



Bridgelux® Gen 7 Vero® 18 Array Series

Product Data Sheet DSg2



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™ Ultra products provide a high CRI of 97 and typical R_g value of 98, 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 a good replacement for halogen lamps.

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

Décor Series™ 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.

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 155 lm/W typical for 3000K 80 CRI
- Lumen output performance ranges from 2,044 to 13,232 lumens
- Broad range of CCT options from 1750K to 6500K
- CRI options include minimum 65, 70, 80, 90, 95 and Class A
- 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



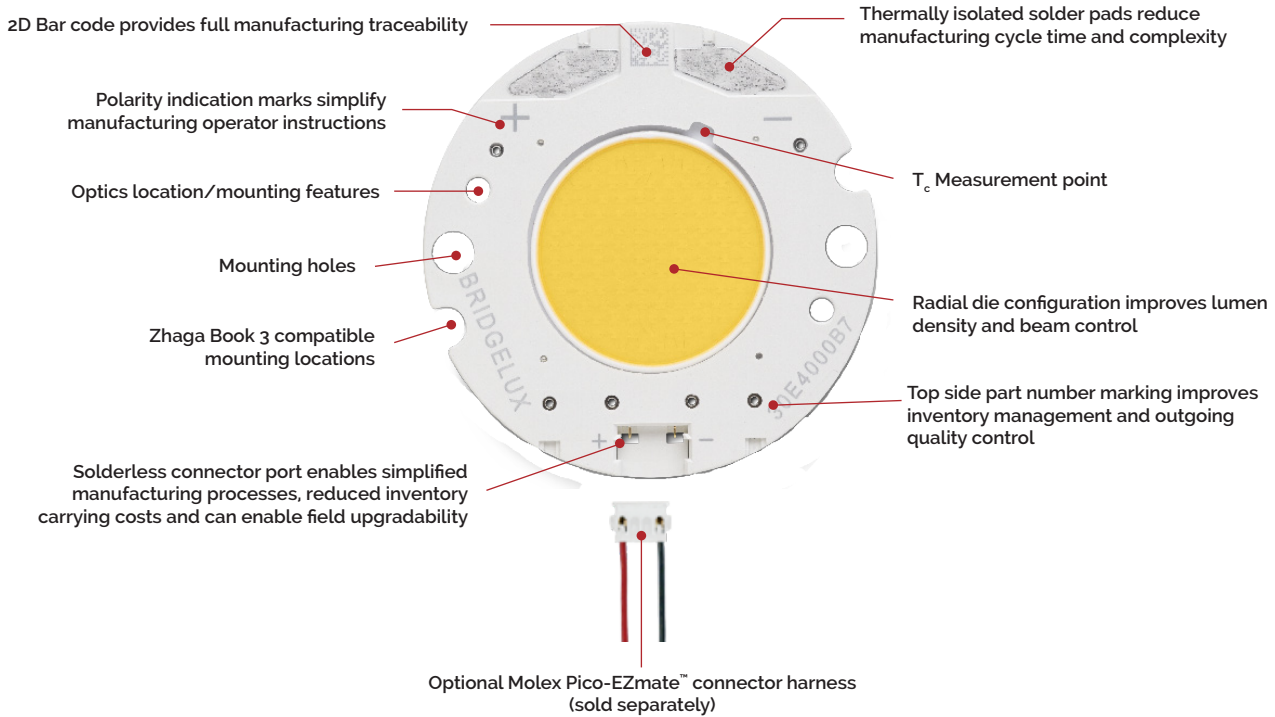
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Product Feature Map

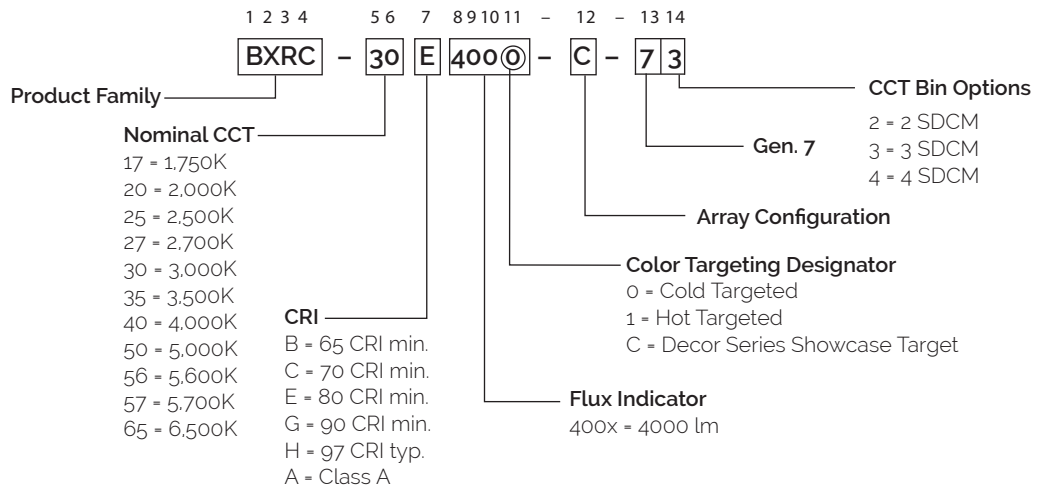
Vero 18 is the second largest form factor in the Vero family of next generation solid state light sources. In addition to delivering the performance and light quality required for many lighting applications, Vero incorporates

several features to simplify the design integration and manufacturing process, accelerate time to market and reduce system costs. Please visit www.bridgelux.com 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 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-17E4000-B-74	1750	80	900	2684	2416	35.0	31.5	85
BXRC-17E4000-C-74	1750	80	1170	3490	3141	35.0	41.0	85
BXRC-17E4000-D-74	1750	80	1050	2610	2349	29.0	30.5	86
BXRC-20B4001-C-73	2000	65	1170	5945	5351	35.0	41.0	145
BXRC-20B4001-D-73	2000	65	1050	4423	3981	29.0	30.5	145
BXRC-25E4000-B-74	2500	80	900	4338	3904	35.0	31.5	138
BXRC-25E4000-C-74	2500	80	1170	5641	5077	35.0	41.0	138
BXRC-25E4000-D-74	2500	80	1050	4218	3796	29.0	30.5	139
BXRC-27E4000-B-7X	2700	80	900	4644	4180	35.0	31.5	147
BXRC-27E4000-C-7X	2700	80	1170	6038	5434	35.0	41.0	147
BXRC-27E4000-D-7X	2700	80	1050	4515	4064	29.0	30.5	148
BXRC-27G4000-B-7X	2700	90	900	3870	3483	35.0	31.5	123
BXRC-27G4000-C-7X	2700	90	1170	5032	4529	35.0	41.0	123
BXRC-27G4000-D-7X	2700	90	1050	3763	3387	29.0	30.5	124
BXRC-27H4000-B-7X	2700	97	900	3396	3056	35.0	31.5	108
BXRC-27H4000-C-7X	2700	97	1170	4416	3974	35.0	41.0	108
BXRC-27H4000-D-7X	2700	97	1050	3302	2971	29.0	30.5	108
BXRC-30E4000-B-7X	3000	80	900	4838	4354	35.0	31.5	154
BXRC-30E4000-C-7X	3000	80	1170	6347	5661	35.0	41.0	155
BXRC-30E4000-D-7X	3000	80	1050	4720	4233	29.0	30.5	155
BXRC-30G4000-B-7X	3000	90	900	4015	3614	35.0	31.5	127
BXRC-30G4000-C-7X	3000	90	1170	5221	4699	35.0	41.0	127
BXRC-30G4000-D-7X	3000	90	1050	3904	3513	29.0	30.5	128
BXRC-30G400C-B-73	3000	90	900	3780	3402	35.0	31.5	120
BXRC-30G400C-D-73	3000	90	1050	3654	3289	29.0	30.5	120
BXRC-30H4000-B-7X	3000	97	900	3628	3265	35.0	31.5	115
BXRC-30H4000-C-7X	3000	97	1170	4718	4245	35.0	41.0	115
BXRC-30H4000-D-7X	3000	97	1050	3527	3175	29.0	30.5	116
BXRC-30A4001-B-73 ^{8,9}	3000	93	900	3745	3371	35.0	31.5	119
BXRC-30A4001-C-73 ^{8,9}	3000	93	1170	4870	4383	35.0	41.0	119
BXRC-30A4001-D-73 ^{8,9}	3000	93	1050	3641	3277	29.0	30.5	120
BXRC-35E4000-B-7X	3500	80	900	4983	4484	35.0	31.5	158
BXRC-35E4000-C-7X	3500	80	1170	6479	5831	35.0	41.0	158
BXRC-35E4000-D-7X	3500	80	1050	4845	4360	29.0	30.5	159

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_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.
- 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.

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-35G4000-B-7X	3500	90	900	4160	3744	35.0	31.5	132
BXRC-35G4000-C-7X	3500	90	1170	5409	4868	35.0	41.0	132
BXRC-35G4000-D-7X	3500	90	1050	4045	3640	29.0	30.5	133
BXRC-35A4001-B-73 ^{8,9}	3500	93	900	4026	3623	35.0	31.5	128
BXRC-35A4001-C-73 ^{8,9}	3500	93	1170	5235	4711	35.0	41.0	128
BXRC-35A4001-D-73 ^{8,9}	3500	93	1050	3915	3523	29.0	30.5	129
BXRC-40E4000-B-7X	4000	80	900	5031	4528	35.0	31.5	160
BXRC-40E4000-C-7X	4000	80	1170	6541	5887	35.0	41.0	160
BXRC-40E4000-D-7X	4000	80	1050	4892	4402	29.0	30.5	161
BXRC-40G4000-B-7X	4000	90	900	4305	3875	35.0	31.5	137
BXRC-40G4000-C-7X	4000	90	1170	5598	5038	35.0	41.0	137
BXRC-40G4000-D-7X	4000	90	1050	4186	3767	29.0	30.5	137
BXRC-40A4001-B-73 ^{8,9}	4000	93	900	4307	3876	35.0	31.5	137
BXRC-40A4001-C-73 ^{8,9}	4000	93	1170	5600	5040	35.0	41.0	137
BXRC-40A4001-D-73 ^{8,9}	4000	93	1050	4188	3769	29.0	30.5	138
BXRC-50C4001-B-74	5000	70	900	5515	4963	35.0	31.5	175
BXRC-50C4001-C-74	5000	70	1170	7170	6453	35.0	41.0	175
BXRC-50C4001-D-74	5000	70	1050	5362	4826	29.0	30.5	176
BXRC-50E4001-B-74	5000	80	900	5184	4666	35.0	31.5	165
BXRC-50E4001-C-74	5000	80	1170	6740	6066	35.0	41.0	165
BXRC-50E4001-D-74	5000	80	1050	5040	4536	29.0	30.5	166
BXRC-50G4001-B-74	5000	90	900	4412	3971	35.0	31.5	140
BXRC-50G4001-C-74	5000	90	1170	5736	5163	35.0	41.0	140
BXRC-50G4001-D-74	5000	90	1050	4290	3861	29.0	30.5	141
BXRC-56G4001-B-74	5600	90	900	4619	4157	35.0	31.5	147
BXRC-56G4001-C-74	5600	90	1170	6006	5405	35.0	41.0	147
BXRC-56G400x-D-74	5600	90	1050	4491	4042	29.0	30.5	147
BXRC-57C4001-B-74	5700	70	900	5321	4789	35.0	31.5	169
BXRC-57C4001-C-74	5700	70	1170	6919	6227	35.0	41.0	169
BXRC-57C4001-D-74	5700	70	1050	5174	4656	29.0	30.5	170
BXRC-57E4001-B-74	5700	80	900	5273	4746	35.0	31.5	167
BXRC-57E4001-C-74	5700	80	1170	6856	6170	35.0	41.0	167
BXRC-57E4001-D-74	5700	80	1050	5127	4614	29.0	30.5	168
BXRC-65C4001-B-74	6500	70	900	5418	4876	35.0	31.5	172
BXRC-65C4001-C-74	6500	70	1170	7045	6340	35.0	41.0	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 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 values for 90 CRI products is 50, the typical Rg values for 97 CRI products is 98.
- 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.

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-65C4001-D-74	6500	70	1050	5268	4741	29.0	30.5	173
BXRC-65E4001-B-74	6500	80	900	5370	4833	35.0	31.5	170
BXRC-65E4001-C-74	6500	80	1170	6982	6284	35.0	41.0	170
BXRC-65E4001-D-74	6500	80	1050	5221	4699	29.0	30.5	171

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 values for 90 CRI products is 50, the typical Rg values for 97 CRI products is 98.
- 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.

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-30A4001-B-73	3000	80	93	900	3483	3135	34.3	30.9	113
BXRC-30A4001-C-73	3000	80	93	1170	4529	4076	34.3	40.2	113
BXRC-30A4001-D-73	3000	80	93	1050	3386	3048	28.5	29.9	113
BXRC-35A4001-B-73	3500	80	93	900	3744	3369	34.3	30.9	121
BXRC-35A4001-C-73	3500	80	93	1170	4869	4381	34.3	40.2	121
BXRC-35A4001-D-73	3500	80	93	1050	3641	3276	28.5	29.9	122
BXRC-40A4001-B-73	4000	80	93	900	4006	3605	34.3	30.9	130
BXRC-40A4001-C-73	4000	80	93	1170	5208	4687	34.3	40.2	130
BXRC-40A4001-D-73	4000	80	93	1050	3895	3505	28.5	29.9	130

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-17E4000-B-74	1750	80	900	2416	2174	34.1	30.7	71
BXRC-17E4000-C-74	1750	80	1170	3141	2827	34.1	39.9	71
BXRC-17E4000-D-74	1750	80	1050	2349	2114	28.1	29.5	72
BXRC-20B4001-C-73	2000	65	1170	5351	4815	34.1	39.9	121
BXRC-20B4001-D-73	2000	65	1050	3981	3583	28.1	29.5	121
BXRC-25E4000-B-74	2500	80	900	3904	3514	34.1	30.7	114
BXRC-25E4000-C-74	2500	80	1170	5077	4569	34.1	39.9	115
BXRC-25E4000-D-74	2500	80	1050	3796	3416	28.1	29.5	116
BXRC-27E4000-B-7X	2700	80	900	4180	3762	34.1	30.7	123
BXRC-27E4000-C-7X	2700	80	1170	5434	4891	34.1	39.9	123
BXRC-27E4000-D-7X	2700	80	1050	4064	3658	28.3	29.7	123
BXRC-27G4000-B-7X	2700	90	900	3483	3135	34.1	30.7	102
BXRC-27G4000-C-7X	2700	90	1170	4529	4076	34.1	39.9	102
BXRC-27G4000-D-7X	2700	90	1050	3387	3048	28.3	29.7	103
BXRC-27H4000-B-7X	2700	97	900	3057	2750	34.1	30.7	90
BXRC-27H4000-C-7X	2700	97	1170	3974	3577	34.1	39.9	90
BXRC-27H4000-D-7X	2700	97	1050	2971	2674	28.3	29.7	90
BXRC-30E4000-B-7X	3000	80	900	4354	3919	34.1	30.7	128
BXRC-30E4000-C-7X	3000	80	1170	5713	5095	34.1	39.9	128
BXRC-30E4000-D-7X	3000	80	1050	4248	3810	28.3	29.7	128
BXRC-30G4000-B-7X	3000	90	900	3614	3253	34.1	30.7	106
BXRC-30G4000-C-7X	3000	90	1170	4699	4229	34.1	39.9	106
BXRC-30G4000-D-7X	3000	90	1050	3513	3162	28.3	29.7	107
BXRC-30G400C-B-73	3000	90	900	3402	3062	34.1	30.7	100
BXRC-30G400C-D-73	3000	90	1050	3289	2960	28.3	29.7	100
BXRC-30H4000-B-7X	3000	97	900	3265	2939	34.1	30.7	96
BXRC-30H4000-C-7X	3000	97	1170	4246	3821	34.1	39.9	96
BXRC-30H4000-D-7X	3000	97	1050	3175	2858	28.3	29.7	96
BXRC-30A4001-B-73 ^{7,8}	3000	93	900	3371	3034	34.1	30.7	99
BXRC-30A4001-C-73 ^{7,8}	3000	93	1170	4383	3945	34.1	39.9	99
BXRC-30A4001-D-73 ^{7,8}	3000	93	1050	3277	2949	28.3	29.7	99
BXRC-35E4000-B-7X	3500	80	900	4484	4036	34.1	30.7	131
BXRC-35E4000-C-7X	3500	80	1170	5831	5248	34.1	39.9	132
BXRC-35E4000-D-7X	3500	80	1050	4360	3924	28.3	29.7	132
BXRC-35G4000-B-7X	3500	90	900	3744	3370	34.1	30.7	110

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 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 values for 90 CRI products is 50, the typical Rg 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.

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-35G4000-C-7X	3500	90	1170	4868	4381	34.1	39.9	110
BXRC-35G4000-D-7X	3500	90	1050	3640	3276	28.3	29.7	110
BXRC-35A4001-B-73 ^{7,8}	3500	93	900	3623	3261	34.1	30.7	106
BXRC-35A4001-C-73 ^{7,8}	3500	93	1170	4712	4240	34.1	39.9	106
BXRC-35A4001-D-73 ^{7,8}	3500	93	1050	3524	3171	28.3	29.7	107
BXRC-40E4000-B-7X	4000	80	900	4528	4075	34.1	30.7	133
BXRC-40E4000-C-7X	4000	80	1170	5887	5298	34.1	39.9	133
BXRC-40E4000-D-7X	4000	80	1050	4402	3962	28.3	29.7	133
BXRC-40G4000-B-7X	4000	90	900	3875	3488	34.1	30.7	114
BXRC-40G4000-C-7X	4000	90	1170	5038	4534	34.1	39.9	114
BXRC-40G4000-D-7X	4000	90	1050	3767	3390	28.3	29.7	114
BXRC-40A4001-B-73 ^{7,8}	4000	93	900	3876	3488	34.1	30.7	114
BXRC-40A4001-C-73 ^{7,8}	4000	93	1170	5040	4536	34.1	39.9	114
BXRC-40A4001-D-73 ^{7,8}	4000	93	1050	3769	3392	28.3	29.7	114
BXRC-50C4001-B-74	5000	70	900	4963	4467	34.1	30.7	146
BXRC-50C4001-C-74	5000	70	1170	6453	5808	34.1	39.9	146
BXRC-50C4001-D-74	5000	70	1050	4826	4343	28.3	29.7	146
BXRC-50E4001-B-74	5000	80	900	4666	4199	34.1	30.7	137
BXRC-50E4001-C-74	5000	80	1170	6066	5459	34.1	39.9	137
BXRC-50E4001-D-74	5000	80	1050	4536	4082	28.3	29.7	138
BXRC-50G4001-B-74	5000	90	900	3971	3574	34.1	30.7	116
BXRC-50G4001-C-74	5000	90	1170	5163	4647	34.1	39.9	116
BXRC-50G4001-D-74	5000	90	1050	3861	3475	28.3	29.7	117
BXRC-56G4001-B-74	5600	90	900	4157	3741	34.1	30.7	122
BXRC-56G4001-C-74	5600	90	1170	5405	4865	34.1	39.9	122
BXRC-56G400x-D-74	5600	90	1050	4042	3638	28.3	29.7	123
BXRC-57C4001-B-74	5700	70	900	4789	4310	34.1	30.7	140
BXRC-57C4001-C-74	5700	70	1170	6227	5604	34.1	39.9	140
BXRC-57C4001-D-74	5700	70	1050	4656	4190	28.3	29.7	141
BXRC-57E4001-B-74	5700	80	900	4746	4271	34.1	30.7	139
BXRC-57E4001-C-74	5700	80	1170	6170	5553	34.1	39.9	139
BXRC-57E4001-D-74	5700	80	1050	4614	4153	28.3	29.7	140
BXRC-65C4001-B-74	6500	70	900	4876	4388	34.1	30.7	143
BXRC-65C4001-C-74	6500	70	1170	6340	5706	34.1	39.9	143

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 Ultra and Decor Series Class A products. CRI values are minimums for all other products. Minimum R9 value for 80 CRI products is 0, the minimum R9 values for 90 CRI products is 50, the typical R9 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.

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-65C4001-D-74	6500	70	1050	4741	4267	28.3	29.7	144
BXRC-65E4001-B-74	6500	80	900	4833	4350	34.1	30.7	142
BXRC-65E4001-C-74	6500	80	1170	6284	5656	34.1	39.9	142
BXRC-65E4001-D-74	6500	80	1050	4699	4229	28.3	29.7	142

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 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 values for 90 CRI products is 50, the typical Rg 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-17E4000-B-7X	80	450	33.3	15.0	1441	1295	96
		600	33.9	20.4	1890	1695	93
		900	35.0	31.5	2684	2416	85
		1350	36.7	49.5	3992	3517	81
		1800	38.0	68.4	5137	4465	75
BXRC-17E4000-C-7X	80	585	33.4	19.5	1874	1684	96
		780	34.0	26.5	2458	2205	93
		1170	35.0	41.0	3490	3141	85
		1755	36.8	64.5	5191	4573	80
		2340	38.1	89.3	6680	5806	75
BXRC-17E4000-D-7X	80	525	27.7	14.6	1401	1259	96
		700	28.2	19.8	1838	1649	93
		1050	29.0	30.5	2610	2349	86
		1575	30.4	47.9	3882	3420	81
		2100	31.5	66.2	4995	4342	75
BXRC-20B4001-C-73	65	585	33.4	19.5	3192	2868	164
		780	34.0	26.5	4187	3755	158
		1170	35.0	41.0	5945	5351	145
		1755	36.8	64.5	8842	7791	137
		2340	38.1	89.3	11378	9891	127
BXRC-20B4001-D-73	65	525	27.7	14.6	2375	2134	163
		700	28.2	19.8	3115	2794	158
		1050	29.0	30.5	4423	3981	145
		1575	30.4	47.9	6578	5796	137
		2100	31.5	66.2	8465	7359	128
BXRC-25E4000-B-74	80	450	33.3	15.0	2329	2093	155
		600	33.9	20.4	3055	2740	150
		900	35.0	31.5	4338	3904	138
		1350	36.7	49.5	6452	5685	130
		1800	38.0	68.4	8302	7217	121
BXRC-25E4000-C-74	80	585	33.4	19.5	3029	2722	155
		780	34.0	26.5	3973	3563	150
		1170	35.0	41.0	5641	5102	138
		1755	36.8	64.5	8390	7392	130
		2340	38.1	89.3	10796	9385	121
BXRC-25E4000-D-74	80	525	27.7	14.6	2265	2035	156
		700	28.2	19.8	2971	2665	150
		1050	29.0	30.5	4218	3796	139
		1575	30.4	47.9	6273	5527	131
		2100	31.5	66.2	8073	7017	122

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-27E4000-B-7X	80	450	33.3	15.0	2493	2241	166
		600	33.9	20.4	3271	2934	161
		900	35.0	31.5	4644	4180	147
		1350	36.7	49.5	6907	6086	140
		1800	38.0	68.4	8888	7726	130
BXRC-27E4000-C-7X	80	585	33.4	19.5	3155	2986	162
		780	34.0	26.5	4134	3831	156
		1170	35.0	41.0	6038	5434	147
		1755	36.8	64.5	8687	7646	135
		2340	38.1	89.3	11143	9604	125
BXRC-27E4000-D-7X	80	525	27.7	14.6	2405	2233	165
		700	28.2	19.8	3128	2866	158
		1050	29.0	30.5	4515	4064	148
		1575	30.4	47.9	6450	5703	135
		2100	31.5	66.2	8210	7140	124
BXRC-27G4000-B-7X	90	450	33.3	15.0	2078	1867	139
		600	33.9	20.4	2726	2445	134
		900	35.0	31.5	3870	3483	123
		1350	36.7	49.5	5756	5071	116
		1800	38.0	68.4	7407	6439	108
BXRC-27G4000-C-7X	90	585	33.4	19.5	2629	2488	135
		780	34.0	26.5	3445	3193	130
		1170	35.0	41.0	5032	4529	123
		1755	36.8	64.5	7239	6371	112
		2340	38.1	89.3	9286	8003	104
BXRC-27G4000-D-7X	90	525	27.7	14.6	2004	1861	138
		700	28.2	19.8	2606	2389	132
		1050	29.0	30.5	3763	3387	124
		1575	30.4	47.9	5375	4753	112
		2100	31.5	66.2	6842	5950	103
BXRC-27H4000-B-7X	97	450	33.3	15.0	1824	1679	122
		600	33.9	20.4	2392	2156	117
		900	35.0	31.5	3396	3057	108
		1350	36.7	49.5	5051	4290	102
		1800	38.0	68.4	6500	5370	95
BXRC-27H4000-C-7X	97	585	33.4	19.5	2307	2183	118
		780	34.0	26.5	3023	2803	114
		1170	35.0	41.0	4416	3974	108
		1755	36.8	64.5	6352	5577	98
		2340	38.1	89.3	8148	6982	91
BXRC-27H4000-D-7X	97	525	27.7	14.6	1759	1632	121
		700	28.2	19.8	2287	2096	116
		1050	29.0	30.5	3302	2971	108
		1575	30.4	47.9	4716	4170	98
		2100	31.5	66.2	6003	5220	91

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-30E4000-B-7X	80	450	33.3	15.0	2598	2334	173
		600	33.9	20.4	3407	3056	167
		900	35.0	31.5	4838	4354	154
		1350	36.7	49.5	7196	6340	145
		1800	38.0	68.4	9259	8049	135
BXRC-30E4000-C-7X	80	585	33.4	19.5	3316	3139	170
		780	34.0	26.5	4346	4027	164
		1170	35.0	41.0	6347	5713	155
		1755	36.8	64.5	9131	8037	142
		2340	38.1	89.3	11713	10095	131
BXRC-30E4000-D-7X	80	525	27.7	14.6	2514	2334	173
		700	28.2	19.8	3269	2996	165
		1050	29.0	30.5	4720	4248	155
		1575	30.4	47.9	6741	5961	141
		2100	31.5	66.2	8582	7463	130
BXRC-30G4000-B-7X	90	450	33.3	15.0	2156	1937	144
		600	33.9	20.4	2828	2536	139
		900	35.0	31.5	4015	3614	127
		1350	36.7	49.5	5972	5262	121
		1800	38.0	68.4	7685	6680	112
BXRC-30G4000-C-7X	90	585	33.4	19.5	2728	2581	140
		780	34.0	26.5	3574	3312	135
		1170	35.0	41.0	5221	4699	127
		1755	36.8	64.5	7510	6610	116
		2340	38.1	89.3	9634	8303	108
BXRC-30G4000-D-7X	90	525	27.7	14.6	2080	1930	143
		700	28.2	19.8	2704	2478	137
		1050	29.0	30.5	3904	3513	128
		1575	30.4	47.9	5576	4931	116
		2100	31.5	66.2	7098	6173	107
BXRC-30G400C-B-73	90	450	33.3	15.0	2029	1824	135
		600	33.9	20.4	2662	2388	131
		900	35.0	31.5	3780	3402	120
		1350	36.7	49.5	5622	4954	114
		1800	38.0	68.4	7235	6289	106
BXRC-30G400C-D-73	90	525	27.7	14.6	1947	1807	134
		700	28.2	19.8	2531	2320	128
		1050	29.0	30.5	3654	3289	120
		1575	30.4	47.9	5219	4615	109
		2100	31.5	66.2	6644	5778	100
BXRC-30H4000-B-7X	97	450	33.3	15.0	1948	1794	130
		600	33.9	20.4	2555	2303	125
		900	35.0	31.5	3628	3265	115
		1350	36.7	49.5	5396	4582	109
		1800	38.0	68.4	6943	5736	101

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-30H4000-C-7X	97	585	33.4	19.5	2465	2333	126
		780	34.0	26.5	3230	2995	122
		1170	35.0	41.0	4718	4246	115
		1755	36.8	64.5	6787	5959	105
		2340	38.1	89.3	8706	7460	98
BXRC-30H4000-D-7X	97	525	27.7	14.6	1879	1744	129
		700	28.2	19.8	2443	2239	124
		1050	29.0	30.5	3527	3175	116
		1575	30.4	47.9	5039	4455	105
		2100	31.5	66.2	6414	5578	97
BXRC-30A4001-B-73	93	450	33.3	15.0	2011	1807	134
		600	33.9	20.4	2638	2366	129
		900	35.0	31.2	3745	3371	120
		1350	36.7	49.5	5570	4908	113
		1800	38.0	68.4	7168	6231	105
BXRC-30A4001-C-73	93	585	33.4	19.5	2545	2408	130
		780	34.0	26.5	3334	3090	126
		1170	35.0	40.6	4870	4383	120
		1755	36.8	64.5	7006	6166	109
		2340	38.1	89.3	8987	7746	101
BXRC-30A4001-D-73	93	525	27.7	14.6	1940	1800	133
		700	28.2	19.8	2522	2311	128
		1050	29.0	30.4	3641	3277	120
		1575	30.4	47.9	5201	4599	109
		2100	31.5	66.2	6620	5757	100
BXRC-35E4000-B-7X	80	450	33.3	15.0	2675	2404	178
		600	33.9	20.4	3509	3148	172
		900	35.0	31.5	4983	4484	158
		1350	36.7	49.5	7411	6530	150
		1800	38.0	68.4	9536	8290	139
BXRC-35E4000-C-7X	80	585	33.4	19.5	3385	3203	173
		780	34.0	26.5	4436	4111	167
		1170	35.0	41.0	6479	5831	158
		1755	36.8	64.5	9320	8203	144
		2340	38.1	89.3	11955	10304	134
BXRC-35E4000-D-7X	80	525	27.7	14.6	2581	2395	177
		700	28.2	19.8	3356	3075	170
		1050	29.0	30.5	4845	4360	159
		1575	30.4	47.9	6920	6119	144
		2100	31.5	66.2	8809	7660	133
BXRC-35G4000-B-7X	90	450	33.3	15.0	2234	2007	149
		600	33.9	20.4	2930	2628	144
		900	35.0	31.5	4160	3744	132
		1350	36.7	49.5	6188	5452	125
		1800	38.0	68.4	7962	6921	116

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-35G4000-C-7X	90	585	33.4	19.5	2826	2675	145
		780	34.0	26.5	3704	3432	140
		1170	35.0	41.0	5409	4868	132
		1755	36.8	64.5	7782	6849	121
		2340	38.1	89.3	9982	8603	112
BXRC-35G4000-D-7X	90	525	27.7	14.6	2155	2000	148
		700	28.2	19.8	2802	2568	142
		1050	29.0	30.5	4045	3640	133
		1575	30.4	47.9	5778	5109	121
		2100	31.5	66.2	7355	6396	111
BXRC-35A4001-B-73	93	450	33.3	15.0	2162	1942	144
		600	33.9	20.4	2836	2543	139
		900	35.0	31.5	4026	3623	128
		1350	36.7	49.5	5988	5276	121
		1800	38.0	68.4	7705	6698	113
BXRC-35A4001-C-73	93	585	33.4	19.5	2735	2589	140
		780	34.0	26.5	3584	3322	135
		1170	35.0	41.0	5235	4712	128
		1755	36.8	64.5	7531	6629	117
		2340	38.1	89.3	9660	8326	108
BXRC-35A4001-D-73	93	525	27.7	14.6	2086	1936	143
		700	28.2	19.8	2712	2485	137
		1050	29.0	30.5	3915	3524	129
		1575	30.4	47.9	5592	4945	117
		2100	31.5	66.2	7119	6190	108
BXRC-40E4000-B-7X	80	450	33.3	15.0	2701	2427	180
		600	33.9	20.4	3543	3178	174
		900	35.0	31.5	5031	4528	160
		1350	36.7	49.5	7483	6593	151
		1800	38.0	68.4	9629	8370	141
BXRC-40E4000-C-7X	80	585	33.4	19.5	3418	3235	175
		780	34.0	26.5	4479	4151	169
		1170	35.0	41.0	6541	5887	160
		1755	36.8	64.5	9411	8283	146
		2340	38.1	89.3	12071	10404	135
BXRC-40E4000-D-7X	80	525	27.7	14.6	2606	2419	179
		700	28.2	19.8	3388	3105	171
		1050	29.0	30.5	4892	4402	161
		1575	30.4	47.9	6987	6178	146
		2100	31.5	66.2	8894	7735	134
BXRC-40G4000-B-7X	90	450	33.3	15.0	2312	2077	154
		600	33.9	20.4	3032	2720	149
		900	35.0	31.5	4305	3875	137
		1350	36.7	49.5	6403	5642	129
		1800	38.0	68.4	8240	7163	120

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-40G4000-C-7X	90	585	33.4	19.5	2925	2768	150
		780	34.0	26.5	3833	3552	145
		1170	35.0	41.0	5598	5038	137
		1755	36.8	64.5	8053	7088	125
		2340	38.1	89.3	10330	8903	116
BXRC-40G4000-D-7X	90	525	27.7	14.6	2230	2070	153
		700	28.2	19.8	2900	2657	147
		1050	29.0	30.5	4186	3767	137
		1575	30.4	47.9	5979	5287	125
		2100	31.5	66.2	7612	6619	115
BXRC-40A4001-B-73	93	450	33.3	15.0	2312	2078	154
		600	33.9	20.4	3033	2721	149
		900	35.0	31.5	4307	3876	137
		1350	36.7	49.5	6406	5644	129
		1800	38.0	68.4	8243	7166	120
BXRC-40A4001-C-73	93	585	33.4	19.5	2926	2769	150
		780	34.0	26.5	3834	3553	145
		1170	35.0	41.0	5600	5040	137
		1755	36.8	64.5	8056	7091	125
		2340	38.1	89.3	10334	8907	116
BXRC-40A4001-D-73	93	525	27.7	14.6	2231	2071	153
		700	28.2	19.8	2901	2659	147
		1050	29.0	30.5	4188	3769	138
		1575	30.4	47.9	5982	5290	125
		2100	31.5	66.2	7615	6622	115
BXRC-50C4001-B-74	70	450	33.3	15.0	2961	2661	197
		600	33.9	20.4	3884	3484	191
		900	35.0	31.5	5515	4963	175
		1350	36.7	49.5	8202	7227	166
		1800	38.0	68.4	10555	9175	154
BXRC-50C4001-C-74	70	585	33.4	19.5	3746	3546	192
		780	34.0	26.5	4909	4550	185
		1170	35.0	41.0	7170	6453	175
		1755	36.8	64.5	10315	9079	160
		2340	38.1	89.3	13232	11404	148
BXRC-50C4001-D-74	70	525	27.7	14.6	2856	2651	196
		700	28.2	19.8	3714	3404	188
		1050	29.0	30.5	5362	4826	176
		1575	30.4	47.9	7659	6772	160
		2100	31.5	66.2	9750	8478	147
BXRC-50E4001-B-74	80	450	33.3	15.0	2783	2501	186
		600	33.9	20.4	3651	3275	179
		900	35.0	31.5	5184	4666	165
		1350	36.7	49.5	7710	6793	156
		1800	38.0	68.4	9922	8624	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-50E4001-C-74	80	585	33.4	19.5	3522	3333	180
		780	34.0	26.5	4615	4277	174
		1170	35.0	41.0	6740	6066	165
		1755	36.8	64.5	9697	8535	150
		2340	38.1	89.3	12438	10720	139
BXRC-50E4001-D-74	80	525	27.7	14.6	2685	2492	184
		700	28.2	19.8	3491	3200	177
		1050	29.0	30.5	5040	4536	166
		1575	30.4	47.9	7199	6366	150
		2100	31.5	66.2	9165	7970	138
BXRC-50G4001-B-74	90	450	33.3	15.0	2369	2128	158
		600	33.9	20.4	3107	2787	153
		900	35.0	31.5	4412	3971	140
		1350	36.7	49.5	6562	5782	133
		1800	38.0	68.4	8444	7340	123
BXRC-50G4001-C-74	90	585	33.4	19.5	2997	2836	154
		780	34.0	26.5	3928	3640	148
		1170	35.0	41.0	5736	5163	140
		1755	36.8	64.5	8252	7263	128
		2340	38.1	89.3	10585	9124	119
BXRC-50G4001-D-74	90	525	27.7	14.6	2285	2121	157
		700	28.2	19.8	2971	2723	150
		1050	29.0	30.5	4290	3861	141
		1575	30.4	47.9	6127	5418	128
		2100	31.5	66.2	7800	6783	118
BXRC-56G4001-B-74	90	450	33.3	15.0	2461	2284	164
		600	33.9	20.4	3200	2932	157
		900	35.0	31.5	4619	4157	147
		1350	36.7	49.5	6598	5834	133
		1800	38.0	68.4	8399	7304	123
BXRC-56G4001-C-74	90	585	33.4	19.5	3199	2970	164
		780	34.0	26.5	4160	3813	157
		1170	35.0	41.0	6006	5405	147
		1755	36.8	64.5	8579	7586	133
		2340	38.1	89.3	10921	9497	122
BXRC-56G400x-D-74	90	525	27.7	14.6	2392	2221	164
		700	28.2	19.8	3111	2851	157
		1050	29.0	30.5	4491	4042	147
		1575	30.4	47.9	6415	5672	134
		2100	31.5	66.2	8166	7101	123
BXRC-57C4001-B-74	70	450	33.3	15.0	2857	2567	190
		600	33.9	20.4	3748	3361	184
		900	35.0	31.5	5321	4789	169
		1350	36.7	49.5	7914	6973	160
		1800	38.0	68.4	10184	8853	149

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-57C4001-C-74	70	585	33.4	19.5	3615	3421	185
		780	34.0	26.5	4737	4390	179
		1170	35.0	41.0	6919	6227	169
		1755	36.8	64.5	9954	8761	154
		2340	38.1	89.3	12768	11004	143
BXRC-57C4001-D-74	70	525	27.7	14.6	2756	2558	189
		700	28.2	19.8	3584	3284	181
		1050	29.0	30.5	5174	4656	170
		1575	30.4	47.9	7390	6535	154
		2100	31.5	66.2	9408	8181	142
BXRC-57E4001-B-74	80	450	33.3	15.0	2831	2544	189
		600	33.9	20.4	3714	3331	182
		900	35.0	31.5	5273	4746	167
		1350	36.7	49.5	7842	6910	158
		1800	38.0	68.4	10092	8773	147
BXRC-57E4001-C-74	80	585	33.4	19.5	3582	3390	184
		780	34.0	26.5	4694	4350	177
		1170	35.0	41.0	6856	6170	167
		1755	36.8	64.5	9863	8681	153
		2340	38.1	89.3	12651	10904	142
BXRC-57E4001-D-74	80	525	27.7	14.6	2731	2535	188
		700	28.2	19.8	3551	3254	180
		1050	29.0	30.5	5127	4614	168
		1575	30.4	47.9	7323	6475	153
		2100	31.5	66.2	9322	8106	141
BXRC-65C4001-B-74	70	450	33.3	15.0	2909	2614	194
		600	33.9	20.4	3816	3423	187
		900	35.0	31.5	5418	4876	172
		1350	36.7	49.5	8058	7100	163
		1800	38.0	68.4	10370	9014	151
BXRC-65C4001-C-74	70	585	33.4	19.5	3681	3483	189
		780	34.0	26.5	4823	4470	182
		1170	35.0	41.0	7045	6340	172
		1755	36.8	64.5	10134	8920	157
		2340	38.1	89.3	13000	11204	146
BXRC-65C4001-D-74	70	525	27.7	14.6	2806	2605	193
		700	28.2	19.8	3649	3344	185
		1050	29.0	30.5	5268	4741	173
		1575	30.4	47.9	7524	6654	157
		2100	31.5	66.2	9579	8330	145
BXRC-65E4001-B-74	80	450	33.3	15.0	2883	2591	192
		600	33.9	20.4	3782	3392	186
		900	35.0	31.5	5370	4833	170
		1350	36.7	49.5	7986	7037	161
		1800	38.0	68.4	10277	8934	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 ± 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-65E4001-C-74	80	585	33.4	19.5	3648	3452	187
		780	34.0	26.5	4780	4430	180
		1170	35.0	41.0	6982	6284	170
		1755	36.8	64.5	10044	8840	156
		2340	38.1	89.3	12884	11104	144
BXRC-65E4001-D-74	80	525	27.7	14.6	2781	2581	191
		700	28.2	19.8	3616	3314	183
		1050	29.0	30.5	5221	4699	171
		1575	30.4	47.9	7457	6594	156
		2100	31.5	66.2	9493	8255	143

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-xxx400x-B-7x	900	32.4	35.0	37.6	-14.9	0.15	31.2	38.6
	1800	35.2	38.0	40.9	-14.9	0.19	34.0	41.8
BXRC-xxx400x-C-7x	1170	32.4	35.0	37.6	-14.9	0.11	31.2	38.6
	2340	35.3	38.1	41.0	-14.9	0.13	34.1	42.0
BXRC-xxx400x-D-7x	1050	26.8	29.0	31.2	-12.2	0.16	25.8	32.0
	2100	29.2	31.5	33.9	-12.2	0.19	28.2	34.7

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-xxx400x-B-7x	900	RG1	RG1	RG1	RG1
	1350	RG1	RG1	RG1	RG2
	1800	RG1	RG1	RG2	RG2
BXRC-xxx400x-C-7x	1170	RG1	RG1	RG1	RG1
	1755	RG1	RG1	RG2	RG2
	2340	RG1	RG1	RG2	RG2
BXRC-xxx400x-D-7x	1050	RG1	RG1	RG1	RG1
	1575	RG1	RG1	RG1	RG2
	2100	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-xxx400x-B-7x	BXRC-xxx400x-C-7x	BXRC-xxx400x-D-7x
Maximum Drive Current ³	1800mA	2340mA	2100mA
Maximum Peak Pulsed Drive Current ⁴	2570mA	3340mA	3000mA
Maximum Reverse Voltage ⁵	-60V	-60V	-50V

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 18B Drive Current vs. Voltage

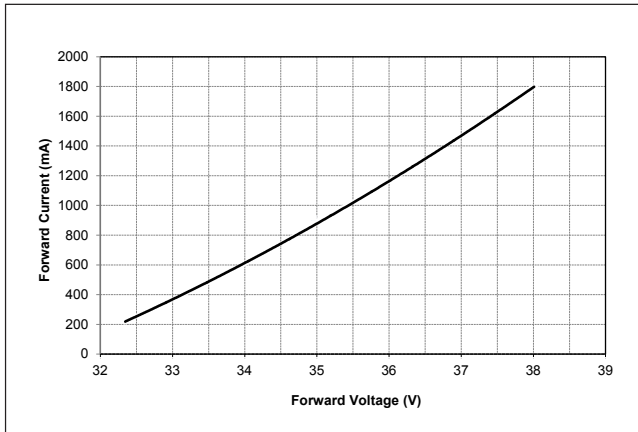


Figure 2: Vero 18C Drive Current vs. Voltage

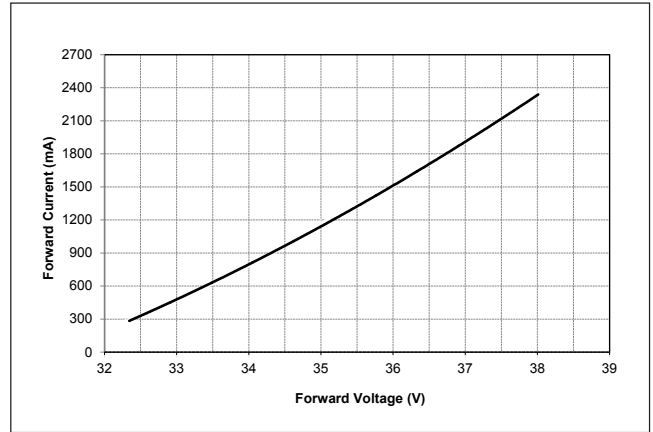


Figure 3: Vero 18D Drive Current vs. Voltage

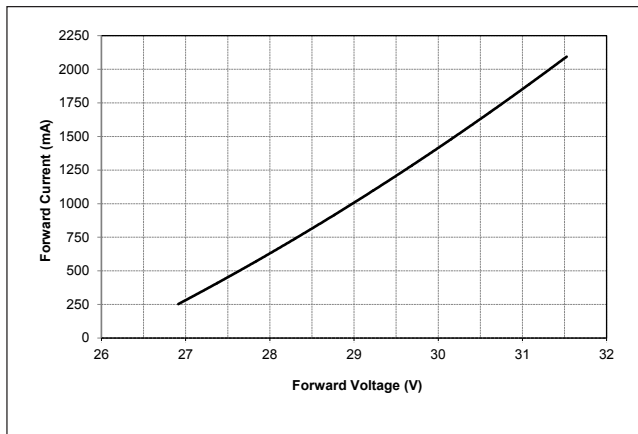


Figure 4: Vero 18B Typical Relative Flux vs. Current

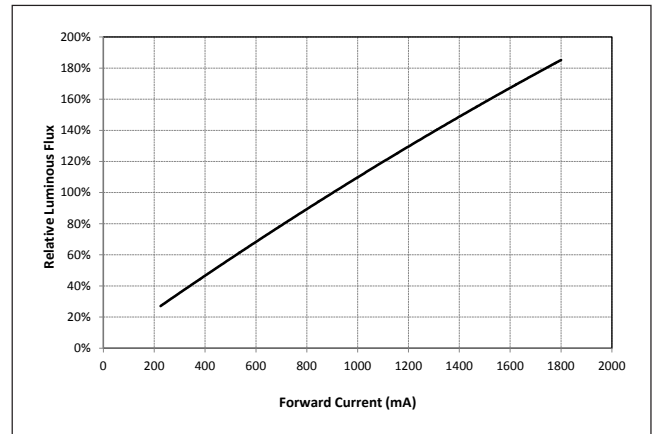


Figure 5: Vero 18C Typical Relative Flux vs. Current

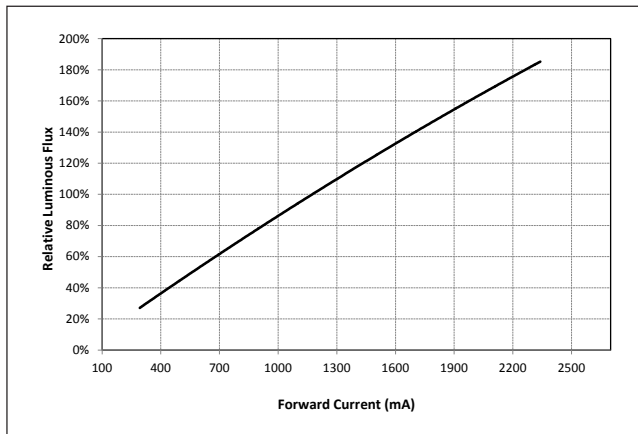
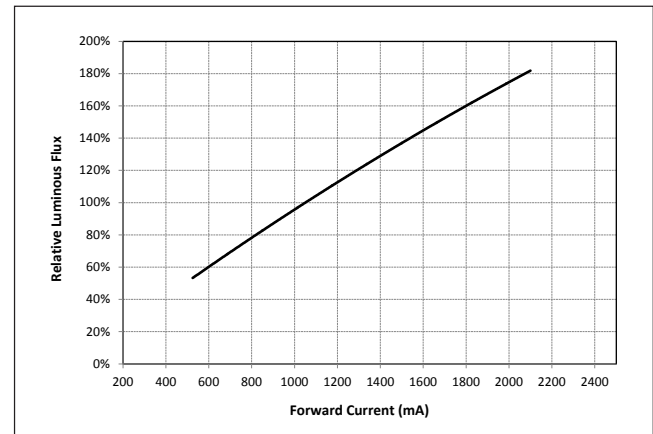


Figure 6: Vero 18D Typical Relative Flux vs. Current



Notes for Figures 1-6:

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

Performance Curves

Figure 7: Typical DC Flux vs. Case Temperature

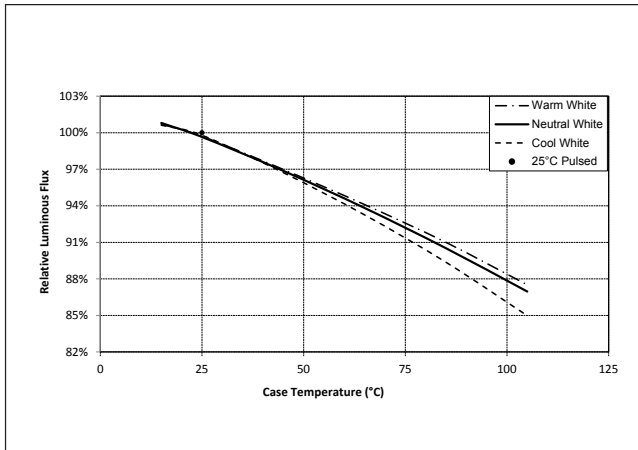


Figure 8: Typical DC ccy Shift vs. Case Temperature

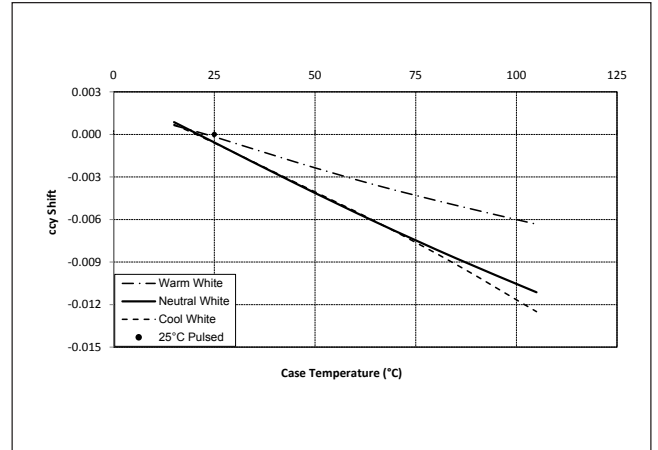
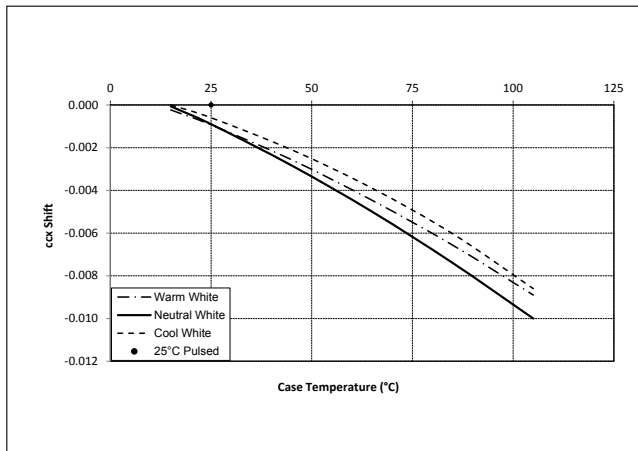


Figure 9: Typical DC ccx Shift vs. Case Temperature



Notes for Figures 7-9:

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

Performance Curves

Figure 10: 1750K Color Shift vs. Case Temperature¹

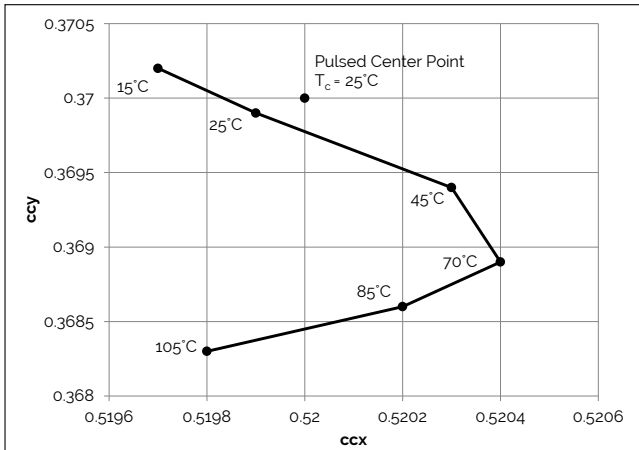


Figure 11: 2000K, 65 CRI Color Shift vs. Case Temperature

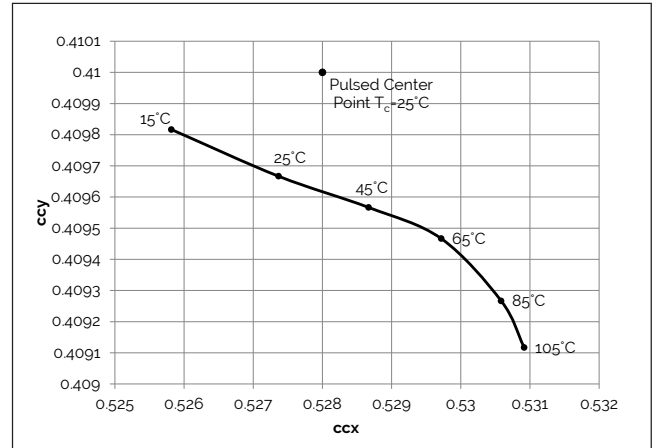


Figure 12: 2500K Color Shift vs. Case Temperature¹

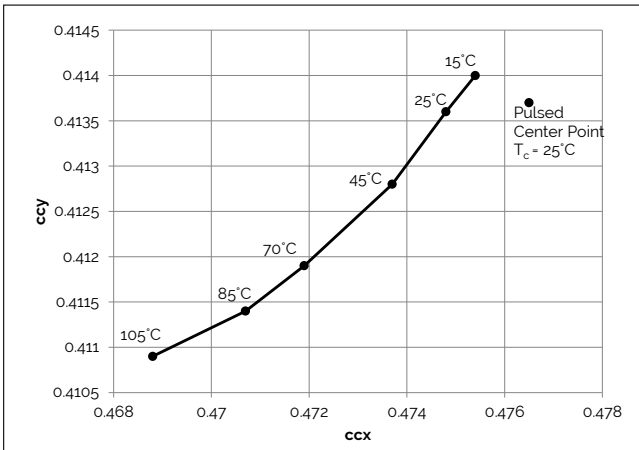


Figure 13: 3000K, 90 CRI Color Shift vs. Case Temperature^{1,3}

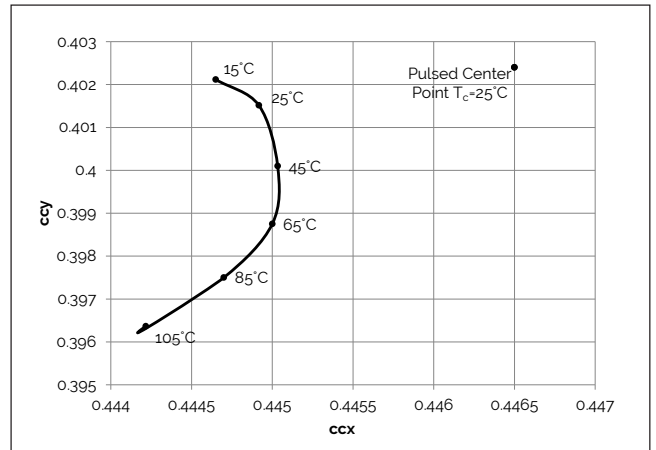


Figure 14: 2700K, 97 CRI Color Shift vs. Case Temperature¹

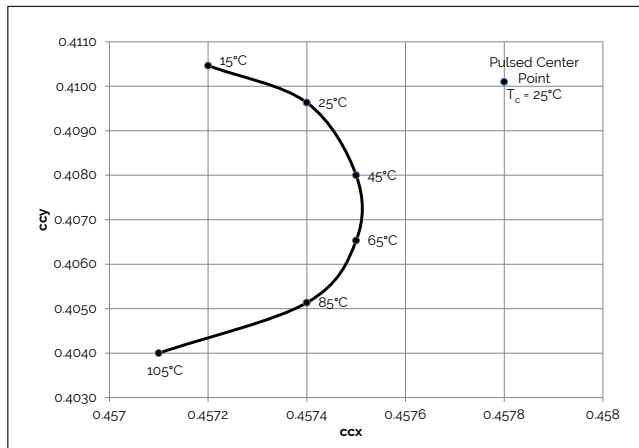
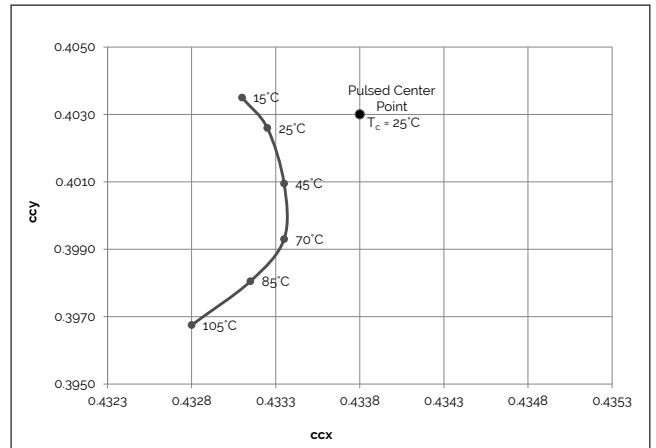


Figure 15: 3000K, 97 CRI Color Shift vs. Case Temperature¹



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 ± 0.002 .
3. Characteristics shown for Decor Series Showcase products. BXRC-30G400C-x-73

Performance Curves

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

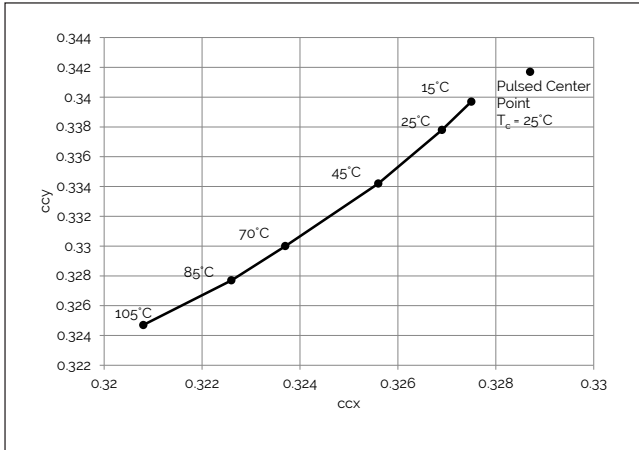


Figure 17: 3000K Class A Color Shift vs. Case Temperature¹

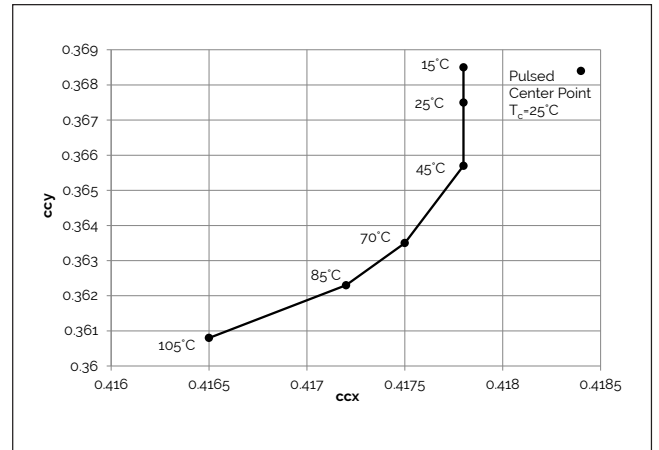


Figure 18: 3500K Class A Color Shift vs. Case Temperature¹

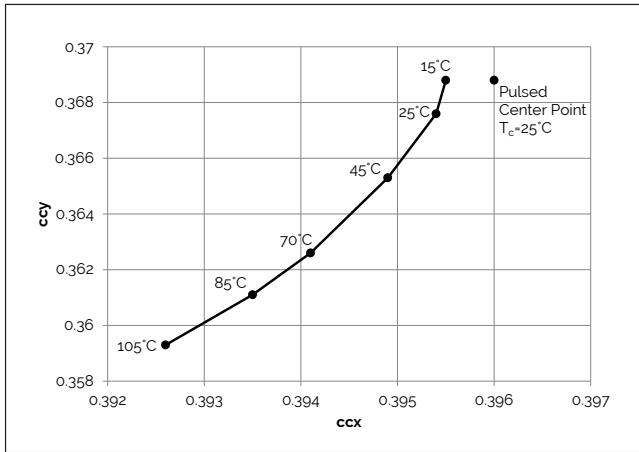
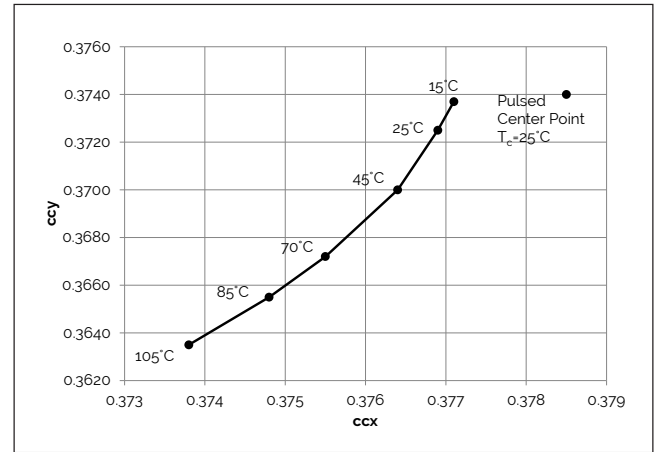


Figure 19: 4000K Class A Color Shift vs. Case Temperature¹

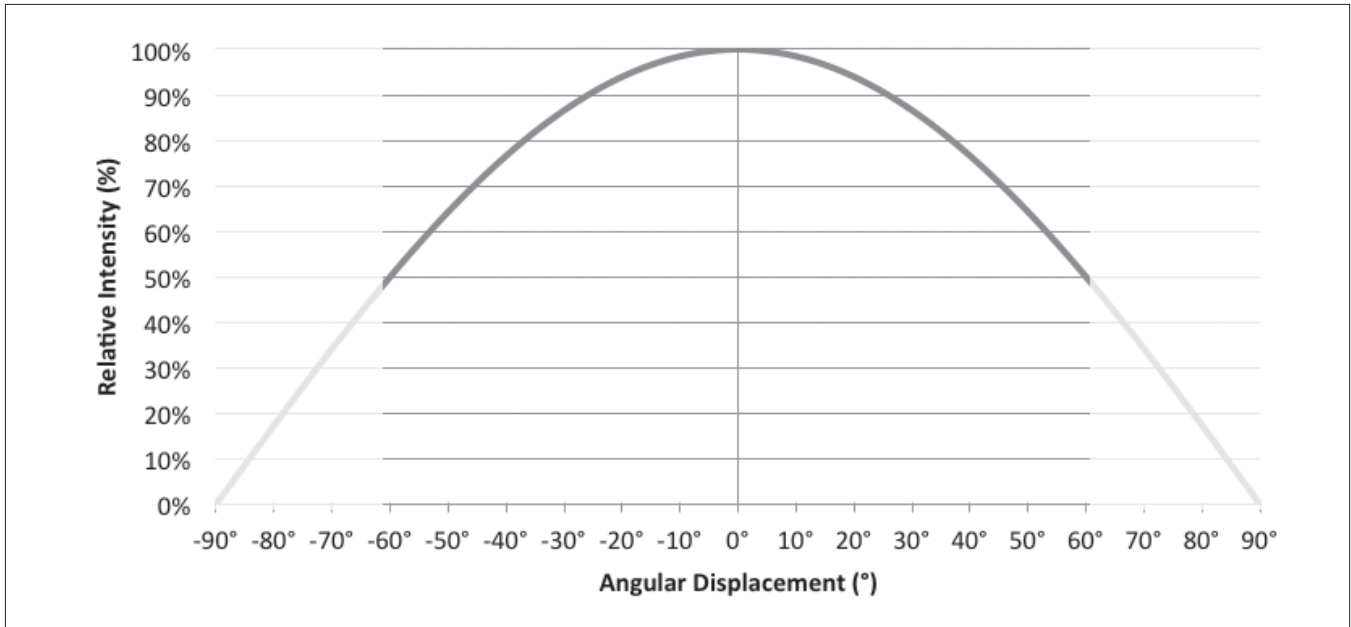


Note for Figures 16-19:

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

Typical Radiation Pattern

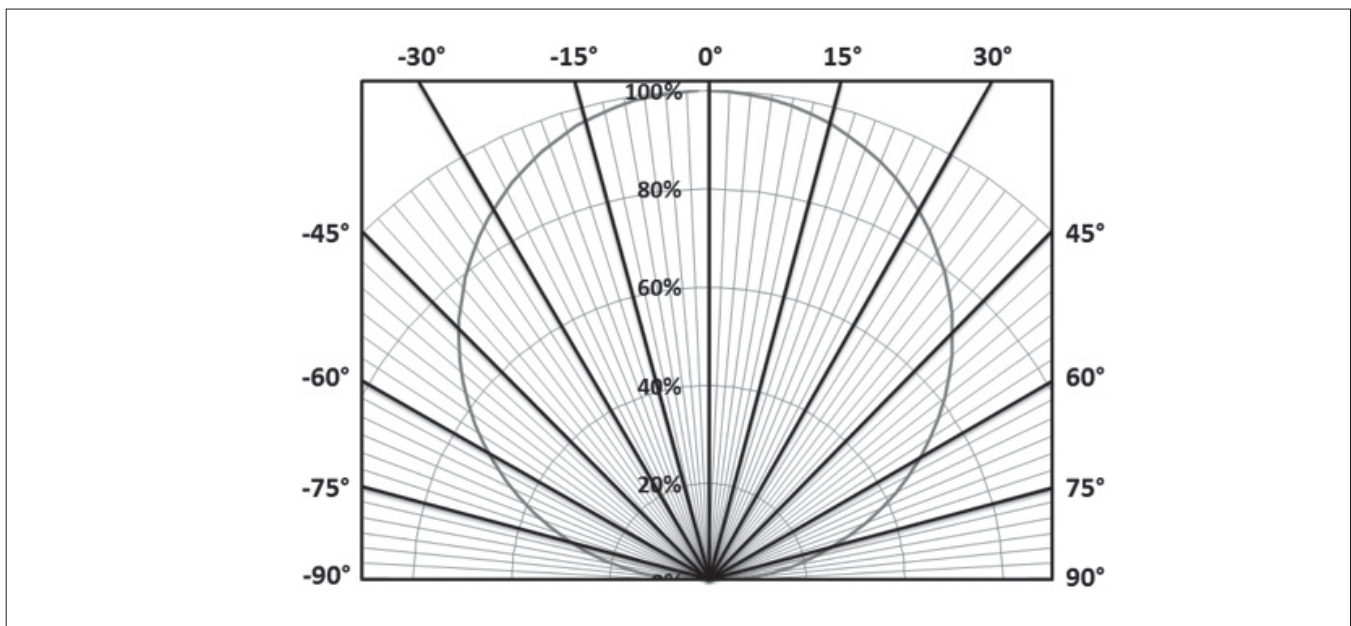
Figure 20: Typical Spatial Radiation Pattern



Note for Figure 20:

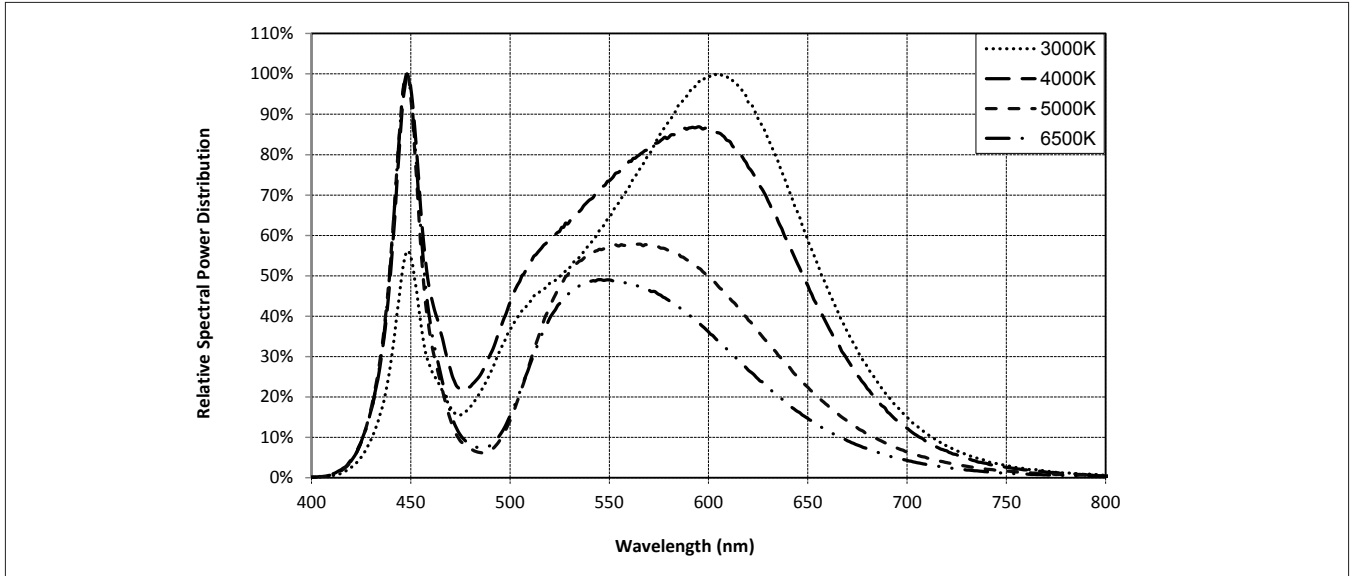
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 21: Typical Polar Radiation Pattern



Typical Color Spectrum

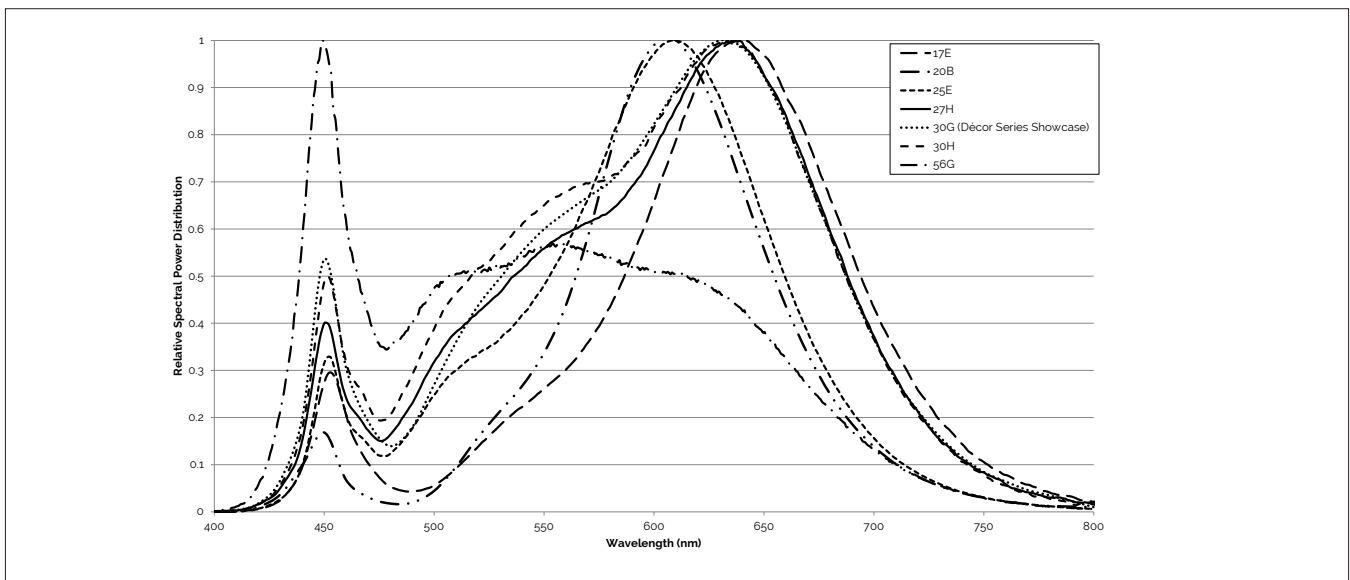
Figure 22: Typical Color Spectrum



Note for Figure 22:

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 23: Typical Color Spectrum for Vero 18 with Décor Series

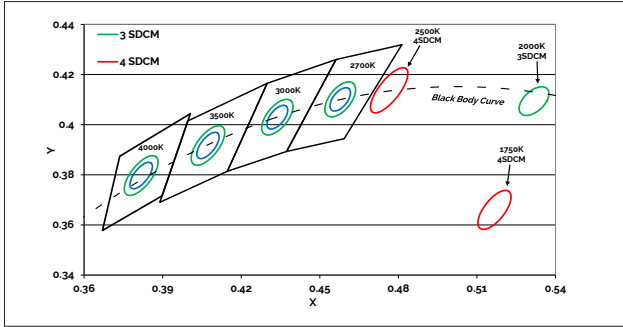


Note for Figure 23:

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

Color Binning Information

Figure 25: Warm and Neutral White Test Bins in xy Color Space



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

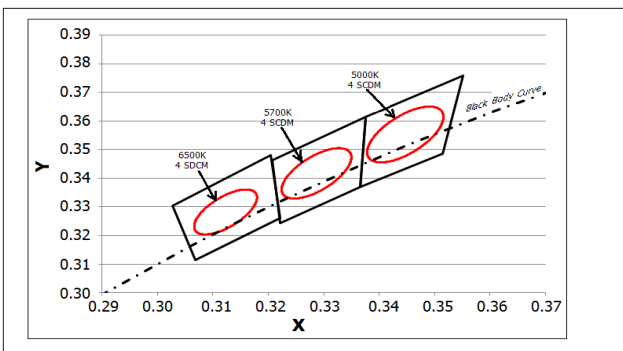
Table 8: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

Bin Code	1750K	2000K	2500K	2700K	3000K ¹	3500K ¹	4000K ²
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) (0.4465, 0.4024) ²	(0.4073, 0.3917)	(0.3818, 0.3797)

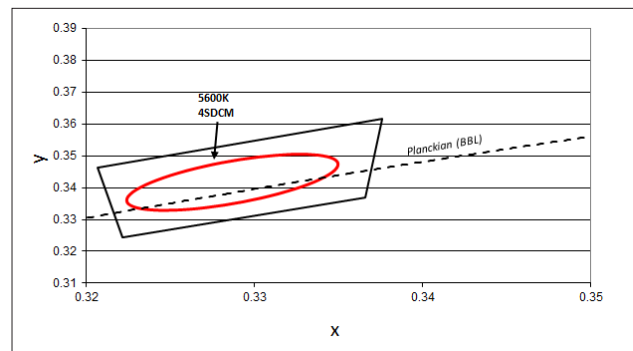
Note for Table 8:

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

Figure 26: Cool White Test Bins in xy Color Space



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



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

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

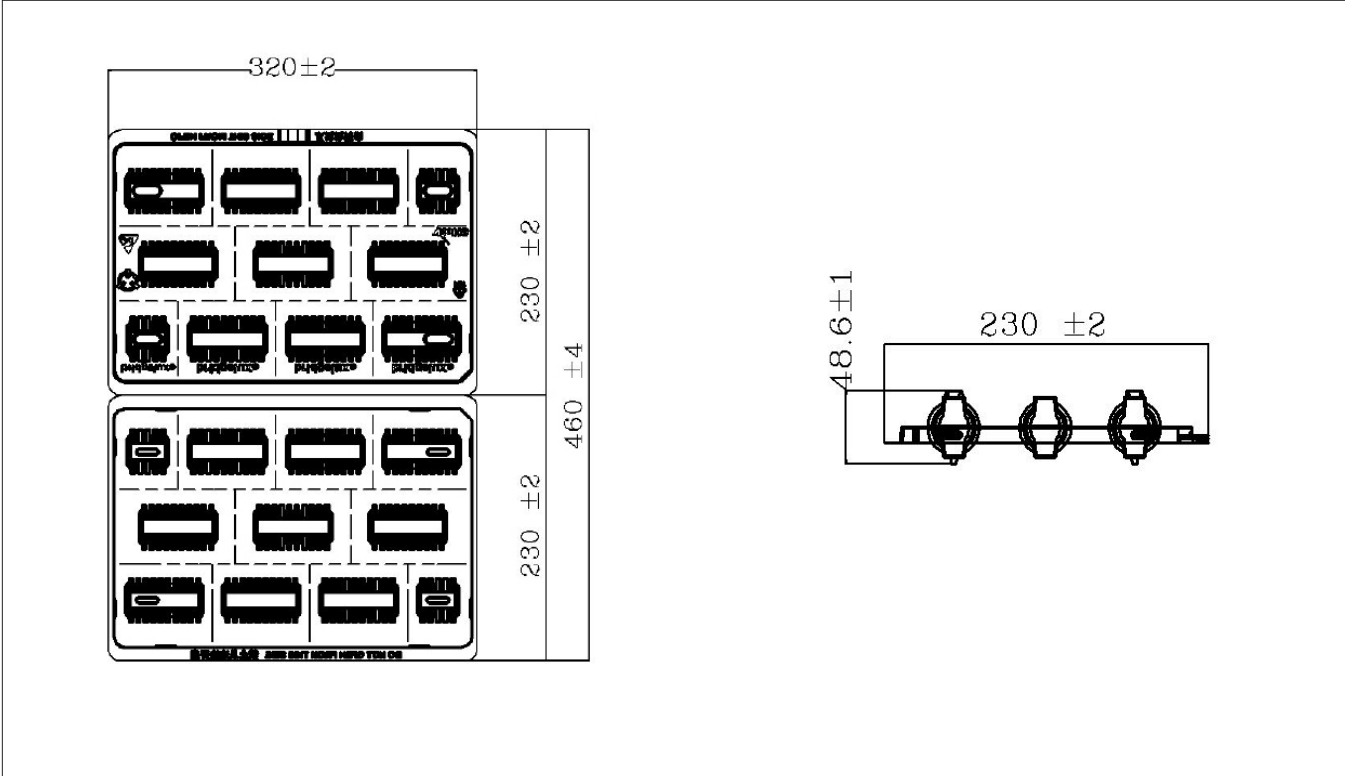
Bin Code	5000K	5600K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5310K - 6020K)	(5312K - 6022K)	(6022K - 7042K)
74 (4 SDCM)	(4801K - 5282K)	(5475K - 5830K)	(5829K - 5481K)	(6270K - 6765K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3293, 0.3423)	(0.3287, 0.3417)	(0.3123, 0.3282)

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

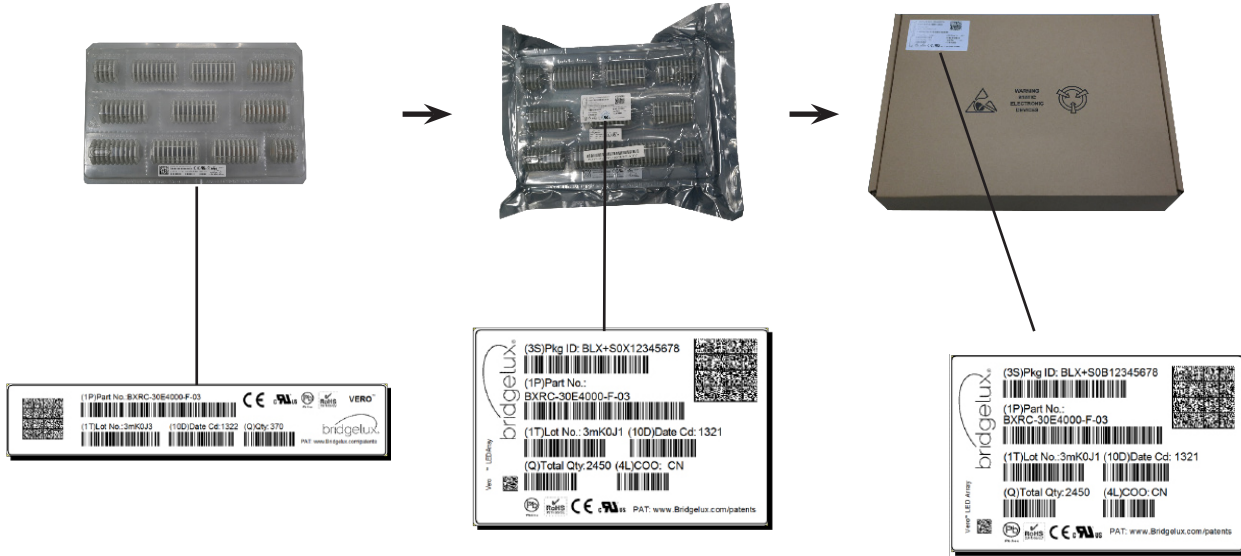
Figure 27: Drawing for Vero 18 Packaging Tray



- Notes for Figure 27:
- 1. Dimensions are in millimeters.
 - 2. Drawings are not to scale.

Packaging and Labeling

Figure 28: Vero Series Packaging and Labeling



Notes for Figure 28:

1. Each tray holds 100 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 29: 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

30E4000C 73 2F

Customer Use- V_f 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
bridgelux.com
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facebook.com/Bridgelux
youtube.com/user/Bridgelux
linkedin.com/company/bridgelux-inc-_2
WeChat ID: BridgeluxInChina



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Bridgelux Gen 7 Vero 18 Array Series Product Data Sheet DSg2 Rev. H (3/2017)