

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS

JUNE 2016

RESIDENTIAL, COLONIAL POST-TOP,
LED OPTICS, TYPE III DISTRIBUTION, STYLE LUMINAIRE

1) PURPOSE

The purpose of these specifications is to prescribe the minimum requirements for the design, manufacture, fabrication, finishing and delivery of colonial post-top, LED optics, type III distribution, style luminaire. This luminaire is intended for use on or with the black fiberglass pole. These colonial post-tops, LED optics, type III distribution, style luminaires are intended for use along residential roadways, walkways, and tunnels throughout Montgomery County. Any manufacturer, distributor or vendor who submits a bid shall agree to comply with these specifications and attached drawings.

2) DESCRIPTION

The residential, colonial post-top, LED optics, type III distribution, style luminaire is made of a cast aluminum alloy housing.

Each streetlight luminaire shall include the following:

- a) Cast aluminum housing and hinged top canopy;
- b) 120 volt LED Driver;
- c) 10KV Surge Suppression Device built in;
- d) NEMA standard photoelectric control receptacle and NEMA multi-volt standard photocell;
- f) Acrylic or Polycarbonate resin refractor side panels (lens);
- h) All necessary hardware required for mounting on fiberglass poles, as specified.

3) DESIGN CRITERIA

3.1) AASHTO Standards

The luminaire shall meet the requirements of American Association of State Highway and Transportation Officials (AASHTO) Standard, "Specification for Structural supports for Highway Signs, Luminaires and Traffic Signals," latest edition.

3.2) Shape and Minimum Size

- a) The luminaire shall be of a trapezoidal shape. The minimum size for the luminaire shall 40.0 inches (sum of the length plus height), when viewed from the side.
- b) The luminaire shall be suitable to accommodate 120 volt LED Driver, 10KV Surge Suppression Device and NEMA standard photoelectric control receptacle and NEMA multi-volt standard photocell.

3.3) Effective Projected Area (EPA)

The luminaire shall have a maximum estimated allowable EPA for the luminaire of $0.7 \pm$ square feet.

3.4 Finish

The luminaire shall have a black polyester powder coat finish. During the finishing process, all critical openings shall be plugged to prevent contamination of the threads or reduction of other critical openings.

4) MATERIALS

4.1 Housing

The luminaire shall consist of a water tight housing fabricated from die-cast aluminum with a gasketed die-cast aluminum canopy. The canopy shall be hinged on one side and secured on the opposite side with a captive stainless steel screw. All castings used to fabricate the luminaire housing shall be clean and smooth with details defined and true to pattern. The housing shall be suitable to accommodate 120 volt LED Driver, 10KV Surge Suppression Device and NEMA standard photoelectric control receptacle and NEMA multi-volt standard photocell.

4.2 Driver & Surge Protection

The driver shall be mounted to facilitate easy removal for maintenance operations. The driver shall be equipped with a 10KV Surge Protection and suppression system. All electrical connections shall be polarized and of plug-in design. The driver shall be wired to receive 120 volt AC current. The driver shall reliably start and operate the lamp in ambient temperatures down to minus 30 degrees. The terminal block shall be capable of accepting up to a #6 AWG wire.

4.3 LED Color Temperature (CCT) and Rendering Index (CRI)

The Correlated Color Temperature (CCT) shall be a nominal Kelvin Temperature of $3500K \pm 200K$ with a minimum Color Rendering Index (CRI) of 70.

4.4 Photoelectric Cell

The photocell receptacle shall be mounted for easy access and maintenance. The photocell shall be of the NEMA twist-lock type.

4.5 Side refractor panels

The luminaire shall be equipped with acrylic or polycarbonate resin refractor panels, with spring loaded retainer clips to hold refractor panels.

4.6 Slip Fitter

The slip fitter shall have a nominal inside diameter of 3.375 inches +/- 0.25 and shall be secured to the lamp post tenon with three or four evenly spaced set screws. The slip fitter shall accommodate a tenon 3.0 inches long.

SPECIFICATIONS FOR STREETLIGHT HARDWARE

IFB # 1063092

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