

DIVISION 26 00 00
SECTION 26 50 00
SECTION 26 56 00

ELECTRICAL
LIGHTING
EXTERIOR LIGHTING
LIGHT COLUMN BOLLARD

Part 1 General

01. Summary

A. Section Includes:

1. Series 500 bollard, 5" diameter column, illuminated
2. Series 500 bollard, 5" diameter column, non-illuminated
3. Series 600 bollard, 6" diameter column, illuminated
4. Series 600 bollard, 6" diameter column, non-illuminated

02. Submittals

A. Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.

B. Product data:

1. Manufacturer's standard product literature.
2. Shop drawings.
3. Installation instructions.
4. Maintenance instructions.

03. Quality Assurance

A. Manufacturer Qualifications:

1. Minimum 15 years experience in the manufacture of outdoor lighting.
2. Provide reference list of at least ten major transportation authorities, municipalities, universities, or other high-use public environments currently using outdoor lighting fabricated by the manufacturer.

04. Delivery, Storage and Handling

- A. Handle products in accordance with manufacturer's instructions.
- B. Store products in manufacturer's original packaging until ready for installation.
- C. Protect products from impacts and abrasion during storage.

05. Warranty

A. Provide manufacturer's standard warranty.

1. Warranty terms: one year from date of invoice against defects in materials and workmanship.

Part 2 Products

01. Manufacturer

A. Basis-of-design product: provide bollards based on the product named.

1. Light Column Bollard by Forms+Surfaces
2. Manufacturer Contact:
Forms+Surfaces
30 Pine Street
Pittsburgh, PA 15223
phone: 800-451-0410

fax: 412-781-7840

email: sales@forms-surfaces.com

website: www.forms-surfaces.com

B. Bollards

1. Materials:

- a. Light Column Body: tubular stainless steel.
- b. Light Column Head (for illuminated bollards): .125" thick white-frosted acrylic tube with stainless steel cap.
- c. Optional standard shield configurations (Choose one below, if desired):
 - 1) Kente:
 - A) Series 600, 180° shield.
 - 2) Perforated:
 - A) Series 500, 180° shield.
 - B) Series 600, 180° shield.
 - C) Series 500, 360° shield.
 - D) Series 600, 360° shield.
 - 3) Scape:
 - A) Series 500, 180° shield.
 - B) Series 600, 180° shield.
 - C) Series 500, 360° shield.
 - D) Series 600, 360° shield.
 - 4) Bubbles:
 - A) Series 500, 180° shield.
 - B) Series 600, 180° shield.
 - C) Series 500, 360° shield.
 - D) Series 600, 360° shield.
- d. Ballast (linear fluorescent only): electronic, thermally protected, 120/277V combination for two F14T5 or two F24T5/HO lamps, -18°C starting temperature, <10% THD, class A sound rating.
- e. Driver (3000K, 4000K, RGBW LED): Input power is 100-277 V. Includes high efficiency constant output current with over-voltage, short circuit, and overload protection. Driver for 3000K and 4000K LED has 0-10V dimming capabilities. Certifications include: IP66 (waterproof) enclosure and Class 2 rated output (UL 8750).
- f. Lamps (for illuminated bollards) (Choose one lamp below):
 - 1) 3000K LED:
 - A) 17W custom LED light engine.
 - B) Luminaire lumens: Series 500: 1542, Series 600: 1542.
 - C) Color temperature: 3,000K.
 - 2) 4000K LED:
 - A) 17W custom LED light engine.
 - B) Luminaire lumens: Series 500: 1542, Series 600: 1545.
 - C) Color temperature: 4,000K.
 - 3) RGBW LED:
 - A) 78W custom LED light engine.

- B) Luminaire lumens: Varies
- C) Color temperature: 4,000K white, RGBW, dynamic white

4) (2) F14T5:

- A) 14W T5 linear fluorescent.
- B) Base: mini bi-pin.
- C) Luminaire lumens: Series 500: 2220, Series 600: 2194.
- D) Color temperature: 4,100K.

5) (2) F24T5/HO:

- A) 24W T5HO linear fluorescent.
- B) Base: mini bi-pin.
- C) Luminaire lumens: Series 500: 3295, Series 600: 3287.
- D) Color temperature: 4,100K.

g. GFCI outlet (Series 600 illuminated, non-RGBW, non-security bollard only) (Optional)

2. Finish (Choose one finish below):

- a. Satin.
- b. Polyester powdercoat (Select one option below):
 - 1) Standard Texture/Gloss from Forms+Surfaces Powdercoat Chart.
 - 2) Premium Texture/Gloss from Forms+Surfaces Powdercoat Chart.
 - 3) Custom RAL powdercoat color.

3. Dimensions (Choose model(s) below):

a. Series 500 bollard, illuminated:

1) Surface Mount with J-bolts:

- A) 5" diameter x 45" high (linear fluorescent).
- B) 5" diameter x 45" high (LED).
- C) 5" diameter x 45" high (RGBW LED)

1) Surface Mount with Removable Base:

- A) 5" diameter x 45" high.

a. Series 500 bollard, non-illuminated:

1) Surface Mount with J-bolts:

- A) 5" diameter x 45" high.

2) Surface Mount with Removable Base:

- A) 5" diameter x 45" high.

b. Series 600 bollard, illuminated:

1) Surface Mount with J-bolts:

- A) 6" diameter x 45" high (linear fluorescent).
- B) 6" diameter x 45" high (LED).
- C) 6" diameter x 45" high (RGBW LED)

2) Surface Mount with Removable Base

- A) 6" diameter x 45" high.

- 3) Embedded Security Core:
 - A) 6" diameter x 48" high (linear fluorescent).
 - B) 6" diameter x 50" high (LED).
- c. Series 600 bollard, non-illuminated:
 - 1) Surface Mount with J-bolts:
 - A) 6" diameter x 45" high.
 - 2) Surface Mount with Removable Base
 - A) 6" diameter x 45" high.
 - 3) Embedded Security Core:
 - A) 6" diameter x 45" high.
- 4. Mounting (Choose one below):
 - a. Standard: Surface Mount with J-bolts: .50" thick base plate, slotted for rotational capability. Provide stainless steel cover and necessary hardware, template available upon request.
 - b. Optional: Removable Base (not available with RGBW LED option): .50" thick base plate with 1/2"-13 x 5" epoxy anchors, slotted for rotational capability, and lock hasp. Provide stainless steel cover and anchor bolts.
 - c. Optional: Embedded Security Core (not available in Series 500 or RGBW LED).
- 5. RGBW Requirements
 - a. DMX512 protocol via onboard decoder.
 - b. DMX 512 compatible controller required (provided by others).

Part 3 Execution

01. Examination

- A. Verify that substrates are stable and capable of supporting the weight of items covered under this section.
- B. Verify that substrates have been adequately prepared to securely anchor those items that will be surface mounted.

02. Installation

- A. Install according to the manufacturer's installation instructions.
- B. Install in conformance to applicable ADA guidelines and End User's established Accessibility policies.

END OF SECTION