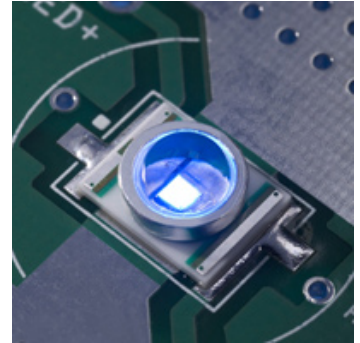


Cree® XLamp® XR-E Blue LED Binning and Labeling

Cree XLamp XR-E LEDs combine the brightness of power LED chips with a rugged package capable of operating in excess of three watts. XLamp LEDs lead the solid-state lighting industry in brightness while providing a reflow-solderable design that is optimized for ease-of-use and thermal management. Lighting applications featuring XLamp LEDs maximize light output and increase design flexibility, while minimizing environmental impact.

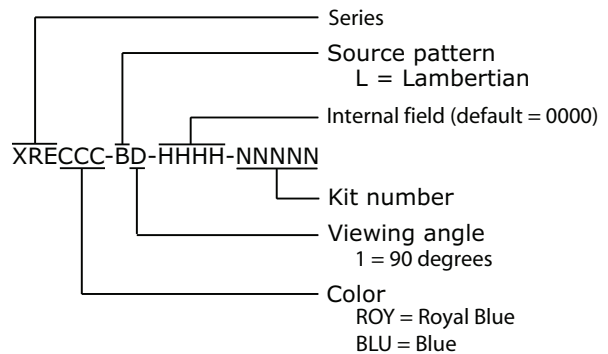


This application note describes Cree's procedures for sorting XLamp LEDs by color (dominant wavelength) and brightness (luminous or radiant flux) and then lists the order codes encompassing these color and brightness groups for easy reference.

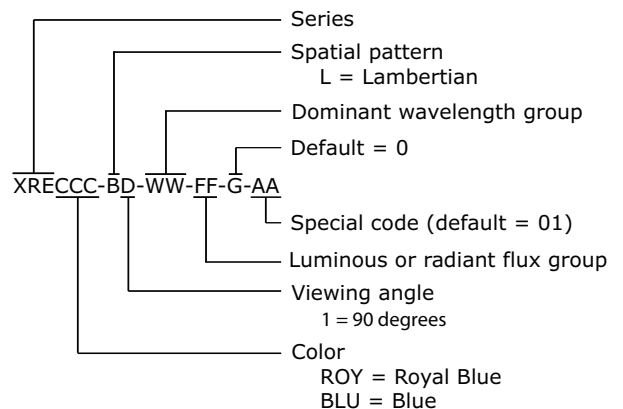
Nomenclature

XLamp LEDs are tested and sorted into performance bins. A bin is specified by ranges of color and brightness. Sorted XLamp LEDs are packaged on reels. A reel contains lamps from one bin and is labeled with its bin code. For more information on packaging, see the XLamp XR-E Blue LEDs data sheet.

XLamp LEDs are sold by order codes in combinations of bins called kits. Order codes are configured in the following manner:



Bin codes are configured in a similar manner:



Performance Groups – Brightness

XLamp LEDs tested for radiant flux are placed into one of the following binned groups:

| Group | Minimum Radiant Flux (mW) @ 350 mA | Maximum Radiant Flux (mW) @ 350 mA |
|-------|---------------------------------------|---------------------------------------|
| 12 | 250 | 300 |
| 13 | 300 | 350 |
| 14 | 350 | 425 |

XLamp LEDs tested for luminous flux are placed into one of the following binned groups:

| Group | Minimum Luminous Flux (lm) @ 350 mA | Maximum Luminous Flux (lm) @ 350 mA |
|-------|--|--|
| G0 | 13.9 | 18.1 |
| H0 | 18.1 | 23.5 |
| J0 | 23.5 | 30.6 |
| K0 | 30.6 | 39.8 |
| M0 | 39.8 | 51.7 |

Performance Groups – Dominant Wavelength

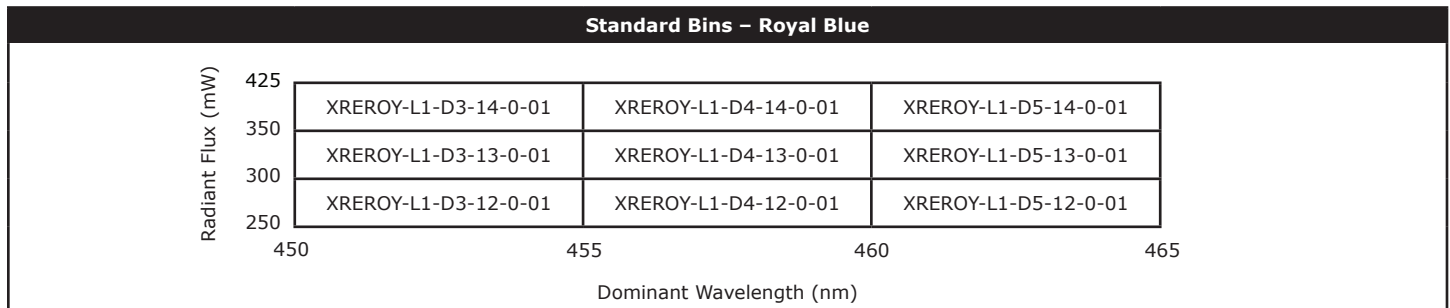
Royal blue and blue XLamp LEDs are tested for dominant wavelength (DWL) and placed into one of the DWL groups defined below.

| Color | DWL Group | Min. DWL (nm) @ 350 mA | Max. DWL (nm) @ 350 mA |
|------------|-----------|---------------------------|---------------------------|
| Royal Blue | D3 | 450 | 455 |
| | D4 | 455 | 460 |
| | D5 | 460 | 465 |
| Blue | B3 | 465 | 470 |
| | B4 | 470 | 475 |
| | B5 | 475 | 480 |
| | B6 | 480 | 485 |

Standard Order Codes and Bins

The following tables list standard order code configurations and performance bins. Contact an authorized Cree distributor if custom order codes are required. Kit numbers completely describe an order code's dominant wavelength groups and flux range.

| Standard Order Codes – Royal Blue | | | |
|-----------------------------------|--------------------------|------|-------------------------------|
| Kit Number | Dominant Wavelength (nm) | | Radiant Flux (mW) @ 350 mA |
| | Min. | Max. | Min. |
| 00701 | 450 | 465 | 250 |



| Standard Order Codes – Blue | | | |
|-----------------------------|--------------------------|------|--------------------------------|
| Kit Number | Dominant Wavelength (nm) | | Luminous Flux (lm) @ 350 mA |
| | Min. | Max. | Min. |
| 00G01 | 465 | 485 | 13.9 |
| 00G02 | 465 | 475 | 13.9 |
| 00H03 | 470 | 480 | 18.1 |

