

**SECTION 26 56 29
EXTERIOR LIGHTING**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Exterior LED luminaries and accessories
- B. Poles

1.2 REFERENCES

- A. ANSI C78.379 -- Classification of Beam Patterns of Reflector Lamps
- B. NFPA 70 - National Electrical Code
- C. IES RP-8 - Roadway Lighting
- D. IES RP-20 - Lighting for Parking Facilities
- E. ASCE 7 – Minimum Design Loads for Buildings and Other Structures

1.3 DESIGN REQUIREMENTS

- A. Roadway: IES RP-8, classification as indicated on Drawings
- B. Parking Lot: IES RP-20, [low] [medium] [high] activity level

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Shop Drawings: Indicate dimensions and components for each luminary, which is not a standard product of the manufacturer.
- C. Product Data: Provide dimensions, ratings, and performance data.
- D. Test Reports: Indicate measured illumination levels.
- E. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product-testing agency specified under "Regulatory Requirements".

1.5 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 77 00.
- B. Accurately record the actual locations of each luminary.

1.6 OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Section 01 77 00.
- B. Maintenance Data: Include instructions for maintaining luminaries.

1.7 QUALIFICATIONS

- A. Manufacturing company specializing in manufacturing products specified in this Section with minimum 3-years of experience.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle products to site under provisions of Section 01 60 00.
- B. Accept products on site and inspect for damage.
- C. Protect poles from finish damage by handling carefully.

1.9 COORDINATION

- A. Furnish bolt templates and pole mounting accessories to installer of pole foundations.

The School District of Palm Beach County

Project Name:

SDPBC Project No.:

PART 2 PRODUCTS

2.1 LUMINAIRES

- A. LED type, 5000 kelvin color temperature
- B. Furnish products as specified on Drawings.
- C. Substitutions: Under provisions of Section 01 60 00

2.2 POLES

- A. Height: As indicated on Drawings.
- B. Hand hole: Removable weatherproof cover installed 18"-36" above finish grade.
- C. Other Requirements
 - 1. Provide poles designed for wind loading based on ASCE 7 for velocity of 170 mph (embedment of pole shall be in accordance with actual soil condition) while supporting luminaries having effective project areas indicated.
 - a. Poles shall be direct burial type designed for use with underground supply conductors.
 - 2. All poles shall have two conduits concealed within the pole extended down from handhole for incoming and outgoing branch circuit wiring.
 - 3. Install a 5/8" x 10' ground rod at each pole and exothermic weld grounding conductor to pole.
 - 4. Contractor shall submit certified wind load calculation signed and sealed by a Florida Professional Engineer with pole submittal.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine excavation and concrete foundation for lighting poles.
- B. Examine each luminary to determine suitability for lamps specified.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install lighting poles at locations indicated.
- C. Embedded Luminary Poles to the depth as indicated, and install plumb.
- D. Install lamps in each luminary.
- E. Bond luminaries, metal accessories, and metal poles to branch circuit equipment grounding conductor.
 - 1. Provide supplementary ground rod at each pole.
- F. Luminary Pole Bases:
 - 1. Size and constructed as indicated on Drawings.
 - 2. Project anchor bolts 3" minimum above base.
 - 3. Install poles on bases plumb; provide double nuts for adjustment, and grout around pole base.
 - 4. Provide manufacturer's covers for bolts at base.
- G. Use belt slings or non-chafing ropes to raise and set pre-finished luminary poles.
- H. Provide one weatherproof fuse per phase.
 - 1. Install fuse(s) in the cast-in hand hole.
 - 2. Fuses not permitted in the fixture head.
 - 3. Fuse holder shall incorporate a rubber boot assembly.
- I. Install all conductor splices in the cast-in hand hole.
 - 1. If required, the contractor may extend the hand hole outward using a weatherproof junction box.
- J. Coat the attachment bolts or set screws with an anti-seizing / lubricating compound.

3.3 FIELD QUALITY CONTROL

The School District of Palm Beach County

Project Name:

SDPBC Project No.:

- A. Operate each luminary after installation and connection.
 - 1. Inspect for improper connections and operation.
- B. Measure illumination levels to verify conformance with performance requirements.
- C. Take measurements during night sky, without moon or with heavy overcast clouds effectively obscuring moon.

3.4 ADJUSTING

- A. Adjust work under provisions of Section 01 77 00.
- B. Aim and adjust luminaries to provide illumination levels and distribution as directed.
- C. Re-lamp luminaries that have failed lamps at Date of Substantial Completion.

3.5 CLEANING

- A. Clean work under provisions of Section 01 77 00.
- B. Clean electrical parts to remove conductive and deleterious materials.
- C. Remove dirt and debris from enclosure.
- D. Clean photometric control surfaces as recommended by manufacturer.
- E. Clean finishes and touch up damage.

END OF SECTION