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Minebea to Start Mass Production and Sales of New LED Lighting
(Smart Adjustable Light for IoT (SALIOT))

Minebea Co., Ltd. (“Minebea”), through the application of its ultra-thin optical guide plate technologies, manufactures 35 million units of LED backlights for smartphones on a monthly basis. By way of applying technologies for light guiding panels and plastic injection molding that have been cultivated through the production of LED backlights, Minebea has developed the industry’s first LED lighting capable of automatically adjusting a light distribution angle, named Smart Adjustable Light for IoT (“SALIOT”), and has commenced mass production and sales of “SALIOTs”.

“SALIOT” is a new product, which not only can adjust the direction of the light and light distribution angles ranging from 10° to 30° through controlling the distance between the light emitting diode and the lens by motor, but also can manage and control a light distribution angle and brightness both horizontally and vertically with ease by smartphone or tablet through the development and implementation of software applying wireless technologies on a proprietary basis.

“SALIOTs” are intended to be used in the commercial complex such as the large-scale shopping centers with high ceilings in particular, show rooms for car dealers, museums of various kinds, art museums, educational facilities, event spaces, hotels, and other wide variety of places, where our product can provide multiple light sources from one single illumination.

Up to this point, the adjustment of large-sized illumination installed in the high ceiling has been performed manually with a stepladder or an adjusting rod, which is dangerous and troublesome at times. “SALIOT” is capable of controlling the direction of light and light distribution angles for up to 100 units of lighting devices simultaneously, thereby providing appropriate solutions to a wide array of customers including facility owners, contractors, designers, etc.

Minebea, while focusing on the development of EMS products, has been trying to develop new products by integrating technologies cultivated in the design and manufacture of lenses, stepping motors, power supply circuits with wireless technology!

- Point 1:** An ultra-thin lens for LED lighting capable of automatically adjusting illumination has been developed by putting together multiple optical designs and incorporating a minute prism pattern into a lens, the integration of which has been introduced for the first time in the industry (Note *) This lens is the ultra-thin composite and high-efficiency lens, which has been developed through the combination of a Fresnel lens and a TIR (Total Internal Reflection) lens.
- Point 2:** Through the combination of the lens and the motor, the lens can adjust the angle of light and light distribution angles ranging from 10° to 30°.
- Point 3:** The development and implementation of proprietary software has enabled the lens to automatically manage and control a light distribution angle and brightness both horizontally and vertically with ease by smartphone or tablet.

Through the industry's first application (Note *) of Bluetooth Mesh control system, the lens can be installed in a wide variety of settings and is capable of controlling the direction of light and light distribution angles for up to 100 units of lighting devices simultaneously.

Point 4: The power source of "SALIOT" is designed based on Minebea's proprietary power supply circuit technologies and the substrates are assembled in-house at its own facilities.

Point 5: It has been designed such that the device can be easily installed on or attached to the existing power supply rail.

(Note *: Based on the internal sources as of July 2015)



SALIOT appearance

<Prices> Please feel free to contact us at the contact details specified below.

<Product Characteristics>

Lens size	[mm]	Φ100				
Electricity consumption	[W]	50				
Voltage input	[V]	100 ~ 277				
Color temperature	[K]	2,700	3,000	3,500	4,000	5,000
Color rendering index	typ.	Ra 95			Ra 85	
Luminaire light flux	[lm]	3,000 (for reference only)			4,000 (for reference only)	
Driving function [deg]	Horizontal	0 ~ 360				
	Vertical	0 ~ 90				
	Light distribution	10 ~ 30				
Light control range	[%]	1 ~ 100				
Wireless control system		Bluetooth Mesh				
Color (Appearance)		White			Black	
Weight	[kg]	3.3				

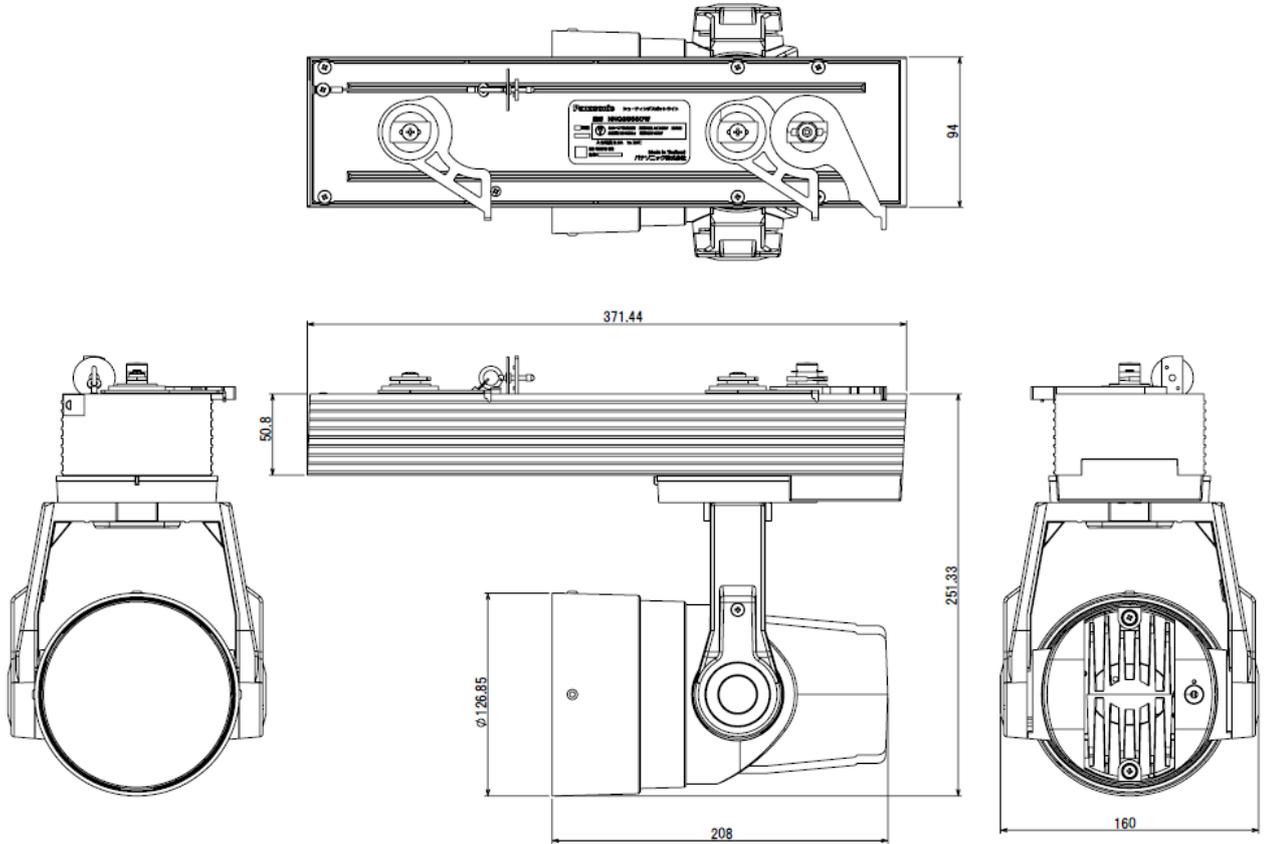
<Applications>

Commercial facilities (shopping centers, apparel merchandising-related), show rooms (car dealers, etc.), a variety of museums, art museums, educational facilities, event spaces, hotels, etc.
To be installed in high ceilings and to control light distribution locations/places

<Manufacturing facility>

Ban Wa plant in Thailand

<External views>



(Unit = mm)

<Patents>

6 patent applications have been filed in Japan and abroad.
Out of such applications, 2 have been patented (as of July 2015).

<Future line-up of products to be introduced>

- Spotlight type (Hanging (Suspended type)
- Universal downright type (Embedded type)

- Contact details for inquiries (sales and business):
Lighting Device Business Unit Phone: 81-(0)3-6758-6728, Fax: 81-(0)3-6758-6941
- Contact details for inquiries (press and other media):
Corporate Communications Office Phone: 81-(0)3-6758-6703, Fax: 81-(0)3-6758-6718

<Related information>

- Minebea website: “Minebea Technology” “Ultra-thin lenses for LED lighting”
(<http://www.minebea.co.jp/english/technology/column/ledlens/index.html>)

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