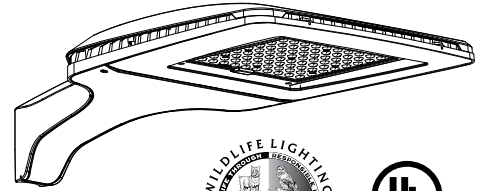


# Pure in form and function, defining performance

## PUREFORM LED - FWC SITE AND AREA P21



Certification #: 2014-045

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Catalog No: \_\_\_\_\_  
 Fixture Type: \_\_\_\_\_  
 Mfg: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

### PHILIPS GARDCO PUREFORM LED SITE & AREA LUMINAIRE P21

Philips Gardco PureForm luminaires combine LED performance excellence and advanced LED thermal management technology with a distinct purity of style to provide outdoor area lighting that is both energy efficient and aesthetically pleasing. PureForm is defined by its high performance, sleek low profile design and rugged construction. The die cast aluminum arm mounts directly to a pole or wall, and has a maximum profile of just 3". The advanced LED optical systems provide IES Types III, IV and V distributions. PureForm luminaires are available in a wide variety of mountings and arms. All PureForm luminaires provide full cutoff performance.

### Ordering guide

Prefix	Arm Style	Mounting	Optics	LED Wattage	LED Selection	Voltage	Finish	Options	Shielding
P21	A1	1	3	55LA	AM	UNV	BRP	F	FWC
P21-DIM	A2	2	4	70LA		HVU	BLP	LF	
P21-MR50	A3	2@90	5W	90LA		120	WP	BD	
P21-APD		3	3-90			208	NP	PC	
P21-APD-MRO		3@120	4-90			240	OC	PCR	
P21-MRI		4	3-270			277	SC	PCB	
P21-APD-MRI		W	4-270			347		PTF2	
		WS				480		PTF3	
		MA						PTF4	
								SPA1-2	
								SPA3	
								TB	
								TL	
See page 2 for more information									

### Ordering guide - PureForm with Wireless Controls

Prefix	Arm Style	Mounting	Optics	LED Wattage	LED Selection	Voltage	Finish	Options	Shielding
P21-LLC2	A1	1	3	55LA	AM	UNV	BRP	F	FWC
P21-LLC3		2	4	70LA		120	BLP	LF	
P21-LLC4		2@90	5W	90LA		208	WP	BD	
		3	3-90			240	NP	PTF2	
		3@120	4-90			277	OC	PTF3	
		4	3-270				SC	PTF4	
		W	4-270					SPA1-2	
		WS						TB	
		MA						TL	
See page 8 for more information									



**PHILIPS**



# PUREFORM LED SITE AND AREA P21

## Ordering guide

Prefix	Arm Style	Mounting	Optics	LED Wattage	LED Selection	Voltage	Finish	Options	Shielding
<b>P21</b> 21" PureForm Standard Luminaire  <b>P21-DIM</b> 21" PureForm with 0-10V Dimming  <b>P21-MR50<sup>1,2</sup></b> 21" PureForm with Motion Response at 50% Low, Pole Mounted Sensor  <b>P21-APD<sup>2</sup></b> 21" PureForm with Automatic Profile Dimming  <b>P21-APD-MRO<sup>1</sup></b> 21" PureForm with Auto Profile Dimming with Motion Response Override Pole mounted sensor  <b>P21-MRI<sup>3,13</sup></b> 21" PureForm with Motion Response at 50% low Luminaire mounted sensor  <b>P21-APD-MRI<sup>3,13</sup></b> 21" PureForm with Auto Profile Dimming with Motion Response Override Luminaire mounted sensor  <b>See page 7 for P21 with LimeLight wireless controls</b>	<b>A1</b> Standard 9" Arm  <b>A2</b> Short 5" Arm  <b>A3</b> Decorative Arm  Note: All Arm Styles mount to a round pole with no adapter; If mount- ing to a square pole, specify the appropriate Square Pole Adapter option: SPA1-2 for A1 or A2 arms, SPA3 for A3 arms.	<b>1</b> Single  <b>2</b> 2@180  <b>2@90</b> 2@90  <b>3</b> 3@90  <b>3@120</b> 3@120  <b>4</b> 4@90  <b>W<sup>4</sup></b> Wall Mount  <b>WS<sup>4</sup></b> Wall Mount including Surface conduit  <b>MA</b> Mast Arm Fitter (requires 2-3/8" O.D. Mast Arm)	<b>3</b> Type 3  <b>4</b> Type 4  <b>5W</b> Type 5 Wide  Optics Rotated Left  <b>3-90</b> Type 3 @ 90°  <b>4-90</b> Type 4 @ 90°  Optics Rotated Right  <b>3-270</b> Type 3 @ 90°  <b>4-270</b> Type 4 @ 90°  See pages 11-12 for details on rotatable optics	350 mA  <b>55LA</b>  <b>70LA</b>  <b>90LA</b>	<b>AM</b> Amber	<b>UNV</b> 120-277V  <b>HVU</b> 347-480V  <b>120</b>  <b>208</b>  <b>240</b>  <b>277</b>  <b>347</b>  <b>480</b>	<b>BRP</b> Bronze Paint  <b>BLP</b> Black Paint  <b>WP</b> White Paint  <b>NP</b> Natural Paint  <b>OC</b> Optional Color Specify optional color or RAL ex: OC-LGP or OC-RAL7024.  <b>SC</b> Special Color Specify. Must supply color chip. Requires factory quote.	<b>F<sup>5</sup></b> Fusing  <b>LF</b> In-Line/In-Pole Fusing  <b>BD<sup>4</sup></b> Bird Deterrent Spike Kit (field installed only)  <b>PC<sup>7,8</sup></b> Photocontrol with Receptacle  <b>PCR<sup>8</sup></b> Photocontrol Receptacle Only  <b>PCB<sup>7,8</sup></b> Button Photocontrol  <b>PTF<sup>2</sup></b> Pole Top Fitter for 2-3/8"-3" Tenon  <b>PTF<sup>3</sup></b> Pole Top Fitter for 3"-3.5" Tenon  <b>PTF<sup>4</sup></b> Pole Top Fitter for 3.5"-4" Tenon  <b>SPA1-2</b> Square Pole Adapter (for use with A1 or A2 Arms)  <b>SPA3</b> Square Pole Adapter (for use with A3 Arms)  <b>TB</b> Terminal Block  <b>TL</b> Tool-Less entry & driver removal hardware	<b>FWC<sup>9</sup></b> External House Side Shield.  Required to meet specifications for Florida Fish and Wildlife Certification.  (Four-sided shield kit supplied standard with product. Field assembly is required)

### Notes:

1. MR50 and APD-MRO luminaires require one motion sensor per pole, ordered separately. See Accessories on page 2. Motion Response luminaires available 120V or 277V only.  
2. Available 120V through 277V (120/208/240/277/UNV) only.  
3. MRI and APD-MRI luminaires include an integral motion sensor. Wattages 180LA and 200LA require outboarded sensor enclosure mounted to the arm of the luminaire (A1 arm only). 120 or 277V only.

4. Available with A1 or A2 Arms only. Not available in P21-MR50, or P21-APD-MRO.

5. Available with A1 arm or with MA mounting only. Provide specific input voltage.

6. Kits consist of 25 injection molded plastic bird deterrent spikes. Field installation only.

7. Not available in 480V. Provide specific input voltage.

8. Available with A1 or A2 arms, or with MA mounting only.

9. Performance may be impacted when used with FWC Shielding.

## Accessories (Ordered Separately)

**MS-A-120V** 120V Input - Area Motion Sensor for P21-MR50 (Motion Response) or P21-APD-MRO (Automatic Profile Dimming with Motion Response Override)

**MS-A-277V** 277V Input - Area Motion Sensor for P21-MR50 (Motion Response) or P21-APD-MRO (Automatic Profile Dimming with Motion Response Override)

Motion Sensors are ordered separately, with one (1) motion sensor required per pole location for P21-MR50 or P21-APD-MRO luminaires. See Luminaire Configuration Information on page 6-7 for more details. Area motion sensor color is Arctic White. MRI and APD-MRI luminaires include an integral motion sensor.

## Type 3 - LED Wattage and Lumen Values

Ordering Code	Average System Watts <sup>14</sup>	LED Current (mA)	# of LEDs	Lumen Output <sup>14,15</sup>	BUG Rating
<b>55LA</b>	55	350	48	853	B0-U0-G0
<b>70LA</b>	70	350	64	1177	B0-U0-G0
<b>90LA</b>	94	350	80	1491	B0-U0-G1

## Type 4 - LED Wattage and Lumen Values

Ordering Code	Average System Watts <sup>14</sup>	LED Current (mA)	# of LEDs	Lumen Output <sup>14,15</sup>	BUG Rating
<b>55LA</b>	55	350	48	845	B0-U0-G0
<b>70LA</b>	70	350	64	1165	B0-U0-G0
<b>90LA</b>	94	350	80	1425	B0-U0-G0

## Type 5W - LED Wattage and Lumen Values

Ordering Code	Average System Watts <sup>14</sup>	LED Current (mA)	# of LEDs	Lumen Output <sup>14,15</sup>	BUG Rating
<b>55LA</b>	55	350	48	962	B2-U0-G0
<b>70LA</b>	70	350	64	1328	B1-U0-G0
<b>90LA</b>	94	350	80	1672	B2-U0-G0

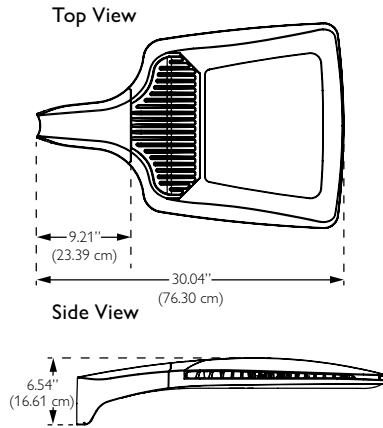
### Notes

14. Wattage and lumen output may vary by +/- 8% due to LED manufacturer forward volt specification and ambient temperature. Wattage shown is average for 120V through 277V input. Actual wattage may vary by an additional +/- 10% due to actual input voltage.

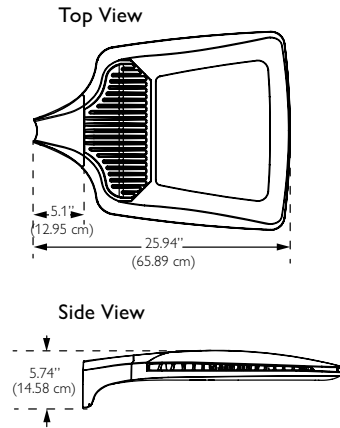
15. Lumen values based on tests performed in compliance with IESNA LM-79.

## Dimensions

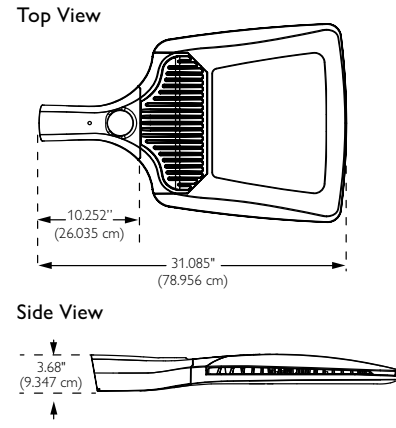
### A1 - Standard Arm



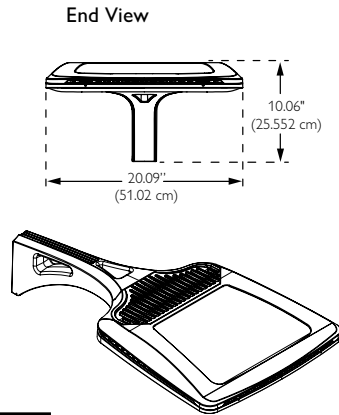
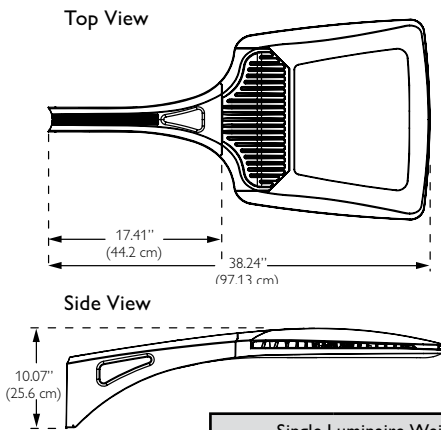
### A2 - Short Arm



### MA - Mast Arm

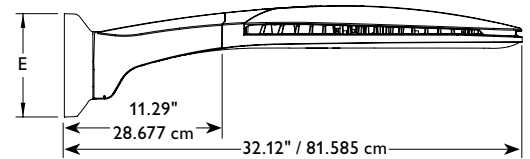


### A3 Decorative Arm



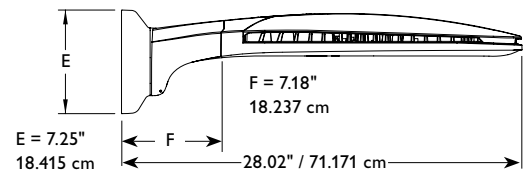
### Wall Mount

#### With A1 Standard Arm



E = 7.25"  
18.415 cm

#### With A2 Short Arm



E = 7.25"  
18.415 cm

Single Luminaire Weight	
Mounting	Approximate Weight
A1	38 lbs / 17.237 kg
A2	37 lbs / 16.783 kg
A3	41.5 lbs / 18.824 kg
MA	38 lbs / 17.237 kg
W or WS	39 lbs / 17.69 kg

Effective Projected Area with FWC Shielding ft <sup>2</sup> / m <sup>2</sup>			
Mounting	Single	Twin @ 180	3/4
A1	1.19 / 0.11	1.78 / 0.17	3.06 / 0.28
A2	1.14 / 0.12	1.68 / 0.16	2.82 / 0.26
A3	1.34 / 0.12	2.08 / 0.19	3.42 / 0.32
MA	1.19 / 0.11	N/A	N/A

## Luminaire Configuration Information

**P21:** Philips Gardco PureForm LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

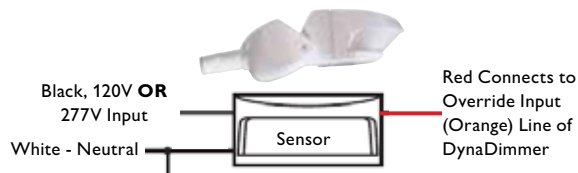
**P21-DIM:** Philips Gardco PureForm LED luminaire provided with 0 -10V dimming for connection to a control system provided by Philips or by others.

**P21-MR50:** Philips Gardco PureForm LED luminaire with motion response, providing a 50% power reduction on low and a commensurate reduction in light output. The power and light output reduction is accomplished utilizing the Philips DynaDimmer module, programmed for a constant 50% power. Power supplied by the motion sensor connected to the override line on the DynaDimmer takes the luminaire to high setting, 100% power and light output, when motion is detected. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

This configuration is not available for use with wall mounted luminaires.

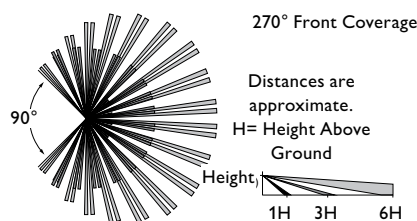
**P21-MR50 is available in 120V through 277V input only to the luminaire. Motion sensors require single voltage 120V or 277V input.**

The Area PIR motion sensor is the WattStopper EW-200-120-W (120V Input - MSA-120V) or the WattStopper EW-200-277-W (277V Input - MSA-277V.) One motion sensor per pole is required and is ordered separately. Area sensors require single voltage 120V or 277V input.

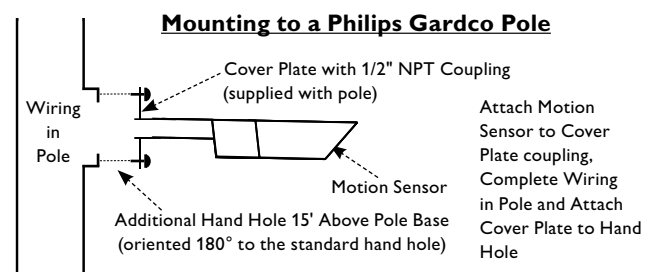


The area motion detector provides coverage equal to up to 6 times the sensor height above ground, 270° from the front-center of the sensor.

### Area PIR Motion Sensor Coverage Pattern:



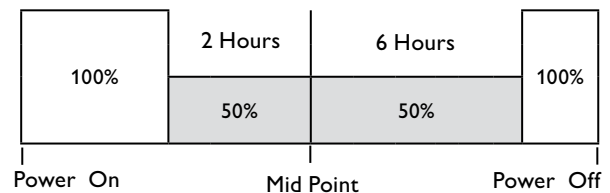
Motion response requires that the pole include an additional hand hole 15 feet above the pole base, normally oriented 180° to the standard hand hole. For Philips Gardco poles, order the pole with the Motion Sensor Mounting (MSM) option which includes the hand hole and a special hand hole cover plate for the sensor with a 1/2" NPT receptacle centered on the hand hole cover plate into which the motion sensor mounts. Once the motion sensor is connected to the hand hole cover plate, then wiring connections are completed in the pole. The plate (complete with motion sensor attached and wired) is then mounted to the hand hole. **If poles are supplied by others, the customer is responsible for providing suitable mounting accommodations for the motion sensor in the pole.**



**P21-APD:** Philips Gardco PureForm LED luminaire with Automatic Profile Dimming. Luminaire is provided with a programmable LED Driver, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the programmable LED Driver based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

**P21-APD is available in 120V through 277V input only.**

### P21-APD Dimming Profile:



The P21-APD offers many of the advantages of a sophisticated control system, including an average energy savings of at least 33% versus constant wattage, constant light output systems, without the need for a control system.

## Luminaire Configuration Information (Continued)

**P21-APD-MRO:** Philips Gardco PureForm LED luminaire with Automatic Profile Dimming, with Motion Response Override. The P21-APD-MRO combines the benefits of both automatic profile dimming and motion response, using the Philips DynaDimmer module. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for the P21-APD. If motion is detected during the time that the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

This configuration is not available for use with wall mounted luminaires.

**P21-APD-MRO is available in 120V through 277V input only to luminaire. The motion sensor requires either 120V or 277V input to the motion sensor.**

The P21-APD-MRO has the same pole requirements and utilizes the same motion sensors as the P21-MR50. The motion sensor mounts and wires identically as well. The P21-APD-MRO utilizes the identical dimming profile as shown for the P21-APD.

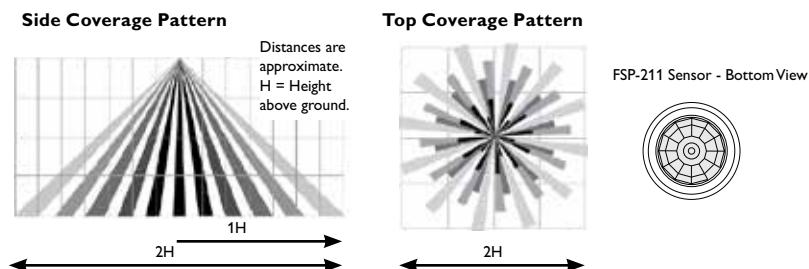
By combining the benefits of automatic profile dimming and motion response, the P21-APD-MRO assures maximum energy savings, and insures that adequate light is present if motion is detected.

Note: All motion sensors utilized consume 0.0 watts in the off state.

**P21-MRI** Luminaires with Motion Response and an integral motion sensor include a programmable LED driver and an integral programmable motion sensor. The motion sensor is set to a constant 50%. When motion is detected, the luminaire goes to 100%. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes. Available with 120V or 277V (UNIV) only.

Luminaires include a passive infrared (PIR) motion sensor, WattStopper FSP-211 equipped with an FSP-L3 lens, capable of detecting motion within 20 feet of the sensor, 180° around the luminaire, when placed at a 20 foot mounting height, or mounted on a wall. Available in 120V or 277V input only. Motion sensor off state power is 0.0 watts.

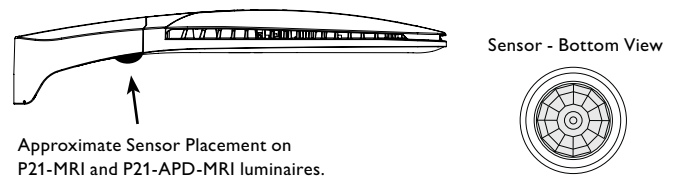
The approximate motion sensor coverage pattern is as shown below.



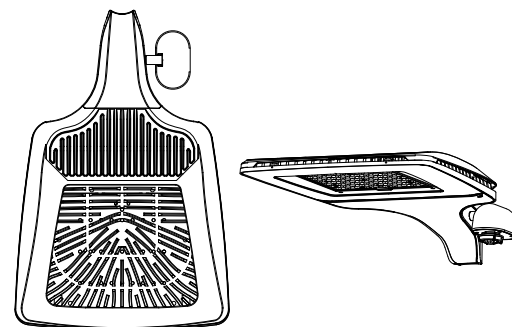
**Luminaires with Integral Motion Sensor - P21-APD- MRI:** Luminaires with Automatic Profile Dimming and Motion Response Override combine the benefits of both automatic profile dimming and motion response. APD-MRI luminaires utilize a programmable LED driver. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for APD luminaires (see page 4). If motion is detected during the time that the luminaire is operating at 50%, the luminaire goes to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes.

APD-MRI luminaires are available with 120V or 277V (UNIV) input voltages only.

**APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for P21-MRI.**



**NOTE:** P21-180LA and P21-200LA luminaires with MRI and APD-MRI require the use of an outboarded sensor as shown below.



# PUREFORM LED SITE AND AREA P21

## Ordering guide - PureForm with Wireless Controls

	A1				AM					FWC
Prefix	Arm Style	Mounting	Optics	LED Wattage	LED Selection	Voltage	Finish	Options	Shielding	
<p><b>P21-LLC2</b> P21 with Limelight wireless technology. Controller pod attached to luminaire arm and includes radio, photocell and motion sensor with #2 lens for 8-15' mounting heights.</p> <p><b>P21-LLC3</b> P21 with Limelight wireless technology. Controller pod attached to luminaire arm and includes radio, photocell and motion sensor with #3 lens for 15-25' mounting heights.</p> <p><b>P21-LLC4</b> P21 with Limelight wireless technology. Controller pod attached to luminaire arm and includes radio, photocell and motion sensor with #4 lens for 25-40' mounting heights.</p>	<p><b>A1</b> Standard 9" Arm</p> <p>Note: A1 Arm Styles mount to a round pole with no adapter. If mounting to a square pole, specify the SPA1-2 Square Pole Adapter option.</p>	<p><b>1</b> Single</p> <p><b>2</b> 2@180</p> <p><b>2@90</b> 2@90</p> <p><b>3</b> 3@90</p> <p><b>3@120</b> 3@120</p> <p><b>4</b> 4@90</p> <p><b>W</b> Wall Mount</p> <p><b>WS</b> Wall Mount including Surface conduit</p> <p><b>MA</b> Mast Arm Fitter (requires 2-3/8" O.D. Mast Arm)</p>	<p><b>3</b> Type 3</p> <p><b>4</b> Type 4</p> <p><b>5W</b> Type 5 Wide</p> <p><b>Optics Rotated Left<sup>18</sup></b></p> <p><b>3-90</b> Type 3 @ 90°</p> <p><b>4-90</b> Type 4 @ 90°</p> <p><b>Optics Rotated Right<sup>18</sup></b></p> <p><b>3-270</b> Type 3 @ 90°</p> <p><b>4-270</b> Type 4 @ 90°</p>	<p>350 mA</p> <p><b>55LA</b></p> <p><b>70LA</b></p> <p><b>90LA</b></p>	<p><b>AM</b></p> <p>Amber</p>	<p><b>UNV</b> 120-277V</p> <p><b>120</b></p> <p><b>208</b></p> <p><b>240</b></p> <p><b>277</b></p>	<p><b>BRP</b> Bronze Paint</p> <p><b>BLP</b> Black Paint</p> <p><b>WP</b> White Paint</p> <p><b>NP</b> Natural Paint</p> <p><b>OC</b> Optional Color Specify optional color or RAL ex. OC-LGP or OC-RAL7024.</p> <p><b>SC</b> Special Color Specify. Must supply color chip. Requires factory quote.</p>	<p><b>F<sup>19</sup></b> Fusing</p> <p><b>LF</b> In-Line/In-Pole Fusing</p> <p><b>BD<sup>20</sup></b> Bird Deterrent Spike Kit (field installed only)</p> <p><b>PTF2</b> Pole Top Fitter for 2-3/8"-3" Tenon</p> <p><b>PTF3</b> Pole Top Fitter for 3"-3.5" Tenon</p> <p><b>PTF4</b> Pole Top Fitter for 3.5"-4" Tenon</p> <p><b>SPA1-2</b> Square Pole Adapter</p> <p><b>TB</b> Terminal Block</p> <p><b>TL</b> Tool-Less entry &amp; driver removal hardware</p>	<p><b>FWC</b> External House Side Shield. Required to meet specifications for Florida Fish and Wildlife Certification.</p> <p>(Four-sided shield kit supplied standard with product. Field assembly is required)</p>	

Notes:

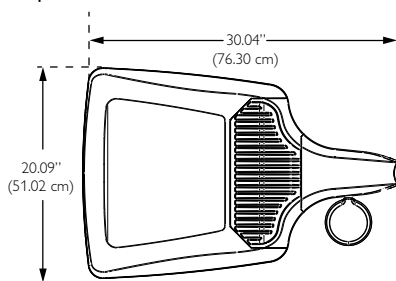
- 17. Available with 130LA or 200LA LED wattages only.
- 18. See pages 12 and 13 for information on optical rotation prior to ordering.
- 19. Available with A1 arm or with MA mounting only. Provide specific input voltage.

20. Kits consist of 25 injection molded plastic bird deterrent spikes. Field installation only.

21. Polycarbonate lenses feature a 1 year warranty.

## Dimensions (Luminaire mounted controller)

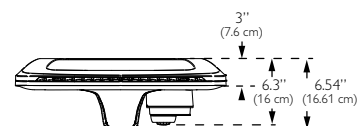
Top View



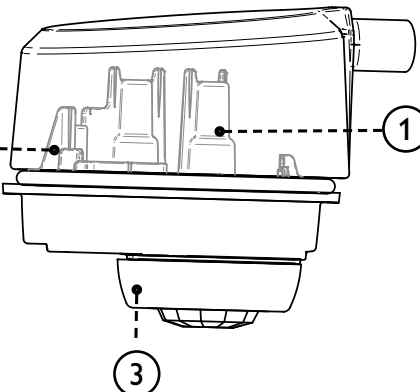
Side View



End View



## Controller Pod (wireless radio, motion response, and photocell)



**Photocell**

- Ambient light photocell on every wireless radio that averages the light levels of up to 5 controllers for an accurate reading and optimal light harvesting activity.
- Reports ambient light readings to 1500 Fc.

**Wireless Radio**

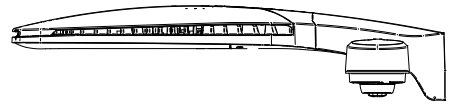
- 1.8 Watts max (no load draw)
- Operating voltage 102-277V RMS
- Communicates using the ZigBee protocol
- Carries out dimming commands from gateway
- Reports internal PCB temperature
- Transmission Systems Operating within the band 2400-2483.5Mhz. IEEE 802.15.4
- ROHS Compliant

**Motion Response**

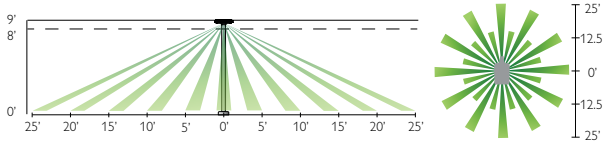
- Three different lens configurations
- Detects motion through passive InfraRed sensing technology
- Connects directly to radio through modular jack
- Three different mounting heights and detection ranges available

## Luminaire Configuration Information - PureForm with LimeLight

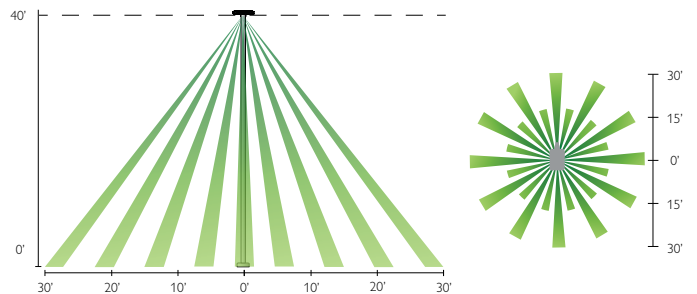
**P21-LLC(X):** With this configuration, the controller pod is mounted to the luminaire arm. One controller is required per luminaire. There are three different motion sensor configurations available. Each one corresponds to the desired mounting height that for your specific application. See motion response detection ranges below.



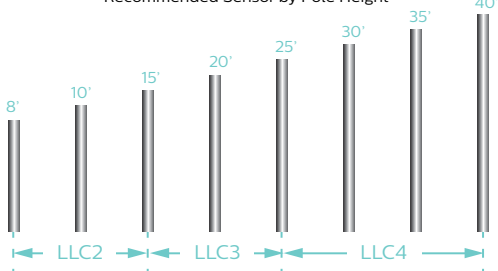
### P21-LLC2



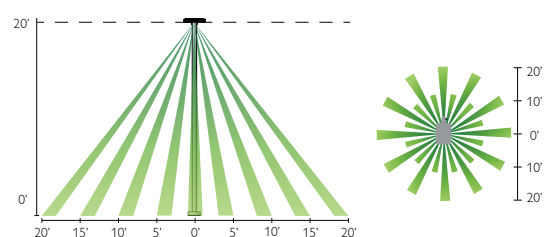
### P21-LLC4



### Recommended Sensor by Pole Height



### P21-LLC3





## Luminaire Configuration Information (Continued)

### Gateway:

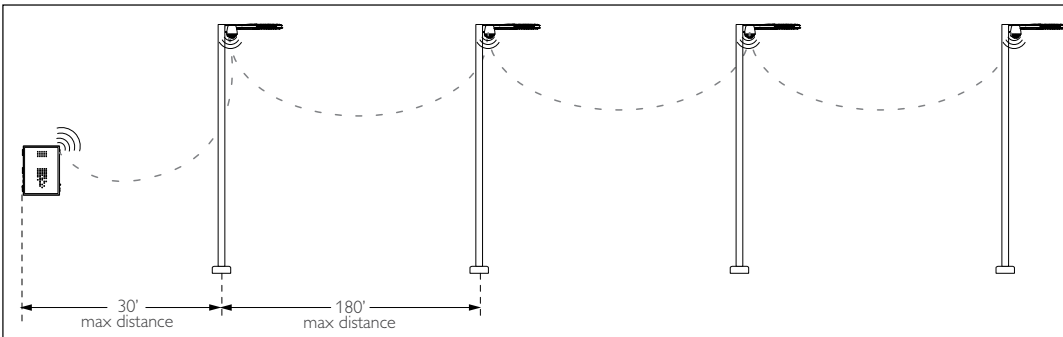
**Overview:** One LimeLight gateway is included with the wireless controls system. The gateway opens up communication with the wireless radios installed with the PureForm luminaires (or pole), allowing you to control your fixtures straight from the web. One gateway can communicate with up to 800 fixtures. Typically one unit is required per parking lot.

**Installation:** Gateway has 4 blind threaded holes on the back side that accept 10-32 screws. Mount spacing is 10.41" across and 14.19" vertical.

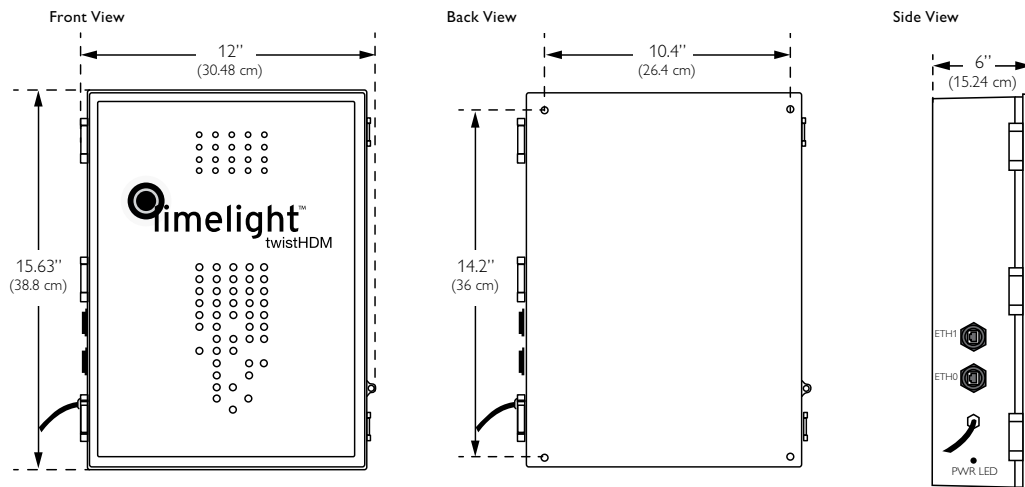
**Requirements:** The gateway must be mounted in a secure on-site location. The gateway requires 120V. Distance of gateway to the first radio varies upon application; contact factory. Strong internet connection required.

### Specifications:

- High density RF Mesh coordinator
- Ethernet or wireless internet connection to LimeLight server
- Proprietor of software "rules of operation"
- Watertight Ethernet connections
- Highly protected, long life ac/dc power supply
- Single board, ARM compliant 520Mhz Intel computer.
- Operating Temperature -20°C to 55°C
- Tamper proof housing



## Gateway Dimensions



## Specifications

**GENERAL DESCRIPTION:** Philips Gardco PureForm luminaires combine LED performance excellence and advanced Gardco LED thermal management technology with a distinct purity of style to provide outdoor area lighting that is both energy efficient and aesthetically pleasing. PureForm is defined by its high performance, sleek low profile design and rugged construction. The die cast aluminum housing mounts directly to a pole or wall, and has a maximum profile of just 3". All LED wattages utilize high performance Class 1 LED systems. The luminaire features a state of the art integral thermal control system to maximize LED performance and life, and to extend component life. The door frame is die cast aluminum. Luminaires are finished with a fade and abrasion resistant TGIC powdercoat. PureForm luminaires are available in a wide variety of mountings and arms. PureForm is also available as part of the Philips Solar Solution. See Solar Specification sheet for details.

**HOUSING:** The PureForm features a die cast aluminum housing, and mounts directly to a pole or wall. The low profile rounded form reduces the effective projected area of the luminaire significantly.

PureForm luminaires supplied with A1, A2 and A3 arms are provided with arms firmly attached to the main luminaire housing body. As a result, the luminaires provide the functionality, strength and installation ease of an integral arm luminaire.

Mast arm mount luminaires are provided with the mast arm mounting assembly firmly attached to the main luminaire housing body.

**IP RATING:** PureForm luminaires have a rating of IP66.

**VIBRATION RESISTANCE:** PureForm carries a 3G vibration rating that conforms to standards set forth by ANSI C136.31. Testing includes vibration to 3G acceleration in three axes, all performed on the same luminaire.

**OPTICAL SYSTEMS:** The advanced LED optical systems provide IES Types 3, 4 and 5 distributions.

Types 3, 4, and 5 optical systems utilize an innovative redirecting reflector to complement the performance of the LED optic. The redirecting reflector system utilizes 95% specular reflective material to maximize reflected light forward. Reflector facets minimize aperture brightness when viewed from the rear of the luminaire.

PureForm luminaires are provided standard without a glass lens, for maximized performance. All PureForm luminaires provide full cutoff performance.

**SHIELDING:** Special house side shield is required to meet FWC Certification. Shields will be shipped with the luminaire and field installed. FWC Certification Number: 2014-045

**WIRELESS CONTROLS:** The LimeLight wireless Controls System includes: gateway, controller pod (with wireless radio, motion response, and photocell), and commissioning/training. LimeLight is an intelligent web-based system that operates through a high density mesh (HDM) wireless technology. Wireless radios with motion response and photocell sensors are integrated with PureForm luminaires, and enable the fixtures to communicate via the ZigBee protocol. The gateway is a mini computer that connects to the internet, and is located in a secure location. The central LimeLight database channels communication to and from the gateway, allowing data to be viewed or managed through the web-based graphical user interface (GUI). See pages 8-10 for details and technical information.

## LED PERFORMANCE:

PREDICTED LUMEN DEPRECIATION DATA <sup>15</sup>				
Ambient Temperature °C	Driver mA	Calculated L <sub>70</sub> Hours <sup>15,16</sup>	L <sub>70</sub> Per TM-21 <sup>16,17</sup>	Lumen Maintenance % @ 60,000 hours
Up to 40 °C	Up to 800mA	> 154,000 Hours	> 51,400 Hours	91%
<p>15. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.</p> <p>16. L<sub>70</sub> is the predicted time when LED performance depreciates to 70% of initial lumen output.</p> <p>17. Calculated per IESNA TM21-11. Published L<sub>70</sub> hours limited to 6 times actual LED test hours.</p>				

**THERMAL MANAGEMENT:** The Philips Gardco PureForm LED provides die cast aluminum integral thermal radiation fins to provide the excellent thermal management so critical to long LED system life.

**ELECTRICAL:** Luminaires are equipped with an LED driver that accepts 120V through 277V, or 347V through 480V, 50hz to 60hz, input. Driver output is based on the LED wattage selected. Component-to-component wiring within the luminaire will carry no more than 80% of rated current and is listed by UL for use at 600 VAC at 302°F / 150°C or higher. Plug disconnects are listed by UL for use at 600 VAC, 15A or higher. Power factor is not less than 90%. Luminaire consumes 0.0 watts in the off state. All motion sensors utilized consume 0.0 watts in the off state. Surge protector standard. 10KA per AN SI/IEEE C62.41.2.

**FINISH:** Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WVP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

**Solar Luminaires - P21-S:** P21 Luminaires are available as part of the Philips Solar Solution to provide a stand alone, energy efficient site and area lighting. Our Solar Solution efficiently harvests, stores and intelligently converts solar energy into high quality illumination. Visit [www.philips.com/luminaires](http://www.philips.com/luminaires) to learn more about PureForm Solar.

**LABELS:** All luminaires bear UL or CUL (where applicable) Wet Location labels.

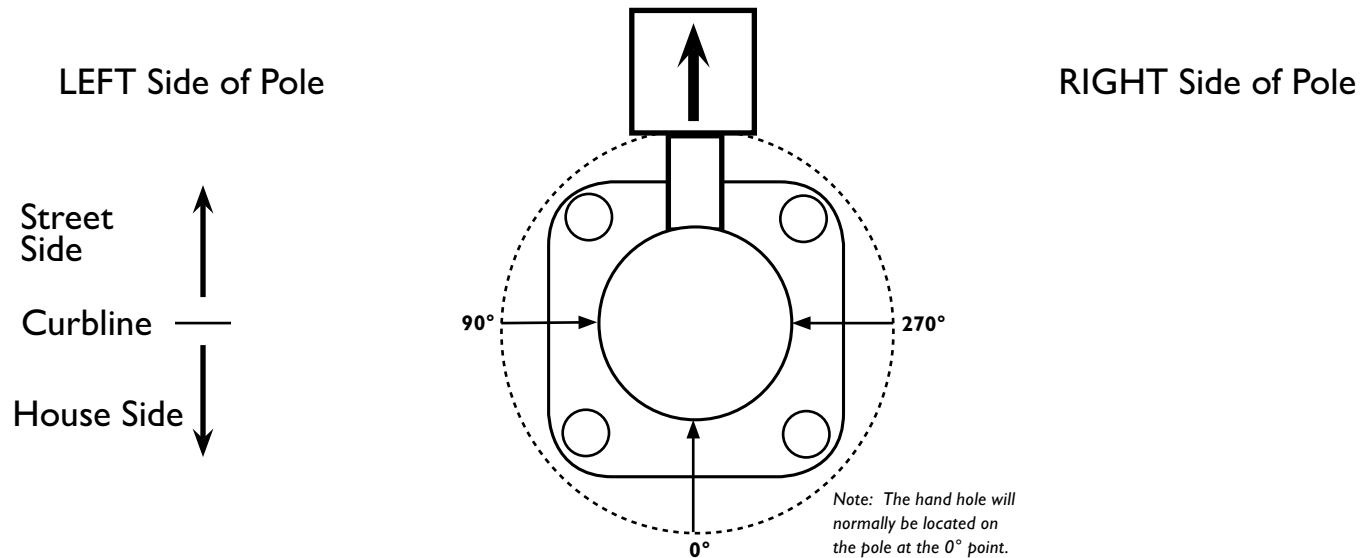
**WARRANTY:** Philips Gardco luminaires feature a 5 year limited warranty. Philips Gardco LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED Drivers also carry a 5 year limited warranty. Motion sensors are covered by warranty for 5 years by the motion sensor manufacturer. See Warranty Information on [www.sitelighting.com](http://www.sitelighting.com) for complete details and exclusions. Polycarbonate lenses carry a 1 year warranty.

**FULL CUTOFF PERFORMANCE:** Full cutoff performance means a luminaire distribution where zero candela intensity occurs at an angle at or above 90° above nadir. Additionally, the candela per 1000 lamp lumens does not numerically exceed 100 (10 percent) at a vertical angle of 80° above nadir. This applies to all lateral angles around the luminaire.

**ASYMMETRIC OPTICAL ORIENTATION INFORMATION** (CONTINUED ON PAGE 8)

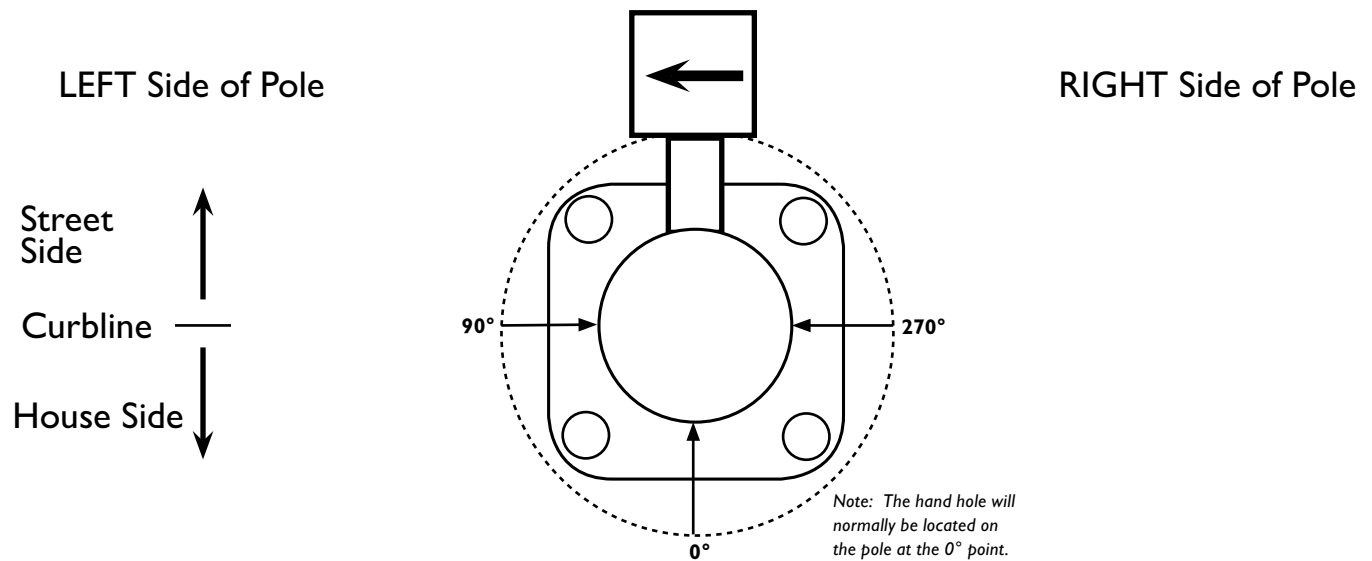
**STANDARD OPTIC POSITION:**

Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



**OPTIC ROTATED LEFT (90°) OPTIC POSITION:**

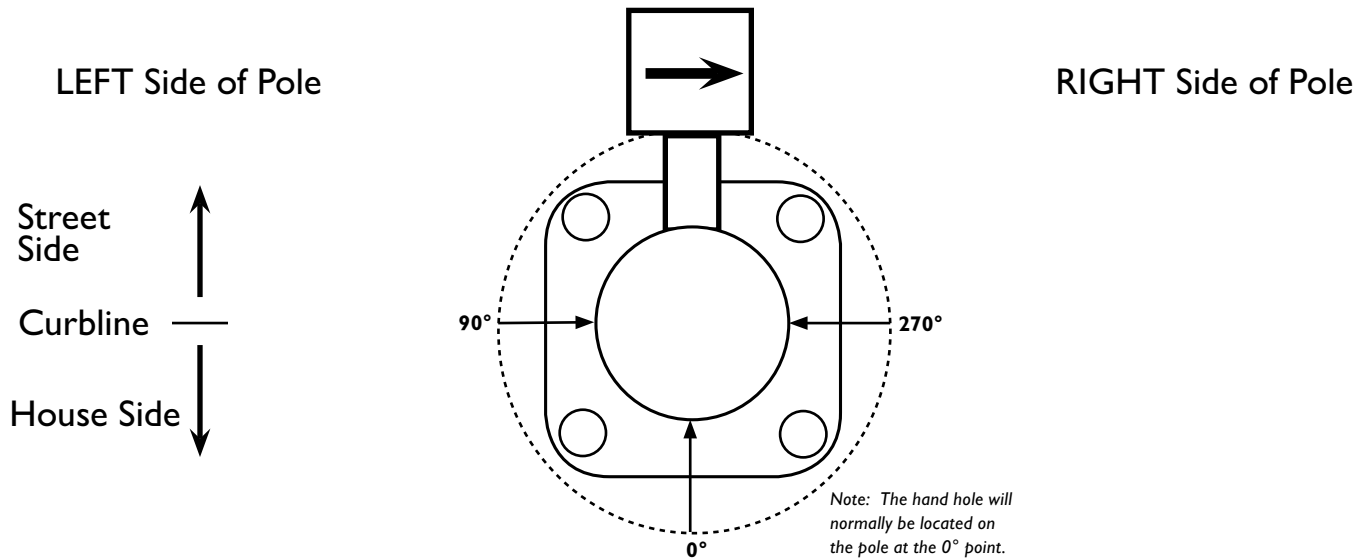
Luminaires ordered with asymmetric optical systems in the **OPTIC ROTATED LEFT (90°)** optic position will have the optical system oriented as shown below:



**ASYMMETRIC OPTICAL ORIENTATION INFORMATION (CONTINUED FROM PAGE 7)**

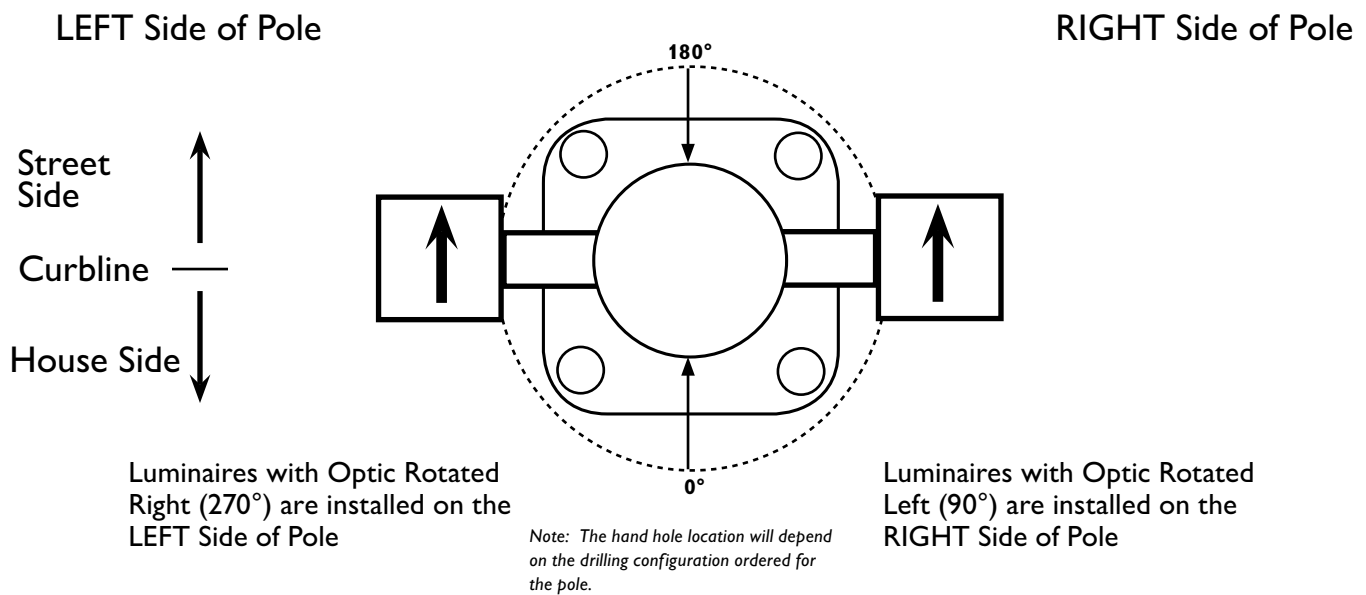
**OPTIC ROTATED RIGHT (270°) OPTIC POSITION:**

Luminaires ordered with asymmetric optical systems in the **OPTIC ROTATED RIGHT (270°)** optic position will have the optical system oriented as shown below:



**TWIN LUMINAIRE ASSEMBLIES WITH ROTATED OPTICAL SYSTEMS:**

Twin luminaire assemblies installed with rotated optical systems are an excellent way to direct light toward the interior of the site (Street Side) without additional equipment. It is important, however, that care be exercised to insure that luminaires are installed in the proper location.



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