

## 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:

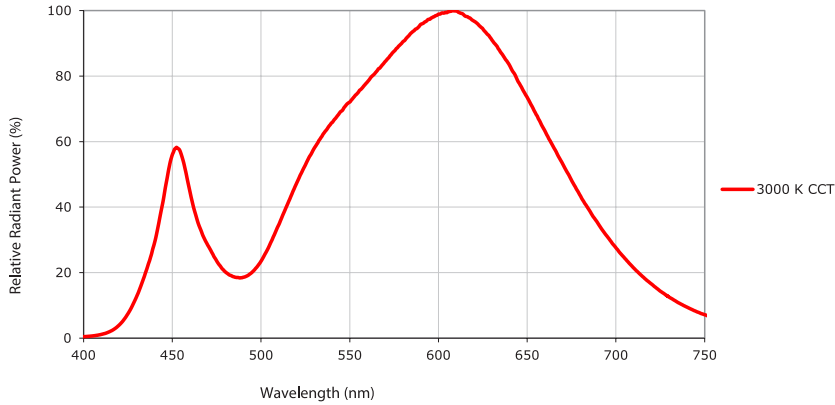
| Characteristics                              | Unit    | Min. | Typical | Max.  |
|--|---------|------|---------|-------|
| Thermal resistance, junction to solder point | °C/W    | -    | 2.5     | -     |
| Viewing angle (FWHM)                         | degrees | -    | 115     | -     |
| Temperature 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<sub>J</sub> = 85°C)

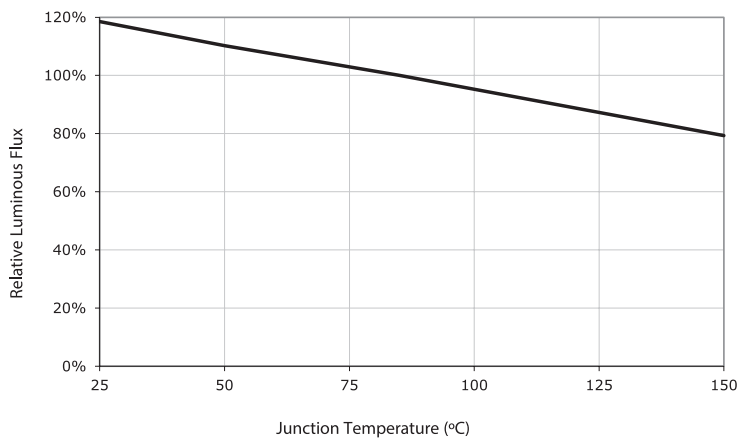
| Colour                 | CCT Range | Base Order Codes Min. Luminous Flux @ 700 mA |                  |                    | 4-Step Order Code   |                               |
|------------------------|-----------|--|------------------|--------------------|---------------------|-------------------------------|
|                        |           | 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.

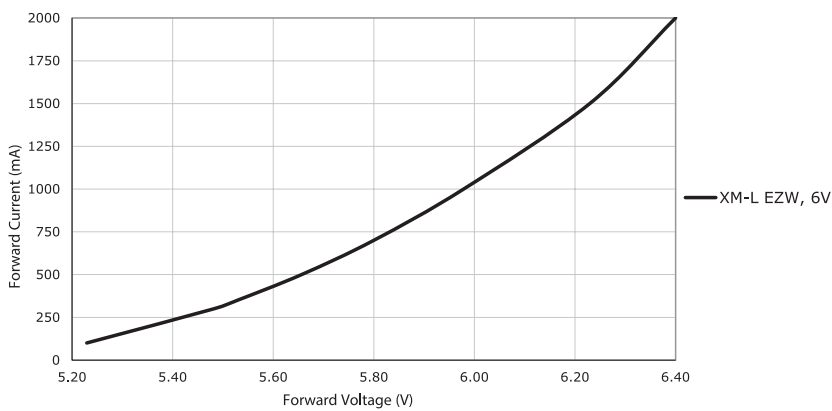
## Relative Spectral Power Distribution (3000-K CCT)



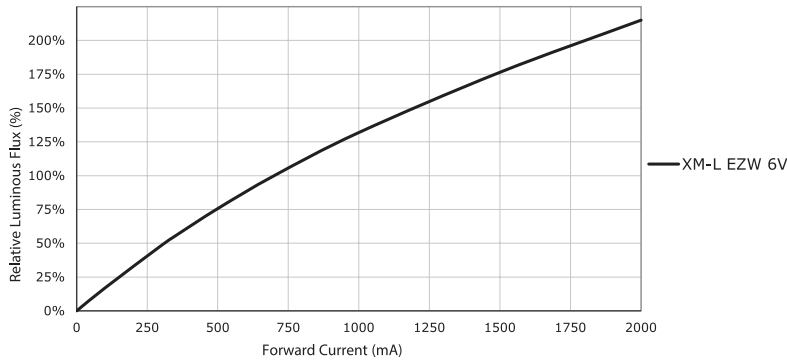
## Relative Flux vs. Junction Temperature (6-V - $I_F = 700\text{mA}$ )



## Electrical Characteristics ( $T_J = 85^\circ\text{C}$ )

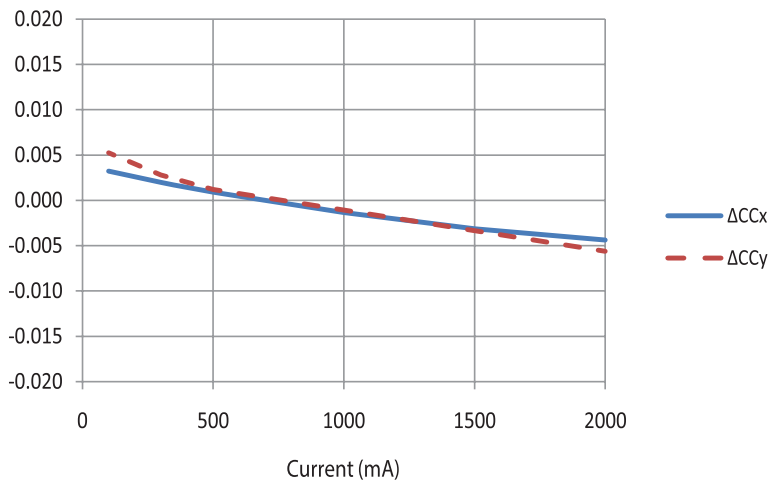


## Relative Flux Vs. Current ( $T_J = 85^\circ\text{C}$ )

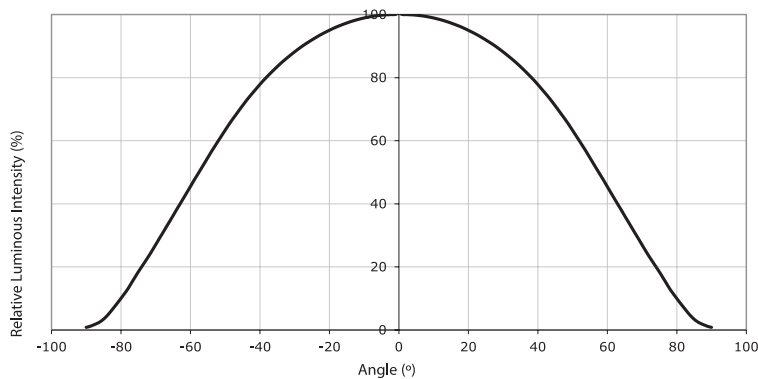


## Relative Chromaticity vs. Current and Temperature

XM-L EZW 6V



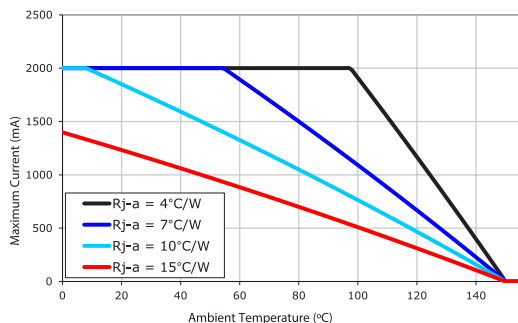
## Typical Spatial Distribution



## 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<sub>J</sub> = 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<sub>J</sub> = 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 |

**Important Notice** : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.