

KarbonCobra LED Streetlight Series

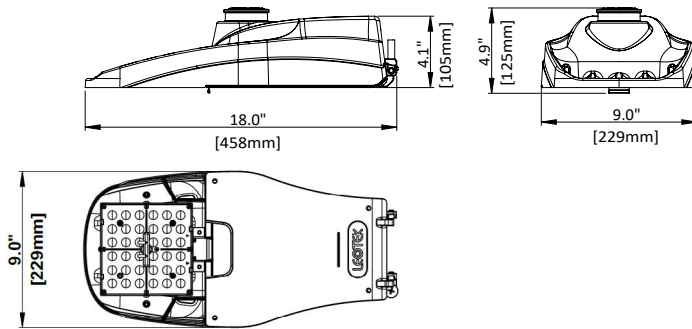
KC1 Specification Data Sheet



Luminaire Data

Weight 7.7 lbs [3.5kg]

EPA 0.37 ft²



Ordering Information

Sample Catalog No.: KC1-36A-MV-30K7-T2R-DB1-CF-P5-SP2-PS-WL1-BBL-PT6-BABA

Product*	LED Code	Voltage	Color Temp CRI	Optical Distribution	Finish*	Performance Code
KC1 KarbonCobra Size 1	36 A 36 LEDs Gen-A	MV 120-277Vac HV 347-480Vac	Dark Sky Approved 22K7 2200K, 70CRI 27K7 2700K, 70CRI 30K7 3000K, 70CRI 30K8¹ 3000K, 80CRI 40K7 4000K, 70CRI 50K7 5000K, 80CRI 40K8¹ 4000K, 80CRI 50K8¹ 5000K, 80CRI	Dark Sky Approved T2R Type-2R T2F Type-2F T3R Type-3R T3F Type-3F T4R Type-4R T5 Type-5 T4F Type-4F	BK Black DB1 Dark Bronze (RAL8019) GY Gray CF² Coastal Finish	P1 to P20 (see Page 3, 4 for details)

*If Build America, Buy America Act (BABA) compliance is required, please refer to 'BABA Domestic Build Option' located under 'General Options' and refer to footnote #12 for additional details.

Driver & Control Options	General Options	General Accessories*
Driver Options (0-10V driver standard) D4I³ DALI D4I Driver	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* CSS¹¹ Cul-De-Sac Shield, Snap-On (factory installed) FSS¹¹ Front Side Shield, Snap-On (factory installed) HSS¹¹ 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 DFXXX⁸ Double Fuse ('XXX' = specify 208, 240, 480V) IP54⁷ Luminaire level IP54 rating PTX⁹ 12 AWG Three-Wire Pigtail with Length in Feet ('X' = specify length 3, 6, 10) RWG Rubber Wildlife Guard SFXXX⁸ Single Fuse ('XXX' = specify 120, 277, 347V) BABA¹² BABA Domestic Build Option Build America, Buy America Act Compliant (meets Oct. 1, 2026 final US assembly, 55% content material requirements)	Shields* CSSKC1¹¹ Cul-De-Sac Shield, Snap-On* FSSKC1¹¹ Front Side Shield, Snap-On* HSSKC1¹¹ House Side Shield, Snap-On* VHSC1 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 LLPCM^V Long Life Photocontrol MV LLPCH^V 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. Not available with 'HV' Voltage option. 'TLR4U' & 'TLR4L' twist lock receptacle option requires 'D4I' DALI driver option to be selected. 'D4I' DALI driver is required w/ 'EB01P10' smart controllers. 'D4I' DALI driver not compatible w/ 'NB01P05/10' smart controllers.
4. ANSI 7-PIN Control Ready Receptacle (standard), is compatible with 'LLPC', 'PS', 'SC', 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).
11. CSSKC1, FSSKC1, and HSSKC1 shields are not available for use with the 'T5' Type-5 optical distribution.
12. 'BABA' option must be specified to meet Oct. 1, 2026 Build America, Buy America Act (BABA) guidelines. Failure to specify the 'BABA' ordering code will result in receiving non-BABA compliant product (w/ no recourse for an RMA, product exchange or refund).
13. See pg 9 for additional LEOLink ordering & system details.
14. 'LLPC' option is not compliant with DLC. DLC requires ANSI 7-PIN Control Ready receptacle.
15. 'NB01P05/10' requires ANSI 7-PIN control ready receptacle (standard), only available in 'MV' 120-277V (contact factory for 'HV' 347-480V). 'NB01P05/10' is a cellular based NEMA 7-PIN Smart Controller, RenAI subscription and network data plan required (see pg.9 for details).



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 $\pm 5^\circ$ 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" option 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 TM21 (at 25°C) LEDs are tested in accordance with IES LM-80 testing procedures. IES TM21 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% mercury and lead free.

Power Supply

IP66 rated power power with high power factor of > 0.90. 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 data sheet.**

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 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.

General Control Options

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).

LEOLink Intelligent Lighting System

ANSI C136.41 7-wire smart wireless controllers allow real-time monitoring and asset management of luminaires with 'NB01P05/10' wireless control nodes installed. RenAI cloud-based application receives system data while applying specific AI models for fault isolation and the resolution of voltage health, outages, knockdowns, energy usage, LED faults and more. Allows for full remote management of

the luminaire, including the ability to store and execute customer specific schedules and performance parameters. System communicates via standard 4G/5G IoT networks with a cellular data plan and RenAI subscription..

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™ qualified product. Consult DLC QPL to confirm your specific fixture selection is DLC approved. CCT 3000K and warmer products (except T4F) are IDA International Dark Sky Association listed. 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.

Government Procurement Compliance

BAA- Buy America(n) Act: All LEOTEK luminaires qualify as a "Domestic End Product" per the Buy American Act as governed by FAR and DFARS.

BABA- Build America Buy America: All LEOTEK luminaires ordered with the 'BABA' option code are compliant per BABA requirements as outlined per the Federal Highway Administration (FHWA).

Warranty

10-year limited warranty is standard on luminaire and components. 5-year limited warranty on luminaires and components with a motion sensor. LEOLink Controllers can be specified with either 5-year or 10-year limited warranties. 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
KC1 36A (P1-P19)	93%	92%	90%	88%
KC1 36A (P20)	92%	91%	89%	87%

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 Lumen
36A	P1	15	2,158	144	20	2,000
	P2	20	2,871	144	20	3,000
	P3	26	3,778	145	30	4,000
	P4	30	4,379	146	30	4,000
	P5	35	4,970	142	40	5,000
	P6	39	5,557	142	40	6,000
	P7	44	6,137	139	40	6,000
	P8	49	6,714	137	50	7,000
	P9	55	7,418	135	60	7,000
	P10	59	8,005	136	60	8,000
	P11	64	8,564	134	60	9,000
	P12	68	9,100	134	70	9,000
	P13	72	9,617	134	70	10,000
	P14	77	10,120	131	80	10,000
	P15	81	10,611	131	80	11,000
	P16	85	11,097	131	90	11,000

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 Lumen
36A	P1	15	2,314	154	20	2,000
	P2	20	3,078	154	20	3,000
	P3	26	4,052	156	30	4,000
	P4	30	4,696	157	30	5,000
	P5	35	5,329	152	40	5,000
	P6	39	5,958	153	40	6,000
	P7	44	6,580	150	40	7,000
	P8	49	7,199	147	50	7,000
	P9	55	7,955	145	60	8,000
	P10	59	8,583	145	60	8,000
	P11	64	9,183	143	60	9,000
	P12	68	9,758	143	70	10,000
	P13	72	10,312	143	70	10,000
	P14	77	10,851	141	80	11,000
	P15	81	11,378	140	80	11,000
	P16	85	11,899	140	90	12,000
	P17	90	12,418	138	90	12,000
	P18	95	12,938	136	100	13,000
	P19	100	13,466	135	100	13,000

Notes:

1. Nominal lumens. Normal tolerance $\pm$ 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 500mA.

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
36A	P1	15	2,496	166	20	2,000
	P2	20	3,320	166	20	3,000
	P3	26	4,370	168	30	4,000
	P4	30	5,065	169	30	5,000
	P5	35	5,748	164	40	6,000
	P6	39	6,427	165	40	6,000
	P7	44	7,098	161	40	7,000
	P8	49	7,766	158	50	8,000
	P9	55	8,580	156	60	9,000
	P10	59	9,259	157	60	9,000
	P11	64	9,905	155	60	10,000
	P12	68	10,525	155	70	11,000
	P13	72	11,123	154	70	11,000
	P14	77	11,705	152	80	12,000
	P15	81	12,273	152	80	12,000
	P16	85	12,835	151	90	13,000
	P17	90	13,394	149	90	13,000
	P18	95	13,956	147	100	14,000
	P19	100	14,525	145	100	15,000

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)	Delivered Lumens (Lm) ¹	Efficacy (Lm/W)	WL ² /WL1 ³ Label Wattage	WL1 ³ Label Lumen
36A	P1	15	2,600	173	20	3,000
	P2	20	3,459	173	20	3,000
	P3	26	4,552	175	30	5,000
	P4	30	5,276	176	30	5,000
	P5	35	5,988	171	40	6,000
	P6	39	6,695	172	40	7,000
	P7	44	7,393	168	40	7,000
	P8	49	8,089	165	50	8,000
	P9	55	8,938	163	60	9,000
	P10	59	9,644	163	60	10,000
	P11	64	10,318	161	60	10,000
	P12	68	10,964	161	70	11,000
	P13	72	11,587	161	70	12,000
	P14	77	12,192	158	80	12,000
	P15	81	12,785	158	80	13,000
	P16	85	13,370	157	90	13,000
	P17	90	13,952	155	90	14,000
	P18	95	14,537	153	100	15,000
	P19	100	15,130	151	100	15,000
	P20 ⁵	105	15,735	150	110	16,000

Notes:

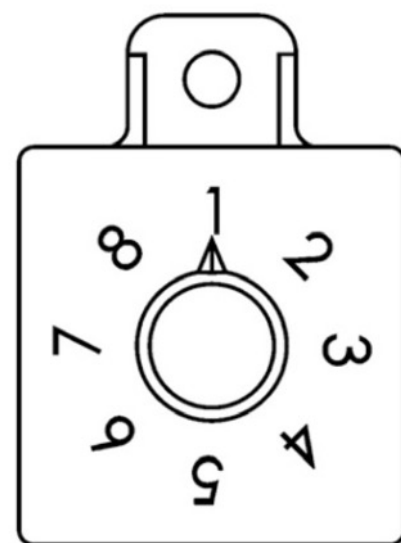
1. Nominal lumens. Normal tolerance $\pm$ 10% due to factors including distribution type, LED bin variance, and ambient temperatures
2. WL- Wattage Label, ANSI C136.15-2015 compliant.
Wattage- is rounded to the nearest value multiples of 10.
3. WL1- Wattage Label, ANSI C136.15-2020 compliant:
Wattage- 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 500mA.
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%	15	20	26	30	35	39	44	49	55	59
7	90%	14	18	23	27	32	35	40	44	50	53
6	80%	12	16	21	24	28	31	35	39	44	47
5	70%	11	14	18	21	25	27	31	34	39	41
4	60%	9	12	16	18	21	23	26	29	33	35
3	50%	8	10	13	15	18	20	22	25	28	30
2	40%	6	8	10	12	14	16	18	20	22	24
1	30%	5	6	8	9	11	12	13	15	17	18

PS Position	Lumen Output %	P11 Wattage	P12 Wattage	P13 Wattage	P14 Wattage	P15 Wattage	P16 Wattage	P17 Wattage	P18 Wattage	P19 Wattage	P20 Wattage
8	100%	64	68	72	77	81	85	90	95	100	105
7	90%	58	61	65	69	73	77	81	86	90	95
6	80%	51	54	58	62	65	68	72	76	80	84
5	70%	45	48	50	54	57	60	63	67	70	74
4	60%	38	41	43	46	49	51	54	57	60	63
3	50%	32	34	36	39	41	43	45	48	50	53
2	40%	26	27	29	31	32	34	36	38	40	42
1	30%	19	20	22	23	24	26	27	29	30	32



Example of Field Adjustable Selector (PS) and Label.

BUG Ratings: 2200K (22K7)

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

Product & LED Code	Performance Code	Type 2R	Type 2F	Type 3R	Type 3F	Type 4R	Type 4F	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating
36A	P1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-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-G2	B3-U0-G1
	P4	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G1
	P5	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P6	B1-U0-G1	B2-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P7	B1-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P8	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P9	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P10	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P11	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P12	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G2
	P13	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B4-U0-G2
	P14	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P15	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P16	B2-U0-G2	B3-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2

BUG Ratings: 2700K (27K7)

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

Product & LED Code	Performance Code	Type 2R	Type 2F	Type 3R	Type 3F	Type 4R	Type 4F	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating
36A	P1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P3	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G1
	P4	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P5	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P6	B1-U0-G1	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P7	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P8	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G3	B3-U0-G2
	P9	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P10	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P11	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G2
	P12	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B4-U0-G2
	P13	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P14	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P15	B2-U0-G2	B3-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P16	B2-U0-G2	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P17	B2-U0-G2	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P18	B3-U0-G3	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P19	B3-U0-G3	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2

BUG Ratings: 3000K (30K7)

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

Product & LED Code	Performance Code	Type 2R	Type 2F	Type 3R	Type 3F	Type 4R	Type 4F	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating
36A	P1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P3	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B3-U0-G1
	P4	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P5	B1-U0-G1	B2-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P6	B1-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P7	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G3	B3-U0-G2
	P8	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P9	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P10	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G2
	P11	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B4-U0-G2
	P12	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P13	B2-U0-G2	B3-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P14	B2-U0-G2	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P15	B2-U0-G2	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P16	B2-U0-G2	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P17	B3-U0-G3	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P18	B3-U0-G3	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P19	B3-U0-G3	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G3

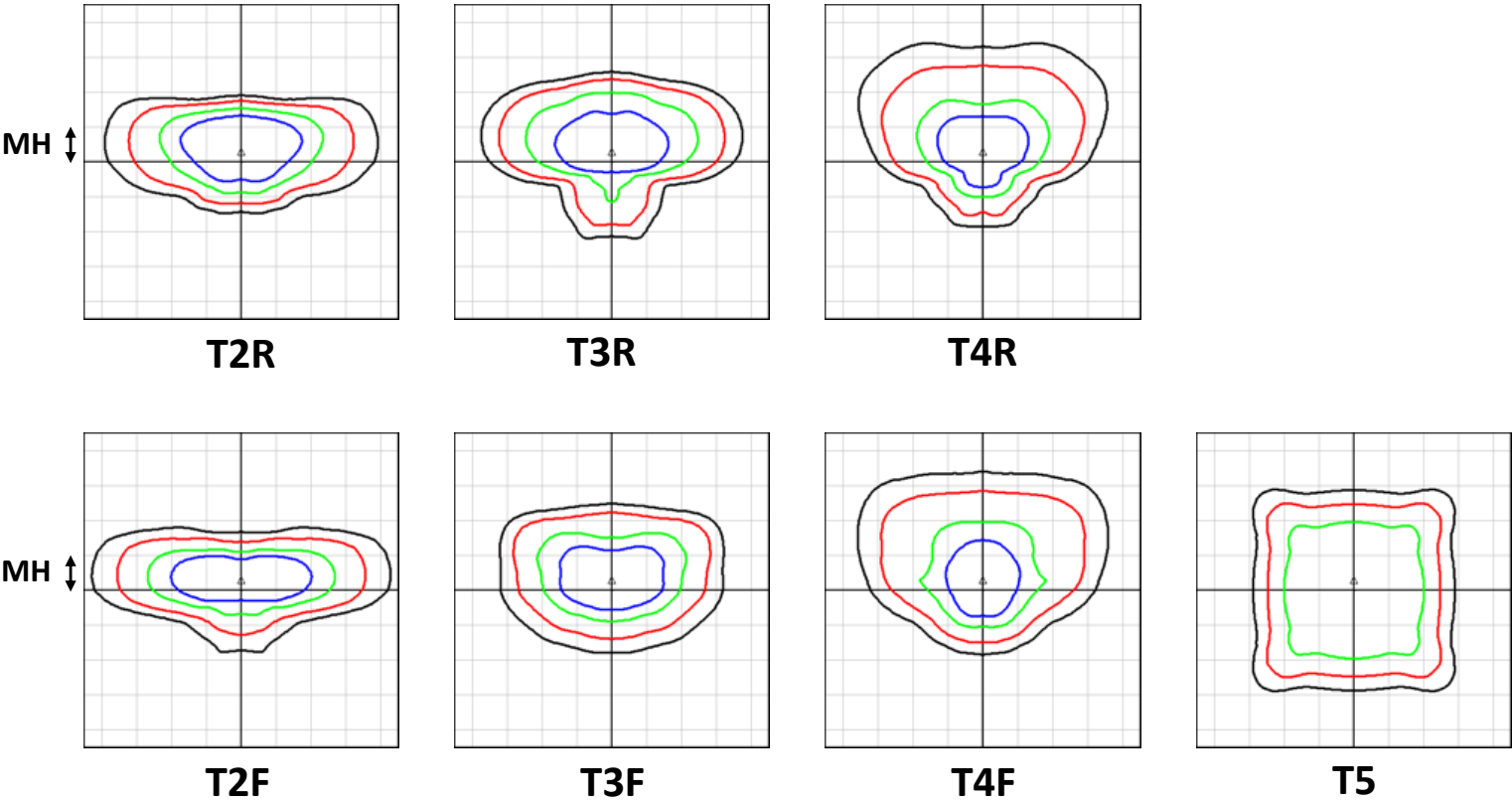
BUG Ratings: 4000K (40K7) / 5000K (50K7)

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

Product & LED Code	Performance Code	Type 2R	Type 2F	Type 3R	Type 3F	Type 4R	Type 4F	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating	BUG Rating
36A	P1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G1
	P2	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G1
	P3	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P4	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P5	B1-U0-G1	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G1
	P6	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G2	B1-U0-G2	B1-U0-G2	B3-U0-G2
	P7	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P8	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B1-U0-G2	B2-U0-G3	B3-U0-G2
	P9	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G2
	P10	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B4-U0-G2
	P11	B2-U0-G2	B2-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P12	B2-U0-G2	B3-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P13	B2-U0-G2	B3-U0-G3	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P14	B2-U0-G2	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P15	B2-U0-G2	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P16	B3-U0-G3	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P17	B3-U0-G3	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G2
	P18	B3-U0-G3	B3-U0-G3	B2-U0-G2	B3-U0-G3	B2-U0-G3	B2-U0-G3	B4-U0-G3
	P19	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B2-U0-G3	B3-U0-G4	B4-U0-G3
	P20	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B2-U0-G3	B3-U0-G4	B4-U0-G3

Optical Distribution

(Each square block represents one mounting height, MH)



MH = 30ft

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

LEOLink ILS™ Intelligent Lighting System for Tomorrow's Smart & Sustainable Cities

Smart...Scalable...Effortless

LEOLink ILS is the next evolution in street lighting, integrating AI and IoT to transform a city's traditional outdoor lighting infrastructure into a smart, adaptive network. It empowers municipalities and utilities with real-time control, predictive maintenance, and rapid scalability, all with unmatched simplicity.

Integrating LEOTEK's AI-driven centralized management platform (LEOLink RenAI) with intelligent streetlight controllers, LEOLink ILS provides 24x7 visibility into the status and performance of streetlights enabling efficient energy use, real-time fault detection, and predictive maintenance across city-wide lighting networks. Easy "plug-and-play" deployment and scalability support users in achieving operational excellence, public safety, and long-term sustainability. With LEOLink ILS, cities are creating the backbone of a future-ready smart city.

Key Functions

Centralized, Remote Management

Gain complete control of your city's smart lighting infrastructure from a single, intuitive platform.

Instant Response to Anomalies

Automatically identify and respond to abnormal lighting behavior in real-time.

AI-Powered Predictive Maintenance

Detect and address faults before they occur, minimizing downtime and maintenance costs.

Actionable Insights Through Data Visualization

Monitor asset performance and energy trends with clear, interactive dashboards and reports.

Energy Efficiency & Cost Savings

Optimize energy usage with intelligent scheduling and dimming, reducing operational expenses.

LEOLink Controllers Key Features & Benefits

The smartest fit for 7-PIN NEMA fixtures. Engineered to deliver seamless performance, trusted security, and plug-and-play simplicity, all in one powerful, next-generation controller.



Self-Monitoring & Fault Detection

Controllers continuously monitor the luminaire's operational status, identifying power outages, failures, and abnormal energy patterns for fast diagnostics and improved maintenance efficiency.



Ultra-High Connectivity

Dual-mode cellular communication using the world's most reliable and secure carriers ensures a 99.5% connection success rate, delivering reliable continuous data transmission even in challenging environments.



Built-In Surge Protection

Advanced surge protection against lightning and voltage spikes safeguards critical streetlight infrastructure.



AI-Driven Adaptive Dimming

Participates with LEOLink RenAI to enable intelligent dimming strategies, including human-centric lighting adjustments based on real-time traffic, weather, and pedestrian activity.



Predictive Maintenance & Analytics

Advanced failure analysis and predictive diagnostics move cities from reactive to preventative maintenance strategies that reduce downtime and operational costs.



*LEOLink 'NB01P05/10' Smart Controller

LEOLink RenAI Central Management System Key Features & Benefits

RenAI is an AI-powered, cloud-based Central Management System (CMS) that turns streetlighting into a dynamic, adaptive, and self-optimizing network. Using a native AI foundation, it analyzes both real-time and historical data—surpassing traditional CMS capabilities—to address the complex needs of modern roadway infrastructure. The result: improved energy efficiency, reduced operational costs, and enhanced public safety for utilities and municipalities.



LiSA (LEOTEK intelligent Service Advisor)

LiSA, our AI-powered assistant, is available 24/7 to streamline operations, quickly answering questions, generating charts and tables, and assisting with troubleshooting to lighten your team's workload.



Asset Management

Collect and track roadway infrastructure asset information such as streetlight fixtures, poles and controllers to drive operational efficiencies from field maintenance to life cycle management.



Remote Control

Remotely switch lights ON/OFF and adjust brightness via an intuitive user interface.



Fault Detection & Notification

Monitor streetlight health and status in real time to detect and receive instant fault alerts.



Energy Consumption Management

Track usage, identify trends, and forecast energy needs for optimal efficiency.



Data Analysis & Reporting

Access historical insights, visualize data, and generate reports for informed decision-making.



Scheduled Dimming

Automatically adjusts brightness levels based on ambient light and pre-set schedules.



LEOLink Intelligent Lighting System (ILS) Ordering Information* (*add to end of luminaire catalog number to ship controller with the luminaire)

Sample Catalog No. Luminaire w/ Controller: KC1-36A-MV-40K7-T3R-GY-P4-WL1-SF277-**NB01P10-R10-D10** (controllers will ship included with the luminaire)

Sample Catalog No. for Controller Only: **NB01P05-R05-D05** (controllers will ship separately from the luminaire)

LEOLink Smart Controllers		RenAI CMS Subscription		Network Data Plan	
NB01P05 ¹	LEOLink 7-PIN Controller, 5YR Warranty (120-277V)	R01	RenAI, One Year SaaS Subscription	D01	Data Plan, One Year Subscription
NB01P10 ¹	LEOLink 7-PIN Controller, 10YR Warranty (120-277V)	R05	RenAI, Five Year SaaS Subscription	D05	Data Plan, Five Year Subscription
EB01P10 ³	LEOLink D4i/DALI Embedded Controller, 10YR Warranty	R10	RenAI, Ten Year SaaS Subscription	D10	Data Plan, Ten Year Subscription
		R00 ²	RenAI, No SaaS Subscription	D00 ²	Data Plan, No Subscription

1. For each controller, a RenAI CMS Subscription 'RXX' and Network Data Plan 'DXX' is required. Please refer to the LEOLink ILS specification sheets and ordering guide for complete ordering and specification details.

2. 'R00' and 'D00' options require prior approval from LEOTEK. Please contact factory for details.

3. 'EB01P10' is a factory installed D4i/DALI embedded controller, ANSI 7-PIN Control Ready Receptacle is not needed. 'D4i' DALI driver is required w/ 'EB01P10' smart controller.

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 Dii 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

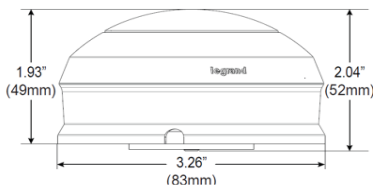
Sensor is UL and cUL listed(E101196), IP65 rated and CE compliant.

Warranty

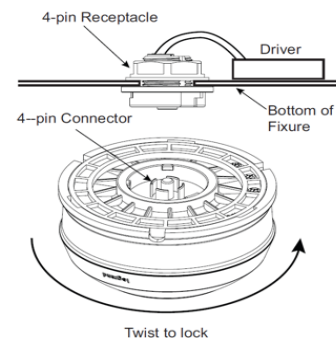
5-year limited warranty on luminaires and components with a motion sensor.

Motion Sensor (Optional) Data

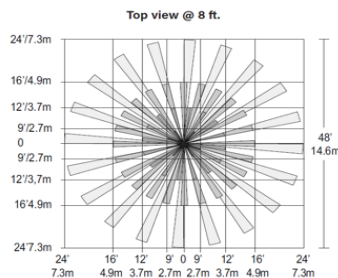
ZMSL2/ZMSL7 Dimensions



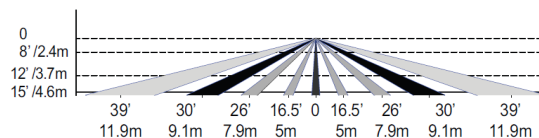
ZMSL2/ZMSL7 Installation



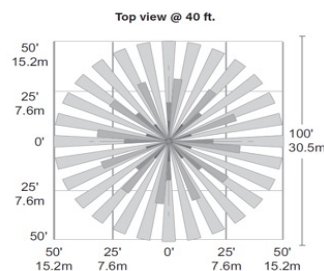
L2 Lens Coverage Top View



L2 Lens Coverage Side View



L7 Lens Coverage Top View



L7 Lens Coverage Side View

