

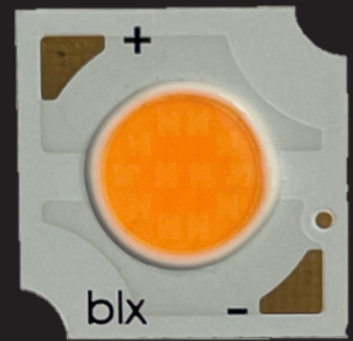
Bridgelux® Gen 8 V6 Array

Product Data Sheet DS410



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 V6 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 172 lm/W typical for 3000K, 80 CRI
- Compact high flux density light source
- Uniform, high quality illumination
- Minimum 70, 80, and 90 CRI options
- Streamlined thermal path
- ENERGY STAR® / ANSI compliant color binning structure with 2, 3 and 4 SDCM standard
- 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 issues



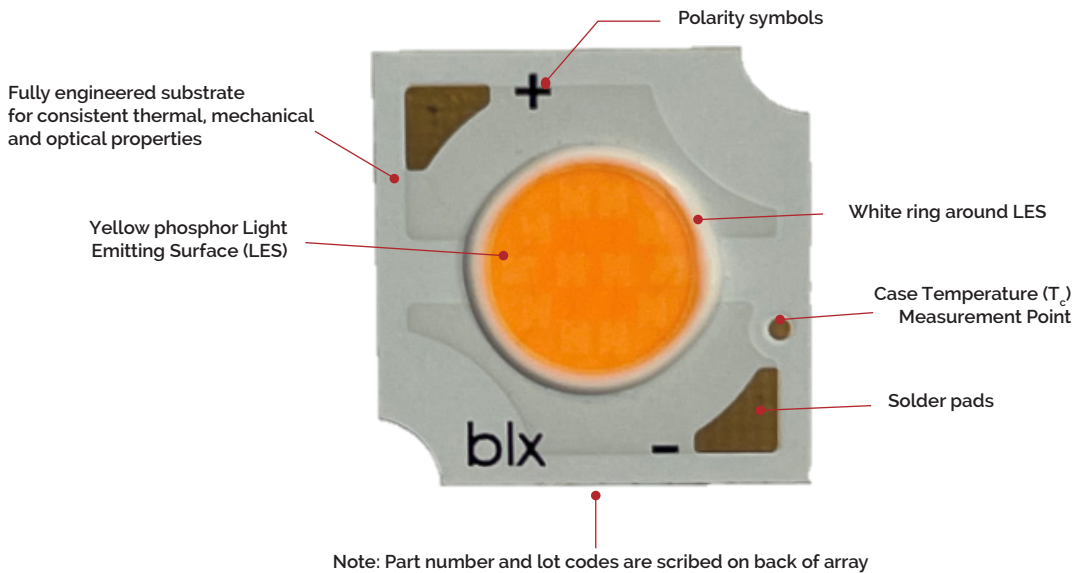
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Product Feature Map

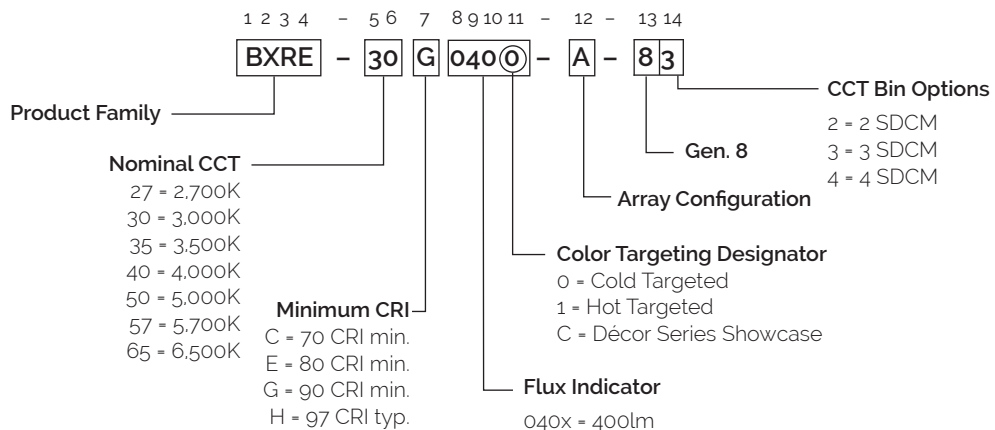
Bridgelux arrays are fully engineered devices that provide consistent thermal and optical performance on an engineered mechanical platform. The V Series arrays are the most compact chip-on-board devices across all of Bridgelux's LED Array products.

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



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-27E0400-A-8x	2700	80	160	437	384	16.9	2.7	162
BXRE-27E0400-B-8x	2700	80	320	437	384	8.4	2.7	162
BXRE-27E0400-C-8x	2700	80	80	437	384	33.7	2.7	162
BXRE-27G0400-A-8x	2700	90	160	360	317	16.9	2.7	134
BXRE-27G0400-B-8x	2700	90	320	360	317	8.4	2.7	134
BXRE-27G0400-C-8x	2700	90	80	360	317	33.7	2.7	134
BXRE-27G04H0-A-8x	2700	90	160	374	329	16.9	2.7	139
BXRE-27G04H0-B-8x	2700	90	320	374	329	8.4	2.7	139
BXRE-27G04H0-C-8x	2700	90	80	374	329	33.7	2.7	139
BXRE-27H0400-A-8x	2700	97	160	319	281	16.9	2.7	118
BXRE-27H0400-B-8x	2700	97	320	319	281	8.4	2.7	118
BXRE-27H0400-C-8x	2700	97	80	319	281	33.7	2.7	118
BXRE-30C0401-A-8x	3000	70	160	486	428	16.9	2.7	180
BXRE-30C0401-B-8x	3000	70	320	486	428	8.4	2.7	180
BXRE-30C0401-C-8x	3000	70	80	486	428	33.7	2.7	180
BXRE-30E0400-A-8x	3000	80	160	464	408	16.9	2.7	172
BXRE-30E0400-B-8x	3000	80	320	464	408	8.4	2.7	172
BXRE-30E0400-C-8x	3000	80	80	464	408	33.7	2.7	172
BXRE-30G0400-A-8x	3000	90	160	377	331	16.9	2.7	140
BXRE-30G0400-B-8x	3000	90	320	377	331	8.4	2.7	140
BXRE-30G0400-C-8x	3000	90	80	376	331	33.7	2.7	139
BXRE-30G04H0-A-8x	3000	90	160	394	347	16.9	2.7	146
BXRE-30G04H0-B-8x	3000	90	320	394	347	8.4	2.7	146
BXRE-30G04H0-C-8x	3000	90	80	394	347	33.7	2.7	146
BXRE-30H0400-A-8x	3000	97	160	341	300	16.9	2.7	126
BXRE-30H0400-B-8x	3000	97	320	341	300	8.4	2.7	126
BXRE-30H0400-C-8x	3000	97	80	341	300	33.7	2.7	126
BXRE-35E0400-A-8x	3500	80	160	475	418	16.9	2.7	176
BXRE-35E0400-B-8x	3500	80	320	475	418	8.4	2.7	176
BXRE-35E0400-C-8x	3500	80	80	475	418	33.7	2.7	176
BXRE-35G0400-A-8x	3500	90	160	390	343	16.9	2.7	145
BXRE-35G0400-B-8x	3500	90	320	390	343	8.4	2.7	145
BXRE-35G0400-C-8x	3500	90	80	390	343	33.7	2.7	145

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011.
- CRI values are minimums and tested at $T_j = T_c = 25^\circ\text{C}$. 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 drive 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.

Product Selection Guide

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

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical Pulsed Flux ^{4,5,6} $T_c = 25^\circ\text{C}$ (lm)	Minimum Pulsed Flux ^{6,7} $T_c = 25^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-40C0401-A-8x	4000	70	160	499	440	16.9	2.7	185
BXRE-40C0401-B-8x	4000	70	320	499	440	8.4	2.7	185
BXRE-40C0401-C-8x	4000	70	80	499	440	33.7	2.7	185
BXRE-40E0400-A-8x	4000	80	160	478	420	16.9	2.7	177
BXRE-40E0400-B-8x	4000	80	320	478	420	8.4	2.7	177
BXRE-40E0400-C-8x	4000	80	80	478	420	33.7	2.7	177
BXRE-40G0400-A-8x	4000	90	160	398	351	16.9	2.7	148
BXRE-40G0400-B-8x	4000	90	320	398	351	8.4	2.7	148
BXRE-40G0400-C-8x	4000	90	80	398	351	33.7	2.7	148
BXRE-50C0401-A-8x	5000	70	160	502	442	16.9	2.7	186
BXRE-50C0401-B-8x	5000	70	320	502	442	8.4	2.7	186
BXRE-50C0401-C-8x	5000	70	80	502	442	33.7	2.7	186
BXRE-50E0401-A-8x	5000	80	160	483	425	16.9	2.7	179
BXRE-50E0401-B-8x	5000	80	320	483	425	8.4	2.7	179
BXRE-50E0401-C-8x	5000	80	80	483	425	33.7	2.7	179
BXRE-50G0401-A-8x	5000	90	160	418	367	16.9	2.7	155
BXRE-50G0401-B-8x	5000	90	320	418	367	8.4	2.7	155
BXRE-50G0401-C-8x	5000	90	80	418	367	33.7	2.7	155
BXRE-57C0401-A-8x	5700	70	160	489	430	16.9	2.7	181
BXRE-57C0401-B-8x	5700	70	320	489	430	8.4	2.7	181
BXRE-57C0401-C-8x	5700	70	80	489	430	33.7	2.7	181
BXRE-57E0401-A-8x	5700	80	160	464	408	16.9	2.7	172
BXRE-57E0401-B-8x	5700	80	320	464	408	8.4	2.7	172
BXRE-57E0401-C-8x	5700	80	80	464	408	33.7	2.7	172
BXRE-65C0401-A-8x	6500	70	160	489	430	16.9	2.7	181
BXRE-65C0401-B-8x	6500	70	320	489	430	8.4	2.7	181
BXRE-65C0401-C-8x	6500	70	80	489	430	33.7	2.7	181
BXRE-65E0401-A-8x	6500	80	160	469	413	16.9	2.7	174
BXRE-65E0401-B-8x	6500	80	320	469	413	8.4	2.7	174
BXRE-65E0401-C-8x	6500	80	80	469	413	33.7	2.7	174

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011.
- CRI values are minimums and tested at $T_j = T_c = 25^\circ\text{C}$. 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 drive 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.

Product Selection Guide

Table 2: Selection Guide, Stabilized DC Performance ($T_c = 85^\circ\text{C}$)

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-27E0400-A-8x	2700	80	160	393	346	16.6	2.7	148
BXRE-27E0400-B-8x	2700	80	320	393	346	8.2	2.6	149
BXRE-27E0400-C-8x	2700	80	80	393	346	33.0	2.6	149
BXRE-27G0400-A-8x	2700	90	160	324	285	16.6	2.7	122
BXRE-27G0400-B-8x	2700	90	320	324	285	8.2	2.6	123
BXRE-27G0400-C-8x	2700	90	80	324	285	33.0	2.6	123
BXRE-27G04H0-A-8x	2700	90	160	337	296	16.6	2.7	127
BXRE-27G04H0-B-8x	2700	90	320	337	296	8.2	2.6	128
BXRE-27G04H0-C-8x	2700	90	80	337	296	33.0	2.6	127
BXRE-27H0400-A-8x	2700	97	160	287	253	16.6	2.7	108
BXRE-27H0400-B-8x	2700	97	320	287	253	8.2	2.6	109
BXRE-27H0400-C-8x	2700	97	80	287	253	33.0	2.6	109
BXRE-30C0401-A-8x	3000	70	160	437	385	16.6	2.7	165
BXRE-30C0401-B-8x	3000	70	320	437	385	8.2	2.6	166
BXRE-30C0401-C-8x	3000	70	80	437	385	33.0	2.6	165
BXRE-30E0400-A-8x	3000	80	160	418	367	16.6	2.7	158
BXRE-30E0400-B-8x	3000	80	320	418	367	8.2	2.6	158
BXRE-30E0400-C-8x	3000	80	80	418	367	33.0	2.6	158
BXRE-30G0400-A-8x	3000	90	160	339	298	16.6	2.7	128
BXRE-30G0400-B-8x	3000	90	320	339	298	8.2	2.6	129
BXRE-30G0400-C-8x	3000	90	80	338	298	33.0	2.6	128
BXRE-30G04H0-A-8x	3000	90	160	355	312	16.6	2.7	134
BXRE-30G04H0-B-8x	3000	90	320	355	312	8.2	2.6	135
BXRE-30G04H0-C-8x	3000	90	80	355	312	33.0	2.6	134
BXRE-30H0400-A-8x	3000	97	160	307	270	16.6	2.7	116
BXRE-30H0400-B-8x	3000	97	320	307	270	8.2	2.6	117
BXRE-30H0400-C-8x	3000	97	80	307	270	33.0	2.6	116
BXRE-35E0400-A-8x	3500	80	160	427	376	16.6	2.7	161
BXRE-35E0400-B-8x	3500	80	320	427	376	8.2	2.6	162
BXRE-35E0400-C-8x	3500	80	80	427	376	33.0	2.6	162
BXRE-35G0400-A-8x	3500	90	160	351	309	16.6	2.7	133
BXRE-35G0400-B-8x	3500	90	320	351	309	8.2	2.6	133
BXRE-35G0400-C-8x	3500	90	80	351	309	33.0	2.6	133

Notes for Table 2:

- Nominal CCT as defined by ANSI C78.377-2011.
- CRI values are minimums and tested at $T_j = T_c = 25^\circ\text{C}$. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on Rg values.
- Drive current is referred to as nominal drive current.
- Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
- Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C . Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.

Product Selection Guide

Table 2: Selection Guide, Stabilized DC Performance ($T_c = 85^\circ\text{C}$) (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-40C0401-A-8x	4000	70	160	450	396	16.6	2.7	170
BXRE-40C0401-B-8x	4000	70	320	450	396	8.2	2.6	171
BXRE-40C0401-C-8x	4000	70	80	450	396	33.0	2.6	170
BXRE-40E0400-A-8x	4000	80	160	430	378	16.6	2.7	162
BXRE-40E0400-B-8x	4000	80	320	430	378	8.2	2.6	163
BXRE-40E0400-C-8x	4000	80	80	430	378	33.0	2.6	163
BXRE-40G0400-A-8x	4000	90	160	359	316	16.6	2.7	135
BXRE-40G0400-B-8x	4000	90	320	359	316	8.2	2.6	136
BXRE-40G0400-C-8x	4000	90	80	359	316	33.0	2.6	136
BXRE-50C0401-A-8x	5000	70	160	452	398	16.6	2.7	170
BXRE-50C0401-B-8x	5000	70	320	452	398	8.2	2.6	172
BXRE-50C0401-C-8x	5000	70	80	452	398	33.0	2.6	171
BXRE-50E0401-A-8x	5000	80	160	435	383	16.6	2.7	164
BXRE-50E0401-B-8x	5000	80	320	435	383	8.2	2.6	165
BXRE-50E0401-C-8x	5000	80	80	435	383	33.0	2.6	165
BXRE-50G0401-A-8x	5000	90	160	376	331	16.6	2.7	142
BXRE-50G0401-B-8x	5000	90	320	376	331	8.2	2.6	143
BXRE-50G0401-C-8x	5000	90	80	376	331	33.0	2.6	142
BXRE-57C0401-A-8x	5700	70	160	440	387	16.6	2.7	166
BXRE-57C0401-B-8x	5700	70	320	440	387	8.2	2.6	167
BXRE-57C0401-C-8x	5700	70	80	440	387	33.0	2.6	166
BXRE-57E0401-A-8x	5700	80	160	418	367	16.6	2.7	158
BXRE-57E0401-B-8x	5700	80	320	418	367	8.2	2.6	158
BXRE-57E0401-C-8x	5700	80	80	418	367	33.0	2.6	158
BXRE-65C0401-A-8x	6500	70	160	440	387	16.6	2.7	166
BXRE-65C0401-B-8x	6500	70	320	440	387	8.2	2.6	167
BXRE-65C0401-C-8x	6500	70	80	440	387	33.0	2.6	166
BXRE-65E0401-A-8x	6500	80	160	423	372	16.6	2.7	159
BXRE-65E0401-B-8x	6500	80	320	423	372	8.2	2.6	160
BXRE-65E0401-C-8x	6500	80	80	423	372	33.0	2.6	160

Notes for Table 2:

- Nominal CCT as defined by ANSI C78.377-2011.
- CRI values are minimums and tested at $T_j = T_c = 25^\circ\text{C}$. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on Rg values.
- Drive current is referred to as nominal drive current.
- Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
- Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C . Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.

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 &3and 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 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-27E0400-A-8x	80	40	16.0	0.6	112	101	176
		80	16.3	1.3	224	201	171
		160	16.9	2.7	437	393	162
		240	17.4	4.2	639	575	153
		400	18.3	7.3	1007	906	138
BXRE-27E0400-B-8x	80	500	18.8	9.4	1214	1092	129
		80	8.0	0.6	112	101	176
		160	8.2	1.3	224	201	171
		320	8.4	2.7	437	393	162
		480	8.7	4.2	639	575	153
BXRE-27E0400-C-8x	80	800	9.2	7.3	1007	906	138
		1000	9.4	9.4	1214	1092	129
		20	32.0	0.6	112	101	176
		40	32.6	1.3	224	201	171
		80	33.7	2.7	437	393	162
BXRE-27G0400-A-8x	90	120	34.8	4.2	639	575	153
		200	36.6	7.3	1007	906	138
		250	37.6	9.4	1214	1092	129
		40	16.0	0.6	93	84	145
		80	16.3	1.3	184	166	141
BXRE-27G0400-B-8x	90	160	16.9	2.7	360	324	134
		240	17.4	4.2	527	474	126
		400	18.3	7.3	831	748	113
		500	18.8	9.4	1001	901	106
		80	8.0	0.6	93	84	145
BXRE-27G0400-C-8x	90	160	8.2	1.3	184	166	141
		320	8.4	2.7	360	324	134
		480	8.7	4.2	527	474	126
		800	9.2	7.3	831	748	113
		1000	9.4	9.4	1001	901	106
BXRE-27G0400-C-8x	90	20	32.0	0.6	93	84	145
		40	32.6	1.3	184	166	141
		80	33.7	2.7	360	324	134
		120	34.8	4.2	527	474	126
		200	36.6	7.3	831	748	113
		250	37.6	9.4	1001	901	106

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 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-27G04H0-A-8x	90	40	16.0	0.6	96	87	150
		80	16.3	1.3	191	172	147
		160	16.9	2.7	374	337	139
		240	17.4	4.2	547	492	131
		400	18.3	7.3	862	776	118
		500	18.8	9.4	1039	935	110
BXRE-27G04H0-B-8x	90	80	8.0	0.6	96	87	150
		160	8.2	1.3	191	172	147
		320	8.4	2.7	374	337	139
		480	8.7	4.2	547	492	131
		800	9.2	7.3	862	776	118
		1000	9.4	9.4	1039	935	110
BXRE-27G04H0-C-8x	90	20	32.0	0.6	96	87	150
		40	32.6	1.3	191	172	147
		80	33.7	2.7	374	337	139
		120	34.8	4.2	547	492	131
		200	36.6	7.3	862	776	118
		250	37.6	9.4	1039	935	110
BXRE-27H0400-A-8x	97	40	16.0	0.6	82	74	128
		80	16.3	1.3	163	147	125
		160	16.9	2.7	319	287	118
		240	17.4	4.2	467	420	112
		400	18.3	7.3	736	663	101
		500	18.8	9.4	887	799	94
BXRE-27H0400-B-8x	97	80	8.0	0.6	82	74	128
		160	8.2	1.3	163	147	125
		320	8.4	2.7	319	287	118
		480	8.7	4.2	467	420	112
		800	9.2	7.3	736	663	101
		1000	9.4	9.4	887	799	94
BXRE-27H0400-C-8x	97	20	32.0	0.6	82	74	128
		40	32.6	1.3	163	147	125
		80	33.7	2.7	319	287	118
		120	34.8	4.2	467	420	112
		200	36.6	7.3	736	663	101
		250	37.6	9.4	887	799	94
BXRE-30C0401-A-8x	70	40	16.0	0.6	125	113	195
		80	16.3	1.3	249	224	191
		160	16.9	2.7	486	437	180
		240	17.4	4.2	711	639	170
		400	18.3	7.3	1120	1008	153
		500	18.8	9.4	1350	1215	144

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 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-30Co401-B-8x	70	80	8.0	0.6	125	113	195
		160	8.2	1.3	249	224	191
		320	8.4	2.7	486	437	180
		480	8.7	4.2	711	639	170
		800	9.2	7.3	1120	1008	153
		1000	9.4	9.4	1350	1215	144
BXRE-30Co401-C-8x	70	20	32.0	0.6	125	113	195
		40	32.6	1.3	249	224	191
		80	33.7	2.7	486	437	180
		120	34.8	4.2	711	639	170
		200	36.6	7.3	1120	1008	153
		250	37.6	9.4	1350	1215	144
BXRE-30E0400-A-8x	80	40	16.0	0.6	120	108	187
		80	16.3	1.3	238	214	182
		160	16.9	2.7	464	418	172
		240	17.4	4.2	679	611	163
		400	18.3	7.3	1070	963	146
		500	18.8	9.4	1290	1161	137
BXRE-30E0400-B-8x	80	80	8.0	0.6	120	108	187
		160	8.2	1.3	238	214	182
		320	8.4	2.7	464	418	172
		480	8.7	4.2	679	611	163
		800	9.2	7.3	1070	963	146
		1000	9.4	9.4	1290	1161	137
BXRE-30E0400-C-8x	80	20	32.0	0.6	120	108	187
		40	32.6	1.3	238	214	182
		80	33.7	2.7	464	418	172
		120	34.8	4.2	679	611	163
		200	36.6	7.3	1070	963	146
		250	37.6	9.4	1290	1161	137
BXRE-30G0400-A-8x	90	40	16.0	0.6	97	87	151
		80	16.3	1.3	193	174	148
		160	16.9	2.7	377	339	140
		240	17.4	4.2	551	496	132
		400	18.3	7.3	869	782	119
		500	18.8	9.4	1047	942	111
BXRE-30G0400-B-8x	90	80	8.0	0.6	97	87	151
		160	8.2	1.3	193	174	148
		320	8.4	2.7	377	339	140
		480	8.7	4.2	551	496	132
		800	9.2	7.3	869	782	119
		1000	9.4	9.4	1047	942	111

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 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-30G0400-C-8x	90	20	32.0	0.6	97	87	151
		40	32.6	1.3	192	173	147
		80	33.7	2.7	376	338	139
		120	34.8	4.2	550	495	132
		200	36.6	7.3	867	780	118
		250	37.6	9.4	1045	940	111
BXRE-30G04H0-A-8x	90	40	16.0	0.6	102	91	159
		80	16.3	1.3	202	182	155
		160	16.9	2.7	394	355	146
		240	17.4	4.2	577	519	138
		400	18.3	7.3	910	819	124
		500	18.8	9.4	1096	986	117
BXRE-30G04H0-B-8x	90	80	8.0	0.6	102	91	159
		160	8.2	1.3	202	182	155
		320	8.4	2.7	394	355	146
		480	8.7	4.2	577	519	138
		800	9.2	7.3	910	819	124
		1000	9.4	9.4	1096	986	117
BXRE-30G04H0-C-8x	90	20	32.0	0.6	102	91	159
		40	32.6	1.3	202	182	155
		80	33.7	2.7	394	355	146
		120	34.8	4.2	577	519	138
		200	36.6	7.3	910	819	124
		250	37.6	9.4	1096	986	117
BXRE-30H0400-A-8x	97	40	16.0	0.6	88	79	137
		80	16.3	1.3	175	157	134
		160	16.9	2.7	341	307	126
		240	17.4	4.2	499	449	120
		400	18.3	7.3	787	708	107
		500	18.8	9.4	948	853	101
BXRE-30H0400-B-8x	97	80	8.0	0.6	88	79	137
		160	8.2	1.3	175	157	134
		320	8.4	2.7	341	307	126
		480	8.7	4.2	499	449	120
		800	9.2	7.3	787	708	107
		1000	9.4	9.4	948	853	101
BXRE-30H0400-C-8x	97	20	32.0	0.6	88	79	137
		40	32.6	1.3	175	157	134
		80	33.7	2.7	341	307	126
		120	34.8	4.2	499	449	120
		200	36.6	7.3	787	708	107
		250	37.6	9.4	948	853	101

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 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-35E0400-A-8x	80	40	16.0	0.6	122	110	191
		80	16.3	1.3	243	219	186
		160	16.9	2.7	475	427	176
		240	17.4	4.2	695	625	167
		400	18.3	7.3	1095	986	150
		500	18.8	9.4	1320	1188	140
BXRE-35E0400-B-8x	80	80	8.0	0.6	122	110	191
		160	8.2	1.3	243	219	186
		320	8.4	2.7	475	427	176
		480	8.7	4.2	695	625	167
		800	9.2	7.3	1095	986	150
		1000	9.4	9.4	1320	1188	140
BXRE-35E0400-C-8x	80	20	32.0	0.6	122	110	191
		40	32.6	1.3	243	219	186
		80	33.7	2.7	475	427	176
		120	34.8	4.2	695	625	167
		200	36.6	7.3	1095	986	150
		250	37.6	9.4	1320	1188	140
BXRE-35G0400-A-8x	90	40	16.0	0.6	101	90	157
		80	16.3	1.3	200	180	153
		160	16.9	2.7	390	351	145
		240	17.4	4.2	571	514	137
		400	18.3	7.3	900	810	123
		500	18.8	9.4	1085	976	115
BXRE-35G0400-B-8x	90	80	8.0	0.6	101	90	157
		160	8.2	1.3	200	180	153
		320	8.4	2.7	390	351	145
		480	8.7	4.2	571	514	137
		800	9.2	7.3	900	810	123
		1000	9.4	9.4	1085	976	115
BXRE-35G0400-C-8x	90	20	32.0	0.6	101	90	157
		40	32.6	1.3	200	180	153
		80	33.7	2.7	390	351	145
		120	34.8	4.2	571	514	137
		200	36.6	7.3	900	810	123
		250	37.6	9.4	1085	976	115
BXRE-40C0401-A-8x	70	40	16.0	0.6	129	116	201
		80	16.3	1.3	256	230	196
		160	16.9	2.7	499	450	185
		240	17.4	4.2	730	657	175
		400	18.3	7.3	1152	1037	157
		500	18.8	9.4	1388	1249	148

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 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-40C0401-B-8x	70	80	8.0	0.6	129	116	201
		160	8.2	1.3	256	230	196
		320	8.4	2.7	499	450	185
		480	8.7	4.2	730	657	175
		800	9.2	7.3	1152	1037	157
		1000	9.4	9.4	1388	1249	148
BXRE-40C0401-C-8x	70	20	32.0	0.6	129	116	201
		40	32.6	1.3	256	230	196
		80	33.7	2.7	499	450	185
		120	34.8	4.2	730	657	175
		200	36.6	7.3	1152	1037	157
		250	37.6	9.4	1388	1249	148
BXRE-40E0400-A-8x	80	40	16.0	0.6	123	111	192
		80	16.3	1.3	245	220	187
		160	16.9	2.7	478	430	177
		240	17.4	4.2	699	629	168
		400	18.3	7.3	1102	991	150
		500	18.8	9.4	1327	1195	141
BXRE-40E0400-B-8x	80	80	8.0	0.6	123	111	192
		160	8.2	1.3	245	220	187
		320	8.4	2.7	478	430	177
		480	8.7	4.2	699	629	168
		800	9.2	7.3	1102	991	150
		1000	9.4	9.4	1327	1195	141
BXRE-40E0400-C-8x	80	20	32.0	0.6	123	111	192
		40	32.6	1.3	245	220	187
		80	33.7	2.7	478	430	177
		120	34.8	4.2	699	629	168
		200	36.6	7.3	1102	991	150
		250	37.6	9.4	1327	1195	141
BXRE-40G0400-A-8x	90	40	16.0	0.6	103	92	160
		80	16.3	1.3	204	184	156
		160	16.9	2.7	398	359	148
		240	17.4	4.2	583	525	140
		400	18.3	7.3	919	827	126
		500	18.8	9.4	1107	997	118
BXRE-40G0400-B-8x	90	80	8.0	0.6	103	92	160
		160	8.2	1.3	204	184	156
		320	8.4	2.7	398	359	148
		480	8.7	4.2	583	525	140
		800	9.2	7.3	919	827	126
		1000	9.4	9.4	1107	997	118

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 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-40G0400-C-8x	90	20	32.0	0.6	103	92	160
		40	32.6	1.3	204	184	156
		80	33.7	2.7	398	359	148
		120	34.8	4.2	583	525	140
		200	36.6	7.3	919	827	126
		250	37.6	9.4	1107	997	118
BXRE-50C0401-A-8x	70	40	16.0	0.6	129	116	202
		80	16.3	1.3	257	231	197
		160	16.9	2.7	502	452	186
		240	17.4	4.2	734	661	176
		400	18.3	7.3	1158	1042	158
		500	18.8	9.4	1396	1256	148
BXRE-50C0401-B-8x	70	80	8.0	0.6	129	116	202
		160	8.2	1.3	257	231	197
		320	8.4	2.7	502	452	186
		480	8.7	4.2	734	661	176
		800	9.2	7.3	1158	1042	158
		1000	9.4	9.4	1396	1256	148
BXRE-50C0401-C-8x	70	20	32.0	0.6	129	116	202
		40	32.6	1.3	257	231	197
		80	33.7	2.7	502	452	186
		120	34.8	4.2	734	661	176
		200	36.6	7.3	1158	1042	158
		250	37.6	9.4	1396	1256	148
BXRE-50E0401-A-8x	80	40	16.0	0.6	124	112	194
		80	16.3	1.3	247	223	190
		160	16.9	2.7	483	435	179
		240	17.4	4.2	707	636	169
		400	18.3	7.3	1114	1003	152
		500	18.8	9.4	1343	1208	143
BXRE-50E0401-B-8x	80	80	8.0	0.6	124	112	194
		160	8.2	1.3	247	223	190
		320	8.4	2.7	483	435	179
		480	8.7	4.2	707	636	169
		800	9.2	7.3	1114	1003	152
		1000	9.4	9.4	1343	1208	143
BXRE-50E0401-C-8x	80	20	32.0	0.6	124	112	194
		40	32.6	1.3	247	223	190
		80	33.7	2.7	483	435	179
		120	34.8	4.2	707	636	169
		200	36.6	7.3	1114	1003	152
		250	37.6	9.4	1343	1208	143

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 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-50G0401-A-8x	90	40	16.0	0.6	108	97	168
		80	16.3	1.3	214	192	164
		160	16.9	2.7	418	376	155
		240	17.4	4.2	611	550	146
		400	18.3	7.3	963	867	132
		500	18.8	9.4	1161	1045	123
BXRE-50G0401-B-8x	90	80	8.0	0.6	108	97	168
		160	8.2	1.3	214	192	164
		320	8.4	2.7	418	376	155
		480	8.7	4.2	611	550	146
		800	9.2	7.3	963	867	132
		1000	9.4	9.4	1161	1045	123
BXRE-50G0401-C-8x	90	20	32.0	0.6	108	97	168
		40	32.6	1.3	214	192	164
		80	33.7	2.7	418	376	155
		120	34.8	4.2	611	550	146
		200	36.6	7.3	963	867	132
		250	37.6	9.4	1161	1045	123
BXRE-57C0401-A-8x	70	40	16.0	0.6	126	113	196
		80	16.3	1.3	250	225	192
		160	16.9	2.7	489	440	181
		240	17.4	4.2	715	643	171
		400	18.3	7.3	1127	1014	154
		500	18.8	9.4	1358	1222	144
BXRE-57C0401-B-8x	70	80	8.0	0.6	126	113	196
		160	8.2	1.3	250	225	192
		320	8.4	2.7	489	440	181
		480	8.7	4.2	715	643	171
		800	9.2	7.3	1127	1014	154
		1000	9.4	9.4	1358	1222	144
BXRE-57C0401-C-8x	70	20	32.0	0.6	126	113	196
		40	32.6	1.3	250	225	192
		80	33.7	2.7	489	440	181
		120	34.8	4.2	715	643	171
		200	36.6	7.3	1127	1014	154
		250	37.6	9.4	1358	1222	144
BXRE-57E0401-A-8x	80	40	16.0	0.6	120	108	187
		80	16.3	1.3	238	214	182
		160	16.9	2.7	464	418	172
		240	17.4	4.2	679	611	163
		400	18.3	7.3	1070	963	146
		500	18.8	9.4	1290	1161	137

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 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-57E0401-B-8x	80	80	8.0	0.6	120	108	187
		160	8.2	1.3	238	214	182
		320	8.4	2.7	464	418	172
		480	8.7	4.2	679	611	163
		800	9.2	7.3	1070	963	146
		1000	9.4	9.4	1290	1161	137
BXRE-57E0401-C-8x	80	20	32.0	0.6	120	108	187
		40	32.6	1.3	238	214	182
		80	33.7	2.7	464	418	172
		120	34.8	4.2	679	611	163
		200	36.6	7.3	1070	963	146
		250	37.6	9.4	1290	1161	137
BXRE-65C0401-A-8x	70	40	16.0	0.6	126	113	196
		80	16.3	1.3	250	225	192
		160	16.9	2.7	489	440	181
		240	17.4	4.2	715	643	171
		400	18.3	7.3	1127	1014	154
		500	18.8	9.4	1358	1222	144
BXRE-65C0401-B-8x	70	80	8.0	0.6	126	113	196
		160	8.2	1.3	250	225	192
		320	8.4	2.7	489	440	181
		480	8.7	4.2	715	643	171
		800	9.2	7.3	1127	1014	154
		1000	9.4	9.4	1358	1222	144
BXRE-65C0401-C-8x	70	20	32.0	0.6	126	113	196
		40	32.6	1.3	250	225	192
		80	33.7	2.7	489	440	181
		120	34.8	4.2	715	643	171
		200	36.6	7.3	1127	1014	154
		250	37.6	9.4	1358	1222	144
BXRE-65E0401-A-8x	80	40	16.0	0.6	121	109	189
		80	16.3	1.3	240	216	184
		160	16.9	2.7	469	423	174
		240	17.4	4.2	687	618	165
		400	18.3	7.3	1083	974	148
		500	18.8	9.4	1305	1174	139
BXRE-65E0401-B-8x	80	80	8.0	0.6	121	109	189
		160	8.2	1.3	240	216	184
		320	8.4	2.7	469	423	174
		480	8.7	4.2	687	618	165
		800	9.2	7.3	1083	974	148
		1000	9.4	9.4	1305	1174	139

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 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-65E0401-C-8x	80	20	32.0	0.6	121	109	189
		40	32.6	1.3	240	216	184
		80	33.7	2.7	469	423	174
		120	34.8	4.2	687	618	165
		200	36.6	7.3	1083	974	148
		250	37.6	9.4	1305	1174	139

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) ^{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-xxx040x-A-8x	160	15.6	16.9	18.2	-5.51	1.16	15.2	18.5
	500	17.4	18.8	20.2	-5.51	1.51	16.9	20.6
BXRE-xxx040x-B-8x	320	7.8	8.4	9.0	-2.76	1.16	7.5	9.2
	1000	8.7	9.4	10.1	-2.76	1.51	8.5	10.3
BXRE-xxx040x-C-8x	80	31.2	33.7	36.2	-11.02	1.16	30.3	36.9
	250	34.8	37.6	40.4	-11.02	1.51	33.9	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 62031:2018. 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 ⁴			
		2700K/3000K	4000K	5000K ²	6500K ³
BXRE-xxx040x-A-8x	280	RG1	RG1	RG1	RG1
	390	RG1	RG1	RG1	RG2
	500	RG1	RG1	RG2	RG2
BXRE-xxx040x-B-8x	565	RG1	RG1	RG1	RG1
	785	RG1	RG1	RG1	RG2
	1000	RG1	RG1	RG2	RG2
BXRE-xxx040x-C-8x	140	RG1	RG1	RG1	RG1
	190	RG1	RG1	RG1	RG2
	250	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 5000K Ethr= 1530 lx.
3. For products classified as RG2 at 6500K, Ethr= 1170 lx.
4. 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 _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-xxx040x-A-8x	BXRE-xxx040x-B-8x	BXRE-xxx040x-C-8x
Maximum Drive Current ³	500 mA	1000 mA	250 mA
Maximum Peak Pulsed Drive Current ⁴	560 mA	1120 mA	280 mA
Maximum Reverse Voltage ⁵	-30V	-15V	-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: V6A Drive Current vs. Voltage ($T_j = T_c = 25^\circ\text{C}$)¹

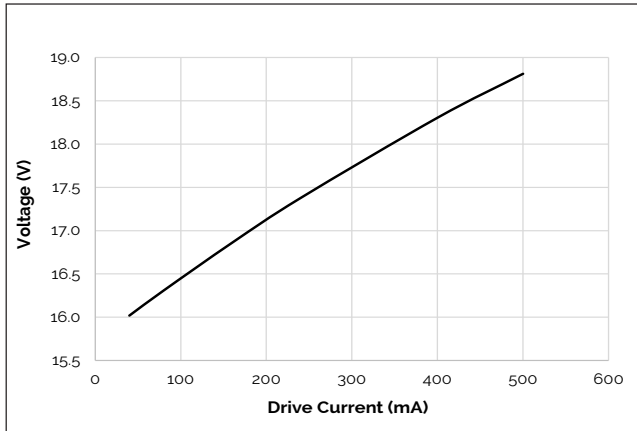


Figure 2: V6B Drive Current vs. Voltage ($T_j = T_c = 25^\circ\text{C}$)¹

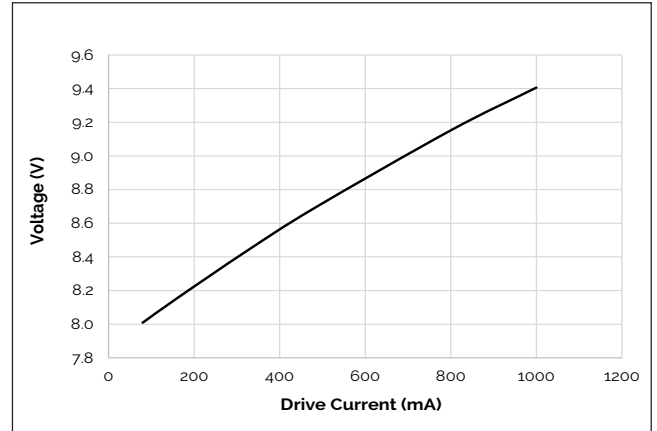


Figure 3: V6C Drive Current vs. Voltage ($T_j = T_c = 25^\circ\text{C}$)¹

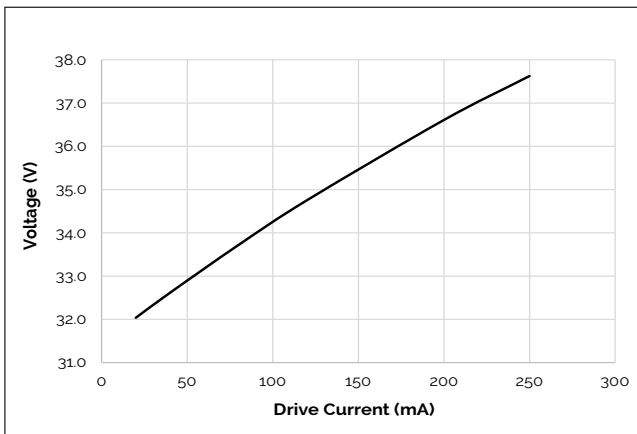


Figure 4: V6A Typical Relative Luminous Flux vs. Drive Current ($T_j = T_c = 25^\circ\text{C}$)¹

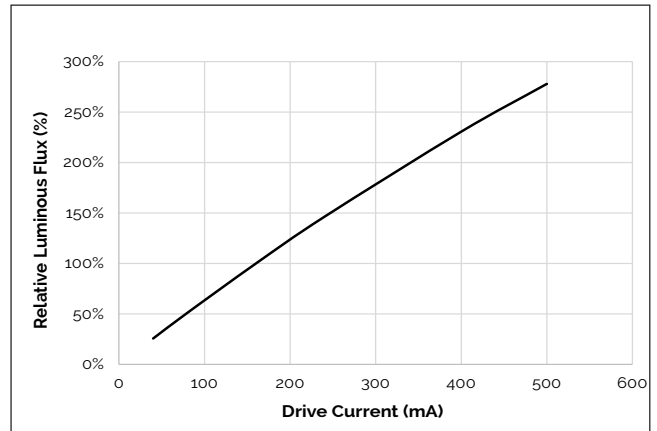


Figure 5: V6B Typical Relative Luminous Flux vs. Drive Current ($T_j = T_c = 25^\circ\text{C}$)¹

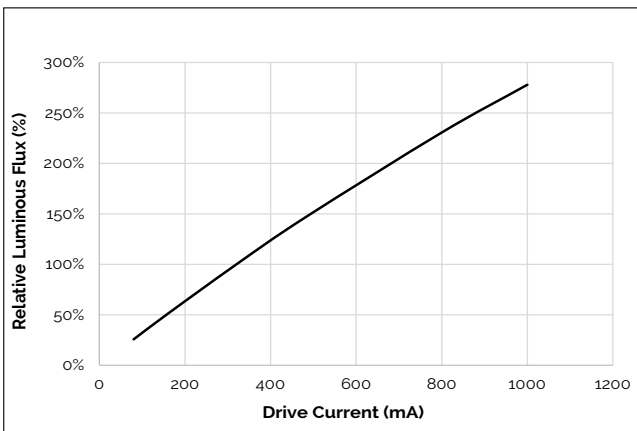
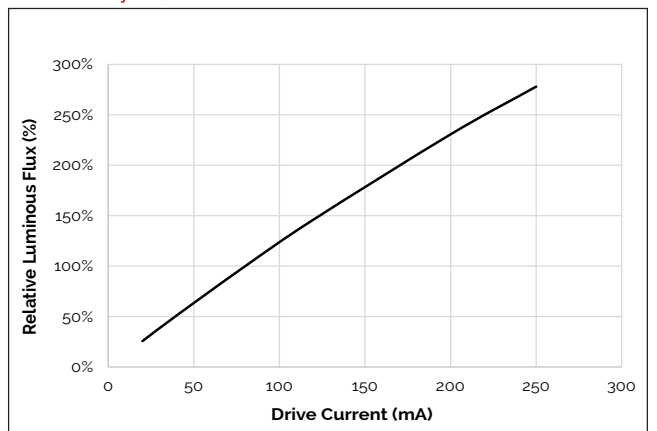


Figure 6: V6C Typical Relative Luminous Flux vs. Drive Current ($T_j = T_c = 25^\circ\text{C}$)¹



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. Characteristics shown for 3000K and 90 CRI.

Performance Curves

Figure 7: Typical DC Flux vs. Case Temperature

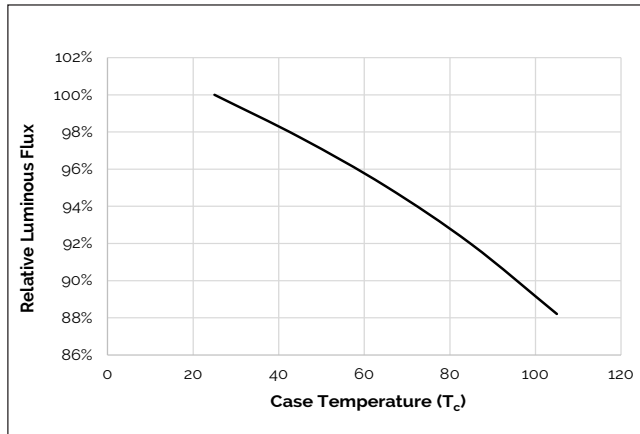


Figure 8: Typical DC ccx Shift vs. Case Temperature

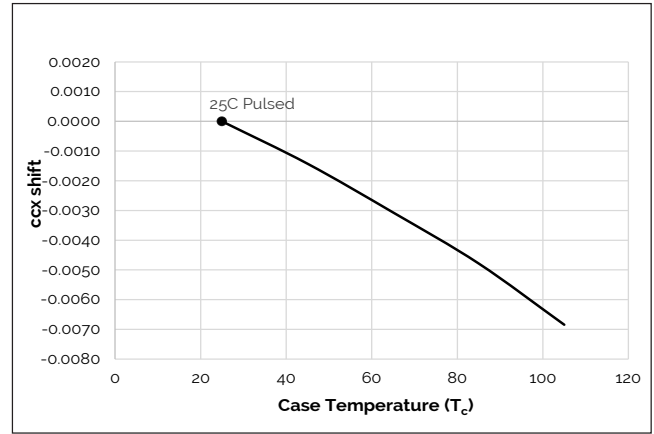
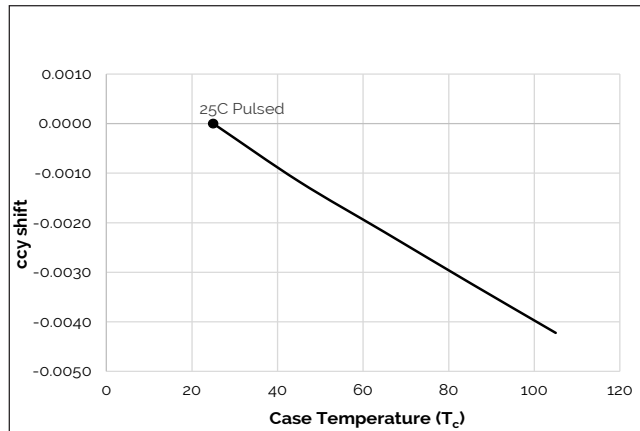


Figure 9: Typical DC ccy Shift vs. Case Temperature

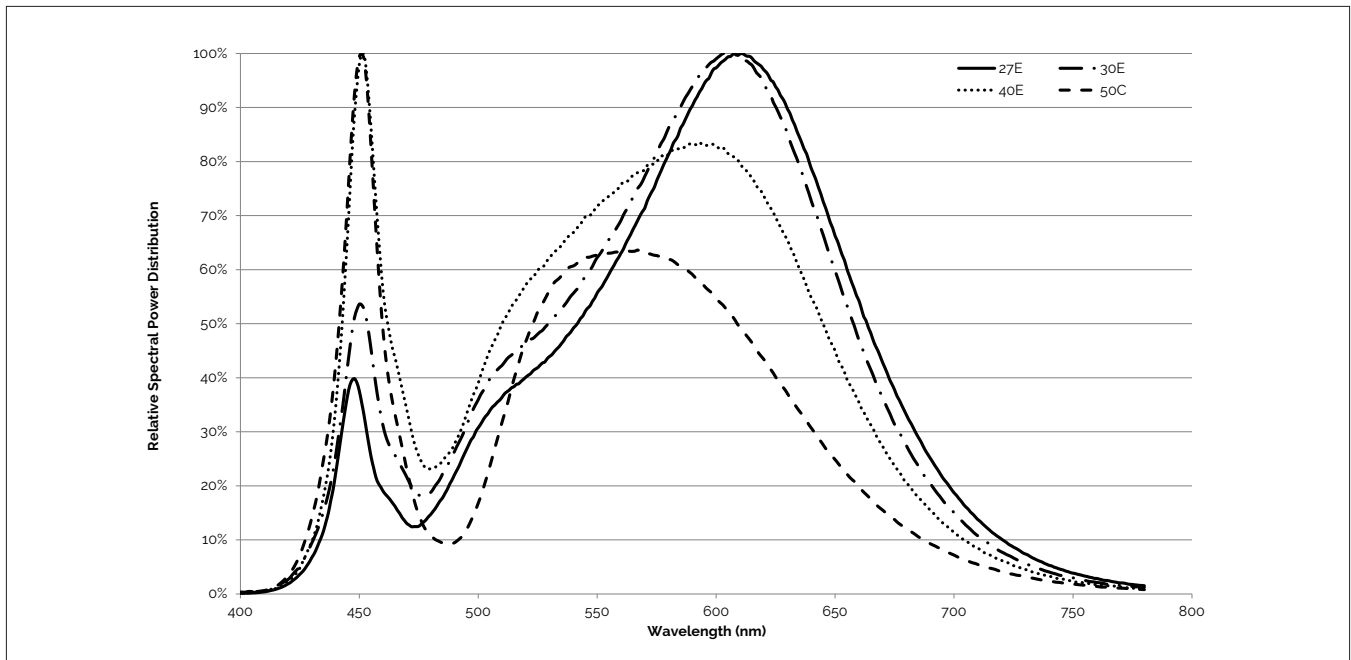


Note for Figures 7-9:

1. Characteristics shown for warm White.

Typical Color Spectrum

Figure 10: Typical Color Spectrum

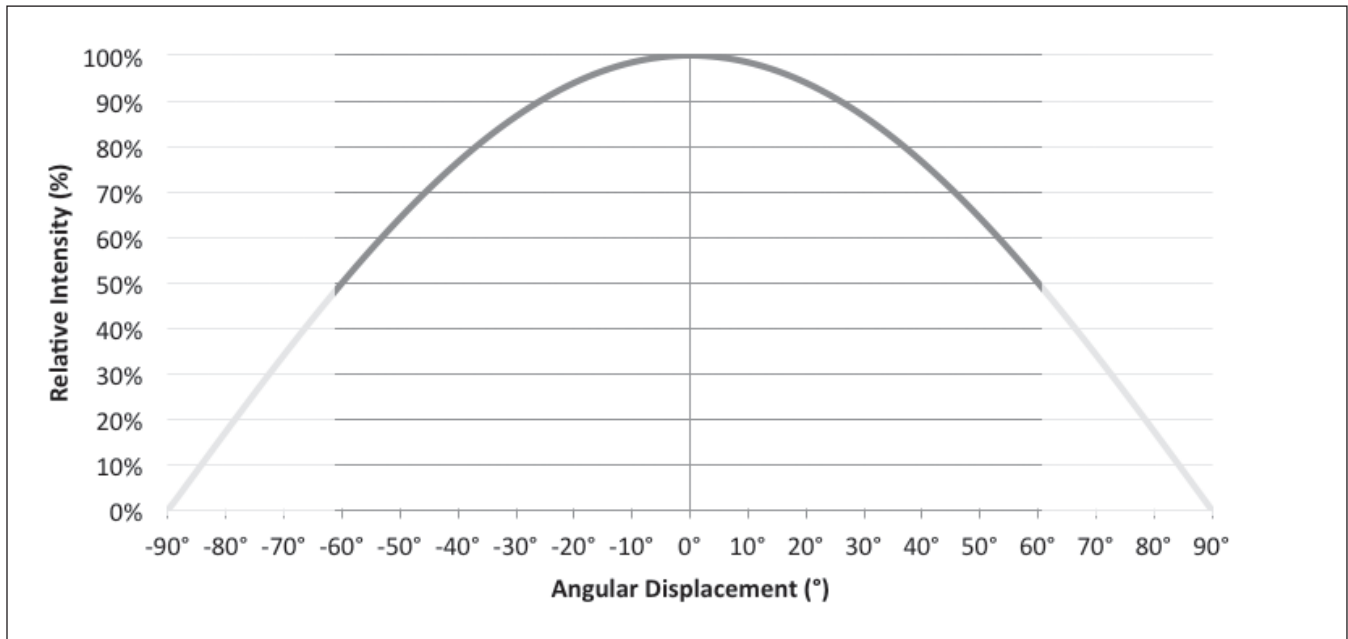


Notes for Figure 10:

1. Color spectra measured at nominal current for $T_j = T_c = 25^\circ\text{C}$.
2. Color spectra shown is 2700K and 80 CRI.
3. Color spectra shown is 3000K and 80 CRI.
4. Color spectra shown is 4000K and 80 CRI.
5. Color spectra shown is 5000K and 70 CRI.

Typical Radiation Pattern

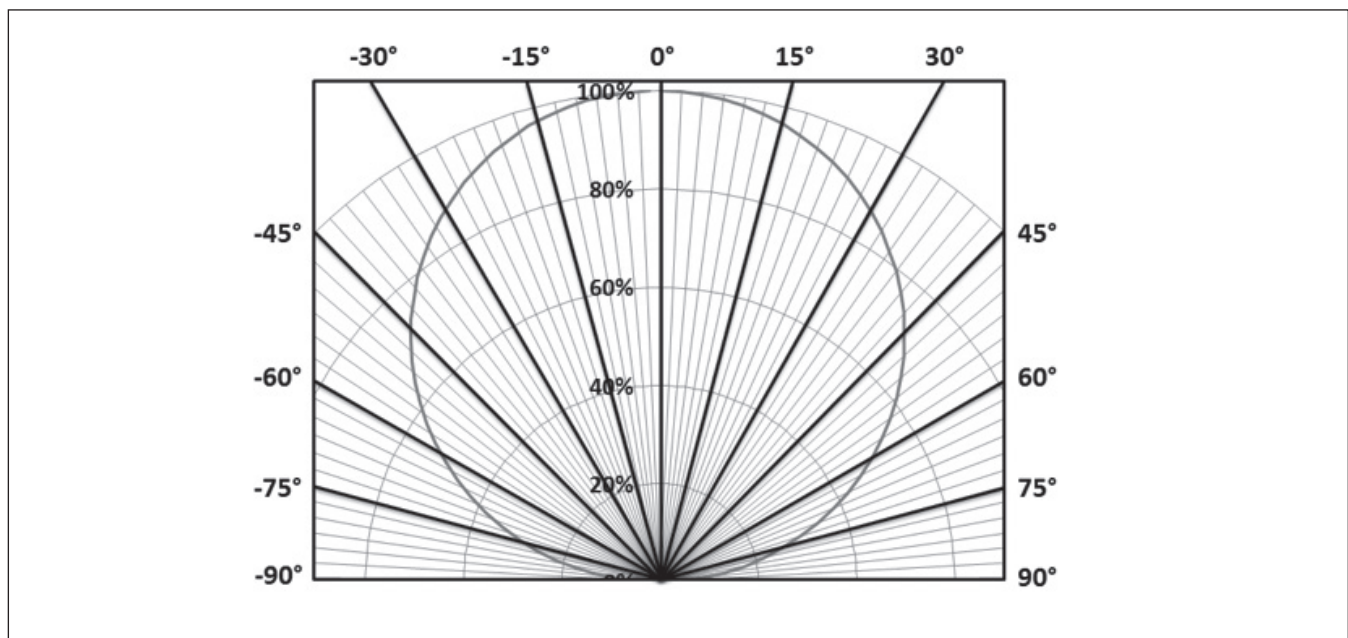
Figure 11: Typical Spatial Radiation Pattern



Notes for Figure 11:

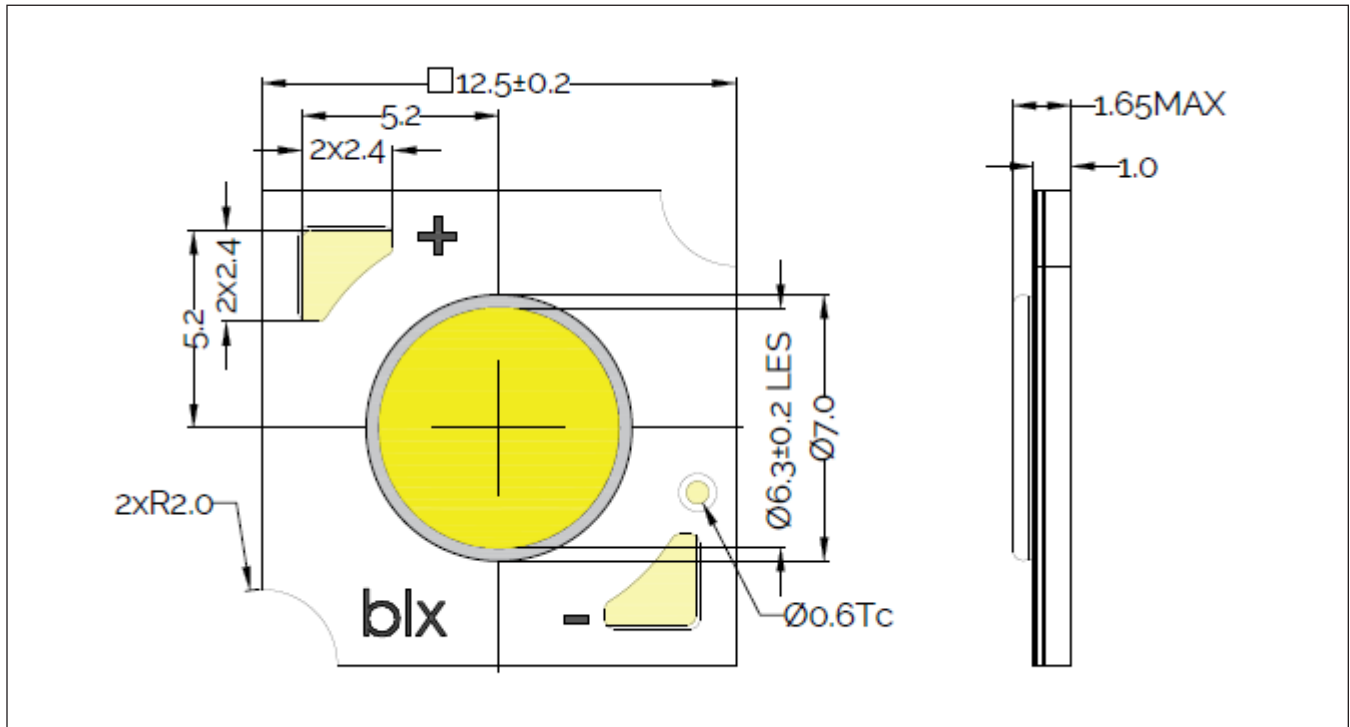
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 12: Typical Polar Radiation Pattern



Mechanical Dimensions

Figure 13: V6 LED Array

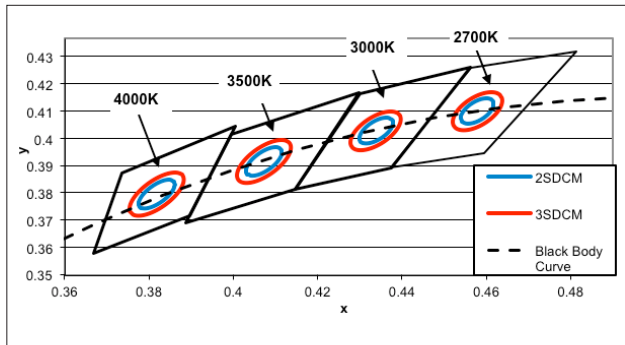


Notes for Figure 13:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.
3. Solder pads are labeled "+" and "-" to denote positive and negative polarity, respectively.
4. Unless otherwise specified, tolerances are ± 0.1 mm.
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 ± 0.2 mm.
7. Bridgelux maintains a flatness of 0.10 mm across the mounting surface of the array.

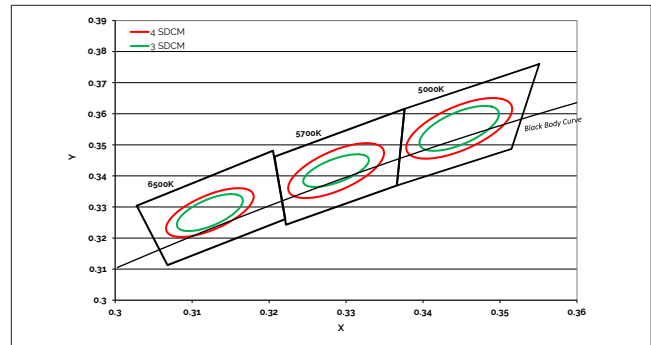
Color Binning Information

Figure 14: Graph of Warm and Neutral White Test Bins in xy Color Space



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

Figure 15: Graph of Cool 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)
82 (2 SDCM)	(2674K - 2769K)	(2995K - 3107K)	(3404K - 3548K)	(3895K - 4081K)
83 (3 SDCM)	(2651K - 2794K)	(2968K - 3136K)	(3369K - 3586K)	(3851K - 4130K)
Center Point (x,y)	(0.4578, 0.4101)	(0.4338, 0.403)	(0.4073, 0.3917)	(0.3818, 0.3797)

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)	(5395K - 5970K)	(6200K - 6910K)
83 (3 SDCM)	(4835K - 5215K)	(5460K - 5891K)	(6279K - 6811K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3287, 0.3417)	(0.3123, 0.3282)

Note for Tables 7-8:

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

Packaging and Labeling

Figure 16: Drawing for V6 Packaging Tube



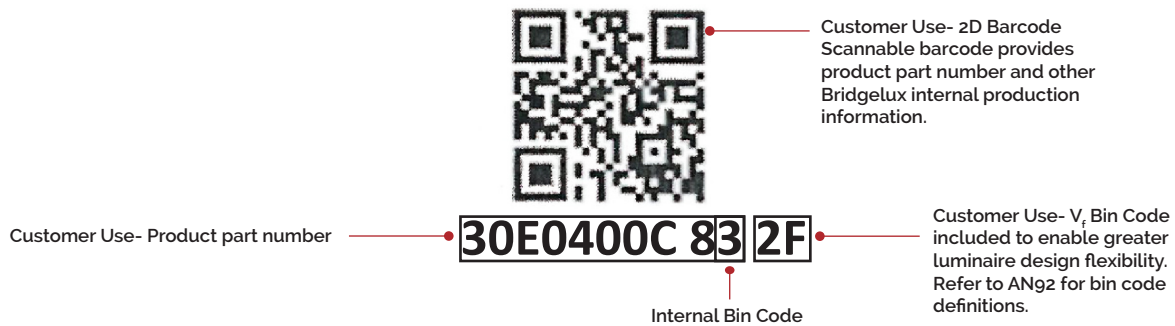
Notes for Figure 16:

1. Each tube holds 40 V6 COB arrays.
2. One tube is sealed in an anti-static bag. Four bags are placed in a shipping box. Depending on quantities ordered, a bigger shipping box, containing four boxes may be used to ship products.
3. Each bag and box is to be labeled as shown above.
4. Dimensions for each tube are 8.3mm (W) x 14.3mm (H) x 530mm (L). Dimensions for the anti-static bag are 75 (W) x 615 (L) x 31 (T) mm. Dimensions for the shipping box are 58.7 x 133 x 7.9 cm

Packaging and Labeling

Figure 17: 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.

Optical Source Models

Optical source models and ray set files are available for all Bridgelux products. Please contact your Bridgelux Sales Representative for more information.

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 representatives 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). Use the mechanical features of the LED array housing and/or edges to locate and secure optical devices as needed.

Disclaimers

MINOR PRODUCT CHANGE POLICY

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

STANDARD TEST CONDITIONS

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

About Bridgelux: Bridging Light and Life™

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

For more information about the company, please visit
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youtube.com/user/Bridgelux
linkedin.com/company/bridgelux-inc-_2
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Bridgelux Gen 8 V6 Array Series Product Data Sheet DS410 Rev. A (06/2021)