-852C&D

**1 Revisions**

Revision	Issue/Reissue Letter Number	Description	Checked	Approved
<b>A</b>	<b>A206-189</b>	<b>Initial Issue</b>	<b>DAT</b>	<b>JMM</b>
<b>B</b>	<b>A207-102A</b>	Title page, copyright 2007 was 2006; page 1, Added Not Available with Option 1 to P2= two plugs; 5.1, added “(except with optional artic....is deep)”; page 8, added P/N 21264 to item 15 & added items 46-48, item 34 P/N was 10047-2964, item 35 was 21358, item 37 was 21344 & added “Except Heater Units” to items 30 & 31, ITEM 40 p/n WAS 10000-509; Figures 3 & 4, added Without Option 1; Figure 5, added second heater; page 2, added (except with optional Artic.....5.00 deep); 9.4, added 21373 info; 9.5, added Notice!; 9.7, added pwr supply locking block info.; added item 2 P/N 21143; parts list, added “***” note and its indicator to items 1, 3, 4, 5, 6, 7 & 14	3/21/07	PG
<b>C</b>	<b>A207-118</b>	Page iii, added “24 months....occurs first.” to (d); page iv, deleted 1 year (Materials & Workmanship) and 5 year (Light Degradation) Warranty information; pg 1 deleted option 1, Artic Kit; para 7.1, 8, 9.4, 9.5 & 9.7, deleted Artic kit information; pg 8, deleted Artic Kit references and related part items 23, 24, 34, 35, 37, 40, 44, 45, 46, 47 & 48; pg 13, deleted uni-directional fixture with heater circuit diagram	4/12/07	PG
<b>D</b>	<b>A208-145</b>	Pg 1, added option “G”; added pg 14; pg 6, added 9.8 & renumbered all paragraphs after addition; pg vii, added Figure 6 & relabeled section 9 info after 9.7; pg 8, added item 35	8/26/08	PG

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<b>E</b>	<b>A210-042</b>	<b>Title page, Copyright 2010 was 2008; re-numbered pages iv-viii with addition of this page; page 1, added option -1, page 2, AC 150/5345-46D was -46B; page 8, added items 23, 24 &amp; 44; page 13, added option -1 figure</b>	<b>3/30/10</b>	<b>PG</b>
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Instruction Manual  
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Taxiway Centerline Light L-852C&D**2 Limited Product Warranty**

THE FOLLOWING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT BY WAY OF LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Crouse-Hinds Airport Lighting Products (the “Company”) warrants to each original Buyer of Products manufactured by the Company that such Products are, at the time of delivery to the Buyer, free of material and workmanship defects, provided that no warranty is made with respect to:

- (a) any Product which has been repaired or altered in such a way, in Company’s judgment, as to affect the Product adversely;
- (b) any Product which has, in Company’s judgment, been subject to negligence, accident or improper storage;
- (c) any Product which has not been operated and maintained in accordance with normal practice and in conformity with recommendations and published specification of Company; and,
- (d) any Products, component parts or accessories manufactured by others but supplied by Company (any claims should be submitted directly to the manufacturer thereof).

Crouse-Hinds Airport Lighting Products’ obligation under this warranty is limited to use of reasonable efforts to repair or, at its option, replace, during normal business hours, at any authorized service facility of Company, any Products which in its judgment proved not to be as warranted within the applicable warranty period. All costs of transportation of Products claimed not to be as warranted and of repaired or replacement Products to or from such service facility shall be borne by Purchaser. Company may require the return of any Product claimed not to be as warranted to one of its facilities as designed by Company, transportation prepaid by Purchaser, to establish a claim under this warranty. The cost of labor for installing a repaired or replacement product shall be borne by Purchaser. Replacement parts provided under the terms of this warranty are warranted for the remainder of the warranty period of the Products upon which they are installed to the same extent as if such parts were original components thereof. Warranty services provided under the Agreement does not assure uninterrupted operations of Products; Company does not assume any liability for damages caused by any delays involving warranty service. The warranty period for the Products is 24 months from date of shipment or 12 months from date of first use whichever occurs first.

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**What the Warranty Does Not Cover:** This warranty does not cover (1) removal or reinstallation of “fixtures”, or (2) defects or damage as a result of accident, modification, misuse, including but not limited to the operation at temperatures above 55°C or voltage/current levels outside the rated range, improper service or repair, abuse or abnormal use including, without limitation, improper storage and incorrect installation.

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**3** Warning Labels



**DANGER**

***DANGER:***

*The hazard or unsafe practice will result in severe injury or death.*



**WARNING**

***WARNING:***

*The hazard or unsafe practice could result in severe injury or death.*



**CAUTION**

***CAUTION:***

*The hazard or unsafe practice could result in minor injury.*



**NOTICE**

***NOTICE:***

*Possibly dangerous situation, goods might be damaged.*



**IMPORTANT**

***IMPORTANT:***

*Helpful information.*

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**4 Safety Notices**

This equipment is normally used or connected to circuits that may employ voltages that are dangerous and may be fatal if accidentally contacted by operating or maintenance personnel. Extreme caution should be exercised when working with this equipment. While practical safety precautions have been incorporated in this equipment, the following rules must be strictly observed:

**4.1 Keep Away from Live Circuits**

Operating and maintenance personnel must at all times observe all safety regulations. Do not perform maintenance on internal components or re-lamp with power ON.

**4.2 Resuscitation**

Maintenance personnel should familiarize themselves with the technique for resuscitation found in widely published manuals of first aid instructions.



**IMPORTANT**

***IMPORTANT:***

*See FAA Advisory Circular AC 150/5340-26 for additional information.*

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**6 Part Number Explanation – Taxiway Centerline Light, L-852C&D**

852  4 - 2 -  -   - P  -

**FAA TYPE:**

**C = NARROW – CAT III**  
(STRAIGHT SECTIONS, < 1200 RVR)

**D = WIDE – CAT III**  
(CURVED SECTIONS, < 1200 RVR)

**CROUSE-HINDS STYLE:**

**4 = FAA STYLE III, LED**

**CONFIGURATION/DESIGN VERSION:**

**COLOR FILTERS:**

**YX = YELLOW /BLANK**  
**GX = GREEN/BLANK**  
**GG = GREEN/GREEN**  
**YY= YELLOW/YELLOW**  
**GY= GREEN/YELLOW**

**FIXTURE DIAMETER:**

**12F = OPTICAL ASSEMBLY WITH 12" FAA SUPPORT RING**  
**NSR = OPTICAL ASSEMBLY WITHOUT SUPPORT RING**

**L-823 PLUG CONNECTION:**

**P1 = ONE PLUG**

**P2 = TWO PLUGS**

**OPTIONS:**

**1 = ARTIC KIT FOR COLD WEATHER OPERATION**

**G = EXTERNAL GASKET BETWEEN OPTICAL ASSEMBLY AND SUPPORT RING. NOTE: OPTICAL ASSEMBLIES WITH THE EXTERNAL GASKET WILL ONLY FIT SUPPORT RINGS MARKED "G" ON TOP SURFACE**

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**7 General Description**

**7.1 Taxiway Centerline Light, L-852C**

The Crouse-Hinds Model 4 Taxiway Centerline Light is a Style 3, ITS verified FAA L-852C per FAA AC 150/5345-46D. It is designed for installation at the centerline of taxiways or any other location where visual guidance of moving aircraft or ground vehicles is desirable. The fixture is designed to fit on a FAA L-868, steel, Size B light base per FAA AC 150/5345-42(latest version), and have a total height above grade/ground level of < .250 inch. The fixture is bi-directional, projecting two beams of light 180° apart. It is weatherproof and will endure roll over loads without damage. The light fixture consists of a ductile iron support ring and a removable aluminum optical assembly. The ductile iron ring is mounted to a light base with six bolts (3/8-16 UNC x 7/8 lg., stn. stl.) and lock washers (3/8, stn. stl.). The aluminum housing is secured to the ductile iron ring using two high-strength bolts and two high-strength shear pins. The aluminum housing has a die cast bottom housing that is attached using 4 screws. A polyurethane o-ring is used to provide a watertight seal between the inner cover and the optical housing. Either one or two LED assemblies are fastened to the optical housing. P1 versions have 1 power supply fastened to the bottom housing. P2 versions have two power supplies fastened to the bottom housing. Electrical connections are made at one or two feed-thru assemblies in the inner cover. The feed-thrus have ITS verified L-823 plugs for connecting to FAA L-830/ L-831 Isolation Transformers. Lenses are held into the aluminum housing with a bracket, gasket, molded elastomeric boot and two screws. The light beam color can be changed by switching LED module assemblies and power supplies. All hardware is type 18-8 stainless steel. The complete light unit is 11.94 inches in diameter, 3.63 inches deep and weighs 25 lbs.



**IMPORTANT**

***IMPORTANT:***

***Do not open any fixture unless the warranty period has expired.  
Opening a fixture will void the warranty***

**7.2 Taxiway Centerline Light, L-852D**

The Crouse-Hinds Taxiway Centerline Light is an ITS verified FAA L-852D per FAA AC 150/5345-46D. Its design is identical to the L-852C described in section 6.1 with the following exceptions.

- The L-852D uses a different LED module.
- The L-852D always uses one power supply per LED module.



**CAUTION**

***CAUTION:***

***Never handle the light assembly by the leads as this can break the waterproof seal***

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**8 Installation**

The Style 3 TCL light units are shipped complete, including the LED module(s), and are ready for installation as received. Installation of a light unit is to be done with primary POWER OFF and SECURED. At each light location, install a steel, Size B, 12 inch deep minimum, L-868 Light Base per FAA AC 150/5340-4 (latest revision). For TCL fixtures, install the light base with two opposite bolt holes perpendicular to the taxiway centerline. Place the properly sized isolation transformer(s) in the light base and make necessary primary power connections using L-823 connectors. The TCL light unit minimum isolation transformer requirements are: 10/15 watt for unidirectional units and 20/25 watt for bi-directional. All isolations transformers are 6.6 ampere secondary models. Verify that the mounting flange on the light base is clean and the o-ring (optional on deep cans) is coated with Dow Corning FS 1292 grease and is in place on the light base. Connect the plug(s) from the light unit to the secondary of the previously installed isolation transformer(s). Installation tool, Crouse-Hinds P/N 19999, will ease in the installation and removal of the light unit (See Figure 1). The threaded eyebolts on the lifting tool screw into threaded holes in the light fixture. Lower the light unit straight down onto the base. The light fixture is subject to optical misalignment or mechanical damage if not seated properly. Verify the light beam(s)/color(s) are properly orientated for the individual location. Secure the light fixture to the base with six 3/8-16 UNC x 7/8 lg., stn. stl. bolts and lock washers and tighten to 225 -0 +10 in-lbs. (18 ft-lbs.). It is recommended that Loctite 242 be used on the mounting bolts to prevent loosening due to vibration. Loctite is required for fixtures subjected to repeated aircraft impacts and roll-overs.

**9 Maintenance**

The preferred method of maintaining these lights is to periodically and systematically replace the fixture and return it to the maintenance shop for renovation. As an alternative, the Optical Assembly can be serviced in the field. However, it is recommended that field servicing be limited to cleaning the lens only as described in section 9.1.



**IMPORTANT**

***IMPORTANT:***

***Do not open any fixture unless the warranty period has expired.  
Opening a fixture will void the warranty***

**9.1 Cleaning Lenses**

With a compressed air blast or suitable brushes, remove all accumulated debris from the light channel. Clean the outer surface of the prism with a detergent solution. If the lens is coated with a substance impervious to the detergent, a suitable solvent should be sparingly applied with a wad of cotton or a patch of cloth on the end of a wood splint. After the solvent has acted the remaining solvent and softened coating should be removed with a clean piece of cotton or cloth. Care should be taken to avoid excessive contact between the solvent and the lens seal. Remove all remaining solvent from lens and seal. A gentle air blast may be used.

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## 9.2 Light Module Replacement



CAUTION

### CAUTION:

*Power supply is hot when fixture is energized and remains hot for a short time after fixture is turned off*

**Remove and secure power to the fixture.** Separate the Optical Assembly from the outer ring by removing the two bolts. There are two pry slots in the optical housing to help separate the Optical Assembly from the support ring. Disconnect the fixture lead(s) from the isolation transformer(s). Turn the Optical Assembly upside down and remove the four screws holding the inner cover to the light housing. Disconnect the Power Supply lead(s) from the LED assemblies. Remove the two cap screws holding the LED array to the optical housing. Clean the inside surfaces of the lens(es) with denatured alcohol. Install the new array using thermal grease between array and optical housing. Tighten the cap screws to 25-30 in-lbs. Connect the Power Supply leads to the new LED assemblies. Inspect the feed-thru terminals for signs of corrosion. Replace feed-thru assemblies per paragraph 9.5. Inspect/replace the optical housing's o-ring per paragraph 9.3. Assemble the inner cover onto the light housing. Tighten the mounting screws to 30 in-lbs. Perform a pressure test as described in paragraph 9.6. Connect the fixture lead(s) from the isolation transformer(s). Clean the mounting flange area of the support ring. Place the light fixture into the support ring. Apply Loctite 242 (P/N 10048-30), per manufacturer's instructions, to all mounting bolts and immediately torque them to 225 -0+10 in-lbs.

## 9.3 O-Ring Replacement

Every time the light fixture is opened, the o-ring must be closely examined and replaced, if necessary. Any o-ring that is stretched, torn, has permanent set, or some other defect which would prevent it from forming a watertight seal must be replaced with a new o-ring.



NOTICE

### NOTICE:

*A bad o-ring seal is the most common cause of inset fixture leaks. It is strongly recommended that a new gasket be installed every time the light fixture is opened*

Remove the old o-ring from the groove in the optical housing. Carefully clean the o-ring groove and flange mating surface on the inner cover. Take care not to damage the mating surface or the o-ring. Coat the o-ring (P/N 10035-62) with a thin layer of Dow Corning FS 1292 Lubricating grease. Position the new o-ring in the center of the groove and press it into place. Torque the inner cover screws to 30 in-lbs. Perform a pressure test as described in paragraph 9.6. Connect the fixture lead(s) from the isolation transformer(s). Clean the mounting flange area of the support ring. Place the fixture into the support ring. Apply Loctite 242 (P/N 10048-30), per manufacturer's instructions, to both mounting bolts and immediately torque them to 225 -0+10 in-lbs.



NOTICE

### NOTICE:

*The groove is designed to be wider than the o-ring. This provides room for the displacement of the o-ring when compressed between the housing and mating surface. Properly tightened screws are important in obtaining a complete seal.*

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## 9.4 Lens Replacement

If a lens is broken, leaks, or is badly pitted or scarred, it must be replaced. It is highly recommended that this task be performed in a clean shop environment. Lens Replacement Kits P/N 21126-C or 21366 contain all necessary parts to change a lens. **Remove and secure power to the fixture.** Separate the Optical Assembly from the outer ring by removing the two bolts. There are two pry slots in the optical housing to help separate the Optical Assembly from the support ring. Disconnect the fixture lead(s) from the isolation transformer(s). Turn the Optical Assembly upside down and remove the four screws holding the inner cover to the light housing. Turn the light unit upside down and remove the four screws holding the inner cover to the light housing. Disconnect the Power Supply lead(s) from the LED assemblies. Remove the two cap screws holding the LED array to the optical housing. Remove the two lens retaining bracket screws from the light housing. Remove the lens-retaining bracket and discard the lens-retaining gasket. Firmly push the lens/boot assembly from the outside of the light housing; discard the old lens and boot. Thoroughly clean the lens opening with denatured alcohol and allow it to dry. Inspect the lens opening for scratches or pits; a damaged lens opening surface will not seal properly. Place a new lens boot (P/N 21103 for L-852C or 21296 for L-852D) over the replacement lens (P/N 21102-C for L-852C or 21276-AR for L-852D). Apply a thin coat of Dow Corning FS 1292 grease over the entire outside surface of the lens boot. Align the lens/boot assembly in the lens opening and press it into place. Verify that the lens boot is not pinched in the lens opening. Using a new lens retaining gasket (P/N 21101), fasten the lens retaining bracket (P/N 21100), and heater bracket on Artic Kit versions, to the light housing. Torque the mounting screws to 30 in-lbs. Re-install the LED array(s) per paragraph 8.2. Tighten the cap screws to 25-30 in-lbs. Connect the Power Supply leads to the LED assemblies. Assemble the inner cover onto the light housing. The screw hole patterns in the inner cover and light housing are offset to insure proper alignment. Torque the mounting screws to 30 in-lbs. Perform a pressure test per paragraph 9.6. Connect the fixture lead(s) from the isolation transformer(s). Clean the mounting flange area of the support ring. Place the light fixture into the support ring. Apply Loctite 242 (P/N 10048-30, per manufacturer's instructions, to all mounting bolts and immediately torque them to 225 -0+10 in-lbs.

## 9.5 Feed-thru Replacement

**Remove and secure power to the fixture.** Separate the Optical Assembly from the outer ring by removing the two bolts. There are two pry slots in the optical housing to help separate the Optical Assembly from the support ring. Disconnect the fixture lead(s) from the isolation transformer(s). Disconnect the Power Supply leads from the feed-thru terminals. Remove the feed-thru by unscrewing the retaining collar. Clean the mounting surfaces with Isopropyl Alcohol and allow to dry. Apply a thin coat of Dow Corning FS 1292 grease to the mounting flange of a new feed-thru. Apply a drop of Loctite 242 to the feed-thru adapter threads. Screw the feed-thru retaining collar onto the adapter; refer to Figure 3 for proper inner cover/feed-thru orientation. Torque the retaining collar to 30 in-lbs. Reconnect the Power Supply leads to the feed-thru terminals. Assemble the inner cover onto the light housing. The screw hole patterns in the inner cover and light housing are offset to insure proper alignment. Torque the mounting screws to 30 in-lbs. Perform a pressure test per paragraph 9.6. Connect the fixture lead(s) from the isolation transformer(s). Clean the mounting flange area of the support ring. Place the light fixture into the support ring. Apply Loctite 242 (P/N 10048-30, per manufacturer's instructions, to all mounting bolts and immediately torque them to 225 -0+10 in-lbs.

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## 9.6 Pressure Test

A light fixture should be subjected to a 20-psi air pressure test to verify that it is waterproof whenever it has been opened or components have been replaced. A tire valve style pressure fitting is located on the bottom of the inner cover. Pressurize the fixture to 20-psi then place it in a tub of water or use a soap solution to locate escaping air bubbles. Carefully inspect the areas around the lens, inner cover seal, and feed-thru adapter for leaks. Relieve the internal air pressure before installing the fixture or attempting to repair a leak.



### WARNING

#### WARNING:

*Do not exceed 20-psi when pressure testing the fixture. Serious injury and/or permanent damage to the fixture may result if a higher air pressure is used. Once the pressure test is complete, be sure to relieve the air pressure*

## 9.7 Power Supply Replacement



### CAUTION

#### CAUTION:

*Power supply is hot when fixture is energized and remains hot for a short time after fixture is turned off*

**Remove and secure power to the fixture.** Separate the Optical Assembly from the outer ring by removing the two bolts. There are two pry slots in the optical housing to help separate the Optical Assembly from the support ring. Disconnect the fixture lead(s) from the isolation transformer(s). Turn the Optical Assembly upside down and remove the four screws holding the inner cover to the light housing. Disconnect the Power Supply leads from the feed-thru terminals and LED Module. Remove the two screws holding the power supply to the inner cover. Remove the power supply and save the two power supply clamps. Replace the Power Supply. Replace the power supply clamps (P/N 21315 & 21316). Torque the mounting screws to 15-18 in-lbs. Reconnect the power supply to the feedthru terminals and LED assembly. Inspect/replace the optical housing's gasket per paragraph 9.3. Assemble the inner cover onto the light housing. The screw hole patterns in the inner cover and light housing are offset to insure proper alignment. Torque the mounting screws to 30 in-lbs. Perform a pressure test per paragraph 9.6. Connect the fixture lead(s) from the isolation transformer(s). Clean the mounting flange area of the support ring. Place the light fixture into the support ring. Apply Loctite 242 (P/N 10048-30, per manufacturer's instructions, to all mounting bolts and immediately torque them to 225 -0+10 in-lbs.

## 9.8 External Support Ring Gasket Replacement

Every time a light fixture with the optional external support ring gasket is removed from the support ring, this gasket that is on the outside surface of the inner cover should be examined and replaced if necessary. Any gasket that is stretched, torn, has a permanent set or some other defect, will allow water to enter the light base. Remove the old gasket from the inner cover by carefully scraping. Take care not to damage the inner cover. Form a thin bead of high temperature silicone adhesive, such as GE RTV 106, on the inner cover sealing surface. Position the new gasket (P/N 21180) on the inner cover in the same location as the old gasket. Allow the silicone to cure for 4 to 12 hours. Cure times depend on the amount of silicone used, ambient temperature, and relative humidity. Apply a thin coat of Dow Corning FS 1292 grease over the entire outside surface of the gasket before placing in the support ring. Install new stainless steel split-ring lock washers. Apply Loctite 242 (P/N 10048-30), per manufacturer's instructions, to both mounting bolts and immediately torque them to 225 -0 =10 in-lbs.

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## 9.9 Cleanliness and Workmanship

Service life depends upon the entire assembly being waterproof. All surfaces must be clean, dry and free of all foreign matter if the light fixture is to operate for extended periods without requiring maintenance.

## 9.10 Maintenance Program

In order to insure maximum light fixture life, the installed units should be subject to a maintenance program in accordance with the following:

A daily operation check should be made of the lighting fixture. The lights should be energized and visually inspected. If any fixtures are out, the location of the fixture should be recorded and the LED modules replaced at a time when the circuit is de-energized. (See Section 9.2)

- 9.10.1 Regular cleaning is necessary in order to insure that inset lighting fixtures operate at maximum efficiency. The lens and channel in front of the lens should be cleaned periodically with a soft cloth and solvent. The weather and the location of the fixtures will dictate the regularity and type of cleaning.
- 9.10.2 Snowplow operators should exercise extra care not to strike the light fixtures with snowplow blades. After snowplow removal operations, inspect all light fixtures to locate and replace if necessary, any damaged Light Assemblies. Passes over the light rows should be made with a power broom only if practical. Whenever snowplows must traverse in-pavement light fixtures, they should be traveling at less than 5 mph or have the blades lifted clear of the fixtures. Recommended snow removal techniques are described in AC 150/5200-23.
- 9.10.3 The light is designed to exclude both ground and surface water from entering. If the lights are not properly maintained (i.e., bolts tightened and seals in good condition) water may enter the fixture. To prevent this from occurring, it is recommended that each fixture be inspected for the presence of water at least once a month. More frequent inspection is desirable during and following rainy seasons.
- 9.10.4 Optical Assembly hold-down bolts should be checked for proper torque (225 +5, -0 in-lbs.) at least once every three months or whenever a fixture is serviced regardless of the season. Light fixtures in and around the Touchdown Zone area are especially prone to vibration damage if the mounting bolts are not properly torqued. The mounting surface of the light base must be clean and free of foreign matter when checking mounting bolts.
- 9.10.5 If any fixture contains water, the water should be removed and the entire fixture cleaned and dried. Perform a pressure test per paragraph 9.6 to locate the source of the leak. Replace the optical housing o-ring (P/N10035-62), See Section 9.3.

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	PART NUMBER	852C4 QTY	852D4 QTY	DESCRIPTION
1	21100	A/R	A/R	BRACKET, LENS RETAINING, 18-8 STN STL. BI-DIR. QTY = 2 UNI-DIR. QTY = 1
2	21101 *	A/R	A/R	GASKET, LENS BI-DIR. QTY = 2 UNI-DIR. QTY = 1
3	21102-C *	A/R	0	LENS, CLEAR, L-852C BI-DIR. QTY = 2 UNI-DIR. QTY = 1
4	21103 *	A/R	0	BOOT, LENS, L-852C BI-DIR. QTY = 2 UNI-DIR. QTY = 1
5	21276-AR**	0	A/R	LENS, CLEAR, L-852D BI-DIR. QTY = 2 UNI-DIR. QTY = 1
6	21296**	0	A/R	BOOT, LENS, L-852D BI-DIR. QTY = 2 UNI-DIR. QTY = 1
7	21105-X	1	1	OPTICAL HOUSING, BI-DIR = 21105-2 UNI-DIR = 21105-1
8	10C01-037D40	2	2	BOLT, HEX, 3/8-16 x 1 1/2 LG. 18-8 STN STL.
9	21112	A/R	A/R	SUPPORT RING, DUCTILE IRON, -12F VERSIONS = 1, NSR VERSIONS = 0
10	10035-62	1	1	O-RING, BOTTOM COVER.
11	21120	A/R	A/R	ADAPTER, THREADED FEED – THRU, P1 QTY = 1 P2 QTY = 2
12	21122	A/R	A/R	FEED-THRU ASSEMBLY, P1 QTY = 1 P2 QTY = 2
13	10000-471	1	1	SCREW, SEMS, PAN HD TYPE 1A CROSS, GREEN, #10-32 X 3/8 LG, 18-8 STN STL.
14	10000-507	A/R	A/R	HEX HEAD SCREW, #8-32 X 1/2 LG 18-8 SS BI-DIR. QTY = 4 UNI-DIR. QTY = 2
15	21118-3	1	1	BOTTOM COVER
16	21109	A/R	A/R	PLUG, THREADED, FEED-THRU, P1 QTY = 1 P2 QTY = 0
17	21354	A/R	0	LED ASSEMBLY, L-852C GREEN (LED MODULE)
18	21355	A/R	0	LED ASSEMBLY, L-852C YELLOW (LED MODULE)
19	21317	0	A/R	LED ASSEMBLY, L-852D GREEN (LED MODULE)
20	21318	0	A/R	LED ASSEMBLY, L-852D YELLOW (LED MODULE)
21	21304-4-G	A/R	A/R	L-852C LED POWER SUPPLY, GREEN
22	21304-3-G	A/R	A/R	L-852D LED POWER SUPPLY, GREEN
23	21375	A/R	A/R	HEATER/ THERMOSWITCH ASSEMBLY
24	21397	A/R	A/R	HEATER BRACKET
25	10037-795	1	1	FITTING, PRESSURE TEST, 1/8-NPT
26	10000-470	4	4	SCREW, 100° FLAT HD / DRI-LOC, #10-32 x 7/16 LG, 18-8 SS
27	10048-25 *	A/R	A/R	SILICONE GREASE
28	10048-106	A/R	A/R	PIPE SEALANT PASTE
29	10035-61	A/R	A/R	O-RING, FEED-THRU ADAPTER P1 QTY = 1 P2 QTY = 2
30	21316	A/R	A/R	POWER SUPPLY CLAMP, (ONE ANGLED EDGE) ONE PER POWER SUPPLY
31	21315	A/R	A/R	POWER SUPPLY CLAMP (RECTANGLE SHAPE) ONE PER POWER SUPPLY
32	10000-469	4	4	SCREW, PAN HD TYPE 1A CROSS/DRI-LOC, #8-32-3/8 LG, 18/8 SS
33	10000-508	A/R	A/R	SCREW, HEX SOCKET CAP / DRI-LOCK, #10-32 X 1/2 LG, 18-8 SS
34	21505	A/R	A/R	FOAM SPACER, HEATER
35	21180	A/R	A/R	EXTERNAL SUPPORT RING GASKET (OPTIONAL)
36	21360	A/R	0	LEAD ASSEMBLY L-852C P1 VERSIONS ONLY
37				
38	10048-30	A/R	A/R	LOCTITE 242
39	10000-472	A/R	A/R	SCREW, SEMS, PAN HD TYPE 1A CROSS DRI/LOC #8-32 x 1/2 LG, 18-8 STN STL TWO PER POWER SUPPLY
40				
41	11A12-037D	2	2	LOCK WASHER, SPLIT, 3/8, STN STL
42	21365-4-Y	A/R	-	L-852C LED POWER SUPPLY, YELLOW
43	21365-3-Y	-	A/R	L-852D LED POWER SUPPLY, YELLOW
44				
45				
46				
47				
48				

\* These parts are included in a P/N 21126-C Lens Replacement Kit.

\*\* These parts, along with items 2 & 27, are included in a P/N 21366, Lens Replacement Kit.

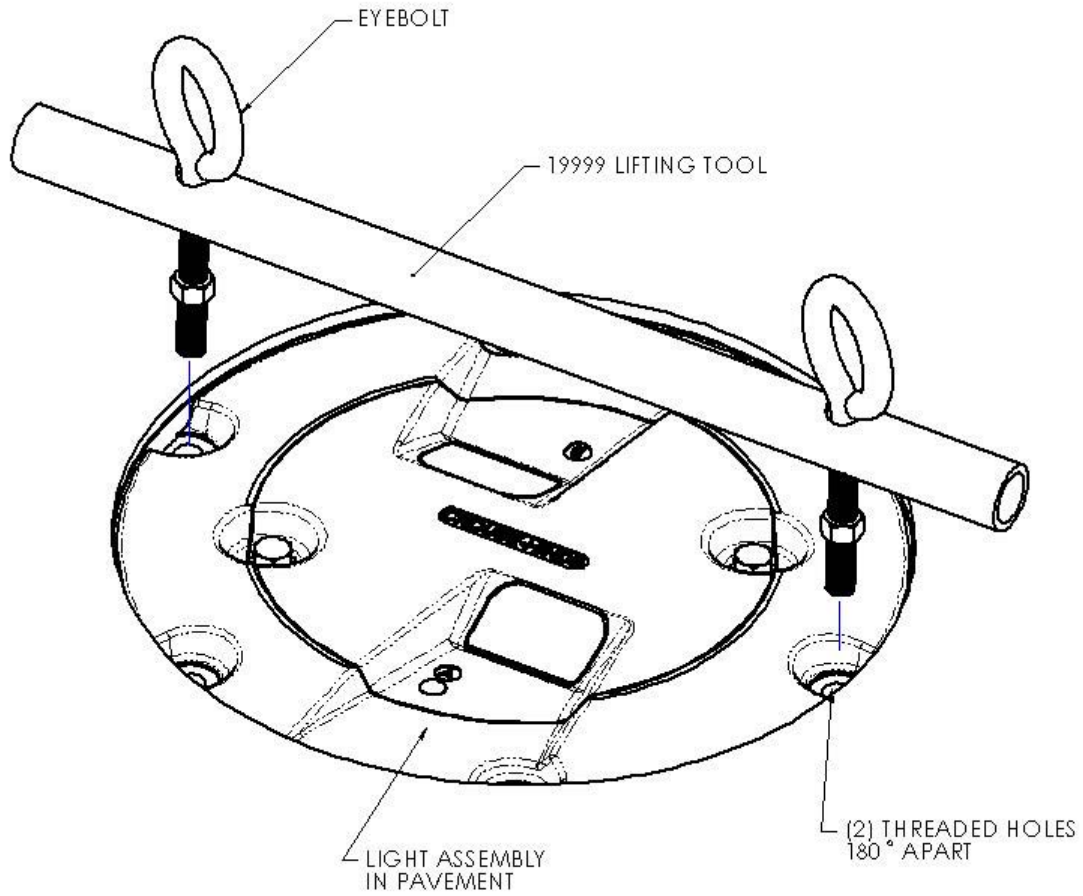
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## 10 Troubleshooting

If fixture is under warranty, please contact Crouse-Hinds for assistance. DO NOT open fixture. If the fixture is opened, the warranty is VOID. If warranty period has expired and troubleshooting is required, follow the steps below to find the root cause. Replacement parts will be required for testing of the different components of the fixture.

- 10.1 If the fixture is ON and neither side is lit up, then verify that the feed-thru leads are good and that power is going to the fixture. If power is going to the fixture, then go to step 11.2. If power is not going to the fixture, replace the feed-thru assembly per paragraph 9.5 and retest. If only one side is lights up, take note of the corresponding side and relamp the fixture per paragraph 9.2.
- 10.2 **LED Assembly Replacement**  
**Remove and secure power to the fixture.** Separate the Optical Assembly from the outer ring by removing the two bolts. There are two pry slots in the optical housing to help separate the Optical Assembly from the support ring. Disconnect the fixture lead(s) from the isolation transformer(s). Turn the Optical Assembly upside down and remove the four screws holding the inner cover to the light housing. Unplug both LED Modules from the Power Supply and plug two new LED Modules. Power up the fixture with an isolation transformer. **DO NOT** touch the fixture or its components while the power is ON. If the LED Modules light up, remove and secure power to the fixture and complete the relamping of the fixture per paragraph 9.2. If the LED Modules do not light up, go on to the next step.
- 11.3 **Power Supply Replacement**  
**Remove and secure power to the fixture.** Separate the Optical Assembly from the outer ring by removing the two bolts. There are two pry slots in the optical housing to help separate the Optical Assembly from the support ring. Disconnect the fixture lead(s) from the isolation transformer(s). Turn the Optical Assembly upside down and remove the four screws holding the inner cover to the light housing. Disconnect LED Modules from the Power Supply. Disconnect the Power Supply leads from the feed-thru terminals. Connect a new Power Supply to the feed-thru terminals and connect the original LED Modules to the Power Supply. Power up the fixture with an isolation transformer. **DO NOT** touch the fixture or its components while the power is ON. If the modules light up, remove and secure power to the fixture and complete the replacement of the Power Supply per paragraph 9.7.

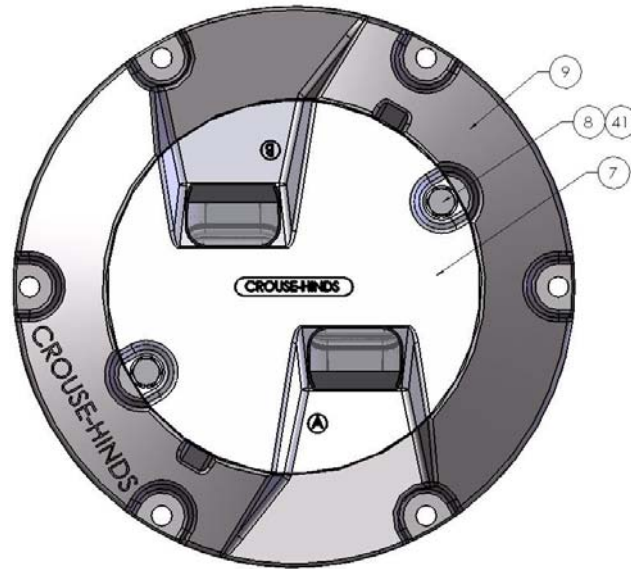
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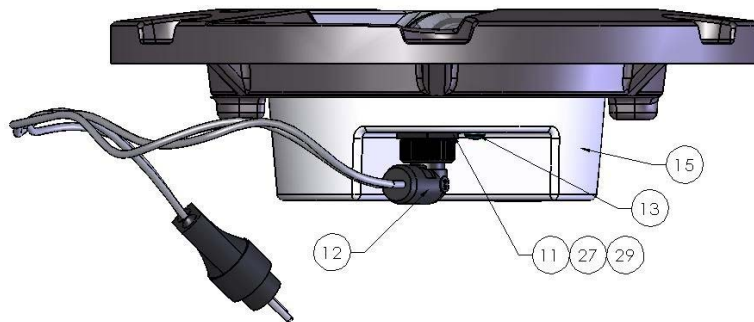
**Figure 1: 19999 Installation (Lifting) Tool**

**TCL Fixture Shown**

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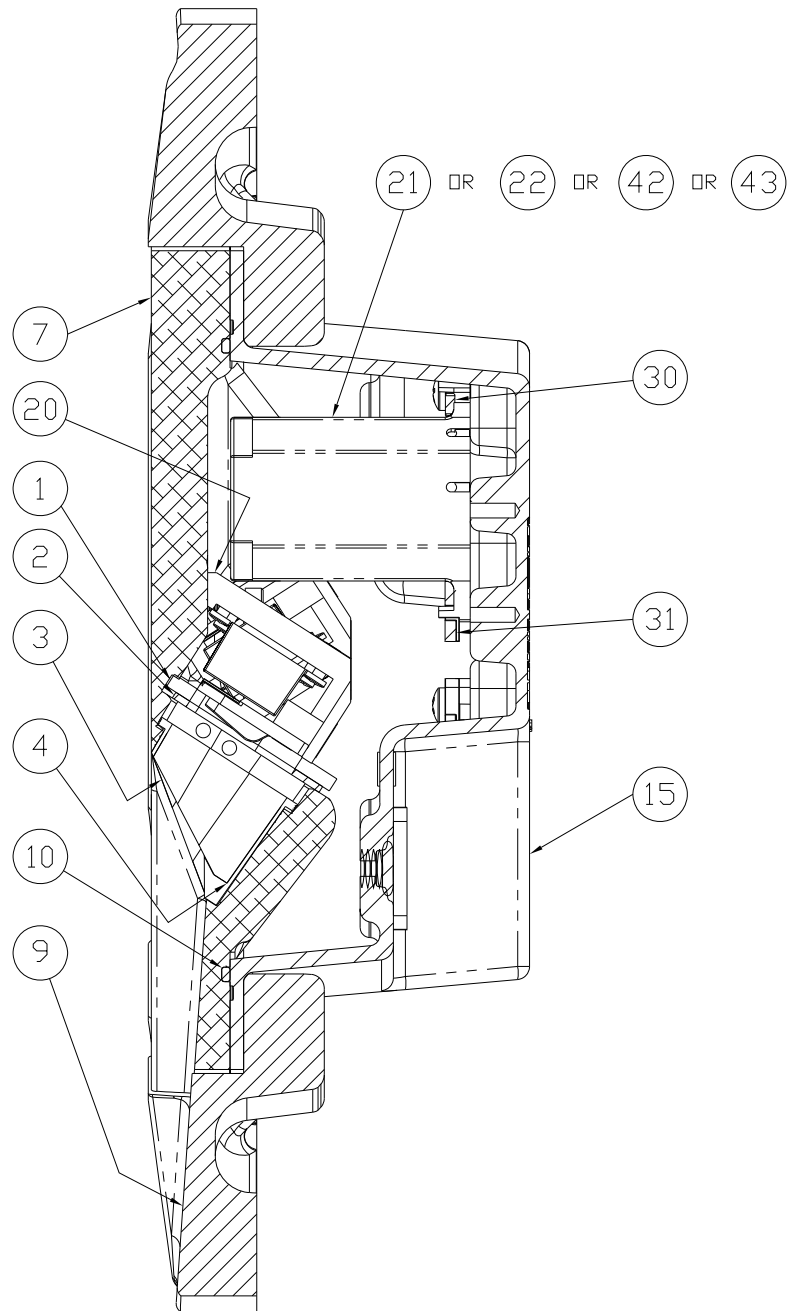


**Figure 2: Top View of Fixture**



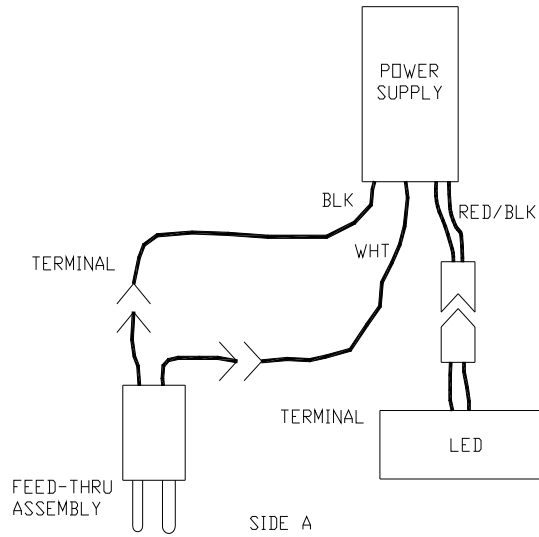
**Figure 3: Side View of Fixture**

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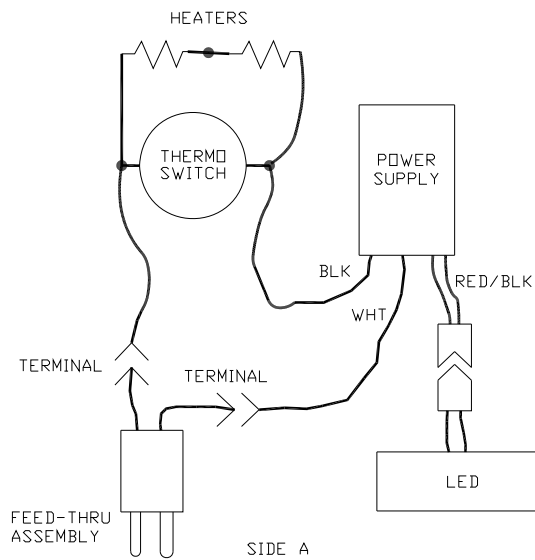


**Figure 4: Sectioned View of Fixture**

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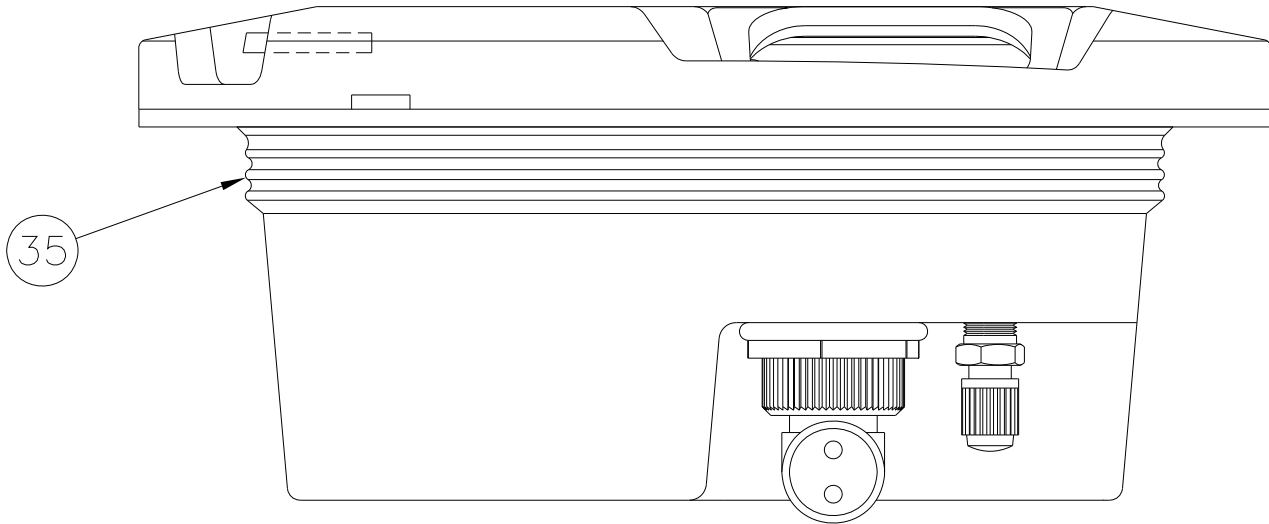
TYPICAL P1 UNI-DIRECTIONAL



TYPICAL P1 UNI-DIRECTIONAL  
WITH OPTION -1, ARTIC KIT

**Figure 5: Basic Circuit Block Diagrams**

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**Figure 6 Side view of Fixture with Optional External Support Ring Gasket**