



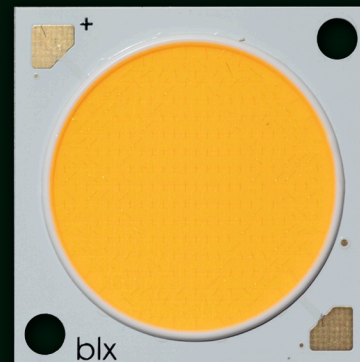
Bridgelux® Gen 7 V22 Array Series

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 Rg 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



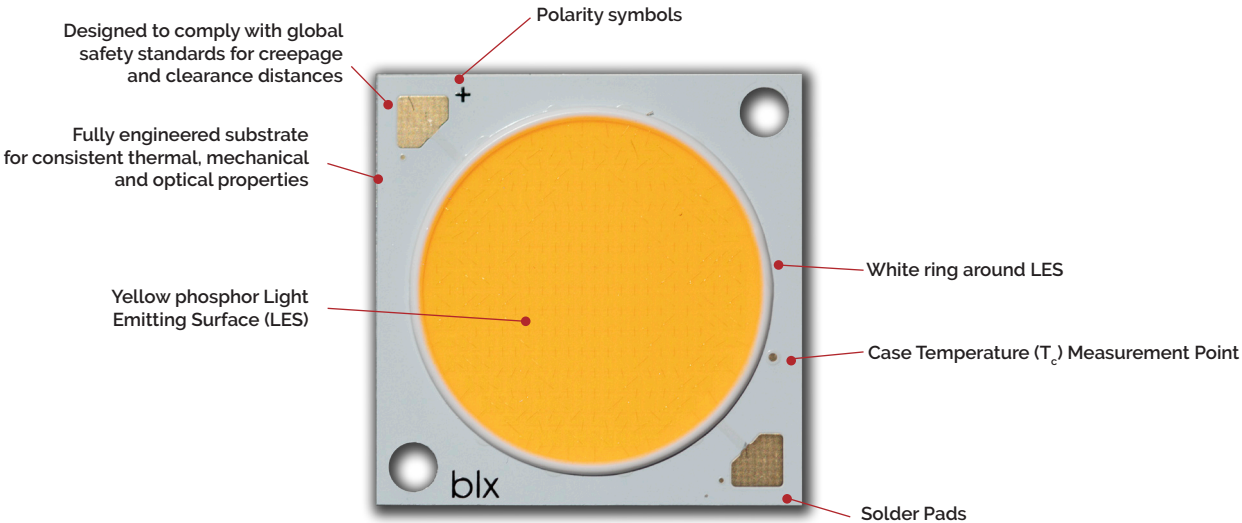
Contents

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

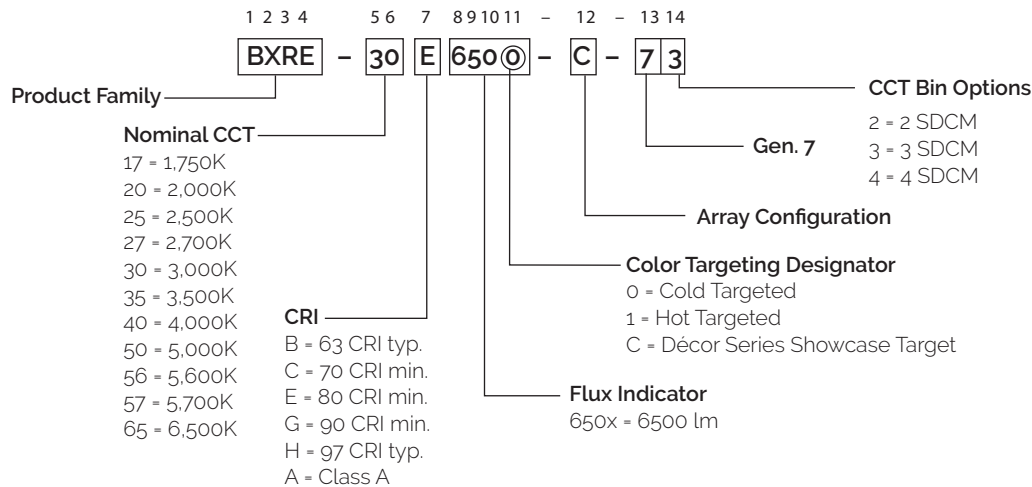
Bridgelux's LED Array products. The arrays incorporate several features to simplify design integration and assembly. Please visit www.bridgelux.com for more information on the V Series family of products.



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 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.
- 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 not 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:

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. 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 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.
3. Drive current is referred to as nominal drive current.
4. Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C .
5. Typical performance values are provided as a reference only and are not a guarantee of performance.
6. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
7. Minimum flux values at the nominal test current are guaranteed by 100% test.
8. 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.
9. 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.
10. 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:

1. 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.
2. 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.
3. All CRI values are measured at $T_j = T_c = 25^\circ\text{C}$. CRI Values are specified as typical.
4. Drive current is referred to as nominal drive current.
5. Typical performance values are provided as a reference only and are not a guarantee of performance.
6. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
7. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
8. 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.
9. 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	33.4	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	33.4	46.8	148
BXRE-25E6500-D-74	2500	80	1400	6747	6073	33.4	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	33.4	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	33.4	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	33.4	46.8	124
BXRE-27H6500-D-7x	2700	97	1400	5160	4644	33.4	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	33.4	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	33.4	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	33.4	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	33.4	46.8	130
BXRE-30G650C-D-73	3000	90	1400	5865	5279	33.4	46.8	125
BXRE-30H6500-D-7x	3000	97	1400	5513	4961	33.4	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	33.4	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 not 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 $T_j = T_c = 25^\circ\text{C}$. 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.

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°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-17E6500-D-74	80	700	33.2	23.3	2324	2123	100
		1050	34.2	35.9	3438	3117	96
		1400	35.0	49.0	4508	4057	92
		2100	36.4	76.5	6586	5802	86
		2800	37.7	105.6	8683	7460	82
BXRE-20B6501-C-73	65	720	49.6	35.7	6001	5483	168
		960	50.5	48.5	7897	7180	163
		1440	52.0	74.9	11756	10581	157
		2160	54.2	117.0	17037	15008	146
		2880	55.9	161.1	21791	18723	135
BXRE-20B6501-D-73	65	700	33.2	23.3	3966	3623	170
		1050	34.2	35.9	5867	5320	163
		1400	35.0	49.0	7693	6924	157
		2100	36.4	76.5	11239	9901	147
		2800	37.7	105.6	14818	12731	140
BXRE-25E6500-D-74	80	700	33.2	23.3	3865	3531	166
		1050	34.2	35.9	5717	5184	159
		1400	35.0	49.0	7497	6747	153
		2100	36.4	76.5	10953	9649	143
		2800	37.7	105.6	14440	12407	137
BXRE-27E6500-B-7X	80	585	49.6	29.0	4970	4540	171
		780	50.5	39.4	6541	5947	166
		1170	52.0	60.8	9734	8761	160
		1755	54.3	95.3	14140	12457	148
		2340	56.2	131.5	18122	15571	138
BXRE-27E6500-C-7x	80	720	49.6	35.7	6116	5587	171
		960	50.5	48.5	8048	7317	166
		1440	52.0	74.9	11981	10783	160
		2160	54.2	117.0	17363	15295	148
		2880	55.9	161.1	22207	19081	138
BXRE-27E6500-D-7x	80	700	33.2	23.3	4042	3693	174
		1050	34.2	35.9	5979	5421	166
		1400	35.0	49.0	7840	7056	160
		2100	36.4	76.5	11454	10090	150
		2800	37.7	105.6	15101	12975	143
BXRE-27G65H0-B-7x	90	585	49.6	29.0	4255	3888	147
		780	50.5	39.4	5601	5092	142
		1170	52.0	60.8	8335	7502	137
		1755	54.3	95.3	12108	10666	127
		2340	56.2	131.5	15517	13332	118

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-27G65H0-C-7x	90	720	49.6	35.7	5237	4784	147
		960	50.5	48.5	6891	6265	142
		1440	52.0	74.9	10259	9233	137
		2160	54.2	117.0	14867	13097	127
		2880	55.9	161.1	19015	16338	118
BXRE-27G65H0-D-7x	90	700	33.2	23.3	3461	3162	149
		1050	34.2	35.9	5119	4642	142
		1400	35.0	49.0	6713	6042	137
		2100	36.4	76.5	9807	8640	128
		2800	37.7	105.6	12930	11110	122
BXRE-27G6500-B-7x	90	585	49.6	29.0	4100	3746	141
		780	50.5	39.4	5396	4906	137
		1170	52.0	60.8	8031	7228	132
		1755	54.3	95.3	11666	10277	122
		2340	56.2	131.5	14951	12846	114
BXRE-27G6500-C-7x	90	720	49.6	35.7	5045	4610	141
		960	50.5	48.5	6640	6036	137
		1440	52.0	74.9	9884	8896	132
		2160	54.2	117.0	14324	12619	122
		2880	55.9	161.1	18321	15741	114
BXRE-27G6500-D-7x	90	700	33.2	23.3	3334	3046	143
		1050	34.2	35.9	4932	4473	137
		1400	35.0	49.0	6468	5821	132
		2100	36.4	76.5	9449	8324	123
		2800	37.7	105.6	12458	10704	118
BXRE-27H6500-D-7x	97	700	33.2	23.3	2955	2700	127
		1050	34.2	35.9	4372	3964	122
		1400	35.0	49.0	5733	5160	117
		2100	36.4	76.5	8376	7378	109
		2800	37.7	105.6	11042	9488	105
BXRE-30C6501-B-74	70	585	49.6	29.0	5529	5051	190
		780	50.5	39.4	7277	6616	185
		1170	52.0	60.8	10830	9747	178
		1755	54.3	95.3	15731	13858	165
		2340	56.2	131.5	20161	17322	153
BXRE-30C6501-C-74	70	720	49.6	35.7	6804	6216	190
		960	50.5	48.5	8953	8140	185
		1440	52.0	74.9	13329	11996	178
		2160	54.2	117.0	19316	17016	165
		2880	55.9	161.1	24705	21227	153
BXRE-30C6501-D-74	70	700	33.2	23.3	4496	4108	193
		1050	34.2	35.9	6651	6031	185
		1400	35.0	49.0	8722	7850	178
		2100	36.4	76.5	12742	11225	166
		2800	37.7	105.6	16800	14434	159

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-30E6500-B-7x	80	585	49.6	29.0	5280	4824	182
		780	50.5	39.4	6950	6318	176
		1170	52.0	60.8	10343	9309	170
		1755	54.3	95.3	15024	13235	158
		2340	56.2	131.5	19255	16544	146
BXRE-30E6500-C-7x	80	720	49.6	35.7	6498	5937	182
		960	50.5	48.5	8551	7774	176
		1440	52.0	74.9	12730	11457	170
		2160	54.2	117.0	18448	16251	158
		2880	55.9	161.1	23595	20273	146
BXRE-30E6500-D-7x	80	700	33.2	23.3	4294	3923	185
		1050	34.2	35.9	6352	5760	177
		1400	35.0	49.0	8330	7497	170
		2100	36.4	76.5	12170	10721	159
		2800	37.7	105.6	16044	13786	152
BXRE-30G65H0-B-7x	90	585	49.6	29.0	4473	4086	154
		780	50.5	39.4	5887	5352	149
		1170	52.0	60.8	8761	7885	144
		1755	54.3	95.3	12726	11211	134
		2340	56.2	131.5	16310	14014	124
BXRE-30G65H0-C-7x	90	720	49.6	35.7	5504	5029	154
		960	50.5	48.5	7243	6585	149
		1440	52.0	74.9	10783	9704	144
		2160	54.2	117.0	15626	13766	134
		2880	55.9	161.1	19986	17173	124
BXRE-30G65H0-D-7x	90	700	33.2	23.3	3637	3323	156
		1050	34.2	35.9	5381	4879	150
		1400	35.0	49.0	7056	6350	144
		2100	36.4	76.5	10308	9081	135
		2800	37.7	105.6	13591	11677	129
BXRE-30G6500-B-7x	90	585	49.6	29.0	4286	3916	148
		780	50.5	39.4	5642	5129	143
		1170	52.0	60.8	8396	7556	138
		1755	54.3	95.3	12196	10744	128
		2340	56.2	131.5	15630	13430	119
BXRE-30G6500-C-7x	90	720	49.6	35.7	5275	4819	148
		960	50.5	48.5	6941	6311	143
		1440	52.0	74.9	10333	9300	138
		2160	54.2	117.0	14975	13192	128
		2880	55.9	161.1	19154	16457	119
BXRE-30G6500-D-7x	90	700	33.2	23.3	3486	3185	150
		1050	34.2	35.9	5157	4676	143
		1400	35.0	49.0	6762	6086	138
		2100	36.4	76.5	9879	8703	129
		2800	37.7	105.6	13024	11191	123

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-30G650C-D-73	90	700	33.2	23.3	3360	3069	144
		1050	34.2	35.9	4970	4507	138
		1400	35.0	49.0	6517	5865	133
		2100	36.4	76.5	9521	8387	124
		2800	37.7	105.6	12552	10785	119
BXRE-30H6500-D-7x	97	700	33.2	23.3	3158	2885	136
		1050	34.2	35.9	4671	4236	130
		1400	35.0	49.0	6125	5513	125
		2100	36.4	76.5	8948	7883	117
		2800	37.7	105.6	11797	10137	112
BXRE-35E6500-B-7x	80	585	49.6	29.0	5404	4938	186
		780	50.5	39.4	7113	6467	181
		1170	52.0	60.8	10586	9528	174
		1755	54.3	95.3	15378	13547	161
		2340	56.2	131.5	19708	16933	150
BXRE-35E6500-C-7x	80	720	49.6	35.7	6651	6076	186
		960	50.5	48.5	8752	7957	181
		1440	52.0	74.9	13029	11726	174
		2160	54.2	117.0	18882	16634	161
		2880	55.9	161.1	24150	20750	150
BXRE-35E6500-D-7x	80	700	33.2	23.3	4395	4016	189
		1050	34.2	35.9	6502	5896	181
		1400	35.0	49.0	8526	7673	174
		2100	36.4	76.5	12456	10973	163
		2800	37.7	105.6	16422	14110	156
BXRE-35G6500-B-7x	90	585	49.6	29.0	4441	4058	153
		780	50.5	39.4	5846	5315	148
		1170	52.0	60.8	8700	7830	143
		1755	54.3	95.3	12638	11133	133
		2340	56.2	131.5	16196	13916	123
BXRE-35G6500-C-7x	90	720	49.6	35.7	5466	4994	153
		960	50.5	48.5	7193	6540	148
		1440	52.0	74.9	10708	9637	143
		2160	54.2	117.0	15518	13670	133
		2880	55.9	161.1	19847	17053	123
BXRE-35G6500-D-7x	90	700	33.2	23.3	3612	3300	155
		1050	34.2	35.9	5344	4845	149
		1400	35.0	49.0	7007	6306	143
		2100	36.4	76.5	10237	9018	134
		2800	37.7	105.6	13496	11596	128
BXRE-35A6501-D-73	93	700	33.2	23.3	3334	3046	143
		1050	34.2	35.9	4932	4473	137
		1400	35.0	49.0	6468	5821	132
		2100	36.4	76.5	9449	8324	123
		2800	37.7	105.6	12458	10704	118

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-40C6501-B-74	70	585	49.6	29.0	5684	5193	196
		780	50.5	39.4	7481	6802	190
		1170	52.0	60.8	11134	10020	183
		1755	54.3	95.3	16173	14247	170
		2340	56.2	131.5	20727	17809	158
BXRE-40C6501-C-74	70	720	49.6	35.7	6995	6391	196
		960	50.5	48.5	9205	8369	190
		1440	52.0	74.9	13703	12333	183
		2160	54.2	117.0	19858	17494	170
		2880	55.9	161.1	25399	21823	158
BXRE-40C6501-D-74	70	700	33.2	23.3	4623	4223	199
		1050	34.2	35.9	6838	6201	190
		1400	35.0	49.0	8967	8070	183
		2100	36.4	76.5	13100	11540	171
		2800	37.7	105.6	17271	14840	164
BXRE-40E6500-B-7x	80	585	49.6	29.0	5435	4966	187
		780	50.5	39.4	7154	6504	182
		1170	52.0	60.8	10647	9582	175
		1755	54.3	95.3	15466	13624	162
		2340	56.2	131.5	19821	17030	151
BXRE-40E6500-C-7x	80	720	49.6	35.7	6689	6111	187
		960	50.5	48.5	8803	8003	182
		1440	52.0	74.9	13104	11794	175
		2160	54.2	117.0	18990	16729	162
		2880	55.9	161.1	24289	20869	151
BXRE-40E6500-D-7x	80	700	33.2	23.3	4421	4039	190
		1050	34.2	35.9	6539	5930	182
		1400	35.0	49.0	8575	7718	175
		2100	36.4	76.5	12528	11036	164
		2800	37.7	105.6	16516	14191	156
BXRE-40G6500-B-7x	90	585	49.6	29.0	4535	4143	156
		780	50.5	39.4	5969	5426	152
		1170	52.0	60.8	8883	7994	146
		1755	54.3	95.3	12903	11367	135
		2340	56.2	131.5	16536	14208	126
BXRE-40G6500-C-7x	90	720	49.6	35.7	5581	5099	156
		960	50.5	48.5	7344	6677	152
		1440	52.0	74.9	10932	9839	146
		2160	54.2	117.0	15843	13957	135
		2880	55.9	161.1	20264	17411	126
BXRE-40G6500-D-7x	90	700	33.2	23.3	3688	3369	158
		1050	34.2	35.9	5456	4947	152
		1400	35.0	49.0	7154	6439	146
		2100	36.4	76.5	10452	9207	137
		2800	37.7	105.6	13779	11839	130

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	3334	3046	143
		1050	34.2	35.9	4932	4473	137
		1400	35.0	49.0	6468	5821	132
		2100	36.4	76.5	9449	8324	123
		2800	37.7	105.6	12458	10704	118
BXRE-50C6501-B-7x	70	585	49.6	29.0	5715	5221	197
		780	50.5	39.4	7522	6839	191
		1170	52.0	60.8	11195	10075	184
		1755	54.3	95.3	16261	14325	171
		2340	56.2	131.5	20840	17906	159
BXRE-50C6501-C-7x	70	720	49.6	35.7	7033	6426	197
		960	50.5	48.5	9255	8414	191
		1440	52.0	74.9	13778	12400	184
		2160	54.2	117.0	19967	17590	171
		2880	55.9	161.1	25538	21943	159
BXRE-50C6501-D-7x	70	700	33.2	23.3	4648	4246	200
		1050	34.2	35.9	6876	6235	191
		1400	35.0	49.0	9016	8114	184
		2100	36.4	76.5	13172	11604	172
		2800	37.7	105.6	17366	14921	164
BXRE-50E6501-B-7x	80	585	49.6	29.0	5498	5023	189
		780	50.5	39.4	7236	6579	184
		1170	52.0	60.8	10769	9692	177
		1755	54.3	95.3	15643	13780	164
		2340	56.2	131.5	20047	17225	152
BXRE-50E6501-C-7x	80	720	49.6	35.7	6765	6181	189
		960	50.5	48.5	8903	8094	184
		1440	52.0	74.9	13254	11928	177
		2160	54.2	117.0	19207	16920	164
		2880	55.9	161.1	24566	21108	152
BXRE-50E6501-D-7x	80	700	33.2	23.3	4471	4085	192
		1050	34.2	35.9	6614	5998	184
		1400	35.0	49.0	8673	7806	177
		2100	36.4	76.5	12671	11162	166
		2800	37.7	105.6	16705	14353	158
BXRE-50G6501-B-7x	90	585	49.6	29.0	4752	4342	164
		780	50.5	39.4	6255	5687	159
		1170	52.0	60.8	9309	8378	153
		1755	54.3	95.3	13522	11912	142
		2340	56.2	131.5	17329	14889	132
BXRE-50G6501-C-7x	90	720	49.6	35.7	5848	5343	164
		960	50.5	48.5	7696	6997	159
		1440	52.0	74.9	11457	10311	153
		2160	54.2	117.0	16603	14626	142
		2880	55.9	161.1	21235	18246	132

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-50G6501-D-7x	90	700	33.2	23.3	3865	3531	166
		1050	34.2	35.9	5717	5184	159
		1400	35.0	49.0	7497	6747	153
		2100	36.4	76.5	10953	9649	143
		2800	37.7	105.6	14440	12407	137
BXRE-56G6501-D-7x	90	700	33.2	23.3	3890	3554	167
		1050	34.2	35.9	5755	5218	160
		1400	35.0	49.0	7546	6791	154
		2100	36.4	76.5	11024	9712	144
		2800	37.7	105.6	14534	12488	138
BXRE-57C6501-B-7x	70	585	49.6	29.0	5560	5079	191
		780	50.5	39.4	7318	6653	186
		1170	52.0	60.8	10890	9801	179
		1755	54.3	95.3	15819	13936	166
		2340	56.2	131.5	20274	17420	154
BXRE-57C6501-C-7x	70	720	49.6	35.7	6842	6251	191
		960	50.5	48.5	9004	8186	186
		1440	52.0	74.9	13404	12063	179
		2160	54.2	117.0	19424	17112	166
		2880	55.9	161.1	24844	21346	154
BXRE-57C6501-D-74	70	700	33.2	23.3	4522	4131	194
		1050	34.2	35.9	6689	6065	186
		1400	35.0	49.0	8771	7894	179
		2100	36.4	76.5	12814	11288	167
		2800	37.7	105.6	16894	14515	160
BXRE-57E6501-B-7x	80	585	49.6	29.0	5280	4824	182
		780	50.5	39.4	6950	6318	176
		1170	52.0	60.8	10343	9309	170
		1755	54.3	95.3	15024	13235	158
		2340	56.2	131.5	19255	16544	146
BXRE-57E6501-C-7x	80	720	49.6	35.7	6498	5937	182
		960	50.5	48.5	8551	7774	176
		1440	52.0	74.9	12730	11457	170
		2160	54.2	117.0	18448	16251	158
		2880	55.9	161.1	23595	20273	146
BXRE-57E6501-D-74	80	700	33.2	23.3	4294	3923	185
		1050	34.2	35.9	6352	5760	177
		1400	35.0	49.0	8330	7497	170
		2100	36.4	76.5	12170	10721	159
		2800	37.7	105.6	16044	13786	152
BXRE-65C6501-B-7x	70	585	49.6	29.0	5560	5079	191
		780	50.5	39.4	7318	6653	186
		1170	52.0	60.8	10890	9801	179
		1755	54.3	95.3	15819	13936	166
		2340	56.2	131.5	20274	17420	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 $\pm 7\%$ 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-65C6501-C-7x	70	720	49.6	35.7	6842	6251	191
		960	50.5	48.5	9004	8186	186
		1440	52.0	74.9	13404	12063	179
		2160	54.2	117.0	19424	17112	166
		2880	55.9	161.1	24844	21346	154
BXRE-65C6501-D-7x	70	700	33.2	23.3	4522	4131	194
		1050	34.2	35.9	6689	6065	186
		1400	35.0	49.0	8771	7894	179
		2100	36.4	76.5	12814	11288	167
		2800	37.7	105.6	16894	14515	160
BXRE-65E6501-B-7x	80	585	49.6	29.0	5342	4881	184
		780	50.5	39.4	7032	6393	179
		1170	52.0	60.8	10464	9418	172
		1755	54.3	95.3	15201	13391	160
		2340	56.2	131.5	19481	16738	148
BXRE-65E6501-C-7x	80	720	49.6	35.7	6574	6006	184
		960	50.5	48.5	8652	7866	179
		1440	52.0	74.9	12879	11591	172
		2160	54.2	117.0	18665	16442	160
		2880	55.9	161.1	23873	20512	148
BXRE-65E6501-D-7x	80	700	33.2	23.3	4345	3969	187
		1050	34.2	35.9	6427	5828	179
		1400	35.0	49.0	8428	7585	172
		2100	36.4	76.5	12313	10847	161
		2800	37.7	105.6	16233	13948	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 $\pm 7\%$ 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 ^{1,5}			
		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

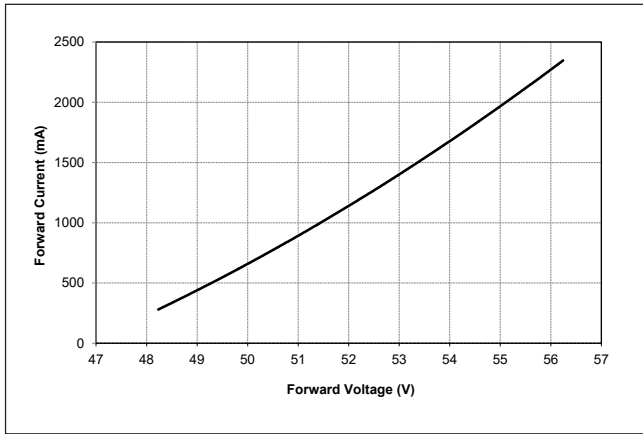


Figure 2: V22C Drive Current vs. Voltage

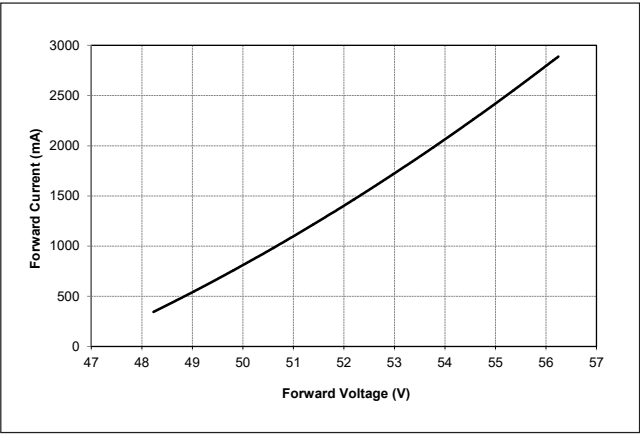


Figure 3: V22D Drive Current vs. Voltage

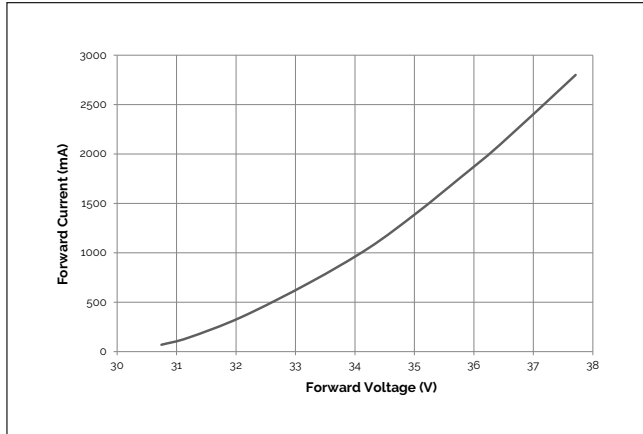


Figure 4: V22B Typical Relative Flux vs. Current

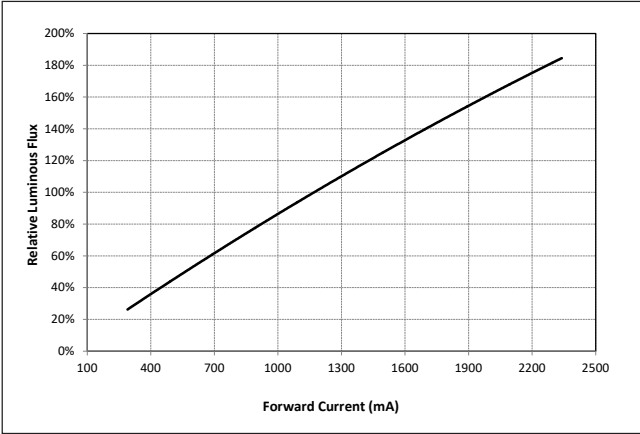


Figure 5: V22C Typical Relative Flux vs. Current

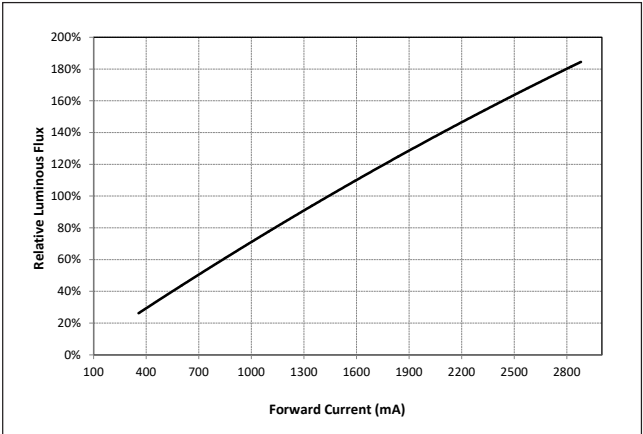
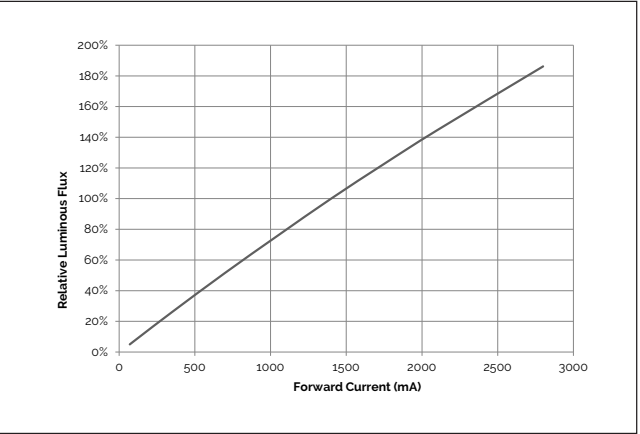


Figure 6: V22D Typical Relative Flux vs. Current



- 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

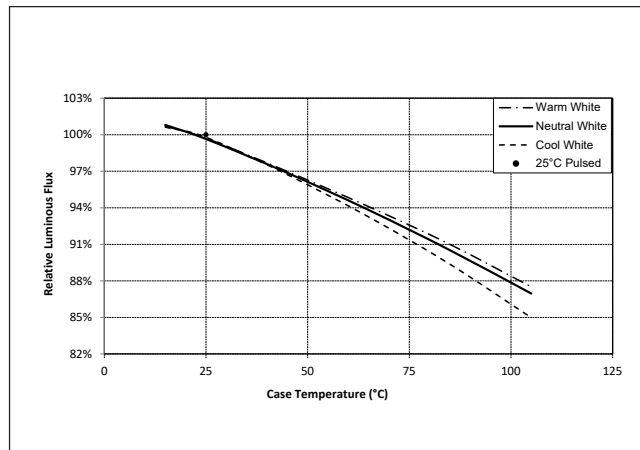


Figure 8: Typical DC ccy Shift vs. Case Temperature

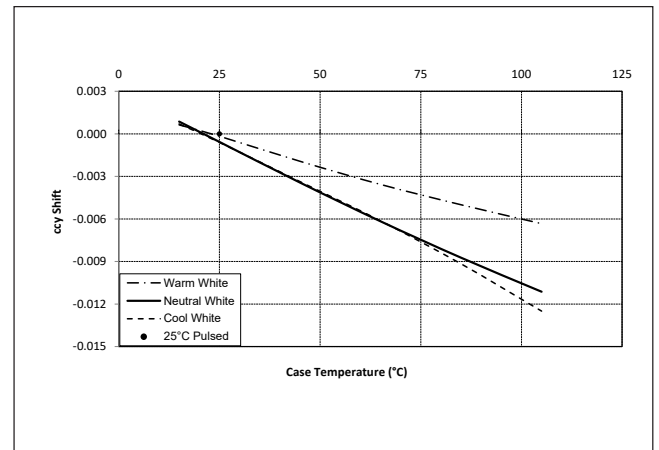
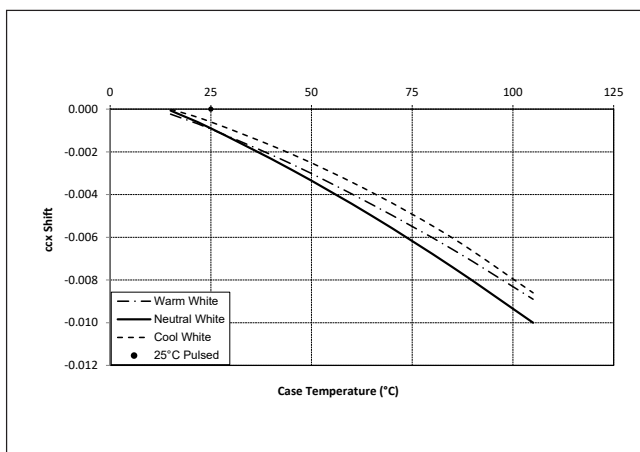


Figure 9: Typical DC ccx Shift vs. Case Temperature



Notes for Figures 7-9:

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

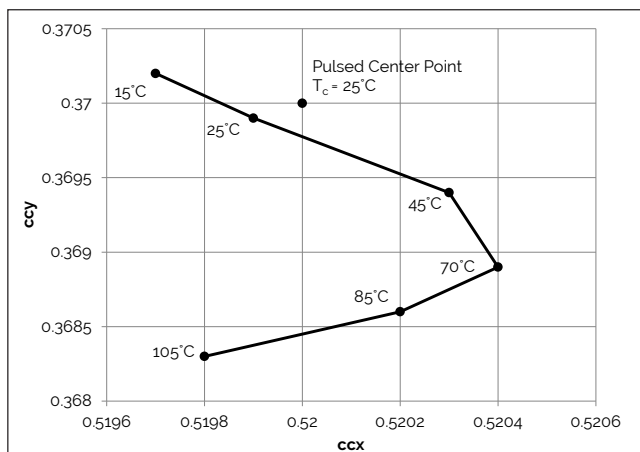


Figure 11: 2500K Color Shift vs. Case Temperature¹

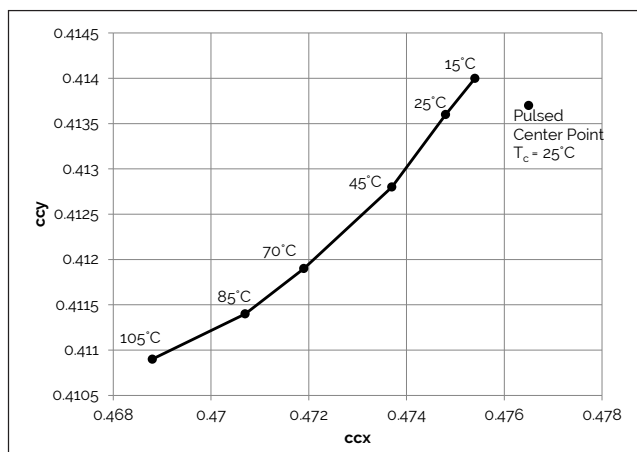


Figure 12: 2000K, 65 CRI Color Shift vs. Case Temperature

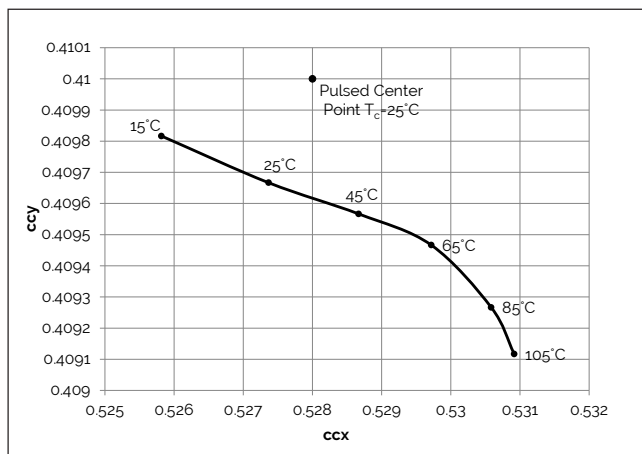
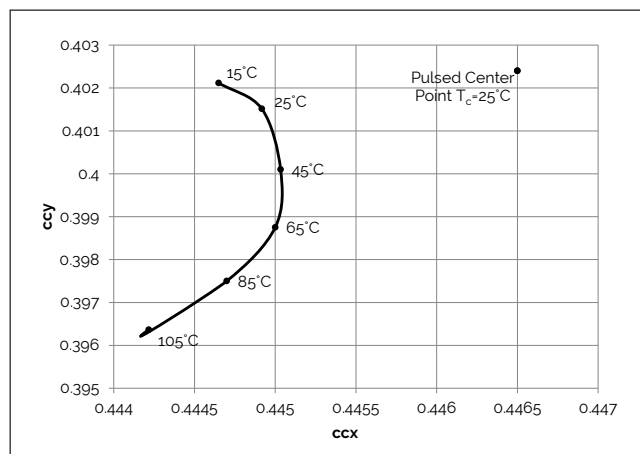


Figure 13: 3000K, 90 CRI Color Shift vs. Case Temperature³



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

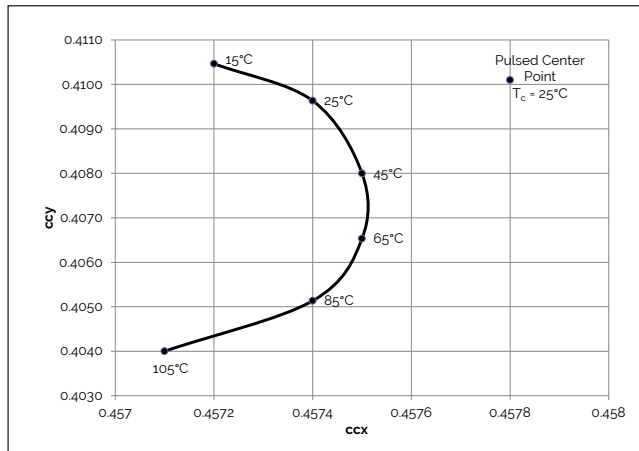


Figure 15: 3000K, 97 CRI Color Shift vs. Case Temperature¹

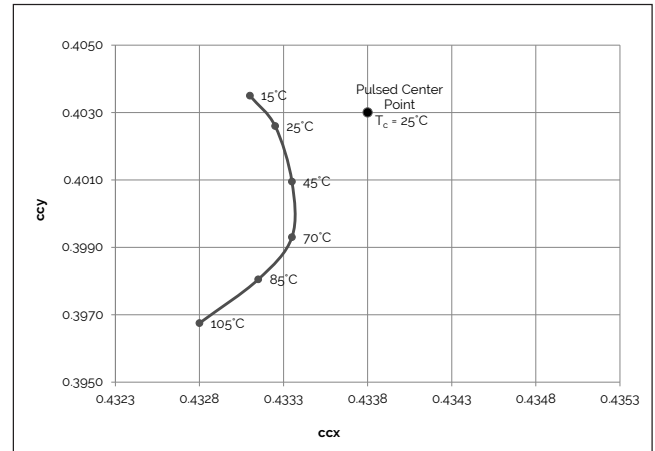


Figure 16: 5600K Color Shift vs. Case Temperature^{1,3}

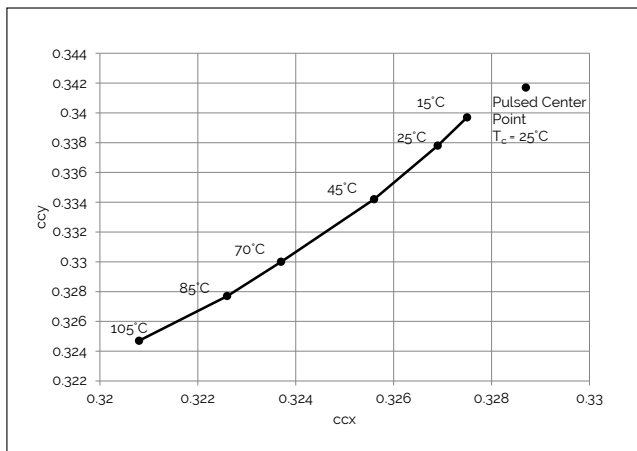
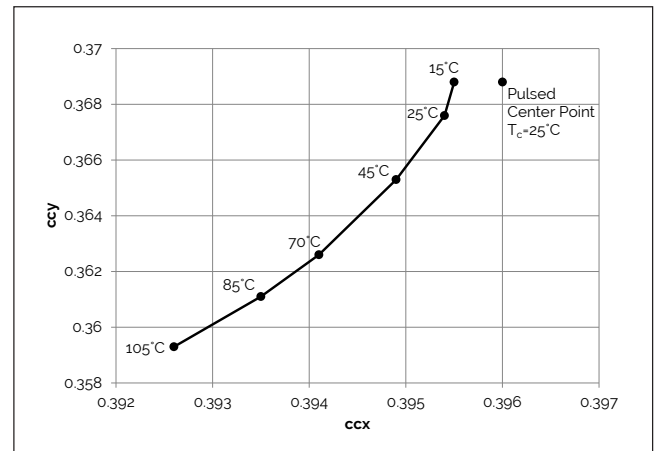


Figure 17: 3500K Class A Color Shift vs. Case Temperature¹

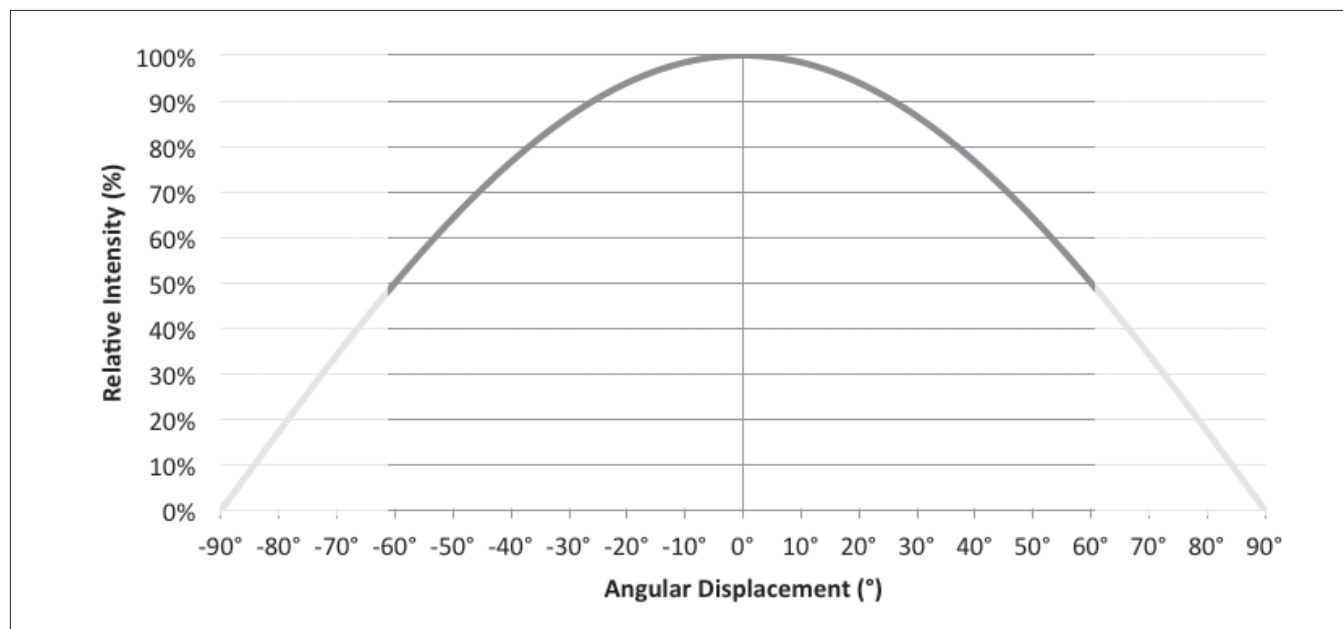


Note for Figures 14-17:

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

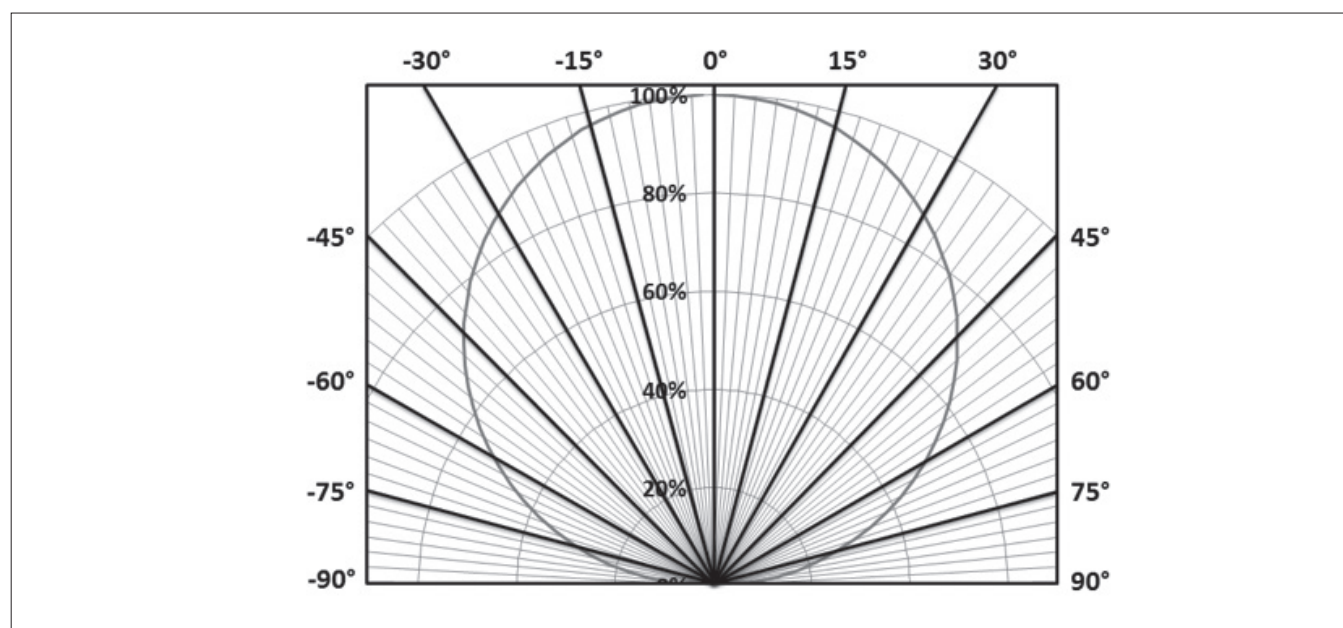
Figure 18: Typical Spatial Radiation Pattern



Note for Figure 18:

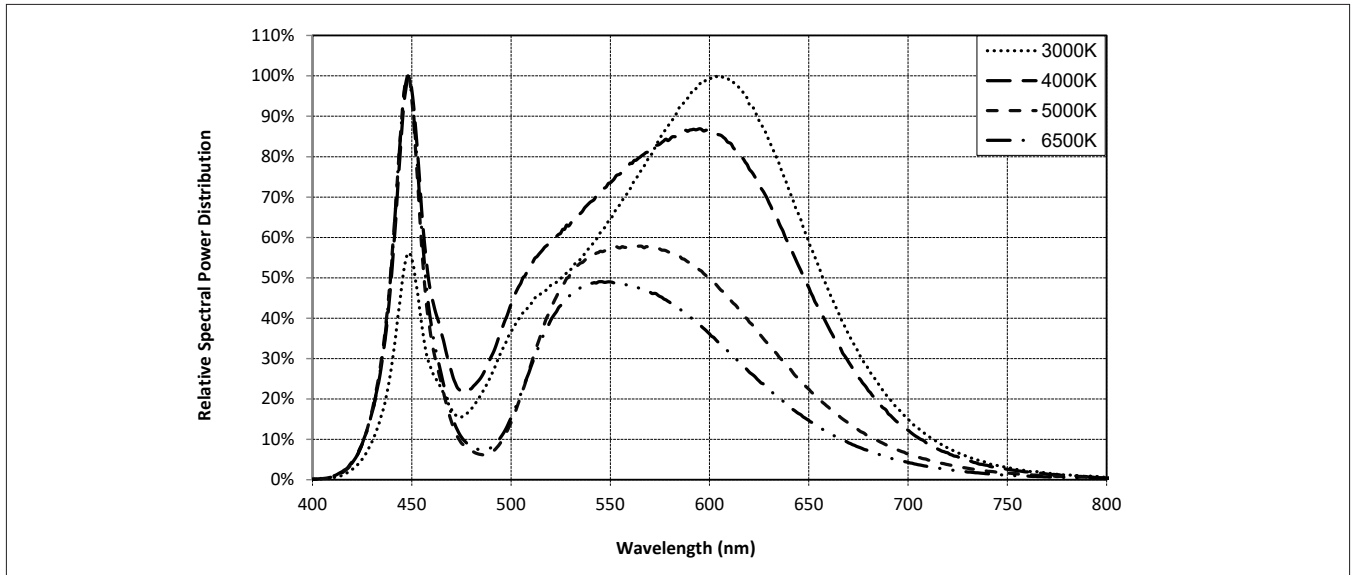
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is $\frac{1}{2}$ of the peak value.

Figure 19: Typical Polar Radiation Pattern



Typical Color Spectrum

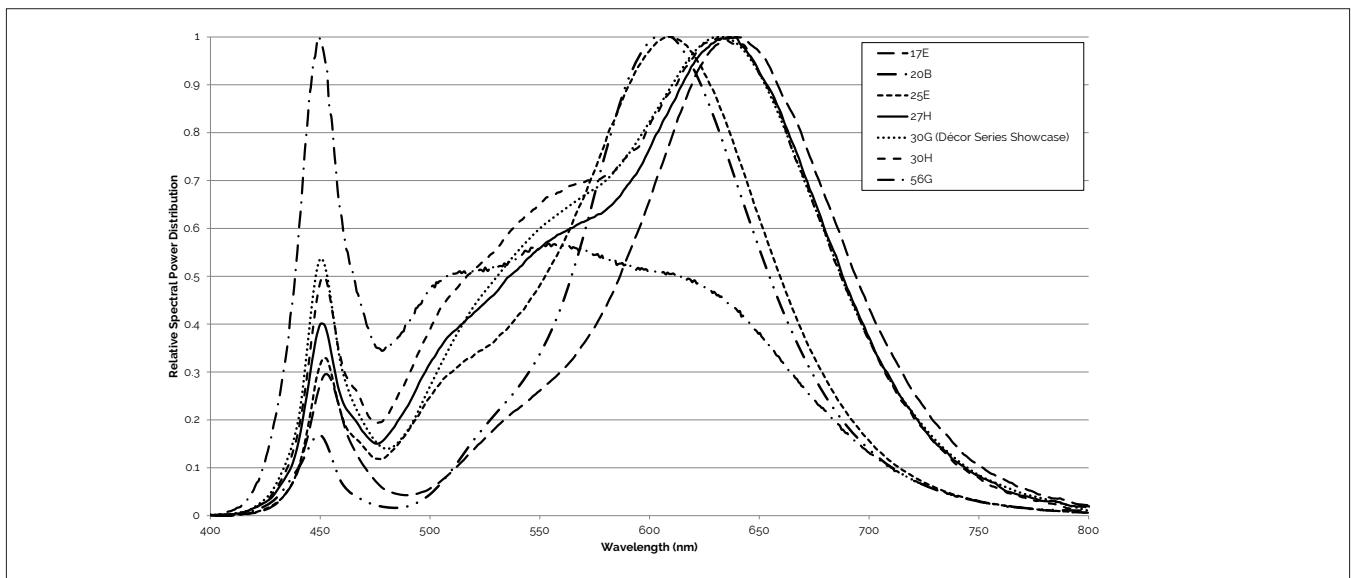
Figure 20: Typical Color Spectrum



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

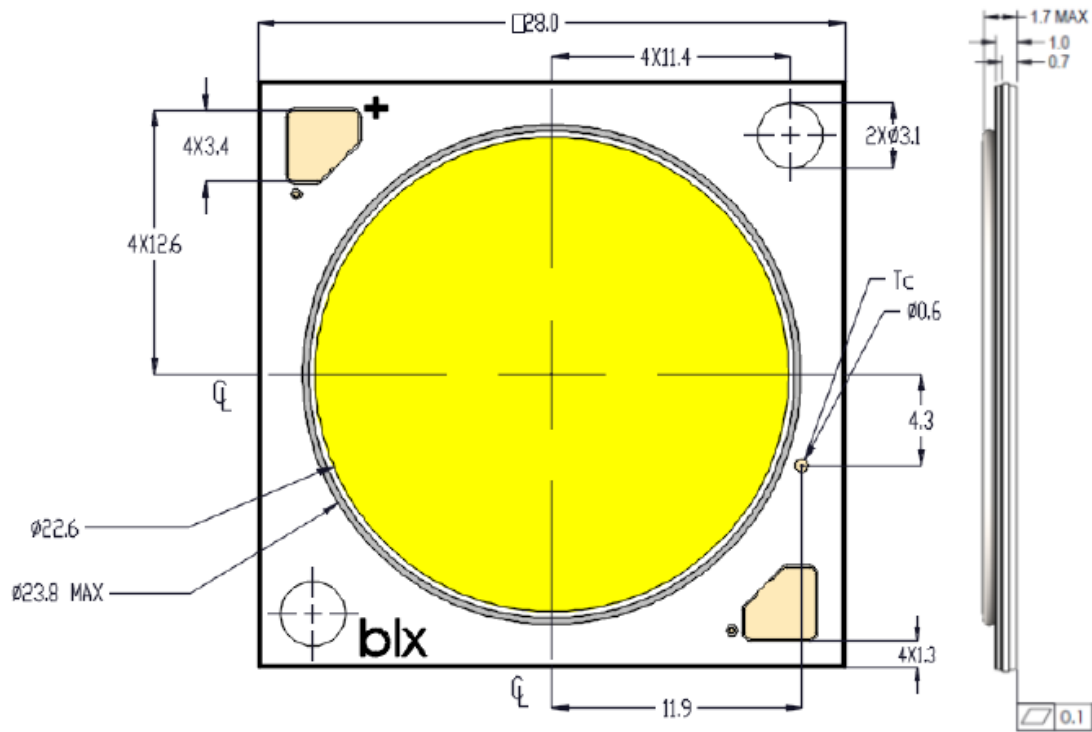


Note for Figure 21:

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

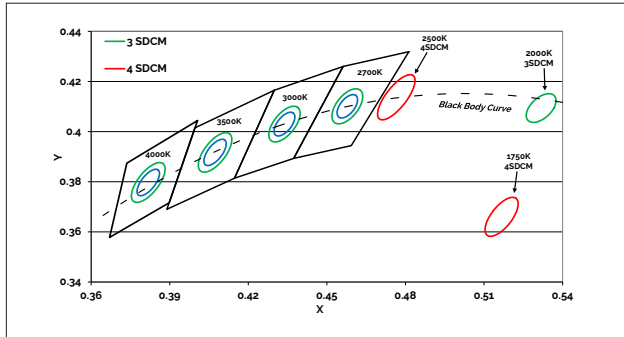


Notes for Figure 22:

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, $T_c = 25^\circ\text{C}$

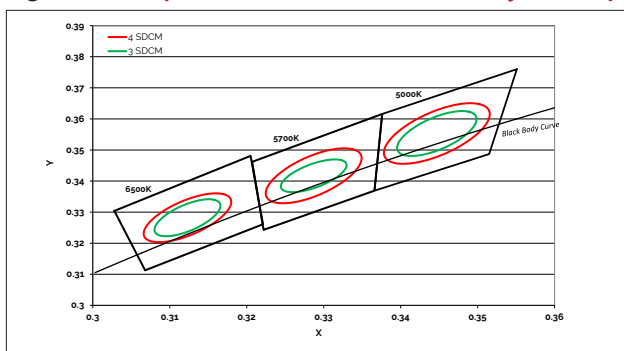
Table 8: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

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)

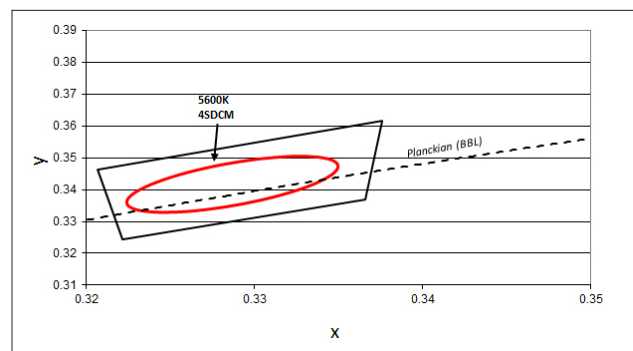
Note for Table 8:

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 $T_c = 85^\circ\text{C}$)

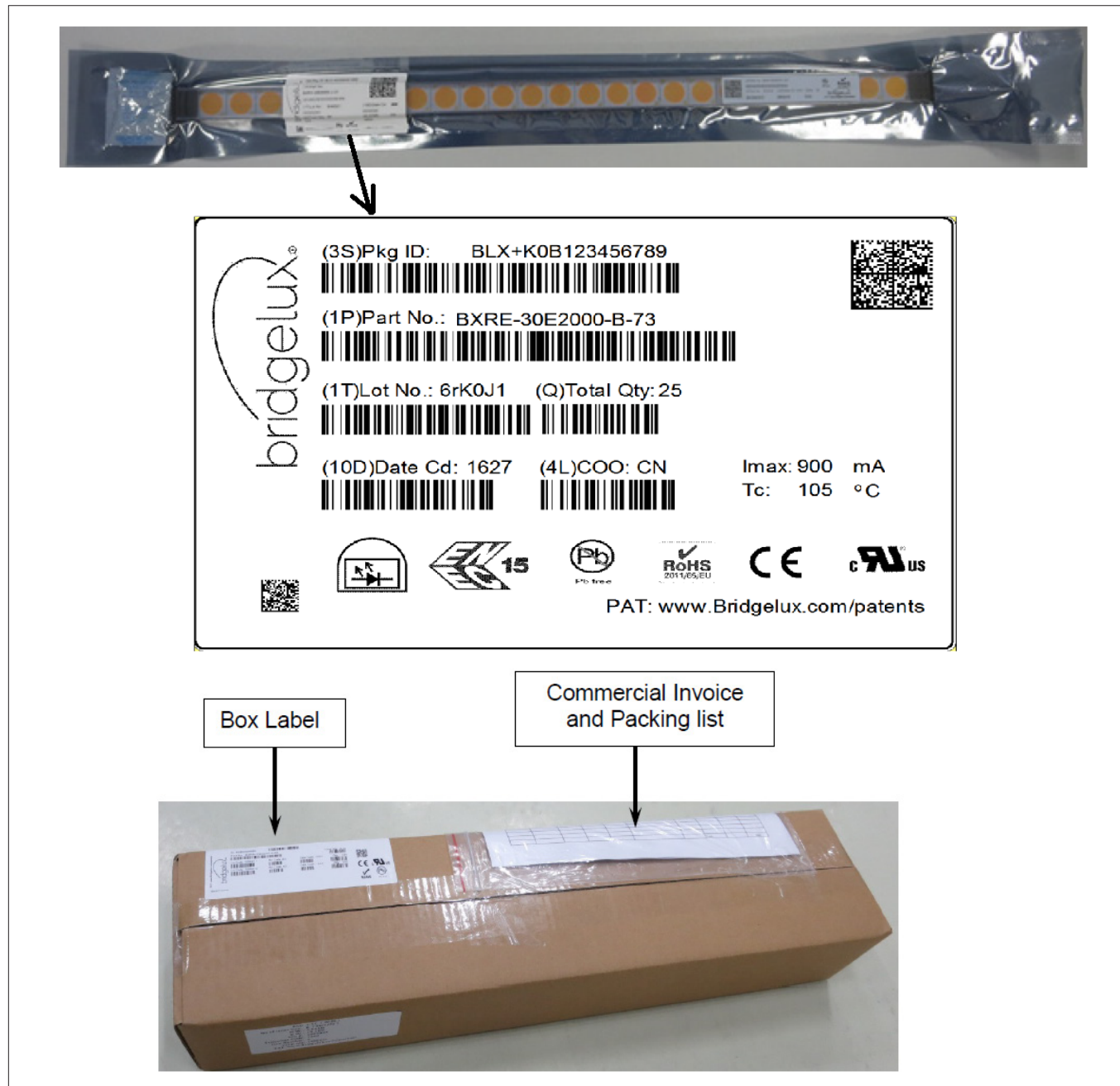
Bin Code	5000K	5600K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5310K - 6020K)	(5312K - 6022K)	(6022K - 7042K)
74 (4 SDCM)	(4801K - 5282K)	(5475K - 5830K)	(5481K - 5829K)	(6270K - 6765K)
73 (3 SDCM)	(4835K - 5215K)	(5490K - 5820K)	(5490K - 5820K)	(6250K - 6745K)
Center Point (x,y)	(0.3447,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



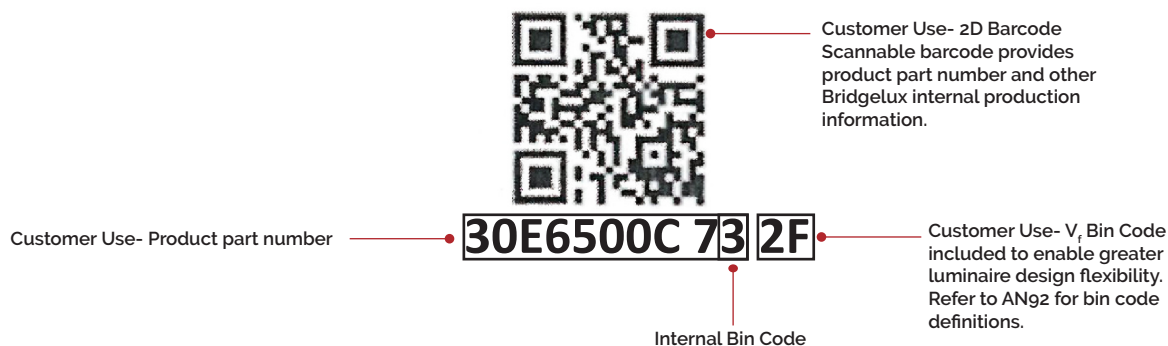
Notes for Figure 25:

1. Each tube holds 15 V22 COB arrays.
2. Four tubes are 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 120mm (W) x 635mm (L) x 0.1 (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. R (09/2020)