

## Cree® XLamp® Color LED Product Change Notification

**Customer Name:** Color XP-E2, XQ-E HD &  
XQ-E HI LED customers

**PCN Reference Number:** CREE-PCN-1009  
**Date Issued:** May 6, 2020

Please be advised that Cree is making improvements to the voltage characteristics of XLamp® XP-E2 color, XQ-E High Density (HD) color and XQ-E High Intensity (HI) color LEDs.

Please review the additional PCN information below.

### Affected Product

Table 1 provides a list of products affected by this change.

*Table 1 Affected Products List*

Cree Part Number	Cree Part Number	Cree Part Number
XPEBRY-xx-xxxx-xxxxx	XQEROY-xx-xxxx-xxxxxxxxxxx	XQEROY-Hx-xxxx-xxxxxxxxxxx
XPEBBL-xx-xxxx-xxxxx	XQEBLU-xx-xxxx-xxxxxxxxxxx	XQEBLU-Hx-xxxx-xxxxxxxxxxx
XPEBGR-xx-xxxx-xxxxx	XQEGRN-xx-xxxx-xxxxxxxxxxx	XQEAPB-Hx-xxxx-xxxxxxxxxxx
XPEBPA-xx-xxxx-xxxxx	XQEAPA-xx-xxxx-xxxxxxxxxxx	XQEGRN-Hx-xxxx-xxxxxxxxxxx
XPEBAM-xx-xxxx-xxxxx	XQERDO-xx-xxxx-xxxxxxxxxxx	XQEAPA-Hx-xxxx-xxxxxxxxxxx
XPEBRO-xx-xxxx-xxxxx	XQERED-xx-xxxx-xxxxxxxxxxx	
XPEBRD-xx-xxxx-xxxxx		

### Description of the Change

Cree will be changing the typical forward voltage, temperature coefficient of voltage, and thermal resistance characteristics for XP-E2 color, XQ-E HD color and XQ-E HI color LEDs. Table 2 **Error! Reference source not found.**, Table 3, and Table 4 show the current and new values.

*Table 2 XP-E2 Current and New Values*

XP-E2 LED	Typical Forward Voltage (V @ 350 mA, 25 °C)		Temperature Coefficient of Voltage (mV/°C)		Thermal Resistance (°C/W)	
	Current	New	Current	New	Current	New
Royal Blue	3.1	2.93	-3.3	-1.5	9	7
Blue	3.1	2.95	-3.3	-1.9	9	7
Green	3.2	3	-3.8	-1.2	15	11
PC Amber	3.05	3	-2.5	-2.5	9	8
Amber	2.2	2.18	-1.8	-2.1	7	6
Red-Orange	2.2	2.18	-1.8	-1.8	5	4
Red	2.2	2.18	-1.8	-1.8	5	4

Table 3 XQ-E High Density Current and New Values

XQ-E HD LED	Typical Forward Voltage (V @ 350 mA, 25 °C)		Temperature Coefficient of Voltage (mV/°C)		Thermal Resistance (°C/W)	
	Current	New	Current	New	Current	New
Royal Blue	3.1	2.9	-3.3	-1.2	6	4
Blue	3.1	2.95	-3.3	-1.2	6	6
Green	3.2	3.0	-3.8	-2.3	9	7
PC Amber	3.1	2.9	-3.3	-1.2	8	7
Red-Orange	2.2	2.18	-1.8	-1.8	5	5
Red	2.2	2.18	-1.8	-1.8	5	5

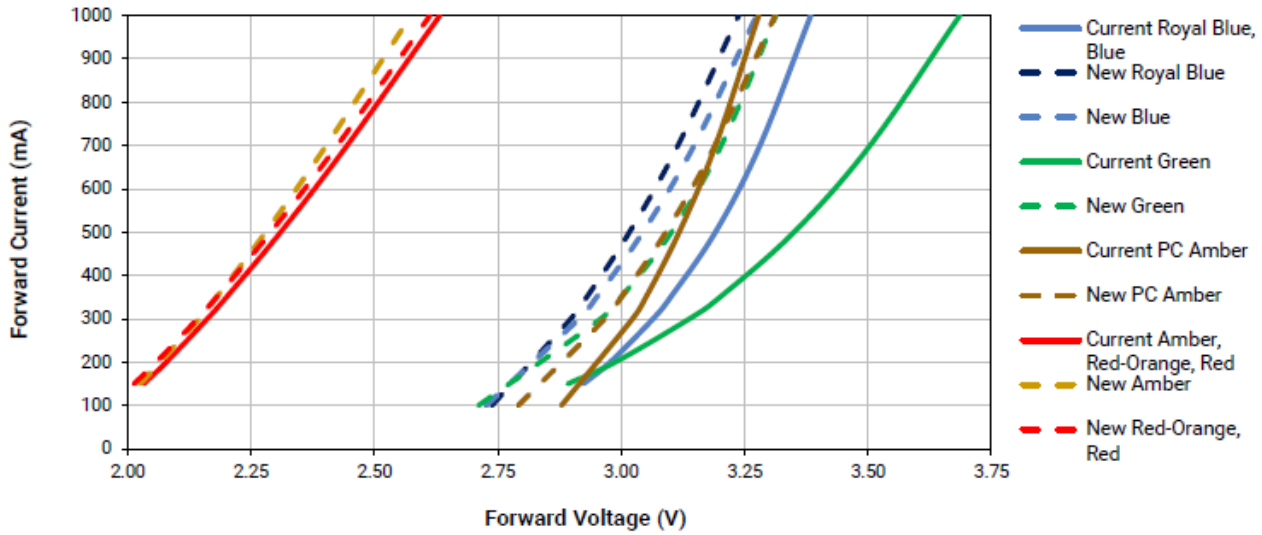
Table 4 XQ-E High Intensity Current and New Values

XQ-E HI LED	Typical Forward Voltage (V @ 350 mA, 25 °C)		Temperature Coefficient of Voltage (mV/°C)		Thermal Resistance (°C/W)	
	Current	New	Current	New	Current	New
Royal Blue	3.1	2.9	-3.3	-1.2	6	4
Blue	3.1	2.95	-3.3	-1.2	6	6
PC Blue	3.1	3.0	-3.3	-1.2	6	6
Green	3.2	3.0	-3.8	-2.3	9	7
PC Amber	3.1	2.9	-3.3	-1.2	8	7

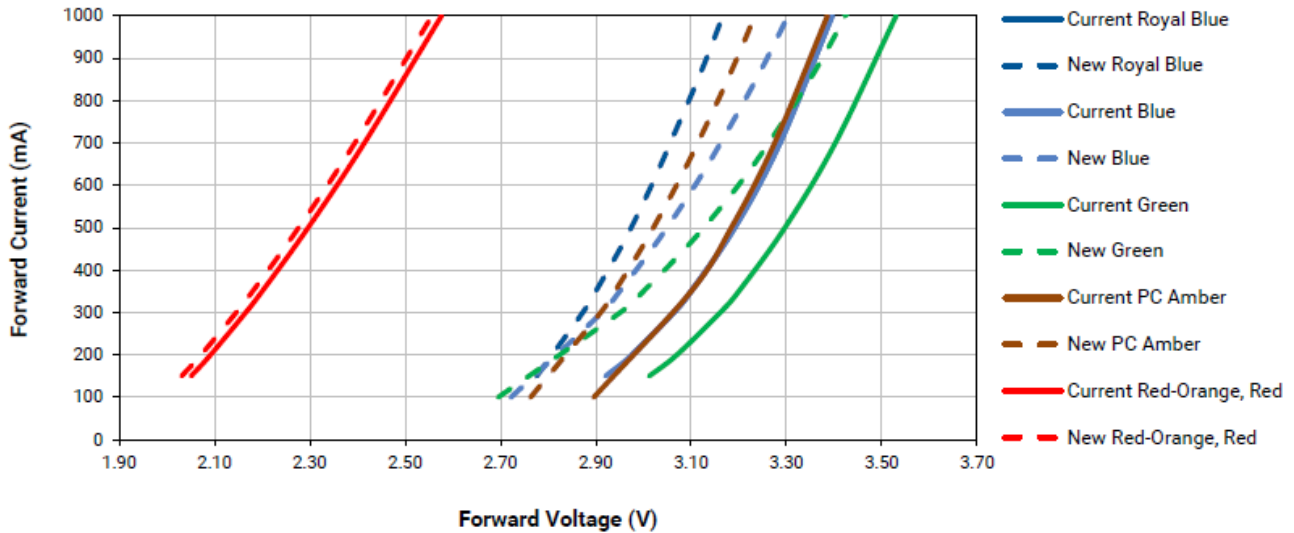
New luminous flux bins will be available as a result of these improvements. The new bins will be reflected in the data sheets when these changes are implemented.

The following graphs show the improved Forward Voltage vs. Current curves.

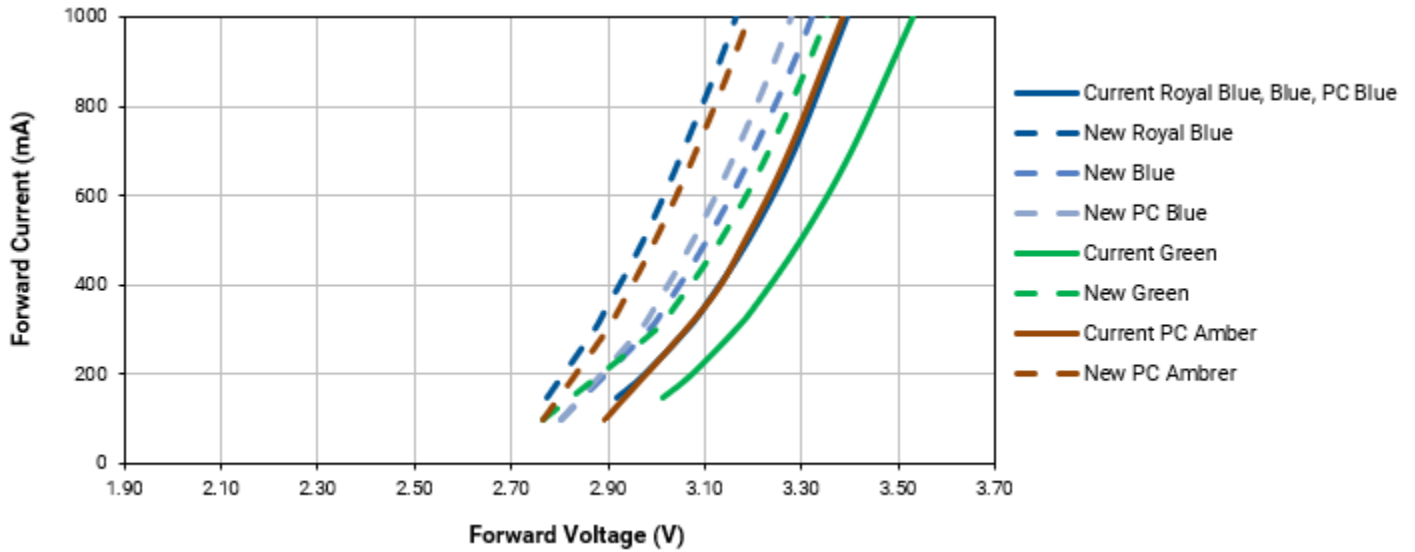
## XP-E2



## XQ-E HD



**XQ-E HI**



**Reason for the Change**

This change is being made to improve performance for our customers.

**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 5 provides estimated dates for initial shipments of the LEDs affected by this change.

*Table 5 Estimated Initial Shipment Dates*

XP-E2	June 30, 2020
XQ-E HD	June 30, 2020
XQ-E HI	June 30, 2020

Starting on the estimated shipment dates in Table 5, 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 “8” in the last character of the bin code. The bin code is clearly identified on each packaged reel.

Customers may receive shipments containing both the current and new performance LEDs in the same shipment until Cree’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.

## Cree Contact Information

If you have any questions regarding this PCN please contact:

*Table 6 PCN Contact*

<b>Cree Contact:</b>	LEDs Customer Service
<b>Cree Contact E-mail:</b>	<a href="mailto:xlampsales@cree.com">xlampsales@cree.com</a>
<b>Address:</b>	4600 Silicon Dr. Durham, NC 27703