

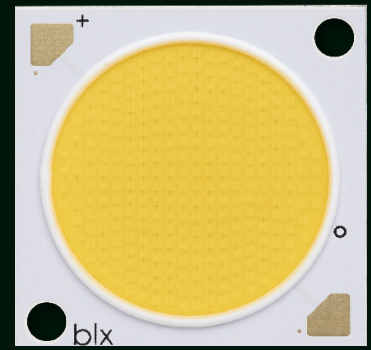
Bridgelux® Gen 7 V22 Array Series

Product Data Sheet DS103



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 V22 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 R_g 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™ Entertainment products provide color points developed specifically for the healthcare and entertainment industries. The 5600K cool white color point combined with a CRI of 90 or 97 provides the bright white required by these industries.

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



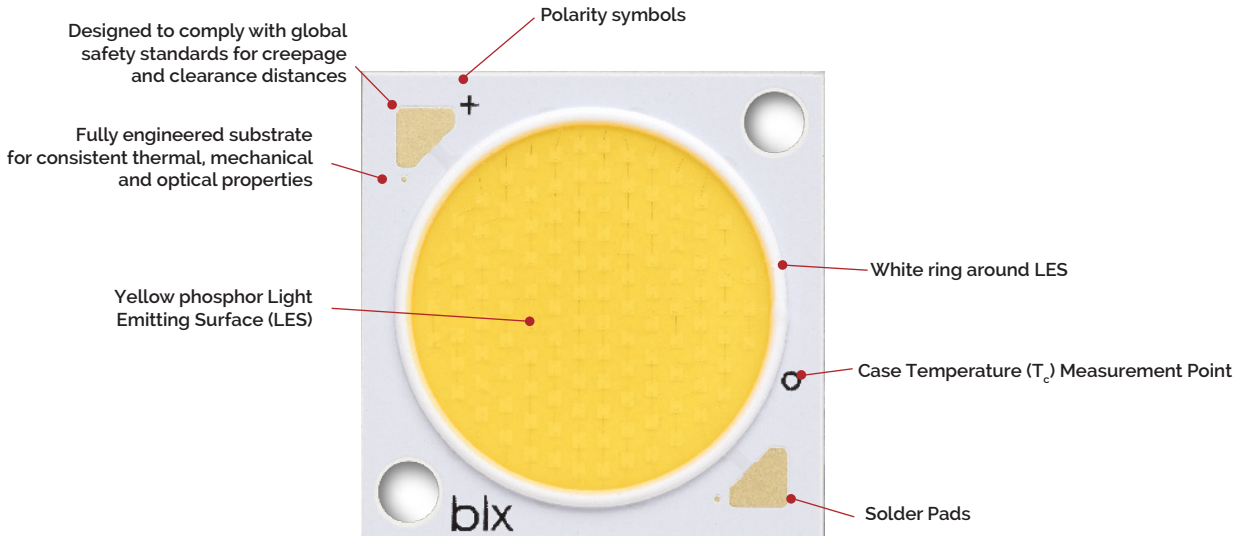
Contents

Product Feature Map	2
Product Nomenclature	2
Product Selection Guide	3
Performance at Commonly Used Drive Currents	9
Electrical Characteristics	17
Eye Safety	18
Absolute Maximum Ratings	19
Performance Curves	20
Typical Radiation Pattern	24
Typical Color Spectrum	25
Mechanical Dimensions	26
Color Binning Information	27
Packaging and Labeling	28
Design Resources	30
Precautions	30
Disclaimers	30
About Bridgelux	31

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

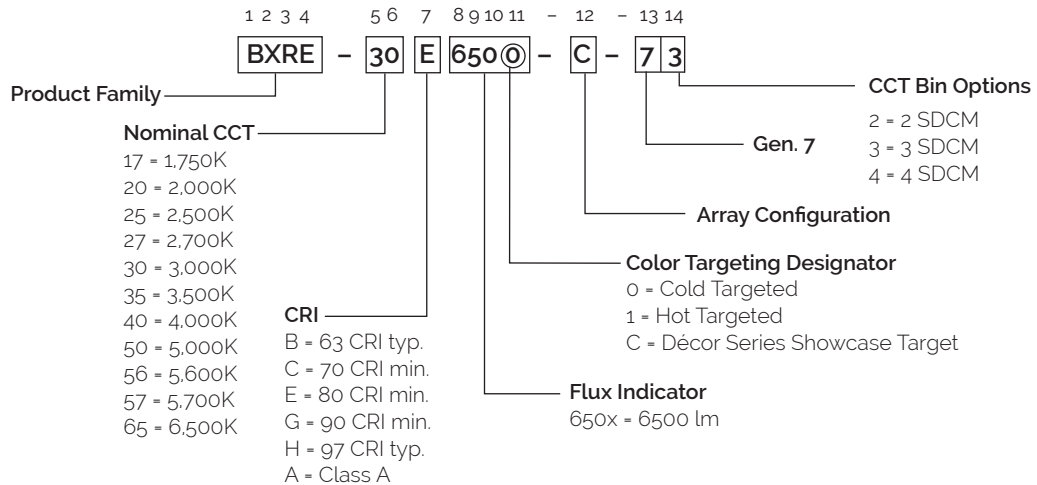
Bridgelux's LED Array products. The arrays incorporate several features to simplify design integration and assembly. Please visit www.bridgelux.com for more information on the V Series family of products.



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-17E6500-D-74	1750	80	1400	4508	4057	35.0	49.0	92
BXRE-20B6501-C-73	2000	65	1440	11756	10581	52.0	74.9	157
BXRE-20B6501-D-73	2000	65	1400	7693	6924	35.0	49.0	157
BXRE-25E6500-D-74	2500	80	1400	7497	6747	35.0	49.0	153
BXRE-27E6500-B-7x	2700	80	1170	9734	8761	52.0	60.8	160
BXRE-27E6500-C-7x	2700	80	1440	11981	10783	52.0	74.9	160
BXRE-27E6500-D-7x	2700	80	1400	7840	7056	35.0	49.0	160
BXRE-27G65H0-B-7x	2700	90	1170	8335	7502	52.0	60.8	137
BXRE-27G65H0-C-7x	2700	90	1440	10259	9233	52.0	74.9	137
BXRE-27G65H0-D-7x	2700	90	1400	6713	6042	35.0	49.0	137
BXRE-27G6500-B-7x	2700	90	1170	8031	7228	52.0	60.8	132
BXRE-27G6500-C-7x	2700	90	1440	9884	8896	52.0	74.9	132
BXRE-27G6500-D-7x	2700	90	1400	6468	5821	35.0	49.0	132
BXRE-27H6500-D-7x	2700	97	1400	5733	5160	35.0	49.0	117
BXRE-30C6501-B-74	3000	70	1170	10830	9747	52.0	60.8	178
BXRE-30C6501-C-74	3000	70	1440	13329	11996	52.0	74.9	178
BXRE-30C6501-D-74	3000	70	1400	8722	7850	35.0	49.0	178
BXRE-30E6500-B-7x ¹⁰	3000	80	1170	10343	9309	52.0	60.8	170
BXRE-30E6500-C-7x ¹⁰	3000	80	1440	12730	11457	52.0	74.9	170
BXRE-30E6500-D-7x ¹⁰	3000	80	1400	8330	7497	35.0	49.0	170
BXRE-30G65H0-B-7x	3000	90	1170	8761	7885	52.0	60.8	144
BXRE-30G65H0-C-7x	3000	90	1440	10783	9704	52.0	74.9	144
BXRE-30G65H0-D-7x	3000	90	1400	7056	6350	35.0	49.0	144
BXRE-30G6500-B-7x	3000	90	1170	8396	7556	52.0	60.8	138
BXRE-30G6500-C-7x	3000	90	1440	10333	9300	52.0	74.9	138
BXRE-30G6500-D-7x	3000	90	1400	6762	6086	35.0	49.0	138
BXRE-30G650C-D-73	3000	90	1400	6517	5865	35.0	49.0	133
BXRE-30H6500-D-7x	3000	97	1400	6125	5513	35.0	49.0	125
BXRE-35E6500-B-7x ¹⁰	3500	80	1170	10586	9528	52.0	60.8	174
BXRE-35E6500-C-7x ¹⁰	3500	80	1440	13029	11726	52.0	74.9	174
BXRE-35E6500-D-7x ¹⁰	3500	80	1400	8526	7673	35.0	49.0	174
BXRE-35G6500-B-7x	3500	90	1170	8700	7830	52.0	60.8	143

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 Décor Series Ultra, Décor Series Street and Landmark and Décor 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.
- SKUs meet DLC premium (Outdoor Mid Output) requirements under certain system level conditions.

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-35G6500-C-7x	3500	90	1440	10708	9637	52.0	74.9	143
BXRE-35G6500-D-7x	3500	90	1400	7007	6306	35.0	49.0	143
BXRE-35A6501-D-73 ^{8,9}	3500	93	1400	6468	5821	35.0	49.0	132
BXRE-40C6501-B-74	4000	70	1170	11134	10020	52.0	60.8	183
BXRE-40C6501-C-74	4000	70	1440	13703	12333	52.0	74.9	183
BXRE-40C6501-D-74	4000	70	1400	8967	8070	35.0	49.0	183
BXRE-40E6500-B-7x ¹⁰	4000	80	1170	10647	9582	52.0	60.8	175
BXRE-40E6500-C-7x ¹⁰	4000	80	1440	13104	11794	52.0	74.9	175
BXRE-40E6500-D-7x ¹⁰	4000	80	1400	8575	7718	35.0	49.0	175
BXRE-40G6500-B-7x	4000	90	1170	8883	7994	52.0	60.8	146
BXRE-40G6500-C-7x	4000	90	1440	10932	9839	52.0	74.9	146
BXRE-40G6500-D-7x	4000	90	1400	7154	6439	35.0	49.0	146
BXRE-40H6500-D-73	4000	97	1400	6468	5821	35.0	49.0	132
BXRE-50C6501-B-7x ¹⁰	5000	70	1170	11195	10075	52.0	60.8	184
BXRE-50C6501-C-7x ¹⁰	5000	70	1440	13778	12400	52.0	74.9	184
BXRE-50C6501-D-7x ¹⁰	5000	70	1400	9016	8114	35.0	49.0	184
BXRE-50E6501-B-7x ¹⁰	5000	80	1170	10769	9692	52.0	60.8	177
BXRE-50E6501-C-7x ¹⁰	5000	80	1440	13254	11928	52.0	74.9	177
BXRE-50E6501-D-7x ¹⁰	5000	80	1400	8673	7806	35.0	49.0	177
BXRE-50G6501-B-7x	5000	90	1170	9309	8378	52.0	60.8	153
BXRE-50G6501-C-7x	5000	90	1440	11457	10311	52.0	74.9	153
BXRE-50G6501-D-7x	5700	90	1400	7497	6747	35.0	49.0	153
BXRE-56G6501-D-7x	5600	90	1400	7546	6791	35.0	49.0	154
BXRE-57C6501-B-7x ¹⁰	5700	70	1170	10890	9801	52.0	60.8	179
BXRE-57C6501-C-7x ¹⁰	5700	70	1440	13404	12063	52.0	74.9	179
BXRE-57C6501-D-7x ¹⁰	5700	70	1400	8771	7894	35.0	49.0	179
BXRE-57E6501-B-7x ¹⁰	5700	80	1170	10343	9309	52.0	60.8	170
BXRE-57E6501-C-7x ¹⁰	5700	80	1440	12730	11457	52.0	74.9	170
BXRE-57E6501-D-7x ¹⁰	6500	80	1400	8330	7497	35.0	49.0	170
BXRE-65C6501-B-7x ¹⁰	6500	70	1170	10890	9801	52.0	60.8	179
BXRE-65C6501-C-7x ¹⁰	6500	70	1440	13404	12063	52.0	74.9	179
BXRE-65C6501-D-7x ¹⁰	6500	70	1400	8771	7894	35.0	49.0	179

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 Décor Series Ultra, Décor Series Street and Landmark and Décor 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.
- SKUs meet DLC premium (Outdoor Mid Output) requirements under certain system level conditions.

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-65E6501-B-7x ¹⁰	6500	80	1170	10464	9418	52.0	60.8	172
BXRE-65E6501-C-7x ¹⁰	6500	80	1440	12879	11591	52.0	74.9	172
BXRE-65E6501-D-7x ¹⁰	6500	80	1400	8428	7585	35.0	49.0	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 Décor Series Ultra, Décor Series Street and Landmark and Décor 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.
- SKUs meet DLC premium (Outdoor Mid Output) requirements under certain system level conditions.

Product Selection Guide

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 ^{8,9} $T_c = 70^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-35A6501-D-73	3500	80	93	1400	6015	5414	33.4	46.8	129

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-17E6500-D-74	1750	80	1400	4057	3651	334	46.8	87
BXRE-20B6501-C-73	2000	65	1440	10581	9522	50.7	73.0	145
BXRE-20B6501-D-73	2000	65	1400	6924	6231	334	46.8	148
BXRE-25E6500-D-74	2500	80	1400	6747	6073	334	46.8	144
BXRE-27E6500-B-7x	2700	80	1170	8761	7885	50.7	59.3	148
BXRE-27E6500-C-7x	2700	80	1440	10783	9704	50.7	73.0	148
BXRE-27E6500-D-7x	2700	80	1400	7056	6350	334	46.8	151
BXRE-27G65H0-B-7x	2700	90	1170	7502	6751	50.7	59.3	127
BXRE-27G65H0-C-7x	2700	90	1440	9233	8309	50.7	73.0	127
BXRE-27G65H0-D-7x	2700	90	1400	6042	5438	334	46.8	129
BXRE-27G6500-B-7x	2700	90	1170	7228	6505	50.7	59.3	122
BXRE-27G6500-C-7x	2700	90	1440	8896	8006	50.7	73.0	122
BXRE-27G6500-D-7x	2700	90	1400	5821	5239	334	46.8	124
BXRE-27H6500-D-7x	2700	97	1400	5160	4644	334	46.8	110
BXRE-30C6501-B-74	3000	70	1170	9747	8772	50.7	59.3	164
BXRE-30C6501-C-74	3000	70	1440	11996	10796	50.7	73.0	164
BXRE-30C6501-D-74	3000	70	1400	7850	7065	334	46.8	168
BXRE-30E6500-B-7x	3000	80	1170	9309	8378	50.7	59.3	157
BXRE-30E6500-C-7x	3000	80	1440	11457	10311	50.7	73.0	157
BXRE-30E6500-D-7x	3000	80	1400	7497	6747	334	46.8	160
BXRE-30G65H0-B-7x	3000	90	1170	7885	7096	50.7	59.3	133
BXRE-30G65H0-C-7x	3000	90	1440	9704	8734	50.7	73.0	133
BXRE-30G65H0-D-7x	3000	90	1400	6350	5715	334	46.8	136
BXRE-30G6500-B-7x	3000	90	1170	7556	6801	50.7	59.3	127
BXRE-30G6500-C-7x	3000	90	1440	9300	8370	50.7	73.0	127
BXRE-30G6500-D-7x	3000	90	1400	6086	5477	334	46.8	130
BXRE-30G650C-D-73	3000	90	1400	5865	5279	334	46.8	125
BXRE-30H6500-D-7x	3000	97	1400	5513	4961	334	46.8	118
BXRE-35E6500-B-7x	3500	80	1170	9528	8575	50.7	59.3	161
BXRE-35E6500-C-7x	3500	80	1440	11726	10554	50.7	73.0	161
BXRE-35E6500-D-7x	3500	80	1400	7673	6906	334	46.8	164
BXRE-35G6500-B-7x	3500	90	1170	7830	7047	50.7	59.3	132

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 Décor Series Ultra, Décor Series Street and Landmark and Décor 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.
- 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-35G6500-C-7x	3500	90	1440	9637	8673	50.7	73.0	132
BXRE-35G6500-D-7x	3500	90	1400	6306	5676	33.4	46.8	135
BXRE-35A6501-D-73 ^{7,8}	3500	93	1400	5821	5239	33.4	46.8	124
BXRE-40C6501-B-74	4000	70	1170	10020	9018	50.7	59.3	169
BXRE-40C6501-C-74	4000	70	1440	12333	11099	50.7	73.0	169
BXRE-40C6501-D-74	4000	70	1400	8070	7263	33.4	46.8	173
BXRE-40E6500-B-7x	4000	80	1170	9582	8624	50.7	59.3	162
BXRE-40E6500-C-7x	4000	80	1440	11794	10614	50.7	73.0	162
BXRE-40E6500-D-7x	4000	80	1400	7718	6946	33.4	46.8	165
BXRE-40G6500-B-7x	4000	90	1170	7994	7195	50.7	59.3	135
BXRE-40G6500-C-7x	4000	90	1440	9839	8855	50.7	73.0	135
BXRE-40G6500-D-7x	4000	90	1400	6439	5795	33.4	46.8	138
BXRE-40H6500-D-73	4000	97	1400	5821	5239	33.4	46.8	124
BXRE-50C6501-B-7x	5000	70	1170	10075	9068	50.7	59.3	170
BXRE-50C6501-C-7x	5000	70	1440	12400	11160	50.7	73.0	170
BXRE-50C6501-D-7x	5000	70	1400	8114	7303	33.4	46.8	174
BXRE-50E6501-B-7x	5000	80	1170	9692	8723	50.7	59.3	163
BXRE-50E6501-C-7x	5000	80	1440	11928	10736	50.7	73.0	163
BXRE-50E6501-D-7x	5000	80	1400	7806	7025	33.4	46.8	167
BXRE-50G6501-B-7x	5000	90	1170	8378	7540	50.7	59.3	141
BXRE-50G6501-C-7x	5000	90	1440	10311	9280	50.7	73.0	141
BXRE-50G6501-D-7x	5700	90	1400	6747	6073	33.4	46.8	144
BXRE-56G6501-D-7x	5600	90	1400	6791	6112	33.4	46.8	145
BXRE-57C6501-B-7x	5700	70	1170	9801	8821	50.7	59.3	165
BXRE-57C6501-C-7x	5700	70	1440	12063	10857	50.7	73.0	165
BXRE-57C6501-D-7x	5700	70	1400	7894	7105	33.4	46.8	169
BXRE-57E6501-B-7x	5700	80	1170	9309	8378	50.7	59.3	157
BXRE-57E6501-C-7x	5700	80	1440	11457	10311	50.7	73.0	157
BXRE-57E6501-D-7x	6500	80	1400	7497	6747	33.4	46.8	160
BXRE-65C6501-B-7x	6500	70	1170	9801	8821	50.7	59.3	165
BXRE-65C6501-C-7x	6500	70	1440	12063	10857	50.7	73.0	165
BXRE-65C6501-D-7x	6500	70	1400	7894	7105	33.4	46.8	169
BXRE-65E6501-B-7x	6500	80	1170	9418	8476	50.7	59.3	159
BXRE-65E6501-C-7x	6500	80	1440	11591	10432	50.7	73.0	159
BXRE-65E6501-D-7x	6500	80	1400	7585	6827	33.4	46.8	162

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 $T_c = T_a = 25^\circ\text{C}$. CRI values are typical for Décor Series Ultra, Décor Series Street and Landmark and Décor 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.
- 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.

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 & 3 and the flux vs. current characteristics shown in Figures 4, 5 & 6. The performance at commonly used drive currents is summarized in Table 4.

Table 4: 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-17E6500-D-74	80	700	33.2	23.3	2327	2145	100
		1050	34.2	35.9	3429	3145	95
		1400	35.0	49.0	4508	4057	92
		2100	36.4	76.5	6518	5855	85
		2800	37.7	105.6	8394	7462	79
BXRE-20B6501-C-73	65	720	49.6	35.7	6562	5573	184
		960	50.5	48.5	8348	7302	172
		1440	52.0	74.9	11756	10581	157
		2160	54.2	117.0	16462	15134	141
		2880	55.9	161.1	20681	19184	128
BXRE-20B6501-D-73	65	700	33.2	23.3	3972	3660	171
		1050	34.2	35.9	5851	5366	163
		1400	35.0	49.0	7693	6924	157
		2100	36.4	76.5	11123	9992	145
		2800	37.7	105.6	14324	12734	136
BXRE-25E6500-D-74	80	700	33.2	23.3	3870	3567	166
		1050	34.2	35.9	5702	5229	159
		1400	35.0	49.0	7497	6747	153
		2100	36.4	76.5	10839	9737	142
		2800	37.7	105.6	13959	12410	132
BXRE-27E6500-B-7X	80	585	49.6	29.0	5209	4819	179
		780	50.5	39.4	6762	6182	172
		1170	52.0	60.8	9734	8761	160
		1755	54.3	95.3	13860	12331	145
		2340	56.2	131.5	17586	15488	134
BXRE-27E6500-C-7X	80	720	49.6	35.7	6688	5679	187
		960	50.5	48.5	8507	7441	176
		1440	52.0	74.9	11981	10783	160
		2160	54.2	117.0	16777	15423	143
		2880	55.9	161.1	21076	19550	131
BXRE-27E6500-D-7X	80	700	33.2	23.3	4047	3730	174
		1050	34.2	35.9	5963	5469	166
		1400	35.0	49.0	7840	7056	160
		2100	36.4	76.5	11335	10183	148
		2800	37.7	105.6	14598	12977	138
BXRE-27G65H0-B-7X	90	585	49.6	29.0	4460	4126	154
		780	50.5	39.4	5790	5293	147
		1170	52.0	60.8	8335	7502	137
		1755	54.3	95.3	11868	10559	125
		2340	56.2	131.5	15058	13261	115

Notes for Table 4:

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 4: 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-27G65H0-C-7x	90	720	49.6	35.7	5726	4863	160
		960	50.5	48.5	7284	6372	150
		1440	52.0	74.9	10259	9233	137
		2160	54.2	117.0	14365	13206	123
		2880	55.9	161.1	18046	16740	112
BXRE-27G65H0-D-7x	90	700	33.2	23.3	3466	3194	149
		1050	34.2	35.9	5106	4683	142
		1400	35.0	49.0	6713	6042	137
		2100	36.4	76.5	9706	8719	127
		2800	37.7	105.6	12499	11112	118
BXRE-27G6500-B-7x	90	585	49.6	29.0	4297	3975	148
		780	50.5	39.4	5578	5100	142
		1170	52.0	60.8	8031	7228	132
		1755	54.3	95.3	11435	10173	120
		2340	56.2	131.5	14509	12777	110
BXRE-27G6500-C-7x	90	720	49.6	35.7	5517	4685	154
		960	50.5	48.5	7019	6139	145
		1440	52.0	74.9	9884	8896	132
		2160	54.2	117.0	13841	12724	118
		2880	55.9	161.1	17388	16129	108
BXRE-27G6500-D-7x	90	700	33.2	23.3	3339	3077	144
		1050	34.2	35.9	4920	4512	137
		1400	35.0	49.0	6468	5821	132
		2100	36.4	76.5	9352	8401	122
		2800	37.7	105.6	12043	10706	114
BXRE-27H6500-D-7x	97	700	33.2	23.3	2960	2727	127
		1050	34.2	35.9	4361	3999	121
		1400	35.0	49.0	5733	5160	117
		2100	36.4	76.5	8289	7446	108
		2800	37.7	105.6	10675	9490	101
BXRE-30C6501-B-74	70	585	49.6	29.0	6045	5134	208
		780	50.5	39.4	7690	6726	195
		1170	52.0	60.8	10830	9747	178
		1755	54.3	95.3	15165	13941	159
		2340	56.2	131.5	19051	17672	145
BXRE-30C6501-C-74	70	720	49.6	35.7	6881	6341	193
		960	50.5	48.5	10138	9297	209
		1440	52.0	74.9	13329	11996	178
		2160	54.2	117.0	19271	17311	165
		2880	55.9	161.1	24818	22063	154
BXRE-30C6501-D-74	70	700	33.2	23.3	4503	4149	194
		1050	34.2	35.9	6634	6084	185
		1400	35.0	49.0	8722	7850	178
		2100	36.4	76.5	12611	11328	165
		2800	37.7	105.6	16240	14437	154

Notes for Table 4:

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 4: 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-30E6500-B-7x	80	585	49.6	29.0	5534	5120	191
		780	50.5	39.4	7184	6568	182
		1170	52.0	60.8	10343	9309	170
		1755	54.3	95.3	14726	13102	155
		2340	56.2	131.5	18685	16456	142
BXRE-30E6500-C-7x	80	720	49.6	35.7	7106	6034	199
		960	50.5	48.5	9039	7906	187
		1440	52.0	74.9	12730	11457	170
		2160	54.2	117.0	17825	16387	152
		2880	55.9	161.1	22393	20772	139
BXRE-30E6500-D-7x	80	700	33.2	23.3	4300	3963	185
		1050	34.2	35.9	6336	5811	176
		1400	35.0	49.0	8330	7497	170
		2100	36.4	76.5	12044	10819	157
		2800	37.7	105.6	15510	13789	147
BXRE-30G65H0-B-7x	90	585	49.6	29.0	4688	4337	161
		780	50.5	39.4	6086	5564	155
		1170	52.0	60.8	8761	7885	144
		1755	54.3	95.3	12474	11098	131
		2340	56.2	131.5	15827	13939	120
BXRE-30G65H0-C-7x	90	720	49.6	35.7	6019	5111	168
		960	50.5	48.5	7657	6697	158
		1440	52.0	74.9	10783	9704	144
		2160	54.2	117.0	15099	13881	129
		2880	55.9	161.1	18969	17595	118
BXRE-30G65H0-D-7x	90	700	33.2	23.3	3643	3357	157
		1050	34.2	35.9	5367	4922	149
		1400	35.0	49.0	7056	6350	144
		2100	36.4	76.5	10202	9164	133
		2800	37.7	105.6	13138	11680	124
BXRE-30G6500-B-7x	90	585	49.6	29.0	4493	4156	155
		780	50.5	39.4	5832	5332	148
		1170	52.0	60.8	8396	7556	138
		1755	54.3	95.3	11954	10636	125
		2340	56.2	131.5	15168	13358	115
BXRE-30G6500-C-7x	90	720	49.6	35.7	5768	4898	161
		960	50.5	48.5	7338	6418	151
		1440	52.0	74.9	10333	9300	138
		2160	54.2	117.0	14470	13303	124
		2880	55.9	161.1	18178	16862	113
BXRE-30G6500-D-7x	90	700	33.2	23.3	3491	3217	150
		1050	34.2	35.9	5143	4717	143
		1400	35.0	49.0	6762	6086	138
		2100	36.4	76.5	9777	8783	128
		2800	37.7	105.6	12591	11193	119

Notes for Table 4:

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 4: 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-30G650C-D-73	90	700	33.2	23.3	3364	3100	145
		1050	34.2	35.9	4957	4546	138
		1400	35.0	49.0	6517	5865	133
		2100	36.4	76.5	9422	8464	123
		2800	37.7	105.6	12134	10787	115
BXRE-30H6500-D-7x	97	700	33.2	23.3	3162	2914	136
		1050	34.2	35.9	4659	4272	130
		1400	35.0	49.0	6125	5513	125
		2100	36.4	76.5	8856	7955	116
		2800	37.7	105.6	11405	10139	108
BXRE-35E6500-B-7x	80	585	49.6	29.0	5665	5240	195
		780	50.5	39.4	7353	6723	187
		1170	52.0	60.8	10586	9528	174
		1755	54.3	95.3	15073	13410	158
		2340	56.2	131.5	19125	16843	145
BXRE-35E6500-C-7x	80	720	49.6	35.7	7273	6176	204
		960	50.5	48.5	9252	8092	191
		1440	52.0	74.9	13029	11726	174
		2160	54.2	117.0	18245	16773	156
		2880	55.9	161.1	22920	21261	142
BXRE-35E6500-D-7x	80	700	33.2	23.3	4402	4056	189
		1050	34.2	35.9	6485	5947	180
		1400	35.0	49.0	8526	7673	174
		2100	36.4	76.5	12327	11074	161
		2800	37.7	105.6	15875	14113	150
BXRE-35G6500-B-7x	90	585	49.6	29.0	4655	4307	160
		780	50.5	39.4	6043	5525	153
		1170	52.0	60.8	8700	7830	143
		1755	54.3	95.3	12387	11021	130
		2340	56.2	131.5	15718	13842	120
BXRE-35G6500-C-7x	90	720	49.6	35.7	5977	5076	167
		960	50.5	48.5	7603	6651	157
		1440	52.0	74.9	10708	9637	143
		2160	54.2	117.0	14994	13785	128
		2880	55.9	161.1	18837	17473	117
BXRE-35G6500-D-7x	90	700	33.2	23.3	3617	3333	155
		1050	34.2	35.9	5330	4888	148
		1400	35.0	49.0	7007	6306	143
		2100	36.4	76.5	10131	9101	132
		2800	37.7	105.6	13047	11599	124
BXRE-35A6501-D-73	93	700	33.2	23.3	3339	3077	144
		1050	34.2	35.9	4920	4512	137
		1400	35.0	49.0	6468	5821	132
		2100	36.4	76.5	9352	8401	122
		2800	37.7	105.6	12043	10706	114

Notes for Table 4:

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 4: 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-40C6501-B-74	70	585	49.6	29.0	6215	5278	214
		780	50.5	39.4	7906	6915	201
		1170	52.0	60.8	11134	10020	183
		1755	54.3	95.3	15591	14333	164
		2340	56.2	131.5	19586	18168	149
BXRE-40C6501-C-74	70	720	49.6	35.7	7074	6519	198
		960	50.5	48.5	10423	9558	215
		1440	52.0	74.9	13703	12333	183
		2160	54.2	117.0	19812	17798	169
		2880	55.9	161.1	25515	22682	158
BXRE-40C6501-D-74	70	700	33.2	23.3	4629	4266	199
		1050	34.2	35.9	6820	6255	190
		1400	35.0	49.0	8967	8070	183
		2100	36.4	76.5	12965	11647	169
		2800	37.7	105.6	16696	14843	158
BXRE-40E6500-B-7x	80	585	49.6	29.0	5697	5271	196
		780	50.5	39.4	7396	6761	188
		1170	52.0	60.8	10647	9582	175
		1755	54.3	95.3	15160	13487	159
		2340	56.2	131.5	19235	16940	146
BXRE-40E6500-C-7x	80	720	49.6	35.7	7315	6212	205
		960	50.5	48.5	9305	8139	192
		1440	52.0	74.9	13104	11794	175
		2160	54.2	117.0	18350	16869	157
		2880	55.9	161.1	23052	21383	143
BXRE-40E6500-D-7x	80	700	33.2	23.3	4427	4079	190
		1050	34.2	35.9	6522	5981	181
		1400	35.0	49.0	8575	7718	175
		2100	36.4	76.5	12398	11137	162
		2800	37.7	105.6	15966	14194	151
BXRE-40G6500-B-7x	90	585	49.6	29.0	4753	4397	164
		780	50.5	39.4	6170	5641	157
		1170	52.0	60.8	8883	7994	146
		1755	54.3	95.3	12647	11252	133
		2340	56.2	131.5	16047	14132	122
BXRE-40G6500-C-7x	90	720	49.6	35.7	6103	5182	171
		960	50.5	48.5	7763	6790	160
		1440	52.0	74.9	10932	9839	146
		2160	54.2	117.0	15309	14074	131
		2880	55.9	161.1	19232	17840	119
BXRE-40G6500-D-7x	90	700	33.2	23.3	3693	3403	159
		1050	34.2	35.9	5441	4990	151
		1400	35.0	49.0	7154	6439	146
		2100	36.4	76.5	10343	9292	135
		2800	37.7	105.6	13321	11842	126

Notes for Table 4:

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 4: 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-40H6500-D-73	97	700	33.2	23.3	3339	3077	144		
		1050	34.2	35.9	4920	4512	137		
		1400	35.0	49.0	6468	5821	132		
		2100	36.4	76.5	9352	8401	122		
		2800	37.7	105.6	12043	10706	114		
		BXRE-50C6501-B-7x	70	585	49.6	29.0	5990	5542	206
				780	50.5	39.4	7776	7109	197
				1170	52.0	60.8	11195	10075	184
1755	54.3			95.3	15939	14181	167		
		2340	56.2	131.5	20224	17811	154		
		BXRE-50C6501-C-7x	70	720	49.6	35.7	7691	6531	215
				960	50.5	48.5	9783	8558	202
				1440	52.0	74.9	13778	12400	184
2160	54.2			117.0	19293	17737	165		
		2880	55.9	161.1	24238	22483	150		
		BXRE-50C6501-D-7x	70	700	33.2	23.3	4655	4289	200
				1050	34.2	35.9	6858	6289	191
				1400	35.0	49.0	9016	8114	184
2100	36.4			76.5	13036	11710	170		
		2800	37.7	105.6	16788	14924	159		
		BXRE-50E6501-B-7x	80	585	49.6	29.0	5762	5331	198
				780	50.5	39.4	7480	6839	190
				1170	52.0	60.8	10769	9692	177
1755	54.3			95.3	15333	13641	161		
		2340	56.2	131.5	19455	17133	148		
		BXRE-50E6501-C-7x	80	720	49.6	35.7	7398	6283	207
				960	50.5	48.5	9411	8232	194
				1440	52.0	74.9	13254	11928	177
2160	54.2			117.0	18559	17062	159		
		2880	55.9	161.1	23316	21627	145		
		BXRE-50E6501-D-7x	80	700	33.2	23.3	4477	4126	192
				1050	34.2	35.9	6597	6050	184
				1400	35.0	49.0	8673	7806	177
2100	36.4			76.5	12540	11265	164		
		2800	37.7	105.6	16149	14356	153		
		BXRE-50G6501-B-7x	90	585	49.6	29.0	4981	4608	172
				780	50.5	39.4	6466	5911	164
				1170	52.0	60.8	9309	8378	153
1755	54.3			95.3	13254	11792	139		
		2340	56.2	131.5	16817	14810	128		
		BXRE-50G6501-C-7x	90	720	49.6	35.7	6395	5431	179
				960	50.5	48.5	8135	7116	168
				1440	52.0	74.9	11457	10311	153
2160	54.2			117.0	16043	14749	137		
		2880	55.9	161.1	20154	18695	125		

Notes for Table 4:

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 4: 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-50G6501-D-7x	90	700	33.2	23.3	3870	3567	166
		1050	34.2	35.9	5702	5229	159
		1400	35.0	49.0	7497	6747	153
		2100	36.4	76.5	10839	9737	142
		2800	37.7	105.6	13959	12410	132
BXRE-56G6501-D-7x	90	700	33.2	23.3	3896	3590	167
		1050	34.2	35.9	5740	5264	160
		1400	35.0	49.0	7546	6791	154
		2100	36.4	76.5	10910	9801	143
		2800	37.7	105.6	14050	12491	133
BXRE-57C6501-B-7x	70	585	49.6	29.0	5827	5391	201
		780	50.5	39.4	7565	6916	192
		1170	52.0	60.8	10890	9801	179
		1755	54.3	95.3	15506	13795	163
		2340	56.2	131.5	19674	17327	150
BXRE-57C6501-C-7x	70	720	49.6	35.7	7482	6354	209
		960	50.5	48.5	9518	8325	196
		1440	52.0	74.9	13404	12063	179
		2160	54.2	117.0	18769	17255	160
		2880	55.9	161.1	23579	21872	146
BXRE-57C6501-D-74	70	700	33.2	23.3	4528	4173	195
		1050	34.2	35.9	6671	6118	186
		1400	35.0	49.0	8771	7894	179
		2100	36.4	76.5	12681	11392	166
		2800	37.7	105.6	16331	14519	155
BXRE-57E6501-B-7x	80	585	49.6	29.0	5534	5120	191
		780	50.5	39.4	7184	6568	182
		1170	52.0	60.8	10343	9309	170
		1755	54.3	95.3	14726	13102	155
		2340	56.2	131.5	18685	16456	142
BXRE-57E6501-C-7x	80	720	49.6	35.7	7106	6034	199
		960	50.5	48.5	9039	7906	187
		1440	52.0	74.9	12730	11457	170
		2160	54.2	117.0	17825	16387	152
		2880	55.9	161.1	22393	20772	139
BXRE-57E6501-D-74	80	700	33.2	23.3	4300	3963	185
		1050	34.2	35.9	6336	5811	176
		1400	35.0	49.0	8330	7497	170
		2100	36.4	76.5	12044	10819	157
		2800	37.7	105.6	15510	13789	147
BXRE-65C6501-B-7x	70	585	49.6	29.0	5827	5391	201
		780	50.5	39.4	7565	6916	192
		1170	52.0	60.8	10890	9801	179
		1755	54.3	95.3	15506	13795	163
		2340	56.2	131.5	19674	17327	150

Notes for Table 4:

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 4: 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-65C6501-C-7x	70	720	49.6	35.7	7482	6354	209
		960	50.5	48.5	9518	8325	196
		1440	52.0	74.9	13404	12063	179
		2160	54.2	117.0	18769	17255	160
		2880	55.9	161.1	23579	21872	146
BXRE-65C6501-D-7x	70	700	33.2	23.3	4528	4173	195
		1050	34.2	35.9	6671	6118	186
		1400	35.0	49.0	8771	7894	179
		2100	36.4	76.5	12681	11392	166
		2800	37.7	105.6	16331	14519	155
BXRE-65E6501-B-7x	80	585	49.6	29.0	5600	5180	193
		780	50.5	39.4	7269	6646	185
		1170	52.0	60.8	10464	9418	172
		1755	54.3	95.3	14900	13256	156
		2340	56.2	131.5	18905	16649	144
BXRE-65E6501-C-7x	80	720	49.6	35.7	7189	6105	201
		960	50.5	48.5	9145	7999	189
		1440	52.0	74.9	12879	11591	172
		2160	54.2	117.0	18035	16580	154
		2880	55.9	161.1	22657	21016	141
BXRE-65E6501-D-7x	80	700	33.2	23.3	4351	4010	187
		1050	34.2	35.9	6410	5879	178
		1400	35.0	49.0	8428	7585	172
		2100	36.4	76.5	12185	10946	159
		2800	37.7	105.6	15693	13951	149

Notes for Table 4:

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 5: 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-xxx650x-B-7x	1170	48.1	52.0	55.9	-22.1	0.07	46.3	57.3
	2340	52.0	56.2	60.4	-22.1	0.09	50.2	61.8
BXRE-xxx650x-C-7x	1440	48.1	52.0	55.9	-22.1	0.06	46.3	57.3
	2880	51.7	55.9	60.1	-22.1	0.08	50.0	61.6
BXRE-xxx650x-D-7x	1400	32.4	35.0	37.6	-22.1	0.07	30.6	39.1
	2800	35.0	37.7	40.4	-22.1	0.08	33.2	41.8

Notes for Table 5:

- Parts are tested in pulsed conditions. $T_c = 25^\circ\text{C}$. Pulse width is 10ms.
- Voltage minimum and maximum are provided for reference only and are not a guarantee of performance.
- Bridgelux maintains a tester tolerance of $\pm 0.10\text{V}$ on forward voltage measurements.
- Typical coefficient of forward voltage tolerance is $\pm 0.1\text{mV}$ for nominal current.
- Thermal resistance values are based from test data of a 3000K 80 CRI product.
- 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.
- 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.
- This product has been designed and manufactured per IEC 62031:2014. 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 6: Eye Safety Risk Group (RG) Classifications

Part Number	Drive Current ⁵ (mA)	CCT ⁵			
		2700K/3000K	4000K ²	5000K ³	6500K ⁴
BXRE-xxx650x-B-7x	1170	RG1	RG1	RG1	RG1
	1755	RG1	RG1	RG2	RG2
	2340	RG1	RG2	RG2	RG2
BXRE-xxx650x-C-7x	1440	RG1	RG1	RG1	RG2
	2160	RG1	RG1	RG2	RG2
	2880	RG1	RG2	RG2	RG2
BXRE-xxx650x-D-7x	1400	RG1	RG1	RG1	RG1
	2100	RG1	RG1	RG1	RG2
	2800	RG1	RG1	RG2	RG2

Notes for Table 6:

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, $E_{thr} = 1847.5$ lx.
3. For products classified as RG2 at 5000K, $E_{thr} = 1315.8$ lx.
4. For products classified as RG2 at 6500K, $E_{thr} = 1124.5$ lx.
5. Please contact your Bridgelux sales representative for E_{thr} values at specific drive currents and CCTs not listed.

Absolute Maximum Ratings

Table 7: 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-xxx650x-B-7x	BXRE-xxx650x-C-7x	BXRE-xxx650x-D-7x
Maximum Drive Current ³	2340mA	2880mA	2800mA
Maximum Peak Pulsed Drive Current ⁴	3340mA	4110mA	4000mA
Maximum Reverse Voltage ⁵	-90V	-90V	-60V

Notes for Table 7:

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: V22B Drive Current vs. Voltage

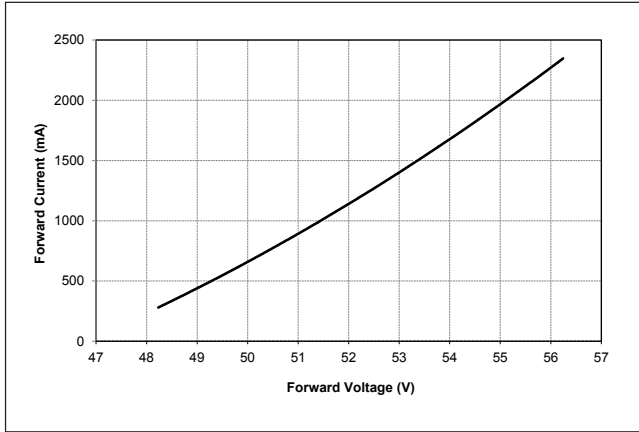


Figure 2: V22C Drive Current vs. Voltage

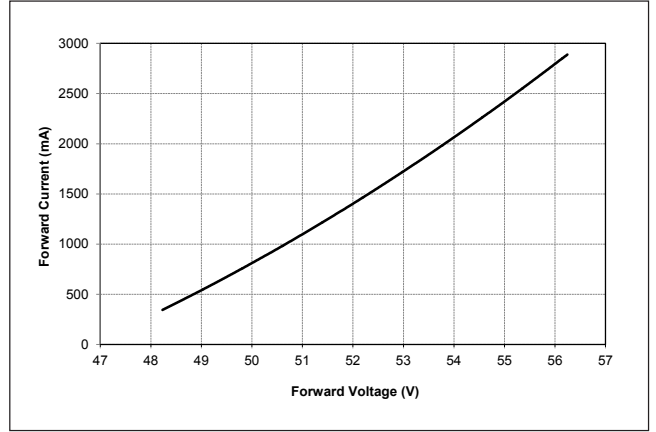


Figure 3: V22D Drive Current vs. Voltage

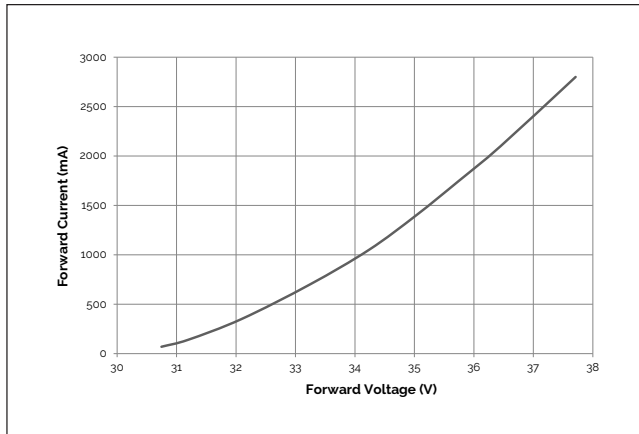


Figure 4: V22B Typical Relative Flux vs. Current

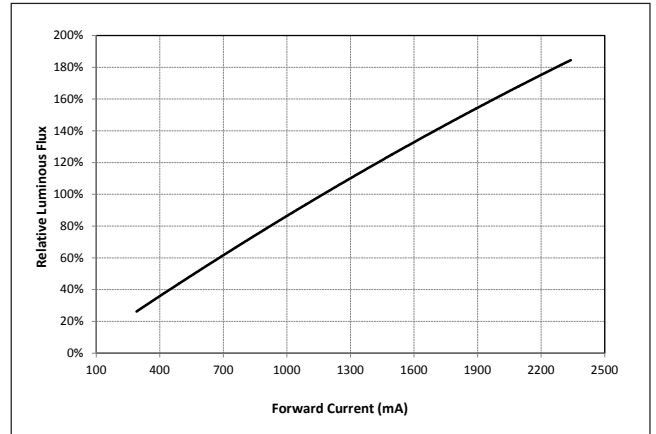


Figure 5: V22C Typical Relative Flux vs. Current

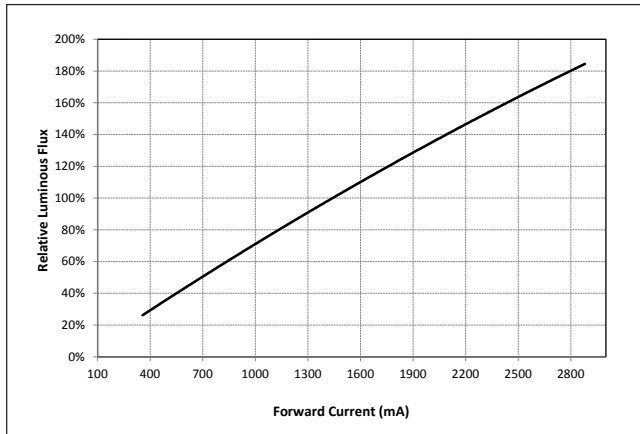
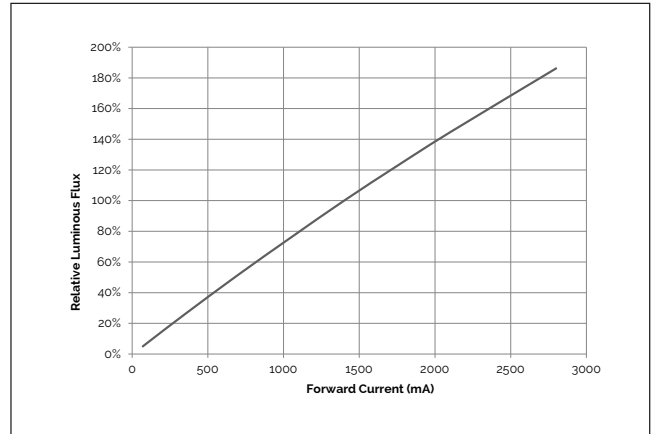


Figure 6: V22D Typical Relative Flux vs. Current



Notes for Figures 1-6:

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 7: Typical DC Flux vs. Case Temperature

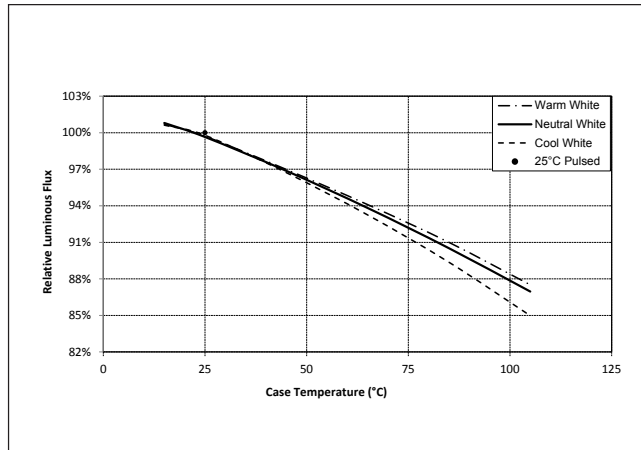


Figure 8: Typical DC ccy Shift vs. Case Temperature

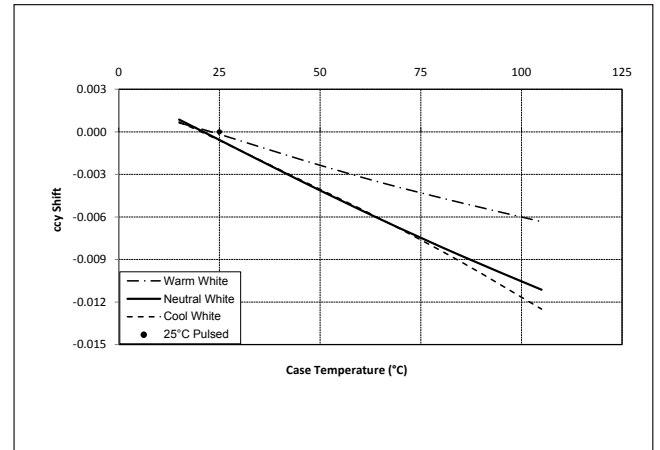
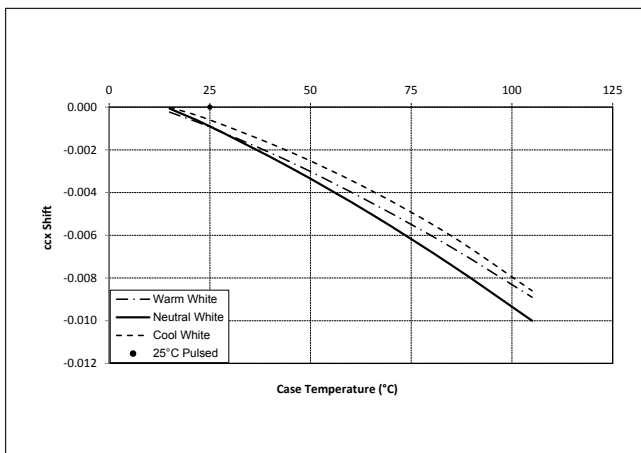


Figure 9: Typical DC ccx Shift vs. Case Temperature



Notes for Figures 7-9:

1. Characteristics 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 10: 1750K Color Shift vs. Case Temperature¹

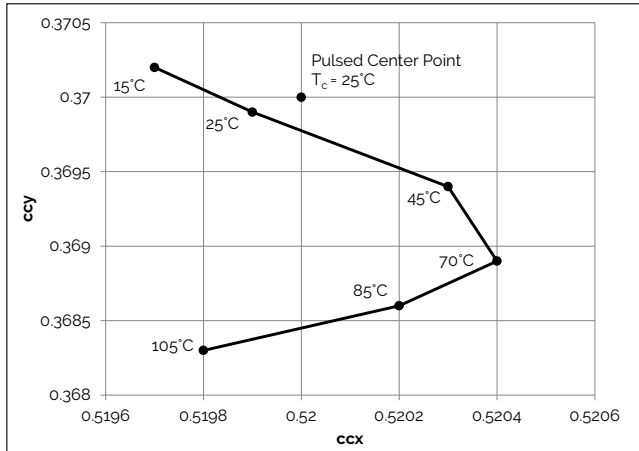


Figure 11: 2500K Color Shift vs. Case Temperature¹

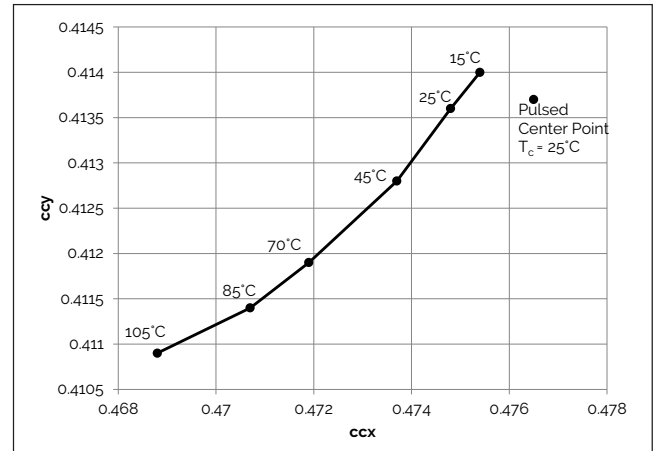


Figure 12: 2000K, 65 CRI Color Shift vs. Case Temperature

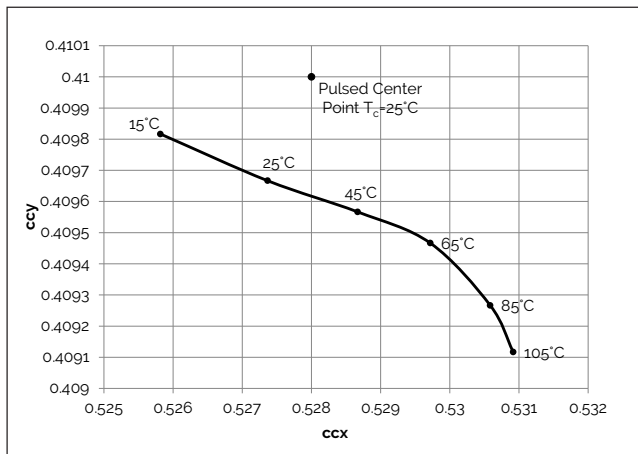
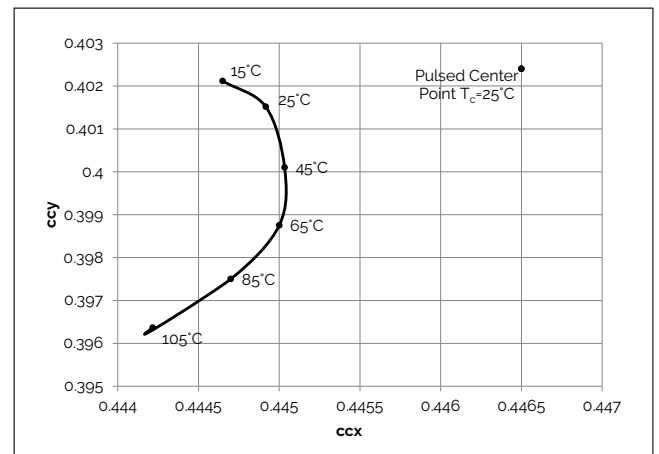


Figure 13: 3000K, 90 CRI Color Shift vs. Case Temperature³



Note for Figures 10-13:

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-30G650C-x-73

Performance Curves

Figure 14: 2700K, 97 CRI Color Shift vs. Case Temperature¹

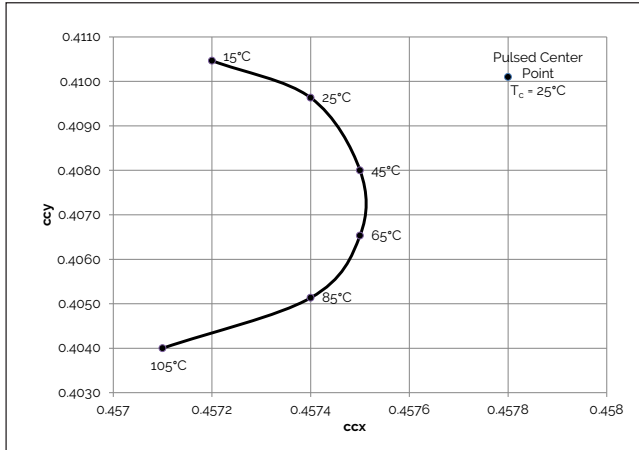


Figure 15: 3000K, 97 CRI Color Shift vs. Case Temperature¹

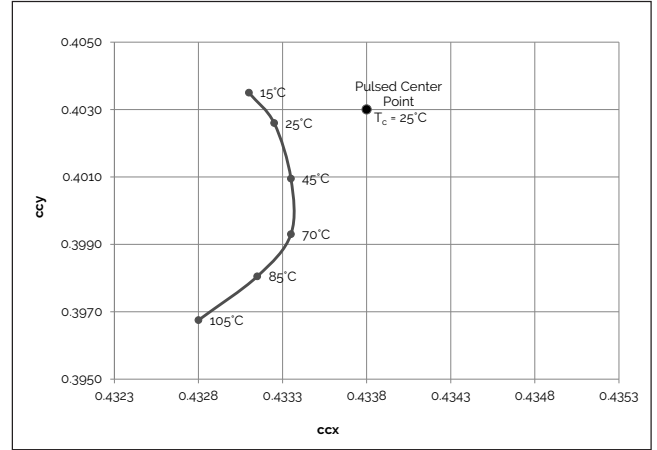


Figure 16: 5600K Color Shift vs. Case Temperature^{1,3}

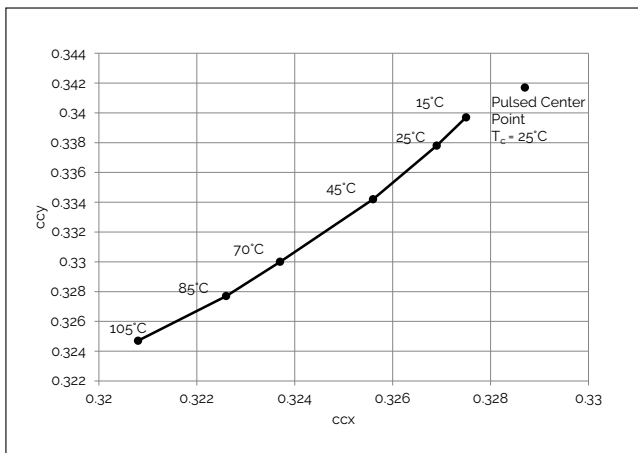
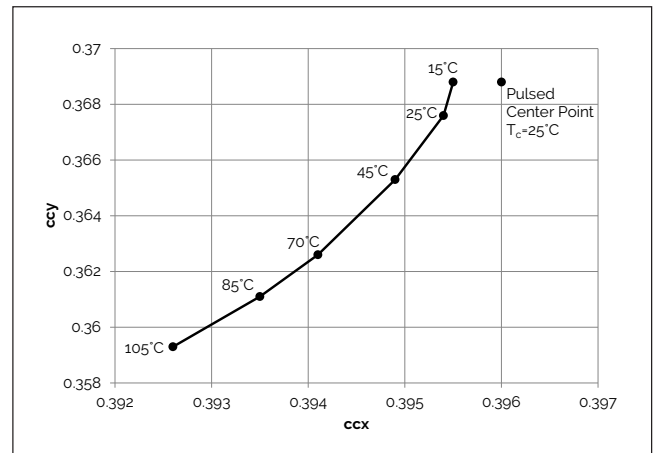


Figure 17: 3500K Class A Color Shift vs. Case Temperature¹

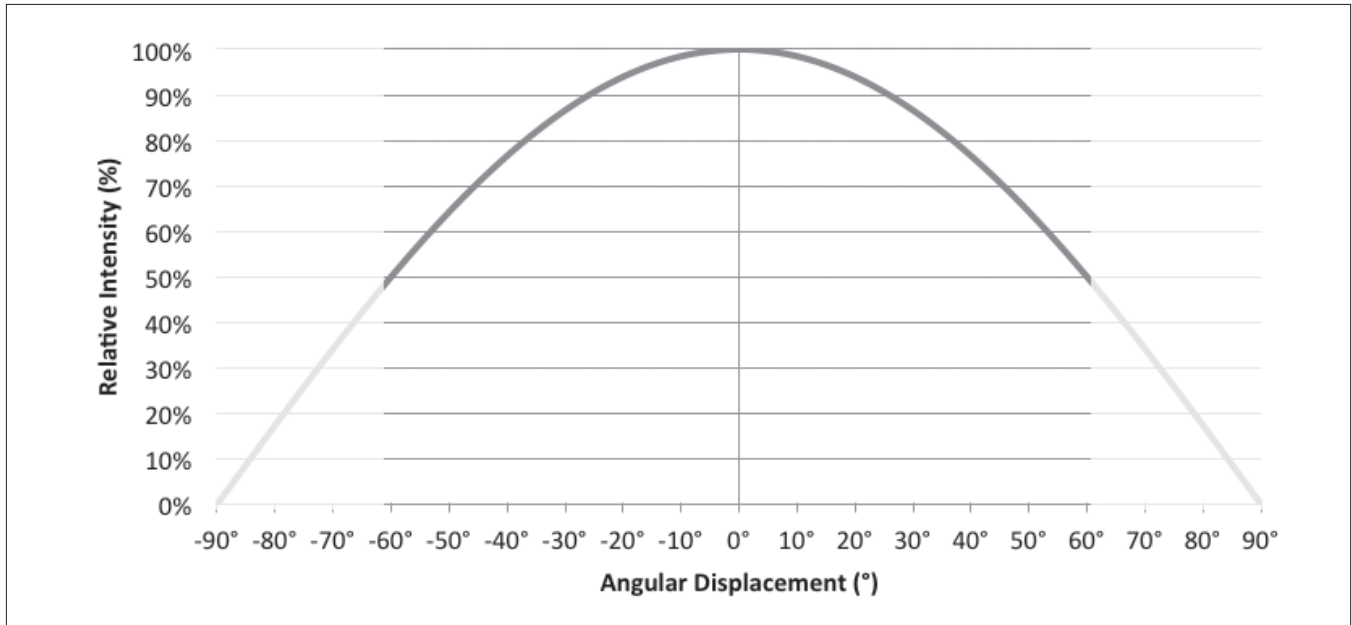


Note for Figures 14-17:

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. Color shift shown for product hot targeted at $T_c = 85^\circ\text{C}$

Typical Radiation Pattern

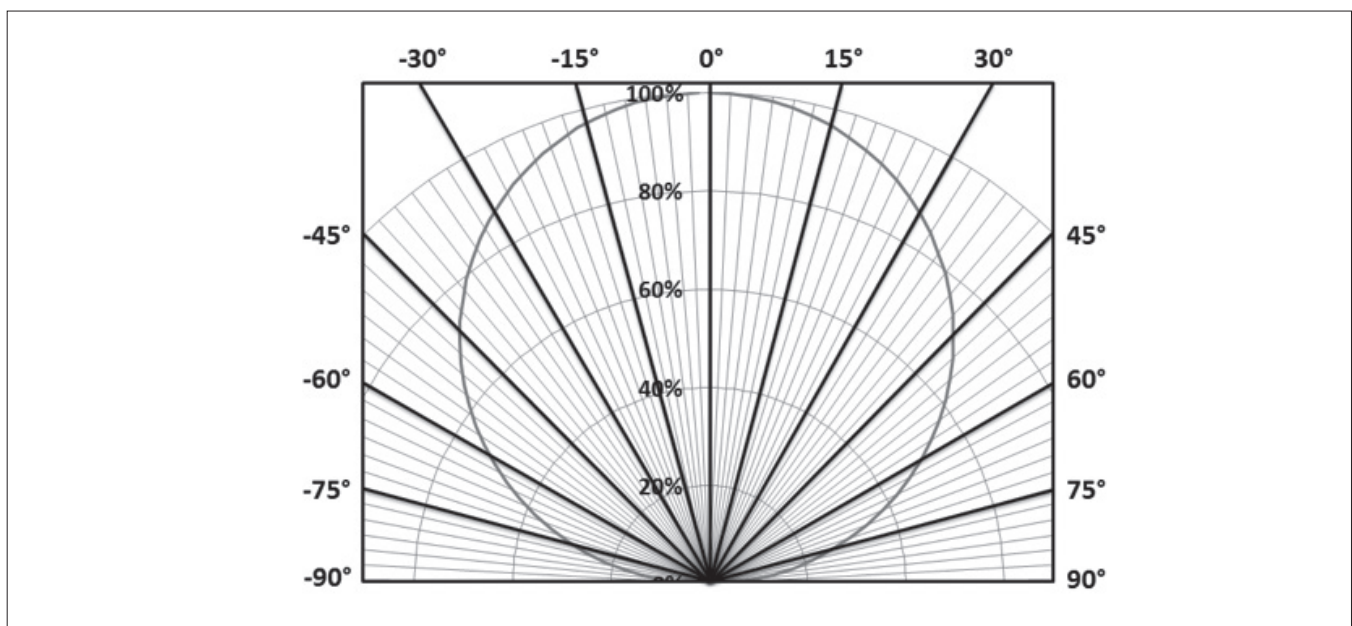
Figure 18: Typical Spatial Radiation Pattern



Note for Figure 18:

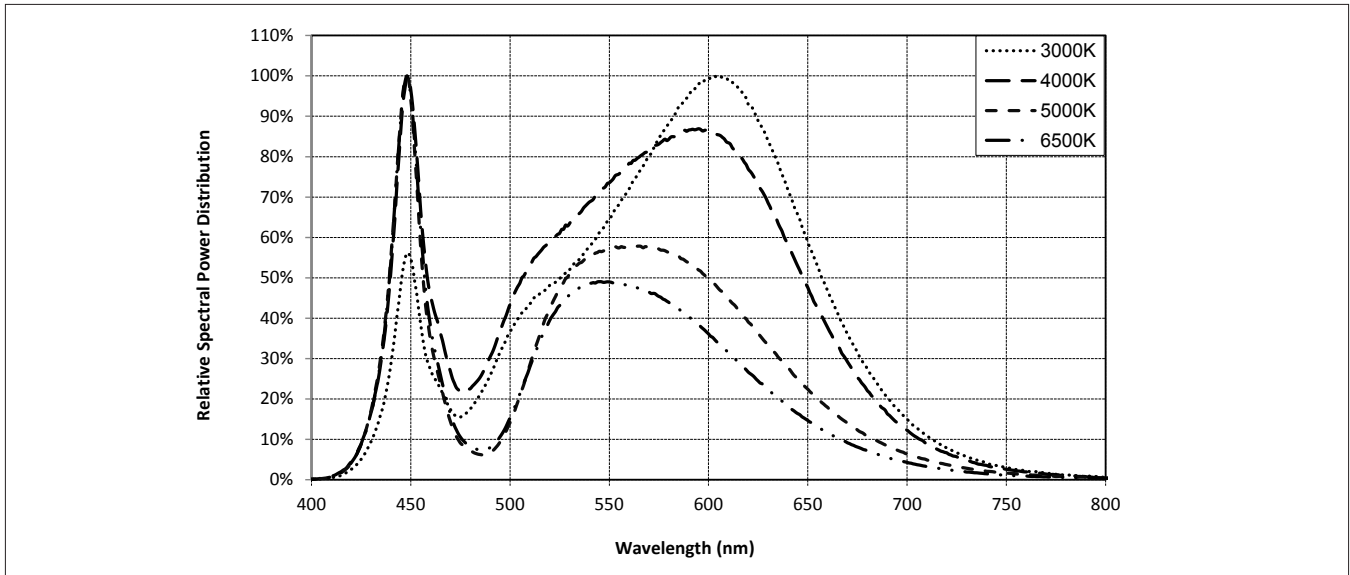
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 19: Typical Polar Radiation Pattern



Typical Color Spectrum

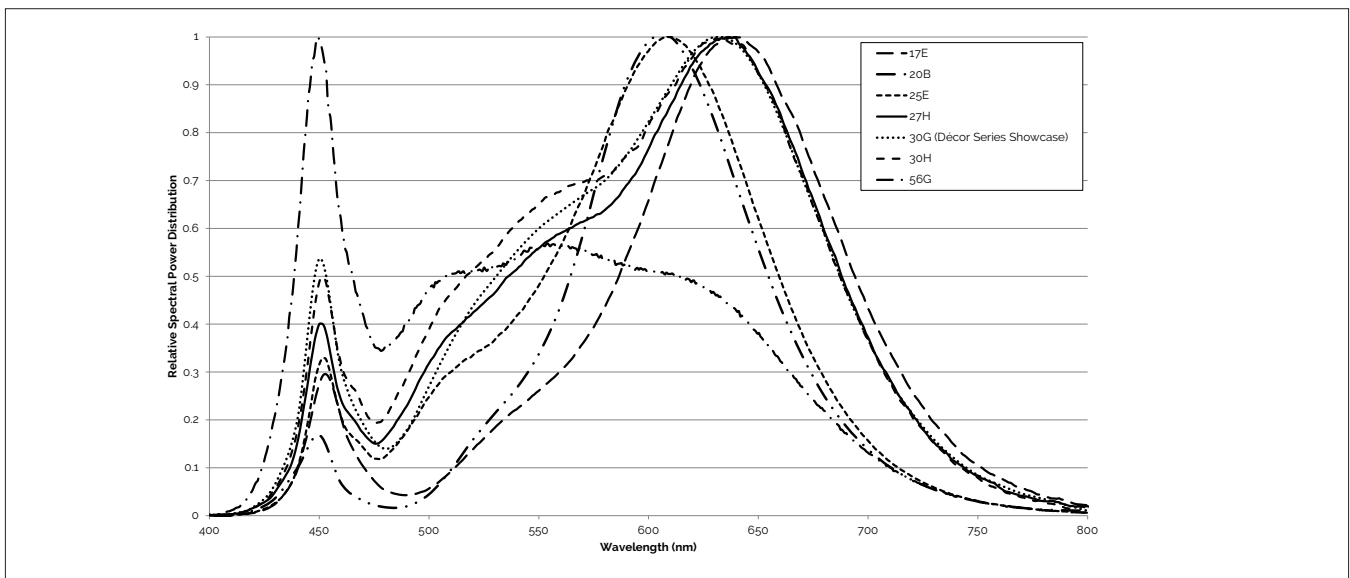
Figure 20: Typical Color Spectrum



Note for Figure 20:

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 21: Typical Color Spectrum for Décor Series

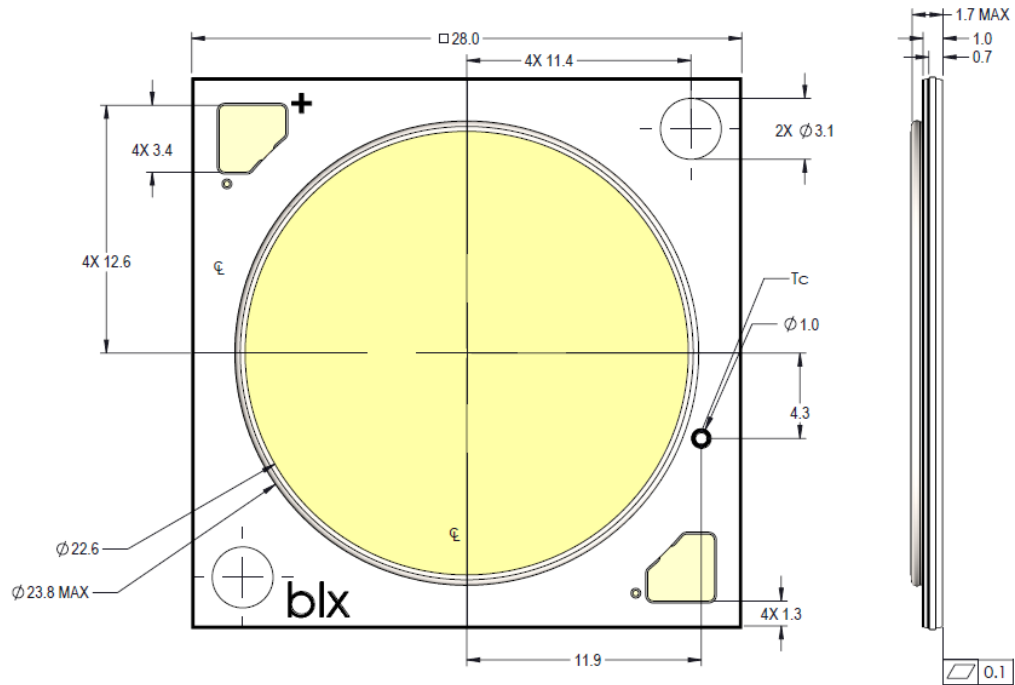


Note for Figure 21:

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

Mechanical Dimensions

Figure 22: Drawing for V22 LED Array

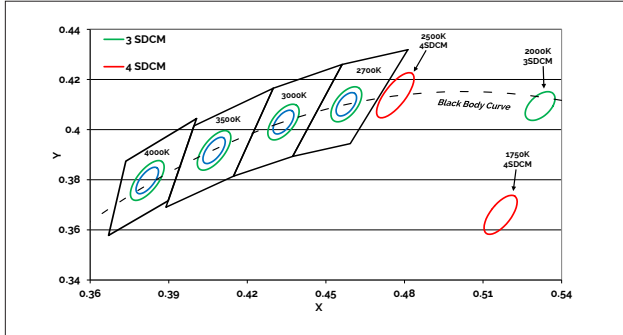


Notes for Figure 22:

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 23: Graph of Warm and Neutral White Test Bins in xy Color Space



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

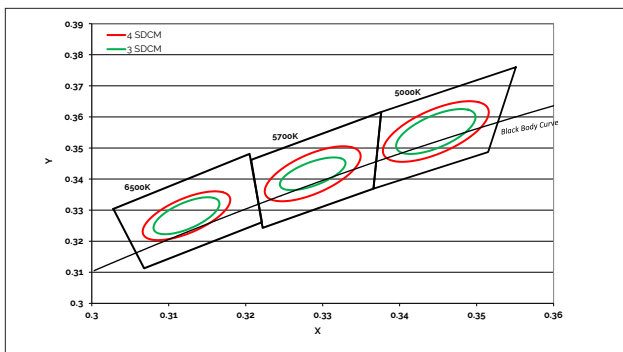
Table 8: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

Bin Code	2000K	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)	(0.5280, 0.4100)	(0.4578, 0.4101)	(0.4338, 0.403) (0.4465, 0.4024) ²	(0.4073, 0.3917)	(0.3818, 0.3797)

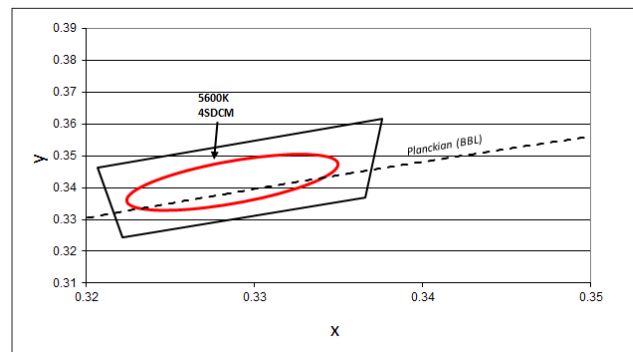
Note for Table 8:

1. Color binning information excludes Decor Series Class A products. Please contact your Bridgelux Sales Representative for more information.
2. Center Point for Decor Series Showcase.

Figure 24: Graph of Cool White Test Bins in xy Color Space



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



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

Table 9: Cool White xy Bin Coordinates and Associated Typical CCT (product is hot targeted to $T_c = 85^\circ\text{C}$)

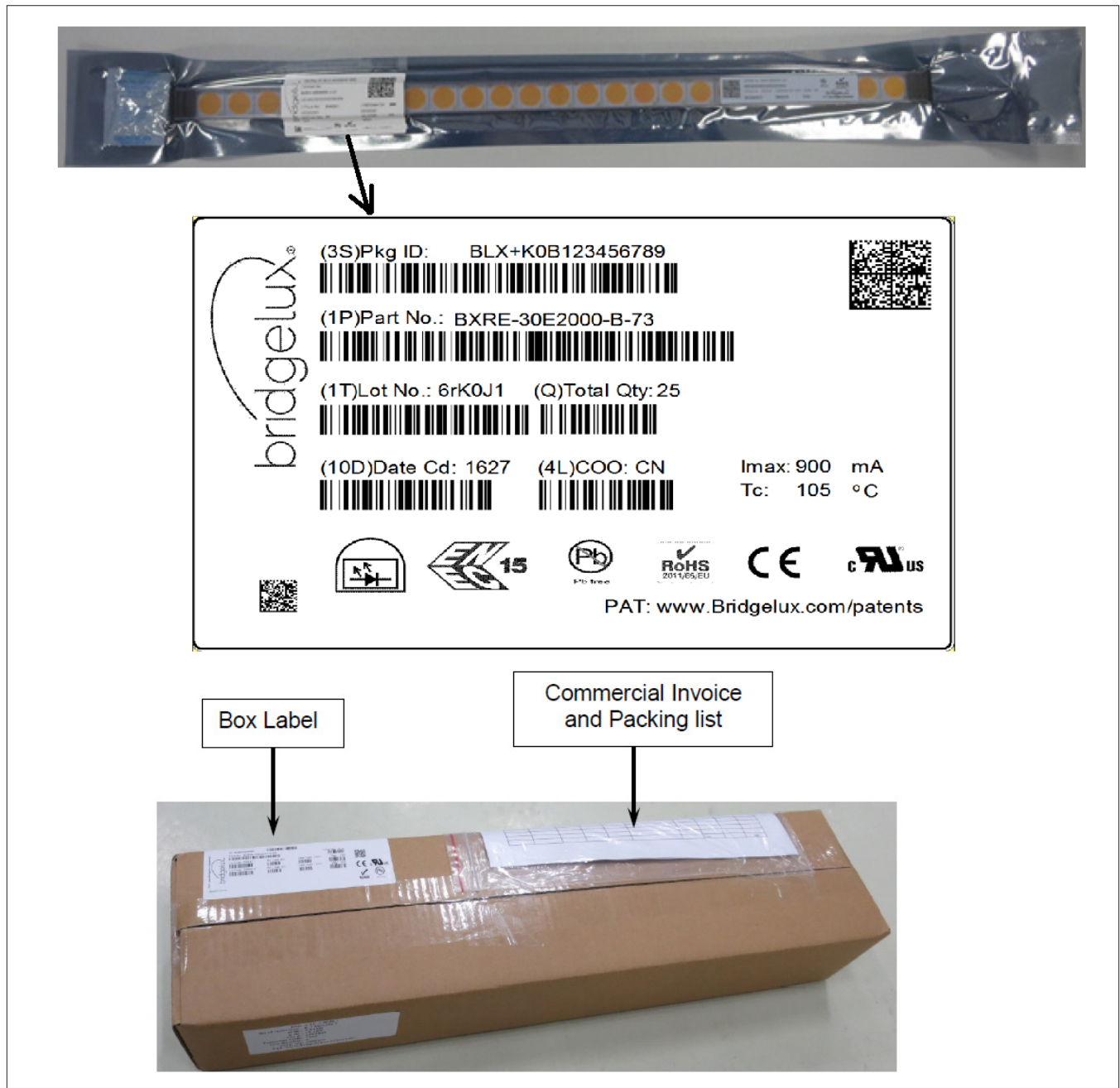
Bin Code	5000K	5600K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5310K - 6020K)	(5312K - 6022K)	(6022K - 7042K)
74 (4 SDCM)	(4801K - 5282K)	(5475K - 5830K)	(5481K - 5829K)	(6270K - 6765K)
73 (3 SDCM)	(4835K - 5215K)	(5490K - 5820K)	(5490K - 5820K)	(6250K - 6745K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3293, 0.3423)	(0.3287, 0.3417)	(0.3123, 0.3282)

Note for Table 9:

1. Select configurations with a CCT of 5600K are available with center point targets at $T_c = 85^\circ\text{C}$ or $T_c = 25^\circ\text{C}$.

Packaging and Labeling

Figure 25: Drawing for V22 Packaging Tube



Notes for Figure 25:

1. Each tube holds 15 V22 COB arrays.
2. One tube is sealed in an anti-static bag. Four bags are placed in a shipping box and shipped. 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 30.7 (W) x 9.65(H) x 460(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 26: 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
bridgelux.com
twitter.com/Bridgelux
facebook.com/Bridgelux
youtube.com/user/Bridgelux
linkedin.com/company/bridgelux-inc-_2
WeChat ID: BridgeluxInChina



46430 Fremont Boulevard
Fremont, CA 94538 U.S.A.
Tel (925) 583-8400
www.bridgelux.com

© 2018-2019 Bridgelux, Inc. All rights reserved. Product specifications are subject to change without notice. Bridgelux, the Bridgelux stylized logo design and Vero are registered trademarks, and Decor Series is a trademark of Bridgelux, Inc. All other trademarks are the property of their respective owners.

Bridgelux Gen 7 V22 Array Series Product Data Sheet DS103 Rev. P (03/2019)