



Bridgelux® E Series E6 CA HE LED Array

Product Data Sheet DS337

Introduction

E Series



The Bridgelux E Series LED array products deliver high quality light in a compact and high 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. The E Series E6 CA HE is designed to support a wide range of luminaires and replacement lamps for both indoor and outdoor general lighting applications with highly competitive cost and good performance.

E Series E6 CA HE is available in a variety of electrical, CCT and CRI combinations providing substantial design flexibility and energy efficiencies.

Typical applications include, replacement lamps, and task, accent, spot, track, wide area, security, wall pack and down lights.

Features

- Compact, high flux density light source
- Uniform, high quality illumination
- Streamlined thermal path
- ENERGY STAR® / ANSI compliant color binning structure with 2, 3 and 4 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

- Easy for second optics design
- Clean white light without pixilation
- Significantly reduced thermal resistance
- Easy for LED driver selection
- Easy to use with daylight and motion detectors to enable increased energy savings
- Reduced maintenance costs
- Environmentally friendly



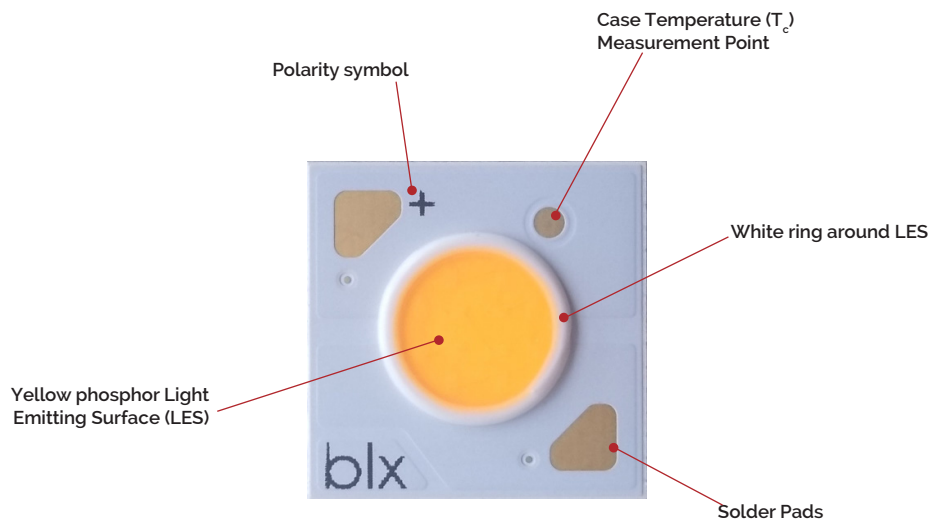
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Product Feature Map

Bridgelux arrays are fully engineered devices that provide consistent thermal and optical performance on an engineered mechanical platform.

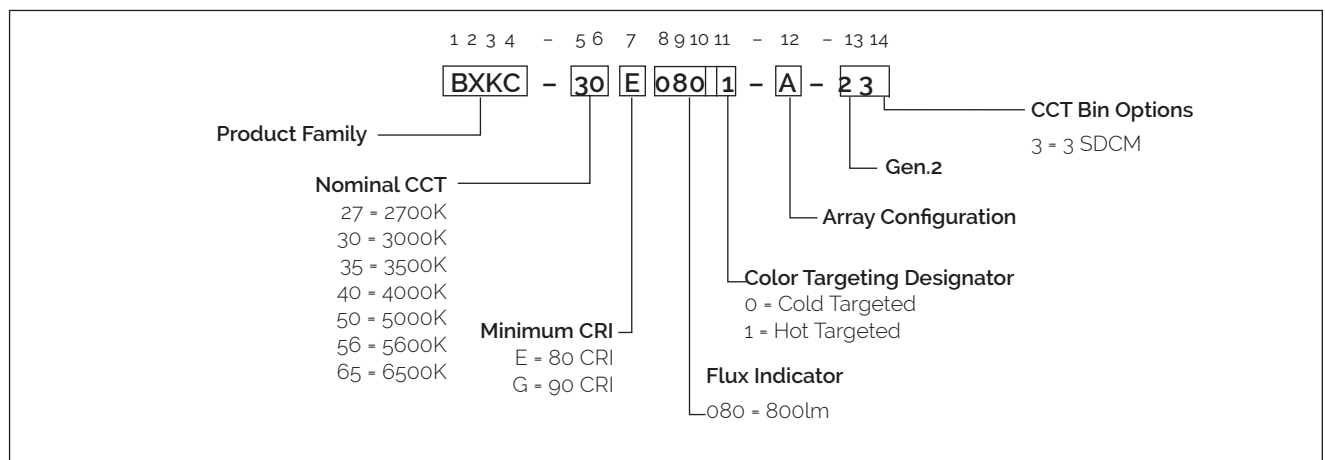
The arrays incorporate several features to simplify design integration and assembly.



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

Product Nomenclature

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



Product Selection Guide

Table 1: Selection Guide, Measurement Data (Tc=25°C)

Part Number	Nominal CCT ¹ (K)	Typical CRI	Nominal Drive Current (mA)	Typical Pulsed Flux ^{2,3,4} Tc = 25°C (lm)	Minimum Pulsed Flux ^{2,4,5} Tc = 25°C (lm)	Typical Vf (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXKC-27E0800-A-23	2700	82	100	532	463	35.0	3.5	152
BXKC-27G0800-A-23	2700	92	100	437	380	35.0	3.5	125
BXKC-30E0800-A-23	3000	82	100	562	489	35.0	3.5	161
BXKC-30G0800-A-23	3000	92	100	458	399	35.0	3.5	131
BXKC-35E0800-A-23	3500	82	100	575	500	35.0	3.5	164
BXKC-35G0800-A-23	3500	92	100	470	409	35.0	3.5	134
BXKC-40E0800-A-23	4000	82	100	580	505	35.0	3.5	166
BXKC-40G0800-A-23	4000	92	100	487	424	35.0	3.5	139
BXKC-50E0801-A-24	5000	81.5	100	588	512	35.0	3.5	168
BXKC-50G0801-A-24	5000	91	100	491	427	35.0	3.5	140
BXKC-56E0801-A-24	5600	81.5	100	588	512	35.0	3.5	168
BXKC-65E0801-A-24	6500	81.5	100	588	512	35.0	3.5	168
BXKC-27E0800-B-23	2700	82	200	532	463	17.5	3.5	152
BXKC-27G0800-B-23	2700	92	200	437	380	17.5	3.5	125
BXKC-30E0800-B-23	3000	82	200	562	489	17.5	3.5	161
BXKC-30G0800-B-23	3000	92	200	458	399	17.5	3.5	131
BXKC-35E0800-B-23	3500	82	200	575	500	17.5	3.5	164
BXKC-35G0800-B-23	3500	92	200	470	409	17.5	3.5	134
BXKC-40E0800-B-23	4000	82	200	580	505	17.5	3.5	166
BXKC-40G0800-B-23	4000	92	200	487	424	17.5	3.5	139
BXKC-50E0801-B-24	5000	81.5	200	588	512	17.5	3.5	168
BXKC-50G0801-B-24	5000	91	200	491	427	17.5	3.5	140
BXKC-56E0801-B-24	5600	81.5	200	588	512	17.5	3.5	168
BXKC-65E0801-B-24	6500	81.5	200	588	512	17.5	3.5	168
BXKC-27E0800-D-23	2700	82	400	532	463	8.75	3.5	152
BXKC-27G0800-D-23	2700	92	400	437	380	8.75	3.5	125
BXKC-30E0800-D-23	3000	82	400	562	489	8.75	3.5	161
BXKC-30G0800-D-23	3000	92	400	458	399	8.75	3.5	131
BXKC-35E0800-D-23	3500	82	400	575	500	8.75	3.5	164
BXKC-35G0800-D-23	3500	92	400	470	409	8.75	3.5	134
BXKC-40E0800-D-23	4000	82	400	580	505	8.75	3.5	166

Notes for Table 1:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. Products tested under pulsed condition (10ms pulse width) at nominal test current where Tj (junction temperature) - Tc (case temperature) = 25°C.
3. Typical performance values are provided as a reference only and are not a guarantee of performance.
4. Bridgelux maintains a ±7% tolerance on flux measurements.
5. Minimum flux values at the nominal test current are guaranteed by 100% test.

Product Selection Guide

Table 1: Selection Guide, Measurement Data (Tc=25°C)

Part Number	Nominal CCT ¹ (K)	Typical CRI	Nominal Drive Current (mA)	Typical Pulsed Flux ^{2,3,4} Tc = 25°C (lm)	Minimum Pulsed Flux ^{2,4,5} Tc = 25°C (lm)	Typical Vf (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXKC-40G0800-D-23	4000	92	400	487	424	8.75	3.5	139
BXKC-50E0801-D-24	5000	81.5	400	588	512	8.75	3.5	168
BXKC-50G0801-D-24	5000	91	400	491	427	8.75	3.5	140
BXKC-56E0801-D-24	5600	81.5	400	588	512	8.75	3.5	168
BXKC-65E0801-D-24	6500	81.5	400	588	512	8.75	3.5	168

Notes for Table 1:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. Products tested under pulsed condition (10ms pulse width) at nominal test current where Tj (junction temperature) - Tc (case temperature) = 25°C.
3. Typical performance values are provided as a reference only and are not a guarantee of performance.
4. Bridgelux maintains a ±7% tolerance on flux measurements.
5. Minimum flux values at the nominal test current are guaranteed by 100% test.

Product Selection Guide

Table 2: Selection Guide, Measurement Data (Tc=85°C)

Part Number	Nominal CCT ¹ (K)	Typical CRI	Nominal Drive Current (mA)	Typical DC Flux ^{2,3} Tc = 85°C (lm)	Minimum DC Flux ⁴ Tc = 85°C (lm)	Typical Vf (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXKC-27E0800-A-23	2700	82	100	485	422	34.3	3.4	141
BXKC-27G0800-A-23	2700	92	100	398	346	34.3	3.4	116
BXKC-30E0800-A-23	3000	82	100	512	445	34.3	3.4	149
BXKC-30G0800-A-23	3000	92	100	417	363	34.3	3.4	121
BXKC-35E0800-A-23	3500	82	100	523	455	34.3	3.4	152
BXKC-35G0800-A-23	3500	92	100	428	372	34.3	3.4	125
BXKC-40E0800-A-23	4000	82	100	528	459	34.3	3.4	154
BXKC-40G0800-A-23	4000	92	100	443	385	34.3	3.4	129
BXKC-50E0801-A-24	5000	81.5	100	535	466	34.3	3.4	156
BXKC-50G0801-A-24	5000	91	100	447	389	34.3	3.4	130
BXKC-56E0801-A-24	5600	81.5	100	535	466	34.3	3.4	156
BXKC-65E0801-A-24	6500	81.5	100	535	466	34.3	3.4	156
BXKC-27E0800-B-23	2700	82	200	485	422	17.2	3.4	141
BXKC-27G0800-B-23	2700	92	200	398	346	17.2	3.4	116
BXKC-30E0800-B-23	3000	82	200	512	445	17.2	3.4	149
BXKC-30G0800-B-23	3000	92	200	417	363	17.2	3.4	121
BXKC-35E0800-B-23	3500	82	200	523	455	17.2	3.4	152
BXKC-35G0800-B-23	3500	92	200	428	372	17.2	3.4	125
BXKC-40E0800-B-23	4000	82	200	528	459	17.2	3.4	154
BXKC-40G0800-B-23	4000	92	200	443	385	17.2	3.4	129
BXKC-50E0801-B-24	5000	81.5	200	535	466	17.2	3.4	156
BXKC-50G0801-B-24	5000	91	200	447	389	17.2	3.4	130
BXKC-56E0801-B-24	5600	81.5	200	535	466	17.2	3.4	156
BXKC-65E0801-B-24	6500	81.5	200	535	466	17.2	3.4	156
BXKC-27E0800-D-23	2700	82	400	485	422	8.6	3.4	141
BXKC-27G0800-D-23	2700	92	400	398	346	8.6	3.4	116
BXKC-30E0800-D-23	3000	82	400	512	445	8.6	3.4	149
BXKC-30G0800-D-23	3000	92	400	417	363	8.6	3.4	121
BXKC-35E0800-D-23	3500	82	400	523	455	8.6	3.4	152
BXKC-35G0800-D-23	3500	92	400	428	372	8.6	3.4	125
BXKC-40E0800-D-23	4000	82	400	528	459	8.6	3.4	154

Notes for Table 2:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
3. 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.
4. 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, Measurement Data (Tc=85°C)

Part Number	Nominal CCT ¹ (K)	Typical CRI	Nominal Drive Current (mA)	Typical DC Flux ^{2,3} Tc = 85°C (lm)	Minimum DC Flux ⁴ Tc = 85°C (lm)	Typical Vf (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXKC-40G0800-D-23	4000	92	400	443	385	8.6	3.4	129
BXKC-50E0801-D-24	5000	81.5	400	535	466	8.6	3.4	156
BXKC-50G0801-D-24	5000	91	400	447	389	8.6	3.4	130
BXKC-56E0801-D-24	5600	81.5	400	535	466	8.6	3.4	156
BXKC-65E0801-D-24	6500	81.5	400	535	466	8.6	3.4	156

Notes for Table 2:

1. Nominal CCT as defined by ANSI C78.377-2011.
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3. 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.
4. 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.

European Product Registry for Energy Labeling

The European Product Registry for Energy Labeling (EPREL) is defined in the EU Regulation 2017/1369 to provide important energy efficiency information to consumers. Together with Energy Labeling Regulation ELR (EU) 2019/2015 which was amended by regulation (EU) 2021/340 for energy labelling of light sources, manufacturers are required to declare an energy class based on key technical specifications from each of their product and register it in an open data base managed by EPREL. It is now a legal requirement for a vendor of light sources to upload information about their products into the EPREL database before placing these products on the market in the EU.

Table 3 below provides a list of part numbers that are in compliance with ELR and are currently listed in the EPREL database.

At Bridgelux, we are fully committed to supplying products that are compliant with pertinent laws, rules, and obligation imposed by relevant government bodies including the European Energy Labeling regulation. Customers can use these products with full confidence for any projects that fall under the ELR.

Table 3: Part numbers registered in European Product Registry for Energy Labeling


PART NUMBER ¹	CCT (K)	CRI	Current ² (mA)	Vf (V)	Useful flux ³ (Φ_{use}) at 85C (lm)	Power (W)	Efficacy (lm/W)	Energy efficiency class ⁴	Registration No	URL to Product Information Sheet in EPREL Database
BXKC-27E0800-A-23	2700	80	240	38.2	1014	9.2	111	F	1116553	https://eprelec.europa.eu/qr/1116553
BXKC-27G0800-A-23	2700	90	200	37.1	718	7.4	97	F	1116608	https://eprelec.europa.eu/qr/1116608
BXKC-30E0800-A-23	3000	80	240	38.2	1071	9.2	117	F	1116681	https://eprelec.europa.eu/qr/1116681
BXKC-30G0800-A-23	3000	90	220	37.6	814	8.3	98	F	1116736	https://eprelec.europa.eu/qr/1116736
BXKC-35E0800-A-23	3500	80	240	38.2	1096	9.2	120	E	1116809	https://eprelec.europa.eu/qr/1116809
BXKC-35G0800-A-23	3500	90	220	37.6	835	8.3	101	F	1116864	https://eprelec.europa.eu/qr/1116864
BXKC-40E0800-A-23	4000	80	240	38.2	1106	9.2	121	E	1116937	https://eprelec.europa.eu/qr/1116937
BXKC-40G0800-A-23	4000	90	240	38.2	928	9.2	101	F	1116992	https://eprelec.europa.eu/qr/1116992
BXKC-50E0801-A-24	5000	80	240	38.2	1121	9.2	122	E	1117068	https://eprelec.europa.eu/qr/1117068
BXKC-50G0801-A-24	5000	90	240	38.2	936	9.2	102	F	1117089	https://eprelec.europa.eu/qr/1117089
BXKC-56E0801-A-24	5600	80	240	38.2	1121	9.2	122	E	1118877	https://eprelec.europa.eu/qr/1118877
BXKC-65E0801-A-24	6500	80	240	38.2	1121	9.2	122	E	1117111	https://eprelec.europa.eu/qr/1117111
BXKC-27E0800-B-23	2700	80	480	19.1	1014	9.2	111	F	1116555	https://eprelec.europa.eu/qr/1116555
BXKC-27G0800-B-23	2700	90	400	18.6	718	7.4	97	F	1116610	https://eprelec.europa.eu/qr/1116610
BXKC-30E0800-B-23	3000	80	480	19.1	1071	9.2	117	F	1116683	https://eprelec.europa.eu/qr/1116683
BXKC-30G0800-B-23	3000	90	440	18.8	814	8.3	98	F	1116738	https://eprelec.europa.eu/qr/1116738
BXKC-35E0800-B-23	3500	80	480	19.1	1096	9.2	120	E	1116811	https://eprelec.europa.eu/qr/1116811
BXKC-35G0800-B-23	3500	90	450	18.9	851	8.5	100	F	1116866	https://eprelec.europa.eu/qr/1116866

Notes for Table 3:

- All device listed here must be disposed as e-waste upon its end of life according to local country guideline in each country.
- For information on performance values at alternative drive conditions, please refer to the Product Selection Guide, Absolute Maximum Rating Table and Performance Curves in this data sheet.
- For a definition of useful luminous flux (Φ_{use}), please see the ELR regulations at <https://tinyurl.com/4b6zvt4m>.
- EPREL requires an arrow symbol containing the letter of the energy efficiency class to be displayed, on technical promotional material. Refer to this energy efficiency class column for specific energy efficiency class on each part number.

European Product Registry for Energy Labeling

Table 3: Part numbers registered in European Product Registry for Energy Labeling (Continued)

PART NUMBER ¹	CCT (K)	CRI	Current ² (mA)	Vf (V)	Useful flux ³ (Φ_{use}) at 85°C (lm)	Power (W)	Efficacy (lm/W)	Energy efficiency class ⁴ 	Registration No	URL to Product Information Sheet in EPREL Database
BXKC-40E0800-B-23	4000	80	480	19.1	1106	9.2	121	E	1116939	https://eprelec.europa.eu/qr/1116939
BXKC-40G0800-B-23	4000	90	480	19.1	928	9.2	101	F	1116994	https://eprelec.europa.eu/qr/1116994
BXKC-50E0801-B-24	5000	80	480	19.1	1121	9.2	122	E	1117070	https://eprelec.europa.eu/qr/1117070
BXKC-50G0801-B-24	5000	90	480	19.1	936	9.2	102	F	1117091	https://eprelec.europa.eu/qr/1117091
BXKC-56E0801-B-24	5600	80	480	19.1	1121	9.2	122	E	1118879	https://eprelec.europa.eu/qr/1118879
BXKC-65E0801-B-24	6500	80	480	19.1	1121	9.2	122	E	1117113	https://eprelec.europa.eu/qr/1117113
BXKC-27E0800-D-23	2700	80	960	9.5	1014	9.2	111	F	1116557	https://eprelec.europa.eu/qr/1116557
BXKC-27G0800-D-23	2700	90	810	9.3	726	7.5	96	F	1116612	https://eprelec.europa.eu/qr/1116612
BXKC-30E0800-D-23	3000	80	960	9.5	1071	9.2	117	F	1116685	https://eprelec.europa.eu/qr/1116685
BXKC-30G0800-D-23	3000	90	880	9.4	814	8.3	98	F	1116740	https://eprelec.europa.eu/qr/1116740
BXKC-35E0800-D-23	3500	80	960	9.5	1096	9.2	120	E	1116813	https://eprelec.europa.eu/qr/1116813
BXKC-35G0800-D-23	3500	90	910	9.5	858	8.6	100	F	1116868	https://eprelec.europa.eu/qr/1116868
BXKC-40E0800-D-23	4000	80	960	9.5	1106	9.2	121	E	1116941	https://eprelec.europa.eu/qr/1116941
BXKC-40G0800-D-23	4000	90	960	9.5	928	9.2	101	F	1116996	https://eprelec.europa.eu/qr/1116996
BXKC-50E0801-D-24	5000	80	960	9.5	1121	9.2	122	E	1117072	https://eprelec.europa.eu/qr/1117072
BXKC-50G0801-D-24	5000	90	960	9.5	936	9.2	102	F	1117093	https://eprelec.europa.eu/qr/1117093
BXKC-56E0801-D-24	5600	80	960	9.5	1121	9.2	122	E	1118881	https://eprelec.europa.eu/qr/1118881
BXKC-65E0801-D-24	6500	80	960	9.5	1121	9.2	122	E	1117115	https://eprelec.europa.eu/qr/1117115

Notes for Table 3:

1. All device listed here must be disposed as e-waste upon its end of life according to local country guideline in each country.
2. For information on performance values at alternative drive conditions. please refer to the Product Selection Guide, Absolute Maximum Rating Table and Performance Curves in this data sheet.
3. For a definition of useful luminous flux (Φ_{use}), please see the ELR regulations at <https://tinyurl.com/4b6zvt4m>.
4. EPREL requires an arrow symbol containing the letter of the energy efficiency class to be displayed. on technical promotional material. Refer to this energy efficiency class column for specific energy efficiency class on each part number.

Performance at Commonly Used Drive Currents

E Series LED arrays are tested to the specifications shown using the nominal drive currents in Table 1. E 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 and 3 and the flux vs. current characteristics shown in Figures 4, 5 and 6. The performance at commonly used drive currents is summarized in Table 4.

Table 4: Product Performance at Commonly Used Drive Currents

Part Number	Minimum CRI	Drive Current ¹ (mA)	Typical Vf Tc = 25°C (V)	Typical Power ² Tc = 25°C (W)	Typical Pulsed Flux ² Tc = 25°C (lm)	Typical DC Flux ² Tc = 85°C (lm)	Typical Efficacy ² Tc = 25°C (lm/W)
BXKC-27E0800-A-23	80	25	31.8	0.8	143	132	180
		50	33.0	1.7	279	257	169
		100	35.0	3.5	532	485	152
		150	36.5	5.5	762	686	139
		200	37.9	7.6	971	866	128
		300	40.0	12.0	1366	1193	114
BXKC-27G0800-A-23	90	25	31.8	0.8	117	108	147
		50	33.0	1.7	229	211	139
		100	35.0	3.5	437	398	125
		150	36.5	5.5	625	563	114
		200	37.9	7.6	797	711	105
		300	40.0	12.0	1121	979	94
BXKC-30E0800-A-23	80	25	31.8	0.8	151	139	190
		50	33.0	1.7	295	271	179
		100	35.0	3.5	562	512	161
		150	36.5	5.5	804	725	147
		200	37.9	7.6	1026	914	135
		300	40.0	12.0	1442	1260	120
BXKC-30G0800-A-23	90	25	31.8	0.8	123	113	155
		50	33.0	1.7	240	221	146
		100	35.0	3.5	458	417	131
		150	36.5	5.5	656	591	120
		200	37.9	7.6	836	745	110
		300	40.0	12.0	1176	1027	98
BXKC-35E0800-A-23	80	25	31.8	0.8	154	142	194
		50	33.0	1.7	302	277	183
		100	35.0	3.5	575	523	164
		150	36.5	5.5	823	741	150
		200	37.9	7.6	1049	935	138
		300	40.0	12.0	1475	1288	123

Notes for Table 4:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. 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	Minimum CRI	Drive Current ¹ (mA)	Typical Vf Tc = 25°C (V)	Typical Power ² Tc = 25°C (W)	Typical Pulsed Flux ² Tc = 25°C (lm)	Typical DC Flux ² Tc = 85°C (lm)	Typical Efficacy ² Tc = 25°C (lm/W)
BXKC-35G0800-A-23	90	25	31.8	0.8	126	116	158
		50	33.0	1.7	246	227	149
		100	35.0	3.5	470	428	134
		150	36.5	5.5	672	606	123
		200	37.9	7.6	857	764	113
		300	40.0	12.0	1205	1053	101
BXKC-40E0800-A-23	80	25	31.8	0.8	156	144	196
		50	33.0	1.7	304	280	184
		100	35.0	3.5	580	528	166
		150	36.5	5.5	830	748	151
		200	37.9	7.6	1058	943	140
		300	40.0	12.0	1488	1300	124
BXKC-40G0800-A-23	90	25	31.8	0.8	131	121	164
		50	33.0	1.7	255	235	155
		100	35.0	3.5	487	443	139
		150	36.5	5.5	697	628	127
		200	37.9	7.6	888	792	117
		300	40.0	12.0	1249	1091	104
BXKC-50E0801-A-24	80	25	31.8	0.8	158	146	198
		50	33.0	1.7	309	284	187
		100	35.0	3.5	588	536	168
		150	36.5	5.5	842	759	154
		200	37.9	7.6	1073	957	142
		300	40.0	12.0	1509	1318	126
BXKC-50G0801-A-24	90	25	31.8	0.8	132	122	166
		50	33.0	1.7	258	237	156
		100	35.0	3.5	491	447	140
		150	36.5	5.5	703	633	128
		200	37.9	7.6	896	799	118
		300	40.0	12.0	1260	1101	105
BXKC-56E0801-A-24	80	25	31.8	0.8	158	146	198
		50	33.0	1.7	309	284	187
		100	35.0	3.5	588	536	168
		150	36.5	5.5	842	759	154
		200	37.9	7.6	1073	957	142
		300	40.0	12.0	1509	1318	126

Notes for Table 4:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. 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	Minimum CRI	Drive Current ¹ (mA)	Typical Vf T _c = 25°C (V)	Typical Power ² T _c = 25°C (W)	Typical Pulsed Flux ² T _c = 25°C (lm)	Typical DC Flux ² T _c = 85°C (lm)	Typical Efficacy ² T _c = 25°C (lm/W)
BXKC-65E0801-A-24	80	25	31.8	0.8	158	146	198
		50	33.0	1.7	309	284	187
		100	35.0	3.5	588	536	168
		150	36.5	5.5	842	759	154
		200	37.9	7.6	1073	957	142
		300	40.0	12.0	1509	1318	126
BXKC-27E0800-B-23	80	50	15.9	0.8	143	132	180
		100	16.5	1.7	279	257	169
		200	17.5	3.5	532	485	152
		300	18.3	5.5	762	686	139
		400	18.9	7.6	971	866	128
		600	20.0	12.0	1366	1193	114
BXKC-27G0800-B-23	90	50	15.9	0.8	117	108	147
		100	16.5	1.7	229	211	139
		200	17.5	3.5	437	398	125
		300	18.3	5.5	625	563	114
		400	18.9	7.6	797	711	105
		600	20.0	12.0	1121	979	94
BXKC-30E0800-B-23	80	50	15.9	0.8	151	139	190
		100	16.5	1.7	295	271	179
		200	17.5	3.5	562	512	161
		300	18.3	5.5	804	725	147
		400	18.9	7.6	1026	914	135
		600	20.0	12.0	1442	1260	120
BXKC-30G0800-B-23	90	50	15.9	0.8	123	113	155
		100	16.5	1.7	240	221	146
		200	17.5	3.5	458	417	131
		300	18.3	5.5	656	591	120
		400	18.9	7.6	836	745	110
		600	20.0	12.0	1176	1027	98
BXKC-35E0800-B-23	80	50	15.9	0.8	154	142	194
		100	16.5	1.7	302	277	183
		200	17.5	3.5	575	523	164
		300	18.3	5.5	823	741	150
		400	18.9	7.6	1049	935	138
		600	20.0	12.0	1475	1288	123

Notes for Table 4:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. 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	Minimum CRI	Drive Current ¹ (mA)	Typical Vf Tc = 25°C (V)	Typical Power ² Tc = 25°C (W)	Typical Pulsed Flux ² Tc = 25°C (lm)	Typical DC Flux ² Tc = 85°C (lm)	Typical Efficacy ² Tc = 25°C (lm/W)
BXKC-35G0800-B-23	90	50	15.9	0.8	126	116	158
		100	16.5	1.7	246	227	149
		200	17.5	3.5	470	428	134
		300	18.3	5.5	672	606	123
		400	18.9	7.6	857	764	113
		600	20.0	12.0	1205	1053	101
BXKC-40E0800-B-23	80	50	15.9	0.8	156	144	196
		100	16.5	1.7	304	280	184
		200	17.5	3.5	580	528	166
		300	18.3	5.5	830	748	151
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		600	20.0	12.0	1488	1300	124
BXKC-40G0800-B-23	90	50	15.9	0.8	131	121	164
		100	16.5	1.7	255	235	155
		200	17.5	3.5	487	443	139
		300	18.3	5.5	697	628	127
		400	18.9	7.6	888	792	117
		600	20.0	12.0	1249	1091	104
BXKC-50E0801-B-24	80	50	15.9	0.8	158	146	198
		100	16.5	1.7	309	284	187
		200	17.5	3.5	588	536	168
		300	18.3	5.5	842	759	154
		400	18.9	7.6	1073	957	142
		600	20.0	12.0	1509	1318	126
BXKC-50G0801-B-24	90	50	15.9	0.8	132	122	166
		100	16.5	1.7	258	237	156
		200	17.5	3.5	491	447	140
		300	18.3	5.5	703	633	128
		400	18.9	7.6	896	799	118
		600	20.0	12.0	1260	1101	105
BXKC-56E0801-B-24	80	50	15.9	0.8	158	146	198
		100	16.5	1.7	309	284	187
		200	17.5	3.5	588	536	168
		300	18.3	5.5	842	759	154
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		600	20.0	12.0	1509	1318	126

Notes for Table 4:

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2. 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	Minimum CRI	Drive Current ¹ (mA)	Typical Vf Tc = 25°C (V)	Typical Power ² Tc = 25°C (W)	Typical Pulsed Flux ² Tc = 25°C (lm)	Typical DC Flux ² Tc = 85°C (lm)	Typical Efficacy ² Tc = 25°C (lm/W)
BXKC-65E0801-B-24	80	50	15.9	0.8	158	146	198
		100	16.5	1.7	309	284	187
		200	17.5	3.5	588	536	168
		300	18.3	5.5	842	759	154
		400	18.9	7.6	1073	957	142
		600	20.0	12.0	1509	1318	126
BXKC-27E0800-D-23	80	100	8.0	0.8	143	132	180
		200	8.3	1.7	279	257	169
		400	8.8	3.5	532	485	152
		600	9.1	5.5	762	686	139
		800	9.5	7.6	971	866	128
		1200	10.0	12.0	1366	1193	114
BXKC-27G0800-D-23	90	100	8.0	0.8	117	108	147
		200	8.3	1.7	229	211	139
		400	8.8	3.5	437	398	125
		600	9.1	5.5	625	563	114
		800	9.5	7.6	797	711	105
		1200	10.0	12.0	1121	979	94
BXKC-30E0800-D-23	80	100	8.0	0.8	151	139	190
		200	8.3	1.7	295	271	179
		400	8.8	3.5	562	512	161
		600	9.1	5.5	804	725	147
		800	9.5	7.6	1026	914	135
		1200	10.0	12.0	1442	1260	120
BXKC-30G0800-D-23	90	100	8.0	0.8	123	113	155
		200	8.3	1.7	240	221	146
		400	8.8	3.5	458	417	131
		600	9.1	5.5	656	591	120
		800	9.5	7.6	836	745	110
		1200	10.0	12.0	1176	1027	98
BXKC-35E0800-D-23	80	100	8.0	0.8	154	142	194
		200	8.3	1.7	302	277	183
		400	8.8	3.5	575	523	164
		600	9.1	5.5	823	741	150
		800	9.5	7.6	1049	935	138
		1200	10.0	12.0	1475	1288	123

Notes for Table 4:

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2. 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	Minimum CRI	Drive Current ¹ (mA)	Typical Vf Tc = 25°C (V)	Typical Power ² Tc = 25°C (W)	Typical Pulsed Flux ² Tc = 25°C (lm)	Typical DC Flux ² Tc = 85°C (lm)	Typical Efficacy ² Tc = 25°C (lm/W)
BXKC-35G0800-D-23	90	100	8.0	0.8	126	116	158
		200	8.3	1.7	246	227	149
		400	8.8	3.5	470	428	134
		600	9.1	5.5	672	606	123
		800	9.5	7.6	857	764	113
		1200	10.0	12.0	1205	1053	101
BXKC-40E0800-D-23	80	100	8.0	0.8	156	144	196
		200	8.3	1.7	304	280	184
		400	8.8	3.5	580	528	166
		600	9.1	5.5	830	748	151
		800	9.5	7.6	1058	943	140
		1200	10.0	12.0	1488	1300	124
BXKC-40G0800-D-23	90	100	8.0	0.8	131	121	164
		200	8.3	1.7	255	235	155
		400	8.8	3.5	487	443	139
		600	9.1	5.5	697	628	127
		800	9.5	7.6	888	792	117
		1200	10.0	12.0	1249	1091	104
BXKC-50E0801-D-24	80	100	8.0	0.8	158	146	198
		200	8.3	1.7	309	284	187
		400	8.8	3.5	588	536	168
		600	9.1	5.5	842	759	154
		800	9.5	7.6	1073	957	142
		1200	10.0	12.0	1509	1318	126
BXKC-50G0801-D-24	90	100	8.0	0.8	132	122	166
		200	8.3	1.7	258	237	156
		400	8.8	3.5	491	447	140
		600	9.1	5.5	703	633	128
		800	9.5	7.6	896	799	118
		1200	10.0	12.0	1260	1101	105
BXKC-56E0801-D-24	80	100	8.0	0.8	158	146	198
		200	8.3	1.7	309	284	187
		400	8.8	3.5	588	536	168
		600	9.1	5.5	842	759	154
		800	9.5	7.6	1073	957	142
		1200	10.0	12.0	1509	1318	126

Notes for Table 4:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. 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	Minimum CRI	Drive Current ¹ (mA)	Typical Vf T _c = 25°C (V)	Typical Power ² T _c = 25°C (W)	Typical Pulsed Flux ² T _c = 25°C (lm)	Typical DC Flux ² T _c = 85°C (lm)	Typical Efficacy ² T _c = 25°C (lm/W)
BXKC-65E0801-D-24	80	100	8.0	0.8	158	146	198
		200	8.3	1.7	309	284	187
		400	8.8	3.5	588	536	168
		600	9.1	5.5	842	759	154
		800	9.5	7.6	1073	957	142
		1200	10.0	12.0	1509	1318	126

Notes for Table 4:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. 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, Tc = 25°C (V) ^{1,2,3}			Typical Coefficient of Forward Voltage ⁴ Vf/Tc (mV/°C)	Typical Thermal Resistance Junction to Case ^{5,6} Rj-c (°C/W)	Driver Selection Voltages ⁶ (V)	
		Minimum	Typical	Maximum			Vf Min. Hot ⁷ Tc = 105°C (V)	Vf Max. Cold ⁷ Tc = -40°C (V)
BXKC-xxx080x-A-2x	100	31.5	35.0	38.2	-13.2	1.04	30.8	39.1
BXKC-xxx080x-B-2x	200	15.75	17.5	19.1	-6.6	1.04	15.4	19.5
BXKC-xxx080x-D-2x	400	7.875	8.8	9.5	-3.3	1.04	7.7	9.8

Notes for Table 5:

- Parts are tested in pulsed conditions, Tc = 25°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 ± 0.10V on forward voltage measurements.
- Typical coefficient of forward voltage tolerance is ± 0.1mV 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.
- Vf 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.

Absolute Maximum Ratings

Table 6 : Maximum Ratings

Parameter	Maximum Rating		
LED Junction Temperature (Tj)	125°C		
Storage Temperature	-40°C to +105°C		
Operating Case Temperature ¹ (Tc)	105°C		
Soldering Temperature ²	300°C ≤3.5sec		
	BXKC-xxx080x-A-2x	BXKC-xxx080x-B-2x	BXKC-xxx080x-D-2x
Maximum Drive Current ³	300 mA	600 mA	1200 mA
Maximum Reverse Voltage	-60 V	-30 V	-15 V

Notes for Table 6:

1. For IEC 62717 requirement, please consult your Bridgelux sales representative.
2. Arrays may be driven at higher currents however lumen maintenance may be reduced.
3. See Bridgelux Application Notes for more information.
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: E6A Forward Voltage vs. Forward Current

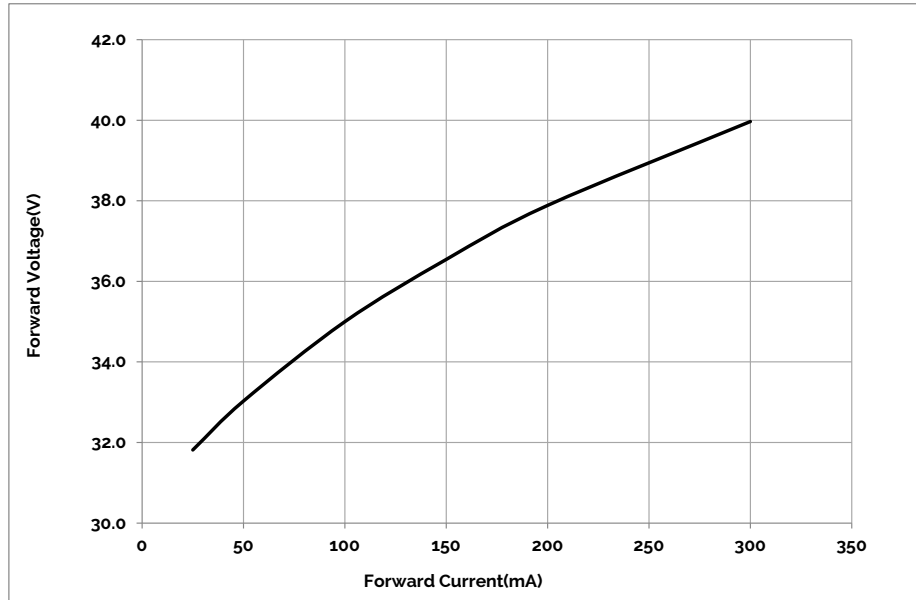
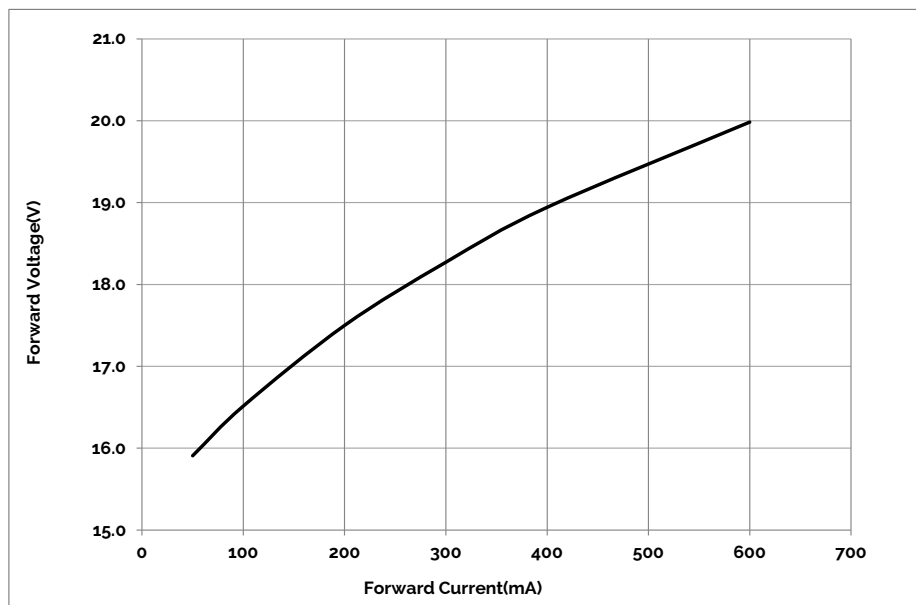


Figure 2: E6B Forward Voltage vs. Forward Current



Notes for Figure 1 and Figure 2:

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

Performance Curves

Figure 3: E6D Forward Voltage vs. Forward Current

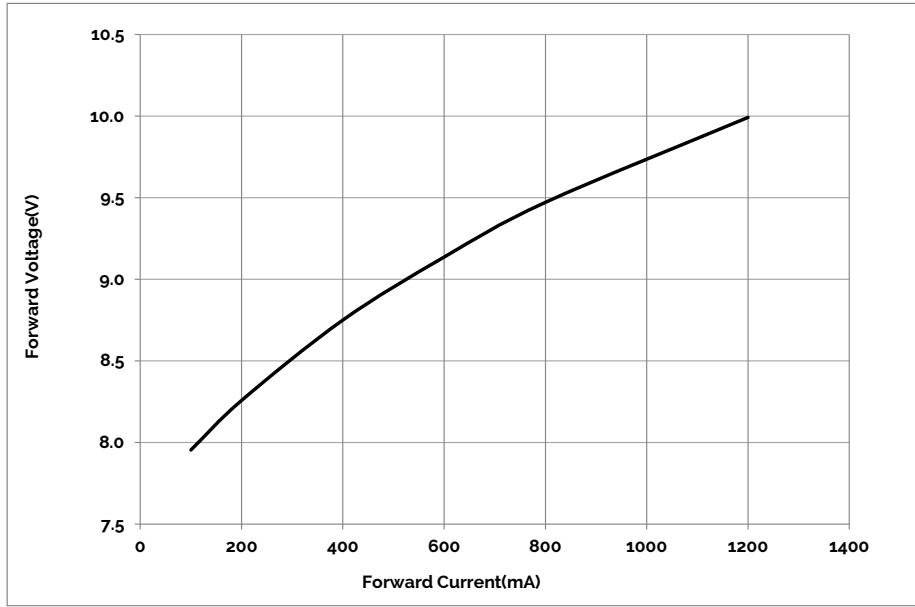
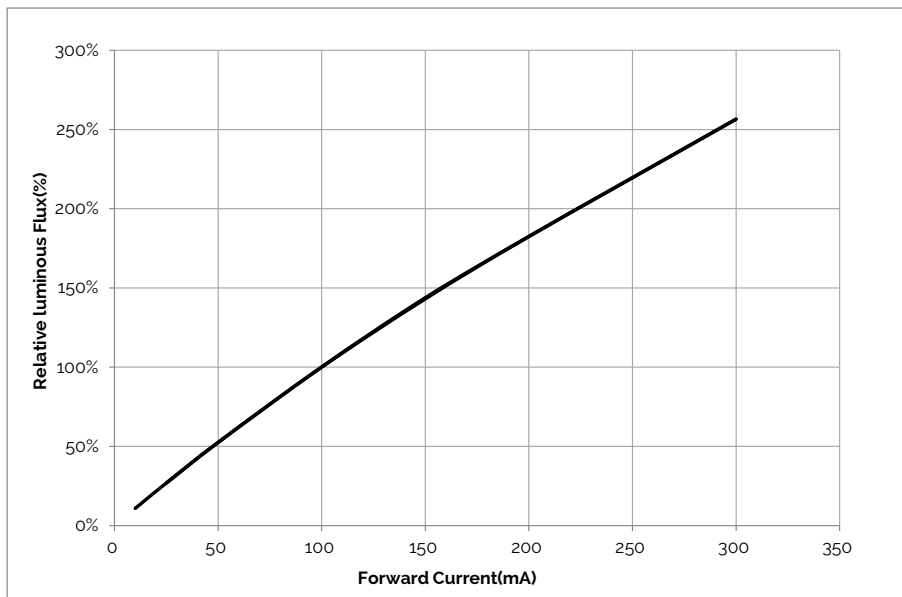


Figure 4: E6A Relative Luminous Flux vs. Drive Current



Notes for Figure3 and Figure 4:

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

Performance Curves

Figure 5: E6B Relative Flux vs. Drive Current

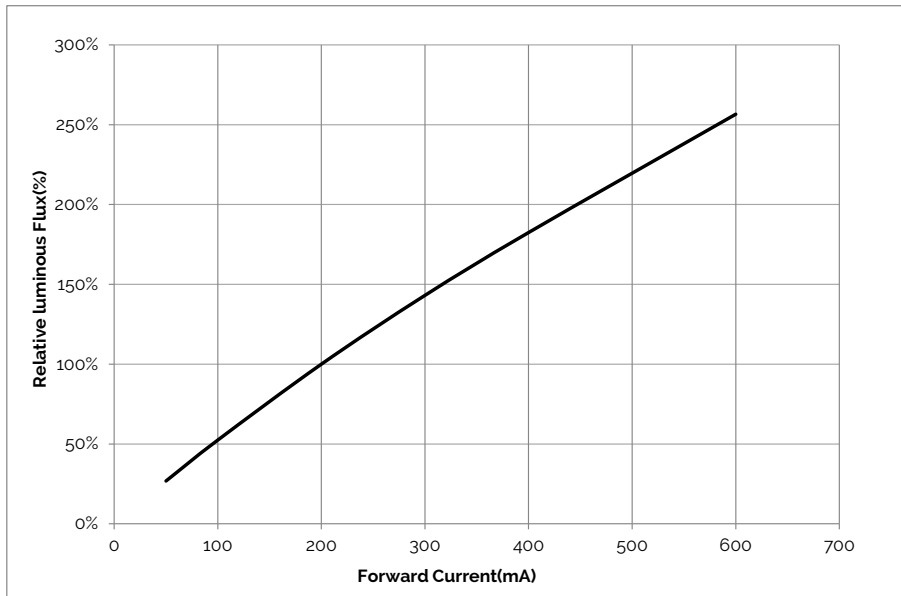
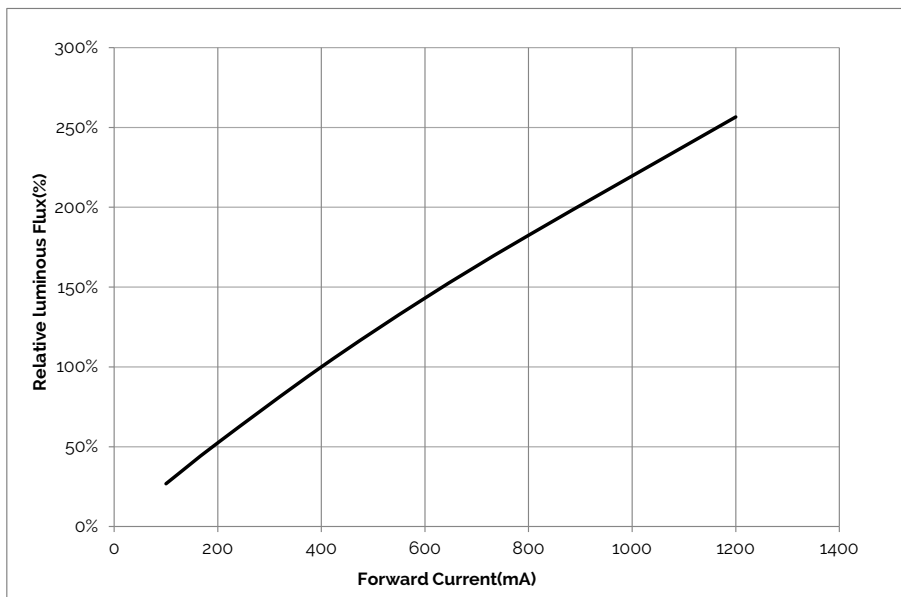


Figure 6: E6D Relative Flux vs. Drive Current



Notes for Figure 5 and Figure 6:

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

Performance Curves

Figure 7: Relative Flux vs. Case Temperature

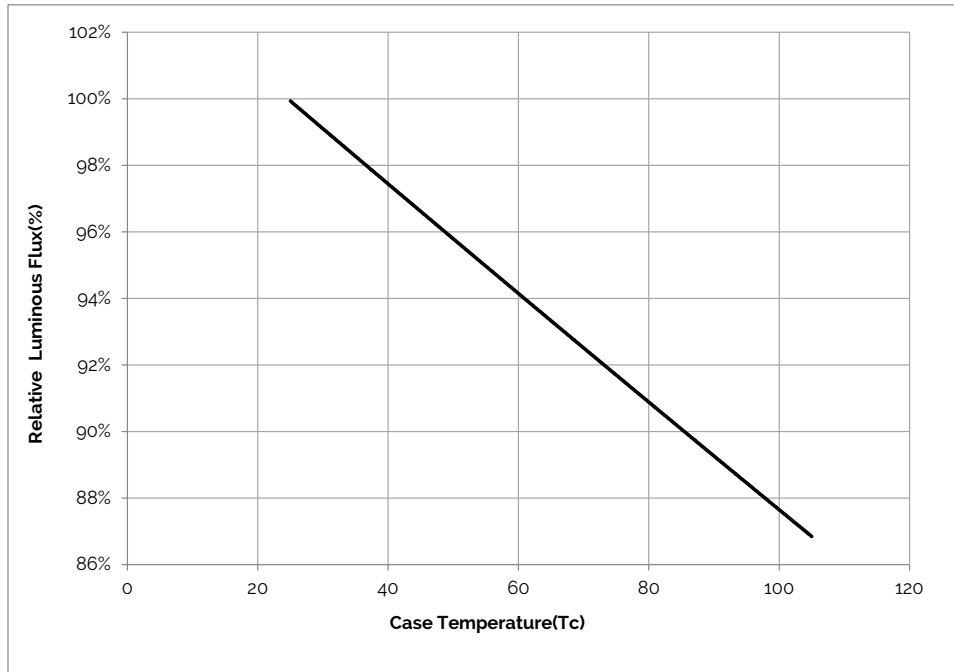
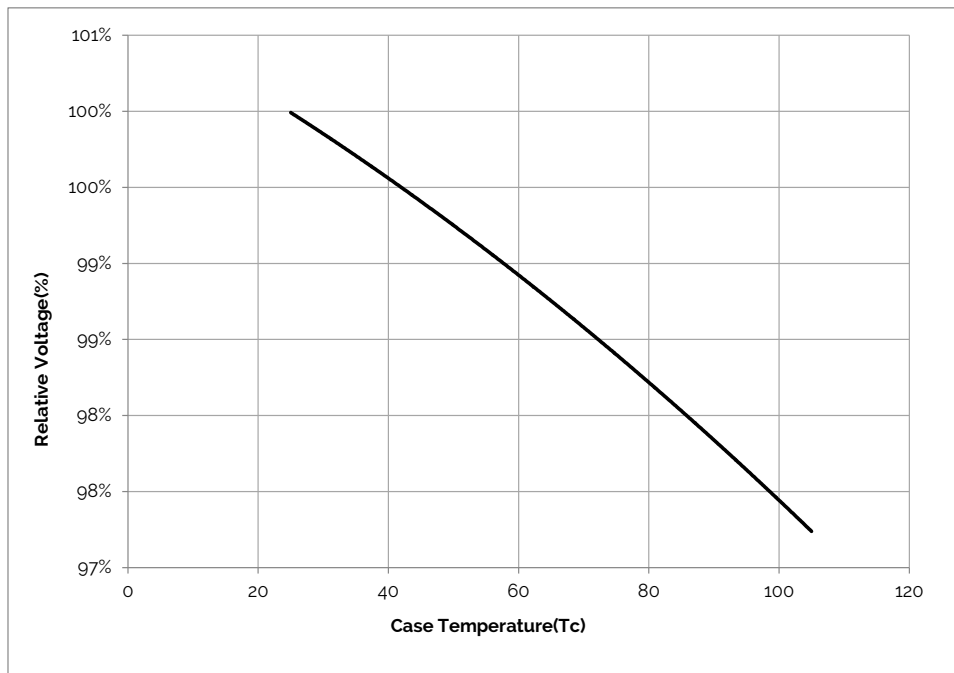


Figure 8: Relative Voltage vs. Case Temperature



Notes for Figure7 and Figure8:

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

Performance Curves

Figure 9: Typical DC ccx Shift vs. Case Temperature

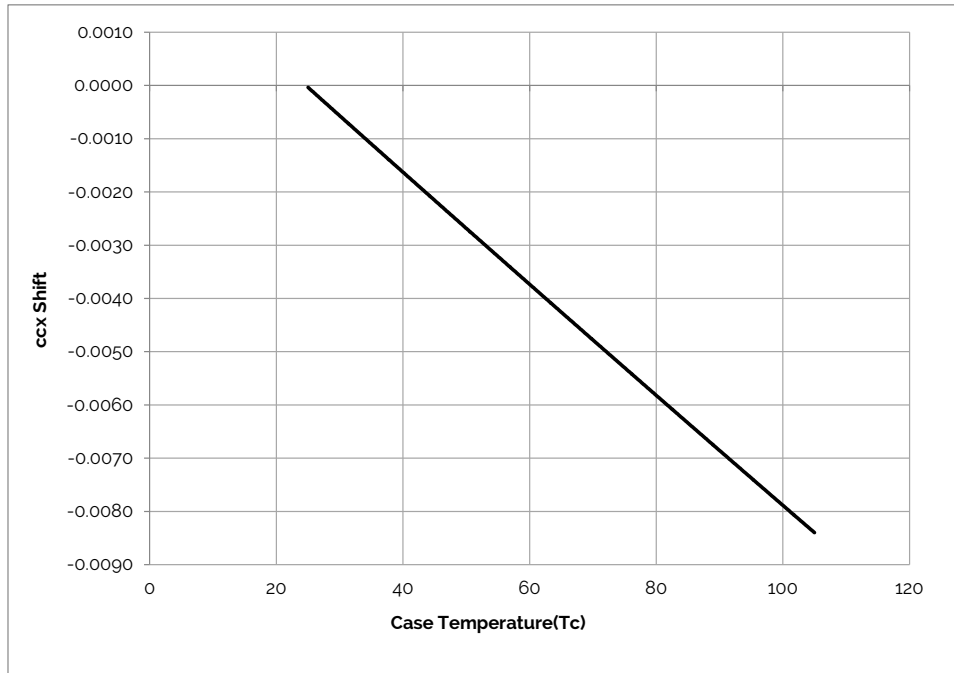
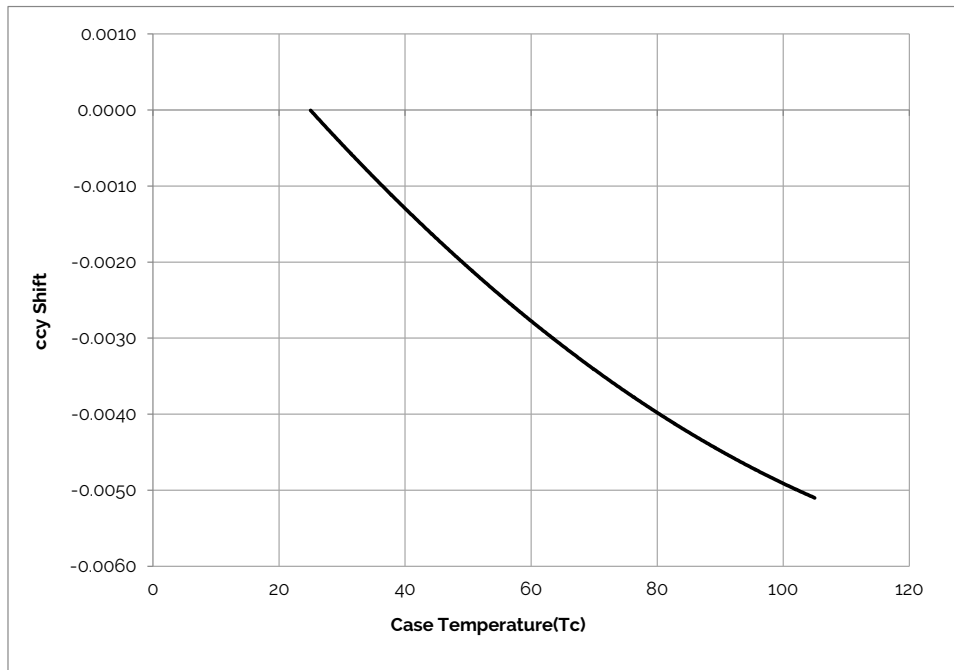


Figure 10: Typical DC ccy Shift vs. Case Temperature

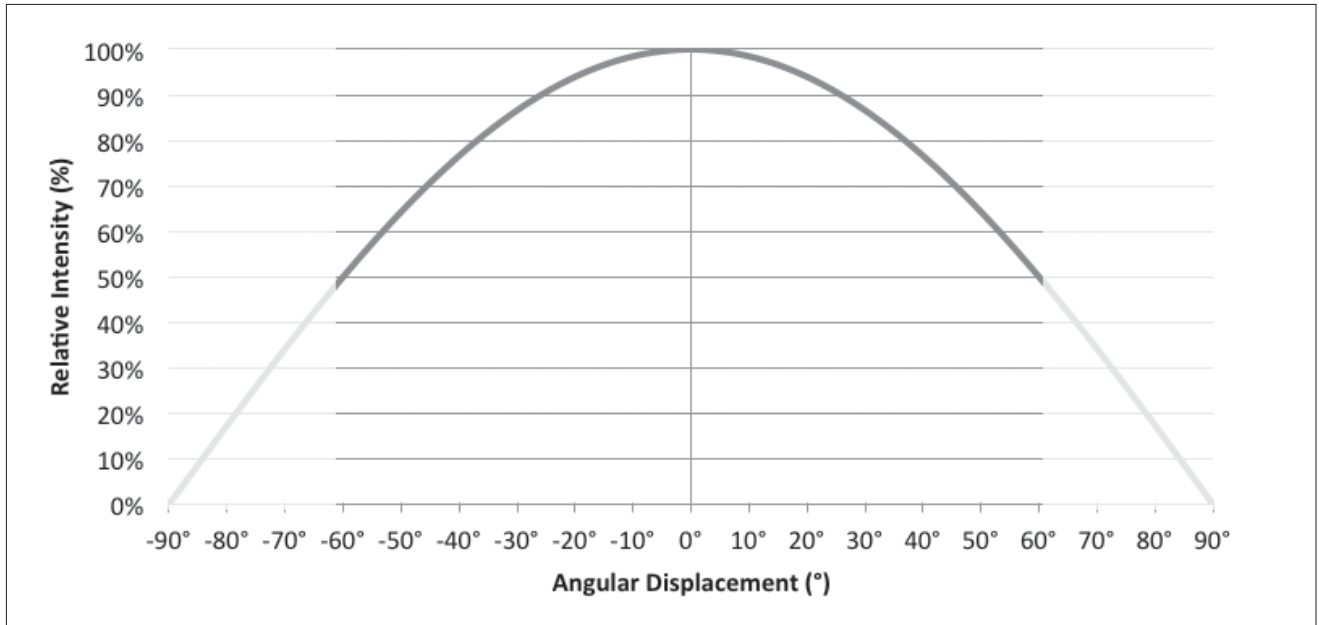


Notes for Figure 9 and Figure 10:

1. Characteristics shown 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

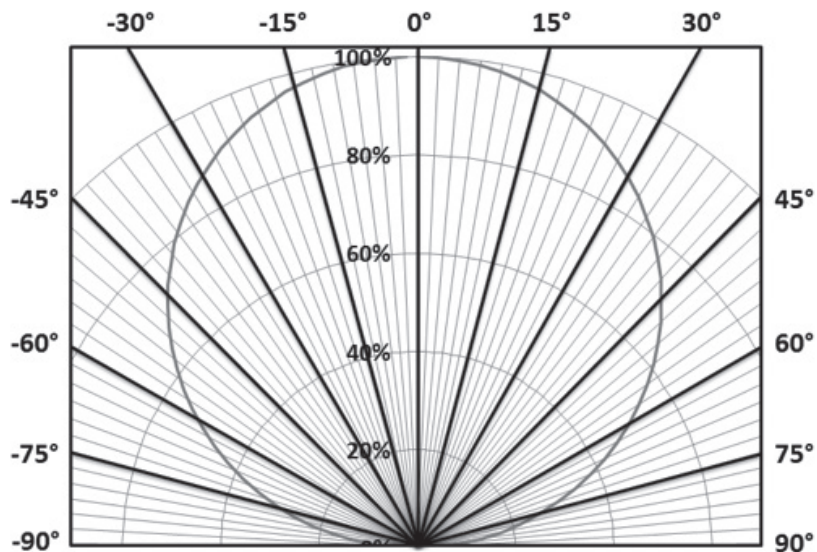
Figure 11: Typical Spatial Radiation Pattern



Notes for Figure 11:

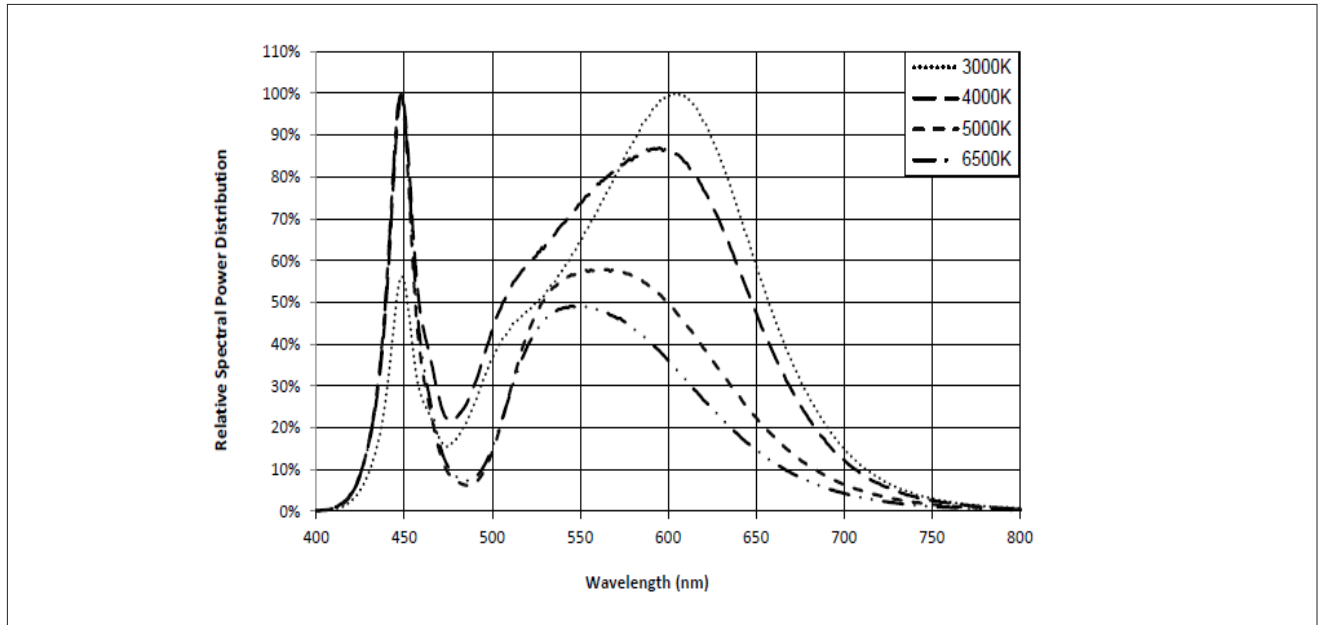
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 12: Typical Polar Radiation Pattern



Typical Color Spectrum

Figure 13: Typical Color Spectrum



Notes for Figure 13:

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.

Drive Current Derating Curve

Figure 14: E6A Drive Current Derating Curve

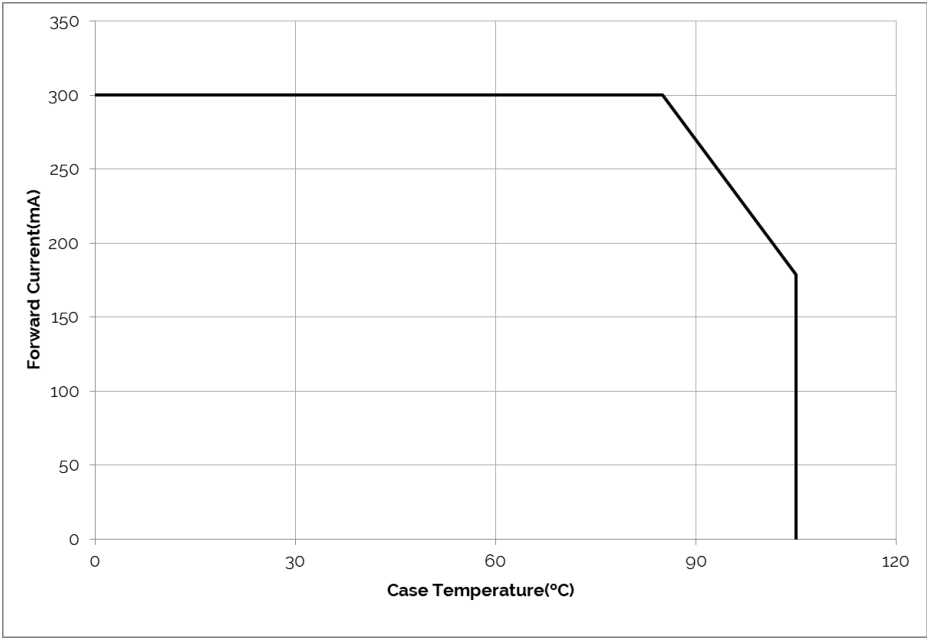
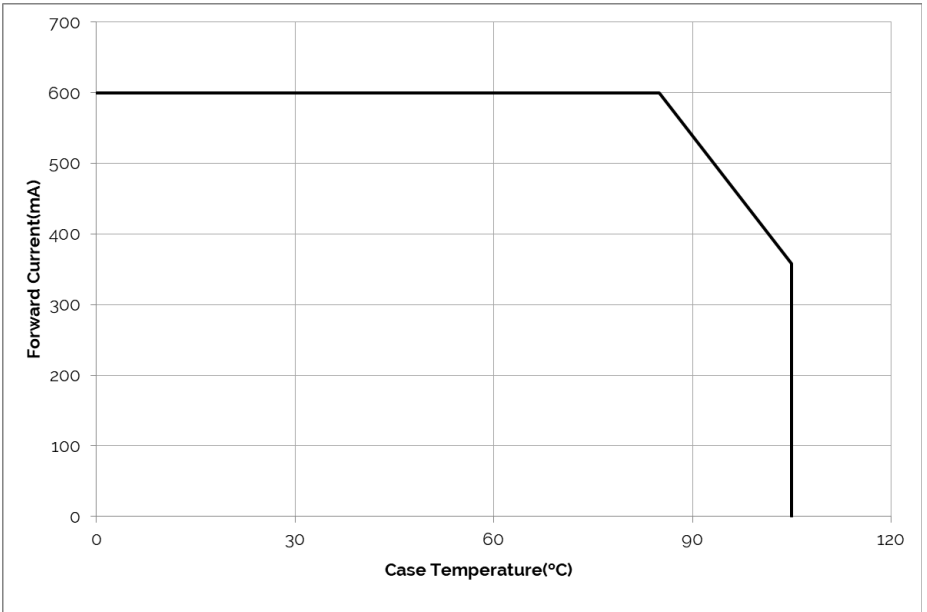
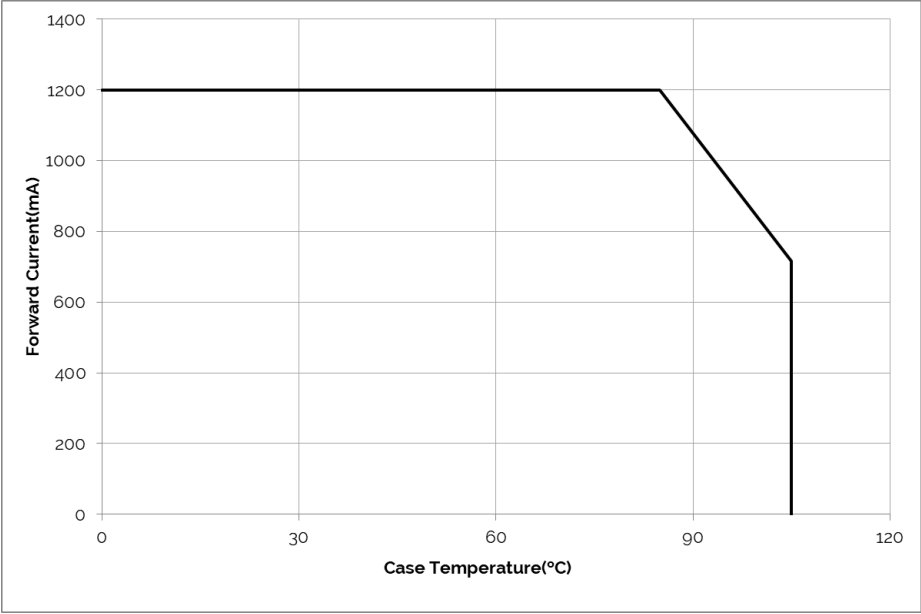


Figure 15: E6B Drive Current Derating Curve



Drive Current Derating Curve

Figure 16: E6D Drive Current Derating Curve



Color Binning Information

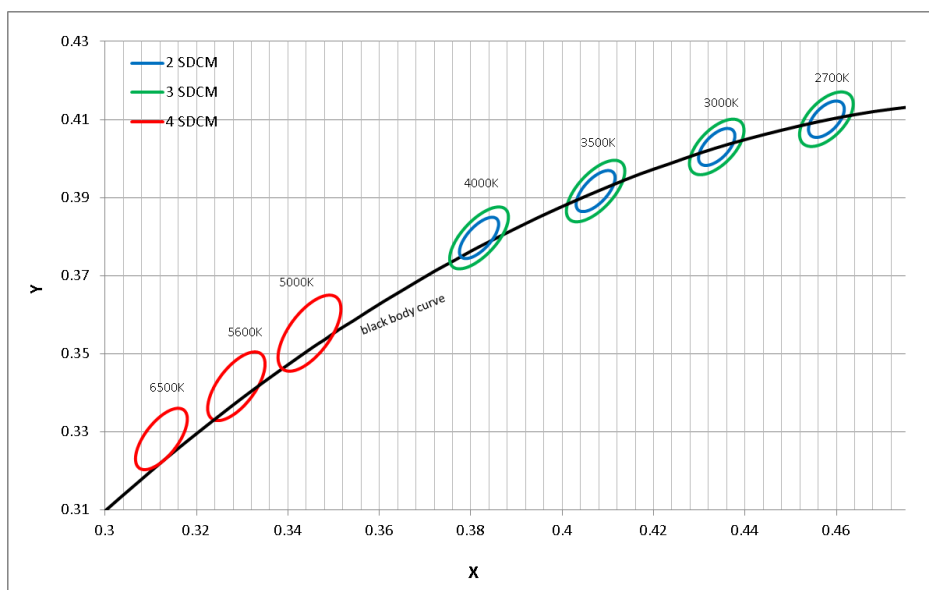
Table 7: xy Bin Coordinates and Associated Typical CCT

CCT	Center Point		Degree	3 step		4 step	
	x	y	(°)	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	0.0110	0.0047
5600K	0.3287	0.3417	59.060	N/A	N/A	0.0099	0.0042
6500K	0.3123	0.3282	58.567	N/A	N/A	0.0089	0.0038

Notes for Table 7:

- 2700K \3000K\3500K\4000K product is cold targeted to $T_c = 25^{\circ}\text{C}$
- 5000K \5600K\6500K product is hot targeted to $T_c = 85^{\circ}\text{C}$

Figure 17: Graph of Test Bins in xy Color Space

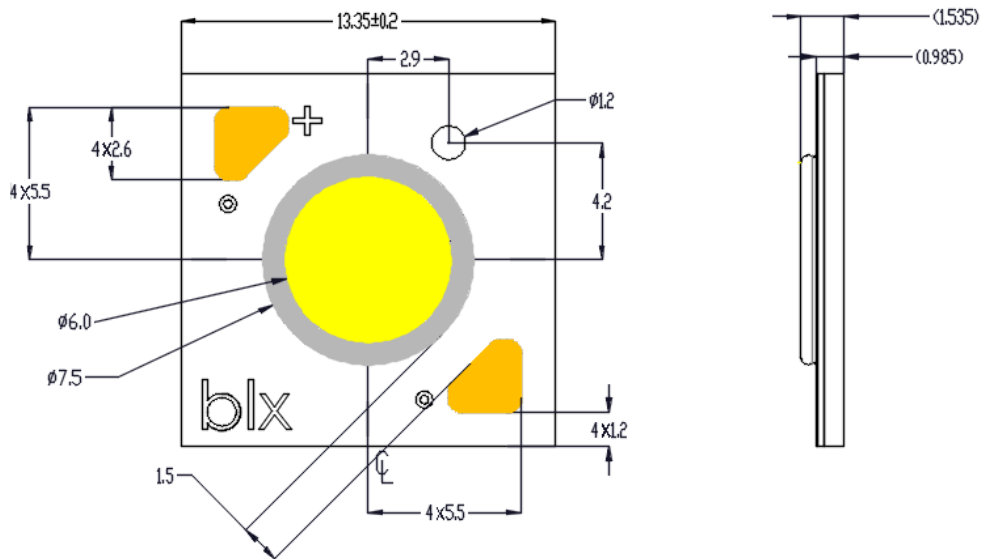


Notes for Figure 17:

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

Mechanical Dimensions

Figure 18: Drawing for E6 CB LED Array

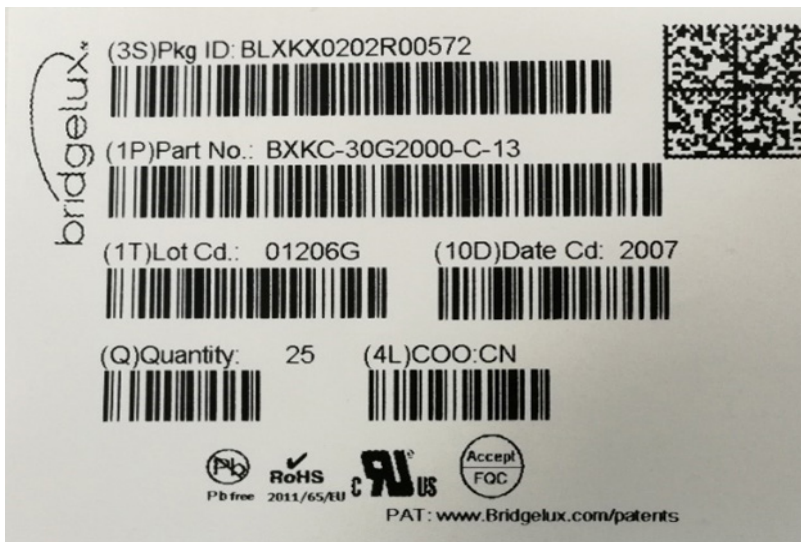


Notes for Figure 18:

1. Bridgelux maintains a flatness of 0.10mm across the mounting surface of the array
2. Drawings are not to scale.
3. Drawing dimensions are in millimeters.
4. Unless otherwise specified, tolerances are ± 0.13 mm.
5. Solder pad labeled "+" denotes positive contact
6. The optical center of the LED Array is nominally defined by the mechanical center of the array to a tolerance of ± 0.2 mm.

Packaging and Labeling

Figure 19: Packaging and Labeling



Packaging and Labeling

Figure 20: Laser Marking

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.



Customer Use- 2D Barcode Scannable barcode provides product part number and other Bridgelux internal production information.

30E0801B 23

Customer Use- Product part number

Design Resources

LM80

LM80 testing has been completed and the LM80 report is now available. Please contact your Bridgelux sales representative for more information.

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 Dual Color 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 Dual Color LED array during operation. Allow the array to cool for a sufficient period of time before handling. The Bridgelux Dual Color 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.

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