



**SPECIAL PROVISIONS
FOR
ROADWAY LUMINAIRES**

**Johnson County
STP-U-5557(615)--70-52**

Effective Date

April 20, 2010

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, SERIES OF 2009, ARE AMENDED BY THE FOLLOWING MODIFICATIONS. THESE ARE SPECIAL PROVISIONS AND SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD

SPECIFICATIONS

1 GENERAL

1.1 SUMMARY

- A. Related Documents: Provisions established within the General and Supplementary Conditions of the Contract, General Requirements and the Drawings are collectively applicable to this Section.
- B. Section Includes:
 - 1. Luminaires for lighting roadway.

1.2 MEASUREMENT AND PAYMENT

- A. Basis of Measurement: The Contractor shall measure this item as a component of the Lighting Assembly L1 Bid Item which is measured by the EACH quantity. The measurement shall include the Lighting Assembly L2 Bid Item which is measured by the EACH quantity.
- B. Basis of Payment: Payment for this item will be made as:
 - 1. A portion of the Lighting Assembly L1 Bid item, and will include all labor, materials, equipment, and supervision required to furnish and install one (1) luminaire as part of the L1 lighting assembly.
 - 2. All labor, materials, equipment, and supervision required to furnish and install one (1) luminaire on a traffic signal pole as the Lighting Assembly L2 Bid Item.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform to requirements of NFPA 70 and IADOT.
- B. Installer: Installation shall be performed by installer specialized and experienced in work similar to that required for this project.

1.4 SUBMITTALS

- A. Submit in accordance with IDOT general requirements.
- B. Product Data: Submit product data with sufficient detail to demonstrate compliance with all specification requirements.
- C. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including dimensions, mounting provisions, and accessories.
- D. Samples: Submit sample showing color and texture of finish to be provided with proposed product.
- E. Installation: Submit supplier's installation instructions.
- F. Closeout Submittals:
 - 1. Submit operation and maintenance data for installed products, including precautions against harmful cleaning materials and methods.
 - 2. Submit warranty documents specified herein.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with IDOT general requirements.
 - 1. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
 - 2. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 3. Store products protected from weather, temperature, and other harmful conditions as recommended by supplier.
 - 4. Handle products in accordance with manufacturer's instructions.

1.6 WARRANTY

- A. Project Warranty: Comply with IDOT General Requirements.
- B. Manufacturer's Warranty: Submit manufacturer's standard warranty document executed by authorized company official.

1. General: Luminaires shall be free from defects in material and workmanship for a period of one (1) year from the date of shipment.
2. Finish: Painted surfaces shall remain free from discoloration, deterioration of gloss, corrosion and lack of adhesion, for a period of five (5) years from date of shipment.

2 PRODUCTS

2.1 ROADWAY LUMINARES

- A. Description: Tenon mounted "cobra head" style HID roadway lighting fixture with integral ballast. See project drawings for approximate size and general appearance for roadway luminaire.
- B. Housing: Die cast A383 aluminum alloy 0.100" (2.54mm) minimum thickness, complete with hardware mounting provisions.
- C. Hardware: All exposed screws shall be stainless steel with Ceramic primer-seal basecoat. All seals and sealing devices are made and/or lined with EPDM and/or silicone.
- D. Finish: Aluminum surfaces to be painted shall be prepared using a multi stage process that includes an alkaline solution cleaning stage, a phosphoric acid etching stage and application of a sealant/catalyst agent. An electrostatically bonded polyester power shall be applied to the surface with a thickness no less than 4 thousands of an inch (.004"). Refer to plans for color and texture of finish.
- E. Locking System: Tool-free access with three point spring-loaded interlocking latch made of die cast A383 aluminum alloy. Spring is stainless steel and holds lens frame in place.
- F. Reflector: Hydroformed 3002-0 aluminum alloy chemically brightened and anodized (5 micron min).
- G. Shutter: Injection molded glass fiber reinforced polymer shutter with injection molded silicone gasket (duro 60 shore A). Access for replacement or adjustment shall be tool-free.
- H. Distribution: IES type III, short cut off, flat lens.
- I. Lens: Flat and clear tempered glass of 0.20" (5mm) minimum thickness. The optical assembly shall be rated IP66.
- J. Lamp Holder: Porcelain thermo-resistant pulse rated 4 Kv mogul base.
- K. Ballast Tray: 18 gauge (min.) galvanized steel, pivoting and easily removed without tools.
- L. Ballast: 250 watt, 60 Hz, high power factor (.90 min.) for high pressure sodium lamps. Lamp starting capacity -40F (-40C) degrees. Assembled on a unitized removable tray with quick disconnect plug.
- M. Voltage: Refer to plans for ballast voltage.
- N. Lamp: 250 Watt High Pressure Sodium (ANSI Code S50), ED18 bulb, Mogul Base. Acceptable manufacturers: Philips, Sylvania and GE.
- O. Wiring: Provide terminal block located inside the housing for luminaire wiring. Terminal block shall accommodate up to AWG #8 wire and include grounding lug.
- P. Mounting: Luminaire shall mount on horizontal tenon and accommodate tenon OD range of 1.9" to 2.375". Tenon insertion depth shall be 4". Brackets and hardware used to attach luminaire to tenon shall be corrosion resistant.

3 EXECUTION

3.1 EXAMINATION

- A. Site Verification of Conditions: Verify installation conditions previously established under other sections are acceptable for product installation in accordance with manufacturer's instructions.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.

B. Provide correct lamp from acceptable manufacturer.

3.3 CLEANING, PROTECTION, AND REPAIR

A. Repair scratches and other damage which might have occurred during installation. Remove temporary coverings and protection to adjacent work areas. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance.

END OF SECTION