

L-850A LED RUNWAY CENTERLINE IN-PAVEMENT FIXTURE - SAMPLE SPECIFICATION

Note: Modify the items in italics according to your specific job requirements.

ITEM L-150 INSTALLATION OF L-850A LED RUNWAY CENTERLINE IN-PAVEMENT FIXTURES

DESCRIPTION

150-1.1 This item shall consist of furnishing and installing the L-850A LED runway centerline in-pavement fixtures in accordance with this specification and the applicable FAA Advisory Circular.

This item shall include the furnishing of all equipment, materials and incidentals necessary to place the fixtures in operation as completed units to the satisfaction of the Engineer.

EQUIPMENT AND MATERIALS

150-2.1 L-850A LED RUNWAY CENTERLINE IN-PAVEMENT FIXTURES.

- a. **EQUIPMENT CONFORMANCE REQUIREMENTS.** The L-850A LED runway centerline in-pavement fixtures shall conform to the requirements of FAA Advisory Circular (AC) 150/5345-46 (current edition) "Specification for Runway and Taxiway Light Fixtures" and FAA LED "Engineering Brief No. 67" (current edition). The fixtures shall be ETL certified and listed in AC 150/5345-53 (current edition), Appendix 3 Addendum at the time of bid. The L-850A LED runway centerline in-pavement fixtures shall be manufactured by Astronics DME or approved equal.
- b. **EQUIPMENT SUPPLIED.** The L-850A LED runway centerline in-pavement fixtures shall be supplied for the total quantity as shown on the plans. The manufacturer shall have a downloadable electronic version of the manual available on its web site.
- c. **LIGHT SOURCE REQUIREMENTS.** The L-850A light source shall be a Light Emitting Diode (LED) assembly. The average lifetime of any LED within the fixture shall be a minimum of 50,000 hours at full intensity. The color emitted by the fixture shall be bidirectional White, bidirectional White/Red, unidirectional White or unidirectional Red as indicated on the plans. The required color shall be obtained without the use of a color filter. It shall be possible to install the LED fixtures on existing series circuits in replacement of conventional quartz-incandescent lights without having to change any other element (CCR, series transformer, etc.).
- d. **POWER REQUIREMENTS.** The L-850A LED runway centerline in-pavement fixture shall require no more than a 20/25W isolation transformer for the fixture without a heater kit and no more than a 65W isolation transformer for the fixture with a heater kit.

Complete VA and power factor information shall be shown on the data sheet included with the submittal documents.

The fixture shall operate on any 3-step or 5-step, 50/60Hz series circuits, Ferroresonant or Thyristor CCR that is designed in compliance with FAA AC 150/5345-10 (current edition).

An option for a heater shall be available for the fixture that complies with the arctic kit requirements in Engineering Brief No. 67 (current edition). To reduce overall energy consumption, the heater shall be thermostatically controlled.

- e. **OTHER REQUIREMENTS.** The L-850A LED runway centerline in-pavement fixtures shall be Style 3 ($\leq \frac{1}{4}$ inch above grade) and the top cover shall be a 12-inch, single-piece construction made from forged aluminum alloy, designed to mount on a standard FAA L-867B light base.

All components shall be corrosion proof without the use of environmentally hazardous metal protective coatings. The prisms shall be field-replaceable without the use of epoxy or other sealing compounds. Remke® liquid-tight stainless steel connectors shall be used for the entry and sealing of L-823 cord set wire cables to the base, allowing for cord set replacement without the use of epoxy or other sealing compounds. A Schrader valve with removable cap shall be provided at the base of the fixture to allow for pressure testing after fixture overhaul.

To insure fixture quality, the manufacturer will perform production leak and dielectric strength tests on each individual fixture prior to shipment. The leak test will be by means of compressed dry air capable of detecting minor fixture leaks due to material porosity.

The fixture bottom cover shall include an earth ground terminal.

CONSTRUCTION METHODS

150-3.1 PLACING THE L-850A LED RUNWAY CENTERLINE IN-PAVEMENT FIXTURES. The contractor shall furnish and install each in-pavement fixture as specified in the proposal and shown in the plans. Each in-pavement fixture shall be mounted on the appropriate base can at the location shown on the plans.

150-3.2 TESTS. Each L-850A LED runway centerline in-pavement fixture shall be connected to the series circuit using the manufacturer's recommended isolation transformer. The constant current regulator (CCR) shall then be tested to verify the correct output current is present at each step. The output current shall be checked with a True RMS meter using the CCR manufacturer's instructions. The entire circuit shall then be fully tested by continuous operation for not less than 24 hours prior to acceptance. The test shall include operating the CCR in each step (Local and Remote) not less than 10 times at the beginning and end of the 24-hour test.

METHOD OF MEASUREMENT

150-4.1 MEASUREMENT. The quantity of lights to be paid for under this item shall be for the total quantity of L-850A LED runway centerline in-pavement fixtures installed and accepted as completed units, in place, ready for operation and accepted by the Engineer.

BASIS FOR PAYMENT

150-5.1 PAYMENT. Payment will be made at the contract unit price for the completed total quantity of L-850A LED runway centerline in-pavement fixtures installed, in place by the Contractor, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-150-5.1 L-850A LED runway centerline in-pavement fixtures, in Place—per each

END OF ITEM L-150