

Special Specification 6388

LED Bridge Aesthetic Luminaire



1. DESCRIPTION

Furnish, fabricate, and install LED (light emitting diode) lighting assemblies. A LED lighting assembly is the complete assembly of light fixture, LED light source, lens, mounting brackets, connectors, drivers, power supplies, visors, components, and hardware constituting a complete operational lighting unit.

2. MATERIALS

For the installation of all lighting assemblies, use new materials that meet the requirements of the NEC, UL, CSA, and NEMA. Provide all new materials that comply with the details shown on the plans, the requirements of this Item and to the pertinent requirements for the following items:

- Item 616, "Performance Testing of Lighting Systems,"
- Item 618, "Conduit," and
- Item 620, "Electrical Conductors."

2.1. **Basis of Design.** Basis of Design specifications for the LED lighting assemblies are as follows.

2.1.1. Aesthetic Luminaire

Description: Surface mounted, exterior floodlight, 4000K White LED, narrow flood with horizontal spread distribution, clear tempered glass lens, die-cast aluminum housing, electro-statically applied polyester color powder-coated, 3G vibration stability, and leader cable as required.

2.1.1.1. **Option 1:** CREE, OSQ-AA-WSN-Z-40K-VOLTS-WH-F-WM-2WH-BACKLIGHT SHIELD

2.1.1.2. **Option 2:** Lumenpulse, Lumenbeam™ Large #LBL-VOLTS-40K-NF-LSLH-WH-SY-3GV-SNW-TN2

2.1.1.3. **Option 3:** Approved equivalent according to the following specifications.

- Lamp Spec: 50W nominal, modular 4000K CCT White LED. Initial minimum delivered lumens shall be a minimum of 2,690.
- Binning: LED binning shall guarantee a consistent color temperature within a 3-step MacAdam ellipse or no more than 5% variation from the specified CCT, whichever is less.
- LED circuit board to include quick disconnect wiring connection for ease of replacement.
- Input Watts: 50 W.
- Optics: Narrow vertical and wide horizontal beam spread with clear tempered glass lens.
- Housing: Shall be constructed of extruded low-copper content, high pressure die-cast aluminum, and silicone sealed devices. Shall be finished with a white, electro-statically applied, polyester powder-coated finish. Dual chamber design for heat management and ease of maintenance. Provide with heavy aluminum formed short yoke for 3G vibration stability.
- Electrical: Line voltage, as indicated on the drawings.
- Operating Temp. Range: shall operate in the range -25°C to +50°C (-13F to 122F) ambient temperatures.
- Labels and Testing: IP66 rated. 3G ANSI C136.31 vibration standard for bridge application.
- Contractor to provide leader and jumper cables in standard lengths, as required, for a complete operational system.
- Warranty: 5 yrs. minimum.

- 2.1.2. **Design.** Coordinate the luminaires specified with the area to be installed, regardless of any catalog numbers shown. Any discrepancies should be brought to the attention of the design team immediately. Any discrepancy between the lighting design documentation and any other project documentation should be brought to the attention of the design team immediately.
- 2.1.3. **Submittals.** Provide shop drawing submittals of fixtures (type, manufacturer, and catalog designations noted), controls, mounting provisions, and anticipated lead times for delivery of equipment. Obtain all pertinent approvals on the submittals before purchasing materials and beginning work.
- 2.1.4. **Warranty.** Provide manufacturer's warranty for each bridge lighting assembly that will replace failed components or parts for a period of five years from the purchase date.

3. CONSTRUCTION

Perform work in accordance with the details shown on the plans and the requirements of this Item. Use established industry and utility safety practices when installing luminaires. Consult with the proper utility company before beginning work. Coordinate conduit layout and mounting design on structure with the respective fabricator. Prevent scarring or marring of fixtures. Replace damaged components. Repair damaged painted areas of lighting assemblies.

Installation. Furnish and install LED luminaire. Install each lighting assembly as shown on the plans and in coordination with the lighting assembly fabricator. Field verify dimensions and coordination of conduit entry and all other mounting conditions with the entity manufacturing lighting fixtures.

Install cables, conduit, j-boxes, and other equipment necessary for fixture connection in a manner that minimizes visibility from pedestrian and roadway traffic. Exposed conduit mounted shall be rigid, metallic conduit and painted to match the attached structure.

Support and align lighting fixtures with necessary hangers, supporting members for proper installation, as shown in the Contract Drawings and the Specifications, and as approved. Aim fixtures initially, as shown on the plans, for review. Make provisions for trial lighting to review and adjust fixture angle for final positioning as directed.

Fabricate and install lighting assembly components in accordance with the details, dimensions, and requirements shown on the plans and in coordination with the fabricator to assure the components are installed for acceptable visual appearance and functionality.

Follow NEC and local utility company requirements when installing the lighting assemblies. All lighting fixtures shall be properly wired and connected to branch circuits, tested, and left ready for operation. Bond all lighting fixtures and metal accessories to the branch circuit-grounding conductor.

Complete performance test of all systems per Item 616, "Performance Testing of Lighting Systems."

4. MEASUREMENT

This Item will be measured by each lighting assembly installed.

5. PAYMENT

The work performed and materials furnished, in accordance with this Item and measured as provided under "Measurement," will be paid for at the unit price bid for "LED Bridge Aesthetic Luminaire," of the type specified. This price is full compensation for furnishing; installing; aiming and testing luminaires; LEDs; driver; power supplies; mounting brackets; internal conductors and connections; power cable and connectors from j-box to fixture and between fixtures; coordination with bridge fabricator; system performance testing & adjustments; equipment, labor, tools, and incidentals.