



User Friendly, Environmentally Friendly

HSL Series

High Intensity LED Spotlights

- High-condensed illumination is enabled in areas requiring illumination.
- Providing illumination with a high degree of uniformity and minimal variation with time.
- Saves installation space with lightweight and compact design.
- Low power consumption and provides extended lifetime.
- LED color selectable from red, white, green, and blue.

Patent Pending



HSLseries

"Environmentally Friendly", A Pro

The HSL Series High-intensity LED Spotlights provide lighting solutions.

Any problem with lighting in use?

- Short lifetime light source forces frequent replacement work or parts procurement.
- Downtime caused by bulb burnout causes profit loss.
- High power consumption causes a large amount of CO2 emissions.
- The spotlight unit generates heat and causes exposure to burn hazard.
- Uneven brightness in the inspection area.
- No selection available for colors.
- There are concerns if a lighting unit gets wet with water.

Don't worry. High-intensity LED spotlights surely provide solutions to your problem.

- The light source has a long lifetime, achieving substantial reduction in running costs.
- Providing longer lifetime with LED.
- Low power consumption and less CO2 emissions
- Low heat generation
- High degree of uniformity and minimal variation with time
- LED color selectable from red, white, green, and blue
- Equivalent designing to IP67* standard to provide washdown feature.

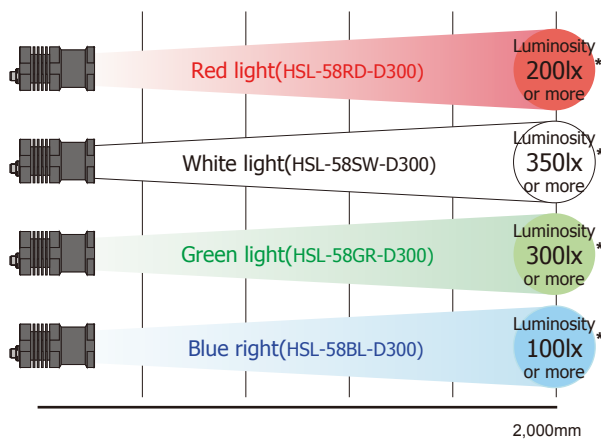
*No dust entry into the spotlight. No water entry into the spotlight when dipped in 1-m depth of water for 30 minutes.

High-intensity condensed illumination is enabled in areas requiring illumination.

Minimal light loss ensures efficient light use.

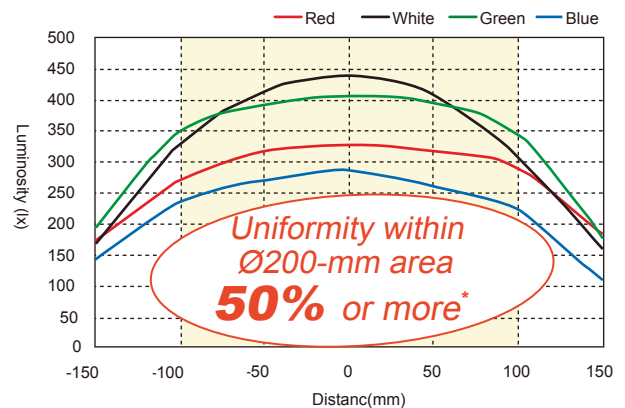
The HSL Series High-intensity LED Spotlights enables high-intensity condensed illumination in areas requiring illumination, ensuring use of the spotlights with a minimal light loss and high efficiency. Furthermore, the HSL Series spotlights have a high degree of uniformity in illumination areas to accurately illuminate inspection points, thus making it possible to perform inspections in a high contrast.

[HSL Series - Comparison of luminosity of red, white, green, and blue light]



*Maximum light intensity within the f300-mm area when it is illuminated at a point 2,000 mm away from the forefront of illumination. (The light intensity may vary with ambient temperatures.)

[HSL Series - Comparison of uniformity of red, white, green, and blue light]



*Light intensity value within the f300-mm area from the center part when it is illuminated at a point 2,000 mm away from the forefront of illumination.

HSL dedicated power supply maximizing the performance of illumination

Debut of the PHL-0508-CD24: Dedicated Power Supply for HSL-series

- Lightweight, compact design
- Support for mounting DIN rails as a standard specification
- DC24V drive
- Equipped with convenient dimming function

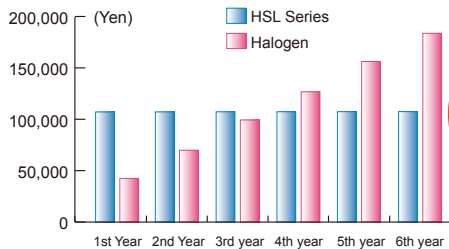


PHL-0508-CD24

Transition from CCS with LED Lighting

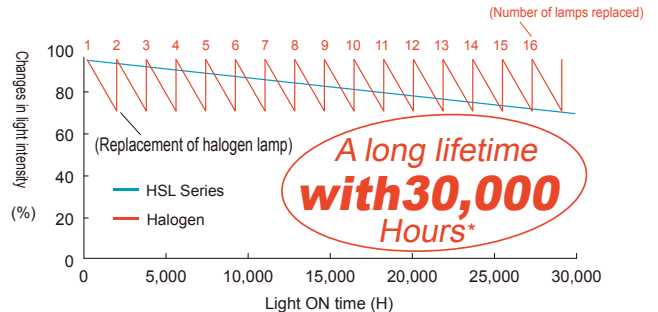
Ensuring long-term use with stability

[Comparison of costs between halogen spotlight and the HSL Series]



Reverse the costs in the 4th year

[Comparison of changes in light intensity between halogen spotlight and the HSL Series]



A long lifetime with 30,000 Hours*

*Based on electricity cost of 10 yen/1 kWh/month, excluding the basic charge. A lamp is replaced approx. every 2.7 months. 4.4 pieces of lamps are used in a year.

*The maximum dimming control and 50% light intensity are maintained. (The figure varies with operating conditions and environments.)

Achieving substantial reduction in a total running cost

A merit of introducing halogen spotlights is less initial investment required. However, the halogen spotlights causes inconvenience to handling, such as the average lamp lifetime of approx. 2,000 hours, rise of ambient temperature due to heat generation from the light source, hazards from burns, and others. In contrast, the HSL Series High-intensity LED Spotlights have a long lifetime and a high degree of controllability and requires a small amount of total running cost, thus ensuring long-term use with stability.

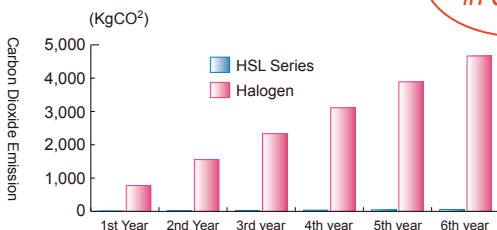
Providing eco-friendly illumination

[Comparison of CO2 emissions between halogen spotlight and the HSL Series]



	LED Spotlight Illumination	Halogen lights
Carbon Dioxide Emission	-Monthly power consumption $4.6W(\text{Power consumed by lighting}) \times 720h(2h \times 30d) = 3,312Wh$ -Annual power consumption $3,312Wh(\text{Monthly power consumption}) \times 12(\text{Month}) = 39,744Wh$ -Carbon dioxide emission: 0.36kgCO ₂ per kilowatt hour $39.7kWh \times 0.36kgCO_2 = 14.308kgCO_2(30. \text{Annual emissions})$	-Monthly power consumption $250W(\text{Power consumed by lighting}) \times 720h(2h \times 30d) = 180,000Wh$ -Annual power consumption $180,000Wh(\text{Monthly power consumption}) \times 12(\text{Month}) = 2,160,000Wh$ -Carbon dioxide emission: 0.36kgCO ₂ per kilowatt hour $2,160kWh \times 0.36kgCO_2 = 777.6kgCO_2(30. \text{Annual emissions})$
Emissions 1 year later	14.3kgCO ₂	777.6kgCO ₂
Emissions 2 year later	28.6kgCO ₂	1555.2kgCO ₂
Emissions 3 year later	42.9kgCO ₂	2,332.8kgCO ₂

98% Reduction in emissions



Eco-friendly

Just replacing halogen spotlights now in use with the HSL Series High-intensity Spotlights enables substantial reduction in CO₂ emissions that result in global warming. Furthermore, the HSL Series Spotlights produce no wastes from the replacement of lamps, thus contributing to environmental conservation.



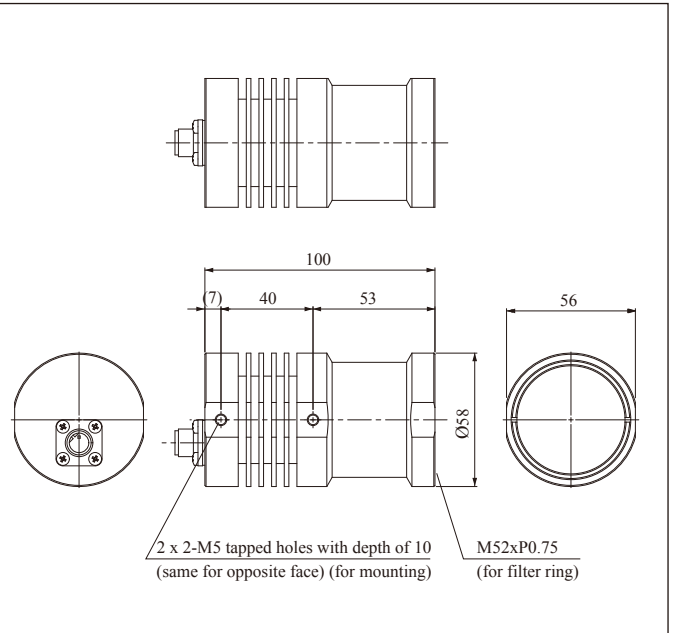
"Eco-friendly"

CCS is challenging to present eco-conscious, high-quality, safe, and reliable products.

● Specification RoHS-compliant products

Model	HSL-58RD-D300	HSL-58SW-D300	HSL-58GR-D300	HSL-58BL-D300	
LED color	Red	White	Green	Blue	
Input current	1000mA Max.				
Power consumption	4.6W Max.				
Dominant wavelength (color temperature)	max.	645nm	10000K	550nm	480nm
	typ.	627nm	5500K	530nm	470nm
	min.	620.5nm	4500K	520nm	460nm
Spectral line halfwidth	20nm	-	35nm	25nm	
Response	5 μs Max				
Illuminated area	Approx. Ø300 mm at a distance of 2,000 mm				
Illumination uniformity	50%Min*1				
Center illuminance	200lxMin*2	350lxMin*2	300lxMin*2	100lxMin*2	
Optical axis shift	Within 2 degrees				
Case material	Aluminum alloy				
Cable	Optionally Available: 1/2/5/10m				
Connector	XS2M-D423(for DC)(Manufacturer:OMRON)				
Polarity and Signal	1: Connect with 3, 2: Cathode, 3. Connect with 1. 4: Anode				
Operating conditions	Temperature: 0 to 40 °C, humidity: 20% to 85% (with no condensation)				
Weight	400gMax				
Laser Class	Class 2 LED: Do not stare into the light beam.				

● Dimensions(mm)

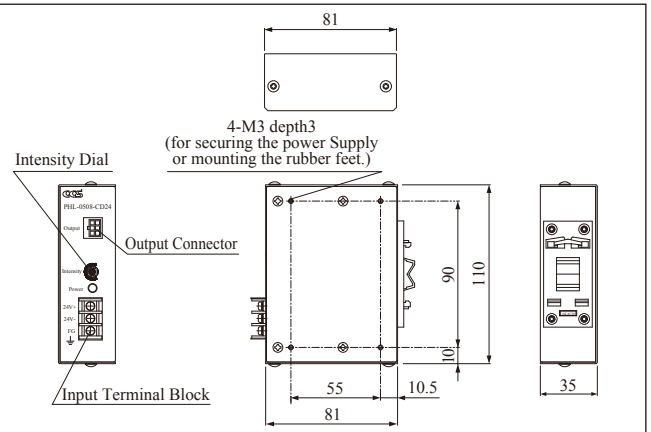


*1: Comparison of maximum and minimum illumination values in a 200-mm area in the center of a 300-mm area that is illuminated at a point 2,000 mm away from the tip of the light.
 *2: Maximum illumination in the 300-mm spot illuminated by the light at a point 2,000 mm from the tip of the light. (The light intensity may vary with ambient temperature.)

● Specifications of Power Supply Unit Input Voltage RoHS-compliant products

Model	PHL-0508-CD24
Input Voltage	DC24V(±10%)
Input current	0.5A max.
Output Voltage	8V max
Output Current Variable Range	76-950mA typ.
Input Protection	Overvoltage protection: Built-in fuse OFF (Activated at 140% typ. of rated voltage) Protection against reverse connection of polarity: Built-in fuse OFF
Dimming System	Analog constant current control
ON/OFF Time	0.2 seconds or less
Operating conditions	Temp: 0 to 40 °C, Humidity: 20 to 85% RH (Non-condensing)
Storage Environment	Temp: -20 to 60 °C, Humidity: 20 to 85% RH (Non-condensing)
Weight	350g Max

● Dimensions(mm)



● HSL Dedicated Cable RoHS-compliant products ● Dimensions(mm)

Use the cable to connect between a spotlight and a power supply unit.

- FCB-2-IP67-PHL.....2m
- FCB-5-IP67-PHL.....5m
- FCB-10-IP67-PHL.....10m

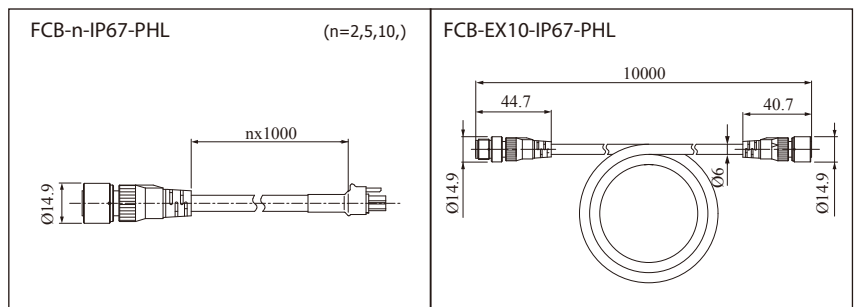
● HSL Dedicated Extension Cable RoHS-compliant products

RoHS-compliant products

Use this cable to extend the connection distance between a spot light and a power supply unit.

- FCB-EX10-IP67-PHL.....10m

*Use a cable between a spotlight and a power supply unit at a maximum distance of 30 m.



For RoHS-compliant products and other detail information, visit <http://www.ccs-grp.com>

Caution ● To ensure safe usage, be sure to read the Operating Manual before operating the product.
 ● In the interest of product improvement, the specifications and design described herein may change without prior notice.

CCS Inc. <http://www.ccs-grp.com>

Headquarters Shimodachiuri-agaru, Karasuma-dori, Kamigyo-ku, Kyoto 602-8011 Japan
 Phone: +81-75-415-8284 / Fax: +81-75-415-8278
 E-mail: intlsales@ccs-inc.co.jp