



# Type L-850A Dualite Bidirectional Runway Light Fixture

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Manufactured to FAA Specification  
AC 150/5345-46

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# Record of Changes

Page	Rev	Description	EC No.	Checked	Approved	Date
	B	Added metric units.		EP	WT	
All	C	Reformatted manual and incorporated changes of EC 3228.	3257	JG	WT	2/4/98
All	D	Changed to new title page. Changed ADB to Siemens Airfield Solutions.	00696	JG	WT	5/16/01

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Products of Siemens Airfield Solutions manufacture are guaranteed against mechanical, electrical, and physical defects (excluding lamps) for a period of one year from the date of installation or a maximum of two years from the date of shipment and are guaranteed to be merchantable and fit for the ordinary purposes for which such products are made.

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# Type L-850A Dualite Bidirectional Runway Light Fixture

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## 1. Safety

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This section contains general safety instructions for using your Siemens Airfield Solutions equipment. Some safety instructions may not apply to the equipment in this manual. Task- and equipment-specific warnings are included in other sections of this manual where appropriate. Note all warnings and follow all instructions carefully. Failure to do so may result in personal injury, death, or property damage.

To use this equipment safely,

- refer to the FAA Advisory Circular AC 150/5340-26, *Maintenance of Airport Visual Aids Facilities*, for instructions on safety precautions.
- observe all safety regulations. To avoid injuries, always remove power prior to making any wire connections and touching any parts. Refer to FAA Advisory Circular AC 150/5340-26.
- read and become familiar with the general safety instructions provided in this section of the manual before installing, operating, maintaining, or repairing this equipment.
- read and carefully follow the instructions given throughout this manual for performing specific tasks and working with specific equipment.
- store this manual within easy reach of personnel installing, operating, maintaining, or repairing this equipment.
- follow all applicable safety procedures required by your company, industry standards, and government or other regulatory agencies.
- obtain and read Material Safety Data Sheets (MSDS) for all materials used.

## Safety Symbols

Become familiar with the safety symbols presented in this section. These symbols will alert you to safety hazards and conditions that may result in personal injury, death, or property and equipment damage.



**WARNING:** Failure to observe this warning may result in personal injury, death, or equipment damage.



**WARNING:** Risk of electrical shock. Failure to observe this warning may result in personal injury, death, or equipment damage.





**Safety Symbols** (*contd.*)

**WARNING:** Disconnect equipment from line voltage. Failure to observe this warning may result in personal injury, death, or equipment damage.



**WARNING:** Wear safety goggles. Failure to observe may result in serious injury.



**CAUTION:** Failure to observe may result in equipment damage.

**Qualified Personnel**

The term *qualified personnel* is defined here as individuals who thoroughly understand the equipment and its safe operation, maintenance, and repair. Qualified personnel are physically capable of performing the required tasks, familiar with all relevant safety rules and regulations and have been trained to safely install, operate, maintain, and repair the equipment. It is the responsibility of the company operating this equipment to see that its personnel meet these requirements.

**Intended Use**

**WARNING:** Use of this equipment in ways other than described in this manual may result in personal injury, death, or property and equipment damage. Use this equipment only as described in this manual.

Siemens Airfield Solutions cannot be responsible for injuries or damages resulting from nonstandard, unintended applications of its equipment. This equipment is designed and intended only for the purpose described in this manual. Uses not described in this manual are considered unintended uses and may result in serious personal injury, death, or property damage. Unintended uses may result from taking the following actions:

- making changes to equipment that have not been recommended or described in this manual or using parts that are not genuine Siemens Airfield Solutions replacement parts
- failing to make sure that auxiliary equipment complies with approval agency requirements, local codes, and all applicable safety standards
- using materials or auxiliary equipment that are inappropriate or incompatible with your Siemens Airfield Solutions equipment
- allowing unqualified personnel to perform any task

## Installation

Read the installation section of all system component manuals before installing your equipment. A thorough understanding of system components and their requirements will help you install the system safely and efficiently.



**WARNING:** Failure to follow these safety procedures can result in personal injury or death.

- Allow only qualified personnel to install Siemens Airfield Solutions and auxiliary equipment. Use only approved equipment. Using unapproved equipment in an approved system may void agency approvals.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Follow all instructions for installing components and accessories.
- Install all electrical connections to local code.
- Use only electrical wire of sufficient gauge and insulation to handle the rated current demand. All wiring must meet local codes.
- Route electrical wiring along a protected path. Make sure they will not be damaged by moving equipment.
- Protect components from damage, wear, and harsh environment conditions.
- Allow ample room for maintenance, panel accessibility, and cover removal.
- Protect equipment with safety devices as specified by applicable safety regulations.
- If safety devices must be removed for installation, install them immediately after the work is completed and check them for proper functioning.

## Operation

Only qualified personnel, physically capable of operating the equipment and with no impairments in their judgment or reaction times, should operate this equipment.

Read all system component manuals before operating this equipment. A thorough understanding of system components and their operation will help you operate the system safely and efficiently.

**Operation** *(contd.)*

- Before starting this equipment, check all safety interlocks, fire-detection systems, and protective devices such as panels and covers. Make sure all devices are fully functional. Do not operate the system if these devices are not working properly. Do not deactivate or bypass automatic safety interlocks or locked-out electrical disconnects or pneumatic valves.
- Never operate equipment with a known malfunction.
- Do not attempt to operate or service electrical equipment if standing water is present.
- Use this equipment only in the environments for which it is rated. Do not operate this equipment in humid, flammable, or explosive environments unless it has been rated for safe operation in these environments.
- Never touch exposed electrical connections on equipment while the power is ON.

**Action in the Event of a System or Component Malfunction**

Do not operate a system that contains malfunctioning components. If a component malfunctions, turn the system OFF immediately.

- Disconnect and lock out electrical power.
- Allow only qualified personnel to make repairs. Repair or replace the malfunctioning component according to instructions provided in its manual.

**Maintenance and Repair**

Allow only qualified personnel to perform maintenance, troubleshooting, and repair tasks. Only persons who are properly trained and familiar with Siemens Airfield Solutions equipment are permitted to service this equipment.

- Always use safety devices when working on this equipment.
- Follow the recommended maintenance procedures in your equipment manuals.
- Do not service or adjust any equipment unless another person trained in first aid and CPR is present.
- Connect all disconnected equipment ground cables and wires after servicing equipment. Ground all conductive equipment.
- Use only approved Siemens Airfield Solutions replacement parts. Using unapproved parts or making unapproved modifications to equipment may void agency approvals and create safety hazards.

**Maintenance and Repair***(contd.)*

- Check interlock systems periodically to ensure their effectiveness.
- Do not attempt to service electrical equipment if standing water is present. Use caution when servicing electrical equipment in a high-humidity environment.
- Use tools with insulated handles when working with electrical equipment.

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**2. Description**

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See Figure 1.

**Introduction**

This section describes the Siemens Airfield Solutions L-850A dualite runway inset light fixture. The L-850A light fixture is a switchable light designed to provide visual guidance along the runway centerline and is manufactured in accordance with FAA specification AC 150/5345-46A.

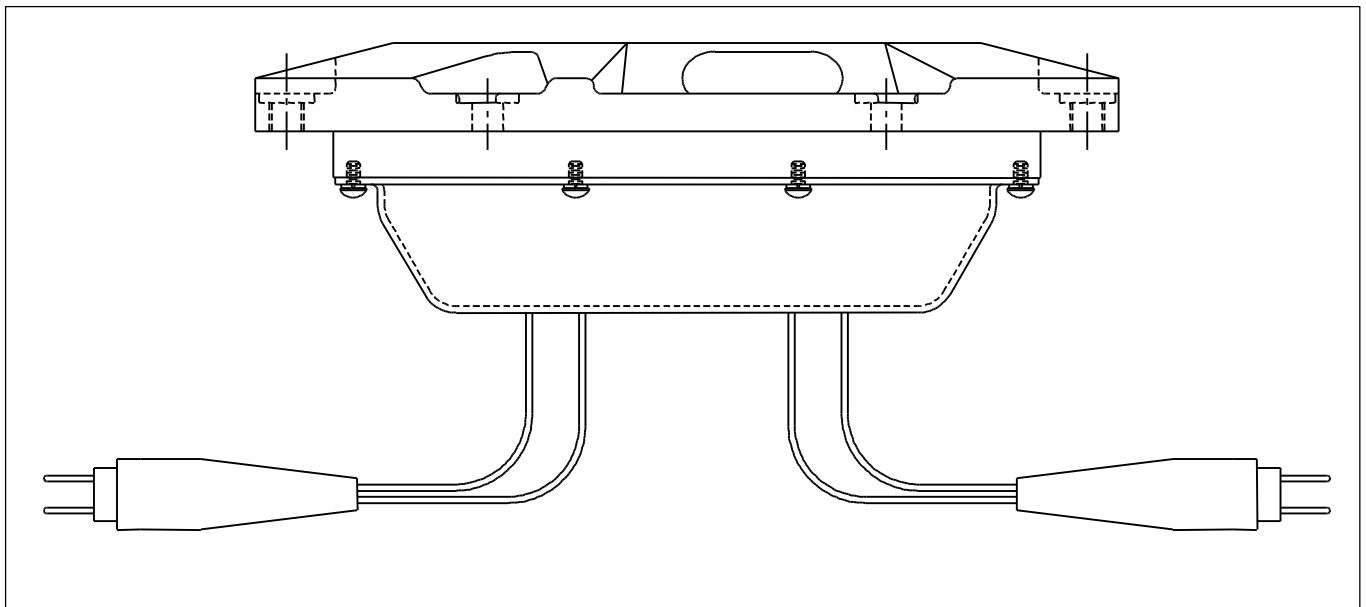


Figure 1. L-850A Dualite Light Fixture

**Optical Assembly**

See Figure 2. The L-850A light fixture optical assembly consists of one or two 45-watt/6.6 A lamps, prisms, and color filters. Clear and red filters are available for use in the L-850A fixture. Blanked fixtures are used for unidirectional lighting.

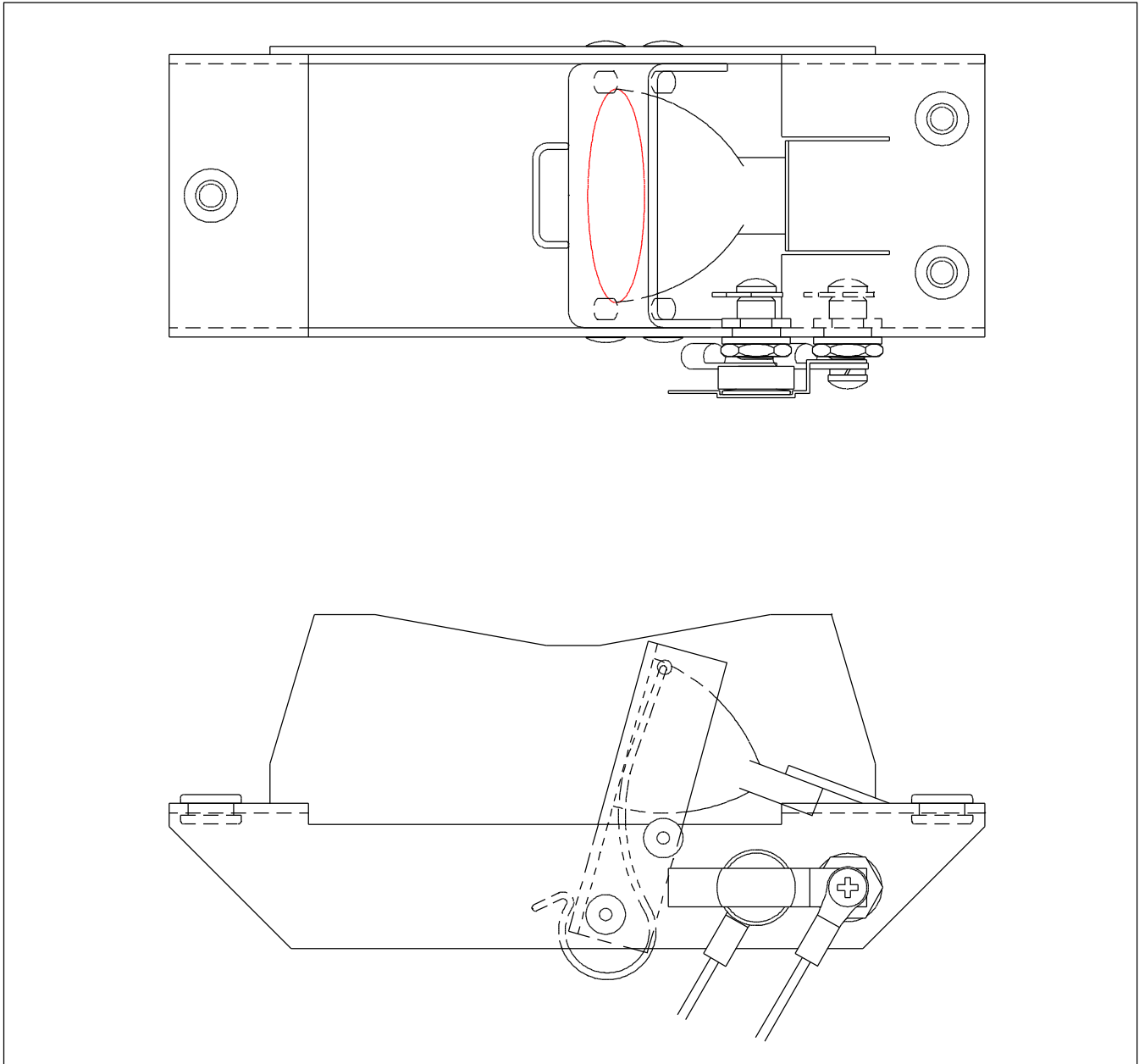


Figure 2. Optical Assembly

**Optional Film Disc Cutout**

In case of lamp failure, an optional film disc cutout is available as an electrical bypass device. The film disc cutout closes an auxiliary circuit around the lamp within 15 seconds after lamp failure. This prevents an overload from occurring on the constant current regulator when a lamp failure opens the secondary of the isolation transformer. The film disc cutout must be replaced when the lamp is replaced. Do not use the film disc cutout with 240 Vac/30.3 Vac isolation transformers.

**L-850A Light Fixture:  
Required Equipment**

Refer to Table 1 for required equipment that is supplied. Refer to Table 2 for required equipment that is not supplied. Refer to the *Parts* section for part numbers.

Table 1. Required Equipment Supplied

Description	Quantity
L-850A inset light, with lamp(s)	1
Instruction manual	1

Table 2. Required Equipment Not Supplied

Description	Quantity
Torque wrench (0 to 200 in-lb) (0–22.6 Nt-M)	1
Alignment jig	1
Diamond-faced core drill, 13 in. (330 mm diameter)	1
Diamond-faced saw, 3/8 in. (9.525 mm) thick	1
Crimping tool	1
Small water suction pump	1
L-830 isolation transformer	1 or 2
Eyebolt, 3/8 in. (9.525 mm) diameter	2
Lifting rod, 16 in. (406 mm) long	1
Set of fiber brushes	1
Set of socket wrenches, 1/2 in. (12.7 mm) drive	1
Set of screwdrivers, one with 3/8 in. (9.525 mm) minimum blade width	1
Silicone grease	As required
Joint sealing filler	As required

**Specifications**

This subsection provides specifications for the L-850A light fixtures.

**Lamps**

Refer to the table below for lamps.

Number of Lamps	Lamp Wattage (W)	Lamp Current	Unit	Supplied with Fixture
One	45	6.6 A	Unidirectional	Yes
Two	45	6.6 A	Bidirectional	Yes

**Isolation Transformers**

Refer to Table 3 for required isolation transformers.

Table 3. Required Isolation Transformers

Unit	Series Circuit	Isolation Transformer	Watts	Amperes
Unidirectional	6.6 A	L-830-1	45	6.6/6.6
Unidirectional	20 A	L-830-2	45	20/6.6
Bidirectional	6.6 A	L-830 4	100	6.6/6.6
Bidirectional	20 A	L-830-5	100	20/6.6

**Rated Lamp Life**

2000 hours

**Filter Colors**

Clear and red

**Light Beam**

Standard: 180 degrees bidirectional

Optional: switchable light direction

**Mounting**

The L-850A light fixture mounts on an optional Siemens Airfield Solutions shallow base or on a 12-inch- (304.8-mm-) diameter deep L-868B light base. Refer to Table 4 for connectors supplied.

**Mounting** *(contd.)*

Table 4. Connectors Supplied

<b>If you order this...</b>	<b>This connector is supplied...</b>
L-850A fixture with shallow base	Main lead assembly
L-850A fixture without shallow base	L-823 connector

**Environmental Operating Conditions**

The L-850A light fixture is designed to operate under the conditions presented below for temperature, altitude, and relative humidity.

**Temperature**

-55 to + 55 °C (-67 to +131 °F)

**Altitude**

Sea level to 10,000 feet (3000 m)

**Relative Humidity**

Up to 100 %

**Dimensions**

Height: 3.8 in. (96.25 mm)  
Diameter: 11.94 in. (303.28 mm)  
Bolt-circle diameter: 11.25 in. (285.75 mm)

**Weight**

25 lb. (11.34 kg) (approximate)



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### 3. Installation

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**WARNING:** Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

#### Introduction

This section provides instructions for installing the L-850A runway inset lights. Refer to airport project plans and specifications for the specific installation instructions. The installation shall conform to the applicable sections of the National Electric Code and local codes.

#### Unpacking

Each unit is individually packaged in a durable, cushioned, corrugated cardboard carton. To avoid unnecessary damage to the light assembly, unpack the carton at the installation site.

To unpack the carton, open the flaps and carefully remove the top packing material. Thread an eyebolt into each of the two opposite threaded holes. Run a rod through the eyebolts and lift the light assembly from the shipping carton. Set the light assembly in a protected area.

If damage to any equipment is noted, file a claim form with the carrier immediately. The carrier may request to inspect the equipment.

#### Input Requirement Summary

The L-850A is designed for connection to a 6.6 A or 20 A series lighting circuit via an L-830 isolation transformer. Refer to Table 3.

#### Installation on L-868B Base

The light assembly is shipped complete, including the lamp, and is ready for installation.

To install the L-850A light fixture on the L-868B base, perform the following procedure:

1. Clean the base receptacle. Make sure that the base receptacle does not contain water and is completely clean and dry. The mating surfaces must be clean and free of foreign particles.
2. Slide a 16-inch- (406-mm-) long rod through the 3/8-inch- (9.525-mm-) diameter eyebolts and carry the light assembly to the base. Align the light assembly with the runway for proper light direction.
3. Place the light assembly beside the opening in the L-868B base so that the L-823 connector can be connected with the mating receptacle from the L-830 isolation transformer in the base. Make sure that the connection is solid and secure. Refer to Table 3 in *Specifications* in the *Description* section for required isolation transformers.

**Installation on L-868B Base***(contd.)*

1. Turn on the power. Operate the light assembly for a minimum of five minutes. Turn off the power and allow the light assembly to cool.
2. Position the light assembly over the L-868B base and set onto the base. Align the light to the runway centerline. Make sure all spaces, shims, and gaskets are in place before installing light fixture on the base. Remove the eyebolts and lifting rod.
3. Turn on the power to check that the lamp will illuminate. Operate for a minimum of five minutes.



**CAUTION:** The light assembly will be hot after this test. Allow time for assembly to cool before proceeding.

7. Apply one drop of Loctite AV to each of the six light assembly mounting bolts. Install the six bolts and lockwashers. Torque the bolts to  $185 \pm 5$  inch-pounds ( $20.902 \pm 0.565$  Nt-M). Torque across the corners. Refer to *Retorquing Mounting Bolts* in the *Maintenance* section.

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## 4. Maintenance

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This section provides maintenance information and procedures for the L-850A light fixture.

### Maintenance Schedule

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

To keep the L-850A light fixtures operating efficiently, follow a preventive maintenance schedule. Refer to Table 5. Refer to FAA AC 150/5340-26 for more detailed information.

Table 5. L-850A Light Fixture Maintenance

Interval	Maintenance Task	Action
Daily	Check for burned-out lamp.  Check for dim lamp.	Replace lamp and film disc cutout, if used. Refer to <i>Replacing Lamp</i> in this section.  Clean optical surface if dirty. Check for misalignment or presence of moisture in fixture.
Weekly	Check for dirty channel and prism.	Clean channel and prism. Refer to <i>Cleaning Light Channel and Prism</i> in this section.
Monthly (or more frequently during rainy seasons)	Check for moisture in the light fixture.	Open up the light fixture. Clean, dry, and inspect the light assembly. Replace O-ring.
Every 60 days, or whenever the light assembly is serviced	Check for improper torque on holddown bolts.	Torque six bolts holding fixture to base to base receptacle to $185 \pm 5$ in-lb ( $20.902 \pm 0.565$ Nt-M). Use Loctite to keep bolts tight. Refer to <i>Retorquing Mounting Bolts</i> in this section.
Semi-annually	Check for six inches (152 mm) of water in L-868B base.	Pump water from base. Remove and inspect light for water damage. Refer to <i>Removing L-868B Base Water</i> in this section.
After 1600 hours operation	Not applicable	Replace lamp Refer to <i>Replacing Lamp</i> in this section.
After snow removal	Check for damaged light fixtures.	Replace damaged fixtures. Use a power broom for snow removal, if practical. Follow recommended snow removal techniques described in AC 150/5200-23.

### Maintenance Procedures

This subsection describes the following maintenance procedures:

- replacing lamp
- cleaning light channel and prism
- retorquing mounting bolts
- removing L-868B base water

## Replacing Lamp



**WARNING:** Turn off the circuit before replacing lamp(s). Failure to observe this warning may result in personal injury, death, or equipment damage.



**WARNING:** Allow time for the unit to cool. High interior temperatures may cause severe burns to personnel. Failure to observe this warning may result in personal injury.

The preferred method of maintaining the L-850A inset light is to periodically and systematically replace the light assembly and return the replaced assembly to the maintenance shop for renovation. As an alternative, you can service the light assembly in the field. It is recommended, however, that field servicing be limited to cleaning lenses and replacing lamp(s).

**NOTE:** It is recommended that you replace the lamp after 80% (1600 hours) of its useful life.

**NOTE:** If any lamps are out, record the location of the fixture and replace the lamp when the circuit is turned off.

Refer to *Replacing Lamp* in the *Repair* section for lamp replacement procedure.

## Cleaning Light Channel and Prism

To clean the light channel and prism, perform the following procedure:

1. See Figure 3. Use a suitable fiber brush to remove all accumulated debris from the light channel (7).

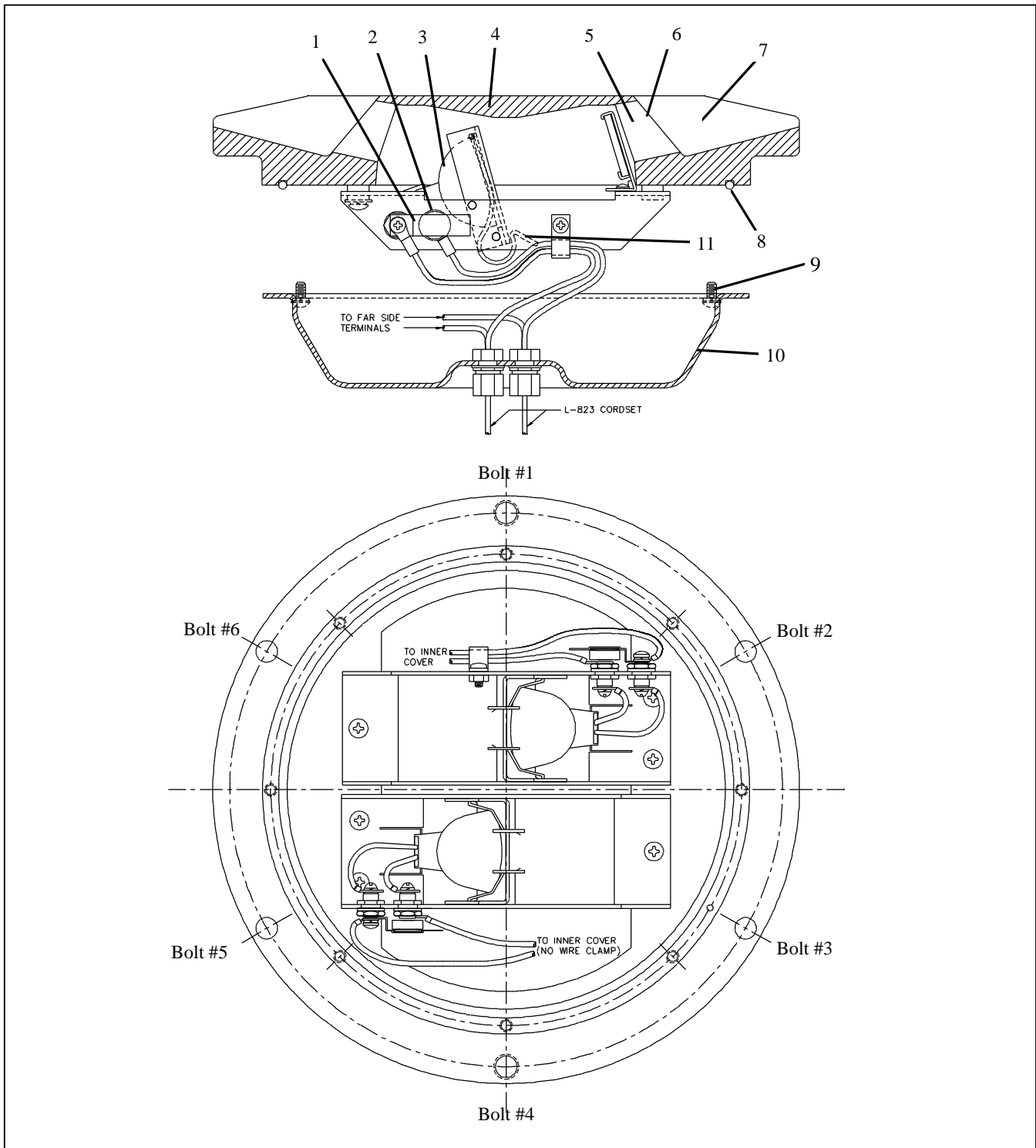


Figure 3. Cutaway View of Optical Assembly

- |                               |                        |                          |
|-------------------------------|------------------------|--------------------------|
| 1. Cutout Clip                | 5. Prism               | 9. Pan Head Screws       |
| 2. Disc Cutouts               | 6. Prism Outer Surface | 10. Inner Cover Assembly |
| 3. Lamp Assembly              | 7. Light Channel       | 11. Spring Clip          |
| 4. Top (Outer) Cover Assembly | 8. O-ring              |                          |

### Cleaning Light Channel and Prism *(contd.)*

2. Clean the outer surface of the prism (6) using liquid glass cleaner. If the prism is coated with a substance impervious to the cleaner, apply a suitable solvent sparingly with a wad of cotton or a patch of cloth. After the solvent has acted, remove the softened coating with a clean piece of cotton or cloth. Dry the prism with gently, dry, oil-free compressed air at a pressure no greater than 10 psi (69 KNt/m<sup>2</sup>) to evaporate or remove all remaining cleaner.

### Retorquing Mounting Bolts

When retorquing mounting bolts, apply one drop of Grade AV Loctite to each of the six 3.8-inch- (9.525-mm-) diameter mounting bolts. Torque the bolts to 185 ±5 inch-pounds (20.902 ± 0.565 Nt-m). Torque the bolts across the corners.

See Figure 3. To torque the outer bolts across corners, tighten bolts in noted sequence: #1 and #4, then #2 and #5, then #3 and #6.

**NOTE:** Applying more than one drop of Loctite to the screw and bolt threads will create future difficulty in removal of the bolts.

**NOTE:** After several relampings, threaded holes may accumulate with dirt and excessive Loctite. If this occurs, screws may not seat properly. Clean holes with light weight oil or diesel fuel using a small fiber brush. Wipe the holes clean with alcohol to remove all oil or diesel fuel and dirt. Clean with dry, oil-free, low-pressure air.

### Removing L-868B Base Water



Turn off the circuit when checking water level.

Check the water level in the L-868B base on a regular schedule. If more than six inches (152.4 mm) of water in the light base is found, pump the water from the base and remove and inspect the entire light assembly for water damage. Cover the L-868B base with the appropriate steel cover plate after removing the light assembly.



Water does enter the L-868B base. This can become a serious problem, since freezing water can rupture the base.

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## 5. Troubleshooting

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**WARNING:** Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.



**WARNING:** De-energize the circuit and lock out the circuit or regulator so that the circuit cannot be energized by remote means before attempting to service the fixture.

This section contains troubleshooting information. This information covers only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Siemens Airfield Solutions representative for help.

Problem	Possible Cause	Corrective Action
<b>1. Lamp will not energize</b>	Defective lamp	Replace lamp and film disc cutout (if used). Refer to <i>Replacing Lamp</i> in the <i>Maintenance</i> section.
	Loose or broken contacts	Tighten or replace.
	Moisture inside assembly causing current leakage	Open up light assembly. Clean, dry, and inspect light assembly. Replace O-ring.
	Defective isolation transformer	Check transformer output current with meter.
<b>2. Lamp not turning on at normal level</b>	Resistance too low	Replace wires or cover assembly.
<b>3. Lamp output distorted</b>	Broken or damaged prism	Replace outer cover assembly.
<b>4. Improper color</b>	Filter broken	Replace filter bracket assembly.
	Filter bracket broken	Replace filter bracket assembly.

Continued on next page

**5. Troubleshooting** (*contd.*)

<b>Problem</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
<b>5. Short lamp life</b>	Current too high	Check constant current regulator and isolation transformer.
	Water in assembly	Inspect prism. Open light assembly. Clean, dry and inspect light assembly. Replace O-ring.
	Defective lamp	Replace lamp and film disc cutout (if used). Refer to <i>Replacing Lamp</i> in the <i>Maintenance</i> section.  <b>NOTE:</b> Lamp interior will have a white powdery appearance if air has entered through a hole or crack.
	Over voltage	Check to see if lamp has black burns. If so, check isolation transformer output with meter. Replace isolation transformer, if defective.
<b>6. Distorted light beam output in L-852D</b>	Filter/spreader installed wrong	Reinstall the filter/spreader with the smooth flat side of the filter toward the lamp.



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**6. Repair**

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This section describes procedures for repairing and replacing parts. It includes replacing the film disc cutout assembly, the lamp, and prism.

**Replacing Film Disc Cutout Assembly**

To replace the film disc cutout assembly, perform the following procedure:

1. Remove eight screws from bottom cover assembly.
2. Remove optical assembly from top cover.
3. Remove and inspect o-ring. Discard if damaged, affected by compression set or no longer fits in groove.
4. Remove and replace cordsets and film disc cutout hardware as required using Figure 4 as a guide.

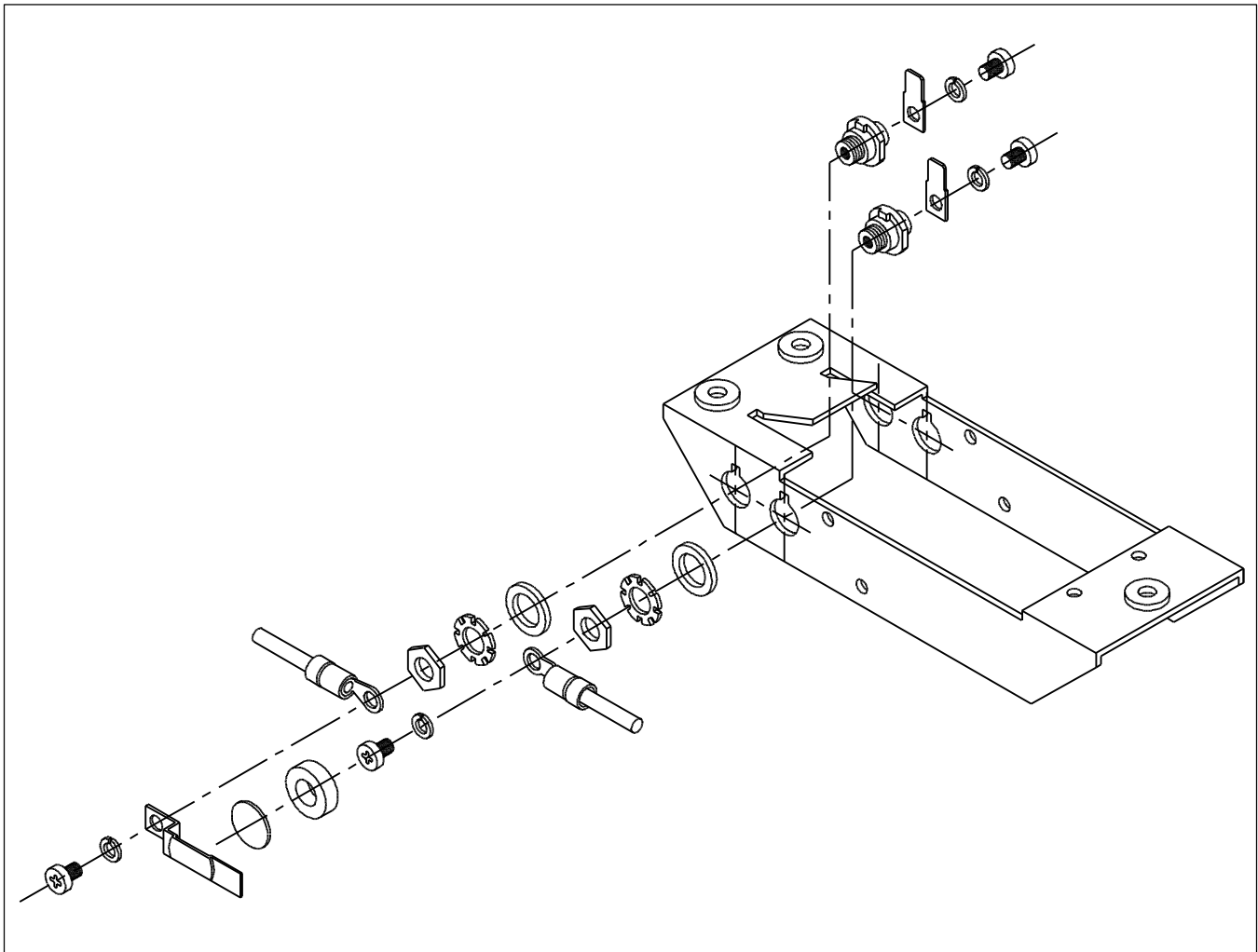


Figure 4. Replacing Film Disc Cutout Assembly

5. Install new or existing o-ring from Step 4. Coat o-ring with silicone grease before installing.
6. Reassemble optical brackets to top cover.
7. Place bottom cover assembly in place and pull out majority of cordset slack.

**NOTE:** Leave enough cordset slack so that the pan can be opened.

8. Move bottom cover as required to check for lamp access for future lamp changes.
9. Permanently attach bottom cover with eight screws. Torque to 25 in-lb.

## Replacing Lamp



**WARNING:** Turn off the circuit before replacing lamp(s). Failure to observe this warning may result in personal injury, death, or equipment damage.



**WARNING:** Allow time for the unit to cool. High interior temperatures may cause severe burns to personnel. Failure to observe this warning may

To replace lamp, perform the following procedure:

1. Remove the six 3/8-inch- (9.525-mm-) diameter bolts that hold the light fixture on the base receptacle.
2. Install two 3/8-inch- (9.525-mm-) diameter eyebolts in two holes (180 degrees apart) on the fixture and insert a 16-inch- (406-mm-) long steel rod through eyebolts and lift the fixture out of the base receptacle.
3. See Figure 3. Turn the fixture upside down and remove the eight pan-head screws (9) holding the inner cover to the top cover assembly.

**NOTE:** The inner cover assembly (10) can now be separated from the top outer cover assembly (4). The inner cover assembly can now be moved from side to side to allow for lamp removal without having to adjust slack in the cordset.

4. Flip the holddown spring clip (11) off the lamp assembly (3), and pull the lamp assembly horizontally forward out of the socket.



**CAUTION:** The lamp assembly consists of a lamp and reflector. It is a single unit and is fragile. Handle with care. Failure to observe this warning could result in equipment damage.

5. Install the new lamp by reversing the lamp removal procedure.



**CAUTION:** Do not touch the quartz lamp inside the reflector with bare hands when handling the lamp assembly since this can reduce lamp life. If the lamp is touched, clean it with a lens cleaning tissue moistened with isopropyl alcohol.

**Replacing Lamp** (*contd.*)

6. Replace the film disc cutout (2) (if used) from the inner cover assembly. To remove the cutout, perform the following procedure:
  - a) Loosen the screw that secures the wire lead to the feed-thru, and rotate the cutout clip (1) free from the top of the cutout.
  - b) Position the new disc cutout (small button side down) on the head of the screw in the terminal post. Rotate the cutout clip on top of the disc, and hold in place while tightening the screw.

**NOTE:** Make sure the cutout clip has sufficient tension to hold the cutout disc tightly against the screw head. If the cutout is loose, remove the clip and bend slightly to increase tension.

7. Examine the O-ring (8) carefully. If the O-ring is stretched or torn, has a permanent set or other defect that would prevent it from forming a watertight seal, replace the seal. Coat the O-ring with silicone grease before installing. Carefully position the O-ring in the groove on the outer cover assembly and gently press into place.

**NOTE:** The groove is made wider than the O-ring to provide room for displacement of the O-ring when compressed between the housing when the screws on the inner cover assembly are properly torqued to  $24 \pm 5$  inch-pounds ( $2.712 \pm 0.565$  Nt-M).

**NOTE:** If the o-ring is too large, replace o-ring.

8. Reinstall the eight pan-head screws that secure the inner cover assembly to the outer cover assembly. Torque screws across corners to  $24 \pm 5$  inch-pounds ( $2.712 \pm 0.565$  Nt-M).
9. Reinstall the light fixture in the base receptacle using the six 3/8-inch- (9.525-mm-) diameter bolts. Coat bolt threads with a drop of Loctite Grade AV before installation and torque to  $185 \pm 5$  inch-pounds ( $20.902 \pm 0.565$  Nt-M). Torque across corners. Refer to *Retorquing Mounting Bolts* in the *Maintenance* section.

**NOTE:** Applying more than one drop of Loctite to the screw and bolt threads will create future difficulty in removal of the bolts.

**NOTE:** After several relampings, threaded holes may accumulate with dirt and excessive Loctite. If this occurs, screws may not seat properly. Clean holes with light-weight oil or diesel fuel using a small fiber brush. Wipe clean with alcohol to remove all oil or diesel fuel and dirt. Clean with dry, oil-free, low-pressure air.

**Replacing Prism**

Replace the prism if it is broken or its surface is badly pitted or scarred. If you replace the prism, return the unit to Siemens Airfield Solutions for repair. Any attempt to replace the prism in the field prior to warranty expiration will terminate the warranty on the unit.

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## 7. Parts

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To order parts, call Siemens Airfield Solutions Customer Service or your local representative. Use this four-column parts list, and the accompanying illustration, to describe and locate parts correctly.

### Using the Illustrated Parts List

The Item column numbers correspond to the numbers that identify parts in illustrations following each parts list. NS (not shown) indicates that a listed part is not illustrated.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Parts are indented under an assembly to show the part that applies to your particular sign module.

The Part Number column gives the Siemens Airfield Solutions part number.

Item	Description	Part Number	Note
NS	Assembly	XXXXXXXX	A
T1	Assembly Part Part	XXXXXXXX XXXXXXXX	

The Note column contains letters that refer to notes at the end of each parts list. Notes contain special ordering information.

**L-850A Light Fixture Part Numbering System**

Figure 5 shows how to determine the part number for a particular L-850A light fixture.

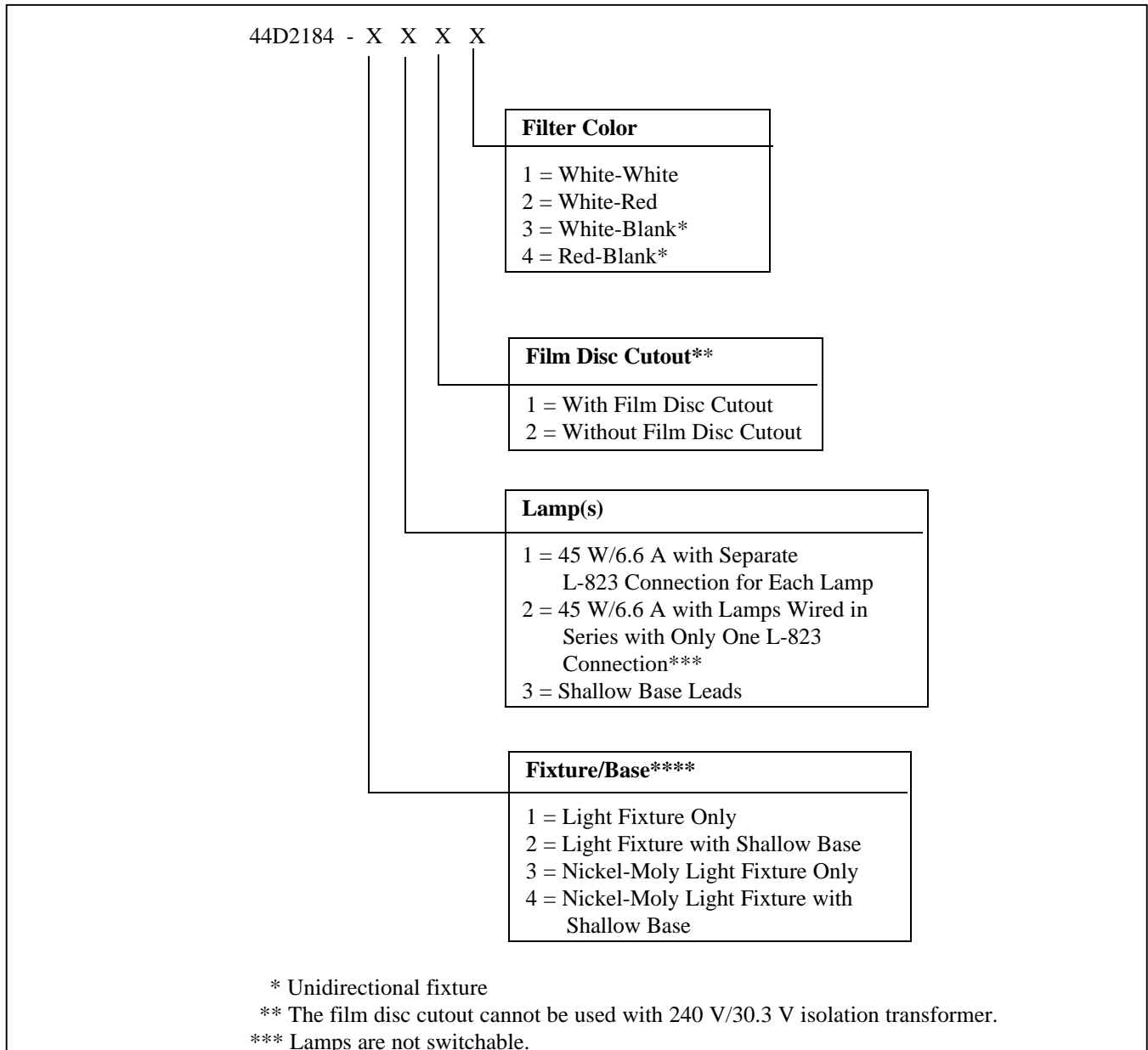


Figure 5. L-850A Light Fixture Part Numbers

**L-850A Light Fixture Parts  
List**

See Figure 6.

<b>Item</b>	<b>Description</b>	<b>Part Number</b>	<b>Note</b>
1	Lamp assembly, 45 W, 6.6 A	44B1605	
2	Outer cover assembly		
	Outer cover assembly, ductile iron	44B2185-1	
	Outer cover assembly, ductile iron with Ni-Mo alloy	44B2185-2	
3	Filter assembly, red	44A4781-5	
4	Optical assembly		
	Optical assembly, without optical shield and film disc cutout	44C2187-1	
	Optical assembly, with optical shield and without film disc cutout	44C2187-2	
	Optical assembly, without optical shield and with film disc cutout	44C2187-3	
	Optical assembly, with optical shield and film disc cutout	44C2187-4	
5	Cutout clip	60B0240	
6	Film disc cutout, GE #4815920 G-2	47A0023	
7	O-ring, silicone, Parker #2-270	63B0267-270	
NS	Silicone grease	67A0009	
NS	Loctite Grade AV	67A0008	
NS: Not Shown			

**L-850A Light Fixture Parts**

**List (contd.)**

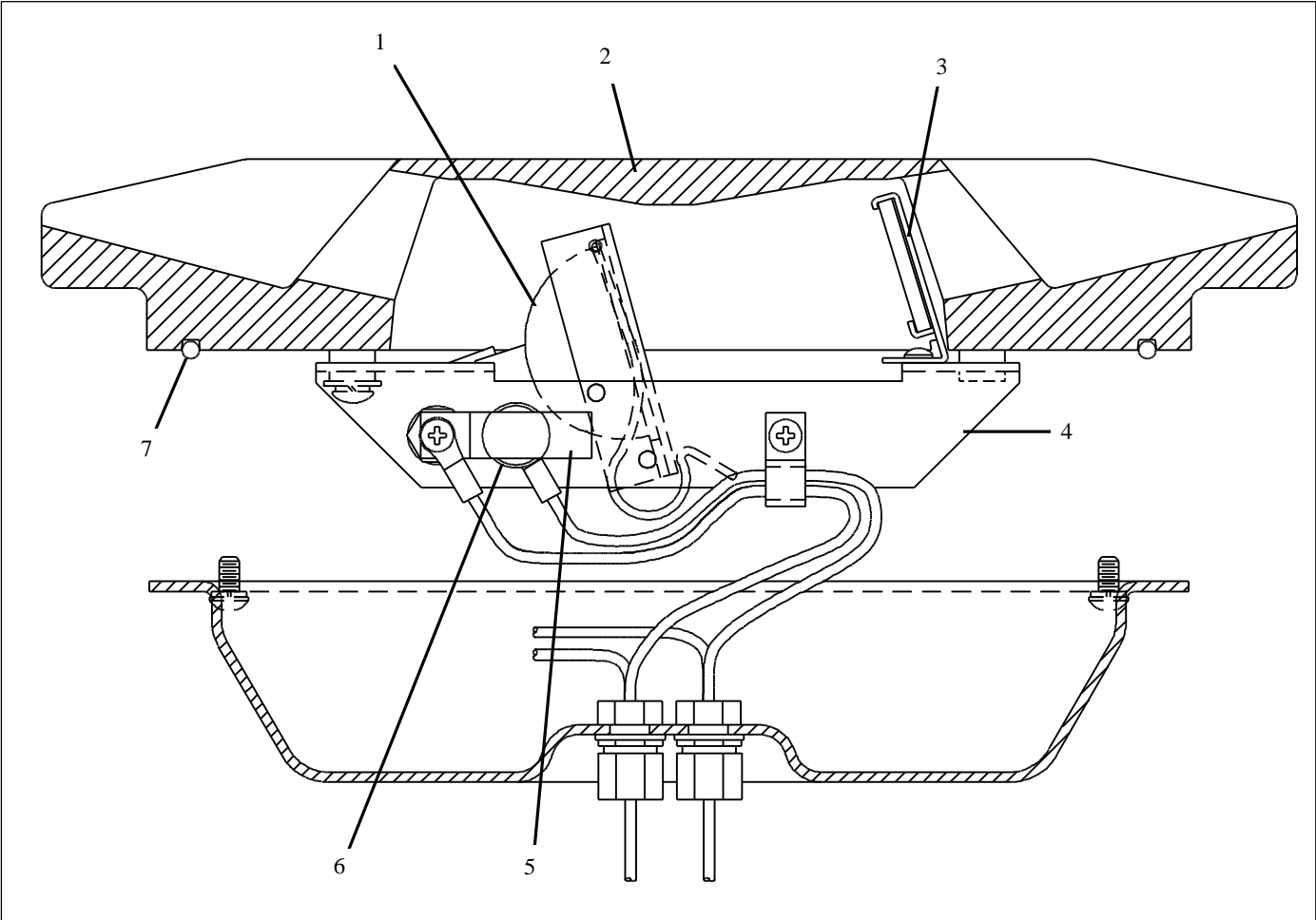


Figure 6. L-850A Light Fixture



**Recommended Spare Parts  
List**

See Figure 6.

<b>Item</b>	<b>Description</b>	<b>Part Number</b>	<b>Note</b>
1	Lamp assembly, 45 W, 6.6 A	44B1605	
6	Film disc cutout, GE 4815920 G-2	47A0023	
7	O-ring, silicone, Parker #2-270	63B0267-270	
NS	Silicone grease	67A0009	
NS: Not Shown			