



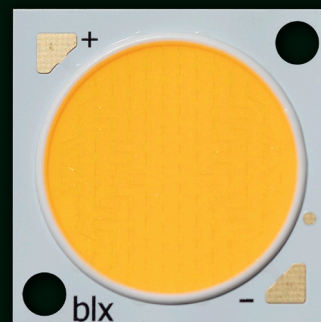
Bridgelux® Gen 7 V18 Array Series

Product Data Sheet DS102



Introduction

V Series



The V Series™ LED Array products deliver high quality light in a compact and cost-effective solid-state lighting package. These chip on board (CoB) arrays can be efficiently driven at twice the nominal drive current, enabling design flexibility not previously possible. This high flux density light source is designed to support a wide range of high quality, low cost directional luminaires and replacement lamps for commercial and residential applications.

The V18 LED Array is available in a variety of electrical, CCT and CRI combinations providing substantial design flexibility and energy efficiencies.

Lighting system designs incorporating these LED arrays deliver increased system level efficacy and longer service life. Typical applications include, replacement lamps, and task, accent, spot, track, wide area, security, wall pack and down lights.

Bridgelux Décor Series is our state of the art color line designed specifically for premium applications, producing unmatched LED light quality with brilliant color-rendering options and offer pleasing and inspiring lighting palettes. Bridgelux Décor Series color points are available on Vero® SE Series, Vero® Series, V Series™ and H Series™.

Décor Series Class A is based on human response testing, providing color points with a combined GAI and CRI metric.

Décor Series™ Ultra products provide a high CRI of 97 and a minimum R9 value of 93, which emphasizes the reds and color tones to which the human eye is most receptive - perfect for the most luxurious retail shops and world renowned museums. Décor Series Ultra is designed as a replacement for halogen lamps.

Décor Series™ Food products offer color points developed to address the unique requirements of the food, grocery, and restaurant industries. Highlighting the distinctive colors and nuanced patterns found in meats and breads, the Décor Series Food products are a must have for any butcher counter or bakery.

Décor Series™ Street and Landmark is designed to be a direct replacement for high pressure sodium lamps.

Décor Series™ Showcase is the optimal solution for replacing ceramic metal halide lamps, incorporating the same pure white light with enhanced spectrum coverage and higher efficacy.

Features

- Efficacy of 170 lm/W typical
- Compact high flux density light source
- Uniform high quality illumination
- Minimum 65, 70, 80, 90 and 95 CRI options
- Streamlined thermal path
- ENERGY STAR® / ANSI compliant color binning structure with 2, 3 and 4 SDCM options
- More energy efficient than incandescent, halogen and fluorescent lamps
- Low voltage DC operation
- Instant light with unlimited dimming
- V_f bin code backside marking

Benefits

- Enhanced optical control
- Clean white light without pixilation
- High quality true color reproduction
- Significantly reduced thermal resistance and increased operating temperatures
- Uniform consistent white light
- Lower operating costs
- Easy to use with daylight and motion detectors to enable increased energy savings
- Reduced maintenance costs
- Environmentally friendly, no disposal issue



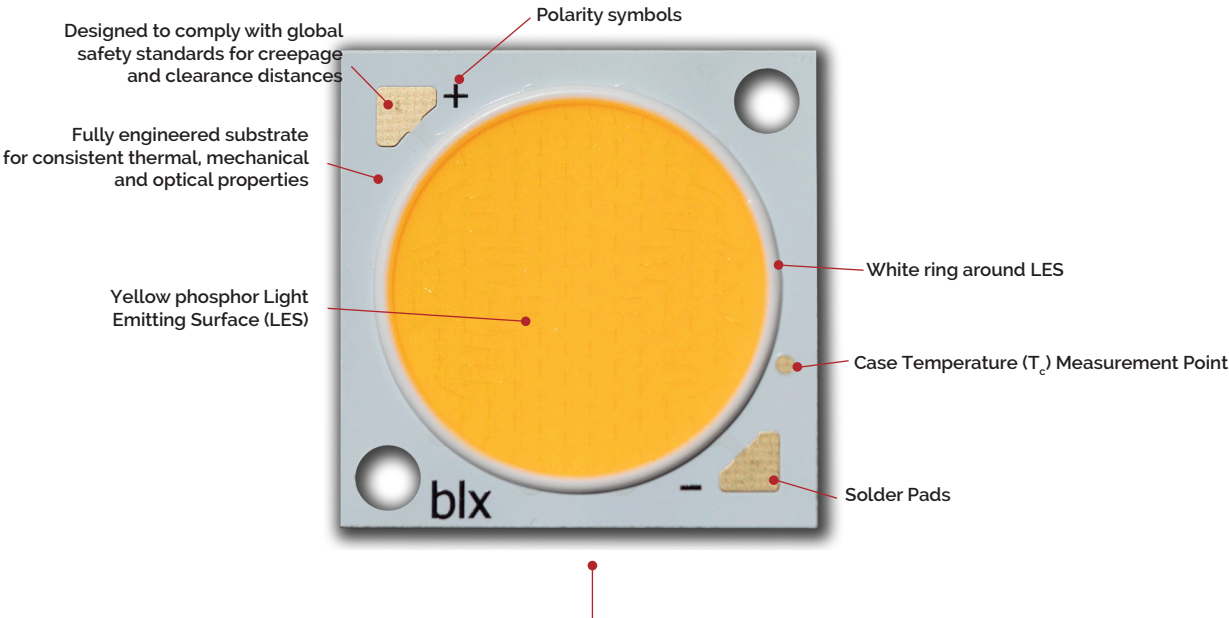
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Product Feature Map

Bridgelux arrays are fully engineered devices that provide consistent thermal and optical performance on an engineered mechanical platform. The V Series arrays are the most compact chip-on-board devices across all of

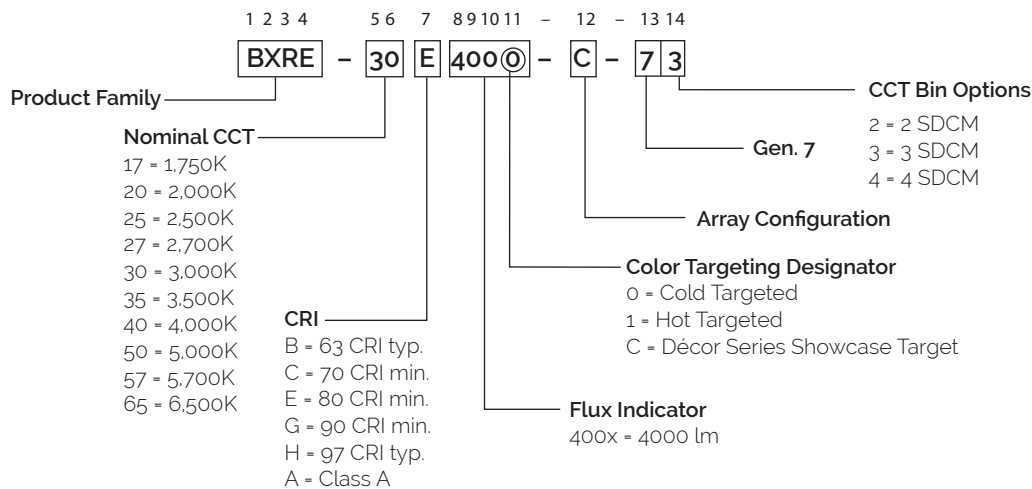
Bridgelux's LED Array products. The arrays incorporate several features to simplify design integration and assembly. Please visit www.bridgelux.com for more information on the V Series family of products.



Note: Part number and lot codes are scribed on back of array

Product Nomenclature

The part number designation for Bridgelux V Series LED arrays is explained as follows:



Product Selection Guide

The following product configurations are available:

Table 1: Selection Guide, Pulsed Measurement Data ($T_j = T_c = 25^\circ\text{C}$)

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical Pulsed Flux ^{4,5,6} $T_c = 25^\circ\text{C}$ (lm)	Minimum Pulsed Flux ^{6,7} $T_c = 25^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-17E4000-B-7x	1750	80	900	2881	2593	34.8	31.3	92
BXRE-20B4001-C-7x	2000	65	1170	6392	5753	34.8	40.7	157
BXRE-25E4000-B-7x	2500	80	900	4792	4313	34.8	31.3	153
BXRE-27E4000-B-7x	2700	80	900	5011	4510	34.8	31.3	160
BXRE-27E4000-C-7x	2700	80	1170	6515	5863	34.8	40.7	160
BXRE-27G40H0-B-7x	2700	90	900	4291	3862	34.8	31.3	137
BXRE-27G40H0-C-7x	2700	90	1170	5578	5020	34.8	40.7	137
BXRE-27G4000-B-7x	2700	90	900	4134	3721	34.8	31.3	132
BXRE-27G4000-C-7x	2700	90	1170	5375	4837	34.8	40.7	132
BXRE-27H4000-B-7x	2700	97	900	3664	3298	34.8	31.3	117
BXRE-30C4001-B-7x	3000	70	900	5575	5017	34.8	31.3	178
BXRE-30C4001-C-7x	3000	70	1170	7247	6523	34.8	40.7	178
BXRE-30E4000-B-7x	3000	80	900	5324	4792	34.8	31.3	170
BXRE-30E4000-C-7x	3000	80	1170	6922	6230	34.8	40.7	170
BXRE-30G40H0-B-7x	3000	90	900	4510	4059	34.8	31.3	144
BXRE-30G40H0-C-7x	3000	90	1170	5863	5277	34.8	40.7	144
BXRE-30G4000-B-7x	3000	90	900	4322	3890	34.8	31.3	138
BXRE-30G4000-C-7x	3000	90	1170	5619	5057	34.8	40.7	138
BXRE-30G400C-B-7x	3000	90	900	4176	3759	34.8	31.4	133
BXRE-30H4000-B-7x	3000	97	900	3915	3524	34.8	31.3	125
BXRE-35E4000-B-7x	3500	80	900	5450	4905	34.8	31.3	174
BXRE-35E4000-C-7x	3500	80	1170	7085	6376	34.8	40.7	174
BXRE-35G4000-B-7x	3500	90	900	4479	4031	34.8	31.3	143
BXRE-35G4000-C-7x	3500	90	1170	5822	5240	34.8	40.7	143
BXRE-35A4001-B-7x ^{8,9}	3500	93	900	4134	3721	34.8	31.3	132
BXRE-40C4001-B-7x	4000	70	900	5732	5158	34.8	31.3	183
BXRE-40C4001-C-7x	4000	70	1170	7451	6706	34.8	40.7	183
BXRE-40E4000-B-7x	4000	80	900	5481	4933	34.8	31.3	175
BXRE-40E4000-C-7x	4000	80	1170	7125	6413	34.8	40.7	175
BXRE-40G4000-B-7x	4000	90	900	4573	4115	34.8	31.3	146
BXRE-40G4000-C-7x	4000	90	1170	5945	5350	34.8	40.7	146
BXRE-50C4001-B-7x	5000	70	900	5763	5187	34.8	31.3	184
BXRE-50C4001-C-7x	5000	70	1170	7492	6743	34.8	40.7	184

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
- CRI values are typical for Decor Series Ultra, Décor Series Street and Landmark and Decor Series Class A products. CRI values are minimums for all other products. Minimum R_g value for 80 CRI products is 0, the minimum R_g values for 90 CRI products is 50, the minimum R_g values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on R_g values.
- Drive current is referred to as nominal drive current.
- Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C .
- Typical performance values are provided as a reference only and are not a guarantee of performance.
- Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
- Minimum flux values at the nominal test current are guaranteed by 100% test.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C . GAI may vary depending on fixture design and performance.

Product Selection Guide

The following product configurations are available:

Table 1: Selection Guide, Pulsed Measurement Data ($T_j = T_c = 25^\circ\text{C}$) (continued)

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical Pulsed Flux ^{4,5,6} $T_c = 25^\circ\text{C}$ (lm)	Minimum Pulsed Flux ^{6,7} $T_c = 25^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-50E4001-B-7x	5000	80	900	5544	4989	34.8	31.3	177
BXRE-50E4001-C-7x	5000	80	1170	7207	6486	34.8	40.7	177
BXRE-50G4001-B-7x	5000	90	900	4792	4313	34.8	31.3	153
BXRE-50G4001-C-7x	5000	90	1170	6230	5607	34.8	40.7	153
BXRE-57C4001-B-7x	5700	70	900	5606	5046	34.8	31.3	179
BXRE-57C4001-C-7x	5700	70	1170	7288	6559	34.8	40.7	179
BXRE-57E4001-B-7x	5700	80	900	5324	4792	34.8	31.3	170
BXRE-57E4001-C-7x	5700	80	1170	6922	6230	34.8	40.7	170
BXRE-65C4001-B-7x	6500	70	900	5606	5046	34.8	31.3	179
BXRE-65C4001-C-7x	6500	70	1170	7288	6559	34.8	40.7	179
BXRE-65E4001-B-7x	6500	80	900	5387	4848	34.8	31.3	172
BXRE-65E4001-C-7x	6500	80	1170	7003	6303	34.8	40.7	172

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
- CRI values are typical for Decor Series Ultra, Décor Series Street and Landmark and Decor Series Class A products. CRI values are minimums for all other products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on Rg values.
- Drive current is referred to as nominal drive current.
- Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C .
- Typical performance values are provided as a reference only and are not a guarantee of performance.
- Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
- Minimum flux values at the nominal test current are guaranteed by 100% test.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C . GAI may vary depending on fixture design and performance.

Table 2: Selection Guide, Stabilized DC Performance ($T_c = 70^\circ\text{C}$) ^{7,8}

Part Number	Nominal CCT ¹ (K)	GAI ²	CRI ³	Nominal Drive Current ⁴ (mA)	Typical DC Flux ^{5,6} $T_c = 70^\circ\text{C}$ (lm)	Minimum DC Flux ^{6,9} $T_c = 70^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-35A4001-B-7x	3500	80	93	900	3845	3460	34.3	30.9	121

Notes for Table 2:

- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C . GAI may vary depending on fixture design and performance.
- All CRI values are measured at $T_j = T_c = 25^\circ\text{C}$. CRI Values are specified as typical.
- Drive current is referred to as nominal drive current.
- Typical performance values are provided as a reference only and are not a guarantee of performance.
- Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
- Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
- Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at specified temperature. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.

Product Selection Guide

Table 3: Selection Guide, Stabilized DC Performance ($T_c = 85^\circ\text{C}$) ^{4,5}

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical DC Flux ^{4,5} $T_c = 85^\circ\text{C}$ (lm)	Minimum DC Flux ⁶ $T_c = 85^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-17E4000-B-7x	1750	80	900	2593	2334	33.9	30.6	85
BXRE-20B4001-C-7x	2000	65	1170	5753	5178	34.0	39.8	145
BXRE-25E4000-B-7x	2500	80	900	4313	3881	33.9	30.6	141
BXRE-27E4000-B-7x	2700	80	900	4510	4059	33.9	30.6	148
BXRE-27E4000-C-7x	2700	80	1170	5863	5277	33.9	39.7	148
BXRE-27G40H0-B-7x	2700	90	900	3862	3476	33.9	30.6	126
BXRE-27G40H0-C-7x	2700	90	1170	5020	4518	33.9	39.7	126
BXRE-27G4000-B-7x	2700	90	900	3721	3349	33.9	30.6	122
BXRE-27G4000-C-7x	2700	90	1170	4837	4353	33.9	39.7	122
BXRE-27H4000-B-7x	2700	97	900	3298	2968	33.9	30.6	108
BXRE-30C4001-B-7x	3000	70	900	5017	4516	33.9	30.6	164
BXRE-30C4001-C-7x	3000	70	1170	6523	5870	33.9	39.7	164
BXRE-30E4000-B-7x	3000	80	900	4792	4313	33.9	30.6	157
BXRE-30E4000-C-7x	3000	80	1170	6230	5607	33.9	39.7	157
BXRE-30G40H0-B-7x	3000	90	900	4059	3653	33.9	30.6	133
BXRE-30G40H0-C-7x	3000	90	1170	5277	4749	33.9	39.7	133
BXRE-30G4000-B-7x	3000	90	900	3890	3501	33.9	30.6	127
BXRE-30G4000-C-7x	3000	90	1170	5057	4551	33.9	39.7	127
BXRE-30G400C-B-7x	3000	90	900	3759	3383	34.0	30.6	123
BXRE-30H4000-B-7x	3000	97	900	3524	3171	33.9	30.6	115
BXRE-35E4000-B-7x	3500	80	900	4905	4414	33.9	30.6	161
BXRE-35E4000-C-7x	3500	80	1170	6376	5739	33.9	39.7	161
BXRE-35G4000-B-7x	3500	90	900	4031	3628	33.9	30.6	132
BXRE-35G4000-C-7x	3500	90	1170	5240	4716	33.9	39.7	132
BXRE-35A4001-B-7x ^{8,9}	3500	93	900	3721	3349	33.9	30.6	122
BXRE-40C4001-B-7x	4000	70	900	5158	4643	33.9	30.6	169
BXRE-40C4001-C-7x	4000	70	1170	6706	6035	33.9	39.7	169
BXRE-40E4000-B-7x	4000	80	900	4933	4440	33.9	30.6	161
BXRE-40E4000-C-7x	4000	80	1170	6413	5771	33.9	39.7	161
BXRE-40G4000-B-7x	4000	90	900	4115	3704	33.9	30.6	135
BXRE-40G4000-C-7x	4000	90	1170	5350	4815	33.9	39.7	135
BXRE-50C4001-B-7x	5000	70	900	5187	4668	33.9	30.6	170
BXRE-50C4001-C-7x	5000	70	1170	6743	6068	33.9	39.7	170

Notes for Table 3:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
- All CRI values are measured at $T_c = 25^\circ\text{C}$. CRI values are typical for Decor Series Ultra, Decor Series Street and Landmark and Decor Series Class A products. CRI values are minimums for all other products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on Rg values.
- Drive current is referred to as nominal drive current.
- Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
- Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C . Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C . GAI may vary depending on fixture design and performance.

Product Selection Guide

Table 3: Selection Guide, Stabilized DC Performance ($T_c = 85^\circ\text{C}$) ^{4,5} (continued)

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical DC Flux ^{4,5} $T_c = 85^\circ\text{C}$ (lm)	Minimum DC Flux ⁶ $T_c = 85^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-50E4001-B-7x	5000	80	900	4989	4490	33.9	30.6	163
BXRE-50E4001-C-7x	5000	80	1170	6486	5837	33.9	39.7	163
BXRE-50G4001-B-7x	5000	90	900	4313	3881	33.9	30.6	141
BXRE-50G4001-C-7x	5000	90	1170	5607	5046	33.9	39.7	141
BXRE-57C4001-B-7x	5700	70	900	5046	4541	33.9	30.6	165
BXRE-57C4001-C-7x	5700	70	1170	6559	5903	33.9	39.7	165
BXRE-57E4001-B-7x	5700	80	900	4792	4313	33.9	30.6	157
BXRE-57E4001-C-7x	5700	80	1170	6230	5607	33.9	39.7	157
BXRE-65C4001-B-7x	6500	70	900	5046	4541	33.9	30.6	165
BXRE-65C4001-C-7x	6500	70	1170	6559	5903	33.9	39.7	165
BXRE-65E4001-B-7x	6500	80	900	4848	4364	33.9	30.6	159
BXRE-65E4001-C-7x	6500	80	1170	6303	5673	33.9	39.7	159

Notes for Table 3:

1. Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
2. All CRI values are measured at $T_1 = T_c = 25^\circ\text{C}$. CRI values are typical for Decor Series Ultra, Décor Series Street and Landmark and Decor Series Class A products. CRI values are minimums for all other products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93.
3. Drive current is referred to as nominal drive current.
4. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
5. Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C . Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
6. Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
7. Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
8. GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C . GAI may vary depending on fixture design and performance.


European Product Registry for Energy Labeling

The European Product Registry for Energy Labeling (EPREL) is defined in the EU Regulation 2017/1369 to provide important energy efficiency information to consumers. Together with Energy Labeling Regulation ELR (EU) 2019/2015 which was amended by regulation (EU) 2021/340 for energy labelling of light sources, manufacturers are required to declare an energy class based on key technical specifications from each of their product and register it in an open data base managed by EPREL. It is now a legal requirement for a vendor of light sources to upload information about their products into the EPREL database before placing these products on the market in the EU.

Table 4 below provides a list of part numbers that are in compliance with ELR and are currently listed in the EPREL database.

At Bridgelux, we are fully committed to supplying products that are compliant with pertinent laws, rules, and obligation imposed by relevant government bodies including the European Energy Labeling regulation. Customers can use these products with full confidence for any projects that fall under the ELR.

Table 4: Part numbers registered in European Product Registry for Energy Labeling


PART NUMBER ¹	CCT (K)	CRI	Current ² (mA)	Vf (V)	Useful flux ³ (Φ_{use}) at 85°C (lm)	Power (W)	Efficacy (lm/W)	Energy efficiency class ⁴ 	Registration No	URL to Product Information Sheet in EPREL Database
BXRE-20B4001-C-7x	2000	65	1630	35.0	7349	57.0	129	E	869044	https://eprelec.europa.eu/qr/869044
BXRE-25E4000-B-7x	2500	80	1630	36.1	6902	58.9	117	F	869057	https://eprelec.europa.eu/qr/869057
BXRE-27E4000-B-7x	2700	80	1800	36.6	7832	65.9	119	F	869138	https://eprelec.europa.eu/qr/869138
BXRE-27E4000-C-7x	2700	80	2340	36.6	10182	85.7	119	F	869143	https://eprelec.europa.eu/qr/869143
BXRE-27G40H0-B-7x	2700	90	1390	35.4	5400	49.2	110	F	869290	https://eprelec.europa.eu/qr/869290
BXRE-27G40H0-C-7x	2700	90	1760	35.3	6861	62.1	111	F	869294	https://eprelec.europa.eu/qr/869294
BXRE-27G4000-B-7x	2700	90	1210	34.8	4604	42.1	109	F	869279	https://eprelec.europa.eu/qr/869279
BXRE-27G4000-C-7x	2700	90	1520	34.7	5804	52.7	110	F	869284	https://eprelec.europa.eu/qr/869284
BXRE-27H4000-B-7x	2700	95	810	33.6	2823	27.2	104	F	869369	https://eprelec.europa.eu/qr/869369
BXRE-30C4001-B-7x	3000	70	1800	36.6	8713	65.9	132	E	869463	https://eprelec.europa.eu/qr/869463
BXRE-30C4001-C-7x	3000	70	2340	36.6	11327	85.7	132	E	869469	https://eprelec.europa.eu/qr/869469
BXRE-30E4000-B-7x	3000	80	1800	36.6	8322	65.9	126	E	869569	https://eprelec.europa.eu/qr/869569
BXRE-30E4000-C-7x	3000	80	2340	36.6	10818	85.7	126	E	869574	https://eprelec.europa.eu/qr/869574
BXRE-30G40H0-B-7x	3000	90	1630	36.1	6496	58.9	110	F	869739	https://eprelec.europa.eu/qr/869739
BXRE-30G40H0-C-7x	3000	90	2080	36.0	8316	74.9	111	F	869743	https://eprelec.europa.eu/qr/869743
BXRE-30G4000-B-7x	3000	90	1420	35.5	5541	50.4	110	F	869722	https://eprelec.europa.eu/qr/869722
BXRE-30G4000-C-7x	3000	90	1810	35.4	7082	64.1	111	F	869727	https://eprelec.europa.eu/qr/869727
BXRE-30G400C-B-7x	3000	90	1420	35.5	5541	50.4	110	F	869733	https://eprelec.europa.eu/qr/869733

Notes for Table 4:

1. All device listed here must be disposed as e-waste upon its end of life according to local country guideline in each country.
2. For information on performance values at alternative drive conditions, please refer to the Product Selection Guide, Absolute Maximum Rating Table and Performance Curves in this data sheet.
3. For a definition of useful luminous flux (Φ_{use}), please see the ELR regulations at <https://tinyurl.com/4b6zvt4m>.
4. EPREL requires an arrow symbol containing the letter of the energy efficiency class to be displayed, on technical promotional material. Refer to this energy efficiency class column for specific energy efficiency class on each part number.

European Product Registry for Energy Labeling

Table 4: Part numbers registered in European Product Registry for Energy Labeling (Continued)

PART NUMBER ¹	CCT (K)	CRI	Current ² (mA)	V _f (V)	Useful flux ³ (Φ_{use}) at 85°C (lm)	Pow-er (W)	Efficacy (lm/W)	Energy efficiency class ⁴ 	Regis-tration No	URL to Product Information Sheet in EPREL Database
BXRE-30H4000-B-7x	3000	95	1090	34.4	3968	37.6	106	F	869821	https://eprelec.europa.eu/qr/869821
BXRE-35E4000-B-7x	3500	80	1800	36.6	8518	65.9	129	E	869940	https://eprelec.europa.eu/qr/869940
BXRE-35E4000-C-7x	3500	80	2340	36.6	11073	85.7	129	E	869945	https://eprelec.europa.eu/qr/869945
BXRE-35G4000-B-7x	3500	90	1590	36.0	6320	57.2	110	F	870034	https://eprelec.europa.eu/qr/870034
BXRE-35G4000-C-7x	3500	90	2040	35.9	8126	73.3	111	F	870039	https://eprelec.europa.eu/qr/870039
BXRE-35A4001-B-7x	3500	90	1210	34.8	4604	42.1	109	F	869868	https://eprelec.europa.eu/qr/869868
BXRE-40C4001-B-7x	4000	70	1800	36.6	8958	65.9	136	E	870144	https://eprelec.europa.eu/qr/870144
BXRE-40C4001-C-7x	4000	70	2340	36.6	11646	85.7	136	E	870150	https://eprelec.europa.eu/qr/870150
BXRE-40E4000-B-7x	4000	80	1800	36.6	8566	65.9	130	E	870249	https://eprelec.europa.eu/qr/870249
BXRE-40E4000-C-7x	4000	80	2340	36.6	11136	85.7	130	E	870254	https://eprelec.europa.eu/qr/870254
BXRE-40G4000-B-7x	4000	90	1690	36.3	6784	61.3	111	F	870356	https://eprelec.europa.eu/qr/870356
BXRE-40G4000-C-7x	4000	90	2160	36.2	8698	78.2	111	F	870361	https://eprelec.europa.eu/qr/870361
BXRE-50C4001-B-7x	5000	70	1800	36.6	9007	65.9	137	E	870465	https://eprelec.europa.eu/qr/870465
BXRE-50C4001-C-7x	5000	70	2340	36.6	11709	85.7	137	E	870469	https://eprelec.europa.eu/qr/870469
BXRE-50E4001-B-7x	5000	80	1800	36.6	8664	65.9	131	E	870540	https://eprelec.europa.eu/qr/870540
BXRE-50E4001-C-7x	5000	80	2340	36.6	11264	85.7	131	E	870544	https://eprelec.europa.eu/qr/870544
BXRE-50G4001-B-7x	5000	90	1800	36.6	7490	65.9	114	F	870610	https://eprelec.europa.eu/qr/870610
BXRE-50G4001-C-7x	5000	90	2340	36.6	9736	85.7	114	F	870614	https://eprelec.europa.eu/qr/870614
BXRE-57C4001-B-7x	5700	70	1800	36.6	8762	65.9	133	E	870721	https://eprelec.europa.eu/qr/870721
BXRE-57C4001-C-7x	5700	70	2340	36.6	11391	85.7	133	E	870725	https://eprelec.europa.eu/qr/870725
BXRE-57E4001-B-7x	5700	80	1800	36.6	8322	65.9	126	E	870775	https://eprelec.europa.eu/qr/870775
BXRE-57E4001-C-7x	5700	80	2340	36.6	10818	85.7	126	E	870779	https://eprelec.europa.eu/qr/870779
BXRE-65C4001-B-7x	6500	70	1800	36.6	8762	65.9	133	E	870849	https://eprelec.europa.eu/qr/870849
BXRE-65C4001-C-7x	6500	70	2340	36.6	11391	85.7	133	E	870853	https://eprelec.europa.eu/qr/870853
BXRE-65E4001-B-7x	6500	80	1800	36.6	8420	65.9	128	E	870904	https://eprelec.europa.eu/qr/870904
BXRE-65E4001-C-7x	6500	80	2340	36.6	10946	85.7	128	E	870908	https://eprelec.europa.eu/qr/870908

Notes for Table 4:

1. All device listed here must be disposed as e-waste upon its end of life according to local country guideline in each country.
2. For information on performance values at alternative drive conditions, please refer to the Product Selection Guide, Absolute Maximum Rating Table and Performance Curves in this data sheet.
3. For a definition of useful luminous flux (Φ_{use}), please see the ELR regulations at <https://tinyurl.com/4b6zvt4m>.
4. EPREL requires an arrow symbol containing the letter of the energy efficiency class to be displayed, on technical promotional material. Refer to this energy efficiency class column for specific energy efficiency class on each part number.

Performance at Commonly Used Drive Currents

V Series LED arrays are tested to the specifications shown using the nominal drive currents in Table 1. V Series may also be driven at other drive currents dependent on specific application design requirements. The performance at any drive current can be derived from the current vs. voltage characteristics shown in Figures 1 & 2 and the flux vs. current characteristics shown in Figures 3 & 4. The performance at commonly used drive currents is summarized in Table 5.

Table 5: Product Performance at Commonly Used Drive Currents

Part Number	CRI	Drive Current ¹ (mA)	Typical V_f $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux ² $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux ³ $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-17E4000-B-7x	80	450	33.2	14.9	1524	1396	102
		600	33.8	20.3	1997	1826	99
		900	34.8	31.4	2881	2593	92
		1350	36.3	49.0	4169	3782	85
		1800	37.5	67.5	5317	4800	79
BXRE-20B4001-C-7x	65	585	33.2	19.4	3293	2901	170
		780	33.8	26.3	4312	3779	164
		1170	34.8	40.8	6392	5753	157
		1755	36.2	63.6	8974	7659	141
		2340	37.5	87.6	11420	9578	130
BXRE-25E4000-B-7x	80	450	33.2	14.9	2534	2321	170
		600	33.8	20.3	3321	3037	164
		900	34.8	31.4	4792	4313	153
		1350	36.3	49.0	6933	6289	142
		1800	37.5	67.5	8842	7982	131
BXRE-27E4000-B-7x	80	450	33.2	14.9	2650	2428	177
		600	33.8	20.3	3473	3176	171
		900	34.8	31.4	5011	4510	160
		1350	36.3	49.0	7250	6577	148
		1800	37.5	67.5	9246	8347	137
BXRE-27E4000-C-7x	80	585	33.2	19.4	3355	2956	173
		780	33.8	26.3	4395	3851	167
		1170	34.8	40.8	6515	5863	160
		1755	36.2	63.6	9145	7805	144
		2340	37.5	87.6	11639	9761	133
BXRE-27G40H0-B-7x	90	450	33.2	14.9	2269	2079	152
		600	33.8	20.3	2974	2719	147
		900	34.8	31.4	4291	3862	137
		1350	36.3	49.0	6208	5632	127
		1800	37.5	67.5	7917	7147	117
BXRE-27G40H0-C-7x	90	585	33.2	19.4	2873	2531	148
		780	33.8	26.3	3763	3297	143
		1170	34.8	40.8	5578	5020	137
		1755	36.2	63.6	7831	6683	123
		2340	37.5	87.6	9966	8358	114
BXRE-27G4000-B-7x	90	450	33.2	14.9	2186	2003	146
		600	33.8	20.3	2865	2620	141
		900	34.8	31.4	4134	3721	132
		1350	36.3	49.0	5982	5426	122
		1800	37.5	67.5	7628	6886	113

Notes for Table 5:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 5: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V_f $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux ² $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux ³ $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-27G4000-C-7x	90	585	33.2	19.4	2768	2439	143
		780	33.8	26.3	3626	3177	138
		1170	34.8	40.8	5375	4837	132
		1755	36.2	63.6	7545	6439	119
		2340	37.5	87.6	9602	8053	110
BXRE-27H4000-B-7x	97	450	33.2	14.9	1938	1775	130
		600	33.8	20.3	2540	2322	125
		900	34.8	31.4	3664	3298	117
		1350	36.3	49.0	5302	4809	108
		1800	37.5	67.5	6761	6104	100
BXRE-30C4001-B-7x	70	450	33.2	14.9	2871	2530	192
		600	33.8	20.3	3761	3295	186
		900	34.8	31.4	5575	5017	178
		1350	36.3	49.0	7826	6679	160
		1800	37.5	67.5	9960	8354	148
BXRE-30C4001-C-7x	70	585	33.2	19.4	3833	3511	197
		780	33.8	26.3	5023	4593	191
		1170	34.8	40.8	7247	6523	178
		1755	36.2	63.6	10486	9512	165
		2340	37.5	87.6	13372	12072	153
BXRE-30E4000-B-7x	80	450	33.2	14.9	2816	2579	188
		600	33.8	20.3	3690	3374	182
		900	34.8	31.4	5324	4792	170
		1350	36.3	49.0	7704	6988	157
		1800	37.5	67.5	9824	8869	146
BXRE-30E4000-C-7x	80	585	33.2	19.4	3565	3141	184
		780	33.8	26.3	4669	4092	177
		1170	34.8	40.8	6922	6230	170
		1755	36.2	63.6	9717	8293	153
		2340	37.5	87.6	12366	10372	141
BXRE-30G40H0-B-7x	90	450	33.2	14.9	2385	2185	160
		600	33.8	20.3	3126	2858	154
		900	34.8	31.4	4510	4059	144
		1350	36.3	49.0	6525	5919	133
		1800	37.5	67.5	8322	7512	123
BXRE-30G40H0-C-7x	90	585	33.2	19.4	3020	2660	155
		780	33.8	26.3	3955	3466	150
		1170	34.8	40.8	5863	5277	144
		1755	36.2	63.6	8231	7025	129
		2340	37.5	87.6	10475	8785	120
BXRE-30G4000-B-7x	90	450	33.2	14.9	2286	2094	153
		600	33.8	20.3	2996	2739	148
		900	34.8	31.4	4322	3890	138
		1350	36.3	49.0	6254	5673	128
		1800	37.5	67.5	7975	7199	118

Notes for Table 5:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 5: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V_f $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux ² $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux ³ $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-30G4000-C-7x	90	585	33.2	19.4	2894	2550	149
		780	33.8	26.3	3790	3321	144
		1170	34.8	40.8	5619	5057	138
		1755	36.2	63.6	7888	6732	124
		2340	37.5	87.6	10038	8419	115
BXRE-30G400C-B-7x	90	450	33.2	14.9	2209	2023	148
		600	33.8	20.3	2895	2646	143
		900	34.8	31.4	4176	3759	133
		1350	36.3	49.0	6042	5481	123
		1800	37.5	67.5	7706	6956	114
BXRE-30H4000-B-7x	97	450	33.2	14.9	2070	1897	139
		600	33.8	20.3	2713	2481	134
		900	34.8	31.4	3915	3524	125
		1350	36.3	49.0	5664	5138	116
		1800	37.5	67.5	7224	6521	107
BXRE-35E4000-B-7x	80	450	33.2	14.9	2882	2640	193
		600	33.8	20.3	3777	3453	186
		900	34.8	31.4	5450	4905	174
		1350	36.3	49.0	7885	7152	161
		1800	37.5	67.5	10055	9078	149
BXRE-35E4000-C-7x	80	585	33.2	19.4	3649	3215	188
		780	33.8	26.3	4779	4188	181
		1170	34.8	40.8	7085	6376	174
		1755	36.2	63.6	9945	8488	156
		2340	37.5	87.6	12657	10616	144
BXRE-35G4000-B-7x	90	450	33.2	14.9	2369	2170	159
		600	33.8	20.3	3104	2838	153
		900	34.8	31.4	4479	4031	143
		1350	36.3	49.0	6480	5878	132
		1800	37.5	67.5	8264	7460	122
BXRE-35G4000-C-7x	90	585	33.2	19.4	2999	2642	154
		780	33.8	26.3	3928	3442	149
		1170	34.8	40.8	5822	5240	143
		1755	36.2	63.6	8173	6976	129
		2340	37.5	87.6	10402	8724	119
BXRE-35A4001-B-7x	93	450	33.2	14.9	2186	2003	146
		600	33.8	20.3	2865	2620	141
		900	34.8	31.4	4134	3721	132
		1350	36.3	49.0	5982	5426	122
		1800	37.5	67.5	7628	6886	113
BXRE-40C4001-B-7x	70	450	33.2	14.9	2952	2601	198
		600	33.8	20.3	3866	3388	191
		900	34.8	31.4	5732	5158	183
		1350	36.3	49.0	8046	6867	164
		1800	37.5	67.5	10240	8588	152

Notes for Table 5:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 5: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V_f $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux ² $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux ³ $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-40C4001-C-7x	70	585	33.2	19.4	3940	3610	203
		780	33.8	26.3	5164	4722	196
		1170	34.8	40.8	7451	6706	183
		1755	36.2	63.6	10781	9779	169
		2340	37.5	87.6	13748	12411	157
BXRE-40E4000-B-7x	80	450	33.2	14.9	2899	2655	194
		600	33.8	20.3	3799	3473	187
		900	34.8	31.4	5481	4933	175
		1350	36.3	49.0	7930	7194	162
		1800	37.5	67.5	10113	9130	150
BXRE-40E4000-C-7x	80	585	33.2	19.4	3670	3233	189
		780	33.8	26.3	4807	4212	183
		1170	34.8	40.8	7125	6413	175
		1755	36.2	63.6	10002	8537	157
		2340	37.5	87.6	12730	10677	145
BXRE-40G4000-B-7x	90	450	33.2	14.9	2418	2215	162
		600	33.8	20.3	3169	2898	156
		900	34.8	31.4	4573	4115	146
		1350	36.3	49.0	6616	6001	135
		1800	37.5	67.5	8437	7617	125
BXRE-40G4000-C-7x	90	585	33.2	19.4	3062	2697	158
		780	33.8	26.3	4010	3514	152
		1170	34.8	40.8	5945	5350	146
		1755	36.2	63.6	8345	7122	131
		2340	37.5	87.6	10620	8907	121
BXRE-50C4001-B-7x	70	450	33.2	14.9	3048	2792	204
		600	33.8	20.3	3994	3652	197
		900	34.8	31.4	5763	5187	184
		1350	36.3	49.0	8338	7563	170
		1800	37.5	67.5	10633	9599	158
BXRE-50C4001-C-7x	70	585	33.2	19.4	3859	3399	199
		780	33.8	26.3	5054	4428	192
		1170	34.8	40.8	7492	6743	184
		1755	36.2	63.6	10517	8976	165
		2340	37.5	87.6	13384	11226	153
BXRE-50E4001-B-7x	80	450	33.2	14.9	2932	2686	196
		600	33.8	20.3	3842	3513	190
		900	34.8	31.4	5544	4989	177
		1350	36.3	49.0	8021	7276	164
		1800	37.5	67.5	10229	9234	152
BXRE-50E4001-C-7x	80	585	33.2	19.4	3712	3270	191
		780	33.8	26.3	4862	4260	185
		1170	34.8	40.8	7207	6486	177
		1755	36.2	63.6	10117	8634	159
		2340	37.5	87.6	12875	10799	147

Notes for Table 5:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 5: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-50G4001-B-7x	90	450	33.2	14.9	2534	2321	170
		600	33.8	20.3	3321	3037	164
		900	34.8	31.4	4792	4313	153
		1350	36.3	49.0	6933	6289	142
		1800	37.5	67.5	8842	7982	131
BXRE-50G4001-C-7x	90	585	33.2	19.4	3209	2827	165
		780	33.8	26.3	4202	3682	160
		1170	34.8	40.8	6230	5607	153
		1755	36.2	63.6	8745	7464	137
		2340	37.5	87.6	11129	9334	127
BXRE-57C4001-B-7x	70	450	33.2	14.9	2965	2716	198
		600	33.8	20.3	3886	3553	192
		900	34.8	31.4	5606	5046	179
		1350	36.3	49.0	8111	7358	166
		1800	37.5	67.5	10344	9338	153
BXRE-57C4001-C-7x	70	585	33.2	19.4	3754	3307	193
		780	33.8	26.3	4917	4308	187
		1170	34.8	40.8	7288	6559	179
		1755	36.2	63.6	10231	8732	161
		2340	37.5	87.6	13021	10921	149
BXRE-57E4001-B-7x	80	450	33.2	14.9	2816	2579	188
		600	33.8	20.3	3690	3374	182
		900	34.8	31.4	5324	4792	170
		1350	36.3	49.0	7704	6988	157
		1800	37.5	67.5	9824	8869	146
BXRE-57E4001-C-7x	80	585	33.2	19.4	3565	3141	184
		780	33.8	26.3	4669	4092	177
		1170	34.8	40.8	6922	6230	170
		1755	36.2	63.6	9717	8293	153
		2340	37.5	87.6	12366	10372	141
BXRE-65C4001-B-7x	70	450	33.2	14.9	2965	2716	198
		600	33.8	20.3	3886	3553	192
		900	34.8	31.4	5606	5046	179
		1350	36.3	49.0	8111	7358	166
		1800	37.5	67.5	10344	9338	153
BXRE-65C4001-C-7x	70	585	33.2	19.4	3754	3307	193
		780	33.8	26.3	4917	4308	187
		1170	34.8	40.8	7288	6559	179
		1755	36.2	63.6	10231	8732	161
		2340	37.5	87.6	13021	10921	149
BXRE-65E4001-B-7x	80	450	33.2	14.9	2849	2610	191
		600	33.8	20.3	3734	3414	184
		900	34.8	31.4	5387	4848	172
		1350	36.3	49.0	7794	7070	159
		1800	37.5	67.5	9940	8973	147

Notes for Table 5:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 5: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V_f $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux ² $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux ³ $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-65E4001-C-7x	80	585	33.2	19.4	3607	3178	186
		780	33.8	26.3	4724	4140	179
		1170	34.8	40.8	7003	6303	172
		1755	36.2	63.6	9831	8390	155
		2340	37.5	87.6	12512	10494	143

Notes for Table 5:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Electrical Characteristics

Table 6: Electrical Characteristics

Part Number	Drive Current (mA)	Forward Voltage Pulsed, $T_c = 25^{\circ}\text{C}$ (V) ^{1, 2, 3, 8}			Typical Coefficient of Forward Voltage ⁴ $\Delta V_f / \Delta T_c$ (mV/ $^{\circ}\text{C}$)	Typical Thermal Resistance Junction to Case ^{5,6} R_{j-c} ($^{\circ}\text{C}/\text{W}$)	Driver Selection Voltages ⁷ (V)	
		Minimum	Typical	Maximum			V_f Min. Hot $T_c = 105^{\circ}\text{C}$ (V)	V_f Max. Cold $T_c = -40^{\circ}\text{C}$ (V)
BXRE-xxx400x-B-7x	900	32.2	34.8	37.5	-14.5	0.15	31.1	38.4
	1800	34.7	37.5	40.3	-14.5	0.18	33.5	41.2
BXRE-xxx400x-C-7x	1170	32.2	34.8	37.5	-14.5	0.11	31.1	38.4
	2340	34.6	37.5	40.3	-14.5	0.13	33.5	41.2

Notes for Table 6:

1. Parts are tested in pulsed conditions, $T_c = 25^{\circ}\text{C}$. Pulse width is 10ms.
2. Voltage minimum and maximum are provided for reference only and are not a guarantee of performance.
3. Bridgelux maintains a tester tolerance of $\pm 0.10\text{V}$ on forward voltage measurements.
4. Typical coefficient of forward voltage tolerance is $\pm 0.1\text{mV}$ for nominal current.
5. Thermal resistance values are based from test data of a 3000K 80 CRI product.
6. Thermal resistance value was calculated using total electrical input power; optical power was not subtracted from input power. The thermal interface material used during testing is not included in the thermal resistance value.
7. V_f min hot and max cold values are provided as reference only and are not guaranteed by test. These values are provided to aid in driver design and selection over the operating range of the product.
8. This product has been designed and manufactured per IEC 62031:2018. This product has passed dielectric withstand voltage testing at 1160 V. The working voltage designated for the insulation is 80V d.c. The maximum allowable voltage across the array must be determined in the end product application.

Eye Safety

Table 7: Eye Safety Risk Group (RG) Classifications

Part Number	Drive Current ⁵ (mA)	CCT ^{1,5}			
		2700K/3000K	4000K ²	5000K ³	6500K ⁴
BXRE-xxx400x-B-7x	900	RG1	RG1	RG1	RG1
	1350	RG1	RG1	RG1	RG2
	1800	RG1	RG1	RG2	RG2
BXRE-xxx400x-C-7x	1170	RG1	RG1	RG1	RG1
	1755	RG1	RG1	RG2	RG2
	2340	RG1	RG1	RG2	RG2

Notes for Table 7:

1. Eye safety classification for the use of Bridgelux V Series LED arrays is in accordance with specification IEC/TR 62778: Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires.
2. For products classified as RG2 at 4000K, $E_{\text{blue}} = 1847.5$ lx.
3. For products classified as RG2 at 5000K $E_{\text{blue}} = 1315.8$ lx.
4. For products classified as RG2 at 6500K, $E_{\text{blue}} = 1124.5$ lx.
5. Please contact your Bridgelux sales representative for E_{blue} values at specific drive currents and CCTs not listed.

Absolute Maximum Ratings

Table 8: Maximum Ratings

Parameter	Maximum Rating	
LED Junction Temperature (T_j)	150°C	
Storage Temperature	-40°C to +105°C	
Operating Case Temperature ¹ (T_c)	105°C	
Soldering Temperature ²	300°C or lower for a maximum of 6 seconds	
	BXRE-xxx400x-B-7x	BXRE-xxx400x-C-7x
Maximum Drive Current ³	1800mA	2340mA
Maximum Peak Pulsed Drive Current ⁴	2570mA	3340mA
Maximum Reverse Voltage ⁵	-60V	-60V

Notes for Table 8:

1. For IEC 62717 requirement, please consult your Bridgelux sales representative.
2. Refer to Bridgelux Application Note AN101: Handling and Assembly of Bridgelux V Series LED Arrays
3. Arrays may be driven at higher currents however lumen maintenance may be reduced.
4. Bridgelux recommends a maximum duty cycle of 10% and pulse width of 20 ms when operating LED Arrays at maximum peak pulsed current specified. Maximum peak pulsed currents indicate values where LED Arrays can be driven without catastrophic failures.
5. Light emitting diodes are not designed to be driven in reverse voltage and will not produce light under this condition. Maximum rating provided for reference only.

Performance Curves

Figure 1: V18B Drive Current vs. Voltage

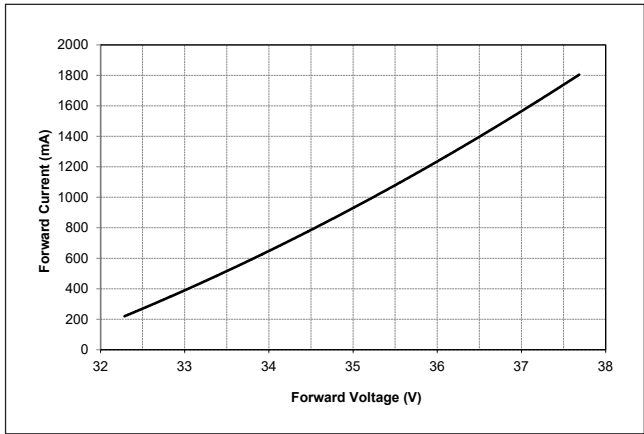


Figure 2: V18C Drive Current vs. Voltage

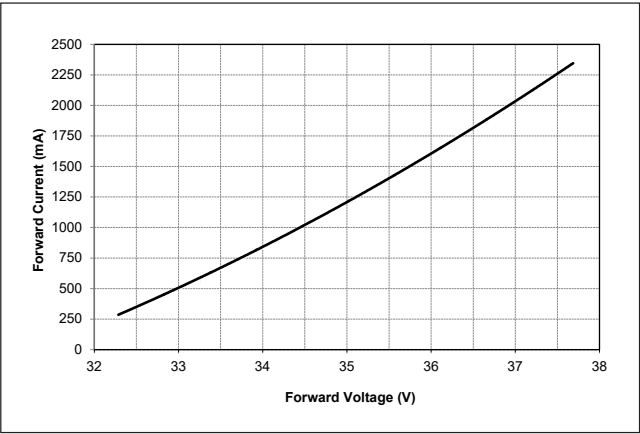


Figure 3: V18B Typical Relative Flux vs. Current

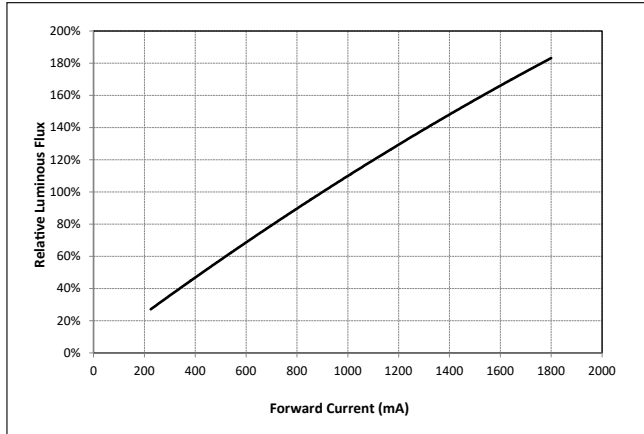
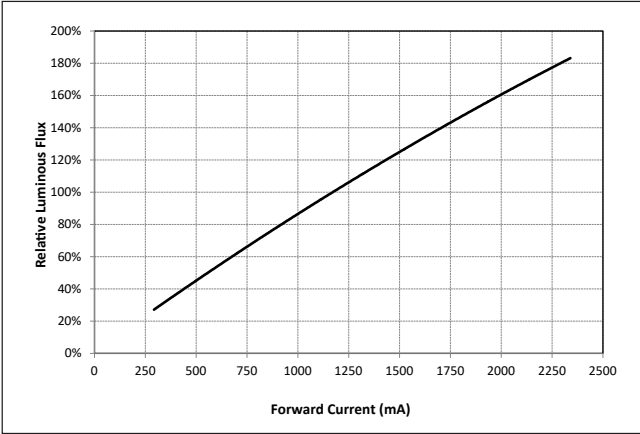


Figure 4: V18C Typical Relative Flux vs. Current



- Notes for Figures 1-4:
1. Bridgelux does not recommend driving high power LEDs at low currents. Doing so may produce unpredictable results. Pulse width modulation (PWM) is recommended for dimming effects.
 2. Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C.

Performance Curves

Figure 5: Typical DC Flux vs. Case Temperature

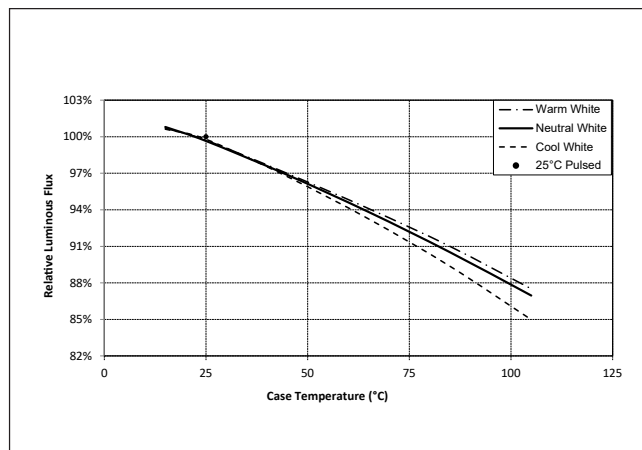


Figure 6: Typical DC ccy Shift vs. Case Temperature

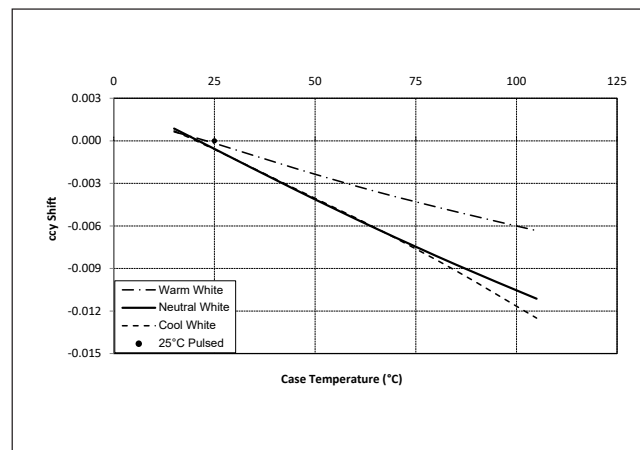


Figure 7: Typical DC ccx Shift vs. Case Temperature

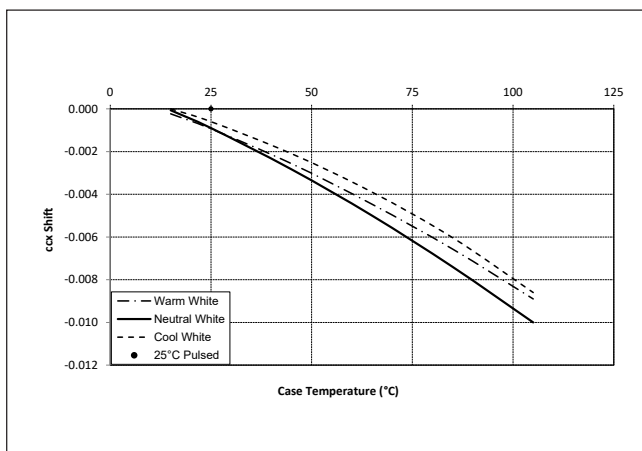
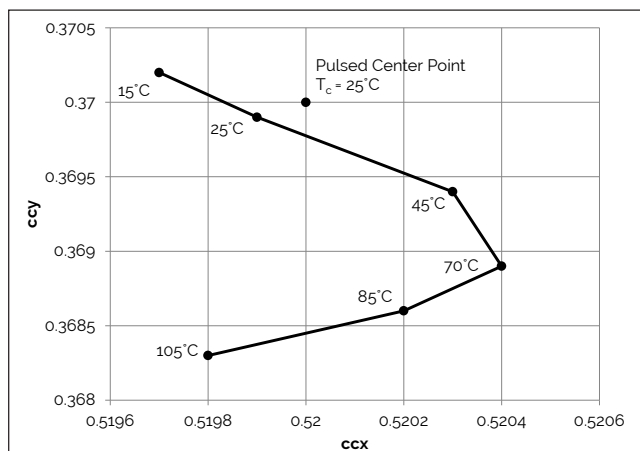


Figure 8: 1750K Color Shift vs. Case Temperature¹



Notes for Figures 5-7:

1. Characteristics shown for warm white based on 3000K and 80 CRI.
2. Characteristics shown for neutral white based on 4000K and 80 CRI.
3. Characteristics shown for cool white based on 5000K and 70 CRI.
4. For other color SKUs, the shift in color will vary. Please contact your Bridgelux Sales Representative for more information.

Performance Curves

Figure 9: 2000K, 65 CRI Color Shift vs. Case Temperature¹

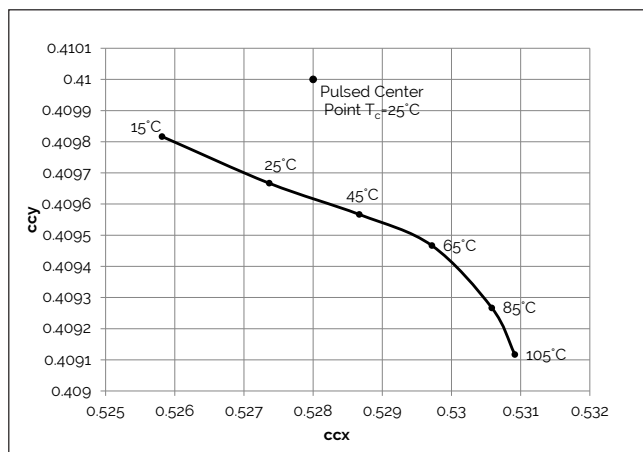


Figure 10: 2500K Color Shift vs. Case Temperature¹

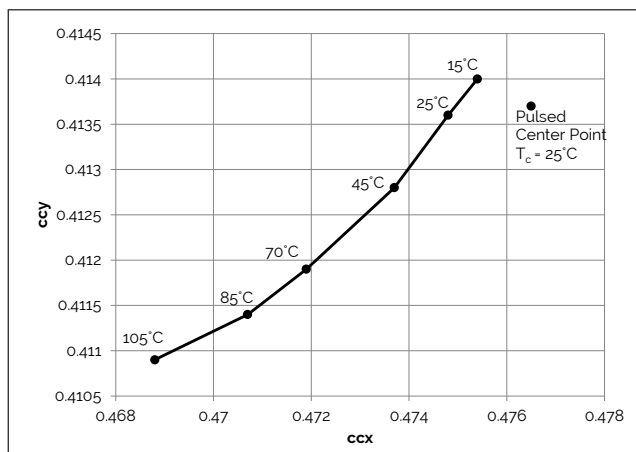


Figure 11: 2700K, 97 CRI Color Shift vs. Case Temperature¹

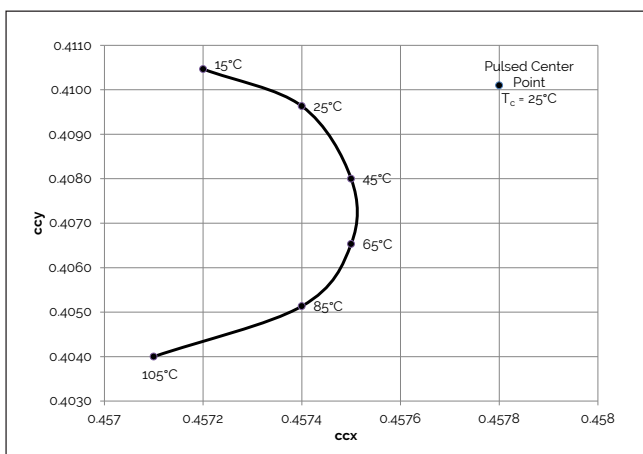


Figure 12: 3000K, 90 CRI Color Shift vs. Case Temperature³

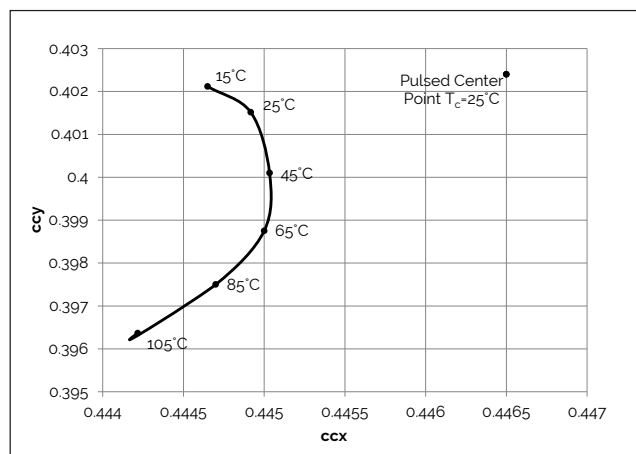


Figure 13: 3000K, 97 CRI Color Shift vs. Case Temperature¹

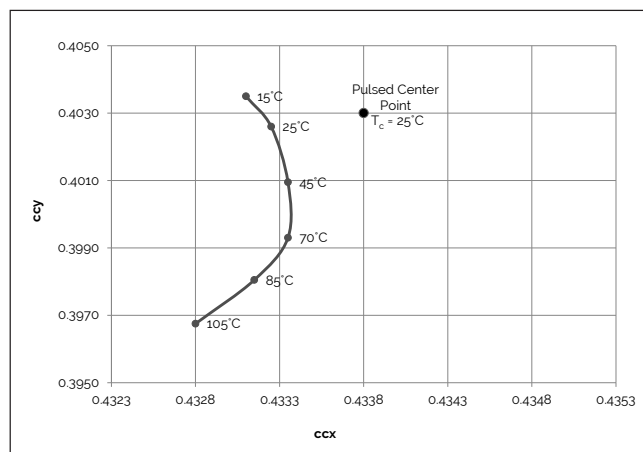
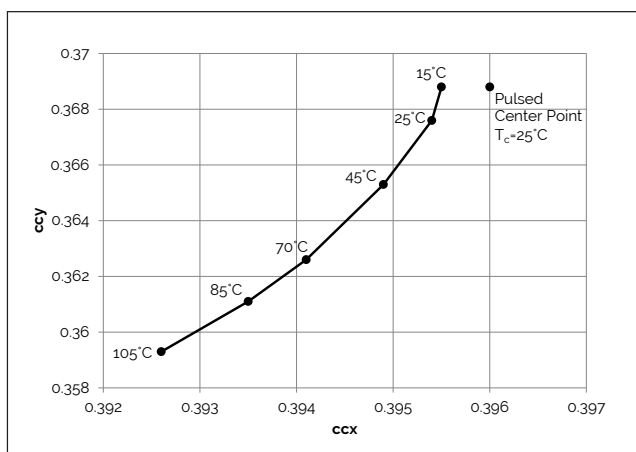


Figure 14: 3500K Class A Color Shift vs. Case Temperature¹

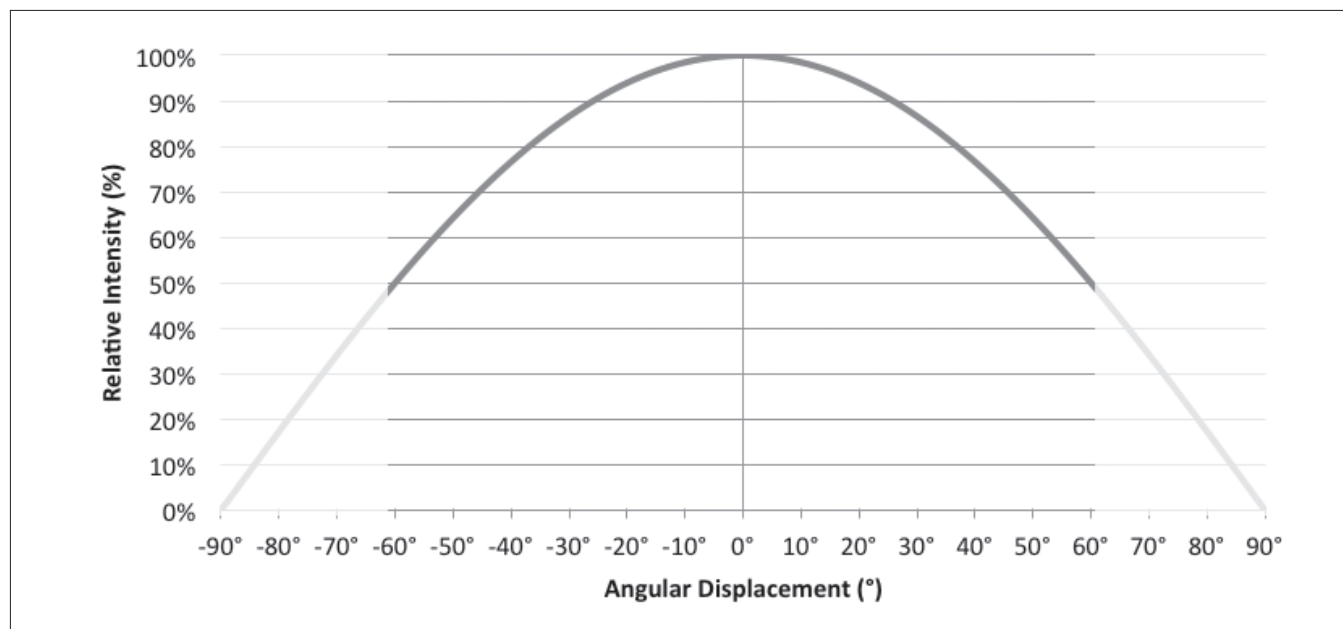


Notes for Figures 8-14:

1. Measurements made under DC test conditions at the nominal drive current.
2. Typical color shift is shown with a tolerance of ± 0.002 .
3. Characteristics shown for Decor Series Showcase products, BXRE-30G400C-X-73

Typical Radiation Pattern

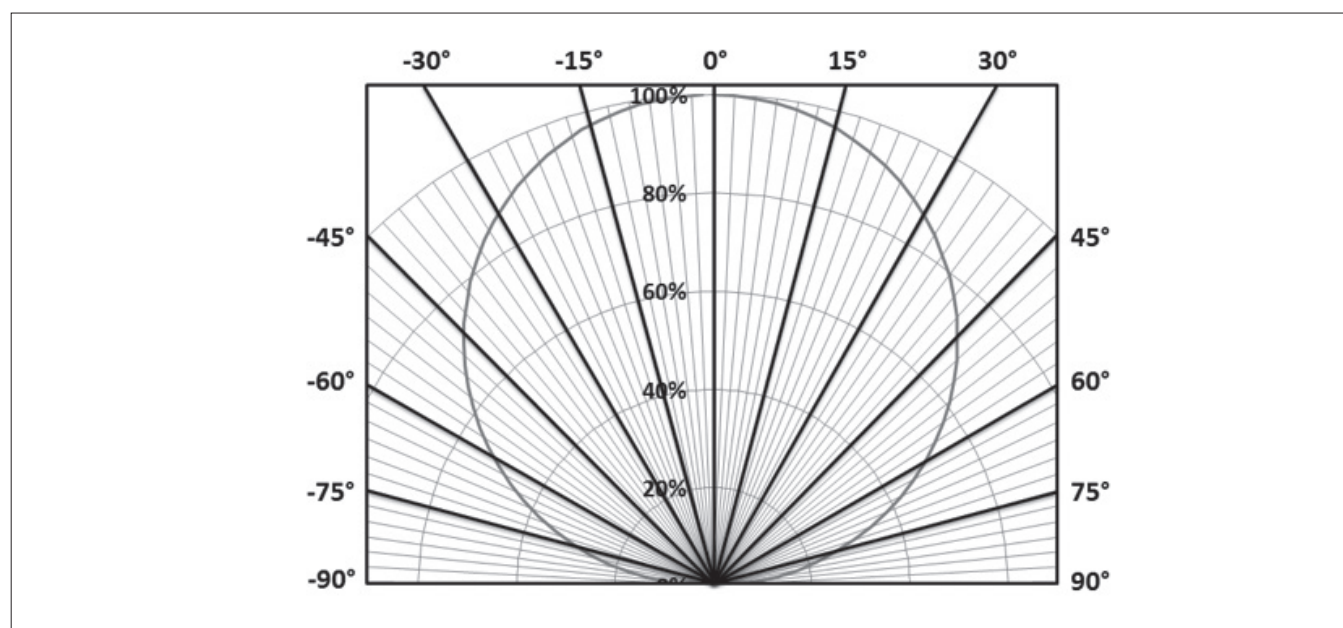
Figure 15: Typical Spatial Radiation Pattern



Notes for Figure 15:

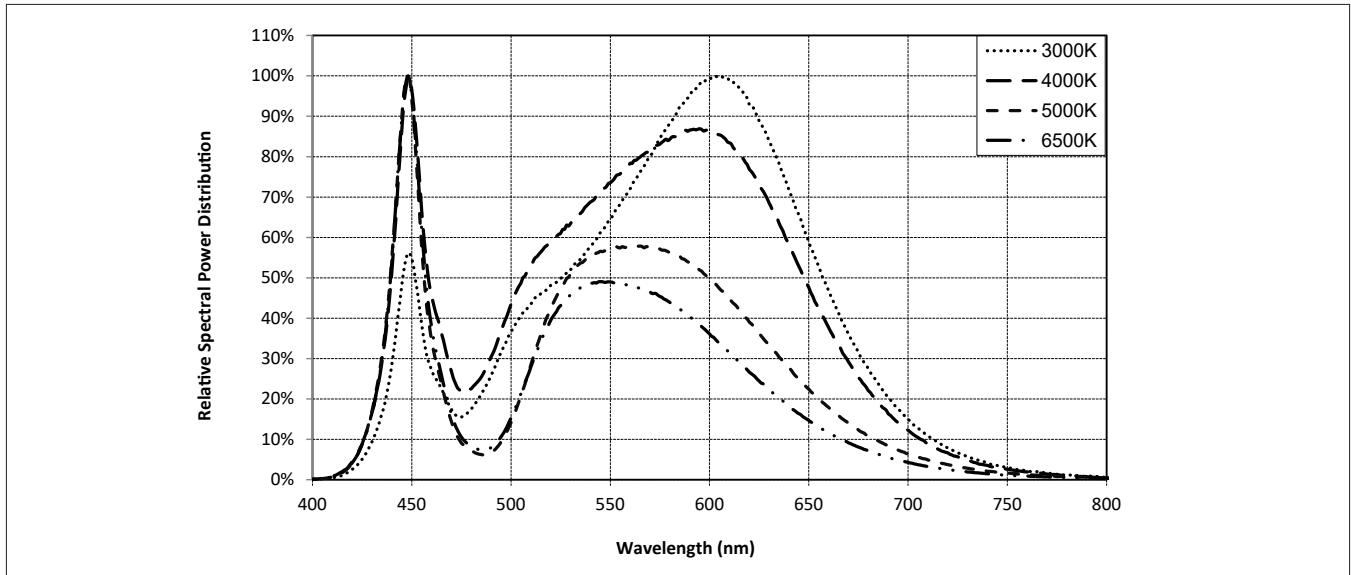
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is $\frac{1}{2}$ of the peak value.

Figure 16: Typical Polar Radiation Pattern



Typical Color Spectrum

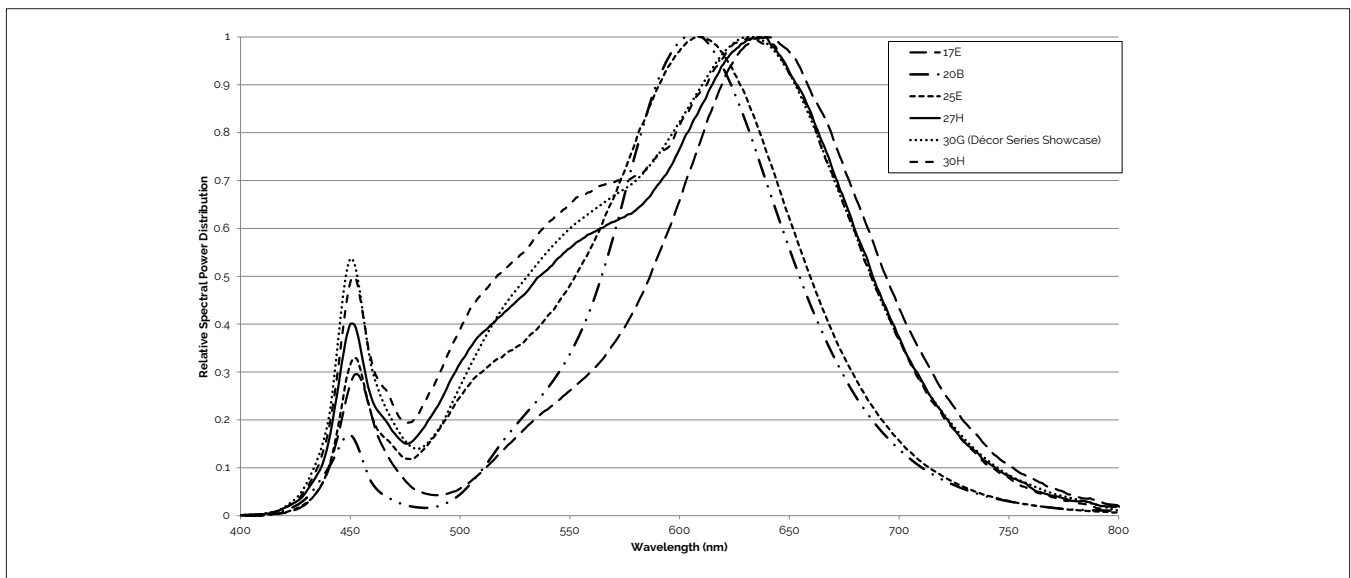
Figure 17: Typical Color Spectrum



Notes for Figure 17:

1. Color spectra measured at nominal current for $T_j = T_c = 25^\circ\text{C}$.
2. Color spectra shown is 3000K and 80 CRI.
3. Color spectra shown is 4000K and 80 CRI.
4. Color spectra shown is 5000K and 70 CRI.
4. Color spectra shown is 6500K and 70 CRI.

Figure 18: Typical Color Spectrum for Décor Series

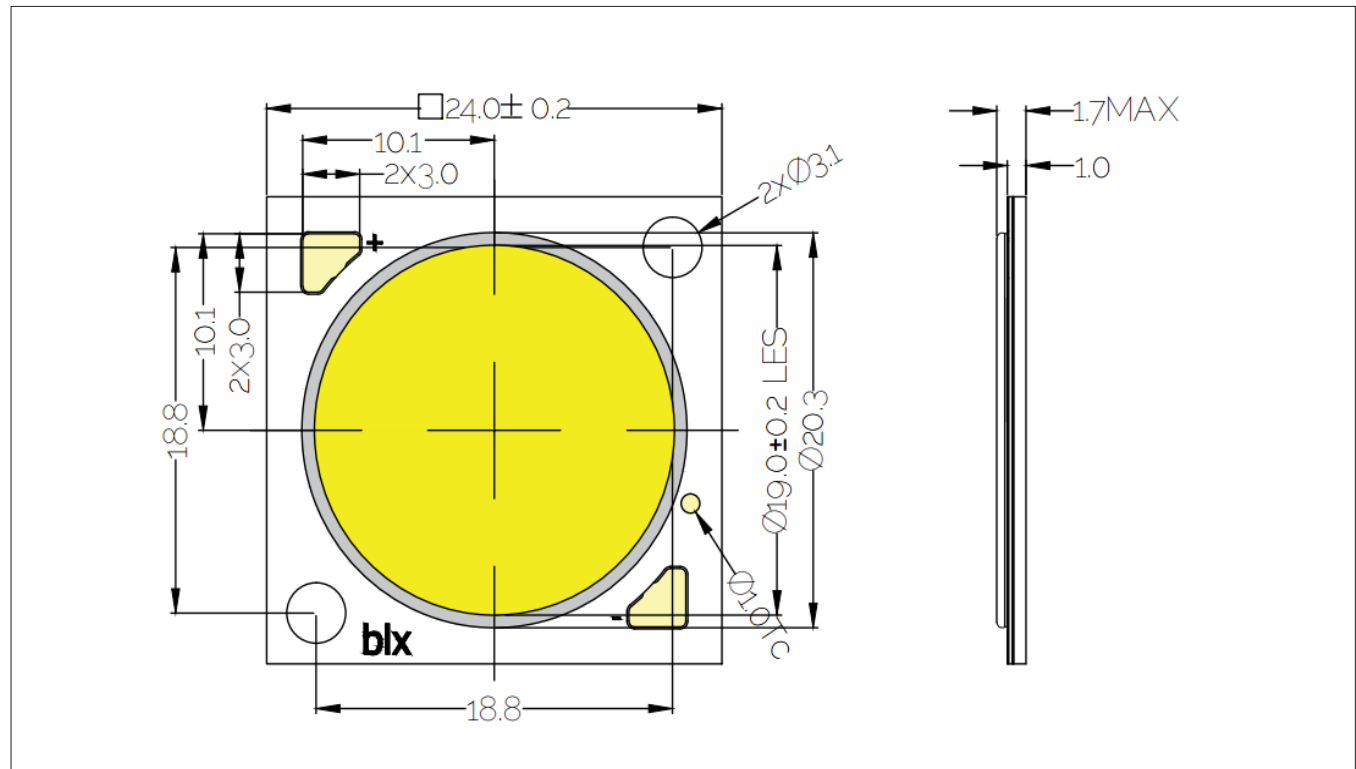


Note for Figure 18:

1. Color spectra measured at nominal current for $T_j = T_c = 25^\circ\text{C}$.

Mechanical Dimensions

Figure 19: Drawing for V18 LED Array

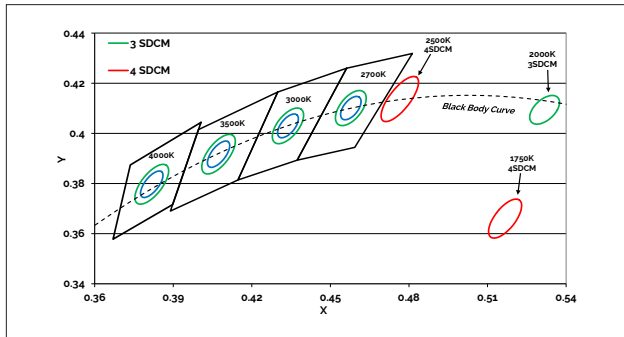


Notes for Figure 19:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.
3. Unless otherwise specified, tolerances are $\pm 0.1\text{mm}$.
4. Solder pad labeled "+" denotes positive contact.
5. Refer to Application Notes AN101 for product handling, mounting and heat sink recommendations.
6. The optical center of the LED Array is nominally defined by the mechanical center of the array to a tolerance of $\pm 0.2\text{mm}$.
7. Bridgelux maintains a flatness of 0.10mm across the mounting surface of the array.

Color Binning Information

Figure 20: Warm and Neutral White Test Bins in xy Color Space



Note: Pulsed Test Conditions, $T_c = 25^\circ\text{C}$

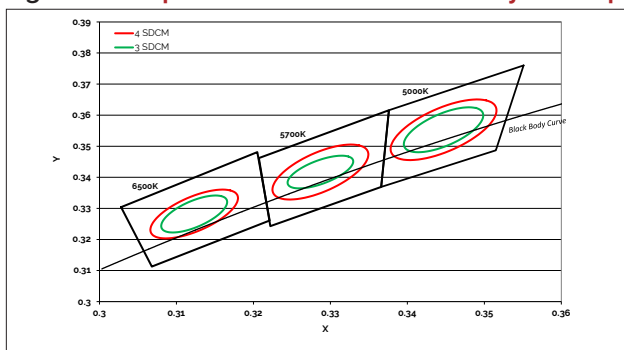
Table 9: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

Bin Code	1750K	2000K	2500K	2700K	3000K ¹	3500K ¹	4000K ¹
ANSI Bin (for reference only)	–	–	–	(2580K - 2870K)	(2870K - 3220K)	(3220K - 3710K)	(3710K - 4260K)
73 (3 SDCM)	–	–	–	(2651K - 2794K)	(2968K - 3136K)	(3369K - 3586K)	(3851K - 4130K)
72 (2 SDCM)	–	–	–	(2674K - 2769K)	(2995K - 3107K)	(3404K - 3548K)	(3895K - 4081K)
Center Point (x,y)	(0.5167, 0.336)	(0.5280, 0.4100)	(0.4765, 0.4137)	(0.4578, 0.4101)	(0.4338, 0.403) (0.4465, 0.4024) ²	(0.4073, 0.3917)	(0.3818, 0.3797)

Notes for Table 9:

- Color Binning information excludes Décor Series Class A products. Please contact your Bridgelux Sales Representative for more information.
- Center Point for Décor Series Showcase.
- Bridgelux maintains a tolerance of ± 0.007 on x and y color coordinates in the CIE 1931 color Space.

Figure 21: Graph of Cool White Test Bins in xy Color Space



Note: Pulsed Test Conditions, $T_c = 25^\circ\text{C}$

Table 10: Cool White xy Bin Coordinates and Associated Typical CCT (product is hot targeted to $T_c = 85^\circ\text{C}$)

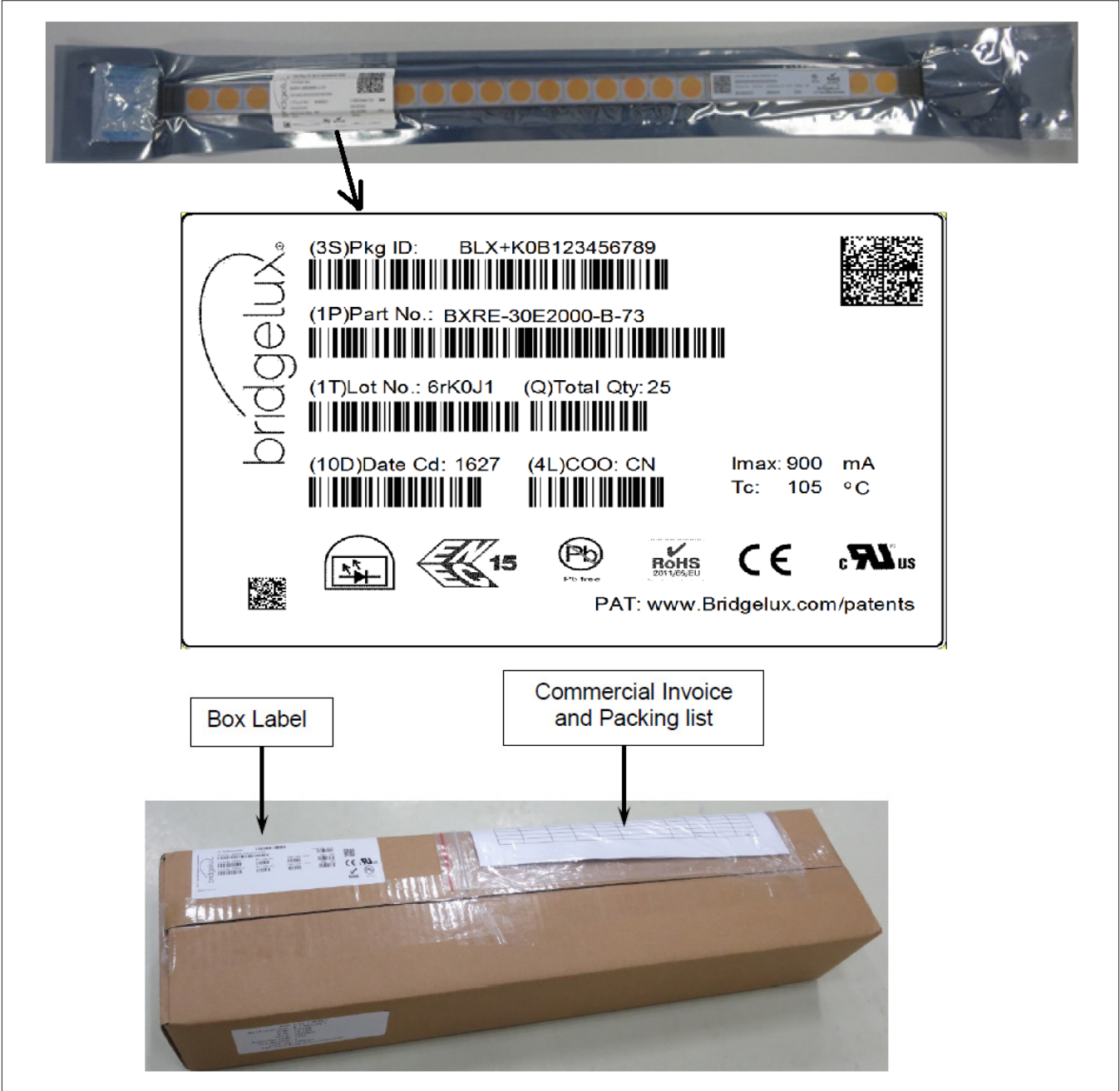
Bin Code	5000K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5312K - 6022K)	(6022K - 7042K)
74 (4 SDCM)	(4801K - 5282K)	(5395K - 5970K)	(6200K - 6910K)
73 (3 SDCM)	(4835K - 5215K)	(5460K - 5891K)	(6279K - 6811K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3287, 0.3417)	(0.3123, 0.3282)

Note for Table 10:

- Bridgelux maintains a tolerance of ± 0.007 on x and y color coordinates in the CIE 1931 color Space.

Packaging and Labeling

Figure 22: Drawing for V18 Packaging Tube

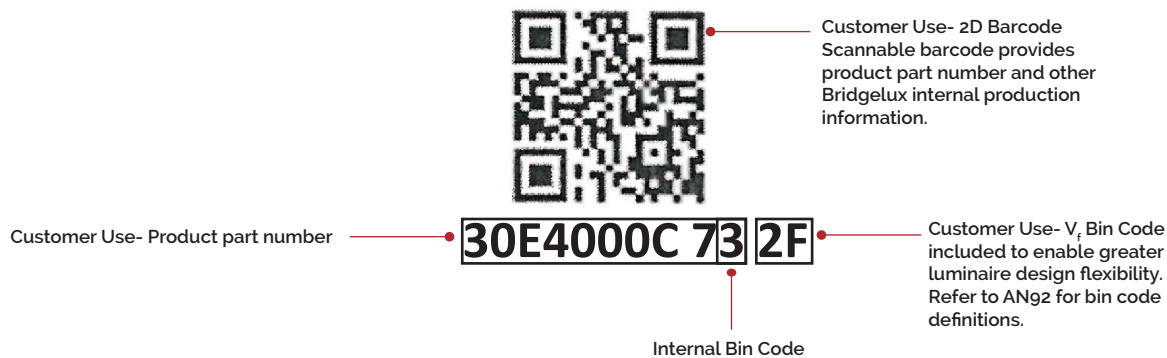


- Notes for Figure 22:
1. Each tube holds 20 V18 COB arrays.
 2. One tube is sealed in an anti-static bag. Four bags are placed in a shipping box. Depending on quantities ordered, a bigger shipping box, containing four boxes may be used to ship products.
 3. Each bag and box is to be labeled as shown above.
 4. Dimensions for each tube are 26.3 (W) x 9.5(H) x 510 (L). Dimensions for the anti-static bag are 75 (W) x 615 (L) x 3.1 (T) mm. Dimensions for the shipping box are 58.7 x 13.3 x 7.9 cm

Packaging and Labeling

Figure 23: Gen. 7 Product Labeling

Bridgelux COB arrays have laser markings on the back side of the substrate to help with product identification. In addition to the product identification markings, Bridgelux COB arrays also contain markings for internal Bridgelux manufacturing use only. The image below shows which markings are for customer use and which ones are for Bridgelux internal use only. The Bridgelux internal manufacturing markings are subject to change without notice, however these will not impact the form, function or performance of the COB array.



Design Resources

Application Notes

Bridgelux has developed a comprehensive set of application notes and design resources to assist customers in successfully designing with the V Series product family of LED array products. For all available application notes visit www.bridgelux.com.

Optical Source Models

Optical source models and ray set files are available for all Bridgelux products. For a list of available formats, visit www.bridgelux.com.

3D CAD Models

Three dimensional CAD models depicting the product outline of all Bridgelux V Series LED arrays are available in both IGS and STEP formats. Please contact your Bridgelux sales representative for assistance.

LM80

LM80 testing has been completed and the LM80 report is now available. Please contact your Bridgelux sales representative for LM-80 report.

Precautions

CAUTION: CHEMICAL EXPOSURE HAZARD

Exposure to some chemicals commonly used in luminaire manufacturing and assembly can cause damage to the LED array. Please consult Bridgelux Application Note AN101 for additional information.

CAUTION: RISK OF BURN

Do not touch the V Series LED array during operation. Allow the array to cool for a sufficient period of time before handling. The V Series LED array may reach elevated temperatures such that could burn skin when touched.

CAUTION

CONTACT WITH LIGHT EMITTING SURFACE (LES)

Avoid any contact with the LES. Do not touch the LES of the LED array or apply stress to the LES (yellow phosphor resin area). Contact may cause damage to the LED array.

Optics and reflectors must not be mounted in contact with the LES (yellow phosphor resin area).

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.

STANDARD TEST CONDITIONS

Unless otherwise stated, array testing is performed at the nominal drive current.

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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Bridgelux Gen 7 V18 Array Series Product Data Sheet DS102 Rev. S (08/2021)