Site & Area

EcoForm

ECF-L large area luminaire



Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 52,500 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-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
ECF-L EcoForm site and area, large	**80L** 80 LEDs (5 modules)	**900** 900mA **1A** 1050mA **1.2A** 1200mA	**WW-G2** Warm White 3000K, 70CRI Generation 2	**AR**[2] Arm Mount (standard)	**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° **BLC** Back Light Control **BLC-90** Back Light Control rotated at 90° **BLC-270** Back Light Control rotated at 270° **LCL**[19] LEED Corner Optic Left **RCL**[19] LEED Corner Optic Right	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V (50/60Hz) **HVU** 347-480V (50/60Hz)
	96 96 LEDs (6 modules)	**800** 800mA **1A** 1050mA **1.2A** 1200mA **1.4A**[19] 1400mA	**NW-G2** Neutral White 4000K, 70CRI Generation 2	The following mounting kits must be ordered separately (See accessories) **SF**[3] Slip Fitter Mount (fits to 2 3/8" O.D. tenon) **WS** Wall mount with surface conduit rear entry permitted **RAM**[2] Retrofit arm mount kit		
			CW-G2 Cool White 5000K, 70CRI Generation 2			

Options

Dimming controls	Motion sensing lens	Photo-sensing	Electrical	Luminaire	Finish
DD[4,18] 0-10V External dimming (for controls by others) **DCC**[4,5,6,18] Dual Circuit Control **FAWS**[4,5,18] Field Adjustable Wattage Selector **SRDR**[4,5,6,8,17] SR driver connected to Zhaga socket **DynaDimmer:** Automatic Profile Dimming **CS50**[4,8] Safety 50% Dimming, 7 hours **CM50**[4,8] Median 50% Dimming, 8 hours **CS30**[4,8] Safety 30% Dimming, 7 hours **CM30**[4,8] Median 30% Dimming, 8 hours		**PCB**[8,9] Photocontrol Button **TLRD5**[10,17] Twist Lock Receptacle 5 Pin **TLRD7**[10,17] Twist Lock Receptacle 7 Pin **TLRPC**[9,10,11,17] Twist Lock Receptacle w/Photocell	**Fusing** **F1**[9] Single (120, 277, 347VAC) **F2**[9] Double (208, 240, 480VAC) **Pole Mount Fusing** **FP1**[9] Single (120, 277, 347VAC) **FP2**[9] Double (208, 240, 480VAC) **FP3**[9] Canadian Double Pull (208, 240, 480VAC) **Surge Protection** (10kA standard) **SP2** Increased 20kA	Square Pole Adapter included in standard product **TB**[12] Terminal Block **RPA**[13] Round Pole Adapter (fits to 3"- 3.9" O.D. pole) **HIS**[14] Internal House Side Shield	**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)
BL[1,4,7,18] Bi-level functionality	**IMRI3**[15] Integral with #3 lens **IMRI7**[15] Integral with #7 lens				
WIAP[4,6,16] Wireless Interact (includes SR driver and SR receptacle - do NOT select SRDR)	**LB** Low (7'-15' mounting height) sensor, Black color housing Wireless Interact, integral **LW** Low (7'-15' mounting height) sensor, White color housing **HB** High (15'-40' mounting height) sensor, Black color housing **HW** High (15'-40' mounting height) sensor, White color housing				

1. BL-IMRI3/7 equipped with out-boarded sensor housing when voltage is HVU (347-480V)
2. Mounts to a 4" round pole with adapter included for square poles.
3. Limited to a maximum of 45 degrees aiming above horizontal.
4. Not available with other dimming control options.
5. Not available with motion sensor.
6. Not available with photocontrol.
7. BL must be combined with Motion sensing lens IMRI3 or IMRI7.
8. Not available in 347 or 480V.
9. Must specify input voltage.
10. TLRD5, TLRD7 and TLRPC receptacle pins 4 & 5 are capped off when ordered with any of the Dimming controls DD or FAWS or LLC.
11. Not available in 480V. Order photocell separately with TLRD5/7.
12. Not available with DCC.
13. Not available with SF and WS. RPAs provided with black finish standard.
14. HIS not available with Type 5, 5W, BLC, BLC-90, BLC-270, LCL or RCL optics.
15. Not available with DD, DCC, FAWS, SRDR, or WIAP dimming control options.
16. WIAP must be combined with Motion sensing lens LB or LW or HB or HW.
17. 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.
18. 0-10V dimming driver standard.
19. 120V or 277V only, not available with SRDR or any DynaDimmer options or WIAP (due to driver limitations).

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EcoForm Accessories[21] (ordered separately, field installed)

Shielding Accessories

House Side Shield

Standard optic orientation	
HIS-80-H[20]	Internal House Side Shield for 80 LEDs (5 modules)
HIS-96-H[20]	Internal House Side Shield for 96 LEDs (6 modules)
Optic at 90 or 270 orientation	
HIS-80-H[20]	Internal House Side Shield for 80 LEDs (5 modules)
HIS-96-H[20]	Internal House Side Shield for 96 LEDs (6 modules)

Footnotes
20. Not available with Type 5 or 5W optics.
21. Consult Signify to confirm whether specific accessories are BAA-compliant.

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

Controls Accessories

IRT9015	Handheld remote for grouping and configuration of Wireless Interact WIAP (at least 1 required per site or use the Interact Pro App).

Pole Top Fitters

(**F**) = Specify finish

PTF2 - Pole top fitter fits 23/8-21/2" OD x 4" depth tenon	
PTF2-1-90-(F)	1 luminiare at 90°
PTF2-2-90-(F)	2 luminiares at 90°
PTF2-2-180-(F)	2 luminiares at 180°
PTF2-3-90-(F)	3 luminiares at 90°
PTF2-4-90-(F)	4 luminiares at 90°
PTF2-3-120-(F)	3 luminiares at 120°
PTF3 - Pole top fitter fits 3-31/2" OD x 6" depth tenon	
PTF3-1-90-(F)	1 luminiare at 90°
PTF3-2-90-(F)	2 luminiares at 90°
PTF3-2-180-(F)	2 luminiares at 180°
PTF3-3-90-(F)	3 luminiares at 90°
PTF3-4-90-(F)	4 luminiares at 90°
PTF3-3-120-(F)	3 luminiares at 120°

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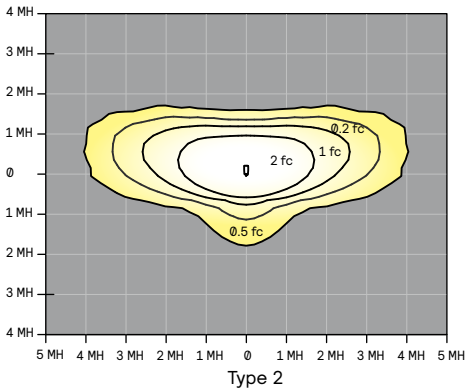
Predicted Lumen Depreciation Data

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

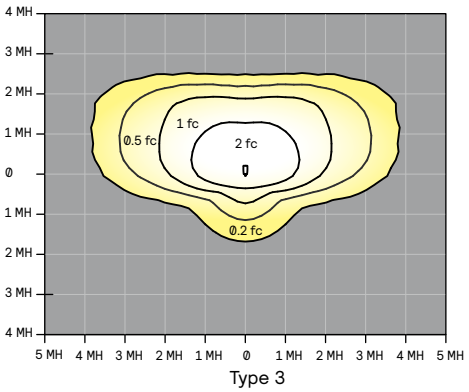
Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1400 mA	>100,000 hours	>90,000 hours	>96%

Optical Distributions

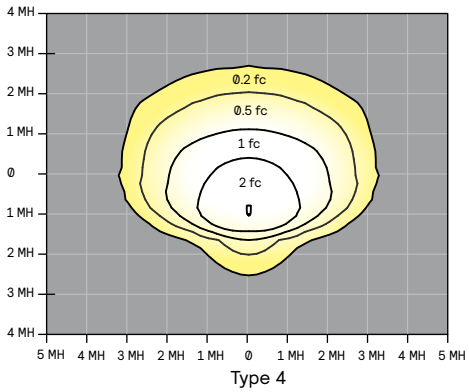
Based on configuration ECF-L-96L-1.2A-NW-G2 (265W) mounted at 40ft.



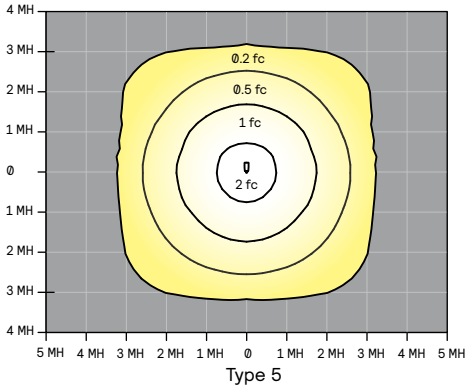
Type 2



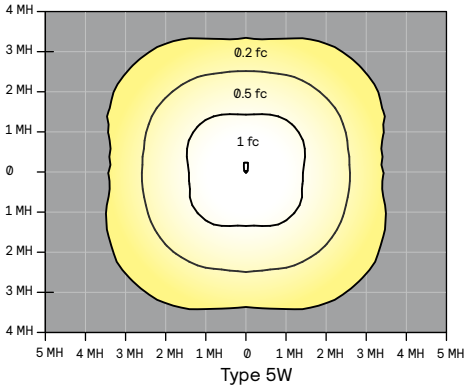
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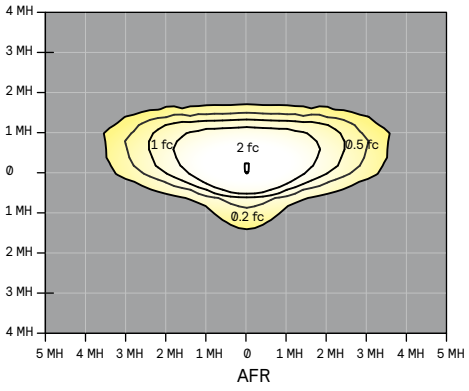
Type 4



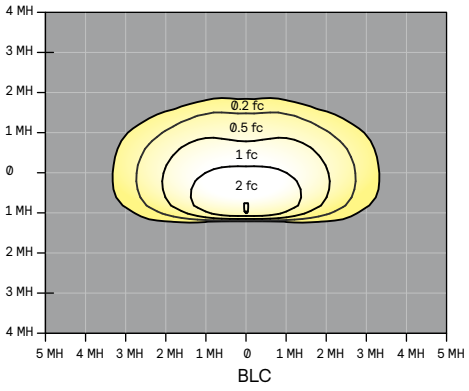
Type 5



Type 5W



AFR



BLC

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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-L-80L-900-WW-G2-x	80	900	3000	225	28,306	B3-U0-G3	126	27,834	B3-U0-G4	124	28,348	B3-U0-G4	126	29,155	B5-U0-G4	130	28,844	B5-U0-G4	128
ECF-L-80L-1A-WW-G2-x	80	1050	3000	265	31,927	B4-U0-G4	120	31,396	B3-U0-G4	118	31,974	B3-U0-G5	121	32,884	B5-U0-G4	124	32,534	B5-U0-G4	123
ECF-L-80L-1.2A-WW-G2-x	80	1200	3000	289	35,217	B4-U0-G4	122	34,630	B3-U0-G5	120	35,269	B3-U0-G5	122	36,272	B5-U0-G4	125	35,886	B5-U0-G4	124
ECF-L-96L-800-WW-G2-x	96	800	3000	238	30,570	B4-U0-G4	129	30,011	B3-U0-G4	126	30,617	B3-U0-G5	129	31,487	B5-U0-G4	132	31,151	B5-U0-G4	131
ECF-L-96L-1A-WW-G2-x	96	1050	3000	316	38,058	B4-U0-G4	120	37,425	B3-U0-G5	118	38,116	B3-U0-G5	120	39,200	B5-U0-G4	124	38,783	B5-U0-G5	123
ECF-L-96L-1.2A-WW-G2-x	96	1200	3000	365	41,398	B4-U0-G4	113	40,709	B4-U0-G5	112	41,460	B3-U0-G5	114	42,640	B5-U0-G4	117	42,186	B5-U0-G5	116
ECF-L-96L-1.4A-WW-G2-x	96	1370	3000	422	44,566	B4-U0-G4	106	46,173	B4-U0-G5	109	45,613	B4-U0-G5	108	46,848	B5-U0-G5	111	45,530	B5-U0-G5	108

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			BLC		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-L-80L-900-WW-G2-x	80	900	3000	225	29,065	B4-U0-G3	129	19,749	B1-U0-G3	89
ECF-L-80L-1A-WW-G2-x	80	1050	3000	265	32,784	B4-U0-G3	124	22,276	B1-U0-G4	85
ECF-L-80L-1.2A-WW-G2-x	80	1200	3000	289	36,162	B4-U0-G3	125	24,572	B1-U0-G4	86
ECF-L-96L-800-WW-G2-x	96	800	3000	238	31,391	B4-U0-G3	132	21,294	B1-U0-G4	91
ECF-L-96L-1A-WW-G2-x	96	1050	3000	316	39,080	B4-U0-G4	124	26,554	B1-U0-G4	85
ECF-L-96L-1.2A-WW-G2-x	96	1200	3000	365	42,509	B4-U0-G4	116	28,885	B1-U0-G4	80
ECF-L-96L-1.4A-WW-G2-x	96	1370	3000	422	48,542	B4-U0-G4	115	36,322	B1-U0-G5	86

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-L-80L-900-NW-G2-x	80	900	4000	225	29,796	B3-U0-G3	132	29,299	B3-U0-G4	130	29,840	B3-U0-G5	133	30,689	B5-U0-G4	136	30,362	B5-U0-G4	135
ECF-L-80L-1A-NW-G2-x	80	1050	4000	265	33,607	B4-U0-G4	127	33,048	B3-U0-G5	125	33,657	B3-U0-G5	127	34,615	B5-U0-G4	131	34,246	B5-U0-G4	129
ECF-L-80L-1.2A-NW-G2-x	80	1200	4000	289	37,070	B4-U0-G4	128	36,453	B3-U0-G5	126	37,125	B3-U0-G5	128	38,181	B5-U0-G4	132	37,775	B5-U0-G4	131
ECF-L-96L-800-NW-G2-x	96	800	4000	238	32,179	B4-U0-G4	135	31,590	B3-U0-G4	133	32,228	B3-U0-G5	136	33,144	B5-U0-G4	139	32,791	B5-U0-G4	138
ECF-L-96L-1A-NW-G2-x	96	1050	4000	316	40,061	B4-U0-G4	127	39,395	B3-U0-G5	124	40,122	B3-U0-G5	127	41,263	B5-U0-G4	130	40,824	B5-U0-G5	129
ECF-L-96L-1.2A-NW-G2-x	96	1200	4000	365	43,577	B4-U0-G4	119	42,852	B4-U0-G5	117	43,642	B3-U0-G5	120	44,884	B5-U0-G4	123	44,406	B5-U0-G5	122
ECF-L-96L-1.4A-NW-G2-x	96	1370	4000	422	48,179	B4-U0-G4	114	49,917	B4-U0-G5	118	49,311	B4-U0-G5	117	50,647	B5-U0-G5	120	49,221	B5-U0-G5	117

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			BLC		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-L-80L-900-NW-G2-x	80	900	4000	225	30,595	B4-U0-G3	136	21,350	B1-U0-G4	96
ECF-L-80L-1A-NW-G2-x	80	1050	4000	265	34,509	B4-U0-G3	130	24,082	B1-U0-G4	92
ECF-L-80L-1.2A-NW-G2-x	80	1200	4000	289	38,065	B4-U0-G3	132	26,563	B1-U0-G4	93
ECF-L-96L-800-NW-G2-x	96	800	4000	238	33,043	B4-U0-G3	139	23,020	B1-U0-G4	98
ECF-L-96L-1A-NW-G2-x	96	1050	4000	316	41,137	B4-U0-G4	130	28,707	B1-U0-G4	92
ECF-L-96L-1.2A-NW-G2-x	96	1200	4000	365	44,746	B4-U0-G4	123	31,226	B1-U0-G4	87
ECF-L-96L-1.4A-NW-G2-x	96	1370	4000	422	52,478	B4-U0-G4	124	39,055	B2-U0-G5	92

Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown.

Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations
It is highly recommended to confirm performance with a photometric layout.

NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.

ECF-L EcoForm large

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-L-80L-900-CW-G2-x	80	900	5000	225	29,796	B3-U0-G3	132	29,299	B3-U0-G4	130	29,840	B3-U0-G5	133	30,689	B5-U0-G4	136	30,362	B5-U0-G4	135
ECF-L-80L-1A-CW-G2-x	80	1050	5000	265	33,607	B4-U0-G4	127	33,048	B3-U0-G5	125	33,657	B3-U0-G5	127	34,615	B5-U0-G4	131	34,246	B5-U0-G4	129
ECF-L-80L-1.2A-CW-G2-x	80	1200	5000	289	37,070	B4-U0-G4	128	36,453	B3-U0-G5	126	37,125	B3-U0-G5	128	38,181	B5-U0-G4	132	37,775	B5-U0-G4	131
ECF-L-96L-800-CW-G2-x	96	800	5000	238	32,179	B4-U0-G4	135	31,590	B3-U0-G4	133	32,228	B3-U0-G5	136	33,144	B5-U0-G4	139	32,791	B5-U0-G4	138
ECF-L-96L-1A-CW-G2-x	96	1050	5000	316	40,061	B4-U0-G4	127	39,395	B3-U0-G5	124	40,122	B3-U0-G5	127	41,263	B5-U0-G4	130	40,824	B5-U0-G5	129
ECF-L-96L-1.2A-CW-G2-x	96	1200	5000	365	43,577	B4-U0-G4	119	42,852	B4-U0-G5	117	43,642	B3-U0-G5	120	44,884	B5-U0-G4	123	44,406	B5-U0-G5	122
ECF-L-96L-1.4A-CW-G2-x	96	1370	5000	422	48,179	B4-U0-G4	114	49,917	B4-U0-G5	118	49,311	B4-U0-G5	117	50,647	B5-U0-G5	120	49,221	B5-U0-G5	117

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type AFR			BLC		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-L-80L-900-CW-G2-x	80	900	5000	225	30,595	B4-U0-G3	136	21,350	B1-U0-G4	96
ECF-L-80L-1A-CW-G2-x	80	1050	5000	265	34,509	B4-U0-G3	130	24,082	B1-U0-G4	92
ECF-L-80L-1.2A-CW-G2-x	80	1200	5000	289	38,065	B4-U0-G3	132	26,563	B1-U0-G4	93
ECF-L-96L-800-CW-G2-x	96	800	5000	238	33,043	B4-U0-G3	139	23,020	B1-U0-G4	98
ECF-L-96L-1A-CW-G2-x	96	1050	5000	316	41,137	B4-U0-G4	130	28,707	B1-U0-G4	92
ECF-L-96L-1.2A-CW-G2-x	96	1200	5000	365	44,746	B4-U0-G4	123	31,226	B1-U0-G4	87
ECF-L-96L-1.4A-CW-G2-x	96	1370	5000	422	52,478	B4-U0-G4	124	39,055	B2-U0-G5	92

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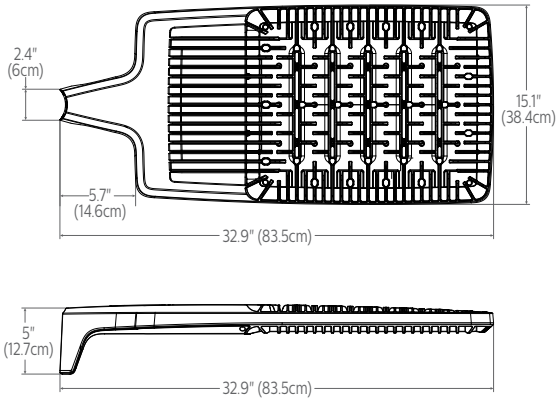
ECF-L EcoForm large

Area luminaire

Dimensions

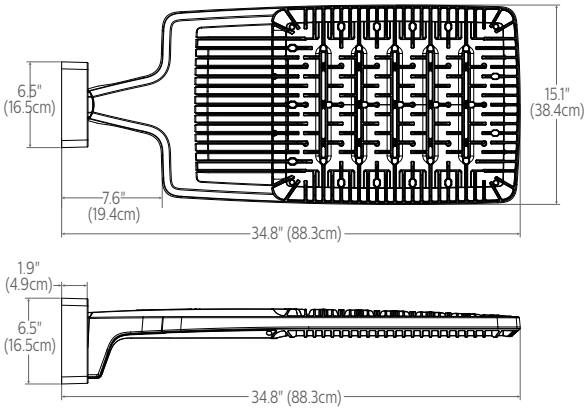
Standard Arm (**AR**)

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



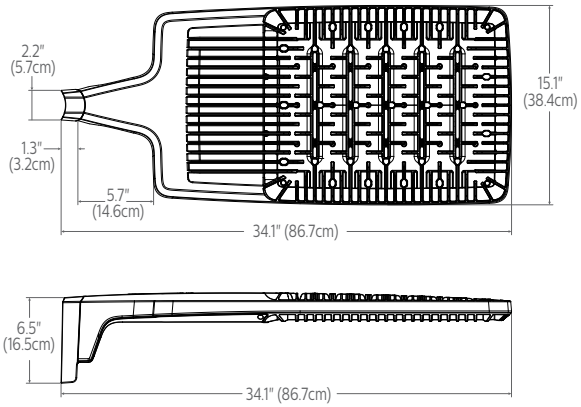
Wall (**WS**)

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



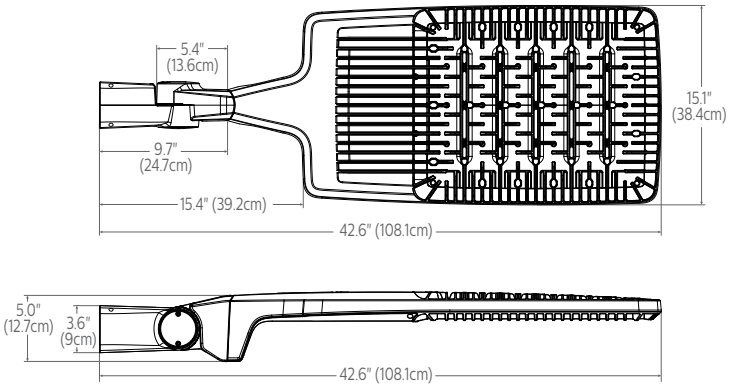
Retrofit Arm (**RAM**)

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

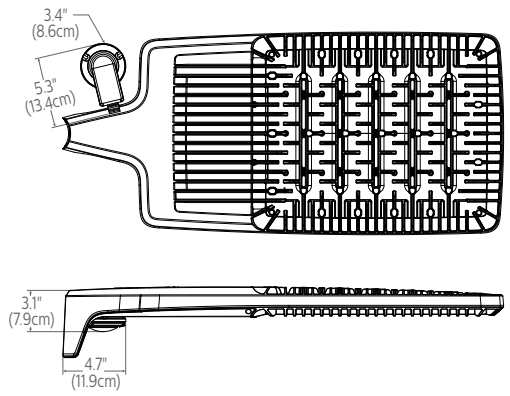


Slip fitter (**SF**)

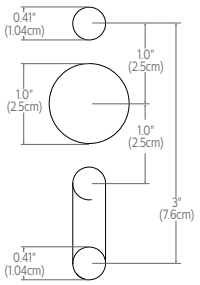
Weight: 32 Lbs (14.5 Kg) EPA: 0.36ft² (.033m²)



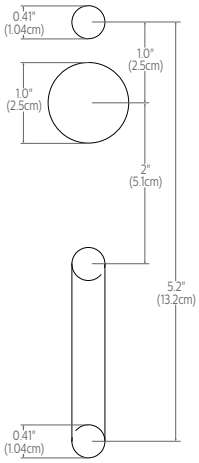
Outboard **IMR-HVU** sensor



Standard Arm (**AR**) drill pattern



Retrofit Arm (**RAM**) drill pattern



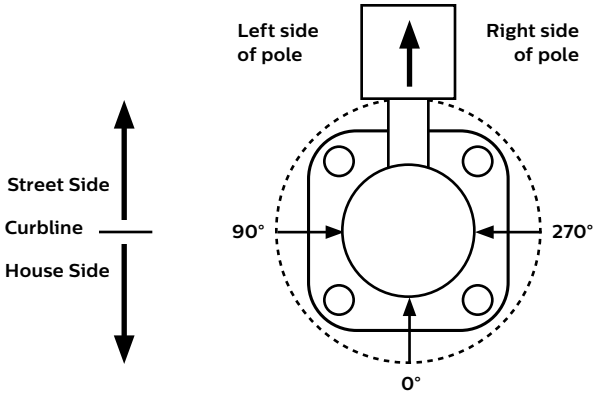
ECF-L EcoForm large

Area luminaire

Optical Orientation Information

Standard Optic Position

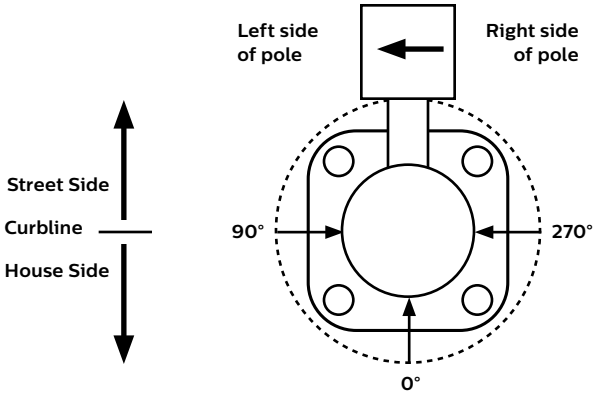
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



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

Optic Rotated Left (90°) Optic Position

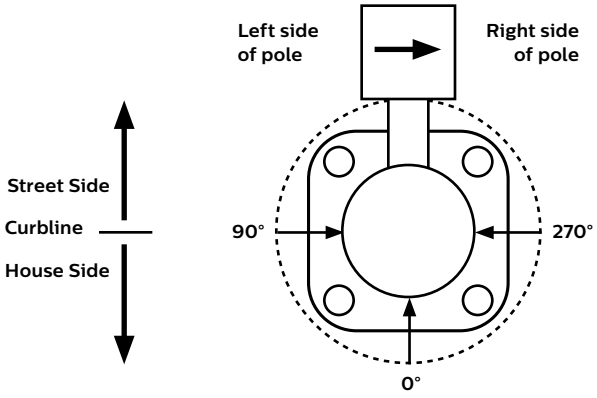
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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

Optic Rotated Right (270°) Optic Position

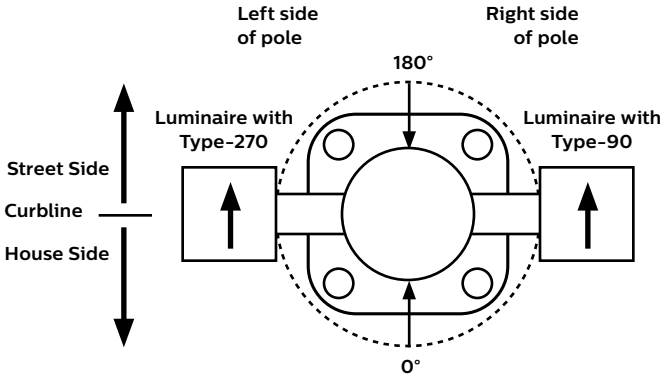
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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.

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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 5 and 6 modules or 80 and 96 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 139 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 optic 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 diming 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%

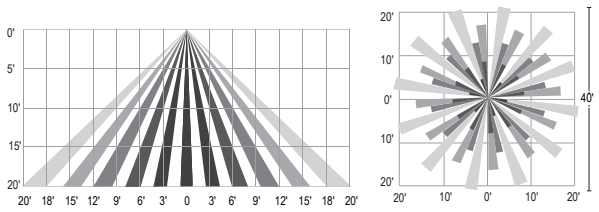
Motion response options

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).

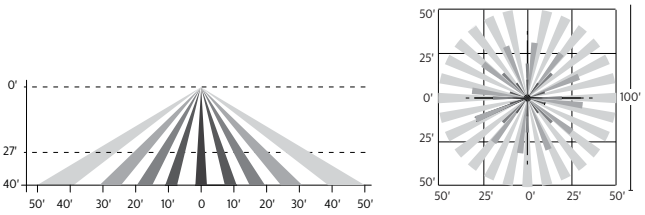
Infrared Motion Response with Other Controls: When used in combination with other controls (Automatic Dimming Profile), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response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

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



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Area luminaire

Specifications

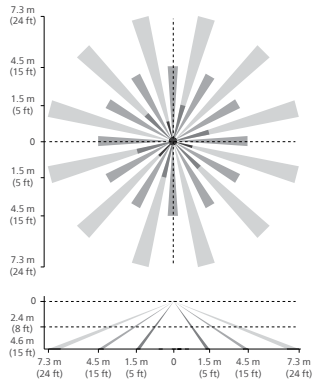
Control options

Outdoor Interact (WIAP): Connected sensor with integral occupancy and daylight sensing, supports wireless mesh connectivity. Sensor works in the standalone mode when configured without a gateway. When used with a gateway you are able to access additional functionalities such as energy monitoring, scheduling and BMS integration. Interact offers an App, a portal and a broad portfolio of Interact-ready Indoor and Outdoor luminaires, lamps and retrofit kits all working on the same system. The App provides flexibility to choose between a standalone or gateway mode. Setup with the gateway requires wired Internet access to the gateway. WIAP includes SR driver and SR receptacle. Daylight harvesting supported through dimming - activated via the Interact App. Sensors IP66 rated.

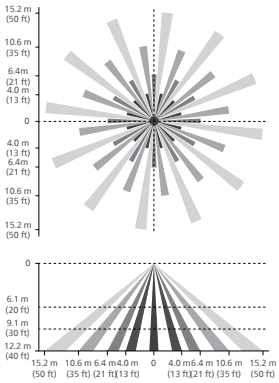
For more information on Interact Pro visit:

www.interact-lighting.com/interactproscalablesystem

LB or LW low sensor



HB or HW high sensor



Note: The beam patterns shown are intended solely as a general guide and are not to scale. Sensing capabilities and coverage area depend on many factors including the size, speed and direction of travel of persons and vehicles; sensor mounting height; environmental and site conditions; etc.

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.

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

Warranty

EcoForm luminaires feature a 5-year limited warranty
See signify.com/warranties for complete details and exclusions.

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 to view a current list of BAA-compliant products to confirm this product's current compliance.

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