



P.O. Box 314, Carp, ON K0A 1L0
Tel: (613) 839-7500 Fax: (613) 839-2268

ECRA/ESA Licence # 7003195

UTILITIES & SITE SERVICES LTD.

Enterprise Car Rental Ottawa, Ont

ELECTRICAL SHOP DRAWINGS

General Contractor: **Tal-Co Building Innovations**
Electrical Contractor: **JWK Utilities & Site Services Ltd.**
Supplier / Distributor: **Daltco Electric**

Type	MFG	Part
A	GARDCO by Signify	ECF-S-48L-1A-NW-G2-AR-2-347-HIS-BK
A	DYNAPOLE Item Note: QUOTING 24' SQUARE STEEL POLE. NO POLE DETAILS PROVIDED	SSS4-24-1D-BK
B	GARDCO by Signify	ECF-S-48L-1A-NW-G2-AR-4-347-HIS-BK
B	DYNAPOLE Item Note: QUOTING 24' SQUARE STEEL POLE. NO POLE DETAILS PROVIDED	SSS4-24-1D-BK
C	KEENE by Signify	LPW32-70-NW-G3-3-347-BK
A	CFI by Signify	2FGG43L835-4-D-347-DIM
B	CFI by Signify	FSS430L835-347-DIM
B-1	CFI by Signify	FSS430L835-UNV-DIM
C	CFI by Signify	V3W451L835-347-DIM-LFA
1R-HEAD	LUMACELL	MQM1LD10
2R-HEAD	LUMACELL	MQM2LD10
E-BATT	LUMACELL	RG12S2002LD10AT
EXIT	LUMACELL	LMCESP

REVIEWED

By Sandra at 9:52 am, Feb 19, 2020

REVIEWED

By Pat Newton at 4:18 pm, Feb 20, 2020



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
ECF-S-48L-1A-NW-G2-AR-2-347-HIS-BK
Notes:

Type:
A
ALAND20-5296



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: _____

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					Finish	
							Dimming controls	Motion sensing lens	Photo-sensing	Electrical	Luminaire		
ECF-S													
ECF-S EcoForm site and area, small	32L 32 LEDs (2 modules)	530 530mA 700 700mA 1A 1050mA 1.2A 1200mA	WW-G2 Warm White 3000K, 70 CR Generation 2 NW-G2 Neutral White 4000K, 70 CR Generation 2	AR Arm Mount (standard) ² <i>The following mounting kits must be ordered separately (See accessories)</i> 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 SW 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 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 ^{4,5,8} FAWS Field Adjustable Wattage Selector ^{4,5} SW Interface module for SiteWise ^{4,5,7} LLC Integral wireless module ^{4,5,8} BL Bi-level functionality 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}	IMR13 Integral with #3 lens ¹⁵ IMR17 Integral with #7 lens ¹⁵ IMRO Pole mounted motion sensor ¹⁵ (see accessories)	PCB Photocontrol Button ^{8,9} TLRDS 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)	

- 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.
- Available only in 120 or 277V.
- Not available in 347 or 480V
- Must specify input voltage.
- Dimming will not be connected to NEMA receptacle if ordering with other control options.
- Not available in 480V.
- Not available with DCC.
- Not available with SF and WS. RPAs provided with black finish standard.

NO COMMENT COMMENT AS NOTED
 REJECTED REVISE AND RESUBMIT
 SUBMIT SPECIFIED PRODUCT

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS, SELECTING FABRICATION.

14. HIS not available with Type 5 and SW options. ALL OTHERS ARE AVAILABLE WITH HIS OPTION IN A SAFE AND SANE MANNER.
 15. Available only with SW, LLC and BL control options.
 16. Available only with SW and BL control options.

ANTARES ENGINEERING GROUP INC.
 26-02-2020 S.S
 DATE _____ PERS _____





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-H¹⁴ Internal House Side Shield for 80 LEDs (5 modules)

HIS-96-H¹⁴ Internal House Side Shield for 96 LEDs (6 modules)

Optic at 90 or 270 orientation:

HIS-80-V¹⁴ Internal House Side Shield for 80 LEDs (5 modules)

HIS-96-V¹⁴ 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°

(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°

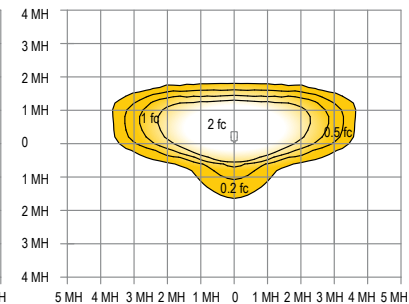
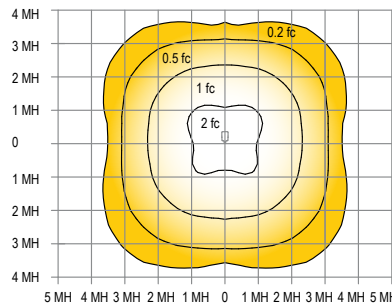
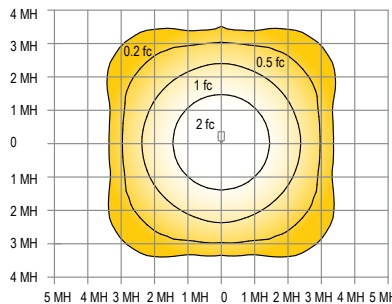
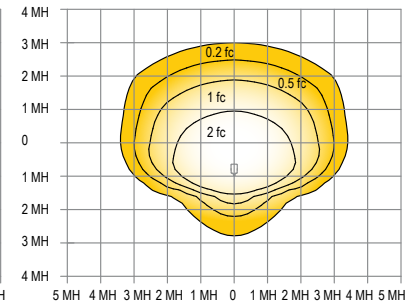
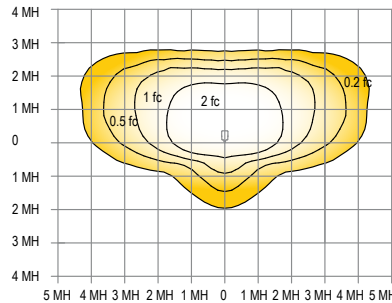
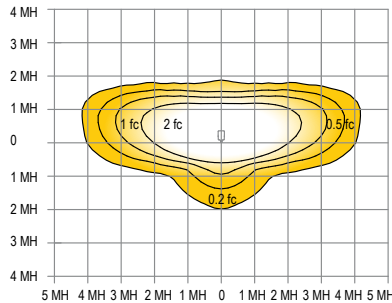
Predicted Lumen Depreciation Data

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. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ 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.





Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:

ECF-S-48L-1A-NW-G2-AR-2-347-HIS-BK

Notes:

Type:**A**

ALAND20-5296

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



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:

ECF-S-48L-1A-NW-G2-AR-2-347-HIS-
BK
Notes:

Type:**A**

ALAND20-5296

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

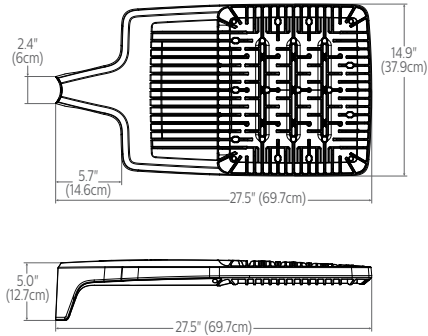
ECF-S EcoForm small

Area luminaire

Dimensions

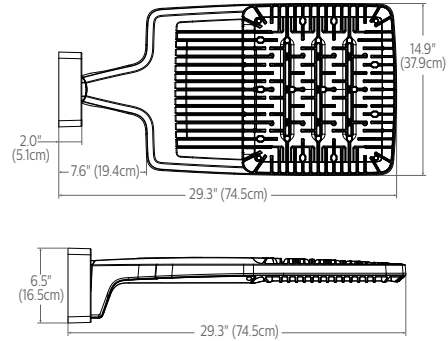
Standard Arm (AR)

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



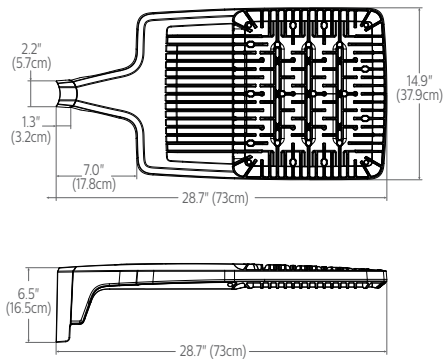
Wall (WS)

Weight: 27 Lbs. (12.2 Kg)EPA: 0.27ft² (.025m²)



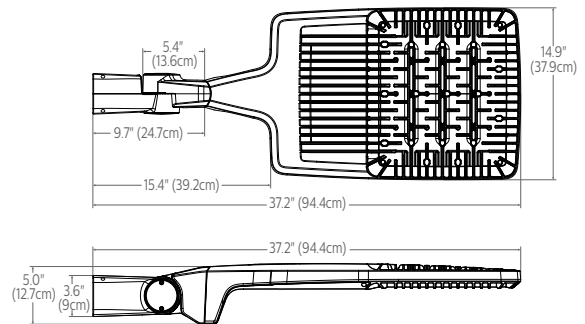
Retrofit Arm (RAM)

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

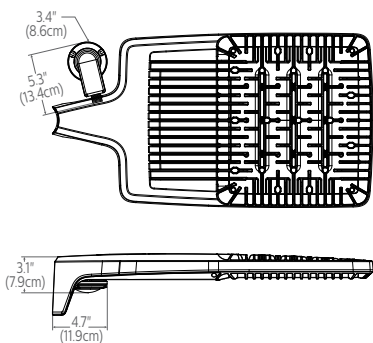


Slip fitter (SF)

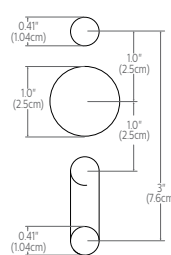
Weight: 27 Lbs (12.2 Kg) EPA: 0.33ft² (.031m²)



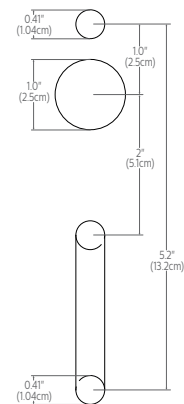
Outboard IMR-HVU sensor



Standard Arm (AR) drill pattern



Retrofit Arm (RAM) drill pattern



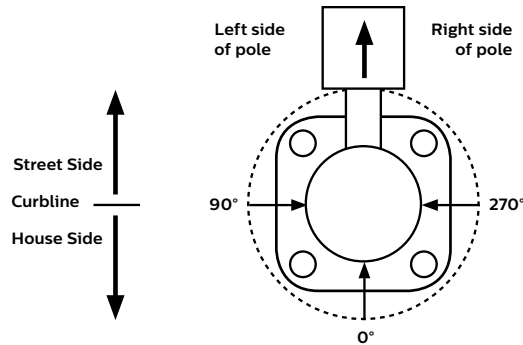
ECF-S EcoForm small

Area luminaire

Optical Orientation Information

Standard Optic Position

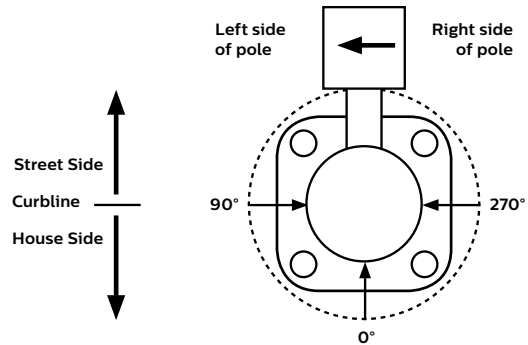
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



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

Optic Rotated Left (90°) Optic Position

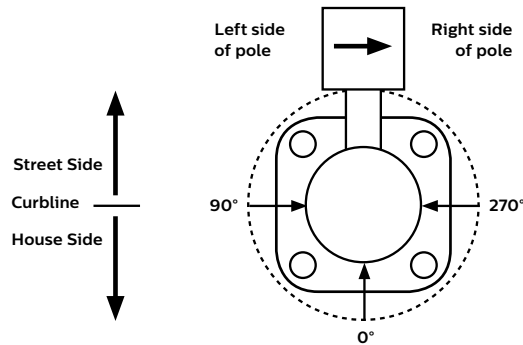
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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

Optic Rotated Right (270°) Optic Position

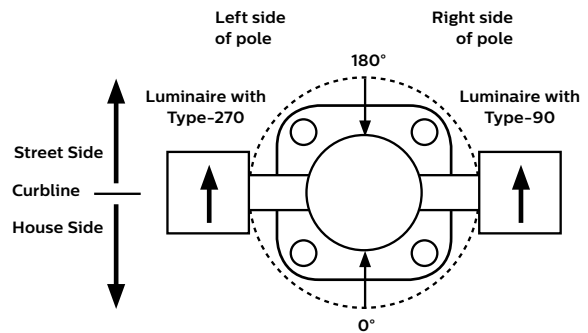
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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 (UO 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 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)
- **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.

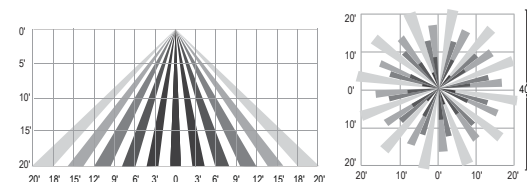
Field Adjustable Wattage Selector (FAWS): Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output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

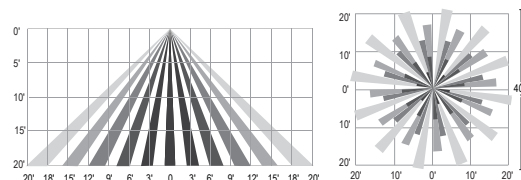
ECF-S EcoForm small

Area luminaire

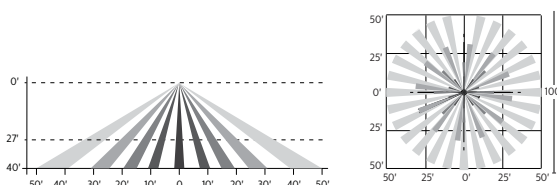
Specifications

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:

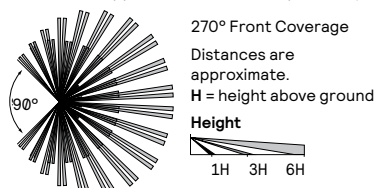
IMRI3 Luminaire or remote mount controller with #3 lens



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).



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.

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.





Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
SSS4-24-1D-BK

Notes: QUOTING 24' SQUARE STEEL POLE.
NO POLE DETAILS PROVIDED

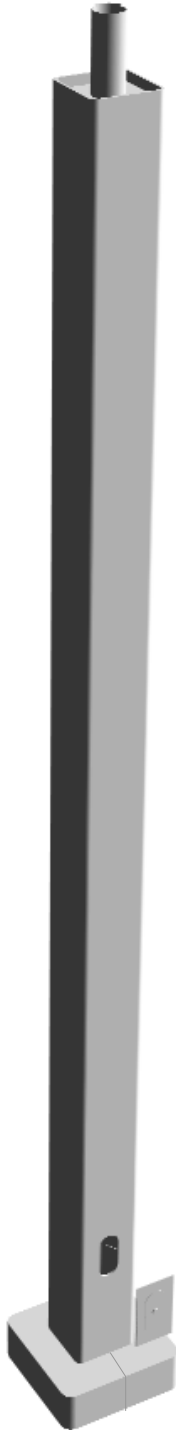
Type:

A

ALAND20-5296

SSS series

straight square steel



TECHNICAL DETAILS

<input checked="" type="checkbox"/> NO COMMENT	<input type="checkbox"/> COMMENT AS NOTED
<input type="checkbox"/> REJECTED	<input type="checkbox"/> REVISE AND RESUBMIT
<input type="checkbox"/> SUBMIT SPECIFIED PRODUCT	

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS, SELECTING FABRICATION, CO-ORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

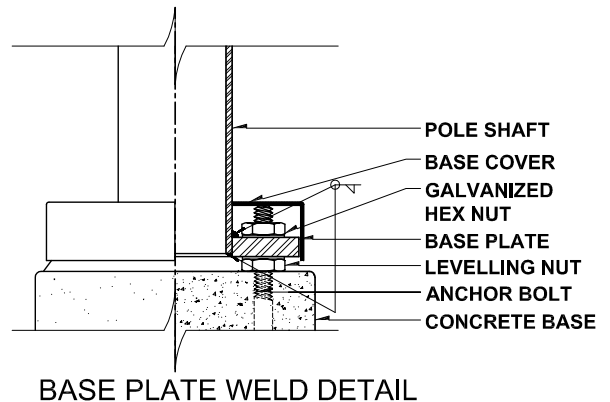
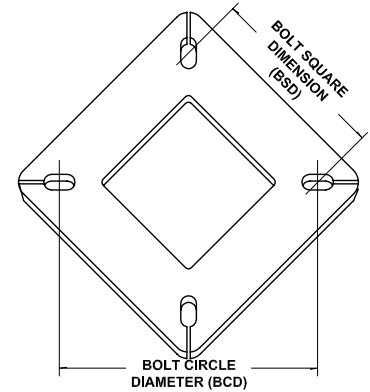
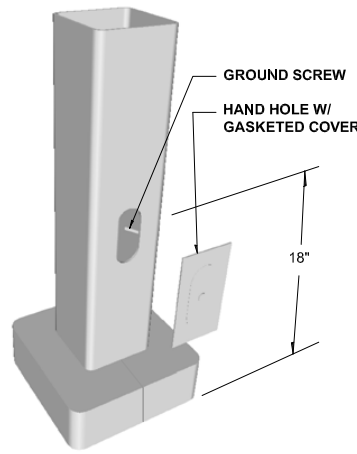
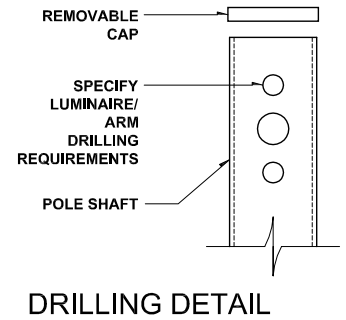
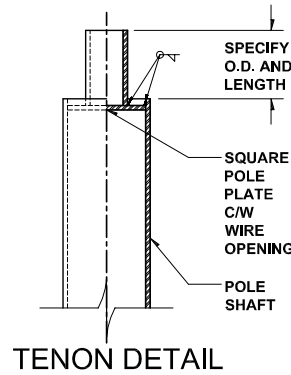
ANTARES ENGINEERING GROUP INC.
DATE: 26-02-2020, PERS S.S.

TENON

POLE HEIGHT

ELEVATION

POLE TOP FINISHING OPTIONS



DYNAPOLE

www.dynapole.com

2425 Lucknow Drive, Mississauga ON L5S 1H1 Canada
Tel. (905) 671-1507 Fax (905) 671-4606 Toll-Free 1-877-DYNAPOLE

DRAWING TITLE:

STRAIGHT SQUARE STEEL

NOTES: MATERIAL: STEEL
SHAFT: 50 000 PSI MIN. YIELD
BASE PLATE: 44 000 PSI MIN. YIELD

MODEL:

SSS

DRAWN BY:
CGT

DATE:
06/28/04

SCALE:
NTS



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
ECF-S-48L-1A-NW-G2-AR-4-347-HIS-BK
Notes:

Type:
B
ALAND20-5296



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: _____

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					Finish	
							Dimming controls	Motion sensing lens	Photo-sensing	Electrical	Luminaire		
ECF-S													
ECF-S EcoForm site and area, small	32L 32 LEDs (2 modules)	530 530mA 700 700mA 1A 1050mA 1.2A 1200mA	WW-G2 Warm White 3000K, 70 CR Generation 2 NW-G2 Neutral White 4000K, 70 CR Generation 2	AR Arm Mount (standard) ² <i>The following mounting kits must be ordered separately (See accessories)</i> 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 SW 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 ^{4,5,8} FAWS Field Adjustable Wattage Selector ^{4,5} SW Interface module for SiteWise ^{4,5,7} LLC Integral wireless module ^{4,5,8} BL Bi-level functionality 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}	IMR13 Integral with #3 lens ¹⁵ IMR17 Integral with #7 lens ¹⁵ 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)	

NO COMMENT COMMENT AS NOTED
 REJECTED REVISE AND RESUBMIT
 SUBMIT SPECIFIED PRODUCT

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS, SELECTING FABRICATION, CO-ORDINATING HIS WORK WITH THAT OF ALL OTHERS IN A PROJECT AND OBTAINING ALL NECESSARY PERMITS IN A TIMELY MANNER.

ANTARES ENGINEERING GROUP INC.
DATE 26-02-2020 PERS S.S.

- 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.
- Available only in 120 or 277V.
- Not available in 347 or 480V
- Must specify input voltage.
- Dimming will not be connected to NEMA receptacle if ordering with other control options.
- Not available in 480V.
- Not available with DCC.
- Not available with SF and WS. RPAs provided with black finish standard.





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-H¹⁴ Internal House Side Shield for 80 LEDs (5 modules)

HIS-96-H¹⁴ Internal House Side Shield for 96 LEDs (6 modules)

Optic at 90 or 270 orientation:

HIS-80-V¹⁴ Internal House Side Shield for 80 LEDs (5 modules)

HIS-96-V¹⁴ 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°

(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°

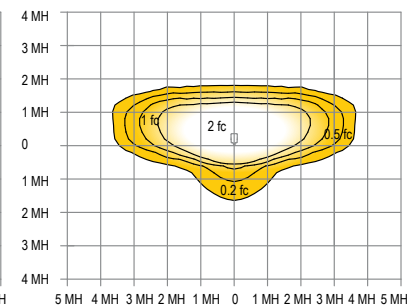
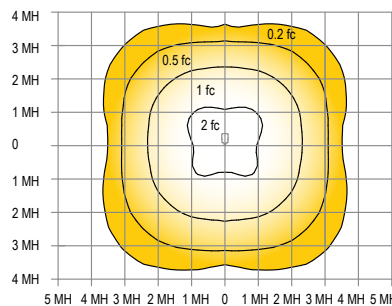
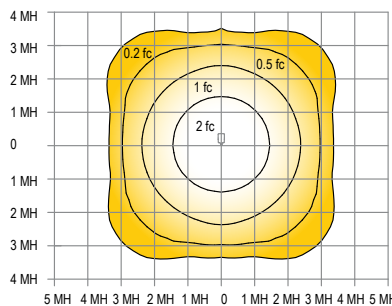
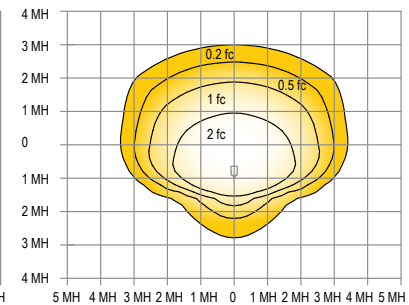
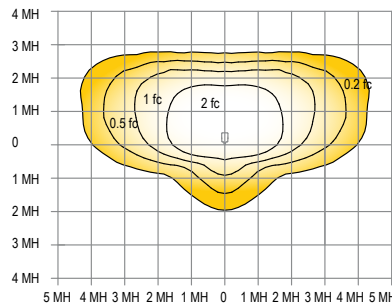
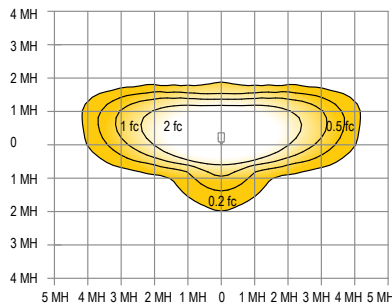
Predicted Lumen Depreciation Data

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. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ 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.





Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
ECF-S-48L-1A-NW-G2-AR-4-347-HIS-BK
Notes:

Type:
B
ALAND20-5296

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



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:

ECF-S-48L-1A-NW-G2-AR-4-347-HIS-
BK
Notes:

Type:**B**

ALAND20-5296

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

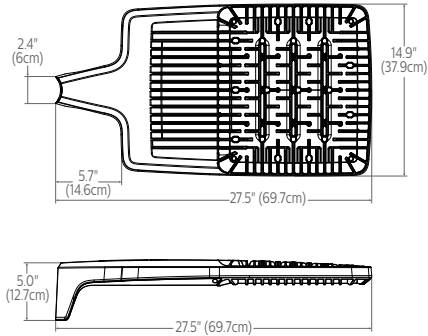
ECF-S EcoForm small

Area luminaire

Dimensions

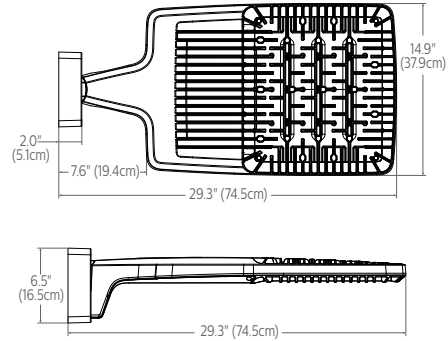
Standard Arm (AR)

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



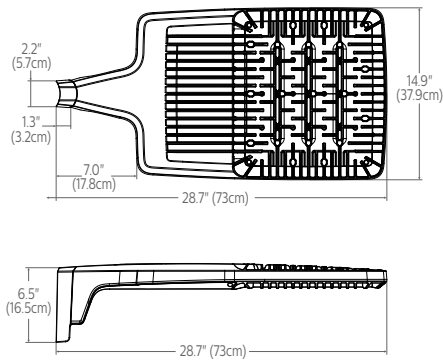
Wall (WS)

Weight: 27 Lbs. (12.2 Kg) EPA: 0.27ft² (.025m²)



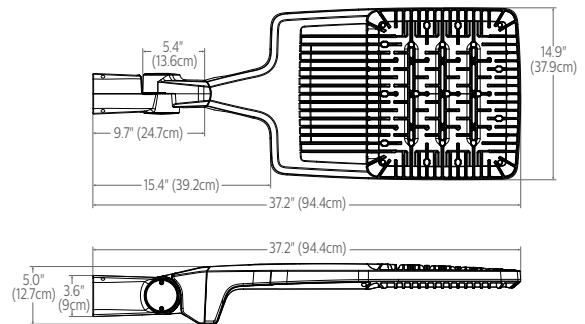
Retrofit Arm (RAM)

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

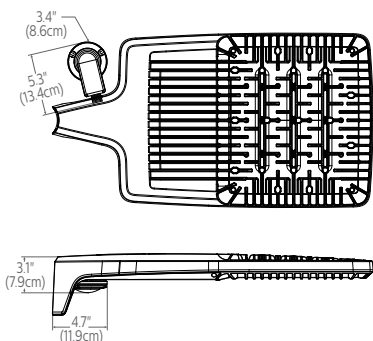


Slip fitter (SF)

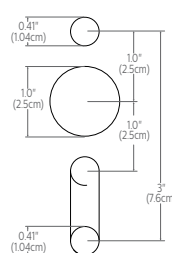
Weight: 27 Lbs (12.2 Kg) EPA: 0.33ft² (.031m²)



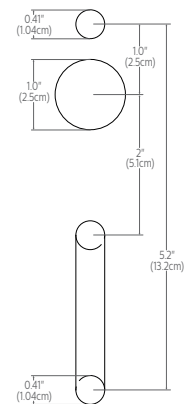
Outboard IMR-HVU sensor



Standard Arm (AR) drill pattern



Retrofit Arm (RAM) drill pattern



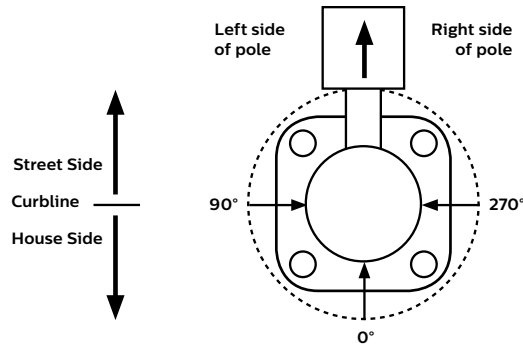
ECF-S EcoForm small

Area luminaire

Optical Orientation Information

Standard Optic Position

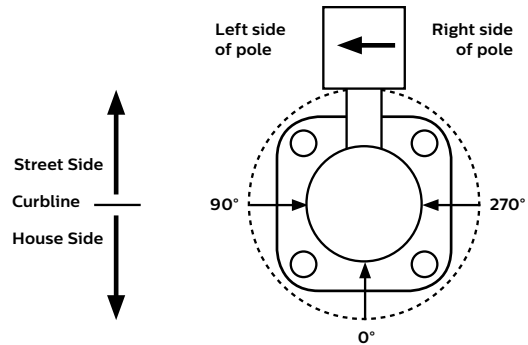
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



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

Optic Rotated Left (90°) Optic Position

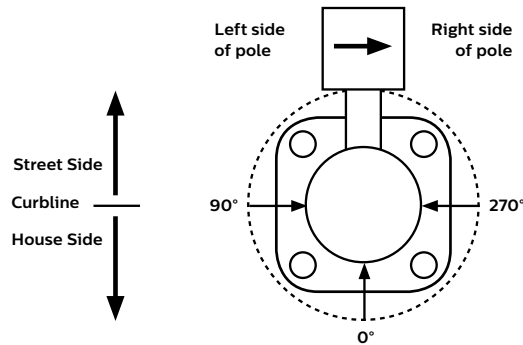
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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

Optic Rotated Right (270°) Optic Position

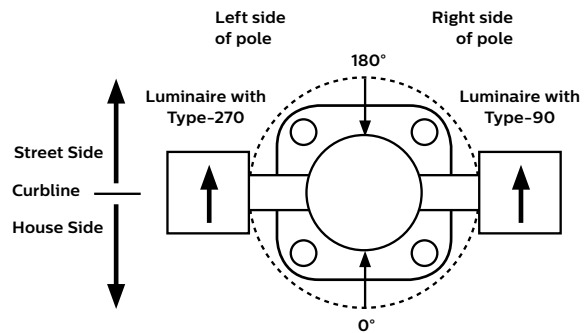
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



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 (UO 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 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)
- **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.

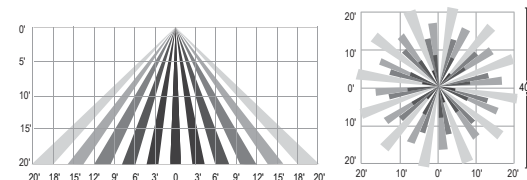
Field Adjustable Wattage Selector (FAWS): Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output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

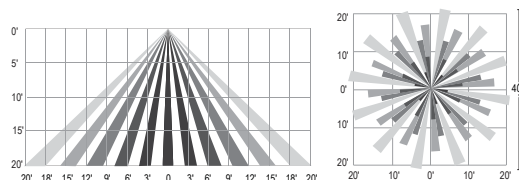
ECF-S EcoForm small

Area luminaire

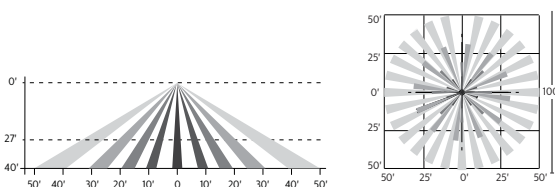
Specifications

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:

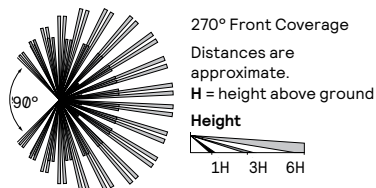
IMRI3 Luminaire or remote mount controller with #3 lens



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).



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.

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.





Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
SSS4-24-1D-BK

Notes: QUOTING 24' SQUARE STEEL POLE.
NO POLE DETAILS PROVIDED

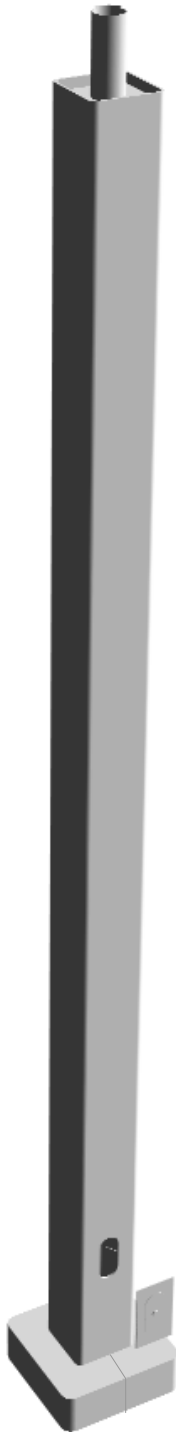
Type:

B

ALAND20-5296

SSS series

straight square steel



TECHNICAL DETAILS

<input checked="" type="checkbox"/> NO COMMENT	<input type="checkbox"/> COMMENT AS NOTED
<input type="checkbox"/> REJECTED	<input type="checkbox"/> REVISE AND RESUBMIT
<input type="checkbox"/> SUBMIT SPECIFIED PRODUCT	

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS. SELECTING FABRICATION, CO-ORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

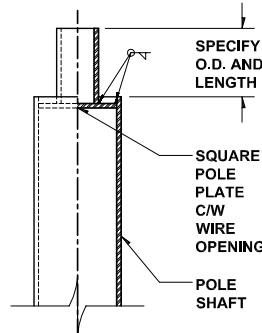
ANTARES ENGINEERING GROUP INC.
DATE 26-02-2020 PERS S.S.

TENON

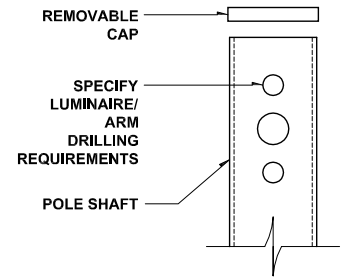
POLE HEIGHT

ELEVATION

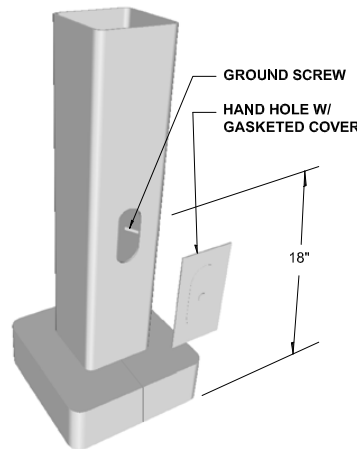
POLE TOP FINISHING OPTIONS



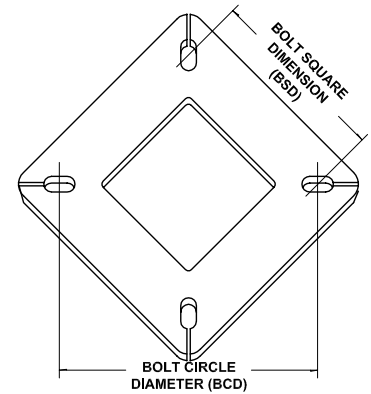
TENON DETAIL



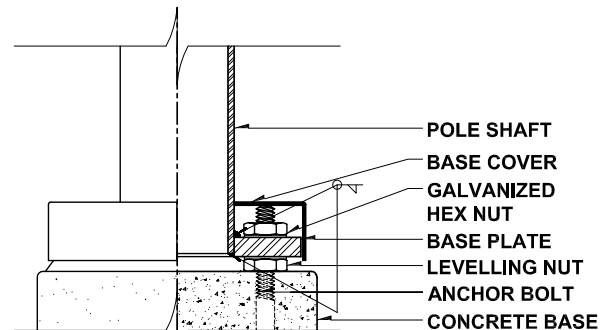
DRILLING DETAIL



BASE DETAIL



BASE PLATE DETAIL



BASE PLATE WELD DETAIL



www.dynapole.com

2425 Lucknow Drive, Mississauga ON L5S 1H1 Canada
Tel. (905) 671-1507 Fax (905) 671-4606 Toll-Free 1-877-DYNAPOLE

DRAWING TITLE:

STRAIGHT SQUARE STEEL

NOTES: MATERIAL: STEEL
SHAFT: 50 000 PSI MIN. YIELD
BASE PLATE: 44 000 PSI MIN. YIELD

MODEL:

SSS

DRAWN BY:

CGT

DATE:

06/28/04

SCALE:

NTS



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
LPW32-70-NW-G3-3-347-BK

Notes:

Type:

C

ALAND20-5296

KEENE

by Signify

Wall mount

LytePro

LPW32 large wall sconce



Keene LytePro LED large wall sconce LPW32 features outstanding value in a compact, architectural design. This powerful and precise combination offers outstanding energy savings with excellent photometric performance. LPW32 is ideal for building perimeters and corridors in addition to wall lighting applications requiring strong lateral spacing and forward pattern projection.

Project: _____
Location: _____
Cat. No: _____
Type: _____
Lamps: _____ Qty: _____
Notes: _____

Ordering guide

Example: LPW32-70-NW-G3-3-120-PCB-BZ

Prefix	Wattage	LED Color/Gen	Distribution	Emergency	Voltage
LPW32					
LPW32 LytePro 32 LED Large Wall Sconce	70 70W 90 90W 50 50W ¹	NW-G3 Neutral White 4000K 70 CRI Generation 3 WW-G3 Warm White 3000K 70 CRI Generation 3	3 Type 3 4 Type 4	-- None EBP Emergency Battery Pack ^{1,2,3} EBP only available with 50W version	120 120V 208 208V 240 240V 277 277V 347 347V 480 480V UNV 120-277V (50/60Hz) HVV 347-480V (50/60Hz)

Options		Motion sensing		Photocontrol		Finish	
FAWS Field Adjustable Wattage Selector ⁴		IMRI3 Motion sensor #3 Lens ^{2,5}		PCB Photocontrol Button ^{2,5,6}		Textured BK Black WH White BZ Bronze DGY Dark Gray MGY Medium Gray	
BL Bi-level functionality ^{2,4}						Customer specified RAL Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) CC Custom color (Must supply color chip for required factory quote)	

NO COMMENT COMMENT AS NOTED
 REJECTED REVISE AND RESUBMIT
 SUBMIT SPECIFIED PRODUCT

NO CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS, SELECTING FABRICATION, CO-ORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

ANTARES ENGINEERING GROUP INC.
DATE: 29-02-2020 PERS S.S.

Stocked luminaires – Ordering guide

Catalog Number	Description	Master Pack, Qty	UPC Code
LPW32-G3-8-DGY	LPW32, 70W, 650mA, 4000K, Type 3, 120-277V, Dark gray textured paint	3	622252813889
LPW32-G3-8-BZ	LPW32, 70W, 650mA, 4000K, Type 3, 120-277V, Bronze textured paint	3	622252813896

Stocked accessories – Ordering guide (Must be ordered separately)

Catalog Number	Description	Master Pack, Qty	UPC Code
LPWCVRPLT-BZ ⁷	LPW Universal wall cover mounting plate, Bronze textured paint	(none)	786034960618

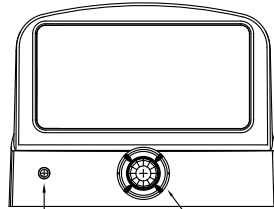
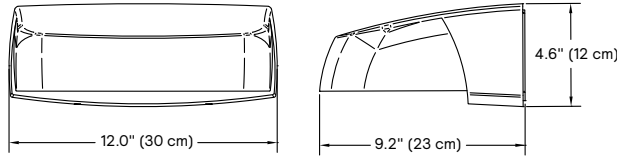
¹ 50W configuration available with emergency battery backup only (EBP) ⁵ Available only with BL diming option
² Not available in 347 or 480V ⁶ Must specify voltage
³ Not available with BL, FAWS or PCB ⁷ Other colors available upon request as made-to-order
⁴ Not available with other control options.



LPW32 LytePro

LED large wall sconce

Dimensions

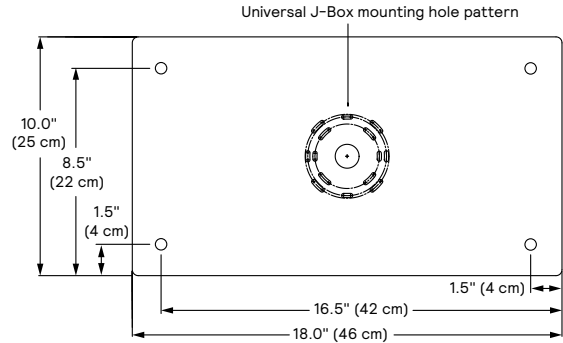


Luminaire weight: 9lbs (4 kg)
Luminaire with EBP: 11lbs (5 kg)

Location of test switch when ordered with EBP
Location of motion sensor lens when ordered with BL-IMRI3

Accessory dimensions (ordered separately)

LPWCVRPLT-BZ LPW Universal wall cover mounting plate, 0.08" aluminum, bronze textured paint (used to cover larger pre-existing opening or surfaces, field installed). Offers same J-Box pattern as luminaire or may lagged to wall using (4) knockouts.



LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
LPW-32-70-NW-G3	32	650	4000	65	7386	B1-U0-G2	114	7149	B1-U0-G2	111
LPW-32-90-NW-G3	32	900	4000	90	9637	B2-U0-G2	107	9328	B2-U0-G2	104
LPW-32-70-WW-G3	32	650	3000	65	6686	B1-U0-G2	103	6472	B1-U0-G2	100
LPW-32-90-WW-G3	32	900	3000	89	8724	B2-U0-G2	98	8444	B2-U0-G2	95

LED Wattage and Lumen Values - Emergency mode

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts		Type 3		Type 4	
				Normal Mode	Emergency Mode	Normal Mode	Emergency Mode	Normal Mode	Emergency Mode
LPW-32-50-NW-G3-EBP	32	400	4000	45	10	5232	1625	5064	1573
LPW-32-50-WW-G3-EBP	32	400	3000	45	10	4736	1471	4584	1424

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.

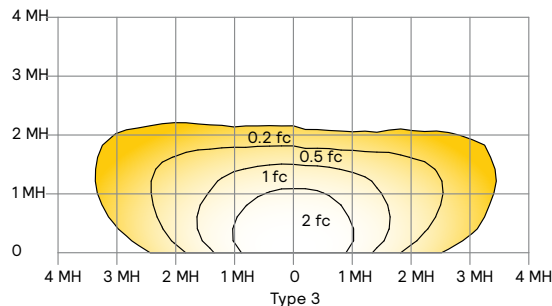
Predicted lumen depreciation data

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. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours

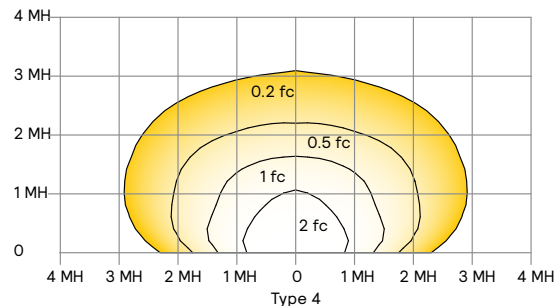
Ambient Temperature °C	Calculated L ₇₀ Hours	L ₇₀ per TM-21	Lumen Maintenance % at 60,000 hrs
up to 40°C	>200,000 hours	>54,000 hours	>95%

Optical distributions

Based on LPW32-70-NW-G3 at 20' mounting height



LPW32 20' mounting height			
Mounting height	18 ft	20 ft	23 ft
Multiplier	1.14	1.00	0.79



LPW32 20' mounting height			
Mounting height	18 ft	20 ft	23 ft
Multiplier	1.16	1.00	0.76

LPW32 LytePro

LED large wall sconce

General Description

LytePro LED large wall sconce LPW32 combines excellent performance, design and value to meet the needs of the energy and budget conscious. The LPW32 is available for use in downward facing, surface wall mount applications, over recessed j-boxes or where power can be directly fed through back surface, whereby connections splices can be made inside the luminaire housing. Two SKU's are available as in-stock configurations (2-day quick ship).

Housing

Die-cast housing houses both the LED and driver assemblies. Design incorporates an integrated heat sink to maximize thermal performance and reliability. Backplate is corrosion free, composite polycarbonate, with built-in level bubble, offers integral interlocking hook and mount design for easy installation.

Mounting

Easy interlocking hook and mount housing/backplate design for easy installation. Mounts over 3.5", 4" octagonal j-boxes and single gang switch boxes or can be directly lagged to surface. Ensure proper steps for gasket/sealing luminaire to surface.

IP Rating

Optical compartment is IP65 rated.

LED Board and Array

Provides up to 114 lm/W in LPW32 at the system level. Standard color temp is 4000K or 3000K +/- 250K, minimum 70 CRI.

Electrical

Driver efficiency (>90% standard). 120-277V and 347-480V available. All drivers are dimmable.. Temp range: -40°C (-40°F) to 40°C (104°F). Open/short circuit protection. Inherent surge protection up to (6KVA). RoHS compliant.

Surge protection (SP1): 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.

Listings

Product is cETLus listed suitable for Wet Locations. Suitable for use in ambients from -40°C to 40°C (-40°F to 104°F). DesignLights Consortium® qualified.

Finish

Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidyl isocyanurate (TGIC) textured polyester powdercoat finish.

Emergency Option

Emergency Battery Backup (EBP): Emergency battery packs included integral to the luminaire, allowing for a consistent look between emergency and non-emergency luminaires. A separate surface mount accessory box is not required. EBP is suitable for use in ambient temperature conditions from 0°C (-32°F) to 40°C (104°F) available on 50W configuration only. System is designed to have a secondary driver with relay to immediately detect AC power loss to power luminaire for a minimum of 90 minutes from the time power is lost. Available with 120-277V, or 'UNV' only.

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%

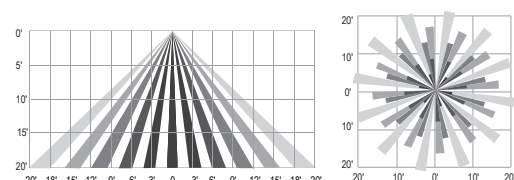
Note: Typical value accuracy +/- 5%

Motion Response Options

Bi-Level Infrared Motion Response (BL): Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when not ordered with other control options. BL 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 Lenses (IMRI3): Infrared Motion Response Integral module is available with sensor lens #3 (IMRI3) is designed for mounting heights up to 20' with a 40' diameter coverage area. See charts for approximate detection patterns:

IMRI3 Luminaire with #3 lens



Warranty

LPW32 luminaires, the LED arrays, and the drivers are all covered by a 5-year limited warranty. See www.signify.com/warranties for details.





Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
2FGG43L835-4-D-347-DIM

Notes:

Type:

A

ALAND20-5296

Day-Brite



by Signify

Recessed

FluxGrid 2x4

2FG up to 7400 lumens



Day-Brite / CFI FluxGrid LED recessed offers architectural appeal with “must have” features. Two different lens styles, discrete air handling, integral emergency, and access to the boards and driver from below make FluxGrid an ideal solution for a wide range of applications.

Project: _____
Location: _____
Cat.No: _____
Type: _____
Lamps: _____ Qty: _____
Notes: _____

Ordering guide – standard & wireless controls

Standard configurations available with all choices, unless otherwise noted. Base configurations selections indicated by blue.

example: 2FGG42B840-4-D-UNV-DIM

Width	Family	Ceiling Type	Air Function	Lumens (nominal delivered)	Color	Length	Center Diffuser	Voltage	Driver	Options
2	FG	G				4				
2 2'	FG FluxGrid	G Grid	Blank Static H Air return	Standard Configurations 38L 3800 43L 4300 48L 4800 54L 5400 74L 7400 Base Configurations 42B 4200	830 80 CRI, 3000K 835 80 CRI, 3500K 840 80 CRI, 4000K 850 80 CRI, 5000K	4 4'	D Diffuse (ribbed) DS Diffuse (smooth)	UNV Universal voltage 120-277V 120 ¹ 120V 277 ¹ 277V 347 347V	DIM ² Dimming SDIM ³ Step dimming to 40% input power XDIM ⁴ MarkX phase dimming LDE Lutron LDE5 5% dimming DALI DALI	F1 3/8" flex, 3 wire 18 gauge 6' F2 3/8" flex, 4 wire 18 gauge 6' F1/D 3/8" twin flex, 3 wire 18 gauge 6' for dimmable luminaires F2/SW 3/8" single flex, 5 wire 18 gauge 6' for dimmable luminaires F2/GW 3/8" single flex, 6 wire 18 gauge 6' for dimmable and EMLED luminaires GLR Fusing, fast blow GTD/E ⁵ UL924 listed Bodine GTD factory installed on driver input GTD/SNSR ^{6,7} UL924 listed Bodine GTD factory installed between driver and sensor EMLED ⁴ Integral emergency battery pack IAP ⁵ Integral Interact Pro RF sensor, enables wireless connected lighting control IAO ⁵ Integral Interact Office daylighting and occupancy sensor, enables wireless connected lighting control SWZDT ⁵ Integral sensor, daylighting and occupancy, advanced grouping with dwell time CHIC Chicago Plenum rated

NO COMMENT COMMENT AS NOTED
 REJECTED REVISE AND RESUBMIT
 SUBMIT SPECIFIED PRODUCT

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS, SELECTING FABRICATION, CO-ORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

ANTARES ENGINEERING GROUP INC.
DATE 26-02-2020 PERS S.S.

Ordering guide – PoE controls

example: 2FGG43L840-4-D-LV-POE-IAO

Width	Family	Ceiling Type	Air Function	Lumens (nominal delivered)	Color	Length	Center Diffuser	Voltage	Driver	Options
2	FG	G				4		LV	POE	
2 2'	FG FluxGrid	G Grid	Blank Static H Air return	38L 3800 43L 4300 48L 4800 54L 5400	830 80 CRI, 3000K 835 80 CRI, 3500K 840 80 CRI, 4000K 850 80 CRI, 5000K	4 4'	D Diffuse (ribbed) DS Diffuse (smooth)	LV Low voltage	POE Power over ethernet	IAO Integral Interact Office daylighting and occupancy sensor, enables wired connected lighting control EMLED 600lm integral emergency driver and battery pack

Footnotes

- XDIM requires 120V or 277V specification. Not available on 30L package.
- Integral controls options dimmable to 5% via wireless wall switch. Non-controls options are 0-10v dimmable to 1% for Standard configurations, and to 10% for Base configurations.
- Consult factory for SDIM on 74L package.
- Bodine BSL310, 1100lm nominal delivered.
- Specify DIM driver option only.
- Must be installed in conjunction with a UL1008 device.
- Must be ordered with an integral sensing option.

Accessories (order separately)

- FMA24 – 2'x4' "F" mounting frame for NEMA "F" mounting
- FGD4L – FG 4' ribbed replacement lens
- FGDS4L – FG 4' smooth replacement lens
- FGHD4L – FG 4' air return ribbed replacement lens
- FGHDS4L – FG 4' air return smooth replacement lens
- FSK24 – 2'x4' surface mount field installation kit (factory welded seams)
- FSF24 – 2'x4' surface mount field assembly kit (field assembled)



interact ready.

Job Name:

Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:

2FGG43L835-4-D-347-DIM

Notes:**Type:****A**

ALAND20-5296

2FG FluxGrid recessed 2x4

up to 7400 lumens

Application

- 3" deep low profile configuration provides minimal penetration into the plenum space.
- Acrylic diffuser available in ribbed and smooth configurations provides even illumination with comfortable appeal.
- Standard and base configurations available in multiple lumen packages to suit the needs of various applications.
- Lambertian distribution creates uniform horizontal and vertical illuminance on the work plane and reduces scalloping on the walls.
- CRI 80 minimum color rendering with balanced spectrum.
- LEDs coupled with standard dimming provide prolonged lumen maintenance. Optional integral sensors contribute further to LED lumen maintenance.
- Designed for use with standard 15/16" wide Grid (NEMA "G") T-bars. Drywall or plaster applications require use with the FMA24 "F" mounting frame accessory (sold and shipped separately).
- Continuous row mounting is possible with a 1" gap between fixtures accommodated by others.

Enclosure

- Opal acrylic diffuser provides visually comfortable lumenance without compromise to luminaire efficacy.
- Diffuser requires no frames or fasteners and can be easily removed from below without the use of tools.

Construction/Finish

- Uncomplicated design is 3" deep with minimal material overlap creating several benefits:
 - Less material required
 - Less packaging required
 - Reduced weight for ease of handling and transit
 - Less energy required for construction and assembly
 - More luminaires can be shipped per truck to reduce fuel consumption

- Metal side covers are die formed with a conical shape to enhance light distribution and visual aesthetic.
- Injection molded lens retainers allow for easy, tool-free access to the LED boards and driver from below, and provide positive lens retention.
- Luminaire finish is matte white polyester powder coat for high quality, durable finish.
- T-bar grid clips are integral to the body.
- Air return option provides air flow through a unique lens retainer design. Air passes through architectural forms in the lens retainers (each end), and through the end plate of the luminaire. A cover plate is provided to control air flow through the luminaire, or make it static as required.
- Integral controls options include sensor mounted in one lens retainer.
- EMLLED option requires the emergency battery pack be installed with a top side cover. Access from above.
- To estimate lumen output in emergency mode, multiply emergency pack wattage by efficacy, then by 1.10.

General notes

- All options are factory installed.
- All accessories are field installed.
- Many luminaire components, such as reflectors, refractors, lenses, sockets, lampholders, and LEDs are made from various types of plastics which can be adversely affected by airborne contaminants. If sulfur based chemicals, petroleum based products, cleaning solutions, or other contaminants are expected in the intended area of use, consult factory for compatibility.

Electrical

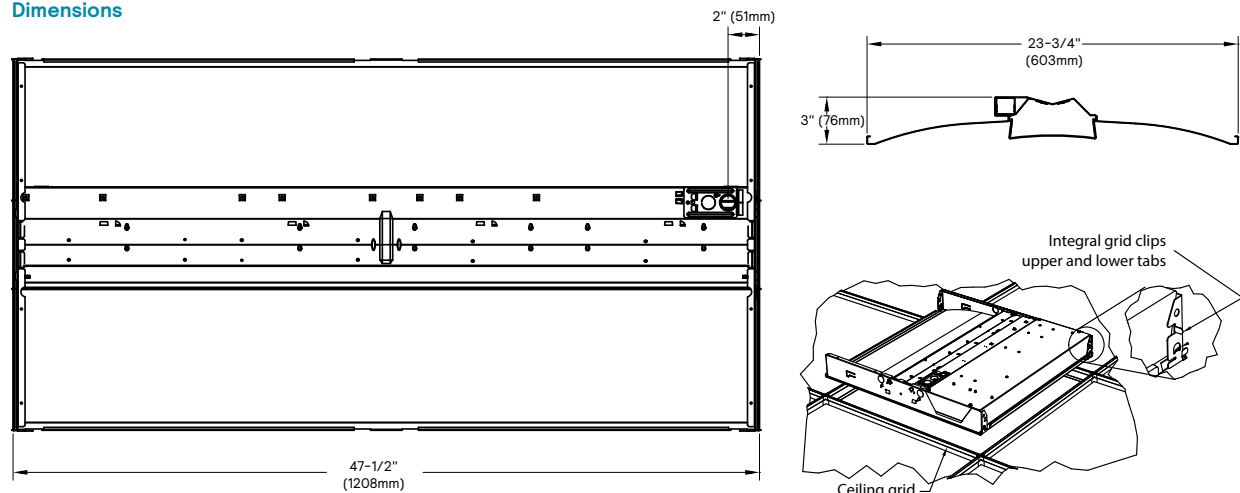
- Integral sensor options for occupancy sensing and/or daylight harvesting are available for additional energy savings with no reduction of life or increase in installation labor.
- Standard configurations provide up to 120 lumens per watt and are available with 5 lumen packages and 3000, 3500, 4000, and 5000K color temperatures.

- Base configurations provide up to 124 lumens per watt and are available in 4200 lumen flux and 3500K and 4000K color temperatures.
- LED boards are accessible from below by removal of the lens. Lens removal is tool-free by compressing the sides and pushing to one end.
- LED driver is accessible from below by removal of the lens and integral wireway cover. The wireway cover is easily removed with a flat head screwdriver.
- Other driver options including step dimming (SDIM, 100%/40%), DALI, phase dimming (XDIM), and Lutron are available.
- 5 year manufacturer's limited warranty. Visit signify.com/warranties for complete warranty information.
- TM-21 predicted L70 lumen maintenance up to 70,000 hours.
- cETLus listed to UL and CSA standards, suitable for damp locations.
- FluxGrid luminaires are DesignLights Consortium qualified. Please see the DLC QPL list for exact catalog numbers, www.designlights.org/QPL

Energy data

Luminaire	Catalog Number	Input Power	Efficacy
2x4 Standard	2FGG38L840	31.8	120
	2FGG43L840	36.2	119
	2FGG48L840	41.5	116
	2FGG54L840	48.9	114
2x4 Base	2FGG74L840	69.2	106
	2FGG42B840	33.9	124

Dimensions



Job Name:

Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:

2FGG43L835-4-D-347-DIM

Notes:

Type:**A**

ALAND20-5296

2FG FluxGrid recessed 2x4

up to 7400 lumens

Wireless Controls Options

SpaceWise DT (SWZDT)

- Standalone daylight and occupancy sensing with advanced grouping and dwell time
- Commissioning via compatible Android phone and Philips Field App
- Dimming via compatible Zigbee wireless wall switch only (see link below for details)
- Register for the commissioning app at <http://registration.componentcloud.philips.com/appregistration/>
- Integral sensing options (SWZDT, IAP) may not be combined
- For more information including recommended switches, refer to the following: -
SWZDT – www.usa.lighting.philips.com/systems/lighting-systems/spacewise

FluxGrid shown with integral sensor



Interact Pro (IAP)

- Interact Pro brings the power of connected lighting to **small and medium businesses** without the complexity usually associated with connected lighting.
- Interact Pro includes an app, a portal and a broad portfolio of wireless Luminaires, lamps and retrofit kits all working on the same system.
- Commissioning via Interact Pro App (Android or iPhone)
- Prepare commissioning remotely via Interact Pro portal
- Requires compatible Interact Pro Gateway and internet connectivity for commissioning
- Compatible with UID8451/10 ZigBee Greenpower wireless dimmer switch
- Compatible with wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) or wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1)
- For more information on Interact Pro visit: www.interact-lighting.com/pro
- For more information on Interact Ready visit: www.philips.com/interact-ready

Interact Office (IAO)

- A wireless IoT connected lighting solution for **large enterprises** that span across multiple floors, buildings and require multiple gateways.
- View all your projects under one dashboard and easily compare insights from multiple projects in one view.
- Compatible Zigbee Green Power wall dimmer and wireless Occupancy or Daylight & Occupancy sensors available.
- Use Interact Office software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Supports advanced IoT Apps on wayfinding, room/desk reservation and offers open APIs
- Requires compatible Interact Office Gateway and internet connectivity for commissioning.
- For more information on Interact Office Wireless, visit: www.interact-lighting.com/office or www.usa.lighting.philips.com/systems/system-areas/offices

Wired Controls Options

Interact Office Wired (PoE)

- PoE based IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- Use Interact Office software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Supports advanced IoT Apps on Personal Control, Space Management, wayfinding, room/desk reservation and offers open APIs for light control and data exchange.
- PoE lighting controller is accessible from below.
- Integral sensor option for occupancy sensing (PIR) and/or daylight harvesting available for additional energy savings.
- Optional integral emergency controller and battery pack provides 600lm nominal output. Test switch and indicator light mounted on side of chassis on one end.
- Emergency battery has a 3 month pre-installed shelf life, and must be stored and installed in environments of 20C to 30C (-4F to 86F) ambient, and 45-85% relative humidity.
- For more information on Interact Office Wired, visit: www.interact-lighting.com/office or www.usa.lighting.philips.com/systems/system-areas/offices

Energy data

Catalog Number	CCT	Flux (lm)	DC Power (W)	DC Efficacy (lm/W)
2FGG38L840-4-D-LV-POE	4000K	3857	30	129
2FGG43L840-4-D-LV-POE	4000K	4394	35	127
2FGG48L840-4-D-LV-POE	4000K	4908	40	124
2FGG54L840-4-D-LV-POE	4000K	5612	47	120

Job Name:

Enterprise Car Rental - Kanata
 Architect: Flynn Architect (Ottawa)
 Contractor: JWK Utilities (Kanata)

Catalog Number:

2FGG43L835-4-D-347-DIM

Notes:

Type:**A**

ALAND20-5296

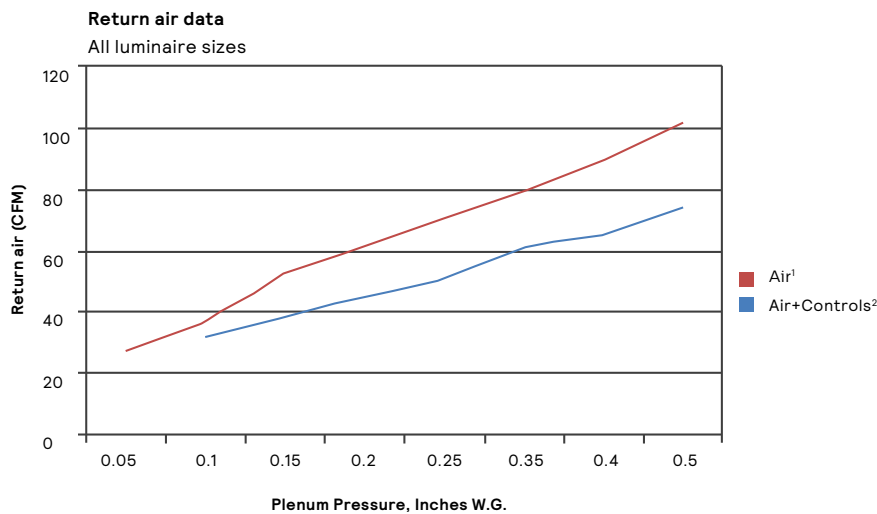
2FG FluxGrid recessed 2x4

up to 7400 lumens

Air return option



Allows air to flow through vents in the lens retainers on each end. Air blades are provided on each end of the luminaire to control air flow to the plenum.



Return air - noise criteria

All luminaire sizes

		CFM							
Mode		27	37	53	62	71	80	90	102
Air ¹	NC (dB)	<15	24	25	29	33	35	38	40

		CFM							
Mode			31	38	45	51	61	65	74
Air+Controls ²	NC (dB)		<15	19	21	25	28	30	34

- Air-only option includes air return lens retainers and pattern control blades on both ends of luminaire.
- Air+Controls includes the air return lens retainer and pattern control blade on one end of the luminaire. Control lens retainer on the other with matching width.



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
2FGG43L835-4-D-347-DIM

Notes:

Type:
A
ALAND20-5296

2FG FluxGrid recessed 2x4

up to 7400 lumens

Photometry

2x4 FluxGrid recessed LED, base configuration, 4200 nominal delivered lumens

LER - 124

Catalog No. 2FGG42B840-4-D-UNV-DIM
Test No. 36564
S/MH 1.2
Lamp Type LED
Lumens 4212
Input Watts 34

Comparative yearly lighting energy cost per 1000 lumens - **\$1.94** based on 3000 hrs. and \$.08 pwr KWH.

The photometric results were obtained in the Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology.

Photometric values based on test performed in compliance with LM-79.

Candlepower

Angle	End	45	Cross	Back-45
0	1567	1567	1567	1567
5	1541	1556	1559	1556
15	1467	1473	1476	1473
25	1323	1330	1339	1330
35	1124	1147	1165	1147
45	896	949	978	949
55	659	737	779	737
65	404	534	587	534
75	203	323	365	323
85	43	104	108	104

Light Distribution

Degrees	Lumens	% Luminaire
0-30	1176	27.9
0-40	1893	44.9
0-60	3273	77.6
0-90	4215	100
0-180	4216	100

Average Luminance

Zone	End	45°	Cross
45	8102	8584	8845
55	7349	8219	8585
65	6120	8077	8890
75	5025	7991	9014
85	3186	7597	7905

Coefficients of Utilization

EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

pfc =	20			70			50		
Ceil	80			70			50		
Wall	70	50	30	70	50	30	50	30	
RCR									
0	118	118	118	115	115	115	111	111	
1	108	103	98	106	101	96	96	93	
2	97	90	82	95	88	81	84	79	
3	90	79	70	86	77	69	73	68	
4	81	69	60	80	68	59	66	58	
5	76	63	54	72	60	53	58	52	
6	69	56	46	68	55	46	54	46	
7	65	51	41	63	50	41	48	40	
8	59	46	38	58	46	38	45	36	
9	56	42	34	55	41	34	40	34	
10	53	40	32	52	39	32	38	30	

2x4 FluxGrid recessed LED, standard configuration, 4300 nominal delivered lumens

LER - 119

Catalog No. 2FGG43L840-4-D-UNV-DIM
Test No. 36563
S/MH 1.2
Lamp Type LED
Lumens 4318
Input Watts 36

Comparative yearly lighting energy cost per 1000 lumens - **\$2.02** based on 3000 hrs. and \$.08 pwr KWH.

The photometric results were obtained in the Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology.

Photometric values based on test performed in compliance with LM-79.

Candlepower

Angle	End	45	Cross	Back-45
0	1613	1613	1613	1613
5	1587	1602	1604	1602
15	1511	1517	1520	1517
25	1362	1369	1380	1369
35	1157	1182	1199	1182
45	922	978	1006	978
55	679	759	800	759
65	416	514	605	514
75	209	332	377	332
85	44	106	111	106

Light Distribution

Degrees	Lumens	% Luminaire
0-30	1210	28.0
0-40	1948	45.1
0-60	3367	77.9
0-90	4320	100
0-180	4321	100

Average Luminance

Zone	End	45°	Cross
45	8341	8843	9099
55	7569	8460	8924
65	6302	7782	9152
75	5161	8208	9321
85	3259	7773	8155

Coefficients of Utilization

EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

pfc =	20			70			50		
Ceil	80			70			50		
Wall	70	50	30	70	50	30	50	30	
RCR									
0	118	118	118	115	115	115	111	111	
1	108	103	98	106	101	96	96	93	
2	97	90	82	95	88	81	84	79	
3	90	79	70	86	78	69	75	68	
4	81	69	60	80	68	60	66	58	
5	76	63	54	73	61	53	58	52	
6	69	56	47	68	56	46	54	46	
7	65	51	42	63	51	41	48	40	
8	59	46	38	58	46	38	45	36	
9	56	42	34	55	41	34	40	34	
10	53	40	32	52	39	32	38	30	

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.



© 2019 Signify Holding. All rights reserved. This document contains information relating to the product portfolio of Signify which information may be subject to change. No representation or warranty as to the accuracy or completeness of the information included herein is given and any liability for any action in reliance thereon is disclaimed. All trademarks are owned by Signify Holding or their respective owners.

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



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
V3W451L835-347-DIM-LFA

Notes:

Type:

C

ALAND20-5296

Day-Brite

CFI

by Signify

Industrial

Vaporlume LED

2' and 4' sealed industrial,
Up to 10,000 lumens



Can these light fixtures be ceiling and wall mounted?
S.S.

NO COMMENT COMMENT AS NOTED
 REJECTED REVISE AND RESUBMIT
 Project: _____
 Location: SUBMIT SPECIFIED PRODUCT

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS, SELECTING FABRICATION, CO-ORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

ANTARES ENGINEERING GROUP INC.

DATE 26-02-2020 PERS S.S.

Day-Brite / CFI Vaporlume LED sealed industrial V3W is a specialized wet location, IP rated product designed for use in both indoor and outdoor environments. It is a wet location listed, non-corrosive luminaire.

Ordering guide

Example: V3W435L830-UNV-DIM

Family	Length	Lumens (Nominal)	Color Temp.	Voltage	Driver	Options
V3W			-	-	-	
V3W Vaporlume	2' 2'	27L 2700 lumens 35L 3500 lumens 43L 4300 lumens 51L ^{1,2,3} 5100 lumens	830 80 CRI, 3000K 835 80 CRI, 3500K 840 80 CRI, 4000K 850 80 CRI, 5000K	UNV Universal Voltage, 120-277V 347 ³ 347V	DIM 0-10V dimming SDIM ⁴ Step dimming to 40% input power	MD360W Wet location occupancy sensor, (ON/OFF) MD360WD Wet location occupancy sensor, (ON/DIM) WHP Wide beam optic and prismatic acrylic lens (for garage applications) BSL10LST Factory wired Bodine integral emergency pack, nominal 1100 to 1400 lumens (4' unit only) IP67 Protection against effects of immersion GLR Fusing, fast blow (for UNV only) WSF Fusing (for 347V only) TR Torx T-10 tamper resistant stainless steel screws and latches LFA ³ Smooth frosted acrylic lens SSL Stainless steel latches THB ⁵ Top hub entry only (4' unit only) TEHB ⁵ Top and end hub entry (4' unit only) NFZ NSF listed for Non-Food Zone and Splash Zone applications
	4 4'	35L 3500 lumens 43L 4300 lumens 51L 5100 lumens 70L 7000 lumens 80L 8000 lumens 100L ^{1,2,3} 10000 lumens				(Clear lens and end hubs are standard)

Footnotes

- 1 Not available with BSL10LST option
- 2 Not available in 3000K
- 3 Not available with WHP option
- 4 Not available in 2' 5100 lumen, 4' 8000 lumen, or 4' 10000 lumen
- 5 Not available with 8000 lumen and BSL10LST together

Accessories (order separately, see last page for details)

- **TBK** – Stainless steel top bracket kit (pair of brackets plus hardware)
- **V3WEBK** – Stainless steel end bracket kit (pair of brackets plus hardware)
- **V3WWBK** – Stainless steel wraparound bracket kit (pair of brackets)
- **V3WVBK** – Stainless steel mounting bracket with "V" hooks (pair of brackets plus hardware)
- **V3WSBK** – Stainless steel mounting bracket with surface bracket (pair of brackets plus hardware)
- **FKR-126** – Chain hanger set (requires TBK)
- **V3WCA2L** – 2' clear acrylic replacement lens
- **V3WFA2L** – 2' frosted acrylic replacement lens
- **V3WPA2L** – 2' prismatic acrylic replacement lens
- **V3WCA4L** – 4' clear acrylic replacement lens
- **V3WFA4L** – 4' frosted acrylic replacement lens
- **V3WPA4L** – 4' prismatic acrylic replacement lens

General Notes

- All options factory installed.
- All accessories are field installed.
- Many luminaire components, such as reflectors, refractors, lenses, sockets, lampholders, and LEDs are made from various types of plastics which can be adversely affected by airborne contaminants. If sulfur based chemicals, petroleum based products, cleaning solutions, or other contaminants are expected in the intended area of use, consult factory for compatibility.



**Job Name:**

Enterprise Car Rental - Kanata
 Architect: Flynn Architect (Ottawa)
 Contractor: JWK Utilities (Kanata)

Catalog Number:

V3W451L835-347-DIM-LFA

Notes:

Type:**C**

ALAND20-5296

V3W Vaporlume LED sealed industrial

2' and 4', up to 10,000 lumens

Features

- Ideally suited for use in refrigerated cold storage, industrial, parking garage, and canopy applications.
- Acceptable for outdoor as well as indoor installations.
- Can be surface mounted on ceilings or walls, or suspended via brackets, chain, or cables.
- Mounting brackets available, order separately.
- Up to 100,000 hour predicted L70 LED lumen maintenance provides long service life to reduce maintenance costs.
- Ideal for cold applications (-20°C).
- IP65 rating standard. IP67 rating optional.
- NSF Certified option for Non-Food Zone/ Splash Zone installations.
- Battery backup 1100 to 1400 lumens nominal in EM mode.
- WHP wide optic is an acrylic optic factory installed on the LED arrays, along with a prismatic acrylic lens which provide compliance to DLC requirements for parking garage luminaires.
- Luminaire lens tested to IK08 impact standards.
- Vaporlume LED luminaires are Designlights Consortium qualified. Please see the DLC QPL list for exact catalog numbers (<http://www.designlights.org/QPL>)
- Five year manufacturer's limited warranty. Visit www.philips.com/warranties for complete warranty information.

Construction/Finish

- Smooth exterior surface for easy cleaning.
- White one piece, molded fiberglass reinforced polyester body. No rusting, no oxidation, and no corrosion.
- Standard lens is clear acrylic.
- Optional frosted (LFA) lens designed specifically to further reduce pixilated glare from LEDs.
- Continuous compressible gasket provides tight seal between plastic enclosure and luminaire body.
- Plastic cam action latches are standard. Stainless steel latches are optional.
- Optional tamper resistant latches available.
- Two gasketed threaded (½" trade size) wet location hubs installed on ends.
- Optional hubs may be ordered for top entry.

Electrical

- Dimming to 1% on 0–10V controls standard (5% dimming for 10000 lumen version). Step dim (SDIM) option available, 100/40% levels.
- Driver and LED boards are accessible from below. LED boards are individually replaceable if required.
- Available motion sensor further increases energy savings in areas where occupancy is not continuous.

Labels

- cETLus listed to UL 1598 standards. Suitable for use in wet locations.

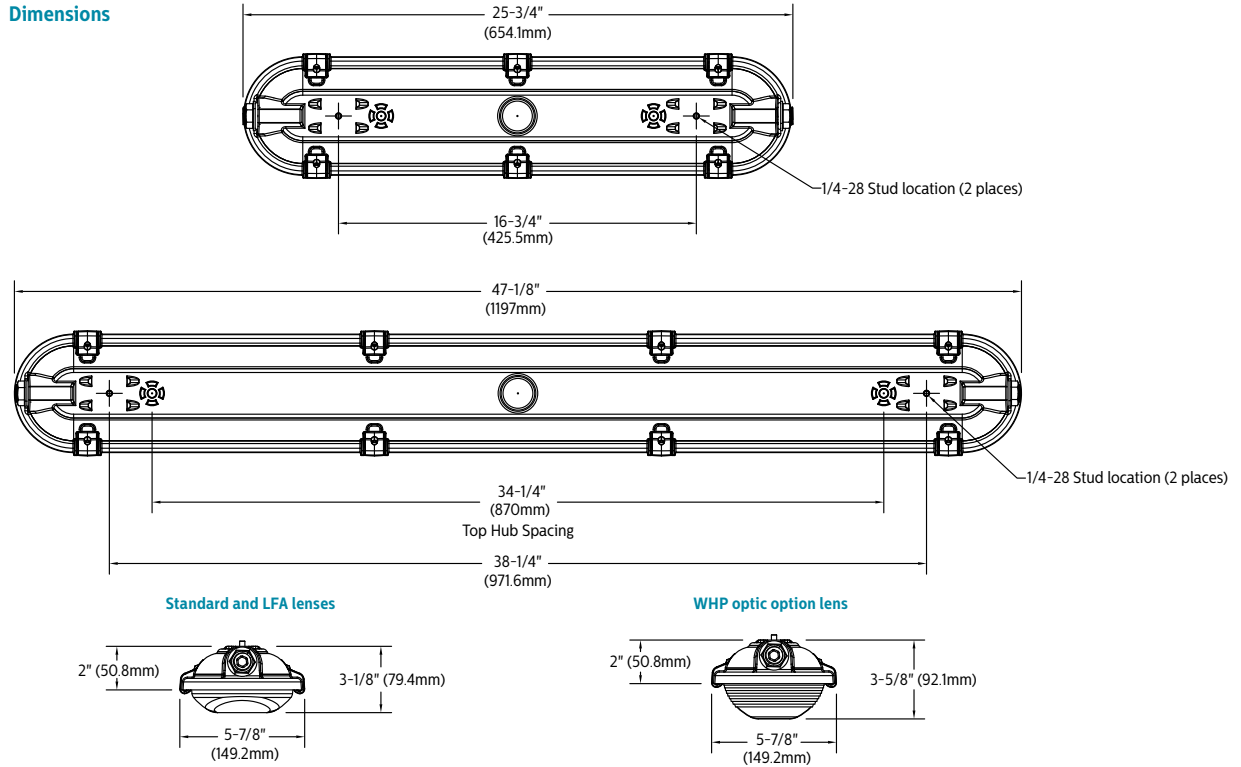
Ambient Temperature Data

Configuration	Ambient
V3W251L	-20°C to 25°C
V3W470L	-20°C to 30°C
V3W480L UNV	-20°C to 30°C
V3W480L 347V	-20°C to 25°C
V3W4100L UNV	-20°C to 30°C
V3W4100L 347V	-20°C to 25°C
BSL10LST option	Minimum 0°C
All others	-20°C to 40°C

V3W Vaporlume LED sealed industrial

2' and 4', up to 10,000 lumens

Dimensions



Photometry

Vaporlume LED sealed industrial, frosted lens (LFA)

LER - 126

Catalog No.	V3W451L840-UNV-DIM-LFA
Test No.	38432
S/MH	1.3
Lamp Type	LED
Lumens/Lamp	4355
Input Watts	35

Candlepower				
Angle	End	45	Cross	Back-45
0	1418	1418	1418	1418
5	1388	1415	1421	1415
15	1335	1365	1376	1365
25	1234	1266	1281	1266
35	1090	1128	1148	1128
45	914	958	983	958
55	711	761	800	761
65	459	536	583	536
75	241	318	366	318
85	56	141	191	141
95	9	70	118	70
105	3	35	75	35
115	1	10	37	10
125	0	0	9	0
135	0	0	0	0
145	0	0	0	0
155	0	0	0	0
165	0	0	0	0
175	0	0	0	0

Light Distribution		
Degrees	Lumens	% Luminaire
0-30	1101	25.3
0-40	1804	41.4
0-60	3219	73.9
0-90	4226	97.0
0-180	4355	100.0

Average Luminance			
Angle	End	45°	Cross
45	7934	7239	7137
55	7534	6658	6632
65	6482	5778	5840
75	5351	4643	4817
85	3098	3349	3831

Comparative yearly lighting energy cost per 1000 lumens - \$1.90 based on 3000 hrs. and \$.08 pwr KWH.

The photometric results were obtained in the Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology.

Photometric values based on test performed in compliance with LM-79.

Coefficients of Utilization

EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

pcc	80			70			50		
	pw	RCR		pw	RCR		pw	RCR	
0	118	118	118	115	115	115	109	109	109
1	107	102	98	104	100	95	95	91	91
2	97	89	81	94	86	80	82	77	77
3	88	78	69	86	76	68	72	66	66
4	81	69	60	78	67	59	64	57	57
5	74	61	52	72	60	51	57	50	50
6	69	55	46	66	54	45	52	44	44
7	64	50	41	62	49	40	47	39	39
8	59	45	37	57	45	36	43	36	36
9	55	42	33	54	41	33	40	32	32
10	52	38	30	50	38	30	37	30	30



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
V3W451L835-347-DIM-LFA

Notes:

Type:

C

ALAND20-5296

V3W Vaporlume LED sealed industrial

2' and 4', up to 10,000 lumens

Vaporlume LED sealed industrial, clear lens

LER - 145

Catalog No. V3W451L840-UNV-DIM Test No. 38433 S/MH 1.3 Lamp Type LED Lumens/Lamp 5025 Input Watts 35 Comparative yearly lighting energy cost per 1000 lumens - \$1.64 based on 3000 hrs. and \$.08 pwr KWH. The photometric results were obtained in the Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology. Photometric values based on test performed in compliance with LM-79.	Candlepower					Light Distribution			Average Luminance			
	Angle End 45 Cross Back-45 0 1743 1743 1743 1743 5 1705 1732 1740 1732 15 1660 1686 1697 1686 25 1565 1585 1589 1585 35 1413 1400 1436 1400 45 1206 1182 1570 1182 55 943 1333 793 1333 65 611 461 657 461 75 255 311 298 311 85 42 50 68 50 95 9 3 3 3 105 3 2 1 2 115 0 0 1 0 125 0 0 0 0 135 0 0 0 0 145 0 0 0 0 155 0 0 0 0 165 0 0 0 0 175 0 0 0 0	Degrees Lumens % Luminaire 0-30 1369 27.3 0-40 2254 44.9 0-60 4045 80.5 0-90 5017 99.8 0-180 5025 100.0	Angle End 45' Cross 45 10476 8931 11396 55 9990 11656 6576 65 8631 4967 6585 75 5664 4538 3920 85 2317 1184 1364									
Coefficients of Utilization EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)											pcc 80 70 50 pw 70 50 30 70 50 30 50 30 RCR	
0 119 119 119 116 116 116 111 111 1 109 104 100 106 102 98 98 95 2 99 91 84 97 89 83 86 80 3 90 80 72 88 78 71 75 69 4 83 71 62 80 69 61 67 60 5 76 63 54 74 62 54 60 53 6 70 57 48 68 56 47 54 47 7 65 52 43 63 51 42 49 42 8 61 47 38 59 46 38 45 38 9 57 43 35 55 42 35 41 34 10 53 40 32 52 39 32 38 31												

Vaporlume LED sealed industrial, prismatic lens (WHP)

LER - 129

Catalog No. V3W451L840-UNV-DIM-WHP Test No. 38434 S/MH 3.3 Lamp Type LED Lumens/Lamp 4434 Input Watts 35 Comparative yearly lighting energy cost per 1000 lumens - \$1.85 based on 3000 hrs. and \$.08 pwr KWH. The photometric results were obtained in the Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology. Photometric values based on test performed in compliance with LM-79.	Candlepower					Light Distribution			Average Luminance			
	Angle End 45 Cross Back-45 0 391 391 391 391 5 387 393 398 393 15 381 410 444 410 25 366 442 500 442 35 340 479 595 479 45 298 534 913 534 55 243 868 1503 868 65 187 1199 1261 1199 75 162 937 899 937 85 63 499 506 499 95 13 196 227 196 105 6 94 136 94 115 3 41 79 41 125 1 14 43 14 135 0 1 15 1 145 0 0 0 0 155 0 0 0 0 165 0 0 0 0 175 0 0 0 0	Degrees Lumens % Luminaire 0-30 357 8.1 0-40 654 14.8 0-60 1878 42.4 0-90 4094 92.4 0-180 4434 100.0	Angle End 45' Cross 45 2558 3749 6064 55 2525 6893 11103 65 2570 11338 10860 75 3457 11388 9629 85 3138 8864 7464									
Coefficients of Utilization EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)											pcc 80 70 50 pw 70 50 30 70 50 30 50 30 RCR	
0 117 117 117 114 114 114 107 107 1 100 92 86 96 89 83 83 78 2 87 75 66 84 73 64 68 60 3 77 63 52 74 61 50 56 47 4 69 54 42 66 52 41 48 39 5 63 46 35 60 45 34 42 32 6 57 41 30 54 39 29 37 28 7 52 36 26 50 35 25 33 24 8 48 33 23 46 32 22 29 21 9 45 30 20 43 29 20 27 19 10 42 27 18 40 26 18 25 17												

Photometric Test List

Catalog No.	Test No.	Delivered Lumens	Input Watts	Efficacy	Catalog No.	Test No.	Delivered Lumens	Input Watts	Efficacy
V3W227L840-UNV-DIM	38371	2620	19	137	V3W443L840-UNV-DIM	38438	4222	29	147
V3W227L840-UNV-DIM-LFA	38370	2273	19	119	V3W443L840-UNV-DIM-LFA	38439	3643	29	127
V3W227L840-UNV-DIM-WHP	38372	2374	19	124	V3W443L840-UNV-DIM-WHP	38437	3751	29	131
V3W235L840-UNV-DIM	38368	3386	26	133	V3W451L840-UNV-DIM	38433	5025	35	145
V3W235L840-UNV-DIM-LFA	38369	2842	26	111	V3W451L840-UNV-DIM-LFA	38432	4355	35	126
V3W235L840-UNV-DIM-WHP	38367	3124	26	122	V3W451L840-UNV-DIM-WHP	38434	4434	35	129
V3W243L840-UNV-DIM	38363	4273	33	129	V3W470L840-UNV-DIM	38430	7006	50	141
V3W243L840-UNV-DIM-LFA	38362	3585	33	109	V3W470L840-UNV-DIM-LFA	38431	6074	50	122
V3W243L840-UNV-DIM-WHP	38364	3834	33	116	V3W470L840-UNV-DIM-WHP	38429	6223	50	125
V3W251L840-UNV-DIM	38444	5146	39	133	V3W480L840-UNV-DIM	38410	7762	56	138
V3W251L840-UNV-DIM-LFA	38445	4381	39	113	V3W480L840-UNV-DIM-LFA	38411	6766	56	120
V3W435L840-UNV-DIM	38441	3368	23	147	V3W480L840-UNV-DIM-WHP	38426	6874	56	122
V3W435L840-UNV-DIM-LFA	38440	2905	23	127	V3W4100L840-UNV-DIM	38413	10581	74	143
V3W435L840-UNV-DIM-WHP	38442	2997	23	131	V3W4100L840-UNV-DIM-LFA	38412	9188	74	124

V3W Vaporlume LED sealed industrial

2' and 4', up to 10,000 lumens

Accessories



Accessory Catalog Code	Description
TBK	Stainless steel top bracket kit (pair of brackets plus hardware)
V3WEBK	Stainless steel end bracket kit (pair of brackets plus hardware)
V3WWBK	Stainless steel wraparound bracket kit (pair of brackets)
V3WVBK	Stainless steel mounting bracket with "V" hooks (pair of brackets plus hardware)
V3WSBK	Stainless steel mounting bracket with surface bracket (pair of brackets plus hardware)
FKR-126	Chain hanger set (requires TBK) Includes two 5' heavy duty link chains with "V" hooks.
V3WCA2L	2' clear acrylic replacement lens
V3WFA2L	2' frosted acrylic replacement lens
V3WPA2L	2' prismatic acrylic replacement lens
V3WCA4L	4' clear acrylic replacement lens
V3WFA4L	4' frosted acrylic replacement lens
V3WPA4L	4' prismatic acrylic replacement lens



Standard clear lens



LFA - smooth frosted acrylic lens



WHP - Wide beam optic and prismatic acrylic lens





Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
MQM1LD10

Notes:

Type:
1R-HEAD

ALAND20-5296



MT/MQ/MQM Series

Micro tungsten lamps,
micro-quartz lamps
or MR16 lamps



FEATURES

- 6, 12 and 24V with various wattages
 - Fire-retardant thermoplastic
 - Available with tungsten,
 - 300° rotation
 - CSA certified to C22.2 No.141-15
- See warranty details at: www.tnb.ca/en/brands/lumacell

TYPICAL SPECIFICATIONS

Lamp head and stem shall be injection molded, impact resistant, flame retardant thermoplastic and shall require no tool for aiming or adjustment. The lens shall be inverse concave design and fully adjustable for aisle or area distribution during installation without the need to energize the lamp. Visual identification of distribution shall be provided through position of adjustment pins.

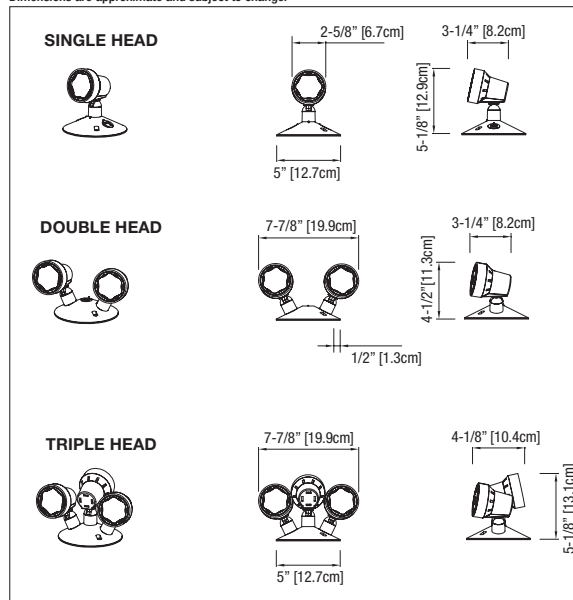
Fixture shall be supplied with a canopy for installation on any four inch octagon box. Housing shall be designed to allow for lamp replacement if required.

The remote fixtures shall be certified to CSA 22.2 No.141-15.

The remote unit shall be the Lumacell® model: _____

DIMENSIONS

Dimensions are approximate and subject to change.



WIRE GUARDS

460.0029-L	Wall ceiling Mount
------------	--------------------

REPLACEMENT LAMPS

MODEL	AC SPECS	DC SPECS
580.0015-L	Halogen (quartz)	12V-12W
580.0097-L	MR16 LED	6V-4W
580.0093-L	MR16 LED	12V-4W
580.0104-L	MR16 LED	24V-4W
580.0098-L	MR16 LED	12V-5W
580.0106-L	NO COMMENT MR16 LED	COMMENT AS NOTED 12V-6W
580.0100-L	REJECTED MR16 LED	REVISE AND RESUBMIT 24V-6W

See the complete list p 152-154.

SUBMIT SPECIFIED PRODUCT

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS, SELECTING FABRICATION, CO-ORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

ANTARES ENGINEERING GROUP INC.

DATE 26-02-2020 PERS S.S.

ORDERING INFORMATION

SERIES	LAMP TYPE	NUMBER OF HEADS	VOLTAGE/WATTAGE/LAMP TYPE	COLOURS
M= micro, PAR 18	T= tungsten, wedge base O= halogen, bi-pin QM= halogen, MR16 LED	1= single head 2= double head 3= triple head	LD1= MR16 LED, 6V-4W LD7= MR16 LED, 12V-4W LD9= MR16 LED, 12V-5W LD10= MR16 LED, 12V-6W LD13= MR16 LED, 24V-4W LD14= MR16 LED, 24V-6W 6V6W= MR16 halogen, 6V-6W 6V9W= 6V-9W, wedge base 6V10W= MR16 halogen, 6V-10W 12V12W= MR16 halogen, 12V-12W 24V12W= MR16 halogen, 24V-12W 24V20W= MR16 halogen, 24V-20W	Blank= factory white BK= black
			12V9W= 12V-9W, wedge base 12V18W= 12V-18, wedge base 24V9W= 24V-9, wedge base 24V18W= 24V-18W, wedge base 6V8W= halogen, 6V-8W, bi-pin 12V8W= halogen, 12V-8W, bi-pin 12V12W= halogen, 12V-12W, bi-pin	

EXAMPLE: MT16V9W

by ABB

LUMACELL

143



MT/MQ/MQM Series

Micro tungsten lamps,
micro-quartz lamps
or MR16 lamps



FEATURES

- 6, 12 and 24V with various wattages
 - Fire-retardant thermoplastic
 - Available with tungsten,
 - 300° rotation
 - CSA certified to C22.2 No.141-15
- See warranty details at: www.tnb.ca/en/brands/lumacell

TYPICAL SPECIFICATIONS

Lamp head and stem shall be injection molded, impact resistant, flame retardant thermoplastic and shall require no tool for aiming or adjustment. The lens shall be inverse concave design and fully adjustable for aisle or area distribution during installation without the need to energize the lamp. Visual identification of distribution shall be provided through position of adjustment pins.

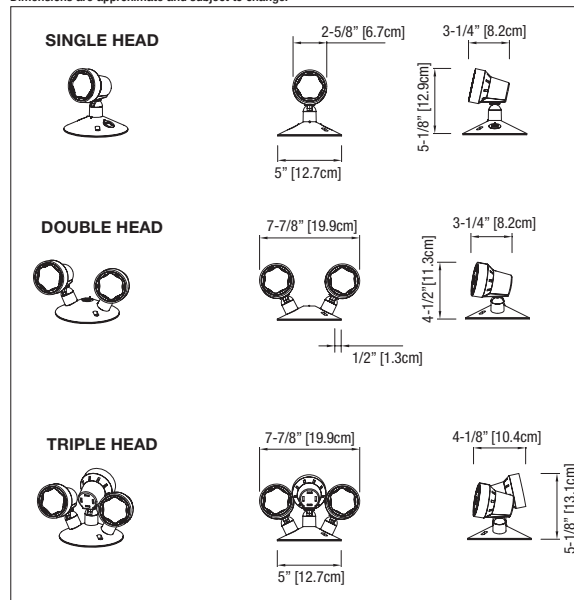
Fixture shall be supplied with a canopy for installation on any four inch octagon box. Housing shall be designed to allow for lamp replacement if required.

The remote fixtures shall be certified to CSA 22.2 No.141-15.

The remote unit shall be the Lumacell® model: _____

DIMENSIONS

Dimensions are approximate and subject to change.



WIRE GUARDS

460.0029-L	Wall ceiling Mount
------------	--------------------

REPLACEMENT LAMPS

MODEL	AC SPECS	DC SPECS
580.0015-L	Halogen (quartz)	12V-12W
580.0097-L	MR16 LED	6V-4W
580.0093-L	MR16 LED	12V-4W
580.0104-L	MR16 LED	24V-4W
580.0098-L	MR16 LED	12V-5W
580.0106-L	MR16 LED	12V-6W
580.0100-L	MR16 LED	24V-6W

See the complete list p. 152-154.

ORDERING INFORMATION

SERIES	LAMP TYPE	NUMBER OF HEADS	VOLTAGE/WATTAGE/LAMP TYPE	COLOURS	
M= micro, PAR 18	T= tungsten, wedge base O= halogen, bi-pin QM= halogen, MR16 LED	1= single head 2= double head 3= triple head	LD1= MR16 LED, 6V-4W LD7= MR16 LED, 12V-4W LD9= MR16 LED, 12V-5W LD10= MR16 LED, 12V-6W LD13= MR16 LED, 24V-4W LD14= MR16 LED, 24V-6W 6V6W= MR16 halogen, 6V-6W 6V9W= 6V-9W, wedge base 6V10W= MR16 halogen, 6V-10W 12V12W= MR16 halogen, 12V-12W 24V12W= MR16 halogen, 24V-12W 24V20W= MR16 halogen, 24V-20W	12V9W= 12V-9W, wedge base 12V18W= 12V-18, wedge base 24V9W= 24V-9, wedge base 24V18W= 24V-18W, wedge base 6V8W= halogen, 6V-8W, bi-pin 12V8W= halogen, 12V-8W, bi-pin 12V12W= halogen, 12V-12W, bi-pin	Blank= factory white BK= black

EXAMPLE: MT16V9W

Job Name:

Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
RG12S2002LD10AT

Notes:

Type:

E-BATT

ALAND20-5296



RGS Series

6, 12 and 24V



10-year life expectancy, maintenance-free emergency lighting units.

The **RGS Series** battery units combine long-life expectancy, high performance design and a reasonable initial cost outlay. Ideally suited for a range of commercial applications, the long-life lead acid battery is specifically recommended for environments where the unit will be exposed to large variances in ambient temperature.

FEATURES

- Rugged steel cabinet with corrosion-resistant undercoating
- Removable front panel on cabinet provides easy access and allows the unit to be mounted at ceiling height
- Solid-state pulse-type charger – current-limited, temperature-compensated, short-circuit proof and reverse-polarity protected.
- Unit comes standard with electronic lockout and brownout circuits
- Sealed dust-proof transfer relay, test switch and LED indicator lights
- Long-life, maintenance-free Lead-Acid battery
- Standard 120/347VAC input voltage with line cord kit
- Meets exceeds CSA C22.2 No. 141-15

See warranty details at: www.tnb.ca/en/brands/lumacell

TYPICAL SPECIFICATIONS

Supply and install a complete emergency lighting system as described herein and shown on the drawings.

The **Lumacell® Smart Diagnostic** micro-controller board shall supply the rated load for a minimum of a 1/2 hour to 87.5% of the rated battery voltage. The unit shall be rated 120V or 347V, 60 Hz and be CSA listed. The unit shall have an output of: _____V and _____W.

The charger shall be fully computer tested and its charge voltage factory set to $\pm 1\%$ tolerance. Chargers with field-adjusted potentiometers are not acceptable. A pulse-type charger shall be employed to promote long battery life and reduce the potential for grid corrosion. The charger shall provide a continuous high charge to recharge the battery, when the battery is at full capacity, the charger will shut-off.

Periodically the charger shall provide a pulse of energy to keep the battery topped off. The pulse charger shall be precisely regulated and shall charge the battery in relation to its temperature, state of charge and input voltage fluctuations. The charger shall be current limited, temperature compensated, short-circuit proof and reverse polarity protected.

The unit shall be furnished with an electronic lockout circuit, which will connect the battery when the AC circuit is activated, and an electronic brownout circuit, which will activate the emergency lights when utility power dips below 75% of nominal voltage. A low voltage battery protection circuit shall be provided and will disconnect the load when the battery reaches the end of discharge. The unit shall self-test for 1 minute every 30 days, 10 minutes on the 6th month and 30 minutes every 12 months. The unit shall be capable of full recharge in compliance with CSA specifications. The unit shall be furnished with sealed dust tight relay, a test switch and diagnostic LED indicator lights to continuously monitor the status of the unit: Battery Failure, Battery Disconnected, Charger Failure, Lamp Failure, Service Alarm, AC "ON", Charger High Rate. The emergency lighting heads shall require no tools for orientation.

The unit shall be CSA 22.2 No.141-15 certified.

The unit shall be **Lumacell®** model: _____.

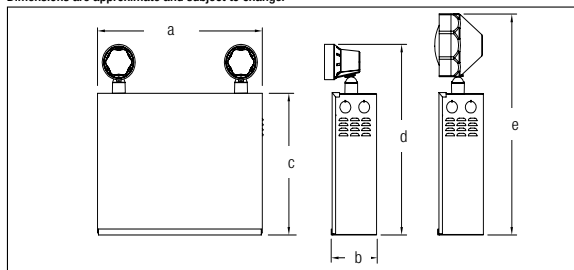
WIRE GUARDS

460.0078-L	Wall Mount	"A" Cabinet
460.0081-L	Wall Mount	"B" Cabinet
460.0034-L	Wall Mount	"C" Cabinet

CABINET	DIMENSIONS				
	A	B	C	D	E
A	13-1/4" (33.7 cm)	3-5/8" (9.2 cm)	10-1/2" (26.7 cm)	14-1/4" (36.2 cm)	16-1/2" (41.9 cm)
B	16-1/8" (40.9 cm)	5-1/2" (13.9 cm)	10-1/4" (26.0 cm)	13-7/8" (35.2 cm)	16-1/8" (41.0 cm)
C	23-1/8" (58.7 cm)	5-1/2" (13.9 cm)	10-1/4" (26.0 cm)	13-7/8" (35.2 cm)	16-1/8" (41.0 cm)

DIMENSIONS

Dimensions are approximate and subject to change.



REPLACEMENT LAMPS

ORDERING CODE	LAMP TYPE	VOLTAGE/WATTAGE
570.0016-L	Mini tungsten (MT9W)	6V-9W
570.0025-L	Mini tungsten (MT9W)	12V-9W
570.0045-L	Mini tungsten (MT9W)	24V-9W
580.0093-L	MR16 LED	12V-4W
580.0104-L	MR16 LED	12V-5W
580.0098-L	MR16 LED	24V-4W
580.0100-L	MR16 LED	24V-6W
580.0106-L	MR16 LED	12V-6W

For the complete list, please see the lamp chart on page 152-154.



Job Name:
Enterprise Car Rental - Kanata
Architect: Flynn Architect (Ottawa)
Contractor: JWK Utilities (Kanata)

Catalog Number:
RG12S2002LD10AT

Notes:

Type:

E-BATT

ALAND20-5296



RGS Series
6, 12 and 24V

POWER CONSUMPTION AND UNIT RATING

MODEL	AC SPECS	WATTAGE CAPACITY				
		30 MIN	1H00	1H30	2H00	4H00
RGS36	0.10/0.04A	36	21	15	12	6
RGS72	0.22/0.08A	72	42	30	24	12
RGS108	0.22/0.08A	108	63	45	36	18
RGS180	0.22/0.08A	180	105	75	60	30
RG12S36	0.09/0.03A	36	21	15	12	6
RG12S72	0.15/0.06A	72	42	30	24	12
RG12S100	0.34/0.12A	100	58	42	33	17
RG12S144	0.40/0.14A	144	84	60	48	24
RG12S200	0.41/0.14A	200	117	83	67	33
RG12S250	0.41/0.14A	250	144	100	83	42
RG12S360	0.43/0.15A	360	200	144	108	60
RG24S144	0.55/0.20A	144	84	60	48	24
RG24S200	0.67/0.23A	200	117	83	67	33
RG24S288	0.67/0.23A	288	168	120	96	48
RG24S350	0.67/0.23A	350	200	144	120	60
RG24S432	0.67/0.23A	432	250	180	144	72
RG24S550	0.88/0.33A	550	320	230	180	90
RG24S720	0.88/0.33A	720	420	300	240	120

Note: Units provide higher power for minimum one hour of emergency lighting.

ORDERING INFORMATION

SERIES	CAPACITY & CABINET SIZE*	# OF HEADS	HEADS STYLE/WATTAGE	COLOUR	AC VOLTAGE	OPTIONS
RGS= 6V	36= 36W (A) 72= 72W (A) 108= 108W (A) 180= 180W (B)	Blank= no heads 1= one head 2= two heads 3= three heads	LD1= MR16 LED, 6V-4W LD7= MR16 LED, 12V-4W LD9= MR16 LED, 12V-5W LD10= MR16 LED, 12V-6W	Blank= factory white BK= black	Blank= 120/347VAC input ZC= 277VAC input	AT= auto-test* ATN= auto-test, non-audible* NEX= NEXUS® system interface* NEXRF= wireless NEXUS® system interface* V= voltmeter A= ammeter CPS3= constant power supply 3Amps, 24V only***** N CT= cab-tire DPF6= 6cct. fuse panel** LD= lamp disconnect LTS= light activated test switch RFI= radio frequency interference filter, 120VAC N RF3= radio frequency interference filter, 347VAC N RR2= remote test receiver*** TD= time delay (programmable) TL= cord and twist lock plug (120V only)**** TMBB= AC/DC terminal block TMBD= DC terminal block TMBK= AC terminal block VSR= voltage sensing relay***** N
RG12S= 12V	36= 36W (A) 72= 72W (A) 100= 100W (A) 144= 144W (A) 200= 200W (B) 250= 250W (B) 360= 360W (B)		LD13= MR16 LED, 24V-4W LD14= MR16 LED, 24V-6W MQM6W= MR16 halogen, 6V-6W MQM10W= MR16 halogen, 6V-10W MQM12W= MR16 halogen, 12V, 24V-12W MQM20W= MR16 halogen, 24V-20W LH9W= large tungsten, 6V, 12V, 24V-9W, wedge base LH18W= large tungsten, 12V, 24V-18W, wedge base LH25W= large tungsten, 6V, 24V-25W, DCB MT9W= mini tungsten, 6V, 12V, 24V-9W, wedge base MT18W= mini tungsten, 12V, 24V-18W, wedge base MQ8W= mini halogen, 6V, 12V-8W, bi-pin MQ12W= mini halogen, 12V, 24V-12W, bi-pin LH08W= large halogen, 6V, 12V-8W, bi-pin LH012W= large halogen, 12V-12W, bi-pin LH020W= large halogen, 6V, 12V, 24V-20W, bi-pin LH055W= large halogen, 12V-55W, H3 LH070W= large halogen, 24V-70W, H3 SB8W= large tungsten, 6V-8W, sealed beam SB18W= large tungsten, 6V, 12V-18W, sealed beam SB25W= large tungsten, 6V, 12V-25W, sealed beam QSB8W= large halogen, 6V, 12V-8W, sealed beam QSB12W= large halogen, 6V, 12V-12W, sealed beam QSB20W= large halogen, 6V-20W, sealed beam			
RG24S= 24V	144= 144W (A) 200= 200W (B) 288= 288W (B) 350= 350W (C) 432= 432W (C) 550= 550W (C) 720= 720W (C)					

EXAMPLE: RGS362MT9W



ANTARES ENGINEERING GROUP INC.
26-02-2020
DATE _____ PERS _____ S.S.





LMCE Series
All Metal Exit Sign



FEATURES

- Universal mounting – end, wall or ceiling
 - Supplied standard with two metal stencil plates, red diffusing lenses and back plate
 - Canopy mounting system designed specifically for ease of installation
 - Universal, field-selectable chevrons (knockout)
 - Long-life LED light source of **ALINGAP** technology assures low maintenance cost and is warranted for ten (10) years
 - Energy efficient – consumes less than 3W in AC or DC mode
 - Normal AC and emergency DC operation – 120 to 347VAC input; 6 to 24VDC input
 - Also available with power pack; see 8LMCE catalogue sheet
 - Special wording available (CSA 22.2 No. 250.0)
 - Meets or exceeds CSA 22.2 No. 141-15
- See warranty details at: www.tnb.ca/en/brands/lumacell

TYPICAL SPECIFICATIONS

Supply and install the **Lumacell® LMCE Exit Signs**. The equipment shall operate with universal 2-wire AC input voltage of 120 to 347VAC at less than 1.5W and universal 2-wire DC input voltage from 6 to 24VDC at less than 1.5W for single and double face signs. The sign shall be suitable for wall, end, or ceiling mount. The faceplates shall be constructed of steel and shall come standard with knockout chevrons. The frame shall be of a one-piece steel construction.

The light source shall be light-emitting diodes (LED). The LED lamps shall provide illumination in normal and emergency operation and shall be mounted inside the exit housing, not on the face. Red LEDs shall be of **ALINGAP** technology.

An LED-sensitive diffuser shall be mounted behind the legend to provide the 6" high by 3/4" stroke letters with even illumination.

The Exit Sign in a Self-Powered configuration shall stay illuminated during emergency operation for at least 90 minutes upon AC failure.

The Exit Sign shall be CSA 22.2 No. 141-15 certified.

The equipment shall be **Lumacell® Model:** _____

WIRE GUARDS

460.0079-L	Wall Mount
460.0027-L	End Mount
460.0028-L	Ceiling Mount

POWER CONSUMPTION

MODEL	AC SPECS	DC SPECS
AC-only, red	120 to 347VAC Less than 1.5W	-
AC/DC standard, red	120 to 347VAC Less than 1.5W	6 to 24VDC Less than 1.5W
AC/special DC, red	120/277/ 347VAC Less than 3W	36 or 48 or 120VDC Less than 2.5W
Self-Powered red	120 to 347VAC Less than 3W	Ni-Cd Battery Min. 90 minutes
AC-only, green	120 to 347VAC Less than 1.5W	-
AC/DC standard, green	120 to 347VAC Less than 1.5W	6 to 24VDC Less than 2.5W
Self-Powered, green	120 to 347VAC Less than 3W	Ni-Cd Battery Min. 60 minutes

IN THE SAME FAMILY:



ORDERING INFORMATION

SERIES	COLOUR	VOLTAGE	OPTIONS
LMCE= LED EXIT sign/ Universal mount	Blank= factory white BK= black TA= textured aluminum	UN= 120 to 347VAC, 6 to 24VDC UN00= 120 to 347VAC, no DC** UN36= 120/277/347VAC, 36VDC* UN48= 120/277/347VAC, 48VDC* UN120= 120/347VAC, 120VDC* 120VACDC2= 120VAC, 120VDC, 2 wires* SP= Self-Powered, 120 to 347VAC -SDN2= Self-Powered diagnostic, Ni-Cd, 120/277VAC (90 mins) -SDN3= Self-Powered diagnostic, Ni-Cd, 120/347VAC (90 mins) * For green legends, consult your sales representative. ** Supply as single face.	GN= green legend TP= tamper proof screws* VRSTP1= vandal resistant shield and tamper-proof screws, single face* VRSTP2= vandal resistant shield and tamper-proof screws, double face* SW= special wording SW2= special wording – 2 LED strips * 990.0119-L= tamper-proof bit (sold separately)

EXAMPLE: LMCEUN

by **ABB**

LUMACELL

NO COMMENT COMMENT AS NOTED
 REJECTED REVISE AND RESUBMIT
 SUBMIT SPECIFIED PRODUCT

CORRECTIONS OR COMMENTS MADE ON SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH DRAWINGS AND SPECIFICATION REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES, CAPACITIES AND DIMENSIONS, SELECTING FABRICATION CO-ORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

ANTARES ENGINEERING GROUP INC.
DATE 26-02-2020 PERS S.S. DIMENSIONS
Dimensions are approximate and subject to change.

