



Bridgelux® Gen 8 Vero® 10 Array

Product Data Sheet DS420



Introduction

Vero® Series



The Vero® Series is a revolutionary advancement in chip on board (COB) light source technology and innovation, simplifying the 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.

Features

- On board connector port
- Top side part number markings
- Efficacy of 178 lm/W typical, 3000K 80 CRI
- Reliable operation at up to 3x nominal current, 30% increase in maximum lumens per LES size
- Wide selection of CCT options (2700K-6500K) with minimum 70, 80 and 90 CRI options
- Uniform high-quality illumination
- 2 and 3 SDCM binning options (2700K – 4000K)
- Forward voltage bin codes (backside marking)
- Thermally isolated solder pads
- 10-Year warranty

Benefits

- Solder free installation and field upgradability
- Improved inventory management and quality control
- Enables high efficiency lighting systems and lower operating costs
- Supports the trend toward luminaire miniaturization and delivers enhanced optical control
- Design flexibility for a broad range of lighting applications
- Clean white light without pixelation
- Uniform consistent white light
- Design flexibility for multi-source applications
- Enhanced ease of use and installation
- Design with confidence

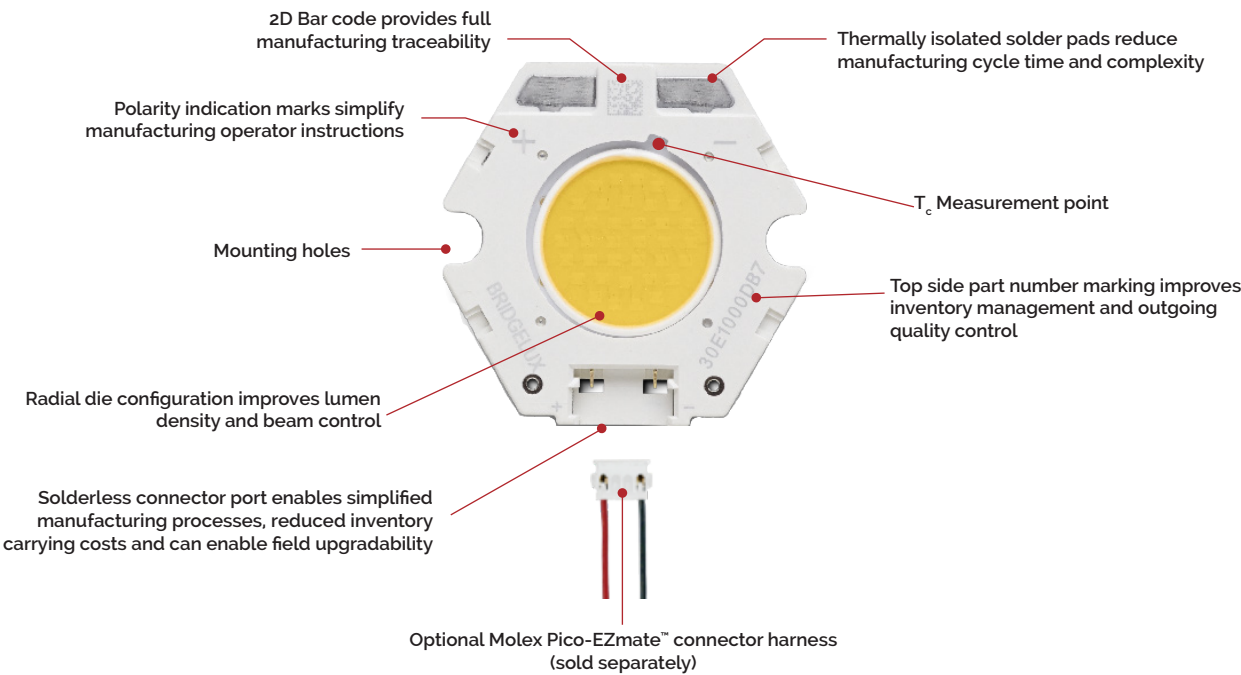
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Product Feature Map

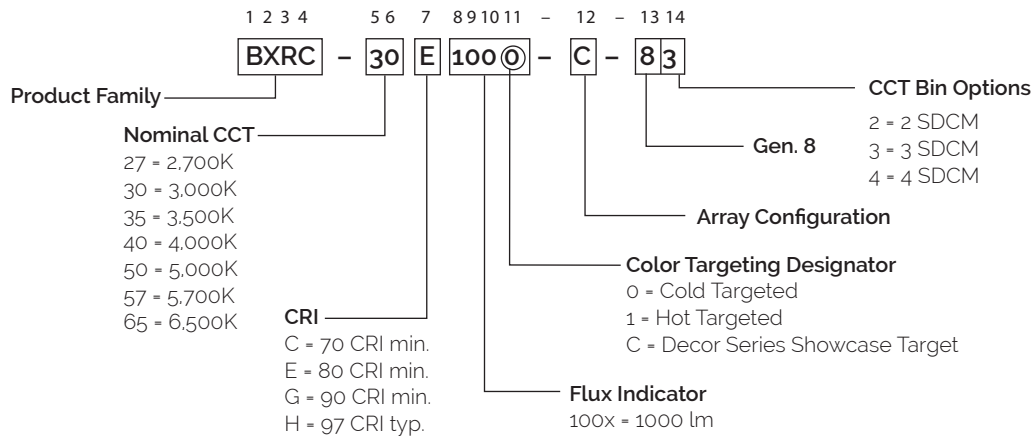
Vero 10 is the smallest form factor in the Vero family of next generation solid state light sources. In addition to delivering the performance and light quality required for many lighting applications, Vero incorporates several

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-27E1000-B-8x	2700	80	200	1145	1008	34.2	6.8	167
BXRC-27E1000-C-8x	2700	80	300	1544	1359	30.7	9.2	168
BXRC-27E1000-D-8x	2700	80	250	1043	918	24.9	6.2	168
BXRC-27G1000-B-8x	2700	90	200	945	832	34.2	6.8	138
BXRC-27G1000-C-8x	2700	90	300	1274	1121	30.7	9.2	138
BXRC-27G1000-D-8x	2700	90	250	860	757	24.9	6.2	138
BXRC-27G10H0-B-8x	2700	90	200	986	867	34.2	6.8	144
BXRC-27G10H0-C-8x	2700	90	300	1329	1170	30.7	9.2	144
BXRC-27G10H0-D-8x	2700	90	250	897	790	24.9	6.2	144
BXRC-27H1000-B-8x	2700	97	200	838	737	34.2	6.8	122
BXRC-27H1000-C-8x	2700	97	300	1129	994	30.7	9.2	123
BXRC-27H1000-D-8x	2700	97	250	763	671	24.9	6.2	123
BXRC-30C1001-B-8x	3000	70	200	1274	1121	34.2	6.8	186
BXRC-30C1001-C-8x	3000	70	300	1718	1512	30.7	9.2	187
BXRC-30C1001-D-8x	3000	70	250	1160	1021	24.9	6.2	186
BXRC-30E1000-B-8x	3000	80	200	1217	1071	34.2	6.8	178
BXRC-30E1000-C-8x	3000	80	300	1641	1444	30.7	9.2	178
BXRC-30E1000-D-8x	3000	80	250	1108	975	24.9	6.2	178
BXRC-30G1000-B-8x	3000	90	200	988	869	34.2	6.8	144
BXRC-30G1000-C-8x	3000	90	300	1332	1172	30.7	9.2	145
BXRC-30G1000-D-8x	3000	90	250	899	792	24.9	6.2	144
BXRC-30G10H0-B-8x	3000	90	200	1034	910	34.2	6.8	151
BXRC-30G10H0-C-8x	3000	90	300	1395	1227	30.7	9.2	151
BXRC-30G10H0-D-8x	3000	90	250	942	829	24.9	6.2	151
BXRC-30H1000-B-8x	3000	97	200	895	787	34.2	6.8	131
BXRC-30H1000-C-8x	3000	97	300	1207	1062	30.7	9.2	131
BXRC-30H1000-D-8x	3000	97	250	815	717	24.9	6.2	131
BXRC-35E1000-B-8x	3500	80	200	1246	1096	34.2	6.8	182
BXRC-35E1000-C-8x	3500	80	300	1680	1478	30.7	9.2	182
BXRC-35E1000-D-8x	3500	80	250	1134	998	24.9	6.2	182
BXRC-35G1000-B-8x	3500	90	200	1024	901	34.2	6.8	150
BXRC-35G1000-C-8x	3500	90	300	1380	1215	30.7	9.2	150
BXRC-35G1000-D-8x	3500	90	250	932	820	24.9	6.2	150

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 $T_c = 85^\circ\text{C}$.
2. CRI values are minimums for all 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.
3. Drive current is referred to as nominal drive current.
4. Products tested under pulsed condition (10ms pulse width) at nominal drive 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 $\pm 7\%$ tolerance on flux measurements.
7. Minimum flux values at the nominal test current are guaranteed by 100% test.

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-40C1001-B-8x	4000	70	200	1310	1153	34.2	6.8	192
BXRC-40C1001-C-8x	4000	70	300	1766	1555	30.7	9.2	192
BXRC-40C1001-D-8x	4000	70	250	1193	1050	24.9	6.2	192
BXRC-40E1000-B-8x	4000	80	200	1253	1102	34.2	6.8	183
BXRC-40E1000-C-8x	4000	80	300	1689	1487	30.7	9.2	183
BXRC-40E1000-D-8x	4000	80	250	1141	1004	24.9	6.2	183
BXRC-40G1000-B-8x	4000	90	200	1045	920	34.2	6.8	153
BXRC-40G1000-C-8x	4000	90	300	1409	1240	30.7	9.2	153
BXRC-40G1000-D-8x	4000	90	250	952	837	24.9	6.2	153
BXRC-50C1001-B-8x	5000	70	200	1317	1159	34.2	6.8	193
BXRC-50C1001-C-8x	5000	70	300	1776	1563	30.7	9.2	193
BXRC-50C1001-D-8x	5000	70	250	1199	1055	24.9	6.2	193
BXRC-50E1001-B-8x	5000	80	200	1267	1115	34.2	6.8	185
BXRC-50E1001-C-8x	5000	80	300	1709	1504	30.7	9.2	186
BXRC-50E1001-D-8x	5000	80	250	1154	1015	24.9	6.2	185
BXRC-50G1001-B-8x	5000	90	200	1095	964	34.2	6.8	160
BXRC-50G1001-C-8x	5000	90	300	1477	1300	30.7	9.2	160
BXRC-50G1001-D-8x	5000	90	250	997	878	24.9	6.2	160
BXRC-57C1001-B-8x	5700	70	200	1281	1128	34.2	6.8	187
BXRC-57C1001-C-8x	5700	70	300	1728	1521	30.7	9.2	188
BXRC-57C1001-D-8x	5700	70	250	1167	1027	24.9	6.2	187
BXRC-57E1001-B-8x	5700	80	200	1217	1071	34.2	6.8	178
BXRC-57E1001-C-8x	5700	80	300	1641	1444	30.7	9.2	178
BXRC-57E1001-D-8x	5700	80	250	1108	975	24.9	6.2	178
BXRC-65C1001-B-8x	6500	70	200	1281	1128	34.2	6.8	187
BXRC-65C1001-C-8x	6500	70	300	1728	1521	30.7	9.2	188
BXRC-65C1001-D-8x	6500	70	250	1167	1027	24.9	6.2	187
BXRC-65E1001-B-8x	6500	80	200	1231	1084	34.2	6.8	180
BXRC-65E1001-C-8x	6500	80	300	1660	1461	30.7	9.2	180
BXRC-65E1001-D-8x	6500	80	250	1121	987	24.9	6.2	180

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 $T_c = 85^\circ\text{C}$.
2. CRI values are minimums for all products. Minimum R_g value for 80 CRI products is 0, the minimum R_g value for 90 CRI products is 50, the minimum R_g value for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on CRI and R_g values.
3. Drive current is referred to as nominal drive current.
4. Products tested under pulsed condition (10ms pulse width) at nominal drive 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 $\pm 7\%$ tolerance on flux measurements.
7. Minimum flux values at the nominal test current are guaranteed by 100% test.

Product Selection Guide

Table 2: 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-27E1000-B-8x	2700	80	200	1031	907	33.6	6.7	154
BXRC-27E1000-C-8x	2700	80	300	1390	1223	30.1	9.0	154
BXRC-27E1000-D-8x	2700	80	250	939	826	24.4	6.1	154
BXRC-27G1000-B-8x	2700	90	200	850	748	33.6	6.7	127
BXRC-27G1000-C-8x	2700	90	300	1147	1009	30.1	9.0	127
BXRC-27G1000-D-8x	2700	90	250	774	681	24.4	6.1	127
BXRC-27G10H0-B-8x	2700	90	200	887	781	33.6	6.7	132
BXRC-27G10H0-C-8x	2700	90	300	1196	1053	30.1	9.0	132
BXRC-27G10H0-D-8x	2700	90	250	808	711	24.4	6.1	132
BXRC-27H1000-B-8x	2700	97	200	754	663	33.6	6.7	112
BXRC-27H1000-C-8x	2700	97	300	1016	894	30.1	9.0	112
BXRC-27H1000-D-8x	2700	97	250	686	604	24.4	6.1	112
BXRC-30C1001-B-8x	3000	70	200	1147	1009	33.6	6.7	171
BXRC-30C1001-C-8x	3000	70	300	1546	1361	30.1	9.0	171
BXRC-30C1001-D-8x	3000	70	250	1044	919	24.4	6.1	171
BXRC-30E1000-B-8x	3000	80	200	1095	964	33.6	6.7	163
BXRC-30E1000-C-8x	3000	80	300	1477	1300	30.1	9.0	163
BXRC-30E1000-D-8x	3000	80	250	997	878	24.4	6.1	163
BXRC-30G1000-B-8x	3000	90	200	889	782	33.6	6.7	133
BXRC-30G1000-C-8x	3000	90	300	1199	1055	30.1	9.0	133
BXRC-30G1000-D-8x	3000	90	250	809	712	24.4	6.1	133
BXRC-30G10H0-B-8x	3000	90	200	931	819	33.6	6.7	139
BXRC-30G10H0-C-8x	3000	90	300	1255	1105	30.1	9.0	139
BXRC-30G10H0-D-8x	3000	90	250	848	746	24.4	6.1	139
BXRC-30H1000-B-8x	3000	97	200	805	709	33.6	6.7	120
BXRC-30H1000-C-8x	3000	97	300	1086	956	30.1	9.0	120
BXRC-30H1000-D-8x	3000	97	250	733	645	24.4	6.1	120
BXRC-35E1000-B-8x	3500	80	200	1121	987	33.6	6.7	167
BXRC-35E1000-C-8x	3500	80	300	1512	1330	30.1	9.0	167
BXRC-35E1000-D-8x	3500	80	250	1021	898	24.4	6.1	167
BXRC-35G1000-B-8x	3500	90	200	921	811	33.6	6.7	137
BXRC-35G1000-C-8x	3500	90	300	1242	1093	30.1	9.0	137
BXRC-35G1000-D-8x	3500	90	250	839	738	24.4	6.1	137

Notes for Table 2:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are not targeted to $T_c = 85^\circ\text{C}$.
- CRI values are minimums for all 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.
- 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.

Product Selection Guide

Table 2: 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-40C1001-B-8x	4000	70	200	1179	1038	33.6	6.7	176
BXRC-40C1001-C-8x	4000	70	300	1590	1399	30.1	9.0	176
BXRC-40C1001-D-8x	4000	70	250	1073	945	24.4	6.1	176
BXRC-40E1000-B-8x	4000	80	200	1128	992	33.6	6.7	168
BXRC-40E1000-C-8x	4000	80	300	1520	1338	30.1	9.0	168
BXRC-40E1000-D-8x	4000	80	250	1027	903	24.4	6.1	168
BXRC-40G1000-B-8x	4000	90	200	941	828	33.6	6.7	140
BXRC-40G1000-C-8x	4000	90	300	1268	1116	30.1	9.0	140
BXRC-40G1000-D-8x	4000	90	250	856	754	24.4	6.1	140
BXRC-50C1001-B-8x	5000	70	200	1186	1043	33.6	6.7	177
BXRC-50C1001-C-8x	5000	70	300	1599	1407	30.1	9.0	177
BXRC-50C1001-D-8x	5000	70	250	1079	950	24.4	6.1	177
BXRC-50E1001-B-8x	5000	80	200	1140	1004	33.6	6.7	170
BXRC-50E1001-C-8x	5000	80	300	1538	1353	30.1	9.0	170
BXRC-50E1001-D-8x	5000	80	250	1038	914	24.4	6.1	170
BXRC-50G1001-B-8x	5000	90	200	986	867	33.6	6.7	147
BXRC-50G1001-C-8x	5000	90	300	1329	1170	30.1	9.0	147
BXRC-50G1001-D-8x	5000	90	250	897	790	24.4	6.1	147
BXRC-57C1001-B-8x	5700	70	200	1153	1015	33.6	6.7	172
BXRC-57C1001-C-8x	5700	70	300	1555	1368	30.1	9.0	172
BXRC-57C1001-D-8x	5700	70	250	1050	924	24.4	6.1	172
BXRC-57E1001-B-8x	5700	80	200	1095	964	33.6	6.7	163
BXRC-57E1001-C-8x	5700	80	300	1477	1300	30.1	9.0	163
BXRC-57E1001-D-8x	5700	80	250	997	878	24.4	6.1	163
BXRC-65C1001-B-8x	6500	70	200	1153	1015	33.6	6.7	172
BXRC-65C1001-C-8x	6500	70	300	1555	1368	30.1	9.0	172
BXRC-65C1001-D-8x	6500	70	250	1050	924	24.4	6.1	172
BXRC-65E1001-B-8x	6500	80	200	1108	975	33.6	6.7	165
BXRC-65E1001-C-8x	6500	80	300	1494	1315	30.1	9.0	165
BXRC-65E1001-D-8x	6500	80	250	1009	888	24.4	6.1	165

Notes for Table 2:

1. Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
2. CRI values are minimums for all products. Minimum Rg value for 80 CRI products is 0, the minimum Rg value for 90 CRI products is 50. Bridgelux maintains a ± 3 tolerance on CRI and Rg values.
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.

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 3.

Table 3: 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-27E1000-B-8x	80	100	32.9	3.3	597	537	181
		150	33.6	5.0	872	785	173
		200	34.2	6.8	1145	1031	168
		270	35.0	9.5	1500	1350	159
		400	36.5	14.6	2131	1918	146
		500	37.5	18.7	2581	2323	138
BXRC-27E1000-C-8x	80	150	29.6	4.4	805	725	181
		225	30.2	6.8	1176	1058	173
		300	30.7	9.2	1544	1390	168
		360	31.2	11.2	1817	1635	162
		600	32.8	19.7	2874	2586	146
		1000	35.0	35.0	4400	3960	126
BXRC-27E1000-D-8x	80	125	24.0	3.0	544	489	181
		185	24.4	4.5	784	706	174
		250	24.9	6.2	1043	939	168
		350	25.6	9.0	1412	1271	158
		500	26.6	13.3	1940	1746	146
		1000	29.1	29.1	3412	3070	117
BXRC-27G1000-B-8x	90	100	32.9	3.3	493	443	150
		150	33.6	5.0	719	647	143
		200	34.2	6.8	945	850	138
		270	35.0	9.5	1238	1114	131
		400	36.5	14.6	1758	1582	120
		500	37.5	18.7	2129	1917	114
BXRC-27G1000-C-8x	90	150	29.6	4.4	664	598	150
		225	30.2	6.8	970	873	143
		300	30.7	9.2	1274	1147	138
		360	31.2	11.2	1499	1349	134
		600	32.8	19.7	2371	2134	120
		1000	35.0	35.0	3630	3267	104
BXRC-27G1000-D-8x	90	125	24.0	3.0	448	404	150
		185	24.4	4.5	647	582	143
		250	24.9	6.2	860	774	138
		350	25.6	9.0	1165	1048	130
		500	26.6	13.3	1601	1441	120
		1000	29.1	29.1	2815	2533	97

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-27G10H0-B-8x	90	100	32.9	3.3	514	462	156
		150	33.6	5.0	750	675	149
		200	34.2	6.8	986	887	144
		270	35.0	9.5	1291	1162	137
		400	36.5	14.6	1834	1651	126
		500	37.5	18.7	2221	1999	118
BXRC-27G10H0-C-8x	90	150	29.6	4.4	693	624	156
		225	30.2	6.8	1012	911	149
		300	30.7	9.2	1329	1196	144
		360	31.2	11.2	1564	1407	139
		600	32.8	19.7	2473	2226	126
		1000	35.0	35.0	3787	3408	108
BXRC-27G10H0-D-8x	90	125	24.0	3.0	468	421	156
		185	24.4	4.5	675	607	149
		250	24.9	6.2	897	808	144
		350	25.6	9.0	1215	1093	136
		500	26.6	13.3	1670	1503	126
		1000	29.1	29.1	2936	2642	101
BXRC-27H1000-B-8x	97	100	32.9	3.3	437	393	133
		150	33.6	5.0	638	574	127
		200	34.2	6.8	838	754	122
		270	35.0	9.5	1097	987	116
		400	36.5	14.6	1558	1403	107
		500	37.5	18.7	1887	1699	101
BXRC-27H1000-C-8x	97	150	29.8	4.5	592	532	132
		225	30.3	6.8	863	777	127
		300	30.7	9.2	1129	1016	122
		360	31.1	11.2	1338	1204	120
		600	32.4	19.4	2138	1924	110
		1000	34.3	34.3	3343	3009	97
BXRC-27H1000-D-8x	97	125	24.3	3.0	400	360	132
		185	24.6	4.5	576	518	127
		250	24.9	6.2	763	686	123
		350	25.4	8.9	1044	939	117
		500	26.1	13.0	1450	1305	111
		1000	28.1	28.1	2676	2409	95
BXRC-30C1001-B-8x	70	100	32.9	3.3	664	598	202
		150	33.6	5.0	970	873	193
		200	34.2	6.8	1274	1147	186
		270	35.0	9.5	1669	1502	176
		400	36.5	14.6	2371	2134	162
		500	37.5	18.7	2872	2584	153

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-30C1001-C-8x	70	150	29.8	4.5	900	810	201
		225	30.3	6.8	1313	1182	193
		300	30.7	9.2	1718	1546	186
		360	31.1	11.2	2036	1832	182
		600	32.4	19.4	3252	2927	167
		1000	34.3	34.3	5086	4578	148
BXRC-30C1001-D-8x	70	125	24.3	3.0	609	548	201
		185	24.6	4.5	876	788	193
		250	24.9	6.2	1160	1044	186
		350	25.4	8.9	1588	1429	179
		500	26.1	13.0	2206	1986	169
		1000	28.1	28.1	4072	3664	145
BXRC-30E1000-B-8x	80	100	32.9	3.3	634	571	193
		150	33.6	5.0	926	834	184
		200	34.2	6.8	1217	1095	178
		270	35.0	9.5	1594	1435	169
		400	36.5	14.6	2264	2038	155
		500	37.5	18.7	2742	2468	146
BXRC-30E1000-C-8x	80	150	29.8	4.5	860	774	192
		225	30.3	6.8	1254	1129	184
		300	30.7	9.2	1641	1477	178
		360	31.1	11.2	1944	1750	174
		600	32.4	19.4	3106	2796	160
		1000	34.3	34.3	4858	4372	141
BXRC-30E1000-D-8x	80	125	24.3	3.0	581	523	192
		185	24.6	4.5	836	753	184
		250	24.9	6.2	1108	997	178
		350	25.4	8.9	1516	1365	171
		500	26.1	13.0	2107	1896	162
		1000	28.1	28.1	3889	3500	138
BXRC-30G1000-B-8x	90	100	32.9	3.3	515	463	157
		150	33.6	5.0	752	677	149
		200	34.2	6.8	988	889	144
		270	35.0	9.5	1294	1165	137
		400	36.5	14.6	1838	1654	126
		500	37.5	18.7	2226	2004	119
BXRC-30G1000-C-8x	90	150	29.8	4.5	698	628	156
		225	30.3	6.8	1018	916	149
		300	30.7	9.2	1332	1199	144
		360	31.1	11.2	1578	1421	141
		600	32.4	19.4	2522	2269	130
		1000	34.3	34.3	3943	3549	115

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-30G1000-D-8x	90	125	24.3	3.0	472	425	156
		185	24.6	4.5	679	611	149
		250	24.9	6.2	899	809	144
		350	25.4	8.9	1231	1108	139
		500	26.1	13.0	1710	1539	131
		1000	28.1	28.1	3157	2841	112
BXRC-30G10H0-B-8x	90	100	32.9	3.3	539	485	164
		150	33.6	5.0	787	709	156
		200	34.2	6.8	1034	931	151
		270	35.0	9.5	1355	1219	143
		400	36.5	14.6	1925	1732	132
		500	37.5	18.7	2331	2098	124
BXRC-30G10H0-C-8x	90	150	29.8	4.5	731	658	163
		225	30.3	6.8	1066	960	156
		300	30.7	9.2	1395	1255	151
		360	31.1	11.2	1653	1487	148
		600	32.4	19.4	2640	2376	136
		1000	34.3	34.3	4129	3716	120
BXRC-30G10H0-D-8x	90	125	24.3	3.0	494	445	163
		185	24.6	4.5	711	640	156
		250	24.9	6.2	942	848	151
		350	25.4	8.9	1289	1160	145
		500	26.1	13.0	1791	1612	137
		1000	28.1	28.1	3305	2975	118
BXRC-30H1000-B-8x	97	100	32.9	3.3	466	420	142
		150	33.6	5.0	681	613	135
		200	34.2	6.8	895	805	131
		270	35.0	9.5	1172	1055	124
		400	36.5	14.6	1665	1498	114
		500	37.5	18.7	2017	1815	108
BXRC-30H1000-C-8x	97	150	29.8	4.5	632	569	141
		225	30.3	6.8	922	830	135
		300	30.7	9.2	1207	1086	131
		360	31.1	11.2	1430	1287	128
		600	32.4	19.4	2284	2056	117
		1000	34.3	34.3	3572	3215	104
BXRC-30H1000-D-8x	97	125	24.3	3.0	427	385	141
		185	24.6	4.5	615	554	135
		250	24.9	6.2	815	733	131
		350	25.4	8.9	1115	1003	126
		500	26.1	13.0	1549	1394	119
		1000	28.1	28.1	2859	2573	102

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-35E1000-B-8x	80	100	32.9	3.3	649	584	197
		150	33.6	5.0	948	853	188
		200	34.2	6.8	1246	1121	182
		270	35.0	9.5	1632	1468	172
		400	36.5	14.6	2318	2086	159
		500	37.5	18.7	2807	2526	150
BXRC-35E1000-C-8x	80	150	29.8	4.5	880	792	197
		225	30.3	6.8	1284	1156	188
		300	30.7	9.2	1680	1512	182
		360	31.1	11.2	1990	1791	178
		600	32.4	19.4	3179	2861	164
		1000	34.3	34.3	4972	4475	145
BXRC-35E1000-D-8x	80	125	24.3	3.0	595	536	196
		185	24.6	4.5	856	770	188
		250	24.9	6.2	1134	1021	182
		350	25.4	8.9	1552	1397	175
		500	26.1	13.0	2157	1941	165
		1000	28.1	28.1	3980	3582	142
BXRC-35G1000-B-8x	90	100	32.9	3.3	534	480	162
		150	33.6	5.0	779	701	155
		200	34.2	6.8	1024	921	150
		270	35.0	9.5	1341	1207	142
		400	36.5	14.6	1905	1714	131
		500	37.5	18.7	2307	2076	123
BXRC-35G1000-C-8x	90	150	29.8	4.5	723	651	162
		225	30.3	6.8	1055	950	155
		300	30.7	9.2	1380	1242	150
		360	31.1	11.2	1636	1472	146
		600	32.4	19.4	2613	2352	134
		1000	34.3	34.3	4086	3678	119
BXRC-35G1000-D-8x	90	125	24.3	3.0	489	440	161
		185	24.6	4.5	704	633	155
		250	24.9	6.2	932	839	150
		350	25.4	8.9	1275	1148	144
		500	26.1	13.0	1772	1595	136
		1000	28.1	28.1	3271	2944	116
BXRC-40C1001-B-8x	70	100	32.9	3.3	683	615	208
		150	33.6	5.0	997	898	198
		200	34.2	6.8	1310	1179	192
		270	35.0	9.5	1716	1544	181
		400	36.5	14.6	2437	2194	167
		500	37.5	18.7	2952	2657	157

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-40C1001-C-8x	70	150	29.8	4.5	925	833	207
		225	30.3	6.8	1350	1215	198
		300	30.7	9.2	1766	1590	192
		360	31.1	11.2	2093	1884	187
		600	32.4	19.4	3344	3009	172
		1000	34.3	34.3	5229	4706	152
BXRC-40C1001-D-8x	70	125	24.3	3.0	626	563	206
		185	24.6	4.5	900	810	198
		250	24.9	6.2	1193	1073	192
		350	25.4	8.9	1632	1469	184
		500	26.1	13.0	2268	2041	174
		1000	28.1	28.1	4186	3767	149
BXRC-40E1000-B-8x	80	100	32.9	3.3	653	588	198
		150	33.6	5.0	954	858	189
		200	34.2	6.8	1253	1128	183
		270	35.0	9.5	1641	1477	173
		400	36.5	14.6	2331	2098	160
		500	37.5	18.7	2823	2541	151
BXRC-40E1000-C-8x	80	150	29.8	4.5	885	796	198
		225	30.3	6.8	1291	1162	189
		300	30.7	9.2	1689	1520	183
		360	31.1	11.2	2002	1801	179
		600	32.4	19.4	3198	2878	164
		1000	34.3	34.3	5001	4501	146
BXRC-40E1000-D-8x	80	125	24.3	3.0	598	539	197
		185	24.6	4.5	861	775	189
		250	24.9	6.2	1141	1027	183
		350	25.4	8.9	1561	1405	176
		500	26.1	13.0	2169	1952	166
		1000	28.1	28.1	4003	3603	142
BXRC-40G1000-B-8x	90	100	32.9	3.3	545	490	166
		150	33.6	5.0	796	716	158
		200	34.2	6.8	1045	941	153
		270	35.0	9.5	1369	1232	145
		400	36.5	14.6	1945	1750	133
		500	37.5	18.7	2355	2120	126
BXRC-40G1000-C-8x	90	150	29.8	4.5	738	664	165
		225	30.3	6.8	1077	970	158
		300	30.7	9.2	1409	1268	153
		360	31.1	11.2	1670	1503	149
		600	32.4	19.4	2668	2401	137
		1000	34.3	34.3	4172	3755	121

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-40G1000-D-8x	90	125	24.3	3.0	499	449	165
		185	24.6	4.5	718	646	158
		250	24.9	6.2	952	856	153
		350	25.4	8.9	1302	1172	147
		500	26.1	13.0	1810	1629	139
		1000	28.1	28.1	3340	3006	119
BXRC-50C1001-B-8x	70	100	32.9	3.3	687	618	209
		150	33.6	5.0	1003	902	199
		200	34.2	6.8	1317	1186	193
		270	35.0	9.5	1725	1553	182
		400	36.5	14.6	2451	2206	168
		500	37.5	18.7	2968	2671	158
BXRC-50C1001-C-8x	70	150	29.8	4.5	930	837	208
		225	30.3	6.8	1358	1222	199
		300	30.7	9.2	1776	1599	193
		360	31.1	11.2	2105	1894	188
		600	32.4	19.4	3362	3026	173
		1000	34.3	34.3	5258	4732	153
BXRC-50C1001-D-8x	70	125	24.3	3.0	629	566	207
		185	24.6	4.5	905	815	199
		250	24.9	6.2	1199	1079	193
		350	25.4	8.9	1641	1477	185
		500	26.1	13.0	2281	2053	175
		1000	28.1	28.1	4209	3788	150
BXRC-50E1001-B-8x	80	100	32.9	3.3	661	594	201
		150	33.6	5.0	965	868	192
		200	34.2	6.8	1267	1140	185
		270	35.0	9.5	1660	1494	175
		400	36.5	14.6	2358	2122	162
		500	37.5	18.7	2855	2570	152
BXRC-50E1001-C-8x	80	150	29.8	4.5	895	806	200
		225	30.3	6.8	1306	1175	192
		300	30.7	9.2	1709	1538	185
		360	31.1	11.2	2025	1822	181
		600	32.4	19.4	3234	2911	166
		1000	34.3	34.3	5058	4552	147
BXRC-50E1001-D-8x	80	125	24.3	3.0	605	545	199
		185	24.6	4.5	871	784	192
		250	24.9	6.2	1154	1038	185
		350	25.4	8.9	1579	1421	178
		500	26.1	13.0	2194	1974	168
		1000	28.1	28.1	4049	3644	144

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-50G1001-B-8x	90	100	32.9	3.3	571	514	174
		150	33.6	5.0	834	750	166
		200	34.2	6.8	1095	986	160
		270	35.0	9.5	1435	1291	152
		400	36.5	14.6	2038	1834	140
		500	37.5	18.7	2468	2221	132
BXRC-50G1001-C-8x	90	150	29.8	4.5	774	696	173
		225	30.3	6.8	1129	1016	166
		300	30.7	9.2	1477	1329	160
		360	31.1	11.2	1750	1575	156
		600	32.4	19.4	2796	2516	144
		1000	34.3	34.3	4372	3935	127
BXRC-50G1001-D-8x	90	125	24.3	3.0	523	471	172
		185	24.6	4.5	753	677	166
		250	24.9	6.2	997	897	160
		350	25.4	8.9	1365	1228	154
		500	26.1	13.0	1896	1707	145
		1000	28.1	28.1	3500	3150	125
BXRC-57C1001-B-8x	70	100	32.9	3.3	668	601	203
		150	33.6	5.0	975	878	194
		200	34.2	6.8	1281	1153	187
		270	35.0	9.5	1678	1511	177
		400	36.5	14.6	2384	2146	163
		500	37.5	18.7	2888	2599	154
BXRC-57C1001-C-8x	70	150	29.8	4.5	905	815	202
		225	30.3	6.8	1321	1189	194
		300	30.7	9.2	1728	1555	187
		360	31.1	11.2	2047	1843	183
		600	32.4	19.4	3271	2944	168
		1000	34.3	34.3	5115	4604	149
BXRC-57C1001-D-8x	70	125	24.3	3.0	612	551	202
		185	24.6	4.5	881	793	194
		250	24.9	6.2	1167	1050	187
		350	25.4	8.9	1597	1437	180
		500	26.1	13.0	2219	1997	170
		1000	28.1	28.1	4094	3685	146
BXRC-57E1001-B-8x	80	100	32.9	3.3	634	571	193
		150	33.6	5.0	926	834	184
		200	34.2	6.8	1217	1095	178
		270	35.0	9.5	1594	1435	169
		400	36.5	14.6	2264	2038	155
		500	37.5	18.7	2742	2468	146

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-57E1001-C-8x	80	150	29.8	4.5	860	774	192
		225	30.3	6.8	1254	1129	184
		300	30.7	9.2	1641	1477	178
		360	31.1	11.2	1944	1750	174
		600	32.4	19.4	3106	2796	160
		1000	34.3	34.3	4858	4372	141
BXRC-57E1001-D-8x	80	125	24.3	3.0	581	523	192
		185	24.6	4.5	836	753	184
		250	24.9	6.2	1108	997	178
		350	25.4	8.9	1516	1365	171
		500	26.1	13.0	2107	1896	162
		1000	28.1	28.1	3889	3500	138
BXRC-65C1001-B-8x	70	100	32.9	3.3	668	601	203
		150	33.6	5.0	975	878	194
		200	34.2	6.8	1281	1153	187
		270	35.0	9.5	1678	1511	177
		400	36.5	14.6	2384	2146	163
		500	37.5	18.7	2888	2599	154
BXRC-65C1001-C-8x	70	150	29.8	4.5	905	815	202
		225	30.3	6.8	1321	1189	194
		300	30.7	9.2	1728	1555	187
		360	31.1	11.2	2047	1843	183
		600	32.4	19.4	3271	2944	168
		1000	34.3	34.3	5115	4604	149
BXRC-65C1001-D-8x	70	125	24.3	3.0	612	551	202
		185	24.6	4.5	881	793	194
		250	24.9	6.2	1167	1050	187
		350	25.4	8.9	1597	1437	180
		500	26.1	13.0	2219	1997	170
		1000	28.1	28.1	4094	3685	146
BXRC-65E1001-B-8x	80	100	32.9	3.3	642	578	195
		150	33.6	5.0	937	844	186
		200	34.2	6.8	1231	1108	180
		270	35.0	9.5	1613	1452	171
		400	36.5	14.6	2291	2062	157
		500	37.5	18.7	2775	2497	148
BXRC-65E1001-C-8x	80	150	29.8	4.5	870	783	194
		225	30.3	6.8	1269	1142	186
		300	30.7	9.2	1660	1494	180
		360	31.1	11.2	1967	1771	176
		600	32.4	19.4	3143	2829	162
		1000	34.3	34.3	4915	4424	143

Notes for Table 3:

1. Alternate drive currents in Table 3 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 3: 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-65E1001-D-8x	80	125	24.3	3.0	588	529	194
		185	24.6	4.5	846	762	186
		250	24.9	6.2	1121	1009	180
		350	25.4	8.9	1534	1381	173
		500	26.1	13.0	2132	1919	164
		1000	28.1	28.1	3934	3541	140

Notes for Table 3:

1. Alternate drive currents in Table 3 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 4: 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-xxx100x-B-8x	200	31.6	34.2	36.8	-11.03	0.62	30.8	37.5
	500	34.7	37.5	40.3	-12.10	0.95	33.7	41.1
BXRC-xxx100x-C-8x	300	28.4	30.7	33.0	-9.90	0.38	27.6	33.6
	1000	32.4	35	37.6	-11.29	0.55	31.5	38.4
BXRC-xxx100x-D-8x	250	23.0	24.9	26.8	-8.03	0.37	22.4	27.3
	1000	26.9	29.1	31.3	-9.39	0.55	26.2	31.9

Notes for Table 4:

- 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 62031:2018. This product has passed dielectric withstand voltage testing at 1140 V. The working voltage designated for the insulation is 70V d.c. The maximum allowable voltage across the array must be determined in the end product application.

Eye Safety

Table 5: Eye Safety Risk Group (RG) Classifications

Part Number	Drive Current (mA)	CCT ⁵			
		2700K/3000K	4000K ²	5000K ³	6500K ⁴
BXRC-xxx100x-B-8x	355	RG1	RG1	RG1	RG1
	500	RG1	RG1	RG1	RG2
BXRC-xxx100x-C-8x	395	RG1	RG1	RG1	RG1
	550	RG1	RG1	RG1	RG2
	730	RG1	RG1	RG2	RG2
	1000	RG1	RG2	RG2	RG2
BXRC-xxx100x-D-8x	490	RG1	RG1	RG1	RG1
	680	RG1	RG1	RG1	RG2
	900	RG1	RG1	RG2	RG2
	1000	RG1	RG2	RG2	RG2

Notes for Table 5:

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, Ethr= 1980 lx.
3. For products classified as RG2 at 5000K Ethr= 1530 lx.
4. For products classified as RG2 at 6500K, Ethr= 1170 lx.
5. Please contact your Bridgelux sales representative for Ethr values at specific drive currents and CCTs not listed.

Absolute Maximum Ratings

Table 6: Maximum Ratings

Parameter	Maximum Rating		
LED Junction Temperature (T_j)	150°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-xxx100x-B-8x	BXRC-xxx100x-C-8x	BXRC-xxx100x-D-8x
Maximum Drive Current ³	500 mA	1000 mA	1000 mA
Maximum Peak Pulsed Drive Current ⁴	560 mA	1120 mA	1120 mA
Maximum Reverse Voltage ⁵	-60V	-55V	-45V

Notes for Table 6:

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 and warranty will not apply.
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 10B Drive Current vs. Voltage

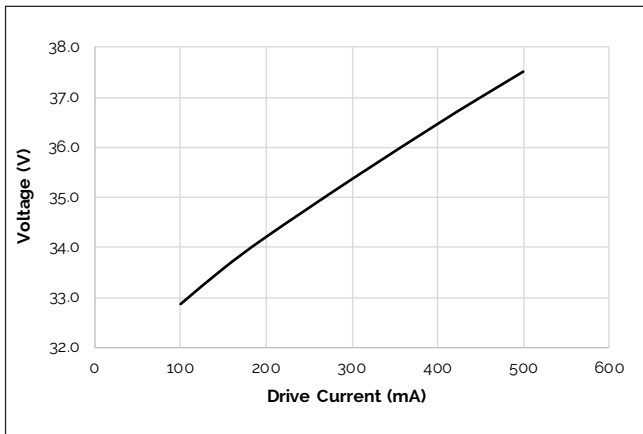


Figure 2: Vero 10C Drive Current vs. Voltage

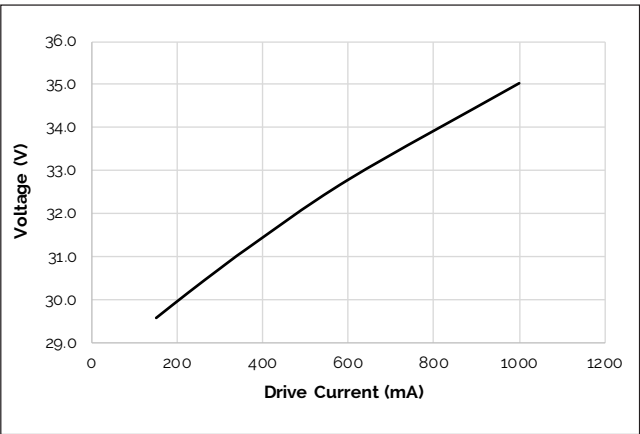


Figure 3: Vero 10D Drive Current vs. Voltage

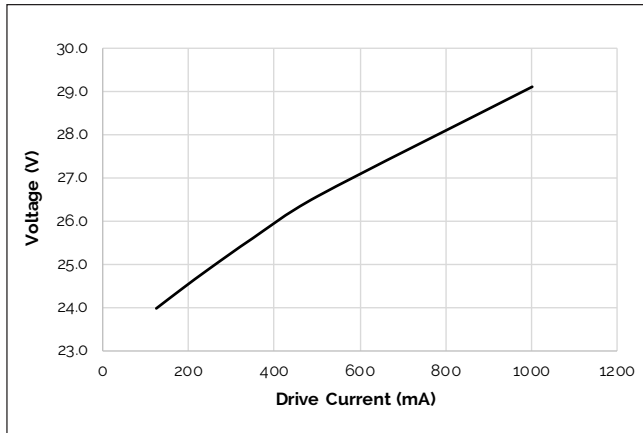


Figure 4: Vero 10B Typical Relative Flux vs. Current

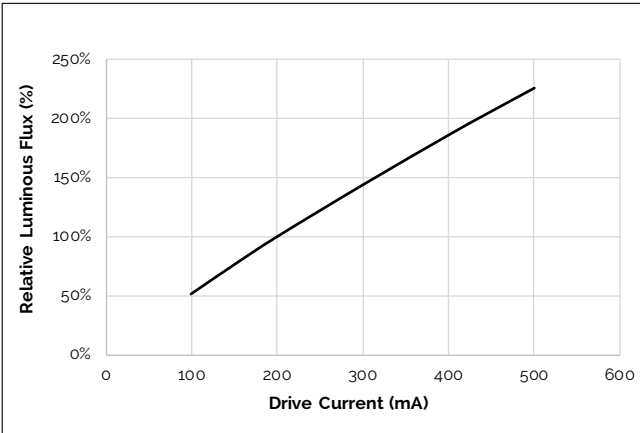


Figure 5: Vero 10C Typical Relative Flux vs. Current

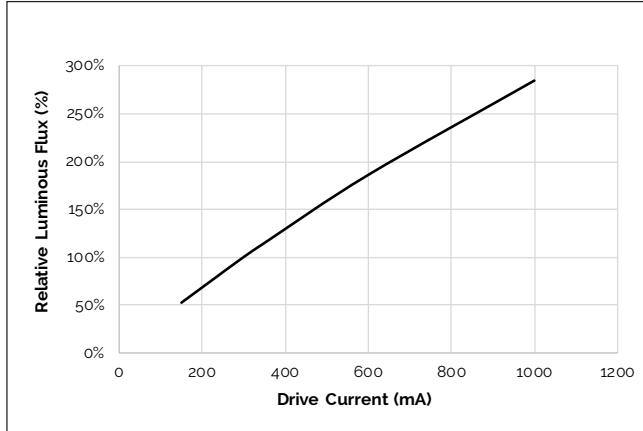
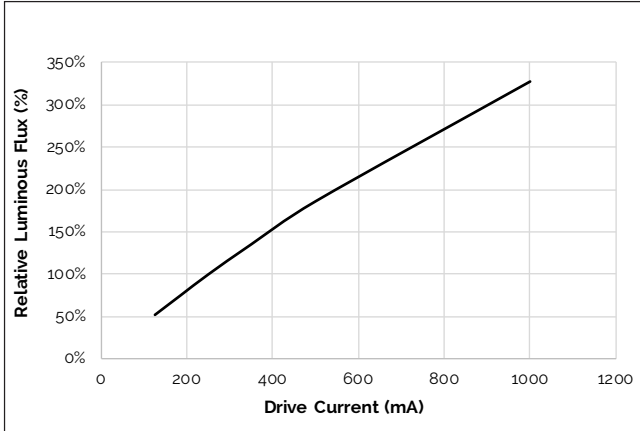


Figure 6 Vero 10D Typical Relative Flux vs. Current



- 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

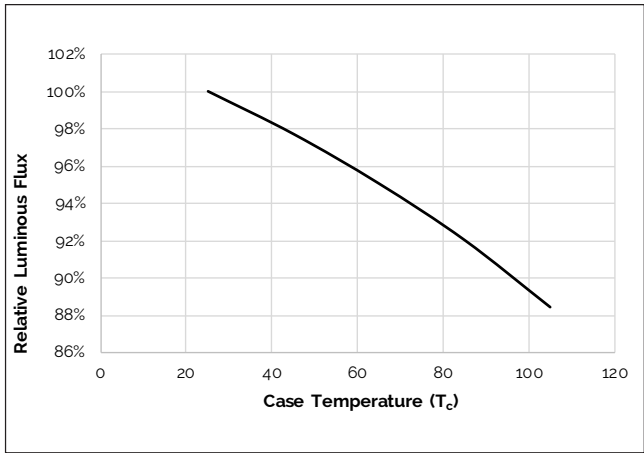


Figure 8: Typical DC ccy Shift vs. Case Temperature

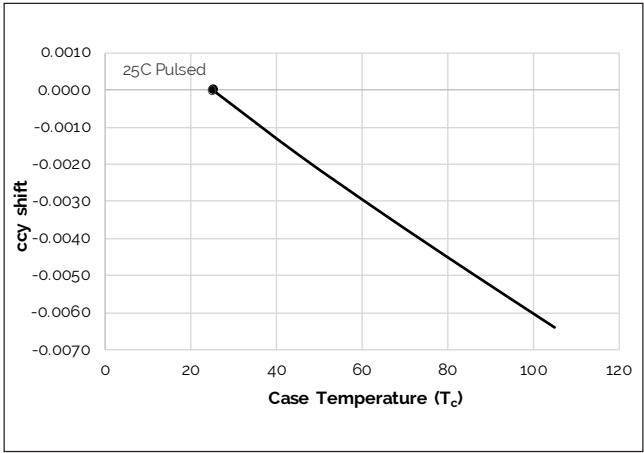
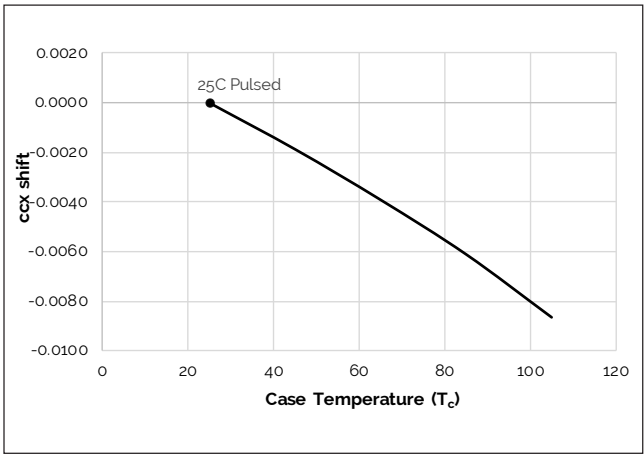


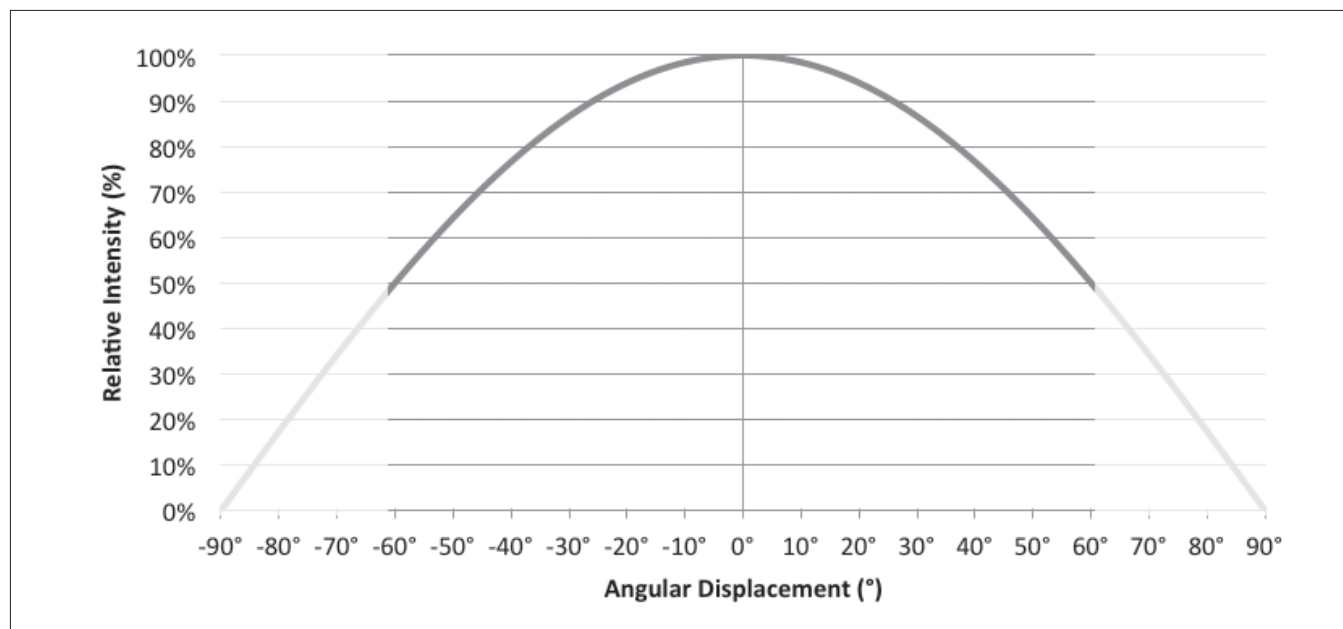
Figure 9: Typical DC ccx Shift vs. Case Temperature



Note for Figures 7-9:
1. Characteristics shown for Warm White

Typical Radiation Pattern

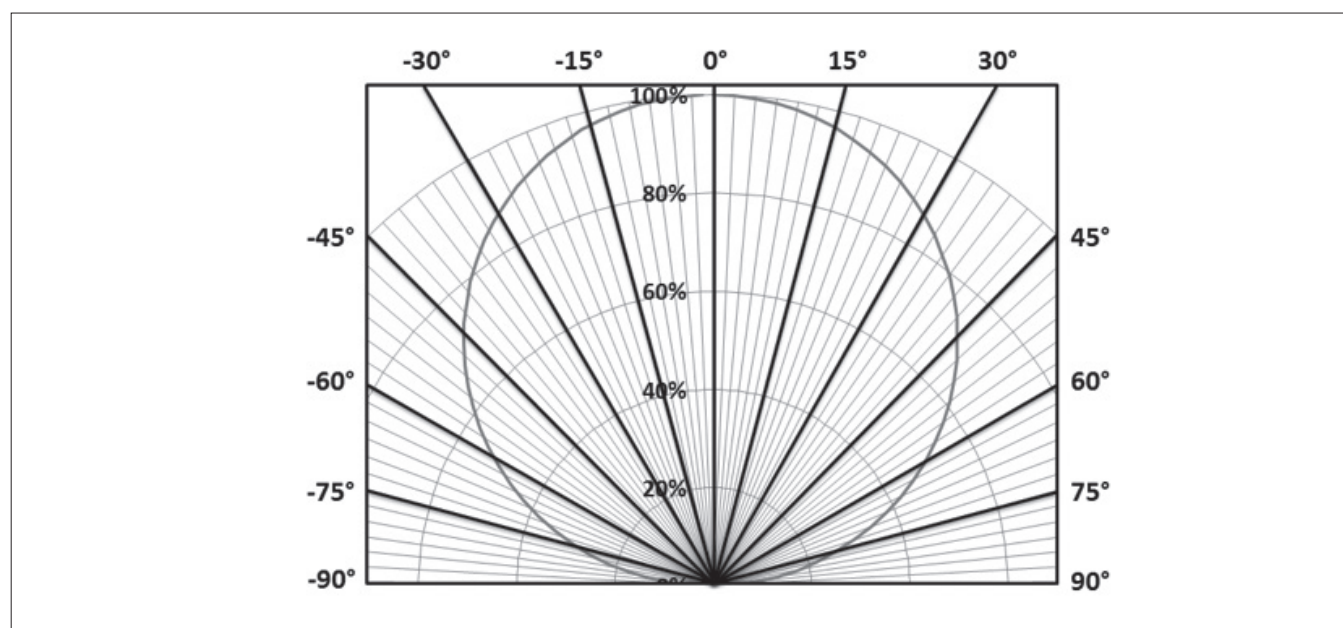
Figure 10: Typical Spatial Radiation Pattern



Notes for Figure 10:

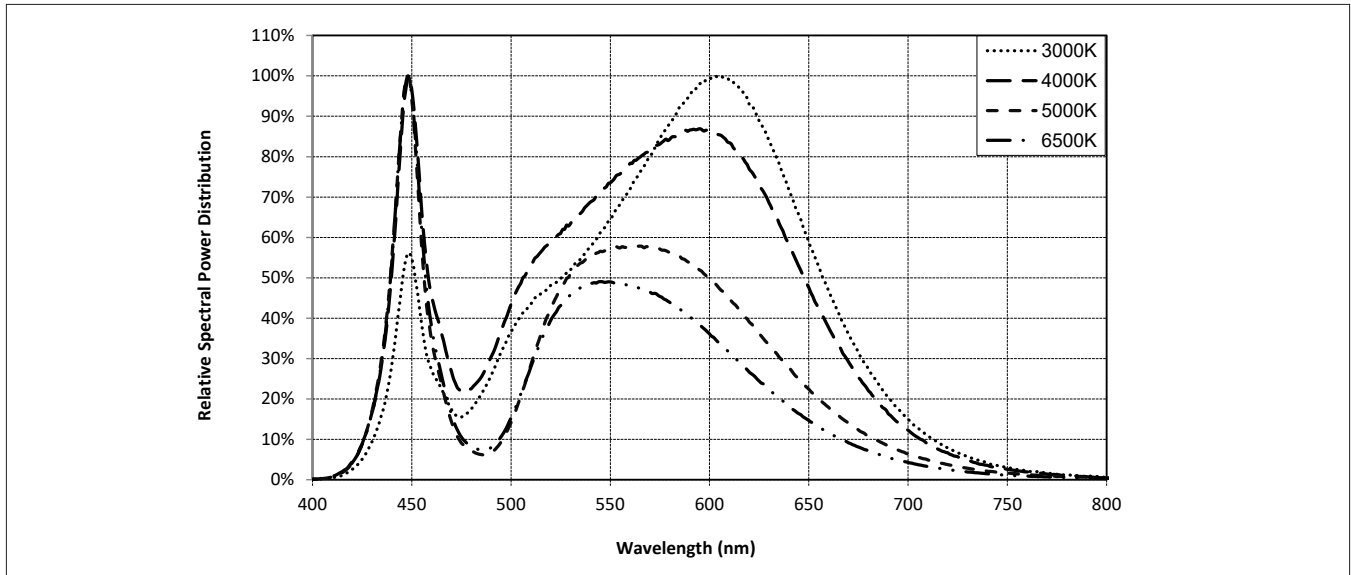
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is $\frac{1}{2}$ of the peak value.

Figure 11: Typical Polar Radiation Pattern



Typical Color Spectrum

Figure 12: Typical Color Spectrum

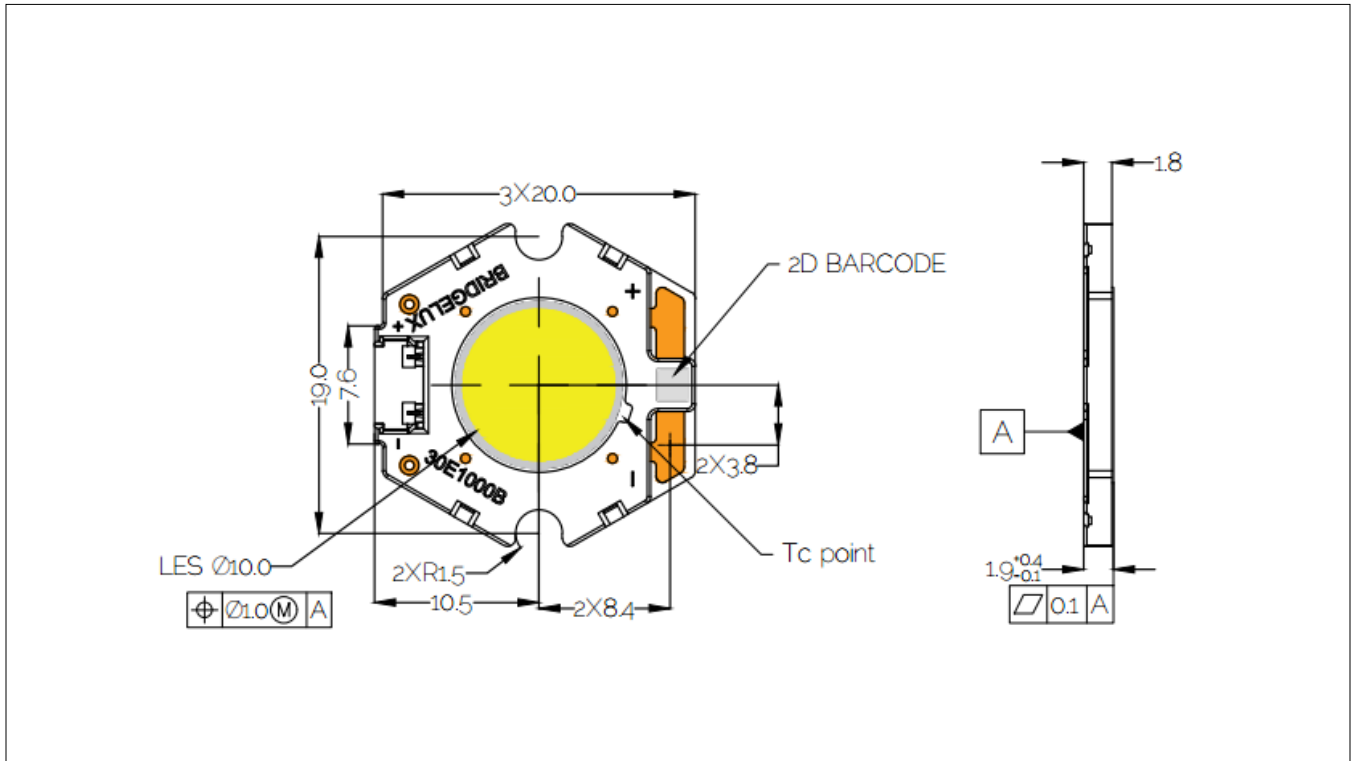


Notes for Figure 12:

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.

Mechanical Dimensions

Figure 13: Drawing for Vero 10 LED Array

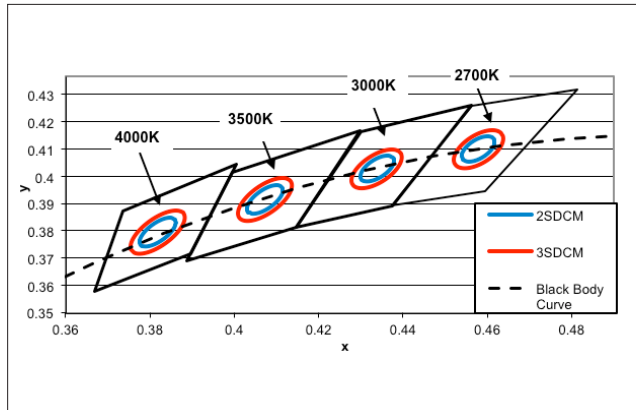


Notes for Figure 13:

1. Drawings are not to scale.
2. Dimensions are in mm.
3. Unless otherwise specified, tolerances are $\pm 0.10\text{mm}$.
4. Mounting slots (2X) are for M2.5 screws.
5. Bridgelux recommends two tapped holes for mounting screws with $19.0 \pm 0.10\text{mm}$ 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. Solder pads and connector port are labeled "+" and "-" to denote positive and negative, respectively.
8. It is not necessary to provide electrical connections to both the solder pads and the connector port. Either set may be used depending on application specific design requirements.
9. Refer to Application Notes AN30 and AN31 for product handling, mounting and heat sink recommendations.
10. The optical center of the LED Array is nominally defined by the mechanical center of the array to a tolerance of $\pm 0.2\text{mm}$.
11. Bridgelux maintains a flatness of 0.10mm across the mounting surface of the array.

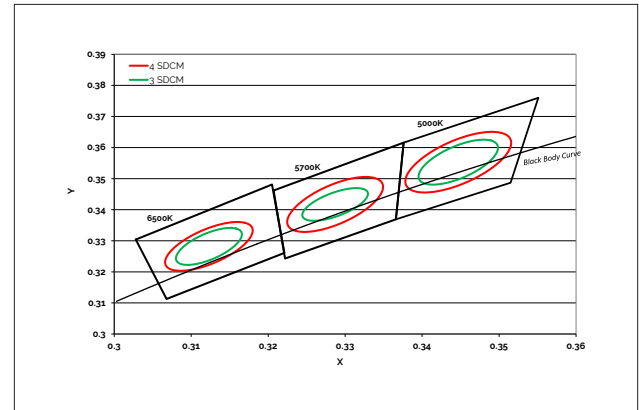
Color Binning Information

Figure 14: Warm and Neutral White Test Bins in xy Color Space



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

Figure 15: Graph of Cool White Test Bins in xy Color Space



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

Table 7: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

Bin Code	2700K	3000K	3500K	4000K
ANSI Bin (for reference only)	(2580K - 2870K)	(2870K - 3220K)	(3220K - 3710K)	(3710K - 4260K)
83 (3 SDCM)	(2651K - 2794K)	(2968K - 3136K)	(3369K - 3586K)	(3851K - 4130K)
82 (2 SDCM)	(2674K - 2769K)	(2995K - 3107K)	(3404K - 3548K)	(3895K - 4081K)
Center Point (x,y)	(0.4578, 0.4101)	(0.4338, 0.403)	(0.4073, 0.3917)	(0.3818, 0.3797)

Table 8: Cool White xy Bin Coordinates and Associated Typical CCT (product is hot targeted to $T_c = 85^\circ\text{C}$)

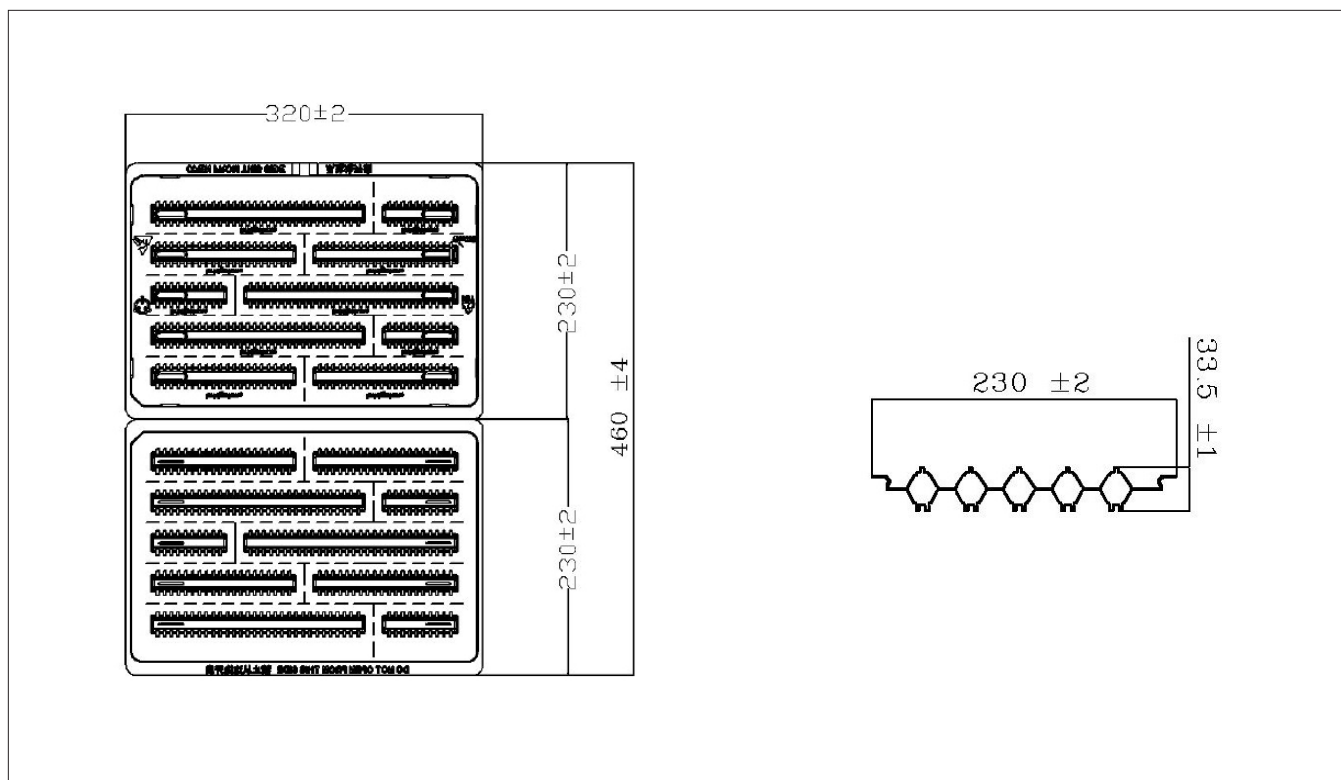
Bin Code	5000K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5312K - 6022K)	(6022K - 7042K)
84 (4 SDCM)	(4801K - 5282K)	(5395K - 5970K)	(6200K - 6910K)
83 (3 SDCM)	(4835K - 5215K)	(5460K - 5891K)	(6279K - 6811K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3287, 0.3417)	(0.3123, 0.3282)

Note for Tables 7-8:

1. Bridgelux maintains a tolerance of ± 0.007 on x and y color coordinates in the CIE 1931 color Space.

Packaging and Labeling

Figure 16: Drawing for Vero 10 Packaging Tray

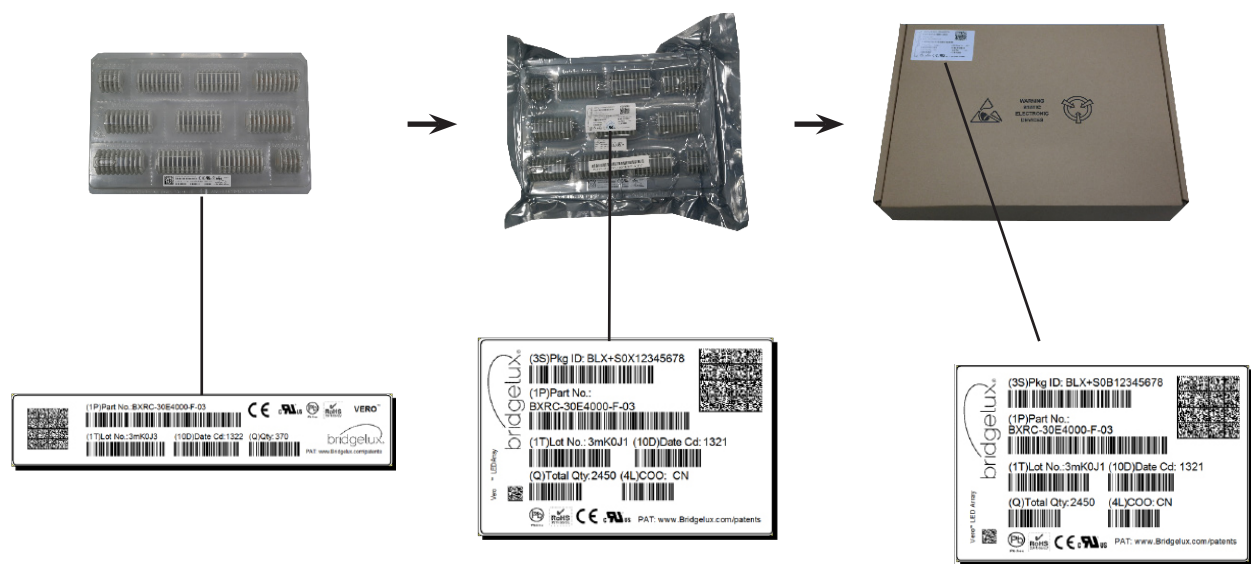


Notes for Figure 16:

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

Packaging and Labeling

Figure 17: Vero Series Packaging and Labeling



Notes for Figure 17:

- 1. Each tray holds 200 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 18: Gen. 8 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: Bridging Light and Life™

At Bridgelux, we help companies, industries and people experience the power and possibility of light. Since 2002, we've designed LED solutions that are high performing, energy efficient, cost effective and easy to integrate. Our focus is on light's impact on human behavior, delivering products that create better environments, experiences and returns—both experiential and financial. And our patented technology drives new platforms for commercial and industrial luminaires.

For more information about the company, please visit
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Bridgelux Gen 8 Vero 10 Array Series Product Data Sheet DS420 Rev. B (07/2021)