

# Special Specification 6157

## Luminous Column Lighting Assemblies



### 1. DESCRIPTION

Furnish and install luminous column lighting assemblies.

### 2. MATERIALS

Provide new materials that are UL-Listed, meet NEMA, NEC, and AASHTO requirements and comply with the details shown on the plans, the requirements of this item, and the pertinent requirements of the following items:

- Item 421, "Hydraulic Cement Concrete"
- Item 441, "Steel Structures"
- Item 442, "Metal for Structures"
- Item 449, "Anchor Bolts"
- Item 616, "Performance Testing of Lighting Systems"
- Item 618, "Conduit"
- Item 620, "Electrical Conductors"

- 2.1. **Submittals.** Furnish electronic submittals of the luminous column lighting assemblies, and all mounting hardware to the Engineer. Do not purchase materials or begin work before these submittals are approved.
- 2.2. **Housing Column and Light Pipe.** Provide a luminous column lighting assembly with an 8 ft. high by approximately 9 in. O.D. housing fabricated of seamless extruded aluminum, minimum yield strength of 31 KSI, silver in color. Provide luminous column with internal 4 ft. high by approximately 6 in. O.D. light pipe with a 60W LED 4000K white light. Light Pipe to be preinstalled into the housing by manufacturer. Provide translucent light pipe modules constructed of an impact resistant polycarbonate 360 degree diffuser designed to extract and propagate light, providing a uniform illuminance along the entire length.
- 2.3. **LED Drivers.** 240V, with in-line fused disconnection of 10 amp, 12V LED Drivers or as recommended by manufacturer.
- 2.4. **Hardware.** Use stainless steel for exposed hardware. Hardware exposed must be tamper proof.
- Meet the AASHTO rating requirement of 100 MPH sustained with a 1.3 gust factor.
- Meet any further requirements as shown on the plans.

### 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 procedures when installing lighting assemblies located near overhead or underground utilities. Consult with the appropriate utility company before beginning work.

Prevent scarring or marring of the light assemblies. Repairs to the finish of the assembly will be made in accordance with the manufacturer's recommendations to the satisfaction of the Engineer.

Carefully install and align lighting column assemblies as shown on the plans.

Construct foundations for luminous column lighting assemblies in accordance with Item 421, "Hydraulic Cement Concrete" and with the details shown on the plans.

- 3.1. **Installation.** Furnish and install luminous column lighting assembly components in accordance with the details, dimensions and requirements shown on the plans. Install anchor bolts, 24 in. by 72 in. drill shaft as shown on drawings, and coat anchor bolt threads in accordance with Item 449, "Anchor Bolts." Erect light columns after foundation concrete has attained its design strength as required on the plans and Item 421, "Hydraulic Cement Concrete." Tighten anchor bolts as required under Item 449, "Anchor Bolts" and details in the plans. Test installed luminous column lighting assemblies in accordance with Item 616, "Performance Testing of Lighting Systems."

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#### 4. MEASUREMENT

This item will be measured by each luminous column lighting assembly installed and tested.

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#### 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 for "Luminous Column Lighting Assembly." Contractor to supply a temporary meter and will pay for the electricity during construction and testing.

New conduit will be paid for under Item 618, "Conduit." New conductors, will be paid for under Item 620, "Electrical Conductors." New ground boxes will be paid for under Item 624, "Ground Boxes." New electrical services will be paid for under Item 628, "Electrical Services."

- 5.1. **Installation.** This price is full compensation for furnishing, installing, and testing lighting assemblies, furnishing and installing Luminous column lighting assembly including housing, LED light pipe, LED driver, support components and brackets, anchor bolt assemblies and plates, foundation, internal conductors, and connections; conducting system performance testing; and materials, equipment, labor, tools, and incidentals.