

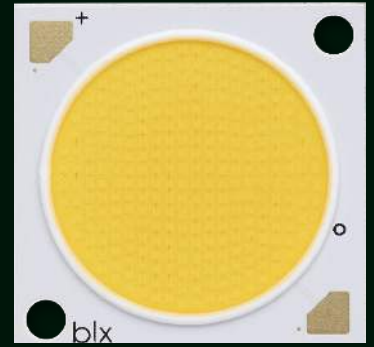
# Bridgelux® Gen 8 V22 Array Series

Product Data Sheet DS416



# 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 up to three times the nominal drive current, enabling design flexibility not previously possible. These high flux density light sources are designed to support a wide range of high quality, low cost directional luminaires and replacement lamps for both interior and exterior 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 efficiency advantages.

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

## Features

- Efficacy of 182 lm/W typical, 3000K 80 CRI
- Reliable operation at up to 3x nominal current, 30% increase in maximum lumens per LES size
- Wide selection of CCT options (2700K-6500K) with minimum 70, 80 and 90 CRI options
- Uniform high-quality illumination
- 2 and 3 SDCM binning options (2700K – 4000K)
- Forward voltage bin codes and backside marking
- Instant light with unlimited dimming
- 5-Year warranty

## Benefits

- Enables high efficiency lighting systems and lower operating costs
- Supports the trend toward luminaire miniaturization and delivers enhanced optical control
- Design flexibility for a broad range of lighting applications
- Clean white light without pixelation
- Uniform consistent white light
- Design flexibility for multi-source applications
- Easy to use with daylight and motion sensors to increase energy savings
- Design with confidence

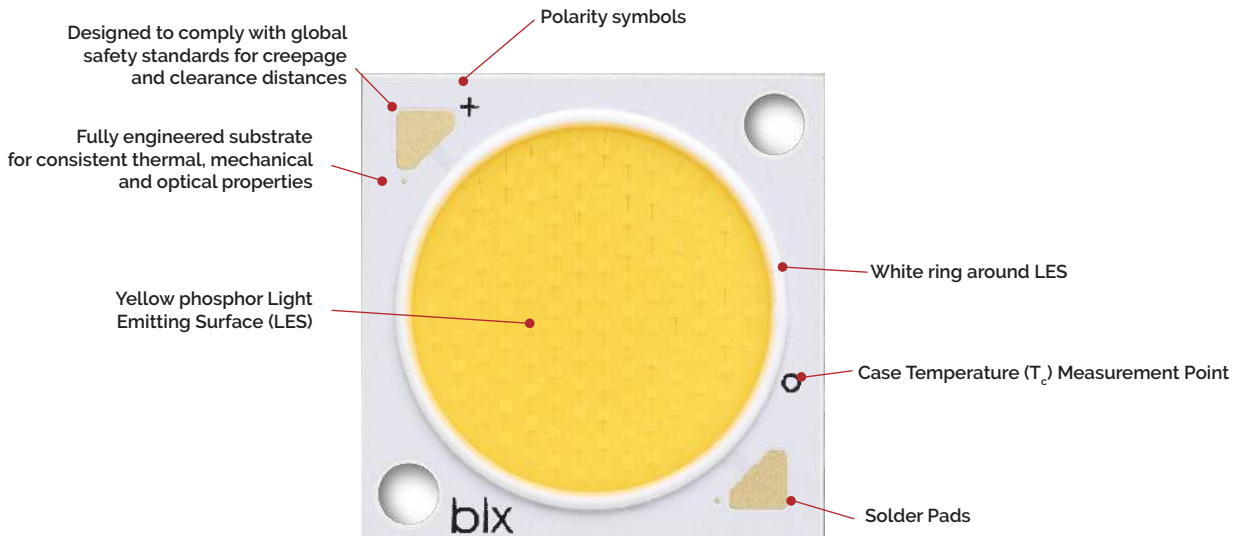
# Contents

Product Feature Map	2
Product Nomenclature	2
Product Selection Guide	3
Performance at Commonly Used Drive Currents	7
Electrical Characteristics	16
Eye Safety	17
Absolute Maximum Ratings	18
Performance Curves	19
Typical Radiation Pattern	21
Typical Color Spectrum	22
Mechanical Dimensions	23
Color Binning Information	24
Packaging and Labeling	25
Design Resources	27
Precautions	27
Disclaimers	27
About Bridgelux	28

# 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

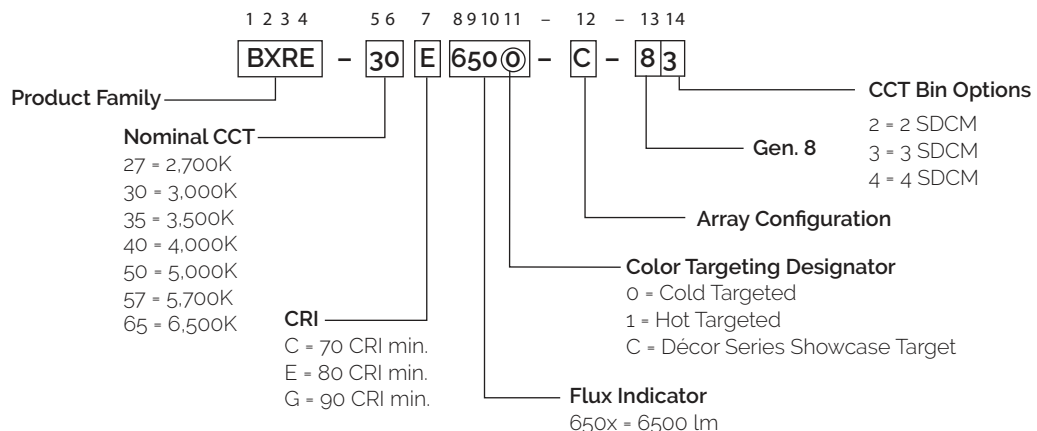
Bridgelux's LED Array products. The arrays incorporate several features to simplify design integration and assembly. Please visit [www.bridgelux.com](http://www.bridgelux.com) for more information on the V Series family of products.



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 <sup>1</sup> (K)	CRI <sup>2</sup>	Nominal Drive Current <sup>3</sup> (mA)	Typical Pulsed Flux <sup>4,5,6</sup> $T_c = 25^\circ\text{C}$ (lm)	Minimum Pulsed Flux <sup>6,7</sup> $T_c = 25^\circ\text{C}$ (lm)	Typical $V_f$ (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-27E6500-B-8x	2700	80	950	8171	7354	50.2	47.7	171
BXRE-27E6500-C-8x	2700	80	1200	10424	9382	50.7	60.8	171
BXRE-27E6500-D-8x	2700	80	1050	6030	5427	33.5	35.2	171
BXRE-27G6500-B-8x	2700	90	950	6741	6067	50.2	47.7	141
BXRE-27G6500-C-8x	2700	90	1200	8600	7740	50.7	60.8	141
BXRE-27G6500-D-8x	2700	90	1050	4975	4477	33.5	35.2	141
BXRE-27G65H0-B-8x	2700	90	950	7032	6329	50.2	47.7	147
BXRE-27G65H0-C-8x	2700	90	1200	8972	8074	50.7	60.8	147
BXRE-27G65H0-D-8x	2700	90	1050	5190	4671	33.5	35.2	148
BXRE-30C6501-B-8x	3000	70	950	9091	8182	50.2	47.7	191
BXRE-30C6501-C-8x	3000	70	1200	11597	10438	50.7	60.8	191
BXRE-30C6501-D-8x	3000	70	1050	6709	6038	33.5	35.2	191
BXRE-30E6500-B-8x	3000	80	950	8682	7814	50.2	47.7	182
BXRE-30E6500-C-8x	3000	80	1200	11076	9968	50.7	60.8	182
BXRE-30E6500-D-8x	3000	80	1050	6407	5766	33.5	35.2	182
BXRE-30G6500-B-8x	3000	90	950	7048	6343	50.2	47.7	148
BXRE-30G6500-C-8x	3000	90	1200	8991	8092	50.7	60.8	148
BXRE-30G6500-D-8x	3000	90	1050	5201	4681	33.5	35.2	148
BXRE-30G65H0-B-8x	3000	90	950	7380	6642	50.2	47.7	155
BXRE-30G65H0-C-8x	3000	90	1200	9415	8473	50.7	60.8	155
BXRE-30G65H0-D-8x	3000	90	1050	5446	4901	33.5	35.2	155
BXRE-35E6500-B-8x	3500	80	950	8886	7998	50.2	47.7	186
BXRE-35E6500-C-8x	3500	80	1200	11337	10203	50.7	60.8	186
BXRE-35E6500-D-8x	3500	80	1050	6558	5902	33.5	35.2	186
BXRE-35G6500-B-8x	3500	90	950	7303	6573	50.2	47.7	153
BXRE-35G6500-C-8x	3500	90	1200	9317	8385	50.7	60.8	153
BXRE-35G6500-D-8x	3500	90	1050	5389	4850	33.5	35.2	153
BXRE-40C6501-B-8x	4000	70	950	9346	8411	50.2	47.7	196
BXRE-40C6501-C-8x	4000	70	1200	11923	10731	50.7	60.8	196
BXRE-40C6501-D-8x	4000	70	1050	6897	6207	33.5	35.2	196
BXRE-40E6500-B-8x	4000	80	950	8937	8044	50.2	47.7	187
BXRE-40E6500-C-8x	4000	80	1200	11402	10262	50.7	60.8	187
BXRE-40E6500-D-8x	4000	80	1050	6595	5936	33.5	35.2	188

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 minimums for all products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50. Bridgelux maintains a  $\pm 3$  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) =  $25^\circ\text{C}$ .
- 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.

# 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 <sup>1</sup> (K)	CRI <sup>2</sup>	Nominal Drive Current <sup>3</sup> (mA)	Typical Pulsed Flux <sup>4,5,6</sup> $T_c = 25^\circ\text{C}$ (lm)	Minimum Pulsed Flux <sup>6,7</sup> $T_c = 25^\circ\text{C}$ (lm)	Typical $V_f$ (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-40G6500-B-8x	4000	90	950	7456	6711	50.2	477	156
BXRE-40G6500-C-8x	4000	90	1200	9512	8561	50.7	60.8	156
BXRE-40G6500-D-8x	4000	90	1050	5502	4952	33.5	35.2	156
BXRE-50C6501-B-8x	5000	70	950	9397	8457	50.2	477	197
BXRE-50C6501-C-8x	5000	70	1200	11988	10789	50.7	60.8	197
BXRE-50C6501-D-8x	5000	70	1050	6935	6241	33.5	35.2	197
BXRE-50E6501-B-8x	5000	80	950	9039	8136	50.2	477	190
BXRE-50E6501-C-8x	5000	80	1200	11532	10379	50.7	60.8	190
BXRE-50E6501-D-8x	5000	80	1050	6671	6004	33.5	35.2	190
BXRE-50G6501-B-8x	5000	90	950	7814	7032	50.2	477	164
BXRE-50G6501-C-8x	5000	90	1200	9968	8972	50.7	60.8	164
BXRE-50G6501-D-8x	5000	90	1050	5766	5190	33.5	35.2	164
BXRE-57C6501-B-8x	5700	70	950	9142	8227	50.2	477	192
BXRE-57C6501-C-8x	5700	70	1200	11662	10496	50.7	60.8	192
BXRE-57C6501-D-8x	5700	70	1050	6746	6072	33.5	35.2	192
BXRE-57E6501-B-8x	5700	80	950	8682	7814	50.2	477	182
BXRE-57E6501-C-8x	5700	80	1200	11076	9968	50.7	60.8	182
BXRE-57E6501-D-8x	5700	80	1050	6407	5766	33.5	35.2	182
BXRE-65C6501-B-8x	6500	70	950	9142	8227	50.2	477	192
BXRE-65C6501-C-8x	6500	70	1200	11662	10496	50.7	60.8	192
BXRE-65C6501-D-8x	6500	70	1050	6746	6072	33.5	35.2	192
BXRE-65E6501-B-8x	6500	80	950	8784	7906	50.2	477	184
BXRE-65E6501-C-8x	6500	80	1200	11206	10086	50.7	60.8	184
BXRE-65E6501-D-8x	6500	80	1050	6482	5834	33.5	35.2	184

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to  $T_c = 85^\circ\text{C}$ .
- CRI values are minimums for all products. Minimum R<sub>g</sub> value for 80 CRI products is 0, the minimum R<sub>g</sub> values for 90 CRI products is 50. Bridgelux maintains a  $\pm 3$  tolerance on R<sub>g</sub> 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) =  $25^\circ\text{C}$ .
- 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.

# Product Selection Guide

**Table 2:** Selection Guide, Stabilized DC Performance ( $T_c = 85^\circ\text{C}$ )<sup>4,5</sup>

Part Number	Nominal CCT <sup>1</sup> (K)	CRI <sup>2</sup>	Nominal Drive Current <sup>3</sup> (mA)	Typical DC Flux <sup>4,5</sup> $T_c = 85^\circ\text{C}$ (lm)	Minimum DC Flux <sup>6</sup> $T_c = 85^\circ\text{C}$ (lm)	Typical $V_f$ (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-27E6500-B-8x	2700	80	950	7354	6619	49.2	46.8	157
BXRE-27E6500-C-8x	2700	80	1200	9382	8444	49.7	59.7	157
BXRE-27E6500-D-8x	2700	80	1050	5427	4884	33.0	34.6	157
BXRE-27G6500-B-8x	2700	90	950	6067	5460	49.2	46.8	130
BXRE-27G6500-C-8x	2700	90	1200	7740	6966	49.7	59.7	130
BXRE-27G6500-D-8x	2700	90	1050	4477	4030	33.0	34.6	129
BXRE-27G65H0-B-8x	2700	90	950	6329	5696	49.2	46.8	135
BXRE-27G65H0-C-8x	2700	90	1200	8074	7267	49.7	59.7	135
BXRE-27G65H0-D-8x	2700	90	1050	4671	4204	33.0	34.6	135
BXRE-30C6501-B-8x	3000	70	950	8182	7363	49.2	46.8	175
BXRE-30C6501-C-8x	3000	70	1200	10438	9394	49.7	59.7	175
BXRE-30C6501-D-8x	3000	70	1050	6038	5434	33.0	34.6	175
BXRE-30E6500-B-8x	3000	80	950	7814	7032	49.2	46.8	167
BXRE-30E6500-C-8x	3000	80	1200	9968	8972	49.7	59.7	167
BXRE-30E6500-D-8x	3000	80	1050	5766	5190	33.0	34.6	167
BXRE-30G6500-B-8x	3000	90	950	6343	5709	49.2	46.8	136
BXRE-30G6500-C-8x	3000	90	1200	8092	7283	49.7	59.7	136
BXRE-30G6500-D-8x	3000	90	1050	4681	4213	33.0	34.6	135
BXRE-30G65H0-B-8x	3000	90	950	6642	5978	49.2	46.8	142
BXRE-30G65H0-C-8x	3000	90	1200	8473	7626	49.7	59.7	142
BXRE-30G65H0-D-8x	3000	90	1050	4901	4411	33.0	34.6	142
BXRE-35E6500-B-8x	3500	80	950	7998	7198	49.2	46.8	171
BXRE-35E6500-C-8x	3500	80	1200	10203	9183	49.7	59.7	171
BXRE-35E6500-D-8x	3500	80	1050	5902	5312	33.0	34.6	171
BXRE-35G6500-B-8x	3500	90	950	6573	5916	49.2	46.8	140
BXRE-35G6500-C-8x	3500	90	1200	8385	7547	49.7	59.7	140
BXRE-35G6500-D-8x	3500	90	1050	4850	4365	33.0	34.6	140
BXRE-40C6501-B-8x	4000	70	950	8411	7570	49.2	46.8	180
BXRE-40C6501-C-8x	4000	70	1200	10731	9658	49.7	59.7	180
BXRE-40C6501-D-8x	4000	70	1050	6207	5587	33.0	34.6	179

Notes for Table 2:

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 minimums for all other products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50. Bridgelux maintains a  $\pm 3$  tolerance on Rg values.
3. Drive current is referred to as nominal drive current.
4. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
5. Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at  $85^\circ\text{C}$ . Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
6. Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.

# Product Selection Guide

**Table 2:** Selection Guide, Stabilized DC Performance ( $T_c = 85^\circ\text{C}$ )<sup>4,5</sup> (continued)

Part Number	Nominal CCT <sup>1</sup> (K)	CRI <sup>2</sup>	Nominal Drive Current <sup>3</sup> (mA)	Typical DC Flux <sup>4,5</sup> $T_c = 85^\circ\text{C}$ (lm)	Minimum DC Flux <sup>6</sup> $T_c = 85^\circ\text{C}$ (lm)	Typical $V_f$ (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-40E6500-B-8x	4000	80	950	8044	7239	49.2	46.8	172
BXRE-40E6500-C-8x	4000	80	1200	10262	9235	49.7	59.7	172
BXRE-40E6500-D-8x	4000	80	1050	5936	5342	33.0	34.6	172
BXRE-40G6500-B-8x	4000	90	950	6711	6040	49.2	46.8	143
BXRE-40G6500-C-8x	4000	90	1200	8561	7705	49.7	59.7	143
BXRE-40G6500-D-8x	4000	90	1050	4952	4457	33.0	34.6	143
BXRE-50C6501-B-8x	5000	70	950	8457	7612	49.2	46.8	181
BXRE-50C6501-C-8x	5000	70	1200	10789	9710	49.7	59.7	181
BXRE-50C6501-D-8x	5000	70	1050	6241	5617	33.0	34.6	180
BXRE-50E6501-B-8x	5000	80	950	8136	7322	49.2	46.8	174
BXRE-50E6501-C-8x	5000	80	1200	10379	9341	49.7	59.7	174
BXRE-50E6501-D-8x	5000	80	1050	6004	5403	33.0	34.6	174
BXRE-50G6501-B-8x	5000	90	950	7032	6329	49.2	46.8	150
BXRE-50G6501-C-8x	5000	90	1200	8972	8074	49.7	59.7	150
BXRE-50G6501-D-8x	5000	90	1050	5190	4671	33.0	34.6	150
BXRE-57C6501-B-8x	5700	70	950	8227	7405	49.2	46.8	176
BXRE-57C6501-C-8x	5700	70	1200	10496	9447	49.7	59.7	176
BXRE-57C6501-D-8x	5700	70	1050	6072	5464	33.0	34.6	175
BXRE-57E6501-B-8x	5700	80	950	7814	7032	49.2	46.8	167
BXRE-57E6501-C-8x	5700	80	1200	9968	8972	49.7	59.7	167
BXRE-57E6501-D-8x	5700	80	1050	5766	5190	33.0	34.6	167
BXRE-65C6501-B-8x	6500	70	950	8227	7405	49.2	46.8	176
BXRE-65C6501-C-8x	6500	70	1200	10496	9447	49.7	59.7	176
BXRE-65C6501-D-8x	6500	70	1050	6072	5464	33.0	34.6	175
BXRE-65E6501-B-8x	6500	80	950	7906	7115	49.2	46.8	169
BXRE-65E6501-C-8x	6500	80	1200	10086	9077	49.7	59.7	169
BXRE-65E6501-D-8x	6500	80	1050	5834	5251	33.0	34.6	169

Notes for Table 2:

- 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 minimums for all products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50. Bridgelux maintains a  $\pm 3$  tolerance on Rg values.
- Drive current is referred to as nominal drive current.
- Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
- Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at  $85^\circ\text{C}$ . 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.



# 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 3.

**Table 3:** Product Performance at Commonly Used Drive Currents

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical $V_f$ $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux <sup>2</sup> $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux <sup>3</sup> $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-27E6500-B-8x	80	475	48.7	23.1	4179	3761	181
		725	49.5	35.9	6304	5673	176
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>8171</b>	<b>7354</b>	<b>171</b>
		1170	50.9	59.5	9982	8984	168
		1900	53.0	100.7	15730	14157	156
		3250	56.4	183.1	25425	22882	139
BXRE-27E6500-C-8x	80	600	49.2	29.5	5332	4799	181
		900	50.0	45.0	7908	7117	176
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>10424</b>	<b>9382</b>	<b>171</b>
		1440	51.3	73.9	12423	11181	168
		2400	53.5	128.5	20067	18061	156
		3500	55.8	195.3	28223	25401	145
BXRE-27E6500-D-8x	80	525	32.5	17.1	3084	2776	181
		785	33.0	25.9	4560	4104	176
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6030</b>	<b>5427</b>	<b>171</b>
		1400	34.2	47.8	7943	7149	166
		2100	35.4	74.3	11608	10447	156
		3500	37.5	131.3	18347	16512	140
BXRE-27G6500-B-8x	90	475	48.7	23.1	3448	3103	149
		725	49.5	35.9	5201	4681	145
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>6741</b>	<b>6067</b>	<b>141</b>
		1170	50.9	59.5	8235	7412	138
		1900	53.0	100.7	12977	11680	129
		3250	56.4	183.1	20975	18878	115
BXRE-27G6500-C-8x	90	600	49.2	29.5	4399	3959	149
		900	50.0	45.0	6524	5871	145
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>8600</b>	<b>7740</b>	<b>141</b>
		1440	51.3	73.9	10249	9224	139
		2400	53.5	128.5	16556	14900	129
		3500	55.8	195.3	23284	20955	119
BXRE-27G6500-D-8x	90	525	32.5	17.1	2545	2290	149
		785	33.0	25.9	3762	3386	145
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>4975</b>	<b>4477</b>	<b>141</b>
		1400	34.2	47.8	6553	5898	137
		2100	35.4	74.3	9577	8619	129
		3500	37.5	131.3	15136	13622	115

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical V <sub>f</sub> T <sub>c</sub> = 25°C (V)	Typical Power T <sub>c</sub> = 25°C (W)	Typical Flux <sup>2</sup> T <sub>c</sub> = 25°C (lm)	Typical DC Flux <sup>3</sup> T <sub>c</sub> = 85°C (lm)	Typical Efficacy T <sub>c</sub> = 25°C (lm/W)
BXRE-27G65H0-B-8x	90	475	48.7	23.1	3597	3237	156
		725	49.5	35.9	5425	4883	151
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>7032</b>	<b>6329</b>	<b>147</b>
		1170	50.9	59.5	8591	7732	144
		1900	53.0	100.7	13538	12184	134
		3250	56.4	183.1	21881	19693	119
BXRE-27G65H0-C-8x	90	600	49.2	29.5	4589	4130	156
		900	50.0	45.0	6806	6125	151
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>8972</b>	<b>8074</b>	<b>147</b>
		1440	51.3	73.9	10692	9623	145
		2400	53.5	128.5	17271	15544	134
		3500	55.8	195.3	24289	21860	124
BXRE-27G65H0-D-8x	90	525	32.5	17.1	2654	2389	156
		785	33.0	25.9	3925	3532	151
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>5190</b>	<b>4671</b>	<b>147</b>
		1400	34.2	47.8	6836	6152	143
		2100	35.4	74.3	9990	8991	134
		3500	37.5	131.3	15790	14211	120
BXRE-30C6501-B-8x	70	475	48.7	23.1	4650	4185	201
		725	49.5	35.9	7013	6312	195
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>9091</b>	<b>8182</b>	<b>191</b>
		1170	50.9	59.5	11105	9994	187
		1900	53.0	100.7	17500	15750	174
		3250	56.4	183.1	28285	25456	154
BXRE-30C6501-C-8x	70	600	49.2	29.5	5932	5339	201
		900	50.0	45.0	8797	7918	196
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11597</b>	<b>10438</b>	<b>191</b>
		1440	51.3	73.9	13821	12439	187
		2400	53.5	128.5	22325	20093	174
		3500	55.8	195.3	31398	28258	161
BXRE-30C6501-D-8x	70	525	32.5	17.1	3431	3088	201
		785	33.0	25.9	5073	4566	196
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6709</b>	<b>6038</b>	<b>191</b>
		1400	34.2	47.8	8837	7953	185
		2100	35.4	74.3	12914	11623	174
		3500	37.5	131.3	20411	18370	156
BXRE-30E6500-B-8x	80	475	48.7	23.1	4441	3997	192
		725	49.5	35.9	6698	6028	187
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>8682</b>	<b>7814</b>	<b>182</b>
		1170	50.9	59.5	10606	9545	178
		1900	53.0	100.7	16713	15042	166
		3250	56.4	183.1	27014	24312	147

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical V <sub>f</sub> T <sub>c</sub> = 25°C (V)	Typical Power T <sub>c</sub> = 25°C (W)	Typical Flux <sup>2</sup> T <sub>c</sub> = 25°C (lm)	Typical DC Flux <sup>3</sup> T <sub>c</sub> = 85°C (lm)	Typical Efficacy T <sub>c</sub> = 25°C (lm/W)
BXRE-30E6500-C-8x	80	600	49.2	29.5	5665	5099	192
		900	50.0	45.0	8402	7562	187
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11076</b>	<b>9968</b>	<b>182</b>
		1440	51.3	73.9	13200	11880	179
		2400	53.5	128.5	21322	19190	166
		3500	55.8	195.3	29987	26988	154
BXRE-30E6500-D-8x	80	525	32.5	17.1	3277	2949	192
		785	33.0	25.9	4845	4361	187
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6407</b>	<b>5766</b>	<b>182</b>
		1400	34.2	47.8	8439	7596	176
		2100	35.4	74.3	12334	11100	166
		3500	37.5	131.3	19493	17544	149
BXRE-30G6500-B-8x	90	475	48.7	23.1	3605	3244	156
		725	49.5	35.9	5437	4893	151
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>7048</b>	<b>6343</b>	<b>148</b>
		1170	50.9	59.5	8609	7748	145
		1900	53.0	100.7	13567	12210	135
		3250	56.4	183.1	21929	19736	120
BXRE-30G6500-C-8x	90	600	49.2	29.5	4599	4139	156
		900	50.0	45.0	6820	6138	152
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>8991</b>	<b>8092</b>	<b>148</b>
		1440	51.3	73.9	10715	9644	145
		2400	53.5	128.5	17308	15577	135
		3500	55.8	195.3	24342	21908	125
BXRE-30G6500-D-8x	90	525	32.5	17.1	2660	2394	156
		785	33.0	25.9	3933	3540	152
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>5201</b>	<b>4681</b>	<b>148</b>
		1400	34.2	47.8	6851	6166	143
		2100	35.4	74.3	10012	9011	135
		3500	37.5	131.3	15824	14242	121
BXRE-30G65H0-B-8x	90	475	48.7	23.1	3775	3397	163
		725	49.5	35.9	5693	5124	159
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>7380</b>	<b>6642</b>	<b>155</b>
		1170	50.9	59.5	9015	8113	151
		1900	53.0	100.7	14206	12786	141
		3250	56.4	183.1	22962	20665	125
BXRE-30G65H0-C-8x	90	600	49.2	29.5	4815	4334	163
		900	50.0	45.0	7142	6427	159
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>9415</b>	<b>8473</b>	<b>155</b>
		1440	51.3	73.9	11220	10098	152
		2400	53.5	128.5	18123	16311	141
		3500	55.8	195.3	25489	22940	131

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical V <sub>f</sub> T <sub>c</sub> = 25°C (V)	Typical Power T <sub>c</sub> = 25°C (W)	Typical Flux <sup>2</sup> T <sub>c</sub> = 25°C (lm)	Typical DC Flux <sup>3</sup> T <sub>c</sub> = 85°C (lm)	Typical Efficacy T <sub>c</sub> = 25°C (lm/W)
BXRE-30G65H0-D-8x	90	525	32.5	17.1	2785	2507	163
		785	33.0	25.9	4118	3707	159
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>5446</b>	<b>4901</b>	<b>155</b>
		1400	34.2	47.8	7174	6456	150
		2100	35.4	74.3	10484	9435	141
		3500	37.5	131.3	16569	14912	126
BXRE-35E6500-B-8x	80	475	48.7	23.1	4545	4091	197
		725	49.5	35.9	6855	6170	191
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>8886</b>	<b>7998</b>	<b>186</b>
		1170	50.9	59.5	10855	9770	182
		1900	53.0	100.7	17106	15396	170
		3250	56.4	183.1	27649	24884	151
BXRE-35E6500-C-8x	80	600	49.2	29.5	5798	5219	197
		900	50.0	45.0	8600	7740	191
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11337</b>	<b>10203</b>	<b>186</b>
		1440	51.3	73.9	13510	12159	183
		2400	53.5	128.5	21823	19641	170
		3500	55.8	195.3	30692	27623	157
BXRE-35E6500-D-8x	80	525	32.5	17.1	3354	3019	197
		785	33.0	25.9	4959	4463	191
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6558</b>	<b>5902</b>	<b>186</b>
		1400	34.2	47.8	8638	7774	181
		2100	35.4	74.3	12624	11362	170
		3500	37.5	131.3	19952	17957	152
BXRE-35G6500-B-8x	90	475	48.7	23.1	3735	3362	162
		725	49.5	35.9	5634	5071	157
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>7303</b>	<b>6573</b>	<b>153</b>
		1170	50.9	59.5	8921	8029	150
		1900	53.0	100.7	14059	12653	140
		3250	56.4	183.1	22723	20451	124
BXRE-35G6500-C-8x	90	600	49.2	29.5	4765	4289	162
		900	50.0	45.0	7067	6361	157
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>9317</b>	<b>8385</b>	<b>153</b>
		1440	51.3	73.9	11103	9993	150
		2400	53.5	128.5	17935	16142	140
		3500	55.8	195.3	25224	22702	129
BXRE-35G6500-D-8x	90	525	32.5	17.1	2757	2481	162
		785	33.0	25.9	4076	3668	157
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>5389</b>	<b>4850</b>	<b>153</b>
		1400	34.2	47.8	7099	6389	148
		2100	35.4	74.3	10375	9337	140
		3500	37.5	131.3	16397	14758	125

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical V <sub>f</sub> T <sub>c</sub> = 25°C (V)	Typical Power T <sub>c</sub> = 25°C (W)	Typical Flux <sup>2</sup> T <sub>c</sub> = 25°C (lm)	Typical DC Flux <sup>3</sup> T <sub>c</sub> = 85°C (lm)	Typical Efficacy T <sub>c</sub> = 25°C (lm/W)
BXRE-40C6501-B-8x	70	475	48.7	23.1	4780	4302	207
		725	49.5	35.9	7210	6489	201
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>9346</b>	<b>8411</b>	<b>196</b>
		1170	50.9	59.5	11417	10275	192
		1900	53.0	100.7	17991	16192	179
		3250	56.4	183.1	29079	26171	159
BXRE-40C6501-C-8x	70	600	49.2	29.5	6098	5489	207
		900	50.0	45.0	9044	8140	201
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11923</b>	<b>10731</b>	<b>196</b>
		1440	51.3	73.9	14209	12788	192
		2400	53.5	128.5	22952	20657	179
		3500	55.8	195.3	32280	29052	165
BXRE-40C6501-D-8x	70	525	32.5	17.1	3528	3175	207
		785	33.0	25.9	5216	4694	201
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6897</b>	<b>6207</b>	<b>196</b>
		1400	34.2	47.8	9085	8176	190
		2100	35.4	74.3	13277	11949	179
		3500	37.5	131.3	20984	18886	160
BXRE-40E6500-B-8x	80	475	48.7	23.1	4571	4114	198
		725	49.5	35.9	6895	6205	192
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>8937</b>	<b>8044</b>	<b>187</b>
		1170	50.9	59.5	10918	9826	183
		1900	53.0	100.7	17205	15484	171
		3250	56.4	183.1	27808	25027	152
BXRE-40E6500-C-8x	80	600	49.2	29.5	5832	5249	198
		900	50.0	45.0	8649	7784	192
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11402</b>	<b>10262</b>	<b>187</b>
		1440	51.3	73.9	13588	12229	184
		2400	53.5	128.5	21949	19754	171
		3500	55.8	195.3	30869	27782	158
BXRE-40E6500-D-8x	80	525	32.5	17.1	3373	3036	198
		785	33.0	25.9	4988	4489	192
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6595</b>	<b>5936</b>	<b>187</b>
		1400	34.2	47.8	8688	7819	182
		2100	35.4	74.3	12696	11427	171
		3500	37.5	131.3	20067	18060	153
BXRE-40G6500-B-8x	90	475	48.7	23.1	3814	3432	165
		725	49.5	35.9	5752	5177	160
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>7456</b>	<b>6711</b>	<b>156</b>
		1170	50.9	59.5	9109	8198	153
		1900	53.0	100.7	14354	12918	143
		3250	56.4	183.1	23200	20880	127

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical V <sub>f</sub> T <sub>c</sub> = 25°C (V)	Typical Power T <sub>c</sub> = 25°C (W)	Typical Flux <sup>2</sup> T <sub>c</sub> = 25°C (lm)	Typical DC Flux <sup>3</sup> T <sub>c</sub> = 85°C (lm)	Typical Efficacy T <sub>c</sub> = 25°C (lm/W)
BXRE-40G6500-C-8x	90	600	49.2	29.5	4865	4379	165
		900	50.0	45.0	7216	6494	160
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>9512</b>	<b>8561</b>	<b>156</b>
		1440	51.3	73.9	11336	10203	153
		2400	53.5	128.5	18312	16480	143
		3500	55.8	195.3	25753	23178	132
BXRE-40G6500-D-8x	90	525	32.5	17.1	2814	2533	165
		785	33.0	25.9	4161	3745	161
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>5502</b>	<b>4952</b>	<b>156</b>
		1400	34.2	47.8	7248	6523	151
		2100	35.4	74.3	10592	9533	143
		3500	37.5	131.3	16741	15067	128
BXRE-50C6501-B-8x	70	475	48.7	23.1	4806	4326	208
		725	49.5	35.9	7249	6524	202
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>9397</b>	<b>8457</b>	<b>197</b>
		1170	50.9	59.5	11479	10331	193
		1900	53.0	100.7	18090	16281	180
		3250	56.4	183.1	29238	26314	160
BXRE-50C6501-C-8x	70	600	49.2	29.5	6132	5519	208
		900	50.0	45.0	9094	8184	202
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11988</b>	<b>10789</b>	<b>197</b>
		1440	51.3	73.9	14287	12858	193
		2400	53.5	128.5	23078	20770	180
		3500	55.8	195.3	32456	29211	166
BXRE-50C6501-D-8x	70	525	32.5	17.1	3547	3192	208
		785	33.0	25.9	5244	4720	202
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6935</b>	<b>6241</b>	<b>197</b>
		1400	34.2	47.8	9135	8221	191
		2100	35.4	74.3	13349	12014	180
		3500	37.5	131.3	21099	18989	161
BXRE-50E6501-B-8x	80	475	48.7	23.1	4624	4161	200
		725	49.5	35.9	6973	6276	194
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>9039</b>	<b>8136</b>	<b>189</b>
		1170	50.9	59.5	11042	9938	185
		1900	53.0	100.7	17401	15661	173
		3250	56.4	183.1	28126	25313	154
BXRE-50E6501-C-8x	80	600	49.2	29.5	5898	5309	200
		900	50.0	45.0	8748	7873	195
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11532</b>	<b>10379</b>	<b>189</b>
		1440	51.3	73.9	13743	12369	186
		2400	53.5	128.5	22200	19980	173
		3500	55.8	195.3	31222	28099	160

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical V <sub>f</sub> T <sub>c</sub> = 25°C (V)	Typical Power T <sub>c</sub> = 25°C (W)	Typical Flux <sup>2</sup> T <sub>c</sub> = 25°C (lm)	Typical DC Flux <sup>3</sup> T <sub>c</sub> = 85°C (lm)	Typical Efficacy T <sub>c</sub> = 25°C (lm/W)
BXRE-50E6501-D-8x	80	525	32.5	17.1	3412	3071	200
		785	33.0	25.9	5045	4540	195
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6671</b>	<b>6004</b>	<b>189</b>
		1400	34.2	47.8	8787	7908	184
		2100	35.4	74.3	12842	11557	173
		3500	37.5	131.3	20296	18267	155
BXRE-50G6501-B-8x	90	475	48.7	23.1	3997	3597	173
		725	49.5	35.9	6028	5425	168
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>7814</b>	<b>7032</b>	<b>164</b>
		1170	50.9	59.5	9545	8591	160
		1900	53.0	100.7	15042	13538	149
		3250	56.4	183.1	24312	21881	133
BXRE-50G6501-C-8x	90	600	49.2	29.5	5099	4589	173
		900	50.0	45.0	7562	6806	168
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>9968</b>	<b>8972</b>	<b>164</b>
		1440	51.3	73.9	11880	10692	161
		2400	53.5	128.5	19190	17271	149
		3500	55.8	195.3	26988	24289	138
BXRE-50G6501-D-8x	90	525	32.5	17.1	2949	2654	173
		785	33.0	25.9	4361	3925	168
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>5766</b>	<b>5190</b>	<b>164</b>
		1400	34.2	47.8	7596	6836	159
		2100	35.4	74.3	11100	9990	149
		3500	37.5	131.3	17544	15790	134
BXRE-57C6501-B-8x	70	475	48.7	23.1	4676	4208	202
		725	49.5	35.9	7052	6347	196
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>9142</b>	<b>8227</b>	<b>192</b>
		1170	50.9	59.5	11167	10051	188
		1900	53.0	100.7	17598	15838	175
		3250	56.4	183.1	28444	25599	155
BXRE-57C6501-C-8x	70	600	49.2	29.5	5965	5369	202
		900	50.0	45.0	8847	7962	197
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11662</b>	<b>10496</b>	<b>192</b>
		1440	51.3	73.9	13899	12509	188
		2400	53.5	128.5	22451	20205	175
		3500	55.8	195.3	31574	28417	162
BXRE-57C6501-D-8x	70	525	32.5	17.1	3451	3105	202
		785	33.0	25.9	5102	4592	197
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6746</b>	<b>6072</b>	<b>192</b>
		1400	34.2	47.8	8886	7998	186
		2100	35.4	74.3	12987	11688	175
		3500	37.5	131.3	20525	18473	156

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical $V_f$ $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux <sup>2</sup> $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux <sup>3</sup> $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-57E6501-B-8x	80	475	48.7	23.1	4441	3997	192
		725	49.5	35.9	6698	6028	187
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>8682</b>	<b>7814</b>	<b>182</b>
		1170	50.9	59.5	10606	9545	178
		1900	53.0	100.7	16713	15042	166
		3250	56.4	183.1	27014	24312	147
BXRE-57E6501-C-8x	80	600	49.2	29.5	5665	5099	192
		900	50.0	45.0	8402	7562	187
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11076</b>	<b>9968</b>	<b>182</b>
		1440	51.3	73.9	13200	11880	179
		2400	53.5	128.5	21322	19190	166
		3500	55.8	195.3	29987	26988	154
BXRE-57E6501-D-8x	80	525	32.5	17.1	3277	2949	192
		785	33.0	25.9	4845	4361	187
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6407</b>	<b>5766</b>	<b>182</b>
		1400	34.2	47.8	8439	7596	176
		2100	35.4	74.3	12334	11100	166
		3500	37.5	131.3	19493	17544	149
BXRE-65C6501-B-8x	70	475	48.7	23.1	4676	4208	202
		725	49.5	35.9	7052	6347	196
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>9142</b>	<b>8227</b>	<b>192</b>
		1170	50.9	59.5	11167	10051	188
		1900	53.0	100.7	17598	15838	175
		3250	56.4	183.1	28444	25599	155
BXRE-65C6501-C-8x	70	600	49.2	29.5	5965	5369	202
		900	50.0	45.0	8847	7962	197
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11662</b>	<b>10496</b>	<b>192</b>
		1440	51.3	73.9	13899	12509	188
		2400	53.5	128.5	22451	20205	175
		3500	55.8	195.3	31574	28417	162
BXRE-65C6501-D-8x	70	525	32.5	17.1	3451	3105	202
		785	33.0	25.9	5102	4592	197
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6746</b>	<b>6072</b>	<b>192</b>
		1400	34.2	47.8	8886	7998	186
		2100	35.4	74.3	12987	11688	175
		3500	37.5	131.3	20525	18473	156
BXRE-65E6501-B-8x	80	475	48.7	23.1	4493	4044	194
		725	49.5	35.9	6777	6099	189
		<b>950</b>	<b>50.2</b>	<b>47.7</b>	<b>8784</b>	<b>7906</b>	<b>184</b>
		1170	50.9	59.5	10731	9658	180
		1900	53.0	100.7	16910	15219	168
		3250	56.4	183.1	27331	24598	149

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical $V_f$ $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux <sup>2</sup> $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux <sup>3</sup> $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-65E6501-C-8x	80	600	49.2	29.5	5732	5159	194
		900	50.0	45.0	8501	7651	189
		<b>1200</b>	<b>50.7</b>	<b>60.9</b>	<b>11206</b>	<b>10086</b>	<b>184</b>
		1440	51.3	73.9	13355	12020	181
		2400	53.5	128.5	21573	19415	168
		3500	55.8	195.3	30340	27306	155
BXRE-65E6501-D-8x	80	525	32.5	17.1	3316	2984	194
		785	33.0	25.9	4902	4412	189
		<b>1050</b>	<b>33.5</b>	<b>35.2</b>	<b>6482</b>	<b>5834</b>	<b>184</b>
		1400	34.2	47.8	8539	7685	178
		2100	35.4	74.3	12479	11231	168
		3500	37.5	131.3	19723	17751	150

Notes for Table 3:

1. Alternate drive currents in Table 3 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 4:** Electrical Characteristics

Part Number	Drive Current (mA)	Forward Voltage Pulsed, $T_c = 25^\circ\text{C}$ (V) <sup>1, 2, 3, 8</sup>			Typical Coefficient of Forward Voltage <sup>4</sup> $\Delta V_f / \Delta T_c$ (mV/ $^\circ\text{C}$ )	Typical Thermal Resistance Junction to Case <sup>5,6</sup> $R_{j-c}$ ( $^\circ\text{C}/\text{W}$ )	Driver Selection Voltages <sup>7</sup> (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-8x	950	46.4	50.2	54.0	-16.19	0.07	45.1	55.0
	3250	52.2	56.4	60.6	-18.19	0.13	50.7	61.8
BXRE-xxx650x-C-8x	1200	46.9	50.7	54.5	-16.35	0.08	45.6	55.6
	3500	51.6	55.8	60.0	-18.00	0.15	50.2	61.2
BXRE-xxx650x-D-8x	1050	31.0	33.5	36.0	-10.81	0.08	30.1	36.7
	3500	34.7	37.5	40.3	-12.10	0.14	33.7	41.1

Notes for Table 4:

- 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 1140 V. The working voltage designated for the insulation is 70V d.c. The maximum allowable voltage across the array must be determined in the end product application.

# Eye Safety

**Table 5:** Eye Safety Risk Group (RG) Classifications

Part Number	Drive Current (mA)	CCT			
		2700K/3000K	4000K <sup>2</sup>	5000K <sup>3</sup>	6500K <sup>4</sup>
BXRE-xxx650x-B-8x	1370	RG1	RG1	RG1	RG1
	1900	RG1	RG1	RG1	RG2
	2525	RG1	RG1	RG2	RG2
BXRE-xxx650x-C-8x	3250	RG1	RG2	RG2	RG2
	1355	RG1	RG1	RG1	RG1
	1880	RG1	RG1	RG1	RG2
	2500	RG1	RG1	RG2	RG2
	3500	RG1	RG2	RG2	RG2
BXRE-xxx650x-D-8x	2055	RG1	RG1	RG1	RG1
	2850	RG1	RG1	RG1	RG2
	3500	RG1	RG1	RG2	RG2

Notes for Table 5:

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, Ethr= 1980 lx.
3. For products classified as RG2 at 5000K Ethr= 1530 lx.
4. For products classified as RG2 at 6500K, Ethr= 1170 lx.
5. Please contact your Bridgelux sales representative for Ethr values at specific drive currents and CCTs not listed.

# Absolute Maximum Ratings

**Table 6:** Maximum Ratings

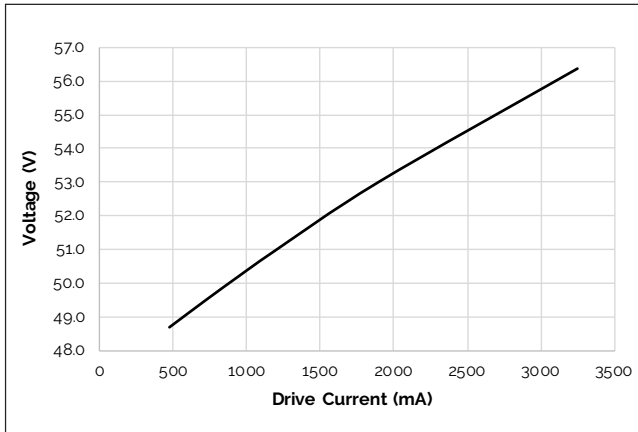
Parameter	Maximum Rating		
LED Junction Temperature (T <sub>j</sub> )	150°C		
Storage Temperature	-40°C to +105°C		
Operating Case Temperature <sup>1</sup> (T <sub>c</sub> )	105°C		
Soldering Temperature <sup>2</sup>	300°C or lower for a maximum of 6 seconds		
	BXRE-xxx650x-B-8x	BXRE-xxx650x-C-8x	BXRE-xxx650x-D-8x
Maximum Drive Current <sup>3</sup>	3250 mA	3500 mA	3500 mA
Maximum Peak Pulsed Drive Current <sup>4</sup>	3640 mA	3920 mA	3920 mA
Maximum Reverse Voltage <sup>5</sup>	-90V	-90V	-60V

Notes for Table 6:

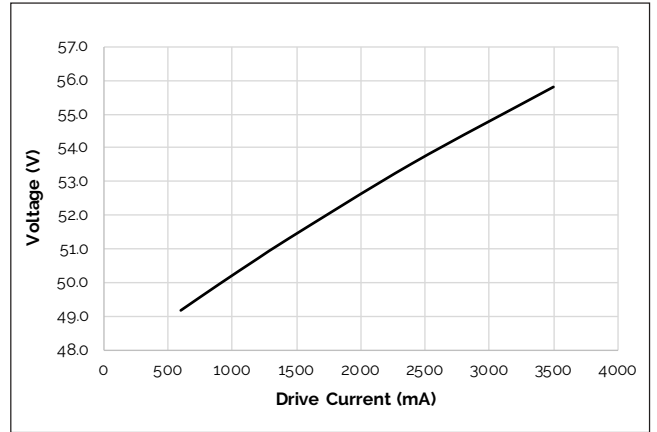
1. For IEC 62717 requirement, please consult your Bridgelux sales representative.
2. Refer to Bridgelux Application Note AN101: Handling and Assembly of Bridgelux V Series LED Arrays
3. Arrays may be driven at higher currents however lumen maintenance may be reduced and warranty will not apply.
4. Bridgelux 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

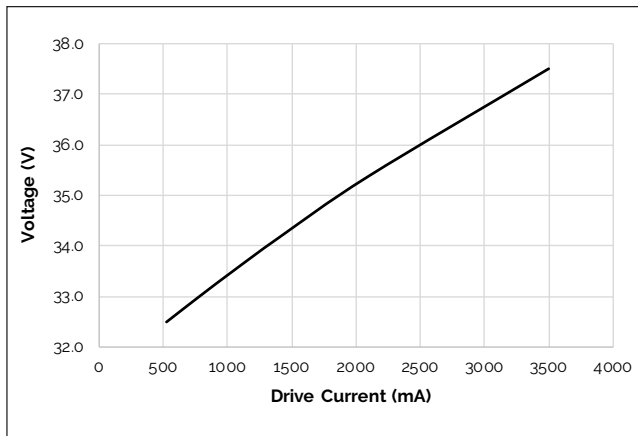
**Figure 1: V22B Drive Current vs. Voltage**



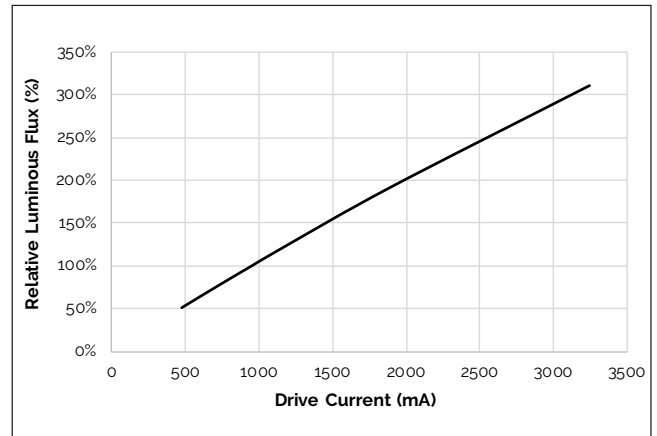
**Figure 2: V22C Drive Current vs. Voltage**



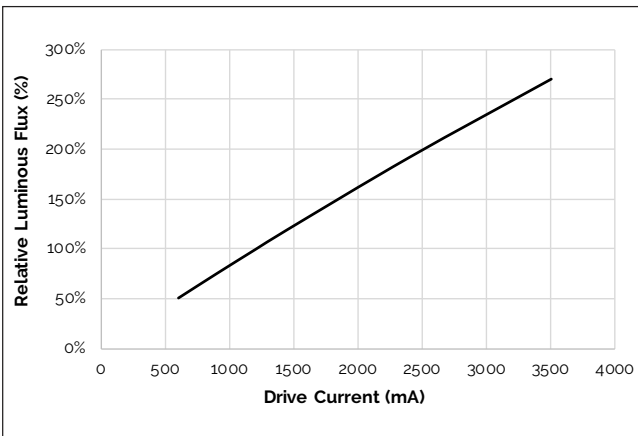
**Figure 3: V22D Drive Current vs. Voltage**



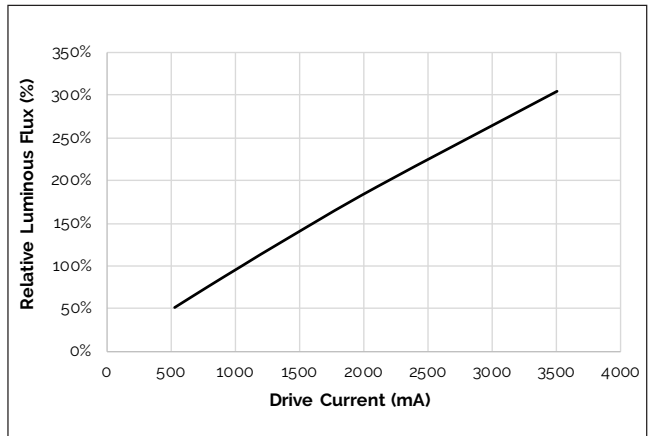
**Figure 4: V22B Typical Relative Flux vs. Current**



**Figure 5: V22C Typical Relative Flux vs. Current**



**Figure 6: V22D Typical Relative Flux vs. Current**

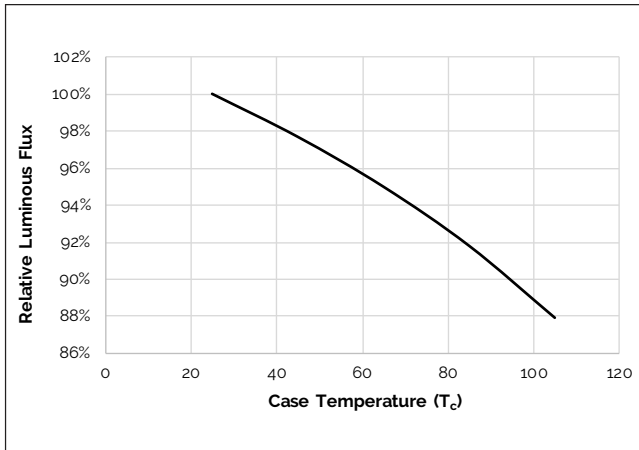


Notes for Figures 1-6:

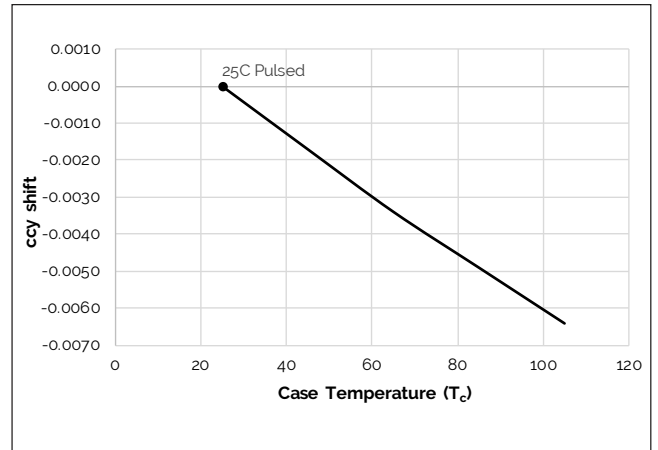
1. Bridgelux does not recommend driving high power LEDs at low currents. Doing so may produce unpredictable results. Pulse width modulation (PWM) is recommended for dimming effects.
2. Products tested under pulsed condition (10ms pulse width) at nominal test current where  $T_j$  (junction temperature)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

# Performance Curves

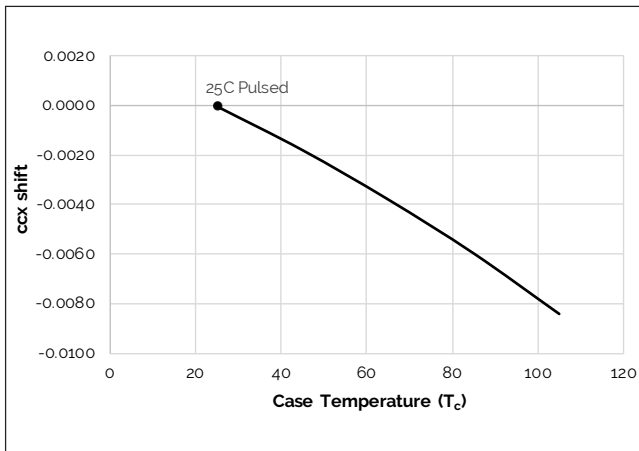
**Figure 7: Typical DC Flux vs. Case Temperature**



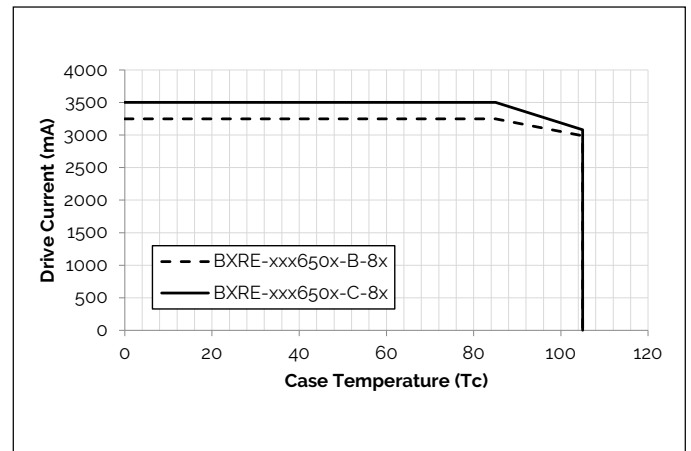
**Figure 8: Typical DC ccy Shift vs. Case Temperature**



**Figure 9: Typical DC ccx Shift vs. Case Temperature**

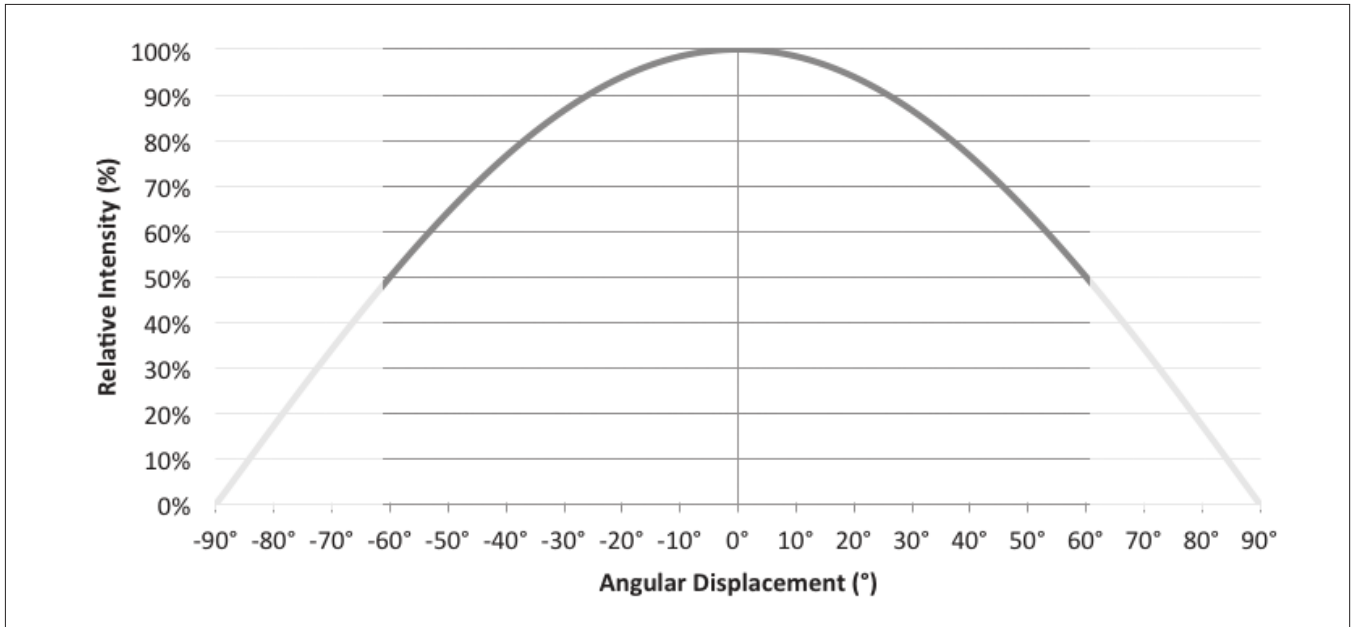


**Figure 10: Derating Curve**



# Typical Radiation Pattern

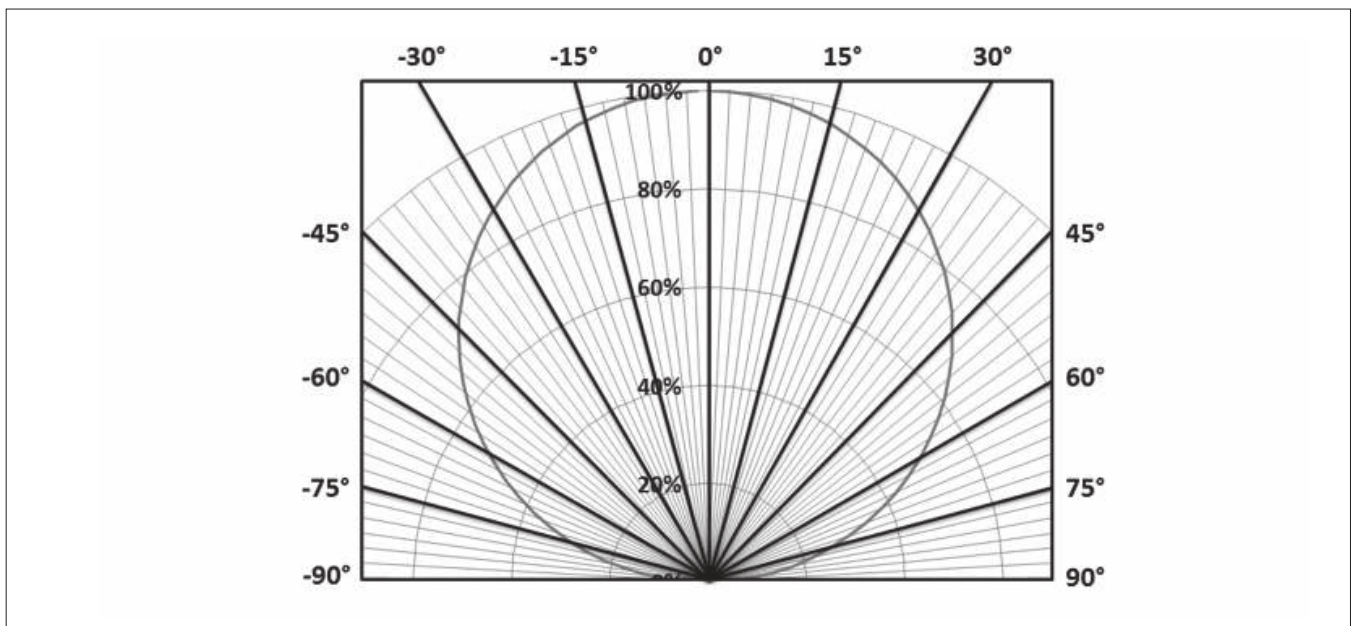
Figure 11: Typical Spatial Radiation Pattern



Note for Figure 11:

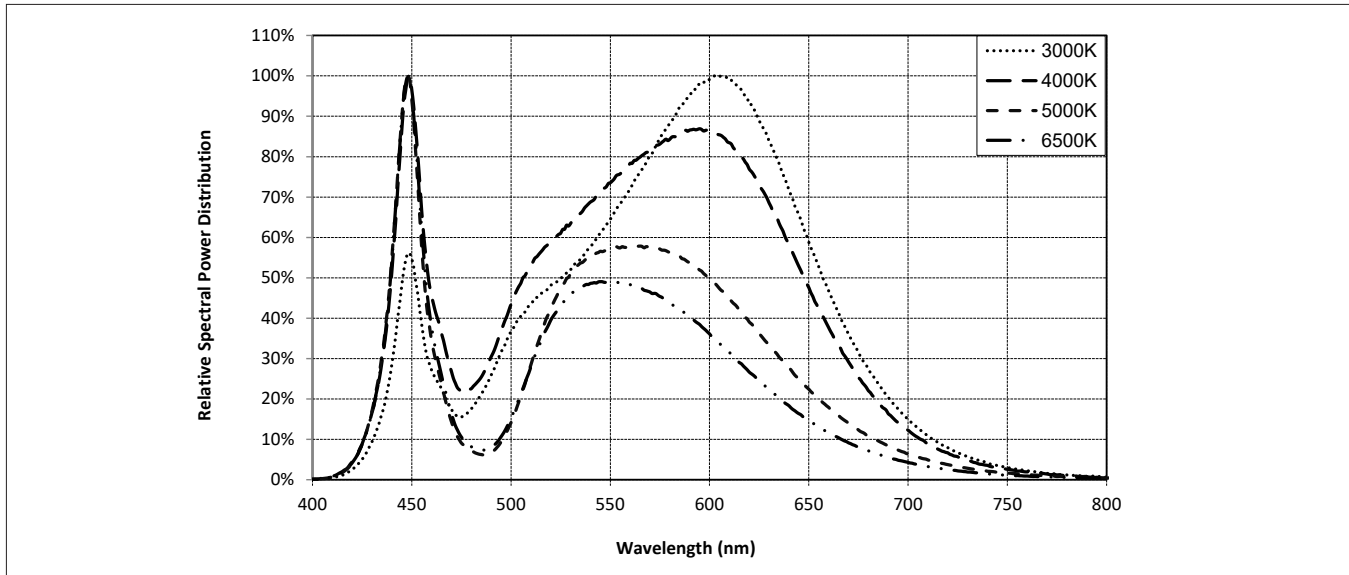
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 12: Typical Polar Radiation Pattern



# Typical Color Spectrum

Figure 13: Typical Color Spectrum



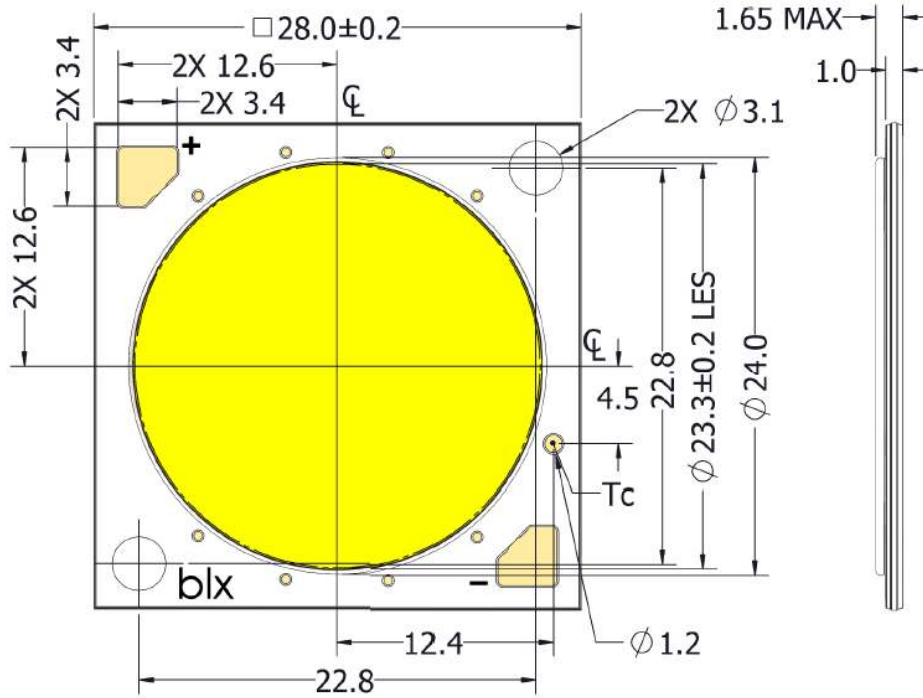
Note for Figure 13:

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.



# Mechanical Dimensions

Figure 14: Drawing for V22 LED Array

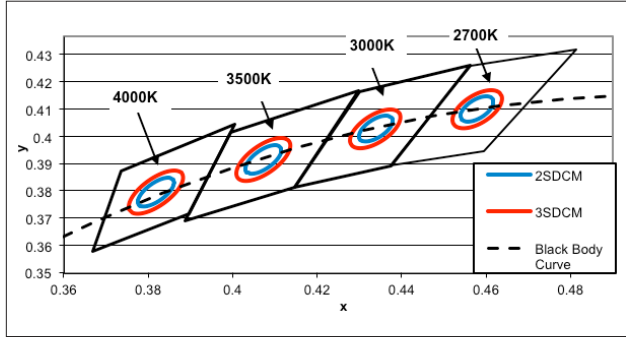


Notes for Figure 14:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.
3. Unless otherwise specified, tolerances are  $\pm 0.1$ 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  $\pm 0.2$ mm.
7. Bridgelux maintains a flatness of  $0.10$ mm across the mounting surface of the array.

# Color Binning Information

**Figure 15: Graph of Warm and Neutral White Test Bins in xy Color Space**

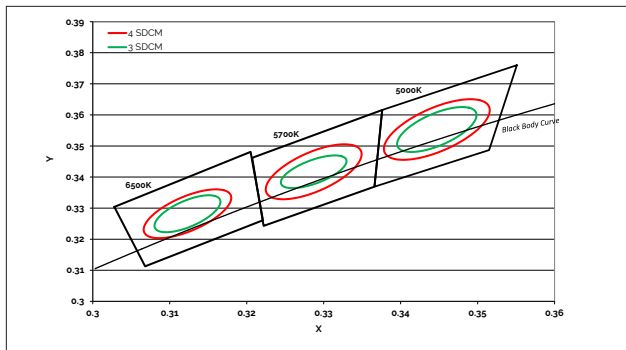


Note: Pulsed Test Conditions,  $T_c = 25^\circ\text{C}$

**Table 7: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT**

Bin Code	2700K	3000K	3500K	4000K
ANSI Bin (for reference only)	(2580K - 2870K)	(2870K - 3220K)	(3220K - 3710K)	(3710K - 4260K)
83 (3 SDCM)	(2651K - 2794K)	(2968K - 3136K)	(3369K - 3586K)	(3851K - 4130K)
82 (2 SDCM)	(2674K - 2769K)	(2995K - 3107K)	(3404K - 3548K)	(3895K - 4081K)
Center Point (x,y)	(0.4578, 0.4101)	(0.4338, 0.403)	(0.4073, 0.3917)	(0.3818, 0.3797)

**Figure 16: Graph of Cool White Test Bins in xy Color Space**



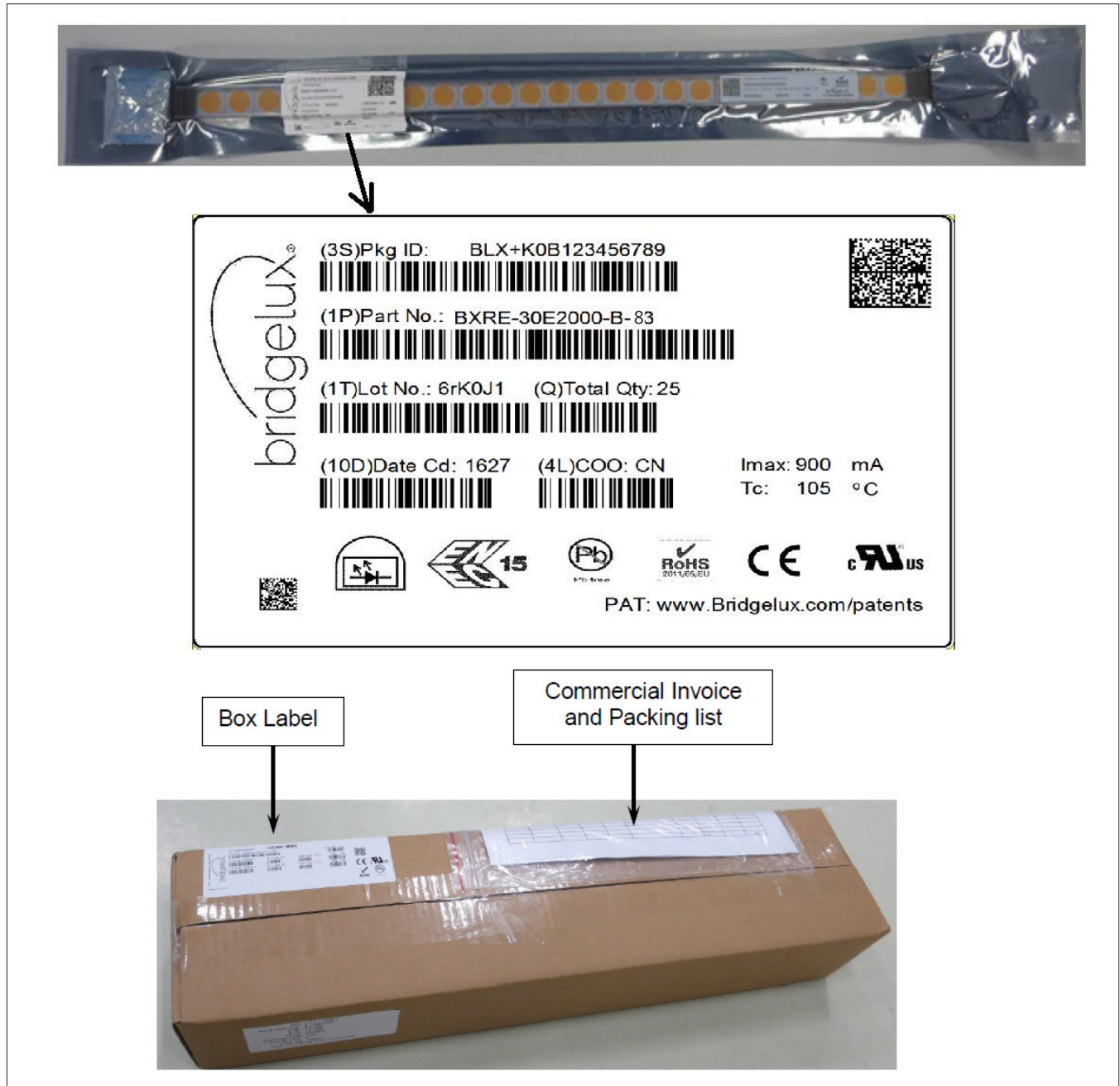
Note: Pulsed Test Conditions,  $T_c = 25^\circ\text{C}$

**Table 8: Cool White xy Bin Coordinates and Associated Typical CCT (product is hot targeted to  $T_c = 85^\circ\text{C}$ )**

Bin Code	5000K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5312K - 6022K)	(6022K - 7042K)
84 (4 SDCM)	(4801K - 5282K)	(5481K - 5829K)	(6270K - 6765K)
83 (3 SDCM)	(4835K - 5215K)	(5490K - 5820K)	(6250K - 6745K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3287, 0.3417)	(0.3123, 0.3282)

# Packaging and Labeling

Figure 17: Drawing for V22 Packaging Tube



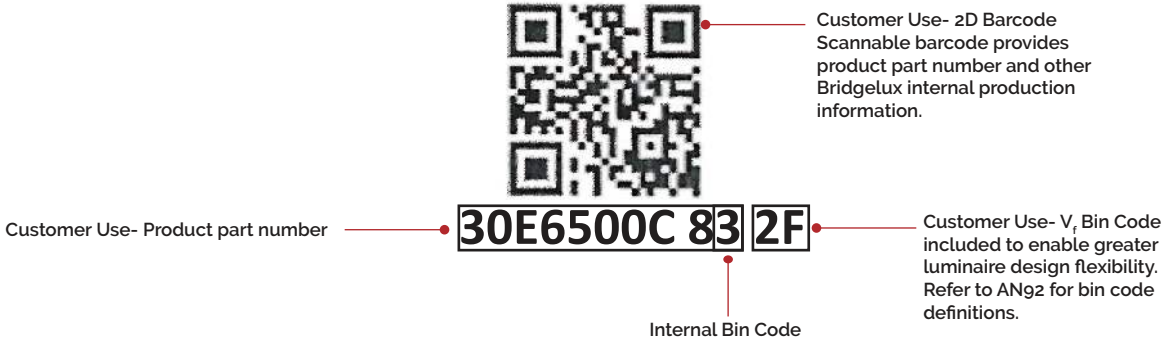
Notes for Figure 17:

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 18: Gen. 8 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](http://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](http://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](http://bridgelux.com)**  
**[twitter.com/Bridgelux](https://twitter.com/Bridgelux)**  
**[facebook.com/Bridgelux](https://facebook.com/Bridgelux)**  
**[youtube.com/user/Bridgelux](https://youtube.com/user/Bridgelux)**  
**[linkedin.com/company/bridgelux-inc-\\_2](https://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](http://www.bridgelux.com)**

© 2020 Bridgelux, Inc. All rights reserved. Product specifications are subject to change without notice. Bridgelux, the Bridgelux stylized logo design and Vero are registered trademarks. V Series and Decor Series are trademarks of Bridgelux, Inc. All other trademarks are the property of their respective owners.

**Bridgelux Gen 8 V22 Array Series Product Data Sheet DS416 Rev. A (06/2020)**