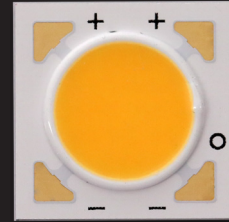


# Bridgelux® E8 LED Array

Product Data Sheet DS441

# Introduction

## E Series



The E Series LED array products deliver high quality of light in a compact and cost-effective solid-state lighting package. These chip-on-board (COB) arrays are available in multiple performance and electrical configuration options, simplifying the design-in process. These high flux density light sources are designed to support a wide range of highly competitive directional luminaires and replacement lamps for commercial and residential applications.

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

### Features

- Wide range of performance from 780 to 2200 lm with CCT options from 2700K – 6500K
- Compact, high flux density light source
- Uniform, high quality illumination
- Streamlined thermal path
- ENERGY STAR® / ANSI compliant color binning structure with 3 and 5 SDCM options
- Higher energy efficiency than incandescent, halogen and CFL lamps
- Industry standard DC voltage operation
- Instant light with unlimited dimming
- RoHS and REACH compliant

### Benefits

- Supports many general lighting applications
- Enables tight beam control when used with secondary optics
- Clean white light without pixilation
- Low thermal resistance
- Uniform, consistent white light
- Lower operating costs
- Aligns with industry standard drivers to reduce system costs
- Easy to use with daylight and motion detectors to enable increased energy savings
- Environmentally friendly

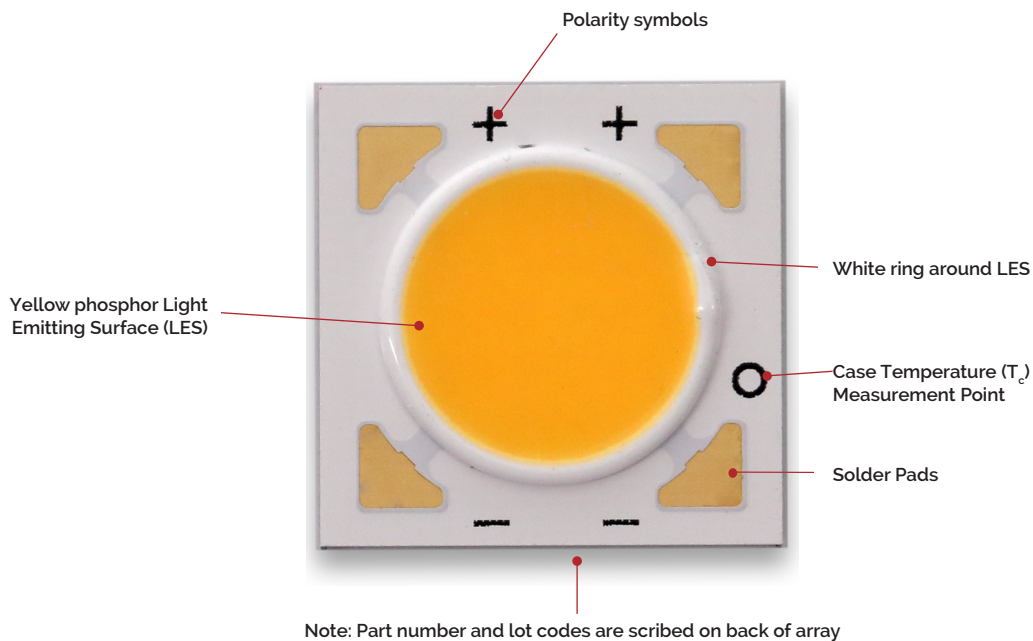


# Contents

Product Feature Map	2
Product Nomenclature	2
Product Selection Guide	3
Electrical Characteristics	8
Absolute Maximum Ratings	9
Performance Curves	10
Typical Radiation Pattern	12
Typical Color Spectrum	13
Mechanical Dimensions	14
Color Binning Information	15
Design Resources	16
Precautions	16
Disclaimers	16
About Bridgelux	17

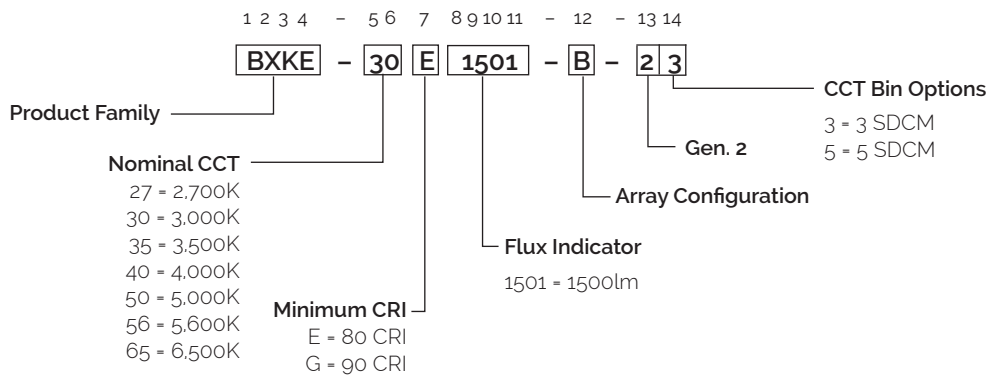
# Product Feature Map

Bridgelux arrays are fully engineered devices that provide consistent thermal and optical performance on an engineered mechanical platform. The E Series arrays incorporate several features to simplify design integration and assembly.



## Product Nomenclature

The part number designation for Bridgelux E8 LED arrays is explained as follows:



# Product Selection Guide

The following product configurations are available:

**Table 1:** Selection Guide, Pulsed Measurement Data ( $T_c = T_j = 25^\circ\text{C}$ )

Part Number	Nominal CCT <sup>1</sup> (K)	CRI <sup>2</sup>	Nominal Drive Current <sup>3</sup> (mA)	Typical Pulsed Flux <sup>4,5,6</sup> $T_j = 25^\circ\text{C}$ (lm)	Minimum Pulsed Flux <sup>6,7</sup> $T_j = 25^\circ\text{C}$ (lm)	Typical $V_f$ (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXKE-27E1501-B-2x	2700	80	200	910	791	36.0	7.2	126
BXKE-27E1501-D-2x	2700	80	400	910	791	18.0	7.2	126
BXKE-27G1501-B-2x	2700	90	200	757	658	36.0	7.2	105
BXKE-27G1501-D-2x	2700	90	400	757	658	18.0	7.2	105
BXKE-30E1501-B-2x	3000	80	200	950	826	36.0	7.2	132
BXKE-30E1501-D-2x	3000	80	400	950	826	18.0	7.2	132
BXKE-30G1501-B-2x	3000	90	200	787	685	36.0	7.2	109
BXKE-30G1501-D-2x	3000	90	400	787	685	18.0	7.2	109
BXKE-35E1501-B-2x	3500	80	200	977	849	36.0	7.2	136
BXKE-35E1501-D-2x	3500	80	400	977	849	18.0	7.2	136
BXKE-35G1501-B-2x	3500	90	200	816	709	36.0	7.2	113
BXKE-35G1501-D-2x	3500	90	400	816	709	18.0	7.2	113
BXKE-40E1501-B-2x	4000	80	200	986	857	36.0	7.2	137
BXKE-40E1501-D-2x	4000	80	400	986	857	18.0	7.2	137
BXKE-40G1501-B-2x	4000	90	200	847	737	36.0	7.2	118
BXKE-40G1501-D-2x	4000	90	400	847	737	18.0	7.2	118
BXKE-50E1501-B-2x	5000	80	200	1016	883	36.0	7.2	141
BXKE-50E1501-D-2x	5000	80	400	1016	883	18.0	7.2	141
BXKE-50G1501-B-2x	5000	90	200	863	734	36.0	7.2	120
BXKE-50G1501-D-2x	5000	90	400	863	734	18.0	7.2	120
BXKE-56E1501-B-2x	5600	80	200	1052	915	36.0	7.2	14
BXKE-56E1501-D-2x	5600	80	400	1052	915	18.0	7.2	146
BXKE-65E1501-B-2x	6500	80	200	1069	929	36.0	7.2	148
BXKE-65E1501-D-2x	6500	80	400	1069	929	18.0	7.2	148

Notes for Table 1:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. CRI values are minimums. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50.
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) =  $25^\circ\text{C}$ .
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, Pulsed Measurement Data ( $T_j = 85^\circ\text{C}$ )<sup>4,5</sup>

x	Nominal CCT <sup>1</sup> (K)	CRI <sup>2</sup>	Nominal Drive Current <sup>3</sup> (mA)	Typical Pulsed Flux <sup>4,5</sup> $T_j = 85^\circ\text{C}$ (lm)	Minimum Pulsed Flux <sup>6</sup> $T_j = 85^\circ\text{C}$ (lm)	Typical $V_f$ (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXKE-27E1501-B-2x	2700	80	200	801	697	34.7	6.9	115
BXKE-27E1501-D-2x	2700	80	400	801	697	17.4	6.9	115
BXKE-27G1501-B-2x	2700	90	200	666	580	34.7	6.9	96
BXKE-27G1501-D-2x	2700	90	400	666	580	17.4	6.9	96
BXKE-30E1501-B-2x	3000	80	200	836	727	34.7	6.9	120
BXKE-30E1501-D-2x	3000	80	400	836	727	17.4	6.9	120
BXKE-30G1501-B-2x	3000	90	200	692	602	34.7	6.9	100
BXKE-30G1501-D-2x	3000	90	400	692	602	17.4	6.9	100
BXKE-35E1501-B-2x	3500	80	200	860	747	34.7	6.9	124
BXKE-35E1501-D-2x	3500	80	400	860	747	17.4	6.9	124
BXKE-35G1501-B-2x	3500	90	200	717	624	34.7	6.9	103
BXKE-35G1501-D-2x	3500	90	400	717	624	17.4	6.9	103
BXKE-40E1501-B-2x	4000	80	200	868	755	34.7	6.9	125
BXKE-40E1501-D-2x	4000	80	400	868	755	17.4	6.9	125
BXKE-40G1501-B-2x	4000	90	200	746	648	34.7	6.9	107
BXKE-40G1501-D-2x	4000	90	400	746	648	17.4	6.9	107
BXKE-50E1501-B-2x	5000	80	200	894	777	34.7	6.9	129
BXKE-50E1501-D-2x	5000	80	400	894	777	17.4	6.9	129
BXKE-50G1501-B-2x	5000	90	200	862	733	34.7	6.9	125
BXKE-50G1501-D-2x	5000	90	400	862	733	17.4	6.9	125
BXKE-56E1501-B-2x	5600	80	200	926	805	34.7	6.9	133
BXKE-56E1501-D-2x	5600	80	400	926	805	17.4	6.9	133
BXKE-65E1501-B-2x	6500	80	200	941	818	34.7	6.9	135
BXKE-65E1501-D-2x	6500	80	400	941	818	17.4	6.9	135

Notes for Table 2:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. CRI values are minimums. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50.
3. Drive current is referred to as nominal drive current.
4. Typical Pulsed performance values are provided as reference only and are not a guarantee of performance.
5. Typical performance is estimated based on operation under Pulsed with LED array mounted onto a heat sink with thermal interface material and the  $T_c = T_j$  temperature maintained at  $85^\circ\text{C}$ . 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

Bridgelux E series LED arrays are tested to the specifications shown using the nominal drive currents in Table 1. Bridgelux E series Arrays 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 and the flux vs. current characteristics shown in Figure 3-4. 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 <sup>1</sup> (mA)	Typical V <sub>f</sub> T <sub>j</sub> = 25°C (V)	Typical Power T <sub>j</sub> = 25°C (W)	Typical Flux <sup>2</sup> T <sub>j</sub> = 25°C (lm)	Typical Pulsed Flux <sup>3</sup> T <sub>j</sub> = 85°C (lm)	Typical Efficacy T <sub>j</sub> = 25°C (lm/W)
BXKE-27E1501-B-2x	80	160	34.7	5.6	766	674	138
		180	35.4	6.4	841	740	132
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>910</b>	<b>801</b>	<b>126</b>
		220	36.6	8.1	976	859	121
		480	40.7	19.5	1870	1646	94
BXKE-27E1501-D-2x	80	320	17.4	5.6	766	674	138
		360	17.7	6.4	841	740	132
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>910</b>	<b>801</b>	<b>126</b>
		440	18.3	8.1	976	859	121
		960	20.4	19.6	1870	1646	94
BXKE-27G1501-B-2x	90	160	34.7	5.6	637	561	115
		180	35.4	6.4	700	615	110
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>757</b>	<b>666</b>	<b>105</b>
		220	36.6	8.1	812	715	101
		480	40.7	19.5	1555	1369	78
BXKE-27G1501-D-2x	90	320	17.4	5.6	637	561	115
		360	17.7	6.4	700	615	110
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>757</b>	<b>666</b>	<b>105</b>
		440	18.3	8.1	812	715	101
		960	20.4	19.6	1555	1369	78
BXKE-30E1501-B-2x	80	160	34.7	5.6	800	703	144
		180	35.4	6.4	877	772	138
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>950</b>	<b>836</b>	<b>132</b>
		220	36.6	8.1	1019	897	126
		480	40.7	19.5	1952	1718	98
BXKE-30E1501-D-2x	80	320	17.4	5.6	800	703	144
		360	17.7	6.4	877	772	138
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>950</b>	<b>836</b>	<b>132</b>
		440	18.3	8.1	1019	897	126
		960	20.4	19.6	1952	1718	98
BXKE-30G1501-B-2x	90	160	34.7	5.6	662	583	119
		180	35.4	6.4	727	640	114
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>787</b>	<b>692</b>	<b>109</b>
		220	36.6	8.1	844	742	105
		480	40.7	19.5	1617	1423	83
BXKE-30G1501-D-2x	90	320	17.4	5.6	662	583	119
		360	17.7	6.4	727	640	114
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>787</b>	<b>692</b>	<b>109</b>
		440	18.3	8.1	844	742	105
		960	20.4	19.6	1617	1423	83

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 Pulsed 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

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical V <sub>f</sub> T <sub>j</sub> = 25°C (V)	Typical Power T <sub>j</sub> = 25°C (W)	Typical Flux <sup>2</sup> T <sub>j</sub> = 25°C (lm)	Typical Pulsed Flux <sup>3</sup> T <sub>j</sub> = 85°C (lm)	Typical Efficacy T <sub>j</sub> = 25°C (lm/W)
BXKE-35E1501-B-2x	80	160	34.7	5.6	822	723	148
		180	35.4	6.4	902	794	142
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>977</b>	<b>860</b>	<b>136</b>
		220	36.6	8.1	1047	922	130
		480	40.7	19.5	2006	1766	103
BXKE-35E1501-D-2x	80	320	17.4	5.6	822	723	148
		360	17.7	6.4	902	794	142
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>977</b>	<b>860</b>	<b>136</b>
		440	18.3	8.1	1047	922	130
		960	20.4	19.6	2006	1766	103
BXKE-35G1501-B-2x	90	160	34.7	5.6	688	605	124
		180	35.4	6.4	755	664	119
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>816</b>	<b>717</b>	<b>113</b>
		220	36.6	8.1	876	771	109
		480	40.7	19.5	1679	1477	86
BXKE-35G1501-D-2x	90	320	17.4	5.6	688	605	124
		360	17.7	6.4	755	664	119
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>816</b>	<b>717</b>	<b>113</b>
		440	18.3	8.1	876	771	109
		960	20.4	19.6	1679	1477	86
BXKE-40E1501-B-2x	80	160	34.7	5.6	830	730	149
		180	35.4	6.4	911	801	143
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>986</b>	<b>868</b>	<b>137</b>
		220	36.6	8.1	1057	931	131
		480	40.7	19.5	2026	1783	104
BXKE-40E1501-D-2x	80	320	17.4	5.6	830	730	149
		360	17.7	6.4	911	801	143
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>986</b>	<b>868</b>	<b>137</b>
		440	18.3	8.1	1057	931	131
		960	20.4	19.6	2026	1783	104
BXKE-40G1501-B-2x	90	320	17.4	5.6	715	628	129
		360	17.7	6.4	784	690	123
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>847</b>	<b>746</b>	<b>118</b>
		440	18.3	8.1	911	801	113
		960	20.4	19.6	1744	1535	89
BXKE-40G1501-D-2x	90	320	17.4	5.6	715	628	129
		360	17.7	6.4	784	690	123
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>847</b>	<b>746</b>	<b>118</b>
		440	18.3	8.1	911	801	113
		960	20.4	19.6	1744	1535	89
BXKE-50E1501-B-2x	80	160	34.7	5.6	855	752	154
		180	35.4	6.4	938	826	147
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>1016</b>	<b>894</b>	<b>141</b>
		220	36.6	8.1	1090	959	135
		480	40.7	19.5	2087	1837	107
BXKE-50E1501-D-2x	80	320	17.4	5.6	855	752	154
		360	17.7	6.4	938	826	147
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>1016</b>	<b>894</b>	<b>141</b>
		440	18.3	8.1	1090	959	135
		960	20.4	19.6	2087	1837	107

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 Pulsed 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

Part Number	CRI	Drive Current <sup>1</sup> (mA)	Typical $V_f$ $T_j = 25^\circ\text{C}$ (V)	Typical Power $T_j = 25^\circ\text{C}$ (W)	Typical Flux <sup>2</sup> $T_j = 25^\circ\text{C}$ (lm)	Typical Pulsed Flux <sup>3</sup> $T_j = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_j = 25^\circ\text{C}$ (lm/W)
BXKE-50G1501-B-2x	90	160	17.4	5.6	703	618	126
		180	17.7	6.4	784	677	123
		<b>200</b>	<b>18.0</b>	<b>7.2</b>	<b>863</b>	<b>759</b>	<b>120</b>
		220	18.3	8.1	940	826	116
		480	20.4	19.5	1826	1604	94
BXKE-50G1501-D-2x	90	320	17.4	5.6	703	618	126
		360	17.7	6.4	784	677	123
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>863</b>	<b>759</b>	<b>120</b>
		440	18.3	8.1	940	826	116
		960	20.4	19.6	1826	1604	94
BXKE-56E1501-B-2x	80	160	34.7	5.6	886	780	159
		180	35.4	6.4	972	855	153
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>1052</b>	<b>926</b>	<b>146</b>
		220	36.6	8.1	1129	993	140
		480	40.7	19.5	2162	1903	111
BXKE-56E1501-D-2x	80	320	17.4	5.6	886	780	159
		360	17.7	6.4	972	855	153
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>1052</b>	<b>926</b>	<b>146</b>
		440	18.3	8.1	1129	993	140
		960	20.4	19.6	2162	1903	111
BXKE-65E1501-B-2x	80	160	34.7	5.6	900	791	160
		180	35.4	6.4	987	868	154
		<b>200</b>	<b>36.0</b>	<b>7.2</b>	<b>1069</b>	<b>941</b>	<b>148</b>
		220	36.6	8.1	1146	1008	141
		480	40.7	19.5	2196	1932	113
BXKE-65E1501-D-2x	80	320	17.4	5.6	900	791	160
		360	17.7	6.4	987	868	154
		<b>400</b>	<b>18.0</b>	<b>7.2</b>	<b>1069</b>	<b>941</b>	<b>148</b>
		440	18.3	8.1	1146	1008	141
		960	20.4	19.6	2196	1932	113

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 Pulsed 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, $T_j = 25^\circ\text{C}$ (V) <sup>1, 2, 3</sup>			Typical Coefficient of Forward Voltage <sup>4</sup> $\Delta V_f / \Delta T_c$ (mV/ $^\circ\text{C}$ )	Typical Thermal Resistance Junction to Case <sup>5,6</sup> $R_{j-c}$ ( $^\circ\text{C}/\text{W}$ )
		Minimum	Typical	Maximum		
BXKE-xxx1501-B-2x	200	33.3	36.0	38.7	-15.48	1.41
BXKE-xxx1501-D-2x	400	16.7	18.0	19.3	-7.74	1.41

Notes for Table 4:

1. Parts are tested in pulsed conditions,  $T_j = 25^\circ\text{C}$ . 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  $\pm 0.10\text{V}$  on forward voltage measurements.
4. Typical coefficient of forward voltage tolerance is  $\pm 0.1\text{mV}$  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.

# Absolute Maximum Ratings

**Table 5:** Maximum Ratings

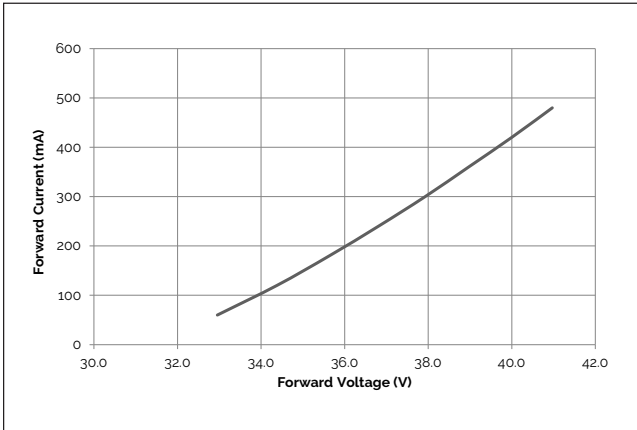
Parameter	Maximum Rating	
LED Junction Temperature ( $T_j$ )	140°C	
Storage Temperature	-40°C to +100°C	
Operating Case Temperature <sup>1,2</sup> ( $T_c$ )	105°C	
Soldering Temperature	350°C $\leq$ 3.5sec	
	BXKE-xxx1501-B-2x	BXKE-xxx1501-D-2x
Maximum Drive Current <sup>3</sup>	480mA	960mA
Maximum Reverse Voltage <sup>4</sup>	-60 V	-30V

Notes for Table 5:

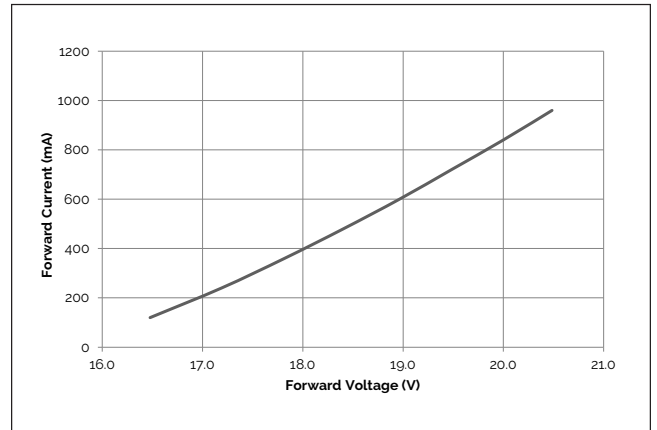
1. For IEC 62717 requirement, please consult your Bridgelux sales representative.
2. Operating Case Temperature 105°C is with drive currents  $\leq$ 200mA(B)/400mA(D). When drive current is Maximum drive current, Operating Case Temperature should be limited to  $\leq$ 85°C.
3. Arrays may be driven at higher currents however lumen maintenance may be reduced.
4. 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

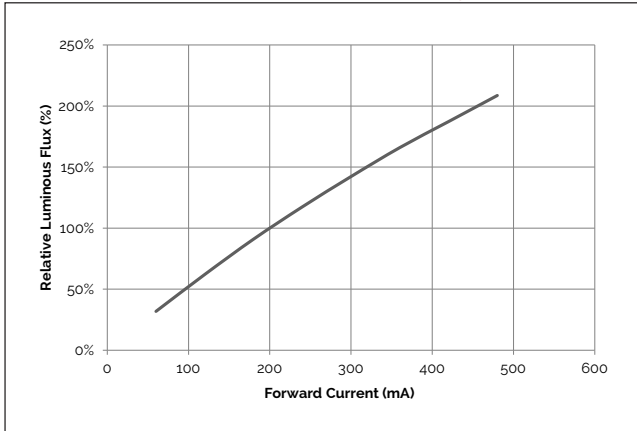
**Figure 1: E8B Drive Current vs. Voltage  $T_c=25^\circ\text{C}$**



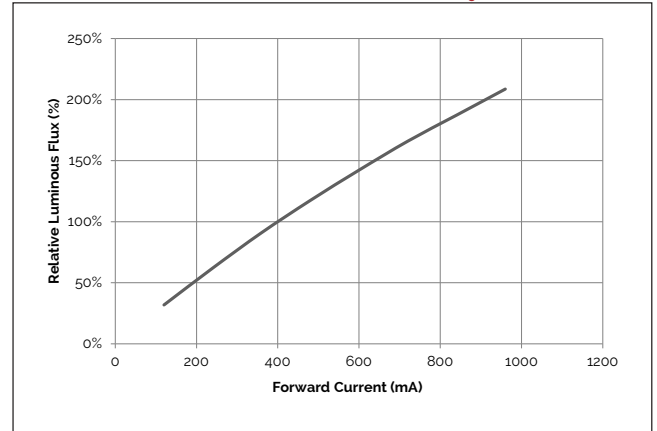
**Figure 2: E8D Drive Current vs. Voltage  $T_c=25^\circ\text{C}$**



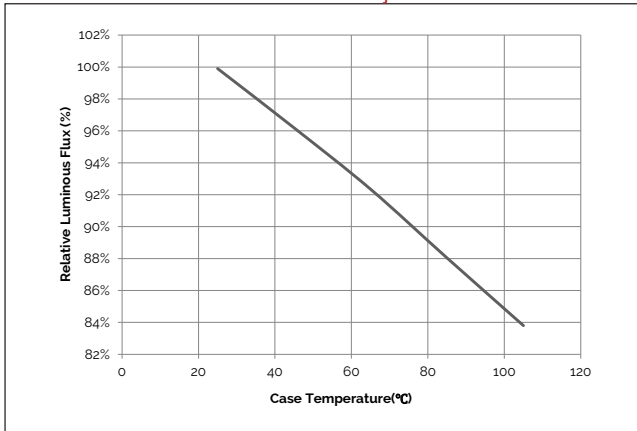
**Figure 3: E8B Relative Flux vs. Current  $T_c=25^\circ\text{C}$**



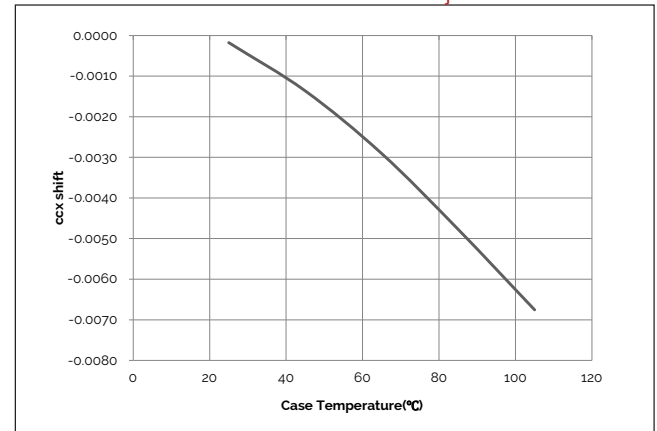
**Figure 4: E8D Relative Flux vs. Current  $T_c=25^\circ\text{C}$**



**Figure 5: Typical Pulsed Flux vs.  $T_j$  Temperature**



**Figure 6: Typical Pulsed cxx Shift vs.  $T_j$  Temperature**

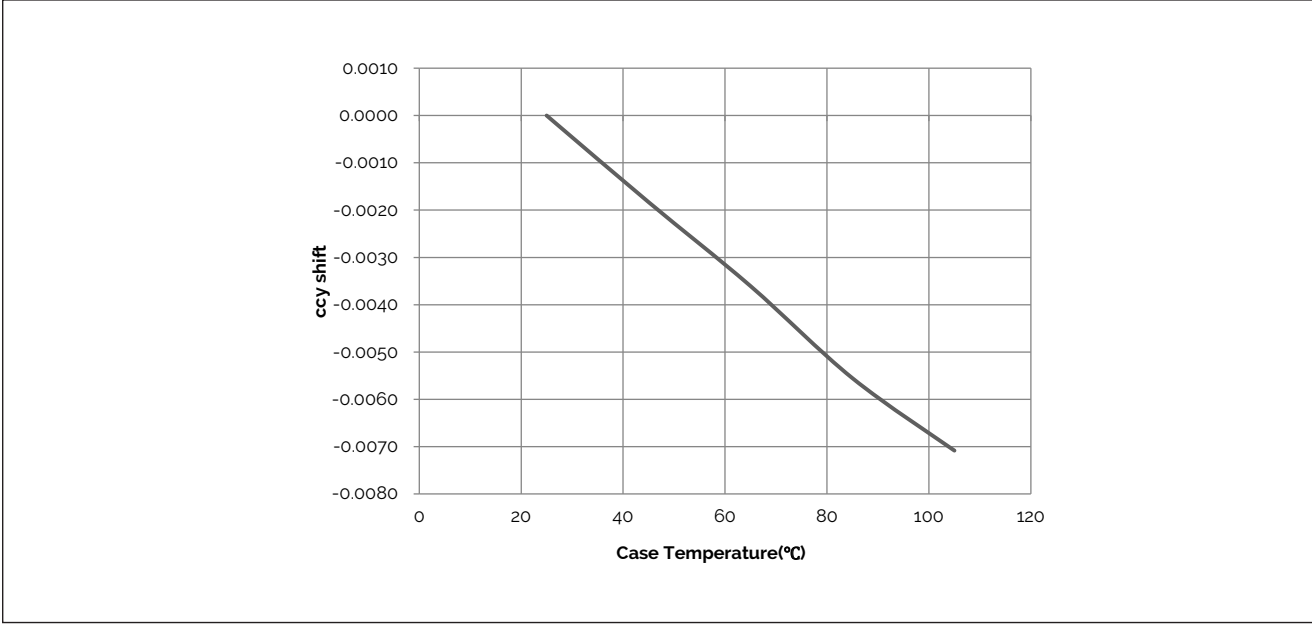


Notes for Figures 1-6:

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. Characteristics shown for warm white based on 3000K and 80 CRI.
3. For other color SKUs, the shift in color will vary. Please contact your Bridgelux sales representative for more information.

# Performance Curves

**Figure 7: Typical Pulsed ccy Shift vs.  $T_j$  Temperature**

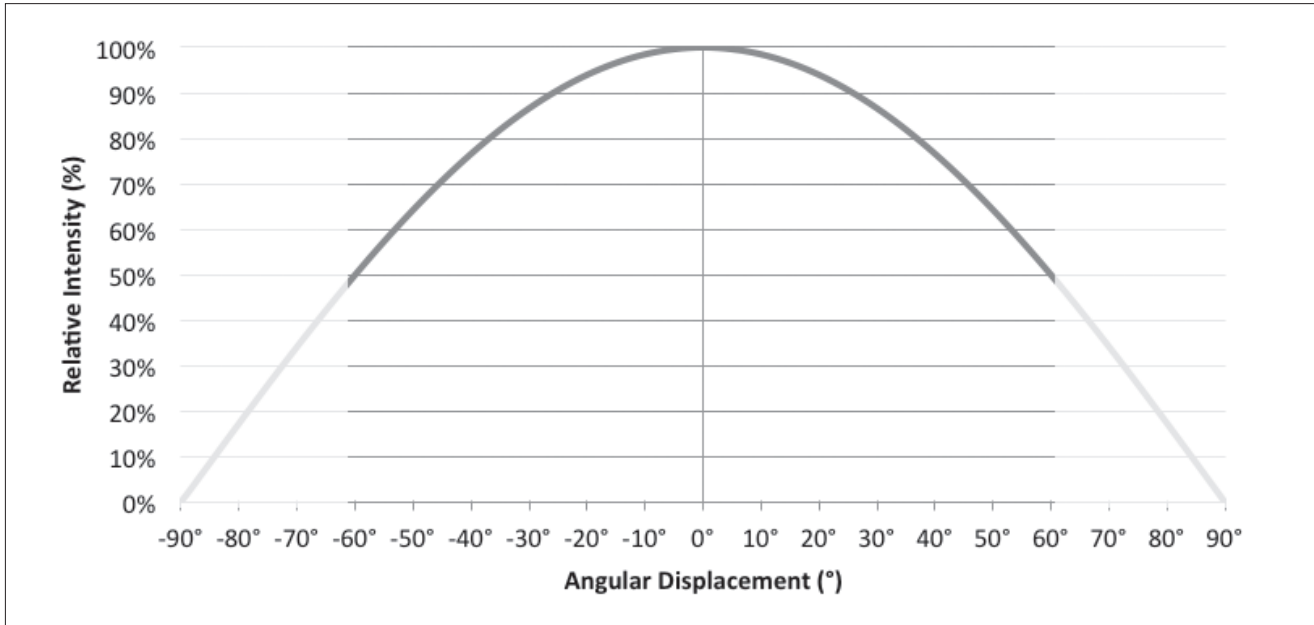


Notes for Figure 7:

- 1. Characteristics shown for warm white based on 3000K and 80 CRI.
- 2. For other color SKUs, the shift in color will vary. Please contact your Bridgelux sales representative for more information.

# Typical Radiation Pattern

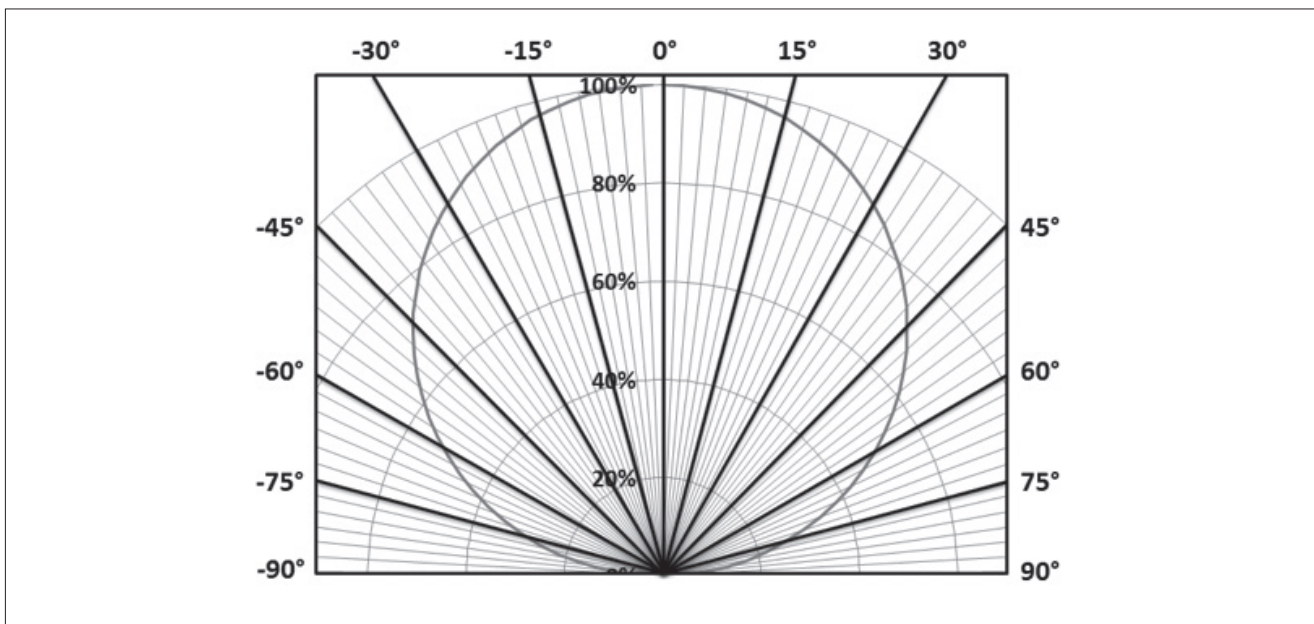
Figure 8: Typical Spatial Radiation Pattern



Notes for Figure 8:

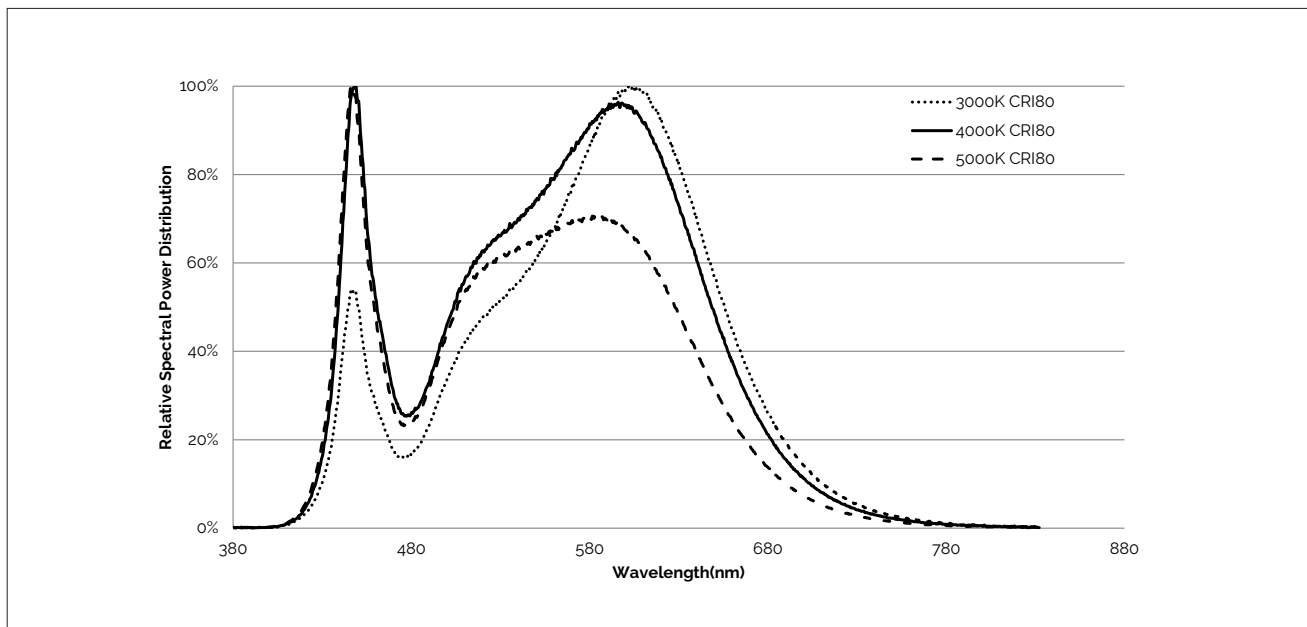
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 9: Typical Polar Radiation Pattern



# Typical Color Spectrum

Figure 10: Typical Color Spectrum

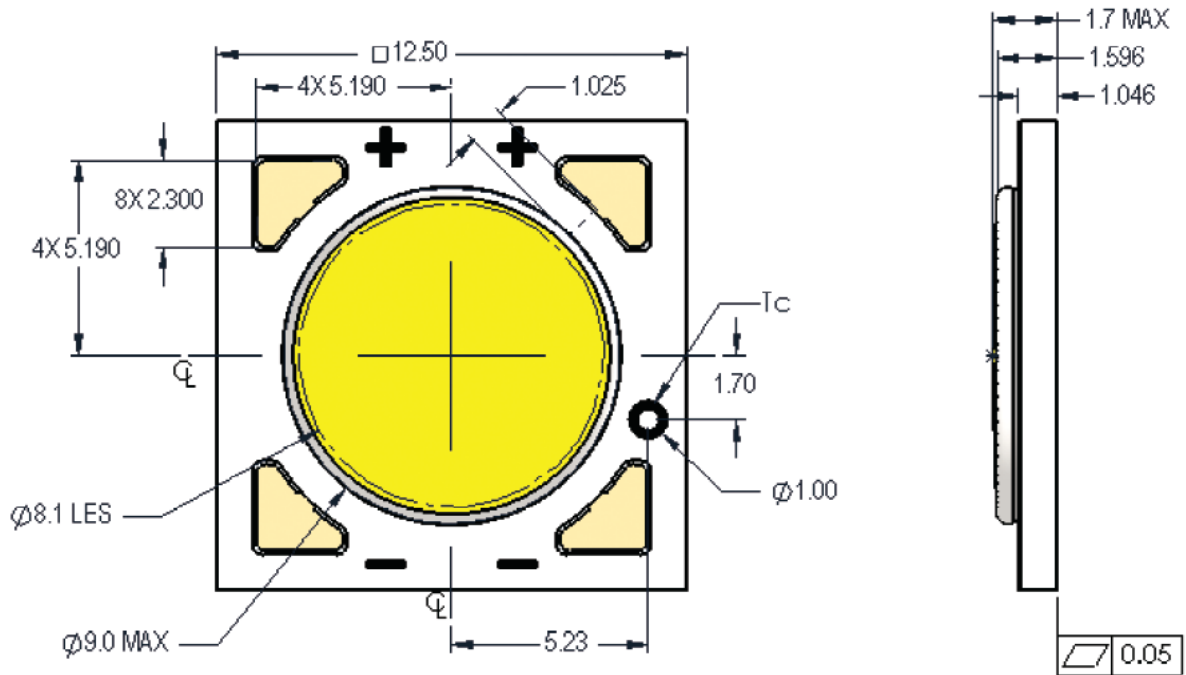


Notes for Figure 10:

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 80 CRI.

# Mechanical Dimensions

Figure 11: Bridgelux E8 LED Array



Notes for Figure 11:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.
3. Unless otherwise specified, tolerances are  $\pm 0.1\text{mm}$ .
4. The optical center of the LED Array is nominally defined by the mechanical center of the array to a tolerance of  $\pm 0.2\text{mm}$ .
5. Bridgelux maintains a flatness of 0.10mm across the mounting surface of the array.

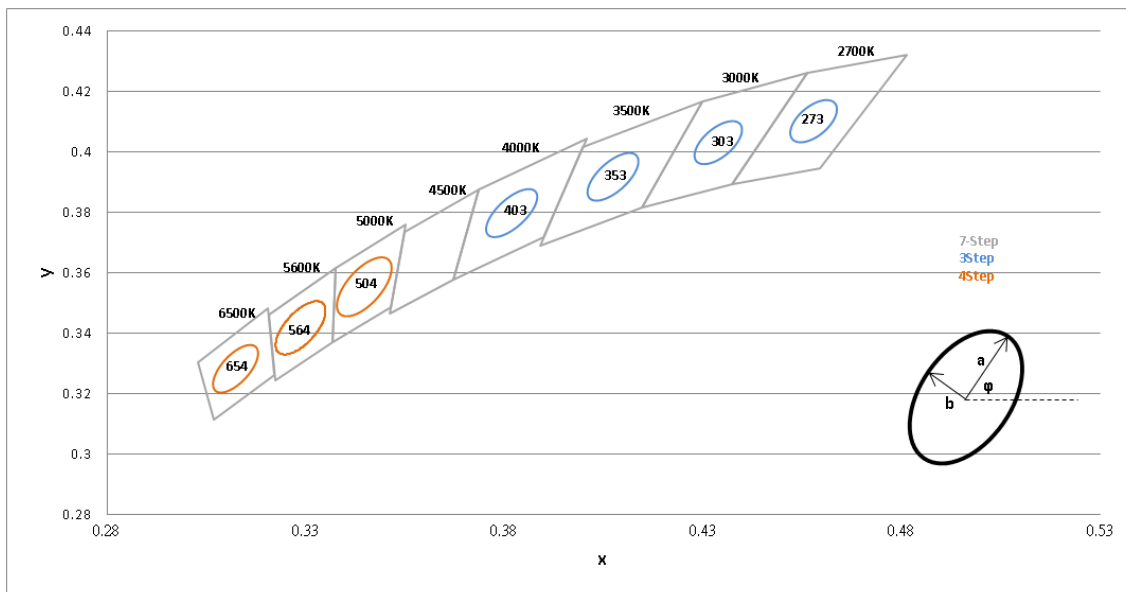


# Color Binning Information

**Table 6:** xy Bin Coordinates and Associated Typical CCT ( $T_j=85^\circ\text{C}$ )

CCT	Center Point		Degree	3 step		5 step	
	x	y	( $^\circ$ )	a	b	a	b
2700K	0.4578	0.4101	53.700	0.0081	0.0042	N/A	N/A
3000K	0.4338	0.403	53.217	0.0083	0.0041	N/A	N/A
3500K	0.4073	0.3917	54.000	0.0093	0.0041	N/A	N/A
4000K	0.3818	0.3797	53.717	0.0094	0.0040	N/A	N/A
5000K	0.3447	0.3553	59.617	N/A	N/A	0.0088	0.00376
5600K	0.3287	0.3417	59.060	N/A	N/A	0.00792	0.00336
6500K	0.3123	0.3282	58.567	N/A	N/A	0.0072	0.00304

**Figure 12: Typical Color Spectrum**



Notes for Figure 12:

1. Pulsed Test Conditions at  $T_j = 85^\circ\text{C}$ .
2. Bridgelux maintains a tolerance of  $\pm 0.007$  on x and y color coordinates in the CIE 1931 color space.

# Design Resources

## LM80

LM80 testing has been completed and the LM80 report is now available. Please contact your Bridgelux sales representative for the LM80 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: EYE SAFETY

The Bridgelux E series LED array emits visible light, that, under certain circumstances, could be harmful to the eye. Proper safeguards must be used.

### CAUTION: RISK OF BURN

Do not touch the Bridgelux E series LED array during operation. Allow the array to cool for a sufficient period of time before handling. The Bridgelux E 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). 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**  
**bridgelux.com**  
**twitter.com/Bridgelux**  
**facebook.com/Bridgelux**  
**WeChat ID: BridgeluxInChina**



46430 Fremont Boulevard  
Fremont, CA 94538 USA  
Tel (925) 583-8400  
Fax (925) 583-8401  
**www.bridgelux.com**

© 2019 Bridgelux, Inc. All rights reserved. Product specifications are subject to change without notice. Bridgelux and the Bridgelux stylized logo design are registered trademarks of Bridgelux, Inc. All other trademarks are the property of their respective owners.

**Bridgelux E Series LED Array Product Data Sheet DS441 Rev. A (02/2019)**

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [High Power LEDs - White category](#):*

*Click to view products by [Bridgelux manufacturer](#):*

Other Similar products are found below :

[LTW-K140SZR40](#) [JB3030AWT-00-0000-000A0HC527E-BLK](#) [JK3030AWT-00-0000-000A0HK227E-BLK](#) [JK3030AWT-00-0000-000A0HK230E-BLK](#) [JK3030AWT-00-0000-000B0HL240E-BLK](#) [GWCS8PM1.PM-LSLU-A333-1](#) [LTPL-P00DWS57](#) [LTW-K140SZR30](#) [LZP-D0WW00-0000](#) [JB3030AWT-00-0000-000A0HD365E-BLK](#) [JK3030AWT-00-0000-000A0HL240E-BLK](#) [JK3030AWT-00-0000-000B0HK227E-BLK](#) [JK3030AWT-00-0000-000B0HK230E-BLK](#) [JK3030AWT-00-0000-000B0HL250E-BLK](#) [LTW-K140SZR57](#) [LTW-K140SZR27](#) [JB3030AWT-00-0000-000A0HD340E-BLK](#) [MP-5050-8100-27-80](#) [MP-5050-6100-65-80](#) [MP-5050-6100-40-80](#) [MP-5050-6100-30-80](#) [KW CSLPM2.CC-8L8M-4L8N](#) [KW CSLPM2.CC-8L8M-4O9Q](#) [KW DPLS32.SB-6H6J-E5P7-EG-Z264](#) [L1V1-507003V500000](#) [KW CULPM1.TG-Z6RF7-ebvFfcbB46-65G5](#) [KW DMLS33.SG-Z6M7-EBVFFCBB46-8E8G-700-S](#) [GW PSLT33.PM-LYL3-XX56-1-G3](#) [KW DMLN33.SG-7J7K-EBVFFCBB46-8E8G-200-S](#) [KW DDLM31.EH-5J6K-A737-W4A4-140-R18](#) [GW JTLRS1.CM-K1LW-XX57-1-100-Q-R33](#) [KW DDLM31.EH-5J6K-A636-W4A4-140-R18](#) [KW DDLM31.EH-5J6K-A131-W4A4-140-R18](#) [GW PSLT33.PM-LYL3-XX57-1-G3](#) [SML-LXL8047MWCTR/3](#) [L2C5-40HG1203E0900](#) [JB3030AWT-P-U27EA0000-N0000001](#) [JK3030AWT-P-U30EA0000-N0000001](#) [JK3030AWT-P-H30EB0000-N0000001](#) [JK3030AWT-P-U27EB0000-N0000001](#) [XPGBWT-HE-0000-00JE5](#) [GW PUSTA1.PM-PAPC-XX53-1-1050-R18](#) [BXRE-30E4000-B-83](#) [BXRE-30E3000-D-83](#) [BXRE-27E0800-D-83](#) [BXRE-30E0800-D-83](#) [BXRE-40E0800-D-83](#) [BXRH-35E1000-G-83](#) [GW CSSRM2.PM-N3N5-XX53-1](#) [GW PSLPS1.EC-KSKU-5R8T-1](#)