XLamp EasyWhite LED

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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 spotlights, 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
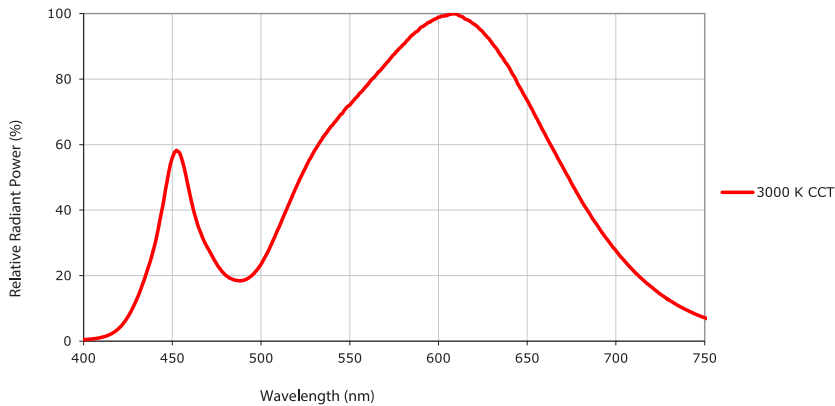- Unlimited floor life at ≤30°C/85% RH

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

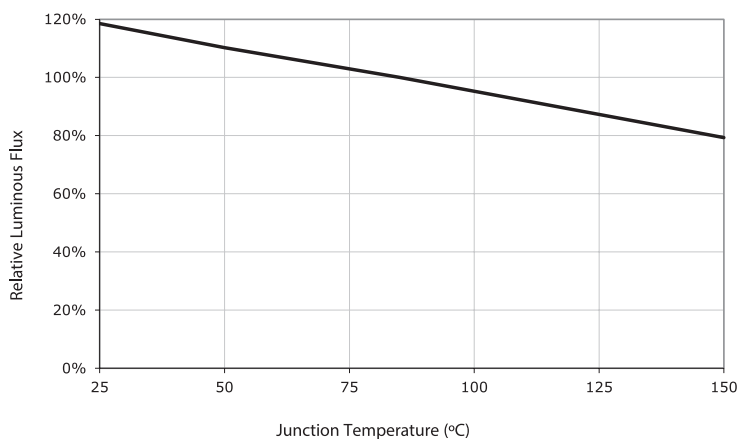### Flux Characteristics, Standard Order Codes and Bins, 6-Volt XM-L EZW (700mA, T_J = 85°C)

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.

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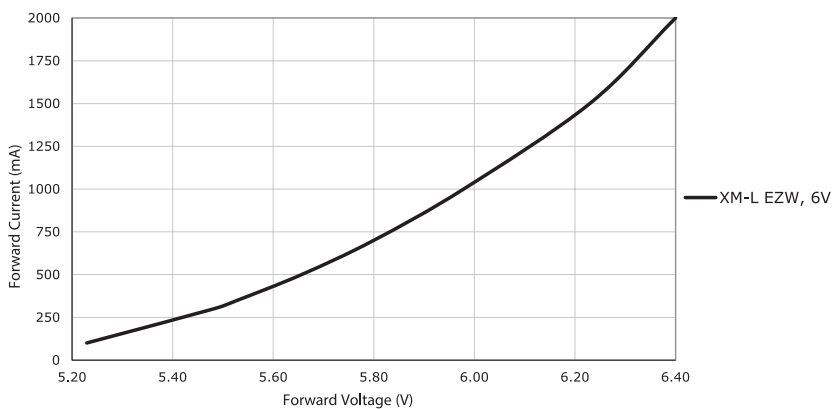Page <1>   17/09/19   V1.0

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Relative Spectral Power Distribution (3000-K CCT)

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

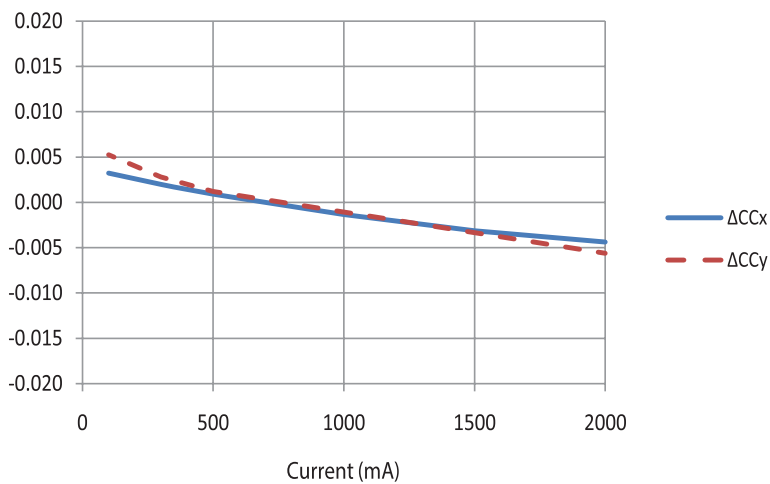## Electrical Characteristics (T_J = 85°C)

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Relative Flux Vs. Current (T_J = 85°C)
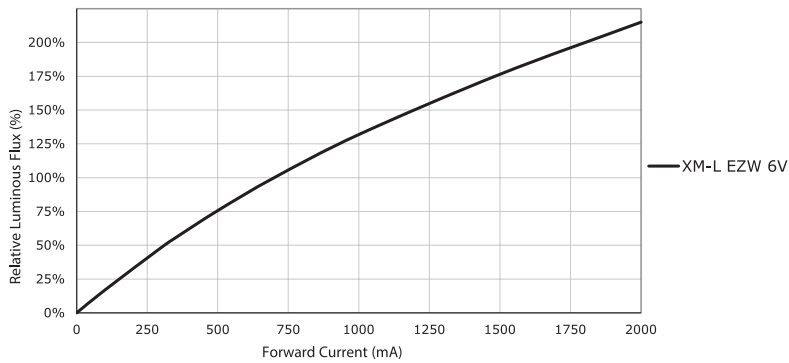
Relative Chromaticity vs. Current and Temperature

XM-L EZW 6V

Typical Spatial Distribution

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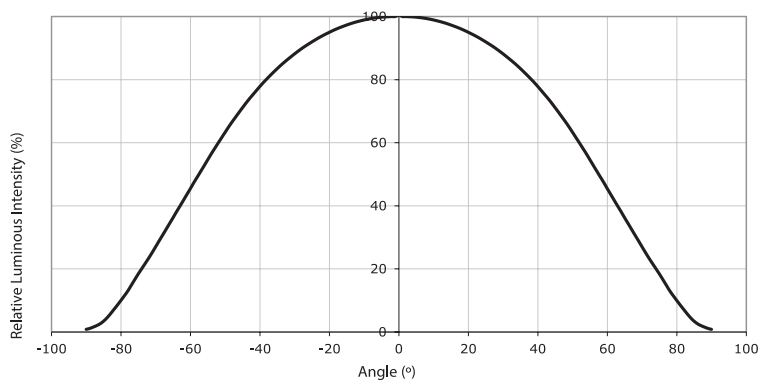
Thermal Design

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
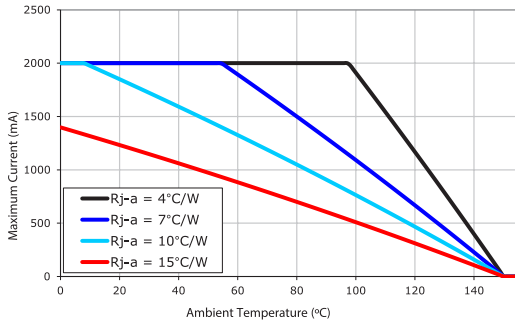
Performance Groups – Brightness (T_J = 85°C)

XLamp XM-L EasyWhite LEDs are tested for luminous flux and placed into one 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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