

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS

JUNE 2016

WHEATON DECORATIVE LED OPTICS VEHICULAR LUMINAIRE

1) PURPOSE

The purpose of these specifications is to provide minimum requirements for the design, manufacture, fabrication, finishing and delivery of a Wheaton decorative LED optics vehicular luminaire with Type III distribution shall be made of low copper die-cast aluminum housing. The roadway, LED, style luminaire is intended for use along roadways in Montgomery County. Any manufacturer, distributor or vendor who submits a bid shall agree to comply with these specifications and the attached drawings.

2) DESCRIPTION

Each streetlight luminaire include the following:

- a) Die-cast aluminum housing and drop style door;
- b) 120 volt LED Driver;
- c) LED Optical Assembly (Type III distribution);
- d) NEMA 3-prong twist-lock standard photoelectric control receptacle on the top of the luminaire;
- e) NEMA 3-prong twist-lock multi-volt standard photocell;
- f) All necessary hardware required for mounting on bracket arm, as specified.

3) DESIGN CRITERIA

3.1) AASHTO Standards

The luminaire shall meet the requirements of 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 rounded rectangular shape. The actual luminaire size may vary depending on the specified wattage.
- b) The luminaire shall be suitable to accommodate several LED Optical Assembly (Type III distribution) and associated LED driver.

3.3) Effective Projected Area (EPA)

The luminaire shall have a maximum estimated allowable EPA for luminaire of 0.7 SF.

3.4) Finish

The luminaire have a Gloss 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 low copper die-cast aluminum housing, with die-cast aluminum drop-style doors. The drop-style doors shall be hinged on one side and secured on the opposite side with a captive stainless steel latch or 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 the LED Optical Assembly and LED driver.

4.2) 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.

4.3) 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.

4.4) Cooling System

The luminaire shall consist of a heat sink with no fans, pumps, or liquids, and shall have wide angular fin in design to be resistant debris buildup that may degrade thermal dissipation performance.

4.5) Photoelectric Cell

The luminaire photocell receptacle shall be mounted on the die-cast aluminum housing. The photocell shall be of the 3-prong NEMA twist-lock type.

4.6) Optical System

The luminaire shall contain a precision designed injection molded acrylic optic plate and LED chamber, with a type III distribution pattern. The LED optical system compartment shall be IP 66 rated.

4.7) Mounting Bracket Arm

The luminaire shall be able to be mounted on bracket arms with 1 ½ or 2 inch slipfitter tenons. This may include two (2) or four (4) bolt slipfitter bracket assemblies with vertical tilt adjustment range of +/- 5%. The mounting bracket area shall be protected with a bird-guard type gasket.

SPECIFICATIONS FOR STREETLIGHT HARDWARE

IFB # 1063092

