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# Bridgelux® Gen 7 Vero® 13 Array

Product Data Sheet DSg1



# Introduction

Vero® Series



Vero® Series is a revolutionary advancement in chip on board (COB) light source technology and innovation. Vero LED light sources simplify luminaire design and manufacturing processes. Vero Chip on Board (COB) LED arrays are available in four LES configurations, engineered to enable new degrees of flexibility and reliability over a broad range of electrical currents. Vero arrays deliver increased lumen density to enable improved beam control and precision lighting with 2 and 3 SDCM color control standard for clean and consistent uniform lighting.

Vero products include an onboard connector port that enables a solder-free electrical interconnect, and simple mounting features for plug-and-play installation.

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

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

**Décor Series™ Ultra** products provide a high CRI of 97 and minimum R<sub>9</sub> value of 93, which emphasizes the reds and color tones to which the human eye is most receptive - perfect for the most luxurious retail shops and world renowned museums. Décor Series Ultra is also designed as a replacement for halogen lamps.

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

## Features

- Efficacy of 160 lm/W typical
- Lumen output performance ranges from 460 to 7,300 lumens
- Broad range of CCT options from 2700K to 6500K
- CRI options include: minimum 70, 80, and 90
- 2 and 3 SDCM color control for 2700K-4000K CCT
- Reliable operation at up to 2X nominal drive current
- Radial die pattern and improved lumen density
- Thermally isolated solder pads
- Onboard connector port
- Top side part number markings
- V<sub>r</sub> bin code backside marking

## Benefits

- Broad application coverage for interior and exterior lighting
- Flexibility for application driven lighting design requirements
- High quality true color reproduction
- Uniform consistent white light
- Flexibility in design optimization
- Enhanced ease of use and assembly
- Solderless connectivity enables plug & play installation and field upgradability
- Improved inventory management and quality control



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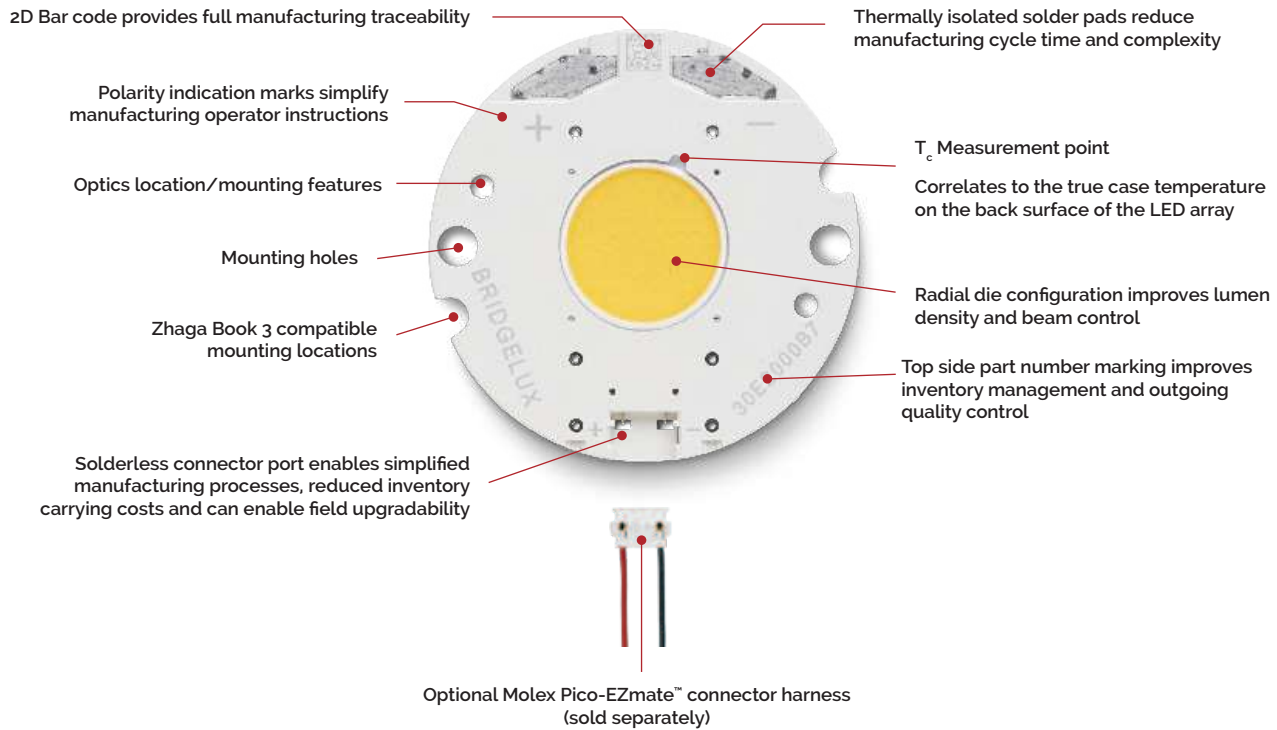
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# Product Feature Map

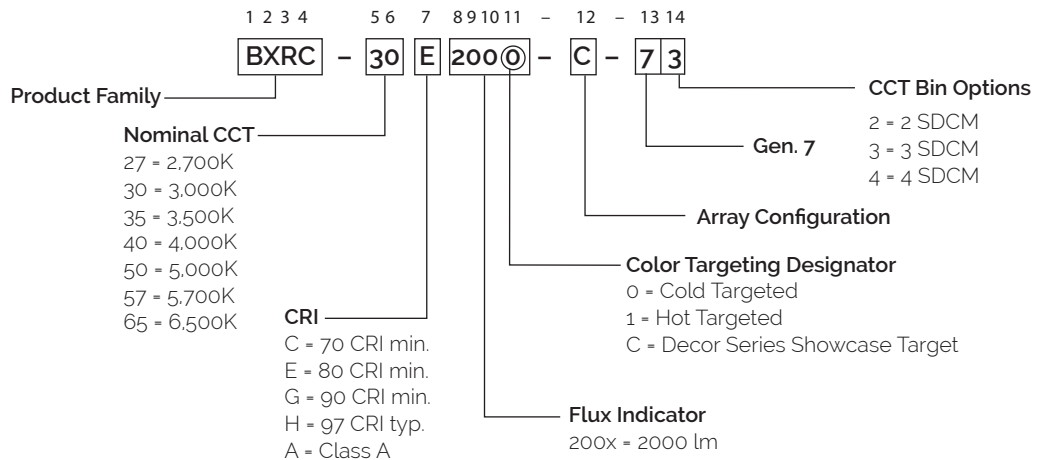
Vero 13 is the second smallest form factor in the Vero family of the next generation solid state light sources. In addition to delivering the performance and light quality required for many lighting applications, Vero incorporates

several features to simplify the design integration and manufacturing process, accelerate time to market and reduce system costs. Please visit [www.bridgelux.com](http://www.bridgelux.com) for more information on the Vero Series family of products.



## Product Nomenclature

The part number designation for Bridgelux Vero 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)
BXRC-27E2000-B-7x	2700	80	450	2403	2163	34.8	15.7	153
BXRC-27E2000-C-7x	2700	80	630	3365	3028	34.8	21.9	153
BXRC-27E2000-D-7x	2700	80	500	2440	2196	31.8	15.9	153
BXRC-27G2000-B-7x	2700	90	450	2000	1800	34.8	15.7	128
BXRC-27G2000-C-7x	2700	90	630	2800	2520	34.8	21.9	128
BXRC-27G2000-D-7x	2700	90	500	2031	1828	31.8	15.9	128
BXRC-27H2000-B-7x	2700	97	450	1742	1568	34.8	15.7	111
BXRC-27H2000-C-7x	2700	97	630	2439	2195	34.8	21.9	111
BXRC-27H2000-D-7x	2700	97	500	1769	1592	31.8	15.9	111
BXRC-30E2000-B-7x	3000	80	450	2500	2250	34.8	15.7	160
BXRC-30E2000-C-7x	3000	80	630	3500	3150	34.8	21.9	160
BXRC-30E2000-D-7x	3000	80	500	2538	2285	31.8	15.9	160
BXRC-30G2000-B-7x	3000	90	450	2081	1873	34.8	15.7	133
BXRC-30G2000-C-7x	3000	90	630	2913	2622	34.8	21.9	133
BXRC-30G2000-D-7x	3000	90	500	2113	1901	31.8	15.9	133
BXRC-30G200C-B-73	3000	90	450	1947	1752	35.0	15.8	124
BXRC-30G200C-D-73	3000	90	500	1965	1769	31.8	15.9	124
BXRC-30H2000-B-7x	3000	97	450	1855	1669	34.8	15.7	118
BXRC-30H2000-C-7x	3000	97	630	2597	2337	34.8	21.9	118
BXRC-30H2000-D-7x	3000	97	500	1883	1695	31.8	15.9	118
BXRC-30A2001-B-73 <sup>8,9</sup>	3000	93	450	1879	1691	34.8	15.7	120
BXRC-30A2001-C-73 <sup>8,9</sup>	3000	93	630	2631	2368	34.8	21.9	120
BXRC-30A2001-D-73 <sup>8,9</sup>	3000	93	500	1908	1717	31.8	15.9	120
BXRC-35E2000-B-7x	3500	80	450	2581	2323	34.8	15.7	165
BXRC-35E2000-C-7x	3500	80	630	3613	3252	34.8	21.9	165
BXRC-35E2000-D-7x	3500	80	500	2620	2358	31.8	15.9	165
BXRC-35G2000-B-7x	3500	90	450	2145	1931	34.8	15.7	137
BXRC-35G2000-C-7x	3500	90	630	3003	2703	34.8	21.9	137
BXRC-35G2000-D-7x	3500	90	500	2178	1960	31.8	15.9	137
BXRC-35A2001-B-73 <sup>8,9</sup>	3500	93	450	2020	1818	34.8	15.7	129
BXRC-35A2001-C-73 <sup>8,9</sup>	3500	93	630	2828	2545	34.8	21.9	129
BXRC-35A2001-D-73 <sup>8,9</sup>	3500	93	500	2051	1846	31.8	15.9	129

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to  $T_c = 85^\circ\text{C}$ .
- CRI values are typical for Decor Series Ultra and Decor Series Class A products. CRI values are minimums for all other products. Minimum Rg value for 80 CRI products is 0, the minimum Rg value for 90 CRI products is 50, the minimum Rg value for 97 CRI products is 93. Bridgelux maintains a  $\pm 3$  tolerance on CRI and 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.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of  $70^\circ\text{C}$ . GAI may vary depending on fixture design and performance.

# Product Selection Guide

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

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)
BXRC-40E2000-B-7x	4000	80	450	2597	2337	34.8	15.7	166
BXRC-40E2000-C-7x	4000	80	630	3636	3272	34.8	21.9	166
BXRC-40E2000-D-7x	4000	80	500	2637	2373	31.8	15.9	166
BXRC-40G2000-B-7x	4000	90	450	2226	2003	34.8	15.7	142
BXRC-40G2000-C-7x	4000	90	630	3116	2805	34.8	21.9	142
BXRC-40G2000-D-7x	4000	90	500	2260	2034	31.8	15.9	142
BXRC-40H2000-B-73	4000	97	450	1911	1719	34.8	15.7	122
BXRC-40H2000-C-73	4000	97	630	2675	2407	34.8	21.9	122
BXRC-40H2000-D-73	4000	97	500	1940	1746	31.8	15.9	122
BXRC-40A2001-B-73 <sup>8,9</sup>	4000	93	450	2161	1945	34.8	15.7	138
BXRC-40A2001-C-73 <sup>8,9</sup>	4000	93	630	3026	2723	34.8	21.9	138
BXRC-40A2001-D-73 <sup>8,9</sup>	4000	93	500	2194	1975	31.8	15.9	138
BXRC-50C2001-B-7x	5000	70	450	2855	2569	34.8	15.7	182
BXRC-50C2001-C-7x	5000	70	630	3997	3597	34.8	21.9	182
BXRC-50C2001-D-7x	5000	70	500	2899	2609	31.8	15.9	182
BXRC-50E2001-B-7x	5000	80	450	2678	2410	34.8	15.7	171
BXRC-50E2001-C-7x	5000	80	630	3749	3374	34.8	21.9	171
BXRC-50E2001-D-7x	5000	80	500	2719	2447	31.8	15.9	171
BXRC-50G2001-B-7x	5000	90	450	2274	2047	34.8	15.7	145
BXRC-50G2001-C-7x	5000	90	630	3184	2866	34.8	21.9	145
BXRC-50G2001-D-7x	5000	90	500	2309	2078	31.8	15.9	145
BXRC-57C2001-B-7x	5700	70	450	2758	2482	34.8	15.7	176
BXRC-57C2001-C-7x	5700	70	630	3861	3475	34.8	21.9	176
BXRC-57C2001-D-7x	5700	70	500	2800	2520	31.8	15.9	176
BXRC-57E2001-B-7x	5700	80	450	2647	2382	34.8	15.7	169
BXRC-57E2001-C-7x	5700	80	630	3705	3335	34.8	21.9	169
BXRC-57E2001-D-7x	5700	80	500	2687	2418	31.8	15.9	169
BXRC-65C2001-B-7x	6500	70	450	2807	2526	34.8	15.7	179
BXRC-65C2001-C-7x	6500	70	630	3929	3536	34.8	21.9	179
BXRC-65C2001-D-7x	6500	70	500	2850	2565	31.8	15.9	179
BXRC-65E2001-B-7x	6500	80	450	2694	2424	34.8	15.7	172
BXRC-65E2001-C-7x	6500	80	630	3771	3394	34.8	21.9	172
BXRC-65E2001-D-7x	6500	80	500	2735	2461	31.8	15.9	172

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to  $T_c = 85^\circ\text{C}$ .
- CRI values are typical for Decor Series Ultra and Decor Series Class A products. CRI values are minimums for all other products. Minimum R<sub>g</sub> value for 80 CRI products is 0, the minimum R<sub>g</sub> value for 90 CRI products is 50, the minimum R<sub>g</sub> value for 97 CRI products is 93. Bridgelux maintains a  $\pm 3$  tolerance on CRI and 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.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of  $70^\circ\text{C}$ . GAI may vary depending on fixture design and performance.

# Product Selection Guide

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

Part Number	Nominal CCT <sup>1</sup> (K)	GAI <sup>2</sup>	CRI <sup>3</sup>	Nominal Drive Current <sup>4</sup> (mA)	Typical DC Flux <sup>5,6</sup> $T_c = 70^\circ\text{C}$ (lm)	Minimum DC Flux <sup>6,9</sup> $T_c = 70^\circ\text{C}$ (lm)	Typical $V_f$ (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-30A2001-B-73	3000	80	93	450	1748	1573	34.4	15.5	113
BXRC-30A2001-C-73	3000	80	93	630	2447	2202	34.4	21.6	113
BXRC-30A2001-D-73	3000	80	93	500	1774	1597	31.2	15.6	114
BXRC-35A2001-B-73	3500	80	93	450	1879	1691	34.4	15.5	121
BXRC-35A2001-C-73	3500	80	93	630	2630	2367	34.4	21.6	121
BXRC-35A2001-D-73	3500	80	93	500	1908	1717	31.2	15.6	122
BXRC-40A2001-B-73	4000	80	93	450	2010	1809	34.4	15.5	130
BXRC-40A2001-C-73	4000	80	93	630	2814	2532	34.4	21.6	130
BXRC-40A2001-D-73	4000	80	93	500	2041	1837	31.2	15.6	131

Notes for Table 2:

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



# Product Selection Guide

**Table 3:** Selection Guide, Stabilized DC Performance ( $T_c = 85^\circ\text{C}$ )<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)
BXRC-27E2000-B-7x	2700	80	450	2163	1947	33.9	15.3	142
BXRC-27E2000-C-7x	2700	80	630	3028	2725	33.9	21.4	142
BXRC-27E2000-D-7x	2700	80	500	2196	1977	30.9	15.5	142
BXRC-27G2000-B-7x	2700	90	450	1800	1620	33.9	15.3	118
BXRC-27G2000-C-7x	2700	90	630	2520	2268	33.9	21.4	118
BXRC-27G2000-D-7x	2700	90	500	1828	1645	30.9	15.5	118
BXRC-27H2000-B-7x	2700	97	450	1568	1411	33.9	15.3	103
BXRC-27H2000-C-7x	2700	97	630	2195	1975	33.9	21.4	103
BXRC-27H2000-D-7x	2700	97	500	1592	1433	30.9	15.5	103
BXRC-30E2000-B-7x	3000	80	450	2250	2025	33.9	15.3	147
BXRC-30E2000-C-7x	3000	80	630	3150	2835	33.9	21.4	147
BXRC-30E2000-D-7x	3000	80	500	2285	2056	30.9	15.5	148
BXRC-30G2000-B-7x	3000	90	450	1873	1685	33.9	15.3	123
BXRC-30G2000-C-7x	3000	90	630	2622	2360	33.9	21.4	123
BXRC-30G2000-D-7x	3000	90	500	1901	1711	30.9	15.5	123
BXRC-30G2000C-B-73	3000	90	450	1752	1577	34.1	15.3	114
BXRC-30G2000C-D-73	3000	90	500	1769	1592	30.9	15.5	114
BXRC-30H2000-B-7x	3000	97	450	1669	1502	33.9	15.3	109
BXRC-30H2000-C-7x	3000	97	630	2337	2103	33.9	21.4	109
BXRC-30H2000-D-7x	3000	97	500	1695	1526	30.9	15.5	110
BXRC-30A2001-B-73 <sup>7,8</sup>	3000	93	450	1691	1522	33.9	15.3	111
BXRC-30A2001-C-73 <sup>7,8</sup>	3000	93	630	2368	2131	33.9	21.4	111
BXRC-30A2001-D-73 <sup>7,8</sup>	3000	93	500	1717	1545	30.9	15.5	111
BXRC-35E2000-B-7x	3500	80	450	2323	2090	33.9	15.3	152
BXRC-35E2000-C-7x	3500	80	630	3252	2927	33.9	21.4	152
BXRC-35E2000-D-7x	3500	80	500	2358	2122	30.9	15.5	152
BXRC-35G2000-B-7x	3500	90	450	1931	1738	33.9	15.3	127
BXRC-35G2000-C-7x	3500	90	630	2703	2433	33.9	21.4	127
BXRC-35G2000-D-7x	3500	90	500	1960	1764	30.9	15.5	127
BXRC-35A2001-B-73 <sup>7,8</sup>	3500	93	450	1818	1636	33.9	15.3	119
BXRC-35A2001-C-73 <sup>7,8</sup>	3500	93	630	2545	2291	33.9	21.4	119
BXRC-35A2001-D-73 <sup>7,8</sup>	3500	93	500	1846	1661	30.9	15.5	119

Notes for Table 3:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to  $T_c = 85^\circ\text{C}$ .
- All CRI values are measured at  $T_c = T_a = 25^\circ\text{C}$ . CRI values are typical for Decor Series Ultra and Decor Series Class A products. CRI values are minimums for all other products. Minimum R<sub>g</sub> value for 80 CRI products is 0, the minimum R<sub>g</sub> value for 90 CRI products is 50, the minimum R<sub>g</sub> value for 97 CRI products is 93. Bridgelux maintains a  $\pm 3$  tolerance on CRI and R<sub>g</sub> 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.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of  $70^\circ\text{C}$ . GAI may vary depending on fixture design and performance.

# Product Selection Guide

**Table 3:** Selection Guide, Stabilized DC Performance ( $T_c = 85^\circ\text{C}$ )<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)
BXRC-40E2000-B-7X	4000	80	450	2337	2103	33.9	15.3	153
BXRC-40E2000-C-7X	4000	80	630	3272	2945	33.9	21.4	153
BXRC-40E2000-D-7X	4000	80	500	2373	2136	30.9	15.5	153
BXRC-40G2000-B-7X	4000	90	450	2003	1803	33.9	15.3	131
BXRC-40G2000-C-7X	4000	90	630	2805	2524	33.9	21.4	131
BXRC-40G2000-D-7X	4000	90	500	2034	1831	30.9	15.5	132
BXRC-40H2000-B-73	4000	97	450	1719	1548	33.9	15.3	113
BXRC-40H2000-C-73	4000	97	630	2407	2167	33.9	21.4	113
BXRC-40H2000-D-73	4000	97	500	1746	1571	30.9	15.5	113
BXRC-40A2001-B-73 <sup>7,8</sup>	4000	93	450	1945	1750	33.9	15.3	127
BXRC-40A2001-C-73 <sup>7,8</sup>	4000	93	630	2723	2451	33.9	21.4	127
BXRC-40A2001-D-73 <sup>7,8</sup>	4000	93	500	1975	1777	30.9	15.5	128
BXRC-50C2001-B-7X	5000	70	450	2569	2313	33.9	15.3	168
BXRC-50C2001-C-7X	5000	70	630	3597	3238	33.9	21.4	168
BXRC-50C2001-D-7X	5000	70	500	2609	2348	30.9	15.5	169
BXRC-50E2001-B-7X	5000	80	450	2410	2169	33.9	15.3	158
BXRC-50E2001-C-7X	5000	80	630	3374	3036	33.9	21.4	158
BXRC-50E2001-D-7X	5000	80	500	2447	2202	30.9	15.5	158
BXRC-50G2001-B-7X	5000	90	450	2047	1842	33.9	15.3	134
BXRC-50G2001-C-7X	5000	90	630	2866	2579	33.9	21.4	134
BXRC-50G2001-D-7X	5000	90	500	2078	1870	30.9	15.5	134
BXRC-57C2001-B-7X	5700	70	450	2482	2234	33.9	15.3	163
BXRC-57C2001-C-7X	5700	70	630	3475	3128	33.9	21.4	163
BXRC-57C2001-D-7X	5700	70	500	2520	2268	30.9	15.5	163
BXRC-57E2001-B-7X	5700	80	450	2382	2144	33.9	15.3	156
BXRC-57E2001-C-7X	5700	80	630	3335	3001	33.9	21.4	156
BXRC-57E2001-D-7X	5700	80	500	2418	2177	30.9	15.5	156
BXRC-65C2001-B-7X	6500	70	450	2526	2273	33.9	15.3	166
BXRC-65C2001-C-7X	6500	70	630	3536	3183	33.9	21.4	166
BXRC-65C2001-D-7X	6500	70	500	2565	2308	30.9	15.5	166
BXRC-65E2001-B-7X	6500	80	450	2424	2182	33.9	15.3	159
BXRC-65E2001-C-7X	6500	80	630	3394	3054	33.9	21.4	159
BXRC-65E2001-D-7X	6500	80	500	2461	2215	30.9	15.5	159

Notes for Table 3:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to  $T_c = 85^\circ\text{C}$ .
- All CRI values are measured at  $T_s = T_c = 25^\circ\text{C}$ . CRI values are typical for Decor Series Ultra and Decor Series Class A products. CRI values are minimums for all other products. Minimum R<sub>g</sub> value for 80 CRI products is 0, the minimum R<sub>g</sub> value for 90 CRI products is 50, the minimum R<sub>g</sub> value for 97 CRI products is 93. Bridgelux maintains a  $\pm 3$  tolerance on CRI and R<sub>g</sub> 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

Vero LED arrays are tested to the specifications shown using the nominal drive currents in Table 1. Vero may also be driven at other drive currents dependent on specific application design requirements. The performance at any drive current can be derived from the current vs. voltage characteristics shown in Figures 1, 2 & 3 and the flux vs. current characteristics shown in Figures 4, 5 & 6. The performance at commonly used drive currents is summarized in Table 4.

**Table 4:** Product Performance at Commonly Used Drive Currents

Part Number	CRI	Drive Current <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)
BXRC-27E2000-B-7x	80	113	33.2	3.7	655	600	175
		225	34.0	7.7	1267	1149	166
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2403</b>	<b>2163</b>	<b>153</b>
		675	35.6	24.1	3473	3042	144
		900	36.1	32.5	4430	3805	136
BXRC-27E2000-C-7x	80	158	33.2	5.2	909	859	174
		315	34.0	10.7	1760	1657	164
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3365</b>	<b>3028</b>	<b>153</b>
		945	35.6	33.7	4829	4515	143
		1260	36.1	45.5	6164	5743	135
BXRC-27E2000-D-7x	80	125	29.6	3.7	646	617	175
		250	30.3	7.6	1252	1193	165
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2440</b>	<b>2196</b>	<b>153</b>
		750	33.2	24.9	3448	3267	139
		1000	34.4	34.4	4409	4167	128
BXRC-27G2000-B-7x	90	113	33.2	3.7	545	499	146
		225	34.0	7.7	1054	956	138
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2000</b>	<b>1800</b>	<b>128</b>
		675	35.6	24.1	2890	2531	120
		900	36.1	32.5	3687	3167	113
BXRC-27G2000-C-7x	90	158	33.2	5.2	757	715	145
		315	34.0	10.7	1465	1379	137
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>2800</b>	<b>2520</b>	<b>128</b>
		945	35.6	33.7	4019	3757	119
		1260	36.1	45.5	5130	4779	113
BXRC-27G2000-D-7x	90	125	29.6	3.7	538	513	146
		250	30.3	7.6	1042	993	137
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2031</b>	<b>1828</b>	<b>128</b>
		750	33.2	24.9	2870	2719	115
		1000	34.4	34.4	3669	3468	107
BXRC-27H2000-B-7x	97	113	33.2	3.7	474	435	127
		225	34.0	7.7	918	833	120
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>1742</b>	<b>1568</b>	<b>111</b>
		675	35.6	24.1	2517	2205	105
		900	36.1	32.5	3211	2758	99
BXRC-27H2000-C-7x	97	158	33.2	5.2	659	623	126
		315	34.0	10.7	1276	1201	119
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>2439</b>	<b>2195</b>	<b>111</b>
		945	35.6	33.7	3500	3272	104
		1260	36.1	45.5	4468	4163	98

Notes for Table 4:

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

# Performance at Commonly Used Drive Currents

**Table 4:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <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)
BXRC-27H2000-D-7x	97	125	29.6	3.7	468	447	127
		250	30.3	7.6	908	864	120
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>1769</b>	<b>1592</b>	<b>111</b>
		750	33.2	24.9	2499	2368	100
		1000	34.4	34.4	3196	3020	93
BXRC-30E2000-B-7x	80	113	33.2	3.7	681	624	182
		225	34.0	7.7	1318	1195	172
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2500</b>	<b>2250</b>	<b>160</b>
		675	35.6	24.1	3613	3164	150
		900	36.1	32.5	4609	3959	142
BXRC-30E2000-C-7x	80	158	33.2	5.2	946	894	181
		315	34.0	10.7	1831	1724	171
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3500</b>	<b>3150</b>	<b>160</b>
		945	35.6	33.7	5024	4697	149
		1260	36.1	45.5	6412	5974	141
BXRC-30E2000-D-7x	80	125	29.6	3.7	672	642	182
		250	30.3	7.6	1303	1241	172
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2538</b>	<b>2285</b>	<b>160</b>
		750	33.2	24.9	3587	3398	144
		1000	34.4	34.4	4587	4334	133
BXRC-30G2000-B-7x	90	113	33.2	3.7	567	519	152
		225	34.0	7.7	1097	995	143
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2081</b>	<b>1873</b>	<b>133</b>
		675	35.6	24.1	3007	2633	125
		900	36.1	32.5	3836	3295	118
BXRC-30G2000-C-7x	90	158	33.2	5.2	787	744	150
		315	34.0	10.7	1524	1435	142
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>2913</b>	<b>2622</b>	<b>133</b>
		945	35.6	33.7	4181	3909	124
		1260	36.1	45.5	5336	4972	117
BXRC-30G2000-D-7x	90	125	29.6	3.7	559	534	151
		250	30.3	7.6	1084	1033	143
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2113</b>	<b>1901</b>	<b>133</b>
		750	33.2	24.9	2985	2828	120
		1000	34.4	34.4	3817	3607	111
BXRC-30G200C-B-73	90	113	33.2	3.7	530	486	142
		225	34.0	7.7	1026	931	134
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>1947</b>	<b>1752</b>	<b>124</b>
		675	35.6	24.1	2813	2464	117
		900	36.1	32.5	3589	3082	110
BXRC-30G200C-D-73	90	125	29.6	3.7	520	497	141
		250	30.3	7.6	1008	961	133
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>1965</b>	<b>1769</b>	<b>124</b>
		750	33.2	24.9	2777	2631	112
		1000	34.4	34.4	3551	3356	103

Notes for Table 4:

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

# Performance at Commonly Used Drive Currents

**Table 4:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <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)
BXRC-30H2000-B-7x	97	113	33.2	3.7	505	463	135
		225	34.0	7.7	978	887	128
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>1855</b>	<b>1669</b>	<b>118</b>
		675	35.6	24.1	2681	2348	111
		900	36.1	32.5	3419	2937	105
BXRC-30H2000-C-7x	97	158	33.2	5.2	702	663	134
		315	34.0	10.7	1358	1279	127
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>2597</b>	<b>2337</b>	<b>118</b>
		945	35.6	33.7	3727	3485	111
		1260	36.1	45.5	4757	4433	104
BXRC-30H2000-D-7x	97	125	29.6	3.7	499	476	135
		250	30.3	7.6	966	920	127
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>1883</b>	<b>1695</b>	<b>118</b>
		750	33.2	24.9	2661	2521	107
		1000	34.4	34.4	3403	3216	99
BXRC-30A2001-B-73	93	113	33.2	3.7	512	469	137
		225	34.0	7.7	991	898	129
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>1879</b>	<b>1691</b>	<b>120</b>
		675	35.6	24.1	2716	2378	113
		900	36.1	32.5	3464	2976	106
BXRC-30A2001-C-73	93	158	33.2	5.2	711	672	136
		315	34.0	10.7	1376	1296	128
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>2631</b>	<b>2368</b>	<b>120</b>
		945	35.6	33.7	3776	3530	112
		1260	36.1	45.5	4819	4491	106
BXRC-30A2001-D-73	93	125	29.6	3.7	505	482	137
		250	30.3	7.6	979	933	129
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>1908</b>	<b>1717</b>	<b>120</b>
		750	33.2	24.9	2696	2554	108
		1000	34.4	34.4	3448	3258	100
BXRC-35E2000-B-7x	80	113	33.2	3.7	703	644	188
		225	34.0	7.7	1360	1234	178
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2581</b>	<b>2323</b>	<b>165</b>
		675	35.6	24.1	3730	3266	155
		900	36.1	32.5	4757	4086	146
BXRC-35E2000-C-7x	80	158	33.2	5.2	976	923	187
		315	34.0	10.7	1890	1780	176
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3613</b>	<b>3252</b>	<b>165</b>
		945	35.6	33.7	5186	4848	154
		1260	36.1	45.5	6619	6167	145
BXRC-35E2000-D-7x	80	125	29.6	3.7	694	662	188
		250	30.3	7.6	1345	1281	177
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2620</b>	<b>2358</b>	<b>165</b>
		750	33.2	24.9	3703	3508	149
		1000	34.4	34.4	4735	4474	138

Notes for Table 4:

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



# Performance at Commonly Used Drive Currents

**Table 4:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <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)
BXRC-35G2000-B-7x	90	113	33.2	3.7	584	535	156
		225	34.0	7.7	1131	1026	148
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2145</b>	<b>1931</b>	<b>137</b>
		675	35.6	24.1	3100	2715	129
		900	36.1	32.5	3955	3397	122
BXRC-35G2000-C-7x	90	158	33.2	5.2	811	767	155
		315	34.0	10.7	1571	1479	147
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3003</b>	<b>2703</b>	<b>137</b>
		945	35.6	33.7	4311	4030	128
		1260	36.1	45.5	5502	5126	121
BXRC-35G2000-D-7x	90	125	29.6	3.7	577	551	156
		250	30.3	7.6	1118	1065	147
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2178</b>	<b>1960</b>	<b>137</b>
		750	33.2	24.9	3078	2916	124
		1000	34.4	34.4	3936	3719	114
BXRC-35A2001-B-73	93	113	33.2	3.7	550	504	147
		225	34.0	7.7	1065	966	139
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2020</b>	<b>1818</b>	<b>129</b>
		675	35.6	24.1	2919	2557	121
		900	36.1	32.5	3724	3199	114
BXRC-35A2001-C-73	93	158	33.2	5.2	764	722	146
		315	34.0	10.7	1479	1393	138
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>2828</b>	<b>2545</b>	<b>129</b>
		945	35.6	33.7	4059	3795	121
		1260	36.1	45.5	5181	4827	114
BXRC-35A2001-D-73	93	125	29.6	3.7	543	519	147
		250	30.3	7.6	1053	1002	139
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2051</b>	<b>1846</b>	<b>129</b>
		750	33.2	24.9	2899	2746	116
		1000	34.4	34.4	3706	3502	108
BXRC-40E2000-B-7x	80	113	33.2	3.7	707	648	189
		225	34.0	7.7	1369	1242	179
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2597</b>	<b>2337</b>	<b>166</b>
		675	35.6	24.1	3753	3287	156
		900	36.1	32.5	4787	4112	147
BXRC-40E2000-C-7x	80	158	33.2	5.2	982	929	188
		315	34.0	10.7	1902	1791	178
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3636</b>	<b>3272</b>	<b>166</b>
		945	35.6	33.7	5218	4878	155
		1260	36.1	45.5	6660	6206	146
BXRC-40E2000-D-7x	80	125	29.6	3.7	698	667	189
		250	30.3	7.6	1353	1289	178
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2637</b>	<b>2373</b>	<b>166</b>
		750	33.2	24.9	3726	3530	150
		1000	34.4	34.4	4764	4502	138

Notes for Table 4:

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

# Performance at Commonly Used Drive Currents

**Table 4:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <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)
BXRC-40G2000-B-7x	90	113	33.2	3.7	606	556	162
		225	34.0	7.7	1173	1064	153
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2226</b>	<b>2003</b>	<b>142</b>
		675	35.6	24.1	3217	2817	134
BXRC-40G2000-C-7x	90	900	36.1	32.5	4103	3525	126
		158	33.2	5.2	842	796	161
		315	34.0	10.7	1630	1535	152
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3116</b>	<b>2805</b>	<b>142</b>
BXRC-40G2000-D-7x	90	945	35.6	33.7	4473	4181	133
		1260	36.1	45.5	5709	5319	125
		125	29.6	3.7	598	571	162
		250	30.3	7.6	1160	1105	153
BXRC-40H2000-B-7x	97	<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2260</b>	<b>2034</b>	<b>142</b>
		750	33.2	24.9	3194	3026	128
		1000	34.4	34.4	4084	3859	119
		113	33.2	3.7	520	477	139
BXRC-40H2000-C-7x	97	225	34.0	7.7	1007	913	132
		675	35.6	24.1	2761	2418	115
		900	36.1	32.5	3522	3025	108
		158	33.2	5.2	723	683	138
BXRC-40H2000-D-7x	97	315	34.0	10.7	1399	1317	131
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>2675</b>	<b>2407</b>	<b>122</b>
		945	35.6	33.7	3839	3589	114
		1260	36.1	45.5	4900	4565	108
BXRC-40A2001-B-73	93	125	29.6	3.7	513	490	139
		250	30.3	7.6	995	948	131
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>1940</b>	<b>1746</b>	<b>122</b>
		750	33.2	24.9	2741	2597	110
BXRC-40A2001-C-73	93	1000	34.4	34.4	3505	3312	102
		113	33.2	3.7	589	539	158
		225	34.0	7.7	1139	1033	149
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2161</b>	<b>1945</b>	<b>138</b>
BXRC-40A2001-D-73	93	675	35.6	24.1	3123	2735	130
		900	36.1	32.5	3984	3422	122
		158	33.2	5.2	817	773	156
		315	34.0	10.7	1583	1490	148
BXRC-40A2001-E-73	93	<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3026</b>	<b>2723</b>	<b>138</b>
		945	35.6	33.7	4343	4060	129
		1260	36.1	45.5	5542	5164	122
		125	29.6	3.7	581	555	157
BXRC-40A2001-F-73	93	250	30.3	7.6	1126	1072	148
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2194</b>	<b>1975</b>	<b>138</b>
		750	33.2	24.9	3101	2937	125
		1000	34.4	34.4	3965	3747	115

Notes for Table 4:

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

# Performance at Commonly Used Drive Currents

**Table 4:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <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)
BXRC-50C2001-B-7x	70	113	33.2	3.7	778	713	208
		225	34.0	7.7	1505	1365	197
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2855</b>	<b>2569</b>	<b>182</b>
		675	35.6	24.1	4126	3613	172
		900	36.1	32.5	5263	4521	162
BXRC-50C2001-C-7x	70	158	33.2	5.2	1080	1021	206
		315	34.0	10.7	2091	1969	195
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3997</b>	<b>3597</b>	<b>182</b>
		945	35.6	33.7	5737	5363	170
		1260	36.1	45.5	7322	6822	161
BXRC-50C2001-D-7x	70	125	29.6	3.7	767	733	208
		250	30.3	7.6	1487	1417	196
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2899</b>	<b>2609</b>	<b>182</b>
		750	33.2	24.9	4096	3881	165
		1000	34.4	34.4	5238	4950	152
BXRC-50E2001-B-7x	80	113	33.2	3.7	729	668	195
		225	34.0	7.7	1411	1280	184
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2678</b>	<b>2410</b>	<b>171</b>
		675	35.6	24.1	3869	3389	161
		900	36.1	32.5	4936	4240	152
BXRC-50E2001-C-7x	80	158	33.2	5.2	1013	958	194
		315	34.0	10.7	1961	1846	183
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3749</b>	<b>3374</b>	<b>171</b>
		945	35.6	33.7	5380	5030	160
		1260	36.1	45.5	6867	6398	151
BXRC-50E2001-D-7x	80	125	29.6	3.7	720	687	195
		250	30.3	7.6	1395	1329	184
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2719</b>	<b>2447</b>	<b>171</b>
		750	33.2	24.9	3842	3640	154
		1000	34.4	34.4	4912	4642	143
BXRC-50G2001-B-7x	90	113	33.2	3.7	619	568	166
		225	34.0	7.7	1199	1087	157
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2274</b>	<b>2047</b>	<b>145</b>
		675	35.6	24.1	3287	2878	137
		900	36.1	32.5	4192	3601	129
BXRC-50G2001-C-7x	90	158	33.2	5.2	860	813	164
		315	34.0	10.7	1665	1568	155
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3184</b>	<b>2866</b>	<b>145</b>
		945	35.6	33.7	4570	4272	136
		1260	36.1	45.5	5833	5435	128
BXRC-50G2001-D-7x	90	125	29.6	3.7	611	584	165
		250	30.3	7.6	1185	1129	156
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2309</b>	<b>2078</b>	<b>145</b>
		750	33.2	24.9	3263	3091	131
		1000	34.4	34.4	4172	3943	121

Notes for Table 4:

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

# Performance at Commonly Used Drive Currents

**Table 4:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <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)
BXRC-57C2001-B-7x	70	113	33.2	3.7	751	688	201
		225	34.0	7.7	1454	1319	190
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2758</b>	<b>2482</b>	<b>176</b>
		675	35.6	24.1	3986	3491	166
		900	36.1	32.5	5084	4367	156
BXRC-57C2001-C-7x	70	158	33.2	5.2	1043	986	199
		315	34.0	10.7	2020	1902	189
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3861</b>	<b>3475</b>	<b>176</b>
		945	35.6	33.7	5542	5181	165
		1260	36.1	45.5	7074	6591	155
BXRC-57C2001-D-7x	70	125	29.6	3.7	741	708	201
		250	30.3	7.6	1437	1369	189
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2800</b>	<b>2520</b>	<b>176</b>
		750	33.2	24.9	3957	3749	159
		1000	34.4	34.4	5060	4782	147
BXRC-57E2001-B-7x	80	113	33.2	3.7	721	661	193
		225	34.0	7.7	1395	1265	182
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2647</b>	<b>2382</b>	<b>169</b>
		675	35.6	24.1	3825	3349	159
		900	36.1	32.5	4879	4191	150
BXRC-57E2001-C-7x	80	158	33.2	5.2	1001	946	191
		315	34.0	10.7	1938	1825	181
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3705</b>	<b>3335</b>	<b>169</b>
		945	35.6	33.7	5318	4972	158
		1260	36.1	45.5	6787	6324	149
BXRC-57E2001-D-7x	80	125	29.6	3.7	711	679	193
		250	30.3	7.6	1379	1313	182
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2687</b>	<b>2418</b>	<b>169</b>
		750	33.2	24.9	3797	3597	153
		1000	34.4	34.4	4855	4588	141
BXRC-65C2001-B-7x	70	113	33.2	3.7	764	700	205
		225	34.0	7.7	1479	1342	193
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2807</b>	<b>2526</b>	<b>179</b>
		675	35.6	24.1	4056	3552	169
		900	36.1	32.5	5174	4444	159
BXRC-65C2001-C-7x	70	158	33.2	5.2	1062	1004	203
		315	34.0	10.7	2055	1935	192
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3929</b>	<b>3536</b>	<b>179</b>
		945	35.6	33.7	5640	5272	167
		1260	36.1	45.5	7198	6707	158
BXRC-65C2001-D-7x	70	125	29.6	3.7	754	720	204
		250	30.3	7.6	1462	1393	193
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2850</b>	<b>2565</b>	<b>179</b>
		750	33.2	24.9	4027	3815	162
		1000	34.4	34.4	5149	4866	150

Notes for Table 4:

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

# Performance at Commonly Used Drive Currents

**Table 4:** Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current <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)
BXRC-65E2001-B-7x	80	113	33.2	3.7	734	672	196
		225	34.0	7.7	1420	1288	186
		<b>450</b>	<b>34.8</b>	<b>15.7</b>	<b>2694</b>	<b>2424</b>	<b>172</b>
		675	35.6	24.1	3893	3409	162
		900	36.1	32.5	4965	4265	153
BXRC-65E2001-C-7x	80	158	33.2	5.2	1019	963	195
		315	34.0	10.7	1972	1857	184
		<b>630</b>	<b>34.8</b>	<b>21.9</b>	<b>3771</b>	<b>3394</b>	<b>172</b>
		945	35.6	33.7	5412	5060	161
BXRC-65E2001-D-7x	80	1260	36.1	45.5	6908	6437	152
		125	29.6	3.7	724	691	196
		250	30.3	7.6	1403	1337	185
		<b>500</b>	<b>31.8</b>	<b>15.9</b>	<b>2735</b>	<b>2461</b>	<b>172</b>
		750	33.2	24.9	3865	3661	155
		1000	34.4	34.4	4942	4670	144

Notes for Table 4:

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



# Electrical Characteristics

**Table 5:** Electrical Characteristics

Part Number	Drive Current (mA)	Forward Voltage Pulsed, $T_c = 25^\circ\text{C}$ (V) <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)
BXRC-xxx200x-B-7x	450	32.2	34.8	37.4	-14.3	0.28	31.0	38.3
	900	33.4	36.1	38.8	-14.3	0.35	32.2	39.7
BXRC-xxx200x-C-7x	630	32.2	34.8	37.4	-14.3	0.20	31.0	38.3
	1260	33.4	36.1	38.8	-14.3	0.24	32.2	39.7
BXRC-xxx200x-D-7x	500	29.4	31.8	34.2	-13.3	0.34	28.4	35.0
	1000	31.8	34.4	37.0	-13.3	0.41	30.8	37.9

Notes for Table 5:

- Parts are tested in pulsed conditions,  $T_c = 25^\circ\text{C}$ . Pulse width is 10ms.
- Voltage minimum and maximum are provided for reference only and are not a guarantee of performance.
- Bridgelux maintains a tester tolerance of  $\pm 0.10\text{V}$  on forward voltage measurements.
- Typical coefficient of forward voltage tolerance is  $\pm 0.1\text{mV}$  for nominal current.
- Thermal resistance values are based from test data of a 3000K 80 CRI product.
- Thermal resistance value was calculated using total electrical input power; optical power was not subtracted from input power. The thermal interface material used during testing is not included in the thermal resistance value.
- $V_f$  min hot and max cold values are provided as reference only and are not guaranteed by test. These values are provided to aid in driver design and selection over the operating range of the product.
- This product has been designed and manufactured per IEC 62031:2014. This product has passed dielectric withstand voltage testing at 1160 V. The working voltage designated for the insulation is 80V d.c. The maximum allowable voltage across the array must be determined in the end product application.

# Eye Safety

**Table 6:** Eye Safety Risk Group (RG) Classifications

Part Number	Drive Current <sup>5</sup> (mA)	CCT <sup>5</sup>			
		2700K/3000K	4000K <sup>2</sup>	5000K <sup>3</sup>	6500K <sup>4</sup>
BXRC-xxx200x-B-7x	450	RG1	RG1	RG1	RG1
	675	RG1	RG1	RG1	RG2
	900	RG1	RG1	RG2	RG2
BXRC-xxx200x-C-7x	630	RG1	RG1	RG1	RG1
	945	RG1	RG1	RG2	RG2
	1260	RG1	RG2	RG2	RG2
BXRC-xxx200x-D-7x	500	RG1	RG1	RG1	RG1
	750	RG1	RG1	RG1	RG2
	1000	RG1	RG1	RG2	RG2

Notes for Table 6:

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

# Absolute Maximum Ratings

**Table 7:** Maximum Ratings

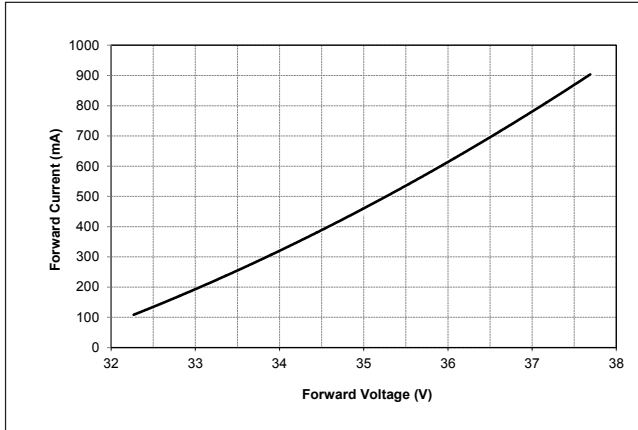
Parameter	Maximum Rating		
LED Junction Temperature (T <sub>j</sub> )	125°C		
Storage Temperature	-40°C to +105°C		
Operating Case Temperature <sup>1</sup> (T <sub>c</sub> )	105°C		
Soldering Temperature <sup>2</sup>	300°C or lower for a maximum of 6 seconds		
	BXRC-xxx200x-B-7x	BXRC-xxx200x-C-7x	BXRC-xxx200x-D-7x
Maximum Drive Current <sup>3</sup>	900mA	1260mA	1000mA
Maximum Peak Pulsed Drive Current <sup>4</sup>	1290mA	1800mA	1430mA
Maximum Reverse Voltage <sup>5</sup>	-60V	-60V	-55V

Notes for Table 7:

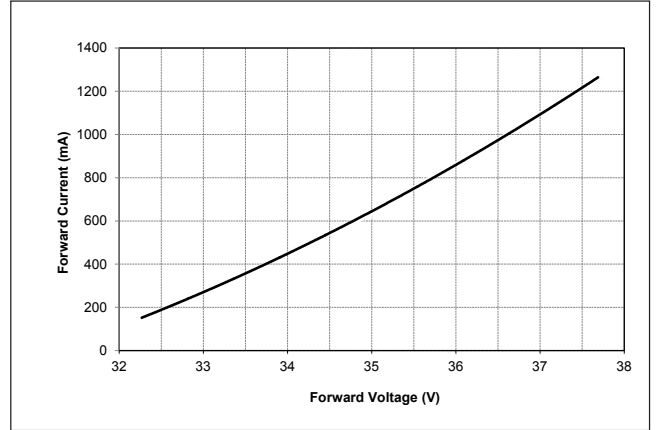
1. For IEC 62717 requirement, please consult your Bridgelux sales representative.
2. Refer to Bridgelux Application Note AN31: Assembly Considerations for Bridgelux Vero LED Arrays.
3. Arrays may be driven at higher currents however lumen maintenance may be reduced.
4. Bridgelux recommends a maximum duty cycle of 10% and pulse width of 20 ms when operating LED Arrays at maximum peak pulsed current specified. Maximum peak pulsed currents indicate values where LED Arrays can be driven without catastrophic failures.
5. Light emitting diodes are not designed to be driven in reverse voltage and will not produce light under this condition. Maximum rating provided for reference only.

# Performance Curves

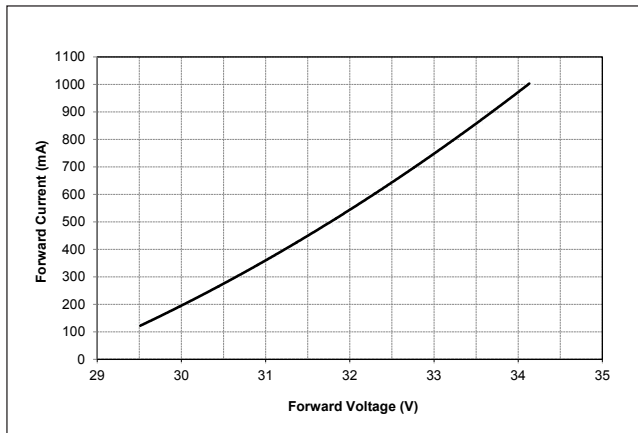
**Figure 1: Vero 13B Drive Current vs. Voltage**



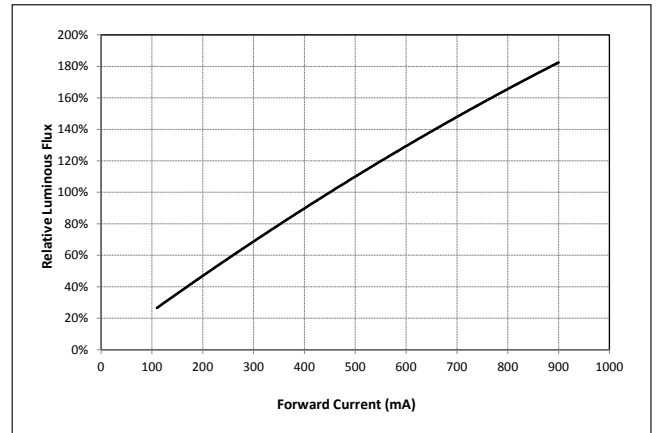
**Figure 2: Vero 13C Drive Current vs. Voltage**



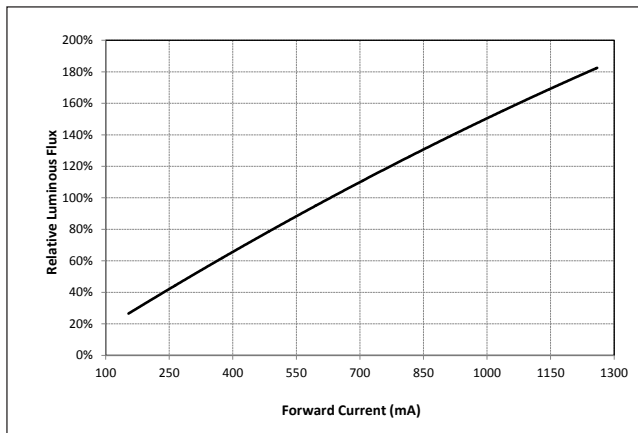
**Figure 3: Vero 13D Drive Current vs. Voltage**



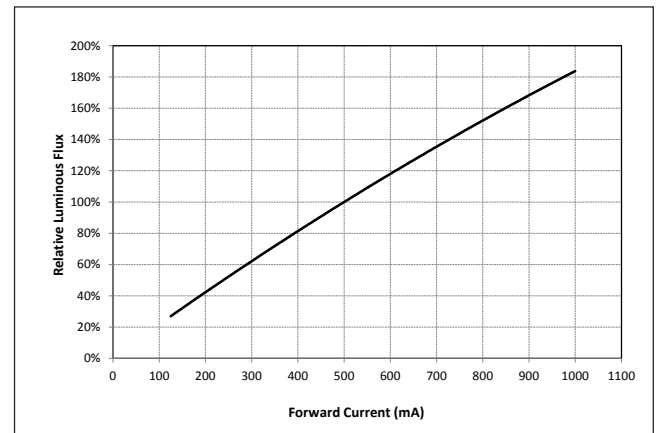
**Figure 4: Vero 13B Typical Relative Flux vs. Current**



**Figure 5: Vero 13C Typical Relative Flux vs. Current**



**Figure 6: Vero 13D Typical Relative Flux vs. Current**

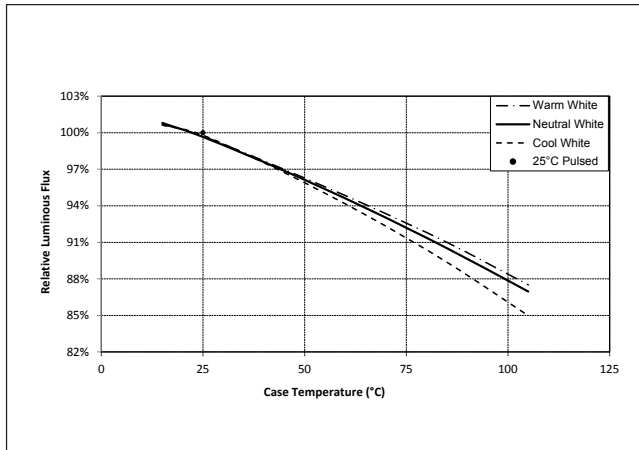


Note for Figure 1-6:

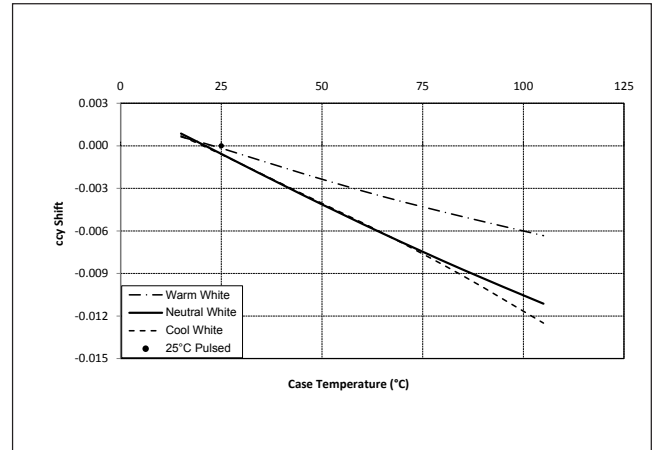
1. Bridgelux does not recommend driving high power LEDs at low currents. Doing so may produce unpredictable results. Pulse width modulation (PWM) is recommended for dimming effects.
2. Products tested under pulsed condition (10ms pulse width) at nominal test current where  $T_j$  (junction temperature)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

# Performance Curves

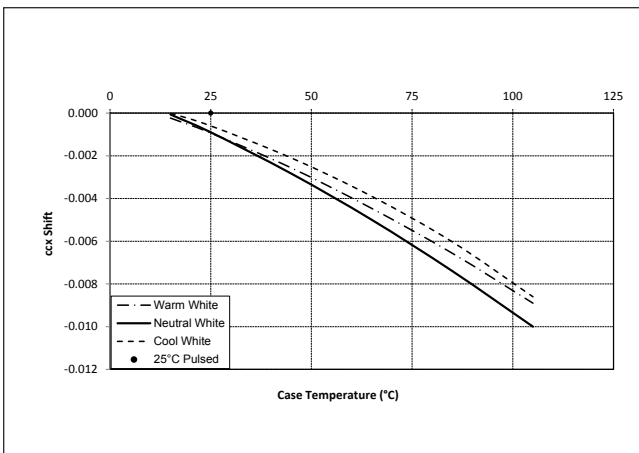
**Figure 7: Typical DC Flux vs. Case Temperature**



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



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



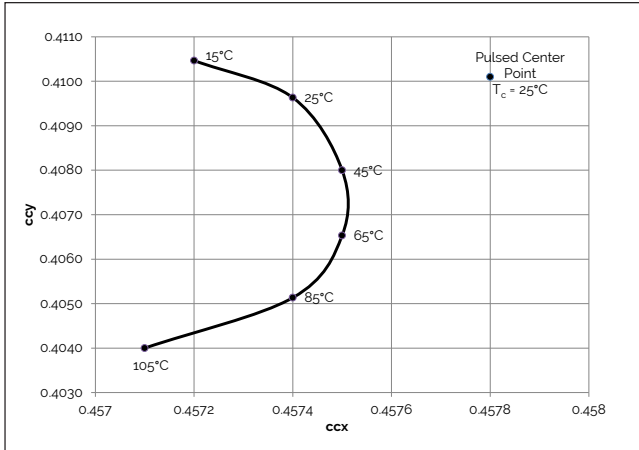
Notes for Figures 7-9:

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

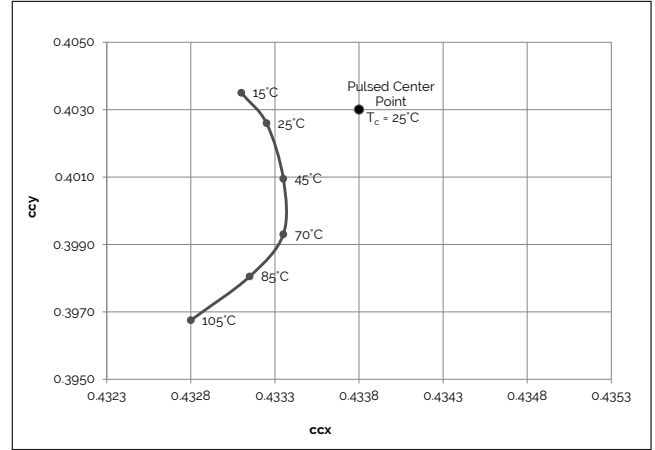


# Performance Curves

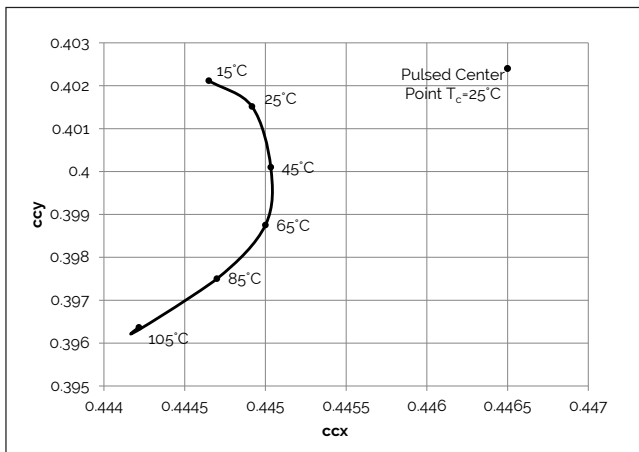
**Figure 10: 2700K, 97 CRI Color Shift vs. Case Temperature<sup>1</sup>**



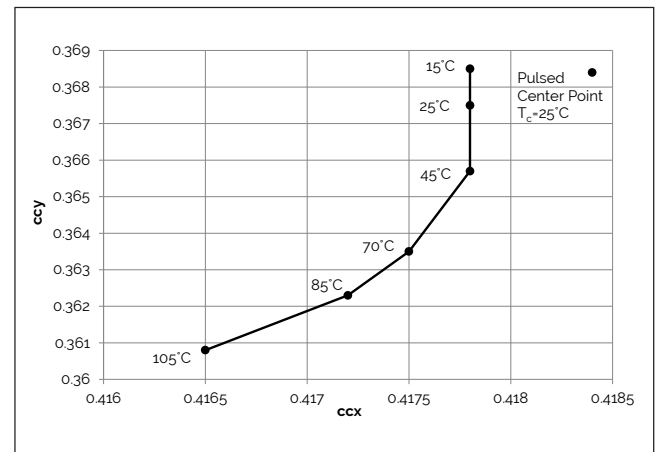
**Figure 11: 3000K, 97 CRI Color Shift vs. Case Temperature<sup>1</sup>**



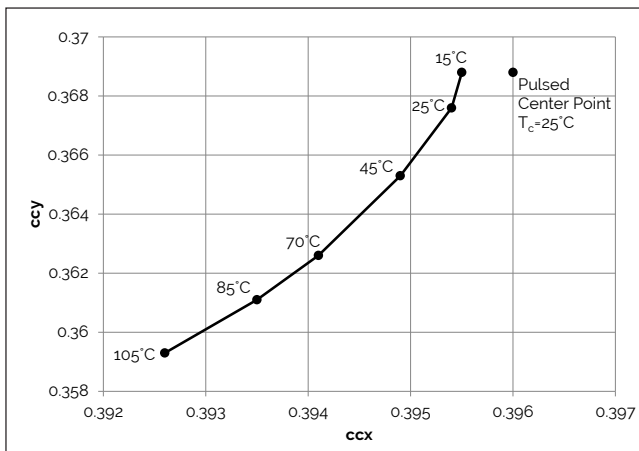
**Figure 12: 3000K, 90 CRI Color Shift vs. Case Temperature<sup>1</sup>**



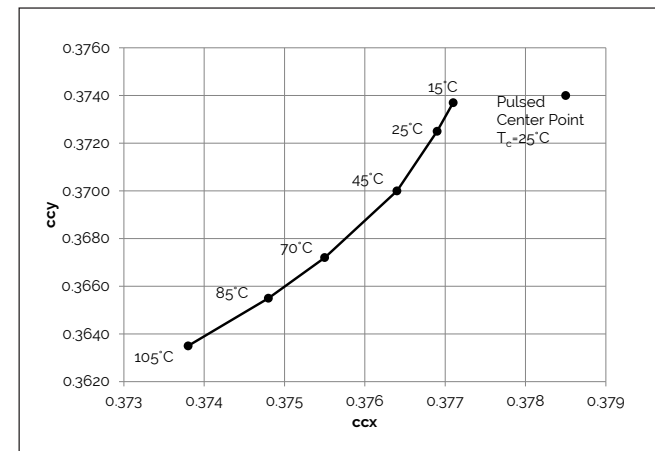
**Figure 13: 3000K Class A Color Shift vs. Case Temperature<sup>1</sup>**



**Figure 14: 3500K Class A Color Shift vs. Case Temperature<sup>1</sup>**



**Figure 15: 4000K Class A Color Shift vs. Case Temperature<sup>1</sup>**

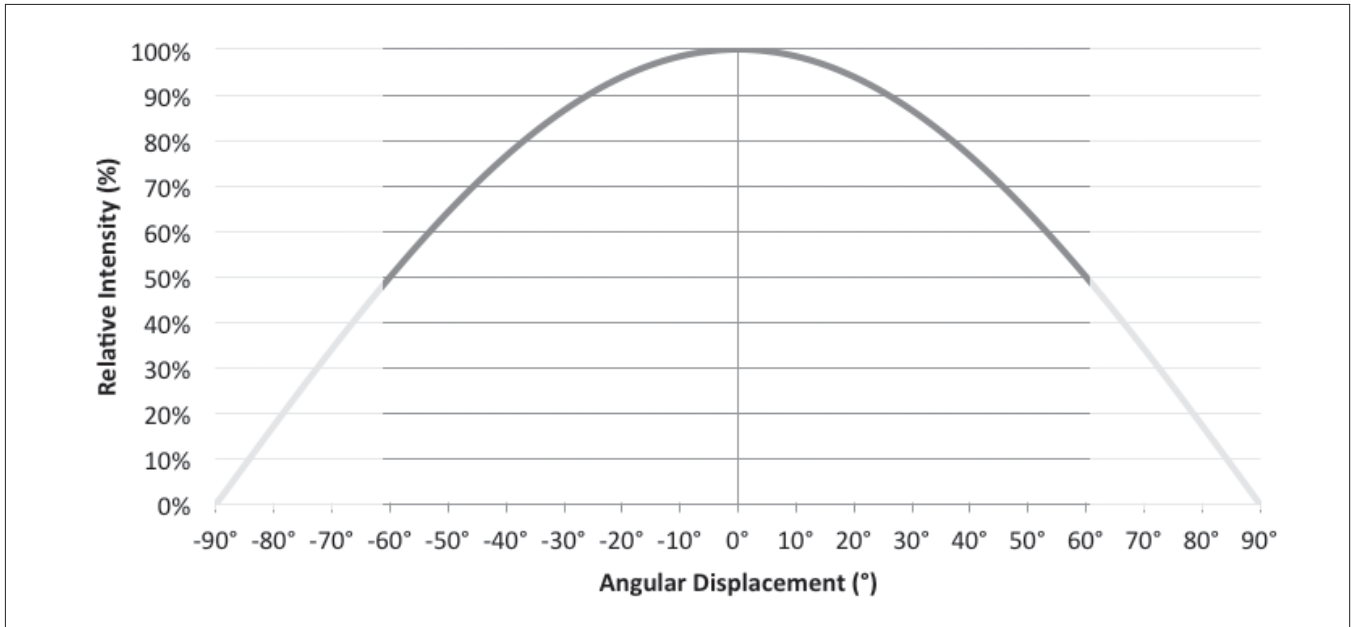


Note for Figures 10-15:

1. Measurements made under DC test conditions at the nominal drive current.
2. Typical color shift is shown with a tolerance of  $\pm 0.002$ .
3. Characteristics shown for Decor Series Showcase products, BXRC-30G200C-x-73

# Typical Radiation Pattern

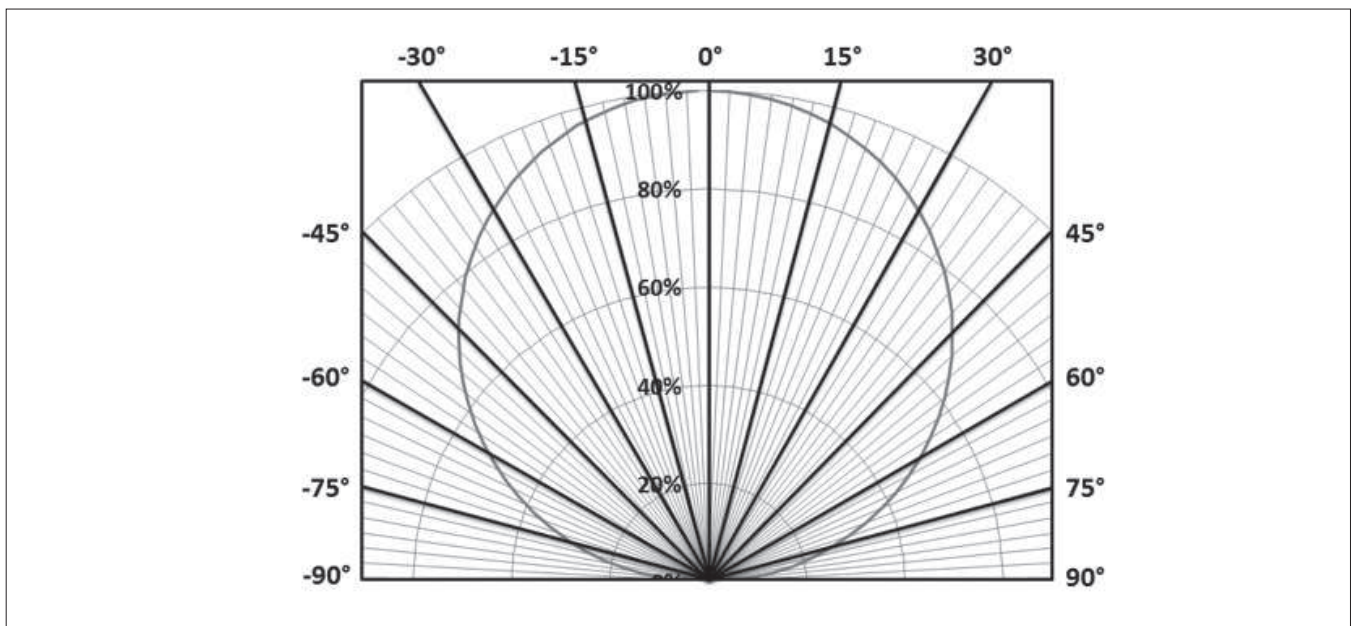
Figure 16: Typical Spatial Radiation Pattern



Note for Figure 16:

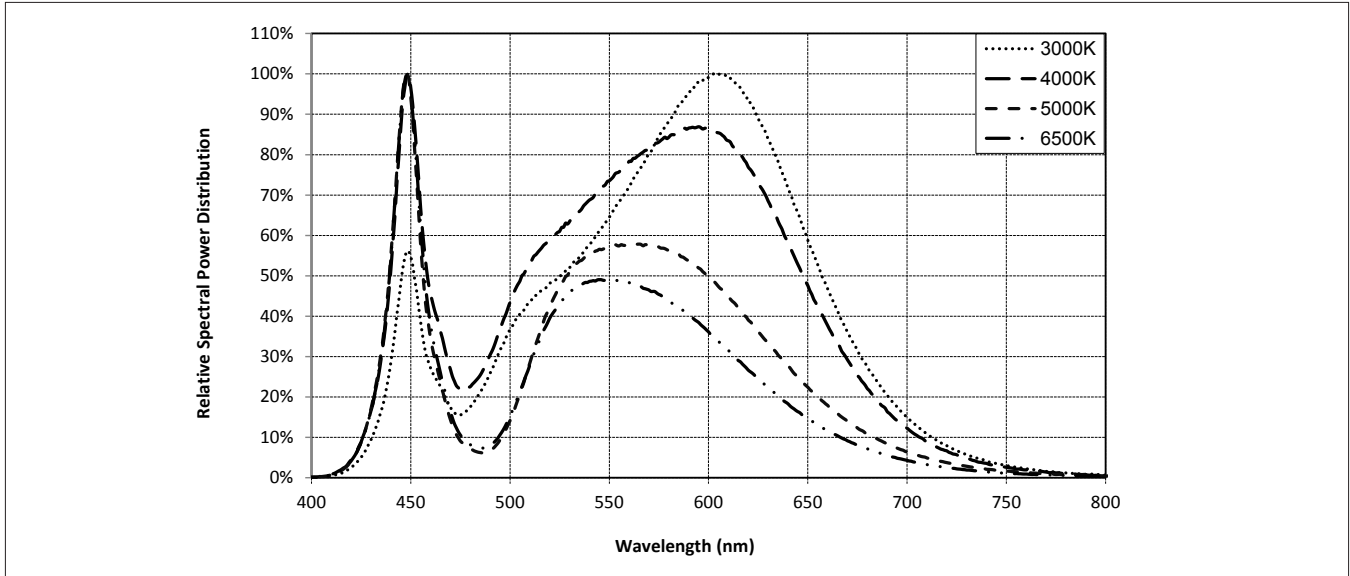
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 17: Typical Polar Radiation Pattern



# Typical Color Spectrum

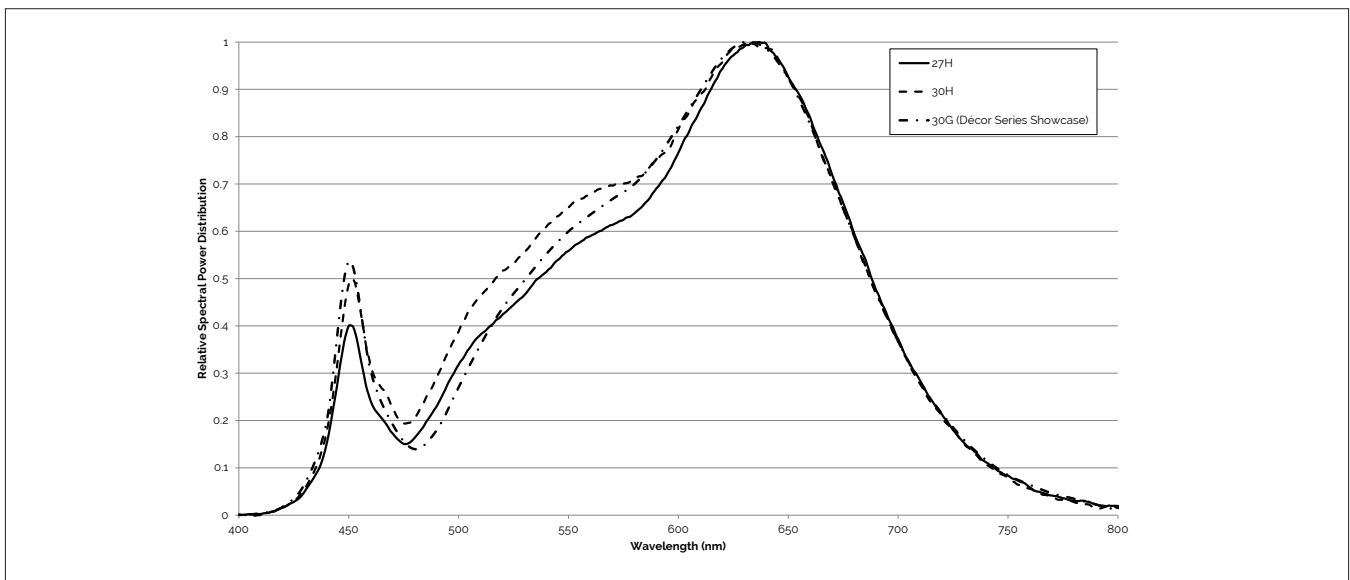
Figure 18: Typical Color Spectrum



Note for Figure 18:

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

Figure 19: Typical Color Spectrum for Vero 13 with Décor Series



Note for Figure 19:

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