

XLamp® CXA2530 LED



PRODUCT DESCRIPTION

The XLamp® CXA2530 LED array expands • Cree LED's family of high-flux, multi-die arrays, offering high performance in an easy-to-use platform. With XLamp LED lighting-class reliability, the CXA2530's uniform emitting surface enables both • directional and non-directional lighting applications and luminaire designs. • Available in 2-step and 4-step color consistency, and featuring a 19-mm optical • source, the CXA2530 brings new levels of • flux and efficacy to this form factor.

The CX Family LED Design Guide provides basic information on the requirements • to use the CXA2530 LED successfully in • luminaire designs. •

FEATURES

- Available in 4-step, 3-step and 2-step EasyWhite® bins at 2700 K, 3000 K, 3500 K, 4000 K & 5000 K CCT and 4-step EasyWhite bins at 5700 K & 6500 K CCT
- Available in ANSI white bins at 4000 K, 5000 K, 5700 K & 6500 K CCT
- Available in 70-, 80-, 90- and 93-minimum CRI options
- · Forward voltage option: 36-V class
- 85 °C binning and characterization
- Maximum drive current: 1600 mA
- 115° viewing angle, uniform chromaticity profile
- · Top-side solder connections
- · Thermocouple attach point
- NEMA SSL-3 2011 standard flux bins
- RoHS and REACh compliant
- UL® recognized component (E349212)

TABLE OF CONTENTS

Characteristics	4
Operating Limits	2
Flux Characteristics, EasyWhite® Order	
Codes and Bins	3
Flux Characteristics, ANSI White Order	
Codes and Bins	6
Relative Spectral Power Distribution	7
Electrical Characteristics	7
Relative Luminous Flux vs. Current	8
Typical Spatial Distribution	9
Performance Groups - Brightness	9
Performance Groups - Chromaticity1	C
EasyWhite® Bins Plotted on the 1931 CIE	
Color Space1	3
ANSI White Bins Plotted on the 1931 CIE	
Color Space1	3
Bin and Order Code Formats1	4
Mechanical Dimensions1	4
Thermal Design1	5
Notes1	6
Packaging1	7



Cree LED / 4400 Silicon Drive / Durham, NC 27703 USA / +1.919.313.5330 / www.cree-led.com



CHARACTERISTICS

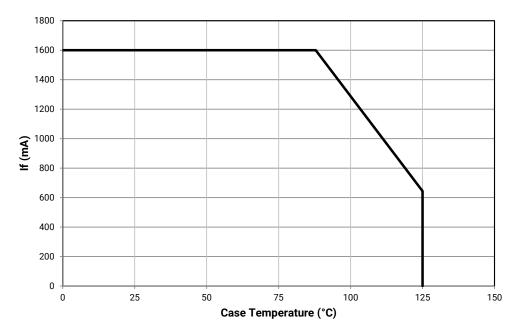
Characteristics	Unit	Minimum	Typical	Maximum
Viewing angle (FWHM)	degrees		115	
ESD classification (HBM per Mil-Std-883D)	V			8000
DC forward current	mA			1600*
Reverse current	mA			0.1
Forward voltage (@ 800 mA, 85 °C)	V		36.4	
Forward voltage (@ 800 mA, 25 °C)	V			42

^{*} Refer to the Operating Limits section.

OPERATING LIMITS

The maximum current rating of the CXA2530 depends on the case temperature (Tc) when the LED has reached thermal equilibrium under steady-state operation. The graph shown below assumes that the system design employs good thermal management (thermal interface material and heat sink) and may vary when poor thermal management is employed. Please refer to the Mechanical Dimensions section on page 14 for the location of the Tc measurement point.

Another important factor in good thermal management is the temperature of the Light Emitting Surface (LES). Cree LED recommends a maximum LES temperature of 135 °C to ensure optimal LED lifetime. Please refer to the Thermal Design section on page 15 for more information on LES temperature measurement.





FLUX CHARACTERISTICS, EASYWHITE $^{\circ}$ ORDER CODES AND BINS (I $_{\rm F}$ = 800 mA, T $_{\rm J}$ = 85 °C)

The following table provides order codes for XLamp CXA2530 LEDs. For a complete description of the order code nomenclature, please see the Bin and Order Code Formats section (page 14).

Nominal	С	RI	Minim	num Lumino	ous Flux		2-Step		3-Step		4-Step	
CCT	Min	Тур	Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Group	Order Code	Group	Order Code	Group	Order Code	
			T4	3440	3879						CXA2530-0000- 000N00T465F	
	70 75	75	U2	3680	4150					65F	CXA2530-0000- 000N00U265F	
6500 K			U4	3955	4596						CXA2530-0000- 000N00U465F	
0300 K			T2	3200	3609						CXA2530-0000- 000N0HT265F	
	80		Т4	3440	3879					65F	CXA2530-0000- 000N0HT465F	
			U2	3680	4150						CXA2530-0000- 000N0HU265F	
			Т4	3440	3879						CXA2530-0000- 000N00T457F	
	70 75	70	75	U2	3680	4150					57F	CXA2530-0000- 000N00U257F
5700 K			U4	3955	4596						CXA2530-0000- 000N00U457F	
3700 K	80		T2	3200	3609						CXA2530-0000- 000N0HT257F	
		80	80		Т4	3440	3879					57F
			U2	3680	4150						CXA2530-0000- 000N0HU257F	
			Т4	3440	3879		CXA2530-0000- 000N00T450H				CXA2530-0000- 000N00T450F	
	70	75	U2	3680	4150	50H	CXA2530-0000- 000N00U250H			50F	CXA2530-0000- 000N00U250F	
			U4	3955	4596		CXA2530-0000- 000N00U450H				CXA2530-0000- 000N00U450F	
			T2	3200	3609		CXA2530-0000- 000N0HT250H				CXA2530-0000- 000N0HT250F	
5000 K	80		T4	3440	3879	50H	CXA2530-0000- 000N0HT450H	50G	CXA2530-0000- 000N0HT450G	50F	CXA2530-0000- 000N0HT450F	
			U2	3680	4150		CXA2530-0000- 000N0HU250H		CXA2530-0000- 000N0HU250G		CXA2530-0000- 000N0HU250F	
			R4	2600	2932		CXA2530-0000- 000N0UR450H				CXA2530-0000- 000N0UR450F	
	90	95	S2	2780	3135	50H	CXA2530-0000- 000N0US250H	50G	CXA2530-0000- 000N0US250G	50F	CXA2530-0000- 000N0US250F	
			S4	2990	3372		CXA2530-0000- 000N0US450H		CXA2530-0000- 000N0US450G		CXA2530-0000- 000N0US450F	

- Cree LED maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and a tolerance of ±2 on CRI measurements. See the Measurements section (page 16).
- CXA2530 LED order codes specify only a minimum flux bin and not a maximum. Cree LED may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity bin restrictions specified by the order code.
- * Flux values @ 25 °C are calculated and for reference only.



FLUX CHARACTERISTICS, EASYWHITE $^{\circ}$ ORDER CODES AND BINS (I $_{\rm F}$ = 800 mA, T $_{\rm J}$ = 85 °C) - CONTINUED

Nominal	С	RI	Minim	num Lumino	ous Flux		2-Step	3-Step		4-Step					
CCT	Min	Тур	Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Group	Order Code	Group	Order Code	Group	Order Code				
			T4	3440	3879		CXA2530-0000- 000N00T440H				CXA2530-0000- 000N00T440F				
	70 75	70 75	75	U2	3680	4150	40H	CXA2530-0000- 000N00U240H			40F	CXA2530-0000- 000N00U240F			
						U4	3955	4596		CXA2530-0000- 000N00U440H				CXA2530-0000- 000N00U440F	
	80	80		T2	3200	3609		CXA2530-0000- 000N0HT240H				CXA2530-0000- 000N0HT240F			
4000 K			80		T4	3440	3879	40H	CXA2530-0000- 000N0HT440H	40G	CXA2530-0000- 000N0HT440G	40F	CXA2530-0000- 000N0HT440F		
						U2		CXA2530-0000- 000N0HU240H		CXA2530-0000- 000N0HU240G		CXA2530-0000- 000N0HU240F			
	90 95		R4	2600	2932		CXA2530-0000- 000N0UR440H				CXA2530-0000- 000N0UR440F				
		90 95	90	90	90	90	95	S2	2780	3135	40H	CXA2530-0000- 000N0US240H	40G	CXA2530-0000- 000N0US240G	40F
			S4	2990 3372		CXA2530-0000- 000N0US440H		CXA2530-0000- 000N0US440G		CXA2530-0000- 000N0US440f					
	80	80	80				T2	3200	3609		CXA2530-0000- 000N00T235H				CXA2530-0000- 000N00T235F
				80	T4	3440	3/1/0 38/0 35H	CXA2530-0000- 000N00T435H	356	CXA2530-0000- 000N00T435G	35F	CXA2530-0000- 000N00T435F			
3500 K			U2	3680	4150		CXA2530-0000- 000N00U235H		CXA2530-0000- 000N00U235G		CXA2530-0000- 000N00U235F				
3300 K			R2	2420	2729		CXA2530-0000- 000N0YR235H				CXA2530-0000- 000N0YR235F				
	93 9	93	93 95	R4	2600	2932	35H	CXA2530-0000- 000N0YR435H	35G	CXA2530-0000- 000N0YR435G	35F	CXA2530-0000- 000N0YR435F			
		93 95	S2	2780	3135		CXA2530-0000- 000N0YS235H		CXA2530-0000- 000N0YS235G		CXA2530-0000- 000N0YS235F				

- Cree LED maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and a tolerance of ±2 on CRI measurements. See the Measurements section (page 16).
- CXA2530 LED order codes specify only a minimum flux bin and not a maximum. Cree LED may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity bin restrictions specified by the order code.
- * Flux values @ 25 °C are calculated and for reference only.



FLUX CHARACTERISTICS, EASYWHITE $^{\circ}$ ORDER CODES AND BINS (I $_{\rm F}$ = 800 mA, T $_{\rm J}$ = 85 °C) - CONTINUED

Nominal	С	RI	Minim	num Lumino	ous Flux		2-Step		3-Step		4-Step			
CCT	Min	Тур	Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Group	Order Code	Group	Order Code	Group	Order Code			
	80		S4	2990	3372		CXA2530-0000- 000N00S430H				CXA2530-0000- 000N00S430F			
			T2	3200	3609	30H	CXA2530-0000- 000N00T230H	30G	CXA2530-0000- 000N00T230G	30F	CXA2530-0000- 000N00T230F			
			T4	3440	4150		CXA2530-0000- 000N00T430H		CXA2530-0000- 000N00T430G		CXA2530-0000- 000N00T430F			
			Q4	2260	2549		CXA2530-0000- 000N0UQ430H				CXA2530-0000- 000N0UQ430F			
3000 K	90	95	R2	2420	2729	30H	CXA2530-0000- 000N0UR230H	30G	CXA2530-0000- 000N0UR230G	30F	CXA2530-0000- 000N0UR230F			
			R4	2600	2932		CXA2530-0000- 000N0UR430H		CXA2530-0000- 000N0UR430G		CXA2530-0000- 000N0UR430F			
			Q4	2260	2549		CXA2530-0000- 000N0YQ430H				CXA2530-0000- 000N0YQ430F			
	93 9	95	R2	2420	2729	30H	CXA2530-0000- 000N0YR230H	30G	CXA2530-0000- 000N0YR230G	30F	CXA2530-0000- 000N0YR230F			
			R4	2600	2932		CXA2530-0000- 000N0YR430H		CXA2530-0000- 000N0YR430G		CXA2530-0000- 000N0YR430F			
			S4	2990	3372		CXA2530-0000- 000N00S427H				CXA2530-0000- 000N00S427F			
	80	80	80		T2	3200	3609	27H	CXA2530-0000- 000N00T227H	27G	CXA2530-0000- 000N00T227G	27F	CXA2530-0000- 000N00T227F	
			T4	3440	4150		CXA2530-0000- 000N00T427H		CXA2530-0000- 000N00T427G		CXA2530-0000- 000N00T427F			
2700 K	00 05	00 05	00 05	00 05	90 95	Q2	2100	2368	27H	CXA2530-0000- 000N0UQ227H	27G	CXA2530-0000- 000N0UQ227G	27F	CXA2530-0000- 000N0UQ227F
2700 K	90	90	Q4	2260	2932	2/11	CXA2530-0000- 000N0UQ427H	276	CXA2530-0000- 000N0UQ427G	2/1	CXA2530-0000- 000N0UQ427F			
	93		Q2	2100	2368		CXA2530-0000- 000N0YQ227H				CXA2530-0000- 000N0YQ227F			
		93 95	93 95	95 Q4 2260 2549 27H CXA2530-0000- 000N0YQ427H			CXA2530-0000- 000N0YQ427G	27F	CXA2530-0000- 000N0YQ427F					
			R2	2420	2729		CXA2530-0000- 000N0YR227H		CXA2530-0000- 000N0YR227G		CXA2530-0000- 000N0YR227F			

- Cree LED maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and a tolerance of ±2 on CRI measurements. See the Measurements section (page 16).
- CXA2530 LED order codes specify only a minimum flux bin and not a maximum. Cree LED may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity bin restrictions specified by the order code.
- * Flux values @ 25 °C are calculated and for reference only.



FLUX CHARACTERISTICS, ANSI WHITE ORDER CODES AND BINS ($I_F = 800 \text{ mA}, T_J = 85 ^{\circ}\text{C}$)

The following table provides order codes for XLamp CXA2530 LEDs. For a complete description of the order code nomenclature, please see the Bin and Order Code Formats section (page 14).

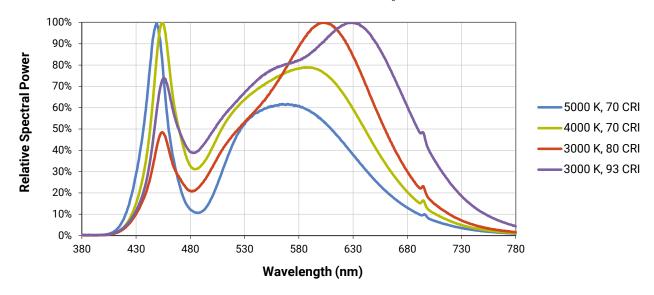
	С	RI	М	inimum Luminous	Flux							
Nominal CCT	Min	Тур	Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Chromaticity Regions	Order Code					
			T4	3440	3879		CXA2530-0000-000N00T40E1					
	70	75	U2	3680	4150	1A0, 1B0, 1C0, 1D0, 65F	CXA2530-0000-000N00U20E1					
6500 K			U4	3955	4596		CXA2530-0000-000N00U40E1					
0500 K			T2	3200	3609		CXA2530-0000-000N0HT20E1					
	80		T4	3440	3879	1A0, 1B0, 1C0, 1D0, 65F	CXA2530-0000-000N0HT40E1					
			U2	3680	4150		CXA2530-0000-000N0HU20E1					
			T4	3440	3879		CXA2530-0000-000N00T40E2					
	70	75	U2	3680	4150	2A0, 2B0, 2C0, 2D0, 57F	CXA2530-0000-000N00U20E2					
5700 K			U4	3955	4596		CXA2530-0000-000N00U40E2					
5700 K			T2	3200	3609		CXA2530-0000-000N0HT20E2					
	80		T4	3440	3879	2A0, 2B0, 2C0, 2D0, 57F	CXA2530-0000-000N0HT40E2					
			U2	3680	4150		CXA2530-0000-000N0HU20E2					
			T4	3440	3879		CXA2530-0000-000N00T40E3					
	70	75	U2	3680	4150	3A0, 3B0, 3C0, 3D0, 50F	CXA2530-0000-000N00U20E3					
E000 I/			U4	3955	4596		CXA2530-0000-000N00U40E3					
5000 K			T2	3200	3609		CXA2530-0000-000N0HT20E3					
	80		T4	3440	3879	3A0, 3B0, 3C0, 3D0, 50F	CXA2530-0000-000N0HT40E3					
			U2	3680	4150		CXA2530-0000-000N0HU20E3					
			T4	3440	3879		CXA2530-0000-000N00T40E5					
4000 K	70	0 K 70	70	K 70	K 70	70	75	U2	3680	4150	5A0, 5B0, 5C0, 5D0, 40F	CXA2530-0000-000N00U20E5
					U4	3955	4596		CXA2530-0000-000N00U40E5			

- Cree LED maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and a tolerance of ±2 on CRI measurements. See the Measurements section (page 16).
- CXA2530 LED order codes specify only a minimum flux bin and not a maximum. Cree LED may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity bin restrictions specified by the order code.
- * Flux values @ 25 °C are calculated and for reference only.



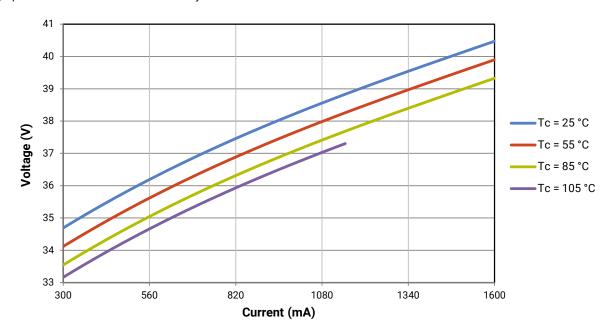
RELATIVE SPECTRAL POWER DISTRIBUTION

The following graph is the result of a series of pulsed measurements at 800 mA and T₁ = 85 °C.



ELECTRICAL CHARACTERISTICS

The following graph is the result of a series of steady-state measurements.



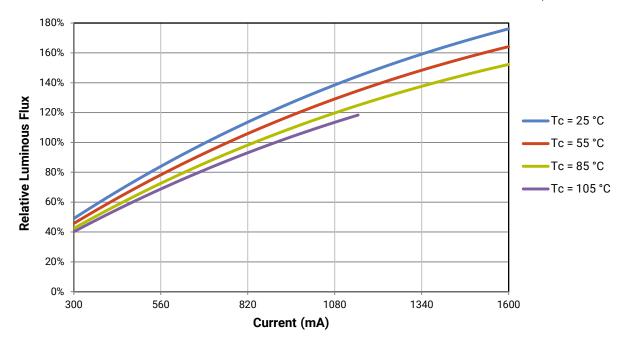


RELATIVE LUMINOUS FLUX VS. CURRENT (T_J = 85 °C)

The relative luminous flux values provided below are the ratio of:

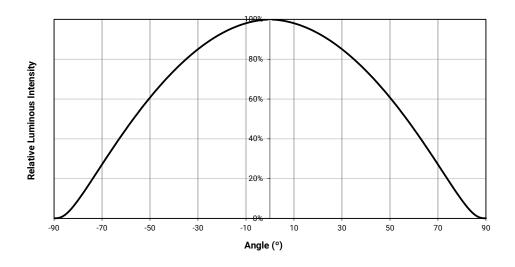
- · Measurements of CXA2530 at steady-state operation at the given conditions, divided by
- Flux measured during binning, which is a pulsed measurement at 800 mA at T₁ = 85 °C.

For example, at steady-state operation of Tc = 85 °C, I_F = 1080 mA, the relative luminous flux ratio is 120% in the chart below. A CXA2530 LED that measures 3200 lm during binning will deliver 3840 lm (3200 * 1.2) at steady-state operation of Tc = 85 °C, I_F = 1080 mA.





TYPICAL SPATIAL DISTRIBUTION



PERFORMANCE GROUPS - BRIGHTNESS ($I_F = 800 \text{ mA}, T_J = 85 ^{\circ}\text{C}$)

XLamp CXA2530 LEDs are tested for luminous flux and placed into one of the following bins.

Group Code	Minimum Luminous Flux	Maximum Luminous Flux
Q2	2100	2260
Q4	2260	2420
R2	2420	2600
R4	2600	2780
S2	2780	2990
\$4	2990	3200
T2	3200	3440
T4	3440	3680
U2	3680	3955
U4	3955	4230
V2	4230	4545
V4	4545	4860



PERFORMANCE GROUPS - CHROMATICITY (T_J = 85 °C)

XLamp CXA2530 LEDs are tested for chromaticity and placed into one of the regions defined by the following bounding coordinates.

EasyW	EasyWhite Color Temperatures - 2-Step								
Code	сст	х	у						
		0.3429	0.3507						
50H	5000 K	0.3434	0.3571						
SUFI	5000 K	0.3475	0.3604						
		0.3469	0.3539						
		0.3784	0.3741						
40H	4000 K	0.3804	0.3818						
40H	4000 K	4000 K 0.3867							
		0.3844	0.3778						
		0.4030	0.3857						
35H	3500 K	0.4061	0.3941						
3311		0.4132	0.3976						
		0.4099	0.3890						
		0.4291	0.3973						
30H	3000 K	0.4333	0.4062						
3011	3000 K	0.4395	0.4084						
		0.4351	0.3994						
		0.4528	0.4046						
27H	2700 K	0.4578	0.4138						
2/П	2700 K	0.4638	0.4152						
		0.4586	0.4060						

	EasyWhite Color Temperatures - 3-Step Ellipse										
Bin Code	сст	Center Point		Major Axis	Minor Axis	Rotation Angle					
Dill Code		х	у	а	b	(°)					
50G	5000 K	0.3447	0.3553	0.00840	0.00312	65.0					
40G	4000 K	0.3818	0.3797	0.00939	0.00402	53.7					
35G	3500 K	0.4073	0.3917	0.00927	0.00414	54.0					
30G	3000 K	0.4338	0.4030	0.00834	0.00408	53.2					
27G	2700 K	0.4577	0.4099	0.00834	0.00420	48.5					



PERFORMANCE GROUPS - CHROMATICITY (T_J = 85 °C) - CONTINUED

EasyW	/hite Color Ten	nperatures – 4	1-Step
Code	сст	x	у
		0.3097	0.3196
655	(500.1/	0.3079	0.3297
65F	6500 K	0.3164	0.3382
		0.3176	0.3275
		0.3253	0.3325
57F	5700 K	0.3249	0.3439
3/F	5700 K	0.3331	0.3514
		0.3330	0.3393
		0.3407	0.3459
50F	5000 K	0.3415	0.3586
301	3000 K	0.3499	0.3654
		0.3484	0.3521
		0.3744	0.3685
40F	4000 K	0.3782	0.3837
400	4000 K	0.3912	0.3917
		0.3863	0.3758
		0.3981	0.3800
35F	3500 K	0.4040	0.3966
331	3300 K	0.4186	0.4037
		0.4116	0.3865
		0.4242	0.3919
30F	3000 K	0.4322	0.4096
301	3000 K	0.4449	0.4141
		0.4359	0.3960
		0.4475	0.3994
27F	2700 K	0.4573	0.4178
2/F	2700 K	0.4695	0.4207
		0.4589	0.4021



PERFORMANCE GROUPS - CHROMATICITY (T_J = 85 °C) - CONTINUED

ANSI White Bins									
Code	сст	Bin Code	х	у					
			0.3048	0.3207					
		1A0	0.3130	0.3290					
		IAU	0.3144	0.3186					
			0.3068	0.3113					
			0.3028	0.3304					
		1B0	0.3115	0.3391					
			0.3130	0.3290					
0F1	6500 K		0.3048	0.3207					
UEI	6500 K	1C0	0.3115	0.3391					
			0.3205	0.3481					
		100	0.3213	0.3373					
			0.3130	0.3290					
			0.3130	0.3290					
		1D0	0.3213	0.3373					
		טטו	0.3221	0.3261					
			0.3144	0.3186					

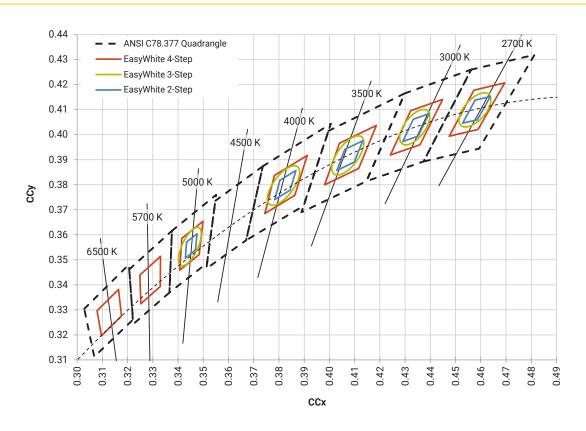
	ANSI White Bins									
Code	сст	Bin Code	х	у						
			0.3215	0.3350						
		2A0	0.3290	0.3417						
		ZAU	0.3290	0.3300						
			0.3222	0.3243						
	5700 V		0.3207	0.3462						
		2B0	0.3290	0.3538						
			0.3290	0.3417						
0E2			0.3215	0.3350						
UEZ	5700 K	2C0	0.3290	0.3538						
			0.3376	0.3616						
		200	0.3371	0.3490						
			0.3290	0.3417						
			0.3290	0.3417						
		2D0	0.3371	0.3490						
		200	0.3366	0.3369						
			0.3290	0.3300						

ANSI White Bins						
Code	сст	Bin Code	х	у		
0E3	5000 K	3A0	.3371	.3490		
			.3451	.3554		
			.3440	.3427		
			.3366	.3369		
		3B0	.3376	.3616		
			.3463	.3687		
			.3451	.3554		
			.3371	.3490		
		3C0	.3463	.3687		
			.3551	.3760		
			.3533	.3620		
			.3451	.3554		
		3D0	.3451	.3554		
			.3533	.3620		
			.3515	.3487		
			.3440	.3427		

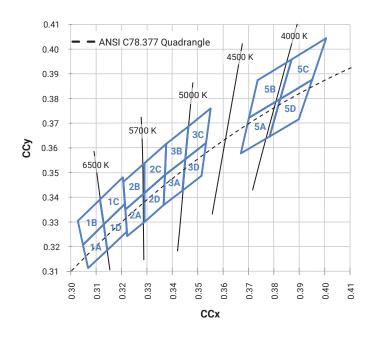
ANSI White Bins						
Code	сст	Bin Code	х	у		
0E5	4000 K	5A0	.3670	.3578		
			.3702	.3722		
			.3825	.3798		
			.3783	.3646		
		5B0	.3702	.3722		
			.3736	.3874		
			.3869	.3958		
			.3825	.3798		
		5C0	.3825	.3798		
			.3869	.3958		
			.4006	.4044		
			.3950	.3875		
		5D0	.3783	.3646		
			.3825	.3798		
			.3950	.3875		
			.3898	.3716		



EASYWHITE® BINS PLOTTED ON THE 1931 CIE COLOR SPACE (T₁ = 85 °C)



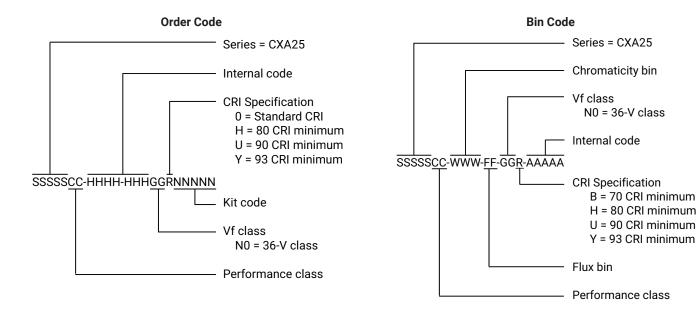
ANSI WHITE BINS PLOTTED ON THE 1931 CIE COLOR SPACE (T_J = 85 °C)





BIN AND ORDER CODE FORMATS

Bin codes and order codes are configured as follows:



MECHANICAL DIMENSIONS

Dimensions are in mm.

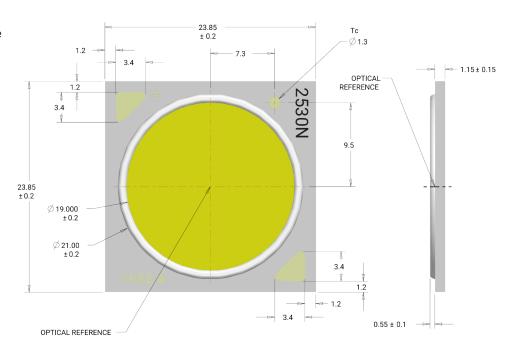
Tolerances unless otherwise

specified: ±.13

x° ±1°

Meaning of 2530N

2530N = 36-V CXA2530





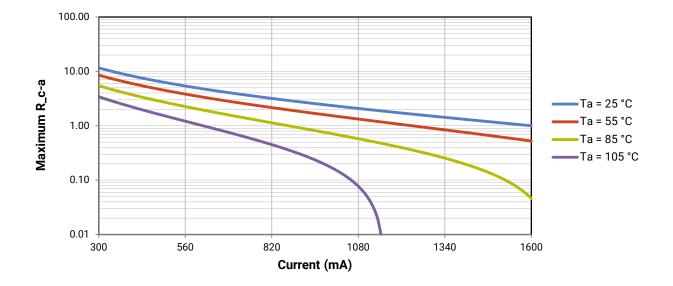
THERMAL DESIGN

The CXA family of LED arrays can include over a hundred different LED die inside one package, and thus over a hundred different junction temperatures (T_j) . Cree LED has intentionally removed junction-temperature-based operating limits and replaced the commonplace maximum T_j calculations with maximum ratings based on forward current (I_F) and case temperature (Tc). No additional calculations are required to ensure that the CXA LED is being operated within its designed limits. LES temperature measurement provides additional verification of good thermal design. Please refer to page 2 for the Operating Limit specifications.

There is no need to calculate for T_J inside the package, as the thermal management design process, specifically from T_{SP} to ambient (T_a) , remains identical to any other LED component. For more information on thermal management of XLamp LEDs, please refer to the Thermal Management application note. For CXA soldering recommendations and more information on thermal interface materials (TIM), LES temperature measurement, and connection methods, please refer to the XLamp CX Family LEDs soldering and handling document. The CX Family LED Design Guide provides basic information on the requirements to use XLamp CXA LEDs successfully in luminaire designs.

To keep the CXA2530 LED at or below the maximum rated Tc, the case to ambient temperature thermal resistance (R_c-a) must be at or below the maximum R_c-a value shown on the following graph, depending on the operating environment. The y-axis in the graph is a base 10 logarithmic scale.

As the figure at right shows, the R_c -a value is the sum of the thermal resistance of the TIM (R_t im) plus the thermal resistance of the heat sink (R_t).





NOTES

Measurements

The luminous flux, radiant power, chromaticity, forward voltage and CRI measurements in this document are binning specifications only and solely represent product measurements as of the date of shipment. These measurements will change over time based on a number of factors that are not within Cree LED's control and are not intended or provided as operational specifications for the products. Calculated values are provided for informational purposes only and are not intended or provided as specifications.

Pre-Release Qualification Testing

Please read the LED Reliability Overview for details of the qualification process Cree LED applies to ensure long-term reliability for XLamp LEDs and details of Cree LED's pre-release qualification testing for XLamp LEDs.

Lumen Maintenance

Cree LED now uses standardized IES LM-80-08 and TM-21-11 methods for collecting long-term data and extrapolating LED lumen maintenance. For information on the specific LM-80 data sets available for this LED, refer to the public LM-80 results document.

Please read the Long-Term Lumen Maintenance application note for more details on Cree LED's lumen maintenance testing and forecasting. Please read the Thermal Management application note for details on how thermal design, ambient temperature, and drive current affect the LED junction temperature.

RoHS Compliance

The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2011/65/EC (RoHS2), as implemented January 2, 2013. RoHS Declarations for this product can be obtained from your Cree LED representative or from the Product Ecology section of the Cree LED website.

REACh Compliance

REACh substances of very high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, please contact a Cree LED representative to insure you get the most up-to-date REACh Declaration. REACh banned substance information (REACh Article 67) is also available upon request.

UL® Recognized Component

This product meets the requirements to be considered a UL Recognized Component with Level 4 enclosure consideration. The LED package or a portion thereof has been investigated as a fire and electrical enclosure per ANSI/UL 8750.

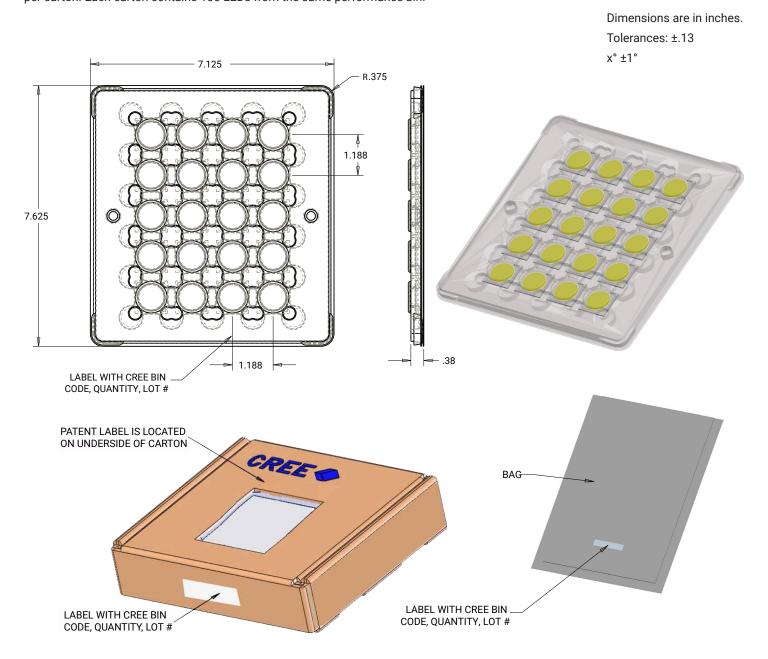
Vision Advisory

WARNING: Do not look at an exposed lamp in operation. Eye injury can result. For more information about LEDs and eye safety, please refer to the LED Eye Safety application note.



PACKAGING

CXA2530 LEDs are packaged in trays of 20. Five trays are sealed in an anti-static bag and placed inside a carton, for a total of 100 LEDs per carton. Each carton contains 100 LEDs from the same performance bin.



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Cree LED:

CXA2530-0000-000N00U240H CXA2530-0000-000N00T230H CXA2530-0000-000N0UQ427H CXA2530-0000-000N00T227H CXA2530-0000-000N0HT450H CXA2530-0000-000N00T435H CXA2530-0000-000N0HT240H CXA2530-0000-000N0UR430H CXA2530-0000-000N00U250H CXA2530-0000-000N0UQ227H CXA2530-0000-000N00S427F CXA2530-0000-000N00T240F CXA2530-0000-000N00S430H CXA2530-0000-000N00T40E5 CXA2530-0000-000N00U240F CXA2530-0000-000N0HT40E3 CXA2530-0000-000N0UQ20E8 CXA2530-0000-000N0UR430F CXA2530-0000-000N0UR40E7 CXA2530-0000-000N0UR20E7 CXA2530-0000-000N00S227H CXA2530-0000-000N00S40E8 CXA2530-0000-000N00T230F CXA2530-0000-000N00T235H CXA2530-0000-000N00T450F CXA2530-0000-000N0HT240F CXA2530-0000-000N00U20E5 CXA2530-0000-000N0HT250H CXA2530-0000-000N00T20E5 CXA2530-0000-000N00T20E8 CXA2530-0000-000N0HS440F CXA2530-0000-000N0HS450H CXA2530-0000-000N0UQ40E7 CXA2530-0000-000N00S40E6 CXA2530-0000-000N00S20E8 CXA2530-0000-000N00T227F CXA2530-0000-000N00T450H CXA2530-0000-000N0HT20E3 CXA2530-0000-000N0UQ430F CXA2530-0000-000N0UR230F CXA2530-0000-000N00T240H CXA2530-0000-000N00U20E3 CXA2530-0000-000N0HT250F CXA2530-0000-000N0HT450F CXA2530-0000-000N0UR230H CXA2530-0000-000N00S40E7 CXA2530-0000-000N00S427H CXA2530-0000-000N00T235F CXA2530-0000-000N00T20E6 CXA2530-0000-000N00T40E6 CXA2530-0000-000N00T440F CXA2530-0000-000N0HS40E3 CXA2530-0000-000N0HS440H CXA2530-0000-000N0UQ227F CXA2530-0000-000N0UQ40E8 CXA2530-0000-000N00S435F CXA2530-0000-000N00S430F CXA2530-0000-000N00S435H CXA2530-0000-000N00T435F CXA2530-0000-000N00T40E3 CXA2530-0000-000N00U250F CXA2530-0000-000N0HS40E5 CXA2530-0000-000N0HS450F CXA2530-0000-000N0HT20E5 CXA2530-0000-000N0UQ427F CXA2530-0000-000N0UQ430H CXA2530-0000-000N00S227F CXA2530-0000-000N00T20E7 CXA2530-0000-000N00T440H CXA2530-0000-000N0UR240H CXA2530-0000-000N0YQ227H CXA2530-0000-000N0YQ40E6 CXA2530-0000-000N0YQ430H CXA2530-0000-000N0YQ435F CXA2530-0000-000N0YQ20E8 CXA2530-0000-000N0US40E3 CXA2530-0000-000N0YR40E6 CXA2530-0000-000N0YQ227F CXA2530-0000-000N0YQ40E7 CXA2530-0000-000N0YQ430F CXA2530-0000-000N0UR440H CXA2530-0000-000N0YQ427H CXA2530-0000-000N0YR230F CXA2530-0000-000N0YQ230H CXA2530-0000-000N0YP427H CXA2530-0000-000N0YR235H CXA2530-0000-000N0UR40E3 CXA2530-0000-000N0YQ435H CXA2530-0000-000N0UR20E5 CXA2530-0000-000N0US250F CXA2530-0000-000N0US450H CXA2530-0000-000N0YQ40E8 CXA2530-0000-000N0US240F CXA2530-0000-000N0YP40E8 CXA2530-0000-000N0UR240F CXA2530-0000-000N0UR450H CXA2530-0000-000N0US20E5 CXA2530-0000-000N0YR435H CXA2530-0000-000N0UR440F CXA2530-0000-000N0US250H