XLamp® XQ-A LED Product Change Notification

Customer Name: XQ-A LED Customers

PCN Reference Number: CreeLED-PCN-5263
Date Issued: March 2, 2022

Please be advised that Cree LED is making improvements to the performance and physical characteristics of XLamp® XQ-A White, Blue, PC Blue, Green, PC Amber LEDs.

Please review the additional PCN information below.

Affected Product

Table 1 provides a list of products affected by this Major change:

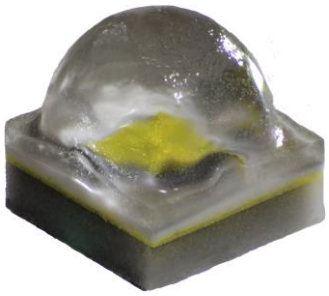
Table 1 Affected Products List

Cree LED Product Family	Cree LED Part Number
XQ-A White	XQAAWT-xx-xxxx-xxxxxxxxx
XQ-A Blue	XQABLU-xx-xxxx-xxxxxxxxx
XQ-A PC Blue	XQAAPB-xx-xxxx-xxxxxxxxx
XQ-A Green	XQAGRN-xx-xxxx-xxxxxxxxx
XQ-A PC Amber	XQAAPA-xx-xxxx-xxxxxxxxx

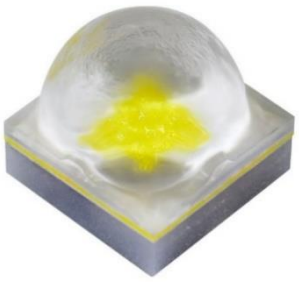
Description of the Change

The visual appearance of the XQ-A LEDs will change. Examples of the current and new visual appearances are shown below.

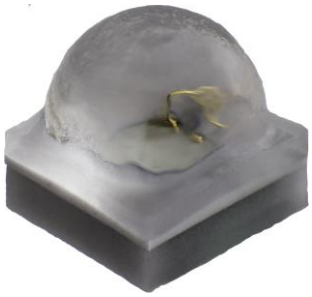
XQ-A White Current Appearance



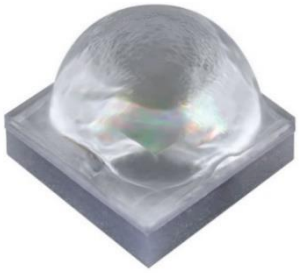
XQ-A White New Appearance



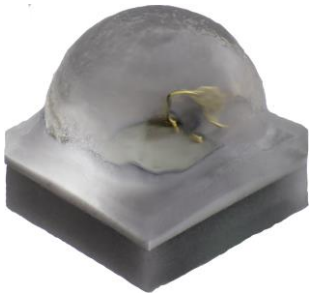
XQ-A Blue Current Appearance



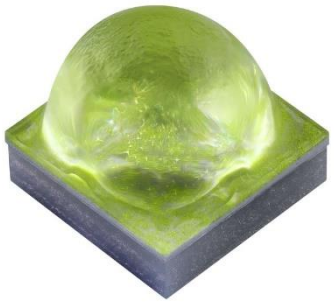
XQ-A Blue New Appearance



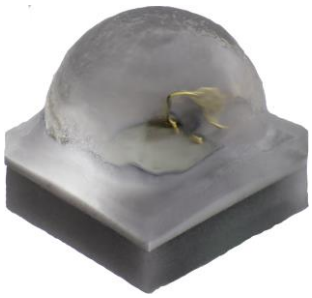
XQ-A PC Blue Current Appearance



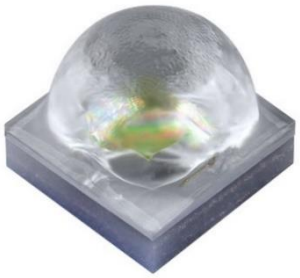
XQ-A PC Blue New Appearance



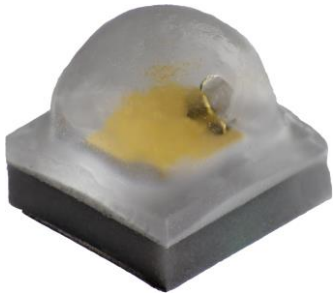
XQ-A Green Current Appearance



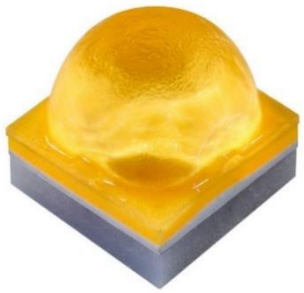
XQ-A Green New Appearance



XQ-A PC Amber Current Appearance



XQ-A PC Amber New Appearance



Cree LED will be changing the maximum drive current for XQ-A Blue, PC Blue, Green, and PC Amber LEDs. Table 2 shows the current and new values.

Table 2 XQ-A Color Current and New Values

XQ-A LED	Maximum Drive Current (mA)	
	Current	New
Blue	250	300
PC Blue	250	300
Green	250	300
PC Amber	250	300

Cree LED will be changing the typical forward voltage, temperature coefficient of voltage, and thermal resistance characteristics for XQ-A White, Blue, PC Blue, Green, PC Amber LEDs. Table 3 and**Error! Reference source not found.** Table 4 show the current and new values.

Table 3 XQ-A White Current and New Values

XQ-A LED	Typical Forward Voltage (V @ 175 mA, 85°C)		Temperature Coefficient of Voltage (mV/°C)		Thermal Resistance (°C/W)	
	Current	New	Current	New	Current	New
White	3.0	2.9	-1.2	-1.1	12	17

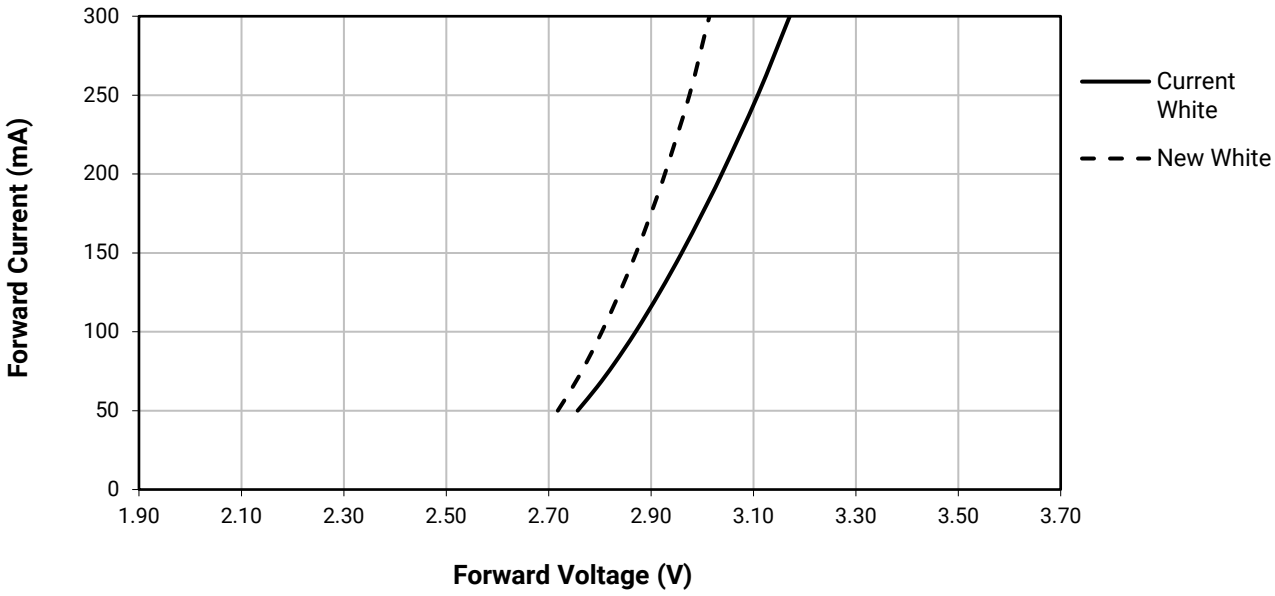
Table 4 XQ-A Color Current and New Values

XQ-A LED	Typical Forward Voltage (V @ 175 mA, 25°C)		Temperature Coefficient of Voltage (mV/°C)		Thermal Resistance (°C/W)	
	Current	New	Current	New	Current	New
Blue	3.0	3.0	-1.1	-1.1	9	15

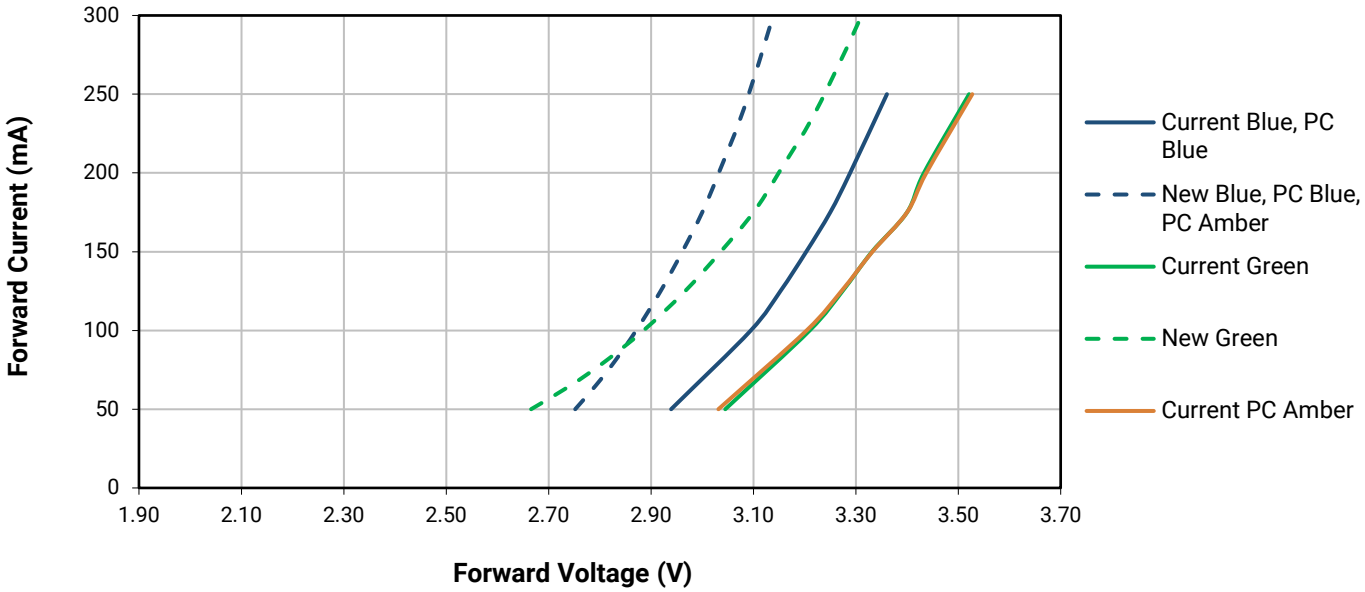
XQ-A LED	Typical Forward Voltage (V @ 175 mA, 25°C)		Temperature Coefficient of Voltage (mV/°C)		Thermal Resistance (°C/W)	
	Current	New	Current	New	Current	New
PC Blue	3.25	3.0	-4	-1.1	17	15
Green	3.1	3.1	-1.3	-1.2	17	22
PC Amber	3.4	3.0	-4.2	-1.1	20	20

The following graphs show the improved Forward Voltage vs. Current curves (Tj = 85°C).

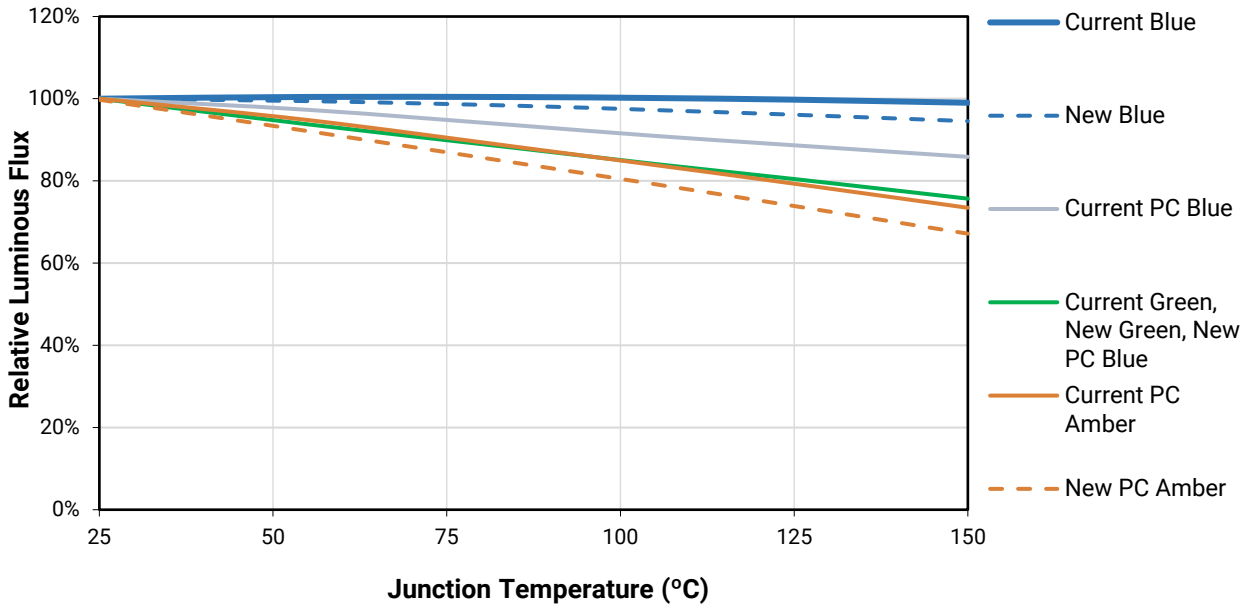
XQ-A White



XQ-A Color



Cree LED will be changing the Relative Flux Output vs. Junction Temperature for PC Blue, and PC Amber LEDs.

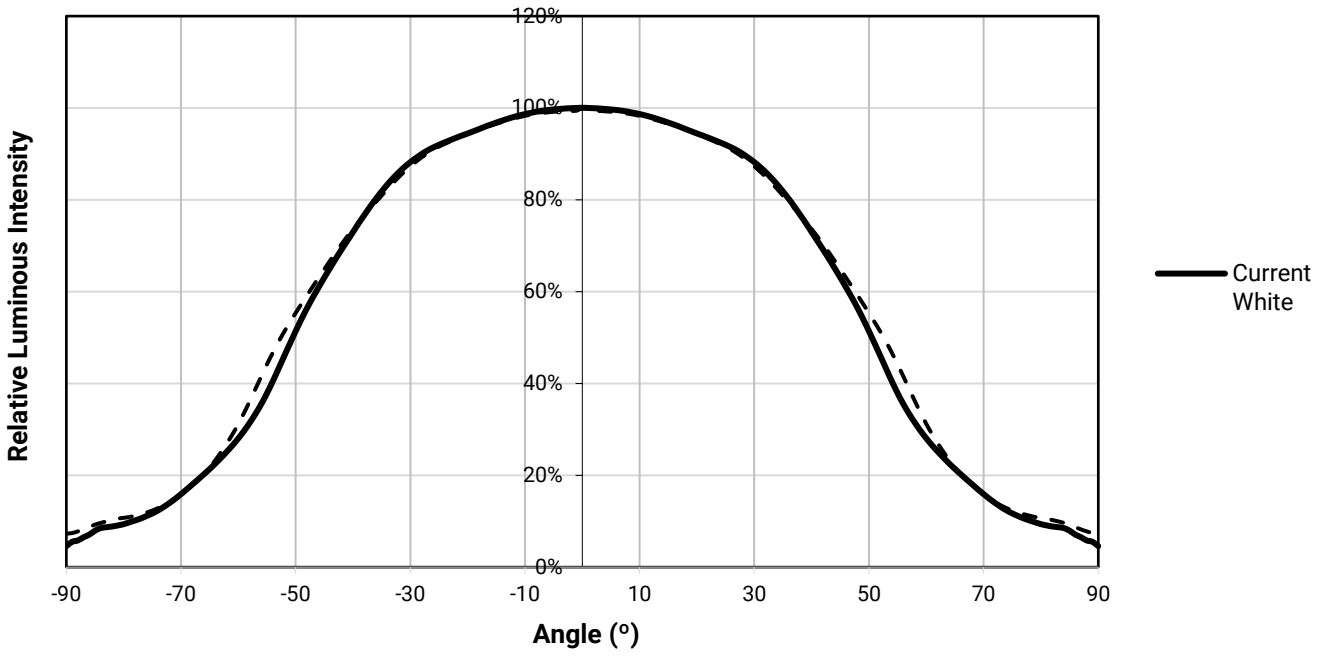


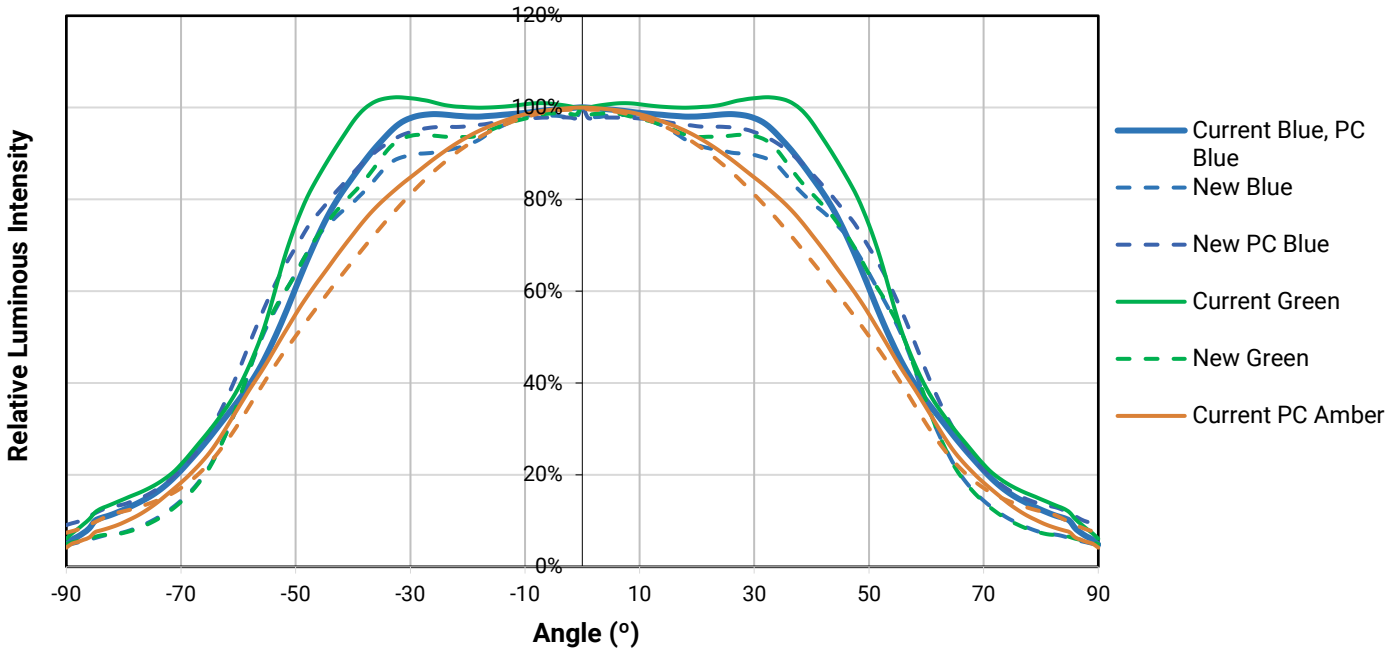
Cree LED will be changing the typical viewing angle for the XQ-A LEDs. Table 5 shows the current and new values.

Table 5 LED Product Characteristics; Current Values & Estimated New Values

Cree LED Product Family	Cree LED Part Number	Current Typical	New Typical
XQ-A White	XQAAWT-xx-xxxx-xxxxxxxxx	100°	105°
XQ-A Blue	XQABLU-xx-xxxx-xxxxxxxxx	105°	115°
XQ-A PC Blue	XQAAPB-xx-xxxx-xxxxxxxxx	105°	115°
XQ-A Green	XQAGRN-xx-xxxx-xxxxxxxxx	110°	115°
XQ-A PC Amber	XQAAPA-xx-xxxx-xxxxxxxxx	105°	100°

Far field comparisons between the current and new XQ-A LEDs are shown below.





Ray files for new LEDs will be available on cree-led.com on or before March 9th, 2022, at the following addresses:

https://cree-led.com/products/xlamp-leds-discrete/xlamp-xq-a

The ray files for new LEDs will be posted using the following link titles:

- XQ-A Post PCN 5263 Cool-White Optical Source Model - ProSource 8 (zip)
- XQ-A Post PCN 5263 Blue Optical Source Model - ProSource 8 (zip)
- XQ-A Post PCN 5263 PC Blue Optical Source Model - ProSource 8 (zip)
- XQ-A Post PCN 5263 Green Optical Source Model - ProSource 8 (zip)
- XQ-A Post PCN 5263 PC Amber Optical Source Model - ProSource 8 (zip)

Reason for the Change

This change is being made to utilize our latest technology platform and increase efficiency on XLamp XQ-A LEDs. Additionally, this change will result in better manufacturing flexibility and improved lead times.

Change Impact on Form, Fit, Function, or Reliability

This change has no impact on the form, fit, or reliability of these LEDs beyond the changes listed above.

Key Dates

Table 6 provides estimated dates for initial shipments of the LEDs affected by this change.

Table 6 Estimated Initial Shipment Dates

Estimated Initial Ship Date:	**90 days from PCN Issue Date**

Starting on the estimated shipment dates in Table 6, customers may receive LEDs with the improved characteristics. Each reel will contain only LEDs with the current performance or only LEDs with the new performance characteristics. Reels of new performance LEDs can be identified by an "**A**" in the last character of the bin code. The bin code is clearly identified on each packaged reel.

Current and new performance LEDs will not be contained in the same shipment. Current performance LEDs will be shipped until Cree LED's inventory of the current performance LEDs is depleted. Customers purchasing through a distributor will be further delayed seeing this change until the inventory with the current performance is depleted from distributor stock.

XLamp XQ-A LED datasheet is available at https://cree-led.com/media/documents/ds-XQA.pdf and will be updated with changes described in this PCN on or before the Estimated Initial Ship Date in Table 6.

Cree LED Contact Information

If you have any questions regarding this PCN please contact:

Table 7 Cree LED's PCN Contact

Contact:	Cree LED Customer Service
Contact E-Mail:	xlampsales@cree-led.com
Contact Phone:	US toll free: 1-844-273-3533 Outside the US: +1 919-313-5301
Address:	CreeLED, Inc. 4400 Silicon Dr. Durham, NC 27703-8475 USA