

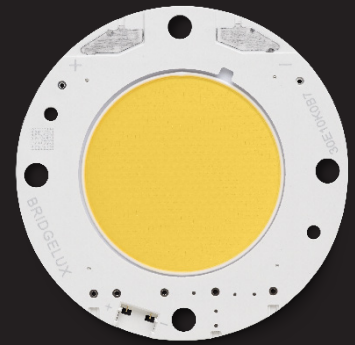
Bridgelux® Vero® 29 Array Series

Product Data Sheet DS93



Introduction

Vero



Vero represents a revolutionary advancement in chip on board (COB) light source technology and innovation. Vero LED light sources simplify luminaire design and manufacturing processes, improve light quality, and define a platform for future functionality integration.

Vero is available in four different light emitting surface (LES) configurations and has been engineered to reliably operate over a broad current range, enabling new degrees of flexibility in luminaire design optimization. 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 includes an on board connector port to enable solder free electrical interconnect and simple easy to use mounting features to enable 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 offer pleasing and inspiring lighting palettes. Bridgelux Décor Series color points are available on Vero® SE Series, Vero® Series, V Series™ and H Series™.

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

Décor Series™ Food products offer color points developed to address the unique requirements of the food, grocery, and restaurant industries. Highlighting the distinctive colors and nuanced patterns found in meats and breads, the Décor Series Food products are a must have for any butcher counter or bakery.

Décor Series™ Specialty products provide color points developed specifically for the healthcare and entertainment industries. The 5600K cool white color point combined with a CRI of 90 provides the bright white required by these industries.

Décor Series™ Street and Landmark is designed to be a direct replacement for high pressure sodium lamps.

Features

- Efficacy of 155 lm/W typical
- Lumen output performance ranges from 5,244 to 37,266 lumens
- Broad range of CCT options from 1750K to 6500K
- CRI options include minimum 65, 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_r 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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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)
BXRC-17E10K0-B-74	1750	80	1800	8053	7248	52.0	93.6	86
BXRC-17E10K0-C-74	1750	80	1710	10200	9180	69.4	118.7	86
BXRC-17E10K0-D-74	1750	80	2100	6785	6107	37.6	79.0	86
BXRC-20B10K1-C-73	2000	65	1710	17198	15478	69.4	118.7	145
BXRC-20B10K1-D-73	2000	65	2100	11440	10296	37.6	79.0	145
BXRC-25E10K0-B-74	2500	80	1800	13016	11714	52.0	93.6	139
BXRC-25E10K0-C-74	2500	80	1710	16487	14838	69.4	118.7	139
BXRC-25E10K0-D-74	2500	80	2100	10967	9870	37.6	79.0	139
BXRC-27E10K0-B-7X	2700	80	1800	13934	12540	52.0	93.6	149
BXRC-27E10K0-C-7X	2700	80	1710	17649	15884	69.4	118.7	149
BXRC-27E10K0-D-7X	2700	80	2100	11740	10566	37.6	79.0	149
BXRC-27G10K0-B-7X	2700	90	1800	11611	10450	52.0	93.6	124
BXRC-27G10K0-C-7X	2700	90	1710	14708	13237	69.4	118.7	124
BXRC-27G10K0-D-7X	2700	90	2100	9784	8805	37.6	79.0	124
BXRC-30E10K0-B-7X ¹⁰	3000	80	1800	14514	13063	52.0	93.6	155
BXRC-30E10K0-C-7X ¹⁰	3000	80	1710	18385	16546	69.4	118.7	155
BXRC-30E10K0-D-7X ¹⁰	3000	80	2100	12597	11007	37.6	79.0	160
BXRC-30G10K0-B-7X	3000	90	1800	12047	10842	52.0	93.6	129
BXRC-30G10K0-C-7X	3000	90	1710	15259	13733	69.4	118.7	129
BXRC-30G10K0-D-7X	3000	90	2100	10150	9135	37.6	79.0	129
BXRC-30A10K1-B-73 ^{8,9}	3000	93	1800	11237	10113	52.0	93.6	120
BXRC-30A10K1-C-73 ^{8,9}	3000	93	1710	14233	12810	69.4	118.7	120
BXRC-30A10K1-D-73 ^{8,9}	3000	93	2100	9468	8521	37.6	79.0	120
BXRC-35E10K0-B-7X ¹⁰	3500	80	1800	14950	13455	52.0	93.6	160
BXRC-35E10K0-C-7X ¹⁰	3500	80	1710	18936	17042	69.4	118.7	160
BXRC-35E10K0-D-7X ¹⁰	3500	80	2100	12596	11337	37.6	79.0	160
BXRC-35G10K0-B-7X	3500	90	1800	12482	11234	52.0	93.6	133
BXRC-35G10K0-C-7X	3500	90	1710	15811	14230	69.4	118.7	133
BXRC-35G10K0-D-7X	3500	90	2100	10517	9466	37.6	79.0	133
BXRC-35A10K1-B-73 ^{8,9}	3500	93	1800	12080	10872	52.0	93.6	129
BXRC-35A10K1-C-73 ^{8,9}	3500	93	1710	15301	13771	69.4	118.7	129
BXRC-35A10K1-D-73 ^{8,9}	3500	93	2100	10178	9160	37.6	79.0	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 Class A products. CRI values are minimums for all other products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50.
- Drive current is referred to as nominal drive current.
- Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C .
- Typical performance values are provided as a reference only and are not a guarantee of performance.
- Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
- Minimum flux values at the nominal test current are guaranteed by 100% test.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C . GAI may vary depending on fixture design and performance.
- SKUs can meet DLC premium (Outdoor Mid Output) requirements under certain system level conditions.

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)
BXRC-40E10K0-B-7X ¹⁰	4000	80	1800	15095	13585	52.0	93.6	161
BXRC-40E10K0-C-7X ¹⁰	4000	80	1710	19120	17208	69.4	118.7	161
BXRC-40E10K0-D-7X ¹⁰	4000	80	2100	12719	11447	37.6	79.0	161
BXRC-40G10K0-B-7X	4000	90	1800	12918	11626	52.0	93.6	138
BXRC-40G10K0-C-7X	4000	90	1710	16362	14726	69.4	118.7	138
BXRC-40G10K0-D-7X	4000	90	2100	10884	9796	37.6	79.0	138
BXRC-40A10K1-B-73 ^{8,9}	4000	93	1800	12922	11630	52.0	93.6	138
BXRC-40A10K1-C-73 ^{8,9}	4000	93	1710	16368	14731	69.4	118.7	138
BXRC-40A10K1-D-73 ^{8,9}	4000	93	2100	10888	9799	37.6	79.0	138
BXRC-50C10K1-B-74 ¹⁰	5000	70	1800	16546	14892	52.0	93.6	177
BXRC-50C10K1-C-74 ¹⁰	5000	70	1710	20958	18863	69.4	118.7	177
BXRC-50C10K1-D-74 ¹⁰	5000	70	2100	13942	12547	37.6	79.0	177
BXRC-50E10K1-B-74 ¹⁰	5000	80	1800	15553	13998	52.0	93.6	166
BXRC-50E10K1-C-74 ¹⁰	5000	80	1710	19701	17731	69.4	118.7	166
BXRC-50E10K1-D-74 ¹⁰	5000	80	2100	13105	11795	37.6	79.0	166
BXRC-50G10K1-B-74	5000	90	1800	13237	11913	52.0	93.6	141
BXRC-50G10K1-C-74	5000	90	1710	16767	15090	69.4	118.7	141
BXRC-50G10K1-D-74	5000	90	2100	11153	10038	37.6	79.0	141
BXRC-56G10K1-B-74	5600	90	1800	13859	12473	52.0	93.6	148
BXRC-56G10K1-C-74	5600	90	1710	17554	15799	69.4	118.7	148
BXRC-56G10Kx-D-74	5600	90	2100	11677	10509	37.6	79.0	148
BXRC-57C10K1-B-74 ¹⁰	5700	70	1800	15966	14369	52.0	93.6	171
BXRC-57C10K1-C-74 ¹⁰	5700	70	1710	20223	18201	69.4	118.7	170
BXRC-57C10K1-D-74 ¹⁰	5700	70	2100	13452	12107	37.6	79.0	170
BXRC-57E10K1-B-74 ¹⁰	5700	80	1800	15820	14238	52.0	93.6	169
BXRC-57E10K1-C-74 ¹⁰	5700	80	1710	20039	18035	69.4	118.7	169
BXRC-57E10K1-D-74 ¹⁰	5700	80	2100	13330	11997	37.6	79.0	169
BXRC-65C10K1-B-74 ¹⁰	6500	70	1800	16256	14630	52.0	93.6	174
BXRC-65C10K1-C-74 ¹⁰	6500	70	1710	20591	18532	69.4	118.7	174
BXRC-65C10K1-D-74 ¹⁰	6500	70	2100	13697	12327	37.6	79.0	173
BXRC-65E10K1-B-74 ¹⁰	6500	80	1800	16111	14500	52.0	93.6	172
BXRC-65E10K1-C-74 ¹⁰	6500	80	1710	20407	18366	69.4	118.7	172
BXRC-65E10K1-D-74 ¹⁰	6500	80	2100	13575	12217	37.6	79.0	172

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
- CRI values are typical for 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 values for 90 CRI products is 50.
- Drive current is referred to as nominal drive current.
- Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) - T_c (case temperature) = 25°C .
- Typical performance values are provided as a reference only and are not a guarantee of performance.
- Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
- Minimum flux values at the nominal test current are guaranteed by 100% test.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C . GAI may vary depending on fixture design and performance.
- SKUs can meet DLC premium (Outdoor Mid Output) requirements under certain system level conditions.

Product Selection Guide

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

Part Number	Nominal CCT ¹ (K)	GAI ²	CRI ³	Nominal Drive Current ⁴ (mA)	Typical DC Flux ^{5,6} $T_c = 70^\circ\text{C}$ (lm)	Minimum DC Flux ^{6,9} $T_c = 70^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-30A10K1-B-73	3000	80	93	1800	10450	9405	50.9	91.6	114
BXRC-30A10K1-C-73	3000	80	93	1710	13237	11913	67.9	116.1	114
BXRC-30A10K1-D-73	3000	80	93	2100	8805	7925	36.8	77.3	114
BXRC-35A10K1-B-73	3500	80	93	1800	11234	10111	50.9	91.6	123
BXRC-35A10K1-C-73	3500	80	93	1710	14230	12807	67.9	116.1	123
BXRC-35A10K1-D-73	3500	80	93	2100	9466	8519	36.8	77.3	122
BXRC-40A10K1-B-73	4000	80	93	1800	12017	10816	50.9	91.6	131
BXRC-40A10K1-C-73	4000	80	93	1710	15222	13700	67.9	116.1	131
BXRC-40A10K1-D-73	4000	80	93	2100	10126	9113	36.8	77.3	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°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 ($T_c = 85^\circ\text{C}$)^{4,5}

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical DC Flux ^{4,5} $T_c = 85^\circ\text{C}$ (lm)	Minimum DC Flux ⁶ $T_c = 85^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-17E10K0-B-74	1750	80	1800	7248	6523	50.7	91.2	79
BXRC-17E10K0-C-74	1750	80	1710	9180	8262	68.1	116.4	79
BXRC-17E10K0-D-74	1750	80	2100	6107	5496	36.6	76.8	80
BXRC-20B10K1-C-73	2000	65	1710	15478	13930	68.1	116.4	133
BXRC-20B10K1-D-73	2000	65	2100	10296	9266	36.6	76.8	134
BXRC-25E10K0-B-74	2500	80	1800	11714	10543	50.7	91.2	128
BXRC-25E10K0-C-74	2500	80	1710	14838	13354	68.1	116.4	127
BXRC-25E10K0-D-74	2500	80	2100	9870	8883	36.6	76.8	129
BXRC-27E10K0-B-7X	2700	80	1800	12540	11286	50.7	91.2	137
BXRC-27E10K0-C-7X	2700	80	1710	15884	14296	68.1	116.4	136
BXRC-27E10K0-D-7X	2700	80	2100	10566	9509	36.6	76.8	138
BXRC-27G10K0-B-7X	2700	90	1800	10450	9405	50.7	91.2	115
BXRC-27G10K0-C-7X	2700	90	1710	13237	11913	68.1	116.4	114
BXRC-27G10K0-D-7X	2700	90	2100	8805	7925	36.6	76.8	115
BXRC-30E10K0-B-7X	3000	80	1800	13063	11757	50.7	91.2	143
BXRC-30E10K0-C-7X	3000	80	1710	16546	14891	68.1	116.4	142
BXRC-30E10K0-D-7X	3000	80	2100	11337	9906	36.6	76.8	148
BXRC-30G10K0-B-7X	3000	90	1800	10842	9758	50.7	91.2	119
BXRC-30G10K0-C-7X	3000	90	1710	13733	12360	68.1	116.4	118
BXRC-30G10K0-D-7X	3000	90	2100	9135	8222	36.6	76.8	119
BXRC-30A10K1-B-73 ^{7,8}	3000	93	1800	10113	9102	50.7	91.2	111
BXRC-30A10K1-C-73 ^{7,8}	3000	93	1710	12810	11529	68.1	116.4	110
BXRC-30A10K1-D-73 ^{7,8}	3000	93	2100	8521	7669	36.6	76.8	111
BXRC-35E10K0-B-7X	3500	80	1800	13455	12110	50.7	91.2	148
BXRC-35E10K0-C-7X	3500	80	1710	17042	15338	68.1	116.4	146
BXRC-35E10K0-D-7X	3500	80	2100	11337	10203	36.6	76.8	148
BXRC-35G10K0-B-7X	3500	90	1800	11234	10111	50.7	91.2	123
BXRC-35G10K0-C-7X	3500	90	1710	14230	12807	68.1	116.4	122
BXRC-35G10K0-D-7X	3500	90	2100	9466	8519	36.6	76.8	123
BXRC-35A10K1-B-73 ^{7,8}	3500	93	1800	10872	9785	50.7	91.2	119
BXRC-35A10K1-C-73 ^{7,8}	3500	93	1710	13771	12394	68.1	116.4	118
BXRC-35A10K1-D-73 ^{7,8}	3500	93	2100	9160	8244	36.6	76.8	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 $T_c = 85^\circ\text{C}$.
- CRI values are typical for 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 values for 90 CRI products is 50.
- Drive current is referred to as nominal drive current.
- Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
- Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C . Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C . GAI may vary depending on fixture design and performance.

Product Selection Guide

Table 3: Selection Guide, Stabilized DC Performance ($T_c = 85^\circ\text{C}$)^{4,5} (continued)

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical DC Flux ^{4,5} $T_c = 85^\circ\text{C}$ (lm)	Minimum DC Flux ⁶ $T_c = 85^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-40E10K0-B-7X	4000	80	1800	13585	12227	50.7	91.2	149
BXRC-40E10K0-C-7X	4000	80	1710	17208	15487	68.1	116.4	148
BXRC-40E10K0-D-7X	4000	80	2100	11447	10302	36.6	76.8	149
BXRC-40G10K0-B-7X	4000	90	1800	11626	10463	50.7	91.2	127
BXRC-40G10K0-C-7X	4000	90	1710	14726	13253	68.1	116.4	127
BXRC-40G10K0-D-7X	4000	90	2100	9796	8816	36.6	76.8	128
BXRC-40A10K1-B-73 ^{7,8}	4000	93	1800	11630	10467	50.7	91.2	128
BXRC-40A10K1-C-73 ^{7,8}	4000	93	1710	14731	13258	68.1	116.4	127
BXRC-40A10K1-D-73 ^{7,8}	4000	93	2100	9799	8819	36.6	76.8	128
BXRC-50C10K1-B-74	5000	70	1800	14892	13403	50.7	91.2	163
BXRC-50C10K1-C-74	5000	70	1710	18863	16977	68.1	116.4	162
BXRC-50C10K1-D-74	5000	70	2100	12547	11292	36.6	76.8	163
BXRC-50E10K1-B-74	5000	80	1800	13998	12598	50.7	91.2	153
BXRC-50E10K1-C-74	5000	80	1710	17731	15958	68.1	116.4	152
BXRC-50E10K1-D-74	5000	80	2100	11795	10616	36.6	76.8	154
BXRC-50G10K1-B-74	5000	90	1800	11913	10722	50.7	91.2	131
BXRC-50G10K1-C-74	5000	90	1710	15090	13581	68.1	116.4	130
BXRC-50G10K1-D-74	5000	90	2100	10038	9034	36.6	76.8	131
BXRC-56G10K1-B-74	5600	90	1800	12473	11226	50.7	91.2	137
BXRC-56G10K1-C-74	5600	90	1710	15799	14219	68.1	116.4	136
BXRC-56G10Kx-D-74	5600	90	2100	10509	9458	36.6	76.8	137
BXRC-57C10K1-B-74	5700	70	1800	14369	12932	50.7	91.2	158
BXRC-57C10K1-C-74	5700	70	1710	18201	16381	68.1	116.4	156
BXRC-57C10K1-D-74	5700	70	2100	12107	10896	36.6	76.8	158
BXRC-57E10K1-B-74	5700	80	1800	14238	12814	50.7	91.2	156
BXRC-57E10K1-C-74	5700	80	1710	18035	16232	68.1	116.4	155
BXRC-57E10K1-D-74	5700	80	2100	11997	10797	36.6	76.8	156
BXRC-65C10K1-B-74	6500	70	1800	14630	13167	50.7	91.2	160
BXRC-65C10K1-C-74	6500	70	1710	18532	16679	68.1	116.4	159
BXRC-65C10K1-D-74	6500	70	2100	12327	11094	36.6	76.8	161
BXRC-65E10K1-B-74	6500	80	1800	14500	13050	50.7	91.2	159
BXRC-65E10K1-C-74	6500	80	1710	18366	16529	68.1	116.4	158
BXRC-65E10K1-D-74	6500	80	2100	12217	10995	36.6	76.8	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 $T_c = 85^\circ\text{C}$.
- CRI values are typical for Decor Series Class A products. CRI values are minimums for all other products. Minimum R_g value for 80 CRI products is 0, the minimum R_g values for 90 CRI products is 50, the typical R_g values for 97 CRI products is 98.
- Drive current is referred to as nominal drive current.
- Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
- Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Nominal CCT is defined by the Lighting Research Center's Class A definition. The center of the Class A color bin is on the corresponding isothermal line.
- GAI value is 80. To help ensure optimal fixture level performance, GAI is measured at the fixture level, on axis, at a case temperature of 70°C. GAI may vary depending on fixture design and performance.

Performance at Commonly Used Drive Currents

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 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)
BXRC-17E10K0-B-74	80	900	49.6	44.7	4181	3816	94
		1200	50.5	60.6	5505	5004	91
		1800	52.0	93.6	8053	7248	86
		2700	54.1	146.1	11608	10352	79
		3600	55.8	201.0	14857	13090	74
BXRC-17E10K0-C-74	80	855	66.2	56.6	5794	5514	102
		1140	67.3	76.7	7365	6793	96
		1710	69.4	118.7	10200	9180	86
		2565	72.1	185.0	14470	12445	78
		3420	74.4	254.6	18137	15240	71
BXRC-17E10K0-D-74	80	1050	35.4	37.2	3732	3636	100
		1400	36.2	50.7	4803	4470	95
		2100	37.6	79.0	6785	6107	86
		3150	39.5	124.4	9659	8139	78
		4200	41.2	173.0	12174	9941	70
BXRC-20B10K1-C-73	65	855	66.2	56.6	9770	9297	173
		1140	67.3	76.7	12417	11454	162
		1710	69.4	118.7	17198	15478	145
		2565	72.1	185.0	24397	20984	132
		3420	74.4	254.6	30580	25696	120
BXRC-20B10K1-D-73	65	1050	35.4	37.2	6293	6131	169
		1400	36.2	50.7	8098	7537	160
		2100	37.6	79.0	11440	10296	145
		3150	39.5	124.4	16287	13723	131
		4200	41.2	173.0	20527	16762	119
BXRC-25E10K0-B-74	80	900	49.6	44.7	6757	6168	151
		1200	50.5	60.6	8897	8087	147
		1800	52.0	93.6	13016	11714	139
		2700	54.1	146.1	18762	16733	128
		3600	55.8	201.0	24014	21158	119
BXRC-25E10K0-C-74	80	855	66.2	56.6	9366	8912	166
		1140	67.3	76.7	11904	10981	155
		1710	69.4	118.7	16487	14838	139
		2565	72.1	185.0	23389	20116	126
		3420	74.4	254.6	29316	24633	115
BXRC-25E10K0-D-74	80	1050	35.4	37.2	6032	5878	162
		1400	36.2	50.7	7764	7225	153
		2100	37.6	79.0	10967	9870	139
		3150	39.5	124.4	15613	13155	125
		4200	41.2	173.0	19678	16069	114

Notes for Table 4:

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

Performance at Commonly Used Drive Currents

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

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRC-27E10Ko-B-7X	80	900	49.6	44.7	7233	6603	162
		1200	50.5	60.6	9524	8658	157
		1800	52.0	93.6	13934	12540	149
		2700	54.1	146.1	20085	17912	138
		3600	55.8	201.0	25707	22649	128
BXRC-27E10Ko-C-7X	80	855	66.2	56.6	10026	9541	177
		1140	67.3	76.7	12743	11755	166
		1710	69.4	118.7	17649	15884	149
		2565	72.1	185.0	25038	21534	135
		3420	74.4	254.6	31382	26370	123
BXRC-27E10Ko-D-7X	80	1050	35.4	37.2	6458	6292	174
		1400	36.2	50.6	8311	7735	164
		2100	37.6	79.0	11740	10566	149
		3150	39.5	124.4	16714	14083	134
		4200	41.2	172.9	21066	17202	122
BXRC-27G10Ko-B-7X	90	900	49.6	44.7	6028	5502	135
		1200	50.5	60.6	7937	7215	131
		1800	52.0	93.6	11611	10450	124
		2700	54.1	146.1	16738	14927	115
		3600	55.8	201.0	21422	18875	107
BXRC-27G10Ko-C-7X	90	855	66.2	56.6	8355	7950	148
		1140	67.3	76.7	10619	9795	138
		1710	69.4	118.7	14708	13237	124
		2565	72.1	185.0	20865	17945	113
		3420	74.4	254.6	26152	21975	103
BXRC-27G10Ko-D-7X	90	1050	35.4	37.2	5381	5244	145
		1400	36.2	50.6	6926	6445	137
		2100	37.6	79.0	9784	8805	124
		3150	39.5	124.4	13928	11736	112
		4200	41.2	172.9	17555	14335	102
BXRC-30E10Ko-B-7X	80	900	49.6	44.7	7535	6878	169
		1200	50.5	60.6	9921	9018	164
		1800	52.0	93.6	14514	13063	155
		2700	54.1	146.1	20922	18659	143
		3600	55.8	201.0	26778	23593	133
BXRC-30E10Ko-C-7X	80	855	66.2	56.6	10444	9938	185
		1140	67.3	76.7	13274	12244	173
		1710	69.4	118.7	18385	16546	155
		2565	72.1	185.0	26081	22431	141
		3420	74.4	254.6	32690	27469	128
BXRC-30E10Ko-D-7X	80	1050	35.4	37.2	6929	6751	186
		1400	36.2	50.6	8917	8299	176
		2100	37.6	79.0	12597	11337	160
		3150	39.5	124.4	17934	15111	144
		4200	41.2	172.9	22603	18457	131

Notes for Table 4:

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

Performance at Commonly Used Drive Currents

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

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRC-30G10Ko-B-7X	90	900	49.6	44.7	6254	5709	140
		1200	50.5	60.6	8234	7485	136
		1800	52.0	93.6	12047	10842	129
		2700	54.1	146.1	17365	15487	119
		3600	55.8	201.0	22226	19582	111
BXRC-30G10Ko-C-7X	90	855	66.2	56.6	8668	8249	153
		1140	67.3	76.7	11017	10163	144
		1710	69.4	118.7	15259	13733	129
		2565	72.1	185.0	21647	18618	117
		3420	74.4	254.6	27132	22799	107
BXRC-30G10Ko-D-7X	90	1050	35.4	37.2	5583	5440	150
		1400	36.2	50.6	7186	6687	142
		2100	37.6	79.0	10150	9135	129
		3150	39.5	124.4	14451	12176	116
		4200	41.2	172.9	18213	14872	105
BXRC-30A10K1-B-73	93	900	49.6	44.7	5833	5325	131
		1200	50.5	60.6	7681	6982	127
		1800	52.0	93.6	11237	10113	120
		2700	54.1	146.1	16198	14446	111
		3600	55.8	201.0	20732	18266	103
BXRC-30A10K1-C-73	93	855	66.2	56.6	8085	7694	143
		1140	67.3	76.7	10276	9479	134
		1710	69.4	118.7	14233	12810	120
		2565	72.1	185.0	20191	17366	109
		3420	74.4	254.6	25308	21266	99
BXRC-30A10K1-D-73	93	1050	35.4	37.2	5208	5074	140
		1400	36.2	50.6	6702	6238	132
		2100	37.6	79.0	9468	8521	120
		3150	39.5	124.4	13479	11357	108
		4200	41.2	172.9	16988	13873	98
BXRC-35E10Ko-B-7X	80	900	49.6	44.7	7761	7084	174
		1200	50.5	60.6	10219	9289	169
		1800	52.0	93.6	14950	13455	160
		2700	54.1	146.1	21550	19218	148
		3600	55.8	201.0	27581	24301	137
BXRC-35E10Ko-C-7X	80	855	66.2	56.6	10757	10236	190
		1140	67.3	76.7	13672	12612	178
		1710	69.4	118.7	18936	17042	160
		2565	72.1	185.0	26863	23104	145
		3420	74.4	254.6	33670	28293	132
BXRC-35E10Ko-D-7X	80	1050	35.4	37.2	6929	6751	186
		1400	36.2	50.6	8917	8298	176
		2100	37.6	79.0	12596	11337	160
		3150	39.5	124.4	17933	15110	144
		4200	41.2	172.9	22602	18456	131

Notes for Table 4:

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

Performance at Commonly Used Drive Currents

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

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRC-35G10K0-B-7X	90	900	49.6	44.7	6480	5915	145
		1200	50.5	60.6	8532	7756	141
		1800	52.0	93.6	12482	11234	133
		2700	54.1	146.1	17993	16046	123
		3600	55.8	201.0	23029	20290	115
BXRC-35G10K0-C-7X	90	855	66.2	56.6	8982	8547	159
		1140	67.3	76.7	11416	10530	149
		1710	69.4	118.7	15811	14230	133
		2565	72.1	185.0	22429	19291	121
		3420	74.4	254.6	28113	23623	110
BXRC-35G10K0-D-7X	90	1050	35.4	37.2	5785	5637	155
		1400	36.2	50.6	7445	6929	147
		2100	37.6	79.0	10517	9466	133
		3150	39.5	124.4	14973	12616	120
		4200	41.2	172.9	18871	15410	109
BXRC-35A10K1-B-73	93	900	49.6	44.7	6271	5724	140
		1200	50.5	60.6	8257	7506	136
		1800	52.0	93.6	12080	10872	129
		2700	54.1	146.1	17413	15529	119
		3600	55.8	201.0	22287	19636	111
BXRC-35A10K1-C-73	93	855	66.2	56.6	8692	8271	154
		1140	67.3	76.7	11048	10191	144
		1710	69.4	118.7	15301	13771	129
		2565	72.1	185.0	21706	18669	117
		3420	74.4	254.6	27207	22861	107
BXRC-35A10K1-D-73	93	1050	35.4	37.2	5598	5455	150
		1400	36.2	50.6	7205	6705	142
		2100	37.6	79.0	10178	9160	129
		3150	39.5	124.4	14490	12209	117
		4200	41.2	172.9	18262	14913	106
BXRC-40E10K0-B-7X	80	900	49.6	44.7	7836	7153	175
		1200	50.5	60.6	10318	9379	170
		1800	52.0	93.6	15095	13585	161
		2700	54.1	146.1	21759	19405	149
		3600	55.8	201.0	27849	24537	139
BXRC-40E10K0-C-7X	80	855	66.2	56.6	10861	10336	192
		1140	67.3	76.7	13805	12734	180
		1710	69.4	118.7	19120	17208	161
		2565	72.1	185.0	27124	23329	147
		3420	74.4	254.6	33997	28567	134
BXRC-40E10K0-D-7X	80	1050	35.4	37.2	6996	6817	188
		1400	36.2	50.6	9004	8379	178
		2100	37.6	79.0	12719	11447	161
		3150	39.5	124.4	18107	15257	146
		4200	41.2	172.9	22821	18635	132

Notes for Table 4:

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

Performance at Commonly Used Drive Currents

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

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRC-40G10Ko-B-7X	90	900	49.6	44.7	6706	6121	150
		1200	50.5	60.6	8830	8026	146
		1800	52.0	93.6	12918	11626	138
		2700	54.1	146.1	18621	16606	127
		3600	55.8	201.0	23832	20998	119
BXRC-40G10Ko-C-7X	90	855	66.2	56.6	9295	8845	164
		1140	67.3	76.7	11814	10897	154
		1710	69.4	118.7	16362	14726	138
		2565	72.1	185.0	23212	19964	125
		3420	74.4	254.6	29094	24447	114
BXRC-40G10Ko-D-7X	90	1050	35.4	37.2	5987	5833	161
		1400	36.2	50.6	7705	7171	152
		2100	37.6	79.0	10884	9796	138
		3150	39.5	124.4	15495	13056	125
		4200	41.2	172.9	19530	15948	113
BXRC-40A10K1-B-73	93	900	49.6	44.7	6708	6123	150
		1200	50.5	60.6	8833	8029	146
		1800	52.0	93.6	12922	11630	138
		2700	54.1	146.1	18627	16612	128
		3600	55.8	201.0	23840	21005	119
BXRC-40A10K1-C-73	93	855	66.2	56.6	9298	8848	164
		1140	67.3	76.7	11818	10901	154
		1710	69.4	118.7	16368	14731	138
		2565	72.1	185.0	23220	19971	126
		3420	74.4	254.6	29104	24456	114
BXRC-40A10K1-D-73	93	1050	35.4	37.2	5989	5835	161
		1400	36.2	50.6	7708	7173	152
		2100	37.6	79.0	10888	9799	138
		3150	39.5	124.4	15501	13061	125
		4200	41.2	172.9	19536	15953	113
BXRC-50C10K1-B-74	70	900	49.6	44.7	8590	7841	192
		1200	50.5	60.6	11310	10281	187
		1800	52.0	93.6	16546	14892	177
		2700	54.1	146.1	23851	21271	163
		3600	55.8	201.0	30527	26896	152
BXRC-50C10K1-C-74	70	855	66.2	56.6	11906	11329	210
		1140	67.3	76.7	15132	13959	197
		1710	69.4	118.7	20958	18863	177
		2565	72.1	185.0	29732	25572	161
		3420	74.4	254.6	37266	31314	146
BXRC-50C10K1-D-74	70	1050	35.4	37.2	7669	7472	206
		1400	36.2	50.6	9869	9185	195
		2100	37.6	79.0	13942	12547	177
		3150	39.5	124.4	19848	16724	160
		4200	41.2	172.9	25015	20427	145

Notes for Table 4:

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

Performance at Commonly Used Drive Currents

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

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRC-50E10K1-B-74	80	900	49.6	44.7	8074	7370	181
		1200	50.5	60.6	10631	9664	176
		1800	52.0	93.6	15553	13998	166
		2700	54.1	146.1	22420	19995	154
		3600	55.8	201.0	28695	25282	143
BXRC-50E10K1-C-74	80	855	66.2	56.6	11191	10650	198
		1140	67.3	76.7	14224	13121	185
		1710	69.4	118.7	19701	17731	166
		2565	72.1	185.0	27948	24038	151
		3420	74.4	254.6	35030	29435	138
BXRC-50E10K1-D-74	80	1050	35.4	37.2	7208	7024	194
		1400	36.2	50.6	9277	8634	183
		2100	37.6	79.0	13105	11795	166
		3150	39.5	124.4	18657	15720	150
		4200	41.2	172.9	23515	19202	136
BXRC-50G10K1-B-74	90	900	49.6	44.7	6872	6273	154
		1200	50.5	60.6	9048	8225	149
		1800	52.0	93.6	13237	11913	141
		2700	54.1	146.1	19081	17017	131
		3600	55.8	201.0	24421	21517	121
BXRC-50G10K1-C-74	90	855	66.2	56.6	9525	9064	168
		1140	67.3	76.7	12106	11167	158
		1710	69.4	118.7	16767	15090	141
		2565	72.1	185.0	23786	20457	129
		3420	74.4	254.6	29813	25051	117
BXRC-50G10K1-D-74	90	1050	35.4	37.2	6135	5978	165
		1400	36.2	50.6	7895	7348	156
		2100	37.6	79.0	11153	10038	141
		3150	39.5	124.4	15878	13379	128
		4200	41.2	172.9	20012	16342	116
BXRC-56G10K1-B-74	90	900	49.6	44.7	7195	6567	161
		1200	50.5	60.6	9473	8611	156
		1800	52.0	93.6	13859	12473	148
		2700	54.1	146.1	19977	17816	137
		3600	55.8	201.0	25569	22528	127
BXRC-56G10K1-C-74	90	855	66.2	56.6	9972	9489	176
		1140	67.3	76.7	12674	11691	165
		1710	69.4	118.7	17554	15799	148
		2565	72.1	185.0	24903	21418	135
		3420	74.4	254.6	31213	26228	123
BXRC-56G10Kx-D-74	90	1050	35.4	37.2	6423	6258	173
		1400	36.2	50.6	8266	7693	163
		2100	37.6	79.0	11677	10509	148
		3150	39.5	124.4	16624	14007	134
		4200	41.2	172.9	20952	17109	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 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)
BXRC-57C10K1-B-74	70	900	49.6	44.7	8288	7566	186
		1200	50.5	60.6	10913	9920	180
		1800	52.0	93.6	15966	14369	171
		2700	54.1	146.1	23014	20524	158
		3600	55.8	201.0	29456	25953	147
BXRC-57C10K1-C-74	70	855	66.2	56.6	11488	10932	203
		1140	67.3	76.7	14601	13469	190
		1710	69.4	118.7	20223	18201	170
		2565	72.1	185.0	28689	24675	155
		3420	74.4	254.6	35959	30215	141
BXRC-57C10K1-D-74	70	1050	35.4	37.2	7400	7210	199
		1400	36.2	50.6	9523	8862	188
		2100	37.6	79.0	13452	12107	170
		3150	39.5	124.4	19152	16137	154
		4200	41.2	172.9	24138	19711	140
BXRC-57E10K1-B-74	80	900	49.6	44.7	8213	7497	184
		1200	50.5	60.6	10814	9830	179
		1800	52.0	93.6	15820	14238	169
		2700	54.1	146.1	22805	20338	156
		3600	55.8	201.0	29188	25717	145
BXRC-57E10K1-C-74	80	855	66.2	56.6	11384	10833	201
		1140	67.3	76.7	14469	13346	189
		1710	69.4	118.7	20039	18035	169
		2565	72.1	185.0	28428	24450	154
		3420	74.4	254.6	35632	29941	140
BXRC-57E10K1-D-74	80	1050	35.4	37.2	7332	7144	197
		1400	36.2	50.6	9436	8782	186
		2100	37.6	79.0	13330	11997	169
		3150	39.5	124.4	18977	15990	153
		4200	41.2	172.9	23918	19531	138
BXRC-65C10K1-B-74	70	900	49.6	44.7	8439	7703	189
		1200	50.5	60.6	11112	10100	183
		1800	52.0	93.6	16256	14630	174
		2700	54.1	146.1	23433	20898	160
		3600	55.8	201.0	29991	26424	149
BXRC-65C10K1-C-74	70	855	66.2	56.6	11697	11131	207
		1140	67.3	76.7	14867	13714	194
		1710	69.4	118.7	20591	18532	174
		2565	72.1	185.0	29210	25123	158
		3420	74.4	254.6	36612	30765	144
BXRC-65C10K1-D-74	70	1050	35.4	37.2	7534	7341	202
		1400	36.2	50.6	9696	9024	191
		2100	37.6	79.0	13697	12327	173
		3150	39.5	124.4	19500	16430	157
		4200	41.2	172.9	24577	20069	142

Notes for Table 4:

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

Performance at Commonly Used Drive Currents

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

Part Number	CRI	Drive Current ¹ (mA)	Typical V_f $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux ² $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux ³ $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRC-65E10K1-B-74	80	900	49.6	44.7	8363	7634	187
		1200	50.5	60.6	11012	10010	182
		1800	52.0	93.6	16111	14500	172
		2700	54.1	146.1	23223	20711	159
		3600	55.8	201.0	29723	26188	148
BXRC-65E10K1-C-74	80	855	66.2	56.6	11593	11031	205
		1140	67.3	76.7	14734	13591	192
		1710	69.4	118.7	20407	18366	172
		2565	72.1	185.0	28950	24899	156
		3420	74.4	254.6	36286	30490	143
BXRC-65E10K1-D-74	80	1050	35.4	37.2	7467	7275	201
		1400	36.2	50.6	9610	8943	190
		2100	37.6	79.0	13575	12217	172
		3150	39.5	124.4	19326	16284	155
		4200	41.2	172.9	24357	19890	141

Notes for Table 4:

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

Electrical Characteristics

Table 5: Electrical Characteristics

Part Number	Drive Current (mA)	Forward Voltage Pulsed, $T_c = 25^\circ\text{C}$ (V) ^{1, 2, 3, 8}			Typical Coefficient of Forward Voltage ⁴ $\Delta V_f / \Delta T_c$ (mV/ $^\circ\text{C}$)	Typical Thermal Resistance Junction to Case ^{5,6} R_{j-c} ($^\circ\text{C}/\text{W}$)	Driver Selection Voltages ⁷ (V)	
		Minimum	Typical	Maximum			V_f Min. Hot $T_c = 105^\circ\text{C}$ (V)	V_f Max. Cold $T_c = -40^\circ\text{C}$ (V)
BXRC-xxx10Kx-B-7x	1800	48.1	52.0	55.9	-24.9	0.06	46.1	57.5
	3600	51.7	55.8	60.0	-24.9	0.07	49.7	61.6
BXRC-xxx10Kx-C-7x	1710	64.2	69.4	74.6	-33.2	0.04	61.5	76.8
	3420	68.8	74.4	80.0	-33.2	0.05	66.2	82.2
BXRC-xxx10Kx-D-7x	2100	34.8	37.6	40.4	-17.4	0.06	33.4	41.6
	4200	38.1	41.2	44.3	-17.4	0.07	36.7	45.4

Notes for Table 5:

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

Eye Safety

Table 6: Eye Safety Risk Group (RG) Classifications

Part Number	Drive Current ⁵ (mA)	CCT ⁵			
		2700K/3000K	4000K ²	5000K ³	6500K ⁴
BXRC-xxx10Kx-B-7x	1800	RG1	RG1	RG1	RG1
	2700	RG1	RG1	RG2	RG2
	3600	RG1	RG1	RG2	RG2
BXRC-xxx10Kx-C-7x	1710	RG1	RG1	RG1	RG2
	2565	RG1	RG1	RG2	RG2
	3420	RG1	RG2	RG2	RG2
BXRC-xxx10Kx-D-7x	2100	RG1	RG1	RG1	RG1
	3150	RG1	RG1	RG1	RG2
	4200	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 _j)	125°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		
	BXRC-xxx10Kx-B-7x	BXRC-xxx10Kx-C-7x	BXRC-xxx10Kx-D-7x
Maximum Drive Current ³	3600mA	3420mA	4200mA
Maximum Peak Pulsed Drive Current ^{4,5}	5140mA	4890mA	6000mA
Maximum Reverse Voltage ⁶	-90V	-120V	-65V

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. Per IEC 62031, LED Modules for General Lighting - Safety Specifications, the maximum allowable current when using the Molex Pico Connector is 3150mA.
5. 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.
6. 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 29B Drive Current vs. Voltage

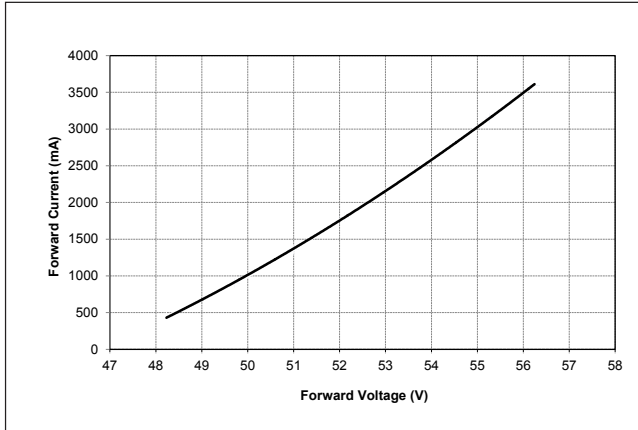


Figure 2: Vero 29C Drive Current vs. Voltage

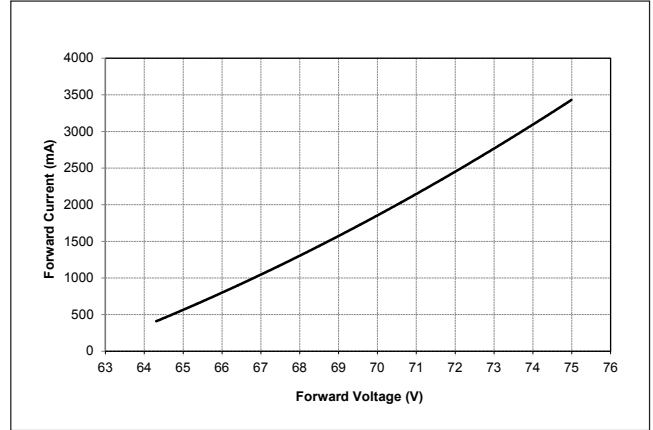


Figure 3: Vero 29D Drive Current vs. Voltage

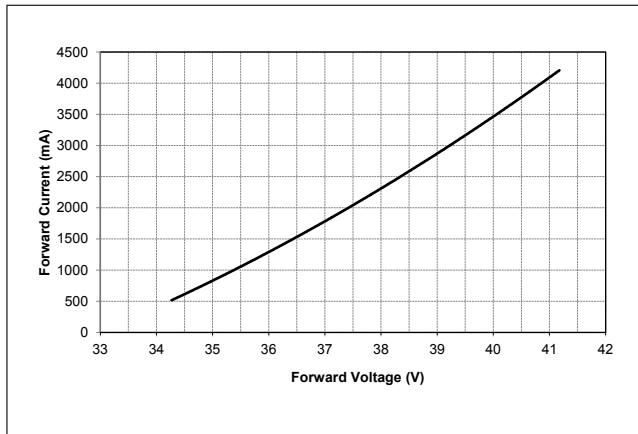


Figure 4: Vero 29B Typical Relative Flux vs. Current

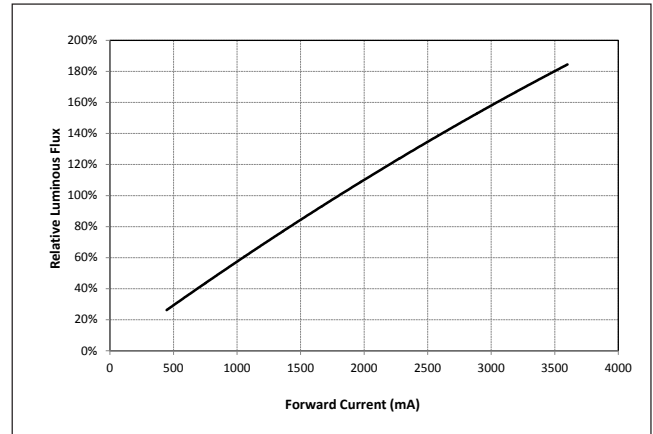


Figure 5: Vero 29C Typical Relative Flux vs. Current

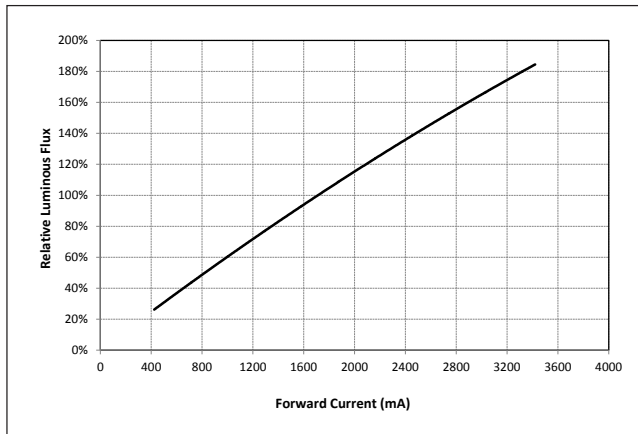
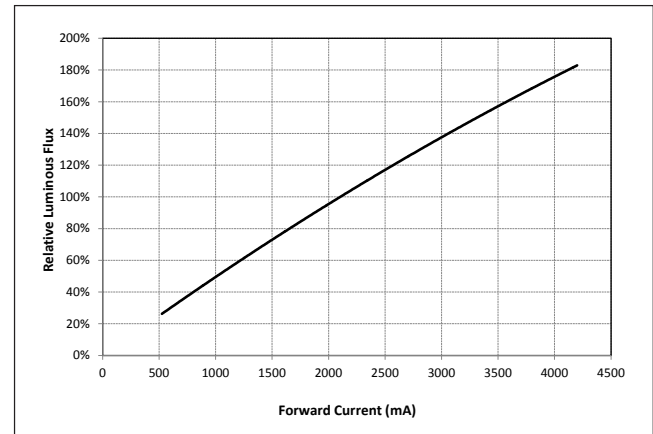


Figure 6: Vero 29D Typical Relative Flux vs. Current



Notes for Figures 1-6:

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

Performance Curves

Figure 7: Typical DC Flux vs. Case Temperature

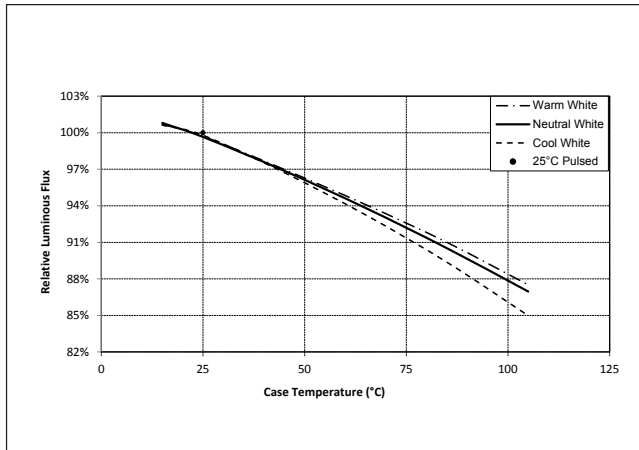


Figure 8: Typical DC ccy Shift vs. Case Temperature

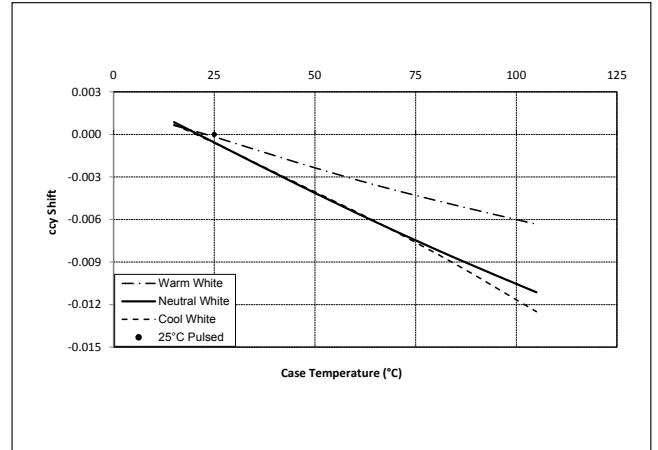


Figure 9: Typical DC ccx Shift vs. Case Temperature

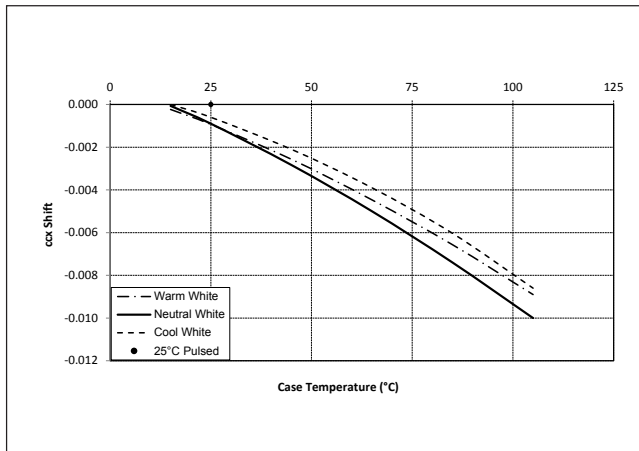
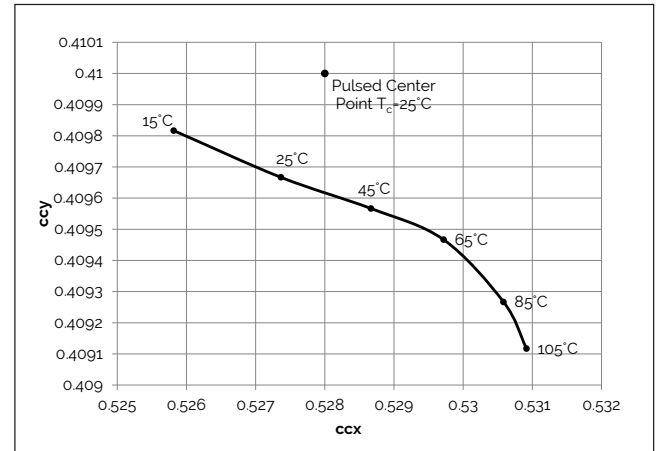


Figure 10: 2000K, 65 CRI Color Shift vs. Case Temperature



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 11: 1750K Color Shift vs. Case Temperature¹

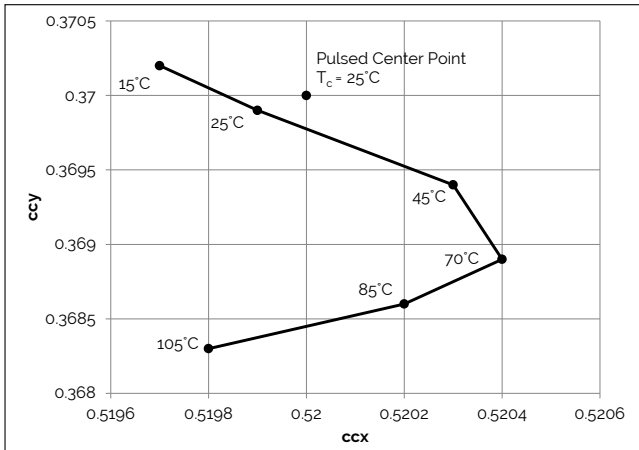


Figure 12: 2500K Color Shift vs. Case Temperature¹

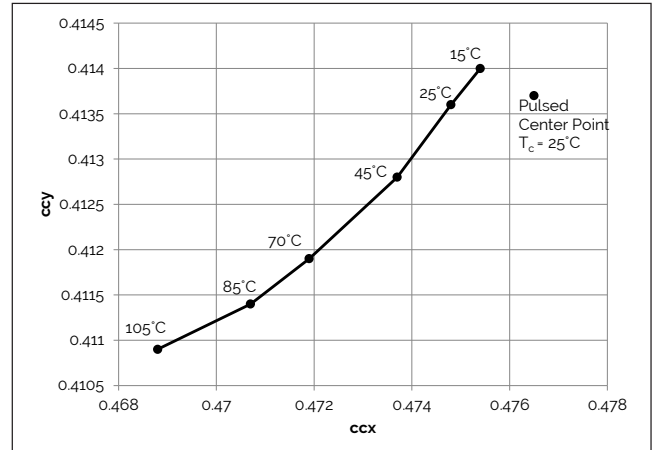


Figure 13: 5600K Color Shift vs. Case Temperature^{1,3}

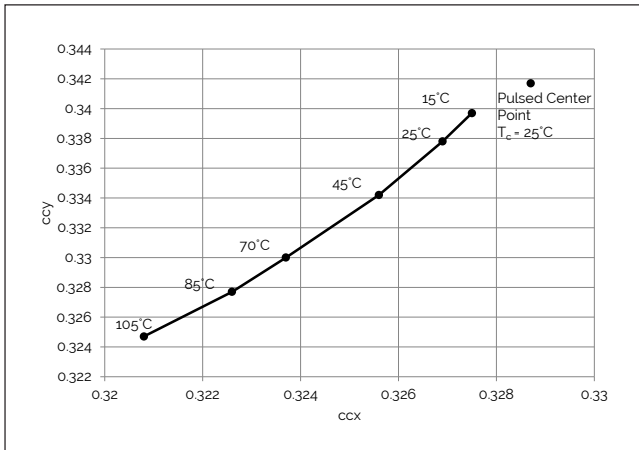


Figure 14: 3000K, Class A Color Shift vs. Case Temperature¹

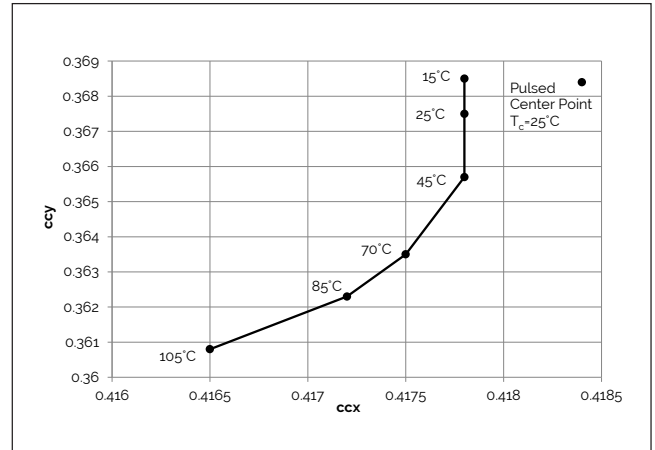


Figure 15: 3500K, Class A Color Shift vs. Case Temperature¹

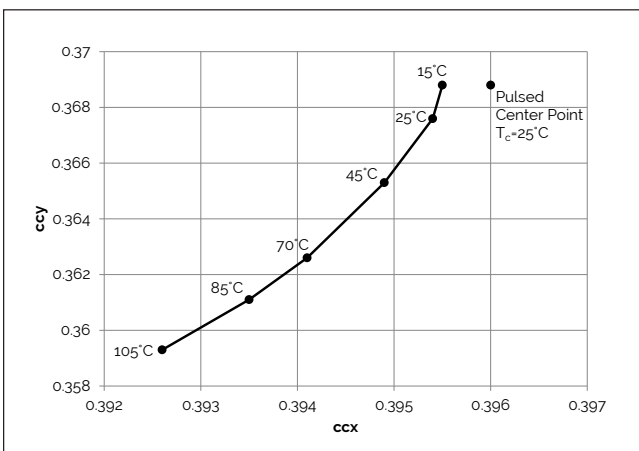
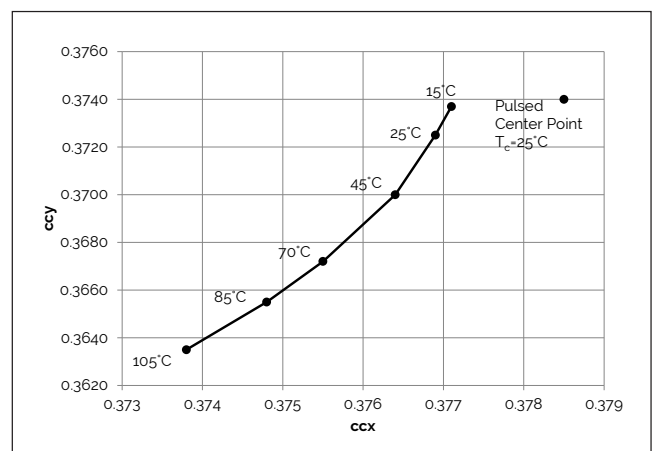


Figure 16: 4000K, Class A Color Shift vs. Case Temperature¹

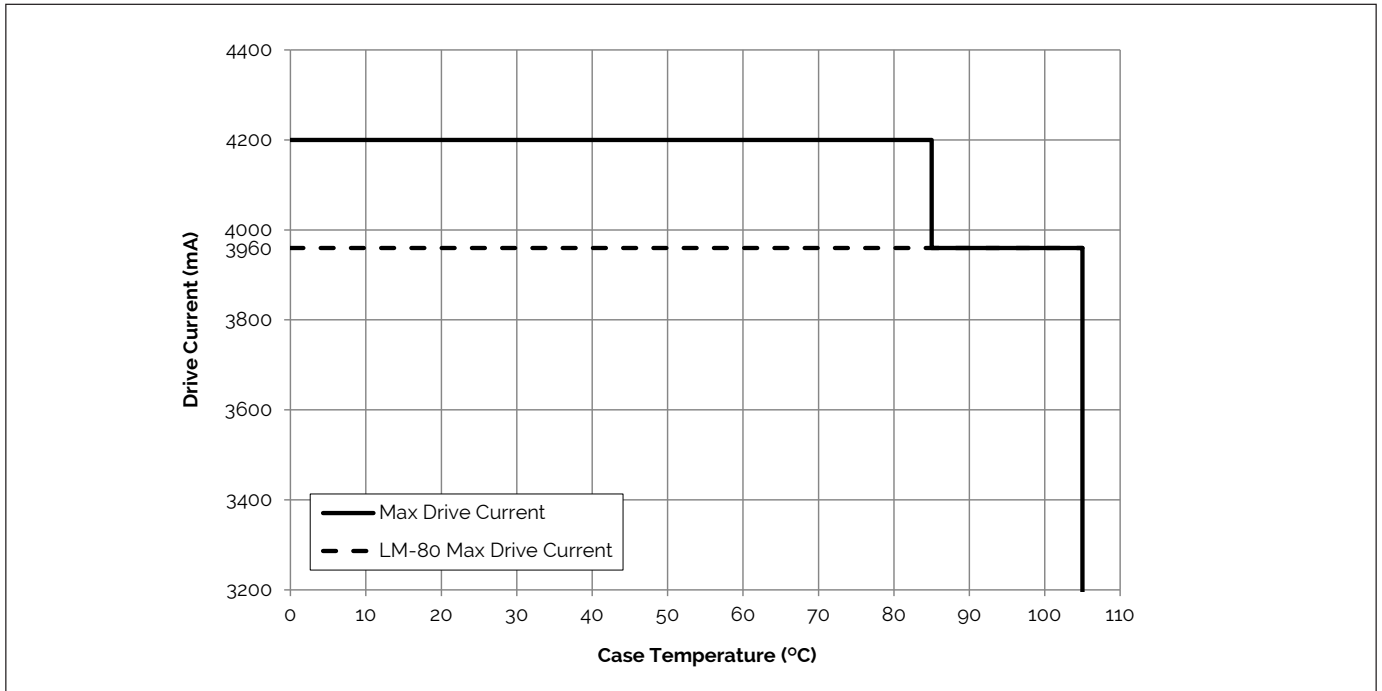


Note for Figures 10-16:

1. Measurements made under DC test conditions at the nominal drive current.
2. Typical color shift is shown with a tolerance of ± 0.002 .
3. Color shift shown for product hot targeted at $T_c = 85^\circ\text{C}$

Performance Curves

Figure 17: Vero 29D Drive Current Derating Curve

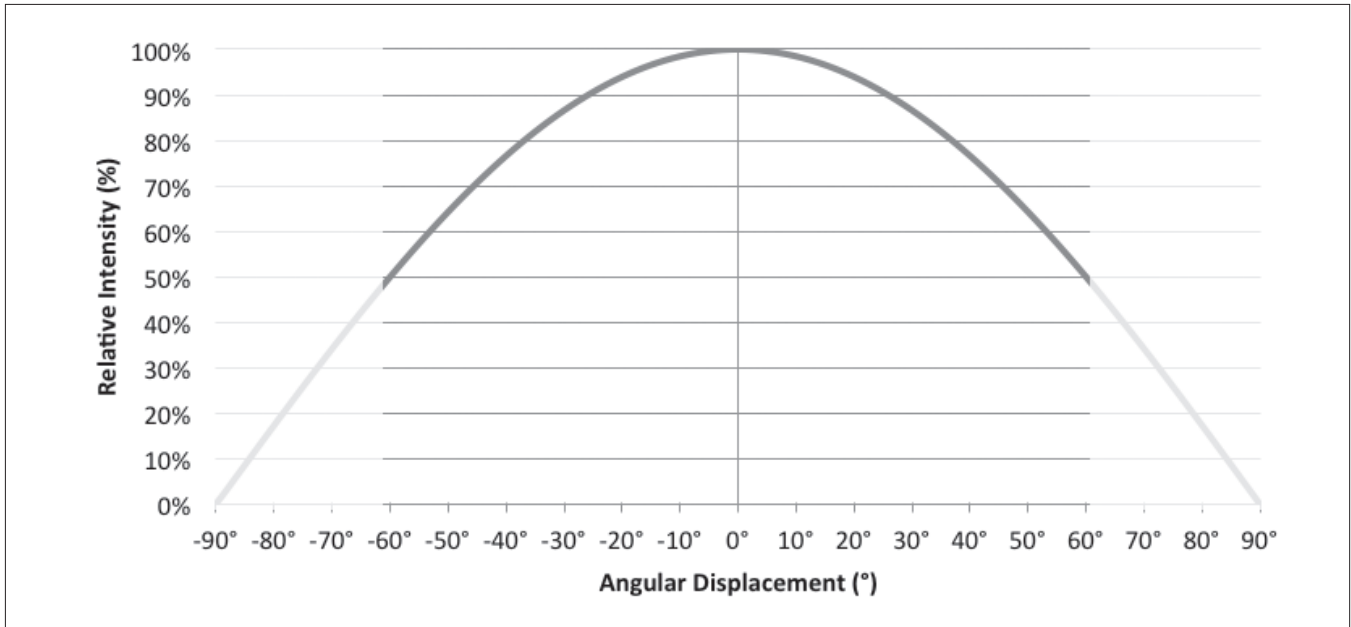


Notes for Figure 17:

1. The maximum allowable drive current for the Vero 29D product is dependent on the operating case temperature. Please refer to the Product Feature Map (page 2) for the location of the T_c Point
2. LM-80 Max Drive Current must not be exceeded in order to meet LM-80 lifetime projections.
3. Lumen maintenance (L70) and lifetime predictions are valid for drive current and case temperature conditions used for LM-80 testing as included in the applicable LM-80 test report for these products. Contact your Bridgelux sales representative for LM-80 report.

Typical Radiation Pattern

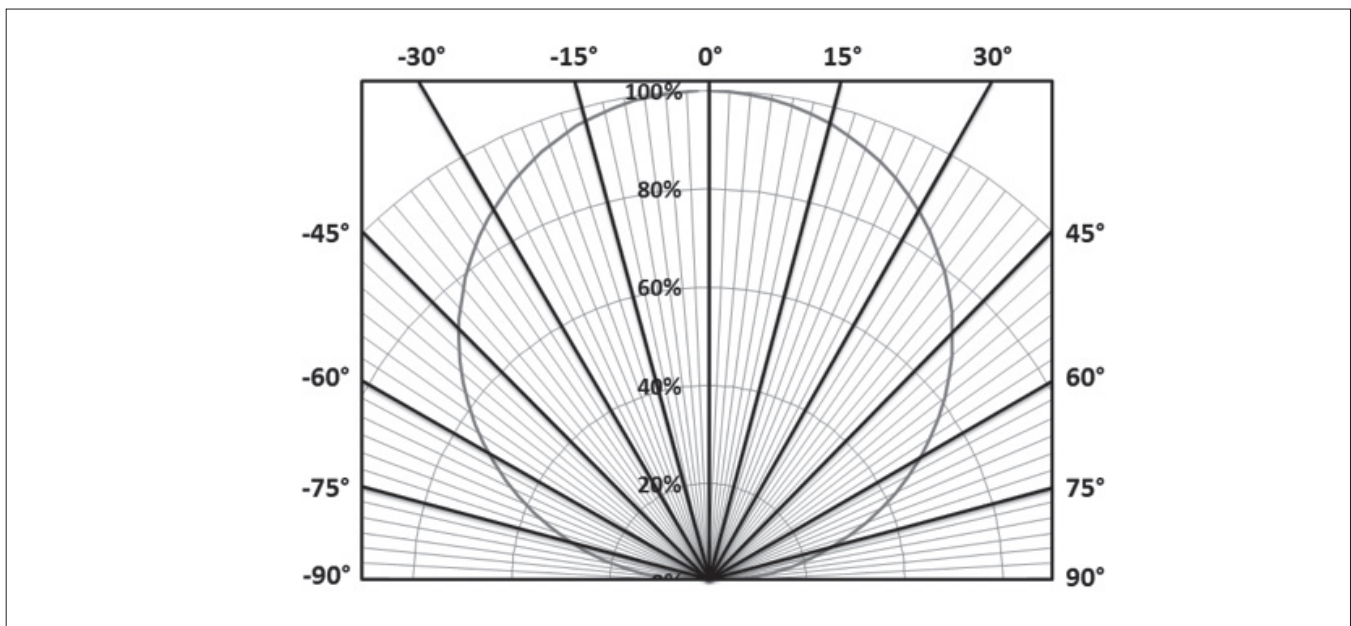
Figure 18: Typical Spatial Radiation Pattern



Note for Figure 18:

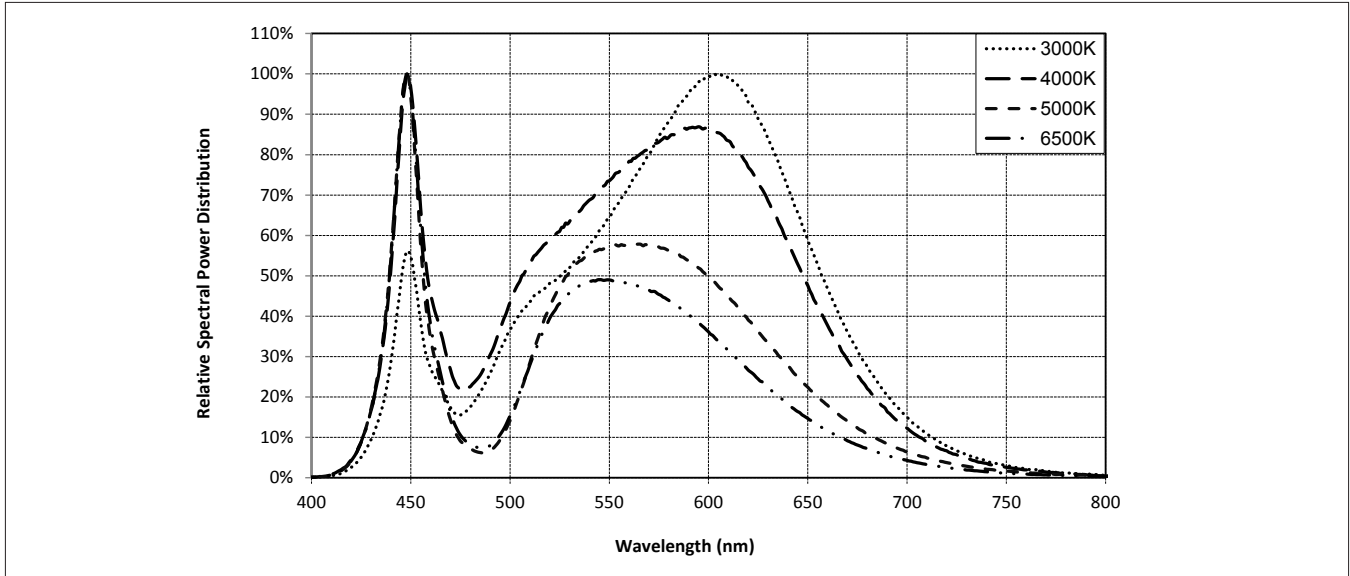
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 19: Typical Polar Radiation Pattern



Typical Color Spectrum

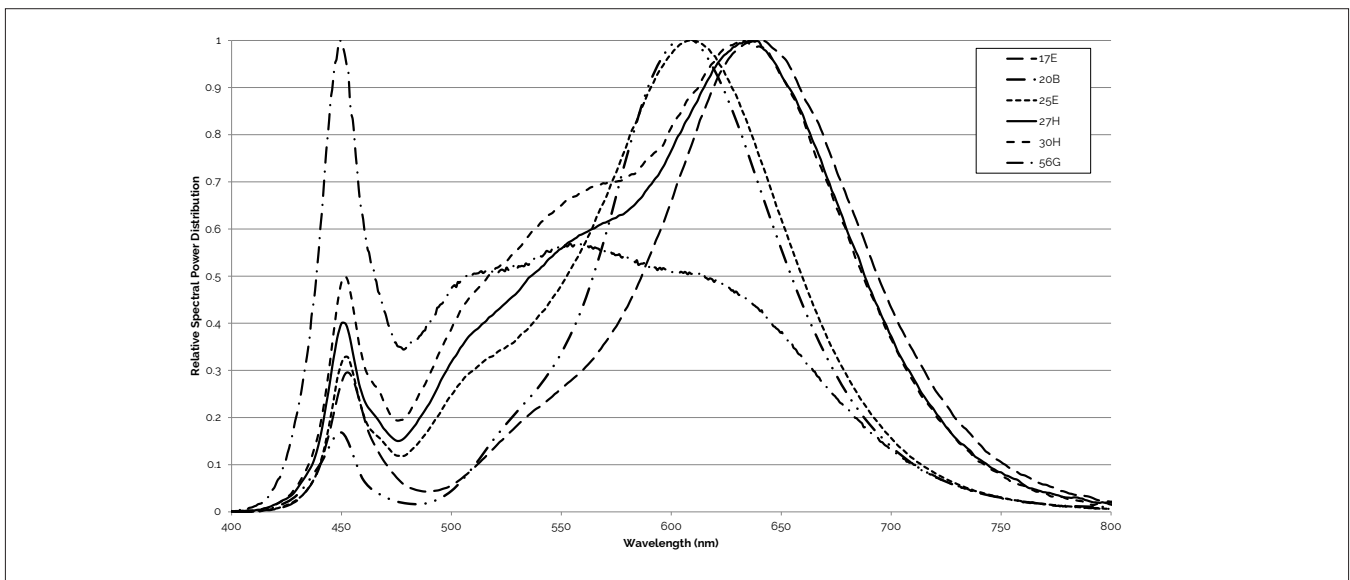
Figure 20: Typical Color Spectrum



Note for Figure 20:

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

Figure 21: Typical Color Spectrum for Vero 29 with Décor Series

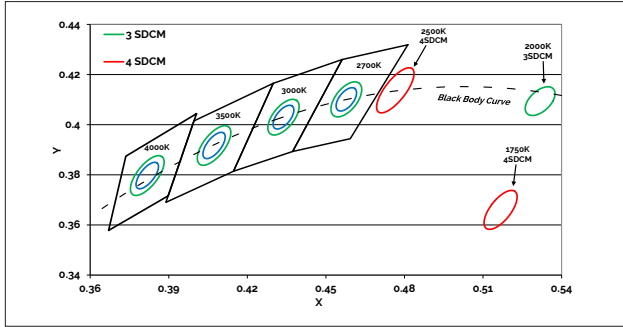


Note for Figure 21:

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

Color Binning Information

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



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

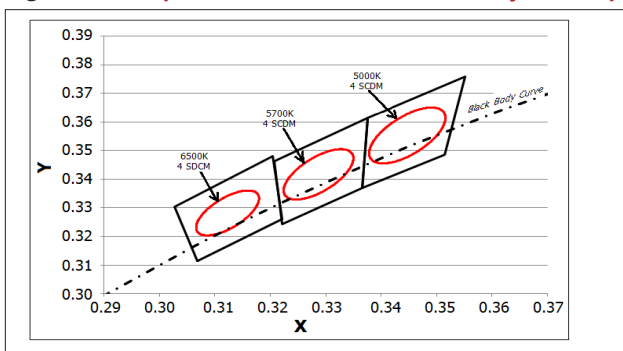
Table 8: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

Bin Code	1750K	2000K	2500K	2700K	3000K ¹	3500K ¹	4000K ¹
ANSI Bin (for reference only)	-	-	-	(2580K - 2870K)	(2870K - 3220K)	(3220K - 3710K)	(3710K - 4260K)
73 (3 SDCM)	-	-	-	(2651K - 2794K)	(2968K - 3136K)	(3369K - 3586K)	(3851K - 4130K)
72 (2 SDCM)	-	-	-	(2674K - 2769K)	(2995K - 3107K)	(3404K - 3548K)	(3895K - 4081K)
Center Point (x,y)	(0.5167, 0.336)	(0.5280, 0.4100)	(0.4765, 0.4137)	(0.4578, 0.4101)	(0.4338, 0.403)	(0.4073, 0.3917)	(0.3818, 0.3797)

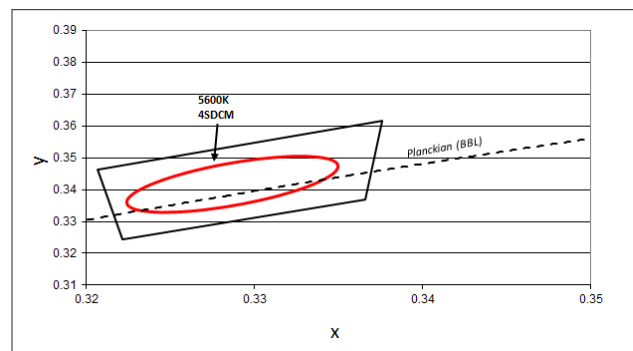
Note for Table 8:

- Color Binning information excludes Decor Series Class A products. Please contact your Bridgelux Sales Representative for more information.

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



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



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

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

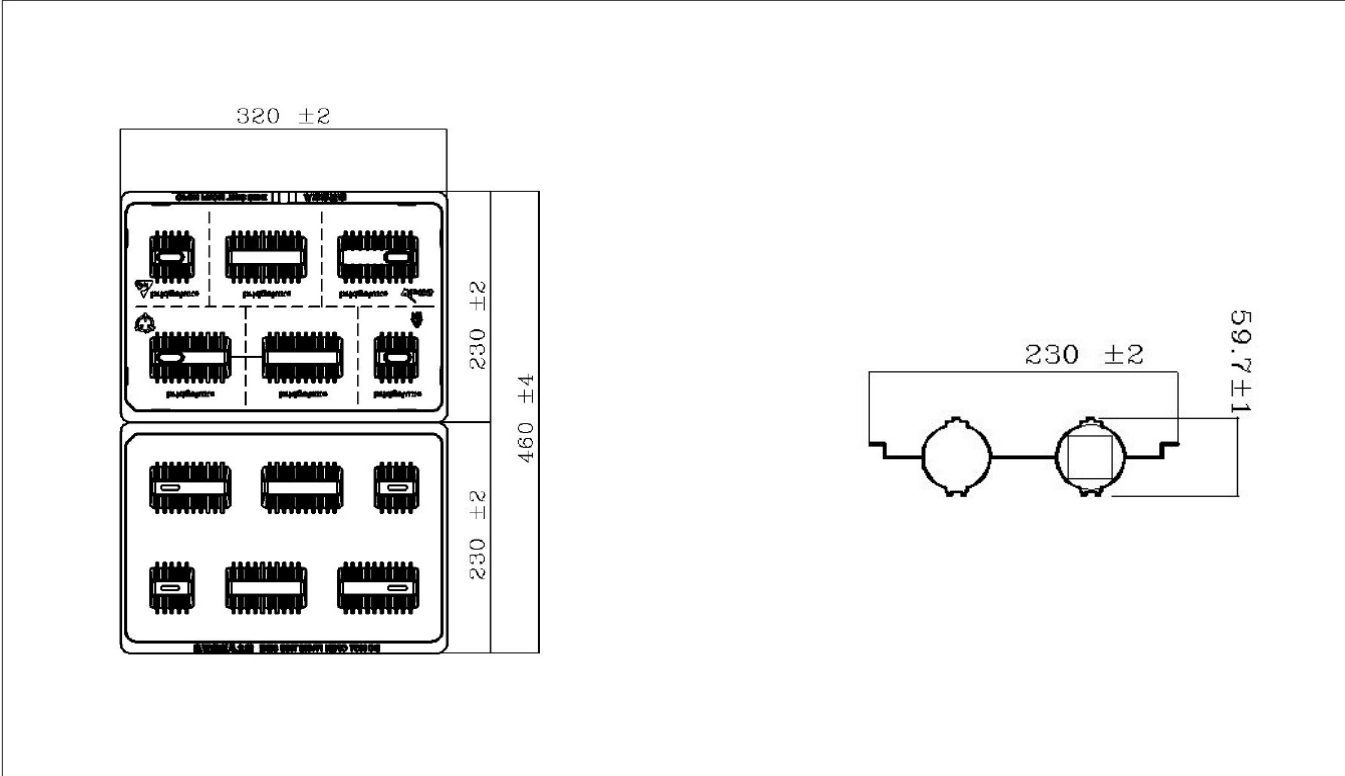
Bin Code	5000K	5600K ¹	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5310K - 6020K)	(5312K - 6022K)	(6022K - 7042K)
74 (4 SDCM)	(4801K - 5282K)	(5475K - 5830K)	(5829K - 5481K)	(6270K - 6765K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3293, 0.3423)	(0.3287, 0.3417)	(0.3123, 0.3282)

Note for Table 9:

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

Packaging and Labeling

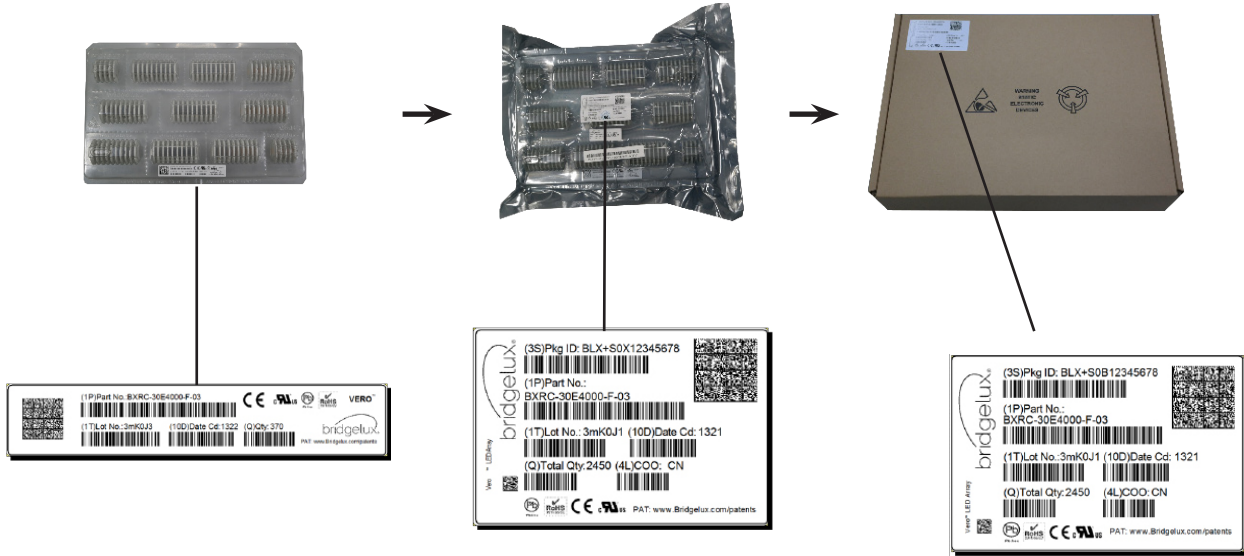
Figure 25: Drawing for Vero 29 Packaging Tray



- Notes for Figure 25:
- 1. Dimensions are in millimeters.
 - 2. Drawings are not to scale.

Packaging and Labeling

Figure 26: Vero Series Packaging and Labeling



Notes for Figure 26:

1. Each tray holds 50 COBs.
2. Each tray is vacuum sealed in an anti-static bag and placed in its own box.
3. Each tray, bag and box is to be labeled as shown above.

Figure 27: Gen. 7 Product Labeling

Bridgelux COB arrays have laser markings on the back side of the substrate to help with product identification. In addition to the product identification markings, Bridgelux COB arrays also contain markings for internal Bridgelux manufacturing use only. The image below shows which markings are for customer use and which ones are for Bridgelux internal use only. The Bridgelux internal manufacturing markings are subject to change without notice, however these will not impact the form, function or performance of the COB array.

Customer Use- 2D Barcode
Scannable barcode provides product part number and other Bridgelux internal production information.

Customer Use- Product part number — **30E10K0C 73** **2F** — Customer Use- V_i Bin Code included to enable greater luminaire design flexibility. Refer to ANg2 for bin code definitions.

Design Resources

Application Notes

Bridgelux has developed a comprehensive set of application notes and design resources to assist customers in successfully designing with the Vero product family of LED array products. For all available application notes visit www.bridgelux.com.

Optical Source Models

Optical source models and ray set files are available for all Bridgelux products. For a list of available formats, visit www.bridgelux.com.

3D CAD Models

Three dimensional CAD models depicting the product outline of all Bridgelux Vero LED arrays are available in both IGS and STEP formats. Please contact your Bridgelux sales representative for assistance.

LM80

LM80 testing has been completed and the LM80 report is now available. Please contact your Bridgelux sales representative for LM-80 report.

Precautions

CAUTION: CHEMICAL EXPOSURE HAZARD

Exposure to some chemicals commonly used in luminaire manufacturing and assembly can cause damage to the LED array. Please consult Bridgelux Application Note AN31 for additional information.

CAUTION: RISK OF BURN

Do not touch the Vero LED array during operation. Allow the array to cool for a sufficient period of time before handling. The Vero 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). Optical devices may be mounted on the top surface of the plastic housing of the Vero LED array. Use the mechanical features of the LED array housing, edges and/or mounting holes 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: We Build Light That Transforms

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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