

JOB NAME: 22 DEPOT STREET - RICHMOND, VT  
 APEX LIGHTING SOLUTIONS  
 WORKPLANE/CALC PLANE: AT FINISH GRADE  
 MOUNTING HEIGHT: 12FT  
 APPS: LED  
 SALES: TC

Luminaire Schedule							
Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating	Description
2	S3S	Single	4292	40	0.900	B1-U0-G2	GARDCO ECF-S-32L-365-WW-G2-AR-3-UNV-FINISH-HIS / MOUNTED TO TRA-CB-12-x-D1-NA

Calculation Summary						
Label	Grid Height	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	0	0.11	4.1	0.0	N.A.	N.A.
PARKING LOT		1.53	4.1	0.4	3.83	10.25

**GENERAL DISCLAIMER:**  
 Calculations have been performed according to IES standards and good practice. Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.  
 \* LLF Determined Using Current Published Lamp Data

**NOTE TO REVIEWER:**  
 Total Light Loss Factor (LLF) applied at time of design is determined by applying the Lamp Lumen Depreciation (LLD) from current lamp manufacturer's catalog, a Luminaire Dirt Depreciation Factor (LDD) based on IES recommended values and a Ballast Factor (BF) from current ballast specification sheets. Application of an incorrect Light Loss Factor (LLF) will result in forecasts of performance that will not accurately depict actual results.  
 For proper comparison of photometric layouts, it is essential that you insist all designers use correct Light Loss Factors.



PROJECT TITLE:  
 22 DEPOT STREET  
 RICHMOND, VT

DRAWING TITLE:  
 SITE LIGHTING  
 PHOTOMETRIC CALCULATION

SCALE : 1"=10'-0"  
 DATE: 4/17/23  
 DRAWN BY: LED  
 SHEET:  
**SL-2**

FILE NAME: 2023-04-17 SL-2 22 DEPOT STREET - RICHMOND, VT-LED.dwg



**Gardco EcoForm Gen-2** combines economy with performance in an LED area luminaire. Capable of delivering up to 27,800 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. Includes Service Tag, our innovative way to provide assistance throughout the life of the product.

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

### Ordering guide

example: ECF-S-64L-900-NW-G2-AR-5-120-HIS-MGY

Prefix		Number of LEDs	Drive Current	LED Color - Generation	Mounting	Distribution	Voltage			
<b>ECF-S</b>										
ECF-S	EcoForm site and area, small	32L 32 LEDs (2 modules)	365 365mA	WW-G2 Warm White 3000K, 70CRI Generation 2 NW-G2 Neutral White 4000K, 70CRI Generation 2 CW-G2 Cool White 5000K, 70CRI Generation 2	AR <sup>2</sup> Arm Mount (standard)  The following mounting kits must be ordered separately (See accessories)  SF <sup>3</sup> Slip Fitter Mount (fits to 2 3/8" O.D. tenon) WS Wall mount with surface conduit rear entry permitted RAM <sup>2</sup> Retrofit arm mount kit	<b>Type 2</b> 2 Type 2 2-90 Rotated left 90° 2-270 Rotated right 270° <b>Type 3</b> 3 Type 3 3-90 Rotated left 90° 3-270 Rotated right 270° <b>Type 4</b> 4 Type 4 4-90 Rotated left 90° 4-270 Rotated right 270° <b>Type 5</b> 5 Type 5 5W Type 5W	120 120V 208 208V 240 240V 277 277V 347 347V 480 480V UNV 120-277V (50/60Hz) HVU 347-480V (50/60Hz)			
			530 530mA					700 700mA	1A 1050mA	1.2A 1200mA
			900 900mA					1A 1050mA	1.2A <sup>19</sup> 1200mA	
		48L 48 LEDs (3 modules)	900 900mA							
		64L 64 LEDs (4 modules)	900 900mA							

Options						
Dimming controls	Motion sensing lens	Photo-sensing	Electrical	Luminaire	Finish	
DD <sup>4,18</sup> 0-10V External dimming (for controls by others) DCC <sup>4,5,6,18</sup> Dual Circuit Control FAWS <sup>4,5,18</sup> Field Adjustable Wattage Selector LLC <sup>4,6,7,8,18</sup> Integral wireless module BL <sup>1,4,7,18</sup> Bi-level functionality SRDR <sup>4,5,6,8,17</sup> SR driver connected to Zhaga socket  <b>DynaDimmer: Automatic Profile Dimming</b> CS50 <sup>4,8</sup> Safety 50% Dimming, 7 hours CM50 <sup>4,8</sup> Median 50% Dimming, 8 hours CS30 <sup>4,8</sup> Safety 30% Dimming, 7 hours CM30 <sup>4,8</sup> Median 30% Dimming, 8 hours	IMR13 <sup>15</sup> Integral with #3 lens IMR17 <sup>16</sup> Integral with #7 lens	PCB <sup>8,9</sup> Photocontrol Button TLRD5 <sup>10,17</sup> Twist Lock Receptacle 5 Pin TLRD7 <sup>10,17</sup> Twist Lock Receptacle 7 Pin TLRPC <sup>9,10,11,17</sup> Twist Lock Receptacle w/ Photocell	<b>Fusing</b> F1 <sup>9</sup> Single (120, 277, 347VAC) F2 <sup>9</sup> Double (208, 240, 480VAC) <b>Pole Mount Fusing</b> FP1 <sup>9</sup> Single (120, 277, 347VAC) FP2 <sup>9</sup> Double (208, 240, 480VAC) FP3 <sup>9</sup> Canadian Double Pull (208, 240, 480VAC) <b>Surge Protection (10kA standard)</b> SP2 Increased 20kA	Square Pole Adapter included in standard product TB <sup>12</sup> Terminal Block RPA <sup>13</sup> Round Pole Adapter (fits to 3"- 3.9" O.D. pole) HIS <sup>14</sup> Internal House Side Shield	<b>Textured</b> BK Black WH White BZ Bronze DGY Dark Gray MGY Medium Gray  <b>Customer specified</b> RAL Specify optional color or RAL (ex: RAL7024) CC Custom color (Must supply color chip for required factory quote)	

- BL-IMR13/7 equipped with out-boarded sensor housing when voltage is HVU (347-480V)
- Mounts to a 4" round pole with adapter included for square poles.
- Limited to a maximum of 45 degrees aiming above horizontal.
- Not available with other dimming control options.
- Not available with motion sensor.
- Not available with photocontrol.
- Must specify a motion sensor lens.
- Not available in 347 or 480V
- Must specify input voltage.
- TLRD5, TLRD7 and TLRPC receptacle pins 4 & 5 are capped off when ordered with any of the Dimming controls DD or FAWS or LLC.
- Not available in 480V. Order photocell separately with TLRD5/7.
- Not available with DCC.
- Not available with SF and WS. RPAs provided with black finish standard.
- HIS not available with Type 5, 5W, BLC, BLC-90, BLC-270, LCL or RCL optics.
- Not available with DD, DCC, and FAWS dimming control options.
- Not available with DD, DCC, FAWS and LLC dimming control options.
- When ordering SRDR, controller (by others) to be used on socket must be SR compatible (See specifications for more details). Consult factory for lead time. All 7 pins in NEMA receptacle are connected to SR driver. SRDR not available with TLRD5 or TLRPC.
- 0-10V dimming driver standard.
- LCL and RCL not available with 48L-1.2A or 64L-1A.



# ECF-S EcoForm small

## Area luminaire

EcoForm Accessories<sup>21</sup> (ordered separately, field installed)

### Shielding Accessories

#### House Side shield

Standard optic orientation:

**HIS-32-H**<sup>20</sup> Internal House Side Shield for 32 LEDs (2 modules)

**HIS-48-H**<sup>20</sup> Internal House Side Shield for 48 LEDs (3 modules)

**HIS-64-H**<sup>20</sup> Internal House Side Shield for 64 LEDs (4 modules)

Optic at 90 or 270 orientation:

**HIS-32-V**<sup>20</sup> Internal House Side Shield for 32 LEDs (2 modules)

**HIS-48-V**<sup>20</sup> Internal House Side Shield for 48 LEDs (3 modules)

**HIS-64-V**<sup>20</sup> Internal House Side Shield for 64 LEDs (4 modules)

### Luminaire Accessories

**ECF-BD-G2** Bird deterrent  
**ECF-RAM-G2-(F)** Retrofit Arm mount kit  
**ECF-SF-G2-(F)** Slip Fitter Mount (fits to 2 3/8" O.D. tenon)  
**ECF-WS-G2-(F)** Wall mount with surface conduit rear entry permitted

**EcoForm PTF2**  
 (pole top fitter fits 23/8-21/2" OD x 4" depth tenon)

**PTF2-ECF-S/L-1-90-(F)** 1 luminaire at 90°  
**PTF2-ECF-S/L-2-90-(F)** 2 luminaires at 90°  
**PTF2-ECF-S/L-2-180-(F)** 2 luminaires at 180°  
**PTF2-ECF-S/L-3-90-(F)** 3 luminaires at 90°  
**PTF2-ECF-S/L-4-90-(F)** 4 luminaires at 90°  
**PTF2-ECF-S/L-3-120-(F)** 3 luminaires at 120°

(F) = Specify finish

**EcoForm PTF3**  
 (pole top fitter fits 3-31/2" OD x 6" depth tenon)

**PTF3-ECF-S/L-1-90-(F)** 1 luminaire at 90°  
**PTF3-ECF-S/L-2-90-(F)** 2 luminaires at 90°  
**PTF3-ECF-S/L-2-180-(F)** 2 luminaires at 180°  
**PTF3-ECF-S/L-3-90-(F)** 3 luminaires at 90°  
**PTF3-ECF-S/L-4-90-(F)** 4 luminaires at 90°  
**PTF3-ECF-S/L-3-120-(F)** 3 luminaires at 120°

**EcoForm PTF4**  
 (pole top fitter fits 31/2-4" OD x 6" depth tenon)

**PTF4-ECF-S/L-1-90-(F)** 1 luminaire at 90°  
**PTF4-ECF-S/L-2-90-(F)** 2 luminaires at 90°  
**PTF4-ECF-S/L-2-180-(F)** 2 luminaires at 180°  
**PTF4-ECF-S/L-3-90-(F)** 3 luminaires at 90°  
**PTF4-ECF-S/L-4-90-(F)** 4 luminaires at 90°  
**PTF4-ECF-S/L-3-120-(F)** 3 luminaires at 120°

### Footnotes

20. Not available with Type 5 or 5W optics

21. Consult Signify to confirm whether specific accessories are BAA-compliant.

**Ready to Go configurations** (when ordered with the "RS-" catalog code, the following configurations will ship in 2 weeks):

Catalog Number	12NC	Catalog Number	12NC
RS-ECF-S-32L-1A-NW-G2-AR-3-UNV-BZ	912401466002	RS-ECF-S-64L-1A-NW-G2-AR-3-UNV-BK	912401534560
RS-ECF-S-32L-1A-NW-G2-AR-3-UNV-MGY	912401466003	RS-ECF-S-64L-1A-NW-G2-AR-4-UNV-BZ	912401466016
RS-ECF-S-32L-1A-NW-G2-AR-3-UNV-BK	912401534554	RS-ECF-S-64L-1A-NW-G2-AR-4-UNV-MGY	912401466017
RS-ECF-S-32L-1A-NW-G2-AR-4-UNV-BZ	912401466004	RS-ECF-S-64L-1A-NW-G2-AR-4-UNV-BK	912401534561
RS-ECF-S-32L-1A-NW-G2-AR-4-UNV-MGY	912401466005	RS-ECF-S-64L-1A-NW-G2-AR-5-UNV-BZ	912401466018
RS-ECF-S-32L-1A-NW-G2-AR-4-UNV-BK	912401534555	RS-ECF-S-64L-1A-NW-G2-AR-5-UNV-MGY	912401466019
RS-ECF-S-32L-1A-NW-G2-AR-5-UNV-BZ	912401466006	RS-ECF-S-64L-1A-NW-G2-AR-5-UNV-BK	912401534562
RS-ECF-S-32L-1A-NW-G2-AR-5-UNV-MGY	912401466007	RS-ECF-RAM-G2-DGY	912401466487
RS-ECF-S-32L-1A-NW-G2-AR-5-UNV-BK	912401534556	RS-ECF-RAM-G2-MGY	912401466488
RS-ECF-S-48L-1A-NW-G2-AR-3-UNV-BZ	912401466008	RS-ECF-RAM-G2-WH	912401466485
RS-ECF-S-48L-1A-NW-G2-AR-3-UNV-MGY	912401466009	RS-ECF-RAM-G2-BZ	912401466486
RS-ECF-S-48L-1A-NW-G2-AR-3-UNV-BK	912401534557	RS-ECF-RAM-G2-BK	912401466484
RS-ECF-S-48L-1A-NW-G2-AR-4-UNV-BZ	912401466010	RS-HIS-32-H	912401466489
RS-ECF-S-48L-1A-NW-G2-AR-4-UNV-MGY	912401466011	RS-HIS-48-H	912401466491
RS-ECF-S-48L-1A-NW-G2-AR-4-UNV-BK	912401534558	RS-HIS-64-H	912401466493
RS-ECF-S-48L-1A-NW-G2-AR-5-UNV-BZ	912401466012		
RS-ECF-S-48L-1A-NW-G2-AR-5-UNV-MGY	912401466013		
RS-ECF-S-48L-1A-NW-G2-AR-5-UNV-BK	912401534559		
RS-ECF-S-64L-1A-NW-G2-AR-3-UNV-BZ	912401466014		
RS-ECF-S-64L-1A-NW-G2-AR-3-UNV-MGY	912401466015		

# ECF-S EcoForm small

## Area luminaire

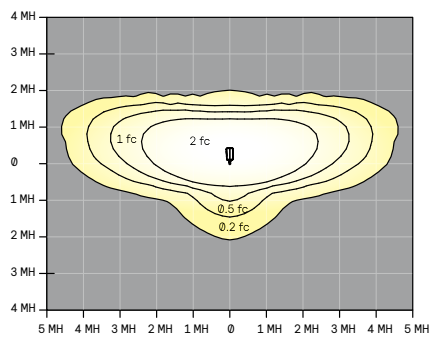
### Predicted Lumen Depreciation Data

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<sub>70</sub> is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L<sub>70</sub> hours limited to 6 times actual LED test hours

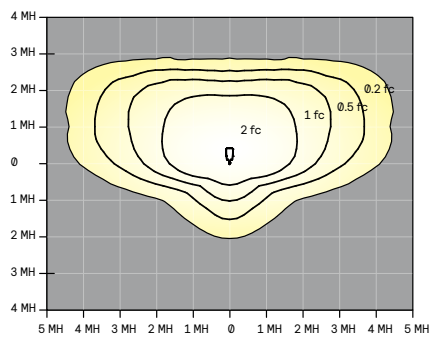
Ambient Temperature °C	Driver mA	Calculated L <sub>70</sub> Hours	L <sub>70</sub> per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1200 mA	>100,000 hours	>120,000 hours	>99%

### Optical Distributions

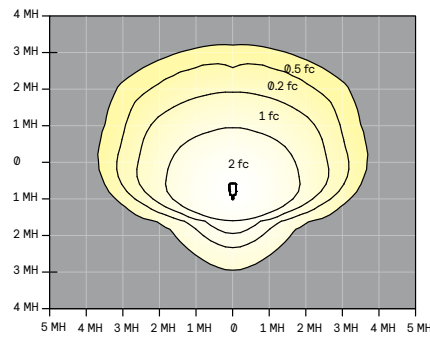
Based on configuration ECF-S-48L-1A-NW-G2 (159W) mounted at 20ft.



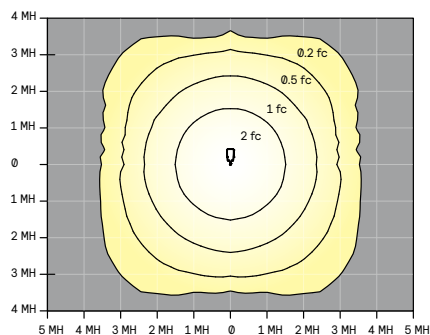
Type 2



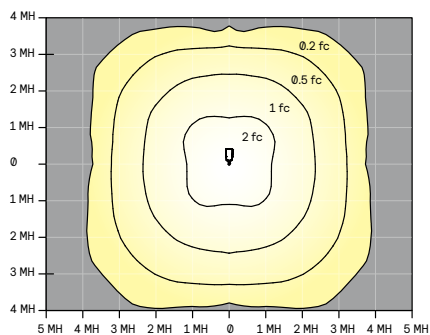
Type 3



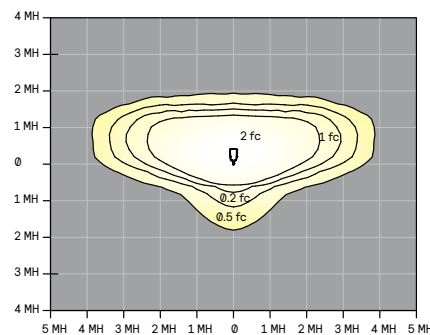
Type 4



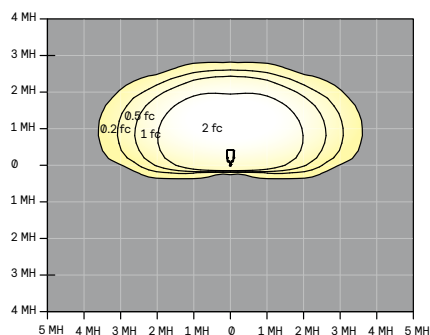
Type 5



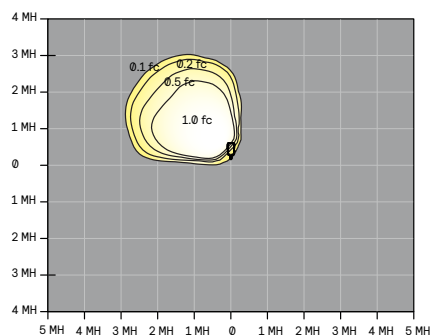
Type 5W



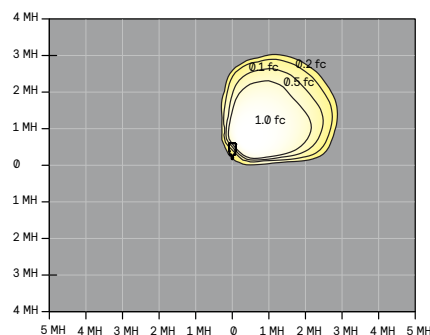
AFR



BLC



LCL



RCL

# ECF-S EcoForm small

## Area luminaire

### 3000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2			Type 3			Type 4			Type 5			Type 5W		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-WW-G2-x	32	365	3000	40	5,508	B1-U0-G1	138	5,428	B1-U0-G2	136	5,637	B1-U0-G2	141	5,790	B3-U0-G1	145	5,604	B3-U0-G1	140
ECF-S-32L-530-WW-G2-x	32	530	3000	56	7,159	B2-U0-G2	129	7,055	B1-U0-G2	127	7,327	B1-U0-G2	132	7,526	B3-U0-G2	135	7,284	B3-U0-G2	131
ECF-S-32L-700-WW-G2-x	32	700	3000	73	9,234	B2-U0-G2	127	9,034	B2-U0-G2	124	9,452	B2-U0-G2	130	9,707	B4-U0-G2	133	9,395	B4-U0-G2	129
ECF-S-32L-1A-WW-G2-x	32	1050	3000	106	13,001	B3-U0-G2	123	12,719	B2-U0-G2	120	13,306	B2-U0-G3	126	13,665	B4-U0-G2	129	13,227	B4-U0-G2	125
ECF-S-32L-1.2A-WW-G2-x	32	1200	3000	122	14,421	B3-U0-G3	119	14,108	B2-U0-G3	116	14,760	B2-U0-G3	121	15,158	B4-U0-G2	125	14,671	B4-U0-G2	121
ECF-S-48L-900-WW-G2-x	48	900	3000	135	17,115	B3-U0-G3	127	16,744	B3-U0-G3	124	17,518	B2-U0-G3	130	17,990	B4-U0-G2	133	17,413	B5-U0-G3	129
ECF-S-48L-1A-WW-G2-x	48	1050	3000	159	19,381	B3-U0-G3	122	18,960	B3-U0-G3	119	19,836	B3-U0-G4	125	20,372	B5-U0-G3	128	19,717	B5-U0-G3	124
ECF-S-48L-1.2A-WW-G2-x	48	1200	3000	183	21,515	B3-U0-G3	118	21,048	B3-U0-G4	115	22,020	B3-U0-G4	121	22,616	B5-U0-G3	124	21,888	B5-U0-G3	120
ECF-S-64L-900-WW-G2-x	64	900	3000	178	22,652	B3-U0-G3	127	22,161	B3-U0-G4	125	23,185	B3-U0-G4	130	23,810	B5-U0-G3	134	23,045	B5-U0-G3	130
ECF-S-64L-1A-WW-G2-x	64	1050	3000	206	25,520	B3-U0-G3	124	24,966	B3-U0-G4	121	26,120	B3-U0-G4	127	26,150	B5-U0-G3	127	25,964	B5-U0-G4	126

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			BLC			LCL or RCL		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-WW-G2-x	32	365	3000	40	5,706	B2-U0-G1	143	3,691	B0-U0-G1	94	2,449	B0-U0-G1	62
ECF-S-32L-530-WW-G2-x	32	530	3000	56	7,417	B2-U0-G1	133	5,005	B0-U0-G2	91	3,183	B0-U0-G1	58
ECF-S-32L-700-WW-G2-x	32	700	3000	73	9,567	B2-U0-G2	131	6,409	B0-U0-G2	89	4,106	B0-U0-G1	57
ECF-S-32L-1A-WW-G2-x	32	1050	3000	106	13,467	B3-U0-G2	128	9,024	B1-U0-G2	87	5,793	B0-U0-G2	56
ECF-S-32L-1.2A-WW-G2-x	32	1200	3000	122	14,939	B3-U0-G2	123	10,010	B1-U0-G2	84	6,426	B0-U0-G2	54
ECF-S-48L-900-WW-G2-x	48	900	3000	135	17,731	B3-U0-G2	131	11,880	B1-U0-G2	89	7,626	B0-U0-G2	57
ECF-S-48L-1A-WW-G2-x	48	1050	3000	159	20,076	B3-U0-G2	127	13,453	B1-U0-G2	86	8,636	B0-U0-G2	55
ECF-S-48L-1.2A-WW-G2-x	48	1200	3000	183	22,288	B3-U0-G2	122	14,934	B1-U0-G3	83			
ECF-S-64L-900-WW-G2-x	64	900	3000	178	23,465	B3-U0-G2	132	15,723	B1-U0-G3	90	10,093	B0-U0-G2	58
ECF-S-64L-1A-WW-G2-x	64	1050	3000	206	26,437	B4-U0-G3	128	17,714	B1-U0-G3	87			

### 4000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2			Type 3			Type 4			Type 5			Type 5W		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-NW-G2-x	32	365	4000	40	5,798	B1-U0-G1	145	5,713	B1-U0-G2	143	5,934	B1-U0-G2	148	6,094	B3-U0-G1	152	5,898	B3-U0-G2	147
ECF-S-32L-530-NW-G2-x	32	530	4000	56	7,536	B2-U0-G2	135	7,426	B1-U0-G2	133	7,713	B1-U0-G2	138	7,922	B3-U0-G2	142	7,667	B3-U0-G2	138
ECF-S-32L-700-NW-G2-x	32	700	4000	73	9,720	B2-U0-G2	133	9,509	B2-U0-G2	130	9,949	B2-U0-G2	136	10,218	B4-U0-G2	140	9,889	B4-U0-G2	136
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	13,685	B3-U0-G2	130	13,388	B2-U0-G3	127	14,006	B2-U0-G3	133	14,384	B4-U0-G2	136	13,923	B4-U0-G2	132
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	15,180	B3-U0-G3	125	14,851	B2-U0-G3	122	15,537	B2-U0-G3	128	15,956	B4-U0-G2	131	15,443	B4-U0-G2	127
ECF-S-48L-900-NW-G2-x	48	900	4000	135	18,016	B3-U0-G3	133	17,625	B3-U0-G3	130	18,440	B3-U0-G3	136	18,937	B4-U0-G3	140	18,329	B5-U0-G3	136
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	20,401	B3-U0-G3	129	19,958	B3-U0-G4	126	20,880	B3-U0-G4	132	21,444	B5-U0-G3	135	20,755	B5-U0-G3	131
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	22,647	B3-U0-G3	124	22,156	B3-U0-G4	121	23,179	B3-U0-G4	127	23,806	B5-U0-G3	130	23,040	B5-U0-G3	126
ECF-S-64L-900-NW-G2-x	64	900	4000	178	23,844	B3-U0-G3	134	23,327	B3-U0-G4	131	24,405	B3-U0-G4	137	25,063	B5-U0-G3	141	24,258	B5-U0-G4	136
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	26,863	B3-U0-G3	130	26,280	B3-U0-G4	128	27,495	B3-U0-G4	134	27,526	B5-U0-G3	134	27,330	B5-U0-G4	133

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			BLC			LCL or RCL		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-NW-G2-x	32	365	4000	40	6,006	B2-U0-G1	150	3,991	B0-U0-G1	101	2,633	B0-U0-G1	67
ECF-S-32L-530-NW-G2-x	32	530	4000	56	7,807	B2-U0-G1	140	5,412	B0-U0-G2	99	3,423	B0-U0-G1	62
ECF-S-32L-700-NW-G2-x	32	700	4000	73	10,070	B2-U0-G2	138	6,930	B0-U0-G2	96	4,415	B0-U0-G1	61
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	14,176	B3-U0-G2	134	9,756	B1-U0-G2	94	6,229	B0-U0-G2	60
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	15,725	B3-U0-G2	129	10,822	B1-U0-G2	90	6,910	B0-U0-G2	58
ECF-S-48L-900-NW-G2-x	48	900	4000	135	18,664	B3-U0-G2	138	12,843	B1-U0-G2	96	8,200	B0-U0-G2	62
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	21,133	B3-U0-G2	133	14,544	B1-U0-G3	93	9,286	B0-U0-G2	59
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	23,461	B3-U0-G2	128	16,145	B1-U0-G3	90			
ECF-S-64L-900-NW-G2-x	64	900	4000	178	24,700	B3-U0-G2	139	16,998	B1-U0-G3	97	10,853	B0-U0-G2	62
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	27,828	B4-U0-G3	135	19,150	B1-U0-G3	94			

# ECF-S EcoForm small

## Area luminaire

### 5000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2			Type 3			Type 4			Type 5			Type 5W		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-CW-G2-x	32	365	5000	40	5,798	B1-U0-G1	145	5,713	B1-U0-G2	143	5,934	B1-U0-G2	148	6,094	B3-U0-G1	152	5,898	B3-U0-G2	147
ECF-S-32L-530-CW-G2-x	32	530	5000	56	7,536	B2-U0-G2	135	7,426	B1-U0-G2	133	7,713	B1-U0-G2	138	7,922	B3-U0-G2	142	7,667	B3-U0-G2	138
ECF-S-32L-700-CW-G2-x	32	700	5000	73	9,720	B2-U0-G2	133	9,509	B2-U0-G2	130	9,949	B2-U0-G2	136	10,218	B4-U0-G2	140	9,889	B4-U0-G2	136
ECF-S-32L-1A-CW-G2-x	32	1050	5000	106	13,685	B3-U0-G2	130	13,388	B2-U0-G3	127	14,006	B2-U0-G3	133	14,384	B4-U0-G2	136	13,923	B4-U0-G2	132
ECF-S-32L-1.2A-CW-G2-x	32	1200	5000	122	15,180	B3-U0-G3	125	14,851	B2-U0-G3	122	15,537	B2-U0-G3	128	15,956	B4-U0-G2	131	15,443	B4-U0-G2	127
ECF-S-48L-900-CW-G2-x	48	900	5000	135	18,016	B3-U0-G3	133	17,625	B3-U0-G3	130	18,440	B3-U0-G3	136	18,937	B4-U0-G3	140	18,329	B5-U0-G3	136
ECF-S-48L-1A-CW-G2-x	48	1050	5000	159	20,401	B3-U0-G3	129	19,958	B3-U0-G4	126	20,880	B3-U0-G4	132	21,444	B5-U0-G3	135	20,755	B5-U0-G3	131
ECF-S-48L-1.2A-CW-G2-x	48	1200	5000	183	22,647	B3-U0-G3	124	22,156	B3-U0-G4	121	23,179	B3-U0-G4	127	23,806	B5-U0-G3	130	23,040	B5-U0-G3	126
ECF-S-64L-900-CW-G2-x	64	900	5000	178	23,844	B3-U0-G3	134	23,327	B3-U0-G4	131	24,405	B3-U0-G4	137	25,063	B5-U0-G3	141	24,258	B5-U0-G4	136
ECF-S-64L-1A-CW-G2-x	64	1050	5000	206	26,863	B3-U0-G3	130	26,280	B3-U0-G4	128	27,495	B3-U0-G4	134	27,526	B5-U0-G3	134	27,330	B5-U0-G4	133

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			BLC			LCL or RCL		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-365-CW-G2-x	32	365	5000	40	6,006	B2-U0-G1	150	3,991	B0-U0-G1	101	2,633	B0-U0-G1	67
ECF-S-32L-530-CW-G2-x	32	530	5000	56	7,807	B2-U0-G1	140	5,412	B0-U0-G2	99	3,423	B0-U0-G1	62
ECF-S-32L-700-CW-G2-x	32	700	5000	73	10,070	B2-U0-G2	138	6,930	B0-U0-G2	96	4,415	B0-U0-G1	61
ECF-S-32L-1A-CW-G2-x	32	1050	5000	106	14,176	B3-U0-G2	134	9,756	B1-U0-G2	94	6,229	B0-U0-G2	60
ECF-S-32L-1.2A-CW-G2-x	32	1200	5000	122	15,725	B3-U0-G2	129	10,822	B1-U0-G2	90	6,910	B0-U0-G2	58
ECF-S-48L-900-CW-G2-x	48	900	5000	135	18,664	B3-U0-G2	138	12,843	B1-U0-G2	96	8,200	B0-U0-G2	62
ECF-S-48L-1A-CW-G2-x	48	1050	5000	159	21,133	B3-U0-G2	133	14,544	B1-U0-G3	93	9,286	B0-U0-G2	59
ECF-S-48L-1.2A-CW-G2-x	48	1200	5000	183	23,461	B3-U0-G2	128	16,145	B1-U0-G3	90			
ECF-S-64L-900-CW-G2-x	64	900	5000	178	24,700	B3-U0-G2	139	16,998	B1-U0-G3	97	10,853	B0-U0-G2	62
ECF-S-64L-1A-CW-G2-x	64	1050	5000	206	27,828	B4-U0-G3	135	19,150	B1-U0-G3	94			

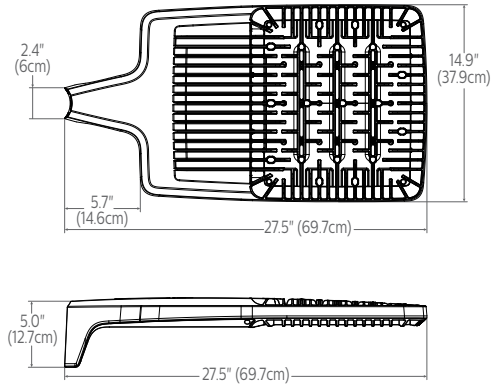
# ECF-S EcoForm small

## Area lumineuse

### Dimensions

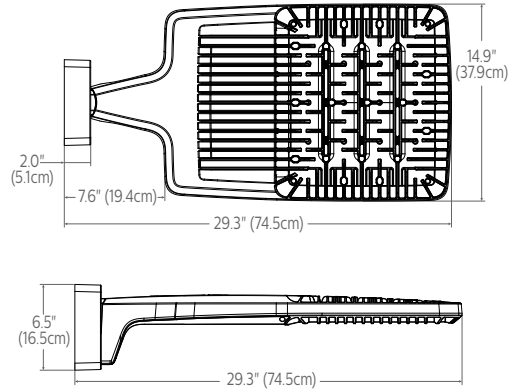
#### Standard Arm (AR)

Weight: 22 Lbs (9.9 Kg) EPA: 0.21ft<sup>2</sup> (.019m<sup>2</sup>)



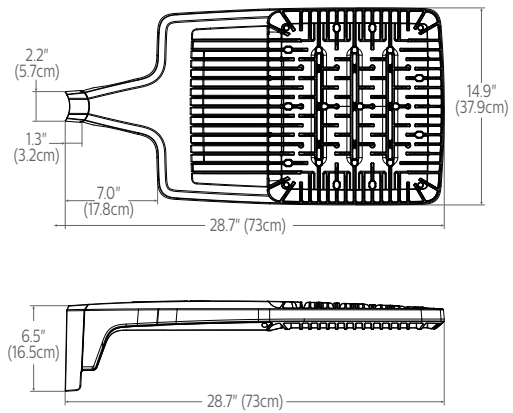
#### Wall (WS)

Weight: 27 Lbs. (12. 2Kg)EPA: 0.27ft<sup>2</sup> (.025m<sup>2</sup>)



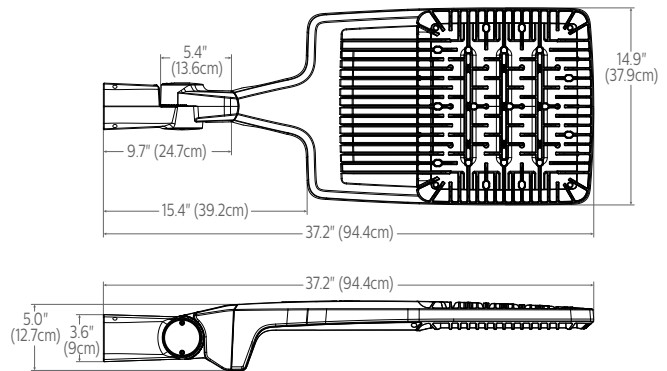
#### Retrofit Arm (RAM)

Weight: 24 Lbs (10.9 Kg) EPA: 0.24ft<sup>2</sup> (.022m<sup>2</sup>)

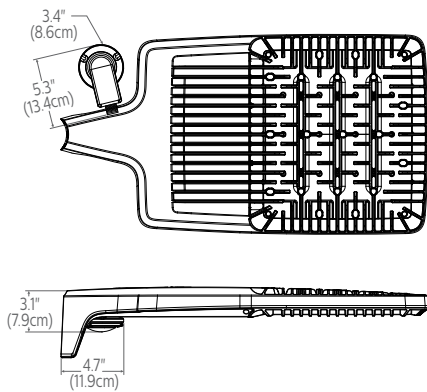


#### Slip fitter (SF)

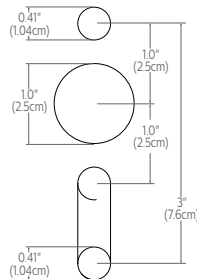
Weight: 27 Lbs (12.2 Kg) EPA: 0.33ft<sup>2</sup> (.031m<sup>2</sup>)



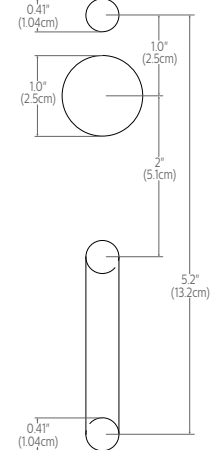
#### Outboard IMR-HVU sensor



#### Standard Arm (AR) drill pattern



#### Retrofit Arm (RAM) drill pattern



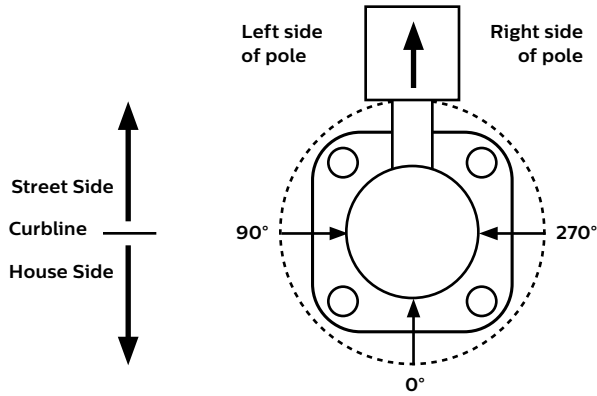
# ECF-S EcoForm small

## Area luminaire

### Optical Orientation Information

#### Standard Optic Position

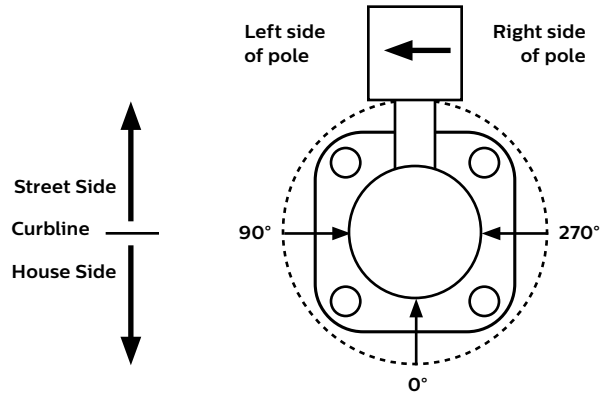
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



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

#### Optic Rotated Left (90°) Optic Position

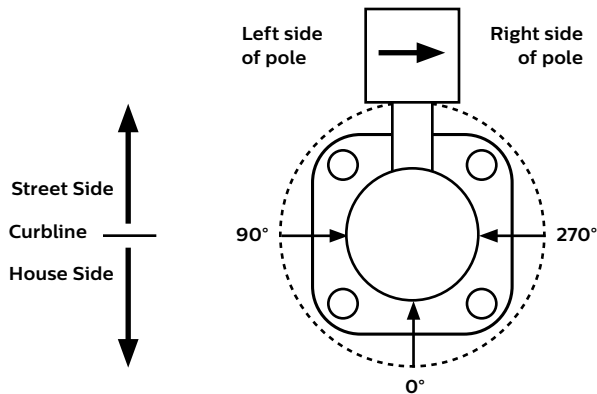
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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

#### Optic Rotated Right (270°) Optic Position

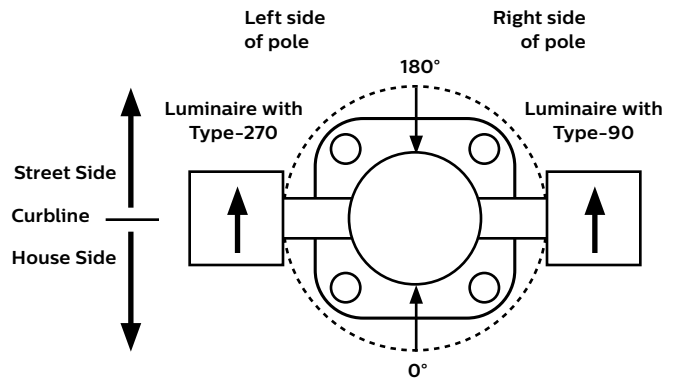
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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-S EcoForm small

## Area luminaire

### Specifications

#### Housing

One-piece die cast aluminum housing with integral arm and separate, self-retained hinged, one-piece die cast door frame. Luminaire housing rated to IP65, tested in accordance to Section 9 of IEC 60598-1.

#### Vibration resistance

Luminaire is tested and rated 3G over 100,000 cycles conforming to standards set forth by ANSI C136.31-2018. Testing includes vibration in three axes, all performed on the same luminaire.

#### Light engine

Light engine comprises of a module of 16-LED aluminum metal clad board fully sealed with optics offered in multiples of 2, 3, and 4 modules or 32, 48, and 64 LEDs. Module is RoHS compliant. Color temperatures: 3000K +/-125K, 4000K, 5000K +/- 200K. Minimum CRI of 70. LED light engine is rated IP66 in accordance to Section 9 of IEC 60598-1.

#### Energy saving benefits

System efficacy up to 152 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

#### 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, including a dedicated BLC, LCL, and RCL optics to provide the best backlight control possible for those stringent requirements around property lines. Types 2, 3, 4, AFR, and BLC when specified and used as rotated, are factory set only. Performance tested per LM-79 and TM-15 (IESNA) certifying its photometric performance. Luminaire designed with 0% uplight (U0 per IESNA TM-15).

#### Mounting

Standard luminaire arm mounts to 4" O.D. round poles. Can also be used with 5" O.D. poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles. EcoForm features a 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. Also optional are slipfitter and wall mounting accessories. Note that only fixed mounts (AR, RAM, WS) are required to meet IDA compliance. SF mounting will not meet IDA.

#### Control options

**0-10V dimming (DD):** Access to 0-10V dimming leads supplied through back of luminaire (for secondary dimming controls by others). Cannot be used with other control options.

**Dual Circuit Control (DCC):** Luminaire equipped with the ability to have two separate circuits controlling drivers and light engines independently. Permits separate switching of separate modules controlled by use of two sets of leads, one for each circuit. Not recommended to be used with other control options, motion response, or photocells.

**Sensor Ready Zhaga Socket Connector (SRDR):** Product equipped with Sensor Ready drivers connected to 4-pin Zhaga Book 18 compliant receptacle designed for sensor and other control system applications. Receptacle is rated IP66 assembly in a compact design that provides a sealed electrical interface and rated UV resistance, mounted on underside of the luminaire, protective dust cap included. When a controller not provided by Signify is used with Sensor Ready Zhaga socket connector, the controller must be certified to work with the Xitanium SR LED drivers as part of the SR certified program. SRDR can be used with NEMA 7-pin twist lock receptacle, which is mounted on top of the luminaire.

**Automatic Profile Dimming (CS/CM/CE/CA):** Standard dimming profiles provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. Dimming profiles include two dimming settings including dim to 30% or 50% of the total lumen output. When used in combination with not programmed motion response it overrides the controller's schedule when motion is detected. After 5 minutes with no motion, it will return to the automatic dimming profile schedule. Automatic dimming profile scheduled with the following settings:

- **CS50/CS30:** Security for 7 hours night duration (Ex., 11 PM - 6 AM)
- **CM50/CM30:** Median for 8 hours night duration (Ex., 10 PM - 6 AM)

All above profiles are calculated from mid point of the night. Dimming is set for 6 hours after the mid point and 1 or 2 hours before depending of the duration of dimming. Cannot be used with other dimming control options.

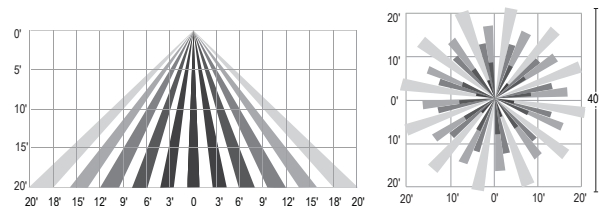
**Field Adjustable Wattage Selector (FAWS):** Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output desired. Cannot be used with other control options or motion response.

FAWS Position	Percent of Typical Lumen Output
1	25%
2	50%
3	55%
4	65%
5	75%
6	80%
7	85%
8	90%
9	95%
10	100%

**Note:** Typical value accuracy +/- 5%

**Wireless system (LLC):** Optional wireless controller integral to luminaire ready to be connected to a Lighthouse system (sold by others). 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. Equipped with motion response with #3 lens for 8-25' mounting heights. Also available with remote pod accessory where pod is mounted separate from luminaire to pole or wall.

#### LLC wireless controller with #3 lens



#### Motion response options

**Bi-Level Infrared Motion Response (BL-IMRI):** Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when not ordered with other control options. BL-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 minutes 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. Other dimming settings can be provided if different dimming levels are required. This can also be done with FSIR-100 Wireless Remote Programming Tool (contact Technical Support for details).

**Infrared Motion Response with Other Controls:** When used in combination with other controls (Automatic Dimming Profile), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response device cannot be re-programmed with FSIR-100 Wireless Remote Programming Tool. The profile can only be re-programmed via the controller.

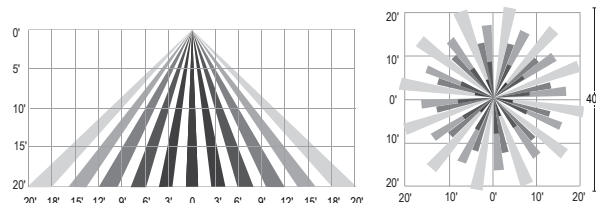
# ECF-S EcoForm small

## Area luminaire

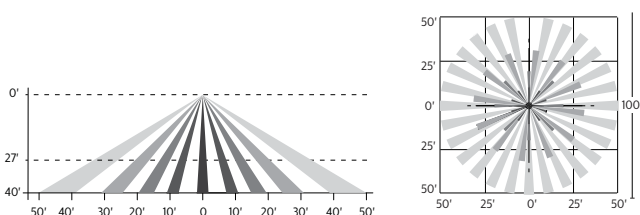
### Specifications

**Infrared Motion Response Lenses (IMRI3/IMRI7):** Infrared Motion Response Integral module is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges. Lens #3 (IMRI3) is designed for mounting heights up to 20' with a 40' diameter coverage area. Lens #7 is designed for higher mounting heights up to 40' with larger coverage areas up to 100' diameter coverage area. See charts for approximate detection patterns:

IMRI3 Luminaire or remote mount controller with #3 lens



IMRI7 Luminaire or remote mount controller with #7 lens



### Electrical

**Twist-Lock Receptacle (TLRD5/TLRD7/ TLRPC):** Twist Lock Receptacle with 5 pins enabling dimming or with 7 pins with additional functionality (by others) can be used with a twistlock photoelectric cell or a shorting cap. Dimming Receptacle Type B (5-pin) and Type D-24 (7-pin) in accordance to ANSI C136.41. Can be used with third-party control system. Receptacle located on top of luminaire housing. When specifying receptacle with twistlock photoelectric cell, voltage must be specified. When ordering 7-pin Twist-lock receptacle (TLRD7), all 7 pins are wired to respective pins with the Sensor Ready (SR) driver, and photocell or shorting cap is not included. When ordering a twist-lock receptacle with a photocell (TLRPC), the receptacle used is a 5-pin receptacle, so pins 6 and 7 are not available (no SR driver). 0-10V dimming leads (pins 4 and 5) are connected if not ordered with any other dimming option.

### Buy American Act of 1933 (BAA):

This product is manufactured in one of our US factories and, as of the date of this document, this product was considered a commercially available off-the-shelf (COTS) item meeting the requirements of the BAA. This BAA designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies. Prior to ordering, please visit [www.signify.com/baa](http://www.signify.com/baa) to view a current list of BAA-compliant products to confirm this product's current compliance.

**Driver:** Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. All drivers are 0-10V dimming to 10% power standard, except when using Sensor Ready (SR) drivers, which uses DALI protocol (options CS50/CM50/CS30/CM30, SRDR, and TR7). Drivers are RoHS and FCC Title 47 CFR Part 15 compliant.

**Button Photocontrol (PCB):** Button style design for internal luminaires mounting applications. The photocontrol is constructed of a high impact UV stabilized polycarbonate housing. Rated voltage of 120V or 208-277V with a load rating of 1000 VA. The photocell will turn on with 1-4Fc of ambient light.

**Surge protection (SP1/SP2):** Surge protection device 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 DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA, 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

### Listings

UL/cUL wet location listed to the UL 1598 standard, suitable for use in ambient temperatures from -40° to 40°C (-40° to 104°F). Most EcoForm configurations are qualified under Premium and Standard DesignLights Consortium® categories. Consult DLC Qualified Products list to confirm your specific luminaire selection is approved. CCTs 3000K and warmer are Dark Sky Approved.

### 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.

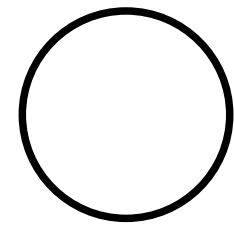
### Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away. For more details visit: [signify.com](http://signify.com)

### Warranty

EcoForm luminaires feature a 5-year limited warranty. See [signify.com/warranties](http://signify.com/warranties) for complete details and exclusions.





The 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.

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Notes: \_\_\_\_\_

### Ordering Guide

example: TRA-CB-16L-D2-BRP

Prefix	Base	Height	Wind Factor	Drilling <sup>1</sup>	Finish	Options
<b>TRA</b>						
TRA	CB	8 10 12 14 16 25 28 30 35	- - L	D1 1 Way D2 2 Way at 180° D2@90 2 Way at 90° D3 3 Way at 90° D3@120 3 Way at 120° D4 4 Way T2 2.4" OD Tenon X 4" long T3 3" OD Tenon X 4" long T4 4" OD Tenon X 6" long P Plain Top (No Drilling/No Tenon)	BRP Bronze BLP Black WP White MGY Medium Grey DGY Dark Grey BRA Bronze Anodized BLA Black Anodized NA Natural Anodized OC Optional Color (Specify RAL designation ex: RAL7024) SC Special Color (Specify. Must supply color chip.)	DR Duplex Receptacle GFCI Ground Fault Receptacle VDA Vibration Dampener AHH Additional Hand Hole  For DR, GFCI, and AHH options indicate height above base and orientation to original hand hole. See Pole Orientation Information on Page 5.  <b>Nipples and Couplings</b> CL1/2 Coupling - Internal Thread 1/2" CL3/4 Coupling - Internal Thread 3/4" CL1 Coupling - Internal Thread 1" CL1-1/4 Coupling - Internal Thread 1-1/4" CL1-1/2 Coupling - Internal Thread 1-1/2" NL1/2 Nipple - External Thread 1/2" NL3/4 Nipple - External Thread 3/4" NL1 Nipple - External Thread 1" NL1-1/4 Nipple - External Thread 1-1/4" NL1-1/2 Nipple - External Thread 1-1/2"  Indicate height above base and orientation to hand hole. See Pole Orientation Information on Page 5.  <b>Single Mount Bullhorn Brackets</b> A15BH-19 Single - 1.9" OD <sup>2</sup> A15BH-24 Single - 2.4" OD A215BH-19 2-Tenon - 1.9" OD <sup>2</sup> A215BH-24 2-Tenon - 2.4" OD  Indicate height above base and orientation to hand hole. See Pole Orientation Information on Page 4.  Additional and alternative brackets and accessories available. Refer to the Signify product catalog (eCat) website for more information.
		12 14 16 20	M			
		20 25 28 30 35 39	H			

- Standard poles are drilled in factory for compatibility with Signify luminaires only (D\* options). For non-Signify-brand luminaires, select the P drilling option.
- For Gardco DFL7/DFC7 only

### Anchor Bolts for Gardco TRA Poles<sup>3</sup> (ordered separately)

	Pole Type	12NC for ordering	Description (in inches)
For Pre-ship service (Order 4 per pole)	8 to 25L	912400215786	0.75 x 18 x 3.75
	25H to 39H	912400215784	1 x 36 x 4.5
For shipment with the pole (Order 1 per pole)	8 to 25L	912400207384	0.75 x 18 x 3.75
	25H to 39H	912400200208	1 x 36 x 4.5

- Consult Signify to confirm whether specific accessories are BAA-compliant.

# Poles Tapered Round Aluminum (Cast Base)

## Pole Data

Product Catalog Number	Pole Specs				Anchor Bolt Data <sup>2</sup>		
	Height (ft)	Pole Diameter (inches)	Wall Thickness (inches)	Structure Weight (lbs)	Bolt Circle (inches)	Bolt Size (inches)	Max Proj. (inches)
TRA-CB-8	7' 8"	3 x 4	0.125	17	7.50 (+/- 0.75)	0.75 x 18 x 3.75	3.25
TRA-CB-10	9' 8"	3 x 4	0.125	20	7.50 (+/- 0.75)	0.75 x 18 x 3.75	3.25
TRA-CB-12L	11' 8"	3 x 4	0.125	23	7.50 (+/- 0.75)	0.75 x 18 x 3.75	3.25
TRA-CB-12M	11' 8"	3 x 5	0.125	26	8.63 (+/- 0.88)	0.75 x 18 x 3.75	3.25
TRA-CB-14L	13' 8"	3 x 4	0.125	27	7.50 (+/- 0.75)	0.75 x 18 x 3.75	3.25
TRA-CB-14M	13' 8"	3 x 5	0.125	31	8.63 (+/- 0.88)	0.75 x 18 x 3.75	3.25
TRA-CB-16L	15' 8"	3 x 5	0.125	30	8.63 (+/- 0.88)	0.75 x 18 x 3.75	3.25
TRA-CB-16M	15' 8"	3 x 5	0.188	35	8.63 (+/- 0.88)	0.75 x 18 x 3.75	3.25
TRA-CB-20M	19' 8"	3 x 5	0.156	51	8.63 (+/- 0.88)	0.75 x 18 x 3.75	3.25
TRA-CB-20H	19' 8"	3 x 5	0.188	60	8.63 (+/- 0.88)	0.75 x 18 x 3.75	3.25
TRA-CB-25L <sup>3</sup>	24' 8"	4 x 6	0.156	74	8.63 (+/- 0.88)	0.75 x 18 x 3.75	3.50
TRA-CB-25H	24' 8"	4 x 7	0.156	85	9.50 (+/- 0.75)	1 x 36 x 4.5	4.13
TRA-CB-28L <sup>3</sup>	27' 8"	4 x 7	0.156	92	10.56 (+/- 0.43)	1 x 36 x 4.5	4.13
TRA-CB-28H	27' 8"	4.5 x 8	0.188	124	10.56 (+/- 0.43)	1 x 36 x 4.5	4.13
TRA-CB-30L <sup>3</sup>	29' 8"	4 x 7	0.156	99	11.63 (+/- 0.37)	1 x 36 x 4.5	4.13
TRA-CB-30H	29' 8"	4.5 x 8	0.188	134	10.56 (+/- 0.43)	1 x 36 x 4.5	4.13
TRA-CB-35L <sup>3</sup>	34' 8"	4.5 x 8	0.156	133	11.63 (+/- 0.37)	1 x 36 x 4.5	4.13
TRA-CB-35H	34' 8"	4.5 x 8	0.25	205	11.63 (+/- 0.37)	1 x 36 x 4.5	4.13
TRA-CB-39L <sup>3</sup>	38' 8"	4.5 x 8	0.188	179	11.63 (+/- 0.37)	1 x 36 x 4.5	4.13
TRA-CB-39H	38' 8"	6 x 10	0.188	232	14.25 (+/- 0.75)	1 x 36 x 4.5	4.75

- 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.
- Factory supplied template must be used when setting anchor bolts. Gardco will not honor any claim for incorrect anchorage placement resulting from failure to use factory supplied templates.
- Includes (VDA) Vibration Dampener standard.

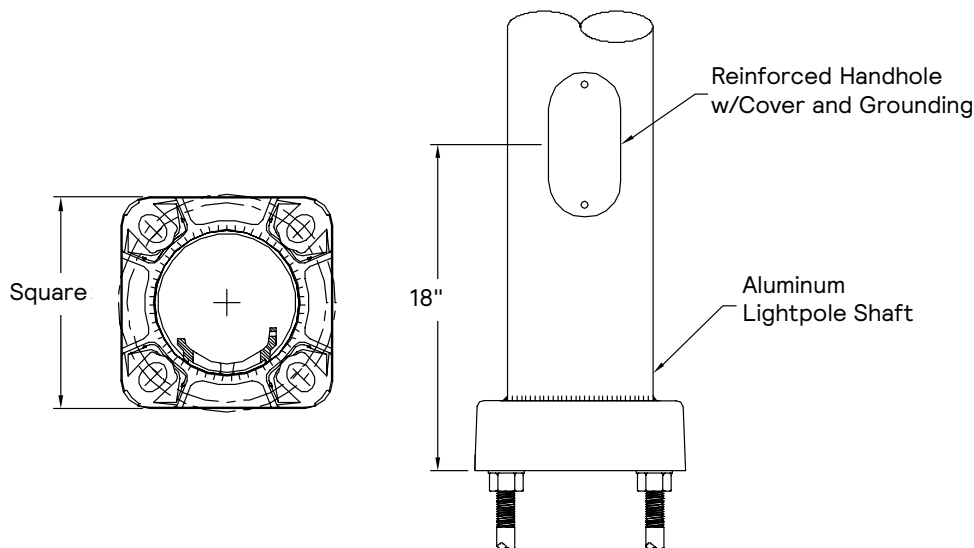
# Poles Tapered Round Aluminum (Cast Base)

## Pole Data

Catalog Number	Maximum Luminaire Loading <sup>1</sup>							
	High Wind Conditions		Normal Wind Conditions					
	110 MPH		100 MPH		90 MPH		80 MPH	
Prefix	EPA ft <sup>2</sup>	Max Weight (lbs)	EPA ft <sup>2</sup>	Max Weight (lbs)	EPA ft <sup>2</sup>	Max Weight (lbs)	EPA ft <sup>2</sup>	Max Weight (lbs)
TRA-CB-8	4.1	75	5.1	75	6.5	75	8.5	75
TRA-CB-10	2.9	75	3.7	75	4.8	75	6.4	75
TRA-CB-12L	1.9	75	2.6	75	3.5	75	4.8	75
TRA-CB-12M	4.6	75	5.8	75	7.4	75	9.8	75
TRA-CB-14L	1.1	75	1.6	75	2.4	75	3.5	75
TRA-CB-14M	3.4	75	4.4	75	5.8	75	7.8	75
TRA-CB-16L	0.4	75	0.8	75	1.5	75	2.4	75
TRA-CB-16M	2.4	75	3.2	75	4.3	75	6.0	75
TRA-CB-20M	1.5	100	2.2	100	3.2	100	4.7	100
TRA-CB-20H	2.3	100	3.1	100	4.3	100	6.1	100
TRA-CB-25L <sup>3</sup>	1.9	100	2.5	100	3.5	100	5.1	100
TRA-CB-25H	4.2	150	5.3	150	7.0	150	9.6	150
TRA-CB-28L <sup>3</sup>	2.8	150	3.7	150	5.0	150	7.1	150
TRA-CB-28H	6.8	150	8.5	150	10.8	150	14.3	150
TRA-CB-30L <sup>3</sup>	2.0	150	2.7	150	3.8	150	5.7	150
TRA-CB-30H	5.6	150	7.1	150	9.2	150	12.2	150
TRA-CB-35L <sup>3</sup>	2.1	150	2.9	150	4.0	150	5.7	150
TRA-CB-35H	5.8	150	7.3	150	9.5	150	12.7	150
TRA-CB-39L <sup>3</sup>	1.9	150	2.8	150	3.9	150	5.6	150
TRA-CB-39H	5.8	200	7.7	200	10.2	200	13.6	200

- 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.
- Factory supplied template must be used when setting anchor bolts. Gardco will not honor any claim for incorrect anchorage placement resulting from failure to use factory supplied templates.
- Includes (VDA) Vibration Dampener standard.

## Dimensions



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

# Poles Tapered Round Aluminum (Cast Base)

## Specifications

All aluminum alloys shall comply with metalurgical and mechanical properties set forth in the Aluminum Association Standards.

### POLE SHAFT

The pole shaft shall be spun tapered from all new seamless 6063 alloy aluminum and shall be heat treated to produce a T6 temper. Each shaft shall have a minimum 6" long straight section at the top to accommodate drilling and/or Gardco floodlight and bullhorn brackets. Shafts are polished with fine grain aluminum oxide cloths, resulting in a high quality, circumferential satin brushed finish. After finishing, each pole shall be fully wrapped with neutral PH krinkle/kraft paper for protection in shipment.

### ANCHOR BASE

The anchor base (base plate) is cast from A356 alloy aluminum. The anchor base casting and shaft shall be joined by a continuous circumferential weld at the inside bottom of the anchor base. The completed assembly will be heat treated to T6 temper after all structural welding is completed. The 1100-0 alloy collars are spun from heavy duty .125" stock, making them damage and vandal resistant.

### ANCHOR BOLTS

Anchor bolts are fabricated from a commercial quality hot rolled carbon steel bar with a minimum yield strength of 55,000 PSI. Bolts have an "L" bend on one end and threaded on the opposite end. Anchor bolts are hot dipped galvanized a minimum length 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 (priced separately), unless otherwise specified.

### HAND HOLE

Each hand hole includes an easy to install, self-contained Swing Latch hand hole cover assembly. U.S. Patent Swing Latch cover is fabricated from durable polycarbonate/ABS blend plastic. All poles include a peripherally reinforced flush covered handhole centered 18" above the bottom of the pole. The opening in the 4" diameter pole shall measure 2 3/8" X 4 1/2". The opening in the 5" and 6" diameter pole shall measure 3" X 5". The opening in the 7", 8" and 10" diameter pole shall measure 4" X 6". Hand hole dimensions are nominal.

### DRILLING

Standard poles are drilled in factory for compatibility with Signify luminaires, optional brackets, and accessories. Signify is not liable for damage caused by unauthorized attachments, alterations, or modifications.

If luminaires are to be supplied by others, Signify/Gardco/Stonco is not responsible for pole compatibility with luminaires, structural integrity of the pole or wind load requirements.

### FINISH

Poles are available with Association Architectural Class 1 anodized finish. Electrostatically applied, thermally cured TGIC polyester powdercoat finish or liquid polyurethane is also available.

### POLE TOP CAP

Each pole assembly is provided with a removable plastic top push cap. Finish is Black.

### DESIGN

The charted weights include luminaire(s) and/or mounting bracket(s) and are based on an approximate weight to EPA ratio of 25 pounds per square foot. The wind velocities are based on 10 mph increments from 80 mph through 110 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 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. Mounting height is the vertical distance from the base of the pole to the center of the luminaire arm at the point of luminaire attachment. For loadings other than those covered in the design section, such as overhead wiring, guying of the poles or other field installed attachments, consult the factory for recommendations. PE digitally stamped pole calculations are available on Gardco Site and Area poles upon request for an additional charge. Detailed project and installation information is required to fulfill this service. For more information, consult the factory.

### 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. 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.

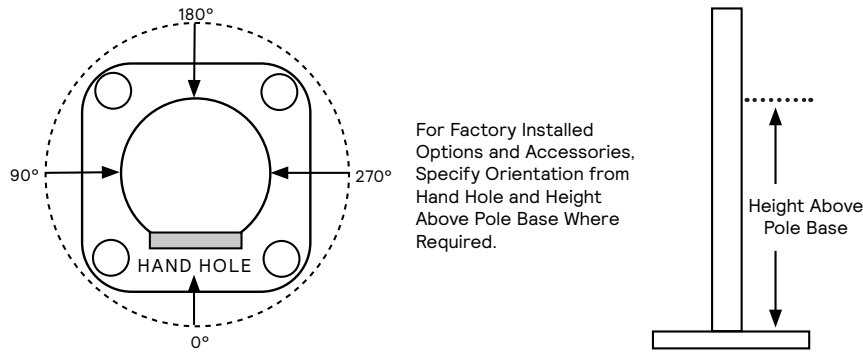
### WARRANTY

Gardco poles feature a 1 year limited warranty. See Warranty Information on [www.signify.com/warranties](http://www.signify.com/warranties) for complete details and exclusions.

# Poles Straight Square Steel

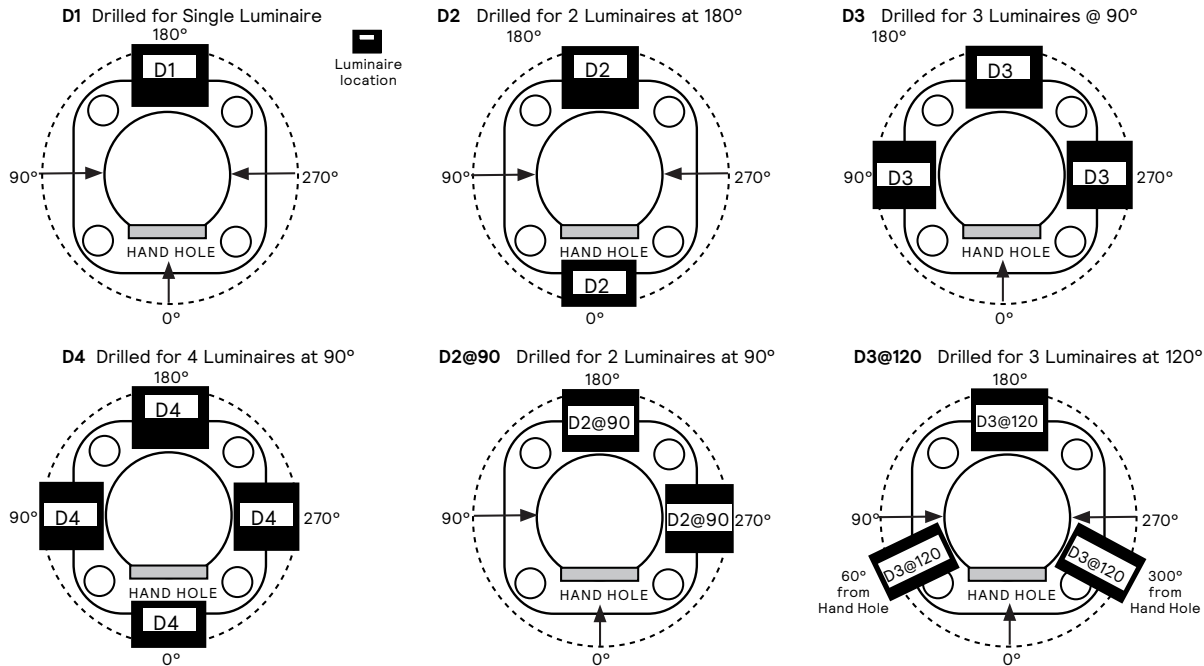
## Orientation Information

Factory installed options and accessories



Orientation is measured clockwise from the Hand Hole Center.

## Standard arm mount luminaire orientation



## Buy American Act of 1933 (BAA):

This product is manufactured in one of our US factories and, as of the date of this document, this product was considered a commercially available off-the-shelf (COTS) item meeting the requirements of the BAA. This BAA designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies. Prior to ordering, please visit [www.signify.com/baa](http://www.signify.com/baa) to view a current list of BAA-compliant products to confirm this product's current compliance.

