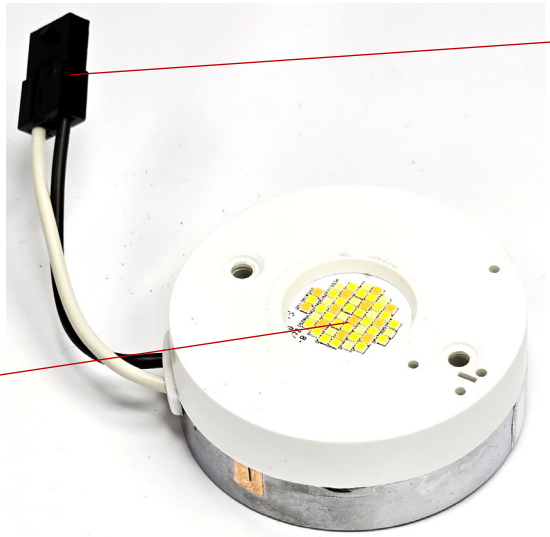
Bridgelux® DriveLux-C3 3CCT 13mm Engine (Casambi) AC Inputs Light Engine (EU)

Product Data Sheet DS3026

Product Feature Map

Bridgelux's Drivelux-C3 light engine revolutionizes everything. Bridgelux's global expertise in LEDs and driver has led to a significant breakthrough in lighting technology – integrating the AC-DC driver directly into the light engine, ensuring the highest quality of light. Crucially, Drivelux-C3 provides comprehensive cost reductions, from the expense, size, and manufacturing complexity of fixtures with traditional external drivers to inventory SKU reduction – aligning performance, control, and cost to meet every requirement.



Product Nomenclature

The part number designation for Bridgelux Drivelux-C3 Light Engine is explained as follows:

1,2,3,4,5		7,8,9		11,12,13,14		16,17,18,19,20,21
BXDX3	-	L13	-	E25C	-	T4G3NS

- Product Family
  BXDX = DriveLux
- 3 = 3 Channel
- LES Size
  13 = 13mm
- Input Voltage
  E = EU 220-240VAC
- LED Source Output Lumens x100lm
  25 = 2500 lm
- Control Input
  C = Casambi
- Tunable Range
  T4 = 1800K – 6500K
- CRI
  G= 90
- CCT Bin
  3 = 3 SDCM
- Cable Choice
  D = Double Insulation
  N = Loose Wires
- Cable Exit Direction
  S = Side

Product Selection Guide

Table 1: Product Selection Guide (examples)

Part Number	Configuration
BXDX3-L13-E25C-T4G3N[1]S[2]	220-240VAC, 13mm, 2500lm, CRI90, 3 SDCM, Casambi

1 Cable Choice:

- D = Double Insulation (300mm)
- N = Loose Wires (300mm)

2 Cable Exit Direction:

- S = Side

Electrical Characteristics

Table 2: Electrical Characteristics

Parameter	Unit	Specification
Nominal voltage	V	220 - 240VAC
Nominal frequency	Hz	50 / 60 Hz
AC voltage range	V	198 – 264 Vac
Input current (max)	A	< 0.11 A (@ 230Vac)
Input Power (Typ.)	W	24 W
THD	%	< 20% (@ 230Vac, Dimming 100% - 40%)
Power factor	-	> 0.9 (@ 230Vac, Dimming 100%)
Inrush current	A	Meet NEMA-410 requirements (@25° C)
Standby Power	mW	< 500mW (@ 230Vac)
Control		Casambi
Flicker		Pst LM ≤ 1 SVM ≤ 0.4
Start-up Time	s	< 0.5 s

Table 3: Photometric Characteristics (Light Engine without Diffuser – LED temperature = 65°C)

CCT [K]	Input Power [W]	Lumens [lm]	CRI min.	R9 min.	Lm/W	Remarks
1800K	14.06	1051	88	30	74.8	
2200K	18.40	1643	94	55	89.3	
2700K	23.47	2393	95	68	102.0	
3000K	23.97	2568	95	72	107.1	
3500K	23.60	2652	94	76	112.4	
4000K	23.62	2730	93	75	115.6	
5000K	23.82	2801	90	65	117.6	
5700K	23.79	2779	90	66	116.8	
6500K	23.28	2676	90	66	114.9	

Photometric Characteristics

Figure 1: Typical Color Spectrum

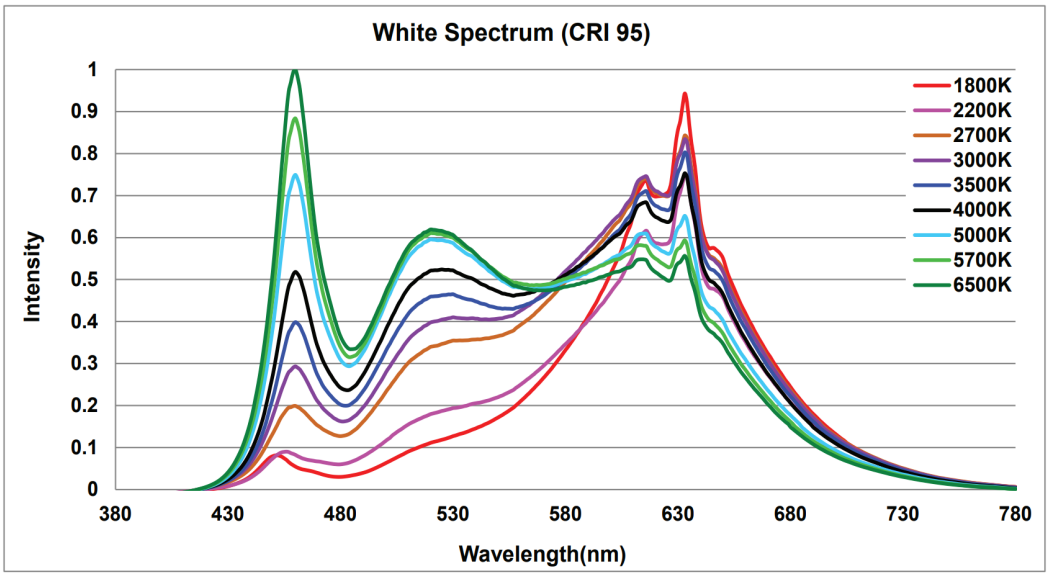
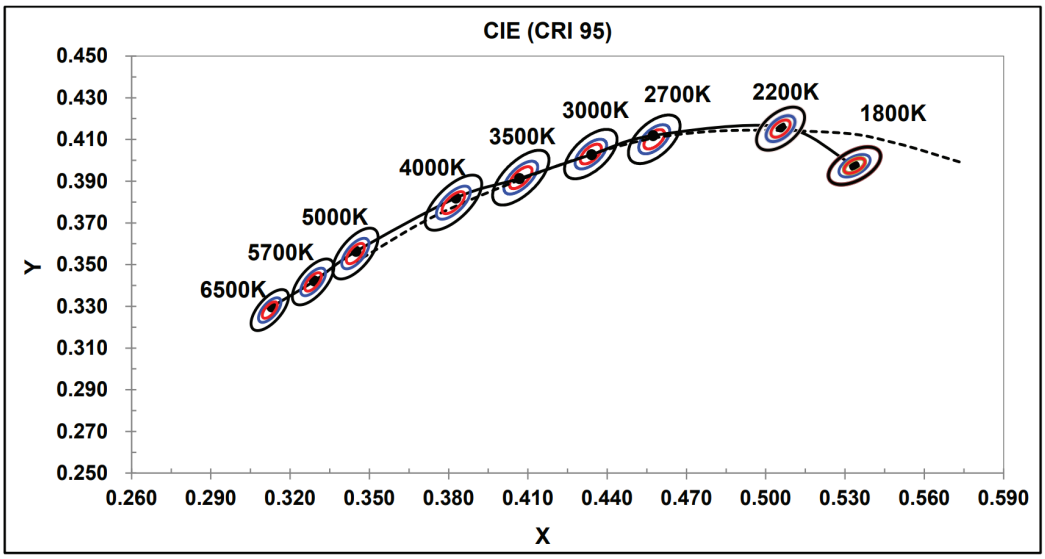


Figure 2: White Test Bins in xy Color Space



Electrical Characteristics

Figure 4: Power Factor vs Output Lumens

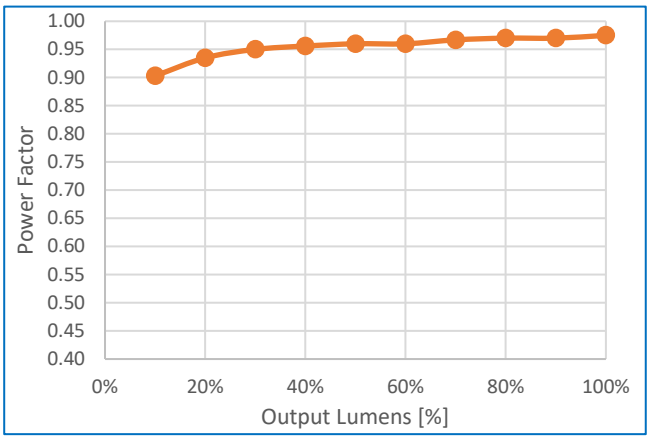


Figure 5: THDi vs Output Lumens

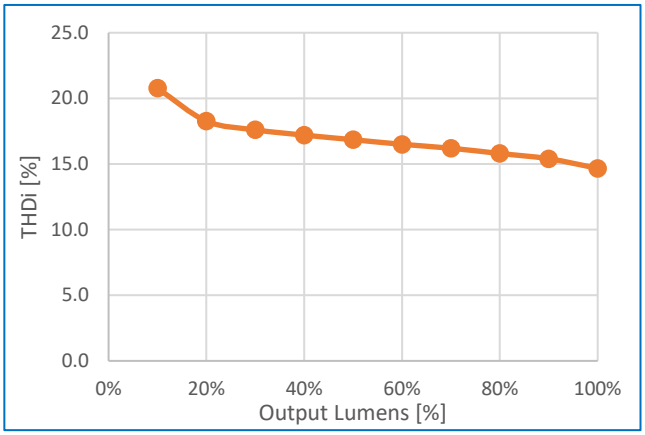


Figure 6: Input Power vs Output Lumens

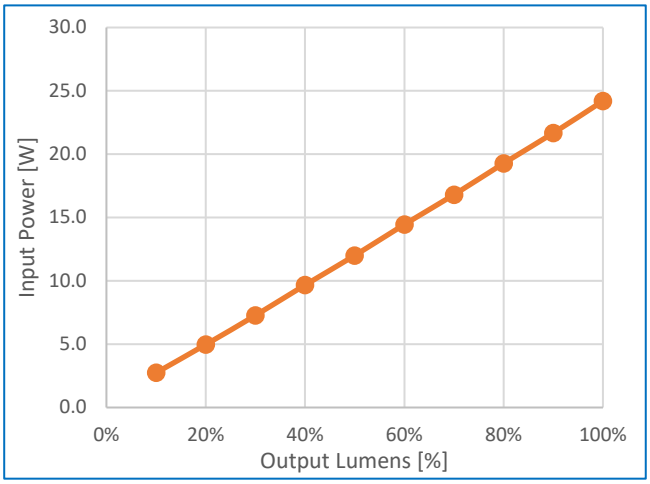


Figure 7: Output Lumens vs CCT

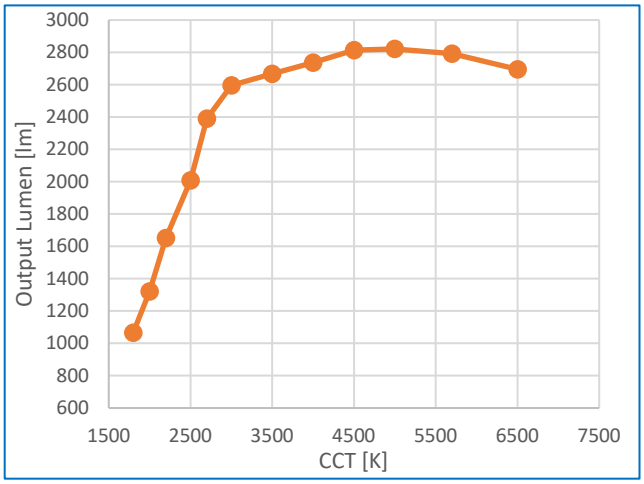
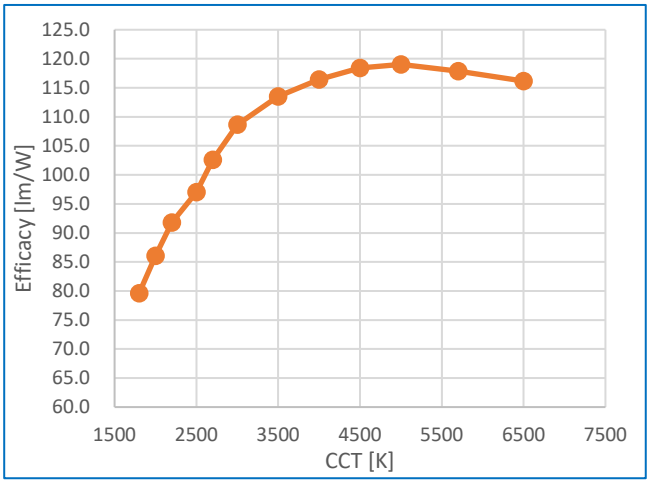


Figure 8: Efficacy vs CCT

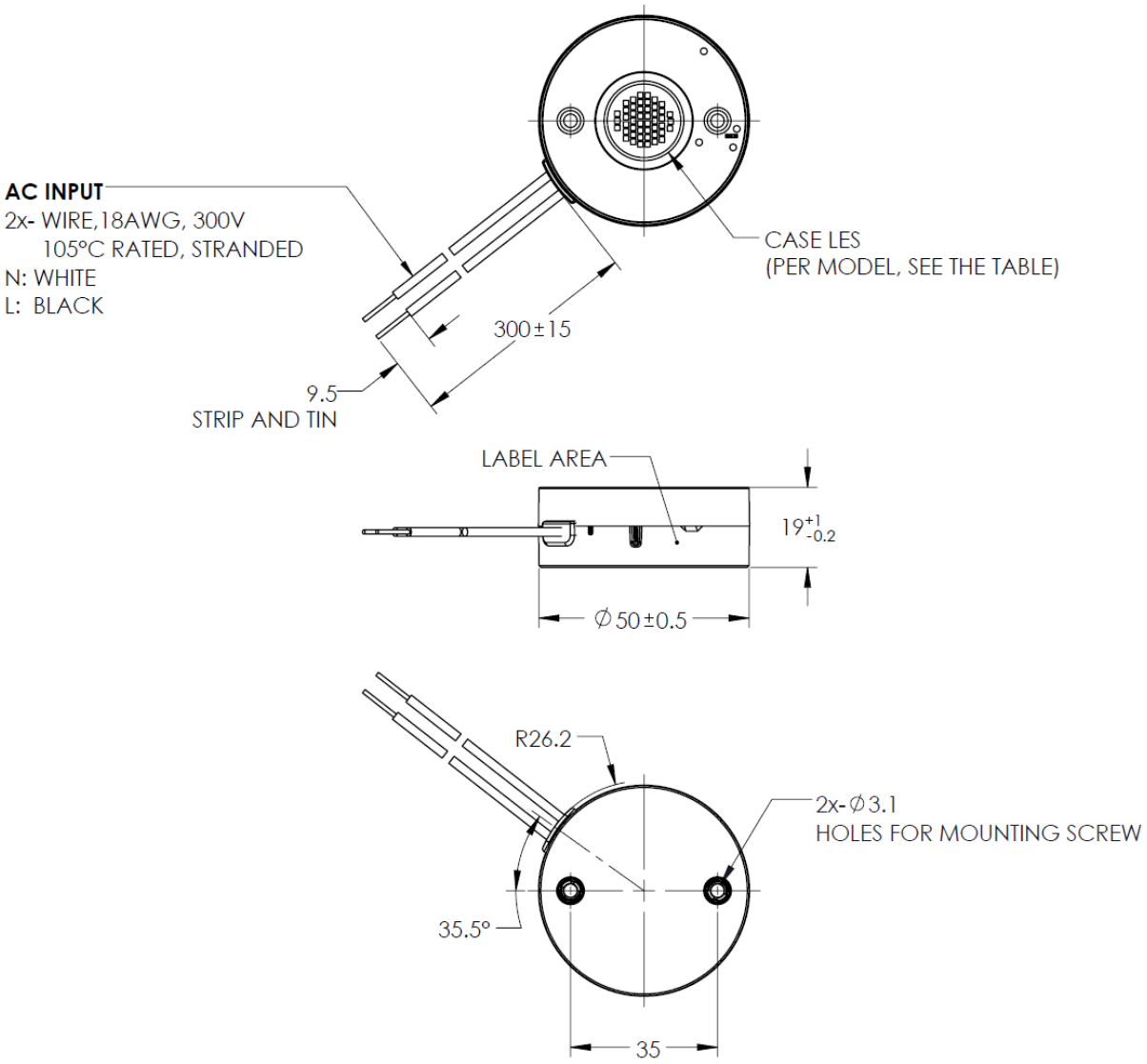


Mechanical Characteristics

Table 4: Driver Mechanical Characteristics

Characteristics	Specification
Dimensions	Ø50 x 18.5 mm
Lighting Emitting Surface (LES)	10 mm
Weight	45 g

Figure 9: Mechanical Drawing (Side Cable Models)

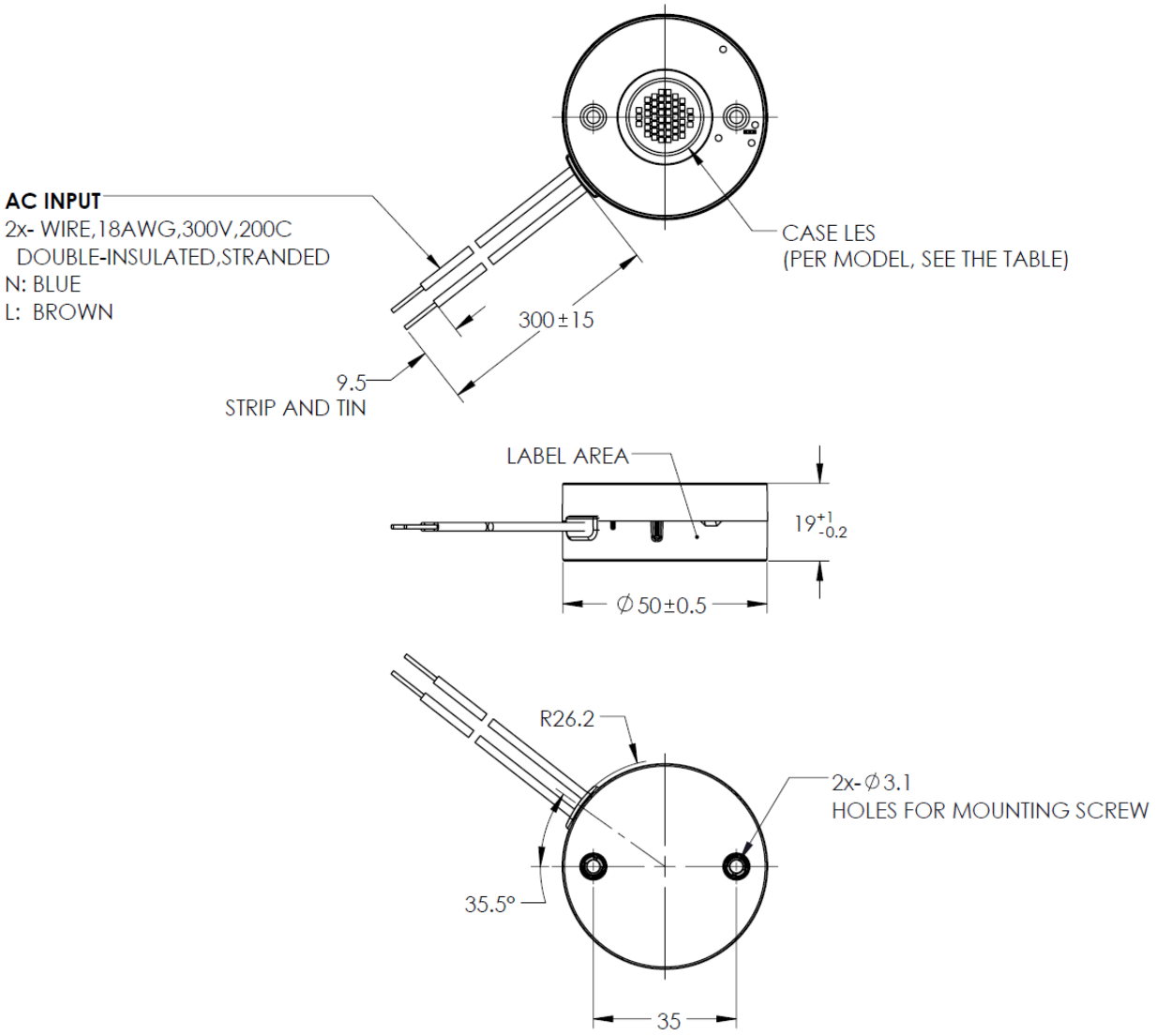


Notes for Figure 9:

1. Drawing dimensions are in millimeters
2. Unless otherwise specified, all linear tolerances are +/-1.0mm

Mechanical Characteristics

Figure 10: Mechanical Drawing (Side Cable Models)

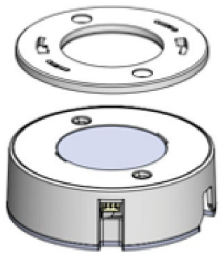


Notes for Figure 10:

1. Drawing dimensions are in millimeters
2. Unless otherwise specified, all linear tolerances are +/-1.0mm

Optical Accessories of the Light Engine

The Light Engine (LE) can order with the optical TIR lens holder. This holder can easily install various optics lens best for smooth color mixing.
Detail lens offering, can be referred to Bridgelux Website.



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OPTICS

We've taken in your feedback and are thrilled to unveil the Bridgelux Integrated Solution. This solution includes Non-soldering Holders, Kirin Optics, and Drives, all designed to work together in harmony. The Optics, which are an essential part of this solution, come with a variety of beam angles, namely 15°, 24°, 36°, and 50°. Plus, they're available in different diameters, namely 35mm, 45mm, 55mm, up to 65mm. This variety ensures you find the perfect fit for your needs. What makes Bridgelux Optics even more special is their compatibility with our solder-free COB array holders, providing a smooth user experience. Our turn & lock design is a game-changer, it simplifies the adoption of our integrated lighting solution. In a nutshell, this design is a boon for manufacturers, lighting designers, and more, making the installation process easier than ever before. Additionally, we offer the opportunity for customization. We understand that needs can vary, so we're open to creating personalized solutions as per your specific requests. Customized solutions are available per customer request.

Product Family	Product	Data sheet	Doc Number	Diameter (mm)	Beam angle	Max LES (mm)	Material
BXHK	BXHK-MN-5024-xx-D09		DS1346	ø50, 24H	14, 24, 36, 50	9	PC
BXHK	BXHK-MN-5525-xx-D09		DS1347	ø55, 25H	14, 24, 36, 50	9	PC
BXHK	BXHK-MN-6230-xx-D09		DS1348	ø62, 30H	14, 24, 36, 50	9	PC
BXHK	BXHK-MN-6832-xx-D09		DS1349	ø68, 32H	14, 24, 36, 50	9	PC
BXHK	BXHK-DK-5024-xx-D09		DS1342	ø50, 24H	14, 24, 36, 50	9	PC
BXHK	BXHK-DK-5525-xx-D09		DS1343	ø55, 25H	14, 24, 36, 50	9	PC
BXHK	BXHK-DK-6230-xx-D09		DS1344	ø62, 30H	14, 24, 36, 50	9	PC
BXHK	BXHK-DK-6832-xx-D09		DS1345	ø68, 32H	14, 24, 36, 50	9	PC

Environmental and Regulatory Standards

Table 5: Environmental Conditions

Parameter	Specification
Ambient Operating Temperature	-20°C to +40°C *Light Engine can operate with Ta > 40°C by linearly de-rating the output lumen by 2.5%/°C (from 40°C – 60°C)*
Max. Case Temperature Tc	+90°C (max)
Humidity Rating	Maximum 95% Relative Humidity, non condensing
Storage Temperature	-40°C to + 85°C
Acoustic Noise	< 24 dBA (measured from 1M w/o/dimmer)
Expected Lifetime	50,000 hours (Tc < 80°C)
Working Locations	Suitable for dry and damp locations
Warranty	5 Years (Tc < 80°C)

Table 6: Regulatory Approvals and Compliance

Specification	Reference Standard	Condition
Conducted and Radiated EMI	EN 55015:2019+A1:2020 (CISPR 15:2018)	
Voltage Fluctuations & Flicker	IEC 61000-3-3	
ESD (Electrostatic Discharge)	IEC 61547:2009 Section 5.2 Test des.: IEC 61000-4-2	6 kV contact discharge, 8 kV air discharge, level 3
Radiated Immunity	IEC 61000-4-3	3 V/m, 80-1000 MHz, 80% modulated @ 3 meters, Level 2
Electrical Fast Transient	IEC 61547 Section 5.5 Test des.: IEC 61000-4-4	± 2KV on AC power port for 1minute, ± 1KV on signal/control lines
Surge Protection	IEC 61547 Section 5.7 Test des.: IEC 61000-4-5 or ANSI/IEEE C62.41-2002	± 2KV line to line / ± 2KV line to earth on AC power ports.
	ANSI/IEEE C62.41.1-2002	2.5kV Ring Wave
Conducted Immunity	IEC 61000-4-3	3V, 0.15-80 MHz, 80% modulated, Level 2
Voltage Dips	IEC 61547 Section 5.8, 5.9 Test des.: IEC 61000-4-11	>95% dip, .5 period; 30% dip, 25 periods; 95% reduction, 250 periods
Note: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and rated voltage.		

Regulatory Standards (continued)

Table 7: Safety Agency Approvals

Specification	Reference Standard	Condition
ENEC / CE / UKCA	EN 61347-1:2015, EN 61347-2-13:2014+A1	ENEC Certification pending

Table 8: Protection

Specification	Reference Standard	Condition
Over Voltage Protection (OVP)	YES	Automatic recovery
OLP tolerance	100 – 110%	
Over Temperature Protection (OTP)	YES	Gradually reduce output power when Tc < 85˚C Automatic recovery
Output Short-Circuit Protection (SCP)	YES	Automatic recovery

Design Resources

Application Notes

Please contact your Bridgelux sales representative for assistance on obtaining application support when designing with the Bridgelux Drivelux-C3 Light Engine. For a list of available resources, visit www.bridgelux.com.

Precautions

CAUTION: PRODUCT HANDLING

Handle the Drivelux-C3 Light Engine with care to prevent any damage from mechanical shock
It is recommended to handle this driver in a static-free environment
Do not open or disassemble the product
To maintain product warranty, the installer is responsible for ensuring that the driver's operating conditions do not exceed the maximum conditions stated within this data sheet

CAUTION: ELECTRIC SHOCK

Be aware of the possibility of an electric shock hazard which can result in serious injury or death.
Disconnect power before servicing or installing this device.

Disclaimers

MINOR PRODUCT CHANGE POLICY

The rigorous qualification testing on products offered by Bridgelux provides performance assurance.
Slight cosmetic changes that do not affect form, fit, or function may occur as Bridgelux continues product optimization.

About Bridgelux: Bridging Light and Life™

At Bridgelux, we help companies, industries and people experience the power and possibility of light. Since 2002, we've designed LED solutions that are high performing, energy efficient, cost effective and easy to integrate. Our focus is on light's impact on human behavior, delivering products that create better environments, experiences and returns—both experiential and financial. And our patented technology drives new platforms for commercial and industrial luminaires.

For more information about the company, please visit
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