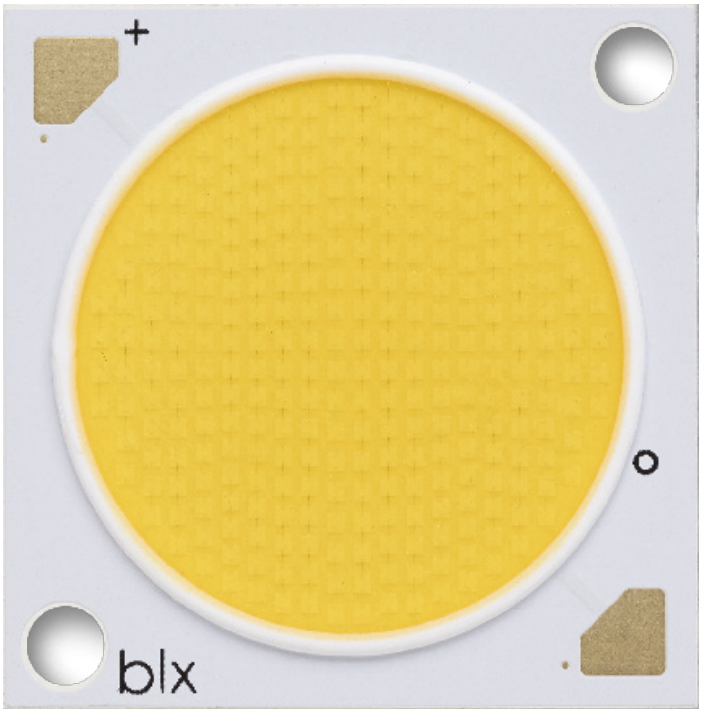
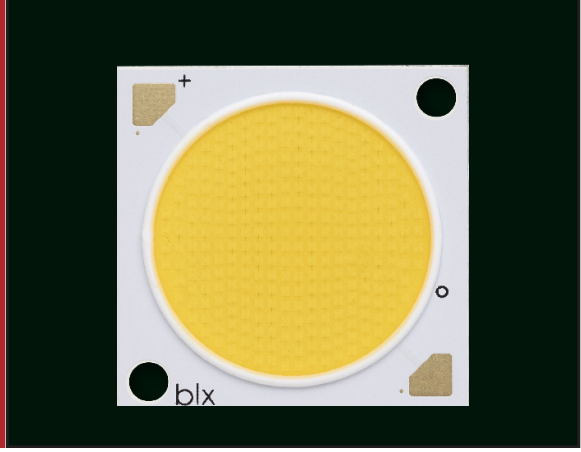


Bridgelux® Gen 7 V22 Array Series

Product Data Sheet DS103

Introduction

V Series



The V Series™ LED Array products deliver high quality light in a compact and cost-effective solid-state lighting package. These Chip-on-Board (CoB) arrays can be efficiently driven at twice the nominal drive current, enabling design flexibility not previously possible. This high flux density light source is designed to support a wide range of high quality, low cost directional luminaires and replacement lamps for commercial and residential applications.

The V22 LED Array is available in a variety of electrical, CCT and CRI combinations providing substantial design flexibility and energy efficiencies.

Lighting system designs incorporating these LED Arrays deliver increased system level efficacy and longer service life. Typical applications include, but are not limited to, replacement lamps, task, accent, spot, track, down light, wide area, security, and wall pack.

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

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

Décor Series™ Ultra products provide a high CRI of 97, which emphasizes the reds and color tones to which the human eye is most receptive - perfect for the most luxurious retail shops and world renowned museums. Décor Series Ultra is also a good replacement for halogen lamps.

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

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

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

Décor Series™ Showcase is the optimal solution for replacing ceramic metal halide lamps, incorporating the same pure white light with enhanced spectrum coverage and higher efficacy.

Features

- Efficacy of 155 lm/W typical
- Compact high flux density light source
- Uniform high quality illumination
- Minimum 65, 70, 80, 90 and 95 CRI options
- Streamlined thermal path
- ENERGY STAR® / ANSI compliant color binning structure with 3 SDCM and 4 SDCM options
- More energy efficient than incandescent, halogen and fluorescent lamps
- Low voltage DC operation
- Instant light with unlimited dimming
- V_f bin code backside marking

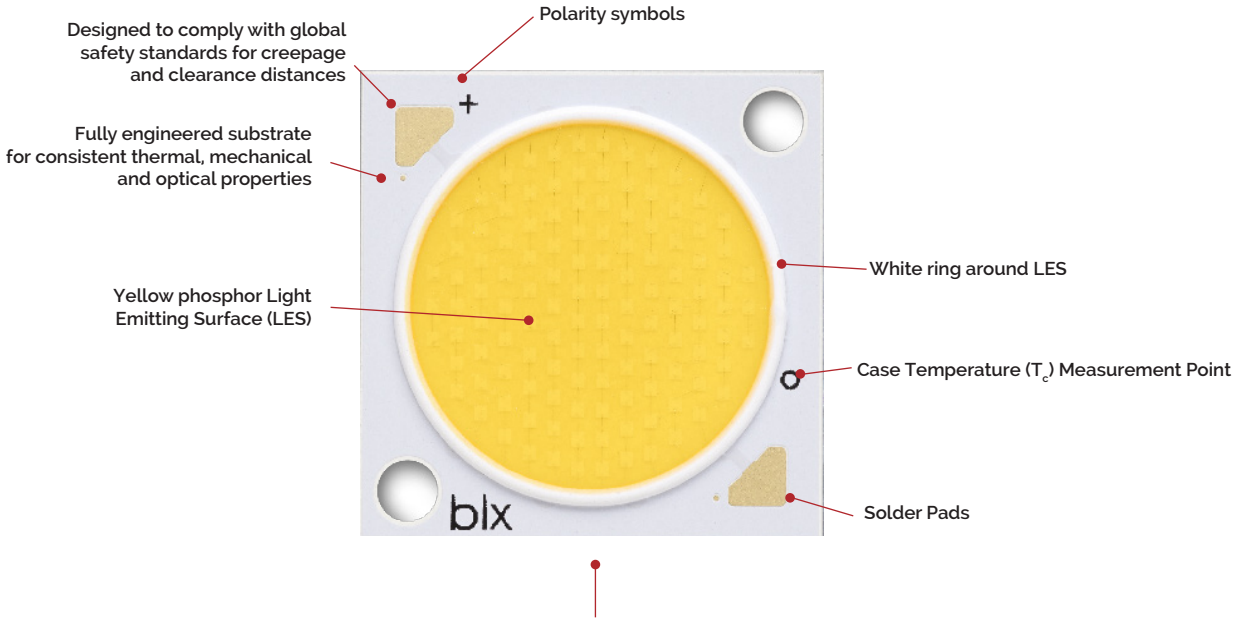
Benefits

- Enhanced optical control
- Clean white light without pixilation
- High quality true color reproduction
- Significantly reduced thermal resistance and increased operating temperatures
- Uniform consistent white light
- Lower operating costs
- Easy to use with daylight and motion detectors to enable increased energy savings
- Reduced maintenance costs
- Environmentally friendly, no disposal issue

Contents

Product Feature Map

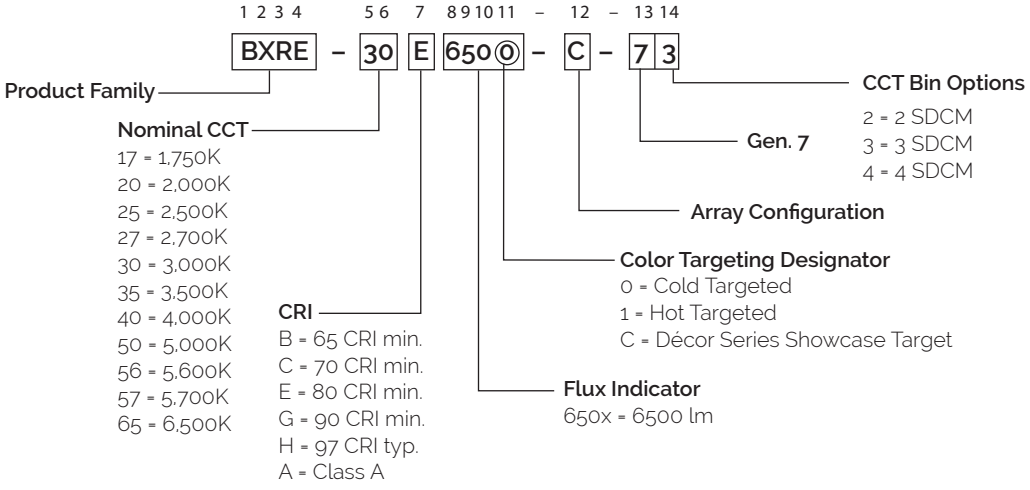
Bridgelux arrays are fully engineered devices that provide consistent thermal and optical performance on an engineered mechanical platform. The V Series arrays are the most compact chip-on-board devices across all of Bridgelux's LED Array products. The arrays incorporate several features to simplify design integration and assembly. Please visit www.bridgelux.com for more information on the V Series family of products.



Note: Part number and lot codes are scribed on back of array

Product Nomenclature

The part number designation for Bridgelux V Series 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˚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)
BXRE-17E6500-D-74	1750	80	1400	4214	3793	35.0	49.0	86
BXRE-20B6501-C-73	2000	65	1440	10862	9776	52.0	74.9	145
BXRE-20B6501-D-73	2000	65	1400	7105	6395	35.0	49.0	145
BXRE-25E6500-D-74	2500	80	1400	6811	6130	35.0	49.0	139
BXRE-27E6500-B-7X	2700	80	1170	9056	8150	52.0	60.8	149
BXRE-27E6500-C-7X	2700	90	1440	11147	10032	52.0	74.9	149
BXRE-27E6500-D-7X	2700	90	1400	7291	6450	35.0	49.0	149
BXRE-27G6500-B-7X	2700	90	1170	7547	6792	52.0	60.8	124
BXRE-27G6500-C-7X	2700	97	1440	9289	8360	52.0	74.9	124
BXRE-27G6500-D-7X	2700	80	1400	6076	5376	35.0	49.0	124
BXRE-27H6500-D-7X	2700	80	1400	5292	4763	35.0	49.0	108
BXRE-30E6500-B-7X[10]	3000	80	1170	9433	8490	52.0	60.8	155
BXRE-30E6500-C-7X[10]	3000	90	1440	11611	10450	52.0	74.9	155
BXRE-30E6500-D-7X[10]	3000	90	1400	7595	6719	35.0	49.0	155
BXRE-30G6500-B-7X	3000	90	1170	7830	7047	52.0	60.8	129
BXRE-30G6500-C-7X	3000	97	1440	9637	8673	52.0	74.9	129
BXRE-30G6500-D-7X	3000	80	1400	6304	5673	35.0	49.0	129
BXRE-30G650C-D-73	3000	90	1400	5880	5292	35.0	49.0	120
BXRE-30H6500-D-7X	3000	80	1400	5684	5116	35.0	49.0	116
BXRE-35E6500-B-7X[10]	3500	80	1170	9716	8745	52.0	60.8	160
BXRE-35E6500-C-7X[10]	3500	90	1440	11959	10763	52.0	74.9	160
BXRE-35E6500-D-7X[10]	3500	90	1400	7823	7041	35.0	49.0	160
BXRE-35G6500-B-7X	3500	90	1170	8113	7301	52.0	60.8	133
BXRE-35G6500-C-7X	3500	93	1440	9986	8987	52.0	74.9	133
BXRE-35G6500-D-7X	3500	80	1400	6532	5879	35.0	49.0	133
BXRE-35A6501-D-73[8,9]	3500	80	1400	6272	5645	35.0	49.0	128
BXRE-40E6500-B-7X[10]	4000	80	1170	9811	8830	52.0	60.8	161
BXRE-40E6500-C-7X[10]	4000	90	1440	12075	10868	52.0	74.9	161
BXRE-40E6500-D-7X[10]	4000	90	1400	7816	7034	35.0	49.0	160
BXRE-40G6500-B-7X	4000	90	1170	8396	7556	52.0	60.8	138
BXRE-40G6500-C-7X	4000	70	1440	10334	9300	52.0	74.9	138
BXRE-40G6500-D-7X	4000	70	1400	6760	6084	35.0	49.0	138

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 Décor Series Ultra and Décor 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.
10. SKUs meet DLC premium (Outdoor Mid Output) requirements under certain system level conditions.

Product Selection Guide

Table 1: Selection Guide, Pulsed Measurement Data (T_j = T_c = 25˚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)
BXRE-50C6501-B-74[10]	5000	70	1170	10754	9679	52.0	60.8	177
BXRE-50C6501-C-74[10]	5000	70	1440	13237	11913	52.0	74.9	177
BXRE-50C6501-D-74[10]	5000	70	1400	8658	7792	35.0	49.0	177
BXRE-50E6501-B-74[10]	5000	80	1170	10109	9098	52.0	60.8	166
BXRE-50E6501-C-74[10]	5000	80	1440	12442	11198	52.0	74.9	166
BXRE-50E6501-D-74[10]	5000	80	1400	8127	7314	35.0	49.0	166
BXRE-50G6501-B-74	5000	90	1170	8603	7743	52.0	60.8	141
BXRE-50G6501-C-74	5000	90	1440	10589	9530	52.0	74.9	141
BXRE-50G6501-D-74	5000	90	1400	6911	6220	35.0	49.0	141
BXRE-56G6501-D-74	5600	90	1400	7227	6504	35.0	49.0	147
BXRE-57C6501-B-74[10]	5700	70	1170	10377	9339	52.0	60.8	171
BXRE-57C6501-C-74[10]	5700	70	1440	12772	11495	52.0	74.9	171
BXRE-57C6501-D-74[10]	5700	70	1400	8355	7519	35.0	49.0	171
BXRE-57E6501-B-74[10]	5700	80	1170	10282	9254	52.0	60.8	169
BXRE-57E6501-C-74[10]	5700	80	1440	12656	11390	52.0	74.9	169
BXRE-57E6501-D-74[10]	5700	80	1400	8279	7451	35.0	49.0	169
BXRE-65C6501-B-74[10]	6500	70	1170	10565	9509	52.0	60.8	174
BXRE-65C6501-C-74[10]	6500	70	1440	13004	11704	52.0	74.9	174
BXRE-65C6501-D-74[10]	6500	70	1400	8506	7656	35.0	49.0	174
BXRE-65E6501-B-74[10]	6500	80	1170	10471	9424	52.0	60.8	172
BXRE-65E6501-C-74[10]	6500	80	1440	12888	11599	52.0	74.9	172
BXRE-65E6501-D-74[10]	6500	80	1400	7941	7147	35.0	49.0	162

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 Décor Series Ultra and Décor 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.
10. SKUs meet DLC premium (Outdoor Mid Output) requirements under certain system level conditions.

Product Selection Guide

Table 2: Selection Guide, Stabilized DC Performance (T_c = 70˚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)
BXRE-35A6501-D-73	3500	80	93	1400	5833	5250	33.4	46.8	125

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)
BXRE-17E6500-D-74	1750	80	1400	3799	3419	33.4	46.8	81
BXRE-20B6501-C-73	2000	65	1440	9791	8812	50.7	73.0	134
BXRE-20B6501-D-73	2000	65	1400	6405	5764	33.4	46.8	137
BXRE-25E6500-D-74	2500	80	1400	6140	5526	33.4	46.8	131
BXRE-27E6500-B-7X	2700	80	1170	8163	7347	50.7	59.3	138
BXRE-27E6500-C-7X	2700	80	1440	10048	9043	50.7	73.0	138
BXRE-27E6500-D-7X	2700	80	1400	6635	5971	33.4	46.8	142
BXRE-27G6500-B-7X	2700	90	1170	6803	6122	50.7	59.3	115
BXRE-27G6500-C-7X	2700	90	1440	8373	7536	50.7	73.0	115
BXRE-27G6500-D-7X	2700	90	1400	5477	4846	33.4	46.8	117
BXRE-27H6500-D-7X	2700	97	1400	4770	4293	33.4	46.8	102
BXRE-30E6500-B-7X	3000	80	1170	8503	7653	50.7	59.3	143
BXRE-30E6500-C-7X	3000	80	1440	10467	9420	50.7	73.0	143
BXRE-30E6500-D-7X	3000	80	1400	6846	6057	33.4	46.8	146
BXRE-30G6500-B-7X	3000	90	1170	7058	6352	50.7	59.3	119
BXRE-30G6500-C-7X	3000	90	1440	8687	7818	50.7	73.0	119
BXRE-30G6500-D-7X	3000	90	1400	5682	5114	33.4	46.8	122
BXRE-30G650C-D-73	3000	90	1400	5300	4770	33.4	46.8	113
BXRE-30H6500-D-7X	3000	97	1400	5124	4611	33.4	46.8	110
BXRE-35E6500-B-7X	3500	80	1170	8759	7883	50.7	59.3	148
BXRE-35E6500-C-7X	3500	80	1440	10780	9702	50.7	73.0	148
BXRE-35E6500-D-7X	3500	80	1400	7052	6347	33.4	46.8	151
BXRE-35G6500-B-7X	3500	90	1170	7313	6581	50.7	59.3	123
BXRE-35G6500-C-7X	3500	90	1440	9001	8101	50.7	73.0	123
BXRE-35G6500-D-7X	3500	90	1400	5888	5299	33.4	46.8	126
BXRE-35A6501-D-73[7,8]	3500	93	1400	5654	5088	33.4	46.8	121
BXRE-40E6500-B-7X	4000	80	1170	8844	7960	50.7	59.3	149
BXRE-40E6500-C-7X	4000	80	1440	10885	9797	50.7	73.0	149
BXRE-40E6500-D-7X	4000	80	1400	6956	6261	33.4	46.8	149
BXRE-40G6500-B-7X	4000	90	1170	7568	6811	50.7	59.3	128
BXRE-40G6500-C-7X	4000	90	1440	9315	8383	50.7	73.0	128
BXRE-40G6500-D-7X	4000	90	1400	6016	5414	33.4	46.8	129

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 Décor Series Ultra and Décor 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)
BXRE-50C6501-B-74	5000	70	1170	9694	8725	50.7	59.3	164
BXRE-50C6501-C-74	5000	70	1440	11932	10739	50.7	73.0	164
BXRE-50C6501-D-74	5000	70	1400	7706	6935	33.4	46.8	165
BXRE-50E6501-B-74	5000	80	1170	9112	8201	50.7	59.3	154
BXRE-50E6501-C-74	5000	80	1440	11216	10094	50.7	73.0	154
BXRE-50E6501-D-74	5000	80	1400	7233	6509	33.4	46.8	155
BXRE-50G6501-B-74	5000	90	1170	7755	6980	50.7	59.3	131
BXRE-50G6501-C-74	5000	90	1440	9545	8591	50.7	73.0	131
BXRE-50G6501-D-74	5000	90	1400	6151	5536	33.4	46.8	132
BXRE-56G6501-D-74	5600	90	1400	6432	5789	33.4	46.8	138
BXRE-57C6501-B-74	5700	70	1170	9354	8418	50.7	59.3	158
BXRE-57C6501-C-74	5700	70	1440	11513	10362	50.7	73.0	158
BXRE-57C6501-D-74	5700	70	1400	7436	6692	33.4	46.8	159
BXRE-57E6501-B-74	5700	80	1170	9269	8342	50.7	59.3	156
BXRE-57E6501-C-74	5700	80	1440	11408	10267	50.7	73.0	156
BXRE-57E6501-D-74	5700	80	1400	7368	6631	33.4	46.8	158
BXRE-65C6501-B-74	6500	70	1170	9524	8572	50.7	59.3	161
BXRE-65C6501-C-74	6500	70	1440	11722	10550	50.7	73.0	161
BXRE-65C6501-D-74	6500	70	1400	7656	6890	33.4	46.8	164
BXRE-65E6501-B-74	6500	80	1170	9439	8495	50.7	59.3	159
BXRE-65E6501-C-74	6500	80	1440	11618	10456	50.7	73.0	159
BXRE-65E6501-D-74	6500	80	1400	7147	6432	33.4	46.8	153

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 Décor Series Ultra and Décor 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

V Series LED arrays are tested to the specifications shown using the nominal drive currents in Table 1. V Series 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)
BXRE-17E6500-D-74	80	700	33.2	23.3	2175	2005	93
		1050	34.2	35.9	3205	2939	89
		1400	**35.0**	**49.0**	**4214**	**3799**	**86**
		2100	36.4	76.5	6093	5473	80
		2800	37.7	105.6	7846	6975	74
BXRE-20B6501-C-73	65	720	49.6	35.7	6063	5149	170
		960	50.5	48.5	7713	6746	159
		1440	**52.0**	**74.9**	**10862**	**9791**	**145**
		2160	54.2	117.0	15210	13983	130
		2880	55.9	161.1	19108	17725	119
BXRE-20B6501-D-73	65	700	33.2	23.3	3668	3380	158
		1050	34.2	35.9	5404	4956	150
		1400	**35.0**	**49.0**	**7105**	**6405**	**145**
		2100	36.4	76.5	10273	9228	134
		2800	37.7	105.6	13229	11761	125
BXRE-25E6500-D-74	80	700	33.2	23.3	3516	3240	151
		1050	34.2	35.9	5180	4751	144
		1400	**35.0**	**49.0**	**6811**	**6140**	**139**
		2100	36.4	76.5	9848	8846	129
		2800	37.7	105.6	12682	11274	120
BXRE-27E6500-B-7X	80	585	49.6	29.0	4846	4483	167
		780	50.5	39.4	6291	5751	160
		1170	**52.0**	**60.8**	**9056**	**8163**	**149**
		1755	54.3	95.3	12894	11472	135
		2340	56.2	131.5	16360	14408	124
BXRE-27E6500-C-7X	80	720	49.6	35.7	6222	5284	174
		960	50.5	48.5	7915	6923	163
		1440	**52.0**	**74.9**	**11147**	**10048**	**149**
		2160	54.2	117.0	15609	14350	133
		2880	55.9	161.1	19609	18189	122
BXRE-27E6500-D-7X	80	700	33.2	23.3	3764	3469	162
		1050	34.2	35.9	5546	5086	154
		1400	**35.0**	**49.0**	**7291**	**6635**	**149**
		2100	36.4	76.5	10542	9470	138
		2800	37.7	105.6	13576	12069	129
BXRE-27G6500-B-7X	90	585	49.6	29.0	4038	3736	139
		780	50.5	39.4	5242	4793	133
		1170	**52.0**	**60.8**	**7547**	**6803**	**124**
		1755	54.3	95.3	10745	9560	113
		2340	56.2	131.5	13634	12007	104

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)
BXRE-27G6500-C-7X	90	720	49.6	35.7	5185	4403	145
		960	50.5	48.5	6596	5769	136
		1440	**52.0**	**74.9**	**9289**	**8373**	**124**
		2160	54.2	117.0	13007	11958	111
		2880	55.9	161.1	16341	15157	101
BXRE-27G6500-D-7X	90	700	33.2	23.3	3137	2891	135
		1050	34.2	35.9	4621	4238	129
		1400	**35.0**	**49.0**	**6076**	**5477**	**124**
		2100	36.4	76.5	8785	7892	115
		2800	37.7	105.6	11313	10058	107
BXRE-27H6500-D-7X	97	700	33.2	23.3	2732	2518	117
		1050	34.2	35.9	4025	3691	112
		1400	**35.0**	**49.0**	**5292**	**4770**	**108**
		2100	36.4	76.5	7651	6873	100
		2800	37.7	105.6	9854	8760	93
BXRE-30E6500-B-7X	80	585	49.6	29.0	5048	4670	174
		780	50.5	39.4	6553	5991	166
		1170	**52.0**	**60.8**	**9433**	**8503**	**155**
		1755	54.3	95.3	13431	11950	141
		2340	56.2	131.5	17042	15009	130
BXRE-30E6500-C-7X	80	720	49.6	35.7	6481	5504	181
		960	50.5	48.5	8245	7212	170
		1440	**52.0**	**74.9**	**11611**	**10467**	**155**
		2160	54.2	117.0	16259	14947	139
		2880	55.9	161.1	20426	18947	127
BXRE-30E6500-D-7X	80	700	33.2	23.3	3921	3613	169
		1050	34.2	35.9	5777	5298	161
		1400	**35.0**	**49.0**	**7595**	**6846**	**155**
		2100	36.4	76.5	10981	9865	143
		2800	37.7	105.6	14142	12572	134
BXRE-30G6500-B-7X	90	585	49.6	29.0	4190	3876	144
		780	50.5	39.4	5439	4972	138
		1170	**52.0**	**60.8**	**7830**	**7058**	**129**
		1755	54.3	95.3	11148	9918	117
		2340	56.2	131.5	14145	12457	108
BXRE-30G6500-C-7X	90	720	49.6	35.7	5380	4568	151
		960	50.5	48.5	6843	5986	141
		1440	**52.0**	**74.9**	**9637**	**8687**	**129**
		2160	54.2	117.0	13495	12406	115
		2880	55.9	161.1	16953	15726	105
BXRE-30G6500-D-7X	90	700	33.2	23.3	3254	2999	140
		1050	34.2	35.9	4795	4397	133
		1400	**35.0**	**49.0**	**6304**	**5682**	**129**
		2100	36.4	76.5	9114	8188	119
		2800	37.7	105.6	11738	10435	111

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)
BXRE-30G650C-D-73	90	700	33.2	23.3	3036	2797	130
		1050	34.2	35.9	4472	4102	124
		1400	**35.0**	**49.0**	**5880**	**5300**	**120**
		2100	36.4	76.5	8501	7637	111
		2800	37.7	105.6	10948	9733	104
BXRE-30H6500-D-7X	97	700	33.2	23.3	2934	2704	126
		1050	34.2	35.9	4323	3965	120
		1400	**35.0**	**49.0**	**5684**	**5124**	**116**
		2100	36.4	76.5	8218	7382	107
		2800	37.7	105.6	10583	9409	100
BXRE-35E6500-B-7X	80	585	49.6	29.0	5199	4810	179
		780	50.5	39.4	6749	6170	171
		1170	**52.0**	**60.8**	**9716**	**8759**	**160**
		1755	54.3	95.3	13834	12308	145
		2340	56.2	131.5	17553	15459	134
BXRE-35E6500-C-7X	80	720	49.6	35.7	6676	5669	187
		960	50.5	48.5	8492	7428	175
		1440	**52.0**	**74.9**	**11959**	**10780**	**160**
		2160	54.2	117.0	16747	15396	143
		2880	55.9	161.1	21039	19515	131
BXRE-35E6500-D-7X	80	700	33.2	23.3	4039	3722	174
		1050	34.2	35.9	5950	5457	166
		1400	**35.0**	**49.0**	**7823**	**7052**	**160**
		2100	36.4	76.5	11311	10160	148
		2800	37.7	105.6	14566	12949	138
BXRE-35G6500-B-7X	90	585	49.6	29.0	4341	4016	149
		780	50.5	39.4	5635	5152	143
		1170	**52.0**	**60.8**	**8113**	**7313**	**133**
		1755	54.3	95.3	11551	10277	121
		2340	56.2	131.5	14656	12907	111
BXRE-35G6500-C-7X	90	720	49.6	35.7	5574	4733	156
		960	50.5	48.5	7090	6202	146
		1440	**52.0**	**74.9**	**9986**	**9001**	**133**
		2160	54.2	117.0	13983	12855	120
		2880	55.9	161.1	17566	16294	109
BXRE-35G6500-D-7X	90	700	33.2	23.3	3372	3107	145
		1050	34.2	35.9	4968	4556	138
		1400	**35.0**	**49.0**	**6532**	**5888**	**133**
		2100	36.4	76.5	9444	8483	123
		2800	37.7	105.6	12162	10812	115
BXRE-35A6501-D-73	93	700	33.2	23.3	3238	2984	139
		1050	34.2	35.9	4771	4375	133
		1400	**35.0**	**49.0**	**6272**	**5654**	**128**
		2100	36.4	76.5	9068	8146	118
		2800	37.7	105.6	11678	10382	111

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)
BXRE-40E6500-B-7X	80	585	49.6	29.0	5250	4857	181
		780	50.5	39.4	6815	6230	173
		1170	**52.0**	**60.8**	**9811**	**8844**	**161**
		1755	54.3	95.3	13969	12428	147
		2340	56.2	131.5	17724	15609	135
BXRE-40E6500-C-7X	80	720	49.6	35.7	6741	5724	189
		960	50.5	48.5	8575	7500	177
		1440	**52.0**	**74.9**	**12075**	**10885**	**161**
		2160	54.2	117.0	16910	15545	145
		2880	55.9	161.1	21243	19705	132
BXRE-40E6500-D-7X	80	700	33.2	23.3	4035	3718	173
		1050	34.2	35.9	5945	5452	165
		1400	**35.0**	**49.0**	**7816**	**6956**	**159**
		2100	36.4	76.5	11301	10152	148
		2800	37.7	105.6	14553	12938	138
BXRE-40G6500-B-7X	90	585	49.6	29.0	4492	4156	155
		780	50.5	39.4	5832	5332	148
		1170	**52.0**	**60.8**	**8396**	**7568**	**138**
		1755	54.3	95.3	11954	10635	125
		2340	56.2	131.5	15168	13358	115
BXRE-40G6500-C-7X	90	720	49.6	35.7	5768	4899	161
		960	50.5	48.5	7338	6418	151
		1440	**52.0**	**74.9**	**10334**	**9315**	**138**
		2160	54.2	117.0	14471	13303	124
		2880	55.9	161.1	18179	16863	113
BXRE-40G6500-D-7X	90	700	33.2	23.3	3490	3216	150
		1050	34.2	35.9	5141	4715	143
		1400	**35.0**	**49.0**	**6760**	**6016**	**138**
		2100	36.4	76.5	9773	8779	128
		2800	37.7	105.6	12586	11189	119
BXRE-50C6501-B-74	70	585	49.6	29.0	5754	5323	198
		780	50.5	39.4	7470	6829	190
		1170	**52.0**	**60.8**	**10754**	**9694**	**177**
		1755	54.3	95.3	15312	13623	161
		2340	56.2	131.5	19428	17110	148
BXRE-50C6501-C-74	70	720	49.6	35.7	7389	6275	207
		960	50.5	48.5	9399	8221	194
		1440	**52.0**	**74.9**	**13237**	**11932**	**177**
		2160	54.2	117.0	18535	17040	158
		2880	55.9	161.1	23285	21599	145
BXRE-50C6501-D-74	70	700	33.2	23.3	4470	4119	192
		1050	34.2	35.9	6586	6040	183
		1400	**35.0**	**49.0**	**8658**	**7706**	**177**
		2100	36.4	76.5	12518	11246	164
		2800	37.7	105.6	16122	14332	153

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)
BXRE-50E6501-B-74	80	585	49.6	29.0	5409	5004	186
		780	50.5	39.4	7022	6420	178
		1170	**52.0**	**60.8**	**10109**	**9112**	**166**
		1755	54.3	95.3	14393	12805	151
		2340	56.2	131.5	18262	16083	139
BXRE-50E6501-C-74	80	720	49.6	35.7	6945	5898	194
		960	50.5	48.5	8835	7728	182
		1440	**52.0**	**74.9**	**12442**	**11216**	**166**
		2160	54.2	117.0	17423	16018	149
		2880	55.9	161.1	21888	20303	136
BXRE-50E6501-D-74	80	700	33.2	23.3	4195	3866	180
		1050	34.2	35.9	6181	5669	172
		1400	**35.0**	**49.0**	**8127**	**7233**	**166**
		2100	36.4	76.5	11750	10555	154
		2800	37.7	105.6	15132	13452	143
BXRE-50G6501-B-74	90	585	49.6	29.0	4604	4259	159
		780	50.5	39.4	5976	5463	152
		1170	**52.0**	**60.8**	**8603**	**7755**	**141**
		1755	54.3	95.3	12249	10898	129
		2340	56.2	131.5	15542	13688	118
BXRE-50G6501-C-74	90	720	49.6	35.7	5911	5020	165
		960	50.5	48.5	7519	6577	155
		1440	**52.0**	**74.9**	**10589**	**9545**	**141**
		2160	54.2	117.0	14828	13632	127
		2880	55.9	161.1	18628	17280	116
BXRE-50G6501-D-74	90	700	33.2	23.3	3568	3288	153
		1050	34.2	35.9	5257	4821	146
		1400	**35.0**	**49.0**	**6911**	**6151**	**141**
		2100	36.4	76.5	9993	8977	131
		2800	37.7	105.6	12869	11440	122
BXRE-56G6501-D-74	90	700	33.2	23.3	3731	3438	160
		1050	34.2	35.9	5497	5041	153
		1400	**35.0**	**49.0**	**7227**	**6432**	**147**
		2100	36.4	76.5	10449	9386	137
		2800	37.7	105.6	13456	11963	127
BXRE-57C6501-B-74	70	585	49.6	29.0	5552	5137	191
		780	50.5	39.4	7208	6590	183
		1170	**52.0**	**60.8**	**10377**	**9354**	**171**
		1755	54.3	95.3	14775	13145	155
		2340	56.2	131.5	18746	16509	143
BXRE-57C6501-C-74	70	720	49.6	35.7	7129	6054	199
		960	50.5	48.5	9069	7933	187
		1440	**52.0**	**74.9**	**12772**	**11513**	**171**
		2160	54.2	117.0	17885	16442	153
		2880	55.9	161.1	22468	20842	139
BXRE-57C6501-D-74	70	700	33.2	23.3	4313	3975	185
		1050	34.2	35.9	6354	5828	177
		1400	**35.0**	**49.0**	**8355**	**7436**	**170**
		2100	36.4	76.5	12079	10851	158
		2800	37.7	105.6	15556	13829	147

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)
BXRE-57E6501-B-74	80	585	49.6	29.0	5502	5090	189
		780	50.5	39.4	7142	6530	181
		1170	**52.0**	**60.8**	**10282**	**9269**	**169**
		1755	54.3	95.3	14640	13025	154
		2340	56.2	131.5	18576	16359	141
BXRE-57E6501-C-74	80	720	49.6	35.7	7065	5999	198
		960	50.5	48.5	8987	7861	185
		1440	**52.0**	**74.9**	**12656**	**11408**	**169**
		2160	54.2	117.0	17722	16293	152
		2880	55.9	161.1	22264	20652	138
BXRE-57E6501-D-74	80	700	33.2	23.3	4274	3938	184
		1050	34.2	35.9	6297	5775	175
		1400	**35.0**	**49.0**	**8279**	**7368**	**169**
		2100	36.4	76.5	11969	10752	156
		2800	37.7	105.6	15414	13703	146
BXRE-65C6501-B-74	70	585	49.6	29.0	5653	5230	195
		780	50.5	39.4	7339	6710	186
		1170	**52.0**	**60.8**	**10565**	**9524**	**174**
		1755	54.3	95.3	15043	13384	158
		2340	56.2	131.5	19087	16810	145
BXRE-65C6501-C-74	70	720	49.6	35.7	7259	6165	203
		960	50.5	48.5	9234	8077	191
		1440	**52.0**	**74.9**	**13004**	**11722**	**174**
		2160	54.2	117.0	18210	16741	156
		2880	55.9	161.1	22877	21220	142
BXRE-65C6501-D-74	70	700	33.2	23.3	4391	4047	189
		1050	34.2	35.9	6470	5934	180
		1400	**35.0**	**49.0**	**8506**	**7656**	**173**
		2100	36.4	76.5	12299	11048	161
		2800	37.7	105.6	15839	14081	150
BXRE-65E6501-B-74	80	585	49.6	29.0	5603	5183	193
		780	50.5	39.4	7273	6650	185
		1170	**52.0**	**60.8**	**10471**	**9439**	**172**
		1755	54.3	95.3	14909	13264	157
		2340	56.2	131.5	18917	16660	144
BXRE-65E6501-C-74	80	720	49.6	35.7	7194	6109	201
		960	50.5	48.5	9152	8005	189
		1440	**52.0**	**74.9**	**12888**	**11618**	**172**
		2160	54.2	117.0	18048	16592	154
		2880	55.9	161.1	22673	21031	141
BXRE-65E6501-D-74	80	700	33.2	23.3	4100	3778	176
		1050	34.2	35.9	6040	5539	168
		1400	**35.0**	**49.0**	**7941**	**7147**	**162**
		2100	36.4	76.5	11481	10314	150
		2800	37.7	105.6	14786	13145	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.

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)
BXRE-xxx650x-B-7x	1170	48.1	52.0	55.9	-22.1	0.07	46.3	57.3
	2340	52.0	56.2	60.4	-22.1	0.09	50.2	61.8
BXRE-xxx650x-C-7x	1440	48.1	52.0	55.9	-22.1	0.06	46.3	57.3
	2880	51.7	55.9	60.1	-22.1	0.08	50.0	61.6
BXRE-xxx650x-D-7x	1400	32.4	35.0	37.6	-22.1	0.07	30.6	39.1
	2800	35.0	37.7	40.4	-22.1	0.08	33.2	41.8

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]
BXRE-xxx650x-B-7x	1170	RG1	RG1	RG1	RG1
	1755	RG1	RG1	RG2	RG2
	2340	RG1	RG2	RG2	RG2
BXRE-xxx650x-C-7x	1440	RG1	RG1	RG1	RG2
	2160	RG1	RG1	RG2	RG2
	2880	RG1	RG2	RG2	RG2
BXRE-xxx650x-D-7x	1400	RG1	RG1	RG1	RG1
	2100	RG1	RG1	RG1	RG2
	2800	RG1	RG1	RG2	RG2

Notes for Table 6:

1. Eye safety classification for the use of Bridgelux V 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		
	BXRE-xxx650x-B-7x	BXRE-xxx650x-C-7x	BXRE-xxx650x-D-7x
Maximum Drive Current[3]	2340mA	2880mA	2800mA
Maximum Peak Pulsed Drive Current[4]	3340mA	4110mA	4000mA
Maximum Reverse Voltage[5]	-90V	-90V	-60V

Notes for Table 7:

1. For IEC 62717 requirement, please consult your Bridgelux sales representative.
2. Refer to Bridgelux Application Note AN101: Handling and Assembly of Bridgelux V Series 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: V22B Drive Current vs. Voltage

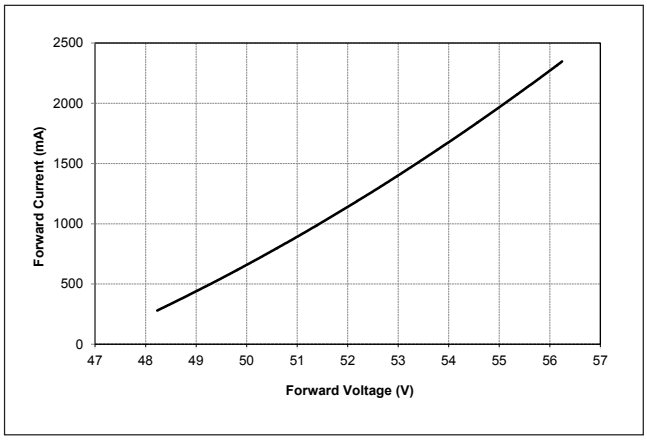


Figure 2: V22C Drive Current vs. Voltage

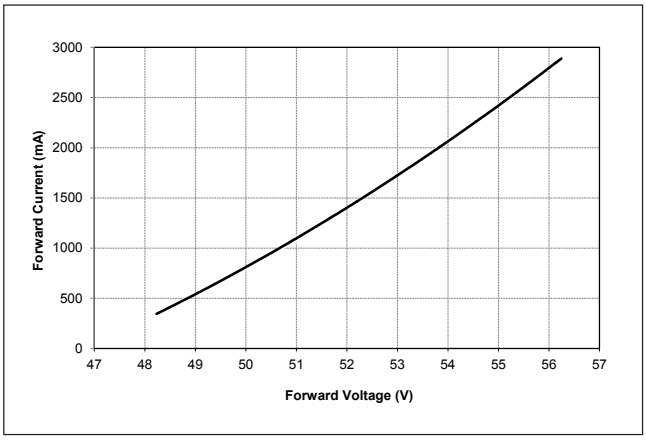


Figure 3: V22D Drive Current vs. Voltage

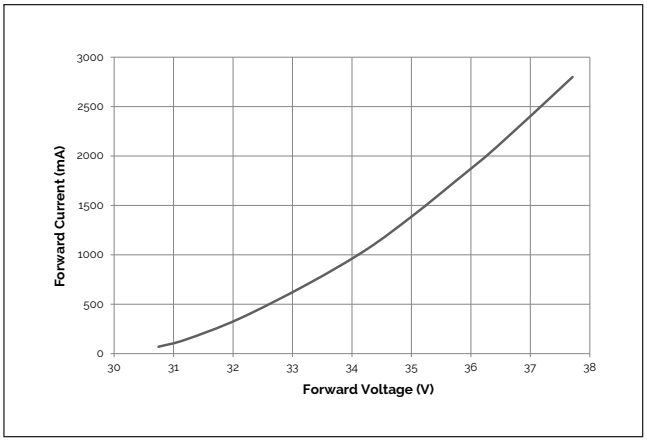


Figure 4: V22B Typical Relative Flux vs. Current

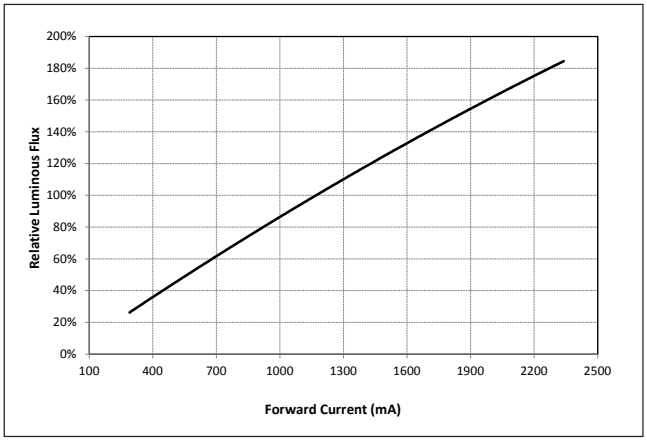


Figure 5: V22C Typical Relative Flux vs. Current

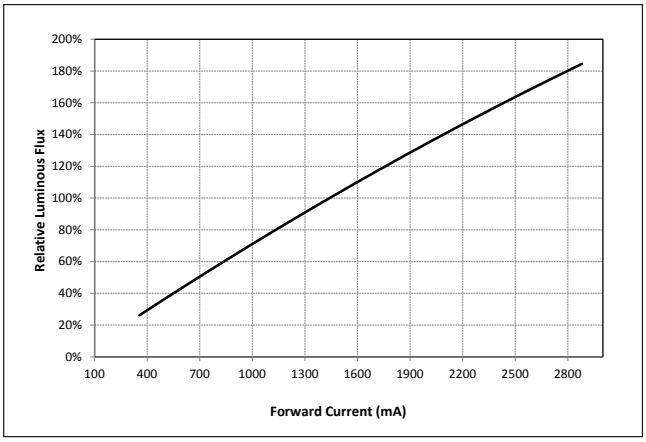
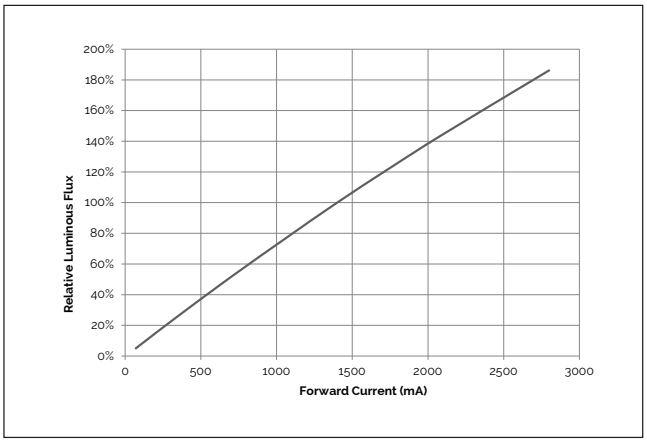


Figure 6: V22D Typical Relative Flux vs. Current



Notes for Figures 1-6:

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

Performance Curves

Figure 7: Typical DC Flux vs. Case Temperature

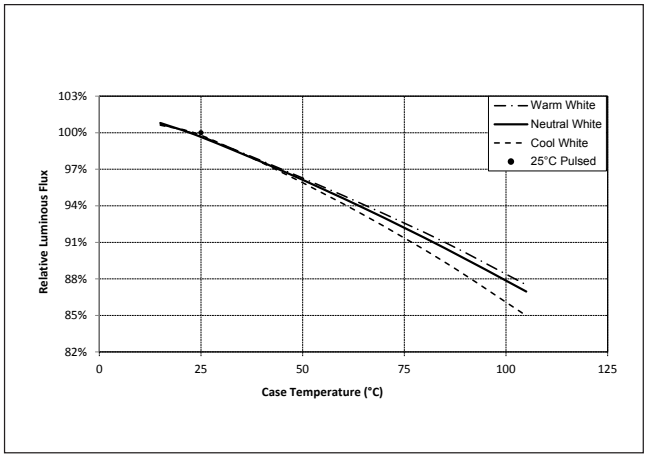


Figure 8: Typical DC ccy Shift vs. Case Temperature

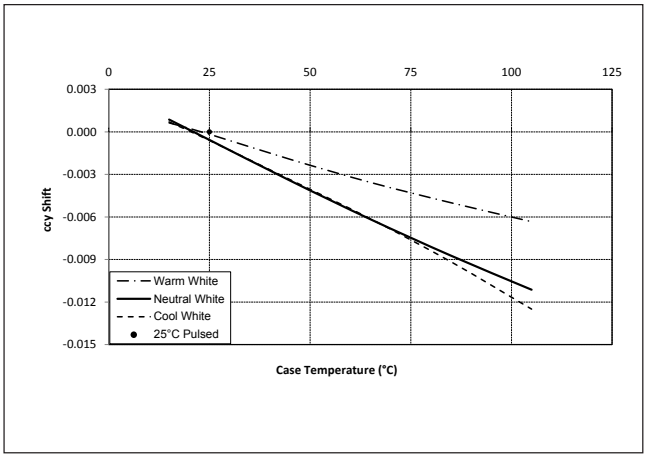
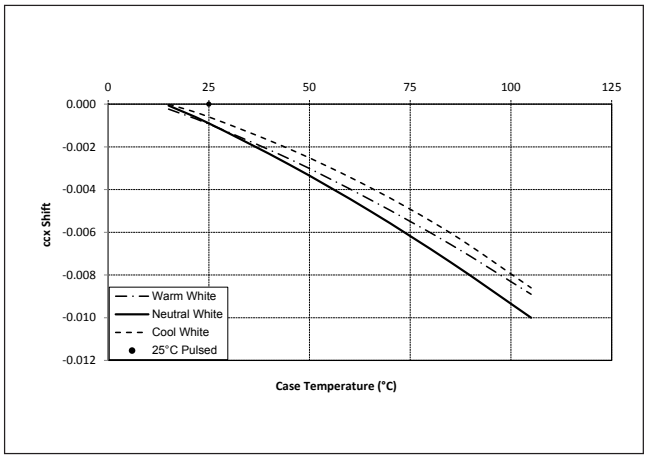


Figure 9: Typical DC ccx Shift vs. Case Temperature



Notes for Figures 7-9:

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

Performance Curves

Figure 10: 1750K Color Shift vs. Case Temperature[1]

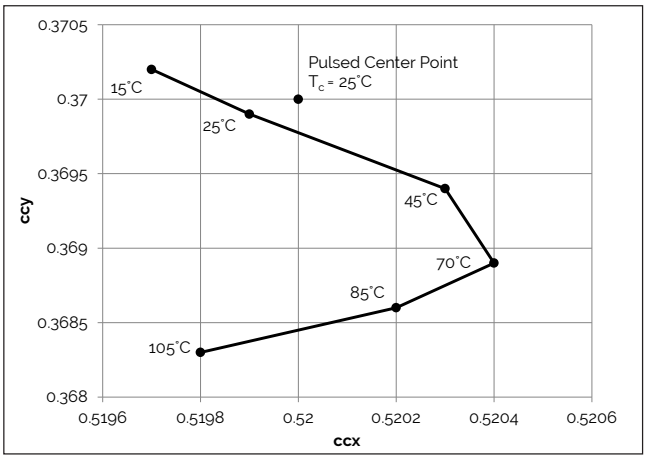


Figure 11: 2500K Color Shift vs. Case Temperature[1]

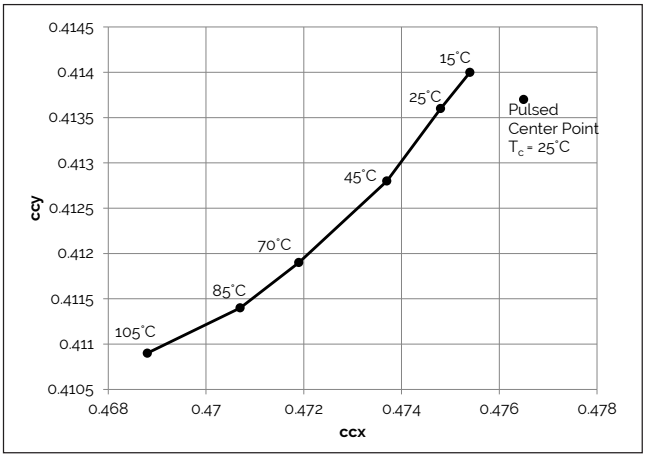


Figure 12: 2000K, 65 CRI Color Shift vs. Case Temperature

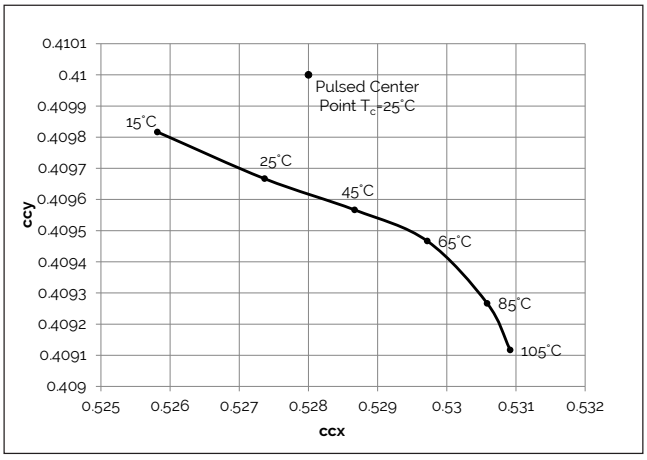
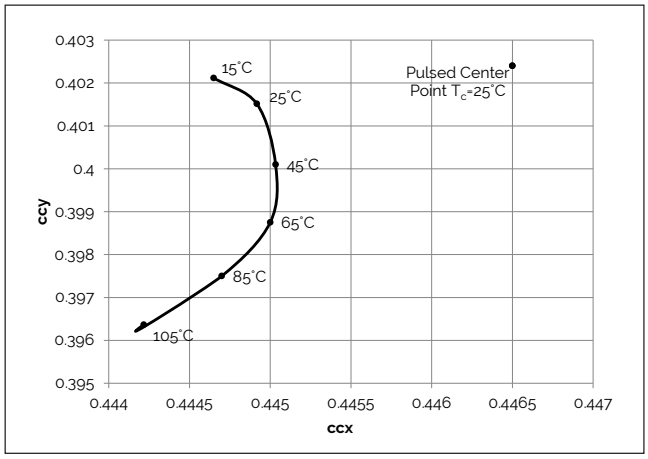


Figure 13: 3000K, 90 CRI Color Shift vs. Case Temperature[3]



Note for Figures 10-13:

1. Measurements made under DC test conditions at the nominal drive current.
2. Typical color shift is shown with a tolerance of ±0.002.
3. Characteristics shown for Decor Series Showcase products, BXRE-30G650C-x-73

Performance Curves

Figure 14: 2700K, 97 CRI Color Shift vs. Case Temperature[1]

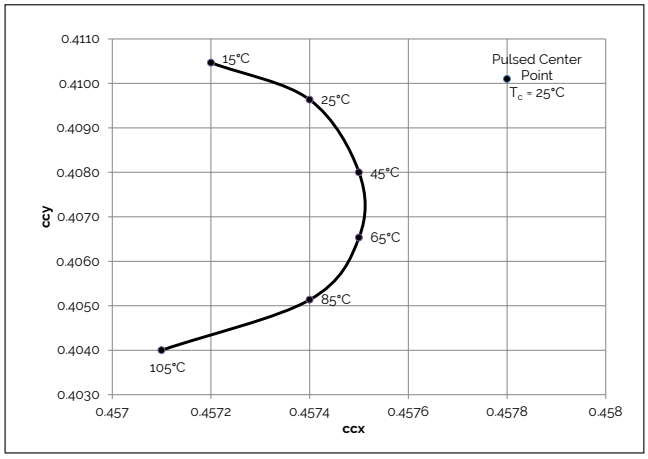


Figure 15: 3000K, 97 CRI Color Shift vs. Case Temperature[1]

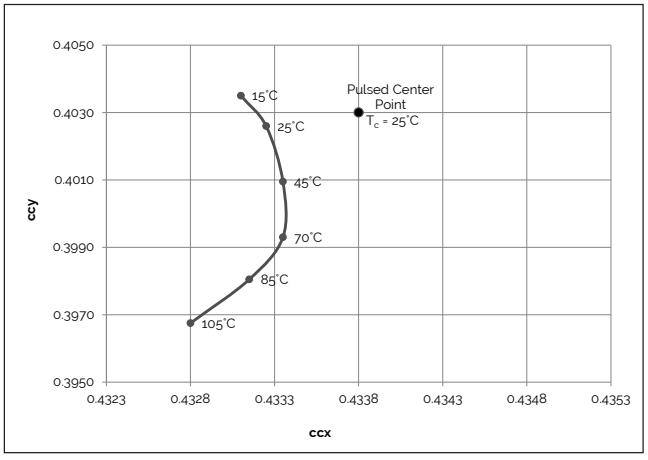


Figure 16: 5600K Color Shift vs. Case Temperature[1,3]

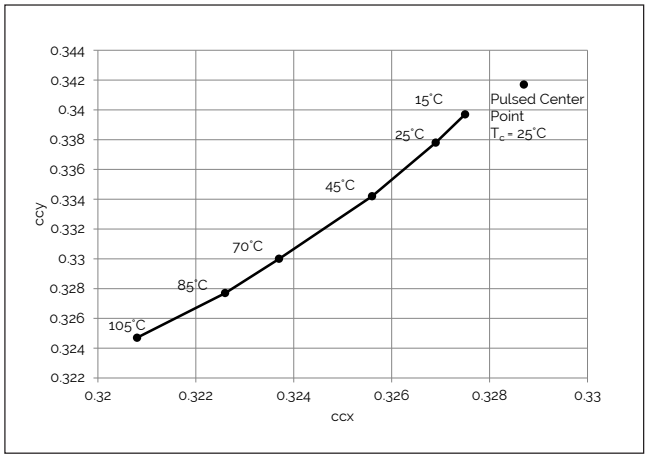
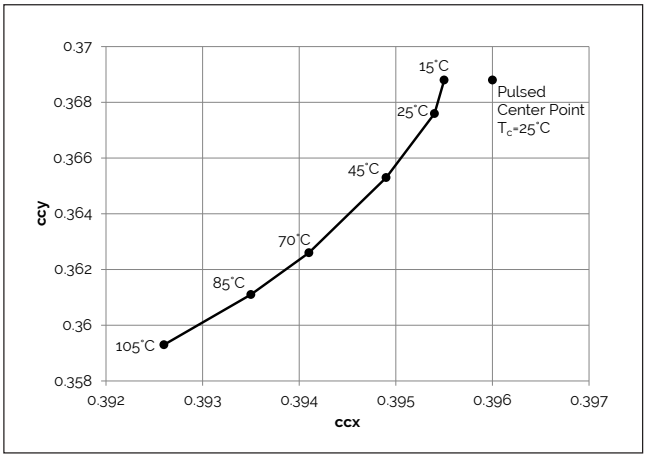


Figure 17: 3500K Class A Color Shift vs. Case Temperature[1]

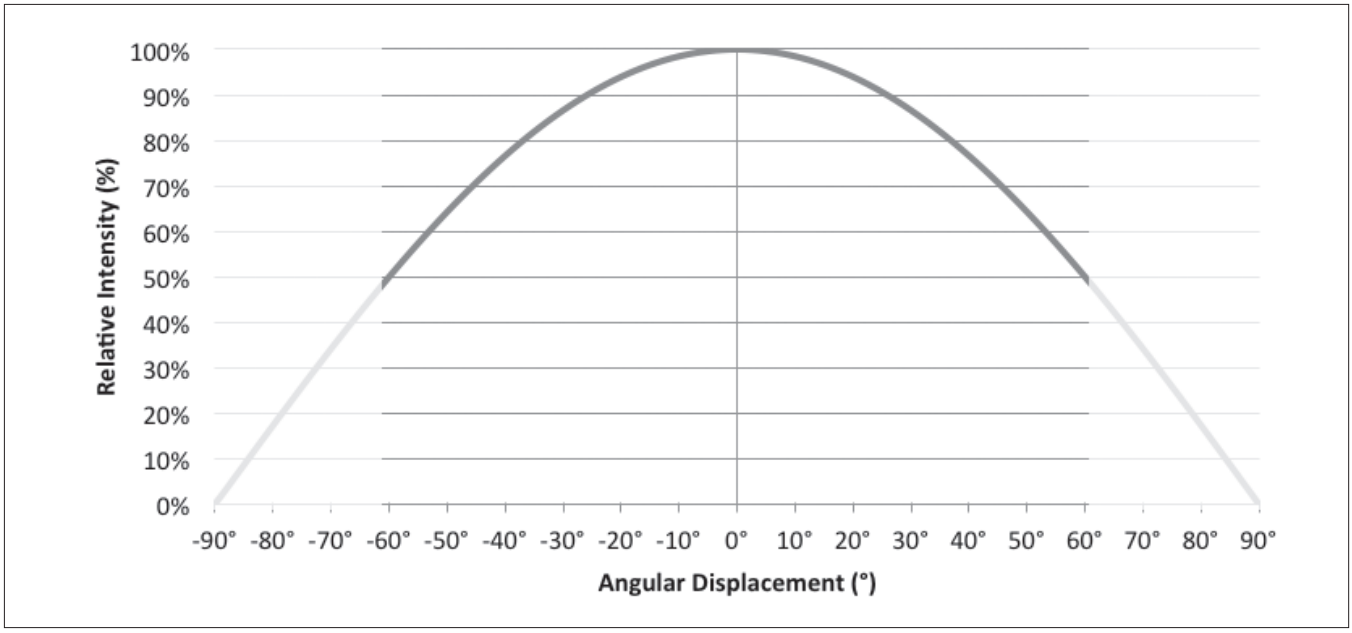


Note for Figures 14-17:

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

Typical Radiation Pattern

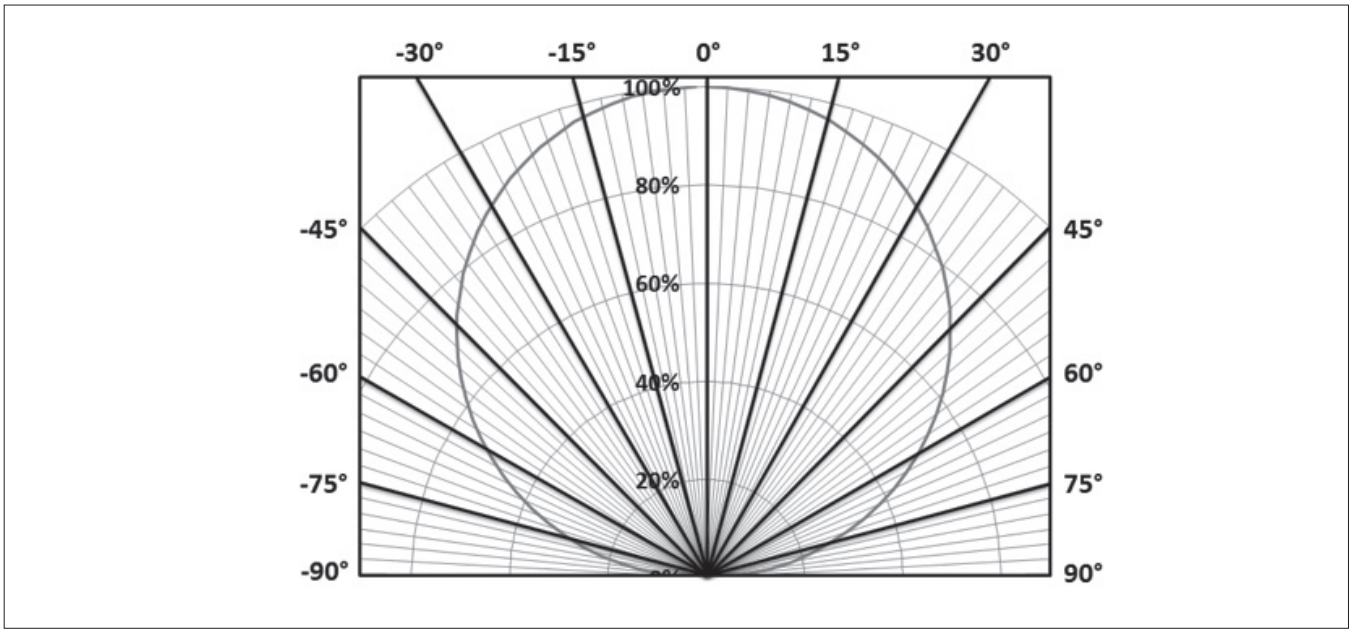
Figure 18: Typical Spatial Radiation Pattern



Note for Figure 18:

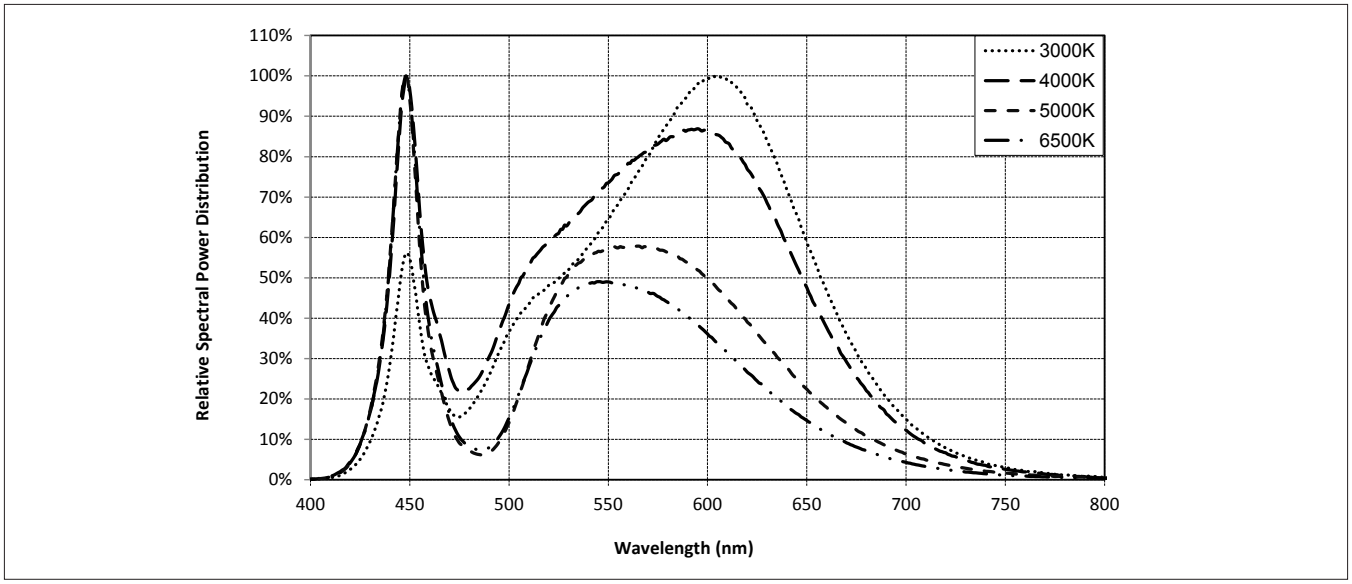
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 19: Typical Polar Radiation Pattern



Typical Color Spectrum

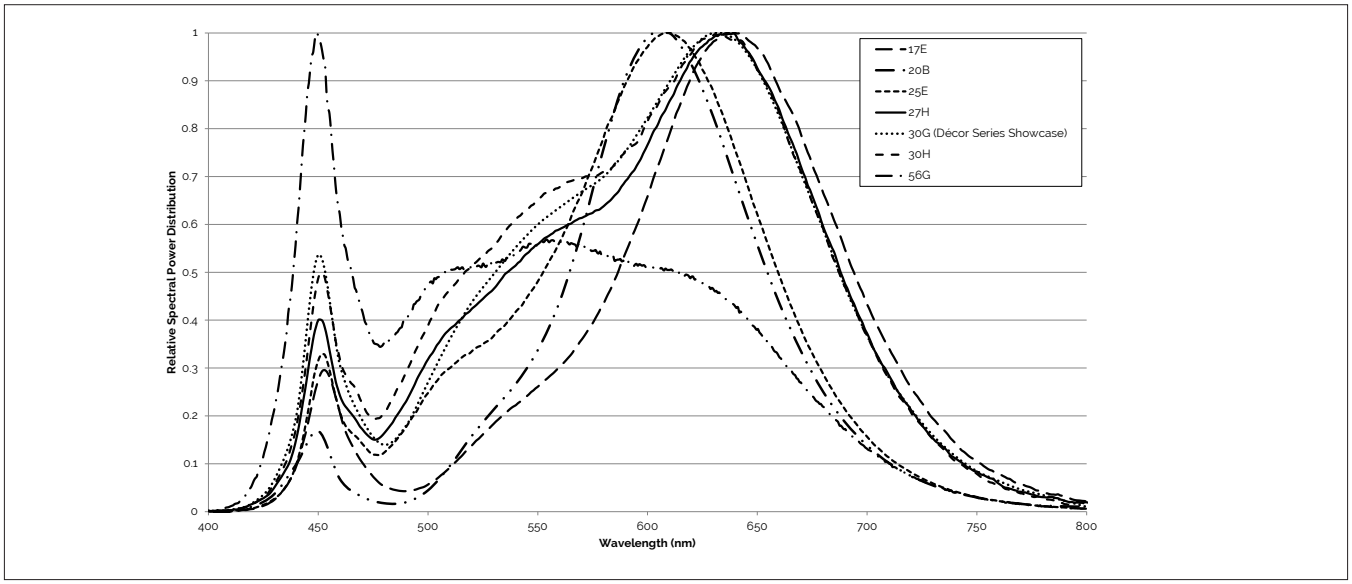
Figure 20: Typical Color Spectrum



Note for Figure 20:

1. Color spectra measured at nominal current for T_j = T_c = 25°C.
2. Color spectra shown is 3000K and 80 CRI.
3. Color spectra shown is 4000K and 80 CRI.
4. Color spectra shown is 5000K and 70 CRI.
4. Color spectra shown is 6500K and 70 CRI.

Figure 21: Typical Color Spectrum for Décor Series

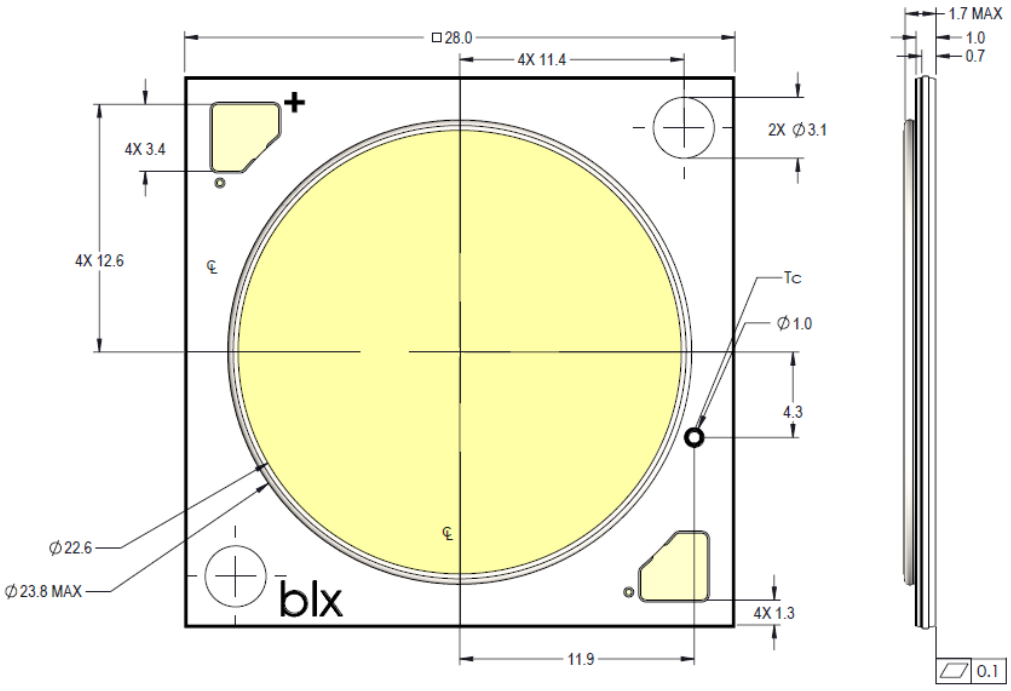


Note for Figure 21:

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

Mechanical Dimensions

Figure 22: Drawing for V22 LED Array

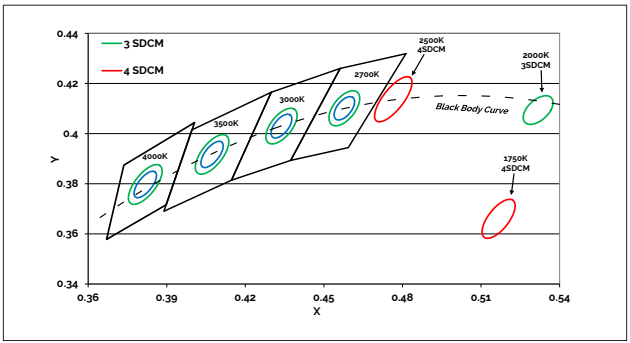


Notes for Figure 22:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.
3. Unless otherwise specified, tolerances are ±0.1mm.
4. Solder pad labeled "+" denotes positive contact.
5. Refer to Application Notes AN101 for product handling, mounting and heat sink recommendations.
6. The optical center of the LED Array is nominally defined by the mechanical center of the array to a tolerance of ± 0.2mm.
7. Bridgelux maintains a flatness of 0.10mm across the mounting surface of the array.

Color Binning Information

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



Note: Pulsed Test Conditions, T_c = 25˚C

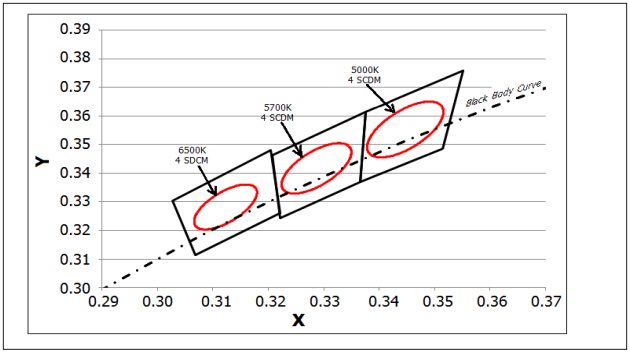
Table 8: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

Bin Code	2000K	2700K	3000K[1]	3500K[1]	4000K[1]
ANSI Bin (for reference only)	-	(2580K - 2870K)	(2870K - 3220K)	(3220K - 3710K)	(3710K - 4260K)
73 (3 SDCM)	-	(2651K - 2794K)	(2968K - 3136K)	(3369K - 3586K)	(3851K - 4130K)
72 (2 SDCM)	-	(2674K - 2769K)	(2995K - 3107K)	(3404K - 3548K)	(3895K - 4081K)
Center Point (x,y)	(0.5280, 0.4100)	(0.4578, 0.4101)	(0.4338, 0.403) (0.4465, 0.4024)[2]	(0.4073, 0.3917)	(0.3818, 0.3797)

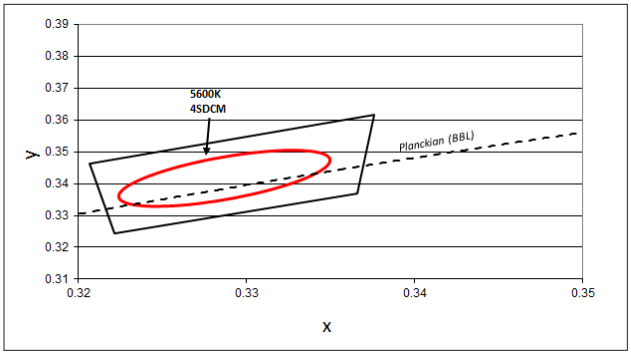
Note for Table 8:

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

Figure 24: 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)

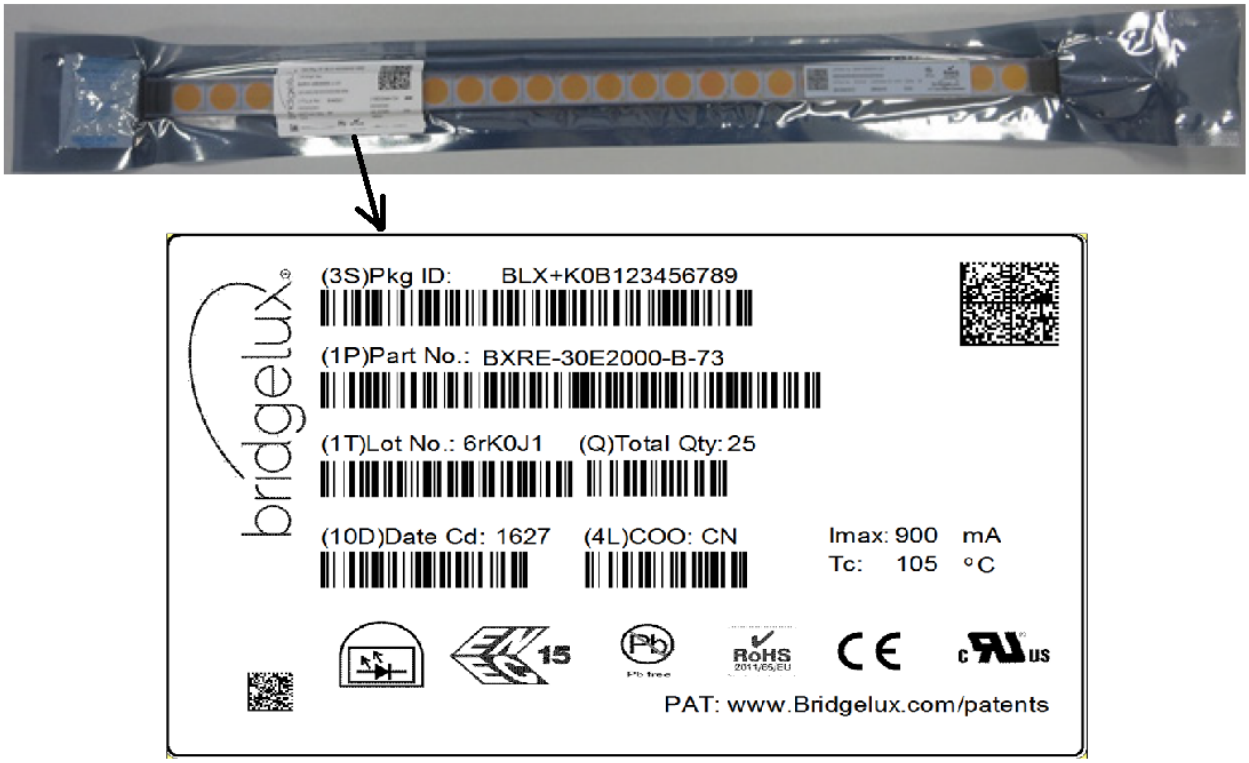
Bin Code	5000K	5600K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5310K - 6020K)	(5312K - 6022K)	(6022K - 7042K)
74 (4 SDCM)	(4801K - 5282K)	(5475K - 5830K)	(5829K - 5481K)	(6270K - 6765K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3293, 0.3423)	(0.3287, 0.3417)	(0.3123, 0.3282)

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 25: Drawing for V22 Packaging Tube



Notes for Figure 25:

1. Each tube holds 15 V22 COB arrays.
2. One tube is sealed in an anti-static bag. Four bags are placed in a shipping box and shipped. Depending on quantities ordered, a bigger shipping box, containing four boxes may be used to ship products.
3. Each bag and box is to be labeled as shown above.
4. Dimensions for each tube are 30.7 (W) x 9.65(H) x 460(L). Dimensions for the anti-static bag are 75 (W) x 615 (L) x 3.1 (T) mm. Dimensions for the shipping box are 58.7 x 13.3 x 7.9 cm.

Packaging and Labeling

Figure 26: **Gen. 7 Product Labeling**

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

Design Resources

Application Notes

Bridgelux has developed a comprehensive set of application notes and design resources to assist customers in successfully designing with the V Series 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 V Series 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 AN101 for additional information.

CAUTION: RISK OF BURN

Do not touch the V Series LED array during operation. Allow the array to cool for a sufficient period of time before handling. The V Series 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).

Disclaimers

MINOR PRODUCT CHANGE POLICY

The rigorous qualification testing on products offered by Bridgelux provides performance assurance. Slight cosmetic changes that do not affect form, fit, or function may occur as Bridgelux continues product optimization.

STANDARD TEST CONDITIONS

Unless otherwise stated, array testing is performed at the nominal drive current.

About Bridgelux: We Build Light That Transforms

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

For more information about the company, please visit
bridgelux.com
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youtube.com/user/Bridgelux
linkedin.com/company/bridgelux-inc-_2
WeChat ID: BridgeluxInChina

46430 Fremont Boulevard
Fremont, CA 94538
Tel (925) 583-8400
www.bridgelux.com