

Preliminary

January 18, 2011

Cree® XLamp® CXA20 LED



PRODUCT DESCRIPTION

The Cree XLamp CXA20 LED brings lighting-class reliability and performance to easy-to-use LED arrays. The XLamp CXA20 expands Cree's lighting-class leadership to multi-die, high flux arrays. With XLamp lighting-class reliability, a wide viewing angle, uniform light output, and industry-leading chromaticity binning in a 16 mm diameter optical source, the XLamp CXA20 LED continues Cree's history of segment-focused product innovation in LEDs for lighting applications.

The XLamp CXA20 LED brings high performance and a smooth look to a wide range of lighting applications, including bulbs, downlighting, recessed fixtures and can lights.

FEATURES

- Available in 4-step EasyWhite bins (2,700K, 3,000K, 3,500K, 4,000K CCT)
- Forward Voltage: 42 V
- Max drive current: 1000 mA
- 120° viewing angle, uniform chromaticity profile
- Top-side solder connections
- Thermocouple attach point
- Screw down attachment
- RoHS and REACH-compliant
- Unlimited shelf life at $\leq 30^{\circ}\text{C}/85\% \text{ RH}$

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FLUX CHARACTERISTICS (T_j = 25°C)

The following table provides several base order codes for XLamp CXA20 LED. It is important to note that the base order codes listed here are a subset of the total available order codes for the product family.

Color	CCT Range	Base Order Codes Min Luminous Flux (lm) @ 270 mA		CRI		Order Code
		Group	Flux (lm)	Group	Min/Typical	
Warm White	3,000 K	G0	780	0	--/78	CXA2011-0000-000P00G030F
		G0	780	H	80/82	CXA2011-0000-000P0HG030F
		H0	900	0	--/78	CXA2011-0000-000P00H030F
		H0	900	H	80/82	CXA2011-0000-000P0HH030F
		J0	1040	0	--/78	CXA2011-0000-000P00J030F

Notes:

- Cree maintains a tolerance of ±7% on flux measurements and ±2 on CRI measurements.
- In this preliminary data sheet only order codes for 3000K CCT are included. Future versions will include order codes for the full range of CCTs.

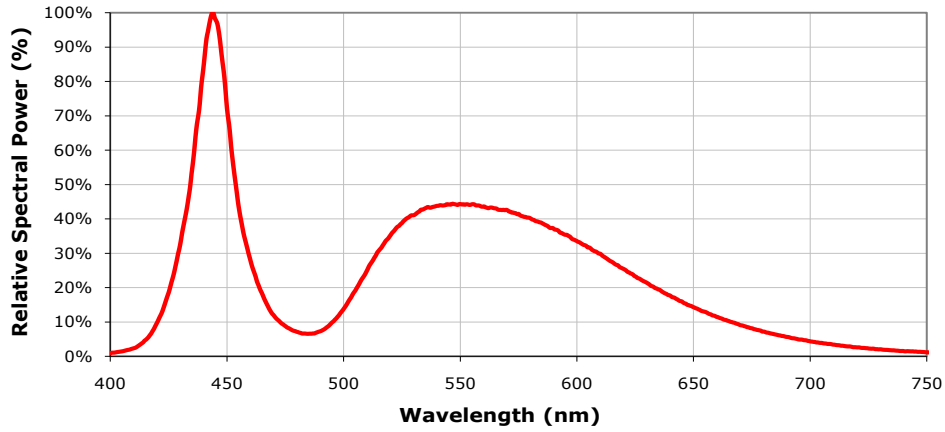
CHARACTERISTICS

Characteristics	Unit	Minimum	Typical	Maximum
Thermal resistance, junction to solder point	°C/W		< 0.65	
Viewing angle (FWHM)	degrees		120	
ESD classification (HBM per Mil-Std-883D)			Class 2	
DC forward current	mA			1,000
Forward voltage (@ 270 mA, 25 °C)	V		42	48
LED junction temperature	°C			150

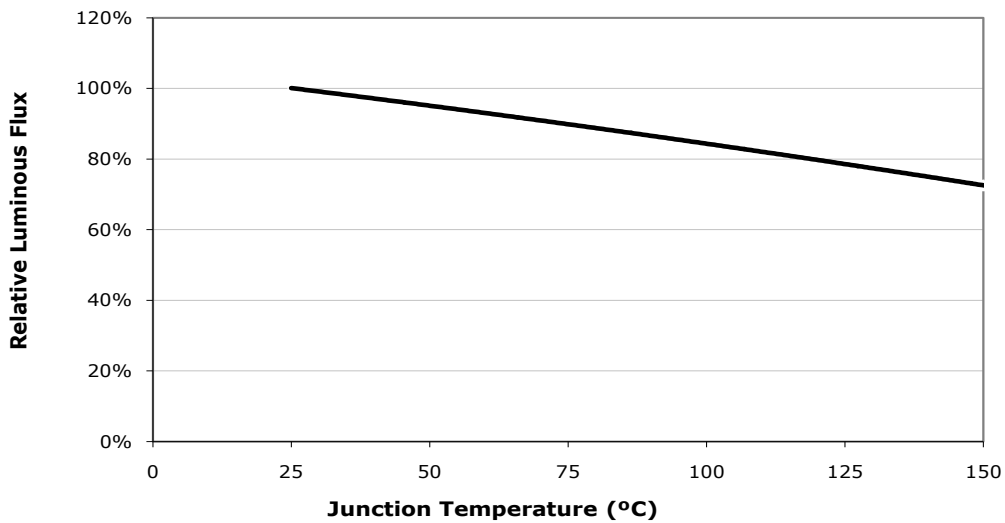
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RELATIVE SPECTRAL POWER DISTRIBUTION



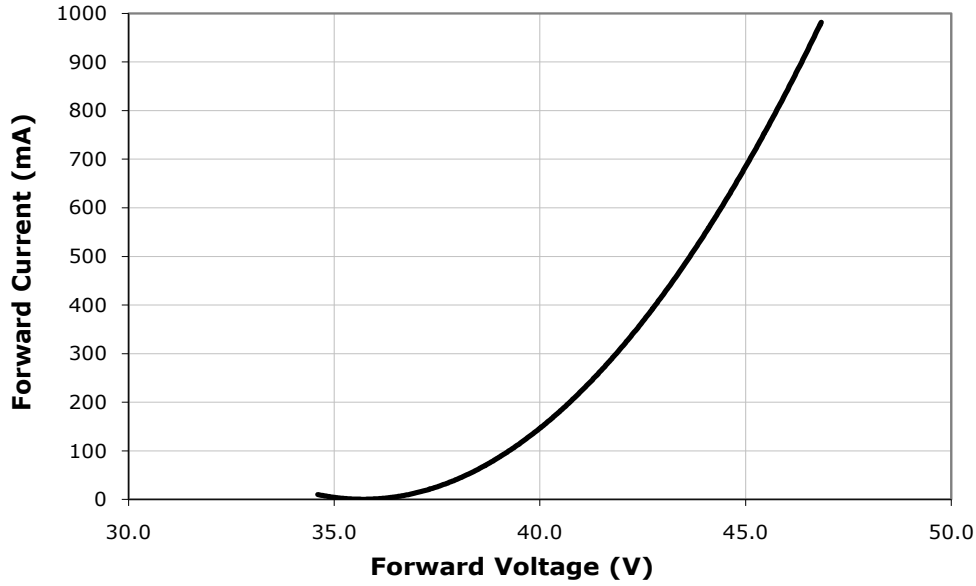
RELATIVE FLUX VS. JUNCTION TEMPERATURE ($I_f = 270$ MA)



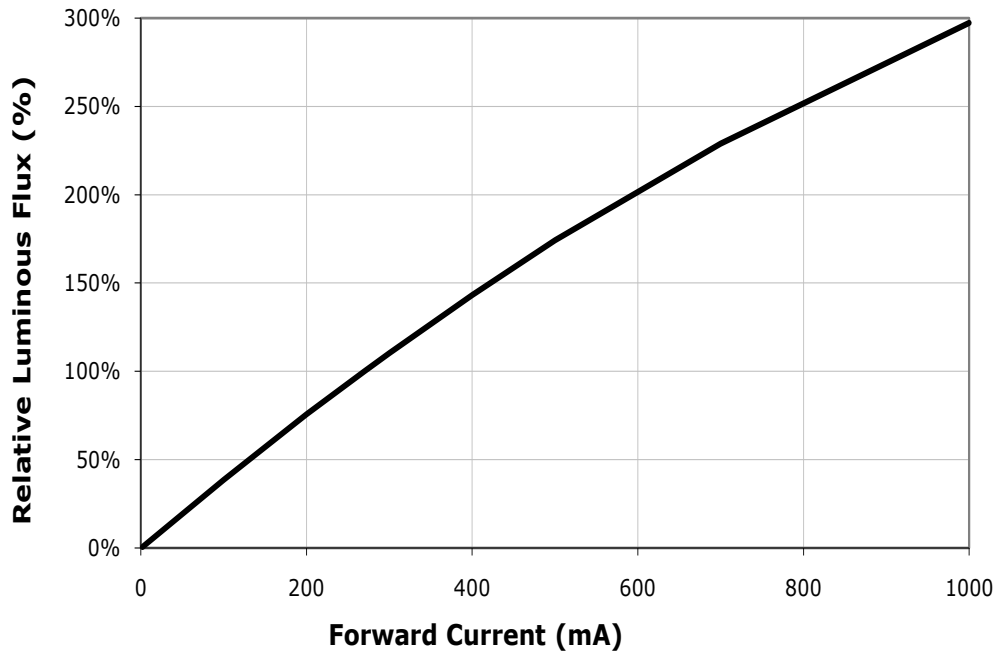
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ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$)



RELATIVE FLUX VS. CURRENT ($T_j = 25^\circ\text{C}$)



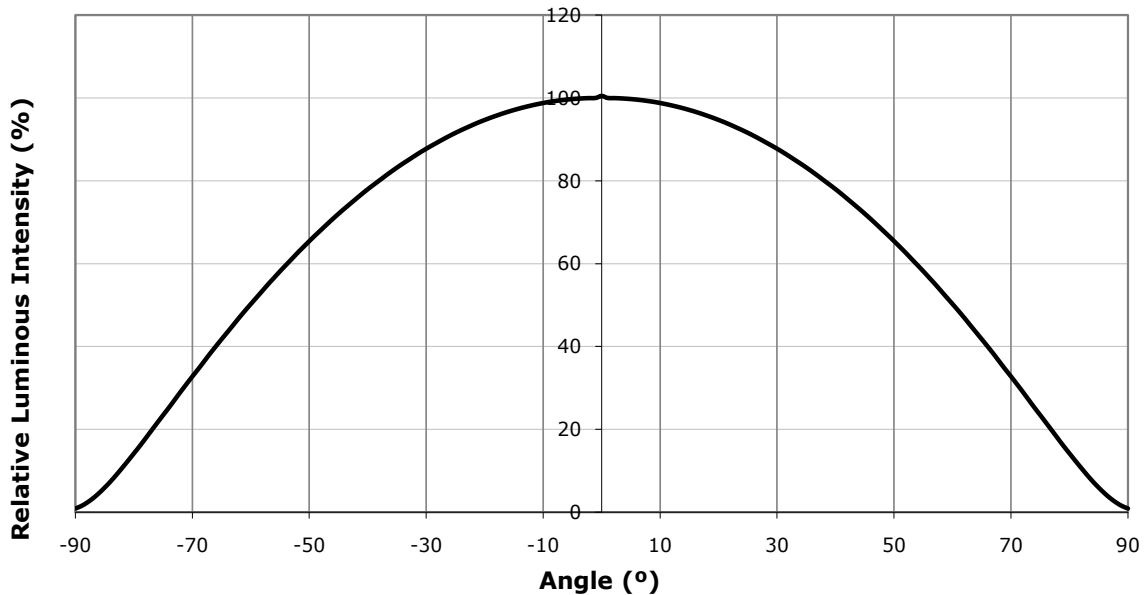
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THERMAL DESIGN

TBD

TYPICAL SPATIAL DISTRIBUTION



NOTES

Lumen Maintenance Projections

Please read the XLamp Long-Term Lumen Maintenance application note for more details on Cree’s lumen maintenance testing and forecasting. Please read the XLamp 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 environmentally sensitive, persistent biologically toxic (PBT), persistent organic pollutants (POP), or otherwise 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 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), as amended through April 21, 2006.

Vision Advisory Claim

Users should be cautioned not to stare at the light of this LED product. The bright light can damage the eye.

