Design Standard
Exterior Lighting and Installation

This standard was revised on November 28, 2018, and the latest changes are underlined. Please refer to Part 5 of this standard for full revision history.

General Exterior Campus Lighting Guidelines
Examine all available lighting source technologies to determine the appropriate source for the application, lowest life cycle cost and energy requirements for any given project. High performance HID, Compact Fluorescent, Induction, and LED technologies all have appropriate applications, based on energy efficiency, lighting level requirements, color of light, maintenance, cost, and other project criteria. Any deviation from the campus standards must be approved through Utilities & Energy Services (UES).

- All on/off control circuits for exterior lighting shall utilize photocells; the use of timers to control these circuits is unacceptable. ¹
- All fixtures must be dark-sky compliant as required by state law.
- All Bollard lighting, Pole mounted pedestrian lighting, Pole mounted street lighting and Pole mounted parking lot lighting shall have dedicated raceways not to be shared with convenience outlet circuits, building mounted exterior lighting circuits, irrigation systems etc. ⁶
- All pole bases shall be minimum 12 inches above final grade. ⁷
- Wire shall be XXHWorr XXHW-2. ⁸
- Photo cell control with Hand / Off / Auto over-ride. ⁹
- All terminations shall be made with Gel Tap splice with closure. NSI easy-splice gel tap splice kit provides a method for connecting, insulating, and environmentally sealing low-voltage splices. The splice kit is designed for underground and overhead environments and is useful for street lighting applications. The hinged splice closure can be installed over the connector in seconds by snapping the cover shut. Qualified to ANSI CI 19.1 -1986 for underground splicing. Rated -40 to 90 degrees C, UV resistant. ¹⁰

Typical Design Lighting Level: TAMU follows the lighting level chart below as a guide, refer to IESNA, TXDOT, and local codes requirements for additional information.

<table>
<thead>
<tr>
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<td>Parking Lots</td>
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<tr>
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<td>0.6</td>
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<td>6:1</td>
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</table>
PART 1  Pedestrian & General Area Lighting (Primary Campus Standard)

1.01 FIXTURE
   A. Gardco Round Form 10 or Kim CC/CCS
   B. Finish: Pearl Mouse Grey RAL7048
   C. Distribution Type specific for location or Type 2 open area.

1.02 POLES
   A. Gardco or Sterner
   B. Finish: Bronze Anodized Hiawatha Metal #311
   C. All pedestrian lighting applications shall have poles at least ten feet tall. Ten foot pole mounted fixtures are preferred, Fifteen foot poles are an acceptable alternative if site lighting needs require the additional height.

1.03 LAMPS
   A. Light Emitting Diodes (LED)
   B. All LEDs must have a color of 4000K

1.04 LIGHTING CONTROL
   A. NEMA 7-Pin Twist Lock Photocell Receptacle
   B. The use of timeclocks to control exterior lighting circuits is prohibited. 2

<table>
<thead>
<tr>
<th>Pedestrian Light Poles</th>
<th>Equipment</th>
<th>Manufacture</th>
<th>Style</th>
<th>Catalog Number Specification</th>
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</thead>
<tbody>
<tr>
<td>10’</td>
<td>Sterner</td>
<td>Tapered</td>
<td>RTA10-4.5x3.0-0.125-10-C-LBZ#311</td>
<td></td>
</tr>
<tr>
<td>10’</td>
<td>Gardco</td>
<td>Tapered</td>
<td>TAMU-TRA-HB-10-D1-BRA#311</td>
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<td>15’</td>
<td>Sterner</td>
<td>Tapered</td>
<td>RTA15-4.5x3.2-0.125-10-C-LBZ#311</td>
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<td>15’</td>
<td>Gardco</td>
<td>Tapered</td>
<td>TAMU-TRA-HB-15-D1-BRA#311</td>
<td></td>
</tr>
</tbody>
</table>

Note: D1-Light Duty Pole – engineer to specify correct relative strength based on site wind load factors.

<table>
<thead>
<tr>
<th>Pedestrian Light Fixtures</th>
<th>Equipment</th>
<th>Manufacture</th>
<th>Style</th>
<th>Catalog Number Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>66W</td>
<td>Kim</td>
<td>CC/CCS LED</td>
<td>FM/CCS17PXE35/60L4K277/CCRAL7048</td>
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<tr>
<td>70W</td>
<td>Phillips Gardco</td>
<td>Form 10 LED</td>
<td>CP17L-P22-X-70LA-NW-UNIV-OC-RAL7048</td>
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</tr>
<tr>
<td>66W</td>
<td>Kim</td>
<td>CC/CCS Wall LED</td>
<td>1W/CCS17AXE35/60L4K277/CCRAL7048</td>
<td></td>
</tr>
<tr>
<td>70W</td>
<td>Phillips Gardco</td>
<td>Form 10 Wall LED</td>
<td>CW17L-1-X-70LA-NW-UNIV-OC-RAL7048</td>
<td></td>
</tr>
</tbody>
</table>

Note: Fixtures must come with a 7 pin NEMA Photocell receptacle.

Note: X denotes distribution type
PART 2 Historical Pedestrian & Heritage Area Lighting (standard per noted locations)

Historic District Lighting Areas include New Main Roadway and Military Walk.

2.01 FIXTURE
A. Lumec Zenith Series or Beacon Mediterranean Series.
B. Roman Bronze finish of decorative cast 356 aluminum.
C. Hood: spun aluminum with disk to block the up light out from hood.

2.02 POLES
A. Lumec
B. Shaft: 12 fluted round cast 356 aluminum tapered shaft, .250” wall thickness
C. Base: round fluted cast 356 Aluminum, .357” avg. wall thickness, double fuse double fuse holders, and a cast-in anchor plate

2.03 LAMPS
A. Light Emitting Diodes (LED)
B. All LEDs must have a color of 4000K

2.04 LIGHTING CONTROL
A. NEMA 7-Pin Twist Lock Photocell Receptacle
B. The use of timeclocks to control exterior lighting circuits is prohibited.  

### Historical Pedestrian & Heritage Lighting (Fixture/Pole)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manufacture</th>
<th>Style</th>
<th>Catalog Number Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixture</td>
<td>Lumec</td>
<td>Zenith</td>
<td>Z47A-65W42LED4K-R-AC-RLE5-XXX-SFZ4-SCUS542M65SM</td>
</tr>
<tr>
<td>12' Pole</td>
<td>Lumec</td>
<td>RTA</td>
<td>RTA50F-12-SCUS542M65SM</td>
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<tr>
<td>Fixture</td>
<td>Beacon</td>
<td>Mediterranean</td>
<td>T1/AC/NC/24ND-55/4K/UNIV/DIR5/PCR-TL/DBT</td>
</tr>
</tbody>
</table>

XXX denotes system voltages
D1-Light Duty Pole – engineer to specify correct relative strength based on site wind load factors.
Note: Fixtures must come with a 7 pin NEMA Photocell receptacle
PART 3 Parking & Roadway Lighting

3.01 FIXTURE
A. Fixture: CREE OSQ or Phillips Gardco EcoForm
B. Finish: Pearl Mouse Grey RAL7048 or Platinum Bronze
C. Distribution Type specific for location or Type 3 open area

3.02 POLES
A. Gardco, Sterner or Kim
B. Finish: Bronze Anodized Hiawatha Metal #311
C. Parking lighting applications for small and medium sized parking areas and the perimeter of large parking areas shall have a cutoff fixture.

3.03 LAMPS
A. Light Emitting Diodes (LED)
B. All LEDs must have a color of 4000K

3.04 LIGHTING CONTROL
A. NEMA 7-Pin Twist Lock Photocell Receptacle
B. The use of timeclocks to control exterior lighting circuits is prohibited. 4

### Roadway & Parking Light Poles

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manufacture</th>
<th>Style</th>
<th>Catalog Number Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>20'</td>
<td>Gardco</td>
<td>Tapered</td>
<td>TAMU-TRA-CB-20M-D1-BRA-#311</td>
</tr>
<tr>
<td>20'</td>
<td>Kim</td>
<td>Tapered</td>
<td>LTRA20-6156-1A-DBA311/BC/PC4RDB/96068/95518</td>
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<tr>
<td>30'</td>
<td>Sterner</td>
<td>Tapered</td>
<td>RTA30-8.0x4.5-0.188-10-L-VD-LBZ#311</td>
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<tr>
<td>30'</td>
<td>Gardco</td>
<td>Tapered</td>
<td>TAMU-TRA-CB-30L-D1-BRA#311-VDA</td>
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<tr>
<td>30'</td>
<td>Kim</td>
<td>Tapered</td>
<td>LTRA30-7156-1A-DBA311/BC-PC4RDB/96068/95518</td>
</tr>
</tbody>
</table>

Note: D1- Light Duty Pole – engineer to specify correct relative strength based on site wind load factors.

### Roadway & Parking Light Fixtures

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manufacture</th>
<th>Style</th>
<th>Catalog Number Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>160W</td>
<td>Phillips Gardco</td>
<td>EcoForm</td>
<td>ECF-DIM-1-3-160LA-481A-NW-UNV-OC-RAL7048-PCR7</td>
</tr>
</tbody>
</table>

Note: X denotes distribution type.
Note: Fixtures must come with a 7 pin NEMA Photocell receptacle.
PART 4  Pedestrian Bollard Lighting

4.01 FIXTURE

A. Fixture: Gardco 830 Series LED Bollard with Demand Response

B. The Bollard can be specified with or without lighting capability in effort to provide a standardized bollard type, but have the flexibility of installing the luminaire type in only the locations that ground lighting is needed.

4.02 LIGHTING CONTROL

A. NEMA 7-Pin Twist Lock Photocell Receptacle

B. The use of timeclocks to control exterior lighting circuits is prohibited.  

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manufacture</th>
<th>Style</th>
<th>Catalog Number Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixture</td>
<td>Phillips Gardco</td>
<td>LED</td>
<td>TAMU-BRM830-42-DR-NW-360-277-SC/BRA#311</td>
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<tr>
<td>Pole</td>
<td>Phillips Gardco</td>
<td>Nonlit</td>
<td>TAMU-42-NONLIT-SC/BRA#311</td>
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<tr>
<td>Fixture</td>
<td>Kim</td>
<td>LED</td>
<td>VRB1-15L-3KUV-DBA311</td>
</tr>
<tr>
<td>Pole</td>
<td>Kim</td>
<td>Nonlit</td>
<td>VRBC-BR-C</td>
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</table>

Note: Engineer to review bollard specifications (height/coverage/voltage) to ensure specification meets actual bollard application.
# Part 5 - Revisions to Design Standard

<table>
<thead>
<tr>
<th>Revision #</th>
<th>Date</th>
<th>Location</th>
<th>Brief Description</th>
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<tbody>
<tr>
<td>1</td>
<td>11/28/2018</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; page of standard</td>
<td>All on/off control circuits for exterior lighting shall utilize photocells</td>
</tr>
<tr>
<td>2,3,4,5</td>
<td>11/28/2018</td>
<td>1.04B, 2.04B, 3.04B, 4.02B</td>
<td>The use of timeclocks to control exterior lighting circuits is prohibited</td>
</tr>
<tr>
<td>6</td>
<td>11/28/2018</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; page of standard</td>
<td>Lighting shall have dedicated raceways</td>
</tr>
<tr>
<td>7</td>
<td>11/28/2018</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; page of standard</td>
<td>All pole bases shall be minimum 12 inches above final grade</td>
</tr>
<tr>
<td>8</td>
<td>11/28/2018</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; page of standard</td>
<td>Wire shall be XXHWor XXHW-2</td>
</tr>
<tr>
<td>9</td>
<td>11/28/2018</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; page of standard</td>
<td>Photo cell control with Hand / Off / Auto over-ride</td>
</tr>
<tr>
<td>10</td>
<td>11/28/2018</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; page of standard</td>
<td>All terminations shall be made with Gel Tap splice with closure</td>
</tr>
</tbody>
</table>
IES Roadway Luminaire Classifications (Types I, II, III, IV and V) Summary:

The Illuminating Engineering Society of North America (IESNA) defines roadway and area lighting fixtures by their photometric properties and distance to the half maximum candela trace and the maximum candela value.

The definitions of the IES classifications follow:

The lateral classification describes the lateral light distribution with regards to the lighted area width described as multiples of the mounting height (MH). The width of the half-maximum candela trace within the longitudinal distribution range (Short, Medium or Long) is used. The boundaries for each classification in terms of Longitudinal Roadway Lines (LRL, running along the roadway) are as follows:

- **Type I** - Half-maximum candela trace falls between 1 MH LRL on the House side and 1 MH LRL on the Street side.
- **Type II** - Half-maximum candela trace on the Street side is beyond the 1 MH LRL but not beyond the 1.75 MH LRL.
- **Type III** - Half-maximum candela trace on the Street side is beyond the 1.75 MH LRL but not beyond the 2.75 MH LRL.
- **Type IV** - Half-maximum candela trace on the Street side is beyond the 2.75 MH LRL.
- **Type V** - Has circular symmetry being essentially the same at all lateral angles around the luminaire.

Informally, there is also a Type V-S, similar to Type V, but square in shape.

This image is from the IESNA Lighting Handbook, 9th Edition, © 2000, In this example, the luminaire is a Type III -- Medium distribution.
Pedestrian Poles and Fixture Datasheets

Pedestrian Sterner Tapered Pole

RTA - ROUND TAPERED ALUMINUM POLES

STERNE TM
INFRA(TM)

ORDERING EXAMPLE

RTA20 / 6.0 x 4.5 / 0.188 / A28 / B / DF / BK

ORDERING SEQUENCE

O/C. NO. | BARCODE | DESCRIPTION | COLOR | FINISH | BCD | QTY | TOTAL

RTA10
RTA12.5
RTA12.5
RTA20
RTA25
RTA30

Powder Coat

- BK Black
- BR Bronze
- WH White
- AL Natural Aluminum

Model Number

- LBZ Light Bronze
- MBZ Medium Bronze
- DBZ Dark Bronze
- BRK Black
- AAL Natural Aluminum
- NS Non-Standard Finish

Pole Data

- Wall Thickness
- Pole Height
- Base Color
- Base Finish
- Base Style
- Base Dimensions
- Standard Weight
- Allowable Pole (Pounds and/or psi) 1.18

Note: All dimensions apply to both round & pole mount fixtures.
- 2, 3, 4, 5, 6, 7-柱es are available in 20" min.
- A 5" min. taper is available.
- 3" Reduction (K) with leader to indicate fixture drilling.
- Order for specific information.

701 Millennium Blvd • Greenville, SC 29607 • TEL 864.678.1000 FAX 864.678.117 
  www.sterne-lighting.com

Pedestrian Lighting reserves the right to change specifications without notice.
Tapered Round Aluminum - Hinged Base

The Philips Gardco TRA tapered round aluminum pole consists of a one-piece design fabricated aluminum tubing circumferentially welded to a structural quality hot rolled carbon steel plate. The poles are finished with either Architectural Class I anodizing or electrophoretically applied TGIC polyester powdercoat. All poles include anchor bolts, hand hole, ground lug and top cap.

Enter the order code into the appropriate box below. Note: Gardco reserves the right to alter a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please contact the factory.

**FINISH**
- BRP: Bronze Paint
- BLP: Black Paint
- WP: White Paint
- NP: Natural Aluminum Paint
- **BRA**: Bronze Anodized #311
- BLA: Black Anodized
- NA: Natural Anodized
- OC: Optional Color Paint
  - Specify Color or
    - RAL 6005 or RAL 7021
- SC: Special Color Paint
  - Specify Must supply color chip.

**OPTIONS**
- DR: Duplex Receptacle
- GFCI: Ground Fault Receptacle
- VUA: Vibration Damper
- Nipple and Couplings
  - Indicate size (1/2", 3/4", 1", 1 1/4", 1 1/2") Indicate height above base and orientation to hand hole. See Pole Orientation Information on Page 4.
  - NL: Nipple - External thread
  - CL: Coupling - Internal thread
- Single Mount Anthracite Brackets
  - Indicate height above base and orientation to hand hole. See Pole Orientation Information on Page 4.
  - A154BH-19: Single - 1.9" OD
  - A154BH-24: Single - 2.4" OD
  - A215BH-19: 2-Tanen - 1.9" OD
  - A215BH-24: 2-Tanen - 2.4" OD
- Motion Response Provisions
  - GMH: Provision for Gardco HID Motion Response System
  - NL: Minimum Pole Height ≥ 15' includes a 1/2" coupling placed 180° to the hand hole, 12" above the pole base.
  - MSM: Motion Sensor Mounting Provision for LED Luminaires available with Motion Response
  - Minimum Pole Height ≥ 15' includes a special hand hole with 1/2" coupling placed in the outer parts, 180° to the hand hole, 15" above the pole base.

PHILIPS

GARDCO

1411 Clovis Barker Road, San Marcos, TX 78666
(800) 277-0758 (512) 753-1000 FAX: (512) 753-7855 attledighting.com
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Philips Gardco reserves the right to change materials or modify the design of its products without notification as part of the company’s continuing product improvement program.

79415-240611
The Philips Gardco TRA tapered round aluminum pole consists of a one-piece design fabricated aluminum tubing circumferentially welded to a structural quality hot rolled carbon steel plate. The poles are finished with either Architectural Class 1 anodizing or electrostatically applied TGIC polyester powdercoat. All poles include anchor bolts, hand holes, ground lug and top cap.

<table>
<thead>
<tr>
<th>PREFIX</th>
<th>BASE</th>
<th>HEIGHT</th>
<th>DRILLING</th>
<th>FINISH</th>
<th>OPTIONS</th>
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<tr>
<td>TAMU-TRA</td>
<td>HB 15L</td>
<td>D1</td>
<td>BRA#311</td>
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</tbody>
</table>

Enter the order code into the appropriate box above. Note: Gardco reserves the right to refuse a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please contact the factory.

**FINISH**
- BRP: Bronze Paint
- BLP: Black Paint
- WP: White Paint
- NP: Natural Aluminum Paint
- BRA: Bronze Anodized #311

**OPTIONS**
- DR: Duplex Receptacle
- GFCI: Ground Fault Receptacle
- YDA: Vibration Damper

**Nipples and Couplings**
Indicate size (1/2", 3/4", 1", 1 1/4", 1 1/2", ) indicate height above base and orientation in hand hole. See Pole Orientation Information on Page 4.

<table>
<thead>
<tr>
<th>Single Mount Bathroms Brackets</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1SBH-19 Single - 1.9&quot; OD</td>
</tr>
<tr>
<td>A1SBH-24 Single - 2.4&quot; OD</td>
</tr>
<tr>
<td>A21EBH-19 2-Tan. - 1.9&quot; OD</td>
</tr>
<tr>
<td>A21EBH-24 2-Tan. - 2.4&quot; OD</td>
</tr>
</tbody>
</table>

**Motion Response Provisions**
- GMR: Provision for Gardco HID Motion Response System
- MSH: Motion Sensor Mounting Provision for LED Luminaires available with Motion Response

Minimum pole height is 18". Includes a 1/2" coupling placed 180° to the hand hole, 15" above the pole base.

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(800) 277-0758 (512) 753-1000 FAX: (512) 753-7855 utaelighting.com
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Philips Gardco reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.

PHILIPS GARDCO
Specifications

17" Diameter
60 Light Emitting Diodes
Total System Watts = 64W

housing: Spun aluminum. (Rollformed linear reveals: CC: Three equally spaced reveals, ½" wide, separated by ½" ribs, ¼" deep. CCS: One ¼" groove, ½" deep.) Sidewalls have a maximum of 1" of tape, and are free of welds or fasteners. A rollformed aluminum flange is hemmed into the bottom providing support for the reflector module. An internal aluminum casting provides for mounting of the electrical module and support for the housing hinge.

Lens Frame and Yoke: One-piece cast aluminum lens frame is attached to the housing by a zinc plated cold rolled steel hinge with a stainless steel pin. Closure of the housing is by a single self-retained stainless steel screw. A stainless steel self-locking stop arm is provided to hold the housing in the open position while servicing. A ½" thick clear flat tempered glass lens is fully gasketed by a one-piece extruded and vulcanized silicone gasket. Lens is retained in the frame by removable zinc plated steel clips. Lens frame is supported at four points two aluminum U-shaped tubular arms cradled in a cast aluminum hub. Arms are welded to the lens frame, and welded to the hub along their longitudinal axis. Hub contains a field-splice compartment, a cast aluminum cover and one of the following pole attachment means: FM - Flush Mounting or PT - Pole Tenon Mounting (See page 2 for complete description).

Electronic Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, LifeShield temperature control device and surge protector. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for 40FT starting and has a 0-10V dimming interface for multi-level illumination options.

Optical Module: Precision, replaceable PicoEmitters are positioned to achieve directional control toward the desired task. The entire EmitterDeck? mounting assembly fastens to the housing as a one-piece module.

Finish/Color: TCIC thermoset polyester powder coat paint, 2.5 mil nominal thickness. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray, Platinum Silver, or White. Custom colors are available.


Warranty: Kim Lighting warrants Curvilinear LED products ("Product") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finishes, (iii) a period of six (6) years for LED light engines (PicoEmitter reflectors) and, (iv) a period of five (5) years for LED power components (LED Driver, LifeShield temperature control device, surge protector), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

CAUTION: Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.
Standard Features

Mounting

<table>
<thead>
<tr>
<th>EPA:</th>
<th>0.7</th>
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<tbody>
<tr>
<td>Cat. No.:</td>
<td>FM Flush Mount</td>
<td>PT Pole Tenon Mount</td>
</tr>
<tr>
<td>Pole Top Requirements:</td>
<td>3&quot;, 4&quot;, 4&quot;, or 5&quot; Dia.</td>
<td>2&quot; Pipe-size Tenon (2&quot; O.D. x 4&quot; L)</td>
</tr>
</tbody>
</table>

Fixtures
Cat. No. designates CC/CCS fixture and light distribution.

<table>
<thead>
<tr>
<th>Size:</th>
<th>17&quot; = 17&quot; Small 60 LEDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>P = Post Top Mount</td>
<td></td>
</tr>
</tbody>
</table>

Distribution:

- Type I Full Cutoff
- Type II Full Cutoff
- Type III Full Cutoff
- Type IV Full Cutoff
- Type V Square Full Cutoff
- Type L Left Full Cutoff
- Type R Right Full Cutoff

<table>
<thead>
<tr>
<th>Light Distribution:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type I</td>
</tr>
<tr>
<td>Type II</td>
</tr>
<tr>
<td>Type III</td>
</tr>
<tr>
<td>Type IV Forward Throw</td>
</tr>
<tr>
<td>Type V Square</td>
</tr>
<tr>
<td>Type R Right</td>
</tr>
<tr>
<td>Type L Left</td>
</tr>
</tbody>
</table>

Electrical Module

Cat. Nos. for Electrical Modules available:

<table>
<thead>
<tr>
<th>60L</th>
<th>xK</th>
</tr>
</thead>
</table>

Source: 60L = 60 LED

Color Temperature:

- 3K = 3000K
- 4K = 4200K
- 5K = 5100K
- 2K = 5000K - Amber

Voltage:

- 120V = 120V
- 208V = 208V
- 240V = 240V
- 347V = 347V
- 480V = 480V

Finish

TGIC powder coat

Color: Black, Dark Bronze, Light Gray, Stealth Gray, Platinum Silver, White, Custom Color

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>BL</th>
<th>DB</th>
<th>LG</th>
<th>SG</th>
<th>PS</th>
<th>WH</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: RAL 7048

0-10V Dimming Interface

Driver has a 0-10V dimming interface with a dimming range of 10-100%. Is compatible with most control systems including Hebel Building Automation w/HUBB™. Approved dimmers include Lutron DVA AVTV, Lutron Nova NTV and NTFTV. Note: Not compatible with current sourcing dimmers. Controls compatible via Gray and Purple dimming lead.

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Exterior Lighting and Installation
Pedestrian Poles and Fixture Datasheets
Version 3.0.2018
Form 10 Round LED  

CP / MP Post Top Mount

The Philips Gardco post top mounted Round Form 10 LED products are cutoff luminaires featuring LED arrays. Round Form 10 LED luminaires provide performance excellence and advanced Philips Gardco LED thermal management technology. High performance Class 1 LED systems offer the potential for energy savings up to 50% when compared to HID systems. housings are one-piece stainless spun aluminum and finished with either Architectural Class 1 anodizing, with heatcad, fade resistant, electrostatically applied TIC polymer powdercoat, or polymerfume. Optional tools plug rings at post tops are available in (4) colors and are illuminated by the primary source. Luminaires provide full cutoff performance.

CP17L-P22-70LA-NW-UNIV-RAL7035


Enter the order code into the data plate box above. Note: Philips Gardco reserves the right to modify the configuration. Not all combinations and configurations are valid. Please refer to the notes at the bottom of the order code for more information.

---

Available in 70LA and 85LA LED Wattages Only

### PREFIX

<table>
<thead>
<tr>
<th>CP17L</th>
<th>17&quot; Cylindrical Luminaires LED - Constant Wtage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP17L-DIM</td>
<td>17&quot; Cylindrical Luminaires LED - 0.1V Dimming</td>
</tr>
<tr>
<td>MP17L</td>
<td>17&quot; Semi-Spherical Luminaires LED - Constant Wtage</td>
</tr>
<tr>
<td>MP17L-DIM</td>
<td>17&quot; Semi-Spherical Luminaires LED - 0.1V Dimming</td>
</tr>
</tbody>
</table>

Prefix is for existing Form 10 Round 9" and 12" HID luminaires. See Legacy LED Reference Guide Sectioning Data Sheet (L0092) for Reference LED information.

---

### DISTRIBUTION

2 Type I  
3 Type II  
4 Type IV  
5 Type V  

- Type I, Type IV, and Type V options are field installable. 
- Type V (note) feature indicated here.
- Type I (note) feature eliminated here.

**LED Wattage and Lumen Values**

<table>
<thead>
<tr>
<th>Ordering Code</th>
<th>Average LED Watts</th>
<th>LED Current (mA)</th>
<th>LED Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>70LA</td>
<td>70 W 350</td>
<td>NW</td>
<td></td>
</tr>
<tr>
<td>85LA</td>
<td>85 W 350</td>
<td>NW</td>
<td></td>
</tr>
<tr>
<td>110LA</td>
<td>110 W 350</td>
<td>NW</td>
<td></td>
</tr>
<tr>
<td>160LA</td>
<td>160 W 530</td>
<td>NW</td>
<td></td>
</tr>
</tbody>
</table>

**Luminaires Initial Absolute Lumen**

<table>
<thead>
<tr>
<th>Lumen Data</th>
<th>Photometric test performed in compliance with ENSA 16.75, except where otherwise indicated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td>Weight may vary by +/-5% due to LED manufacturer or over/under specified color temperature. Weight shown for demonstration 2010 through 2017 models. Actual weight may vary by +/-5%.</td>
</tr>
</tbody>
</table>

---

1611 Clevis Barker Road, San Marcos, TX 78666  
(512) 237-0373  FAX (512) 237-0385  
sadelighting.com

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Philips Gardco reserves the right to change materials or modify the design of this product without notification as part of the company’s continuing product improvement program.

Q2019-021012
Form 10 Round LED
CP / MP Post Top Mount

LED SELECTION

<table>
<thead>
<tr>
<th>Finish</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRP</td>
<td>Bronze Paint</td>
</tr>
<tr>
<td>BLP</td>
<td>Black Paint</td>
</tr>
<tr>
<td>WP</td>
<td>White Paint</td>
</tr>
<tr>
<td>NP</td>
<td>Natural Aluminum Paint</td>
</tr>
<tr>
<td>BRZA</td>
<td>Bronze Anodized</td>
</tr>
<tr>
<td>BLA</td>
<td>Black Anodized</td>
</tr>
<tr>
<td>NA</td>
<td>Natural Anodized</td>
</tr>
<tr>
<td>OC</td>
<td>Optional Color Paint</td>
</tr>
<tr>
<td>SC</td>
<td>Special Paint</td>
</tr>
</tbody>
</table>

VOLTAGE
- **UNIV**: 120V through 277V, 50Hz or 60Hz
- **HYU**: 347V through 480V, 50Hz or 60Hz (High Voltage Universal)

DIMENSIONS AND EPA

<table>
<thead>
<tr>
<th>CP Style</th>
<th>MP Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size A</td>
<td>B</td>
</tr>
<tr>
<td>17&quot;</td>
<td>17&quot;</td>
</tr>
<tr>
<td>43.18 cm</td>
<td>43.18 cm</td>
</tr>
<tr>
<td>22&quot;</td>
<td>22&quot;</td>
</tr>
<tr>
<td>55.88 cm</td>
<td>55.88 cm</td>
</tr>
</tbody>
</table>

Preferred Attachment Method
- Pole top tension
- Pole top tension
- Pole top tension
- Pole top tension

Illustration 1, Illustration 2, Illustration 3, Illustration 4, Illustration 5

1611 Clevis Barker Road, San Marcos, TX 78666
(800) 237-4758  (512) 753-1000  FAX: (512) 753-1855  siteslighting.com
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Q2019-02/2012
Luminaire [Z47A-065]-65W42LED4K-R-AC-RLE5-208-SFZ4-SCUS542M55SM

Description of Components:

**Finial:** Decorative cast 356 aluminum, mechanically assembled.

**Hood:** Cast 356 aluminum ring with one clear borosilicate glass upright diffuser installed on the lower part of the hood, also complete with a disk to block the upright coming out from the hood, mechanically assembled on the luminaire.

**Access-Mechanism:** Robomatic, die cast A360 aluminum quarter-turn mechanism with constant-pressure spring-loaded points. The mechanism shall offer tool-free access to the inside of the luminaire. An embedded memory-retentive gasket shall ensure weatherproofing. A red key on the unit shall indicate point of engagement.

**Light Engine:** EcoSwap Robomatic tool-free system composed of 4 main components: LED lamp / Optical System / Heat Sink / Driver

Electrical components are RoHS compliant.

**Globe:** (AC), Made of one-piece seamless injected-moulded clear acrylic having a prismatic exterior surface. The globe is mechanically assembled on the access-mechanism.

**Lamp:** LED Module (Included), LED type Philips Lumileds LUXEON R. Composed of 42 high-performance white LEDs, 65W lamp wattage. Color temperature of 4000 Kelvin nominal, 70 CRI. Operating lifespan based on TM-21 extrapolation to get results after which 50% of LEDs still emits over 70% (L70) of its original lumen output. Use of metal core board ensures greater heat transfer and longer lifespan of the light engine.

**Optical System:** (RLE5), IES type Y (symmetrical). Composed of high-performance acrylic refractor lenses to achieve optimized distribution and get maximum spacing; target lumens will create a perfect lighting uniformity. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Painted color grey.
Heat Sink: Made of extruded aluminum optimizing the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device).

Driver: High power factor of 90%. Electronic driver, operating range 50/60 Hz. Auto-adjusting to a voltage between 120 and 277 volt AC rated for both application line to line or line to neutral. Class II, THD of 20% max. Maximum ambient operating temperature from -40F(-40C) to 130F(55C) degrees. Certified in compliance to cULus requirement. Dry and damp location. Assembled on a unitized removable tray with Tyco quick disconnect plug resisting to 221F(105C) degrees.

The current supplying the LEDs will be reduced by the driver if the internal driver temperature exceeds 165F(85C), as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction.

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with U.S. DOE (Department of Energy) MS3LC (Municipal Solid-State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Fitter: (SFZ4), Cast 356 aluminum c/w 8 set screws 3/8-16 UNC. Slip fits on a 4" (102mm) outside diameter x 4" (102mm) long tenon.

<table>
<thead>
<tr>
<th>Miscellaneous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of Components:</td>
</tr>
</tbody>
</table>

Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires, 6" (152mm) minimum exceeding from luminaire.

Hardware: All exposed screws shall be stainless steel with Ceramic primer-seal basecoat to reduce seizing of the parts. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

Finish: (SCUS542M05SM) Special Color US542M05, smooth Protech U series Matt Smooth, Bronze "Roman". In accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

Surface Finish: The above mentioned product has been specified in a smooth finish. We wish to inform you that we cannot guarantee a finish without imperfections (e.g. apparent grinding marks and porosity). We strongly recommend the use of a textured finish which provides better uniformity of surface finish. No return of merchandise showing above mentioned imperfection will be granted.

LED products manufacturing standard: The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

Quality Control: The manufacturer must provide a written confirmation of its ISO 9001-2008 and ISO 14001-2004 International Quality Standards Certification.

Mechanical resistance: In order to ensure the mechanical resistance of the poles, the reflected area should be calculated according to AASHTO standards and resists to a wind of 140 km/hr.

Web site information details: Click on any specific information details you need:
<table>
<thead>
<tr>
<th>Sample</th>
<th>T1</th>
<th>AC</th>
<th>C1</th>
<th>H1</th>
<th>24NB-55</th>
<th>SK</th>
<th>UNV</th>
<th>DIR5</th>
<th>PEC</th>
<th>BBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordering</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>

**DETAILS**

- **A. MODEL**
  - T1 Mediterranean

- **B. LENS OPTIONS**
  - AC acrylic, clear
  - AF acrylic, frosted

- **C. CAGE**
  - C1 Mediterranean
  - C2 London
  - C3 Monaco
  - C4 Park Lane
  - C5 Brighton
  - NC no cage

- **D. HOUSING**
  - H1 Mediterranean
  - H2 London
  - H3 Monaco
  - H4 Park Lane
  - H5 Brighton

- **E. SOURCE**
  - 24NB-55 55 Watts - LED array
  - 36NB-69 80 Watts - LED array
  - 48NB-110 110 Watts - LED array

- **F. CCT - COLOR TEMP**
  - SK 3000K
  - 4K 4000K
  - SK 5000K

- **G. VOLTAGE**
  - UNV 120-277V
  - 347 347V
  - 480 480V

- **H. OPTICS**
  - DR2 type II
  - DR3 type III
  - DR4 type IV
  - DR5 type V

- **I. ELECTRICAL OPTIONS**
  - PEC photocell, button
  - PCR-TL photocell, twist-lock
  - PCR-SC photocell, shorting cap

- **J. COLOR**
  - BBT basic black textured
  - BMT black matte textured
  - WHT white textured
  - MBT metallic bronze textured
  - BTZ bronze textured
  - DBT dark bronze textured
  - GYS grey smooth
  - DPS dark platinum smooth
  - GNT green textured
  - MST metallic silver textured
  - MTT metallic titanium textured
  - OWI old world iron
  - RAL

Shown with standard Mediterranean configuration:
- Top: T1
- Cage: C1
- Housing: H1

Examples:

Below displays several examples of the over 20 custom configurations available.
Exterior Lighting and Installation

Pedestrian Poles and Fixture Datasheets

Version 3.0.2018

Mediterranean (LED)

Village Collection

Max. Weight: 45.0 lbs
Max. EPA: 2.16 sq ft

Housing: All cast aluminum parts shall be low copper alloy A368. All extruded aluminum parts shall be alloy 6061-T6, 6063-T5 or equal.

Construction: The upper chamber will be topped by a decorative cast aluminum finial/cap and mechanically fastened to the optical chamber. The cast multi-sided cage shall accommodate UV stabilized acrylic or polycarbonate lenses (side panels) which shall be sealed for weather tight operation. The electrical chamber/fitter shall be aluminum, decorative fitter designed to accommodate the ballast assembly and shall mount to 3 in. x .3 in. H tenon and secured by three stainless steel set screws.

Fasteners: All fasteners shall be Corrosion Resistant. When galvanized fasteners are required, spacer HD (make eye) style shall be provided (special tool required, available at additional cost).

Finish: Finish shall be a Beacote V polyester powder-coat electro-statically applied and thermocured. Beacote V finish shall consist of five stage iron phosphate chemical pretreatment regimen with a polyester primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AMMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists crazing or loss of adhesion per ASTM D652 and resists surface impacts of up to 150 inch-pound.

Beacon Optical System: Each luminaire is supplied with an optical one piece cartridge system consisting of an LED engine, LED lamps, optics, gasket and stainless steel bezel. The cartridge is held together with internal brass standoffs soldered to the board so that it can be field replaced as a one piece optical system. Two piece silicone and polycarbonate foam gasket ensures weather-proof seal around each individual LED and allows the luminaire to be rated for high pressure hose down applications. The optical cartridge is secured to the extruded housing with fasteners and a heat pad to ensure thermal conductivity. The optics are held in place without the use of adhesives and the complete assembly is gasketed for high pressure hose down cleaning. The cartridge assembly is available in various lighting distributions using a specially designed acrylic optical lens over each LED.

Power Supply/Driver Requirements: UL, UL1310, Class 2 and UL48 compliant

Color Rendering Index (CRI): Luminaire shall have a minimum CRI of 87 at 5000K.

Operating Environment: Shall be able to operate normally in ambient temperatures from -40°C to 40°C.

LifeShield™ Circuit: Thermal circuit shall protect the luminaire from excessive temperature by interfacing with its 0-12V dimmable drivers to reduce drive current as necessary. The factory-set temperature limits shall be designed to ensure maximum hours of operation to assure L70 rated lumen maintenance. The device shall activate at a specific, factory-set threshold temperature, and progressively reduce power over a finite temperature range in recognition of the effect of reduced current on the internal temperature and longevity of the LEDs and other components. A luminaire equipped with the device may be reliably operated in any ambient temperature up to 50°C [131°F]. The thermal circuit will allow higher maximum Wattage than would be permissible on an unregulated luminaire (if some variation in light output is permissible), without risk of premature LED failure. Operation shall be smooth and undetectable to the eye. Thermal circuit shall directly measure the temperature at the LED solder point.

Thermal Circuit shall consist of surface mounted components mounted on the LED engine (printed circuit board). For maximum simplicity and reliability, the device shall have no dedicated enclosure, circuit board, wiring harness, gaskets, or hardware. Device shall have no moving parts, and shall operate entirely at low voltage (NEC Class 2). The device shall be located in an area of the luminaire that is protected from the elements.

Thermal circuit shall be designed to “fail on”, allowing the luminaire to revert to full power in the event of an interruption of its power supply, or faulty wiring connection to the drivers.

Device shall be able to co-exist with other 0-12V control devices (occupancy sensors, external dimmers, etc.). The device will effectively control the solder joint temperature as needed; otherwise it will allow the other control device(s) to function unimpeded.

Surge Protector: The non-board surge protector shall be a UL recognized component for the United States and Canada and have a surge current rating of 20,000 Amps using the industry standard 8/20 use wave. The LSP shall have a clamping voltage of 160V and surge rating of 4500. The case shall be a high-temperature, flame resistant plastic enclosure.

Electrical: Luminaire are equipped with LED driver(s) that accept 90 through 365 VAC, 50 Hz to 60 Hz (UNI). Power factor is .2 at full load. All electrical components are rated at 56,000 hours at full load and 25°C ambient conditions per ML-2177 Notice 2. All driver components supplied are component-to-component wiring within the luminaire will carry no more than 93% of rated current and is listed by UL for use at 600VAC or 50°C or higher. Plug disconnects are listed by UL for use at 600 VAC, 15A or higher.

Agency Certification: The luminaire shall bear an NRTL label and be marked suitable for wet locations.

Limited Warranty: Beacon luminaires feature a 5 year limited warranty. Beacon LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED drivers are covered by a 5 year limited warranty. PMT sensors carry a 5 year limited warranty from the sensor manufacturer. See Warranty Information on www.beacoproducts.com for complete details and exclusions.
Pedestrian Poles and Fixture Datasheets

Version 3.0.2018

Pole RTA500F-12-[FS2-004]-SCUS542M65SM

Description of Components:

Pole Shaft: Shall be made from a mandrel-formed aluminum tapered shaft, 12 fluted round, having a 0.125" (3.2mm) wall thickness, welded to both the bottom and top of the anchor plate.

Base Cover: Two piece round base cover made from cast 356 aluminum, mechanically fastened with stainless steel screws.

Pole Options: One HEY-AA double fuse holder to accept two KTKR1 fuses (provided by other).

Note: A tenon will be provided when the luminaire or bracket does not fit directly on pole shaft. Tenon not shown on the drawing.

IMPORTANT: Philips Lumelec strongly recommends the installation of the complete lighting assembly with all of its accessories upon the anchoring of the pole. This will ensure that the structural integrity of the product is maintained throughout its lifetime.

Pole Weight: 28 lbs (12.7 kg)
**Specifications**

17" Diameter
60 Light Emitting Diodes
Total System Watts = 64W

**Housing**: Spun aluminum. (Rollformed linear reveals; CC: Three equally spaced reveals, ½" wide, separated by ¾" ribs, ¾" deep. CCS: One ⅛" groove, ½" deep.) Sidewalls have a maximum of 8" of taper, and are free of welds or fasteners. A rollformed aluminum flange is hemmed into the bottom providing support for the reflector module. An internal aluminum casting provides for mounting of the electrical module plus reinforcing for side-arm mounting of the fixture.

**Lens Frame Assembly**: One-piece cast aluminum lens frame is attached to the housing by a zinc plated cold rolled steel hinge with a stainless steel pin. Closure is by one self-retained stainless steel screw. A stainless steel self-locking stop arm is provided to hold the lens frame in the open position while servicing. A ⅛" thick clear flat tempered glass lens is fully gasketed by a one-piece extruded and vulcanized silicone gasket. Lens is retained in the frame by removable zinc plated steel clips.

**Standard Arm Mounting**: Arm is one-piece extruded aluminum with internal bolt guides and fully radisuised top and bottom. Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief. Arm is circular cut to mate with specified round pole.

**Electronic Module**: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, LiffeShield™ temperature control device and surge protector. Electrical module attaches to housing with key hole slots, accessible by opening the lens frame and removing optical module. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module**: Precision, replaceable PicoEmitters are positioned to achieve directional control toward desired task. The entire EmitterDeck™ mounting assembly fastens to the housing as a one-piece module.

**Finish/Color**: TGIC thermoset polyester powder coat paint. 2.5 mil nominal thickness. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray™, Platinum Silver, or White. Custom colors are available.


**Warranty**: Kim Lighting warrants Curvilinear LED products ("Product") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finish(s), (iii) a period of six (6) years for LED Light Engines (PicoEmitter reflectors) and (iv) a period of five (5) years for LED power components (LED Driver, LifeShield™ temperature control device, surge protector), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

**CAUTION**: Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious injury.
CC/CCS17
17" Arm Mounted, Curvilinear, PicoEmitter™ LED

Type: Exterior Lighting and Installation
Job: Pedestrian Poles and Fixture Datasheets

Standard Features

Mounting
3Y configuration is available for round poles only.

Plan View:
- Depends on Desired Distribution - Normally Type 2

Fixtures
- Cat. No. designates CC/CCS fixture and light distribution.

Housing:
- CC

Distribution:
- □ 1 = Type I Full Cutoff
- □ 2 = Type II Full Cutoff
- □ 3 = Type III Full Cutoff
- □ 4 = Type IV Full Cutoff
- □ 5 = Type V Square Full Cutoff
- □ L = Type L Left Full Cutoff
- □ R = Type R Right Full Cutoff

Light Distribution:
- Type I
- Type II
- Type III

- Type IV Forward Throw
- Type V Square
- Type L Right
- Type L Left

Electrical Module
- Cat. Nos. for Electrical Modules available:
  - 60 LxK
- Source:
  - 60 = 60 LEDs
- Color Temperature:
  - □ 3K = 3000K
  - □ 4K = 4200K
  - □ 5K = 5100K
  - □ 2K = 5000K - Amber

Voltage:
- □ 120 = 120V
- □ 208 = 208V
- □ 240 = 240V
- □ 277 = 277V
- □ 347 = 347V
- □ 480 = 480V

Finish
- TIGIC powder coat paint over a titanium zirconium conversion coating.

Color:
- Black
- Dark Bronze
- Light Gray
- Stealth Gray
- Platinum Silver
- White
- Custom Color

Consult representative. Custom color description: RAL7048

Optional Features

Polycarbonate Lens
- Cat. No.: □ L17F
- □ No Option

Clear UV stabilized polycarbonate replaces standard flat glass lens, gasketed and integral with lens frame.

CAUTION: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight.

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The Philips Gardco wall mounted Round 10 LED products are cutoff luminaires featuring LED arrays. Round 10 LED luminaires provide performance excellence and advanced Philips Gardco LED thermal management technology. High performance Class 1 LED systems offer the potential for energy savings up to 50% when compared to HID systems. Housings are one-piece seamless spun aluminum and finished with either Architectural Class 1 anodizing, with hardcoat, fade resistant, electrostatically applied TGIC polyester powdercoat or polyurethane. Luminaires provide full cutoff performance.

**LED WATTAGE AND LUMEN VALUES**

<table>
<thead>
<tr>
<th>Ordering Code</th>
<th>Average System Watts</th>
<th>LED Current (mA)</th>
<th>LED Selection</th>
<th>Luminaire Initial/Actual Luminaries**</th>
<th>Basis of Lumen Data</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 70LA          | 70                   | 350              | CW            | 6.617 (6.737)                      | 6.590 (6.505)      | 6.600 (6.530) | 1) Wattage may vary by +/- 5% due to LED manufacture/forward with peak junction and ambient temperature. Wattage shown is for 120V through 277V input. Actual wattage may vary by an additional +/-10% due to actual input voltage.
| 85LA          | 85                   | 350              | CY            | 5.930 (5.714)                      | 5.900 (5.742)      | 5.834 (5.725) | 2) Tolerances are for luminaires without the HI-actual should option. Tests are in process for luminaires with the HI-actual should option.
| 110LA         | 110                  | 350              | NW            | 7.465 (7.617)                      | 7.451 (7.564)      | 7.323 (7.415) | 3) LED arrays feature LEDs that provide from 100 to 300 lumens per watt when operated at 350 mA. Lumen output based on tests performed in compliance with IESNA LM-79.
| 160LA         | 160                  | 530              | CW            | 11.700 (11.069)                    | 11.244 (11.086)    | 11.086 (11.069) |

**LED SELECTION**

- CW Cool White - 5000K - 75 CRI
- NW Neutral White - 4000K - 75 CRI
- WW Warm White - 3000K - 80 CRI

**VOLTAGE**

- UNIV 120V through 277V, 50Hz or 60Hz
- HVU 347V through 480V, 50Hz or 60Hz (High Voltage Universal)
### Exterior Lighting and Installation

**Pedestrian Poles and Fixture Datasheets**

**Version 3.0.2018**

---

**Form 10 Round LED**

**CW / MW Wall Mount**

#### FINISH
- BRP: Bronze Paint
- BLP: Black Paint
- WP: White Paint
- NP: Natural Aluminum Paint
- BRA: Bronze Anodized
- BLA: Black Anodized
- NA: Natural Anodized

#### OPTIONS
- F: Fixing
- PC: Photocell and Receptacle
- PCR: Photocell Receptacle only
- SPR: Surge Protection for 120V through 277V Input meeting ANSI C42.41.2
- SPRF: Surge Protection for 480V Input meeting ANSI C42.41.2

*Specify Optional Color or RAL in Color Code: RAL 7035*

4. In Head: Provide specific input voltage.
5. Available in CW style only; not available in MW style.
6. Not available in SPRF. Provide specific input voltage.
7. Not available with RAL option.

---

**DIMENSIONS AND EPA**

### CW

<table>
<thead>
<tr>
<th>CW Style</th>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Weight Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>17&quot;</td>
<td>17&quot;</td>
<td>8&quot;</td>
<td>7.5&quot;</td>
<td>28 lbs</td>
<td>12.70 kg</td>
</tr>
<tr>
<td>22&quot;</td>
<td>22&quot;</td>
<td>11&quot;</td>
<td>7.5&quot;</td>
<td>44 lbs</td>
<td>19.96 kg</td>
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### MW

<table>
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<th>MW Style</th>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Weight Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>17&quot;</td>
<td>17&quot;</td>
<td>11&quot;</td>
<td>7.5&quot;</td>
<td>29 lbs</td>
<td>13.15 kg</td>
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<tr>
<td>22&quot;</td>
<td>22&quot;</td>
<td>14&quot;</td>
<td>7.5&quot;</td>
<td>46 lbs</td>
<td>20.41 kg</td>
</tr>
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</table>

**Wall Mounting Dimensions**

---

1611 Claus Barker Rd., San Marcos, TX 78666
(800) 237-4758 (512) 753-1000 FAX: (512) 753-7855  site@lighting.com

© 2012 Koninklijke Philips Electronics N.V. All Rights Reserved. Philips Lighting reserves the right to change materials or modify the design of its products without notice as part of the company’s continuing product improvement program. G200-0206/1912
Pole Construction: Tapered by spinning and coldworking a seamless one-piece extruded tube of aluminum alloy 6063-T6. After tapering, shaft is welded to a cast aluminum anchor base of alloy A356, heat-treated to T6 temper, and rotary sand finished. Poles above 39' include a flush field joint approximately 26 1/2' above base, with both sections taper spun.

Bolt Covers: Cast aluminum anchor bolt covers included.

Pole Cap: A flush-sided cast aluminum pole cap is provided for side arm mounted luminaires.

Handhole: Reinforced handhole with a gasketed cover and grounding provisions provided, 18' up from base. Cover mounts flush.

Anchor Bolts: Four galvanized anchor bolts provided, complete with eight nuts, eight flat washers, and a presswood template.

Vibration Dampener: Poles 20' and above include a mechanically fastened internal pendulum vibration dampener.

Strength: Poles will withstand wind loads as listed in chart (see page 4) when luminaires are mounted per fixture installation instructions.

Finish: Standard thermoset polyester powder coat paint over tin-plated zinc coating conversion coating. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray®, Platinum Silver, and White. Custom colors are available.

CAUTION: Installation of poles without luminaires will compromise pole strength. Any accessories attached to pole, or other modifications will compromise pole strength and may result in pole failure.

Maintenance: A regularly scheduled maintenance program must be established to ensure the protective paint coating is intact, corrosion or structural damage has not occurred, and anchor bolt nuts are tight. Failure to do so could lead to pole collapse and serious personal injury.
**Standard Features**

NOTE: All allowable pole and fixture EPA's are derived from the AASHO/IHTO standard. Responsibility lies with the specifier for correct pole selection based on local codes and standards for the job location. (See page 4).

### Pole

<table>
<thead>
<tr>
<th>Pole Catalog Number</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>Allowable Pole EPA</th>
<th>Wind Map Steady Wind</th>
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<tbody>
<tr>
<td>LTRA16-6156</td>
<td>16'</td>
<td>6'</td>
<td>1.56</td>
<td>4'</td>
<td>21.80 19.36 17.93 16.43 14.90 13.37 11.84 10.31 8.78 7.25 5.72</td>
</tr>
<tr>
<td>LTRA16-8188</td>
<td>16'</td>
<td>6'</td>
<td>1.56</td>
<td>4'</td>
<td>21.80 19.36 17.93 16.43 14.90 13.37 11.84 10.31 8.78 7.25 5.72</td>
</tr>
<tr>
<td>LTRA20-5156</td>
<td>20'</td>
<td>5'</td>
<td>1.56</td>
<td>3'</td>
<td>12.01 10.59 9.17 7.75 6.33 4.91 3.49 2.07 0.65</td>
</tr>
<tr>
<td>LTRA20-8188</td>
<td>20'</td>
<td>5'</td>
<td>1.56</td>
<td>3'</td>
<td>12.01 10.59 9.17 7.75 6.33 4.91 3.49 2.07 0.65</td>
</tr>
<tr>
<td>LTRA20-6156</td>
<td>20'</td>
<td>6'</td>
<td>1.56</td>
<td>4'</td>
<td>15.75 14.32 12.89 11.46 10.03 8.60 7.17 5.74 4.31 2.88 1.45</td>
</tr>
<tr>
<td>LTRA20-8188</td>
<td>20'</td>
<td>6'</td>
<td>1.56</td>
<td>4'</td>
<td>15.75 14.32 12.89 11.46 10.03 8.60 7.17 5.74 4.31 2.88 1.45</td>
</tr>
<tr>
<td>LTRA25-5156</td>
<td>25'</td>
<td>5'</td>
<td>1.56</td>
<td>3'</td>
<td>10.73 9.31 7.89 6.47 5.05 3.63 2.21 0.79</td>
</tr>
<tr>
<td>LTRA25-8188</td>
<td>25'</td>
<td>5'</td>
<td>1.56</td>
<td>3'</td>
<td>10.73 9.31 7.89 6.47 5.05 3.63 2.21 0.79</td>
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<tr>
<td>LTRA25-6156</td>
<td>25'</td>
<td>6'</td>
<td>1.56</td>
<td>4'</td>
<td>13.39 11.97 10.54 9.12 7.70 6.28 4.86 3.44</td>
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<tr>
<td>LTRA25-8188</td>
<td>25'</td>
<td>6'</td>
<td>1.56</td>
<td>4'</td>
<td>13.39 11.97 10.54 9.12 7.70 6.28 4.86 3.44</td>
</tr>
<tr>
<td>LTRA30-8156</td>
<td>30'</td>
<td>8'</td>
<td>1.56</td>
<td>4 1/2'</td>
<td>17.06 15.64 14.22 12.80 11.38 9.96 8.54 7.12 5.70</td>
</tr>
<tr>
<td>LTRA30-8188</td>
<td>30'</td>
<td>8'</td>
<td>1.88</td>
<td>4 1/2'</td>
<td>17.06 15.64 14.22 12.80 11.38 9.96 8.54 7.12 5.70</td>
</tr>
<tr>
<td>LTRA30-8250</td>
<td>30'</td>
<td>8'</td>
<td>2.50</td>
<td>4 1/2'</td>
<td>20.13 18.71 17.29 15.87 14.45 13.03 11.61 10.19 8.77</td>
</tr>
<tr>
<td>LTRA35-8156</td>
<td>35'</td>
<td>8'</td>
<td>1.56</td>
<td>4 1/2'</td>
<td>13.01 11.59 10.17 8.75 7.33 5.91 4.49 3.07 1.65</td>
</tr>
<tr>
<td>LTRA35-8188</td>
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<td>8'</td>
<td>1.88</td>
<td>4 1/2'</td>
<td>13.01 11.59 10.17 8.75 7.33 5.91 4.49 3.07 1.65</td>
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<tr>
<td>LTRA35-10188</td>
<td>35'</td>
<td>10'</td>
<td>1.88</td>
<td>6</td>
<td>20.03 18.61 17.19 15.77 14.35 12.93 11.51 10.09 8.67</td>
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<td>LTRA39-8188</td>
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<td>8'</td>
<td>1.88</td>
<td>4 1/2'</td>
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<td>LTRA39-8250</td>
<td>39'</td>
<td>8'</td>
<td>2.50</td>
<td>4 1/2'</td>
<td>16.68 15.26 13.84 12.42 11.00 9.58 8.16 6.74 5.32</td>
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<tr>
<td>LTRA39-10188</td>
<td>39'</td>
<td>10'</td>
<td>1.88</td>
<td>6</td>
<td>22.27 20.85 19.43 18.01 16.59 15.17 13.75 12.33 10.91</td>
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<tr>
<td>LTRA50-10250</td>
<td>50'</td>
<td>10'</td>
<td>2.50</td>
<td>6</td>
<td>25.60 24.18 22.76 21.34 19.92 18.50 17.08 15.66 14.24</td>
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</table>

48' and 50' poles are 2-piece assemblies

### Anchor Base and Bolt Detail

<table>
<thead>
<tr>
<th>Pole Height</th>
<th>Y Pole Diameter</th>
<th>Bolt Circle Dia</th>
<th>Anchor Bolt Projection</th>
<th>Anchor Bolts Size</th>
<th>Base Size</th>
<th>Conduit Opening</th>
</tr>
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<tbody>
<tr>
<td>20'</td>
<td>5'</td>
<td>9/16</td>
<td>1/8 x 30' + 4'</td>
<td>9 3/4 sq.</td>
<td>5/8 Dia</td>
<td></td>
</tr>
<tr>
<td>16'/25'</td>
<td>6'</td>
<td>9/16</td>
<td>1/8 x 30' + 4'</td>
<td>10 3/4 sq.</td>
<td>5/8 Dia</td>
<td></td>
</tr>
<tr>
<td>25' - 39'</td>
<td>7'</td>
<td>11/16</td>
<td>1/8 x 36' + 4'</td>
<td>11 1/4 sq.</td>
<td>7/8 Dia</td>
<td></td>
</tr>
<tr>
<td>35' - 48'</td>
<td>10'</td>
<td>14/16</td>
<td>1/8 x 42' + 4'</td>
<td>14 1/2 sq.</td>
<td>9/16 Dia</td>
<td></td>
</tr>
<tr>
<td>50'</td>
<td>10'</td>
<td>14/16</td>
<td>1/8 x 42' + 6'</td>
<td>14 1/2 sq.</td>
<td>9/16 Dia</td>
<td></td>
</tr>
</tbody>
</table>

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### Standard Features

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Plan Views:</th>
<th>Side Arm</th>
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<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
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</tbody>
</table>

**Mounting**: □ FM □ A □ SA □ B □ SB □ L □ SL □ T □ ST □ Y □ SY □ C □ SC

**NOTE**: Allowable Pole EPA for jobsite wind conditions must be equal to or greater than fixture mount EPA. Please refer to Kim luminaires catalog for specific fixture.

*See luminaires drilling requirements in luminaires catalog.*

**Structural Luminaires Only** - Examples:
- □ TS: Single Tension for small and large Structural - LTRA20-5156-B-TS
- □ TD: Double Tension for small and large Structural - LTRA20-5156-B-TD
- □ TR: Truss for small and large Structural - LTRA20-5156-B-TR
- □ XTS: Single Tension for 1000W Structural - LTRA20-5156-B-XTS
- □ XTD: Double Tension for 1000W Structural - LTRA20-5156-B-XTD
- □ XTR: Truss for 1000W Structural - LTRA20-5156-B-XTR

**Finish**
- Standard thermoset polyester powder coat paint over titanated zirconium conversion coating.

**Color**: □ Black □ Dark Bronze □ Light Gray □ Stealth Gray™ □ Platinum Silver □ White □ Custom Color²

**Cat. No.**: □ BL □ DB □ LG □ SG □ PS □ WH □ CC

²Custom color subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: [DEAB11](#)
**Poles**

**Tapered Round Aluminum - Cast Base**

The Philips Gardco TRA tapered round aluminum pole consists of a one-piece design fabricated aluminum tubing circumferentially welded to a cast aluminum base. The poles are finished with either Architectural Class 1 anodizing or electrostatically applied TOLC polyester powdercoat. All poles include anchor bolts, hand hole, ground lug and top cap.

### TRA-CB-30L-D1-BRA#311-VDA

<table>
<thead>
<tr>
<th>PREFIX</th>
<th>BASE</th>
<th>HEIGHT</th>
<th>DRILLING</th>
<th>OPTIONS</th>
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<tbody>
<tr>
<td>TRA</td>
<td>CB Fixed Cast Base</td>
<td>8'-25'</td>
<td>D1 1 Way</td>
<td>T4 4&quot; OD Tenon</td>
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<tr>
<td></td>
<td></td>
<td>10'</td>
<td>D2 2 Way</td>
<td>T2 2 3/8 OD Tenon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12'</td>
<td>D2@90 2 Way at 90°</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14'</td>
<td>D3 3 Way</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>16'</td>
<td>D3@120 3 Way at 120°</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20'</td>
<td>D4 4 Way</td>
<td></td>
</tr>
</tbody>
</table>

### Finish Options

- **BRP**: Bronze Paint
- **BLP**: Black Paint
- **WP**: White Paint
- **NP**: Natural Aluminum Paint
- **BRA**: Bronze Anodized
- **BLA**: Black Anodized
- **NA**: Natural Anodized
- **OC**: Optional Color Paint
- **SC**: Special Color Paint
- **YDA**: Vibration Dampener

### Options

- **DR**: Duplex Receptacle
- **GFCI**: Ground Fault Receptacle
- **Naples and Couplings**
  - **NL**: Naple - External thread
  - **CL**: Coupling - Internal thread
  - **SC**: Single Mount Ball Joint Brackets
- **Motion Response Provisions**
  - **GMR**: Gardco HID Motion Response System
  - **MSM**: Motion Sensor Mounting Provision for LED Luminaires available with Motion Response

### Dimensions

- Refers to relative strength based on wind load factor. E-Lights: M = Medium; H = Heavy.

---

1811 Clover Barker Road, San Marcos, Texas 78666  
(800) 227-0758  (512) 755-1000  FAX: (512) 755-7855  siteilighting.com  
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## Poles

### Tapered Round Aluminum - Cast Base

#### POLE DATA

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Actual Height</th>
<th>Pole Shaft Size (Top = Base)</th>
<th>Wall Thickness (inches)</th>
<th>100 MPH EPA-FT²</th>
<th>90 MPH EPA-FT²</th>
<th>60 MPH EPA-FT²</th>
<th>Bolt Circle (inches)</th>
<th>Bolt Size (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRA-CB-8P</td>
<td>7 ft.6 in.</td>
<td>3 x 4</td>
<td>0.125</td>
<td>8.6</td>
<td>10.9</td>
<td>14.2</td>
<td>6.50 - 8.25</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-10P</td>
<td>9 ft.0 in.</td>
<td>3 x 4</td>
<td>0.125</td>
<td>6.1</td>
<td>7.9</td>
<td>10.4</td>
<td>6.50 - 8.25</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-12P</td>
<td>11 ft.8 in.</td>
<td>3 x 4</td>
<td>0.125</td>
<td>4.2</td>
<td>5.6</td>
<td>7.8</td>
<td>6.50 - 8.25</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-12MP</td>
<td>11 ft.8 in.</td>
<td>3 x 5</td>
<td>0.125</td>
<td>8.0</td>
<td>10.2</td>
<td>13.4</td>
<td>7.50 - 9.50</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-14P</td>
<td>13 ft.8 in.</td>
<td>3 x 4</td>
<td>0.125</td>
<td>2.8</td>
<td>4.0</td>
<td>5.8</td>
<td>6.50 - 8.25</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-16P</td>
<td>15 ft.0 in.</td>
<td>3 x 4</td>
<td>0.125</td>
<td>6.0</td>
<td>7.8</td>
<td>10.5</td>
<td>7.50 - 9.50</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-16MP</td>
<td>15 ft.0 in.</td>
<td>3 x 5</td>
<td>0.125</td>
<td>4.5</td>
<td>5.9</td>
<td>8.1</td>
<td>7.50 - 9.50</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-20P</td>
<td>19 ft.8 in.</td>
<td>3 x 5</td>
<td>0.156</td>
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<td>4.6</td>
<td>6.6</td>
<td>7.50 - 9.50</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-20H</td>
<td>19 ft.8 in.</td>
<td>3 x 5</td>
<td>0.188</td>
<td>4.5</td>
<td>6.1</td>
<td>8.7</td>
<td>7.50 - 9.50</td>
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<tr>
<td>TRA-CB-25L</td>
<td>24 ft.0 in.</td>
<td>4 x 6</td>
<td>0.156</td>
<td>3.1</td>
<td>4.2</td>
<td>6.2</td>
<td>8.75 - 10.25</td>
<td>3/4 x 17 x 3</td>
</tr>
<tr>
<td>TRA-CB-25H</td>
<td>24 ft.0 in.</td>
<td>4 x 7</td>
<td>0.156</td>
<td>6.4</td>
<td>8.2</td>
<td>11.2</td>
<td>9.88 - 11.25</td>
<td>1 x 36 x 4.5</td>
</tr>
<tr>
<td>TRA-CB-28L</td>
<td>27 ft.8 in.</td>
<td>4 x 7</td>
<td>0.156</td>
<td>4.2</td>
<td>5.8</td>
<td>8.1</td>
<td>9.88 - 11.25</td>
<td>1 x 36 x 4.5</td>
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<tr>
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<td>4.5 x 8</td>
<td>0.188</td>
<td>10.1</td>
<td>12.9</td>
<td>16.9</td>
<td>11.0 - 12.13</td>
<td>1 x 36 x 4.5</td>
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<td>29 ft.8 in.</td>
<td>4 x 7</td>
<td>0.156</td>
<td>3.2</td>
<td>4.5</td>
<td>6.5</td>
<td>9.88 - 11.25</td>
<td>1 x 36 x 4.5</td>
</tr>
<tr>
<td>TRA-CB-30H</td>
<td>29 ft.8 in.</td>
<td>4.5 x 8</td>
<td>0.188</td>
<td>8.6</td>
<td>11.1</td>
<td>14.6</td>
<td>11.0 - 12.13</td>
<td>1 x 36 x 4.5</td>
</tr>
<tr>
<td>TRA-CB-35L</td>
<td>34 ft.0 in.</td>
<td>4.5 x 8</td>
<td>0.156</td>
<td>3.4</td>
<td>4.8</td>
<td>6.8</td>
<td>11.0 - 12.13</td>
<td>1 x 36 x 4.5</td>
</tr>
<tr>
<td>TRA-CB-35H</td>
<td>34 ft.0 in.</td>
<td>4.5 x 8</td>
<td>0.250</td>
<td>8.8</td>
<td>11.4</td>
<td>15.2</td>
<td>11.0 - 12.13</td>
<td>1 x 36 x 4.5</td>
</tr>
<tr>
<td>TRA-CB-39L</td>
<td>38 ft.8 in.</td>
<td>4.5 x 8</td>
<td>0.188</td>
<td>3.2</td>
<td>4.6</td>
<td>6.6</td>
<td>11.0 - 12.13</td>
<td>1 x 36 x 4.5</td>
</tr>
<tr>
<td>TRA-CB-39H</td>
<td>38 ft.8 in.</td>
<td>6 x 10</td>
<td>0.188</td>
<td>9.2</td>
<td>12.4</td>
<td>16.7</td>
<td>14.50</td>
<td>1 x 36 x 4.5</td>
</tr>
</tbody>
</table>

2. Warning: Additional wind loading, in terms of EPA, from banners, cameras, floodlights and other accessories attached to the pole, must be added to the luminaire(s) EPA before selecting the pole with the appropriate wind load capability.

3. Factory-supplied template must be used when setting anchor bolts. Philips Gardco will not honor any claim for incorrect anchorage placement resulting from failure to use factory-supplied templates.

4. Includes (VDA) Vibration Damper standard.

#### DIMENSIONS

**Note:** Factory supplied template must be used when setting anchor bolts. Philips Gardco will not honor any claim for incorrect anchorage placement from failure to use factory-supplied templates.

![Aluminum Light Pole Shaft](image)

铝制光杆示意图

1611 Clowis Barker Road, San Marcos, TX 78666  
(800) 227-6756  (512) 753-1000  FAX (512) 753-7655  siteLighting.com  
© 2013 Koninklijke Philips Electronics N.V. All Rights Reserved.  
Philips Gardco reserves the right to change materials or modify the design of its product without notification as part of the company’s continuing product improvement program.  
7945(S)240413
OSQ Series
LED Area/Flood Luminaire – Medium

Product Description
The OSQ® Area/Flood luminaire blends extreme optical control, advanced thermal management and modern, clean aesthetics. Built to last, the housing is rugged cast aluminum with an integral, weathertight LED driver compartment. Versatile mounting configurations offer simple installation. Its slim, low-profile design minimizes wind load requirements and blends seamlessly into the site providing even, quality illumination. A higher input power designator is a suitable upgrade for HD applications up to 250 Watt. If input power designator is a suitable upgrade for HD applications up to 400 Watt.

Applications: Parking lots, walkways, campuses, car dealerships, office complexes, and internal roadways

Performance Summary
Utilizes BetaLED® Technology
NanoOptic® Precision Delivery Grid™ optic
Made in the U.S.A. of U.S. and imported parts
CRI: Minimum 70 CRI (4000K & 5700K); 80 CRI (3000K)
CCT: 3000K (+/- 300K), 4000K (+/- 300K), 5700K (+/- 500K)
Limited Warranty: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

Accessories

Field-installed
Reflect Shield
OSQ BLMF – Front facing optics
OSQ BLMR – Rotated optics

Ordering Information
Fully assembled luminaire is composed of two components that must be ordered separately:
Example: Mount: OSQ-8A 5V + Luminaire: OSQ A NM 2ME A 40K UL SV

OSQ - A - NM

<table>
<thead>
<tr>
<th>Mount (Luminaire must be ordered separately)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSQ-8A Adjustable Arm</td>
</tr>
<tr>
<td>OSQ-8A (Fixed Arm)</td>
</tr>
</tbody>
</table>

CREE OSQ-DA-PD
EcoForm combines economy with performance in an LED area luminaire. Capable of delivering up to 20,000 lumens or more in a compact, low profile housing, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems, including motion response and wireless controls are available for further energy savings during off peak hours.

### Ordering Guide

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Controls</th>
<th>Mounting</th>
<th>Optics</th>
<th>LED Wattage</th>
<th>Color Temp</th>
<th>Voltage</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECF</td>
<td>Standard (leave blank)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECF</td>
<td>D-10V Dimming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECF</td>
<td>APD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECF</td>
<td>APD-MRD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECF</td>
<td>MR+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECF</td>
<td>MR+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECF</td>
<td>LLC2x2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECF</td>
<td>LLC3y3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECF</td>
<td>LLC4y4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example:** ECF-APD-MRD-1-4-7S1A-NW-120-NP-LF

1. Available in 120V - 277V Voltages only (UNV. 120, 208, 240 & 277).
2. MR16 and APD-MRD Luminaries require one motor sensor per pole, ordered separately. See page 2 for Accessories.
3. Available in 120V or 277V only.
4. Contact factory for lead times on warm white.
5. Contact factory for Lead Time on warm white.
6. Contact factory for Lead Time on warm white.
7. Not configurable with Type B (T5) Optics.
8. Not configurable with 120-277V (UNV) Voltage.
12. No adapter required for 4" round poles.
ECF  EcoForm

Site & Area

EcoForm Accessories (order separately)

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSIR-100</td>
<td>Hand held programmer</td>
</tr>
<tr>
<td>MS-A-120V</td>
<td>120V Input Area Motion Sensor</td>
</tr>
<tr>
<td>MS-A-277V</td>
<td>277V Input Area Motion Sensor</td>
</tr>
</tbody>
</table>

For use with MIR® motion response when field programming is required. If desired, only one is needed per job.

Note: Motion Sensors are ordered separately, with one (1) motion sensor required per pole location for MS50 or APD-MRI luminaires. See Luminaire Configuration Information on page 9 for more details. Assa motion sensor color is Arctic White. MIR® and APD-MRI luminaires include an integral motion sensor.

EcoForm Drill Template (standard arm mount)

LED Wattage and Lumen Values (standard EcoForm luminaire)

<table>
<thead>
<tr>
<th>Order Code (standard units)</th>
<th>Array Quantity</th>
<th>Total LEDs</th>
<th>LED Current (mA)</th>
<th>Average System Watts</th>
<th>LED Selection</th>
<th>Initial Luminous</th>
</tr>
</thead>
<tbody>
<tr>
<td>55LA-3253</td>
<td>2</td>
<td>32</td>
<td>530</td>
<td>52</td>
<td>NW</td>
<td>5,994</td>
</tr>
<tr>
<td>75LA-4853</td>
<td>3</td>
<td>48</td>
<td>530</td>
<td>77</td>
<td>NW</td>
<td>8,899</td>
</tr>
<tr>
<td>100LA-6452</td>
<td>4</td>
<td>64</td>
<td>530</td>
<td>103</td>
<td>NW</td>
<td>11,896</td>
</tr>
<tr>
<td>70LA-3270</td>
<td>2</td>
<td>32</td>
<td>700</td>
<td>69</td>
<td>NW</td>
<td>7,385</td>
</tr>
<tr>
<td>105LA-4870</td>
<td>3</td>
<td>48</td>
<td>700</td>
<td>104</td>
<td>NW</td>
<td>10,965</td>
</tr>
<tr>
<td>125LA-6470</td>
<td>4</td>
<td>64</td>
<td>700</td>
<td>139</td>
<td>NW</td>
<td>14,657</td>
</tr>
<tr>
<td>105LA-321A</td>
<td>2</td>
<td>32</td>
<td>1050</td>
<td>107</td>
<td>NW</td>
<td>10,199</td>
</tr>
<tr>
<td>160LA-481A</td>
<td>3</td>
<td>48</td>
<td>1050</td>
<td>158</td>
<td>NW</td>
<td>15,144</td>
</tr>
<tr>
<td>215LA-641A</td>
<td>4</td>
<td>64</td>
<td>1050</td>
<td>211</td>
<td>NW</td>
<td>20,243</td>
</tr>
</tbody>
</table>

1. System input wattage may vary based on input voltage, up to +/- 10%, and based on manufacturer forward voltage, by up to +/- 8%.

2. Lumen values based on photometric tests performed in compliance with IESNA LM-79.

(s) Data is scaled based on tests of similar, but not identical, luminaires.

Dimensions – Standard EcoForm luminaire

<table>
<thead>
<tr>
<th>Top View</th>
<th>Side View</th>
<th>End View</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width: 15.1 cm</td>
<td>Height: 24.2 cm</td>
<td>Width: 5.7 cm</td>
</tr>
</tbody>
</table>

Approximate Luminaire Weight: 20 Lbs (9.07 Kg)
ECF  EcoForm

Site & Area

Dimensions – EcoForm with Retrofit Arm Mount (RAM)

Top View

Side View

End View

EPA (ft²/m²)

Single | Twin (2x180) | 3/4x90
0.3 / 0.028 | 0.6 / 0.056 | 0.7 / 0.065

Approximate Luminaire Weight:
21 Lbs (9.53 Kg)

Dimensions – EcoForm with Mast Arm Fitter (MA)

Top View

Side View

End View

EPA (ft²/m²)

Single | Twin (2x180)
0.51 / 0.047

Approximate Luminaire Weight:
215 Lbs (97.7 Kg)

Dimensions – EcoForm with Wall Mount (WS)

Top View

Side View

End View

Approximate Luminaire Weight:
23.36 Lbs (10.6 Kg)

Dimensions – EcoForm with LimeLight Luminaire mounted controller

Top View

Side View

End View
Bollard Fixture Datasheets

Gardco Bollard

LED BOLLARD

BRM830/831/833 Dome Top Louver
BRM834/835/837 Bevel Top Louver

Featuring Motion Response

Gardco’s dome top and bevel top LED Louver Bollards provide uniform illumination, superior spacings and solid vandal resistance. Rugged extended and cast construction with silicone seals and gaskets ensure years of trouble-free service. The BRM830 and BRM834 are complete assemblies with an aluminum base. BRM831 and BRM835 are made only to fit custom architectural elements. BRM833 and BRM837 luminaires include a concrete base assembly. Gardco’s advanced stack-louver LED technology and Motion Response provide maximized light output and maximum energy savings.

<table>
<thead>
<tr>
<th>PREFIX</th>
<th>HEIGHT</th>
<th>LED CONTROL</th>
<th>LED SELECTION</th>
<th>LIGHTED COVERAGE</th>
<th>VOLTAGE</th>
<th>OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dome Top</td>
<td>Bevel Top</td>
<td>BRM830</td>
<td>BRM834</td>
<td>with Cast Aluminum Base</td>
<td>42&quot;</td>
<td>360</td>
</tr>
<tr>
<td>BRM831</td>
<td>BRM835</td>
<td>Head Only</td>
<td></td>
<td>11&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRM833</td>
<td>BRM837</td>
<td>with Natural Concrete Base</td>
<td>42&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRM833B</td>
<td>BRM837B</td>
<td>with Beige Concrete Base</td>
<td>42&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRM833G</td>
<td>BRM837G</td>
<td>with Grey Concrete Base</td>
<td>42&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LED CONTROL

- MR: Motion Response
  - LEDs stay on Low Level (6W) when no motion is present, LEDs increase to full light output (41W) when motion is detected.

- CWL: Constant Wattage Full Light Output
  - Full light output only (41W). No motion sensor included.

(Note: A variation of LED voltage (±10%) may occur due to LED manufacturer’s forward volt specification and ambient temperature.)

<table>
<thead>
<tr>
<th>LED SELECTION</th>
<th>LIGHTED COVERAGE</th>
<th>VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW</td>
<td>6,500K, 75CRI</td>
<td>360 360° lighted louvers</td>
</tr>
<tr>
<td>NW</td>
<td>4,300K, 75CRI</td>
<td>180 180° lighted louvers (Provides reduced backside light.)</td>
</tr>
<tr>
<td>WW</td>
<td>3,000K, 75CRI</td>
<td></td>
</tr>
</tbody>
</table>

Solid Colors:
- LA: Amber
- LR: Red
- LG: Green
- LB: Blue

FINISH:
- BRP: Bronze Paint
- BLP: Black Paint
- WP: White Paint
- NP: Natural Aluminum Paint
- BGP: Beige Paint
- VP: Verde Green Paint
- LGP: Light Granite Paint
- DGP: Dark Granite Paint
- LSP: Light Sandstone Paint
- DSP: Dark Sandstone Paint
- RBP: Red Brick Paint
- OC: Optional Color Paint
- SPR: Surge Protection for 120V through 277V input meeting ANSI C42.41.2
- SPRH: Surge Protection for 347V through 480V input meeting ANSI C42.41.2

WF: 2,347V bollards require and include a step-down transformer at bollard. Not available in BRM831 or BRM833.

PHILIPS GARDCO

Version 3.0.2018

Bollard Fixture Datasheets
UNLIT GARDCO BOLLARD

LED BOLLARD

BRM830/831/833 Dome Top Louver
BRM834/835/837 Bevel Top Louver

Gardco's dome top and bevel top LED Louver Bollards provide uniform illumination, superior spacing, and solid vandal resistance. Rugged extruded and cast construction with silicone seals and gaskets assure years of trouble-free service. The BRM830 and BRM834 are complete assemblies with an aluminum base. BRM831 and BRM835 head only units affix to custom architectural elements. BRM833 and BRM837 luminaires include a concrete base assembly. Gardco's advanced stack-louver LED technology and Motion Response provide maximized light output and maximum energy savings.

FEATURES
- Motion Response: LEDs stay on Low Level (8 watts) when no motion is present. LEDS increase to full light output (41 watts) when motion detected.
- CWL: Constant Wattage Full Light Output
  Full light output only (41 watts). No motion sensor included.

PRELUX
- LED CONTROL
  - MR: Motion Response
  - CWL: Constant Wattage Full Light Output

LED SELECTION
- CW: 6,500K, 25CRI
- NW: 4,300K, 25CRI
- WW: 3,000K, 25CRI

LIGHTED COVERAGE
- 360° lighted louvers
- 180° lighted louvers (Provide reduced backside light.)

VOLTAGE
- UNIV: 120V through 277V
- 347V

Version 3.0.2018
Exterior Lighting and Installation
Bollard Fixture Datasheets
Specifications

**VRB-LED Models**
10 - 20 Diodes

**VRB1** - Single Function Luminaire (Aluminum Shaft)
Maximum Weight: 30 lb

---

**Domed Top Cap:** One-piece die-cast aluminum secured to louvers by concealed Allen screws in keyhole slots. For relamping access, Allen screws shall not require complete removal.

**Louvres:** Aluminum die-cast with vertical support ribs at 90° intervals. Horizontal louvers blades shall have a 1 1/4" depth, a 65° upward pitch and provide light source cutoff above horizontal. Louver assembly shall be secured to shaft by four internal tie rods.

**Lamp Enclosure:** One-piece tempered molded glass with internal flutes and full gasketing at bottom edge.

**Fixture Head:** Allows flow-through ventilation around and above the lamp enclosure.

**Shaft:** One-piece extruded aluminum, .125" wall thickness with a heavy cast aluminum twist-lock anchor base concealed within the shaft. Concealed set screws shall lock shaft onto the cast anchor base.

**Electronic Module:** All electrical components are either UL or ETL recognized, mounted on a single plate and factory prewired with quick disconnect plugs. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Each LED equipped with a directional optic for maximum beam angle projecting through louvered spacing. LED boards to be mounted to an anodized interlocking heat sink extrusion. (Type I) Two 5-LED boards for a total of 10-LED. (Type III) three 5-LED boards for a total of 15-LED. (Type V) four 5-LED boards for a total of 20-LED. Available in 3500K and 5100K color temperatures.

**Anchor Bolts:** Four 3/8" x 10" + 2" zinc plated L-hooks, each with two nuts, washers and a rigid pressed board template.

**Finish:** TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a titanium zinc conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray™, Platinum Silver, or White. Custom colors are available.

**CAUTION:** Fixtures must be grounded in accordance with national, state and/or local codes. Failure to do so may result in serious personal injury.

---

**Listings and Ratings**

<table>
<thead>
<tr>
<th>Listings and Ratings</th>
<th>UL or ETL to UL Standards 1588 &amp; 6750</th>
<th>25C Ambient</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP46 Rated</td>
<td>FS = Fully Shielded</td>
<td>-</td>
</tr>
</tbody>
</table>

*Suitable for wet locations.
*Dark Sky Legislation Compliant

Kim Bollard
# VRB1 LED Round Bollard

**Single Function, Vandal-Resistant, Aluminum Shaft**

**Revision 6/29/11 • ki_vrb1led_spec.pdf**

## Standard and Optional Features

<table>
<thead>
<tr>
<th>Fixture</th>
<th>Cat. No. VRB1 Single Function, Aluminum Shaft, Domed Top</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical Module</strong></td>
<td><strong>LED - Light Emitting Diode</strong></td>
</tr>
<tr>
<td><strong>Source:</strong></td>
<td><strong>XL</strong></td>
</tr>
<tr>
<td>□ 10L - 10 LED</td>
<td><strong>xK</strong></td>
</tr>
<tr>
<td>□ 15L - 15 LED</td>
<td>□ 20L - 20 LED</td>
</tr>
<tr>
<td>(IES Type I)</td>
<td>(IES Type II)</td>
</tr>
<tr>
<td>(IES Type III)</td>
<td>(IES Type V)</td>
</tr>
<tr>
<td><strong>Color Temperature:</strong></td>
<td><strong>XL</strong></td>
</tr>
<tr>
<td>□ 3K - 3500K</td>
<td><strong>xK</strong></td>
</tr>
<tr>
<td>□ 5K - 5100K</td>
<td>□ 8K - 8800K</td>
</tr>
<tr>
<td><strong>Voltage:</strong></td>
<td><strong>XL</strong></td>
</tr>
<tr>
<td>□ Universal</td>
<td><strong>xK</strong></td>
</tr>
<tr>
<td>Voltage shall range from 120V-277V</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIXTURE</th>
<th>TOTAL SYSTEM WATTS</th>
<th>VOLT</th>
<th>OPERATING AMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRB1 - 10 LED</td>
<td>12</td>
<td>120</td>
<td>.10 / .05 / .05 / .04</td>
</tr>
<tr>
<td>VRB1 - 15 LED</td>
<td>18</td>
<td>120</td>
<td>.15 / .09 / .08 / .03</td>
</tr>
<tr>
<td>VRB1 - 20 LED</td>
<td>24</td>
<td>120</td>
<td>.20 / .12 / .10 / .09</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Finish</th>
<th><strong>TGIC thermost polyester powder coat paint applied over a titianated zincium conversion coating on fixture and shaft.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>Black</td>
</tr>
<tr>
<td>Cat. No.:</td>
<td>BL</td>
</tr>
</tbody>
</table>

**NOTE:** Black and Dark Bronze colors will produce slightly less light output brightness than Light Gray or White.

*Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: ________________________
Specifications

Material: Cement shall conform to current specifications for "Portland Cement," ASTM C150, Type I or II. Aggregates shall meet current requirements of "Specifications for Concrete Aggregates," ASTM C33. Water shall be clean and free from deleterious amounts of silt, oil, acids, alkalis or organic materials. Wire for reinforcement shall conform to ASTM A185. Steel for lugs and plates shall conform to ASTM A36, or A283 grade D.

Surface: Medium sand-blasted with anti-graffiti sealer. Available colors are Charcoal, Brown, Natural Gray or White, integral in concrete mix.

Cure and Strength: Allows for completion of the hydration process, and result in a 28 day compressive strength of not less than 4,500 psi.

Manufacture: Fiberglass molds used to insure uniform parts. Mold parting lines may be slightly visible in finished parts.

Anchorage: Four steel mounting tabs for installation on four ½" x 10" + 2" zinc electrodeplated L-hook anchor bolts. Each anchor bolt is supplied with two nuts, two washers, and a rigid pressed board template.

Shipment: Palletized with adequate hold-downs to prevent load movement in transit.

Concrete Finish:
- BR-C Brown
- CH-C Charcoal
- NG-C Natural Gray
- WH-C White

NOTE: No fixture, electrical elements, or conduit openings. Flat top not available.