

Description:

XLamp XM-L EasyWhite LED eliminates chromaticity binning, and enables luminaire and bulb manufacturers to deliver the consistent colour and high efficacy light output of a multi-die LED in the compact XM-L footprint. XLamp XM-L EasyWhite LEDs can reduce LED-to-LED colour variation to within a 2-step MacAdam ellipse, 94% smaller than the total area of the corresponding ANSI C78.377 colour region. The XLamp XM-L EasyWhite LED is the perfect choice for lighting applications where moderate to high luminous flux output is required from a single, small point source. Example applications include: LED retrofit bulbs, commercial/retail display spot-lights, and other indoor general-illumination applications.

Features

- Available in 4-step and 2-step EasyWhite bins at 3000 K CCT
- Wide range of operating current – up to 2 A @ 6 V
- 85°C binning and characterization
- Available in 6V
- Low thermal resistance: 2.5 °C/W
- Wide viewing angle: 115°
- Electrically neutral thermal path
- Unlimited floor life at ≤30°C/85% RH

Characteristics:

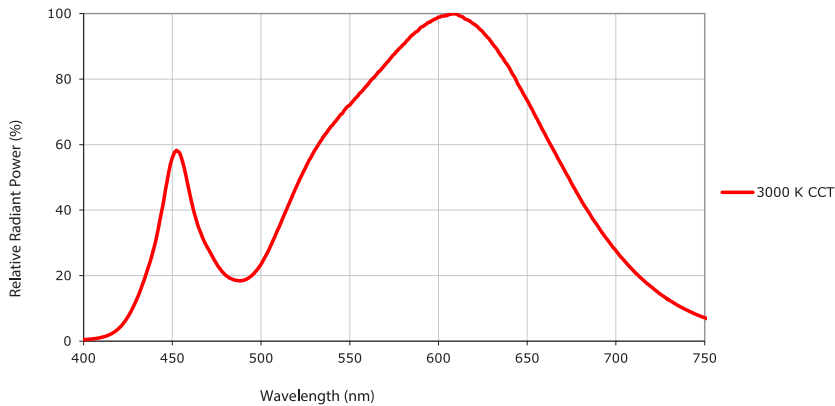
Characteristics	Unit	Min.	Typical	Max.
Thermal resistance, junction to solder point	°C/W	-	2.5	-
Viewing angle (FWHM)	degrees	-	115	-
Temperature coefficient of voltage (6 V)	mV/°C	-	-6.0	-
ESD withstand voltage (HBM per Mil-Std-883D)	V	-	-	8,000
DC forward current (6V)	mA	-	-	2,000
Reverse current (6V)	mA	-	-	-0.1
Forward voltage (@ 700mA, 85°C, 6V)	V	-	5.7	7.0
LED junction temperature	°C	-	-	150

Flux Characteristics, Standard Order Codes and Bins, 6-Volt XM-L EZW (700mA, T_J = 85°C)

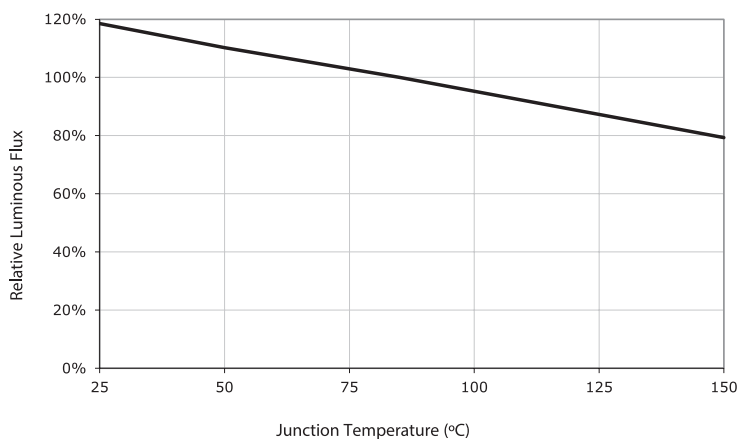
Colour	CCT Range	Base Order Codes Min. Luminous Flux @ 700 mA			4-Step Order Code	
		Group	Flux (lm) @ 85°C	Flux (lm) @ 25 °C*	Chromaticity Region	Part Number
Standard CRI EasyWhite	3000 K	T6	280	332	30F	XMLEZW-00-0000-0B00T630F-STAR

* Flux values @ 25 °C are calculated and for reference only.

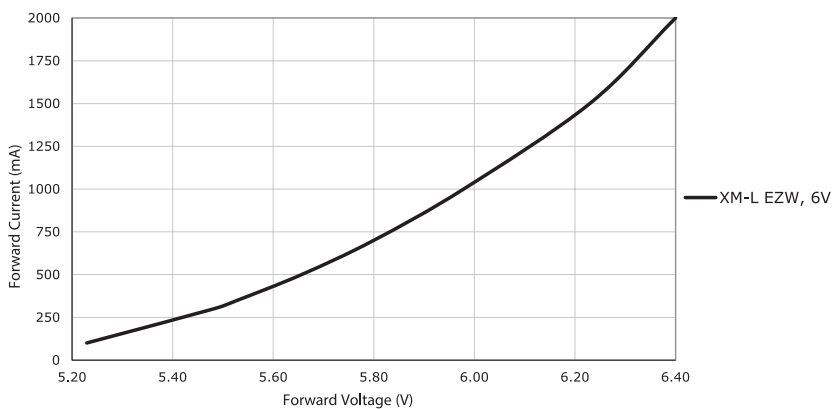
Relative Spectral Power Distribution (3000-K CCT)



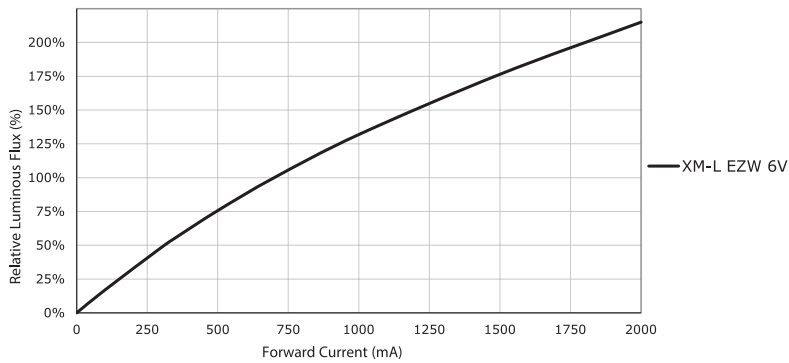
Relative Flux vs. Junction Temperature (6-V - I_F = 700mA)



Electrical Characteristics (T_J = 85°C)

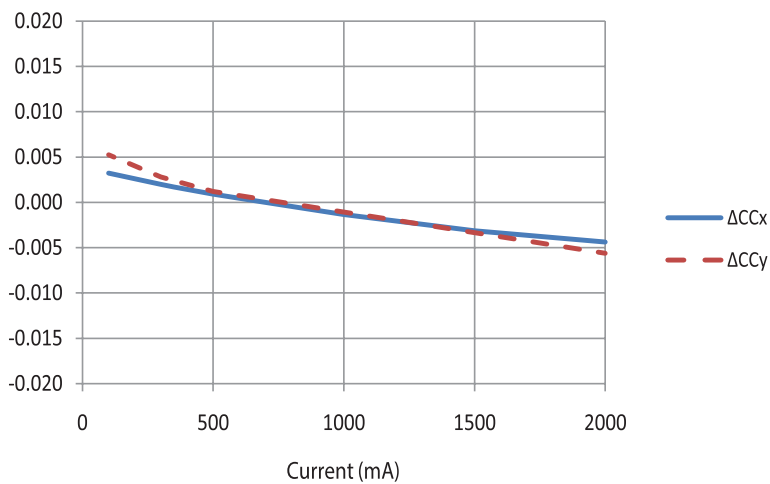


Relative Flux Vs. Current (T_J = 85°C)

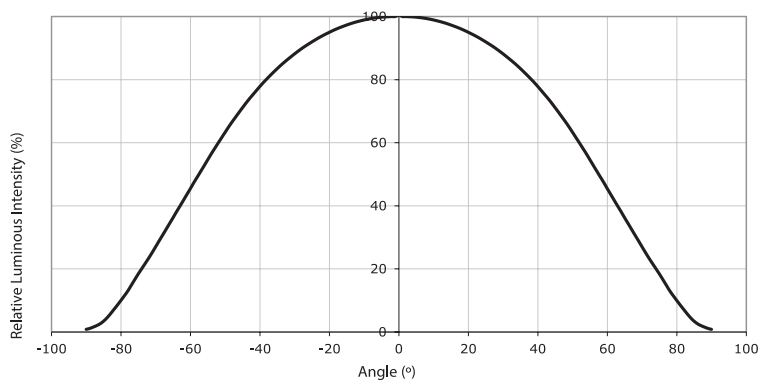


Relative Chromaticity vs. Current and Temperature

XM-L EZW 6V



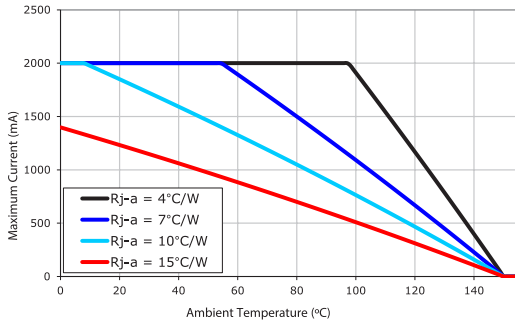
Typical Spatial Distribution



Thermal Design

The maximum forward current is determined by the thermal resistance between the LED junction and ambient. It is crucial for the end product to be designed in a manner that minimizes the thermal resistance from the solder point to ambient in order to optimise lamp life and optical characteristics.

XLamp XM-L EZW, 6-V



Performance Groups – Brightness (T_J = 85°C)

XLamp XM-L EasyWhite LEDs are tested for luminous flux and placed into one of the following bins.

Group Code	Min. Luminous Flux @ 700mA, 6V	Max. Luminous Flux @ 700mA, 6V
T6	280	300

Performance Groups – Chromaticity (T_J = 85°C)

XLamp XM-L EasyWhite LEDs are tested for chromaticity and placed into one of the regions defined by the following bounding coordinates.

EasyWhite Color Temperatures – 4-Step			
Code	CCT	x	y
30F	3000 K	0.4242	0.3919
		0.4322	0.4096
		0.4449	0.4141
		0.4359	0.3960

Part Number Table

Description	Part Number
XLamp EasyWhite LED, Warm White, 280LM	XMLEZW-00-0000-0B00T630F-STAR

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