

## Press information

### **KYOCERA Technology Powers Japan's First Full-Color Facade Lighting System Utilizing Violet LEDs** **Illumination adds beauty and elegance to Wacoal's New Kyoto Building**

**Kyoto, Japan/Neuss, Germany, 31 October 2016** – Kyocera Corporation (President: Goro Yamaguchi) announced that its LED technology is being utilized in a facade lighting system to showcase the New Kyoto Building of Wacoal Holdings Corp., Japan's leading creator of intimate apparel for women. Completed last month, the system illuminates the building every night.

Kyocera's high-color-rendering LED lighting, which combines violet LEDs with phosphors and proprietary optical technologies, creates delicate illumination in a wide range of colors. The system designed for the Wacoal Building bathes its facade in an elegant gradation of hues suggestive of Kyoto.



The facade lighting's normal mode is a soft white, reminiscent of natural silk (right photo). The illumination with changing colors occurs nightly in periods of about 5 minutes recurring at 30 minute intervals (left photo).

The facade lighting system is the first in Japan\* to operate by modulating red, blue, green, and white light generated from violet LEDs. Furthermore, the building features an environmental design with a 36kW Kyocera solar power generating system installed on its rooftop. This system is estimated to generate enough electricity to

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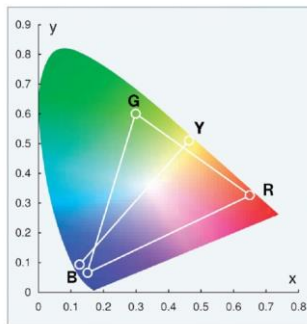
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power the facade lighting for approximately three to four hours a day.

### About Kyocera's high-color-rendering LEDs

By combining violet LEDs, RGB (red, green and blue) phosphors and optical design technology, Kyocera's high-color-rendering LEDs produce light which is extremely close to natural sunlight. Since the light includes a wide range of colors within the visible range, it facilitates accurate color rendition that is difficult to achieve with conventional LED lighting.

This unique feature has brought Kyocera's high-color-rendering LEDs into many diverse applications — including display lighting for fine-art museums, surgical lighting, color-inspection lighting for industrial processes, and illumination for Japan's revered ancient shrines and temples. Based on its expertise mainly cultivated in Japan, the company has started to provide LED modules in other markets that have a culture of valuing the quality of light for specific applications. Kyocera



CIE (Chromaticity Diagram)-  
Farbtafel

will present the LED modules from 8 to 11 November at electronica 2016 in Munich, Germany (Hall A3, Booth 241), the world's leading trade fair for electronic components, systems and applications. In addition, the company will introduce them at Forum LED Europe 2016 in Lyon, France, a global event for LED lighting from 8 to 9 December.

While conventional LED lighting technology (based on blue LEDs that use yellow phosphors) produces colors only within the straight line between B and Y in the CIE Chromaticity Diagram, Kyocera's violet LEDs with RGB phosphors can produce any color within the R-G-B triangle.

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### About the Wacoal facade lighting

The facade lighting was designed by Japanese artist Kyota Takahashi to express Wacoal's corporate image through the concept of "a veil of silky light." Using the expanded color capabilities of Kyocera's high-color-rendering LED technology, the system



Kyocera's LED light fitting

produces an elegant white glow reminiscent of shimmering silk. Kyocera's LED light fittings are installed on 72 windows from the second to seventh (top) floor on the building's two sides facing the nearby thoroughfare.

These 432 light fittings in total connect to a main controller to produce dynamic facade lighting with soft colors that blend with the Kyoto cityscape. The facade lighting's normal mode is a soft white reminiscent of natural silk, which changes to Wacoal's corporate color for a period of about five minutes on the hour. At the half-hour, for another period of about five minutes, the illumination changes to hues evoking the 24 solar terms of the traditional East Asian lunisolar calendar.

\* Japan's first facade lighting utilizing violet LED-based four-color modulating technology (as of September 2016, based on research by Kyocera).

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For more information about Kyocera: [www.kyocera.eu](http://www.kyocera.eu)

### About Kyocera

Headquartered in Kyoto, Japan, Kyocera Corporation is one of the world's leading manufacturers of fine ceramic components for the technology industry. The strategically important divisions in the Kyocera Group, which is comprised of 235 subsidiaries (as of March 31, 2016), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the oldest producers of solar energy systems worldwide, with more than 40 years of experience in the industry.

The company is ranked #531 on Forbes magazine's 2016 "Global 2000" listing of the world's largest publicly traded companies.

With a global workforce of over 69,000 employees, Kyocera posted net sales of approximately €11.59 billion in fiscal year 2015/2016. The products marketed by the company in Europe include printers, digital copying systems, microelectronic components, and fine ceramic products. The Kyocera Group has two independent companies in the Federal Republic of Germany: Kyocera Fineceramics GmbH in Neuss and Esslingen and Kyocera Document Solutions in Meerbusch.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr. Kazuo Inamori — to individuals and groups worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (converted at approximately €360,000 per prize category).

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