

Cancelled See 5340-1412 00

Federal Aviation Agency



AC NO: AC 150/5345-25
AIRPORTS
EFFECTIVE :
6'30/65

SUBJECT : SPECIFICATION FOR L-848 MEDIUM INTENSITY APPROACH LIGHT BAR ASSEMBLY

1. PURPOSE. This circular describes the subject specification requirements for a medium intensity approach light bar assembly. The specification is for the guidance of the public, and its use is required for project activity under the Federal-aid Airport Program.
2. SCOPE OF SPECIFICATION. The specification requirements are for an approach light bar assembly consisting of PAR38 sealed beam spotlight lamps, adjustable lampholders mounted on a 2-inch maximum diameter pipe approximately 10 feet in length having two diagonal metal pipe support braces attached, completely assembled and wired for installation.
3. APPLICABLE FEDERAL STANDARD. Federal Standard No. 595 - Colors.
4. SOURCE OF APPLICABLE STANDARD. Obtain copies of Federal standard from the Business Service Center of General Services Administration Regional Offices.
5. PERFORMANCE REQUIREMENTS.
 - a. All current carrying parts of the assembly shall be suitable for the service intended.
 - b. The unit shall be designed and constructed for continuous service under the following conditions.
 - (1) Temperature. Any ambient temperature from a minimum of -45° F. to a maximum of +120° F. at sea level.
 - (2) Weather. Continuous outdoor operation under all normal weather conditions, including wind velocities up to 100 miles per hour.

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6. DETAIL REQUIREMENTS.

- a. Lamps. The lamp shall be a 150 watt, PAR38 spotlight, 120 or 240 volt, with rated life of 2000 hours at rated voltage.
- b. Lampholder. All metal parts of the lampholder shall be fabricated from nonferrous metal or other suitable material. Copper bearing hardware in contact with aluminum shall be cadmium, nickel or zinc plated.
- (1) A drain hole shall be provided in the lampholder to drain off any accumulation of water due to condensation.
 - (2) A threaded swivel stem-mounting shall be provided for mounting the lampholder on the horizontal pipe mounting bar.
 - (3) Means shall be provided in the lampholder to obtain a water-proof seal for the PAR38 lamp when in place.
 - (4) A suitable vertical aiming device shall be provided which will permit the aiming of each lampholder and/or the entire lamp bar at any angle from 0 to +15 degrees. The scale on the device shall have 1 degree divisions from 0 to 15 degrees. A zero degree horizontal reference or aiming device shall also be provided for each lampholder.
- c. Socket. The socket shall be a medium screw type and shall be rigidly mounted in the metal lampholder. The socket shall have a rating suitable for the service intended.
- d. Pipe Mounting Bar Assembly. The pipe mounting bar and all metal parts shall be fabricated from nonferrous metal. Copper bearing hardware in contact with aluminum shall be cadmium, nickel or zinc coated.
- (1) The mounting bar shall be 10 feet long (plus 4 inches, minus 0 inches), with a maximum diameter of 2 inches. It shall have provisions for mounting five lampholders at equal spacing of 2½ foot center to center distance between each lampholder. The total length of the mounting bar may be obtained by utilizing fittings and sections of pipe. End caps, which will not loosen under normal operating conditions, shall be provided at each end of the mounting bar. The end caps shall be made of the same material as the mounting bar.
 - (2) When specified the mounting bar shall be supplied with one of the following attachments:

- (a) For a "T" frame mounting two diagonal pipe supports shall be attached to the mounting bar with means for securing these supports to a 2-inch vertical pipe support to be supplied by others.
 - (b) For an "H" frame mounting a fitting shall be attached to each end of the mounting bar for mounting on 2-inch pipes to be supplied by others.
- (3) The lampholders and the mounting bar shall be wired at the factory for field installation. Wires shall be neatly run and fastened with clips or other acceptable means so as to be mechanically secure and not subject to abrasion. Access to all wiring connections made within the mounting bar shall be provided for easy maintenance, removal and/or replacement of component parts and wires. Two feet of wire shall be left on the wires to be connected to the incoming power leads.
- e. Fittings for "T" Frame Installations. A removable 2-inch slip fitter shall be installed approximately in the center of the mounting bar to rigidly secure the mounting bar to a 2-inch vertical pipe support supplied by others.
 - f. Wire. No. 14 AWG stranded weatherproof wire of the highest commercial quality suitable for the service intended shall be used for wiring the assemblies.
 - g. Junction Box. The junction box shall be a weatherproof enclosure fabricated from nonferrous metal or from ferrous metal suitably protected. Copper bearing hardware in contact with aluminum shall be cadmium, nickel or zinc coated. A 1½-inch knock out hole shall be provided on the top, bottom and each side. A means shall also be supplied to rigidly secure the junction box to a 2-inch pipe. The junction box shall be of a size to provide for the following:
 - (1) A 10 pole pressure type terminal board suitable for connecting No. 14 to No. 2 AWG size wires rated to carry a 10 ampere load at 240 volts.
 - (2) A fuse holder rated for 10 amperes and 240 volts.
 - (3) A grounding lug suitable for No. 6 and No. 8 bare copper wire.
 - (4) Provide ample space for making connections of wiring and placing of wires.

- h. Painting. All exposed surfaces of the lampholders, horizontal pipe bar, diagonal pipe supports and end cap fittings shall be painted with a suitable prime coat and a finish coat. The finish coat shall be enamel in accordance with Federal Standard No. 595, Aviation Orange, No. 12197.
- i. Parts List and Installation Instructions. A complete parts list and installation instructions shall be furnished with each installation. Sufficient drawings or illustrations shall be provided to indicate clearly the method of installation.

7. TESTING.

- a. Approval Testing. The manufacturer shall supply full data showing that a sample unit completely assembled and wired has successfully passed the following tests:
 - (1) Operation. The completely assembled and wired approach light bar, with lamps installed, shall be connected to a 120 or 240 volt, 60 cycle, power supply as applicable and be checked for proper operation.
 - (2) Dielectric. All wiring of the approach light bar, with lamps removed, shall have a potential of twice the circuit voltage plus 1,000 volts, AC, 60 cycles, applied for a period of one minute between each conductor and the metal assembly. There shall be no breakdown of insulation or sockets.
- b. Production Testing. Each approach light bar shall be tested by the manufacturer as specified in paragraph 7a.
- c. Inspection. Additional inspection and testing shall be made as deemed necessary by the Federal Aviation Agency, Airports Service, Washington, D. C. 20553, to determine compliance with the specification.

8. QUALIFICATION.

- a. Request for approval to manufacture medium intensity approach light bar assemblies meeting the requirements of this specification shall be submitted to the Federal Aviation Agency, Airports Service, Washington, D. C. 20553. Such requests shall be accompanied by written certification from the manufacturer that all the requirements of this specification have been met. The cost of testing shall be borne by the manufacturer offering the equipment for qualification.

- b. Before final approval is granted, the right is reserved to have the test specified in paragraph 7a performed in the presence of a Federal Aviation Agency, Airports Service, representative at the manufacturer's plant or factory, or at any location convenient to the manufacturer.
 - c. Upon approval of the material, submitted with manufacturer's request for approval, which shows satisfactory certification of compliance, the Airports Service will list the name of the manufacturer and description of their equipment in Advisory Circular No. 150/5345-1, "Approved Airport Lighting Equipment".
 - d. At any time after approval has been granted under the above conditions, a certified copy of factory test reports on the latest production of new equipment produced under this specification shall be made available by the manufacturer upon written request by the Federal Aviation Agency, Airports Service, Washington, D. C. 20553.
9. HOW TO GET THIS CIRCULAR. Obtain additional copies of this circular AC 150/5345-25, "Specification for L-848 Medium Intensity Approach Light Bar Assembly", from the Federal Aviation Agency, Distribution Section, HQ-438, Washington, D. C. 20553.


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