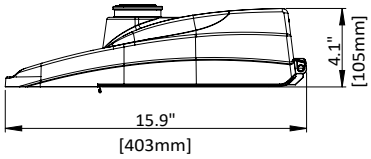
LEOTEK®

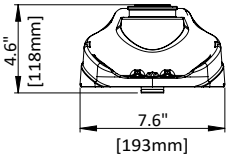
Project

Type

Catalog No.

KarbonCobra LED Streetlight Series
KC0 Specification Data Sheet

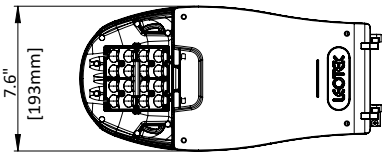




Luminaire Data

Weight 5.9 lbs [2.7kg]

EPA 0.33 ft²



New Features

- 7 Pin Control Ready Receptacle Standard.
- Luminaire-level IP54 rating optional.
- Up to 15 Performance Codes.
- Full dimming capability with PS, up to 2000+ output options.
- Up to 50°C rating.
- Die-cast aluminum ADC1 housing.
- Single Hand door release, tool free.
- Improved Optical Performance with more distribution options.
- Standard 3-position straight terminal block.

Ordering Information

Sample Catalog No.: KC0-16A-MV-30K7-T2R-DB1-CF-P5-SP2-PS-WL1-BBL-PT6

Product	LED Code	Voltage	Color Temp CRI	Optical Distribution	Finish*	Performance Code
KC0 KarbonCobra Size 0	**16 A** 16 LEDs Gen-A	**MV** 120-277Vac **HV** 347-480Vac	**22K7** 2200K, 70CRI **27K7** 2700K, 70CRI **30K7** 3000K, 70CRI **40K7** 4000K, 70CRI **50K7** 5000K, 70CRI **30K8**[1] 3000K, 80CRI **40K8**[1] 4000K, 80CRI **50K8**[1] 5000K, 80CRI	**T2R** Type-2(regular) **T2F** Type-2(forward) **T3R** Type-3(regular) **T3F** Type-3(forward) **T4R** Type-4(regular) **T4F** Type-4(forward) **T5** Type-5	**BK** Black **DB1** Dark Bronze (RAL8019) **GY** Gray **CF**[2] Coastal Finish	**P1 to P15** (see Page 3, 4 for details))

Driver & Control Options

Driver Options (0-10V driver standard)

D4i[3] DALI D4i Driver

Receptacle Options (ANSI 7-PIN Control Ready Receptacle standard.)[4]

LPCR No Receptacle On Top of the luminaire
TLR4U[3] D4i DALI 4-PIN Twist Lock Receptacle (Top)
TLR4L[3] D4i DALI 4-PIN Twist Lock Receptacle (Bottom)

Control Options

LLPC[5] Long Life Photocell
PS[6] Field Adjustable Performance Selector
SC[5] Shorting Cap
ZMSL2[10] Zhaga Book 18 Motion Sensor w/ L2 Lens
ZMSL7[10] Zhaga Book 18 Motion Sensor w/ L7 Lens

General Options

Surge (10kV/5kA, Fail-to-On Surge Protection Device standard)

LSSP2 20kV/10kA Extreme Surge, Fail-to-Off
SP2 20kV/10kA Extreme Surge, Fail-to-On

Wattage Label

WL Wattage Label, ANSI C136.15-2015 compliant
WL1 Wattage Label, ANSI C136.15-2020 compliant

Shields*

CSS Cul-De-Sac Shield, Snap-On (factory installed)
FSS Front Side Shield, Snap-On (factory installed)
HSS House Side Shield, Snap-On (factory installed)
VHS 80 Degree Cutoff Shield, Snap-On (factory installed)

Other

BBL Bubble level (inside of the housing)
DSC Optional Door Safety Cable
DFXXX[8] Double Fuse ('XXX' = specify 208, 240, 480V)
IP54[7] Luminaire level IP54 rating
PTX[9] 12 AWG Three-Wire Pigtail with Length in feet ('X' = specify length 3, 6, 10)
RWG Rubber Wildlife Guard
SFXXX[8] Single Fuse ('XXX' = specify 120, 277, 347V)

General Accessories*

Shields*

CSSKC0 Cul-De-Sac Shield, Snap-On*
FSSKC0 Front Side Shield, Snap-On*
HSSKC0 House Side Shield, Snap-On*
VHSKC0 80 Degree Cutoff Shield, Snap-On*

Mounting Brackets (Specify finish)**

PTB Pole Top Tenon Horizontal Arm Bracket
PTB2 Pole Top Tenon Horizontal Arm Bracket (2@180°)
RPB Round Pole Horizontal Arm Bracket
SPB Square Pole Horizontal Arm Bracket
WB Wall Horizontal Arm Bracket

Other**

BSK Bird Deterrent Spider Kit
LLPCMV Long Life Photocontrol MV
LLPCHV Long Life Photocontrol HV

*Unless specified for field installation, Shields are shipped installed.
**All Mounting and Other Accessories are ordered & shipped separately, not to be included in the luminaire's catalog number.

1. 80CRI option only available in 3000K, 4000K & 5000K CCTs and may have longer lead times (contact factory).
2. Specify the CF Option for coastal installation. See warranty for details.
3. 'TLR4U' & 'TLR4L' twist lock receptacle option requires 'D4i' DALI driver option to be selected.
4. ANSI 7-PIN Control Ready Receptacle standard, is compatible with 'SC', 'LLPC', and Networked Lighting Controls (NLC) nodes (by LEOTEK or others).
5. 'LLPC' & 'SC' do not ship installed, included w/ luminaire.
6. 'PS' Field Adjustable Performance Selector enables field adjustable light output dimming control from the specified Performance Code (see table on pg.5 for details).
7. When 'IP54' is specified, 'RWG' will be included.
8. For single or double fusing, 'XXX' must specify required voltage.
9. 'PTX' option, 'X' must specify pigtail length in feet.
10. 'ZMSL2', or 'ZMSL7' Zhaga Book 18 motion sensor option require both "D4i" DALI driver option and 'TLR4L' D4i DALI 4-PIN twist lock receptacle (bottom) to be selected. Top receptacle for use with wireless DALI control node (by LEOTEK or others).

Luminaire Specifications

Housing & Construction
Die-cast aluminum ADC1 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. One-piece 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 Normal Application, Bridge & Overpass by independent lab. Mounting has leveling adjustment from ± 5° in 2.5° steps. All hardware is stainless steel. Electrical components are accessed without tools via die cast aluminum door with one stainless steel quick release latch. Provided standard with removable polycarbonate wildlife guard. For additional protection, optional rubber wildlife guard (RWG) which conforms snugly to the mast arm is offered. All exposed hardware and fasteners are corrosion resistant stainless-steel. Entire luminaire is IP54 rated if "IP54" is specified.

Light Emitting Diodes
Hi-flux/Hi-power white LEDs produce a minimum of 90% of initial lumen output at 60,000 hours of life based on IES TM-21 (at 25°C) LEDs are tested in accordance with IES LM-80 testing procedures. IES TM-21 lumen maintenance life projection is based on 6X the duration of the LED's IES LM-80 performance data. LED correlated color temperature options of 2200K, 2700K, 3000K, 4000K, or 5000K @ 70CRI or 80CRI (2200K and 2700K are 70CRI only). LEDs are 100% free of mercury and lead.

Power Supply
IP66 rated power supply with high power factor of > 90%. Auto sensing universal AC input from 120 to 277VAC (MV model) and 347 to 480VAC (HV mode) rated for both line to line and line to neutral applications. Maximum THD rating of 20%. Class 1 or Class 2. Built-in overheating protection mechanism will reduce drive current to LEDs and electrical components if the driver experiences unusual internal overheating situation. Built-in short circuit, voltage overload, and current overload protection with automatic recovery after correction.

Optical Systems
All 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. Front side shield (FSS) cuts light off at approximately one mounting height in front of the luminaire (street side). Cul-de-sac shield (CSS) provides back and side light control for end of cul-de-sac applications. 80 degree cutoff shield (VHS) eliminates very high angle light above 80 degrees from luminaire. All shields are field installable without tools. (see 'Ordering Information' for details). **For ComfortEnhanced low glare solution, please refer to KarbonCobra ComfortEnhanced specification.**

Photometry
Luminaires photometry are tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures.

Electrical
Rated life of electrical components is 100,000 hours. Standard 0-10V dimmable drivers use an isolated power supply with 6kV integral surge standard. Power supply features a minimum power factor of 0.90 and <20% Total Harmonic Distortion (THD). EMC meets or exceeds FCC CFR Part 15. Optional DALI D4i certified LED drivers also available, which complies with IEC 62386 and ANSI C137.4 and DiiA. Standard 3-position straight terminal block accommodates 6 to 16 AWG wire. Standard surge protection (10kV/5kA) complies with IEEE/ANSI C62.41 and ANSI C136.2-2015. Optional 'SP2' and 'LSSP2' provides (20kV/10kA) extreme level surge protection.

Field Adjustability
Optional Field Adjustable Performance Selector 'PS' is an integral 8-step fixed position dial allowing field adjustable lumen and wattage dimming control for added project and design versatility to meet installation specific requirements. The specified Performance Code provides maximum lumen output and will be factory set when the 'PS' option is selected. Only compatible KarbonCobra standard 0-10V drivers. Not compatible with 'D4i' DALI driver option.

Controls
Standard ANSI C136.41 7-wire controls ready receptacle is compatible with shorting cap (SC), photocell (LLPCMV/LLPCHV), wireless control module/node by others and LEOTEK's smart lighting control solutions (contact factory for details and availability). All 7-wire photocontrol receptacles have tool-less rotatable bases with a positive lock to not allow for over-rotation and possible damage to the receptacle. Optional DALI D4i driver configurations are also available for added controllability and design flexibility. DALI compatible 'TLR4U' and 'TLR4L' 4-PIN twist lock receptacle options available (wireless DALI control nodes or sensors by others).

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

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 and Coastal Finish per ASTM G85. Finish tested 500 hours in UV exposure per ASTM G154 and meets ASTM D523 gloss retention.

Listings/Ratings/Labels
Luminaires are UL listed for use in wet locations in the United States and Canada. IP54 rating is optional. DesignLights Consortium™ Premium/Listed Classification qualified product. Luminaires are qualified to operate at ambient temperatures of -40°C to 50°C (-40°F to 122°F), some performance codes are qualified to operate at ambient temperatures of-40°C to 40°C (-40°F to 104°F), see details on page 3 and page 4.

Warranty
10-year limited warranty is standard on luminaire and components. See LEOTEK.com for warranty details, terms and conditions.

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.

Vandal Resistance
Housing and optics rated to IK10.

Color Specifications

Order Code	Color	RAL #	Pantone Equivalent
GY	Gray	7040	429C
BK	Black	9004	BLACK 6C
DB1	Dark Bronze	8019	412

TM21 Lumen Maintenance per IEC TM21-11 Calculation

Model Number	50,000 Hours	60,000 Hours	80,000 Hours	100,000 Hours
KC0 16A (P1-P15)	93%	92%	90%	88%

Nominal Performance Data 2200K (22K7) *(2R optic, 70CRI, standard IK10 rated lens)*

All data shown is nominal. Normal tolerance +/- 10% due to factors that include distribution type, LED bin variance and ambient temperatures.

LED Code	Performance Code	System Wattage (W)	Delivered Lumens(Lm)[1]	Efficacy (Lm/W)	WL[2]/WL1[3] Label Wattage	WL1[3] Label Lumens
16A	P1	9	1232	137	10	1,000
	P2	12	1644	137	10	2,000
	P3	16	2176	136	20	2,000
	P4	19	2562	135	20	3,000
	P5	22	2938	134	20	3,000
	P6	25	3305	132	30	3,000
	P7	28	3662	131	30	4,000
	P8	32	4128	129	30	4,000
	P9	35	4468	128	40	4,000
	P10	40	4913	123	40	5,000
	P11	44	5244	119	40	5,000
	P12[5]	48	5660	118	50	6,000

Nominal Performance Data 2700K (27K7) *(2R optic, 70CRI, standard IK10 rated lens)*

All data shown is nominal. Normal tolerance +/- 10% due to factors that include distribution type, LED bin variance and ambient temperatures.

LED Code	Performance Code	System Wattage (W)	Delivered Lumens(Lm)[1]	Efficacy (Lm/W)	WL[2]/WL1[3] Label Wattage	WL1[3] Label Lumens
16A	P1	9	1,321	147	10	1,000
	P2	12	1,763	147	10	2,000
	P3	16	2,333	146	20	2,000
	P4	19	2,747	145	20	3,000
	P5	22	3,151	143	20	3,000
	P6	25	3,544	142	30	4,000
	P7	28	3,927	140	30	4,000
	P8	32	4,426	138	30	4,000
	P9	35	4,791	137	40	5,000
	P10	40	5,268	132	40	5,000
	P11	44	5,623	128	40	6,000
	P12	48	6,069	126	50	6,000
	P13[5]	51	6,421	126	50	6,000

Notes:
1. Nominal lumens. Normal tolerance ± 10% due to factors including distribution type, LED bin variance, and ambient temperatures
2. WL- Wattage Label, ANSI C136.15-2015 compliant.
   Wattage- is rounded to the nearest value multiples of 10.
3. WL1- Wattage Label, ANSI C136.15-2020 compliant:
   Wattage- is rounded to the nearest value multiples of 10.
   Lumens- is rounded to the nearest value multiples of 1,000 lumens. (up to 24,000 lumens).
4. Maximum LED drive current is 550mA.
5. Luminaire at this performance code is qualified to operate at ambient temperatures of-40°C to 40°C. (-40°F to 104°F).

Nominal Performance Data 3000K (30K7) *(2R optic, 70CRI, standard IK10 rated lens)*

All data shown is nominal. Normal tolerance +/- 10% due to factors that include distribution type, LED bin variance and ambient temperatures.

LED Code	Performance Code	System Wattage (W)	Delivered Lumens(Lm)[1]	Efficacy (Lm/W)	WL[2]/WL1[3] Label Wattage	WL1[3] Label Lumen
16A	P1	9	1425	158	10	1,000
	P2	12	1902	158	10	2,000
	P3	16	2517	157	20	3,000
	P4	19	2963	156	20	3,000
	P5	22	3398	154	20	3,000
	P6	25	3822	153	30	4,000
	P7	28	4236	151	30	4,000
	P8	32	4774	149	30	5,000
	P9	35	5168	148	40	5,000
	P10	40	5682	142	40	6,000
	P11	44	6066	138	40	6,000
	P12	48	6546	136	50	7,000
	P13[5]	51	6926	136	50	7,000
	P14[5]	53	7285	137	50	7,000

Nominal Performance Data 4000K (40K7) / 5000K (50K7) *(2R optic, 70CRI, standard IK10 rated lens)*

All data shown is nominal. Normal tolerance +/- 10% due to factors that include distribution type, LED bin variance and ambient temperatures.

LED Code	Performance Code	System Wattage (W) WL[2]	Delivered Lumens(Lm)[1]	Efficacy (Lm/W)	WL[2]/WL1[3] Label Wattage	WL1[3] Label Lumen
16A	P1	9	1484	165	10	1,000
	P2	12	1981	165	10	2,000
	P3	16	2622	164	20	3,000
	P4	19	3087	162	20	3,000
	P5	22	3540	161	20	4,000
	P6	25	3982	159	30	4,000
	P7	28	4412	158	30	4,000
	P8	32	4973	155	30	5,000
	P9	35	5383	154	40	5,000
	P10	40	5919	148	40	6,000
	P11	44	6318	144	40	6,000
	P12	48	6819	142	50	7,000
	P13	51	7215	141	50	7,000
	P14[5]	53	7589	143	50	8,000
	P15[5]	57	7964	140	60	8,000

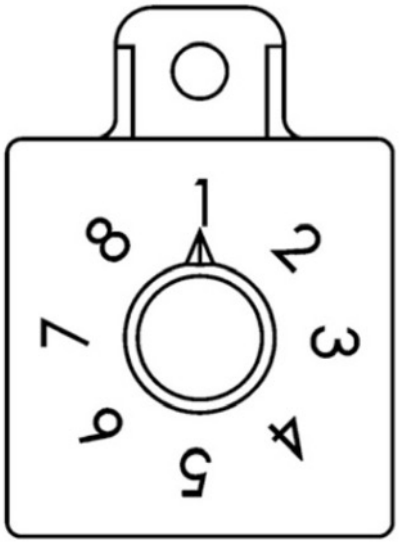
Notes:
1. Nominal lumens. Normal tolerance ± 10% due to factors including distribution type, LED bin variance, and ambient temperatures
2. WL- Wattage Label, ANSI C136.15-2015 compliant.
   Wattage- is rounded to the nearest value multiples of 10.
3. WL1- Wattage Label, ANSI C136.15-2020 compliant:
   Wattage- is rounded to the nearest value multiples of 10.
   Lumens- is rounded to the nearest value multiples of 1,000 lumens. (up to 24,000 lumens).
4. Maximum LED drive current is 550mA.
5. Luminaire at this performance code is qualified to operate at ambient temperatures of-40°C to 40°C. (-40°F to 104°F).

Field Adjustable Performance Selector 'PS'

The optional Performance Selector is an integral dial that allows for field adjustable lumen/wattage dimming control for added design versatility. Normal tolerance +/- 5%. 'PS' dial ships from the factory at the maximum 100% output setting #8 which equals the customer specified Performance Code.

PS Position	Lumen Output %	P1 Wattage	P2 Wattage	P3 Wattage	P4 Wattage	P5 Wattage	P6 Wattage	P7 Wattage	P8 Wattage	P9 Wattage	P10 Wattage
8	100%	9	12	16	19	22	25	28	32	35	40
7	90%	8	11	14	17	20	23	25	29	32	36
6	80%	7	10	13	15	18	20	22	26	28	32
5	70%	6	8	11	13	15	18	20	22	25	28
4	60%	5	7	10	11	13	15	17	19	21	24
3	50%	5	6	8	10	11	13	14	16	18	20
2	40%	4	5	6	8	9	10	11	13	14	16
1	30%	3	4	5	6	7	8	8	10	11	12

PS Position	Lumen Output %	P11 Wattage	P12 Wattage	P13 Wattage	P14 Wattage	P15 Wattage
8	100%	44	48	51	53	57
7	90%	40	43	46	48	51
6	80%	35	38	41	42	46
5	70%	31	34	36	37	40
4	60%	26	29	31	32	34
3	50%	22	24	26	27	29
2	40%	18	19	20	21	23
1	30%	13	14	15	16	17



Selector (PS) and Label.

BUG Ratings: 2200K (22K7)

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

		Type 2R	Type 2F	Type 3R	Type 3F	Type 4R	Type 4F	Type 5
Product & LED Code	**Performance Code**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**
16A	P1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G1
	P2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P3	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P4	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P5	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P6	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G1
	P7	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G2
	P8	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P9	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P10	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P11	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P12	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2

BUG Ratings: 2700K (27K7)

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

		Type 2R	Type 2F	Type 3R	Type 3F	Type 4R	Type 4F	Type 5
Product & LED Code	**Performance Code**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**
16A	P1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B0-U0-G0	B0-U0-G1	B0-U0-G1	B1-U0-G1
	P2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B1-U0-G1
	P3	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P4	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P5	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P6	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P7	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G1
	P8	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G2
	P9	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P10	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P11	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P12	B1-U0-G1	B2-U0-G2	B1-U0-G2	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P13	B1-U0-G1	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2

BUG Ratings: 3000K (30K7)

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

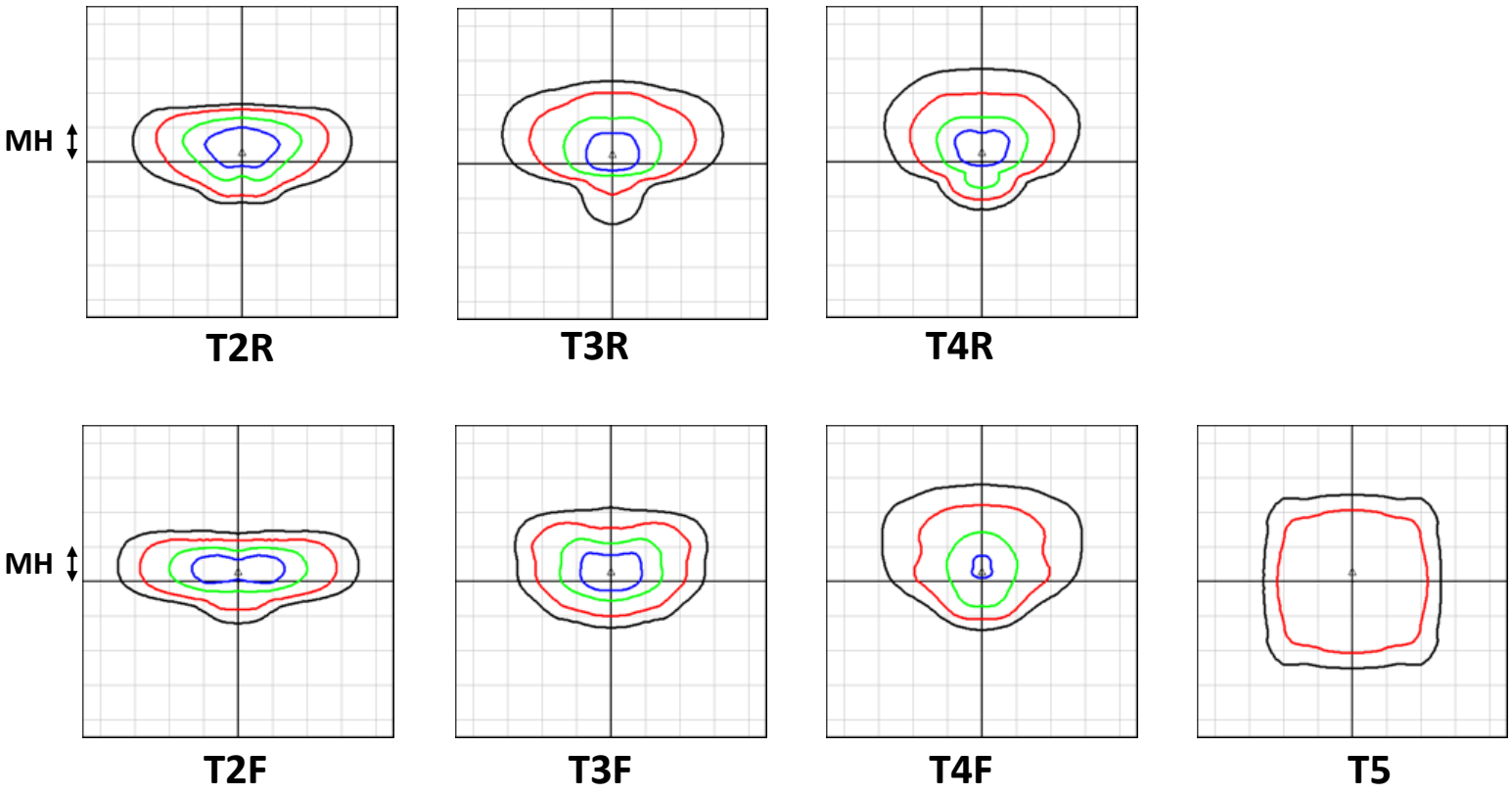
		Type 2R	Type 2F	Type 3R	Type 3F	Type 4R	Type 4F	Type 5
Product & LED Code	**Performance Code**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**
16A	P1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G1
	P2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P3	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P4	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P5	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P6	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G1
	P7	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G2
	P8	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P9	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P10	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P11	B1-U0-G1	B2-U0-G2	B1-U0-G2	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P12	B1-U0-G1	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P13	B1-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G3	B3-U0-G2
	P14	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G3	B3-U0-G2

BUG Ratings: 4000K (40K7) / 5000K (50K7)

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

		Type 2R	Type 2F	Type 3R	Type 3F	Type 4R	Type 4F	Type 5
Product & LED Code	**Performance Code**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**	**BUG Rating**
16A	P1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B0-U0-G1	B1-U0-G1
	P2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P3	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P4	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P5	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P6	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G1
	P7	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G2
	P8	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P9	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P10	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P11	B1-U0-G1	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P12	B1-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P13	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G3	B3-U0-G2
	P14	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G3	B3-U0-G2
	P15	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2

Optical Distribution
(Each square block represents one mounting height, MH)



MH 30ft

- 0.1 Fc
- 0.2 Fc
- 0.5 Fc
- 1.0 Fc

Motion Sensor (Optional) Specifications*

'ZMSL2', or 'ZMSL7' 4 pin (for Zhaga Book 18 installation) motion sensor option require both "D4i" DALI driver option and 'TLR4L' D4i DALI 4-PIN twist lock receptacle (bottom) to be selected. Top receptacle for use with wireless DALI control node (by LEOTEK or others).

Description

Digital passive infrared luminaire 4-PIN outdoor occupancy sensor provides high/low/off control based on motion detection. Initial setup and subsequent sensor adjustments are made using the iOS or Android Sensor Configuration App (search for Wattstopper Sensor Configuration App) or through compatible DALI devices and outdoor lighting controllers conforming to Zhaga or DiiA standards (103 and 303*) remotely. Available with both MV or 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 using the iOS or Android Sensor Configuration App by Bluetooth* low energy technology commissioning (search for Wattstopper Sensor Configuration App) or through compatible DALI devices and outdoor lighting controllers conforming to Zhaga or DiiA standards (103 and 303**) remotely.

*Devices with Bluetooth 5.0, iPhone 8 and Samsung Galaxy S8 and later devices are recommended for optimal performance.

**DALI 303 features are continually released. Please consult Wattstopper for a list of current features.

Optical System

Multi-cell, multi-tier Fresnel lens with a 360 degree view detects unobstructed motion within one mounting height, up lens configurations for 8-15 ft. ('ZMSL2') or up to 40 ft. ('ZMSL7'). Consult factory for higher mounting height requirements.

Finish

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

Listings/Ratings

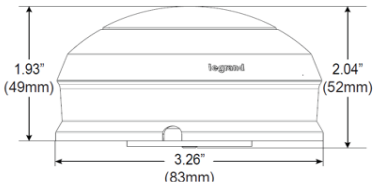
Sensor is UL and cUL listed(E101196), IP65 rated and CE compliant.

Warranty

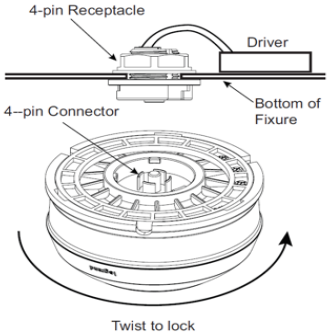
5-year limited warranty on luminaires and components with a motion sensor.

Motion Sensor (Optional) Data

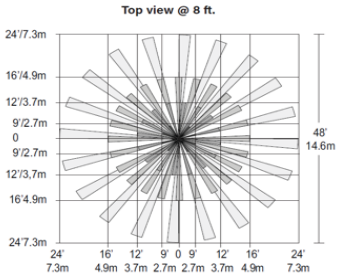
ZMSL2/ZMSL7 Dimensions



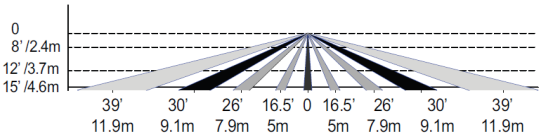
ZMSL2/ZMSL7 Installation



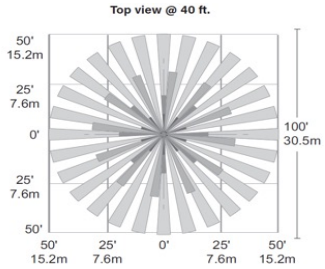
L2 Lens Coverage Top View



L2 Lens Coverage Side View



L7 Lens Coverage Top View



L7 Lens Coverage Side View