

## News Release

September 29, 2011

FOR IMMEDIATE RELEASE

### Sharp to Introduce High-Power LED Lighting Devices

Industry-Leading Luminous Efficacy of 93.3 lm/W<sup>\*1</sup> in the 50W Class

Sharp Corporation has developed and will introduce a high-power LED lighting device that features the industry's highest luminous efficacy of 93.3 lm/W (lumens/watt) in the 50W input power class as a light source for applications such as downlighting in retail stores.

LED lighting is rapidly increasing in popularity based on its superior characteristics such as long service life and low energy consumption. In the future, lighting sources for applications such as downlighting and spotlights in retail stores are expected to shift to higher-power LEDs.

This newly developed device, the GW5DME30MR5, incorporates an LED chip with high emission efficiency combined with a proprietary blend of phosphors. As a result, it achieves a luminous efficacy of 93.3 lm/W, the industry's highest in the 50W input power class, at the 3000K color temperature commonly used in downlights for retail stores and with a color rendering index<sup>2</sup> (Ra) of 83. It achieves high energy-saving performance. In addition, proprietary package technology provides for greater color consistency<sup>3</sup>, contributing to higher quality in the design and development of lighting fixtures.

The lineup also includes high-performance models that feature a color rendering index (Ra) of greater than 90 to meet the need for light sources which require higher color rendering properties.

Product name	LED lighting device	
Type	50W class	
	Color rendering index (Ra) greater than 80	Color rendering index (Ra) greater than 90
Model No.	GW5DME27MR5 (2700 K) GW5DME30MR5 (3000 K) GW5DLE40MR5 (4000 K)	GW5DGE27MR5 (2700 K) GW5DGE30MR5 (3000 K) GW5DGE40MR5 (4000 K)
Input power	47.5 W	
Sample price	4,000 yen	
Start of volume production	November 1, 2011	
Monthly production	50,000 units total	

For more information please contact (press only please)  
Osaka: +81-6-6625-3006 Tokyo: +81-3-3260-1870

## Major Features

1. Industry's highest luminous efficacy of 93.3 lm/W in the 50W class
2. Proprietary package technology provides for greater color consistency.
3. Lineup also includes high-performance models with a color rendering index (Ra) of greater than 90.

\*1 Brightness per watt. As of September 29, 2011, for LED lighting devices with an input power of 50W, a color temperature of 3000K (GW5DME30MR5), and a color rendering index (Ra) of 83 (based on Sharp research).

\*2 A numerical value expressing the level of color distortion compared to a reference light source. The closer the value to 100, the closer to natural light.

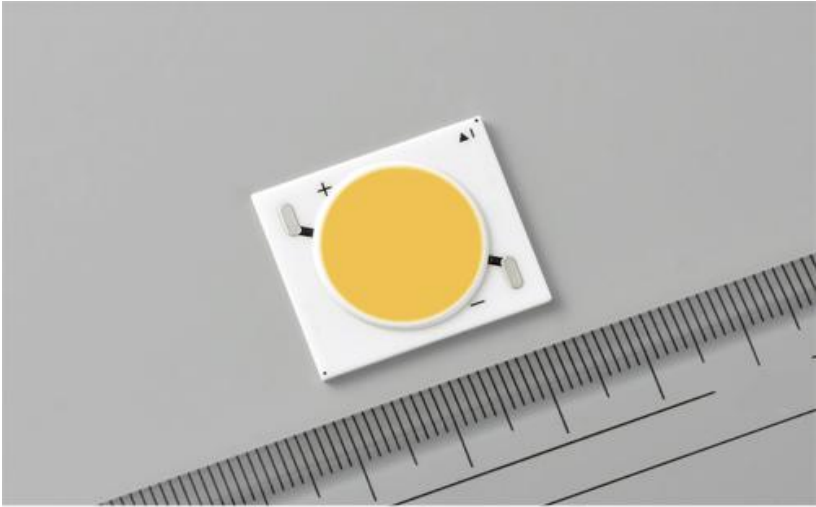
\*3 Satisfies "3-step MacAdam ellipse" color-tolerance criteria at operating temperature levels encountered during practical use (Tc = 90°C). "MacAdam ellipses" form the basis of a control standard for determining how much variation in color can be tolerated among discrete LED lighting devices that are manufactured in volume. The ranges of tolerable variations in color are plotted as ellipses on a CIE x/y chromaticity diagram, and can be categorized into 1-step (the human eye is unable to perceive any variation in color among devices), 2-step to 3-step (levels where color variations are difficult to perceive), and 4-step to 7-step (levels where color variations are noticeable to the human eye).

## Specifications

(Ta = 25 degrees C)

Product name	LED lighting device					
Type	50W class					
Model	GW5DME27MR5	GW5DME30MR5	GW5DLE40MR5	GW5DGE27MR5	GW5DGE30MR5	GW5DGE40MR5
Input power	47.5 W					
Color rendering index (Ra)	83			93		
Emission color	Neutral white					
Color temperature	2700K	3000K	4000K	2700K	3000K	4000K
Total luminous flux	4300 lumens	4430 lumens	4770 lumens	3590 lumens	3670 lumens	3850 lumens
Luminous efficacy	90.5 Lm/W	93.3 Lm/W	100.4 Lm/W	75.6 Lm/W	77.3 Lm/W	81.1 Lm/W
Package size (typ.)	24 x 20 x 1.8 (H) mm					

**(Picture)**



Sharp LED Lighting Device <GW5DME30MR5>