Press Presse

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Concentrated know-how produces top performance

World record in the OSRAM laboratory: quantum leap in the brightness and efficacy of white LEDs

By improving all the technologies involved in the manufacture of LEDs, OSRAM development engineers have achieved new records for the brightness and efficiency of white LEDs in the laboratory. Under standard conditions with an operating current of 350 mA, brightness peaked at a value of 155 lm, and efficacy at 136 lm/W. White prototype LEDs with 1 mm² chips were used. The light produced had a color temperature of 5000 K, with color coordinates at 0.349/ 0.393 (cx/cy). Potential applications include general illumination, the automotive sector and any applications that call for large high-power LEDs.

The key to success was the efficient interplay between all the advances made in materials and technologies. A perfectly matched system of optimized chip technology, a highly advanced and extremely efficient light converter and a special high-performance package combined to produce the world records - 155 lm for brightness and 136 lm/W for efficacy. The semiconductor light sources are also suitable for high operating currents. At 1,4 A they can produce up to 500 lm of white light. This means that the LEDs can later be used not only for general lighting tasks and automotive applications but also for LED projection as blue and green chip versions.

Dr. Rüdiger Müller, CEO at OSRAM Opto Semiconductors, commented: “It was the successful combination of OSRAM know-how in different fields that led to these new records in efficiency and brightness. Starting with the light converter we will be gradually moving the new developments into production”. OSRAM has already applied for patents for the technologies that lie behind these records.

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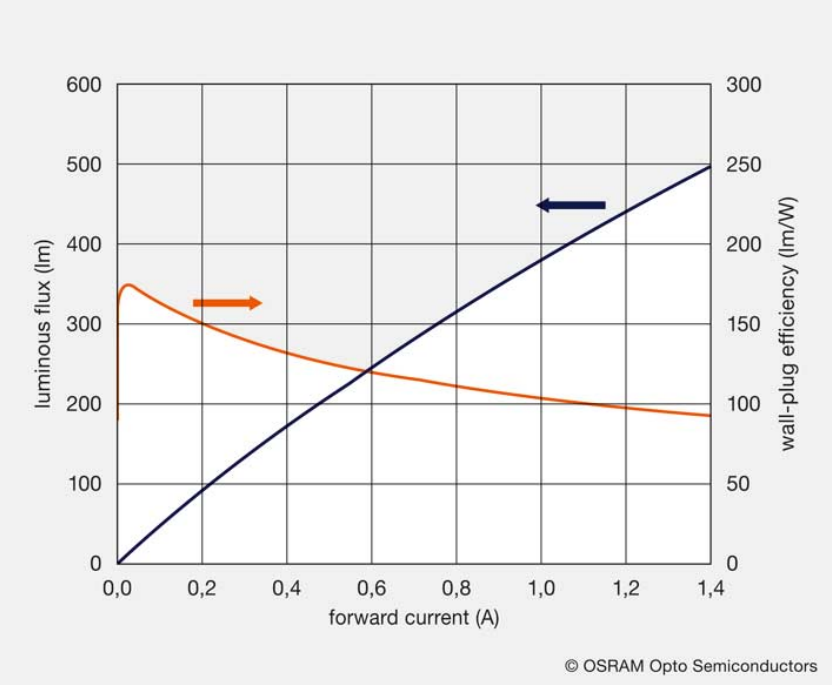

Picture: OSRAM
http://www.osram-os.com/press

OSRAM has achieved new records in the laboratory for white light – 155 lm for brightness and 136 lm/W for efficacy (at 350mA).

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