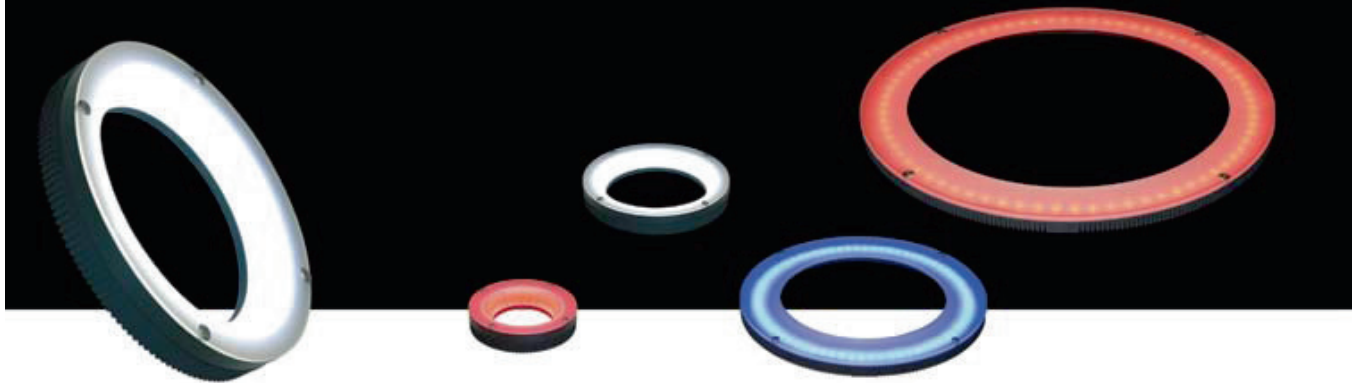


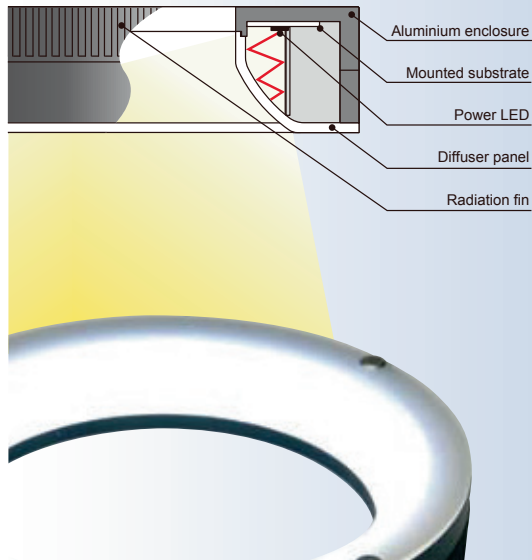
"Brighter" "More uniform" "Easy to use" High-Power Ring Lights
Enhanced light intensity and larger uniform area enables more diversified applications.



Radiation of High-intensity Diffused Light

The use of power LEDs and the unique illumination structure achieves a high-intensity with uniform diffused illumination. The HPR Series realized higher light intensity compared with conventional diffusion ring lights and it makes possible to use under various situations.

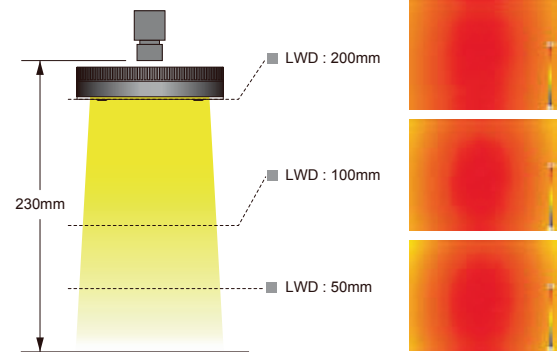
Cross section structure of HPR Series



Achievement of Larger Uniform Areas

The unique illumination structure irradiates diffused light effectively from the LEDs. Since there is little change in the uniform area even if the distance from the workpiece to the Light Unit will be changed, HPR Series can be used in a wide variety of environments and for diverse applications.

Uniformity data of HPR-100SW

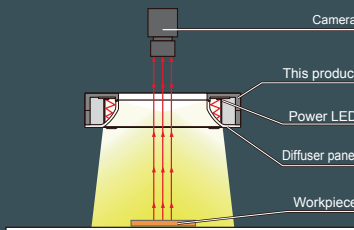


* This shows the relative brightness distribution when the brightest area is set at 100. The data given here is intended for reference purposes only and is not intended to assure the quality of the product.

Measuring conditions	Camera	1/2 inch sensor
	Lens	f25mm
	Macro ring	2mm
	WD	230mm
	Field (Y direction)	40mm
	Lighting	HPR-100SW
LWD	50,100,200mm	

Illumination structure of HPR-100

The use of power LEDs and the unique illumination structure achieves high-intensity, uniform diffused illumination.



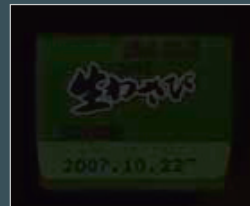
Example of surface-emitting ring light images

Image of date on food product
Macroscopic image



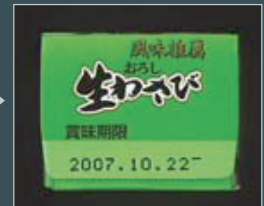
Light intensity is not adequate at a shutter speed of 1/10000 with the LED diffusion ring light.

Light used: LED diffusion ring light



The surface of a workpiece is imaged evenly and brightly with the high-power ring light.

Light used: HPR-100SW



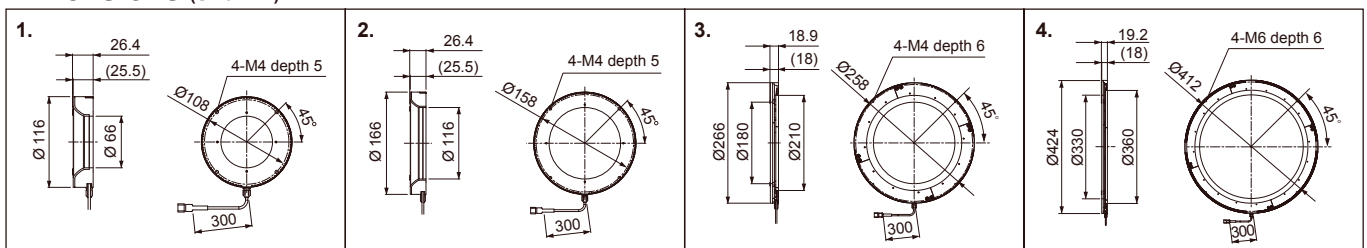
Product Lineup Table

Series	Direct Number	Model Name	Color	Power Consumption	Option	Dimension
HPR	1002932	HPR-100RD	●	24V/9.0W	—	1
	1002931	HPR-100SW	○	24V/14W		
	1002933	HPR-100BL	●	24V/14W		
	1002938	HPR-150RD	●	24V/16W	—	2
	1002937	HPR-150SW	○	24V/20W		
	1002939	HPR-150BL	●	24V/20W		
	1003206	HPR-250RD	●	24V/25W	—	3
	1003205	HPR-250SW	○	24V/37W		
	1003207	HPR-250BL	●	24V/37W		
	1003209	HPR-400RD	●	24V/25W	—	4
	1003208	HPR-400SW	○	24V/41W		
	1003210	HPR-400BL	●	24V/41W		

*HPR Series cannot be used in combination with CCS Strobe Power Supply Unit (PTU2 Series, etc.)

*The peak wavelength for Red lights is 625 nm. If a sharp-cut filter is required, use a R60 Filter (optional).

Dimensions (Unit: mm)

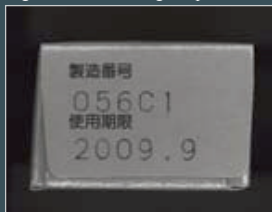


Example of surface-emitting ring light images

Image of letters on package bottom

Light intensity is not adequate at a shutter speed of 1/10000 with the fluor ring lamp.

Light used: Fluor ring lamp



Light intensity is adequate at the shutter speed of 1/10000 with the HPR-100RD (red).

Light used: HPR-100RD

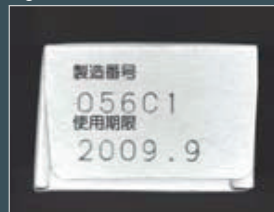
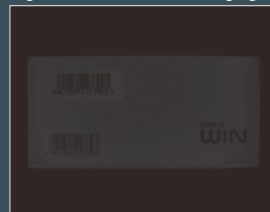


Image of characters on mobile phone box

Light intensity is not adequate at a shutter speed of 1/4000 with the LED diffused ring light.

Light used: LED diffusion ring light



Light intensity is adequate at the shutter speed of 1/4000 with the HPR-250RD (red).

Light used: HPR-250RD

