



Bridgelux® Gen 7 Vero® 18 Array

Product Data Sheet DSg2



Introduction

Vero® Series



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

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

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

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

Décor Series™ Ultra products provide a high CRI of 97 and typical R₉ 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 designed as a 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™ Entertainment products provide color points developed specifically for the healthcare and entertainment industries. The 5600K cool white color point combined with a CRI of 90 or 97 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 160 lm/W typical for 3000K 80 CRI
- Lumen output performance ranges from 1,455 to 13,600 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_f 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



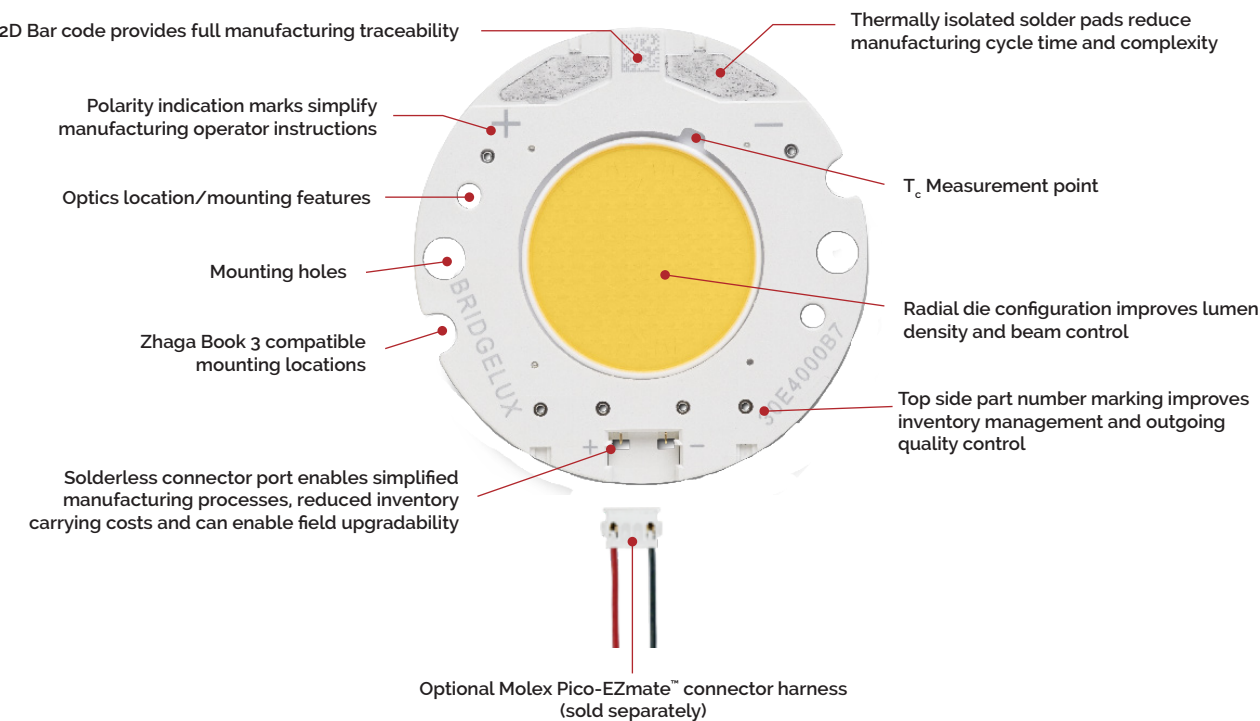
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Product Feature Map

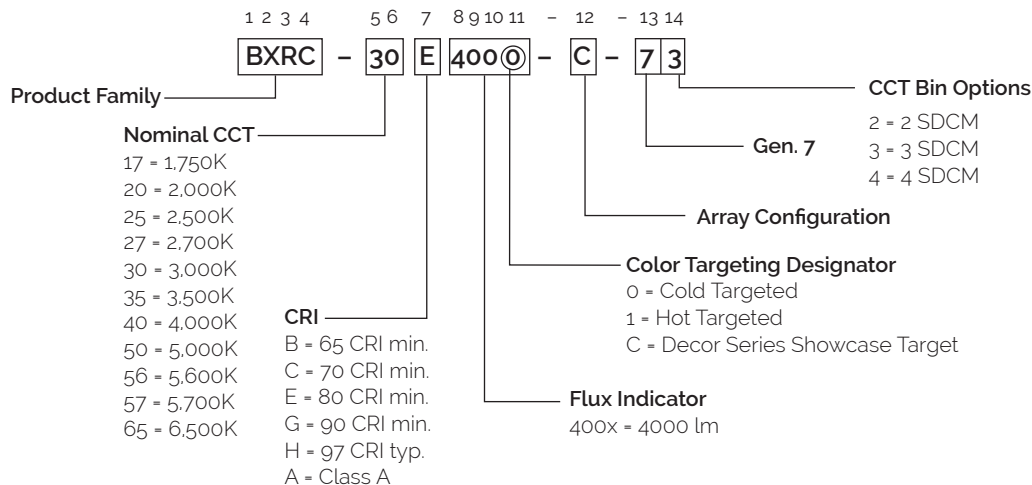
Vero 18 is the second largest form factor in the Vero family of next generation solid state light sources. In addition to delivering the performance and light quality required for many lighting applications, Vero incorporates

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	2774	2497	34.8	31.3	89
BXRC-17E4000-C-74	1750	80	1170	3624	3261	34.8	40.7	89
BXRC-17E4000-D-74	1750	80	1050	2710	2439	29.0	30.5	89
BXRC-20B4001-C-73	2000	65	1170	6081	5473	34.8	40.7	149
BXRC-20B4001-D-73	2000	65	1050	4548	4093	29.0	30.5	149
BXRC-25E4000-B-74	2500	80	900	4484	4036	34.8	31.3	143
BXRC-25E4000-C-74	2500	80	1170	5829	5246	34.8	40.7	143
BXRC-25E4000-D-74	2500	80	1050	4360	3924	29.0	30.5	143
BXRC-27E4000-B-7x	2700	80	900	4807	4326	34.8	31.3	153
BXRC-27E4000-C-7x	2700	80	1170	6249	5624	34.8	40.7	153
BXRC-27E4000-D-7x	2700	80	1050	4673	4206	29.0	30.5	153
BXRC-27G40H0-B-7x	2700	90	900	4166	3749	34.8	31.3	133
BXRC-27G40H0-C-7x	2700	90	1170	5415	4874	34.8	40.7	133
BXRC-27G40H0-D-7x	2700	90	1050	4050	3645	29.0	30.5	133
BXRC-27G4000-B-7x	2700	90	900	4000	3600	34.8	31.3	128
BXRC-27G4000-C-7x	2700	90	1170	5200	4680	34.8	40.7	128
BXRC-27G4000-D-7x	2700	90	1050	3889	3500	29.0	30.5	128
BXRC-27H4000-B-7x	2700	97	900	3484	3136	34.8	31.3	111
BXRC-27H4000-C-7x	2700	97	1170	4529	4076	34.8	40.7	111
BXRC-27H4000-D-7x	2700	97	1050	3387	3049	29.0	30.5	111
BXRC-30C4001-B-74	3000	70	900	5512	4961	34.8	31.3	176
BXRC-30C4001-C-74	3000	70	1170	7166	6449	34.8	40.7	176
BXRC-30C4001-D-74	3000	70	1050	5359	4823	29.0	30.5	176
BXRC-30E4000-B-7x	3000	80	900	5000	4500	34.8	31.3	160
BXRC-30E4000-C-7x	3000	80	1170	6500	5850	34.8	40.7	160
BXRC-30E4000-D-7x	3000	80	1050	4861	4375	29.0	30.5	160
BXRC-30G40H0-B-7x	3000	90	900	4353	3918	34.8	31.3	139
BXRC-30G40H0-C-7x	3000	90	1170	5660	5094	34.8	40.7	139
BXRC-30G40H0-D-7x	3000	90	1050	4233	3809	29.0	30.5	139
BXRC-30G4000-B-7x	3000	90	900	4161	3745	34.8	31.3	133
BXRC-30G4000-C-7x	3000	90	1170	5410	4869	34.8	40.7	133
BXRC-30G4000-D-7x	3000	90	1050	4046	3641	29.0	30.5	133
BXRC-30G400C-B-73	3000	90	900	3871	3484	34.8	31.3	124
BXRC-30G400C-D-73	3000	90	1050	3764	3387	29.0	30.5	124

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, Decor Series Street and Landmark and Decor Series Class A products. CRI values are minimums for all other products. Minimum Rg value for 80 CRI products is 0, the minimum Rg value for 90 CRI products is 50, the minimum Rg value for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on CRI and Rg values.
- Drive current is referred to as nominal drive current.
- Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) - T_c (case temperature) = 25°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 **3** 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°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-7x	80	450	33.2	14.9	1490	1338	100
		600	34.0	20.4	1954	1753	96
		900	34.8	31.3	2774	2497	89
		1350	35.6	48.1	4126	3636	86
		1800	36.1	65.1	5310	4616	82
BXRC-17E4000-C-7x	80	585	33.2	19.4	1946	1748	100
		780	34.0	26.5	2552	2289	96
		1170	34.8	40.7	3624	3261	89
		1755	35.6	62.5	5390	4749	86
		2340	36.1	84.6	6935	6029	82
BXRC-17E4000-D-7x	80	525	27.7	14.6	1455	1307	100
		700	28.2	19.8	1909	1712	97
		1050	29.0	30.5	2710	2439	89
		1575	30.4	47.9	4031	3551	84
		2100	31.5	66.2	5187	4509	78
BXRC-20B4001-C-73	65	585	33.2	19.4	3265	2934	168
		780	34.0	26.5	4283	3841	161
		1170	34.8	40.7	6081	5473	149
		1755	35.6	62.5	9044	7969	145
		2340	36.1	84.6	11638	10117	138
BXRC-20B4001-D-73	65	525	27.7	14.6	2442	2194	168
		700	28.2	19.8	3203	2873	162
		1050	29.0	30.5	4548	4093	149
		1575	30.4	47.9	6764	5960	141
		2100	31.5	66.2	8704	7566	131
BXRC-25E4000-B-74	80	450	33.2	14.9	2408	2163	161
		600	34.0	20.4	3158	2833	155
		900	34.8	31.3	4484	4036	143
		1350	35.6	48.1	6669	5876	139
		1800	36.1	65.1	8582	7460	132
BXRC-25E4000-C-74	80	585	33.2	19.4	3130	2812	161
		780	34.0	26.5	4106	3682	155
		1170	34.8	40.7	5829	5102	143
		1755	35.6	62.5	8670	7639	139
		2340	36.1	84.6	11157	9698	132
BXRC-25E4000-D-74	80	525	27.7	14.6	2341	2103	161
		700	28.2	19.8	3070	2754	155
		1050	29.0	30.5	4360	3924	143
		1575	30.4	47.9	6484	5713	135
		2100	31.5	66.2	8344	7253	126

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.