American National Standard for roadway lighting equipment—enclosed side-mounted luminaires for horizontal-burning high-intensity-discharge lamps

Secretariat:

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CLAUSE PAGE

American National Standard for roadway lighting equipment—enclosed side-mounted luminaires for horizontal-burning high-intensity-discharge lamps

1. Scope

1.1

This standard covers dimensional, maintenance, and light distribution features that permit the interchange of enclosed side-mounted luminaires for horizontal-burning high-intensity-discharge lamps used in roadway lighting equipment. Luminaires of similar size, shape, and weight meeting the requirements of this standard may be used interchangeably within a system with the assurance that:

1) They will fit the bracket arm
2) Pole strength requirements will not change
3) The light distribution will be similar
4) Similar maintenance procedures can be used

1.2

Luminaires covered by this standard are generally elliptical in shape with refractors that meet the requirements of American National Standard for Roadway Lighting — Enclosed Side-Mounted Luminaires for Horizontal-Burning High-Intensity-Discharge Lamps — Mechanical Interchangeability of Refractors, ANSI C136.17-1985 .

1.3

Excluded from this standard are luminaires having rectilinear and round shapes.

2. Referenced American National Standards

This standard is intended for use in conjunction with the following American National Standards. When these standards are superseded by a revision approved by the American National Standards Institute, Inc, the latest revision shall apply.

ANSI C78.40-1985, Mercury Lamps—Specifications

ANSI C78.1300 Series, Specifications for High-Pressure Sodium Lamps

ANSI C82.4-1985, Ballasts for High-Intensity-Discharge and Low-Pressure Sodium Lamps (Multiple-Supply Type)

ANSI C136.2-1985, Roadway Lighting—Luminaires—Voltage Classification

ANSI C 136.3-1984, Roadway Lighting Equipment—Luminaire Attachments

ANSI C136.10-1979, Physical and Electrical Interchangeability of Photocontrol Devices, Plugs, and Mating Receptacles Used in Roadway Lighting Equipment

ANSI C136.11-1979, Multiple Sockets Used in Roadway Lighting Equipment

ANSI C136.13-1987, Roadway Lighting—Metal Brackets for Wood Poles

ANSI C136.15-1986, Roadway Lighting—High-Intensity-Discharge and Low-Pressure Sodium Lamps in Luminaires — Field Identification

ANSI C136.17-1985, Roadway Lighting—Enclosed Side-Mounted Luminaires for Horizontal-Burning High-Intensity-Discharge Lamps—Mechanical Interchangeability of Refractors

ANSI/IES RP8-1983, Practice for Roadway Lighting

3. Mounting Provisions

Luminaires meeting the requirements of this standard shall:

1) Accept a straight tubular section of 1-1/4-inch National Pipe Standard (NPS) pipe tenon not more than 7-1/2 inches long or a 2-inch National Pipe Standard (NPS) pipe tenon not more than 10 inches long in accordance with Table 2 of ANSI C136.3-1984 and Section 6. of ANSI C 136.13-1987.
2) Provide a shoulder or stop to limit the depth of insertion of the pipe tenon during installation.
3) Permit leveling through no less than ±3 degrees from the axis of the attachment.
4) Prevent entrance of wildlife by limiting openings around the pipe tenon mounting area to 1/4 inch over the range of tenon sizes and leveling adjustment. This may be accomplished by the use of supplemental closures.

4. Terminal Blocks

A terminal block with a minimum of two line-side pressure-type wire connectors having slotted-head screws shall be securely mounted in the luminaire so that incoming conductors will clear all internal accessories. Each connector shall accept one copper or aluminum conductor, either solid or stranded, from 8 American Wire Gage to 14 American Wire Gage.

5. Wiring

All internal components shall be assembled and pre-wired so that the luminaire can be energized by line connection at the terminal block except for multi-wattage or multivoltage luminaires that will be wired in accordance with customer specifications.

6. Latching and Hinging

The luminaire shall be equipped with a latch to secure the refractor door and to permit access to the lamp compartment. The latch shall be operable with protective gloves but without tools. The hinge shall be designed so that the access door will not accidentally disengage or cause the refractor to break when it is unlatched without restraint.

7. Voltage Classification

The luminaires shall be of the 600-volt classifications as defined in ANSI C136.2-1985.

8. Socket

Luminaires shall be equipped with either a medium-screw-base socket or a multiple mogul socket that meets requirements of ANSI C 136.11-1979.

9. Refractor or Lens Replacement

The refractor or lens shall be secured by one or more movable supports so that it remains securely in place with the access door open and may be removed from the door while it is open. The refractor or lens shall be removable without tools or with a blade-type screwdriver. The refractor shall meet the requirements of ANSI C136.17-1985.

10. Optical Assembly

The optical assembly shall be effectively sealed by conforming gaskets to minimize the entrance of atmospheric contaminates. While the luminaire is being opened, the gasket shall remain securely attached to the intended surface. The design of the reflector shall permit operation of the lamp in accordance with ANSI C78.40-1985 and Series C78.1300.

11. Light Distribution

The light distribution shall be as defined in the Appendix of ANSI/IES RP8-1983.

12. Ballast

The luminaire shall be equipped with a ballast to operate a high-intensity-discharge lamp, as specified on the nameplate described in the applicable American National Standards for that lamp. It shall also provide a minimum transient impulse level of 7.5 kV for the 250-volt classification and 10 kV for the 600-volt classification when tested in accordance with the method described in 7.2 of ANSI C82.4-1985.

13. Starter

A starter utilized as a component part of a ballast shall be capable of withstanding the temperature and voltage to which it is subjected during normal operation of the ballast.

14. Barriers

Barriers (heat or other), if employed, shall be designed for the life of the luminaire.

15. Photocontrol Receptacle

If an individual locking-type receptacle is incorporated into the luminaire, it shall meet the applicable provisions of ANSI C136.10-1979.

16. Materials and Protective Coatings

Materials and protective coatings used for the luminaire shall individually and as a system be resistant to atmospheric conditions, including the corrosive and erosive action of conditions of service encountered in industrial and seaboard areas.

All wiring and electrical components, including the photocontrol receptacle and starter, if used, shall not exceed their temperature design limits when the luminaire is operated in draft-free air at a minimum ambient temperature of 25 °C or as otherwise specified.

17. Labeling

Luminaires shall be provided with one or more permanently affixed, readily visible, durable nameplates or labels that provide the following information:

1) Manufacturer’s name and catalog number
2) Input voltage
3) Ballast type
4) Photocontrol voltage, if applicable
5) Lamp type, wattage, and voltage, if applicable
6) Descriptive wiring diagram of luminaire
7) The date of manufacture, or code date, if not part of the manufacturer's serial number

18. External Identification of Lamps

External identification of the lamp used in the luminaire, if specified, shall be in accordance with ANSI C136.15-1986.

19. Grounding

If specified, a means shall be provided for grounding the noncurrent-carrying metal parts of the luminaire.