

KBL Series

LED Low-Bay/High-Bay Luminaire

Product Description

KBL LED delivers 20,900(M) or 27,500(H) lumens, allowing for one-for-one replacement or fixture count reduction of 250W, 400W HID or up to six lamp 54W T5HO fixtures. With energy savings of up to 65% over traditional light sources, lightweight construction and multiple mounting options, the KBL is optimized for new construction or retrofit installations.

The KBL delivers even illumination with reflector choices of aluminum, clear acrylic, clear polycarbonate, or white acrylic. Optional lenses offer enhanced uplight and maximum uniformity, making it ideal for a variety of applications including retail, gymnasiums, light manufacturing, and warehouses.

Applications: Retail, gymnasiums (aluminum or polycarbonate reflector), industrial, manufacturing and warehouse spaces.

Performance Summary

Initial Delivered Lumens: 20,900 or 27,500 lumens

Operating Temperature Range: M Lumen Package: -40°C to 50°C (-40°F to +122°F);
H Lumen Package: -40°C to 40°C (-40°F to +104°F)

Efficacy: Up to 150 LPW

CRI: 70, 80+

CCT: 3000K, 3500K, 4000K, 5000K

Input Voltage: 120-277 VAC or 347-480 VAC (without step-down transformer)

L₇₀ Lifetime: > 100,000 hours at maximum operating temperature

Limited Warranty¹: 10 years on luminaire

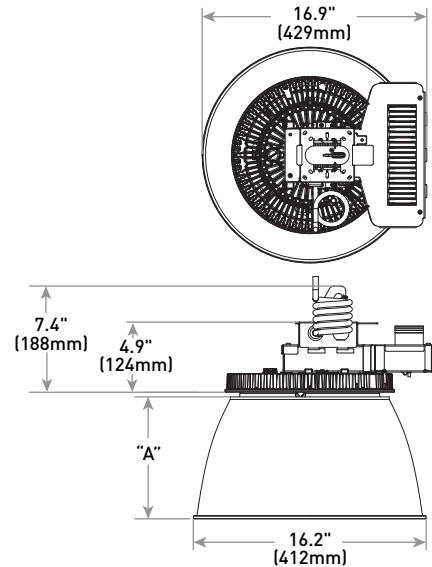
Universal Mounting: Accommodates J-Box, pendant, hook, cord & plug

Weight: Maximum 14 lbs. (6.4kg)

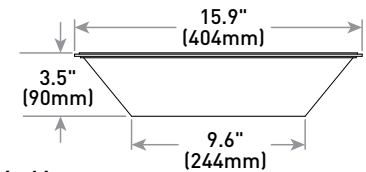
Controls: 0-10V dimming to 10% or Multi-Level Occupancy

¹ See <http://lighting.cree.com/warranty> for warranty terms

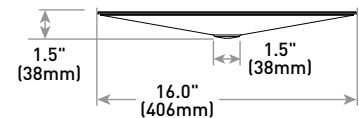
Shown Fully Assembled with Prismatic Reflector and Universal Mount



Drop Lens



Clear Conical Lens



| Reflector | "A" Height |
|------------------------------|--------------|
| CXBA16N [Aluminum] | 9.0" [229mm] |
| CXBP16 [Clear Prismatic] | 8.5" [216mm] |
| CXBW16 [White Acrylic] | 8.5" [216mm] |
| CXBC16 [Clear Polycarbonate] | 8.5" [216mm] |

Ordering Information

Example: KBL-A-UV-H-40K-7-UL-10V

| KBL | A | UV | | | | | | |
|---------|---------|---|--|--|--|----------------------------|----------------------------------|---|
| Product | Version | Mounting | Lumen Package* | CCT | | CRI | Voltage | Controls |
| KBL | A | UV Universal Mount: hook and cord with 6ft whip, adaptor plate for J-box and pendant | M 20,900 Lumens H 27,500 Lumens | 30K 3000K 35K 3500K 40K 4000K 50K 5000K | | 7 70 CRI 8 80 CRI | UL 120-277V UH 347-480V | 10V 0-10V Dimming ML Multi-Level - Refer to ML install instructions for details |

* Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CCT and reflector/lens selection. Refer to Delivered Lumens & Electrical Data and Reflector Illumination Performance tables for specific lumen values



US: lighting.cree.com

T (800) 236-6800 F (262) 504-5415

Rev. Date: V1 11/27/2017

Canada: www.cree.com/canada



T (800) 473-1234 F (800) 890-7507

Product Specifications

CONSTRUCTION & MATERIALS

- Die cast aluminum heatsink
- Luminaire is post-painted with white powder coat finish
- IP65 optics with tempered glass lens protect LEDs while keeping the dust out
- Low-profile, lightweight design provides ease of installation
- Mounting choices of direct J-Box/pendant and hook, cord & plug
- J-box mount mounts directly over existing 4" (102mm) single gang square, rectangular and octagonal junction boxes for direct mount
- J-box mount has provision to accept ¾ IP pendant (by others)
- UV mount is provided with factory installed spring lock hook for mounting and factory installed 6' (1.8m) 16/3 AWG white power cord
- Factory calibrated to hang straight
- Designed for downlight applications only
- **Weight:** Maximum 14 lbs. (6.4kg)

OPTICAL SYSTEM

- 16" (406mm) all reflectors
- LED system delivers proper uniformity & spacing

ELECTRICAL SYSTEM

- Integral, high-efficiency driver
- **Input Voltage:** 120-277V or 347-480V 50/60Hz
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- **Operating Temperature Range:** M Lumen Package: -40°C to 50°C (-40°F to +122°F); H Lumen Package: -40°C to 40°C (-40°F to +104°F)
- **Transient Protection:** 6kV/3kA tested in accordance to IEEE/ANSI
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current

0-10V DIMMING

- Continuous dimming to 10% with 0-10V DC control protocol
- 10V Source Current: 0.15mA
- Use only lighting controls with neutral connection or controls intended for use with LED fixtures
- Reference dimming document for additional information

MULTI-LEVEL OPTION

- Passive infrared (PIR) occupancy sensing
- High/low occupancy, dim to min of 30%
- Covers mounting heights from 15-45' (4.6-13.7 m). Detects walking to 35' (10.8 m) and fork lifts to 45' (13.7 m)
- Available with UL and UH voltages
- Refer to KBL install instructions for details on sensor functionality, operation and lumen and power multipliers

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed (UL1598; UL8750)
- Suitable for damp locations
- Requires minimum 90°C supply conductors
- Not intended for use in environments containing airborne corrosive agents such as chemical solvents, cleaners, or cutting fluids
- IP65 rated LED optics
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Assembled in the U.S.A. of U.S. and imported parts
- DLC and DLC Premium qualified versions available. Some exceptions apply. Please refer to <https://www.designlights.org/search/> for most current information

| Delivered Lumens & Electrical Data* | | | | | | | | | | | |
|-------------------------------------|-------|--------------------|--------|--------------|-------------------------|-------------------|------|------|------|------|------|
| Lumen Package | CCT | Delivered Lumens** | | System Watts | Efficacy (LPW at 70CRI) | Total Current (A) | | | | | |
| | | 70 CRI | 80 CRI | | | 120-480V | 120V | 208V | 240V | 277V | 347V |
| M | 3000K | 21,300 | 18,800 | 142 | 150 | 1.20 | 0.69 | 0.60 | 0.51 | 0.41 | 0.29 |
| | 3500K | 22,000 | 19,700 | | 155 | | | | | | |
| | 4000K | 22,100 | 20,500 | | 156 | | | | | | |
| | 5000K | 22,100 | 20,700 | | 156 | | | | | | |
| H | 3000K | 28,000 | 24,700 | 189 | 148 | 1.60 | 0.92 | 0.80 | 0.68 | 0.54 | 0.39 |
| | 3500K | 28,800 | 25,900 | | 152 | | | | | | |
| | 4000K | 29,100 | 26,900 | | 154 | | | | | | |
| | 5000K | 29,000 | 27,200 | | 153 | | | | | | |

* Data provided at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-480V +/- 10%.
** Initial delivered lumen values based on luminaire without reflector. Refer to reflector Illumination Performance table for lumen multipliers when using reflector accessory

| Reflector Uplight Illumination Performance | | |
|--|--------------|------------------|
| Reflector | % of Uplight | Lumen Multiplier |
| CXBA16N [Aluminum] | 0% | 0.86 |
| CXBA16N w/CLA16 [Aluminum w/Clear Conical Lens] | 0% | 0.76 |
| CXBA16N w/DLA16 [Aluminum w/Clear Drop Lens] | 2% | 0.77 |
| CXBP16 [Clear Prismatic] | 3% | 0.96 |
| CXBP16 w/CL16 [Clear Prismatic w/Clear Conical Lens] | 6% | 0.93 |
| CXBP16 w/DL16 [Clear Prismatic w/Clear Drop Lens] | 8% | 0.93 |
| CXBW16 [White Acrylic] | 13% | 0.93 |
| CXBW16 w/CL16 [White Acrylic w/Clear Conical Lens] | 16% | 0.88 |
| CXBW16 w/DL16 [White Acrylic w/Clear Drop Lens] | 16% | 0.90 |
| CXBC16 [Clear Polycarbonate] | 2% | 0.89 |
| CXBC16 w/CL16 [Clear Polycarbonate w/Clear Conical Lens] | 5% | 0.85 |
| CXBC16 w/DL16 [Clear Polycarbonate w/Clear Drop Lens] | 7% | 0.84 |

Reference <http://lighting.cree.com/products/indoor/high-bay-low-bay/kbl-series> for detailed photometric data

| KBL Series Ambient Adjusted Lumen Maintenance¹ | | | | | |
|--|-------------|-----------------------|------------------------|------------------------|-------------------------|
| Ambient | Initial LMF | 36K hr Projected² LMF | 50K hr Calculated³ LMF | 75K hr Calculated³ LMF | 100K hr Calculated³ LMF |
| 25°C (77°F) | 1.00 | 0.95 | 0.94 | 0.93 | 0.92 |
| 30°C (86°F) | 0.99 | 0.94 | 0.93 | 0.92 | 0.91 |
| 35°C (95°F) | 0.98 | 0.93 | 0.92 | 0.91 | 0.90 |
| 40°C (104°F) | 0.97 | 0.92 | 0.91 | 0.90 | 0.90 |
| 45°C (113°F) | 0.96 | 0.91 | 0.90 | 0.89 | 0.89 |
| 50°C (122°F) | 0.95 | 0.90 | 0.89 | 0.89 | 0.88 |

¹ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors
² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (IDUT) i.e. the packaged LED chip)
³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (IDUT) i.e. the packaged LED chip)
Note: H Lumen package is only rated up to 40°C



Accessories

| Reflector | | |
|--|--|---|
| CXBA16N (Single Pack) CXBA16N-MP (Multi-Pack) - 16" (406mm) Aluminum CXBP16 (Single Pack) CXBP16-MP (Multi-Pack) - 16" (406mm) Clear Acrylic - Acrylic reflector is not impact resistant nor intended for use unprotected in a gymnasium Notes: - Single pack SKUs ship as one reflector per box - Multi-pack SKUs require a minimum order of 10 pieces or more, and ship together in as few boxes as possible | CXBW16 (Single Pack) CXBW16-MP (Multi-Pack) - 16" (406mm) White Acrylic - Acrylic reflector is not impact resistant nor intended for use unprotected in a gymnasium | CXBC16 (Single Pack) CXBC16-MP (Multi-Pack) - 16" (406mm) Clear Polycarbonate - Suitable for use in gymnasiums; WG-AP wire guard recommended |
| Reflector Accessories | | |
| 16" (406mm) Wire Guards WG-A - For Aluminum Reflector WG-AP - For Acrylic and Polycarbonate Reflectors Note: Lenses and wire guard accessories can't be used together | 16" (406mm) Clear Prismatic Drop Acrylic Lenses DLA16 - For Aluminum Reflector DL16 - For Acrylic Reflector | 16" (406mm) Clear Conical Acrylic Lenses CLA16 - For Aluminum Reflector CL16 - For Acrylic Reflector |
| Safety Cables | | |
| Galvanized Safety Cables SC-5 - 5.0' (1.5m) Cable | | SC-10 - 10.0' (3.0m) Cable |
| Field-Installed NEMA® Plugs | | |
| AP-515P - 15 amp 120V Straight Blade Plug AP-L515P - 15 amp 120V Twist Lock Plug | AP-L615P - 15 amp 240V Twist Lock Plug AP-L715P - 15 amp 277V Twist Lock Plug | AP-L2420P - 20 amp 347V Twist Lock Plug AP-L820P - 20 amp 480V Twist Lock Plug |

Optional Reflectors/Lens

shown fully assembled with universal mount

Aluminum Reflector w/Drop Lens



Clear Prismatic Reflector



White Acrylic Reflector w/Conical Lens

