GARDCO by signify

Site & Area

EcoForm

ECF-S small area light

Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 26,400 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:

Parking Lot PL Fixtures

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	Options: Dimming controls	Motion sensing lens	Photo-sensing	Electrical	Luminaire	Finish
ECF-S												
ECF-S EcoForm site and area, small	**32L** 32 LEDs (2 modules)	**530** 530 mA **700** 700 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)[2] *The following mounting kits must be ordered separately (See accessories)* **SF** Slip Fitter Mount[3] (fits to 2 3/8" O.D. tenon) **WS** Wall mount with surface conduit rear entry permitted **RAM** Retrofit arm mount kit[2]	**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)[4] **DCC** Dual Circuit Control[4,5,6] **FAWS** Field Adjustable Wattage Selector[4,5] **SW** Interface module for SiteWise[4,6,7] **LLC** Integral wireless module[4,6,8] **BL** Bi-level functionality[1,4] **DynaDimmer:** Automatic Profile Dimming **CS50** Safety 50% Dimming, 7 hours[4,8] **CM50** Median 50% Dimming, 8 hours[4,8] **CE50** Economy 50% Dimming, 9 hours[4,8] **DA50** All Night 50% Dimming[4,8] **CS30** Safety 30% Dimming, 7 hours[4,8] **CM30** Median 30% Dimming, 8 hours[4,8] **CE30** Economy 30% Dimming, 9 hours[4,8] **DA30** All Night 30% Dimming[4,8]	**IMRI3** Integral with #3 lens[15] **IMRI7** Integral with #7 lens[16] **IMRO** Pole mounted motion sensor[15] (see accessories)	**PCB** Photocontrol Button[8,9] **TLRD5** Twist Lock Receptacle 5 Pin[10] **TLRD7** Twist Lock Receptacle 7 Pin[10] **TLRPC** Twist Lock Receptacle w/ Photocell[9,11]	**Fusing** **F1** Single (120, 277, 347VAC)[9] **F2** Double (208, 240, 480VAC)[9] **Pole Mount Fusing** **FP1** Single (120, 277, 347VAC)[9] **FP2** Double (208, 240, 480VAC)[9] **FP3** Canadian Double Pull (208, 240, 480VAC)[9] **Surge Protection** (10kA standard) **SP2** Increased 20kA	Square Pole Adapter included in standard product **TB** Terminal Block[12] **RPA** Round Pole Adapter (fits to 3"-3.9" O.D. pole)[13] **HIS** Internal Housing Side Shield[14]	**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)
	48L 48 LEDs (3 modules)	**900** 900 mA **1A** 1050 mA **1.2A** 1200 mA										
	64L 64 LEDs (4 modules)	**900** 900 mA **1A** 1050 mA										

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. Available only in 120 or 277V.
8. Not available in 347 or 480V
9. Must specify input voltage.
10. Dimming will not be connected to NEMA receptacle if ordering with other control options.
11. Not available in 480V.
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 and 5W optics.
15. Available only with SW, LLC, and BL control options.
16. Available only with SW and BL control options.

ECF-S EcoForm small

Area luminaire

EcoForm Accessories (ordered separately, field installed)

Controls Accessories

Pole Mount Motion Sensor

MS-A-120V	120V Input
MS-A-277V	277V Input

Wireless system
Remote mount module

LLCR3-(F)	#3 lens

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

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

Shielding Accessories

House Side shield

Standard optic orientation:

HIS-80-H [14]	Internal House Side Shield for 80 LEDs (5 modules)
HIS-96-H [14]	Internal House Side Shield for 96 LEDs (6 modules)

Optic at 90 or 270 orientation:

HIS-80-V [14]	Internal House Side Shield for 80 LEDs (5 modules)
HIS-96-V [14]	Internal House Side Shield for 96 LEDs (6 modules)

14. Not available with Type 5 or 5W optics

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°

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°

(**F**) = Specify finish

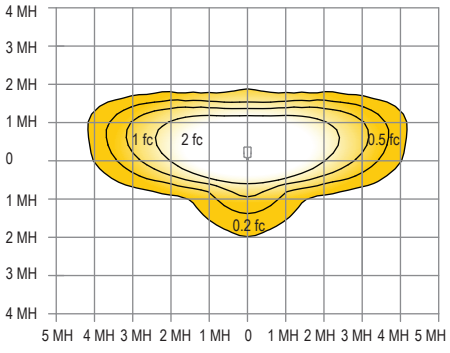
Predicted Lumen Depreciation Data

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

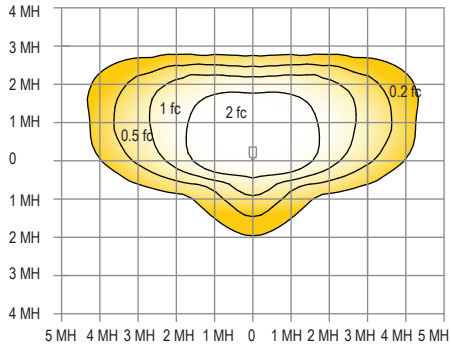
Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1200 mA	>100,000 hours	>60,000 hours	>88%

Optical distribution

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



Type 2



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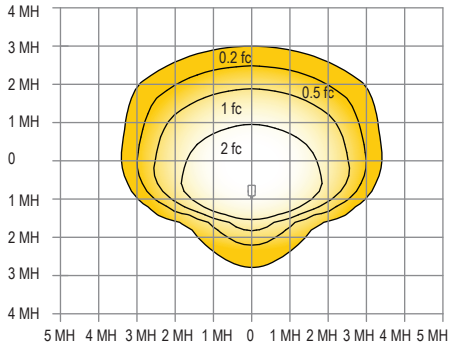

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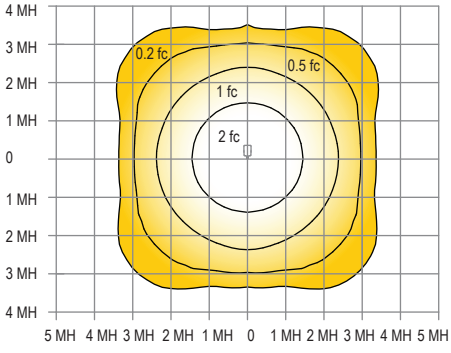

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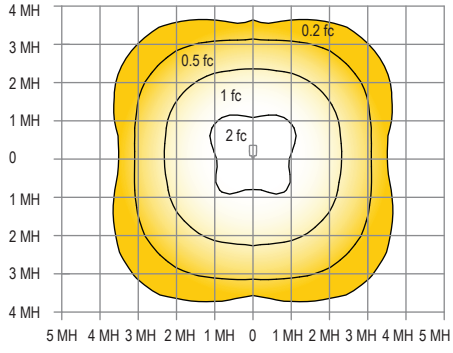
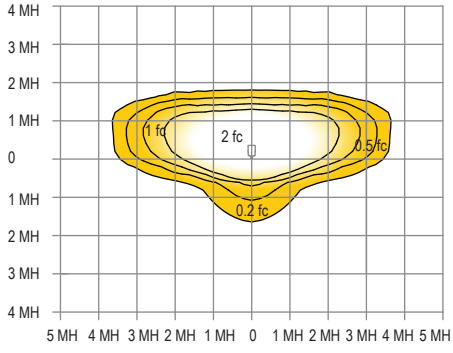


Type 5W



AFR

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		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-530-WW-G2-x	32	530	3000	56	6,178	B2-U0-G1	111	6,044	B1-U0-G2	109	6,323	B1-U0-G2	114
ECF-S-32L-700-WW-G2-x	32	700	3000	73	7,968	B2-U0-G2	109	7,795	B1-U0-G2	107	8,156	B1-U0-G2	112
ECF-S-32L-1A-WW-G2-x	32	1050	3000	106	11,218	B2-U0-G2	106	10,974	B2-U0-G2	104	11,482	B2-U0-G2	109
ECF-S-32L-1.2A-WW-G2-x	32	1200	3000	122	12,443	B3-U0-G2	102	12,173	B2-U0-G2	100	12,736	B2-U0-G3	105
ECF-S-48L-900-WW-G2-x	48	900	3000	135	14,768	B3-U0-G3	109	14,448	B2-U0-G3	107	15,116	B2-U0-G3	112
ECF-S-48L-1A-WW-G2-x	48	1050	3000	159	16,723	B3-U0-G3	105	16,360	B3-U0-G3	103	17,116	B2-U0-G3	108
ECF-S-48L-1.2A-WW-G2-x	48	1200	3000	183	18,564	B3-U0-G3	102	18,162	B3-U0-G3	99	19,001	B3-U0-G4	104
ECF-S-64L-900-WW-G2-x	64	900	3000	178	19,545	B3-U0-G3	110	19,121	B3-U0-G3	108	20,005	B3-U0-G4	113
ECF-S-64L-1A-WW-G2-x	64	1050	3000	206	22,020	B3-U0-G3	107	21,543	B3-U0-G4	105	22,538	B3-U0-G4	109

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 5			Type 5W			Type AFR		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-530-WW-G2-x	32	530	3000	56	6,400	B2-U0-G1	115	6,672	B3-U0-G2	120	6,458	B3-U0-G2	116
ECF-S-32L-700-WW-G2-x	32	700	3000	73	8,254	B2-U0-G1	113	8,606	B3-U0-G2	118	8,330	B4-U0-G2	114
ECF-S-32L-1A-WW-G2-x	32	1050	3000	106	11,621	B3-U0-G2	110	12,116	B4-U0-G2	115	11,727	B4-U0-G2	111
ECF-S-32L-1.2A-WW-G2-x	32	1200	3000	122	12,890	B3-U0-G2	106	13,440	B4-U0-G2	111	13,008	B4-U0-G2	107
ECF-S-48L-900-WW-G2-x	48	900	3000	135	15,299	B3-U0-G2	113	15,951	B4-U0-G2	118	15,438	B4-U0-G2	114
ECF-S-48L-1A-WW-G2-x	48	1050	3000	159	17,324	B3-U0-G2	109	18,062	B4-U0-G2	114	17,482	B5-U0-G3	110
ECF-S-48L-1.2A-WW-G2-x	48	1200	3000	183	19,231	B3-U0-G2	105	20,051	B5-U0-G3	110	19,407	B5-U0-G3	106
ECF-S-64L-900-WW-G2-x	64	900	3000	178	20,247	B3-U0-G2	114	21,111	B5-U0-G3	119	20,432	B5-U0-G3	115
ECF-S-64L-1A-WW-G2-x	64	1050	3000	206	22,811	B3-U0-G2	111	23,784	B5-U0-G3	116	23,020	B5-U0-G3	112

4000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2			Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-530-NW-G2-x	32	530	4000	56	6,864	B2-U0-G2	123	6,715	B1-U0-G2	121	7,025	B1-U0-G2	126
ECF-S-32L-700-NW-G2-x	32	700	4000	73	8,853	B2-U0-G2	121	8,661	B2-U0-G2	119	9,062	B1-U0-G2	124
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	12,464	B3-U0-G2	118	12,194	B2-U0-G2	115	12,757	B2-U0-G3	121
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	13,826	B3-U0-G3	114	13,526	B2-U0-G3	111	14,151	B2-U0-G3	116
ECF-S-48L-900-NW-G2-x	48	900	4000	135	16,409	B3-U0-G3	121	16,053	B2-U0-G3	119	16,795	B2-U0-G3	124
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	18,581	B3-U0-G3	117	18,178	B3-U0-G3	115	19,018	B2-U0-G4	120
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	20,627	B3-U0-G3	113	20,180	B3-U0-G4	110	21,112	B3-U0-G4	116
ECF-S-64L-900-NW-G2-x	64	900	4000	178	21,717	B3-U0-G3	122	21,246	B3-U0-G4	119	22,228	B3-U0-G4	125
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	24,467	B3-U0-G3	119	23,936	B3-U0-G4	116	25,043	B3-U0-G4	122

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 5			Type 5W			Type AFR		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-530-NW-G2-x	32	530	4000	56	7,414	B3-U0-G2	133	7,175	B3-U0-G2	129	7,111	B2-U0-G1	128
ECF-S-32L-700-NW-G2-x	32	700	4000	73	9,563	B3-U0-G2	131	9,255	B4-U0-G2	127	9,172	B2-U0-G1	126
ECF-S-32L-1A-NW-G2-x	32	1050	4000	106	13,462	B4-U0-G2	127	13,030	B4-U0-G2	123	12,912	B3-U0-G2	122
ECF-S-32L-1.2A-NW-G2-x	32	1200	4000	122	14,933	B4-U0-G2	123	14,453	B4-U0-G2	119	14,322	B3-U0-G2	118
ECF-S-48L-900-NW-G2-x	48	900	4000	135	17,723	B4-U0-G2	131	17,154	B5-U0-G3	127	16,999	B3-U0-G2	126
ECF-S-48L-1A-NW-G2-x	48	1050	4000	159	20,069	B5-U0-G3	126	19,424	B5-U0-G3	122	19,248	B3-U0-G2	121
ECF-S-48L-1.2A-NW-G2-x	48	1200	4000	183	22,279	B5-U0-G3	122	21,563	B5-U0-G3	118	21,368	B3-U0-G2	117
ECF-S-64L-900-NW-G2-x	64	900	4000	178	23,456	B5-U0-G3	132	22,702	B5-U0-G3	128	22,497	B3-U0-G2	127
ECF-S-64L-1A-NW-G2-x	64	1050	4000	206	26,427	B5-U0-G3	128	25,577	B5-U0-G4	124	25,346	B3-U0-G2	123

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		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-530-CW-G2-x	32	530	5000	56	6,658	B2-U0-G2	120	6,514	B1-U0-G2	117	6,815	B1-U0-G2	122
ECF-S-32L-700-CW-G2-x	32	700	5000	73	8,588	B2-U0-G2	118	8,402	B2-U0-G2	115	8,790	B1-U0-G2	121
ECF-S-32L-1A-CW-G2-x	32	1050	5000	106	12,090	B3-U0-G2	114	11,828	B2-U0-G2	112	12,375	B2-U0-G3	117
ECF-S-32L-1.2A-CW-G2-x	32	1200	5000	122	13,411	B3-U0-G3	110	13,120	B2-U0-G3	108	13,726	B2-U0-G3	113
ECF-S-48L-900-CW-G2-x	48	900	5000	135	15,917	B3-U0-G3	118	15,572	B2-U0-G3	115	16,291	B2-U0-G3	121
ECF-S-48L-1A-CW-G2-x	48	1050	5000	159	18,023	B3-U0-G3	114	17,633	B3-U0-G3	111	18,447	B2-U0-G4	116
ECF-S-48L-1.2A-CW-G2-x	48	1200	5000	183	20,008	B3-U0-G3	110	19,574	B3-U0-G4	107	20,479	B3-U0-G4	112
ECF-S-64L-900-CW-G2-x	64	900	5000	178	21,065	B3-U0-G3	118	20,609	B3-U0-G4	116	21,561	B3-U0-G4	121
ECF-S-64L-1A-CW-G2-x	64	1050	5000	206	23,733	B3-U0-G3	115	23,218	B3-U0-G4	113	24,291	B3-U0-G4	118

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 5			Type 5W			Type AFR		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
ECF-S-32L-530-CW-G2-x	32	530	5000	56	6,897	B2-U0-G1	124	7,191	B3-U0-G2	129	6,960	B3-U0-G2	125
ECF-S-32L-700-CW-G2-x	32	700	5000	73	8,896	B2-U0-G1	122	9,276	B3-U0-G2	127	8,978	B4-U0-G2	123
ECF-S-32L-1A-CW-G2-x	32	1050	5000	106	12,524	B3-U0-G2	119	13,058	B4-U0-G2	124	12,639	B4-U0-G2	120
ECF-S-32L-1.2A-CW-G2-x	32	1200	5000	122	13,893	B3-U0-G2	114	14,485	B4-U0-G2	119	14,020	B4-U0-G2	115
ECF-S-48L-900-CW-G2-x	48	900	5000	135	16,489	B3-U0-G2	122	17,192	B4-U0-G2	127	16,639	B5-U0-G3	123
ECF-S-48L-1A-CW-G2-x	48	1050	5000	159	18,671	B3-U0-G2	118	19,467	B5-U0-G3	123	18,841	B5-U0-G3	119
ECF-S-48L-1.2A-CW-G2-x	48	1200	5000	183	20,727	B3-U0-G2	113	21,611	B5-U0-G3	118	20,916	B5-U0-G3	114
ECF-S-64L-900-CW-G2-x	64	900	5000	178	21,822	B3-U0-G2	123	22,753	B5-U0-G3	128	22,021	B5-U0-G3	124
ECF-S-64L-1A-CW-G2-x	64	1050	5000	206	24,586	B3-U0-G2	119	25,634	B5-U0-G3	124	24,810	B5-U0-G4	120

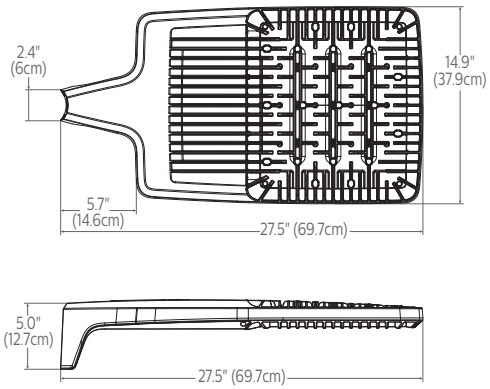
ECF-S EcoForm small

Area luminaire

Dimensions

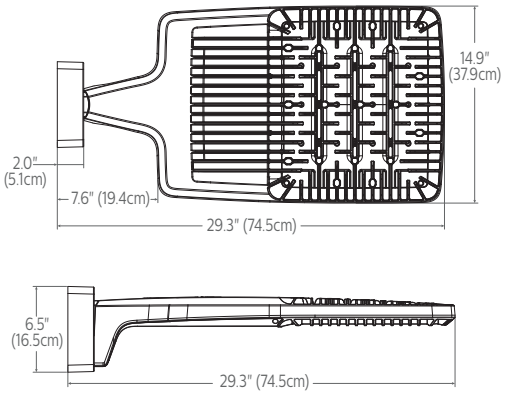
Standard Arm (**AR**)

Weight: 22 Lbs (9.9 Kg) EPA: 0.21ft² (.019m²)



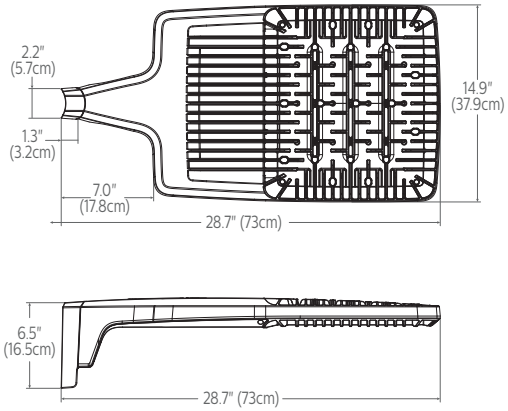
Wall (**WS**)

Weight: 27 Lbs. (12. 2Kg)EPA: 0.27ft² (.025m²)



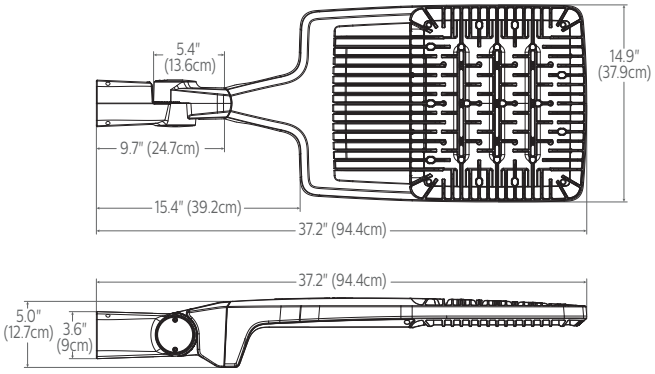
Retrofit Arm (**RAM**)

Weight: 24 Lbs (10.9 Kg) EPA: 0.24ft² (.022m²)

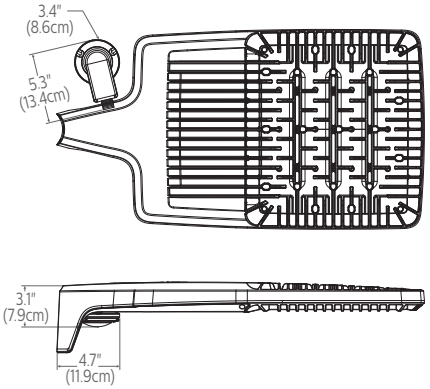


Slip fitter (**SF**)

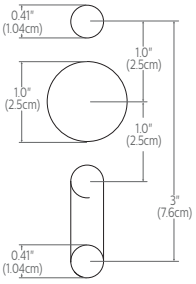
Weight: 27 Lbs (12.2 Kg) EPA: 0.33ft² (.031m²)



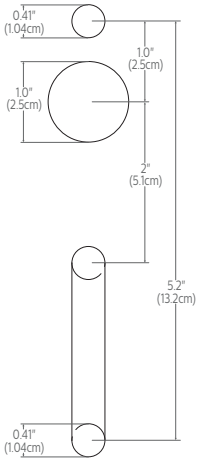
Outboard **IMR-HVU** sensor



Standard Arm (**AR**) drill pattern



Retrofit Arm (**RAM**) drill pattern



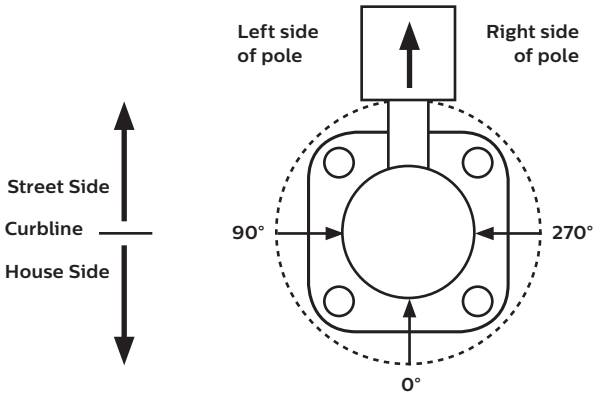
ECF-S EcoForm small

Area luminaire

Optical Orientation Information

Standard Optic Position

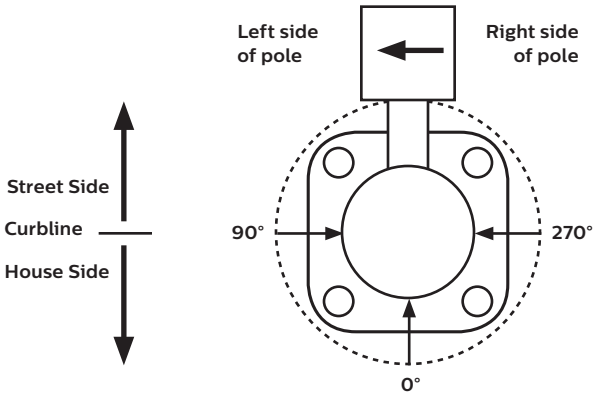
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



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

Optic Rotated Left (90°) Optic Position

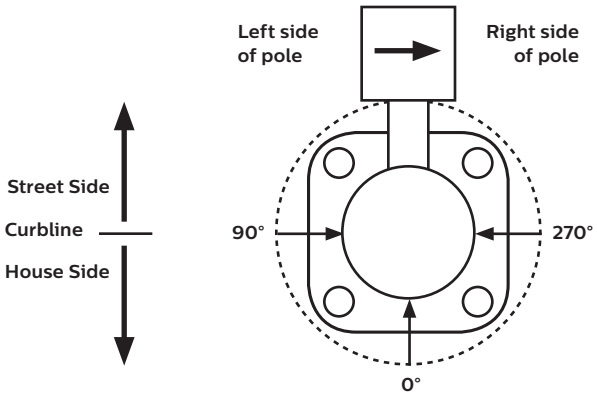
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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

Optic Rotated Right (270°) Optic Position

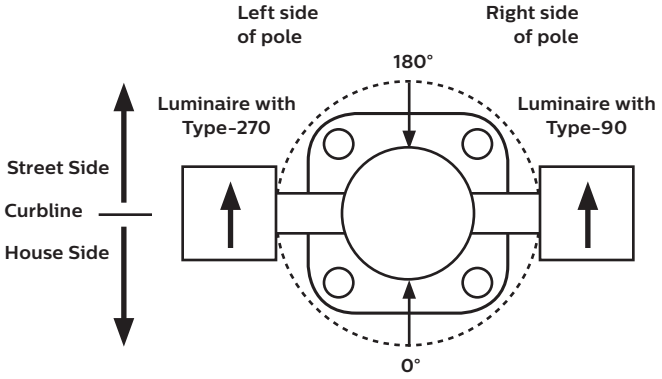
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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 IP66, 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 C136.31-2010. 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 133 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. Types 2, 3, 4, and AFR 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.

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.

SiteWise (SW): 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 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. Cannot be used with other control options or photocell options. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems. Complete information on the control system can be found on the SiteWise website at philips.com/sitewise.

Automatic Profile Dimming (CS/CM/CE/CA): Standard dimming profile of 30% or 50% provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. 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)
- **CE50/CE30:** Economy for 9 hours night duration (Ex., 9 PM - 6 AM)
- **CA50/CA30:** for all night (during all dark hours)

All above profiles are calculated from mid point of the night. Dimming is set for 6 hours after the mid point and 1, 2, or 3 hours before depending of the duration of dimming. Cannot be used with other dimming control options.

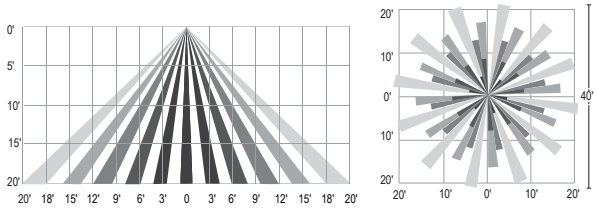
Field Adjustable Wattage Selector (FAWS): Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output 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 Limelight 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 and SiteWise), 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.

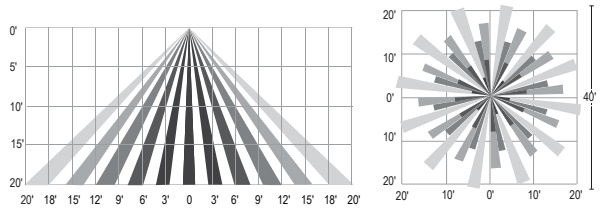
ECF-S EcoForm small

Area luminaire

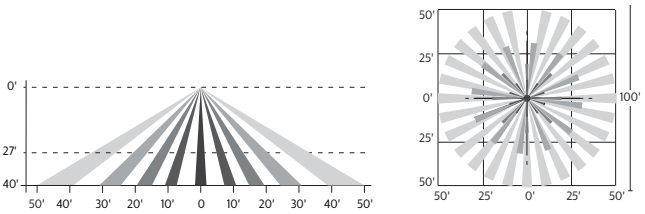
Specifications

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:

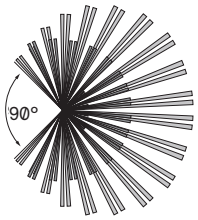
IMRI3 Luminaire or remote mount controller with #3 lens



IMRI7 Luminaire or remote mount controller with #7 lens



Infrared Motion Response Outboard (IMRO): Infrared Motion Response Outboard can be used in combination with automatic profile dimming and stand alone motion response. The pole mounted motion sensor is a PIR (passive infrared) device that can be mounted to a pole. One motion sensor per pole is required. Sensor finish is white Wattstopper EW-200-120-W or the EW-200-277-W. Order MS-A-120 or MS-A-277 separately. IMRO sensors require single voltage 120V or 277V input. 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 (see chart for approximate detection patterns).



270° Front Coverage

Distances are approximate.

H = height above ground

Height

Pole Details: IMRO requires that the pole include additional hand hole 15 feet above the pole base, normally oriented 180° to the standard hand hole. For 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).

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 Twist-lock receptacle (TLRD5 or TLRD7), photocell or shorting cap is not included.

Driver: Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS 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.

Signify North America Corporation
200 Franklin Square Drive,
Somerset, NJ 08873
Telephone 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone 800-668-9008

Application
LED wall luminaire with asymmetrical light distribution and adjustable gantry outrigger arm.

Materials
Luminaire housing, faceplate and outrigger arm constructed of die-cast and extruded marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy
Clear safety glass
Reflector made of pure anodized aluminum
Silicone applied robotically to casting, plasma treated for increased adhesion
High temperature silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 65
Weight: 44.1 lbs

Electrical

Operating voltage	120-277 V AC
Minimum start temperature	-30° C
LED module wattage	55.3 W
System wattage	61.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	6,674 lumens (4000K)
Lifetime at Ta = 15° C	232,000 h (L70)
Lifetime at Ta = 35° C	73,000 h (L70)

LED color temperature

☐ 4000K - Product number + **K4**
○ 3500K - Product number + **K35**
○ 3000K - Product number + **K3**
○ 2700K - Product number + **K27**

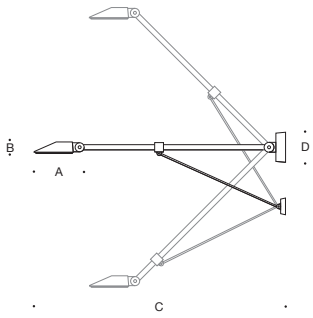
BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors ☐ Black (BLK) ○ White (WHT) ○ RAL:
○ Bronze (BRZ) ○ Silver (SLV) ○ CUS:

Type:
BEGA Product:
Project:
Modified:

Sign Lights PL-SG01



LED wall luminaire · adjustable gantry system

	LED	A	B	C	D
24 509	55.3 W	16 ¾	4 ⅛	90 ½	8 ¼

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Updated 02/21/18

Wall Mount PL-WP

Invue

DESCRIPTION

The Entri LED luminaire features a classic and stylish design with the added benefits of solid state lighting technology, offering outstanding uniformity and energy savings. Using Eaton's proprietary LED LightBAR™ technology and AccuLED Optics™ system, the Entri LED luminaire offers designers vast versatility in system design, function and performance. Use Entri LED for wall mount architectural lighting applications and egress lighting requirements. UL/cUL listed for use in wet locations.

Catalog #		**Type**
Project		
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

Construction

HOUSING: Heavy wall, one-piece, die-cast aluminum construction for precise tolerance control and repeatability in manufacturing. Integral extruded aluminum heat sink provides superior thermal heat transfer in +40°C ambient environments. FACEPLATE / DOOR: One-piece, die-cast aluminum construction. Captive, side hinged faceplate swings open via release of one flush mount die-cast aluminum latch on housing side panel. GASKET: One-piece molded silicone gasket mates perfectly between the door and housing for repeatable seal. LENS: Uplight lens is impact-resistant, 5/32" thick tempered frosted glass sealed to housing with continuous bead silicone gasket. Downlight lens is LED board integrated acrylic over-optics, each individually sealed for IP66 rating. HARDWARE: Stainless steel mounting screws and latch hardware allow access to electrical components for installation and servicing.

Optics

Choice of six patented, high-efficiency AccuLED Optic distributions. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optic technology creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K CCT and 5000K CCT.

Electrical

LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Greater than 0.9 power factor, less than 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightBARs feature and IP66 enclosure rating and maintain greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21. Emergency egress options for -20°C ambient environments, occupancy sensor and dimming options available.

Mounting

JUNCTION BOX: Standard with zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box. LightBARs mount facing downward. Fixture slides over mounting plate and is secured with two stainless steel fasteners. Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates. Optional mounting arrangements utilize a die-cast mounting adaptor box to allow for LED battery pack, surface conduit and through branch wiring. The Entri LED luminaire is approved for mounting on combustible surfaces.

Finish

Housing is finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. LightBAR cover plates are standard white and may be specified to match finish of luminaire housing. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

Warranty

Five-year warranty.

ENC/ENT/ENV
ENTRI LED

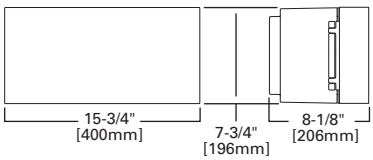
1 - 2 LightBARs

Solid State LED

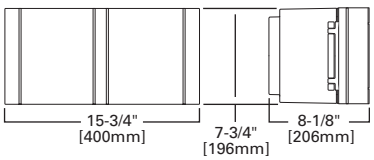
ARCHITECTURAL WALL LUMINAIRE

DIMENSIONS

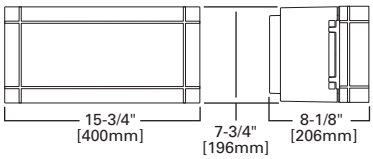
ENC (Round Clean)



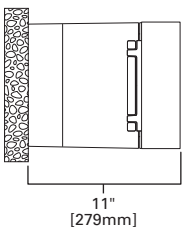
ENT (Triangle Reveals)



ENV (Round Reveals)



CONDUIT MOUNT / BATTERY BACK BOX



CERTIFICATION DATA

UL/cUL Listed
ISO 9001
IP66 LightBARs
LM79 / LM80 Compliant
DesignLights Consortium® Qualified*

ENERGY DATA

Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-30°C Minimum Temperature
40°C Ambient Temperature Rating

SHIPPING DATA

Approximate Net Weight:
16 lbs. (7.3 kgs.)

Powering Business Worldwide

*www.designlights.org

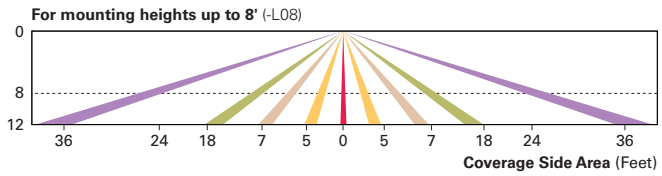
CONTROL OPTIONS

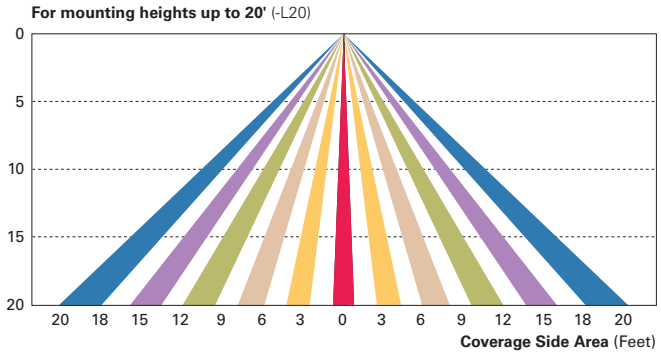
0-10V
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

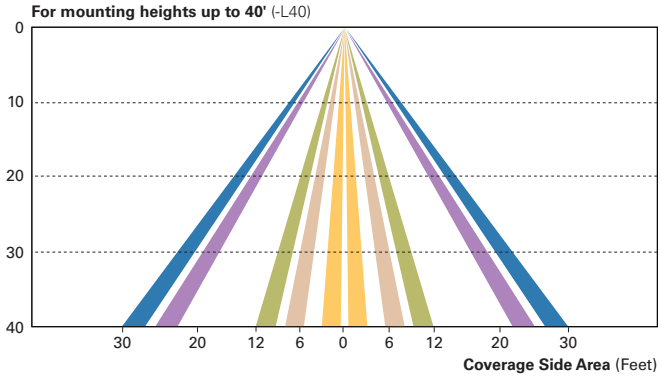
Dimming Occupancy Sensor (MS/DIM-LXX and OSB-LXX)
These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The OSB-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity.

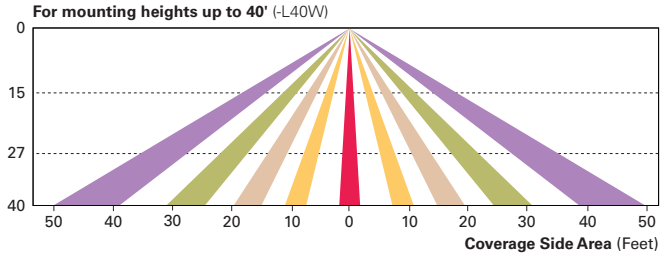
These occupancy sensors includes an integral photocell that can be activated with the FSIR-100 accessory for “dusk-to-dawn” control or daylight harvesting - the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters.

A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8’-40’.



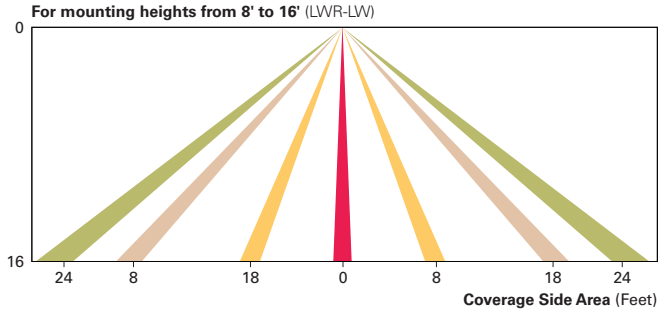


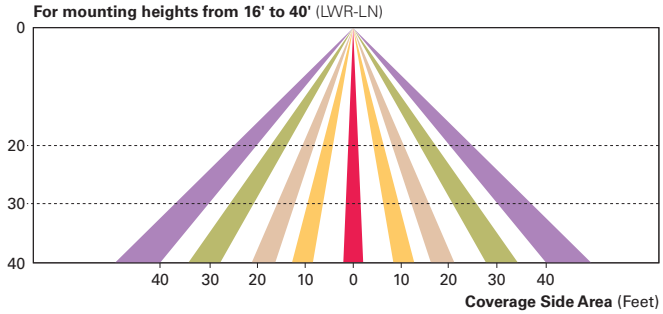




LumaWatt Pro Wireless Control and Monitoring System (LWR-LW and LWR-LN)
The LumaWatt Pro system is a peer-to-peer wireless network of luminaire-integral sensors for any sized project. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication. The end-user can securely create and manage sensor profiles with browser-based management software. The software will automatically broadcast to the sensors via wireless gateways for zone-based and individual luminaire control. The LumaWatt Pro software provides smart building solutions by utilizing the sensor to provide easy-to-use dashboard and analytic capabilities such as improved energy savings, traffic flow analysis, building management software integration and more.

For additional details, refer to the LumaWatt Pro product guides.





POWER AND LUMENS BY BAR COUNT

Number of LightBARs		E01	E02	F01	F02
		21 LED LightBAR		7 LED LightBAR	
Drive Current		350mA		1A	
Power (Watts)	120-277V	25W	47W	26W	50W
Current (A)	120V	0.22	0.40	0.22	0.42
	277V	0.10	0.18	0.10	0.19
Power (Watts)	347V or 480V	31W	52W	32W	55W
Current (A)	347V	0.11	0.16	0.11	0.17
	480V	0.16	0.18	0.16	0.18
Optics					
BL2	Lumens	2,738	5,476	2,260	4,521
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1
BL3	Lumens	2,702	5,405	2,231	4,462
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1
BL4	Lumens	2,613	5,225	2,157	4,313
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1
GZW	Lumens	2,785	5,570	2,299	4,598
	Bug Rating	B2-U0-G2	B3-U0-G3	B1-U0-G1	B2-U0-G2
SLR/SLL	Lumens	2,435	4,869	2,010	4,020
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G2

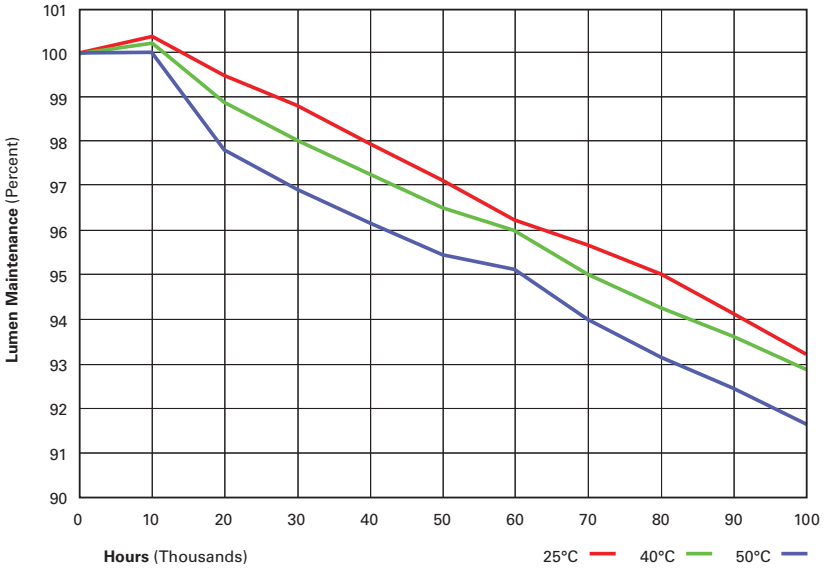
LUMEN MAINTENACE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	100,000 Hours	Theoretical L70 (Hours)
25ºC	> 99%	> 97%	> 96%	> 93%	> 450,000
40ºC	> 98%	> 97%	> 96%	> 92%	> 425,000
50ºC	> 97%	> 96%	> 95%	> 91%	> 400,000

* Per IESNA TM-21 data.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10ºC	1.02
15ºC	1.01
25ºC	1.00
40ºC	0.99



ORDERING INFORMATION

Sample Number: ENC-E02-LED-E1-BL3-GM

Product Family	Number of LightBARs [1]	Lamp Type	Voltage	Distribution	Color [3]
ENC=Entri Round Clean **ENT**=Entri Triangle Reveals **ENV**=Entri Round Reveals	**E01**=(1) 21 LED LightBAR **E02**=(2) 21 LED LightBARs **F01**=(1) 7 LED LightBAR **F02**=(2) 7 LED LightBARs	**LED**=Solid State Light Emitting Diodes	**E1**=Electronic (120-277V) **347**=347V **480**=480V [2]	**BL2**=Type II w/Back Light Control **BL3**=Type III w/Back Light Control **BL4**=Type IV w/Back Light Control **GZW**=Wall Grazer Wide **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	**Accessories** (Order Separately) [14]
ULG=Uplight Glow (For Uplight Only) [4] **PC**=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) [5] **WG**=Wire Guard **TP**=Tamper Resistant Hardware **LCF**=LightBAR Cover Plate Matches Housing Finish **7030**=70 CRI / 3000K CCT [6] **7050**=70 CRI / 5000K CCT [6] **8030**=80 CRI / 3000K CCT [6] **OSB-LXX**=Occupancy Sensor with Back Box (Specify 120V or 277V) [7, 8] **BBB**=Battery Pack with Back Box (Specify 120V or 277V) [9] **CWB**=Cold Weather Battery Pack with Back Box (Specify 120V or 277V) [10] **DIM**=0-10V Dimming Driver **LWR-LW**= LumaWatt Pro Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [11, 13] **LWR-LN**= LumaWatt Pro Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [11, 13] **MS/DIM-LXX**= Programmable Photo/Motion Sensor [8, 12, 13]	**VA2001-XX**=Thru-Way Conduit Box **VA6172**=Wire Guard **VA6173**=Tamper-Resistant Driver Bit **MA1253**=10kV Circuit Module Replacement **FSIR-100**=Wireless Configuration Tool for occupancy sensor [12]

NOTES:

1. Standard 4000K CCT and greater than 70 CRI. LightBARs for downlight use only.
2. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems)
3. Custom and RAL color matching available upon request. Consult your lighting representative at Eaton for more information.
4. Not available with LWR-XX or MS/DIM-LXX.
5. Not available with ULG option.
6. Extended lead times apply.
7. Available with E02 or F02, only one bar on street side will be wired to sensor. Time delay factory setting 15-minutes. When ordered with PC option, both bars are connected to photocontrol as primary switching means. Standard sensor lens covers 8' mounting height, 360° coverage, maximum 48' diameter. Not available in all configurations or with BBB or CWB options.
8. Replace 'XX' with mounting height in feet for proper lens selection, L08,L20 and L40 are available options.
9. Specify 120V or 277V. LED standard integral battery pack is rated for minimum operating temperature 32°F (0°C). Operates one bar for 90-minutes. Not available in all configurations or with OSB option. Consult factory.
10. Specify 120V or 277V. LED cold weather integral battery pack is rated for minimum operating temperature -4°F (-20°C). Operates one bar for 90-minutes. Not available in all configurations or with OSB option. Consult factory.
11. LumaWatt Pro wireless sensors are factory installed only, order with OSB backbox, requiring network components LWP-EM-1,LWP-GW-1,LWP-PoE8 in appropriate quantities. See www.eaton.com/lighting for LumaWatt Pro application information.
12. The FSIR-100 configuration tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
13. Includes integral photocell.
14. Replace XX with color suffix.