



# LUXEON 5050

High efficacy and superior robustness in a multi-die, high power package, enabling cost-effective system design



LUXEON 5050 is a multi-die, high power package that provides high luminance from a super robust package to enable cost effective, single optic and directional fixture designs. LUXEON 5050 uses an industry standard 5050 surface mount package with a small Light Emitting Surface (LES). LUXEON 5050 comes in 70CRI, 80CRI and 90CRI with a wide range of CCTs, and offers hot-color targeting to ensure that the LEDs are within color target at application conditions of 85°C.

## FEATURES AND BENEFITS

- Superior lm/W enables outstanding efficacy in end application
- Extremely reliable package design affirms long lifetime in harsh environments<sup>[1]</sup>
- Robust coating design for enhanced sulfur protection capability (LUXEON 5050 Square LES)<sup>[1]</sup>
- Two voltage configurations are compatible with low cost high efficacy drivers
- Low  $R_{th}$  enables effective thermal dissipation design for higher efficiency
- Hot-color targeting ensures color is within ANSI bin at 85°C
- 3-step and 5-step MacAdam ellipse binning structure ensures excellent color uniformity

1. Refer to reliability datasheet for more details.

## PRIMARY APPLICATIONS

- High Bay
- Low Bay
- Floodlights
- Wall Pack
- [More...](#)

LUXEON 5050 product performance at specified test current, T<sub>j</sub>=25°C.

PRODUCT	NOMINAL CCT <sup>[1]</sup>	MINIMUM CRI <sup>[2, 3]</sup>	LUMINOUS FLUX <sup>[2, 3]</sup> (lm)		TYPICAL LUMINOUS EFFICACY (lm/W)	TEST CURRENT (mA)	PART NUMBER
			MINIMUM	TYPICAL			
LUXEON 5050 (Round LES) 24V	2200K	70	515	568	145	160	L150-2270502400000
	2700K	70	535	620	158	160	L150-2770502400000
	3000K	70	553	640	163	160	L150-3070502400000
	3500K	70	600	652	166	160	L150-3570502400000
	4000K	70	580	675	172	160	L150-4070502400000
	5000K	70	580	672	171	160	L150-5070502400000
	5700K	70	570	661	169	160	L150-5770502400000
	6500K	70	570	655	167	160	L150-6570502400000
	2200K	80	440	500	128	160	L150-2280502400000
	2700K	80	500	572	146	160	L150-2780502400000
	3000K	80	516	595	152	160	L150-3080502400000
	3500K	80	527	605	154	160	L150-3580502400000
	4000K	80	539	630	161	160	L150-4080502400000
	5000K	80	539	630	161	160	L150-5080502400000
	5700K	80	539	630	161	160	L150-5780502400000
	6500K	80	539	617	157	160	L150-6580502400000
	2700K	90	414	475	121	160	L150-2790502400000
	3000K	90	428	490	125	160	L150-3090502400000
	3500K	90	445	510	130	160	L150-3590502400000
	4000K	90	456	530	135	160	L150-4090502400000
	5000K	90	456	530	135	160	L150-5090502400000
5700K	90	456	530	135	160	L150-5790502400000	
LUXEON 5050 (Round LES) 6V	2200K	70	515	568	145	640	L150-2270500600000
	2700K	70	535	620	158	640	L150-2770500600000
	3000K	70	553	640	163	640	L150-3070500600000
	3500K	70	600	652	166	640	L150-3570500600000
	4000K	70	580	675	172	640	L150-4070500600000
	5000K	70	580	672	171	640	L150-5070500600000
	5700K	70	570	661	169	640	L150-5770500600000
	6500K	70	570	655	167	640	L150-6570500600000
	2200K	80	440	500	128	640	L150-2280500600000
	2700K	80	500	572	146	640	L150-2780500600000
	3000K	80	516	595	152	640	L150-3080500600000
	3500K	80	527	605	154	640	L150-3580500600000
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	5000K	80	539	630	161	640	L150-5080500600000
	5700K	80	539	630	161	640	L150-5780500600000
	6500K	80	539	617	157	640	L150-6580500600000
	2700K	90	414	475	121	640	L150-2790500600000
	3000K	90	428	490	125	640	L150-3090500600000
	3500K	90	445	510	130	640	L150-3590500600000
	4000K	90	456	530	135	640	L150-4090500600000
	5000K	90	456	530	135	640	L150-5090500600000
5700K	90	456	530	135	640	L150-5790500600000	

Table continued on next page:

1. Correlated color temperature is not targeted at T<sub>j</sub>=85°C.
2. Luminous flux and CRI are based upon mounted package on highly reflective surface at T<sub>j</sub>=25°C. Typical CRI is approximately 2 points higher than the minimum CRI specified, but this is not guaranteed.
3. Lumileds maintains a tolerance of ±2 on CRI and ±7% on luminous flux measurements.

LUXEON 5050 product performance at specified test current, T<sub>j</sub>=25°C, Continued.

PRODUCT	NOMINAL CCT <sup>[1]</sup>	MINIMUM CRI <sup>[2, 3]</sup>	LUMINOUS FLUX <sup>[2, 3]</sup> (lm)		TYPICAL LUMINOUS EFFICACY (lm/W)	TEST CURRENT (mA)	PART NUMBER	
			MINIMUM	TYPICAL				
LUXEON 5050 (Square LES) 30V	2200K	70	621	695	142	160	L150-22705030000S0	
	2700K	70	693	775	159	160	L150-27705030000S0	
	3000K	70	720	803	165	160	L150-30705030000S0	
	3500K	70	729	815	167	160	L150-35705030000S0	
	4000K	70	743	835	171	160	L150-40705030000S0	
	5000K	70	743	833	171	160	L150-50705030000S0	
	5700K	70	738	823	169	160	L150-57705030000S0	
	6500K	70	720	803	165	160	L150-65705030000S0	
	2200K	80	586	630	129	160	L150-22805030000S0	
	2700K	80	650	695	142	160	L150-27805030000S0	
	3000K	80	665	730	150	160	L150-30805030000S0	
	3500K	80	679	735	151	160	L150-35805030000S0	
	4000K	80	700	768	157	160	L150-40805030000S0	
	5000K	80	702	768	157	160	L150-50805030000S0	
	5700K	80	700	768	157	160	L150-57805030000S0	
	6500K	80	688	740	152	160	L150-65805030000S0	
	2700K	90	558	600	123	160	L150-27905030000S0	
	3000K	90	586	630	129	160	L150-30905030000S0	
	3500K	90	600	640	131	160	L150-35905030000S0	
	4000K	90	609	655	134	160	L150-40905030000S0	
	5000K	90	618	665	136	160	L150-50905030000S0	
	5700K	90	605	650	133	160	L150-57905030000S0	
	LUXEON 5050 (Square LES) 6V	2200K	70	621	695	142	800	L150-22705006000S0
		2700K	70	693	775	159	800	L150-27705006000S0
		3000K	70	720	803	165	800	L150-30705006000S0
		3500K	70	729	815	167	800	L150-35705006000S0
		4000K	70	743	835	171	800	L150-40705006000S0
		5000K	70	743	833	171	800	L150-50705006000S0
5700K		70	738	823	169	800	L150-57705006000S0	
6500K		70	720	803	165	800	L150-65705006000S0	
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4000K		90	609	655	134	800	L150-40905006000S0	
5000K		90	618	665	136	800	L150-50905006000S0	
5700K		90	605	650	133	800	L150-57905006000S0	

Notes:

1. Correlated color temperature is hot targeted at T<sub>j</sub>=85°C.
2. Luminous flux and CRI are based upon mounted package on highly reflective surface at T<sub>j</sub>=25°C. Typical CRI is approximately 2 points higher than the minimum CRI specified, but this is not guaranteed.
3. Lumileds maintains a tolerance of ±2 on CRI and ±7% on luminous flux measurements.

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