Cree® XLamp® CXA1850 LED

PRODUCT DESCRIPTION

The XLamp® CXA1850 LED expands Cree's family of High Density (HD) LED arrays, featuring a 12-mm optical source and enabling lighting manufacturers to create a new generation of products that delivers the same intensity and light quality as 70-W ceramic metal halide (CMH) at up to 50 percent lower power. The new HD class of CXA arrays provides unrivaled lumen density that can reduce system cost for the next generation of LED spotlights.

The CX Family LED Design Guide provides basic information on the requirements to use the CXA1850 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 and 6500 K CCT
- Available in 70-, 80- and 93-minimum CRI options
- Forward voltage option: 36-V class
- 85 °C binning and characterization
- Maximum drive current: 2100 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)

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CHARACTERISTICS

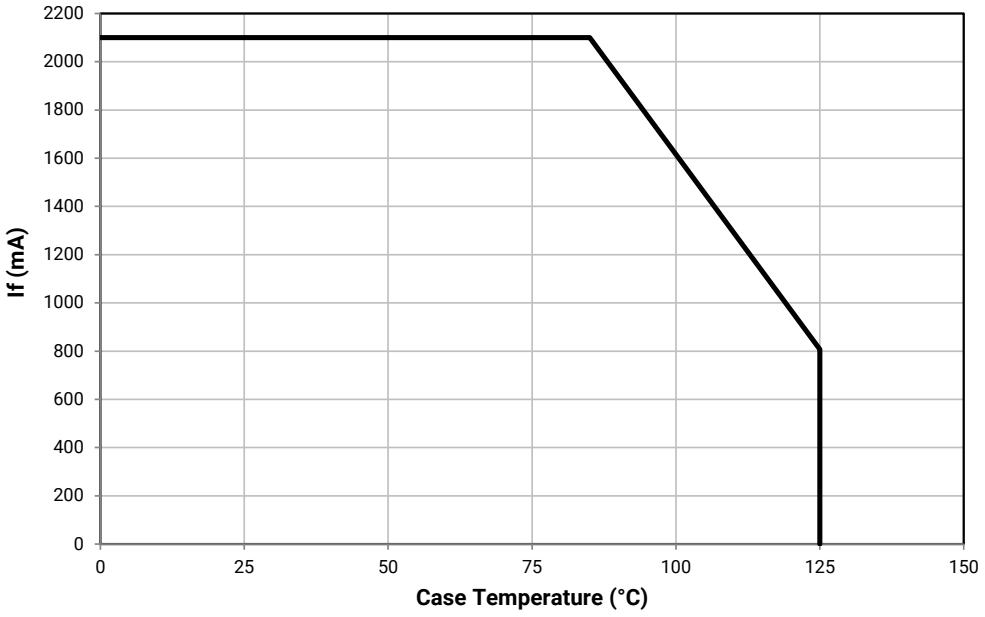
Characteristics	Unit	Minimum	Typical	Maximum
Viewing angle (FWHM)	degrees		115	
ESD withstand voltage (HBM per Mil-Std-883D)	V			8000
DC forward current	mA			2100*
Reverse current	mA			0.1
Forward voltage (@ 1400 mA, T_j = 85 °C)	V		35	
Forward voltage (@ 1400 mA, T_j = 25 °C)	V			42

* Refer to the Operating Limits section.

OPERATING LIMITS

The maximum current rating of the CXA1850 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 13 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 recommends a maximum LES temperature of 135 °C to ensure optimal LED lifetime. Please refer to the Thermal Design section on page 14 for more information on LES temperature measurement.



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FLUX CHARACTERISTICS, EASYWHITE® ORDER CODES AND BINS (I_F = 1400 mA, T_J = 85 °C)

The following table provides order codes for XLamp CXA1850 LEDs. For a complete description of the order code nomenclature, please see the Bin and Order Code Formats section (page 13).

Nominal CCT	CRI		Minimum Luminous Flux			2-Step		3-Step		4-Step	
	Min	Typ	Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Group	Order Code	Group	Order Code	Group	Order Code
6500 K	70	75	W2	4860	5593					65F	CXA1850-0000-000N00W265F
			W4	5225	6014						CXA1850-0000-000N00W465F
			X2	5590	6434						CXA1850-0000-000N00X265F
	80	---	W2	4860	5593					65F	CXA1850-0000-000N0HW265F
			W4	5225	6014						CXA1850-0000-000N0HW465F
5700 K	70	75	W2	4860	5593					57F	CXA1850-0000-000N00W257F
			W4	5225	6014						CXA1850-0000-000N00W457F
			X2	5590	6434						CXA1850-0000-000N00X257F
	80	---	W2	4860	5593					57F	CXA1850-0000-000N0HW257F
			W4	5225	6014						CXA1850-0000-000N0HW457F
5000 K	70	75	W2	4860	5593	50H	CXA1850-0000-000N00W250H			50F	CXA1850-0000-000N00W250F
			W4	5225	6014		CXA1850-0000-000N00W450H				CXA1850-0000-000N00W450F
			X2	5590	6434		CXA1850-0000-000N00X250H				CXA1850-0000-000N00X250F
	80	---	W2	4860	5593	50H	CXA1850-0000-000N0HW250H	50G	CXA1850-0000-000N0HW250G	50F	CXA1850-0000-000N0HW250F
			W4	5225	6014		CXA1850-0000-000N0HW450H		CXA1850-0000-000N0HW450G		CXA1850-0000-000N0HW450F
4000 K	70	75	W2	4860	5593	40H	CXA1850-0000-000N00W240H			40F	CXA1850-0000-000N00W240F
			W4	5225	6014		CXA1850-0000-000N00W440H				CXA1850-0000-000N00W440F
			X2	5590	6434		CXA1850-0000-000N00X240H				CXA1850-0000-000N00X240F
	80	---	V4	4545	5231	40H	CXA1850-0000-000N0HV440H	40G	CXA1850-0000-000N0HV440G	40F	CXA1850-0000-000N0HV440F
			W2	4860	5593		CXA1850-0000-000N0HW240H		CXA1850-0000-000N0HW240G		CXA1850-0000-000N0HW240F

Notes

- Cree 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 15).
- Cree XLamp CXA1850 LED order codes specify only a minimum flux bin and not a maximum. Cree 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.

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FLUX CHARACTERISTICS, EASYWHITE® ORDER CODES AND BINS (I_F = 1400 mA, T_J = 85 °C) - CONTINUED

Nominal CCT	CRI		Minimum Luminous Flux			2-Step		3-Step		4-Step	
	Min	Typ	Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*	Group	Order Code	Group	Order Code	Group	Order Code
3500 K	80	---	V2	4230	4868	35H	CXA1850-0000-000N00V235H	35G	CXA1850-0000-000N00V235G	35F	CXA1850-0000-000N00V235F
			V4	4545	5231		CXA1850-0000-000N00V435H		CXA1850-0000-000N00V435G		CXA1850-0000-000N00V435F
			W2	4860	5593		CXA1850-0000-000N00W235H		CXA1850-0000-000N00W235G		CXA1850-0000-000N00W235F
	93	95	T2	3200	3683	35H	CXA1850-0000-000N0YT235H	35G	CXA1850-0000-000N0YT235G	35F	CXA1850-0000-000N0YT235F
			T4	3440	3959		CXA1850-0000-000N0YT435H		CXA1850-0000-000N0YT435G		CXA1850-0000-000N0YT435F
3000 K	80	---	V2	4230	4868	30H	CXA1850-0000-000N00V230H	30G	CXA1850-0000-000N00V230G	30F	CXA1850-0000-000N00V230F
			V4	4545	5231		CXA1850-0000-000N00V430H		CXA1850-0000-000N00V430G		CXA1850-0000-000N00V430F
	93	95	T2	3200	3683	30H	CXA1850-0000-000N0YT230H	30G	CXA1850-0000-000N0YT230G	30F	CXA1850-0000-000N0YT230F
			T4	3440	3959		CXA1850-0000-000N0YT430H		CXA1850-0000-000N0YT430G		CXA1850-0000-000N0YT430F
2700 K	80	---	U4	3955	4354	27H	CXA1850-0000-000N00U427H	27G	CXA1850-0000-000N00U427G	27F	CXA1850-0000-000N00U427F
			V2	4230	4868		CXA1850-0000-000N00V227H		CXA1850-0000-000N00V227G		CXA1850-0000-000N00V227F
			V4	4545	5231		CXA1850-0000-000N00V427H		CXA1850-0000-000N00V427G		CXA1850-0000-000N00V427F
	93	95	S4	2990	3291	27H	CXA1850-0000-000N0YS427H	27G	CXA1850-0000-000N0YS427G	27F	CXA1850-0000-000N0YS427F
			T2	3200	3683		CXA1850-0000-000N0YT227H		CXA1850-0000-000N0YT227G		CXA1850-0000-000N0YT227F

Notes

- Cree 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 15).
- Cree XLamp CXA1850 LED order codes specify only a minimum flux bin and not a maximum. Cree 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.

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FLUX CHARACTERISTICS, ANSI WHITE ORDER CODES AND BINS (I_F = 1400 mA, T_J = 85 °C)

The following table provides order codes for XLamp CXA1850 LEDs. For a complete description of the order code nomenclature, see the Bin and Order Code Formats section (page 13).

Nominal CCT	CRI		Minimum Luminous Flux			Chromaticity Regions	Order Code
	Min	Typ	Group	Flux (lm) @ 85 °C	Flux (lm) @ 25 °C*		
6500 K	70	75	W2	4860	5593	1A0, 1B0, 1C0, 1D0, 65F	CXA1850-0000-000N00W20E1
			W4	5225	6014		CXA1850-0000-000N00W40E1
			X2	5590	6434		CXA1850-0000-000N00X20E1
	80	---	W2	4860	5593	1A0, 1B0, 1C0, 1D0, 65F	CXA1850-0000-000N0HW20E1
			W4	5225	6014		CXA1850-0000-000N0HW40E1
5700 K	70	75	W2	4860	5593	2A0, 2B0, 2C0, 2D0, 57F	CXA1850-0000-000N00W20E2
			W4	5225	6014		CXA1850-0000-000N00W40E2
			X2	5590	6434		CXA1850-0000-000N00X20E2
	80	---	W2	4860	5593	2A0, 2B0, 2C0, 2D0, 57F	CXA1850-0000-000N0HW20E2
			W4	5225	6014		CXA1850-0000-000N0HW40E2
5000 K	70	75	W2	4860	5593	3A0, 3B0, 3C0, 3D0, 50F	CXA1850-0000-000N00W20E3
			W4	5225	6014		CXA1850-0000-000N00W40E3
			X2	5590	6434		CXA1850-0000-000N00X20E3
	80	---	W2	4860	5593	3A0, 3B0, 3C0, 3D0, 50F	CXA1850-0000-000N0HW20E3
			W4	5225	6014		CXA1850-0000-000N0HW40E3
4000 K	70	75	W2	4860	5593	5A0, 5B0, 5C0, 5D0, 40F	CXA1850-0000-000N00W20E5
			W4	5225	6014		CXA1850-0000-000N00W40E5
			X2	5590	6434		CXA1850-0000-000N00X20E5

Notes

- Cree 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 15).
- Cree XLamp CXA1850 LED order codes specify only a minimum flux bin and not a maximum. Cree 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.

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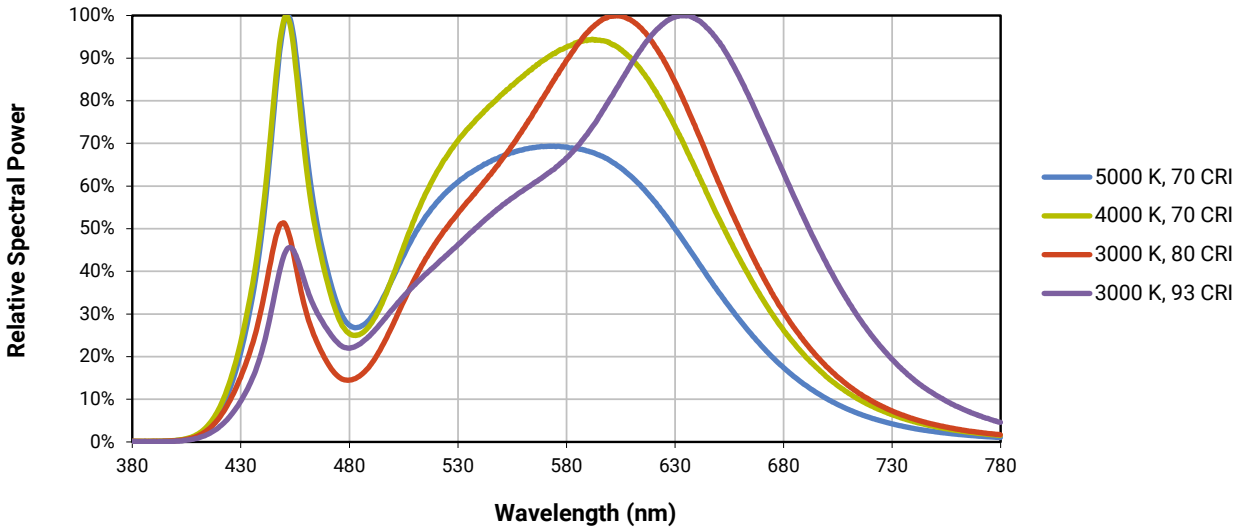
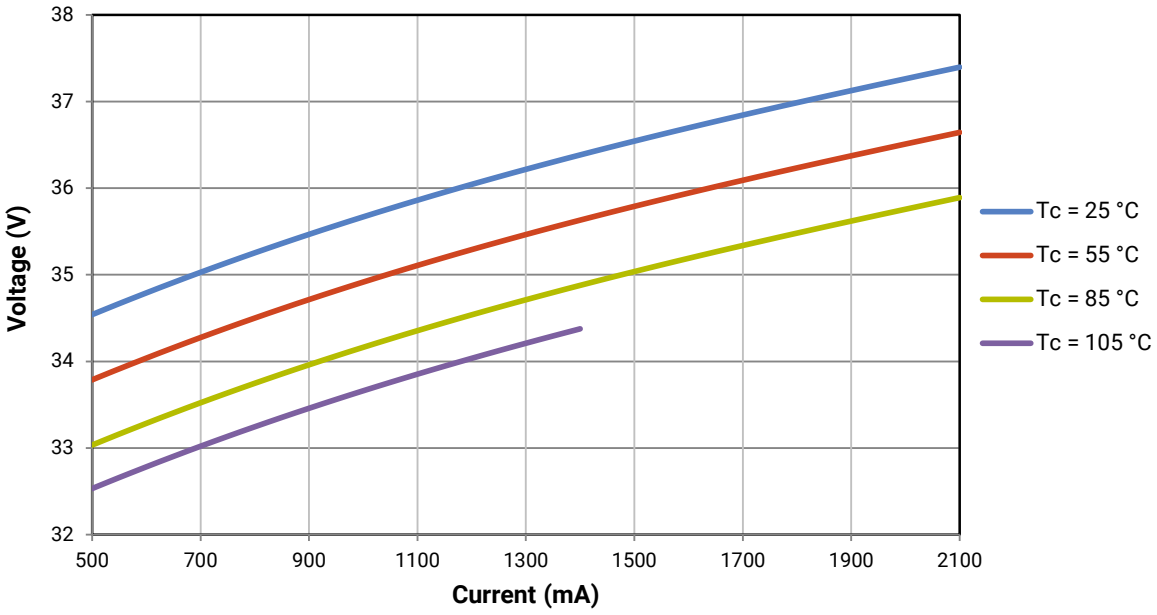
RELATIVE SPECTRAL POWER DISTRIBUTION

The following graph is the result of a series of pulsed measurements at 1400 mA and T_j = 85 °C.



ELECTRICAL CHARACTERISTICS

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



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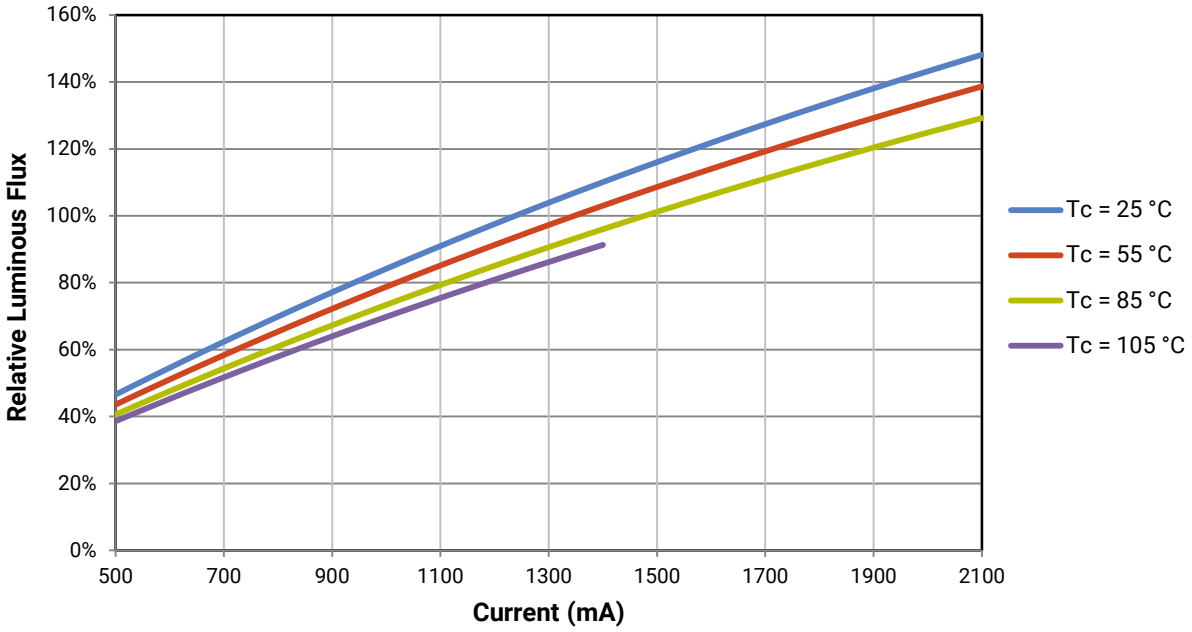
RELATIVE LUMINOUS FLUX

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

- Measurements of CXA1850 at steady-state operation at the given conditions, divided by
- Flux measured during binning, which is a pulsed measurement at 1400 mA at T_J = 85 °C.

For example, at steady-state operation of Tc = 55 °C, I_F = 1700 mA, the relative luminous flux ratio is 120% in the chart below. A CXA1850 LED that measures 5590 lm during binning will deliver 6708 lm (5590 * 1.2) at steady-state operation of Tc = 55 °C, I_F = 1700 mA.



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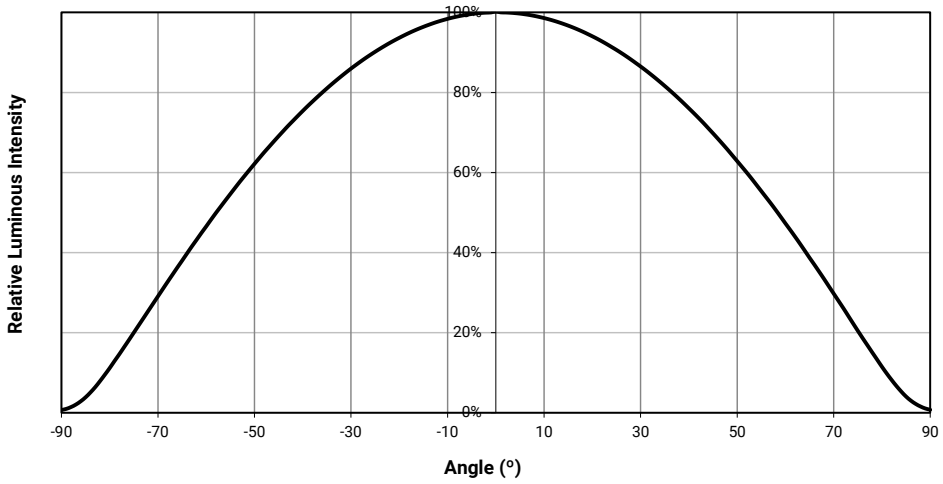
TYPICAL SPATIAL DISTRIBUTION



PERFORMANCE GROUPS - BRIGHTNESS (I_F = 1400 mA, T_J = 85 °C)

XLamp CXA1850 LEDs are tested for luminous flux and placed into one of the following bins.

Group Code	Minimum Luminous Flux	Maximum Luminous Flux
S4	2990	3200
T2	3200	3440
T4	3440	3680
U2	3680	3955
U4	3955	4230
V2	4230	4545
V4	4545	4860
W2	4860	5225
W4	5225	5590
X2	5590	6010
X4	6010	6430

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PERFORMANCE GROUPS - CHROMATICITY (T_J = 85 °C)

XLamp CXA1850 LEDs are tested for chromaticity and placed into one of the regions defined by the following bounding coordinates.

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

EasyWhite Color Temperatures – 3-Step Ellipse						
Bin Code	**CCT**	**Center Point**		**Major Axis**	**Minor Axis**	**Rotation Angle (°)**
		x	**y**	**a**	**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

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

EasyWhite Color Temperatures – 4-Step			
Code	**CCT**	**x**	**y**
65F	6500 K	0.3097	0.3196
		0.3079	0.3297
		0.3164	0.3382
		0.3176	0.3275
57F	5700 K	0.3253	0.3325
		0.3249	0.3439
		0.3331	0.3514
		0.3330	0.3393
50F	5000 K	0.3407	0.3459
		0.3415	0.3586
		0.3499	0.3654
		0.3484	0.3521
40F	4000 K	0.3744	0.3685
		0.3782	0.3837
		0.3912	0.3917
		0.3863	0.3758
35F	3500 K	0.3981	0.3800
		0.4040	0.3966
		0.4186	0.4037
		0.4116	0.3865
30F	3000 K	0.4242	0.3919
		0.4322	0.4096
		0.4449	0.4141
		0.4359	0.3960
27F	2700 K	0.4475	0.3994
		0.4573	0.4178
		0.4695	0.4207
		0.4589	0.4021

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

ANSI White Bins				
Code	CCT	Bin Code	x	y
0E1	6500 K	1A0	0.3048	0.3207
			0.3130	0.3290
			0.3144	0.3186
			0.3068	0.3113
		1B0	0.3028	0.3304
			0.3115	0.3391
			0.3130	0.3290
			0.3048	0.3207
		1C0	0.3115	0.3391
			0.3205	0.3481
			0.3213	0.3373
			0.3130	0.3290
		1D0	0.3130	0.3290
			0.3213	0.3373
			0.3221	0.3261
			0.3144	0.3186

ANSI White Bins				
Code	CCT	Bin Code	x	y
0E2	5700 K	2A0	0.3215	0.3350
			0.3290	0.3417
			0.3290	0.3300
			0.3222	0.3243
		2B0	0.3207	0.3462
			0.3290	0.3538
			0.3290	0.3417
			0.3215	0.3350
		2C0	0.3290	0.3538
			0.3376	0.3616
			0.3371	0.3490
			0.3290	0.3417
		2D0	0.3290	0.3417
			0.3371	0.3490
			0.3366	0.3369
			0.3290	0.3300

ANSI White Bins				
Code	CCT	Bin Code	x	y
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	CCT	Bin Code	x	y
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

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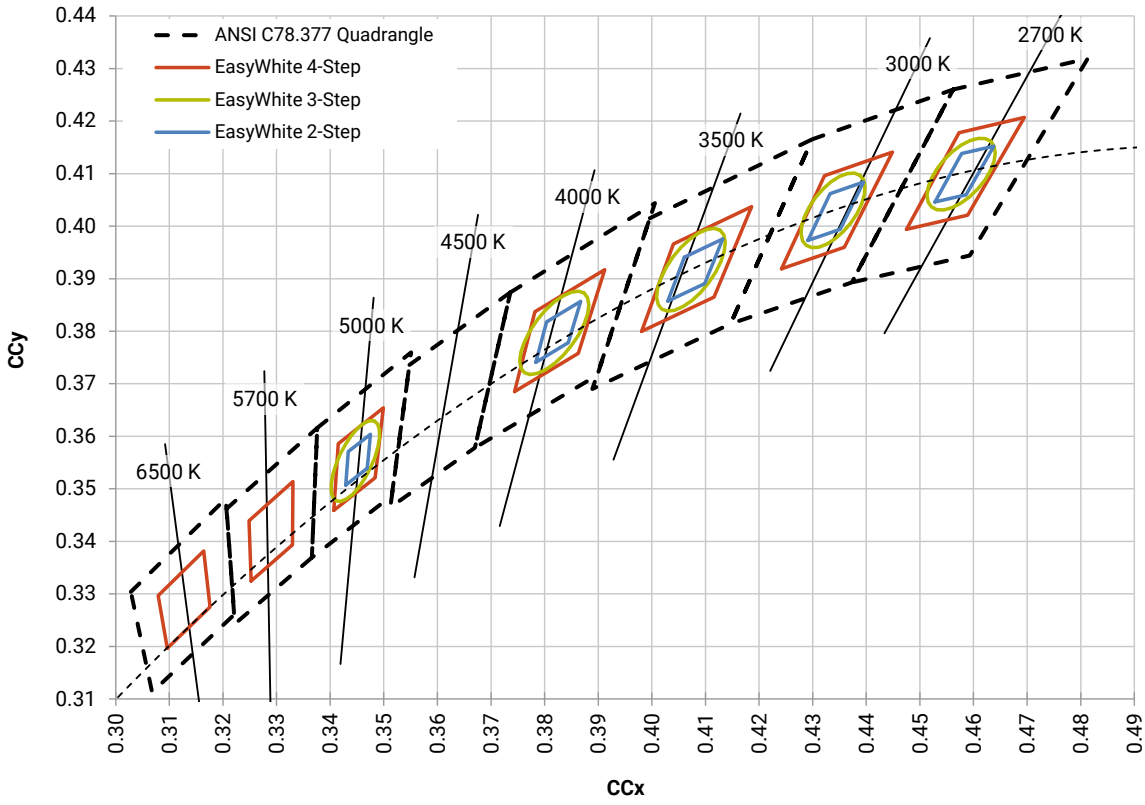
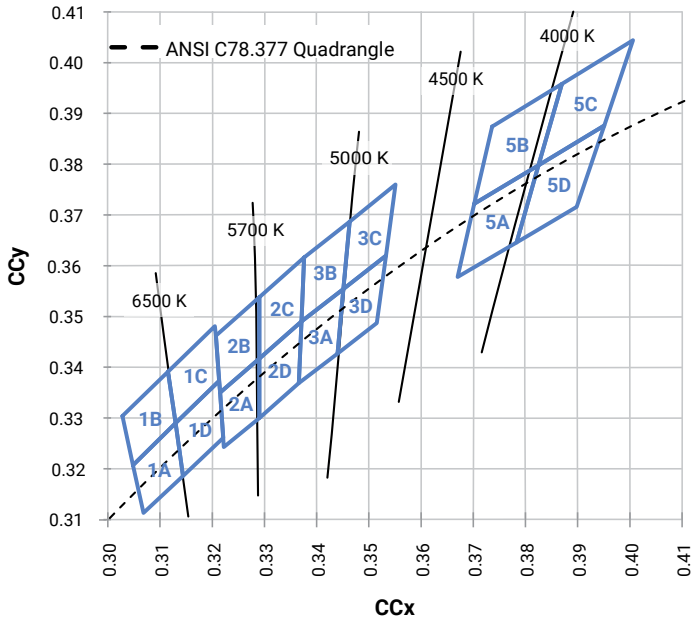
CREE EASYWHITE® BINS PLOTTED ON THE CIE 1931 COLOR SPACE (T_J = 85 °C)



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



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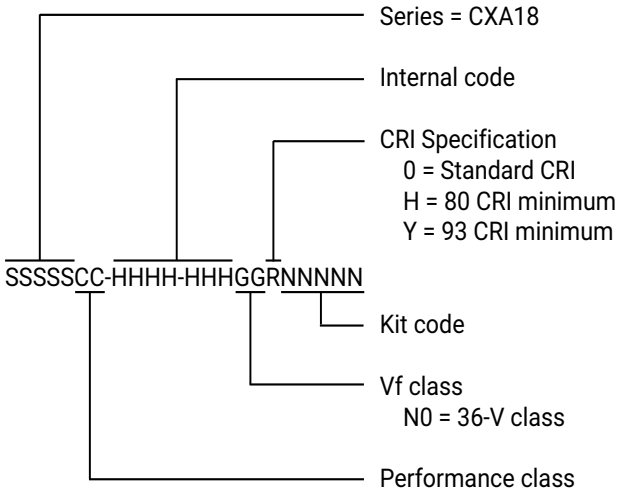
BIN AND ORDER CODE FORMATS

Bin codes and order codes are configured as follows:

Order Code



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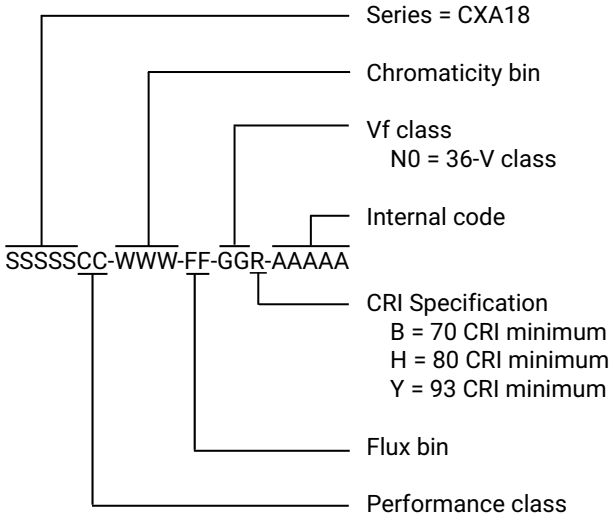


MECHANICAL DIMENSIONS

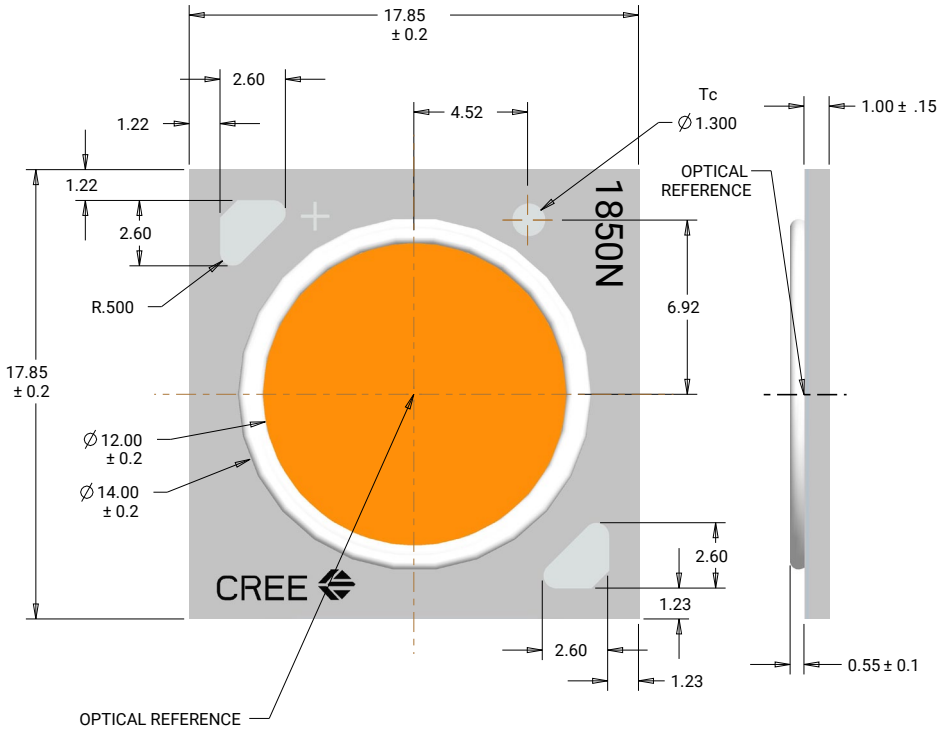
Dimensions are in mm.

Tolerances unless otherwise specified: ±.13

x° ±1°

Meaning of 1850N

1850N = 36-V CXA1850



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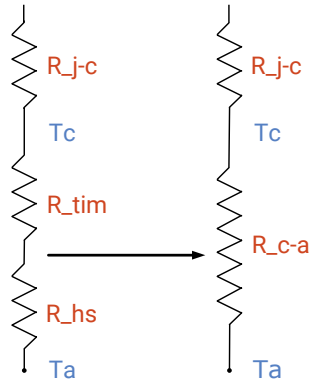
THERMAL DESIGN

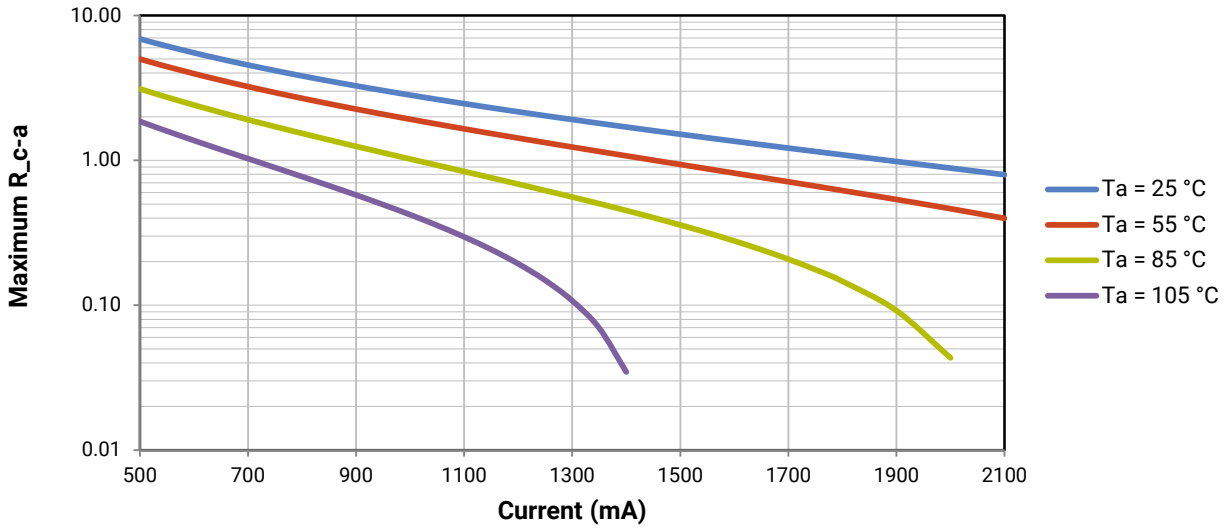
The CXA family of LED arrays can include over a hundred different LED die inside one package, and thus over a hundred different junction temperatures (T_J). Cree has intentionally removed junction-temperature-based operating limits and replaced the commonplace maximum T_J calculations with maximum ratings 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 Cree 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 Cree XLamp CX Family LEDs soldering and handling document. The CX Family LED Design Guide provides basic information on the requirements to use Cree XLamp CXA LEDs successfully in luminaire designs.

To keep the CXA1850 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_tim) plus the thermal resistance of the heat sink (R_hs).





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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'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 applies to ensure long-term reliability for XLamp LEDs and details of Cree's pre-release qualification testing for XLamp LEDs.

Lumen Maintenance

Cree 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'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 representative or from the Product Ecology section of the Cree 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 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.

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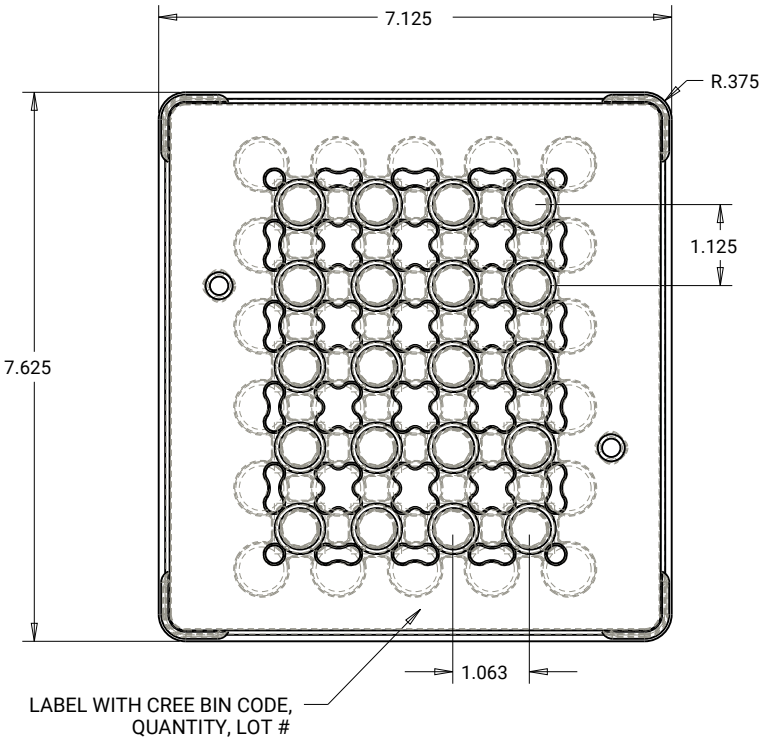
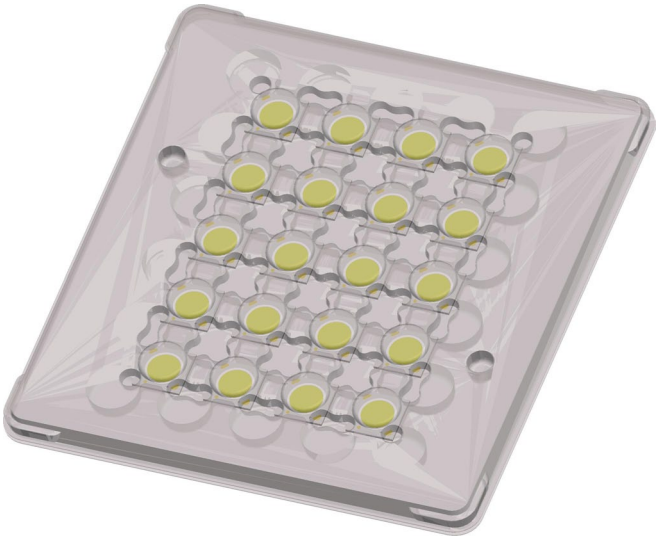
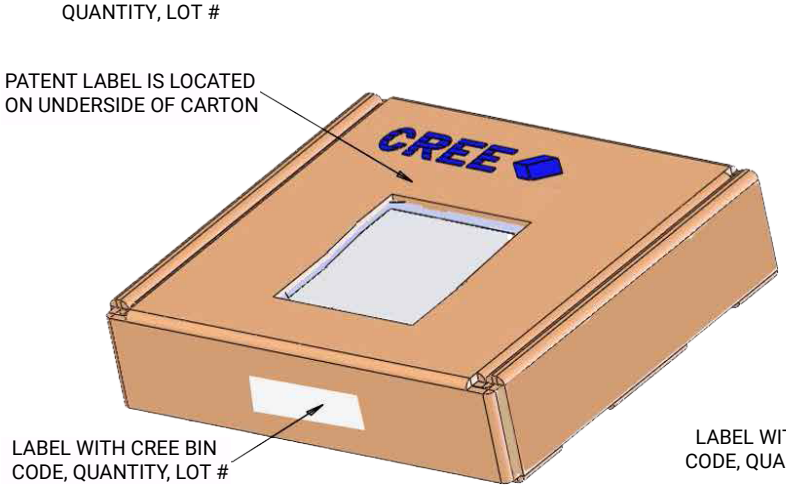
PACKAGING

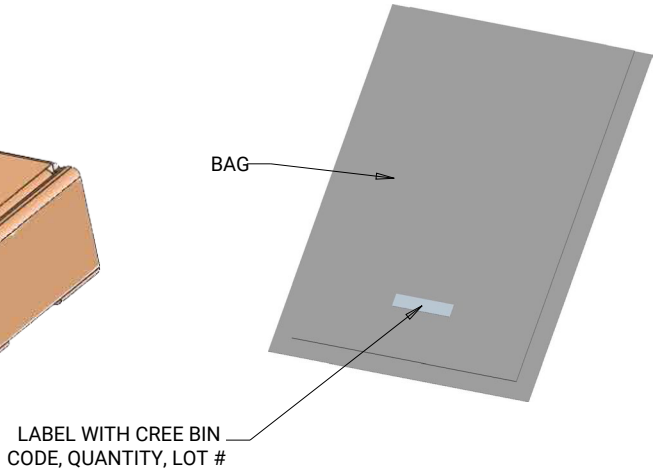
Cree CXA1850 LEDs are packaged in trays of 20. Two trays are sealed in an anti-static bag and placed inside a carton, for a total of 40 LEDs per carton. Each carton contains 40 LEDs from the same performance bin.

Dimensions are in inches.
Tolerances: ±.13
x° ±1°









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Mouser Electronics

Authorized Distributor

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

Cree, Inc.:

CXA1850-0000-000N00U427F CXA1850-0000-000N00U427H CXA1850-0000-000N00V227F CXA1850-0000-000N00V227H CXA1850-0000-000N00V230F CXA1850-0000-000N00V230H CXA1850-0000-000N00V235F CXA1850-0000-000N00V235H CXA1850-0000-000N00V427F CXA1850-0000-000N00V427H CXA1850-0000-000N00V430F CXA1850-0000-000N00V430H CXA1850-0000-000N00V435F CXA1850-0000-000N00V435H CXA1850-0000-000N00W20E1 CXA1850-0000-000N00W20E2 CXA1850-0000-000N00W20E3 CXA1850-0000-000N00W20E5 CXA1850-0000-000N00W230F CXA1850-0000-000N00W230H CXA1850-0000-000N00W235F CXA1850-0000-000N00W235H CXA1850-0000-000N00W240F CXA1850-0000-000N00W240H CXA1850-0000-000N00W250F CXA1850-0000-000N00W250H CXA1850-0000-000N00W257F CXA1850-0000-000N00W265F CXA1850-0000-000N00W40E1 CXA1850-0000-000N00W40E2 CXA1850-0000-000N00W40E3 CXA1850-0000-000N00W40E5 CXA1850-0000-000N00W440F CXA1850-0000-000N00W440H CXA1850-0000-000N00W450F CXA1850-0000-000N00W450H CXA1850-0000-000N00W457F CXA1850-0000-000N00W465F CXA1850-0000-000N00X20E1 CXA1850-0000-000N00X20E2 CXA1850-0000-000N00X20E3 CXA1850-0000-000N00X20E5 CXA1850-0000-000N00X240F CXA1850-0000-000N00X240H CXA1850-0000-000N00X250F CXA1850-0000-000N00X250H CXA1850-0000-000N00X257F CXA1850-0000-000N00X265F CXA1850-0000-000N0HW20E1 CXA1850-0000-000N0HW20E2 CXA1850-0000-000N0HW20E3 CXA1850-0000-000N0HW20E5 CXA1850-0000-000N0HW240F CXA1850-0000-000N0HW240H CXA1850-0000-000N0HW250F CXA1850-0000-000N0HW250H CXA1850-0000-000N0HW257F CXA1850-0000-000N0HW265F CXA1850-0000-000N0HW40E1 CXA1850-0000-000N0HW40E2 CXA1850-0000-000N0HW40E3 CXA1850-0000-000N0HW40E5 CXA1850-0000-000N0HW440F CXA1850-0000-000N0HW440H CXA1850-0000-000N0HW450F CXA1850-0000-000N0HW450H CXA1850-0000-000N0HW457F CXA1850-0000-000N0HW465F CXA1850-0000-000N0HX20E1 CXA1850-0000-000N0HX20E2 CXA1850-0000-000N0HX20E3 CXA1850-0000-000N0HX20E5 CXA1850-0000-000N0HX240F CXA1850-0000-000N0HX240H CXA1850-0000-000N0HX250F CXA1850-0000-000N0HX250H CXA1850-0000-000N0HX257F CXA1850-0000-000N0HX265F CXA1850-0000-000N0UT40E3 CXA1850-0000-000N0UT40E5 CXA1850-0000-000N0UT440F CXA1850-0000-000N0UT440H CXA1850-0000-000N0UT450F CXA1850-0000-000N0UT450H CXA1850-0000-000N0UU20E3 CXA1850-0000-000N0UU20E5 CXA1850-0000-000N0UU240F CXA1850-0000-000N0UU240H CXA1850-0000-000N0UU250F CXA1850-0000-000N0UU250H CXA1850-0000-000N0UU40E3 CXA1850-0000-000N0UU40E5 CXA1850-0000-000N0UU440F CXA1850-0000-000N0UU440H CXA1850-0000-000N0UU450F CXA1850-0000-000N0UU450H CXA1850-0000-000N0YT227F CXA1850-0000-000N0YT227H CXA1850-0000-000N0YT427F CXA1850-0000-000N0YT427H