PHILIPS

GARDCO

Site & Area

EcoForm

ECF-L large

Project:

Location:

Cat.No:

Type:

Qty:

Notes:

The Philips Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 42,000 lumens or more in a compact, low profile LED luminaire, 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 available for further energy savings.

Ordering guide

expample: ECF-L-96L-1A-CW-AR-AFR-90-120-DD-PCB-F1-SP1-TB-RPA-HIS-BK

Prefix	Number of LEDs	Drive Current	LED Color - Generation	Mounting	Distribution	Voltage	Options					
							Dimming controls	Motion sensing	Photo-sensing	Electrical	Luminaire	Finish
ECF-L	96L	800	WW-G2	AR	4-90/4-270	VOLT					HIS	FINISH
ECF-L EcoForm Site and Area, Large	**80L** 80 LEDs (5 modules) **96L** 96 LEDs (6 modules)	**900** 900 mA **1A** 1050 mA **1.2A** 1200 mA **800** 800 mA **1A** 1050 mA **1.2A** 1200 mA	**WW-G2** Warm White 3000K, 70 CRI Generation 2 **NW-G2** Neutral White 4000K, 70 CRI Generation 2 **CW-G2** Cool White 5000K, 70 CRI Generation 2	**AR** Arm Mount (standard)[9] *The following mounting kits must be ordered separately (See accessories)* **SF** Slip Fitter Mount[11] (fits to 2 3/8" O.D. tenon) **WS** Wall mount with surface conduit rear entry permitted **RAM** Retrofit arm mount kit[9]	**Type 2** **2** Type 2 **2-90** Rotated left 90° **2-270** Rotated right 270° **Type 3** **3** Type 3 **3-90** Rotated left 90° **3-270** Rotated right 270° **Type 4** **4** Type 4 **4-90** Rotated left 90° **4-270** Rotated right 270° **Type 5** **5** Type 5 **5W** Type 5W **AFR** Auto Front Row **AFR-90** Auto Front Row, Rotated left 90° **AFR-270** Auto Front Row, Rotated right 270°	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V (50/60Hz) **HVU** 347-480V (50/60Hz)	**DD** 0-10V External dimming (by others)[5] **DCC** Dual Circuit Control[6] **FAWS** Field Adjustable[14] **SW** Interface module for SiteWise[12,13] **LLC2** Integral module with #2 lens[1,6] **LLC3** Integral module with #3 lens[1,6] **LLC4** Integral module with #4 lens[1,6] **DynaDimmer:** Automatic Profile Dimming **CS50** Safety 50% Dimming, 7 hours[1] **CM50** Median 50% Dimming, 8 hours[1] **CE50** Economy 50% Dimming, 9 hours[1] **DA50** All Night 50% Dimming[1] **CS30** Safety 30% Dimming, 7 hours[1] **CM30** Median 30% Dimming, 8 hours[1] **CE30** Economy 30% Dimming, 9 hours[1] **DA30** All Night 30% Dimming[1]	**IMRI3** Integral with #3 lens[8] **IMRI7** Integral with #7 lens[8] **IMRO** Pole mounted motion sensor[5] (see accessories)	**PCB** Photocontrol Button[2,3] **TLRD5** Twist Lock Receptacle 5 Pin **TLRD7** Twist Lock Receptacle 7 Pin **TLRPC** Twist Lock Receptacle w/ Photocell[2]	**Fusing** **F1** Single (120, 277, 347VAC)[2] **F2** Double (208, 240, 480VAC)[2] **Pole Mount Fusing** **FP1** Single (120, 277, 347VAC)[2] **FP2** Double (208, 240, 480VAC)[2] **FP3** Canadian Double Pull (208, 240, 480VAC)[2] **Surge Protection** (10kA standard) **SP2** Increased 20kA	Square Pole Adapter included in standard product **TB** Terminal Block[7] **RPA** Round Pole Adapter (fits to 3"- 3.9" O.D. pole)[10] **HIS** Internal Housing Side Shield[4]	**Textured** **BK** Black **WH** White **BZ** Bronze **DGY** Dark Gray **MGY** Medium Gray **Customer specified** **RAL** Specify optional color or RAL (ex: RAL7024) **CC** Custom color (Must supply color chip for required factory quote)

1. Available only on **120**, **208**, **240**, and **277** (or **UNV**)
2. Specify Voltage
3. Not available with **347** or **480** voltage
4. **HIS** not available with Type **5** or **5W** optics
5. **DD** is required for **LLCR** and pole mount motion sensor. Dimming leads are supplied through back of luminaire. **Must be ordered separately** (See accessories page)
6. **DCC** and **LLC2/3/4** not available with any other controls
7. **TB** not available with **DCC**
8. **ECF-IMRI** equipped with out-boarded sensor housing when voltage is **HVU** (347-480V)
11. Limited to a maximum of 45 degrees aiming above horizontal
12. **SW** option is not available with any other control options with the exception of **IMRI3**, **IMRI7** and **SW-IMRO** motion response options
13. Available only on **120V** and **277V**

PROJECT: EVERGREEN SUBARU
TYPE: SL1
MANUFACTURER: GARDCO
CAT# (2) ECF-L-96L-800-WW-G2-AR-(4-90)-(4-270)-VOLT-HIS-FINISH / SSS4-20-4-11-D2-FINISH

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Site & Area

EcoForm Accessories (ordered separately, field installed)

Controls Accessories

Pole Mount Motion Sensor

MS-A-120V[11] 120V Input
MS-A-277V[11] 277V Input

Wireless system Remote mount module

LLCR2-(F)[11] #2 lens
LLCR3-(F)[11] #3 lens
LLCR4-(F)[11] #4 lens

Central Remote Motion Response
(used connected to SiteWise main panel)

MS2-A-FVR-3
MS2-A-FVR-7

Shielding Accessories[10]

House Side shield

Standard orientation:
HIS-80-H[12] Internal House Side Shield for 80 LEDs (5 modules)
HIS-96-H[12] Internal House Side Shield for 96 LEDs (6 modules)

At 90 or 270 orientation:
HIS-80-V[12] Internal House Side Shield for 80 LEDs (5 modules)
HIS-96-V[12] Internal House Side Shield for 96 LEDs (6 modules)

Luminaire Accessories

ECF-BD-G2 Bird deterrent
PTF2-(F) Pole top fitter fits 2 3/8-2 1/2" OD x 4" depth tenon with 1, 2, 3 or 4 luminaires at 90°
PTF3-(F) Pole top fitter fits 3-3 1/2" OD x 6" depth tenon with 1, 2, 3 or 4 luminaires at 90°
PTF4-(F) Pole top fitter fits 3 1/2-4" OD x 6" depth tenon with 1, 2, 3 or 4 luminaires at 90°
ECF-SF-G2-(F) Slip Fitter Mount (fits to 2 3/8" O.D. tenon)
ECF-RAM-G2-(F) Retrofit Arm mount kit
ECF-WS-G2-(F) Wall mount with surface conduit rear entry permitted

(F) = Specify finish

11. **DD** option required
12. Not available with Type **5** or **5W** optics

Predicted Lumen Depreciation Data

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.L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours

Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1200 mA	>100,000 hours	>60,000 hours	>88%

LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.[3]	Average System Watts[1]	Type 2 Lumen Output[1,2]	Type 2 BUG Rating	Type 2 Efficacy (LPW)	Type 3 Lumen Output[1,2]	Type 3 BUG Rating	Type 3 Efficacy (LPW)	Type 4 Lumen Output[1,2]	Type 4 BUG Rating	Type 4 Efficacy (LPW)
ECF-L-80L-900-NW-G2-x	80	900	4000	225	27,138	B3-U0-G3	121	26,686	B3-U0-G4	119	27,178	B3-U0-G4	121
ECF-L-80L-1A-NW-G2-x	80	1050	4000	265	30,609	B4-U0-G4	116	30,100	B3-U0-G4	114	30,655	B3-U0-G5	116
ECF-L-80L-1.2A-NW-G2-x	80	1200	4000	289	33,764	B4-U0-G4	117	33,202	B3-U0-G5	115	33,814	B3-U0-G5	117
ECF-L-96L-800-NW-G2-x	96	800	4000	238	29,309	B3-U0-G3	123	28,821	B3-U0-G4	121	29,353	B3-U0-G4	124
ECF-L-96L-1A-NW-G2-x	96	1050	4000	316	36,488	B4-U0-G4	115	35,881	B3-U0-G5	113	36,543	B3-U0-G5	115
ECF-L-96L-1.2A-NW-G2-x	96	1200	4000	365	39,690	B4-U0-G4	109	39,030	B3-U0-G5	107	39,749	B3-U0-G5	109

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.[3]	Average System Watts[1]	Type 5 Lumen Output[1,2]	Type 5 BUG Rating	Type 5 Efficacy (LPW)	Type 5W Lumen Output[1,2]	Type 5W BUG Rating	Type 5W Efficacy (LPW)	Type AFR Lumen Output[1,2]	Type AFR BUG Rating	Type AFR Efficacy (LPW)
ECF-L-80L-900-NW-G2-x	80	900	4000	225	28,721	B5-U0-G4	128	28,415	B5-U0-G4	126	27,866	B4-U0-G3	124
ECF-L-80L-1A-NW-G2-x	80	1050	4000	265	32,395	B5-U0-G4	122	32,050	B5-U0-G4	121	31,431	B4-U0-G3	119
ECF-L-80L-1.2A-NW-G2-x	80	1200	4000	289	35,733	B5-U0-G4	124	35,353	B5-U0-G4	122	34,670	B4-U0-G3	120
ECF-L-96L-800-NW-G2-x	96	800	4000	238	31,019	B5-U0-G4	131	30,688	B5-U0-G4	129	30,096	B4-U0-G3	127
ECF-L-96L-1A-NW-G2-x	96	1050	4000	316	38,617	B5-U0-G4	122	38,206	B5-U0-G5	121	37,468	B4-U0-G3	118
ECF-L-96L-1.2A-NW-G2-x	96	1200	4000	365	42,006	B5-U0-G4	115	41,558	B5-U0-G5	114	40,755	B4-U0-G4	112

1. Wattage and lumen output may vary due to LED manufacturer forward volt specification and ambient temperature.
   Wattage shown is average for 120V through 277V input. Measured wattage may vary due to variation in input voltage.
2. Lumen values based on photometric tests performed in compliance with IESNA LM-79.
3. Warm white color temperature will result in decreased lumen output.

Contact outdoorlighting.applications@philips.com for details or additional information.

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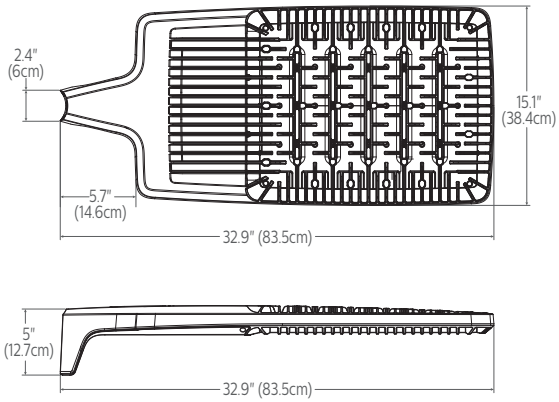
Site & Area

Dimensions

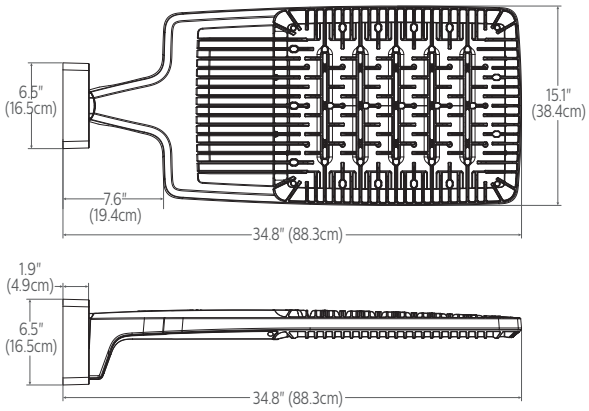
Standard Arm (**AR**)

Weight: 27 Lbs (12.2 Kg) EPA: 0.24ft² (.022m²)



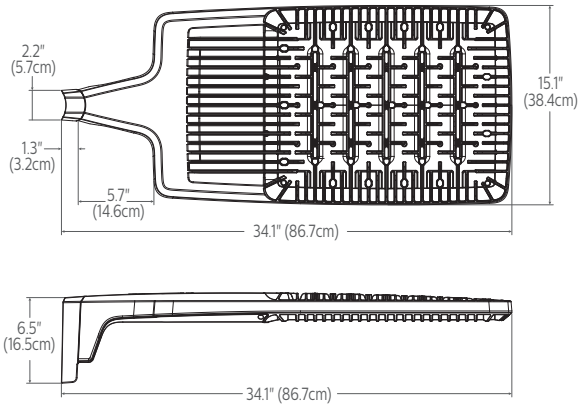
Wall (**WS**)

Weight: 31Lbs. (14.1 Kg) EPA: 0.31ft² (.028m²)



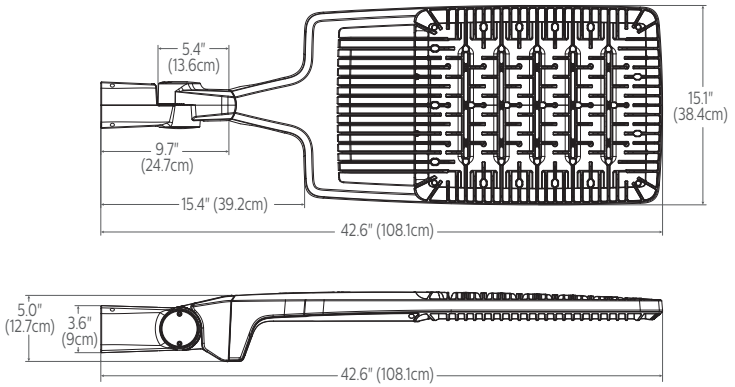
Retrofit Arm (**RAM**)

Weight: 29 Lbs. (13.1 Kg) EPA: 0.27ft² (.025m²)

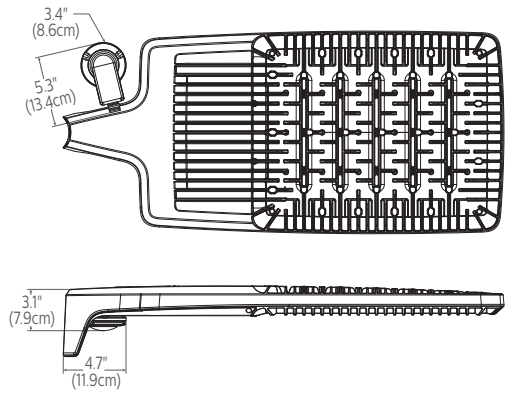


Slip fitter (**SF**)

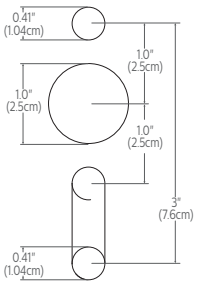
Weight: 32 Lbs (14.5 Kg) EPA: 0.36ft² (.033m²)



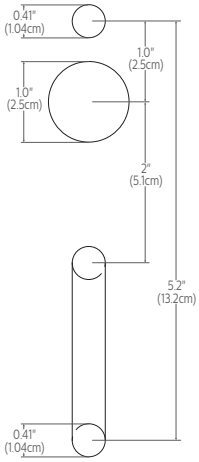
Outboard **IMR-HVU** sensor



Standard Arm (**AR**) drill pattern



Retrofit Arm (**RAM**) drill pattern



ECF-L EcoForm large

Site & Area

Luminaire options

DD: 0-10V dimming driver with leads supplied through back of luminaire (for secondary dimming controls by others).

TLRD5: Twist Lock Receptacle with 5 pins enabling dimming, can be used with a twistlock photoelectric cell or a shorting cap. Can also be used with Philips or third party control system. Receptacle located on top of luminaire housing.

TLRD7: Twist Lock Receptacle with 7 pins enabling dimming and additional functionality (by others), can be used with twistlock photoelectric cell or a shorting cap. Can also be used with Philips or third party control system. Receptacle located on top of luminaire housing.

TLRDPC: Receptacle with twistlock photoelectric cell (must specify voltage). Receptacle located on top of luminaire housing.

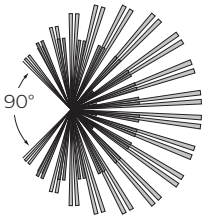
Dynadimmer Automatic Profile Dimming: Automatic dimming profiles (CS50/CM50/CE50) offer safety, median, or economy settings, for shorter or longer duration. Dimming profiles provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. 50% dimming is standard. DA50 offers 50% instantaneous dimming all night (during all dark hours). 75% and 25% dimming is also available if different light levels are required (contact Technical Support for details).

Profile	Dimming		
	Level	Duration	Example
Economy	50%	9 hours	9 PM - 6 AM
Median	50%	8 hours	10 PM - 6 AM
Safety	50%	7 hours	11 PM - 6 AM
Reactive 50	50%	dynamic	all night

IMRI3, IMRI7: Infrared Motion Response Integral. IMRI module is mounted integral on driver door and is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges (see charts for approximate detection patterns on page 7). Motion response used in combination of Dynadimmer and SiteWise are not programmable and used to override controllers schedule when motion is detected. When used not combined with any controller, IMRI is set/operates in the following fashion: The motion sensor is set to a constant 50%. When motion is detected by the PIR sensor, the luminaire returns to full power/light output. Dimming on low is factory set to 50% with 5 minute default in "full power" prior to dimming back to low. When no motion is detected for 5 minutes, the motion response system reduces the wattage by 50%, to 50% of the normal constant wattage reducing the light level. IMRI can also be specified with automatic profile dimming for the added benefit of a combined dimming profile with sensor detection, where the PIR sensor will override the dimming profile when occupancy is detected. Passive infrared (PIR) motion sensor.

IMRO: Infrared Motion Response Outboard pole mounted sensor, must be specified with an available automatic profile dimming option. Combines the benefits of both automatic profile dimming and motion response using the Philips DynaDimmer technology. PIR sensor features a pole mounted Wattstopper EW-200-120-W or the EW-200-277-W. One motion sensor per pole is required (order MS-A-120 or MS-A-277 separately). Available in 120 or 277V only, IMRO sensors require single voltage 120V or 277V input (see chart for approximate detection patterns). If motion is detected during the time that the luminaire is operating at profile dimming mode specified, 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 back to automatic profile dimming. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes. 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.

Pole Details: IMRO 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 (see Gardco Poles specification sheets for more information).



270° Front Coverage

Distances are approximate.

H = height above ground

Height

DCC: Dual Circuit Control permits separate switching of a specific number of LED modules. Available as an option with 2 through 4 modules.

SW: SiteWise option is a fully integrated controller that connects to Philips SiteWise system in order to offer a complete area lighting management system. The communication signal is based on Philips patented central dimming technology. SiteWise delivers it deliver optimal energy savings using your site's existing cabling. No additional wiring required, installation and commissioning are simple. An intuitive, mobile app makes it easy for authorized users to set schedules to meet site specific lighting needs, local regulations, and energy codes.

Wireless systems: Controller radio/sensor module attached to luminaire arm and includes radio, photocell and motion sensor. Available with #2 lens (LLC2) for 8' to 15' mounting height" or #3 lens (LLC3) for 15-25' mounting heights or #4 lens (LLC4) for 25-40' mounting heights. Also available with remote pod accessory where pod is mounted separate from luminaire to pole or wall (see accessories and wireless system information page 5-7).

F1: Fusing Single (for 120, 277 or 347VAC)

F2: Fusing Double (for 208, 240 or 480VAC)

FP1: Fusing Pole Single (pole mounted near handhole, for 120, 277 or 347VAC)

FP2: Fusing Pole Double (pole mounted near handhole, for 208, 240 or 480VAC).

FP3: Fusing Pole Canadian Double Pull (pole mounted near handhole, for 208, 240 or 480VAC)

SP1: Surge Protection, 10kV/5kA, 120-277V or 347-480V

SP2: Surge Protection, 20kV/10kA , 120-277V or 347-480V

HIS: Internal House Side Shield. Injection molded in black finish. Ships installed with 1 per 16 LED module. Also available shipped separately as an accessory for 5-6 LED modules.

FAWS: Field Adjustable Wattage Selector, pre-set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level – see the FAWS multiplier chart for more details. *Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.*

Field adjustable wattage (FAWS) multiplier chart

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage
1	0.31	0.28
2	0.53	0.50
3	0.62	0.58
4	0.70	0.67
5	0.78	0.75
6	0.83	0.81
7	0.89	0.87
8	0.92	0.91
9	0.96	0.95
10	1.00	1.00

Note: Typical value accuracy +/- 5%

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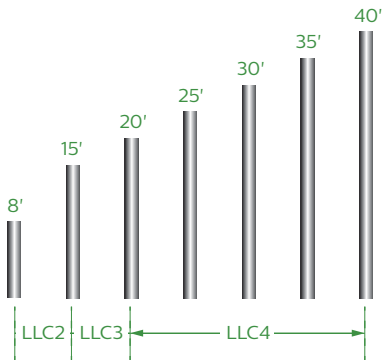
Site & Area

Wireless system – luminaire configuration information

LLC2/LLC3/LLC4 Luminaire Mounted Controller

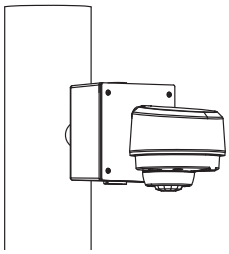
Controller pod attached to luminaire and Includes radio, photocell and motion sensor with #2, #3 or #4 lens for 8-40' mounting heights.

Recommended Sensor by Pole Height



LLCR2/LLCR3/LLCR4 Pole Mounted Controller

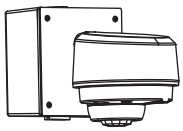
In this configuration, the wireless controller will be mounted to the pole at a fifteen foot mounting height. The number of luminaires on each pole, as well as the specific wattage chosen, will determine how many controllers will be required.



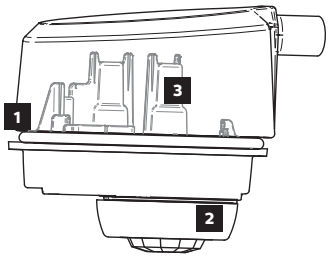
When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size). Confirm required orientation of luminaire and wireless controller. Indicate height above pole base and orientation to hand hole. Recommended min pole height is 18ft, with option (CL) 15ft above pole base. Other heights are possible when choosing the appropriate sensor lens type. See pole specification sheets for more information.

Remote Mount Wireless Controller

Used to extend the communication on site, to extend motion response and add other luminaires that are not pole mounted. Consult factory for more information.



Wireless system sensor



1. 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.

2. Motion Response

- Detects motion through passive infrared sensing technology with three different lens configurations.
- Motion sensor coverage can be adjusted from a narrow to a wide detection range, which helps reduce false triggers to further increase energy savings.
- Sensing profiles can be updated to adapt to activity levels in the environment, such as occupancy level, wind, and mounting height.

3. Wireless Radio

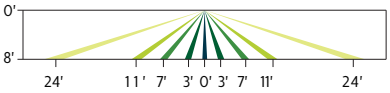
- 1.8 Watts max (no load draw)
- Operating voltage 120-277 VAC RMS
- Communicates using the ZigBee protocol
- Carries out dimming commands from Gateway
- Reports ambient light readings to 1500 Ft-Cd
- Transmission Systems Operating within the band 2400-2483.5Mhz
- RoHS Compliant

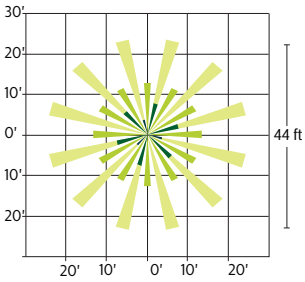
ECF-L EcoForm large

Site & Area

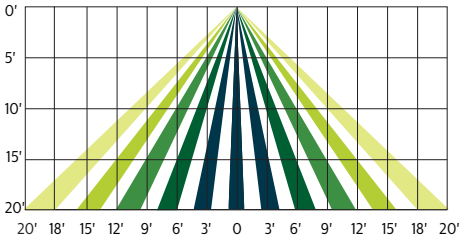
Infrared Motion Response – Coverage Patterns

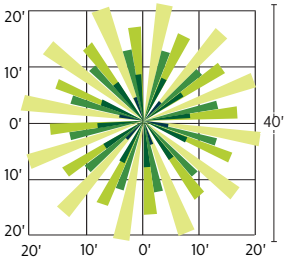
LLC2/LLCR2
Luminaire or remote mount controller with #2 lens



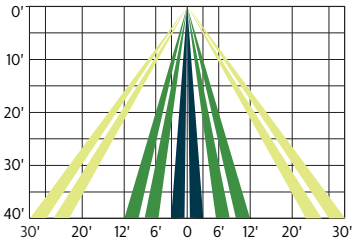


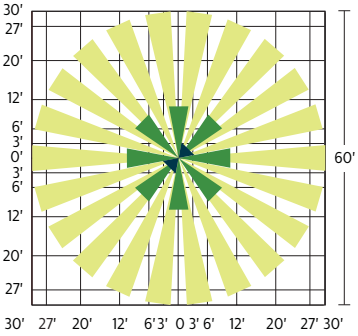
IMRI3/LLC3/LLCR3
Luminaire or Remote mount controller with #3 lens



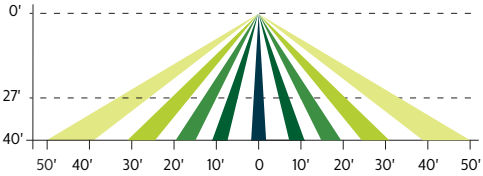


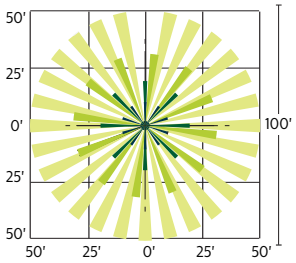
LLC4/LLCR4
Luminaire or Remote mount controller with #4 lens





IMRI7
Integral motion response with #7 lens





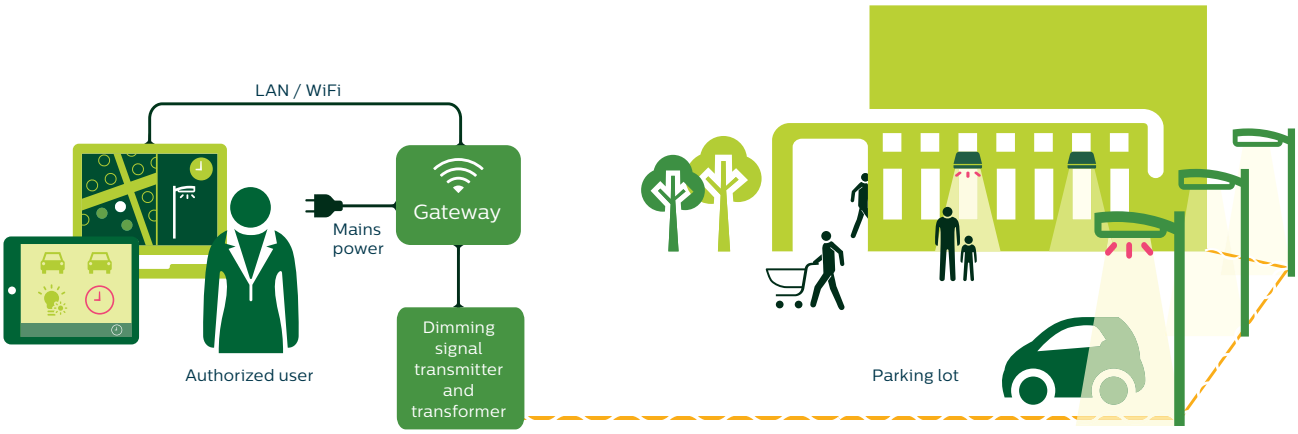
ECF-L EcoForm large

Site & Area

SiteWise system

SiteWise is a complete area lighting management system including a luminaire integrated controller, dimming signal transmitter cabinet, and locally accessible user interface. Installation and commissioning are simple. The cabinet communicates with the Philips luminaires using a patented central dimming technology. The control signal is embedded on the existing electrical line – no new cabling is required. An intuitive, locally accessible interface makes it easy for authorized users to set schedules in order to meet site specific lighting needs, local regulations, and energy codes.

SiteWise system diagram



SiteWise system interface

SiteWise has an intuitive user interface that makes it easy to plan, edit, and implement lighting schedules for your site. Authorized users can access the interface via a local app.

To ensure that only authorized users can access your lighting, SiteWise offers two user types, each with different permissions. An advanced user, or administrator, can set and edit schedules using the ten pre-set scenes, assign those schedules to calendar days, and check system status.

For everyday use, a basic user can manually override a schedule that is currently running but cannot create or edit schedules.

SiteWise system specifications

The SiteWise system includes both luminaires and controls. The controls used for SiteWise are circuit load dependent. Required for a complete installation are the following Philips SiteWise components: user interface, control kit, dimming signal transmitter cabinet, and dimming signal receiver located in the Philips luminaire (**SW** option). Optional luminaire-integrated or external motion sensors may also be specified as required. Within the electrical closet, the control kit and dimming signal transmitter cabinet are installed into the electrical system between the existing breaker panel and the site luminaires. New LED luminaires containing the dimming signal receiver are installed on the site. Once completed, use of the interface allows for scheduling and override capabilities. Wireless access point and tablet should be supplied by others. Complete information on the control system can be found on the SiteWise website at **philips.com/sitewise**

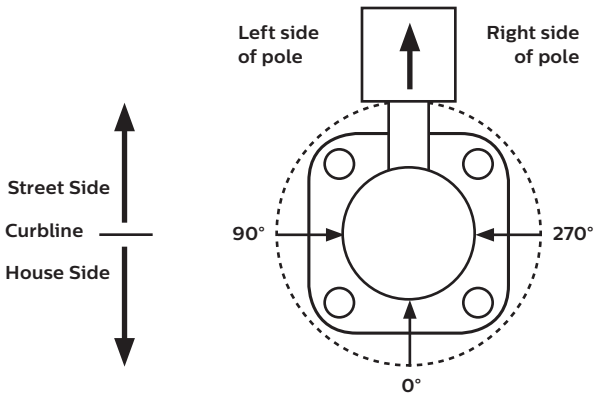
ECF-L EcoForm large

Site & Area

Optical Orientation Information

Standard Optic Position

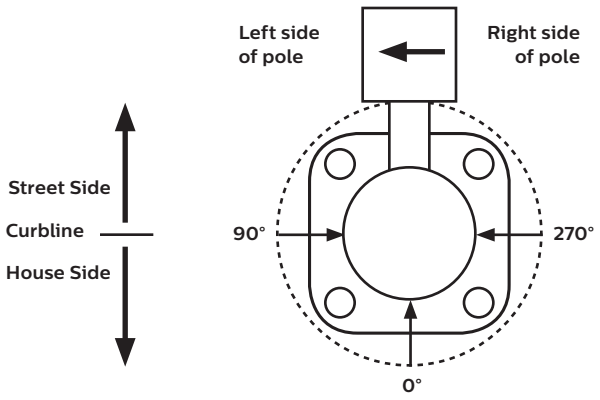
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



Note: The hand hole will normally be located on the pole at the 0° point.

Optic Rotated Left (90°) Optic Position

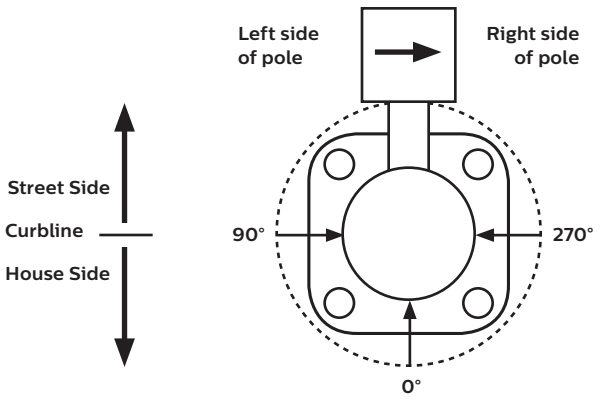
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



Note: The hand hole will normally be located on the pole at the 0° point.

Optic Rotated Right (270°) Optic Position

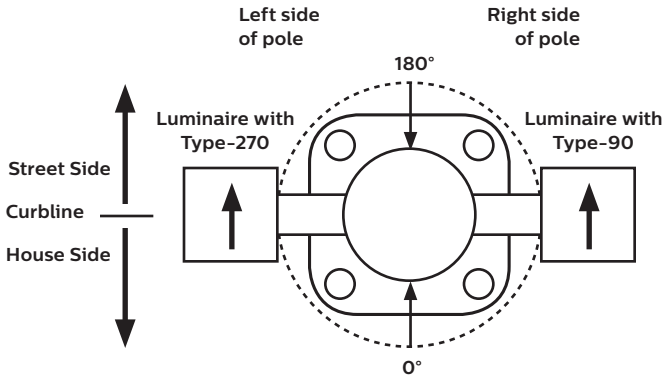
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



Note: The hand hole will normally be located on the pole at the 0° point.

Twin Luminaire Assemblies with Type-90/Type-270 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.



Luminaires with Optic Rotated Right (270°) are installed on the LEFT Side of Pole

Luminaires with Optic Rotated Left (90°) are installed on the RIGHT Side of Pole

Note: The hand hole location will depend on the drilling configuration ordered for the pole.

ECF-L EcoForm large

Site & Area

Specifications

Housing

One piece die cast aluminum housing with integral arm and separate,self retained hinged, one piece die cast door frame.

IP Rating

LED light engine rated IP66. Driver compartment rated to IP65.

Vibration resistance

EcoForm with Standard Arm 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.

Electrical

Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

LED Board and Array

80 or 96 LEDs. Color temperatures: 3000k +/- 125K, 4000K, 5000K +/- 200K. Minimum CRI of 70. Aluminum metal clad board. RoHS compliant.

LED Thermal management

The housing design allows the one piece housing to provide excellent thermal management critical to long LED system life.

Energy saving benefits

System efficacy up to 122 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

SiteWise network system

SiteWise system includes a controller fully integrated in the luminaire that enables the luminaires to communicate with a dimming signal transmitter cabinet located on site using Philips patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems.

Wireless system

EcoForm luminaires are available with optional wireless controllers ready to be connected to a Limelight system (sold by other). The system allows you to wirelessly manage the entire site, independent lighting groups or individual luminaires while on-site or remotely. Based on a high density mesh network with an easy to use web-based portal, you can conveniently access, monitor and manage your lighting network remotely. Wireless controls can be combined with site and area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor solution.

Optical systems

Type 2, 3, 4, 5, 5W, and AFR distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, 4, and AFR distributions to control backlight.

Types 2, 3, 4, and AFR, when specified and used as rotated, are factory set only.

Mounting

Standard luminaire arm mounts to 4" round poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles.

Retrofit Arm Mount

EcoForm features an innovative retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately.

Listings

UL/cUL listed to the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40° to 40°C (-40° to 104°F). The quality systems of this facility have been registered by UL to the ISO 9001 series standards. Most EcoForm configurations are DesignLights Consortium® qualified. Consult DLC Qualified Products list for more details.

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 (BZ), black (BK), white (WH), dark gray (DGY), and medium gray (MGY). Consult factory for specs on optional or custom colors.

Warranty

EcoForm 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 **philips.com/luminaires** for complete details and exclusions.

Philips Lighting North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

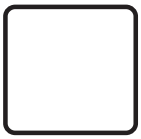
Philips Lighting Canada Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008

Job:
Type:
Notes:

Poles

4" Straight Square Steel

The Philips Gardco SSS straight steel pole consists of a one-piece square fabricated steel lighting standard. The carbon steel base plate is secured to the shaft with a continuous circumferential weld providing excellent strength and integrity. The poles are finished with an electrostatically applied, thermally cured TGIC polyester powdercoat. All poles include anchor bolts, full base cover, hand hole, ground lug and top cap.



PREFIX	HEIGHT	SIZE	GAUGE	DRILLING	FINISH	OPTIONS
SSS4	20	4	11	D2	FINISH	

Enter the order code into the appropriate box above. Note: Philips 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 consult the factory.

PREFIX

SSS4

HEIGHT

10'
12'
14'
15'
18'
20'
24'
25'
30'

SIZE

4"

GAUGE

7
11

DRILLING

D1	1 Way
D2	2 Way
D2@90	2 Way at 90°
D3	3 Way
D4	4 Way
T2	2 3/8" OD Tenon
T4	4" OD Tenon

FINISH

PP	Prime Painted
BRP	Bronze Paint
BLP	Black Paint
WP	White Paint
NP	Natural Aluminum Paint
GV	Galvanized *(No Paint)*
FPGV	Finished Paint over Galvanized *(specify color)*
OC	Optional Color Paint *Specify RAL designation ex: OC-RAL7024.*
SC	Special Color Paint *Specify. Must supply color chip.*

OPTIONS

FES	Festoon Outlet
AHH	Additional Hand Hole

For Festoon Outlets and Additional Hand Holes, indicate height above base and orientation to original hand hole. See Pole Orientation Information on Page 4.

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 Orientataion Information on Page 4.

CL Coupling - Internal thread

Single Mount Bullhorn Brackets

Indicate height above base and orientation to hand hole. See Pole Orientation Information on Page 4.

GM-080-19	Single - 1.9" OD
GM-080-24	Single - 2.4" OD

Motion Response Provisions

GMR Provision for Gardco HID Motion Response System

Minimum Pole Height is 18'. 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 is 18'. Includes a special hand hole with 1/2" coupling placed in the cover plate, 180° to the hand hole, 15' above the pole base.

Refer to Steel Pole Accessories sheet 79415-26 for additional accessories.

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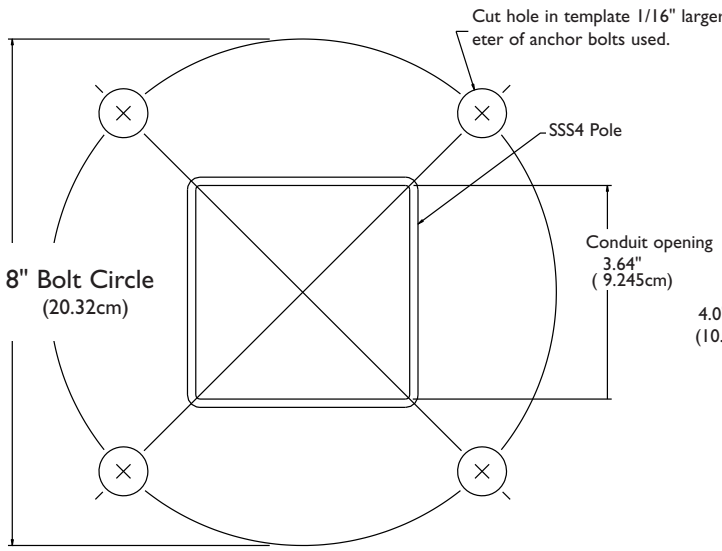
POLE DATA

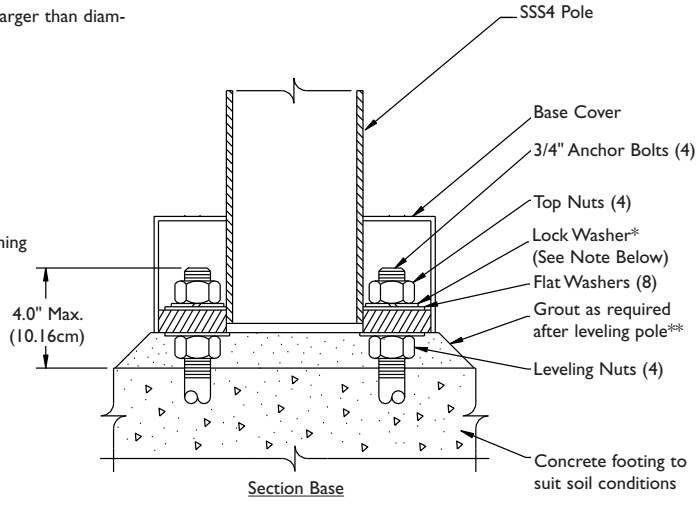
CATALOG NUMBER		POLE SIZE		MAXIMUM LUMINAIRE LOADING[1]									ANCHOR BOLT DATA[2]		
				HIGH WIND CONDITIONS						NORMAL WIND CONDITIONS					
				130 MPH		120 MPH		110 MPH		100 MPH	90 MPH	80 MPH			
PREFIX	HEIGHT (FT.)	POLE SIZE (inches)	GAUGE	EPA FT^2	Max Weight (lbs)	EPA FT^2	Max Weight (lbs)	EPA FT^2	Max Weight (lbs)	EPA FT^2	EPA FT^2	EPA FT^2	BOLT CIRCLE (inches)	BOLT SIZE (inches)	MAX PROJ. (inches)
SSS	10	4	11	9.9	248	12.0	300	14.5	363	18.9	23.9	30.6	8.0"	3/4 x 17 x 3	4.0"
SSS	12	4	11	7.4	185	9.2	230	11.3	283	14.8	18.8	24.4	8.0"	3/4 x 17 x 3	4.0"
SSS	14	4	11	5.5	138	7.0	175	8.8	220	11.7	15.1	19.9	8.0"	3/4 x 17 x 3	4.0"
SSS	15	4	11	3.8	95	5.0	125	6.7	168	8.9	11.8	15.9	8.0"	3/4 x 17 x 3	4.0"
SSS	18	4	11	2.3	58	3.5	88	4.8	120	6.7	9.2	12.6	8.0"	3/4 x 17 x 3	4.0"
SSS	20	4	11	-	-	1.9	48	3.3	83	4.5	6.7	9.6	8.0"	3/4 x 17 x 3	4.0"
SSS	20	4	7	4.3	108	5.6	140	7.4	185	8.8	11.8	16.0	8.0"	3/4 x 17 x 3	4.0"
SSS	25	4	11	-	-	-	-	-	-	1.0	2.6	4.8	8.0"	3/4 x 17 x 3	4.0"
SSS	25	4	7	1.6	40	2.6	65	3.8	95	5.4	7.7	10.8	8.0"	3/4 x 17 x 3	4.0"
SSS	30	4	7	-	-	-	-	1.2	50	2.6	4.4	6.7	8.0"	3/4 x 17 x 3	4.0"

1. **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.
2. 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.

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.



*Anchor Bolt Lock Washers are not normally required and are not included in standard anchor bolt sets. They are available upon request at additional cost.
**** Grouting should include a drainage slot or tube (by others) to permit water to drain from the base of the pole. Failure to provide drainage may weaken the pole base structure over time and may result in pole base failure, for which Philips Gardco is not responsible.**

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SPECIFICATIONS

POLE SHAFT: The pole shaft is fabricated from a single-piece of 11 ga (.1196") or 7 ga (.1793") commercial carbon steel. The formed steel plate is longitudinally welded providing minimum yield strength of 46 KSI.

ANCHOR BASE: The pole anchor base is fabricated from A-36 structural quality carbon steel with a minimum yield strength of 36 KSI. The base plate telescopes the pole shaft and is circumferentially welded on both top and bottom.

ANCHOR BOLTS: Anchor bolts are fabricated from a commercial quality hot rolled carbon steel bar that meets or exceeds a minimum guaranteed yield strength of 50,000 psi. Bolts have an "L" bend on one end and threaded on the opposite end. Anchor bolts are galvanized a minimum of 12" on the threaded end. Four (4) properly sized bolts, each furnished with two (2) regular hex nuts and two (2) flat washers, are provided per pole, unless otherwise specified.

BASE COVER: A two-piece base cover completely conceals the entire base plate and anchorage.

HAND HOLE: The reinforced hand hole has a nominal rectangular 2" X 4" inside opening in the pole shaft. Included is a cover plate with attachment screws. The hand hole is located 18" above the base and 180° clockwise with respect to the luminaire arm when viewed from the top of the pole for one arm. For two arms the hand hole is located directly under one arm.

POLE TOP CAP: Each pole assembly is provided with a removable pole top cap.

FINISH: Poles are available with a bronze, natural, white or black electrostatically applied, thermally cured TGIC polyester powdercoat finish.

STOCK POLES: Poles provided from stock under the Quick Ship program are drilled for four (4) luminaires at 90° with three (3) hole sets plugged.

GENERAL POLE INFORMATION

DESIGN: The poles as charted are designed to withstand dead loads and predicted dynamic loads developed by variable wind speeds with an additional 30% gust factor under the following conditions:

The charted weights include luminaire(s) and/or mounting bracket(s).

The wind velocities are based on 10 mph increments from 80 mph through 100 mph. Poles to be located in areas of known abnormal conditions may require special consideration. For example: coastal areas, airports and areas of special winds.

Poles are designed for ground mounted applications. Poles mounted on structures (such as buildings and bridges) may also necessitate special consideration requiring Philips Gardco's recommendation.

Height correction factors and drag coefficients are applied to the entire structure. An appropriate safety factor is maintained based on the minimum yield strength of the material incorporated in the pole.

WARNING: This design information is intended as a general guideline only. The customer is solely responsible for proper selection of pole, luminaire, accessory and foundation under the given site conditions and intended usage. The addition of any items to the pole, in addition to the luminaire, will dramatically impact the EPA load on that pole. It is strongly recommended that a qualified professional be consulted to analyze the loads given the user's specific needs to ensure proper selection of the pole, luminaire, accessories, and foundation. Philips Gardco assumes no responsibility for such proper analysis or product selections. **Failure to insure proper site analysis, pole selection, loads and installation can result in pole failure, leading to serious injury or property damage.**

GENERAL INFORMATION: Mounting height is the vertical distance from the base of the lighting pole to the center of the luminaire arm at the point of luminaire attachment.Twin arms as charted are oriented at 180° with respect to each other. For applications of two (2) arms at 90° or other multiple arm applications, consult the factory.

WARRANTY: Philips Gardco poles feature a 1 year limited warranty. See Warranty Information on www.sitelighting.com for complete details and exclusions.

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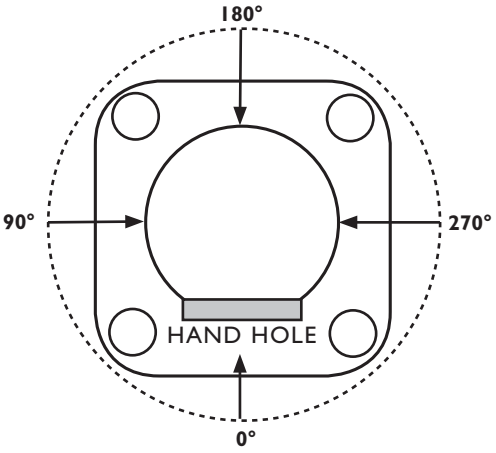
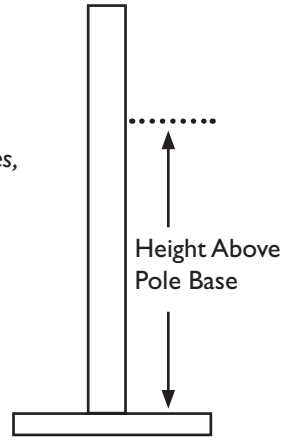
ORIENTATION INFORMATION

FACTORY INSTALLED OPTIONS AND ACCESSORIES



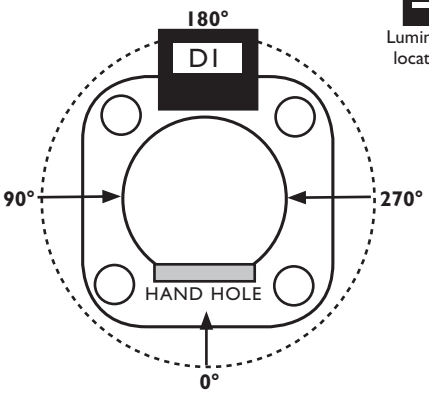
Orientation is measured clockwise from the Hand Hole Center.

For Factory Installed Options and Accessories, Specify Orientation from Hand Hole and Height Above Pole Base Where Required.



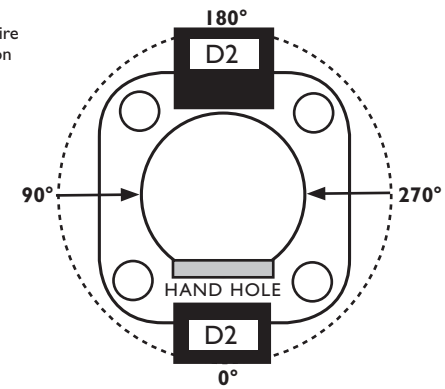
STANDARD ARM MOUNT LUMINAIRE ORIENTATION

D1 Drilled for Single Luminaire

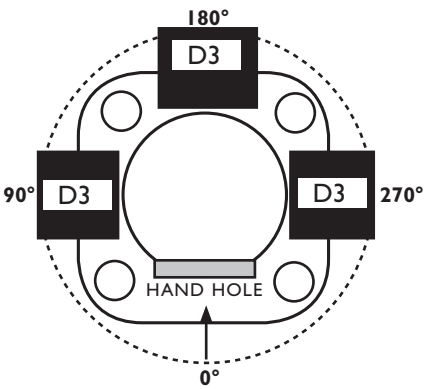


Luminaire location

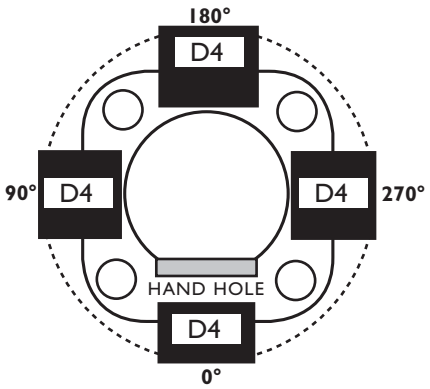
D2 Drilled for 2 Luminaires at 180°



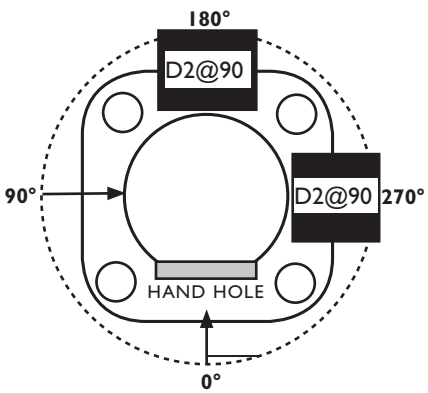
D3 Drilled for 3 Luminaires @ 90°



D4 Drilled for 4 Luminaires at 90°



D2@90 Drilled for 2 Luminaires at 90°



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