bridgelux®

Bridgelux® Vero® SE 18 Array Series

Product Data Sheet DS122

10 TEN YEAR Warranty™

Introduction

Vero SE

Vero® SE represents a state of the art COB solution with revolutionary advancements in LED integration technology. Vero SE's innovative light source system integrates Bridgelux's seventh generation COB technology with poke-in connectivity that enables solder free installation. Vero SE LED light sources streamline assembly processes, lower manufacturing cost, simplify luminaire design, improve light quality and increase design flexibility.

Vero SE poke-in connectivity simplifies manufacturing and assembly processes by eliminating the need to solder. Secondary connector and holder components are not required, allowing for rapid integration of arrays into fixtures and an efficient field replaceable solution.

Vero SE 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 SE arrays deliver increased lumen density for improved beam control and precision lighting with 2 and 3 SDCM color control standards for clean and consistent uniform lighting.

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. Light and color are powerful mediums that influence experience and well-being, and Décor Series LEDs offer pleasing lighting palettes that are inspiring. Bridgelux Decor Series color points are available on Vero® SE Series, Vero® 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, 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.

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.

Features

- Poke-in connectivity
- Efficacy of 146 lm/W typical
- Vero SE 10 lumen output performance ranges from 567 to 3,858 lumens
- Broad range of CCT options from 1750K to 6500K
- CRI options: minimum 70, 80, and 90
- Color control: 2 and 3 SDCM for 2700K-4000K CCT
- Reliable operation at up to 2X nominal drive current
- Radial die pattern and improved lumen density
- Top side part number markings
- No exposed solder pads or electrical connections
- V_f bin code backside marking

Benefits

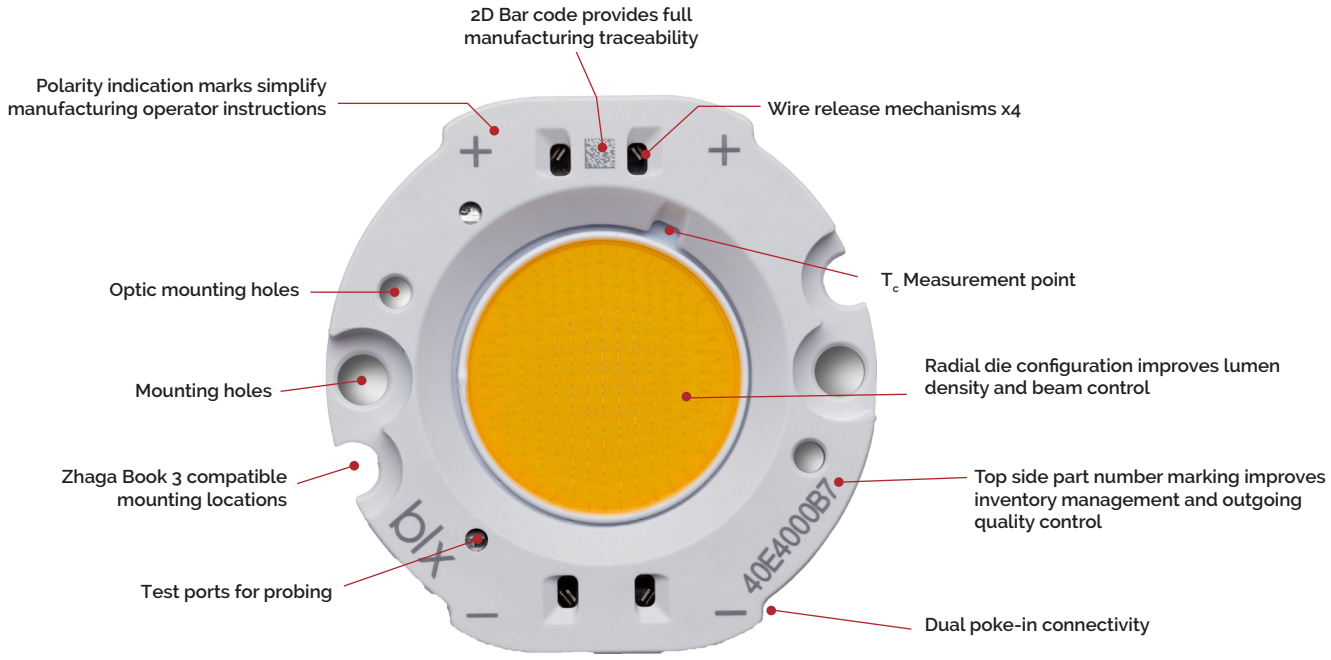
- Poke-in connectivity enables solderless, connector free installation
- Broad application coverage for interior and exterior lighting
- Flexibility for application driven lighting design requirements
- High quality, true color reproduction
- Uniform consistent white light
- Flexibility in design optimization
- Enhanced ease of use and assembly
- Ability to configure multiple Vero SE arrays in series and parallel reduces customer driver cost
- Improved inventory management and quality control

Contents

Product Feature Map

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

Vero SE 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 SE family of products.



Product Nomenclature

The part number designation for Bridgelux Vero SE LED arrays is explained as follows:

1 2 3 4 – 5 6 7 8 9 10 11 – 12 – 13 14 – 15 16

BXRC – 30 E 400⓪ – C – 7 3 – SE

Product Family

Nominal CCT
17 = 1,750K
25 = 2,500K
27 = 2,700K
30 = 3,000K
35 = 3,500K
40 = 4,000K
50 = 5,000K
56 = 5,600K
57 = 5,700K
65 = 6,500K

CRI
C = 70 CRI min.
E = 80 CRI min.
G = 90 CRI min.
H = 97 CRI typ.
A = Class A

Flux Indicator
400x = 4000 lm

Color Targeting Designator
0 = Cold Targeted
1 = Hot Targeted

Array Configuration

Gen. 7

CCT Bin Options
2 = 2 SDCM
3 = 3 SDCM
4 = 4 SDCM

Special Edition

Product Selection Guide

The following product configurations are available:

Table 1: Selection Guide, Pulsed Measurement Data (T_j = T_c = 25°C)

Part Number	Nominal CCT[1] (K)	CRI[2]	Nominal Drive Current[3] (mA)	Typical Pulsed Flux[4,5,6] T_c = 25°C (lm)	Minimum Pulsed Flux[6,7] T_c = 25°C (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-17E4000-B-74-SE	1750	80	900	2649	2385	35.0	31.5	84
BXRC-17E4000-C-74-SE	1750	80	1170	3445	3100	35.0	41.0	84
BXRC-17E4000-D-74-SE	1750	80	1050	2576	2318	29.0	30.5	85
BXRC-25E4000-B-74-SE	2500	80	900	4282	3853	35.0	31.5	136
BXRC-25E4000-C-74-SE	2500	80	1170	5568	5011	35.0	41.0	136
BXRC-25E4000-D-74-SE	2500	80	1050	4163	3747	29.0	30.5	137
BXRC-27E4000-B-7X-SE	2700	80	900	4584	4126	35.0	31.5	146
BXRC-27E4000-C-7X-SE	2700	80	1170	5960	5363	35.0	41.0	146
BXRC-27E4000-D-7X-SE	2700	80	1050	4457	4011	29.0	30.5	146
BXRC-27G4000-B-7X-SE	2700	90	900	3820	3438	35.0	31.5	121
BXRC-27G4000-C-7X-SE	2700	90	1170	4967	4470	35.0	41.0	121
BXRC-27G4000-D-7X-SE	2700	90	1050	3714	3343	29.0	30.5	122
BXRC-27H4000-B-7x-SE	2700	97	900	3352	3016	35.0	31.5	106
BXRC-27H4000-C-7x-SE	2700	97	1170	4358	3922	35.0	41.0	106
BXRC-27H4000-D-7x-SE	2700	97	1050	3259	2933	29.0	30.5	107
BXRC-30E4000-B-7X-SE	3000	80	900	4819	4297	35.0	31.5	153
BXRC-30E4000-C-7X-SE	3000	80	1170	6265	5587	35.0	41.0	153
BXRC-30E4000-D-7X-SE	3000	80	1050	4658	4178	29.0	30.5	153
BXRC-30G4000-B-7X-SE	3000	90	900	3963	3567	35.0	31.5	126
BXRC-30G4000-C-7X-SE	3000	90	1170	5153	4638	35.0	41.0	126
BXRC-30G4000-D-7X-SE	3000	90	1050	3853	3467	29.0	30.5	127
BXRC-30H4000-B-7x-SE	2700	97	900	3581	3223	35.0	31.5	114
BXRC-30H4000-C-7x-SE	2700	97	1170	4657	4190	35.0	41.0	114
BXRC-30H4000-D-7x-SE	2700	97	1050	3482	3134	29.0	30.5	114
BXRC-30A4001-B-73-SE[8,9]	3000	93	900	3696	3327	35.0	31.2	117
BXRC-30A4001-C-73-SE[8,9]	3000	93	1170	4807	4326	35.0	40.6	117
BXRC-30A4001-D-73-SE[8,9]	3000	93	1050	3594	3234	29.0	30.4	118
BXRC-35E4000-B-7X-SE	3500	80	900	4918	4426	35.0	31.5	156
BXRC-35E4000-C-7X-SE	3500	80	1170	6394	5755	35.0	41.0	156
BXRC-35E4000-D-7X-SE	3500	80	1050	4782	4303	29.0	30.5	157
BXRC-35G4000-B-7X-SE	3500	90	900	4106	3695	35.0	31.5	130
BXRC-35G4000-C-7X-SE	3500	90	1170	5339	4805	35.0	41.0	130
BXRC-35G4000-D-7X-SE	3500	90	1050	3992	3593	29.0	30.5	131
BXRC-35A4001-B-73-SE[8,9]	3500	93	900	3974	3576	35.0	31.2	126

Notes for Table 1:

1. Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to T_c = 85°C.
2. 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.
3. Drive current is referred to as nominal drive current.
4. Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C.
5. Typical performance values are provided as a reference only and are not a guarantee of performance.
6. Bridgelux maintains a ±7% tolerance on flux measurements.
7. Minimum flux values at the nominal test current are guaranteed by 100% test.
8. 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.
9. 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°C) (continued)

Part Number	Nominal CCT[1] (K)	CRI[2]	Nominal Drive Current[3] (mA)	Typical Pulsed Flux[4,5,6] T_c = 25°C (lm)	Minimum Pulsed Flux[6,7] T_c = 25°C (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-35A4001-C-73-SE	3500	93	1170	5167	4650	35.0	40.6	126
BXRC-35A4001-D-73-SE	3500	93	1050	3864	3477	29.0	30.4	127
BXRC-40E4000-B-7X-SE	4000	80	900	4966	4469	35.0	31.5	158
BXRC-40E4000-C-7X-SE	4000	80	1170	6456	5810	35.0	41.0	158
BXRC-40E4000-D-7X-SE	4000	80	1050	4828	4345	29.0	30.5	159
BXRC-40G4000-B-7X-SE	4000	90	900	4249	3825	35.0	31.5	135
BXRC-40G4000-C-7X-SE	4000	90	1170	5525	4973	35.0	41.0	135
BXRC-40G4000-D-7X-SE	4000	90	1050	4132	3718	29.0	30.5	136
BXRC-40A4001-B-73-SE[8,9]	4000	93	900	4251	3826	35.0	31.2	135
BXRC-40A4001-C-73-SE[8,9]	4000	93	1170	5527	4974	35.0	40.6	135
BXRC-40A4001-D-73-SE[8,9]	4000	93	1050	4134	3720	29.0	30.4	136
BXRC-50C4001-B-74-SE	5000	70	900	5443	4898	35.0	31.5	173
BXRC-50C4001-C-74-SE	5000	70	1170	7077	6369	35.0	41.0	173
BXRC-50C4001-D-74-SE	5000	70	1050	5292	4763	29.0	30.5	174
BXRC-50E4001-B-74-SE	5000	80	900	5117	4605	35.0	31.5	162
BXRC-50E4001-C-74-SE	5000	80	1170	6653	5987	35.0	41.0	162
BXRC-50E4001-D-74-SE	5000	80	1050	4975	4477	29.0	30.5	163
BXRC-50G4001-B-74-SE	5000	90	900	4354	3919	35.0	31.5	138
BXRC-50G4001-C-74-SE	5000	90	1170	5662	5096	35.0	41.0	138
BXRC-50G4001-D-74-SE	5000	90	1050	4234	3811	29.0	30.5	139
BXRC-56G4001-B-74-SE	5600	90	900	4559	4103	35.0	31.5	145
BXRC-56G4001-C-74-SE	5600	90	1170	5928	5335	35.0	41.0	145
BXRC-56G400x-D-74-SE	5600	90	1050	4433	3989	29.0	30.5	146
BXRC-57C4001-B-74-SE	5700	70	900	5252	4727	35.0	31.5	167
BXRC-57C4001-C-74-SE	5700	70	1170	6829	6146	35.0	41.0	167
BXRC-57C4001-D-74-SE	5700	70	1050	5107	4595	29.0	30.5	168
BXRC-57E4001-B-74-SE	5700	80	900	5204	4684	35.0	31.5	165
BXRC-57E4001-C-74-SE	5700	80	1170	6767	6090	35.0	41.0	165
BXRC-57E4001-D-74-SE	5700	80	1050	5060	4554	29.0	30.5	166
BXRC-65C4001-B-74-SE	6500	70	900	5348	4813	35.0	31.5	170
BXRC-65C4001-C-74-SE	6500	70	1170	6953	6258	35.0	41.0	170
BXRC-65C4001-D-74-SE	6500	70	1050	5199	4679	29.0	30.5	171
BXRC-65E4001-B-74-SE	6500	80	900	5300	4770	35.0	31.5	168
BXRC-65E4001-C-74-SE	6500	80	1170	6891	6202	35.0	41.0	168
BXRC-65E4001-D-74-SE	6500	80	1050	5153	4638	29.0	30.5	169

Notes for Table 1:

1. Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to T_c = 85°C.
2. 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.
3. Drive current is referred to as nominal drive current.
4. Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C.
5. Typical performance values are provided as a reference only and are not a guarantee of performance.
6. Bridgelux maintains a ±7% tolerance on flux measurements.
7. Minimum flux values at the nominal test current are guaranteed by 100% test.
8. 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.
9. 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 2: Selection Guide, Stabilized DC Performance (T_c = 70˚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°C (lm)	Minimum DC Flux[6,9] T_c = 70°C (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-30A4001-B-73-SE	3000	80	93	900	3438	3094	34.3	30.9	111
BXRC-30A4001-C-73-SE	3000	80	93	1170	4470	4023	34.3	40.2	111
BXRC-30A4001-D-73-SE	3000	80	93	1050	3342	3008	28.5	29.9	112
BXRC-35A4001-B-73-SE	3500	80	93	900	3696	3326	34.3	30.9	120
BXRC-35A4001-C-73-SE	3500	80	93	1170	4805	4324	34.3	40.2	120
BXRC-35A4001-D-73-SE	3500	80	93	1050	3594	3234	28.5	29.9	120
BXRC-40A4001-B-73-SE	4000	80	93	900	3953	3558	34.3	30.9	128
BXRC-40A4001-C-73-SE	4000	80	93	1170	5140	4626	34.3	40.2	128
BXRC-40A4001-D-73-SE	4000	80	93	1050	3844	3460	28.5	29.9	129

Notes for Table 2:

1. 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.
2. 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.
3. CRI Values are specified as typical.
4. Drive current is referred to as nominal drive current.
5. Typical performance values are provided as a reference only and are not a guarantee of performance.
6. Bridgelux maintains a ±7% tolerance on flux measurements.
7. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
8. 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.
9. 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°C) [4,5]

Part Number	Nominal CCT[1] (K)	CRI[2]	Nominal Drive Current[3] (mA)	Typical DC Flux[4,5] T_c = 85°C (lm)	Minimum DC Flux[6] T_c = 85°C (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-17E4000-B-74-SE	1750	80	900	2384	2146	34.1	30.7	78
BXRC-17E4000-C-74-SE	1750	80	1170	3100	2790	34.1	39.9	78
BXRC-17E4000-D-74-SE	1750	80	1050	2318	2087	28.1	29.5	78
BXRC-25E4000-B-74-SE	2500	80	900	3853	3468	34.1	30.7	126
BXRC-25E4000-C-74-SE	2500	80	1170	5011	4510	34.1	39.9	126
BXRC-25E4000-D-74-SE	2500	80	1050	3747	3372	28.1	29.5	126
BXRC-27E4000-B-7X-SE	2700	80	900	4125	3713	34.1	30.7	134
BXRC-27E4000-C-7X-SE	2700	80	1170	5364	4827	34.1	39.9	134
BXRC-27E4000-D-7X-SE	2700	80	1050	4011	3610	28.3	29.7	135
BXRC-27G4000-B-7X-SE	2700	90	900	3438	3094	34.1	30.7	112
BXRC-27G4000-C-7X-SE	2700	90	1170	4470	4023	34.1	39.9	112
BXRC-27G4000-D-7X-SE	2700	90	1050	3342	3009	28.3	29.7	113
BXRC-27H4000-B-7x-SE	2700	97	900	3017	2715	34.1	30.7	98
BXRC-27H4000-C-7x-SE	2700	97	1170	3922	3530	34.1	39.9	98
BXRC-27H4000-D-7x-SE	2700	97	1050	2933	2639	28.3	29.7	99
BXRC-30E4000-B-7X-SE	3000	80	900	4337	3868	34.1	30.7	141
BXRC-30E4000-C-7X-SE	3000	80	1170	5638	5029	34.1	39.9	141
BXRC-30E4000-D-7X-SE	3000	80	1050	4193	3760	28.3	29.7	141
BXRC-30G4000-B-7X-SE	3000	90	900	3567	3210	34.1	30.7	116
BXRC-30G4000-C-7X-SE	3000	90	1170	4637	4174	34.1	39.9	116
BXRC-30G4000-D-7X-SE	3000	90	1050	3468	3121	28.3	29.7	117
BXRC-30H4000-B-7x-SE	2700	97	900	3223	2901	34.1	30.7	105
BXRC-30H4000-C-7x-SE	2700	97	1170	4191	3771	34.1	39.9	105
BXRC-30H4000-D-7x-SE	2700	97	1050	3133	2820	28.3	29.7	106
BXRC-30A4001-B-73-SE[7,8]	3000	93	900	3327	2994	34.1	30.7	108
BXRC-30A4001-C-73-SE[7,8]	3000	93	1170	4326	3893	34.1	39.9	108
BXRC-30A4001-D-73-SE[7,8]	3000	93	1050	3234	2911	28.3	29.7	109
BXRC-35E4000-B-7X-SE	3500	80	900	4426	3983	34.1	30.7	144
BXRC-35E4000-C-7X-SE	3500	80	1170	5755	5180	34.1	39.9	144
BXRC-35E4000-D-7X-SE	3500	80	1050	4303	3873	28.3	29.7	145
BXRC-35G4000-B-7X-SE	3500	90	900	3696	3326	34.1	30.7	120
BXRC-35G4000-C-7X-SE	3500	90	1170	4805	4324	34.1	39.9	120
BXRC-35G4000-D-7X-SE	3500	90	1050	3593	3233	28.3	29.7	121
BXRC-35A4001-B-73-SE[7,8]	3500	93	900	3576	3218	34.1	30.7	117
BXRC-35A4001-C-73-SE[7,8]	3500	93	1170	4650	4185	34.1	39.9	117

Notes for Table 3:

1. Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to T_c = 85°C.
2. 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.
3. Drive current is referred to as nominal drive current.
4. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
5. Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
6. Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
7. 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.
8. 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˚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°C (lm)	Minimum DC Flux[6] T_c = 85°C (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRC-35A4001-D-73-SE[7,8]	3500	93	1050	3478	3129	28.3	29.7	117
BXRC-40E4000-B-7X-SE	4000	80	900	4469	4022	34.1	30.7	146
BXRC-40E4000-C-7X-SE	4000	80	1170	5811	5229	34.1	39.9	146
BXRC-40E4000-D-7X-SE	4000	80	1050	4345	3910	28.3	29.7	146
BXRC-40G4000-B-7X-SE	4000	90	900	3825	3442	34.1	30.7	125
BXRC-40G4000-C-7X-SE	4000	90	1170	4973	4475	34.1	39.9	125
BXRC-40G4000-D-7X-SE	4000	90	1050	3719	3346	28.3	29.7	125
BXRC-40A4001-B-73-SE[7,8]	4000	93	900	3826	3443	34.1	30.7	125
BXRC-40A4001-C-73-SE[7,8]	4000	93	1170	4974	4477	34.1	39.9	125
BXRC-40A4001-D-73-SE[7,8]	4000	93	1050	3720	3348	28.3	29.7	125
BXRC-50C4001-B-74-SE	5000	70	900	4899	4409	34.1	30.7	160
BXRC-50C4001-C-74-SE	5000	70	1170	6370	5732	34.1	39.9	160
BXRC-50C4001-D-74-SE	5000	70	1050	4763	4287	28.3	29.7	160
BXRC-50E4001-B-74-SE	5000	80	900	4605	4145	34.1	30.7	150
BXRC-50E4001-C-74-SE	5000	80	1170	5987	5388	34.1	39.9	150
BXRC-50E4001-D-74-SE	5000	80	1050	4477	4029	28.3	29.7	151
BXRC-50G4001-B-74-SE	5000	90	900	3919	3527	34.1	30.7	128
BXRC-50G4001-C-74-SE	5000	90	1170	5096	4586	34.1	39.9	128
BXRC-50G4001-D-74-SE	5000	90	1050	3810	3430	28.3	29.7	128
BXRC-56G4001-B-74-SE	5600	90	900	4103	3693	34.1	30.7	134
BXRC-56G4001-C-74-SE	5600	90	1170	5335	4801	34.1	39.9	134
BXRC-56G400x-D-74-SE	5600	90	1050	3989	3591	28.3	29.7	134
BXRC-57C4001-B-74-SE	5700	70	900	4727	4254	34.1	30.7	154
BXRC-57C4001-C-74-SE	5700	70	1170	6146	5531	34.1	39.9	154
BXRC-57C4001-D-74-SE	5700	70	1050	4596	4136	28.3	29.7	155
BXRC-57E4001-B-74-SE	5700	80	900	4684	4216	34.1	30.7	153
BXRC-57E4001-C-74-SE	5700	80	1170	6090	5481	34.1	39.9	153
BXRC-57E4001-D-74-SE	5700	80	1050	4554	4099	28.3	29.7	153
BXRC-65C4001-B-74-SE	6500	70	900	4813	4331	34.1	30.7	157
BXRC-65C4001-C-74-SE	6500	70	1170	6258	5632	34.1	39.9	157
BXRC-65C4001-D-74-SE	6500	70	1050	4679	4211	28.3	29.7	158
BXRC-65E4001-B-74-SE	6500	80	900	4770	4293	34.1	30.7	155
BXRC-65E4001-C-74-SE	6500	80	1170	6202	5582	34.1	39.9	155
BXRC-65E4001-D-74-SE	6500	80	1050	4638	4174	28.3	29.7	156

Notes for Table 3:

1. Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to T_c = 85˚C.
2. 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.
3. Drive current is referred to as nominal drive current.
4. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
5. Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85˚C. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
6. Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
7. 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.
8. 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 SE LED arrays are tested to the specifications shown using the nominal drive currents in Table 1. Vero SE 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°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-17E4000-B-74-SE	80	450	33.3	15.0	1422	1278	95
		600	33.9	20.4	1866	1673	92
		900	**35.0**	**31.5**	**2649**	**2384**	**84**
		1350	36.7	49.5	3940	3472	80
		1800	38.0	68.4	5070	4407	74
BXRC-17E4000-C-74-SE	80	585	33.4	19.5	1800	1703	92
		780	34.0	26.5	2358	2186	89
		1170	**35.0**	**41.0**	**3445**	**3100**	**84**
		1755	36.8	64.5	4955	4362	77
		2340	38.1	89.3	6356	5479	71
BXRC-17E4000-D-74-SE	80	525	27.7	14.6	1372	1274	94
		700	28.2	19.8	1784	1635	90
		1050	**29.0**	**30.5**	**2576**	**2318**	**85**
		1575	30.4	47.9	3680	3254	77
		2100	31.5	66.2	4684	4073	71
BXRC-25E4000-B-74-SE	80	450	33.3	15.0	2299	2066	153
		600	33.9	20.4	3016	2705	148
		900	**35.0**	**31.5**	**4282**	**3853**	**136**
		1350	36.7	49.5	6368	5611	129
		1800	38.0	68.4	8195	7123	120
BXRC-25E4000-C-74-SE	80	585	33.4	19.5	2909	2753	149
		780	34.0	26.5	3812	3533	144
		1170	**35.0**	**41.0**	**5568**	**5011**	**136**
		1755	36.8	64.5	8010	7050	124
		2340	38.1	89.3	10274	8855	115
BXRC-25E4000-D-74-SE	80	525	27.7	14.6	2218	2058	152
		700	28.2	19.8	2884	2643	146
		1050	**29.0**	**30.5**	**4163**	**3747**	**137**
		1575	30.4	47.9	5946	5258	124
		2100	31.5	66.2	7570	6583	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 ± 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-SE	80	450	33.3	15.0	2461	2211	164
		600	33.9	20.4	3228	2896	159
		900	**35.0**	**31.5**	**4584**	**4125**	**146**
		1350	36.7	49.5	6817	6007	138
		1800	38.0	68.4	8773	7626	128
BXRC-27E4000-C-7x-SE	80	585	33.4	19.5	3114	2947	160
		780	34.0	26.5	4081	3781	154
		1170	**35.0**	**41.0**	**5960**	**5364**	**146**
		1755	36.8	64.5	8574	7546	133
		2340	38.1	89.3	10998	9479	123
BXRC-27E4000-D-7x-SE	80	525	27.7	14.6	2374	2204	163
		700	28.2	19.8	3087	2829	156
		1050	**29.0**	**30.5**	**4457**	**4011**	**146**
		1575	30.4	47.9	6366	5629	133
		2100	31.5	66.2	8104	7047	122
BXRC-27G4000-B-7x-SE	90	450	33.3	15.0	2051	1843	137
		600	33.9	20.4	2690	2413	132
		900	**35.0**	**31.5**	**3820**	**3438**	**121**
		1350	36.7	49.5	5681	5006	115
		1800	38.0	68.4	7311	6355	107
BXRC-27G4000-C-7x-SE	90	585	33.4	19.5	2595	2456	133
		780	34.0	26.5	3400	3151	128
		1170	**35.0**	**41.0**	**4967**	**4470**	**121**
		1755	36.8	64.5	7145	6289	111
		2340	38.1	89.3	9165	7899	103
BXRC-27G4000-D-7x-SE	90	525	27.7	14.6	1978	1836	136
		700	28.2	19.8	2573	2358	130
		1050	**29.0**	**30.5**	**3714**	**3342**	**122**
		1575	30.4	47.9	5305	4691	111
		2100	31.5	66.2	6753	5872	102
BXRC-27H4000-B-7x-SE	80	450	33.3	15.0	1800	1617	120
		600	33.9	20.4	2361	2118	116
		900	**35.0**	**31.5**	**3352**	**3017**	**106**
		1350	36.7	49.5	4986	4393	101
		1800	38.0	68.4	6416	5577	94
BXRC-27H4000-C-7x-SE	80	585	33.4	19.5	2277	2155	117
		780	34.0	26.5	2984	2765	113
		1170	**35.0**	**41.0**	**4358**	**3922**	**106**
		1755	36.8	64.5	6270	5518	97
		2340	38.1	89.3	8042	6932	90
BXRC-27H4000-D-7x-SE	80	525	27.7	14.6	1736	1611	119
		700	28.2	19.8	2257	2069	114
		1050	**29.0**	**30.5**	**3259**	**2933**	**107**
		1575	30.4	47.9	4654	4116	97
		2100	31.5	66.2	5925	5152	89

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-SE	80	450	33.3	15.0	2587	2325	172
		600	33.9	20.4	3394	3044	167
		900	**35.0**	**31.5**	**4819**	**4337**	**153**
		1350	36.7	49.5	7167	6315	145
		1800	38.0	68.4	9223	8017	135
BXRC-30E4000-C-7x-SE	80	585	33.4	19.5	3273	3098	168
		780	34.0	26.5	4289	3975	162
		1170	**35.0**	**41.0**	**6265**	**5638**	**153**
		1755	36.8	64.5	9012	7932	140
		2340	38.1	89.3	11560	9964	130
BXRC-30E4000-D-7x-SE	80	525	27.7	14.6	2482	2303	170
		700	28.2	19.8	3227	2957	163
		1050	**29.0**	**30.5**	**4658**	**4193**	**153**
		1575	30.4	47.9	6654	5884	139
		2100	31.5	66.2	8470	7366	128
BXRC-30G4000-B-7x-SE	90	450	33.3	15.0	2128	1912	142
		600	33.9	20.4	2791	2503	137
		900	**35.0**	**31.5**	**3963**	**3567**	**126**
		1350	36.7	49.5	5894	5193	119
		1800	38.0	68.4	7585	6593	111
BXRC-30G4000-C-7x-SE	90	585	33.4	19.5	2692	2548	138
		780	34.0	26.5	3528	3269	133
		1170	**35.0**	**41.0**	**5153**	**4637**	**126**
		1755	36.8	64.5	7413	6524	115
		2340	38.1	89.3	9508	8195	107
BXRC-30G4000-D-7x-SE	90	525	27.7	14.6	2053	1905	141
		700	28.2	19.8	2669	2446	135
		1050	**29.0**	**30.5**	**3853**	**3468**	**127**
		1575	30.4	47.9	5504	4867	115
		2100	31.5	66.2	7006	6093	106
BXRC-30H4000-B-7x-SE	80	450	33.3	15.0	1923	1728	128
		600	33.9	20.4	2522	2262	124
		900	**35.0**	**31.5**	**3581**	**3223**	**114**
		1350	36.7	49.5	5326	4692	108
		1800	38.0	68.4	6853	5957	100
BXRC-30H4000-C-7x-SE	80	585	33.4	19.5	2433	2303	125
		780	34.0	26.5	3188	2955	120
		1170	**35.0**	**41.0**	**4657**	**4191**	**114**
		1755	36.8	64.5	6699	5896	104
		2340	38.1	89.3	8593	7406	96
BXRC-30H4000-D-7x-SE	80	525	27.7	14.6	1855	1721	127
		700	28.2	19.8	2412	2210	122
		1050	**29.0**	**30.5**	**3482**	**3133**	**114**
		1575	30.4	47.9	4973	4397	104
		2100	31.5	66.2	6331	5505	96

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-30A4001-B-73-SE	93	450	33.3	15.0	1985	1783	132
		600	33.9	20.4	2603	2335	128
		900	**35.0**	**31.5**	**3696**	**3327**	**117**
		1350	36.7	49.5	5498	4844	111
		1800	38.0	68.4	7074	6150	103
BXRC-30A4001-C-73-SE	93	585	33.4	19.5	2511	2377	129
		780	34.0	26.5	3291	3050	124
		1170	**35.0**	**41.0**	**4807**	**4326**	**117**
		1755	36.8	64.5	6915	6086	107
		2340	38.1	89.3	8870	7645	99
BXRC-30A4001-D-73-SE	93	525	27.7	14.6	1914	1777	131
		700	28.2	19.8	2489	2281	126
		1050	**29.0**	**30.5**	**3594**	**3234**	**118**
		1575	30.4	47.9	5133	4539	107
		2100	31.5	66.2	6534	5682	99
BXRC-35E4000-B-7x-SE	80	450	33.3	15.0	2640	2373	176
		600	33.9	20.4	3464	3107	170
		900	**35.0**	**31.5**	**4918**	**4426**	**156**
		1350	36.7	49.5	7314	6445	148
		1800	38.0	68.4	9412	8182	138
BXRC-35E4000-C-7x-SE	80	585	33.4	19.5	3341	3162	171
		780	34.0	26.5	4378	4057	165
		1170	**35.0**	**41.0**	**6394**	**5755**	**156**
		1755	36.8	64.5	9199	8097	143
		2340	38.1	89.3	11800	10170	132
BXRC-35E4000-D-7x-SE	80	525	27.7	14.6	2547	2364	175
		700	28.2	19.8	3312	3035	168
		1050	**29.0**	**30.5**	**4782**	**4303**	**157**
		1575	30.4	47.9	6830	6039	143
		2100	31.5	66.2	8694	7561	131
BXRC-35G4000-B-7x-SE	90	450	33.3	15.0	2205	1981	147
		600	33.9	20.4	2892	2594	142
		900	**35.0**	**31.5**	**4106**	**3696**	**130**
		1350	36.7	49.5	6107	5381	123
		1800	38.0	68.4	7859	6832	115
BXRC-35G4000-C-7x-SE	90	585	33.4	19.5	2790	2640	143
		780	34.0	26.5	3656	3388	138
		1170	**35.0**	**41.0**	**5339**	**4805**	**130**
		1755	36.8	64.5	7681	6760	119
		2340	38.1	89.3	9852	8491	110
BXRC-35G4000-D-7x-SE	90	525	27.7	14.6	2127	1974	146
		700	28.2	19.8	2766	2534	140
		1050	**29.0**	**30.5**	**3992**	**3593**	**131**
		1575	30.4	47.9	5703	5043	119
		2100	31.5	66.2	7259	6313	110

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-35A4001-B-73-SE	93	450	33.3	15.0	2133	1917	142
		600	33.9	20.4	2799	2510	137
		900	**35.0**	**31.5**	**3974**	**3576**	**126**
		1350	36.7	49.5	5910	5207	119
		1800	38.0	68.4	7605	6611	111
BXRC-35A4001-C-73-SE	93	585	33.4	19.5	2700	2555	138
		780	34.0	26.5	3538	3278	133
		1170	**35.0**	**41.0**	**5167**	**4650**	**126**
		1755	36.8	64.5	7433	6542	115
		2340	38.1	89.3	9535	8218	107
BXRC-35A4001-D-73-SE	93	525	27.7	14.6	2058	1911	141
		700	28.2	19.8	2677	2453	135
		1050	**29.0**	**30.5**	**3864**	**3478**	**127**
		1575	30.4	47.9	5519	4881	115
		2100	31.5	66.2	7026	6110	106
BXRC-40E4000-B-7x-SE	80	450	33.3	15.0	2666	2396	178
		600	33.9	20.4	3497	3137	172
		900	**35.0**	**31.5**	**4966**	**4469**	**158**
		1350	36.7	49.5	7385	6507	149
		1800	38.0	68.4	9504	8261	139
BXRC-40E4000-C-7x-SE	80	585	33.4	19.5	3373	3193	173
		780	34.0	26.5	4421	4097	167
		1170	**35.0**	**41.0**	**6456**	**5811**	**158**
		1755	36.8	64.5	9288	8175	144
		2340	38.1	89.3	11914	10269	133
BXRC-40E4000-D-7x-SE	80	525	27.7	14.6	2572	2387	177
		700	28.2	19.8	3344	3065	169
		1050	**29.0**	**30.5**	**4828**	**4345**	**159**
		1575	30.4	47.9	6896	6098	144
		2100	31.5	66.2	8779	7634	133
BXRC-40G4000-B-7x-SE	90	450	33.3	15.0	2282	2050	152
		600	33.9	20.4	2993	2684	147
		900	**35.0**	**31.5**	**4249**	**3825**	**135**
		1350	36.7	49.5	6320	5569	128
		1800	38.0	68.4	8133	7070	119
BXRC-40G4000-C-7x-SE	90	585	33.4	19.5	2887	2732	148
		780	34.0	26.5	3783	3506	143
		1170	**35.0**	**41.0**	**5525**	**4973**	**135**
		1755	36.8	64.5	7949	6996	123
		2340	38.1	89.3	10196	8788	114
BXRC-40G4000-D-7x-SE	90	525	27.7	14.6	2201	2043	151
		700	28.2	19.8	2862	2623	145
		1050	**29.0**	**30.5**	**4132**	**3719**	**136**
		1575	30.4	47.9	5902	5219	123
		2100	31.5	66.2	7513	6533	113

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-40A4001-B-73-SE	93	450	33.3	15.0	2282	2051	152
		600	33.9	20.4	2994	2685	147
		900	**35.0**	**31.5**	**4251**	**3826**	**135**
		1350	36.7	49.5	6323	5571	128
		1800	38.0	68.4	8136	7072	119
BXRC-40A4001-C-73-SE	93	585	33.4	19.5	2888	2733	148
		780	34.0	26.5	3784	3507	143
		1170	**35.0**	**41.0**	**5527**	**4974**	**135**
		1755	36.8	64.5	7951	6999	123
		2340	38.1	89.3	10199	8791	114
BXRC-40A4001-D-73-SE	93	525	27.7	14.6	2202	2044	151
		700	28.2	19.8	2863	2624	145
		1050	**29.0**	**30.5**	**4134**	**3720**	**136**
		1575	30.4	47.9	5904	5221	123
		2100	31.5	66.2	7516	6536	114
BXRC-50C4001-B-74-SE	70	450	33.3	15.0	2922	2626	195
		600	33.9	20.4	3834	3438	188
		900	**35.0**	**31.5**	**5443**	**4899**	**173**
		1350	36.7	49.5	8096	7133	164
		1800	38.0	68.4	10418	9056	152
BXRC-50C4001-C-74-SE	70	585	33.4	19.5	3698	3499	189
		780	34.0	26.5	4846	4490	183
		1170	**35.0**	**41.0**	**7077**	**6370**	**173**
		1755	36.8	64.5	10181	8961	158
		2340	38.1	89.3	13060	11256	146
BXRC-50C4001-D-74-SE	70	525	27.7	14.6	2819	2617	194
		700	28.2	19.8	3666	3360	186
		1050	**29.0**	**30.5**	**5292**	**4763**	**174**
		1575	30.4	47.9	7559	6684	158
		2100	31.5	66.2	9623	8368	145
BXRC-50E4001-B-74-SE	80	450	33.3	15.0	2747	2468	183
		600	33.9	20.4	3604	3232	177
		900	**35.0**	**31.5**	**5117**	**4605**	**162**
		1350	36.7	49.5	7610	6705	154
		1800	38.0	68.4	9793	8512	143
BXRC-50E4001-C-74-SE	80	585	33.4	19.5	3476	3290	178
		780	34.0	26.5	4555	4221	172
		1170	**35.0**	**41.0**	**6653**	**5987**	**162**
		1755	36.8	64.5	9570	8424	148
		2340	38.1	89.3	12276	10581	138
BXRC-50E4001-D-74-SE	80	525	27.7	14.6	2650	2460	182
		700	28.2	19.8	3446	3158	174
		1050	**29.0**	**30.5**	**4975**	**4477**	**163**
		1575	30.4	47.9	7106	6283	148
		2100	31.5	66.2	9046	7866	137

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-50G4001-B-74-SE	90	450	33.3	15.0	2338	2101	156
		600	33.9	20.4	3067	2751	151
		900	**35.0**	**31.5**	**4354**	**3919**	**138**
		1350	36.7	49.5	6476	5706	131
		1800	38.0	68.4	8334	7245	122
BXRC-50G4001-C-74-SE	90	585	33.4	19.5	2958	2800	152
		780	34.0	26.5	3877	3592	146
		1170	**35.0**	**41.0**	**5662**	**5096**	**138**
		1755	36.8	64.5	8145	7169	126
		2340	38.1	89.3	10448	9005	117
BXRC-50G4001-D-74-SE	90	525	27.7	14.6	2255	2093	155
		700	28.2	19.8	2933	2688	148
		1050	**29.0**	**30.5**	**4234**	**3810**	**139**
		1575	30.4	47.9	6047	5348	126
		2100	31.5	66.2	7698	6694	116
BXRC-56G4001-B-74-SE	80	450	33.3	15.0	2448	2199	163
		600	33.9	20.4	3211	2880	158
		900	**35.0**	**31.5**	**4559**	**4103**	**145**
		1350	36.7	49.5	6781	5974	137
		1800	38.0	68.4	8725	7585	127
BXRC-56G4001-C-74-SE	80	585	33.4	19.5	3097	2931	159
		780	34.0	26.5	4059	3761	153
		1170	**35.0**	**41.0**	**5928**	**5335**	**145**
		1755	36.8	64.5	8528	7506	132
		2340	38.1	89.3	10939	9428	123
BXRC-56G400x-D-74-SE	80	525	27.7	14.6	2361	2192	162
		700	28.2	19.8	3070	2814	155
		1050	**29.0**	**30.5**	**4433**	**3989**	**146**
		1575	30.4	47.9	6331	5599	132
		2100	31.5	66.2	8060	7009	122
BXRC-57C4001-B-74-SE	70	450	33.3	15.0	2820	2534	188
		600	33.9	20.4	3699	3318	182
		900	**35.0**	**31.5**	**5252**	**4727**	**167**
		1350	36.7	49.5	7811	6883	158
		1800	38.0	68.4	10052	8738	147
BXRC-57C4001-C-74-SE	70	585	33.4	19.5	3568	3377	183
		780	34.0	26.5	4676	4333	176
		1170	**35.0**	**41.0**	**6829**	**6146**	**167**
		1755	36.8	64.5	9824	8647	152
		2340	38.1	89.3	12602	10861	141
BXRC-57C4001-D-74-SE	70	525	27.7	14.6	2720	2525	187
		700	28.2	19.8	3537	3242	179
		1050	**29.0**	**30.5**	**5107**	**4596**	**168**
		1575	30.4	47.9	7294	6450	152
		2100	31.5	66.2	9285	8074	140

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-57E4001-B-74-SE	80	450	33.3	15.0	2794	2511	186
		600	33.9	20.4	3665	3288	180
		900	**35.0**	**31.5**	**5204**	**4684**	**165**
		1350	36.7	49.5	7740	6820	156
		1800	38.0	68.4	9961	8659	146
BXRC-57E4001-C-74-SE	80	585	33.4	19.5	3536	3346	181
		780	34.0	26.5	4633	4294	175
		1170	**35.0**	**41.0**	**6767**	**6090**	**165**
		1755	36.8	64.5	9735	8568	151
		2340	38.1	89.3	12487	10762	140
BXRC-57E4001-D-74-SE	80	525	27.7	14.6	2696	2502	185
		700	28.2	19.8	3505	3212	177
		1050	**29.0**	**30.5**	**5060**	**4554**	**166**
		1575	30.4	47.9	7228	6391	151
		2100	31.5	66.2	9201	8001	139
BXRC-65C4001-B-74-SE	70	450	33.3	15.0	2871	2580	191
		600	33.9	20.4	3766	3378	185
		900	**35.0**	**31.5**	**5348**	**4813**	**170**
		1350	36.7	49.5	7954	7008	161
		1800	38.0	68.4	10235	8897	150
BXRC-65C4001-C-74-SE	70	585	33.4	19.5	3633	3438	186
		780	34.0	26.5	4761	4412	180
		1170	**35.0**	**41.0**	**6953**	**6258**	**170**
		1755	36.8	64.5	10003	8804	155
		2340	38.1	89.3	12831	11059	144
BXRC-65C4001-D-74-SE	70	525	27.7	14.6	2770	2571	190
		700	28.2	19.8	3602	3301	182
		1050	**29.0**	**30.5**	**5199**	**4679**	**171**
		1575	30.4	47.9	7427	6567	155
		2100	31.5	66.2	9454	8221	143
BXRC-65E4001-B-74-SE	80	450	33.3	15.0	2846	2557	190
		600	33.9	20.4	3733	3348	183
		900	**35.0**	**31.5**	**5300**	**4770**	**168**
		1350	36.7	49.5	7883	6945	159
		1800	38.0	68.4	10143	8817	148
BXRC-65E4001-C-74-SE	80	585	33.4	19.5	3600	3407	184
		780	34.0	26.5	4718	4372	178
		1170	**35.0**	**41.0**	**6891**	**6202**	**168**
		1755	36.8	64.5	9913	8725	154
		2340	38.1	89.3	12716	10960	142
BXRC-65E4001-D-74-SE	80	525	27.7	14.6	2745	2548	189
		700	28.2	19.8	3569	3271	181
		1050	**29.0**	**30.5**	**5153**	**4638**	**169**
		1575	30.4	47.9	7360	6508	154
		2100	31.5	66.2	9370	8148	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.

Electrical Characteristics

Table 5: Electrical Characteristics

Part Number	Drive Current (mA)	Forward Voltage Pulsed, T_c = 25°C (V) [1, 2, 3, 8]			Typical Coefficient of Forward Voltage[4] $\Delta V_f/\Delta T_c$ (mV/°C)	Typical Thermal Resistance Junction to Case[5,6] R_{j-c} (°C/W)	Driver Selection Voltages[7] (V)	
		Minimum	Typical	Maximum			V_f Min. Hot T_c = 105°C (V)	V_f Max. Cold T_c = -40°C (V)
BXRC-xxx400x-B-7x-SE	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-SE	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-SE	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:

1. Parts are tested in pulsed conditions, T_c = 25°C. Pulse width is 10ms.
2. Voltage minimum and maximum are provided for reference only and are not a guarantee of performance.
3. Bridgelux maintains a tester tolerance of ± 0.10V on forward voltage measurements.
4. Typical coefficient of forward voltage tolerance is ± 0.1mV for nominal current.
5. Thermal resistance values are based from test data of a 3000K 80 CRI product.
6. 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.
7. 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.
8. 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[1,5]			
		2700K/3000K	4000K[2]	5000K[3]	6500K[4]
BXRC-xxx400x-B-7x-SE	900	RG1	RG1	RG1	RG1
	1350	RG1	RG1	RG1	RG2
	1800	RG1	RG1	RG2	RG2
BXRC-xxx400x-C-7x-SE	1170	RG1	RG1	RG1	RG1
	1755	RG1	RG1	RG2	RG2
	2340	RG1	RG1	RG2	RG2
BXRC-xxx400x-D-7x-SE	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 SE 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-SE	BXRC-xxx400x-C-7x-SE	BXRC-xxx400x-D-7x-SE
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 SE 18B Drive Current vs. Voltage

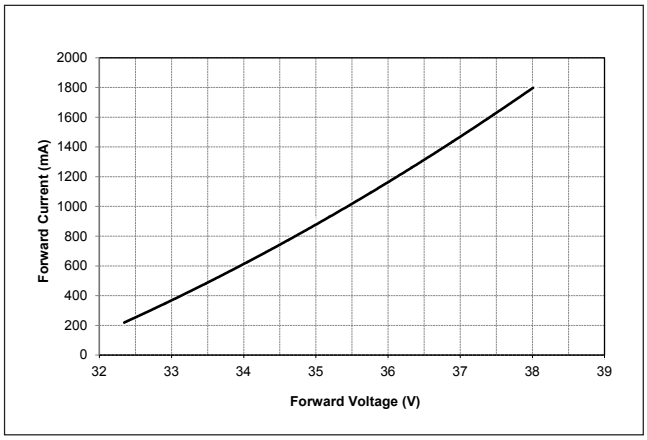


Figure 2: Vero SE 18C Drive Current vs. Voltage

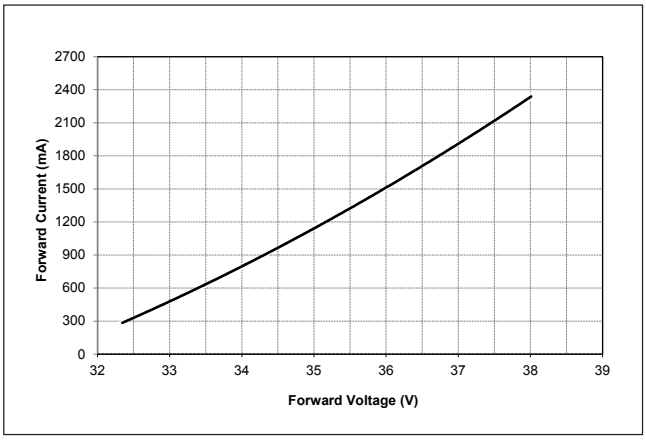


Figure 3: Vero SE 18D Drive Current vs. Voltage

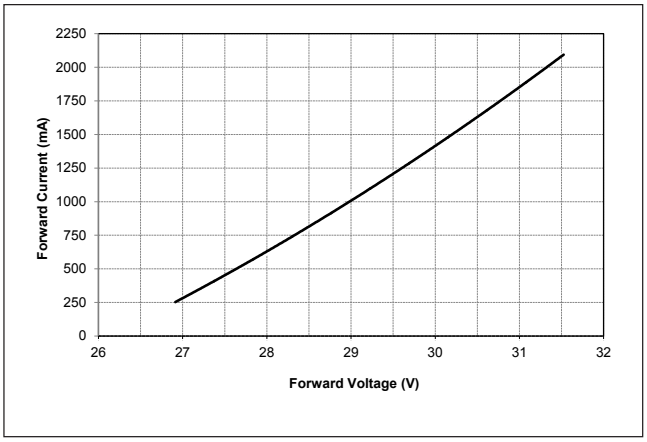


Figure 4: Vero SE 18B Typical Relative Flux vs. Current

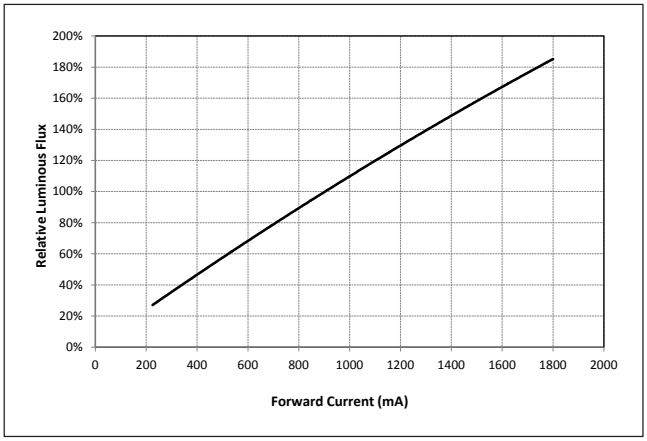


Figure 5: Vero SE 18C Typical Relative Flux vs. Current

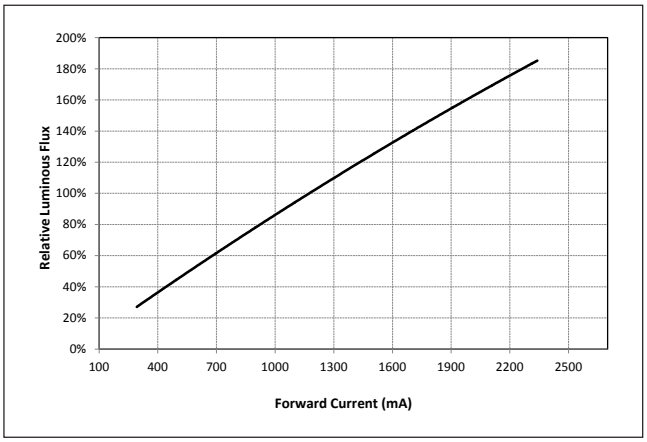
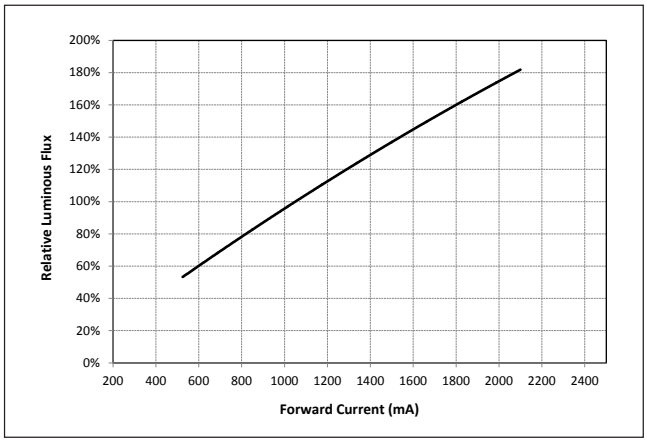


Figure 6: Vero SE 18D Typical Relative Flux vs. Current



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

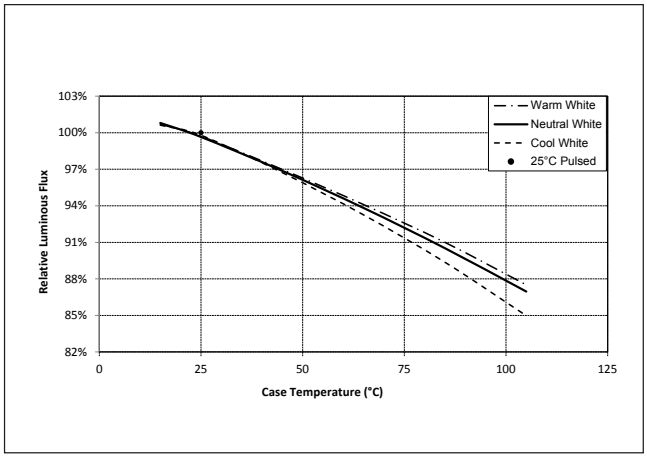


Figure 8: Décor Series Typical DC Flux vs. Case Temperature[4]

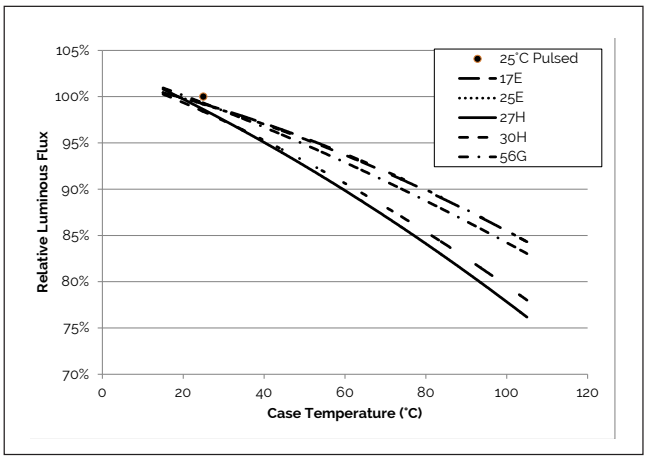


Figure 9: Typical DC ccy Shift vs. Case Temperature

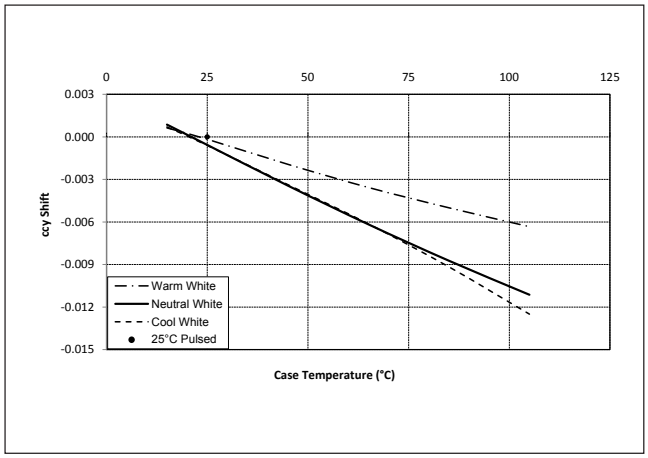
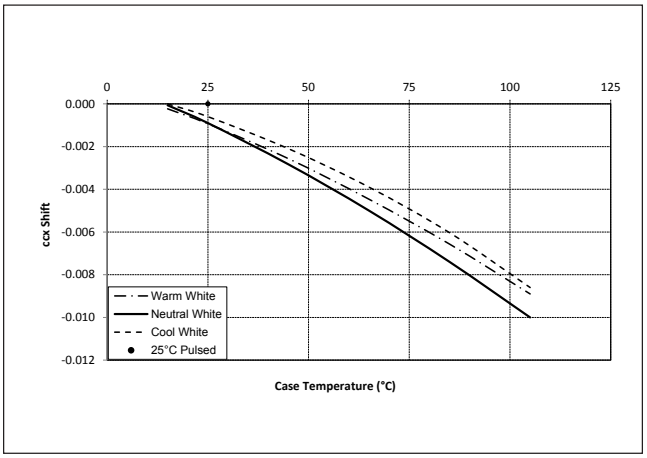


Figure 10: Typical DC ccx Shift vs. Case Temperature



Notes for Figures 7-10:

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. Characteristics shown for 17E based on 1750K and 80 CRI, 25E based on 2500K and 80 CRI, 27H based on 2700K and 97 CRI, 30H based on 3000K and 97 CRI, and 56G based on 5600K and 80 CRI.
5. 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 Temperature[1]

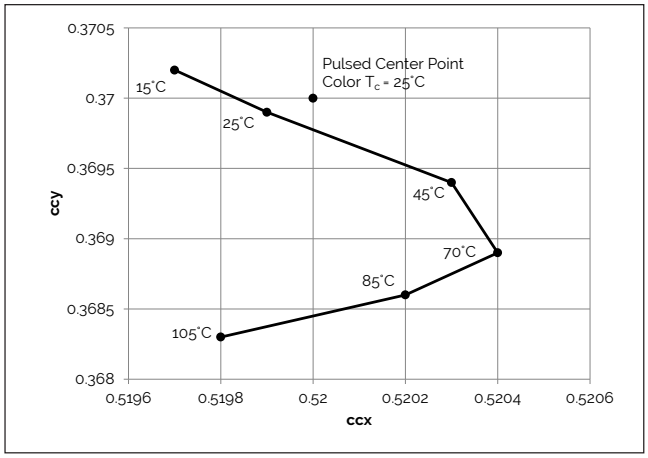


Figure 12: 2500K Color Shift vs. Case Temperature[1]

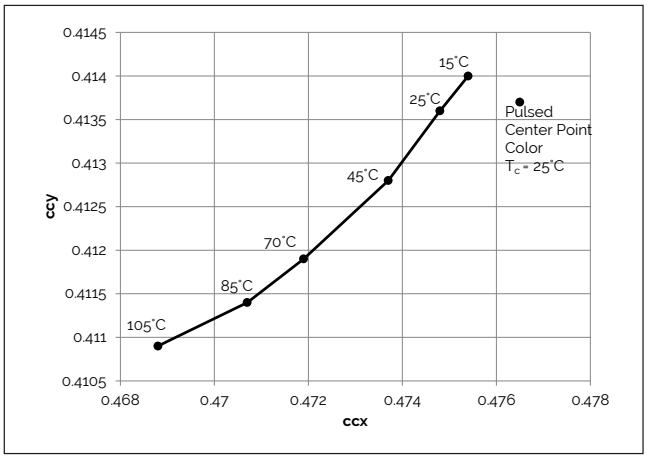


Figure 13: 2700K, 97 CRI Color Shift vs. Case Temperature[1]

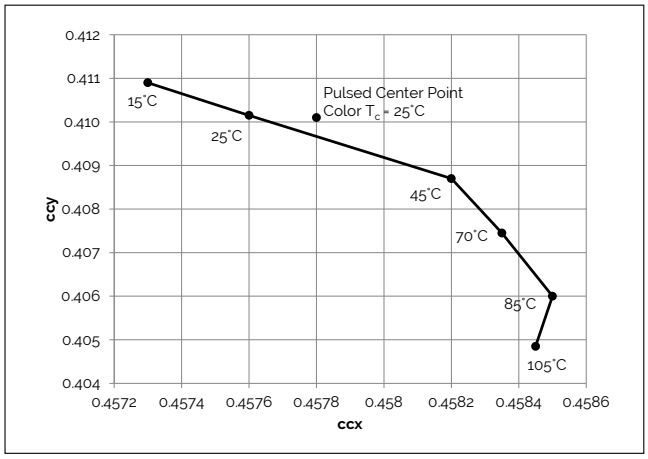
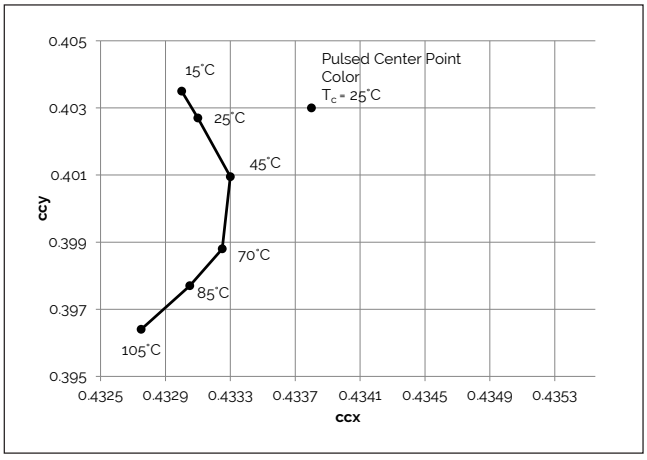


Figure 14: 3000K, 97 CRI Color Shift vs. Case Temperature[1]



Notes for Figures 11-14:

1. Measurements made under DC test conditions at the nominal drive current.
2. Typical color shift is shown with a tolerance of ±0.002.

Performance Curves

Figure 15: 5600K Color Shift vs. Case Temperature[1]

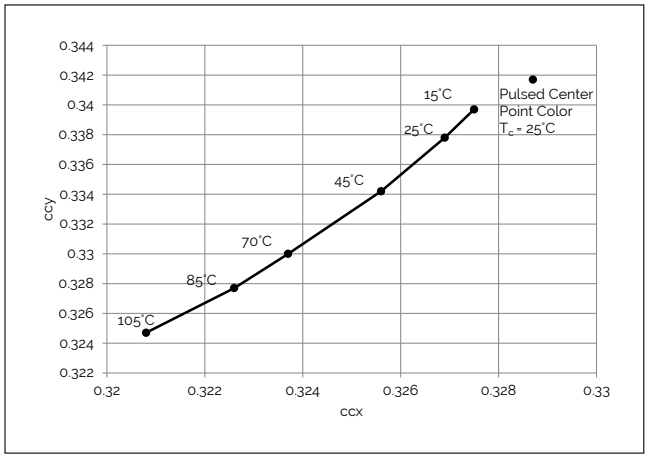


Figure 16: 3000K Class A Color Shift vs. Case Temperature[1]

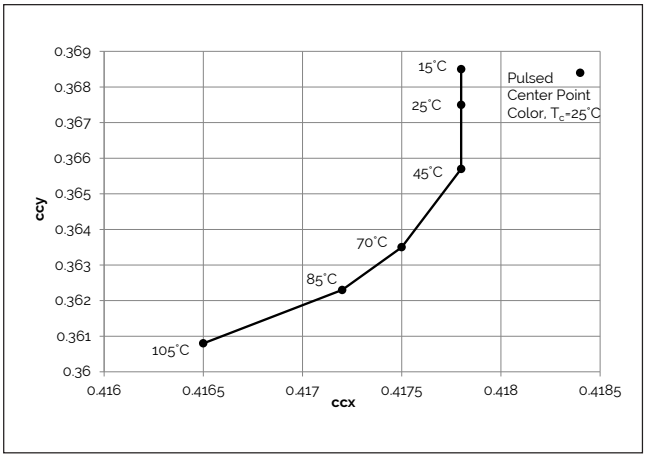


Figure 17: 3500K Class A Color Shift vs. Case Temperature[1]

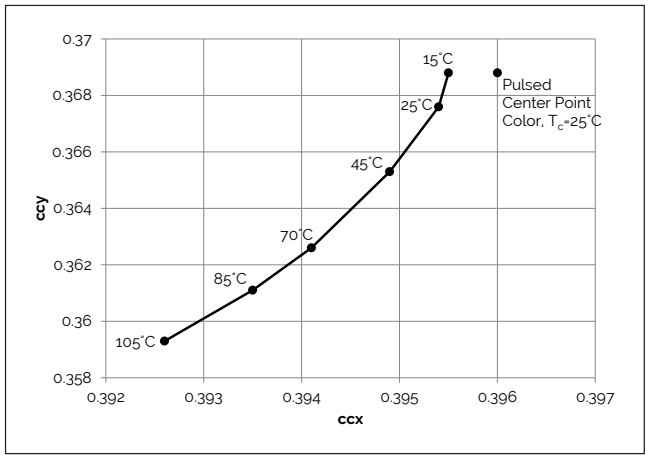
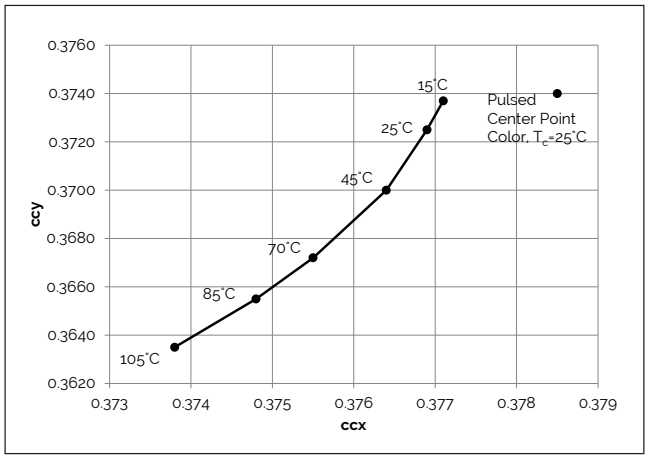


Figure 18: 4000K Class A Color Shift vs. Case Temperature[1]

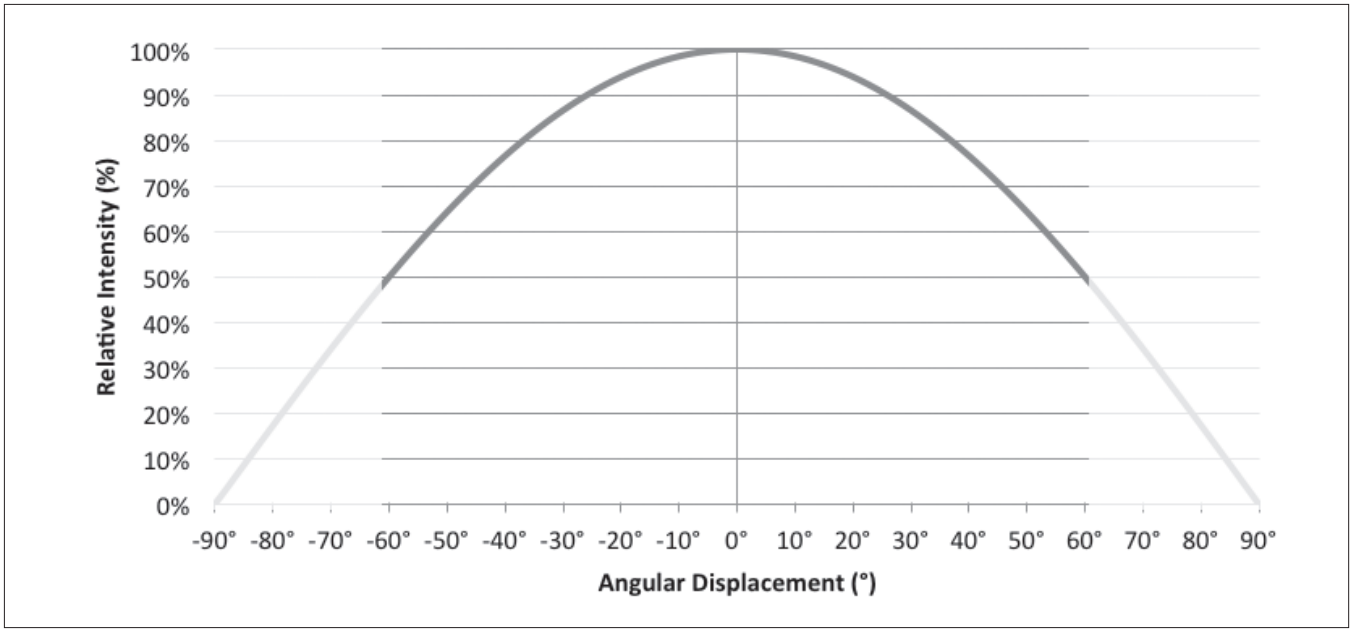


Notes for Figures 15-18:

1. Measurements made under DC test conditions at the nominal drive current.
2. Typical color shift is shown with a tolerance of ±0.002.

Typical Radiation Pattern

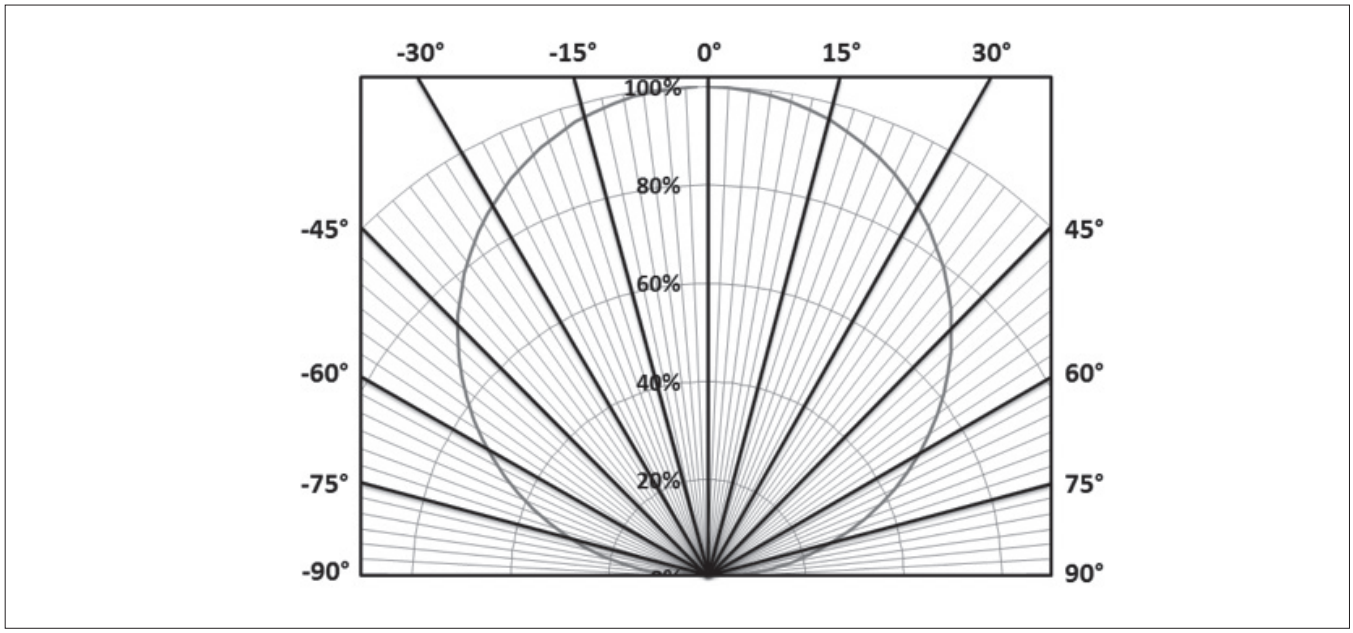
Figure 19: Typical Spatial Radiation Pattern



Notes for Figure 19:

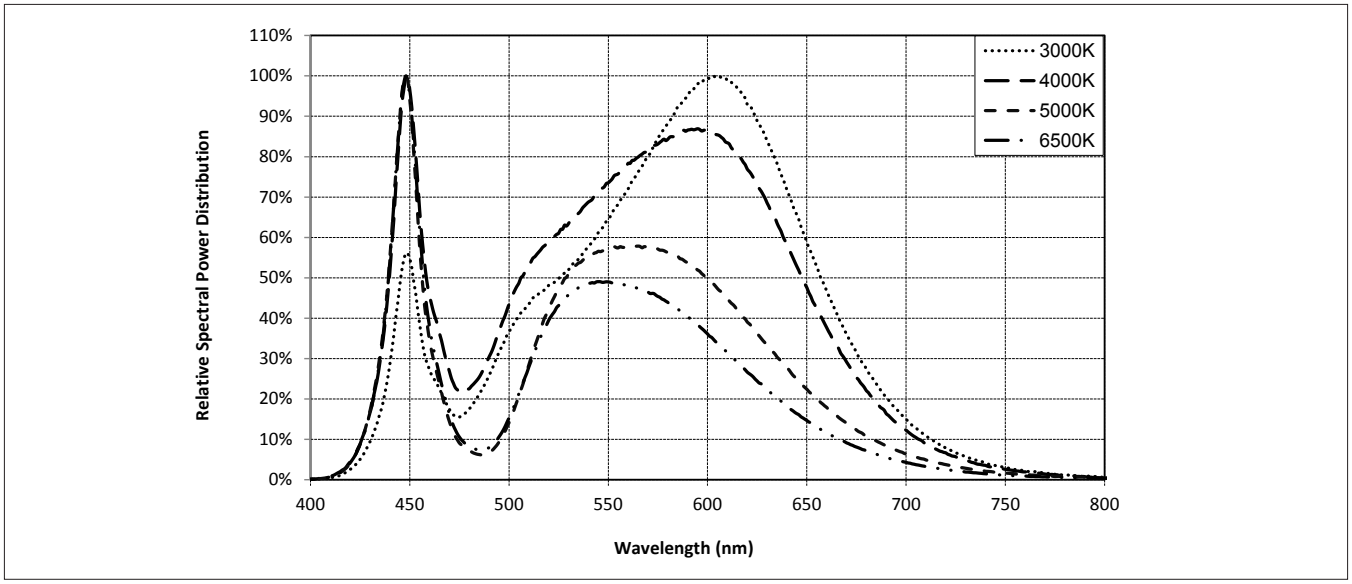
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 20: Typical Polar Radiation Pattern



Typical Color Spectrum

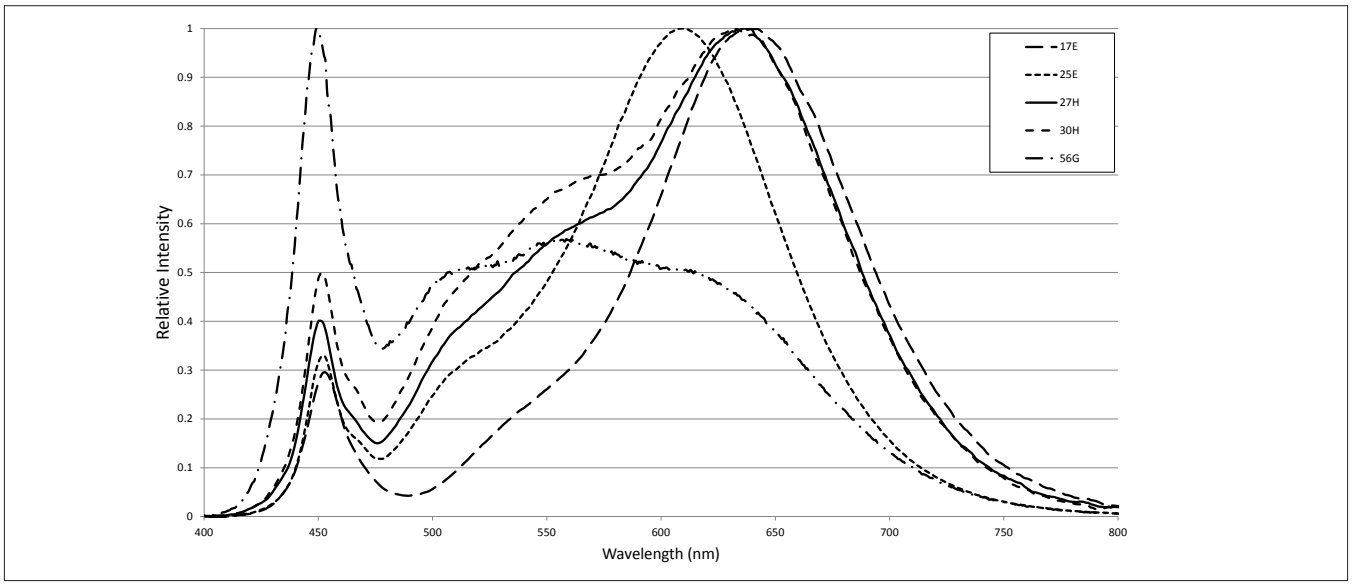
Figure 21: Typical Color Spectrum



Note for Figure 21:

1. Color spectra measured at nominal current for T_j = T_c = 25°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 22: Typical Color Spectrum for Vero SE 18 with Décor Series

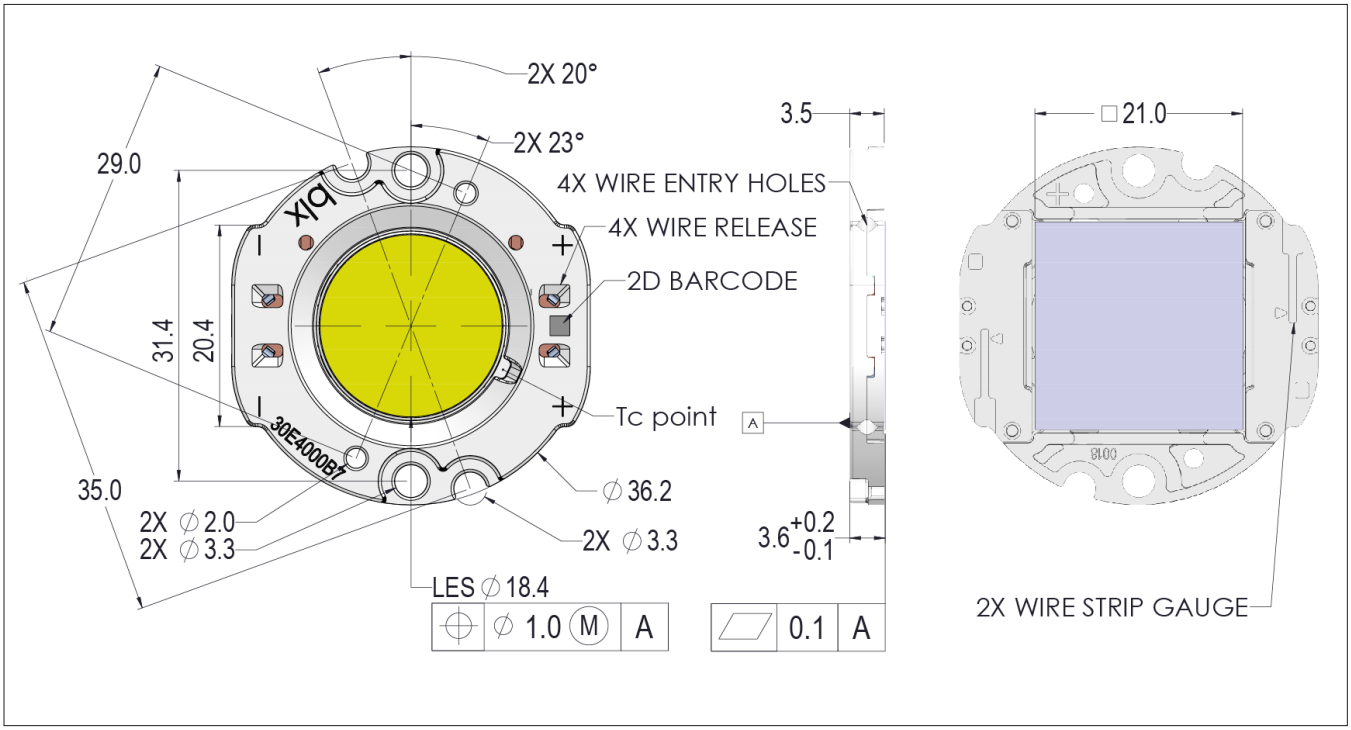


Note for Figure 22:

1. Color spectra measured at nominal current for T_j = T_c = 25°C.

Mechanical Dimensions

Figure 23: **Drawing for Vero SE 18 LED Array**

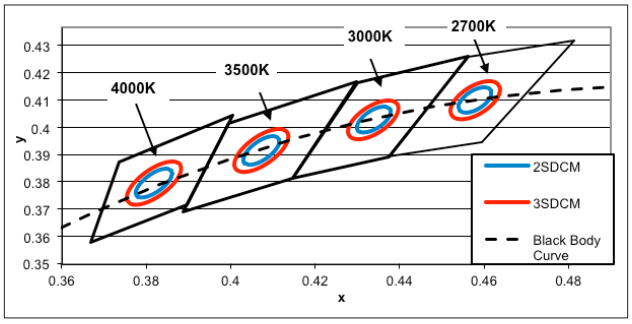


Notes for Figure 23:

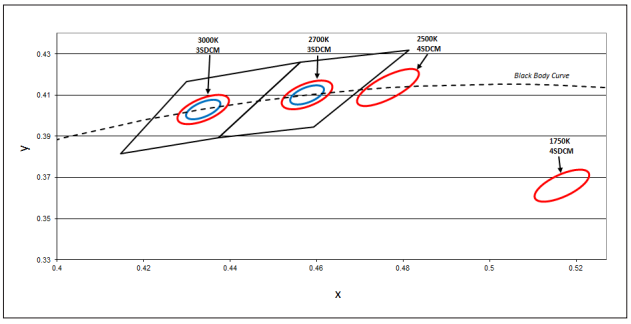
1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.
3. Unless otherwise specified, tolerances are ±0.1mm.
4. Mounting holes (2X) are for M3 screws.
5. Bridgelux recommends two tapped holes for mounting screws with 31.4 ± 0.10mm center-to-center spacing.
6. Screws with flat shoulders (pan, dome, button, round, truss, mushroom) provide optimal torque control. Do NOT use flat, countersink, or raised head screws.
7. The optical center of the LED Array is nominally defined by the mechanical center of the array to a tolerance of ± 0.2mm.
8. Bridgelux maintains a flatness of 0.10mm across the mounting surface of the array.

Color Binning Information

Figure 24: Graph of Warm and Neutral White Test Bins in xy Color Space



Note: Pulsed Test Conditions, T_c = 25˚C

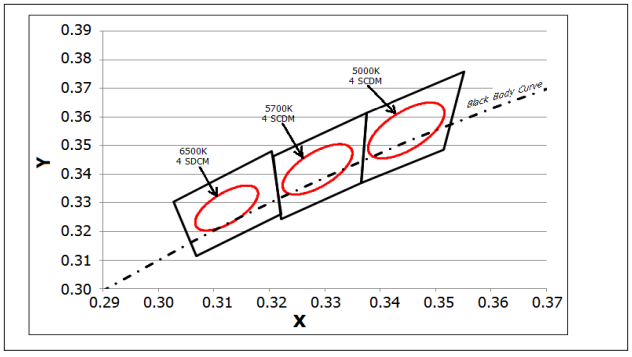


Note: Pulsed Test Conditions, T_c = 25˚C

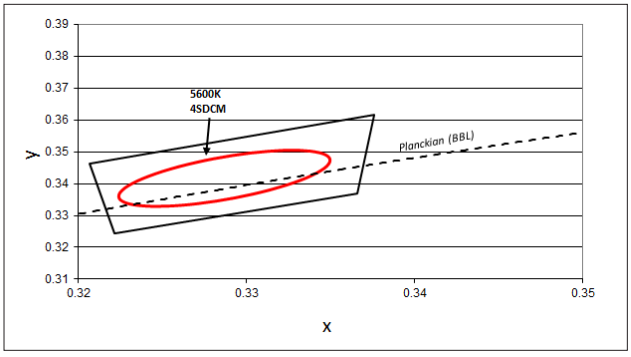
Table 8: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

Bin Code	1750K	2500K	2700K	3000K	3500K	4000K
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)	(0.4765, 0.4137)	(0.4578, 0.4101)	(0.4338, 0.403)	(0.4073, 0.3917)	(0.3818, 0.3797)

Figure 25: Graph of Cool White Test Bins in xy Color Space



Note: Pulsed Test Conditions, T_c = 25˚C



Note: Pulsed Test Conditions, T_c = 25˚C

Table 9: Cool White xy Bin Coordinates and Associated Typical CCT (product is hot targeted to T_c = 85˚C)

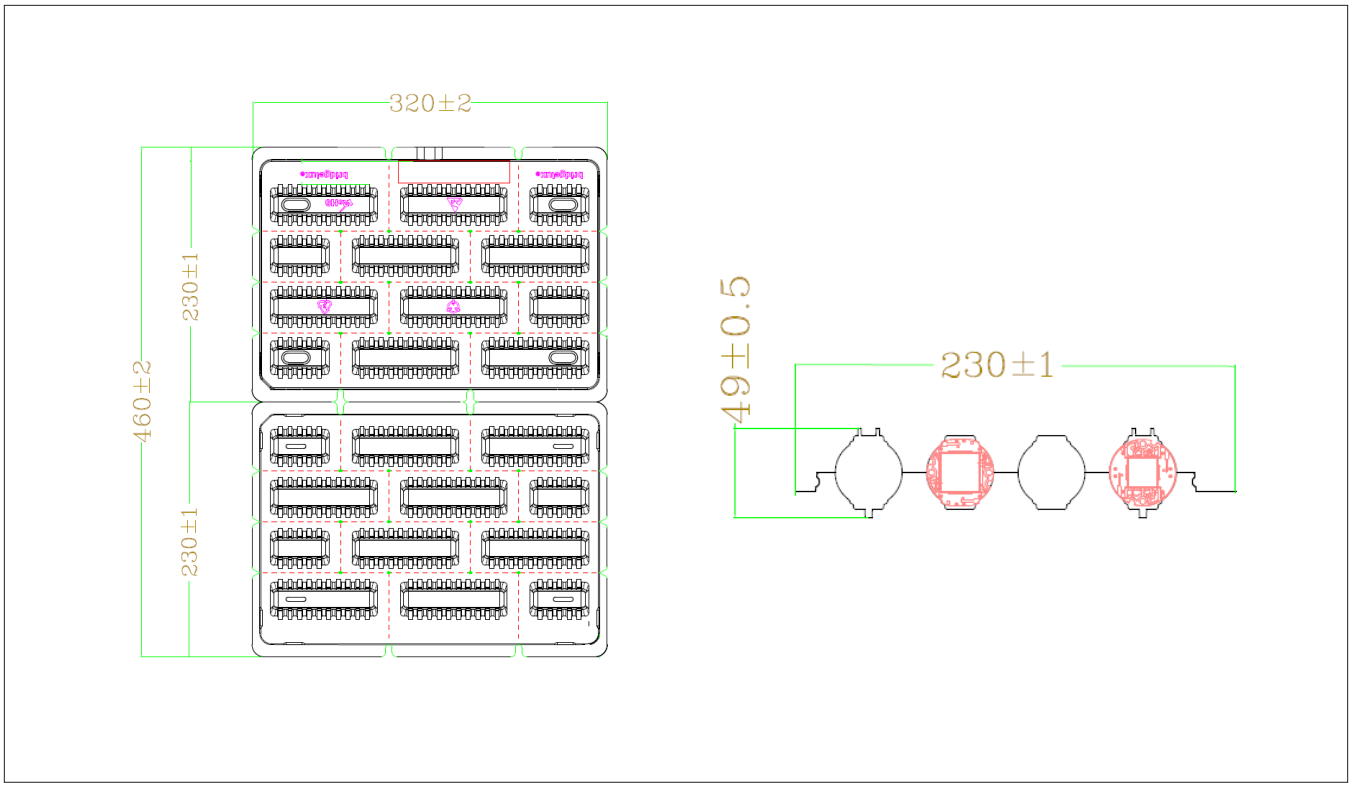
Bin Code	5000K	5600K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5310K - 6020K)	(5312K - 6022K)	(6022K - 7042K)
74 (4 SDCM)	(4801K - 5282K)	(5475K - 5830K)	(5829K - 5481K)	(6270K - 6765K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3293, 0.3423)	(0.3287, 0.3417)	(0.3123, 0.3282)

Note for Table 9:

1. Select configurations with a CCT of 5600K are available with center point targets at T_c = 85˚C or T_c = 25˚C.

Packaging and Labeling

Figure 26: Drawing for Vero SE 18 Packaging Tray

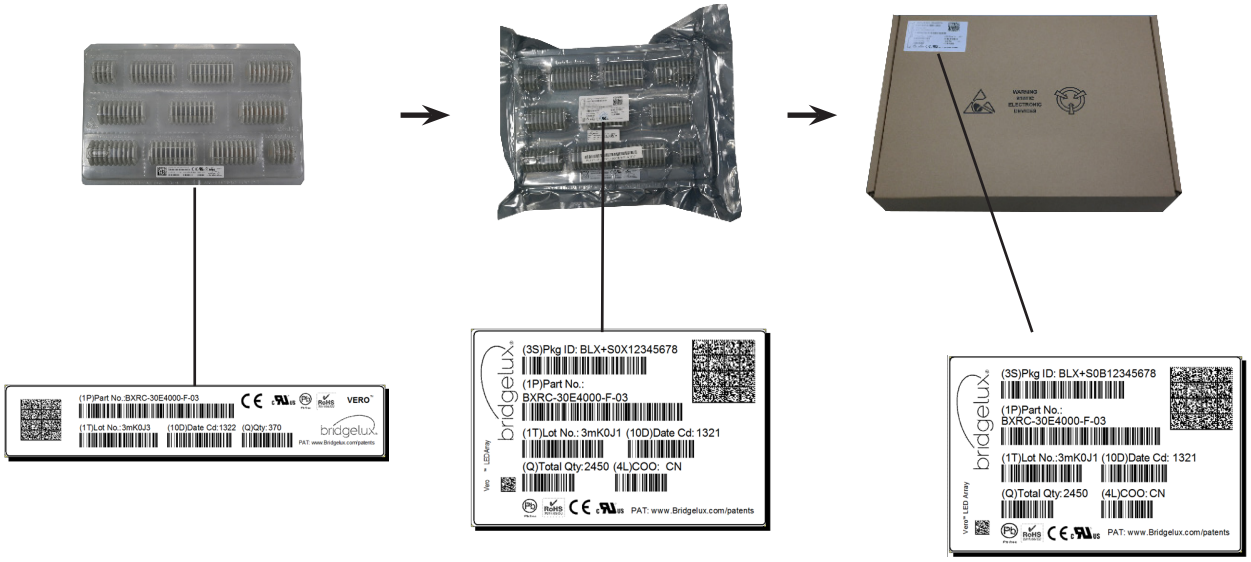


Notes for Figure 26:

1. Dimensions are in millimeters.
2. Drawings are not to scale.

Packaging and Labeling

Figure 27: Vero SE Series Packaging and Labeling



Notes for Figure 27:

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 28: Vero SE Product Labeling

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

Design Resources

Application Notes

Bridgelux has developed a comprehensive set of application notes and design resources to assist customers in successfully designing with the 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.

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