

Press Information

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Philips Lumileds breaks 200 lm/W barrier with LUXEON Lime LEDs

With parts exceeding 200 lm/W efficacy, Philips Lumileds LUXEON Rebel ES Lime emitters enable the most efficient, tunable white light.

San Jose, CA – Lime, the newest addition to the widely renowned LUXEON color portfolio of LEDs from Philips Lumileds, enables lighting designers to take the next step in delivering the highest quality, tunable white light in bulbs and fixtures. LUXEON Rebel ES Lime is the proprietary LED technology in the revolutionary Philips hue bulb, where it combines with LUXEON Rebel Red-Orange and Rebel Royal Blue emitters to deliver over 16 million color options -- all controlled from an iOS device. Philips hue can use color tunable Light Recipes to help set mood and energy level in the home, office, retail, classroom and hospital environments.

“This really represents a new frontier in lighting, because LUXEON Rebel ES Lime emitters can be combined with other Rebel color and white emitters to achieve higher CRI and R9 combinations than any previous generation emitters or arrays,” said Rahul Bammi, VP of Product Management.

Lime is the highest efficacy LUXEON LED manufactured to date. Therefore it enables highly efficient color mixing by providing a convenient above-blackbody color point with optimal standalone efficiency of 200 lm/W at 350 mA and 85°C. The spectral output of Lime is closely aligned with the wavelength that human eye cones are most sensitive to, 555 nm. “We are finding that all our customers are very interested in Lime due to the outstanding efficiency and flux it brings to every lighting application,” said Bammi.

In addition to LUXEON Rebel ES, the Lime technology is offered in the LUXEON Z format, an undomed, 2.2 mm² LED that is 75% smaller than most high power LEDs. In spotlight and downlight applications, the LUXEON Z enables tighter packing density and better color mixing control. The LUXEON Z Lime can be combined with Red and Blue LEDs to achieve a broad spectrum of saturated colors. Alternatively, tunable white light with high efficacy can be achieved from 1800-6500K along the blackbody curve.

Because Lime is closer to the blackbody curve than green LEDs, much less inefficient red is needed to make white light with Lime instead of green, especially at warmer color temperatures. For instance, color tuning of 2250-2950K can be achieved with an R9>90, CRI>90 and efficacy of 90 lm/W using LUXEON Z combinations. When using a similar combination of Red, Green and Blue LEDs to create 3000K white light, the CRI is close to 20.

For more information, see

www.philipslumileds.com/LUXEONRebelColors and
www.philipslumileds.com/LUXEONZ

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About Royal Philips:

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