

Project:
Catalog Number:
Notes:

KP SERIES

RECESSED LED DOWNLIGHT

FEATURES

- Power adjustable between three wattages
- Color temperature tunable. Available in multiple options from 2700 K to 5000 K
- Dimmable 0-10 V
- Deep reflector design for low-glare
- Operating temperature -4° F to 113° F
- IP54 Rating
- Aluminum alloy material and white powder coat finish (RAL 9016)
- Available in multiple diameters

REGULATORY QUALIFICATIONS

- Energy Star Product
- UL certified for use in the United States and Canada
- UL 1598 Ed. 5-2021
- CSA C22.2 No. 250.0-2021
- Meets FCC standards



APPLICATIONS

- Commercial office spaces
- Healthcare facilities
- School buildings and libraries

Big Shine LED is an LED lighting manufacturer, a division of technology company Big Shine Worldwide, Inc. With global manufacturing centers for continuity of supply, Big Shine LED designs lighting fixtures with premium components that meet international certifications.

TECHNICAL DATA

BSL-AD[XX]-KP4-BSGN-CCT02-80

POWER @ 120 V	CCT	CRI (Ra)	LUMEN PACKAGE (LM)	EFFICACY (LM/W)	POWER FACTOR
6	4000	83	520.51	96.57	0.98
8	4000	83	695.45	96.32	0.99
12	4000	83	970.36	94.21	0.99

BSL-AD[XX]-KP6-BSGN-CCT02-80

POWER @ 120 V	CCT	CRI (Ra)	LUMEN PACKAGE (LM)	EFFICACY (LM/W)	POWER FACTOR
8	4000	83	813.61	103.51	0.98
12	4000	83	1183.34	99.44	0.99
16	4000	83	1445.34	99.44	0.99

TECHNICAL DATA

BSL-AD[XX]-KP8-BSGN-CCT02-80

POWER @ 120 V	CCT	CRI (Ra)	LUMEN PACKAGE (LM)	EFFICACY (LM/W)	POWER FACTOR
12	3000	81.7	1188.74	104.28	0.99
12	4000	84.9	1240.33	112.76	0.99
12	5000	83.9	1204.07	105.62	0.99
16	3000	81.6	1526.55	99.13	0.99
16	4000	84.7	1618.33	109.35	0.99
16	5000	83.7	1555.81	100.37	0.99
22	3000	81.3	2021.24	91.46	0.99
22	4000	84.4	2184.57	104.52	0.99
22	5000	83.5	2056.00	92.61	0.99

TECHNICAL DATA

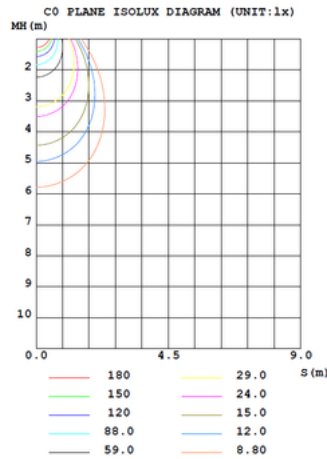
BSL-AD[XX]-KP10-BSGN-CCT02-80

POWER @ 120 V	CCT	CRI (Ra)	LUMEN PACKAGE (LM)	EFFICACY (LM/W)	POWER FACTOR
22	4000	83	2182.75	107.52	0.99
28	4000	83	2723.85	103.96	0.99
33	4000	83	3131.15	101.00	0.99

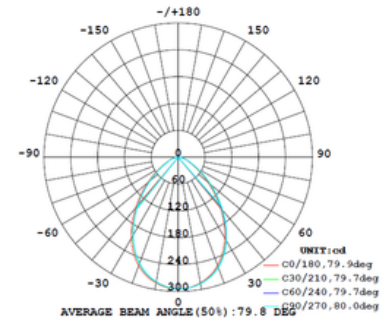
PHOTOMETRIC DATA

Sample: BSL-AD6-KP4-4000K (4" model)

Lamp output: 520 lm
 Input wattage: 6 W
 Test Distance: 30 ft

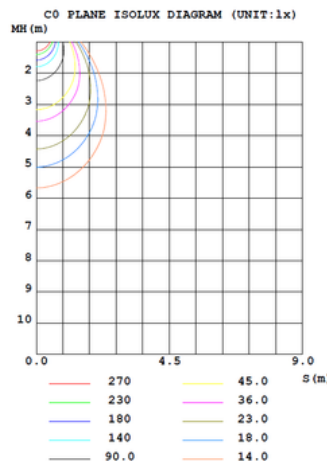


LUMINOUS INTENSITY DISTRIBUTION DIAGRAM

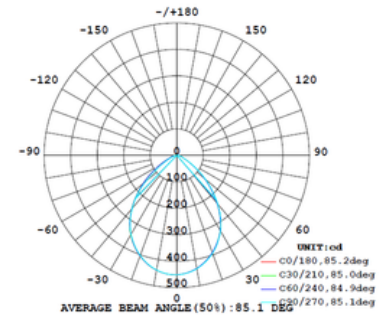


Sample: BSL-AD8-KP6-4000K (6" model)

Lamp output: 813 lm
 Input wattage: 8 W
 Test Distance: 30 ft

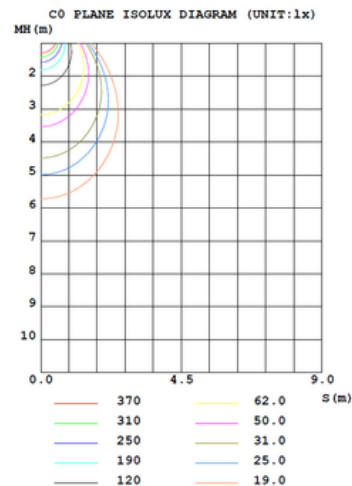


LUMINOUS INTENSITY DISTRIBUTION DIAGRAM

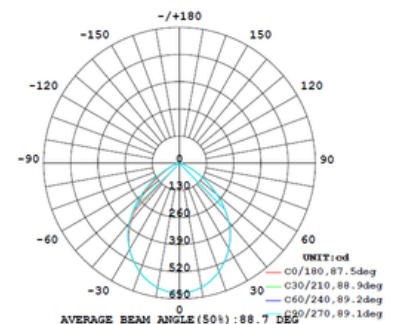


Sample: BSL-AD12-KP8-3000K (8" model)

Lamp output: 1188.7 lm
 Input wattage: 12 W
 Test Distance: 30 ft



LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PHOTOMETRIC DATA

Spectrum Test Results

Tested Sample: BSL-AD12-KP8-3000K (8" model)*

Test Conditions

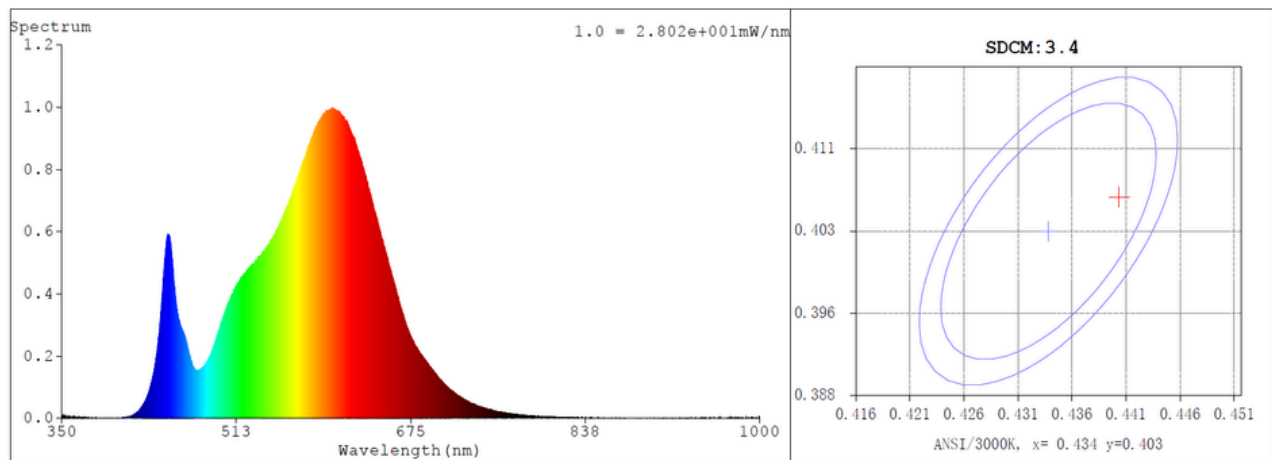
Date: 2024-02-26

Temperature: 25.3° C (77.54° F)

Wavelength Range: 350 nm - 1000 nm

Relative Humidity: 65%

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

Colorimetric Parameters

Chromaticity Coordinates:

x = 0.4404 y = 0.4065 u' = 0.2518 v' = 0.5228 DuV = 4.73e-04

Dominant Peak Wavelength (Ld) = 582.8 nm

Full Width at Half Maximum (FWHM) = 125.4 nm

Peak Wavelength (Lp) = 602 nm

Purity = 54.2%

CCT = 2961 K CRI = 81.7

R1 = 80	R2 = 90	R3 = 97	R4 = 80	R5 = 80	R6 = 88	R7 = 82	R8 = 57
R9 = 2	R10 = 77	R11 = 80	R12 = 70	R13 = 82	R14 = 99	R15 = 72	

Photometric & Radiometric Parameters

Luminous Flux = 1188.1 lm

Efficacy = 102.13 lm/W

Fe = 4.0855 W

Electrical Parameters

Voltage = 120.1 V

Current = 0.09846 A

Power = 11.63 W

Power Factor = 0.9841

Frequency = 59.98 Hz

*Full LM-79 test report available upon request to Big Shine LED.

PHOTOMETRIC DATA

Spectrum Test Results

Tested Sample: BSL-AD12-KP8-4000K (8" model)*

Test Conditions

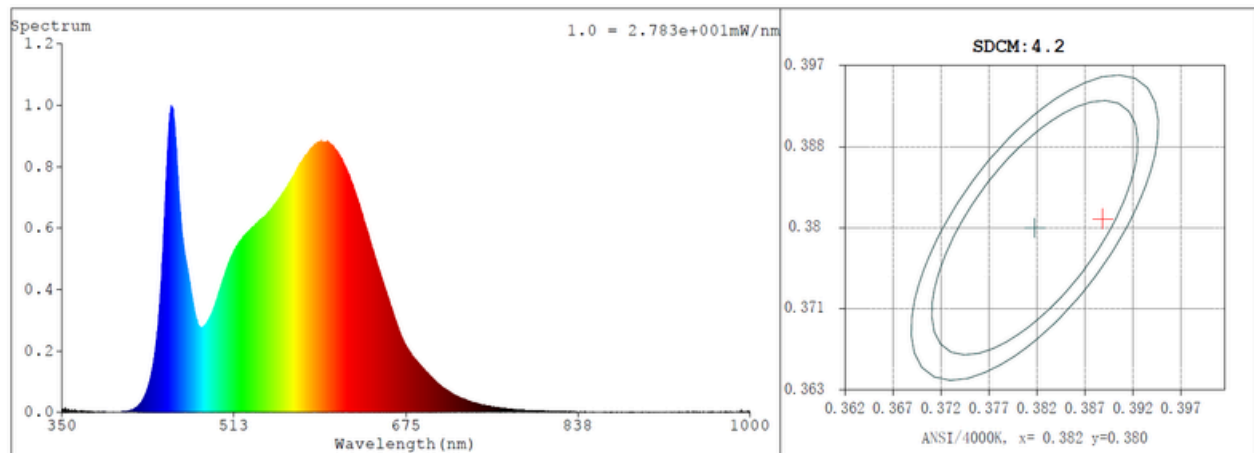
Date: 2024-02-26

Temperature: 25.3° C (77.54° F)

Wavelength Range: 350 nm - 1000 nm

Relative Humidity: 65%

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

Colorimetric Parameters

Chromaticity Coordinates:

$x = 0.3889$ $y = 0.3806$ $u' = 0.2291$ $v' = 0.5045$ $DuV = -5.71e-04$

Dominant Peak Wavelength (λ_d) = 580.1 nm

Full Width at Half Maximum (FWHM) = 22.5 nm

Peak Wavelength (λ_p) = 454 nm

Purity = 30.9%

CCT = 3807 K CRI = 84.9

R1 = 84	R2 = 93	R3 = 96	R4 = 83	R5 = 84	R6 = 89	R7 = 85	R8 = 66
R9 = 15	R10 = 82	R11 = 82	R12 = 63	R13 = 87	R14 = 99	R15 = 78	

Photometric & Radiometric Parameters

Luminous Flux = 1207.7 lm

Efficacy = 106.43 lm/W

Fe = 4.2358 W

Electrical Parameters

Voltage = 120.1 V

Current = 0.09609 A

Power = 11.35 W

Power Factor = 0.9837

Frequency = 59.98 Hz

*Full LM-79 test report available upon request to Big Shine LED.

PHOTOMETRIC DATA

Spectrum Test Results

Tested Sample: BSL-AD12-KP8-5000K (8" model)*

Test Conditions

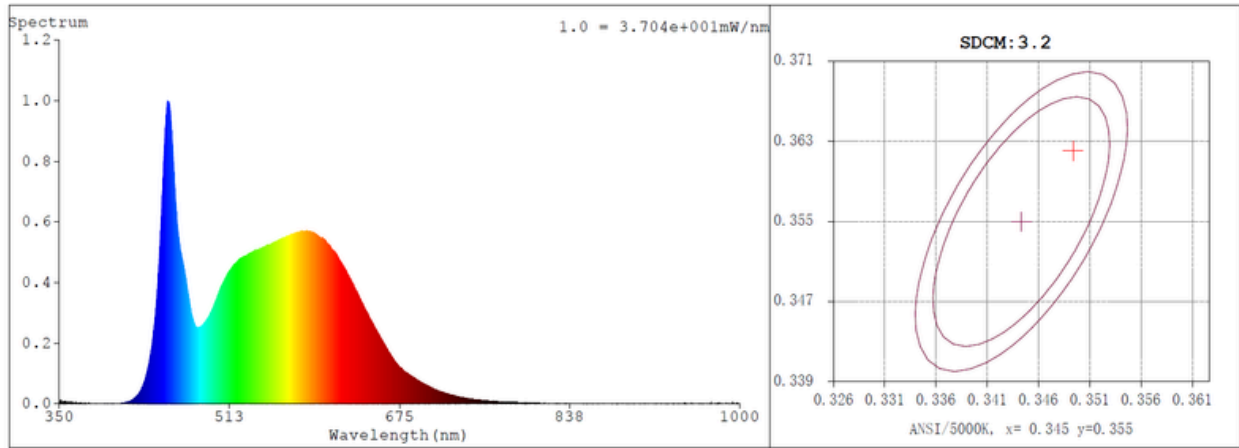
Date: 2024-02-26

Temperature: 25.3° C (77.54° F)

Wavelength Range: 350 nm - 1000 nm

Relative Humidity: 65%

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

Colorimetric Parameters

Chromaticity Coordinates:

$x = 0.3497$ $y = 0.3620$ $u' = 0.2105$ $v' = 0.4903$ $DuV = 3.36e-03$

Dominant Peak Wavelength (λ_d) = 571.4 nm

Full Width at Half Maximum (FWHM) = 20.6 nm

Peak Wavelength (λ_p) = 454 nm

Purity = 13.5%

CCT = 4870 K CRI = 83.9

R1 = 82	R2 = 91	R3 = 95	R4 = 82	R5 = 82	R6 = 87	R7 = 86	R8 = 66
R9 = 9	R10 = 77	R11 = 81	R12 = 60	R13 = 85	R14 = 98	R15 = 76	

Photometric & Radiometric Parameters

Luminous Flux = 1162.7 lm

Efficacy = 100.32 lm/W

Fe = 4.1263 W

Electrical Parameters

Voltage = 120.1 V

Current = 0.09810 A

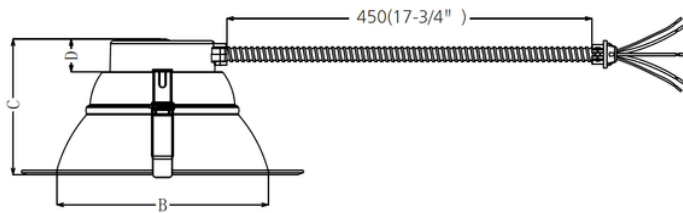
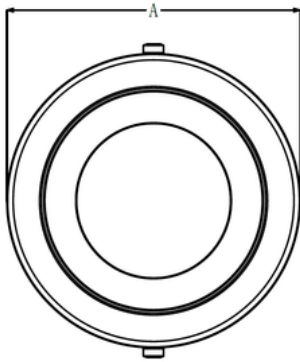
Power = 11.59 W

Power Factor = 0.9840

Frequency = 59.98 Hz

*Full LM-79 test report available upon request to Big Shine LED.

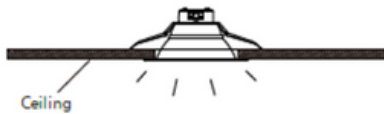
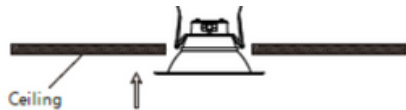
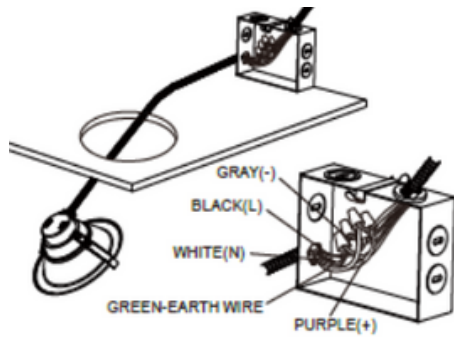
DIMENSIONAL DATA



MODEL	DIAMETER (INCHES)				PRODUCT WEIGHT (LBS)
	A	B	C	D	
BSL-AD[XX]-KP4	5-15/16"	3-13/16"	3-5/8"	1-1/3"	0.66
BSL-AD[XX]-KP6	8-5/16"	4-2/6"	4-3/8"	1-1/3"	1.12
BSL-AD[XX]-KP8	10-5/16"	7-7/8"	4-7/8"	1-1/3"	1.34
BSL-AD[XX]-KP10	11-9/16"	8-5/8"	5-1/2"	1-1/3"	1.65

*Images not to scale.

MOUNTING OPTIONS



*Images not to scale.

FIXTURE SPECIFICATIONS

ORDERING EXAMPLE: BSL-AD12-KP4-BSGN-4000K-80

FIXTURE TYPE	MODEL SIZE	STANDARD MODEL	CCT SELECTABLE	STANDARD BEAM ANGLE
BSL-AD[XX]	KP4 (4" diameter) KP6 (6" diameter) KP8 (8" diameter) KP10 (10" diameter)	BSGN	3000 K 3500 K 4000 K 5000 K	80

SIZE	STANDARD POWER SELECTABLE OPTIONS
KP4 (4" diameter)	6 W 8 W 12 W
KP6 (6" diameter)	8 W 12 W 16 W
KP8 (8" diameter)	12 W 16 W 22 W
KP10 (10" diameter)	22 W 28 W 33 W

OPTIONAL ACCESSORIES AVAILABLE

- Emergency battery backup, external driver available for field installation
- Occupancy sensor and dimming controls

OTHER FIXTURE INFORMATION

- Input voltage range: 120-347 Vac 50/60 Hz
- Flicker Index: <10%
- Total Harmonic Distortion: <20% @ 277 V
- Dimming: 0-10 V dimming
- Operating temperature -4° F to 113° F
- Additional color temperatures and higher CRI options available upon request.

*Accessories sold separately.

WARRANTY



Big Shine LED products are covered by a five-year limited warranty against defects in materials. A fixture is considered defective if 10% or more of the LED fixture's components have failed. Visit our website to learn more about our product warranty: bigshineled.com/resources.

Covered Under Warranty:

Warranty Length: 5 years from purchase date (or installed date in some cases)

Coverage: Manufacturer defects in materials

Repair or Replacement: Big Shine LED may determine to repair or replace the product.

Not Covered Under Warranty:

- Damage caused by misuse, accidents, weather, improper installation, or unauthorized repairs.
- Using the product for something other than its intended purpose.

Visit our website to read the terms and conditions of our product warranty at bigshineled.com/resources.

How to Submit a Warranty Claim:

To submit a warranty claim, visit our website at bigshineled.com or contact us at (845) 444-5255.

LED PREVENTATIVE MAINTENANCE

Implementing a preventative maintenance plan helps ensure optimal performance and longevity of LED lighting systems through regular inspections and upkeep. Here are some steps to take to keep LED lighting systems in good working condition, prevent malfunction, and extend their lifespan.

I. Maintenance schedule: The frequency of maintenance tasks will depend on the specific lighting system, its environment, and usage. As a general rule, LED fixtures should be inspected and cleaned at least once every six months. Tasks should be performed more frequently in high-traffic areas or in environments with excessive dust and debris.

II. Record keeping: It is also important to keep accurate records of all maintenance tasks performed on the lighting system. This information can be used to track the performance of the system, identify any trends or patterns, and schedule future maintenance tasks.

For a more detailed preventative maintenance plan, visit the Resource Center in our website at bigshineled.com/resources.

DEFINITIONS

LM-80 Testing

The LM-80 test method that measures the lumen maintenance, or long-term light output, of an LED light source over a period of time. Big Shine LED fixtures are tested at three different temperatures for at least 6,000 hours and up to 10,000 hours. By measuring the LED's light output at regular intervals during this extended period, the LM-80 test can determine how the performance of the LED degrades over its lifespan. To obtain test results for individual Big Shine LED fixtures, visit our website or contact us at info@bigshineled.com.

TM-21 Method

TM-21 is a method for projecting the lumen maintenance and lifespan of an LED light source based on data collected from LM-80 testing. The data collected during the LM-80 testing must show a stable trend in lumen maintenance. The TM-21 calculates a decay rate based on the data, which shows how quickly the LED's brightness is diminishing over time. The TM-21 sets a limit on how far the projected lifespan can be estimated based on the LM-80 data. The lifespan cannot exceed six times the duration of the LM-80 testing. The extrapolation limit ensures that predictions made by the TM-21 are based on solid data and do not exceed too far beyond the actual testing period.

L70 Rating

The L70 is a measure of an LED's longevity. It represents the time it takes for the LED's brightness or lumen output to drop to 70% of its original level. In other words, it estimates how long the LED will last before it dims significantly.

L90 Rating

The L90 rating is similar to the L70 rating, but it measures a different level of light output maintenance in LEDs. This measures the time it takes for an LED light source to decrease to 90% of its original brightness or lumen output. It's a stricter standard compared to the L70 because it represents a higher level of light output maintenance. This rating is important for applications where higher light levels must be maintained for a longer period of time.

Total Harmonic Distortion (THD)

The Total Harmonic Distortion is a measure of the distortion in the electrical current caused by non-linear loads. THD is expressed as a percentage and represents the deviation of the current waveform from a perfect sinusoidal wave. Lower THD percentages in LED improve energy efficiency as the fixture has less wasted energy. It also extends the life of the LED fixture and other connected devices in a building's electrical system as less heat is generated in the electrical wiring and components, reducing the risk of overheating. Lower THD also improves power quality, causes less interference and enhances the reliability of the entire electrical system. To better understand the benefits of lower THD in LED fixtures, visit our website at bigshineled.com.

Power Factor

A higher power factor in LED fixtures means the fixture uses electrical power more efficiently. Less power is wasted in the form of reactive power, so the lighting system consumes less electricity overall. A higher power factor also improves the overall power quality of the electrical system, resulting in a more stable and consistent power supply, which benefits other devices connected to the same electrical network. Other benefits include reducing the load on the electrical grid, reducing heat generation, and enhancing the lifespan of all equipment on the system. For more details on power factor, visit our website at bigshineled.com.

Efficacy

The efficacy in an LED fixture refers to how efficiently the light converts electrical power into visible light. It's typically measured in lumens per watt, indicating how much light is produced for each watt of electricity used.

Luminous Flux

Luminous flux is the total amount of visible light emitted by a light source, measured in lumens. It represents the overall brightness of the light produced.

Dominant Peak Wavelength

It represents the wavelength that contributes most to the perceived color of the light source.

Full Width at Half Maximum (FWHM)

It is a measure of the spectral bandwidth of a light source. Specifically, it is the width of the spectral curve at half of its maximum intensity. A narrower FWHM indicates a more focused spectral distribution, while a wider FWHM suggests a broader spectral distribution.