[Ibérica de Iluminación]

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FAROLA HALLEY BRIDGELUX CHIP

IK10 **IP65** **5 AÑOS GARANTIA**

DISPONIBLE EN 40W/ 60W Y 100W

INFORMACIÓN DEL PRODUCTO

La nueva luminaria LED BRIDGELUX es una combinación excepcional de calidad y rendimiento. La gama de esta farola se ha actualizado para alcanzar una eficacia mucho más alta, teniendo 160 lm/w y teniendo cubierto un rango entre 5.600lum y 14.000 lúmenes. Esta farola brinda una luz uniforme excepcional a cualquier espacio donde se requiera una luz confiable y eficiente.

APLICACIÓN

·Esta farola es fáciles de entregar, almacenar e instalar en diversas aplicaciones, tanto en fachadas como en báculos para alumbrado público.

·**Agujero de boca: 63mm**

MONTAJE

·Anclaje en pared con brazo.

·Anclaje en báculo.

HOUSING

·Esta farola está fabricado en Aluminio.

·Tiene una protección IK10.

·Es abatible.

·Rango de temperatura: -20°C ~ +55°C

bridgelux®

MONTAJE ÓPTICO Y LED

· Un producto de alto rendimiento que utiliza chips LED de Bridgelux.
·Versión **disponible en 3000k y 4000k** con un CRI de 70.
·Tiene un **ángulo de apertura de 150° a 90°.**
·Tiene una vida estimada de 100.000H.

ELÉCTRICA

·85-265V / 50-60Hz
·Factor de potencia: 0.95
·Clase energética C

FAROLA HALLEY CHIP BRIDGELUX 40W - 60W - 100W

REFERENCIA: SP140W, SP260W y SP3100W.

Potencia nominal: 40w, 60w y 100w

Temperatura de Luz: 3000K – 4000k

CRI -Índice Reproducción Cromática: 70

Material de Construcción: Aluminio

Clase Energética: C

Luminosidad-Lm: 40w (5600Lm), 60w (8.400Lm) y 100w (14.000Lm).

Tipo de LEDs: 3030 Bridgelux

Angulo de Apertura (º): 150º x 90º

Eficacia Diodo LED (Lm/W): 160Lm/W

Eficacia luminosa (Lm/W): 140 Lm/W

Certificados: CE-RoSH-TÜV-ENEC

Grado de IP: IP66

Vida Estimada Diodo LED (H): 100.000

Medidas (mm): 40w (405mmx117mm), 60w (494mmx155mm) y 100w (623mmx200mm)

Factor de Potencia (PF): 0,95

Frecuencia de Trabajo (Hz): 50/60Hz

Rango Temperatura (ºC): -20°C ~ +55°C

Tiempo de Arranque (s): 0,2s

Información Adicional: 6K Surge Protection. Protection Class: II

Protección impacto (IK): IK10

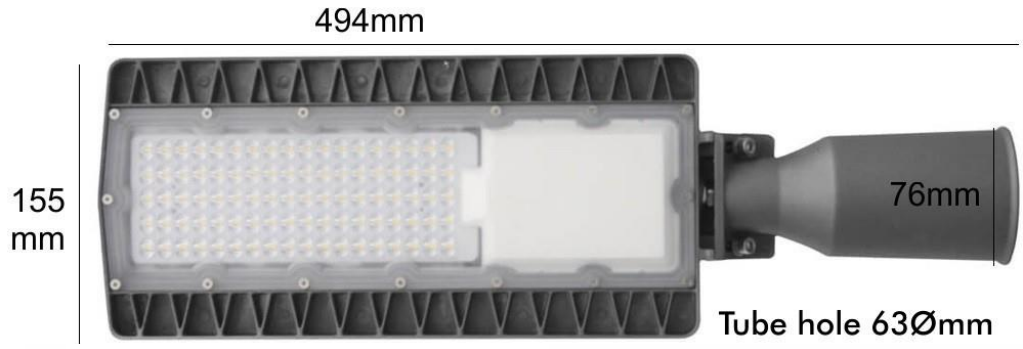
Driver incluido: GXTRONIC Driver 5 Years

Garantía: 5 años

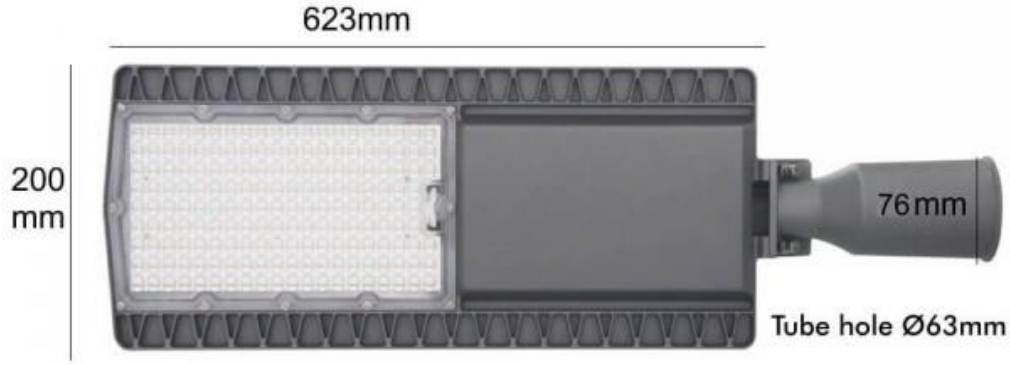
MEDIDAS

40W

60W



100W



NVLAP Lab Code 201056-0

TEST REPORT	
Report Reference No.	: 4355151.55
Tested by (name + signature).....	: Fair Deng
Approved by (name + signature)	: Jason Zhang
Date of issue	: 2019-06-04
Testing Laboratory	: DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch
Testing location / address	: No. 3 Qiyun Road, Science City, Guangzhou Hi-Tech Industrial Development Zone, Guangzhou, P. R. China
Applicant.....	:
Customer	Zhongshan City Henglan Lighting Electrical Appliance Factory www.iberianledgroup.com
Address.....	Floor, Yongxing North Road, , HengLanZhen , Zhongshan
Test specification	:
Standard Reference.....	: LM-79-08
Test object description	: LED Street Light
Trade Mark	: --
Manufacturer.....	: Same as applicant
Factory	Zhongshan City Henglan Lighting Electrical ApplianceFactory -7 Floor, Second Block, No. 4 Yongxing North Road, Yongxing Industry, Heng Lan Zhen Town, Zhongshan, China
Model/Type reference	: SP2-60W
Ratings.....	: 100-240 Vac, 50-60 Hz, 60 W

Test item particulars	:
LED Packages/Modules type.....	: BXEM40Cxxxx
LED Packages/Modules number	90
LED Package/Modules supplier.....	: Bridgelux
Number of test objects	: 1 sample

Date of receipt of test item..... 2019-05-27
Date(s) of performance of tests ..... 2019-05-28 to 2019-05-30

General remarks

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing Testing Laboratory.

This report will not be used for social proof function in China market.

Testing Summary

1. Integrating sphere Test
2. Goniophotometer Test

TEST METHOD

1.1 Seasoning in Sample Orientation - LED Products

No Seasoning was performed in accordance with IESNA LM-79-08

1.2 Light Output and Light Distribution Measurements

Light Output and Light Distribution were measured using a Everfine Go-R5000 Goniophotometer. The lamp rotates only around the fixed vertical axle in the prescribed burning position and a reflecting mirror rotates around the horizontal axle, meanwhile, the mirror in the opposite side reflect the measured beam perpendicularly towards to a fixed detector at the horizontal rotation axis. The combined motion of the lamp and mirror permit the measurement of luminous intensity at the direction of any horizontal or vertical angle without tilting the lamp. The lamp was allowed to stabilize before measurements were made. The calibration of the Goniophotometer system is by the reference/standard lamps which are traceable to NIM.

Electrical measurements including voltage, current, power and power factor were measured using the Everfine Model PF2010A.

1.3 Color Performance

Color Performance was measured using an Everfine 2 m Integrating Sphere Unit at the ambient temperature of 25ºC ± 1ºC. Temperature was measured at the same height as the sample inside the sphere.

Correlated color temperature and color rendering index was measured using an Everfine Model PMS-80 Spectrophotocolorimeter attached to the detector port of the integrating sphere and it was calculated from the spectral radiant flux measurements taken over the range 380 to 780 nm. The calibration of the integrating sphere spectrometer system is by the reference/standard luminaires which are traceable to NIM.

Electrical measurements including voltage, current, power and power factor were measured using the Everfine Model PF2010A.

Self-absorption factor of integrating sphere was considered during the testing.

Equipment List

Equipment name	TYPE	Manufacturer	Equipment ID No.
Digital Power Meter	PF2010A	EVERFINE	G/L 1161
AC power source	DPS1060	EVERFINE	G/L 1160
Goniophotometers	GO-R5000-SML	EVERFINE	G/L 1158
Goniophotometer controller	CT400	EVERFINE	G/L 1162
High-accuracy digital photometer head(f1&f2)	ID-1000	EVERFINE	G/L 1158/1
High-accuracy digital photometer head(f1)	ID-1000	EVERFINE	G/L 1158/2
High accuracy array spectroradiometer	HAAS-2000	EVERFINE	G/L 1158/3
Standard light source	D908	EVERFINE	G/L 1164/1
Digital CC&CV DC power supply	WY12010	EVERFINE	G/L 1159
Digital power meter	PF2010A	EVERFINE	G/L 357
Digital CC&CV DC power supply	WY305	EVERFINE	G/L 358
Intelligent Pure Sine-wave Power Supply	TPS-500B	EVERFINE	G/L 359
Integrating sphere	2m	EVERFINE	G/L 1769
spectroradiometer	PMS-80	EVERFINE	G/L 351
Standard Light Source	D204	EVERFINE	G/L 1220-2

1. Integrating Sphere Test

Environmental Condition:

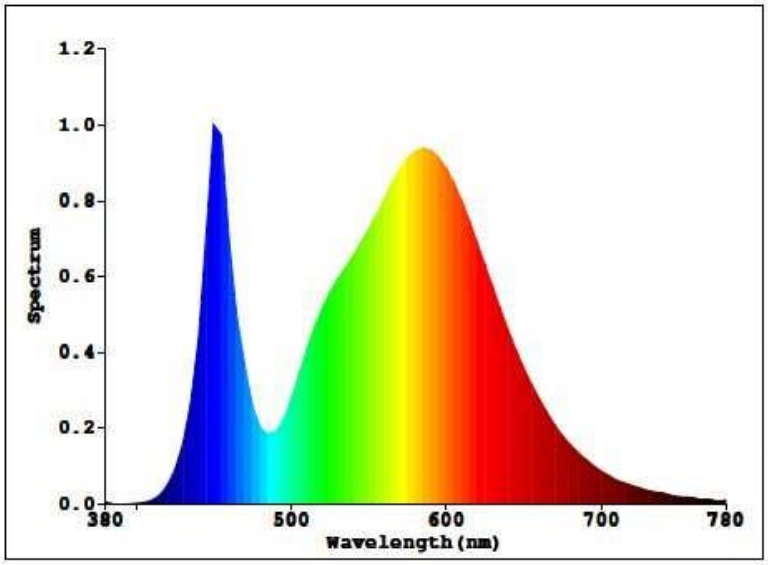
Temperature	24,7°C

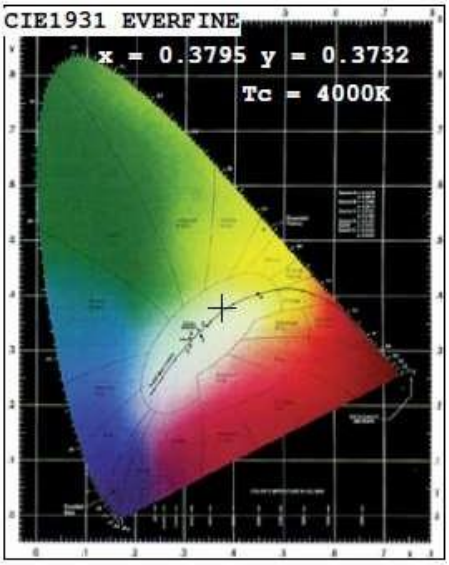
Test Result:

Sample ID	Voltage (V ac)	Frequency (Hz)	Current (A)	Power Factor	Power (W)	Stabilization time (min)
002	230,0	50	0,256	0,973	57,19	50

Sample ID	CCT (K)	Ra
002	4000	74,0

Orientation of installation: Downward Light
Operation time: 70 min





Color Parameters:

Chromaticity Coordinate:x=0.3795(dx=-0.0010) y=0.3732(dy=-0.0036)
Chromaticity Coordinate:u'=0.2259 v'=0.4999(duv=-1.39e-03)
Tc=4000K Dominant WL:Ld=579.9nm Purity=25.9% Centroid WL:568.0nm
Ratio:R=18.5% G=78.6% B=2.8% Peak WL:Lp=450.0nm HWL:23.6nm
Render Index:Ra=74.0

R1 =71	R2 =83	R3 =91	R4 =70	R5 =71	R6 =75	R7 =80	
R8 =51	R9 =-29	R10=59	R11=65	R12=47	R13=73	R14=95	R15=64

2.Goniophotometer Test

Environmental Condition:

Temperature	24,7°C

Test Result:

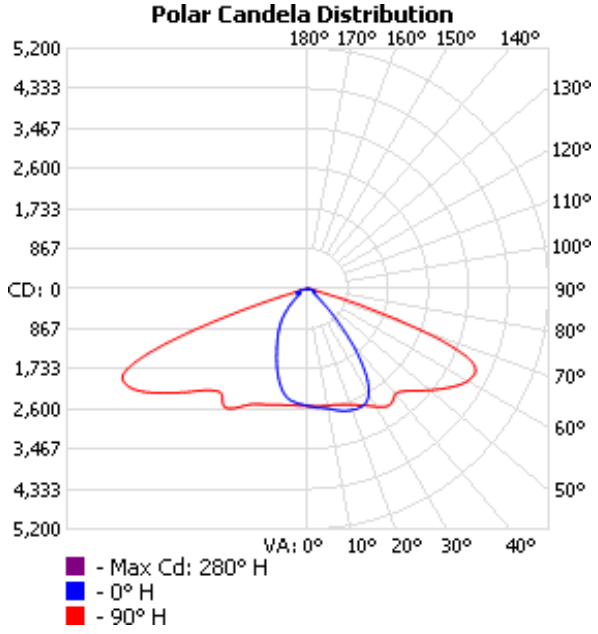
Sample ID	Voltage (V ac)	Frequency (Hz)	Current (A)	Power Factor	Power (W)	Stabilization time (min)
002	230,0	50	0,257	0,968	57,15	50

Sample ID	Flux (lm)	Downward		Upward		Luminous Efficacy (lm/W)
		Street side (%)	House side (%)	Street side (%)	House side (%)	
002	7931,8	61,5	38,5	0	0	138,79

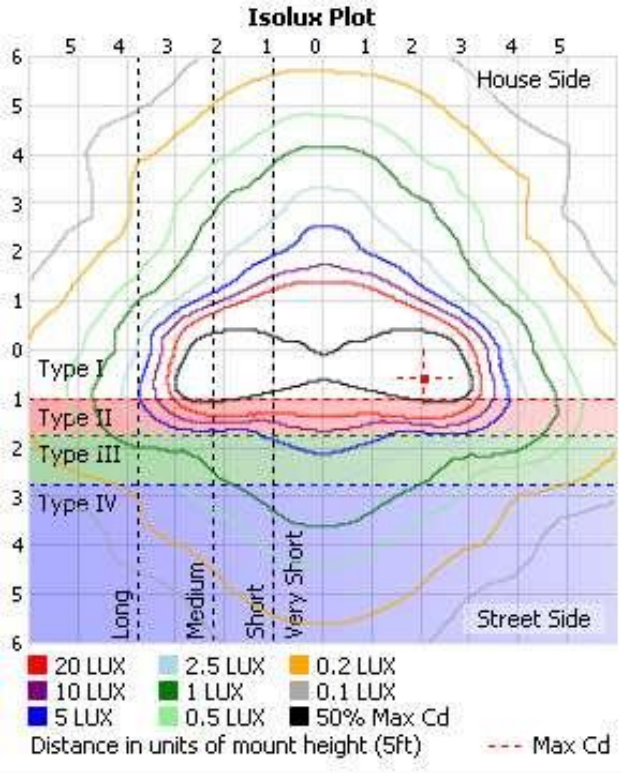
Orientation of installation: Downward Light
Operation time: 140 min

Roadway Summary	
Cutoff Classification:	FULL CUTOFF
Distribution:	TYPE II, SHORT
Max Cd, 90 Deg Vert:	0
Max Cd, 80 to <90 Deg:	176,9

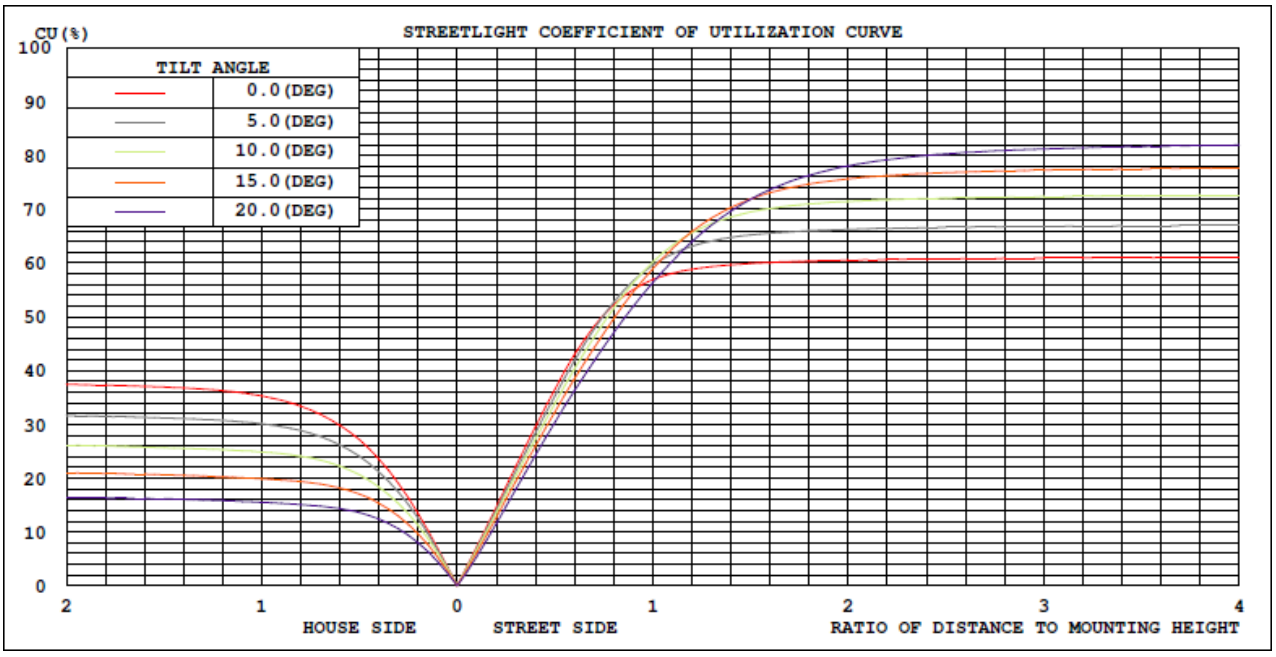
Light Distribution



ISO Lux Diagram



Coefficient of Utilization Curve



Luminous Intensity Distribution Data

Candela Table - Type C																			
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	2530	2531	2530	2532	2532	2528	2528	2534	2532	2536	2533	2535	2535	2536	2536	2534	2530	2528	2534
5	2582	2580	2581	2579	2583	2581	2581	2582	2582	2584	2579	2577	2575	2567	2565	2560	2553	2547	2546
10	2632	2630	2632	2632	2633	2627	2627	2626	2627	2627	2612	2615	2612	2602	2600	2592	2578	2566	2561
15	2725	2724	2727	2727	2733	2726	2722	2718	2712	2700	2677	2670	2665	2656	2647	2637	2625	2606	2591
20	2787	2784	2794	2808	2821	2828	2841	2844	2845	2838	2813	2798	2783	2762	2742	2724	2701	2679	2662
25	2795	2789	2803	2828	2861	2891	2940	2970	3003	3030	3030	3013	2996	2951	2906	2868	2829	2795	2775
30	2624	2633	2666	2724	2798	2882	2984	3071	3147	3240	3272	3297	3293	3253	3187	3118	3051	2996	2940
35	2116	2133	2184	2286	2423	2588	2789	2996	3184	3345	3423	3453	3467	3436	3387	3330	3261	3164	3067
40	1348	1372	1436	1561	1735	1957	2240	2570	2913	3253	3474	3579	3570	3462	3320	3192	3098	3019	2958
45	648	664	710	801	950	1164	1473	1861	2308	2830	3324	3659	3796	3727	3585	3411	3270	3192	3116
50	284	288	304	356	411	524	715	1039	1505	2086	2779	3481	3955	4105	4006	3852	3642	3541	3412
55	184	185	193	206	215	245	307	444	723	1246	1956	2845	3770	4347	4457	4350	4154	3939	3717
60	153	153	155	158	161	175	183	207	290	533	1101	1945	3028	4129	4750	4858	4711	4393	3987
65	144	143	140	136	133	138	145	153	163	214	456	1071	2000	3226	4493	5130	5070	4717	3979
70	138	135	130	123	117	114	115	120	124	130	178	431	1031	1942	3102	3961	3860	3328	2586
75	116	115	112	102	93	88	85	89	91	91	88	120	305	559	849	1010	762	466	417
80	84	83	77	72	66	58	51	50	57	56	50	53	76	117	148	158	177	145	115
85	37	36	36	36	36	31	26	24	27	27	23	23	31	42	58	67	63	51	44
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Candela Table - Type C																		
	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180
0	2535	2534	2535	2532	2536	2533	2533	2530	2528	2531	2533	2528	2533	2531	2531	2528	2531	2530
5	2542	2532	2530	2525	2520	2516	2512	2504	2502	2503	2502	2492	2496	2490	2489	2484	2483	2481
10	2549	2535	2525	2516	2503	2497	2487	2479	2466	2462	2457	2442	2435	2428	2419	2415	2413	2412
15	2578	2558	2539	2523	2503	2481	2455	2425	2393	2367	2333	2300	2272	2252	2236	2225	2215	2216
20	2641	2613	2583	2548	2495	2434	2361	2290	2217	2155	2091	2041	1995	1972	1943	1926	1917	1917
25	2736	2692	2631	2552	2449	2332	2210	2092	1983	1891	1811	1750	1693	1666	1635	1613	1598	1598
30	2854	2762	2643	2502	2337	2174	2009	1860	1730	1632	1546	1482	1423	1395	1364	1341	1329	1326
35	2903	2742	2567	2376	2167	1972	1787	1635	1507	1412	1329	1267	1208	1178	1145	1119	1106	1098
40	2840	2687	2482	2259	2016	1792	1600	1441	1318	1223	1137	1076	1010	972	936	907	889	881
45	2966	2756	2480	2188	1884	1623	1410	1244	1114	1009	916	842	774	735	697	669	654	646
50	3176	2869	2488	2087	1712	1408	1171	987	845	734	653	587	530	498	467	445	431	426
55	3376	2930	2389	1866	1419	1081	838	669	555	475	413	367	331	309	287	264	248	245
60	3447	2771	2044	1430	974	674	497	393	328	286	258	238	210	192	189	191	194	195
65	3086	2149	1365	822	500	340	261	224	207	193	182	171	165	169	181	195	207	210
70	1760	1068	561	320	216	168	155	156	154	149	147	156	168	190	217	239	247	250
75	332	229	143	113	97	86	93	109	114	117	134	128	134	158	199	215	217	218
80	83	72	58	50	51	42	57	77	70	67	69	74	81	89	92	95	93	94
85	34	19	20	20	20	18	22	26	22	27	28	29	26	21	18	17	13	13
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Candela Table - Type C																			
	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270
0	2531	2530	2532	2532	2528	2528	2534	2532	2536	2533	2535	2535	2536	2536	2534	2530	2528	2534
5	2479	2484	2481	2483	2482	2488	2491	2493	2499	2499	2504	2510	2511	2514	2522	2522	2520	2533
10	2411	2413	2417	2423	2430	2438	2449	2457	2472	2475	2479	2489	2500	2507	2515	2527	2536	2555
15	2215	2223	2234	2259	2277	2310	2342	2378	2412	2433	2465	2489	2508	2520	2532	2548	2569	2594
20	1914	1927	1948	1977	2011	2065	2121	2189	2266	2331	2404	2467	2519	2551	2579	2598	2624	2662
25	1597	1611	1638	1673	1718	1780	1846	1933	2039	2152	2270	2391	2496	2580	2641	2675	2700	2748
30	1324	1336	1362	1396	1438	1503	1575	1672	1788	1922	2080	2256	2427	2575	2704	2793	2856	2949
35	1094	1103	1128	1161	1204	1266	1342	1440	1559	1694	1861	2065	2281	2484	2665	2822	2988	3121
40	877	884	905	940	985	1047	1128	1227	1347	1488	1672	1890	2137	2373	2573	2731	2850	2930
45	645	654	676	710	759	825	912	1008	1132	1279	1470	1719	2025	2342	2623	2846	2996	3100
50	427	437	456	485	526	585	661	757	889	1046	1246	1530	1892	2327	2745	3077	3302	3479
55	251	266	284	302	326	363	416	489	590	728	938	1232	1648	2194	2805	3329	3682	3919
60	191	187	188	197	215	231	250	282	336	418	556	787	1171	1771	2535	3331	3962	4341
65	202	188	174	168	168	174	182	191	202	219	272	378	593	1052	1793	2730	3747	4411
70	250	232	202	178	163	152	148	150	154	148	151	172	235	395	791	1425	2229	2709
75	218	210	174	143	132	137	130	115	112	98	86	91	103	118	186	270	382	390
80	99	96	93	87	78	70	67	68	74	64	47	38	49	53	63	73	107	125
85	17	19	20	25	30	28	27	23	23	24	18	18	20	20	19	25	36	37
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Candela Table - Type C

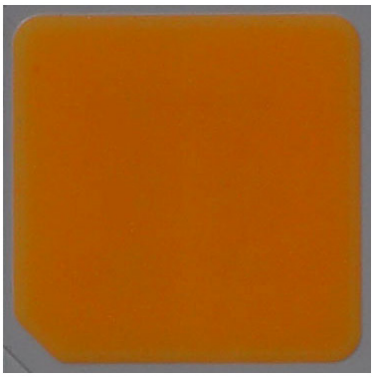
	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360
0	2535	2534	2535	2532	2536	2533	2533	2530	2528	2531	2533	2528	2533	2531	2531	2528	2531	2530
5	2543	2545	2547	2552	2556	2557	2561	2562	2564	2568	2573	2569	2576	2577	2579	2580	2579	2582
10	2572	2577	2586	2596	2607	2617	2617	2616	2619	2626	2624	2623	2628	2630	2628	2632	2631	2632
15	2616	2640	2656	2674	2683	2693	2704	2709	2713	2726	2730	2726	2724	2729	2723	2719	2722	2725
20	2687	2714	2734	2755	2778	2801	2825	2837	2849	2859	2854	2841	2819	2817	2794	2781	2779	2787
25	2772	2804	2839	2886	2940	2990	3029	3041	3027	3015	2968	2927	2868	2851	2812	2792	2789	2795
30	3012	3067	3138	3206	3258	3293	3307	3264	3194	3128	3029	2939	2827	2775	2699	2648	2624	2624
35	3221	3324	3384	3428	3461	3472	3454	3387	3272	3119	2923	2753	2545	2417	2268	2172	2130	2116
40	2990	3088	3188	3335	3479	3564	3536	3391	3145	2843	2509	2199	1898	1707	1536	1424	1366	1348
45	3166	3256	3398	3572	3695	3697	3513	3161	2686	2203	1761	1399	1106	932	796	709	665	648
50	3552	3657	3812	3935	3931	3701	3194	2540	1896	1362	947	666	495	414	356	309	290	284
55	4048	4210	4275	4299	4040	3404	2540	1716	1073	634	419	294	238	217	208	192	186	184
60	4601	4798	4760	4489	3752	2721	1724	936	463	269	200	182	169	158	156	154	153	153
65	4914	5148	5002	4142	2903	1782	903	396	199	157	151	140	133	132	137	141	143	144
70	3308	3809	3707	2724	1672	827	335	154	124	124	116	111	110	115	123	132	137	138
75	531	797	925	728	453	203	94	84	89	89	83	83	87	93	104	115	116	116
80	157	169	146	128	92	62	49	49	57	52	48	49	57	67	72	80	85	84
85	47	59	58	48	35	26	21	24	27	25	23	25	32	33	33	35	37	37
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Photo

Overview

Overview

-END-



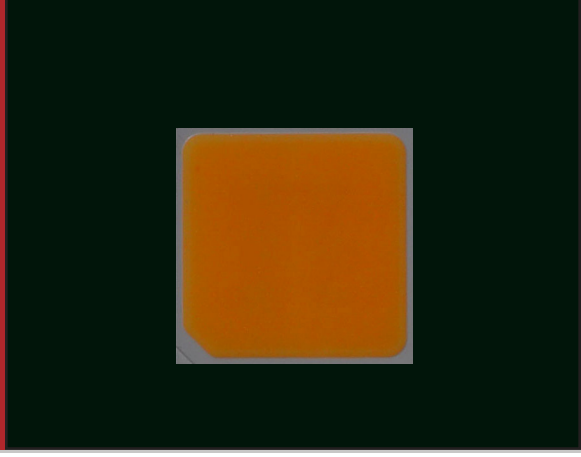
Bridgelux® SMD 5050 5W 9V

Product Data Sheet DS63

BXEP-27E | 30E | 35E | 40E | 45E | 50E | 57E | 65E

Introduction

SMD 5050



The Bridgelux SMD 5050 high power LED is hot-color targeted which ensures that the LEDs fall within their specified color bin at the typical application conditions of 85˚C. With its broad lumen coverage and wide range of CCT options, the SMD 5050 provides unparalleled design-in flexibility for indoor and outdoor lighting applications. The SMD 5050 is ideal as a drop in replacement for emitters with an industry standard 5.0mm x 5.0mm footprint.

Features

- Industry-standard 5050 footprint
- 3 bin color control enables tight color control
- Hot-color targeting ensures that color is within the ANSI bin at the typical application conditions of 85˚C
- Enables 3- and 5-step MacAdam ellipse custom binning kits
- RoHS compliant and lead free
- Multiple CCT configurations for a wide range of lighting applications

Benefits

- Lower operating and manufacturing cost
- Ease of design and rapid go-to-market
- Uniform consistent white light
- Reliable and constant white point
- Environmentally friendly, complies with standards
- Design flexibility

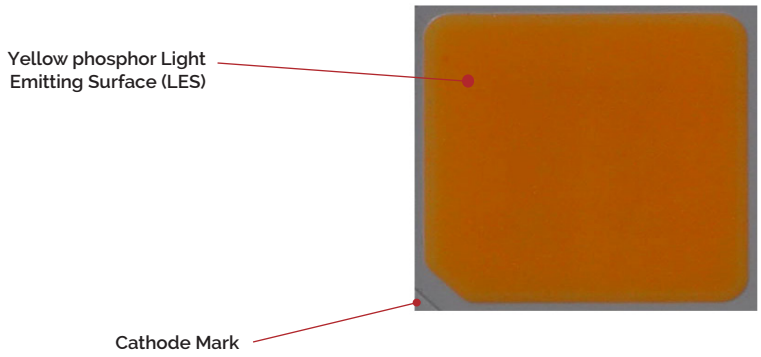
Pb free

RoHS

Contents

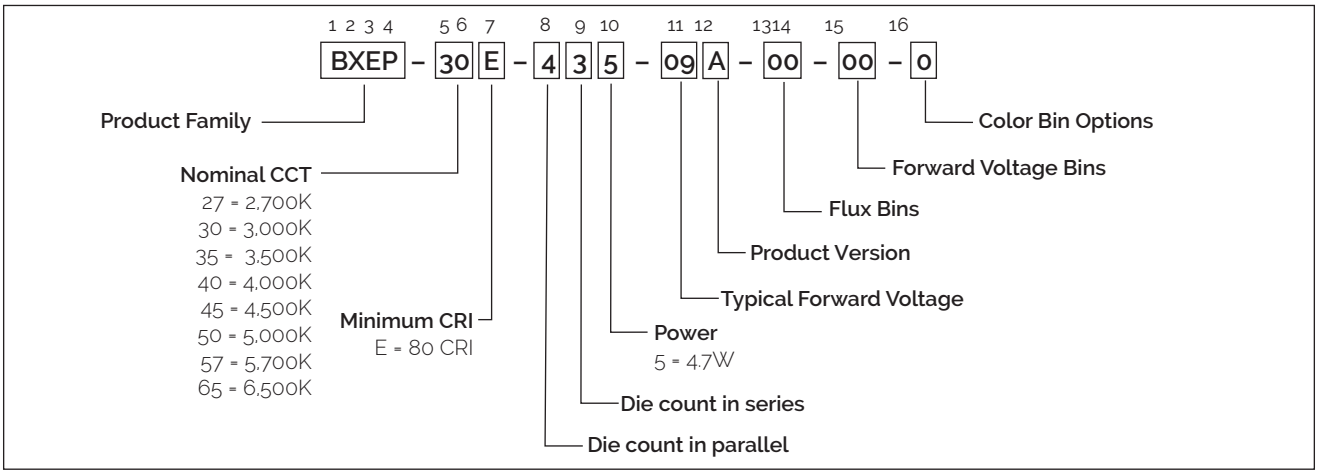
Product Feature Map

Bridgelux SMD LED products come in industry standard package sizes and follow ANSI binning standards. These LEDs are optimized for cost and performance, helping to ensure highly competitive system lumen per dollar performance while addressing the stringent efficacy and reliability standards required for modern lighting applications.



Product Nomenclature

The part number designation for Bridgelux SMD 5050 is explained as follows:



Product Test Conditions

Bridgelux SMD 5050 LEDs are tested and binned with a 10ms pulse of 500mA at T_j (junction temperature)=T_{sp} (solder point temperature) =25˚C. Forward voltage and luminous flux are binned at a T_j=T_{sp}=25˚C, while color is hot targeted at a T_{sp} of 85˚C.

Product Selection Guide

The following product configurations are available:

Table 1: Selection Guide, Pulsed Measurement Data at 500mA (T_j=T_{sp}=25˚C)

Part Number[1,6]	Nominal CCT[2] (K)	CRI[3, 5]	Nominal Drive Current (mA)	Forward Voltage[4, 5] (V)			Typical Pulsed Flux (lm)[4, 5]	Typical Power (W)	Typical Efficacy (lm/W)
				Min	Typical	Max			
BXEP-27E-435-09A-00-00-0	2700	80	500	8.5	9.3	10.2	579	4.7	125
BXEP-30E-435-09A-00-00-0	3000	80	500	8.5	9.3	10.2	600	4.7	129
BXEP-35E-435-09A-00-00-0	3500	80	500	8.5	9.3	10.2	614	4.7	132
BXEP-40E-435-09A-00-00-0	4000	80	500	8.5	9.3	10.2	626	4.7	135
BXEP-45E-435-09A-00-00-0	4500	80	500	8.5	9.3	10.2	629	4.7	135
BXEP-50E-435-09A-00-00-0	5000	80	500	8.5	9.3	10.2	629	4.7	135
BXEP-57E-435-09A-00-00-0	5700	80	500	8.5	9.3	10.2	629	4.7	135
BXEP-65E-435-09A-00-00-0	6500	80	500	8.5	9.3	10.2	624	4.7	134

Table 2: Selection Guide, Stabilized DC Performance (T_{sp} = 85˚C)[7,8]

Part Number[1,6]	Nominal CCT[2] (K)	CRI[3, 5]	Nominal Drive Current (mA)	Forward Voltage[5] (V)			Typical DC Flux (lm)[5]	Typical Power (W)	Typical Efficacy (lm/W)
				Min	Typical	Max			
BXEP-27E-435-09A-00-00-0	2700	80	500	8.2	9.0	9.9	504	4.5	111
BXEP-30E-435-09A-00-00-0	3000	80	500	8.2	9.0	9.9	522	4.5	116
BXEP-35E-435-09A-00-00-0	3500	80	500	8.2	9.0	9.9	534	4.5	118
BXEP-40E-435-09A-00-00-0	4000	80	500	8.2	9.0	9.9	545	4.5	121
BXEP-45E-435-09A-00-00-0	4500	80	500	8.2	9.0	9.9	547	4.5	121
BXEP-50E-435-09A-00-00-0	5000	80	500	8.2	9.0	9.9	547	4.5	121
BXEP-57E-435-09A-00-00-0	5700	80	500	8.2	9.0	9.9	547	4.5	121
BXEP-65E-435-09A-00-00-0	6500	80	500	8.2	9.0	9.9	543	4.5	120

Notes for Table 1 & 2:

1. The last 7 characters (including hyphens '-') refer to flux bins, forward voltage bins, and color bin options, respectively. "00-00-0" denotes the full distribution of flux, forward voltage, and 7 SDCM color.

   Example: BXEP-30E-435-09A-00-00-0 refers to the full distribution of flux, forward voltage, and color within a 3000K 7-step ANSI standard chromaticity region with a minimum of 80CRI, 4x3 die configuration, 4.7w power, 9.3V typical forward voltage.
2. Product CCT is hot targeted at T_{sp} = 85˚C. Nominal CCT as defined by ANSI C78.377-2011.
3. Listed CRIs are minimum values and include test tolerance.
4. Products tested under pulsed condition (10ms pulse width) at nominal drive current where T_j=T_{sp}=25˚C.
5. Bridgelux maintains a ±7.5% tolerance on luminous flux measurements, ±0.1V tolerance on forward voltage measurements, and ±2 tolerance on CRI measurements for the SMD 5050.
6. Refer to Table 6 and Table 7 for Bridgelux SMD 5050 Luminous Flux Binning and Forward Voltage Binning information.
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 emitter mounted onto a heat sink with thermal interface material and the solder point 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.

Performance at Commonly Used Drive Currents

SMD 5050 LEDs are tested to the specifications shown using the nominal drive currents in Table 1. SMD 5050 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 Figure 2 and the relative luminous flux vs. current characteristics shown in Figure 3. The performance at commonly used drive currents is summarized in Table 3.

Table 3: Performance at Commonly Used Drive Currents

Part Number	CRI	Drive Current[1] (mA)	Typical V_f T_{sp} = 25°C (V)	Typical Power T_{sp} = 25°C (W)	Typical Pulsed Flux[2] T_{sp} = 25°C (lm)	Typical DC Flux[3] T_{sp} = 85°C (lm)	Typical Efficacy T_{sp} = 25°C (lm/W)
BXEP-27E-435-09A-00-00-0	80	125	8.2	1.0	161	145	157
		250	8.6	2.2	311	277	144
		375	9.0	3.4	451	396	134
		500	**9.3**	**4.7**	**579**	**504**	**125**
		800	10.1	8.1	846	698	105
BXEP-30E-435-09A-00-00-0	80	125	8.2	1.0	167	150	163
		250	8.6	2.2	323	287	150
		375	9.0	3.4	467	410	138
		500	**9.3**	**4.7**	**600**	**522**	**129**
		800	10.1	8.1	877	724	109
BXEP-35E-435-09A-00-00-0	80	125	8.2	1.0	171	153	167
		250	8.6	2.2	330	294	153
		375	9.0	3.4	478	419	142
		500	**9.3**	**4.7**	**614**	**534**	**132**
		800	10.1	8.1	897	741	111
BXEP-40E-435-09A-00-00-0	80	125	8.2	1.0	174	156	170
		250	8.6	2.2	337	299	156
		375	9.0	3.4	488	428	144
		500	**9.3**	**4.7**	**626**	**545**	**135**
		800	10.1	8.1	915	755	113
BXEP-45E-435-09A-00-00-0	80	125	8.2	1.0	175	157	171
		250	8.6	2.2	338	301	157
		375	9.0	3.4	490	430	145
		500	**9.3**	**4.7**	**629**	**547**	**135**
		800	10.1	8.1	919	759	114

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 ± 7.5% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current[1] (mA)	Typical V_f T_{sp} = 25°C (V)	Typical Power T_{sp} = 25°C (W)	Typical Pulsed Flux[2] T_{sp} = 25°C (lm)	Typical DC Flux[3] T_{sp} = 85°C (lm)	Typical Efficacy T_{sp} = 25°C (lm/W)
BXEP-50E-435-09A-00-00-0	80	125	8.2	1.0	175	157	171
		250	8.6	2.2	338	301	157
		375	9.0	3.4	490	430	145
		500	**9.3**	**4.7**	**629**	**547**	**135**
		800	10.1	8.1	919	759	114
BXEP-57E-435-09A-00-00-0	80	125	8.2	1.0	175	157	171
		250	8.6	2.2	338	301	157
		375	9.0	3.4	490	430	145
		500	**9.3**	**4.7**	**629**	**547**	**135**
		800	10.1	8.1	919	759	114
BXEP-65E-435-09A-00-00-0	80	125	8.2	1.0	174	156	169
		250	8.6	2.2	336	298	156
		375	9.0	3.4	486	426	144
		500	**9.3**	**4.7**	**624**	**543**	**134**
		800	10.1	8.1	912	753	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 ± 7.5% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Electrical Characteristics

Table 4: Electrical Characteristics

Part Number [1]	Drive Current (mA)	Forward Voltage (V) [2,3]			Typical Temperature Coefficient of Forward Voltage $\Delta V_f/\Delta T$ (mV/°C)	Typical Thermal Resistance Junction to Solder Point[4] $R_{j\text{-}sp}$ (°C/W)
		Minimum	Typical	Maximum		
BXEP-xxE-435-09A-00-00-0	500	8.5	9.3	10.2	-4.4	1.9

Notes for Table 4:

1. The last 7 characters (including hyphens '-') refer to flux bins, forward voltage bins, and color bin options, respectively. "00-00-0" denotes the full distribution of flux, forward voltage, and 7 SDCM color.

   Example: BXEP-30E-435-09A-00-00-0 refers to the full distribution of flux, forward voltage, and color within a 3000K 7-step ANSI standard chromaticity region with a minimum of 80CRI, 4x3 die configuration, 4.7w power, 9.3V typical forward voltage.
2. Bridgelux maintains a tolerance of ± 0.1V on forward voltage measurements. Voltage minimum and maximum values at the nominal drive current are guaranteed by 100% test.
3. Products tested under pulsed condition (10ms pulse width) at nominal drive current where T_{sp} = 25˚C.
4. Thermal resistance value was calculated using total electrical input power; optical power was not subtracted from input power.

Absolute Maximum Ratings

Table 5: Maximum Ratings

Parameter	Maximum Rating
LED Junction Temperature (T_j)	125˚C
Storage Temperature	-40˚C to +105˚C
Operating Solder Point Temperature (T_{Sp})	-40˚C to +105˚C
Soldering Temperature	260˚C or lower for a maximum of 10 seconds
Maximum Drive Current[2]	800mA
Maximum Peak Pulsed Forward Current[1]	960mA
Maximum Reverse Voltage	Bridgelux LEDs are not designed to be driven in reverse bias
Moisture Sensitivity Rating	MSL 3
Electrostatic Discharge	2kV HBM. JEDEC-JS-001-HBM and JEDEC-JS-001-2012

Notes for Table 5:

1. Bridgelux recommends a maximum duty cycle of 10% and pulse width of 10 ms when operating LED SMD at maximum peak pulsed current specified. Maximum peak pulsed current indicate values where LED SMD can be driven without catastrophic failures.
2. The maximum drive current for LM80 test results is at 640mA.

Product Bin Definitions

Table 6 lists the standard photometric luminous flux bins for Bridgelux SMD 5050 LEDs. Although several bins are listed, product availability in a particular bin varies by production run and by product performance. Not all bins are available in all CCTs.

Table 6: Luminous Flux Bin Definitions at 500mA, T_{sp}=25˚C

Bin Code	Minimum	Maximum	Unit	Condition
A8	505	545	lm	I_F=500mA
A9	545	590		
B1	590	635		
B2	635	685		
B3	685	740		
B4	740	800		
B5	800	865		

Note for Table 6:

1. Bridgelux maintains a tolerance of ± 7.5% on luminous flux measurements.

Table 7: Forward Voltage Bin Definition at 500mA, T_{sp}=25˚C

Bin Code	Minimum	Maximum	Unit	Condition
CD	8.5	9.0	V	I_F=500mA
CE	9.0	9.5		
CF	9.5	10.0		
CG	10.0	10.5		

Note for Table 7:

1. Bridgelux maintains a tolerance of ± 0.1V on forward voltage measurements.

Product Bin Definitions

Table 8: 3- and 5-step MacAdam Ellipse Color Bin Definitions

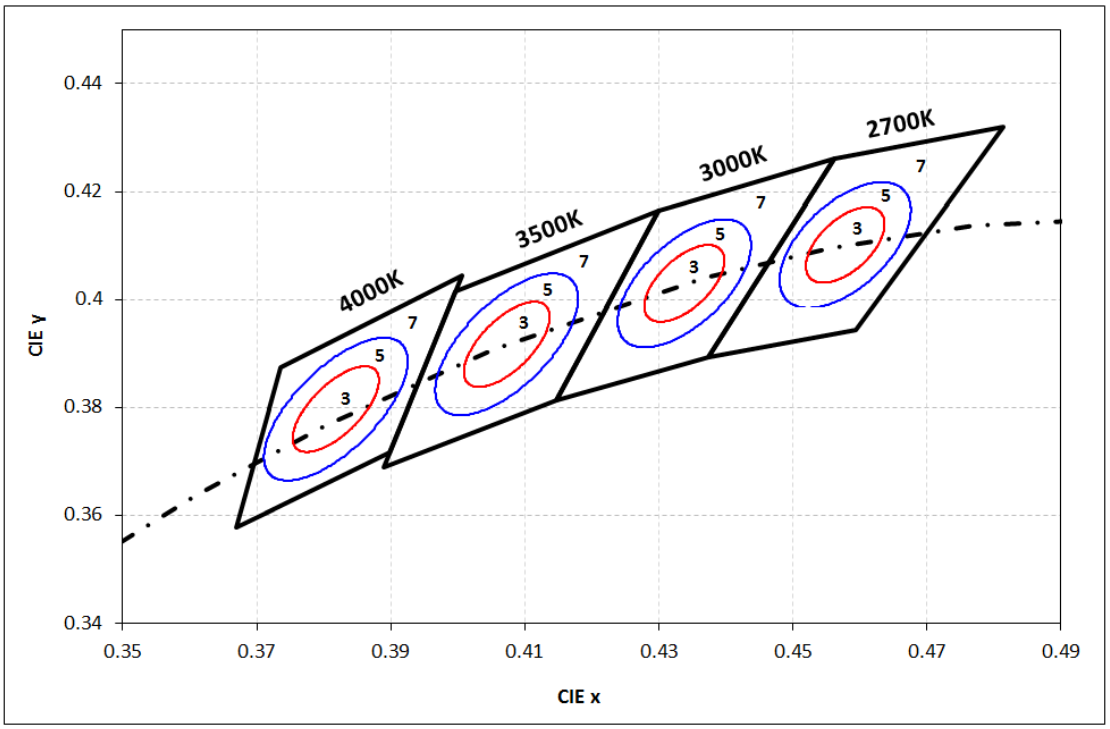
CCT	Color Space	Center Point		Major Axis	Minor Axis	Ellipse Rotation Angle	Color Bin
		X	Y				
2700K	3 SDCM	0.4578	0.4101	0.00810	0.00420	53.70	3
	5 SDCM	0.4578	0.4101	0.01350	0.00700	53.70	5
3000K	3 SDCM	0.4338	0.4030	0.00834	0.00408	53.22	3
	5 SDCM	0.4338	0.4030	0.01390	0.00680	53.22	5
3500K	3 SDCM	0.4103	0.3961	0.00927	0.00414	54.00	3
	5 SDCM	0.4103	0.3961	0.01545	0.00690	54.00	5
4000K	3 SDCM	0.3818	0.3797	0.00939	0.00402	53.72	3
	5 SDCM	0.3818	0.3797	0.01565	0.00670	53.72	5
4500K	3 SDCM	0.3611	0.3658	0.00756	0.00338	57.58	3
	5 SDCM	0.3611	0.3658	0.01260	0.00563	57.58	5
5000K	3 SDCM	0.3447	0.3553	0.00822	0.00354	59.62	3
	5 SDCM	0.3447	0.3553	0.01370	0.00590	59.62	5
5700K	3 SDCM	0.3287	0.3417	0.00746	0.00320	59.09	3
	5 SDCM	0.3287	0.3417	0.01243	0.00533	59.09	5
6500K	3 SDCM	0.3123	0.3282	0.00669	0.00285	58.57	3
	5 SDCM	0.3123	0.3282	0.01115	0.00475	58.57	5

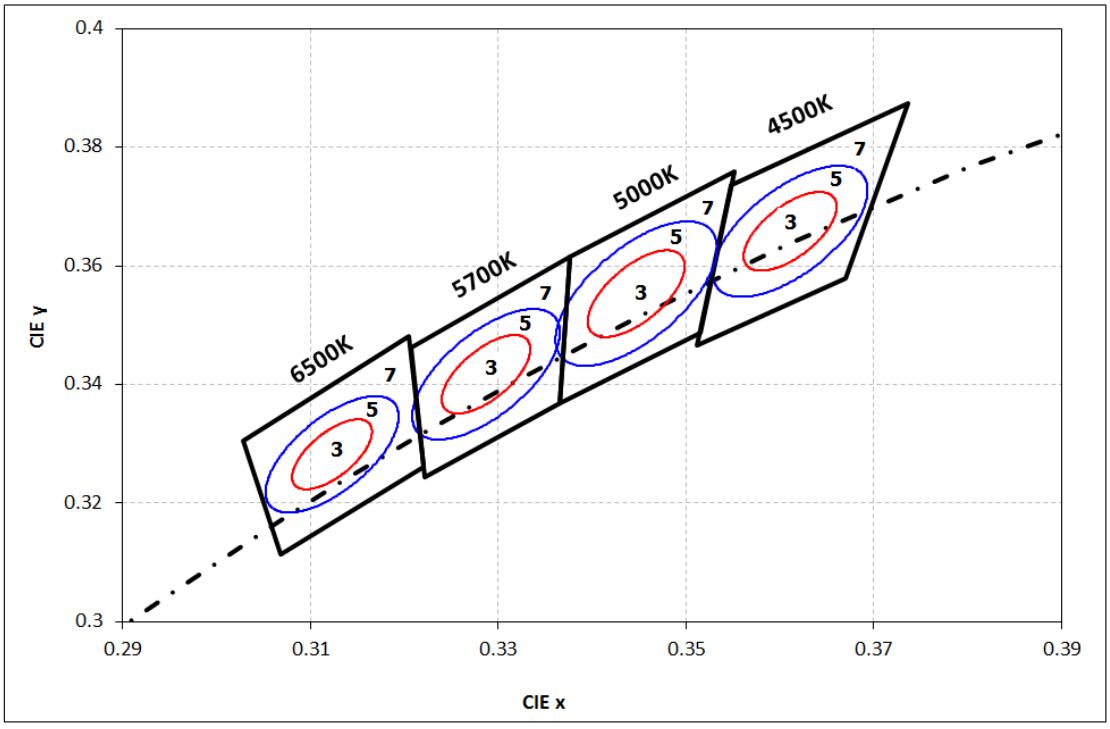
Notes for Table 8:

1. Color binning at T_{sp}=85˚C
2. Bridgelux maintains a tolerance of ± 0.007 on x and y color coordinates in the CIE 1931 color space.

Product Bin Definitions

Figure 1: C.I.E. 1931 Chromaticity Diagram (3 Color Bin Structure, hot-color targeted at T_{sp}=85˚C)





Performance Curves

Figure 2: Drive Current vs. Voltage (T_{sp}=25˚C)

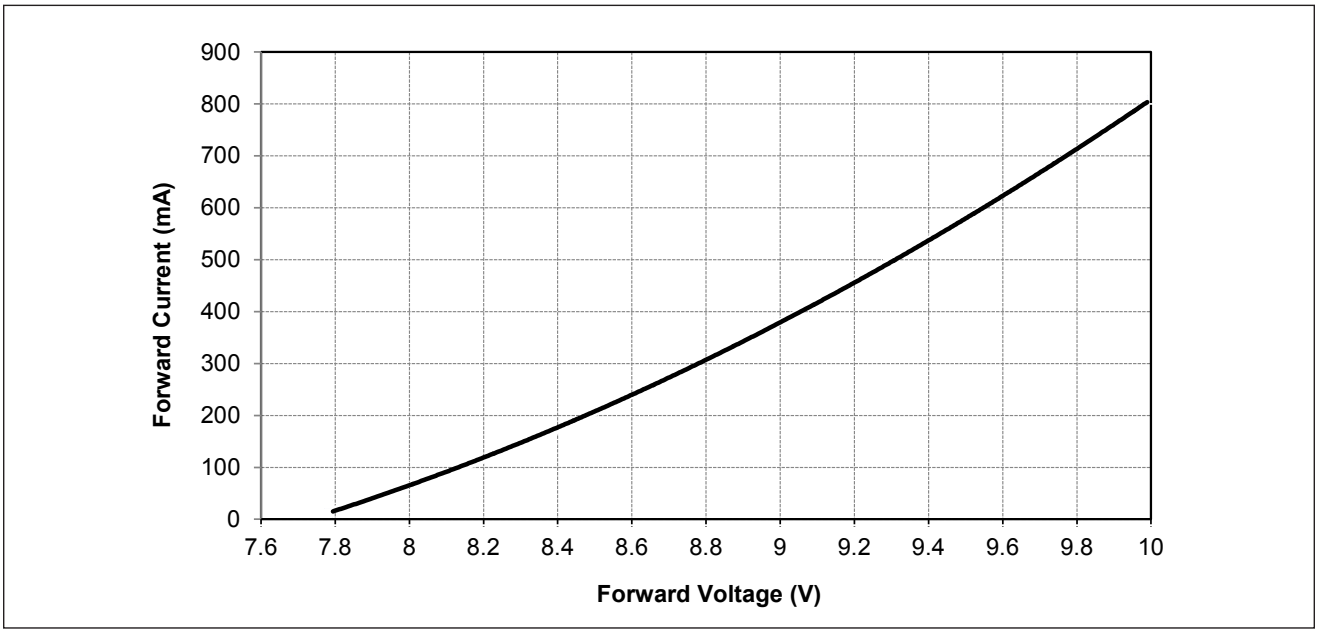
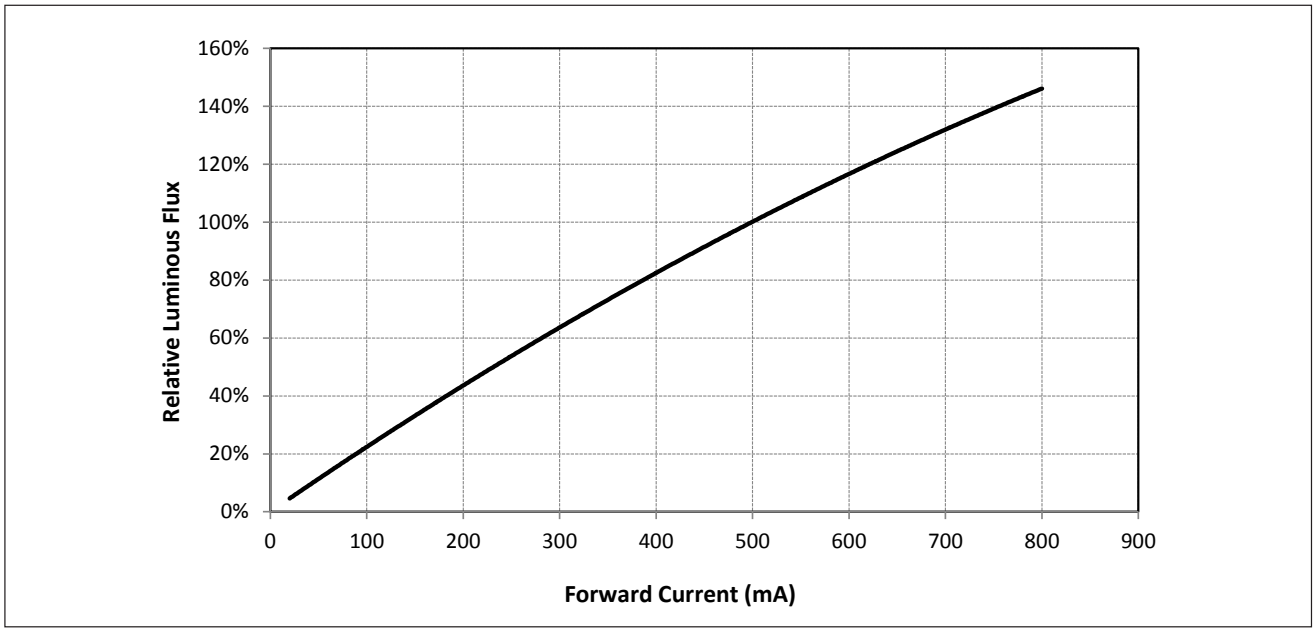


Figure 3: Typical Relative Luminous Flux vs. Drive Current (T_{sp}=25˚C)



Note for Figure 3:

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.

Performance Curves

Figure 4: Typical Relative DC Flux vs. Solder Point Temperature

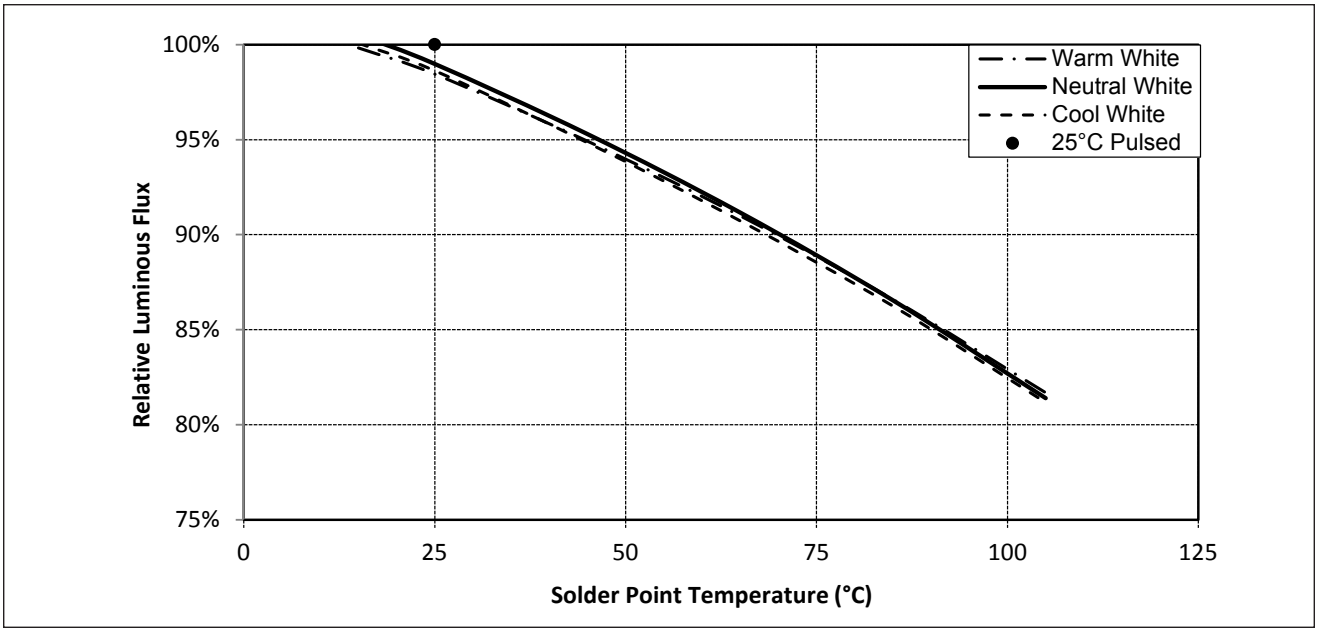
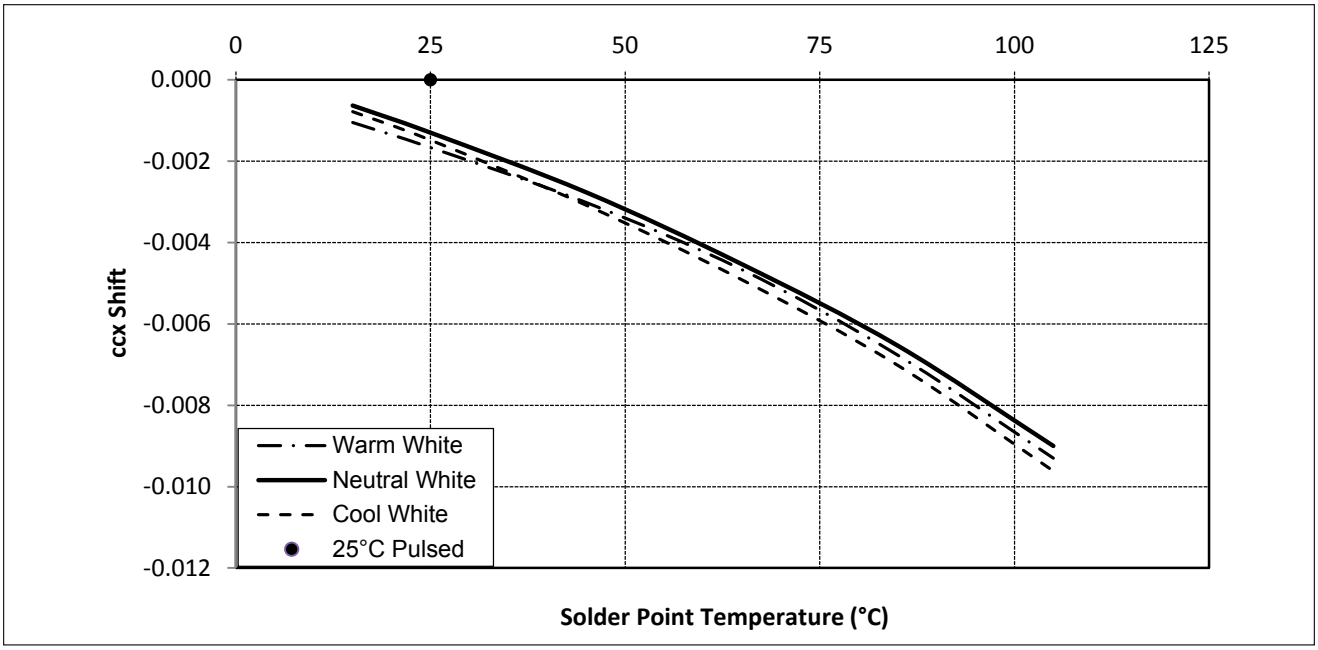


Figure 5: Typical DC ccx Shift vs. Solder Point Temperature

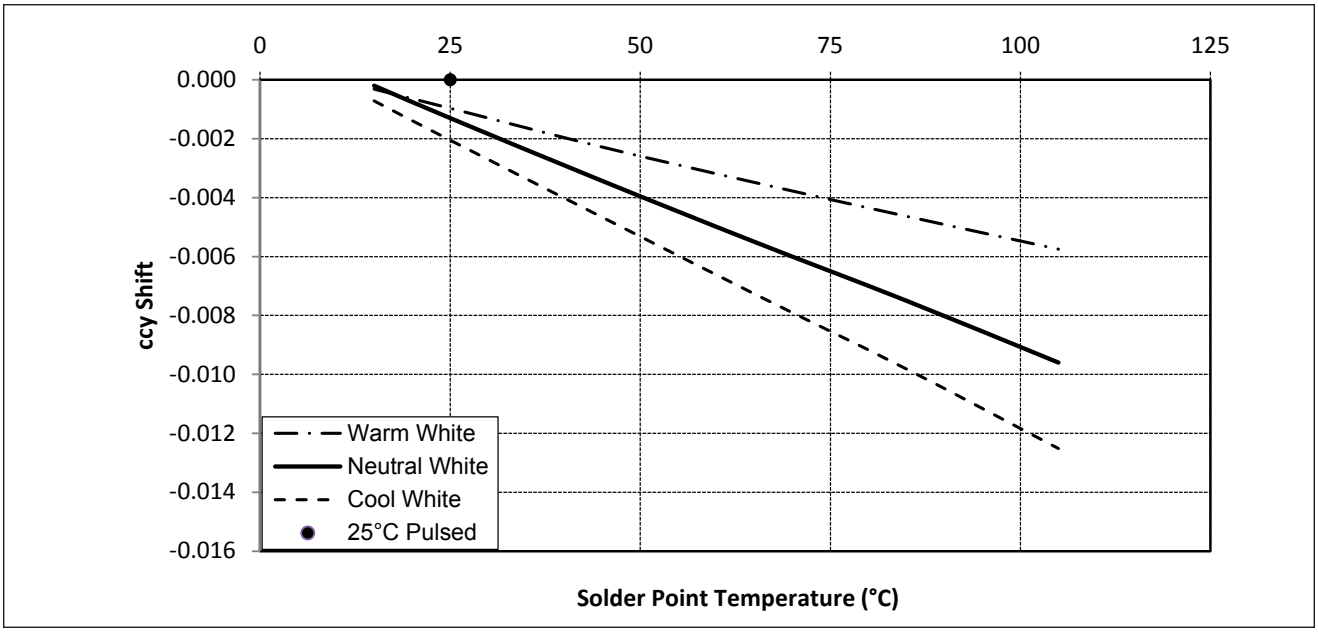


Notes for Figures 4 & 5:

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 80 CRI.
4. For other color SKUs, the shift in color will vary. Please contact your Bridgelux Sales Representative for more information.

Performance Curves

Figure 6: **Typical DC ccy Shift vs. Solder Point Temperature**

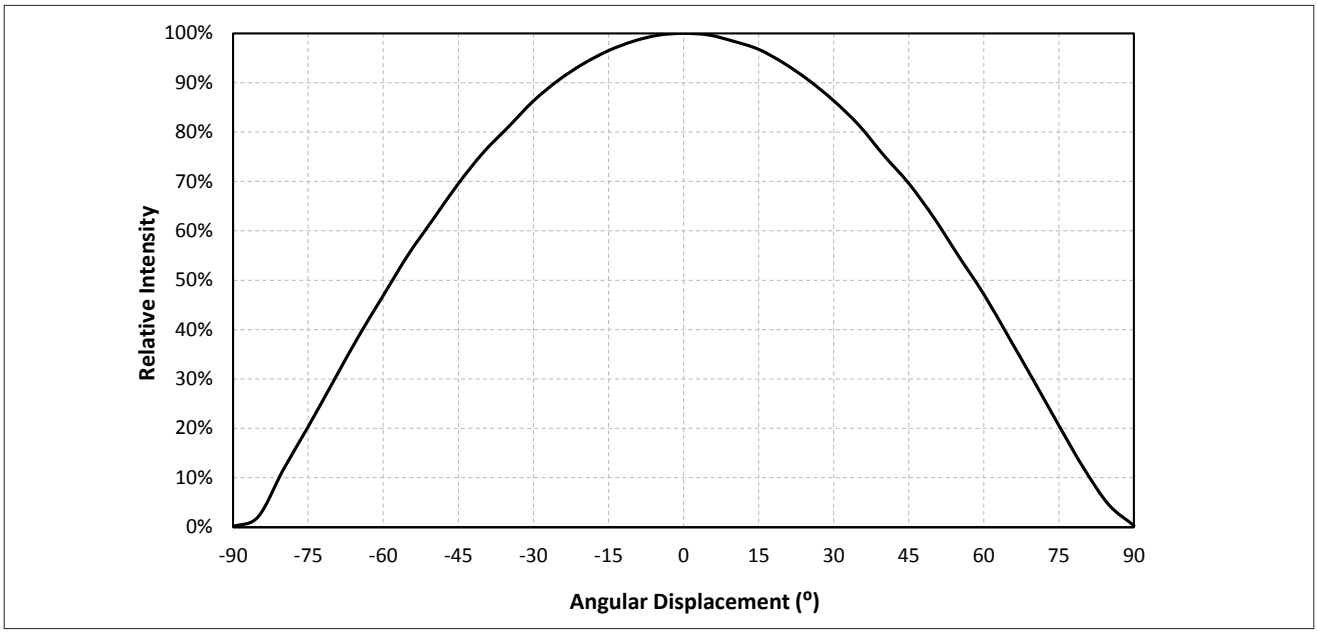


Notes for Figure 6:

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 80 CRI.
4. For other color SKUs, the shift in color will vary. Please contact your Bridgelux Sales Representative for more information.

Typical Radiation Pattern

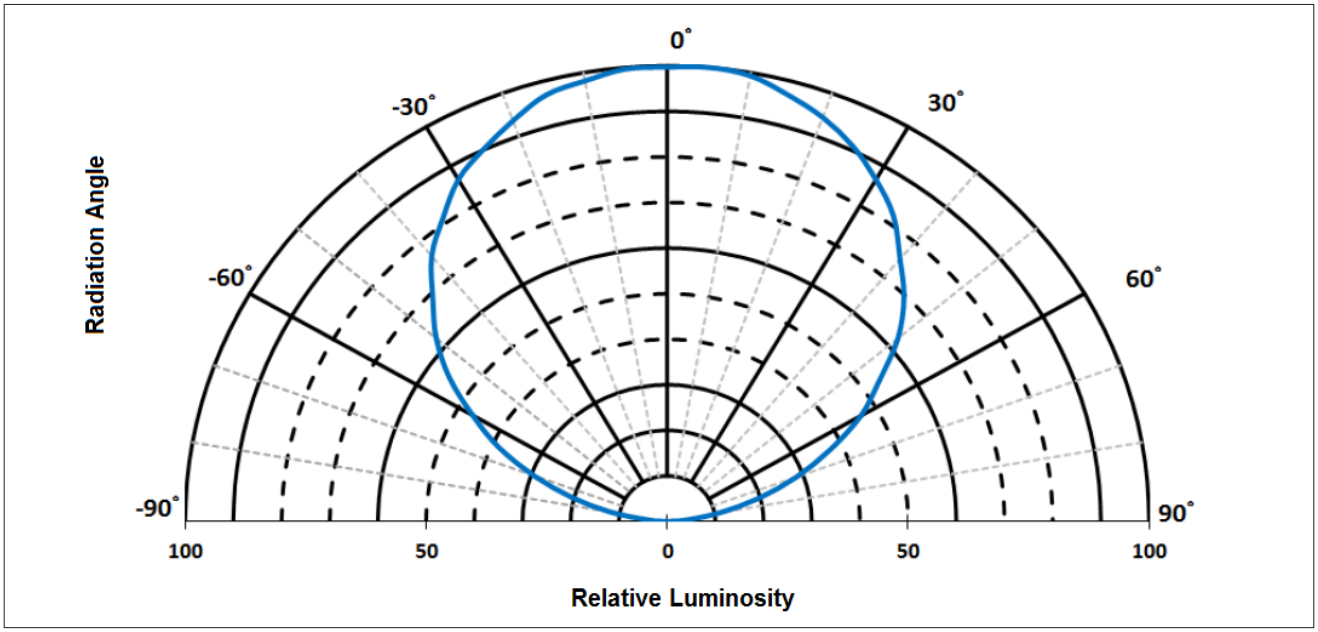
Figure 7: Typical Spatial Radiation Pattern at 500mA, T_{sp}=25°C



Notes for Figure 7:

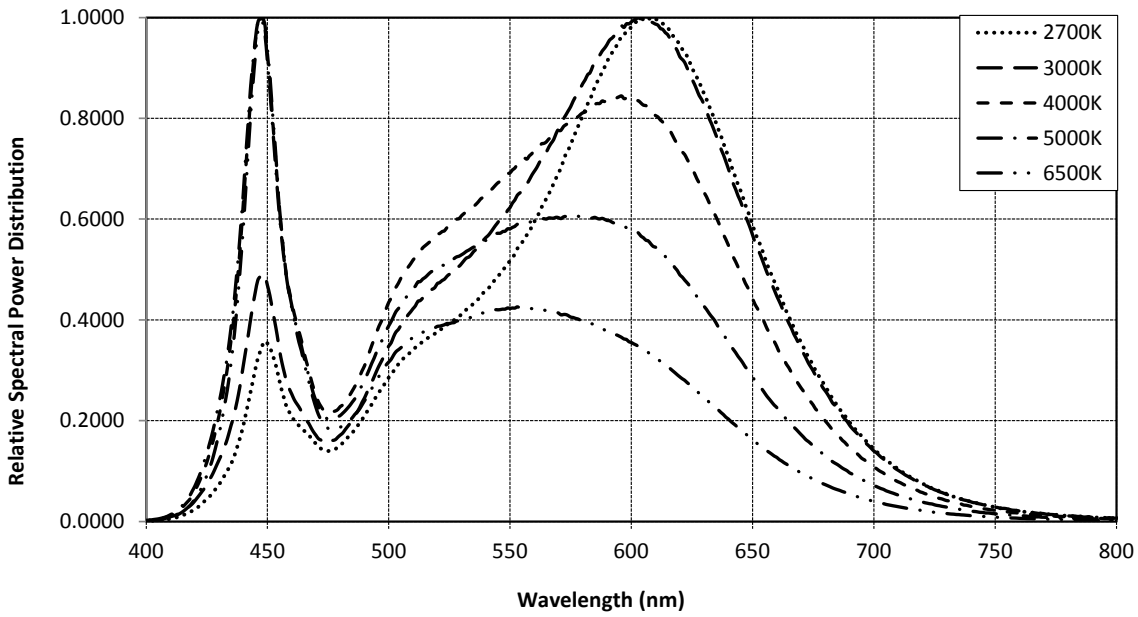
1. Typical viewing angle is 116°.
2. The viewing angle is defined as the off axis angle from the centerline where luminous intensity (Iv) is ½ of the peak value.

Figure 8: Typical Polar Radiation Pattern at 500mA, T_{sp}=25°C



Typical Color Spectrum

Figure 9: Typical Color Spectrum

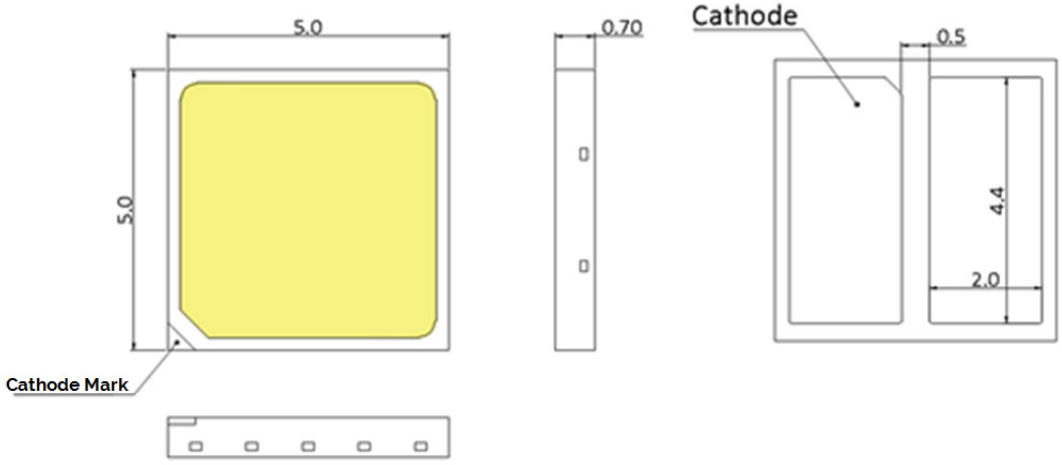


Notes for Figure 9:

1. Color spectra measured at nominal current for T_{sp} = 25°C
2. Color spectra shown for warm white is 2700K and 80 CRI.
3. Color spectra shown for warm white is 3000K and 80 CRI.
4. Color spectra shown for neutral white is 4000K and 80 CRI.
5. Color spectra shown for cool white is 5000K and 80 CRI.
6. Color spectra shown for cool white is 6500K and 80 CRI.

Mechanical Dimensions

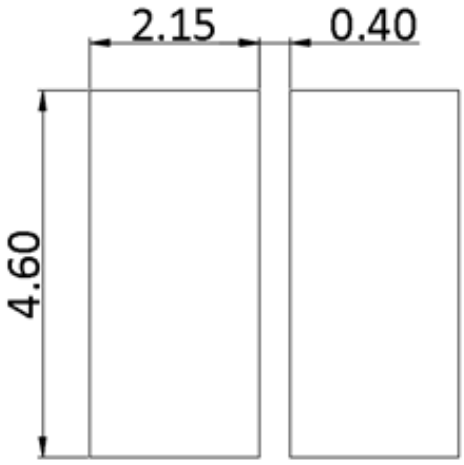
Figure 10: Drawing for SMD 5050



Notes for Figure 10:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.
3. Unless otherwise specified, tolerances are ± 0.10mm.

Recommended PCB Soldering Pad Pattern



Reliability

Table 9: Reliability Test Items and Conditions

No .	Items	Reference Standard	Test Conditions	Drive Current	Test Duration	Units Failed/Tested
1	Moisture/Reflow Sensitivity	J-STD-020E	T_{sld} = 260˚C, 10sec, Precondition: 60˚C, 60%RH, 168hr	-	3 reflows	0/22
2	Low Temperature Storage	JESD22-A119	T_a=-40˚C	-	1000 hours	0/22
3	High Temperature Storage	JESD22-A103D	T_a= 105˚C	-	1000 hours	0/22
4	Low Temperature Operating Life	JESD22-A108D	T_a=-40˚C	500mA	1000 hours	0/22
5	Temperature Humidity Operating Life	JESD22-A101C	T_{sp}=85˚C, RH=85%	500mA	1000 hours	0/22
6	High Temperature Operating Life	JESD22-A108D	T_{sp}=105˚C	640mA	1000 hours	0/22
7	Power switching	IEC62717:2014	T_{sp}= 105˚C 30 sec on, 30 sec off	640mA	30000 cycles	0/22
8	Thermal Shock	JESD22-A106B	T_a=-40˚C ~100˚C; Dwell : 15min; Transfer: 10sec	-	200 cycles	0/22
9	Temperature Cycle	JESD22-A104E	T_a=-40˚C ~100˚C; Dwell at extreme temperature: 15min; Ramp rate < 105˚C/min	-	200 cycles	0/22
10	Electrostatic Discharge	JS-001-2012	HBM, 2KV, 1.5kΩ, 100pF, Alternately positive or negative	-	-	0/22

Passing Criteria

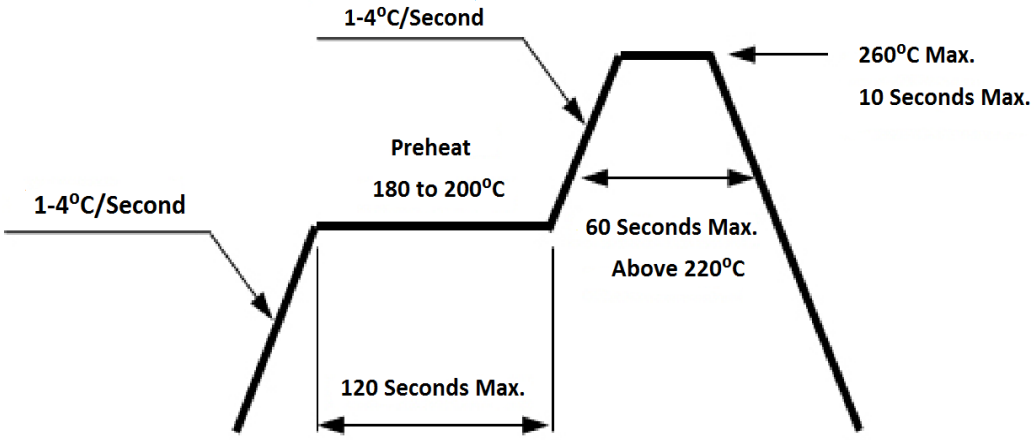
Item	Symbol	Test Condition	Passing Criteria
Forward Voltage	Vf	500mA	ΔVf<10%
Luminous Flux	Fv	500mA	ΔFv<30%
Chromaticity Coordinates	(x, y)	500mA	Δu'v'<0.007

Notes for Table 9:

1. Measurements are performed after allowing the LEDs to return to room temperature
2. T_{sld} : reflow soldering temperature; T_a : ambient temperature

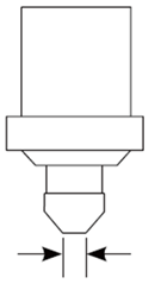
Reflowing Characteristics

Figure 11 : Reflow Profile



Profile Feature	Lead Free Assembly
Preheat: Temperature Range	180˚C – 200˚C
Preheat: Time (Maximum)	120 seconds
Peak Temperature	260˚C
Soldering Time (Maximum)	10 seconds
Allowable Reflow Cycles	2

Figure 12 : Pick and Place



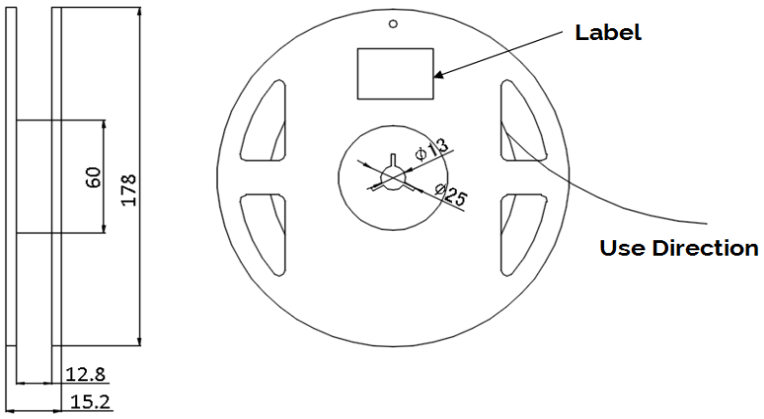
Is greater than LEDs emitting surface

Note for Figure 12:

1. When using a pick and place machine, choose a nozzle that has a larger diameter than the LED's emitting surface. Using a Pick-and-Place nozzle with a smaller diameter than the size of the LEDs emitting surface will cause damage and may also cause the LED to not illuminate.

Packaging

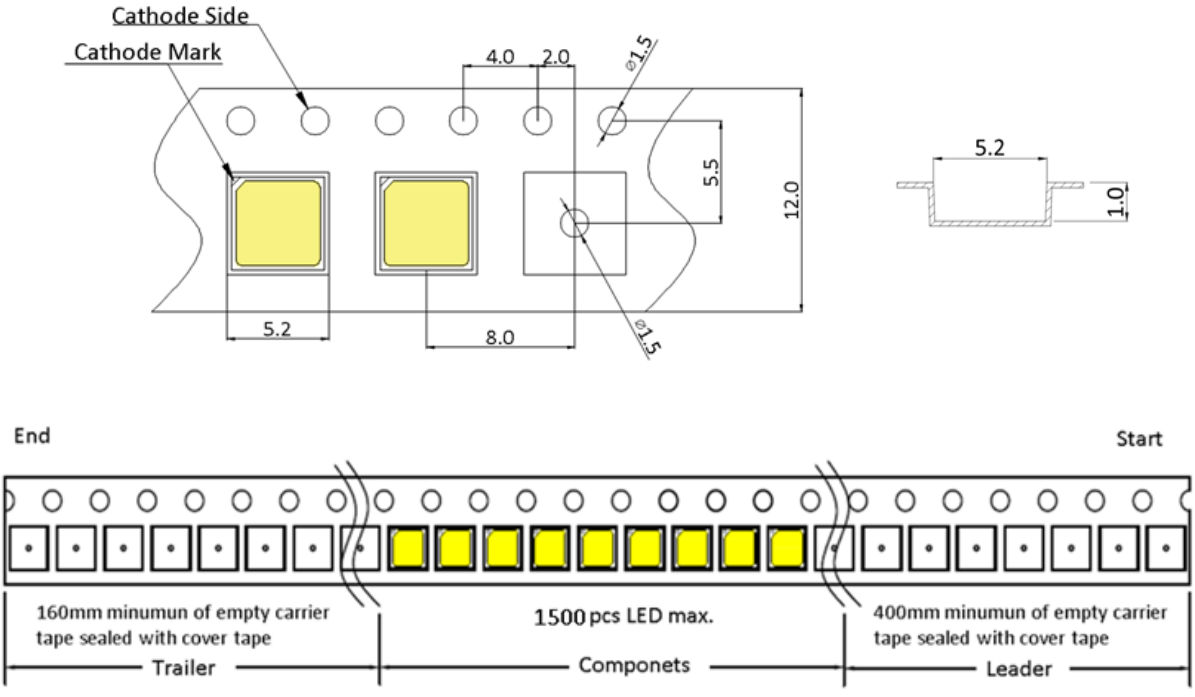
Figure 13: Emitter Reel Drawings



Note for Figure 13:

1. Drawings are not to scale. Drawing dimensions are in millimeters.

Figure 14: Emitter Tape Drawings

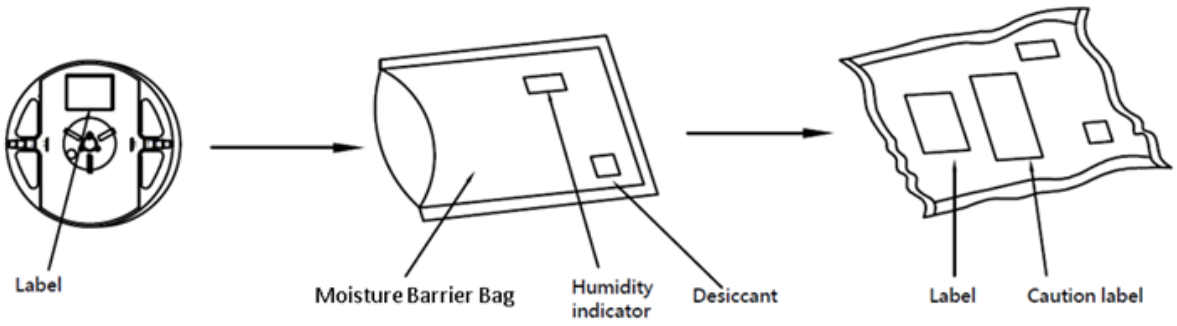


Note for Figure 14:

1. Drawings are not to scale. Drawing dimensions are in millimeters.

Packaging

Figure 15: Emitter Reel Packaging Drawings



Note for Figure 15:

1. Drawings are not to scale.

Design Resources

Please contact your Bridgelux sales representative for assistance.

Precautions

CAUTION: CHEMICAL EXPOSURE HAZARD

Exposure to some chemicals commonly used in luminaire manufacturing and assembly can cause damage to the LED emitter. Please consult Bridgelux Application Note AN51 for additional information.

CAUTION: EYE SAFETY

This SMD package emits visible light, that, under certain circumstances, could be harmful to the eye. Proper safe-guards must be used.

CAUTION: RISK OF BURN

Do not touch the SMD LED emitter during operation. Allow the emitter to cool for a sufficient period of time before handling. The SMD LED emitter 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 emitter or apply stress to the LES (yellow phosphor resin area). Contact may cause damage to the emitter

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, LED emitter 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.

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