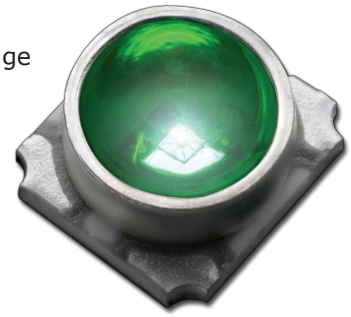
Cree® XLamp® 4550 LEDs
Binning and Labeling



Cree XLamp 4550 LEDs combine the brightness of power LED chips with a rugged package capable of operating in excess of half of a watt. 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 4550 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 dominant wavelength 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 4550 Data Sheet.

XLamp LEDs are sold by order codes in combinations of bins called kits. Kits include a minimum of two dominant wavelength groups and two brightness groups. Order codes are configured in the following manner:

Family	Color	Spatial Pattern	Viewing Angle (degrees)	Kit # Combination of bins
XL4550	ROY	L – Lambertian	100	0001-9999
	BLU			
	GRN			
	AMB			
	RED			

XLamp LED order codes specify package family, color, optical configuration (spatial pattern and viewing angle) and kit number (combination of bins).

Kit number 0001 is always the order code encompassing the broadest range of color and brightness groups.

Performance Groups – Brightness

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

Group	Minimum Luminous Flux (lm) @ 125mA	Maximum Luminous Flux (lm) @ 125mA
A	2.9	3.7
B	3.7	4.8
C	4.8	6.3
D	6.3	8.2
E	8.2	10.7
F	10.7	13.9
G	13.9	18.1
H	18.1	23.5
J	23.5	30.6
K	30.6	39.8

Royal Blue XLamp LEDs are tested for radiant flux and are placed into one of the following groups:

Group	Minimum Radiant Flux (mW) @ 125mA	Maximum Radiant Flux (mW) @ 125mA
03	50	60
04	60	70
05	70	85

Performance Groups – Dominant Wavelenght (DWL)

XLamp 4550 LEDs are tested for dominant wavelength and placed into one of the following groups.

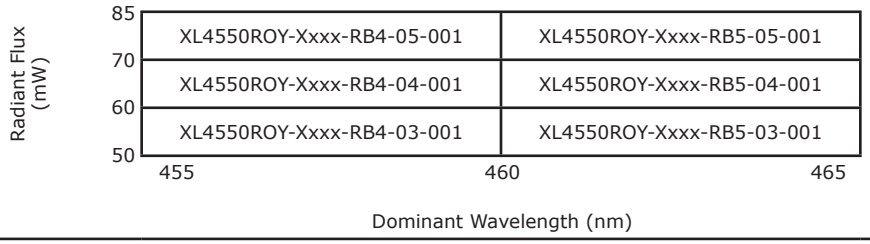
Color	Dominant Wavelength Group	Min. Dominant Wavelength (nm) @ 125mA	Max. Dominant Wavelength (nm) @ 125mA
Royal Blue	RB4	455	460
	RB5	460	465
Blue	B3	465	470
	B4	470	475
Green	G2	520	525
	G3	525	530
	G4	530	535
Amber	A2	585	590
	A3	590	595
Red	R2	620	625
	R3	625	630
	R4	630	635

Standard Order Codes and Bins

The following tables list standard order code configurations and performance bins. Contact Cree Lighting at +1 919.313.5300 if custom order codes are required.

Standard Order Codes – Royal Blue					
Order Code	Bins	DWL (nm)		Radiant Flux (mW)	
		Min.	Max.	Min.	Max.
XL4550ROY-L100-0001	ALL	455	465	ALL	

Standard Bins – Royal Blue



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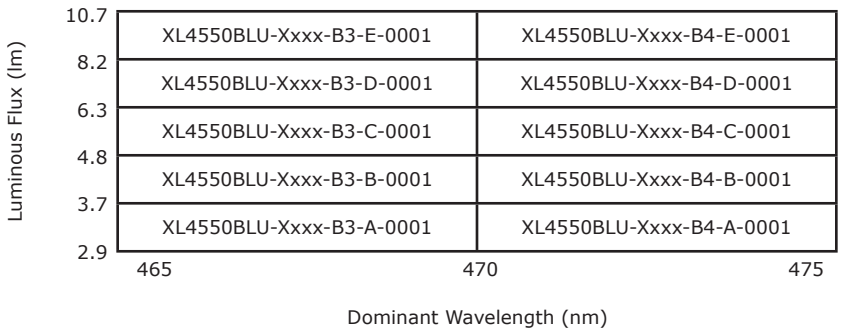
Durham, NC 27703
USA Tel: +1.919.313.5300
www.cree.com/xlamp

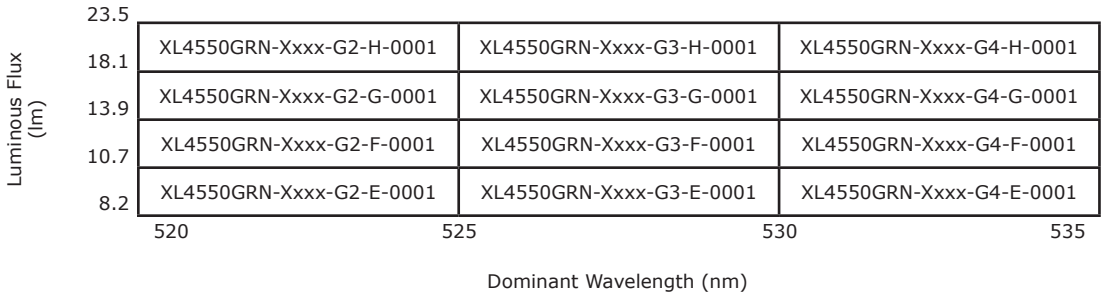
Standard Order Codes – Blue					
Order Code	Bins	DWL (nm)		Luminous Flux (lm)	
		Min.	Max.	Min.	Max.
XL4550BLU-L100-0001	ALL	465	475	ALL	
XL4550BLU-L100-0002	6	465	475	2.9	6.3
XL4550BLU-L100-0003	6	465	475	3.7	8.2
XL4550BLU-L100-0004	4	465	475	2.9	4.8
XL4550BLU-L100-0005	4	465	475	3.7	6.3
XL4550BLU-L100-0006	4	465	475	4.8	8.2
XL4550BLU-L100-0008	4	465	475	6.3	10.7

Standard Bins – Blue



Standard Order Codes – Green					
Order Code	Bins	DWL (nm)		Luminous Flux (lm)	
		Min.	Max.	Min.	Max.
XL4550GRN-L100-0001	ALL	520	535	ALL	
XL4550GRN-L100-0005	6	520	535	8.2	13.9
XL4550GRN-L100-0007	4	520	530	8.2	13.9
XL4550GRN-L100-0008	9	520	535	10.7	23.5

Standard Bins – Green



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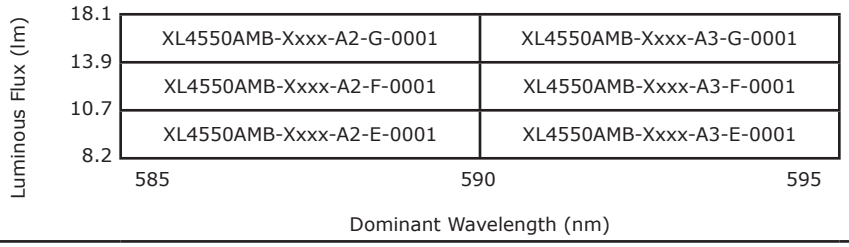
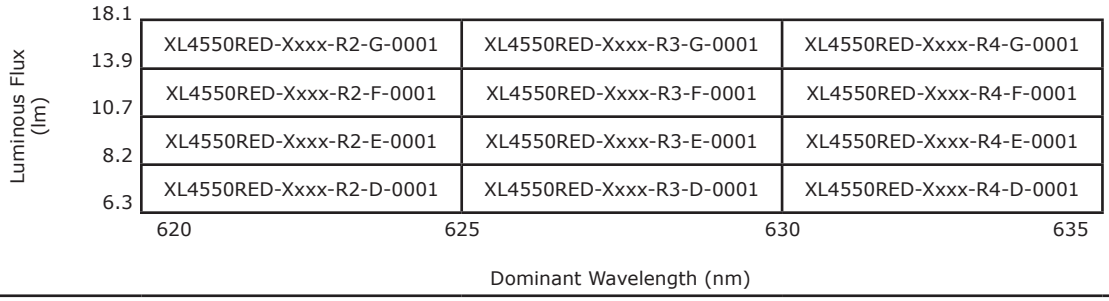
Standard Order Codes – Amber					
Order Code	Bins	DWL (nm)		Luminous Flux (lm)	
		Min.	Max.	Min.	Max.
XL4550AMB-L100-0001	ALL	585	595	ALL	
XL4550AMB-L100-0002	2	585	595	10.7	13.9

Standard Bins – Amber



Standard Order Codes – Red					
Order Code	Bins	DWL (nm)		Luminous Flux (lm)	
		Min.	Max.	Min.	Max.
XL4550RED-L100-0001	ALL	620	635	ALL	
XL4550RED-L100-0011	9	620	635	8.2	18.1

Standard Bins – Red



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