



**Flight Light, Inc.**  
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## L-861 Elevated Light Installation Manual



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## Section 1 - Introduction

This manual provides the information to install and troubleshoot a Flight Light Incorporated L-861 light fixture. L-861 elevated lights are intended for illuminating airfield runways, taxiways and runway thresholds.

The following products have been certified by Intertek according to the requirements of FAA Advisory Circular 150/5345-46E:

- **L-861:** available with clear or clear/yellow lenses, used to illuminate the runway edge.
- **L-861E:** available with green/red lenses, used to illuminate the runway threshold or end.
- **L-861T:** available with blue lenses, used to illuminate the taxiway edge.

FAA Advisory Circulars are presently available online at:

[http://www.faa.gov/regulations\\_policies/advisory\\_circulars/](http://www.faa.gov/regulations_policies/advisory_circulars/)

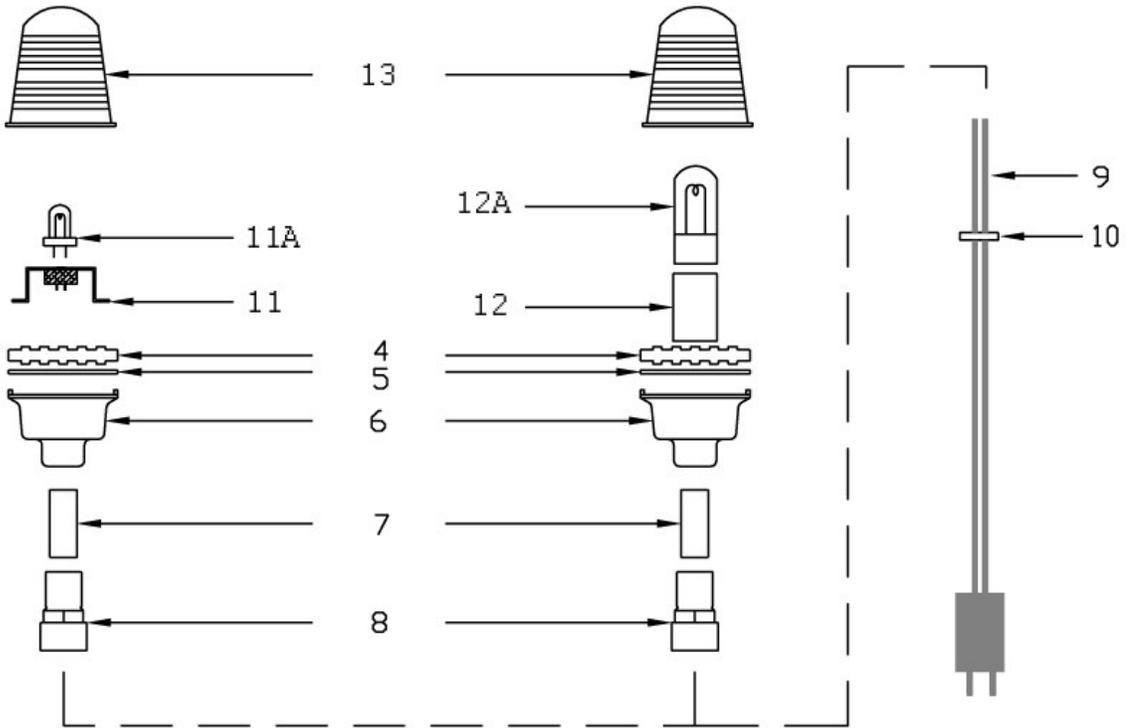


## Section 2 – Parts Layout

The following exploded views depict the components which comprise the Flight Light L-861 light fixture. The numbers in the diagram refer to the parts list in section 3.

### QTZ L861

### T10 L861





### Section 3 - L-861 Parts List

The following table lists the parts shown in section 2.0. All parts are supplied by Flight Light, Inc.; located at 2708 47<sup>th</sup> Ave. Sacramento, California.

Fig. #	P/N	Description
1	-	
2	-	
3	-	
4	61-80001	Clamp band - stainless steel
5	61-80002	O-ring seal
6	61-80003	Fixture Head
7	13-A6.5-14	5-1/2" riser for 14" fixture
	13-A16.5-24	15-1/2" riser for 24" fixture
	13-A22.5-30	21-1/2" riser for 30" fixture
8	FL-FC1.5	Frangible metal coupling, 1.5"
	FL-FC2.0	Frangible metal coupling, 2.0"
9	TRC-10518-01-031	L-823 style cord set connector for 14" to 30" fixture
10	68-GRIP-1F	Strain Relief
11	61-80000	Socket, quartz with bracket
11A	LA-6134LL	45W, 6.6A, quartz lamp
	LA-6112LL	30W, 6.6A, quartz lamp
12	61-80005	Socket, T10, prefocus – for T10 lamp
12A	LA-7654H	45W, 6.6A T10 lamp
	LA-7669H	30W, 6.6A T10 lamp (Not FAA Approved)
13	61-861(color)	Globe color: B: Blue, C: Clear, Y: Yellow, GR: Green/Red, CY: Clear/Yellow

The following parts are available as an assembly if required:

13-861T-XX\* Head Assembly w/T10 socket & cord set

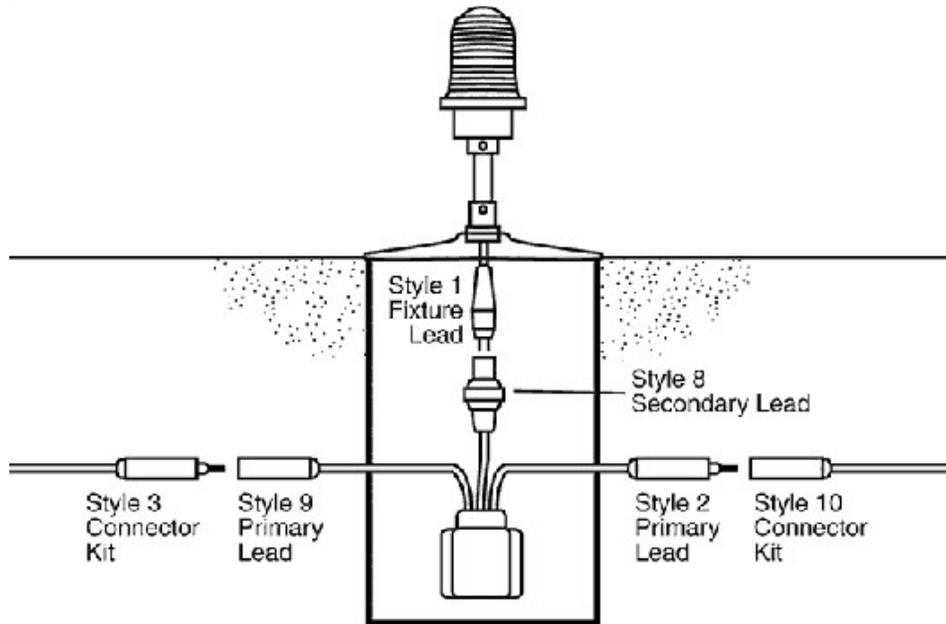
13-861Q-XX\* Head Assembly w/quartz socket & cord set



## Section 4 - L-861 Installation Instructions

### 1. Class 2 - Base Mount

Figure 1 represents an L-861 light fixture installed in the ground. The L-861 is intended for airfield 6.6A series circuits which use an 30/45W L-830 isolation transformer to connect the light fixture.



*Figure 1 – Installation Diagram*

To install the L-861 fixture in the ground with a base plate, use the following procedure:

1. Install an L-867 Base Can in the desired location.
2. Level the Base Can to ensure it is parallel with the grade surface.
3. Fill the area around the Base Can with about 4" of concrete while maintaining the level of the mounting surface.
4. Connect the 30/45 watts isolation transformer per Figure 2.
5. Wrap the connector mating parts with a layer of rubber tape.
6. Connect the L-861 Base Plate to the Base Can with stainless steel bolts. Use Loctite on each bolt and tighten to the appropriate torque rating.



## 2. Class 1 – Direct-Mount (Stake)



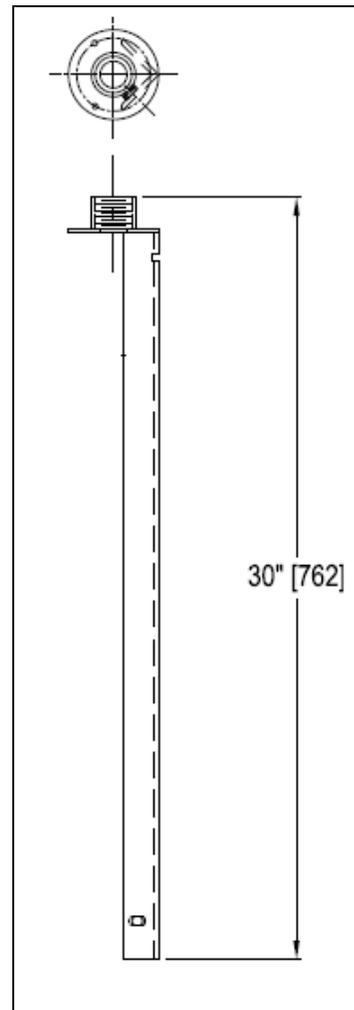
*L895*

Mounting Stake galvanized to ASTM-A123/A123M-02

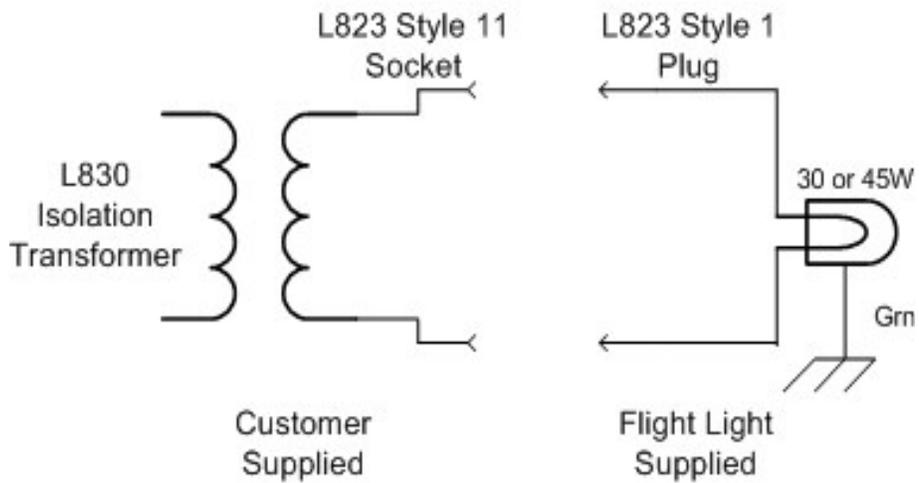
Shipped with:

1 x 2 hole cable clamp and

2 x #10-24 x 1 3/4" SS machine screws



1. Thread the coupling of the light into the mounting stake and run fixture power cables to each light, one black wire, one white wire, and one green wire (grounding) to each can.
2. Follow the wiring instructions on the next page.
3. Install the stake in a 6-inch (15 cm) diameter hole at a depth of 30 inches (76 cm). Do not install stake by driving.
4. Make electrical connections and backfill around the stake with thoroughly compacted earth passing a 1 inch (2.54 cm) sieve.
5. Where required due to unstable soil conditions, backfill with concrete. Install the top of the stake even with, or not more than 1/2-inch (1.3 cm), above the finished grade and maintain within 1 degree of the vertical.
6. In areas where frost may cause heaving, anchor the stake with concrete and use a permeable backfill material such as sand around the buried electrical components and then cover the top surface with an impervious material to reduce moisture penetration.



**Figure 2 – Airfield Electrical Connection**



## Section 5 - Maintenance

This section is devoted to helping customers maintain their L-861 elevated lights in the best condition possible. It is recommended to create and follow a periodic maintenance schedule tailored for your facility.

Some of the typical problems which may occur with an L-861 and their course of action are:

- ❖ Reduced light intensity or burned-out lamp: Remove power and replace lamp. Measure series circuit current to ensure it is within FAA limits. Clean lens to allow maximum light output.
- ❖ At least once a year it is recommended to check the alignment of the fixture to ensure it is level with other fixtures.
- ❖ The fixture is outfitted with a frangible coupling that is designed to fail upon collision. In the event that this occurs, a new coupling needs to be ordered and installed.
  - Remove the set screw and discard the broken coupling.
  - Install new coupling onto the riser and secure by tightening the set screw.

To replace the lamp, ensure power is disconnected. Loosen the clamp band securing the lens to the housing. Remove the failed lamp and replace it with a new one lamp mentioned in the section 2 parts list. Re-install the lens and tighten the clamp band around the lens.



## Section 6 – Limited Warranty

**Duration of the Warranty:** Flight Light Inc. warrants all of the goods which it has manufactured to be free of material defects for the following durations.

**Lamps:** For a period of 90 days from the date of shipment to Buyer. Product liability is limited to lamp replacement and does not include incidental labor.

**FAA products:** For a period of one year from the date of installation or two years from the date of shipment to Buyer.

**LED Light Fixtures:** For a period of 2 years from the date of shipment to Buyer. Complete Systems: Systems including at least one Flight Light Inc. Controller and one Flight Light Inc. LED Light Fixture, for a period of 5 years from the date of shipment to Buyer.

**Buyer's Remedies:** If any such goods are found to be materially defective within the warranty period, Flight Light Inc. agrees to attempt to repair, and if unable to repair, to replace the defective goods without charge to Buyer.

Buyer's remedy with respect to such goods is limited to repair or replacement. For goods not manufactured by FLI, Buyer agrees to accept as its sole remedy the warranty, if any, offered by the manufacturer or manufacturers of such goods. FLI makes no warranties, express or implied, other than those stated in this paragraph.

**Warranty Exclusions:** Flight Light Inc. shall not be liable under this warranty if any of the following conditions apply:

- 1) Unauthorized personnel attempt any repairs to Flight Light Inc. products without Flight Light Inc. consent.
- 2) Products are damaged by natural phenomenon, misuse, abuse, accident, alteration, or incorrect electrical current or voltage.
- 3) Products are improperly installed, or damaged in shipping.

### **Warranty Limitations**

FLI makes no warranties, express or implied, other than those stated herein. FLI does not warranty the workmanship of the installer, damage caused by acts of nature, vandalism, improper installation, or damage caused by improper maintenance. The warranty period of LED fixtures covered under the 5-year system warranty is reduced to two years when fixtures are subjected to abrasive materials or chemicals. FLI reserves the right to either repair or replace any defective component covered under the terms of any of its warranties. FLI is not an engineering firm and makes no expressed or implied warranty as to the applicability of its products or systems in any specific situation, application or location: such decisions are the responsibility of the owner, design engineer and/ or others. Therefore, as to all goods sold by FLI, FLI hereby disclaims any implied warranty of merchantability or implied warranty of fitness for a particular purpose and Buyer agrees that FLI shall not be liable for any special, indirect, incidental, consequential or liquidated damages of any kind, whether the Buyer's or any other claim is based upon contract, tort or any other legal theory.