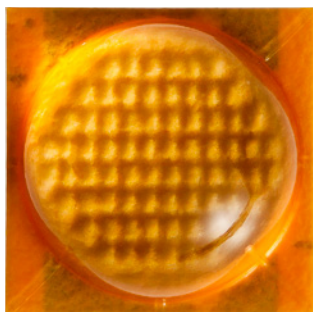


# Cree® XLamp® MT-G2 EasyWhite™ LEDs



## PRODUCT DESCRIPTION

The XLamp MT-G2 EasyWhite LED builds on the breakthrough performance of the original MT-G by increasing lumen output up to 25%, while providing a small, uniform, single point source for precise optical control. The MT-G2 shares the same mechanical footprint as the original MT-G, providing customers with a seamless upgrade path and shortening the LED luminaire and retrofit lamp design cycle.

MT-G2 LEDs are designed for high-output, directional lighting applications and are the ideal replacement for lighting applications that currently use inefficient halogen lamps. MT-G2 LEDs are optimized for use in track, accent, lamp retrofit, downlighting and other applications where color quality, consistency and optical control are required.

## FEATURES

- Cree EasyWhite color temperatures from 2700 K to 5000 K CCT
- 85 °C binning and characterization
- Three voltage options: 6 V, 9 V, 36 V
- 80 and 90 minimum CRI options
- Low effective thermal resistance: 1.5 °C/W
- High lumen density
- Small, uniform emitting area for excellent optical control
- Electrically neutral thermal path
- UL-recognized component (E349212)

## APPLICATIONS

- MR, PAR, BR, AR and other directional retrofit lamps
- Commercial/residential directional lighting
- General illumination

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## PRODUCT CHARACTERISTICS

| Characteristics                                        | Unit    | Minimum | Typical | Maximum |
|--------------------------------------------------------|---------|---------|---------|---------|
| Viewing Angle (FWHM)                                   | degrees |         | 115     |         |
| ESD Classification (HBM per Mil-Std-883D)              |         |         | Class 2 |         |
| Effective Thermal Resistance, Junction to Solder Point | °C/W    |         | 1.5     |         |
| LED Junction Temperature                               | °C      |         |         | 150     |
| DC Forward Current (6 V)                               | mA      |         |         | 3000    |
| DC Forward Current (9 V)                               | mA      |         |         | 2000    |
| DC Forward Current (36 V)                              | mA      |         |         | 500     |
| Forward Voltage (6 V, 1100 mA, 85 °C)                  | V       |         | 5.7     |         |
| Forward Voltage (6 V, 1100 mA, 25 °C)                  | V       |         |         | 7       |
| Forward Voltage (9 V, 735 mA, 85 °C)                   | V       |         | 8.55    |         |
| Forward Voltage (9 V, 735 mA, 25 °C)                   | V       |         |         | 10.5    |
| Forward Voltage (36 V, 185 mA, 85 °C)                  | V       |         | 34.2    |         |
| Forward Voltage (36 V, 185 mA, 25 °C)                  | V       |         |         | 42      |
| Temperature Coefficient of Voltage (6 V)               | mV/°C   |         | -4      |         |
| Temperature Coefficient of Voltage (9 V)               | mV/°C   |         | -6      |         |
| Temperature Coefficient of Voltage (36 V)              | mV/°C   |         | -26     |         |
| Reverse Voltage (6 V)                                  | V       |         |         | -5      |
| Reverse Current (6 V, 9 V, 36 V)                       | A       |         |         | 0.1     |

## FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 6-VOLT MT-G2 (1100 mA, T<sub>J</sub> = 85 °C)

The following table provides several base order codes for 6-volt XLamp MT-G2 EasyWhite LEDs. For a complete description of the order-code nomenclature, please reference page 13 of this document.

| Color                  | CCT Range | Base Order Codes<br>Min. Luminous Flux (lm)<br>@ 1100 mA |                   |                    | 2-Step Order Code   |                          | 4-Step Order Code   |                          |
|------------------------|-----------|----------------------------------------------------------|-------------------|--------------------|---------------------|--------------------------|---------------------|--------------------------|
|                        |           | Group                                                    | Flux (lm) @ 85 °C | Flux (lm) @ 25 °C* | Chromaticity Region |                          | Chromaticity Region |                          |
| Standard CRI EasyWhite | 5000 K    | N0                                                       | 750               | 863                | 50H                 | MTGBEZ-00-0000-0B00N050H | 50F                 | MTGBEZ-00-0000-0B00N050F |
|                        |           | P0                                                       | 800               | 920                |                     | MTGBEZ-00-0000-0B00P050H |                     | MTGBEZ-00-0000-0B00P050F |
|                        | 4000 K    | K0                                                       | 650               | 748                | 40H                 | MTGBEZ-00-0000-0B00K040H | 40F                 | MTGBEZ-00-0000-0B00K040F |
|                        |           | M0                                                       | 700               | 805                |                     | MTGBEZ-00-0000-0B00M040H |                     | MTGBEZ-00-0000-0B00M040F |
|                        |           | N0                                                       | 750               | 863                |                     | MTGBEZ-00-0000-0B00N040H |                     | MTGBEZ-00-0000-0B00N040F |
|                        | 3500 K    | K0                                                       | 650               | 748                | 35H                 | MTGBEZ-00-0000-0B00K035H | 35F                 | MTGBEZ-00-0000-0B00K035F |
|                        |           | M0                                                       | 700               | 805                |                     | MTGBEZ-00-0000-0B00M035H |                     | MTGBEZ-00-0000-0B00M035F |
|                        |           | N0                                                       | 750               | 863                |                     | MTGBEZ-00-0000-0B00N035H |                     | MTGBEZ-00-0000-0B00N035F |
|                        | 3000 K    | J0                                                       | 600               | 690                | 30H                 | MTGBEZ-00-0000-0B00J030H | 30F                 | MTGBEZ-00-0000-0B00J030F |
|                        |           | K0                                                       | 650               | 748                |                     | MTGBEZ-00-0000-0B00K030H |                     | MTGBEZ-00-0000-0B00K030F |
|                        |           | M0                                                       | 700               | 805                |                     | MTGBEZ-00-0000-0B00M030H |                     | MTGBEZ-00-0000-0B00M030F |
|                        | 2700 K    | H0                                                       | 560               | 644                | 27H                 | MTGBEZ-00-0000-0B00H027H | 27F                 | MTGBEZ-00-0000-0B00H027F |
|                        |           | J0                                                       | 600               | 690                |                     | MTGBEZ-00-0000-0B00J027H |                     | MTGBEZ-00-0000-0B00J027F |
|                        |           | K0                                                       | 650               | 748                |                     | MTGBEZ-00-0000-0B00K027H |                     | MTGBEZ-00-0000-0B00K027F |
| 80 CRI EasyWhite       | 5000 K    | M0                                                       | 700               | 805                | 50H                 | MTGBEZ-00-0000-0B0HM050H | 50F                 | MTGBEZ-00-0000-0B0HM050F |
|                        |           | N0                                                       | 750               | 863                |                     | MTGBEZ-00-0000-0B0HN050H |                     | MTGBEZ-00-0000-0B0HN050F |
|                        | 4000 K    | J0                                                       | 600               | 690                | 40H                 | MTGBEZ-00-0000-0B0HJ040H | 40F                 | MTGBEZ-00-0000-0B0HJ040F |
|                        |           | K0                                                       | 650               | 748                |                     | MTGBEZ-00-0000-0B0HK040H |                     | MTGBEZ-00-0000-0B0HK040F |
|                        |           | M0                                                       | 700               | 805                |                     | MTGBEZ-00-0000-0B0HM040H |                     | MTGBEZ-00-0000-0B0HM040F |
| 90 CRI EasyWhite       | 3000 K    | F0                                                       | 480               | 552                | 30H                 | MTGBEZ-00-0000-0B0UF030H | 30F                 | MTGBEZ-00-0000-0B0UF030F |
|                        |           | G0                                                       | 520               | 598                |                     | MTGBEZ-00-0000-0B0UG030H |                     | MTGBEZ-00-0000-0B0UG030F |
|                        | 2700 K    | E0                                                       | 440               | 506                | 27H                 | MTGBEZ-00-0000-0B0UE027H | 27F                 | MTGBEZ-00-0000-0B0UE027F |
|                        |           | F0                                                       | 480               | 552                |                     | MTGBEZ-00-0000-0B0UF027H |                     | MTGBEZ-00-0000-0B0UF027F |

### Notes:

- Cree maintains a tolerance of  $\pm 7\%$  on flux and power measurements,  $\pm 0.005$  on chromaticity (CCx, CCy) measurements and  $\pm 2$  on CRI measurements.
- Minimum CRI for standard EasyWhite color temperatures 27F, 27H, 30F, 30H, 35F, 35H is 80.
- Minimum CRI for standard EasyWhite color temperatures, 40F, 40H, 50F, 50H is 70.
- Typical CRI for standard EasyWhite color temperatures 40F, 40H, 50F, 50H is 75.
- \* Flux values @ 25 °C are calculated and for reference only.

## FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 9-VOLT MT-G2 (735 mA, T<sub>J</sub> = 85 °C)

The following table provides several base order codes for 9-volt XLamp MT-G2 EasyWhite LEDs. For a complete description of the order-code nomenclature, please reference page 13 of this document.

| Color                  | CCT Range | Base Order Codes<br>Min. Luminous Flux (lm)<br>@ 735 mA |                   |                    | 2-Step Order Code   |                          | 4-Step Order Code   |                          |
|------------------------|-----------|---------------------------------------------------------|-------------------|--------------------|---------------------|--------------------------|---------------------|--------------------------|
|                        |           | Group                                                   | Flux (lm) @ 85 °C | Flux (lm) @ 25 °C* | Chromaticity Region |                          | Chromaticity Region |                          |
| Standard CRI EasyWhite | 5000 K    | N0                                                      | 750               | 863                | 50H                 | MTGBEZ-00-0000-0C00N050H | 50F                 | MTGBEZ-00-0000-0C00N050F |
|                        |           | P0                                                      | 800               | 920                |                     | MTGBEZ-00-0000-0C00P050H |                     | MTGBEZ-00-0000-0C00P050F |
|                        | 4000 K    | K0                                                      | 650               | 748                | 40H                 | MTGBEZ-00-0000-0C00K040H | 40F                 | MTGBEZ-00-0000-0C00K040F |
|                        |           | M0                                                      | 700               | 805                |                     | MTGBEZ-00-0000-0C00M040H |                     | MTGBEZ-00-0000-0C00M040F |
|                        |           | N0                                                      | 750               | 863                |                     | MTGBEZ-00-0000-0C00N040H |                     | MTGBEZ-00-0000-0C00N040F |
|                        | 3500 K    | K0                                                      | 650               | 748                | 35H                 | MTGBEZ-00-0000-0C00K035H | 35F                 | MTGBEZ-00-0000-0C00K035F |
|                        |           | M0                                                      | 700               | 805                |                     | MTGBEZ-00-0000-0C00M035H |                     | MTGBEZ-00-0000-0C00M035F |
|                        |           | N0                                                      | 750               | 863                |                     | MTGBEZ-00-0000-0C00N035H |                     | MTGBEZ-00-0000-0C00N035F |
|                        | 3000 K    | J0                                                      | 600               | 690                | 30H                 | MTGBEZ-00-0000-0C00J030H | 30F                 | MTGBEZ-00-0000-0C00J030F |
|                        |           | K0                                                      | 650               | 748                |                     | MTGBEZ-00-0000-0C00K030H |                     | MTGBEZ-00-0000-0C00K030F |
|                        |           | M0                                                      | 700               | 805                |                     | MTGBEZ-00-0000-0C00M030H |                     | MTGBEZ-00-0000-0C00M030F |
|                        | 2700 K    | H0                                                      | 560               | 644                | 27H                 | MTGBEZ-00-0000-0C00H027H | 27F                 | MTGBEZ-00-0000-0C00H027F |
|                        |           | J0                                                      | 600               | 690                |                     | MTGBEZ-00-0000-0C00J027H |                     | MTGBEZ-00-0000-0C00J027F |
|                        |           | K0                                                      | 650               | 748                |                     | MTGBEZ-00-0000-0C00K027H |                     | MTGBEZ-00-0000-0C00K027F |
| 80 CRI EasyWhite       | 5000 K    | M0                                                      | 700               | 805                | 50H                 | MTGBEZ-00-0000-0C0HM050H | 50F                 | MTGBEZ-00-0000-0C0HM050F |
|                        |           | N0                                                      | 750               | 863                |                     | MTGBEZ-00-0000-0C0HN050H |                     | MTGBEZ-00-0000-0C0HN050F |
|                        | 4000 K    | J0                                                      | 600               | 690                | 40H                 | MTGBEZ-00-0000-0C0HJ040H | 40F                 | MTGBEZ-00-0000-0C0HJ040F |
|                        |           | K0                                                      | 650               | 748                |                     | MTGBEZ-00-0000-0C0HK040H |                     | MTGBEZ-00-0000-0C0HK040F |
| 90 CRI EasyWhite       | 3000 K    | F0                                                      | 480               | 552                | 30H                 | MTGBEZ-00-0000-0C0UF030H | 30F                 | MTGBEZ-00-0000-0C0UF030F |
|                        |           | G0                                                      | 520               | 598                |                     | MTGBEZ-00-0000-0C0UG030H |                     | MTGBEZ-00-0000-0C0UG030F |
|                        | 2700 K    | E0                                                      | 440               | 506                | 27H                 | MTGBEZ-00-0000-0C0UE027H | 27F                 | MTGBEZ-00-0000-0C0UE027F |
|                        |           | F0                                                      | 480               | 552                |                     | MTGBEZ-00-0000-0C0UF027H |                     | MTGBEZ-00-0000-0C0UF027F |

### Notes:

- Cree maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CC<sub>x</sub>, CC<sub>y</sub>) measurements and ±2 on CRI measurements.
- Minimum CRI for standard EasyWhite color temperatures 27F, 27H, 30F, 30H, 35F, 35H is 80.
- Minimum CRI for standard EasyWhite color temperatures, 40F, 40H, 50F, 50H is 70.
- Typical CRI for standard EasyWhite color temperatures 40F, 40H, 50F, 50H is 75.
- \* Flux values @ 25 °C are calculated and for reference only.

# **FLUX CHARACTERISTICS, STANDARD ORDER CODES, BINS, 36-VOLT MT-G2 (185 mA, T<sub>J</sub> = 85 °C)**

The following table provides several base order codes for 36-volt XLamp MT-G2 EasyWhite LEDs. For a complete description of the order-code nomenclature, please reference page 13 of this document.

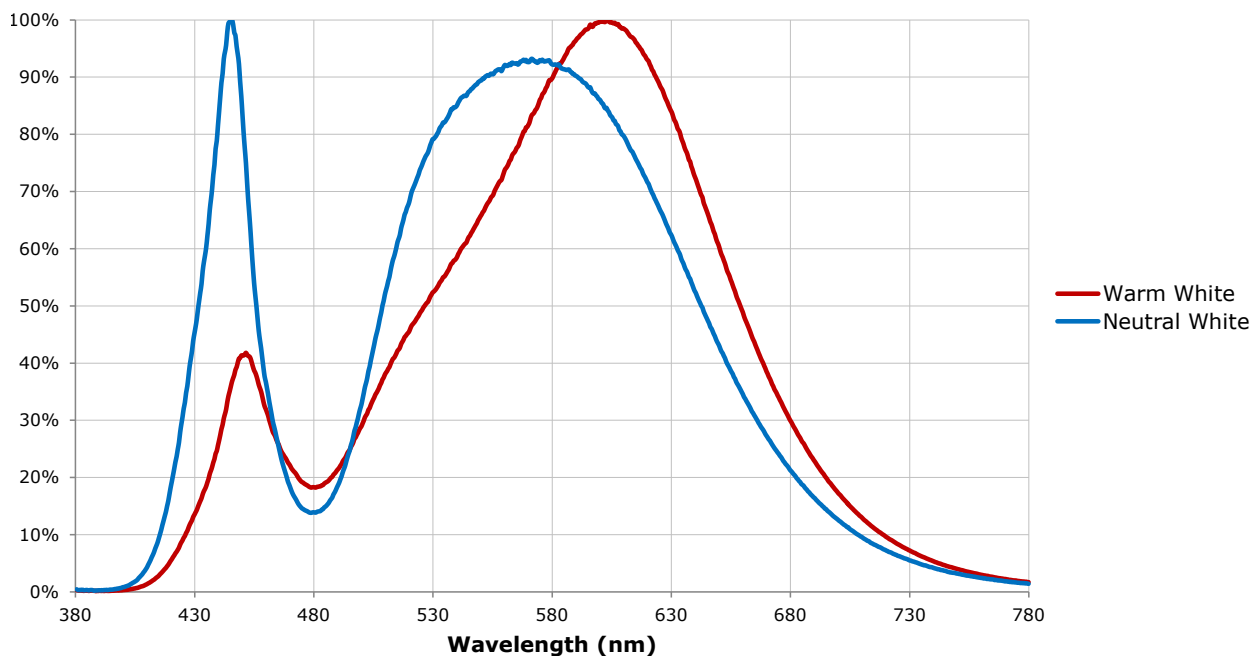
| Color                  | CCT Range | Base Order Codes<br>Min. Luminous Flux (lm)<br>@ 185 mA |                   |                    | 2-Step Order Code   |                          | 4-Step Order Code   |                          |
|------------------------|-----------|---------------------------------------------------------|-------------------|--------------------|---------------------|--------------------------|---------------------|--------------------------|
|                        |           | Group                                                   | Flux (lm) @ 85 °C | Flux (lm) @ 25 °C* | Chromaticity Region |                          | Chromaticity Region |                          |
| Standard CRI EasyWhite | 5000 K    | N0                                                      | 750               | 863                | 50H                 | MTGBEZ-00-0000-0N00N050H | 50F                 | MTGBEZ-00-0000-0N00N050F |
|                        |           | P0                                                      | 800               | 920                |                     | MTGBEZ-00-0000-0N00P050H |                     | MTGBEZ-00-0000-0N00P050F |
|                        | 4000 K    | K0                                                      | 650               | 748                | 40H                 | MTGBEZ-00-0000-0N00K040H | 40F                 | MTGBEZ-00-0000-0N00K040F |
|                        |           | M0                                                      | 700               | 805                |                     | MTGBEZ-00-0000-0N00M040H |                     | MTGBEZ-00-0000-0N00M040F |
|                        |           | N0                                                      | 750               | 863                |                     | MTGBEZ-00-0000-0N00N040H |                     | MTGBEZ-00-0000-0N00N040F |
|                        | 3500 K    | K0                                                      | 650               | 748                | 35H                 | MTGBEZ-00-0000-0N00K035H | 35F                 | MTGBEZ-00-0000-0N00K035F |
|                        |           | M0                                                      | 700               | 805                |                     | MTGBEZ-00-0000-0N00M035H |                     | MTGBEZ-00-0000-0N00M035F |
|                        |           | N0                                                      | 750               | 863                |                     | MTGBEZ-00-0000-0N00N035H |                     | MTGBEZ-00-0000-0N00N035F |
|                        | 3000 K    | J0                                                      | 600               | 690                | 30H                 | MTGBEZ-00-0000-0N00J030H | 30F                 | MTGBEZ-00-0000-0N00J030F |
|                        |           | K0                                                      | 650               | 748                |                     | MTGBEZ-00-0000-0N00K030H |                     | MTGBEZ-00-0000-0N00K030F |
|                        |           | M0                                                      | 700               | 805                |                     | MTGBEZ-00-0000-0N00M030H |                     | MTGBEZ-00-0000-0N00M030F |
|                        | 2700 K    | H0                                                      | 560               | 644                | 27H                 | MTGBEZ-00-0000-0N00H027H | 27F                 | MTGBEZ-00-0000-0N00H027F |
|                        |           | J0                                                      | 600               | 690                |                     | MTGBEZ-00-0000-0N00J027H |                     | MTGBEZ-00-0000-0N00J027F |
|                        |           | K0                                                      | 650               | 748                |                     | MTGBEZ-00-0000-0N00K027H |                     | MTGBEZ-00-0000-0N00K027F |
| 80 CRI EasyWhite       | 5000 K    | M0                                                      | 700               | 805                | 50H                 | MTGBEZ-00-0000-0N0HM050H | 50F                 | MTGBEZ-00-0000-0N0HM050F |
|                        |           | N0                                                      | 750               | 863                |                     | MTGBEZ-00-0000-0N0HN050H |                     | MTGBEZ-00-0000-0N0HN050F |
|                        | 4000 K    | J0                                                      | 600               | 690                | 40H                 | MTGBEZ-00-0000-0N0HJ040H | 40F                 | MTGBEZ-00-0000-0N0HJ040F |
|                        |           | K0                                                      | 650               | 748                |                     | MTGBEZ-00-0000-0N0HK040H |                     | MTGBEZ-00-0000-0N0HK040F |
|                        |           | M0                                                      | 700               | 805                |                     | MTGBEZ-00-0000-0N0HM040H |                     | MTGBEZ-00-0000-0N0HM040F |
| 90 CRI EasyWhite       | 3000 K    | F0                                                      | 480               | 552                | 30H                 | MTGBEZ-00-0000-0N0UF030H | 30F                 | MTGBEZ-00-0000-0N0UF030F |
|                        |           | G0                                                      | 520               | 598                |                     | MTGBEZ-00-0000-0N0UG030H |                     | MTGBEZ-00-0000-0N0UG030F |
|                        | 2700 K    | E0                                                      | 440               | 506                | 27H                 | MTGBEZ-00-0000-0N0UE027H | 27F                 | MTGBEZ-00-0000-0N0UE027F |
|                        |           | F0                                                      | 480               | 552                |                     | MTGBEZ-00-0000-0N0UF027H |                     | MTGBEZ-00-0000-0N0UF027F |

## **Notes:**

- Cree maintains a tolerance of ±7% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and ±2 on CRI measurements.
- Minimum CRI for standard EasyWhite color temperatures 27F, 27H, 30F, 30H, 35F, 35H is 80.
- Minimum CRI for standard EasyWhite color temperatures, 40F, 40H, 50F, 50H is 70.
- Typical CRI for standard EasyWhite color temperatures 40F, 40H, 50F, 50H is 75.
- \* Flux values @ 25 °C are calculated and for reference only.

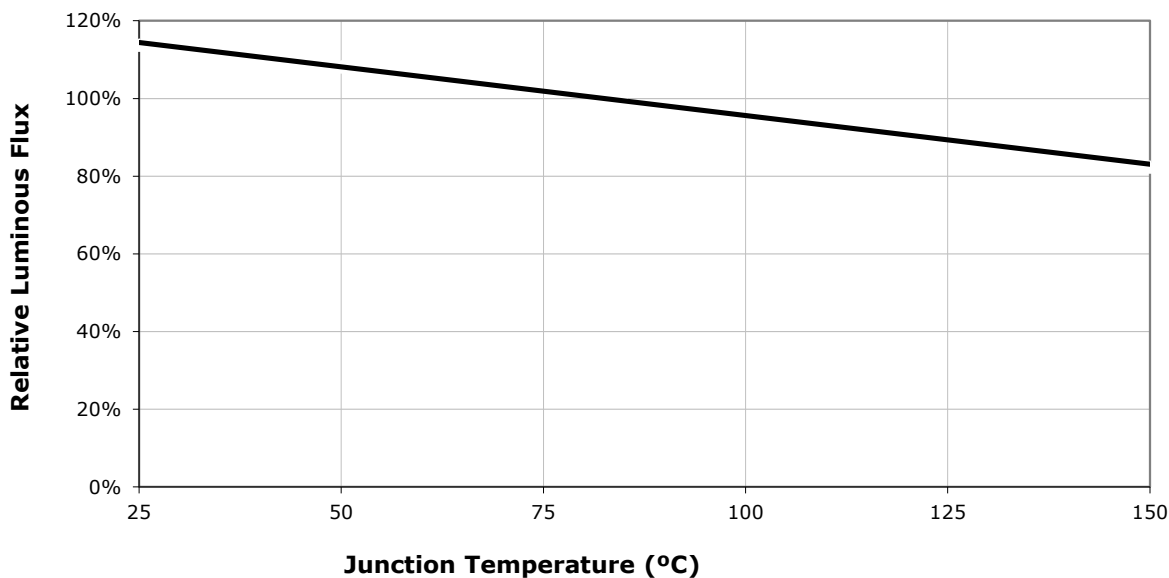
### RELATIVE SPECTRAL POWER DISTRIBUTION (6 V, 1100 mA; 9 V, 735 mA; 36 V, 185 mA; $T_j = 85^\circ\text{C}$ )

The following graph represents typical spectral output of the XLamp MT-G2 EasyWhite LED.

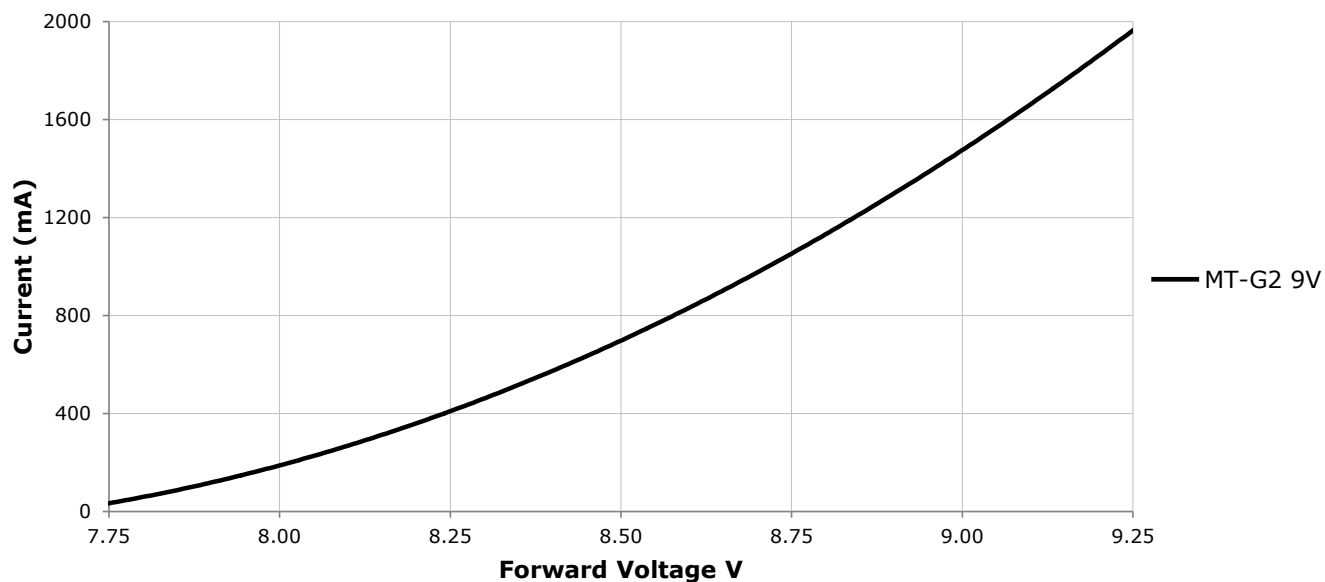
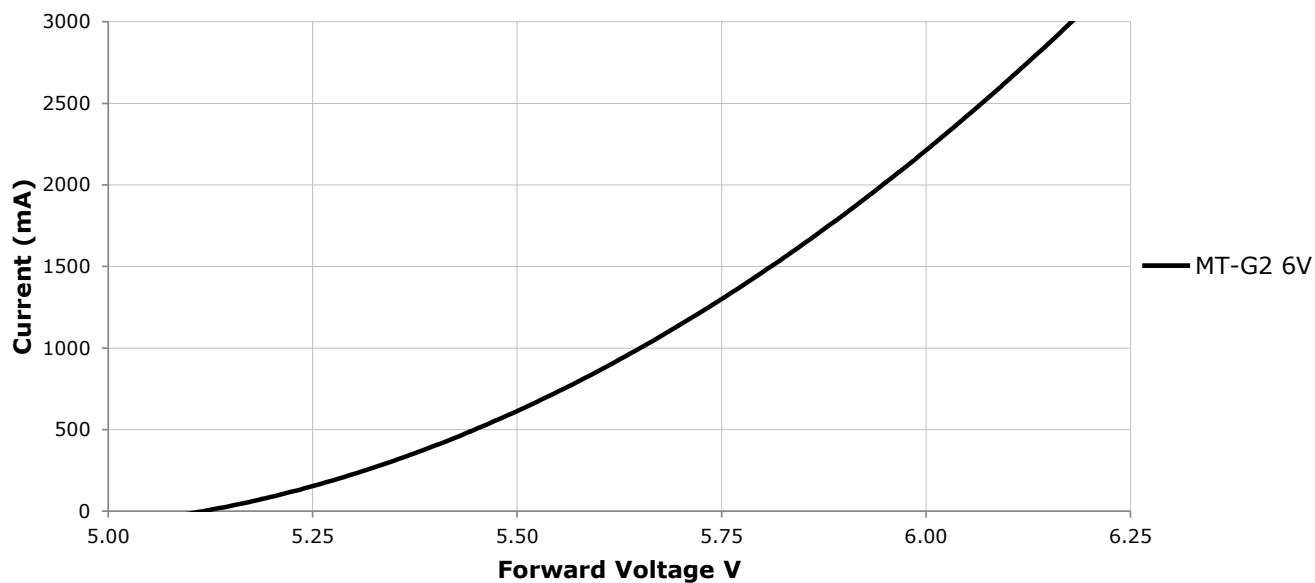


### RELATIVE LUMINOUS FLUX VS. JUNCTION TEMPERATURE (6 V, 1100 mA; 9 V, 735 mA; 36 V, 185 mA)

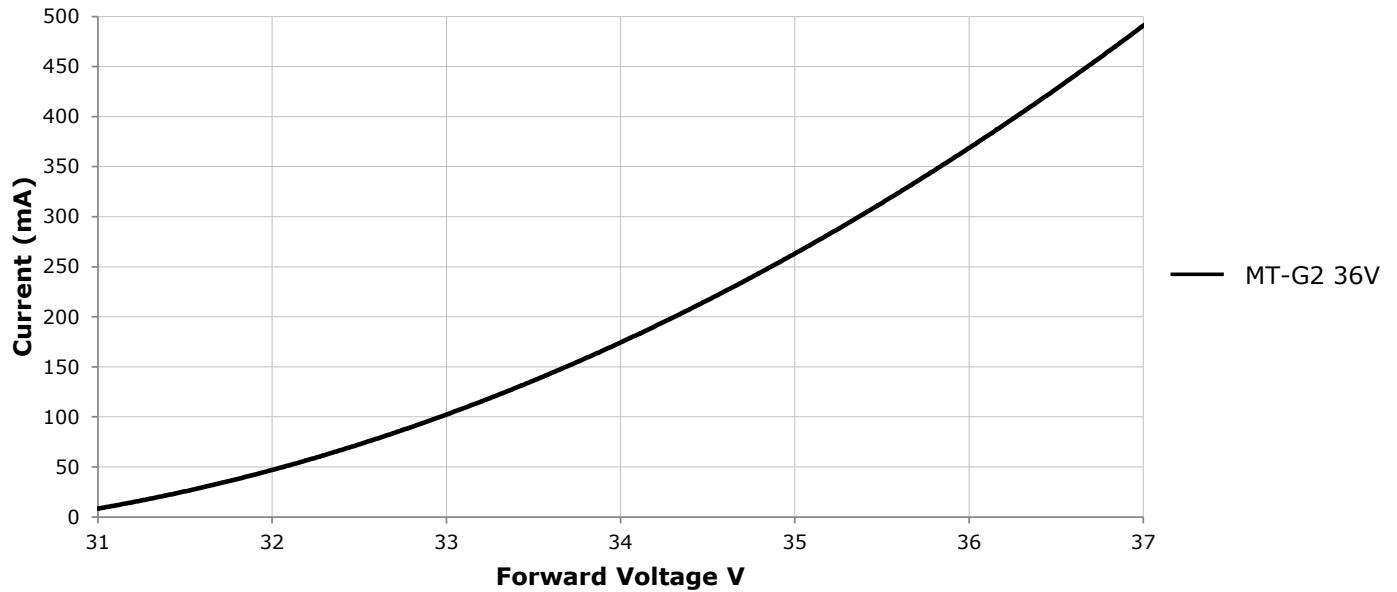
The following graph represents typical performance of the XLamp MT-G2 EasyWhite LED.



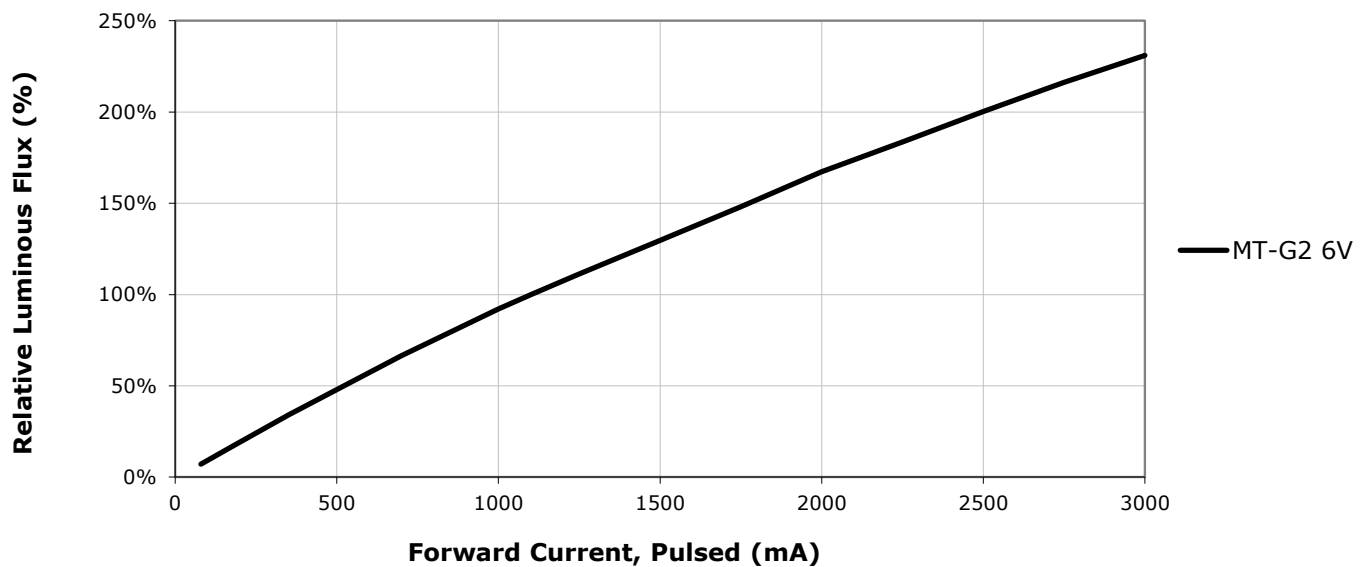
## ELECTRICAL CHARACTERISTICS ( $T_j = 85\text{ }^{\circ}\text{C}$ )



## ELECTRICAL CHARACTERISTICS ( $T_j = 85\text{ }^{\circ}\text{C}$ ) - CONTINUED

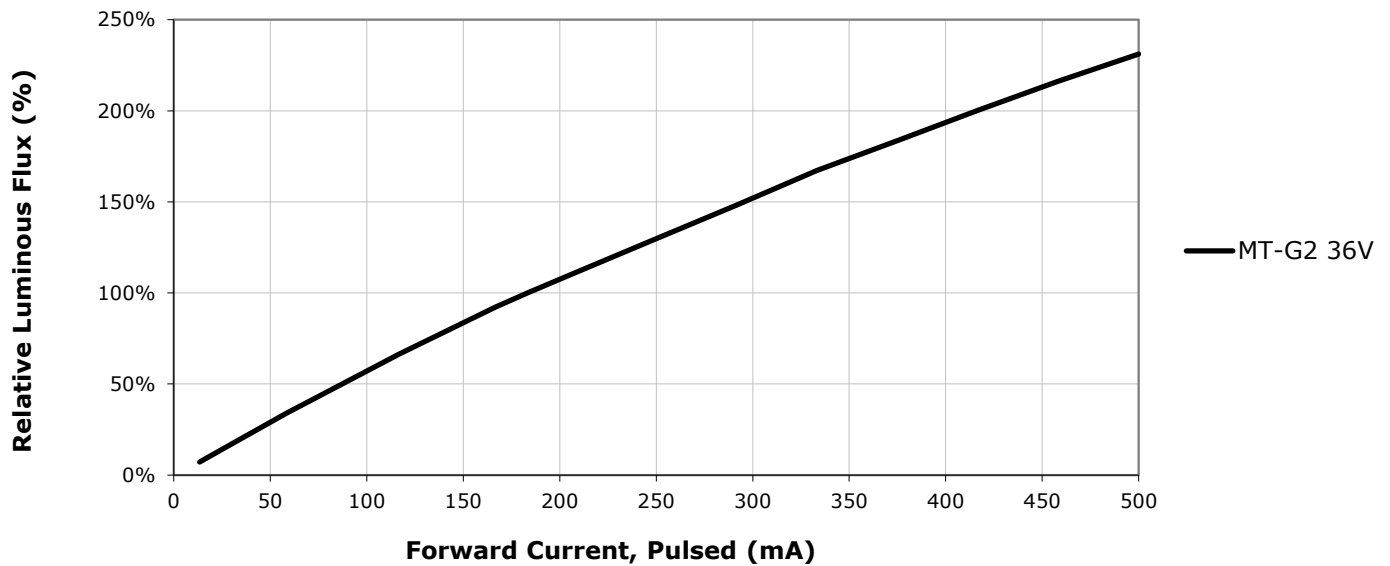
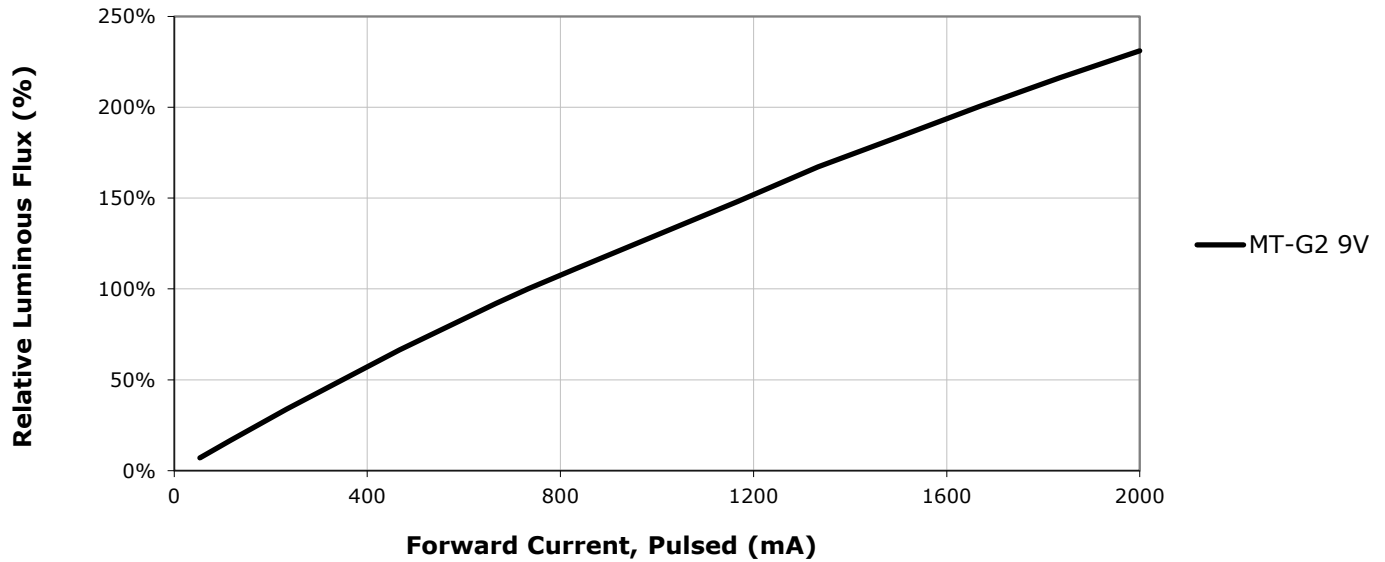


## RELATIVE LUMINOUS FLUX VS. CURRENT ( $T_j = 85\text{ }^{\circ}\text{C}$ )



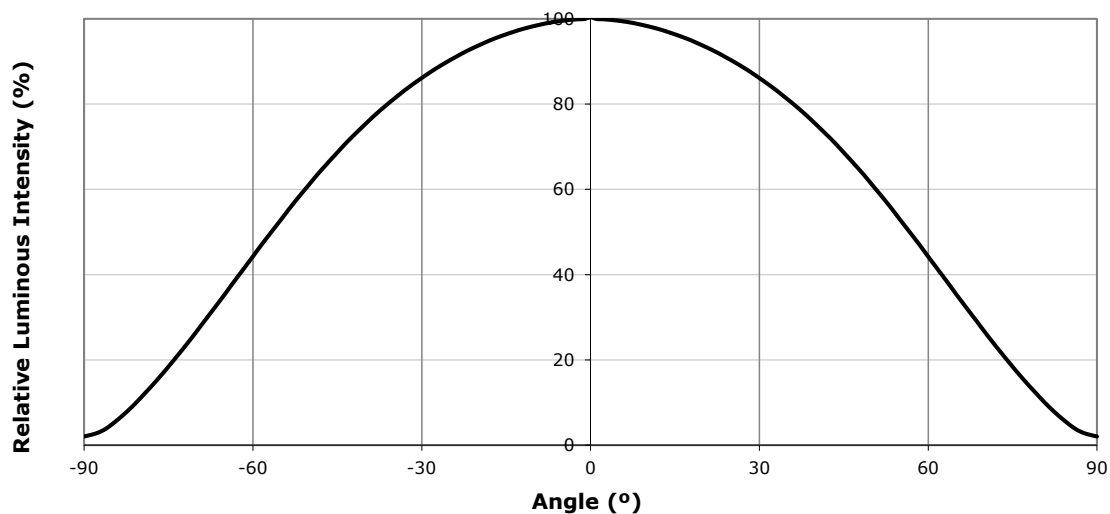


# RELATIVE LUMINOUS FLUX VS. CURRENT ( $T_j = 85^\circ\text{C}$ ) - CONTINUED



## TYPICAL SPATIAL DISTRIBUTION

The following graph represents typical performance of the XLamp MT-G2 EasyWhite LED.



## PERFORMANCE GROUPS – BRIGHTNESS ( $T_j = 85\text{ °C}$ )

XLamp MT-G2 EasyWhite LEDs are tested for luminosity and placed into one of the following bins.

| Group Code | Min. Luminous Flux<br>@ Nominal $I_f$ | Max. Luminous Flux<br>@ Nominal $I_f$ |
|------------|---------------------------------------|---------------------------------------|
| D0         | 400                                   | 440                                   |
| E0         | 440                                   | 480                                   |
| F0         | 480                                   | 520                                   |
| G0         | 520                                   | 560                                   |
| H0         | 560                                   | 600                                   |
| J0         | 600                                   | 650                                   |
| K0         | 650                                   | 700                                   |
| M0         | 700                                   | 750                                   |
| N0         | 750                                   | 800                                   |
| P0         | 800                                   | 860                                   |

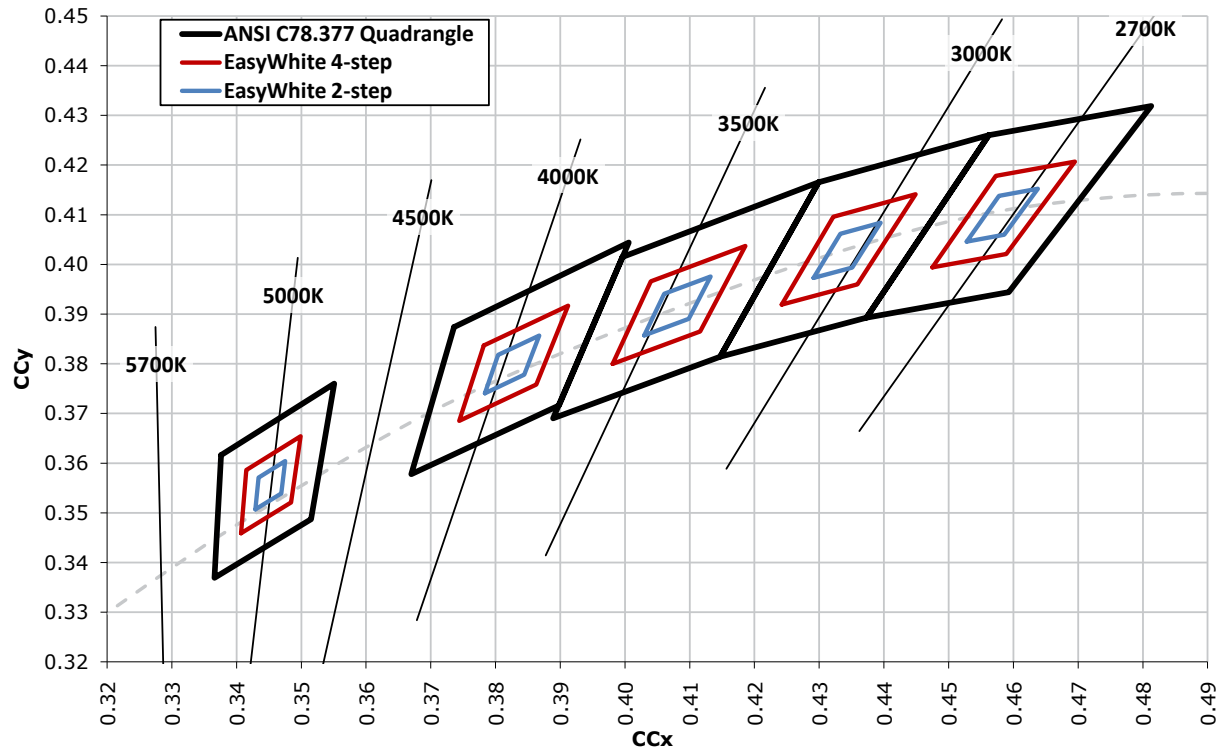
## PERFORMANCE GROUPS – CHROMATICITY ( $T_j = 85\text{ °C}$ )

XLamp MT-G2 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      |
| 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 |

| 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 |

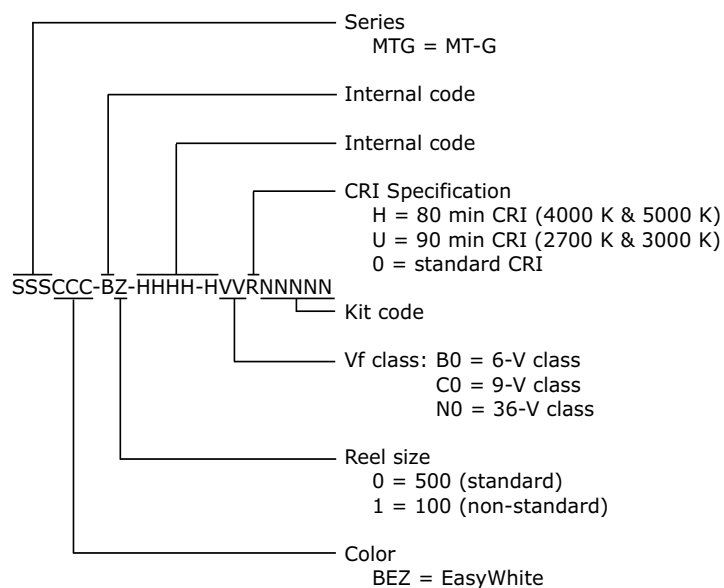
CREE EASYWHITE COLOR TEMPERATURES PLOTTED ON THE 1931 CIE CURVE ( $T_j = 85^\circ\text{C}$ )



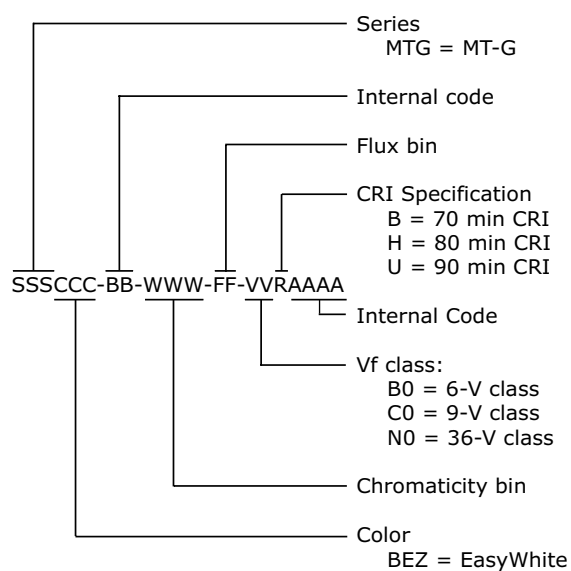
## BIN AND ORDER CODE FORMAT

Bin codes and order codes are configured as follows:

### Order Code



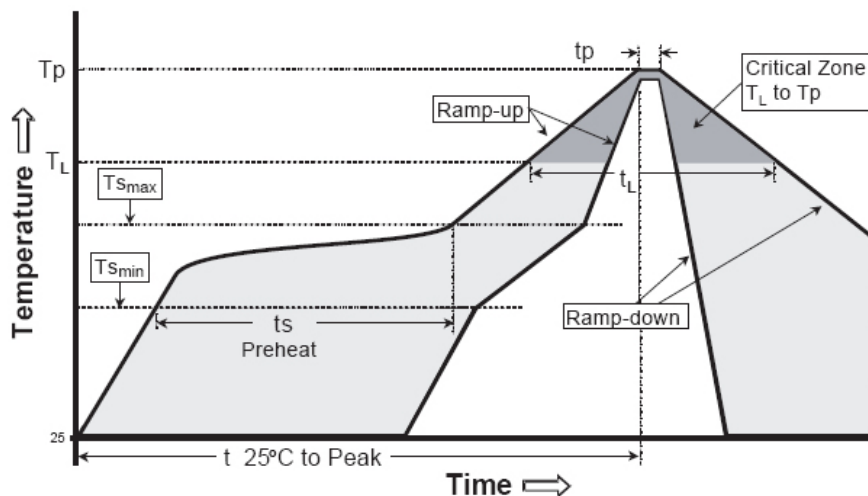
### Bin Code



## REFLOW SOLDERING CHARACTERISTICS

In testing, Cree has found XLamp MT-G2 EasyWhite LEDs to be compatible with JEDEC J-STD-020C, using the parameters listed below. As a general guideline, Cree recommends that users follow the recommended soldering profile provided by the manufacturer of solder paste used.

Note that this general guideline may not apply to all PCB designs and configurations of reflow soldering equipment.



| Profile Feature                                       | Lead-Based Solder | Lead-Free Solder |
|-------------------------------------------------------|-------------------|------------------|
| Average Ramp-Up Rate ( $T_{smax}$ to $T_p$ )          | 3 °C/second max.  | 3 °C/second max. |
| Preheat: Temperature Min ( $T_{smin}$ )               | 100 °C            | 150 °C           |
| Preheat: Temperature Max ( $T_{smax}$ )               | 150 °C            | 200 °C           |
| Preheat: Time ( $t_{smin}$ to $t_{smax}$ )            | 60-120 seconds    | 60-180 seconds   |
| Time Maintained Above: Temperature ( $T_L$ )          | 183 °C            | 217 °C           |
| Time Maintained Above: Time ( $t_L$ )                 | 60-150 seconds    | 60-150 seconds   |
| Peak/Classification Temperature ( $T_p$ )             | 215 °C            | 260 °C           |
| Time Within 5 °C of Actual Peak Temperature ( $t_p$ ) | 10-30 seconds     | 20-40 seconds    |
| Ramp-Down Rate                                        | 6 °C/second max.  | 6 °C/second max. |
| Time 25 °C to Peak Temperature                        | 6 minutes max.    | 8 minutes max.   |

Note: All temperatures refer to the topside of the package, measured on the package body surface.

## NOTES

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### **Lumen Maintenance Projections**

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 at [www.cree.com/xlamp\\_app\\_notes/LM80\\_results](http://www.cree.com/xlamp_app_notes/LM80_results).

### **Moisture Sensitivity**

In testing, Cree has found XLamp MT-G2 EasyWhite LEDs to have unlimited floor life in conditions  $\leq 30^{\circ}\text{C}/85\%$  relative humidity (RH). Moisture testing included a 168-hour soak at  $85^{\circ}\text{C}/85\%$  RH followed by 3 reflow cycles, with visual and electrical inspections at each stage.

Cree recommends keeping XLamp LEDs in their sealed moisture-barrier packaging until immediately prior to use. Cree also recommends returning any unused LEDS to the resealable moisture-barrier bag and closing the bag immediately after use.

### **UL Recognized Component**

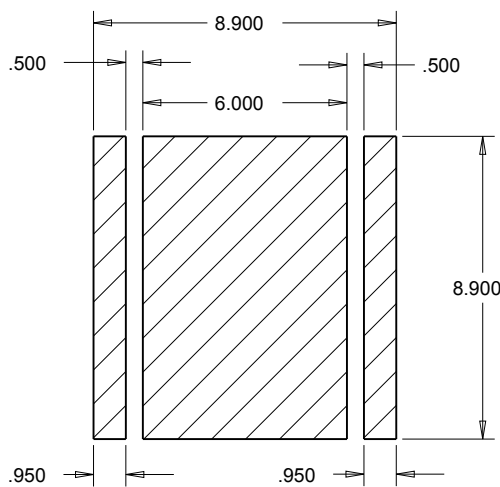
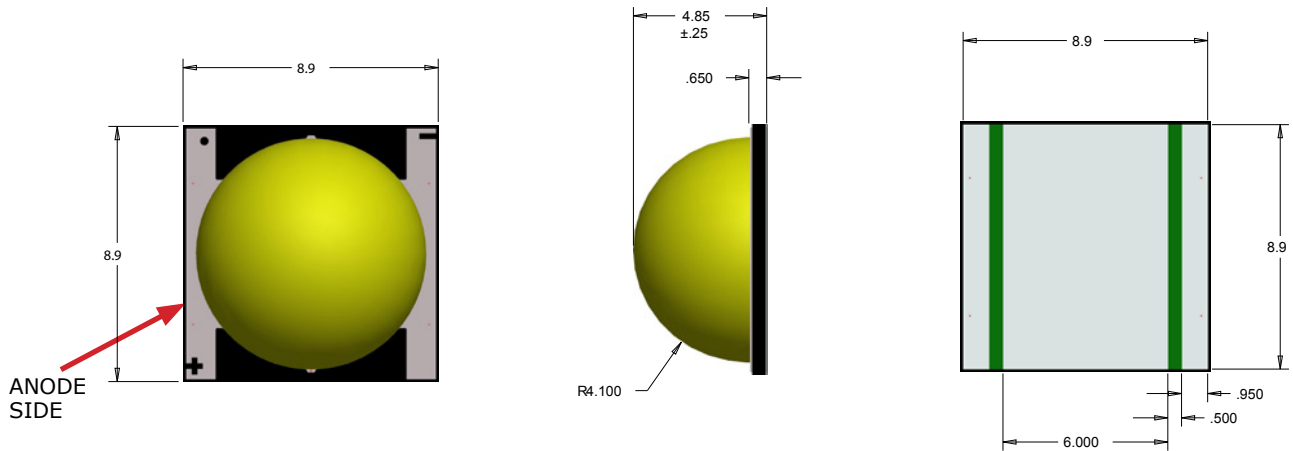
Level 4 enclosure consideration. The LED package or a portion thereof has been investigated as a fire and electrical enclosure per ANSI/UL 8750.

### **Vision Advisory Claim**

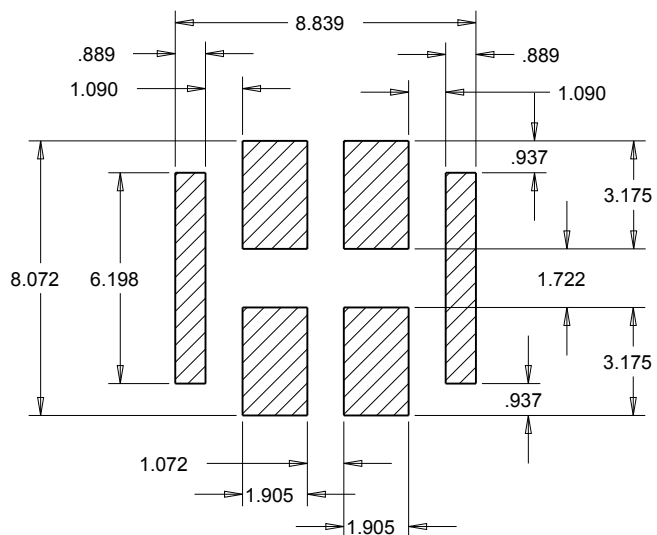
WARNING. Do not look at exposed LED lamps in operation. Eye injury can result. For more information about LEDs and eye safety, please refer to the Cree LED Eye Safety Application Note ([www.cree.com/xlamp\\_app\\_notes/led\\_eye\\_safety](http://www.cree.com/xlamp_app_notes/led_eye_safety)).

### MECHANICAL DIMENSIONS

All measurements are  $\pm .13$  mm unless otherwise indicated.



RECOMMENDED PC BOARD SOLDER PAD



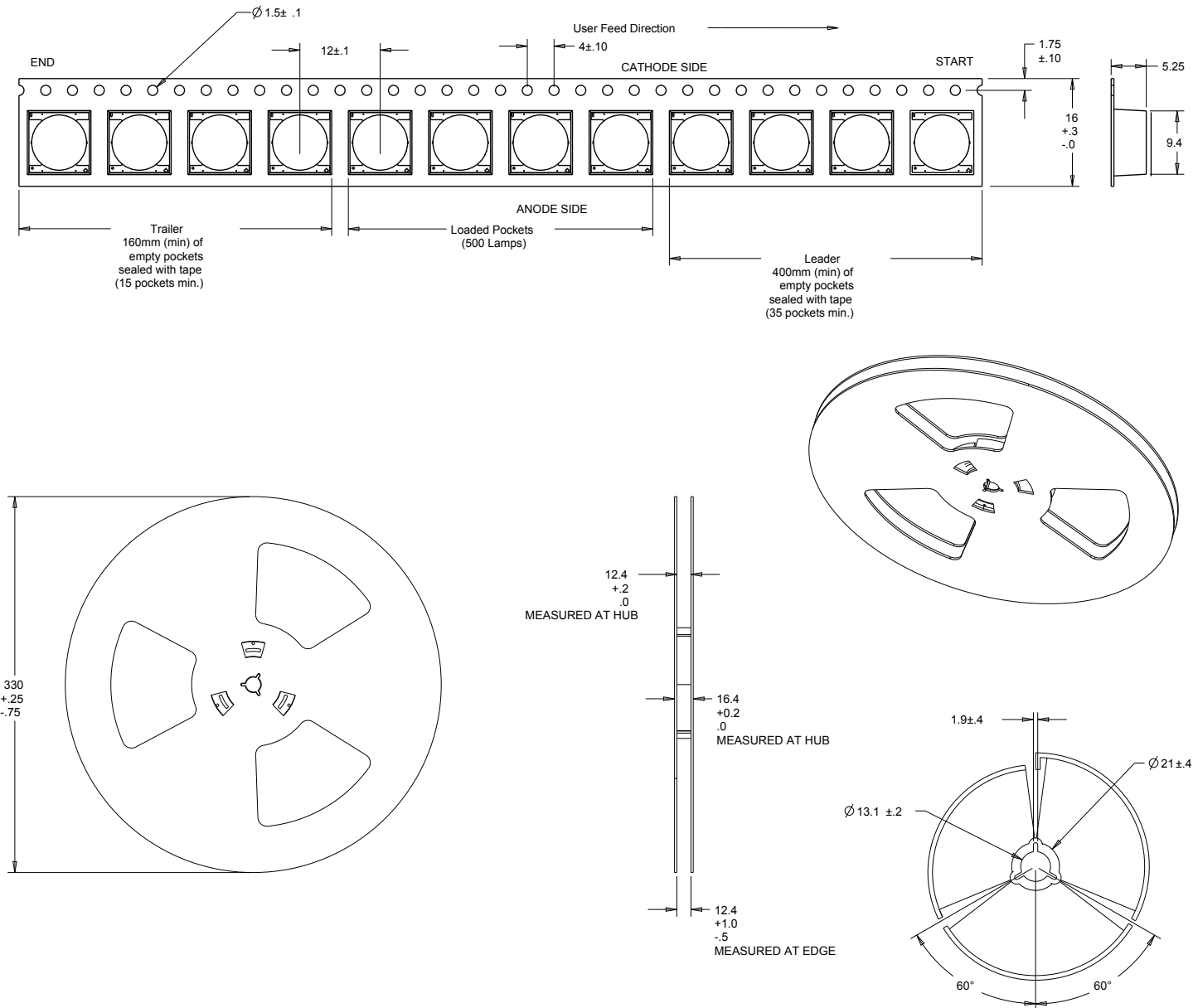
RECOMMENDED STENCIL PATTERN



## TAPE AND REEL

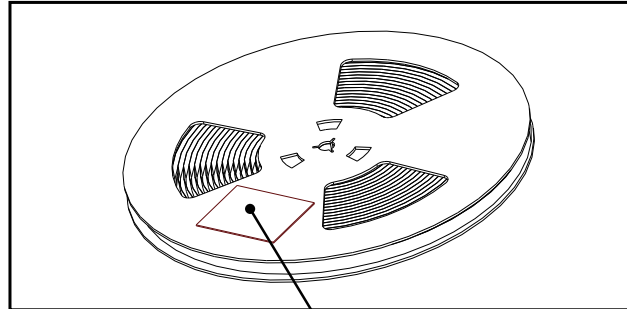
All Cree carrier tapes conform to EIA-481D, Automated Component Handling Systems Standard.

All dimensions in mm.



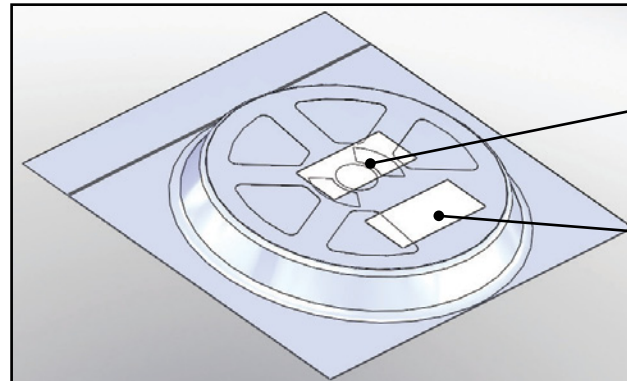
### PACKAGING

#### Unpackaged Reel



Label with Cree Bin Code, Qty, Reel ID

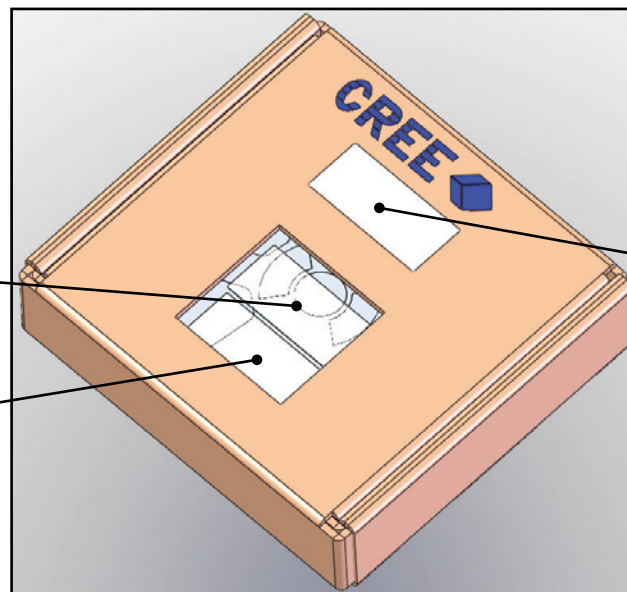
#### Packaged Reel



Label with Cree Order Code, Qty, Reel ID, PO #

Label with Cree Bin Code, Qty, Reel ID

#### Boxed Reel



Label with Cree Order Code, Qty, Reel ID, PO #

Label with Cree Bin Code, Qty, Reel ID

Patent Label



**Стандарт  
Электрон  
Связь**

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Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

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