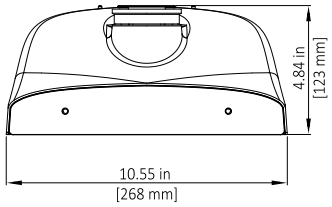
LEOTEK®
LITE-ON GROUP

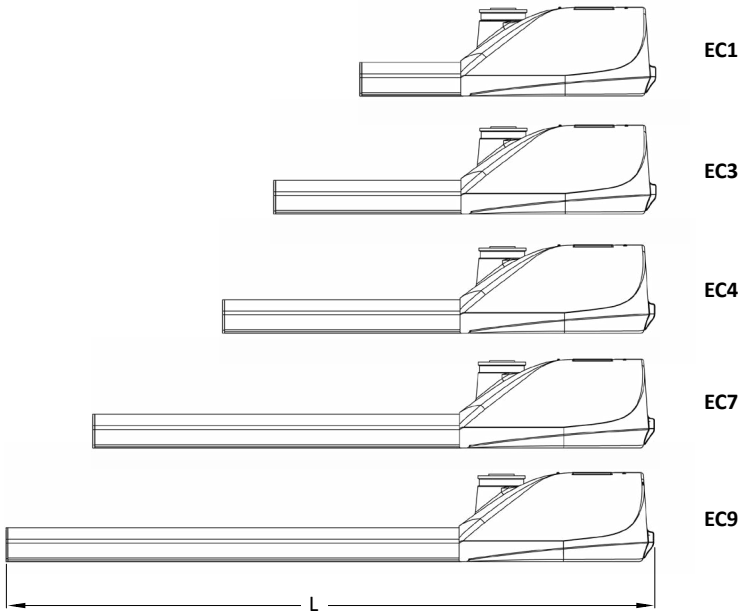
Project
Type
Catalog No.

E-Cobra™ LED Dusk to Dawn Area Light
EC M2 Series Specification Data Sheet

Luminaire Data

	L	Weight	EPA
EC1	16.1 in [409 mm]	10.8 lb [4.9 kg]	0.40 ft²
EC3	20.8 in [528 mm]	12.7 lb [5.8 kg]	0.45 ft²
EC4	23.5 in [597 mm]	14.0 lb [6.3kg]	0.48 ft²
EC7	30.6 in [777 mm]	19.3 lb [8.8 kg]	0.57 ft²
EC9	35.4 in [899 mm]	21.3 lb [9.7kg]	0.63 ft²





Ordering Information

Sample Catalog No. EC7 24M2 MV NW 2 GY 700 PCR5 WL

Product	LED Code	Voltage	Correlated Color Temperature	Distribution	Finish[1]	Drive Current Code[2]	Options
EC1	**4M2**	**MV** 120-277V	**WW** 3000K	**2** Type 2	**GY** Gray	**350**	**FDC**[3] Fixed Drive Current
EC1	**6M2**	**HV** 347-480V	**NW** 4000K	**3** Type 3	**DB** Dark Bronze	**530**	**FFA**[4] Full Field Adjustability
EC3	**10M2**		**CW** 5000K	**4** Type 4	**BK** Black	**700**	**LPCR** Less Photocontrol Receptacle
EC3	**12M2**			**5** Type 5	**FDB** Full Dark Bronze		**PCR7**[5] 7-wire PC Receptacle
EC4	**15M2**						**PCR7-CR**[6] Control Ready 7-wire PC Receptacle
EC7	**18M2**						**WL** Utility Wattage Label
EC7	**20M2**						**DSC** Door Safety Cable
EC7	**24M2**						**MSL3** Motion Sensor with L3 Lens
EC9	**30M2**						**MSL7** Motion Sensor with L7 Lens

Notes:

1 Gray, Dark Bronze, and Black standard powder coat finish; consult factory for other finishes. The Full Dark Bronze option (FDB) includes the Dark Bronze finish over the enitre aluminum extrusion in addition to the electrical housing.

2 Specified drive current code is the factory set maximum drive current. Field adjustable current selector enables standard dimming to lower wattage drive currents only. Consult factory if wattage limits require a special drive current.

3 Non-field adjustable, fixed drive current. Specify required drive current. Not available with PCR7-CR option.

4 The FFA option enables full field adjustability from the specified drive current code to all drive currents available This option is not DLC qualified.

5 Field adjustable current selector included to enable standard dimming to lower wattage drive currents only. Field changeable connectors included to enable connection to PCR7 (wireless node dimming is disabled by default).

6 Control-ready wired at factory for wireless node dimming. Supplied at maximum drive current. If lower drive current is required, consult factory.

7 Flush mounted house side shield. Shield cuts light off at 1/2 mounting height behind luminaire.

8 Flush mounted cul-de-sac shield. Shield cuts light off at 1/2 mounting height behind luminaire and 1-1/2 mounting height on either side of luminaire.

9 Specify Color (GY, DB, BK)

10 Specify MV (120-277V) or HV (347V or 480V)

11 Replace the "X" in Accessory Code with the appropriate product code number.

Accessories*	
HSSECX[7,11]	House Side Shield, Snap-On
CSSECX[8,11]	Cul-De-Sac Side Shield, Snap-On
SPB[9]	Square Pole Horizontal Arm Bracket
RPB[9]	Round Pole Horizontal Arm Bracket
PTB[9]	Pole Top Tenon Horizontal Arm Bracket
PTB2[9]	Pole Top Tenon Horizontal Arm Bracket (2@180°)
WB[9]	Wall Horizontal Arm Bracket
BSK	Bird Deterrent Spider Kit
LLPC[10]	Long-Life Twist Lock Photocontrol
SC	Twist Lock Shorting Cap

*Accessories are ordered separately and not to be included in the catalog number. For factory installed HSS/CSS, consult factory.

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Luminaire Specifications

Housing
Die cast aluminum housing with universal two-bolt slip fitter mounts to 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter mast arm. Aluminum housing provides passive heat-sinking of the LEDs and has upper surfaces that shed precipitation. Mounting provisions meet 3G vibration per ANSI C136.31-2010 Normal Application, Bridge & Overpass. Mounting has leveling adjustment from + 5° to -5° in 2.5° increments. Electrical components are accessed without tools and are mounted on removable power door with stainless steel latches. Standard rubber wildlife guard conforms to mast arm with no gaps.

Light Emitting Diodes
Hi-flux/Hi-power white LEDs produce a minimum of 90% of initial intensity at 100,000 hours of life based on IES TM-21. LEDs are tested in accordance with IES LM-80 testing procedures. LEDs have correlated color temperature of 3000K (WW), 4000K (NW), or 5000K (CW) and 70 CRI minimum. LEDs are 100% mercury and lead free.

Field Adjustability
LED drive current can be changed in the field to adjust light output for local conditions (not available with PCR7-CR option). The specified drive current code will be the factory set maximum drive current and field adjustments can only be made to available lower wattage drive currents. Select the FFA option if full field adjustability to all available drive currents (700mA max) is desired. The FFA option is not DLC qualified.

Quality Control
Every luminaire is performance tested before and after a 2-hour burn-in period. Assembled in the USA.

Optical Systems
Micro-lens optical systems produce IESNA Type 2, Type 3, Type 4 or Type 5 distributions and are fully sealed to maintain an IP66 rating. Luminaire produces 0% total lumens above 90° (BUG Rating, U=0). Optional house side shield (HSS) cuts light off at 1/2 mounting height behind luminaire. Optional Cul-de-sac shield (CSS) cuts light off at 1 mounting height on each side of luminaire. Both HSS and CSS can be field installed without tools.

Electrical
Rated life of electrical components is 100,000 hours. Uses isolated power supply that is 1-10V dimmable. Power supply is wired with quick-disconnect terminals. Power supply features a minimum power factor of .90 and <20% Total Harmonic Distortion (THD). EMC performance meets or exceeds FCC CFR Part 15. Terminal block accommodates 6 to 14 gauge wire. Surge protection complies with IEEE/ANSI C62.41 Category C High, 20kV/10kA and ANSI C136.2-2015, 20kV/10kA.

Controls
3-Wire photocontrol receptacle is standard. ANSI C136.41 7-wire (PCR7) photocontrol receptacle is available. All photocontrol receptacles have tool-less rotatable bases. Wireless control module is provided by others.

Finish
Housing receives a fade and abrasion resistant polyester powder coat finish with 3.0 mil nominal thickness. Finish tested to withstand 5000 hours in salt spray exposure per ASTM B117. Finish meets scribe creepage rating 8 per ASTM D1654. Finish tested 500 hours in UV exposure per ASTM G154 and meets ASTM D523 gloss retention. Aluminum extruded components are anodized (except with Full Bronze option).

Listings/Ratings/Labels
Luminaires are UL listed for use in wet locations in the United States and Canada. DesignLights Consortium™ qualified product. Consult DLC QPL for Standard and Premium Classification listings. International Dark Sky Association listed. Luminaire is qualified to operate at ambient temperatures of -40°C to 40°C.

Photometry
Luminaires are tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures. IES files for all CCTs are available at leotek.com.

Warranty
10-year limited warranty is standard on luminaire and components.

Standards
Luminaire complies with:
ANSI: C136.2, C136.3, C136.10, C136.13, C136.15, C136.22, C136.31, C136.35, C136.37, C136.41, C62.41, C78.377, C82.77
Other: FCC 47 CFR, IEC 60598, ROHS II, UL 1449, UL 1598

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Performance Data: 3000K (WW)

All data nominal. IES files for all CCTs are available at leotek.com.

			Type 2, 3, 4		Type 5	
Product	**Drive Current Code**	**System Wattage (W)**	**Delivered Lumens (lm)[1]**	**Efficacy (lm/W)**	**Delivered Lumens (lm)[1]**	**Efficacy (lm/W)**
EC1 4M2	350	20	2100	104	2150	107
	530	28	2850	102	2900	104
	700	36	3600	100	3650	101
EC1 6M2	350	29	2950	102	3000	104
	530	41	4150	100	4250	103
	700	54	5300	99	5450	101
EC3 10M2	350	41	4700	114	4800	116
	530	63	6850	108	6950	110
	700	87	8750	100	8900	102
EC3 12M2	350	55	5650	103	5750	105
	530	83	8200	99	8350	101
	700	107	10500	98	10700	100
EC4 15M2	350	63	7600	121	7750	123
	530	90	10000	111	10150	113
	700	124	13300	107	13600	110
EC7 18M2	350	81	8450	104	8600	106
	530	122	12100	99	12350	101
	700	160	15450	97	15800	99
EC7 20M2	350	84	9350	111	9550	114
	530	132	13450	102	13700	104
	700	172	17200	100	17550	102
EC7 24M2	350	98	11250	115	11500	117
	530	152	16150	106	16450	108
	700	209	20600	99	21050	101
EC9 30M2	350	133	15450	116	15750	118
	530	202	22000	109	22400	111
	700	262	26450	101	27000	103

Notes:
1 Nominal lumens. Normal tolerance ± 10% due to factors including distribution type, LED bin variance, and ambient temperatures.

E-Cobra™ LED Street and Area Light
EC M2 Series Specification Data Sheet

Performance Data: 4000K (NW) and 5000K (CW)

All data nominal. IES files for all CCTs are available at leotek.com.

			Type 2, 3, 4		Type 5	
Product	**Drive Current Code**	**System Wattage (W)**	**Delivered Lumens (lm)[1]**	**Efficacy (lm/W)**	**Delivered Lumens (lm)[1]**	**Efficacy (lm/W)**
EC1 4M2	350	20	2250	112	2300	114
	530	28	3050	109	3100	111
	700	36	3850	107	3900	108
EC1 6M2	350	29	3350	116	3450	119
	530	41	4600	111	4850	117
	700	54	5750	107	5950	111
EC3 10M2	350	41	5050	123	5150	126
	530	63	7300	116	7450	118
	700	87	9350	107	9550	110
EC3 12M2	350	55	6050	110	6200	113
	530	83	8800	106	8950	108
	700	107	11250	105	11450	107
EC4 15M2	350	63	8050	128	8200	130
	530	90	10950	122	11200	124
	700	124	14250	115	14550	117
EC7 18M2	350	81	9050	112	9200	114
	530	122	12950	106	13200	108
	700	160	16550	103	16900	106
EC7 20M2	350	84	10050	120	10250	122
	530	132	14400	109	14650	111
	700	172	18400	107	18750	109
EC7 24M2	350	98	12050	123	12200	125
	530	152	17250	113	17750	117
	700	209	22550	108	22700	109
EC9 30M2	350	133	16500	124	16600	125
	530	202	23500	116	23700	117
	700	262	28300	108	29150	111

Notes:
1 Nominal lumens. Normal tolerance ± 10% due to factors including distribution type, LED bin variance, and ambient temperatures.

BUG Ratings: 3000K (WW)

All data nominal. IES files for all CCTs are available at leotek.com.

Product	Drive Current Code	Type 2	Type 3	Type 4	Type 5
EC1 4M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G0	B1 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
EC1 6M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
EC3 10M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	530	B2 U0 G2	B1 U0 G1	B2 U0 G2	B3 U0 G1
	700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
EC3 12M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
	700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
EC4 15M2	350	B2 U0 G2	B1 U0 G2	B2 U0 G2	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	700	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
EC7 18M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B4 U0 G2
	700	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
EC7 20M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G2	B3 U0 G2	B4 U0 G2
EC7 24M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G3	B3 U0 G3	B4 U0 G2
EC9 30M2	350	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
	530	B3 U0 G3	B3 U0 G3	B3 U0 G3	B4 U0 G2
	700	B3 U0 G3	B3 U0 G3	B3 U0 G3	B5 U0 G3

BUG Ratings: 4000K (NW) and 5000K (CW)

All data nominal. IES files for all CCTs are available at leotek.com.

Product	Drive Current Code	Type 2	Type 3	Type 4	Type 5
EC1 4M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B1 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
EC1 6M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
EC3 10M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
	530	B2 U0 G2	B1 U0 G1	B2 U0 G2	B3 U0 G1
	700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
EC3 12M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
EC4 15M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	700	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
EC7 18M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B2 U0 G2	B3 U0 G3	B4 U0 G2
EC7 20M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G2	B3 U0 G3	B4 U0 G2
EC7 24M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B4 U0 G2
	530	B3 U0 G3	B3 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G3	B3 U0 G3	B4 U0 G2
EC9 30M2	350	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
	530	B3 U0 G3	B3 U0 G3	B3 U0 G3	B4 U0 G3
	700	B3 U0 G3	B3 U0 G3	B3 U0 G4	B5 U0 G3

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Optional Motion Sensor MSL3/MSL7 Specifications

Description
Digital passive infrared luminaire integrated outdoor occupancy sensor provides high/low/off control based on motion detection. Initial setup and subsequent sensor adjustments are made using a handheld configuration tool. PCR option is required for On/Off control using light detection. Available with both MV and HV input voltage options.

Operation
Standard factory setting will dim the luminaire to 50% until motion is sensed and then it will power to 100%. When motion is not detected for five minutes, the luminaire will dim back to 50%. Ramp up and fade down times are adjustable, but initially set to NONE. The percent dimming and time durations may be field adjusted as required using FSIR-100 configuration tool. FSIR-100 user guide available at: www.wattstopper.com.

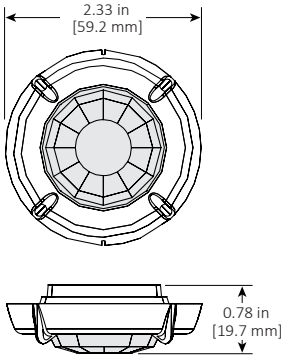
Optical System
Multi-cell, multi-tier Fresnel lens with a 360 degree view detects unobstructed motion from one mounting height, up to 20 ft. maximum with MSL3 and up to 40 ft. maximum with MSL7.

Finish
Sensor exterior ring and lens are white polycarbonate, UV and impact resistant.

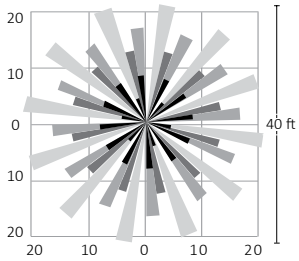
Listings/Ratings
Sensor is TUV, UL and cUL listed, IP66 rated and CE compliant.

Warranty
5-year limited warranty on luminaire and components with motion sensor.

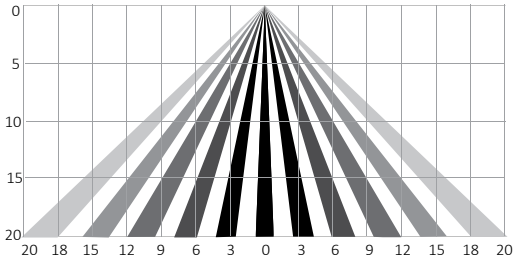
MSL3 Dimensions



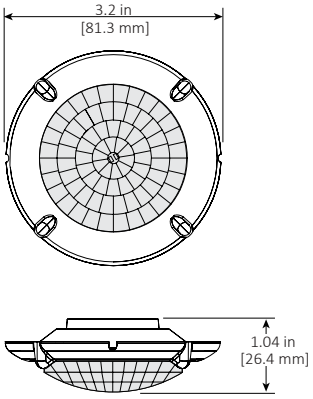
MSL3 Lens Coverage Top View



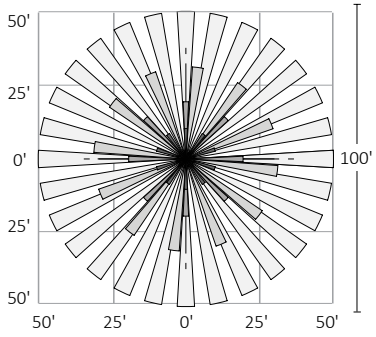
MSL3 Lens Coverage Side View



MSL7 Dimensions



MSL7 Lens Coverage Top View



MSL7 Lens Coverage Side View