Direct Lighting

Ring Lights
LDR2 series

Provides direct light from an angled emitting part


LDR2-120SW2


LDR2-90-30RD2


LDR2-90BL2


LDR2-70RD2


LDR2-50GR2


LDR2-42SW2


LDR2-32RD2

Applications	Character recognition, visual inspection, inspections for damage or stains, reading 2-dimensional code, inspecting parts on boards, etc.

Standard Ring Lights

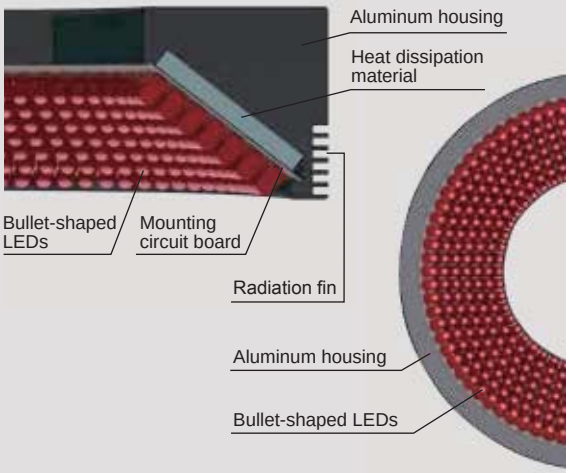
Uses a flexible circuit board to achieve the functions needed for a Ring Light. It can illuminate workpieces at an angle and can illuminate the whole workpiece. This alleviates the influence of slight position or inclination deviations in the workpiece and enables stable imaging.

Flexible circuit board

Succeeds in Greatly Reducing LED's Heat

Heat dissipation material is used between the board and the aluminum housing, absorbing heat produced by the LEDs. This succeeds in greatly reducing the creation of heat, which causes the LEDs to deteriorate.

Cross-section image of the LDR2-120



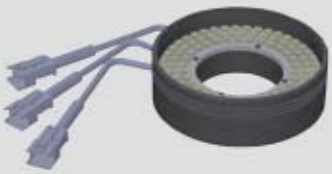
Custom Orders

Please contact your sales representative.

E.g.: Different color

Wavelength/ Color

Creating a full color (RGB) Light Unit



Customizable items

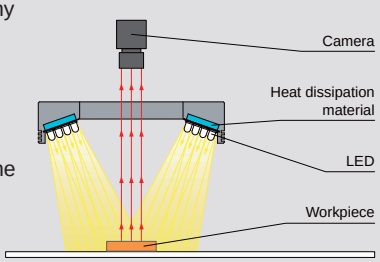
External/internal diameter | Wavelength/ Color
Increase output | Cable length
Illuminating angle | Format/ material
Connector format | Installation/ mounting

Etc.

Example Configuration

Bend the flexible circuit board to any shape necessary and mount LEDs with high density. Illuminates so that direct light is concentrated in the center.

LDR2-90



Various technical documents available.

PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs

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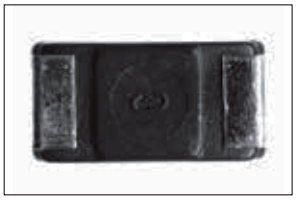
Imaging Example: Imaging Electrodes of Electronic Parts

Description	Visual inspection
Workpiece	Electronic parts
Conventional lighting	LED Bar Light
New lighting	LDR2-32RD2
Result	Improved uniformity

■ Workpiece image

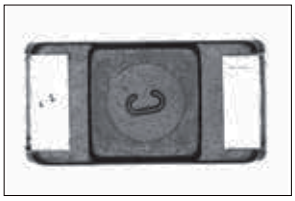
Electronic parts

■ LED Bar Light



It's difficult to make an image of the electrode part using a Bar Light.

■ LDR2-32RD2



A Ring Light can illuminate the electrode part evenly and make an image.

Imaging Example: Imaging Text on Intake Valves

Description	Character recognition
Workpiece	Intake valves (automobile parts)
Conventional lighting	LED Ring Light
New lighting	LDR2-50RD2
Result	Emphasized characters

■ Workpiece image

Intake valves

■ LED Ring Light

It's difficult to clearly recognize the text due to the inner indentation.

■ LDR2-50RD2

Allows for image that makes the character edges stand out.

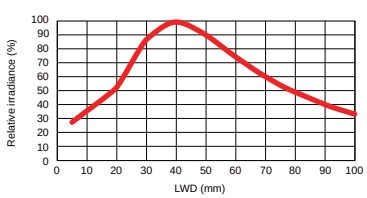
Data: Relative Irradiance Graph and Uniformity (Representative Example)

The data included is for reference only. Actual values may vary.

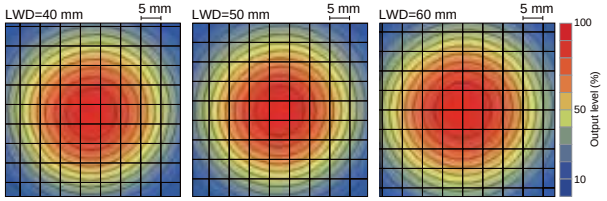
LDR2-50RD2

Relative irradiance graph [*1] (LWD characteristics) [*2]

*1 Irradiance on the optical axis
*2 Illuminating distance from the Light Unit to the workpiece



Uniformity (Relative irradiance)



LDR2 Series

Lineup

End of the model name: -WD: Wide type

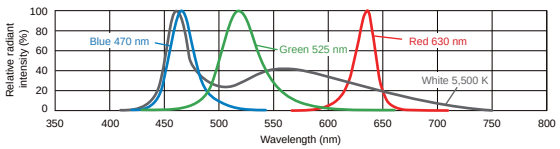
Model name	LED color	Power consumption	Peak wavelength / correlated color temperature	Options	Extension cables	Recommended Control Units	Weight
LDR2-32RD2	Red	24 V / 1.6 W	630 nm	Diffusion plate, Polarizing plate, Adapter, Lens attachment ring	FCB*2 Straight Cable, FCB-W*3 2-branch Cable, FCB-F 4-branch Cable, FRCB Robot Cable	PD3, CC-ST-1024, PSB, POD*1	30 g
LDR2-32SW2	White	24 V / 1.9 W	5,500 K				
LDR2-32BL2	Blue		470 nm				
LDR2-32GR2	Green		525 nm				
LDR2-42RD2	Red	24 V / 2.1 W	630 nm	Diffusion plate, Polarizing plate, Adapter			50 g
LDR2-42SW2	White	24 V / 2.7 W	5,500 K				
LDR2-42BL2	Blue		470 nm				
LDR2-42GR2	Green		525 nm				
LDR2-50RD2	Red	24 V / 3.1 W	630 nm	Diffusion plate, Polarizing plate, Adapter, Lens attachment ring			50 g
LDR2-50RD2-WD							
LDR2-50SW2	White	24 V / 3.8 W	5,500 K				
LDR2-50BL2	Blue		470 nm				
LDR2-50GR2	Green		525 nm				
LDR2-70RD2	Red	24 V / 6.1 W	630 nm	Diffusion plate, Polarizing plate			110 g
LDR2-70RD2-WD							
LDR2-70SW2	White	24 V / 7.6 W	5,500 K				120 g
LDR2-70BL2	Blue		470 nm				
LDR2-70GR2	Green		525 nm				
LDR2-90RD2	Red	24 V / 11 W	630 nm	Diffusion plate, Polarizing plate, Adapter		PD3, PSB, POD*1	170 g
LDR2-90RD2-WD							
LDR2-90SW2	White	24 V / 14 W	5,500 K				
LDR2-90BL2	Blue		470 nm				
LDR2-90GR2	Green		525 nm				
LDR2-90-30RD2	Red	24 V / 14 W	630 nm	–			220 g
LDR2-90-30SW2	White	24 V / 18 W	5,500 K				
LDR2-90-30BL2	Blue	24 V / 17 W	470 nm				
LDR2-90-30GR2	Green		525 nm				
LDR2-120RD2-WD	Red	24 V / 24 W	630 nm	Diffusion plate, Polarizing plate, Adapter		PD3, PSB, POD*1	510 g
LDR2-120SW2	White	24 V / 28 W	5,500 K				500 g
LDR2-120BL2	Blue	24 V / 26 W	470 nm				
LDR2-120GR2	Green		525 nm				

*2 The cables with a model name that ends with "-ME7", "-EL2", "-PF", or "-PF-EL9" are not included.
*3 The cables with a model name that ends with "-EL2" are not included.

Extension Cables ▶ P.308 | Control Unit Selection Guide ▶ P.251 | List of Control Unit Specifications ▶ P.253

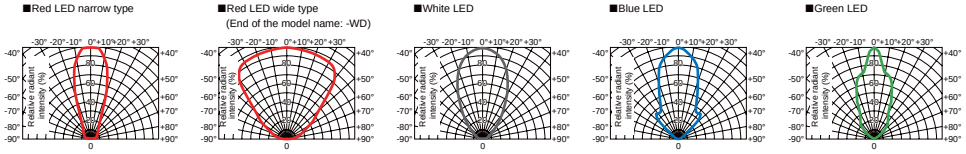
LED Properties

Spectral distribution



Offers you the most suitable lens filter for each wavelength. For details about the lens filter, refer to P.299.

Directional characteristics



Be sure to read the "Instruction Guide" included with the product before use and follow the safety precautions upon use.
The data included is for reference only. Actual values may vary.

Various technical documents available. PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs

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Options

Can prevent glare, which is a problem when making images of glossy workpieces.

Diffusion plate

An adapter is required when installing a diffusion plate.

Model name	Applicable Light Unit (Common for all colors)
DF-LDR-32	LDR2-32
DF-LDR-42	LDR2-42
DF-LDR-50	LDR2-50
DF-LDR-70*	LDR2-70
DF-LDR-90	LDR2-90
DF-LDR-120-45	LDR2-120

* DF-LDR-70 does not require an adapter. Directly affix it to the Light Unit.

▶ P.302

Use with a polarizing filter to remove the light's surface reflection.

Polarizing plate

An adapter is required when installing a polarizing plate.

Model name	Applicable Light Unit (Common for all colors)
PL-LDR-32	LDR2-32
PL-LDR-42	LDR2-42
PL-LDR-50	LDR2-50
PL-LDR2-70*	LDR2-70
PL-LDR-90	LDR2-90
PL-LDR-120-40	LDR2-120

* PL-LDR2-70 includes an adapter for attachment.

▶ P.303

Use when installing a diffusion plate or polarizing plate to the Light Unit.

Adapter

Model name	Applicable Light Unit (Common for all colors)
AD-LDR-32	LDR2-32
AD-LDR-42	LDR2-42
AD-LDR-50	LDR2-50
AD-LDR-90	LDR2-90
AD-LDR-120	LDR2-120

▶ P.307

Can directly install the Light Unit to the screw section for the lens filter. Perfect for environments with narrow installation spots.

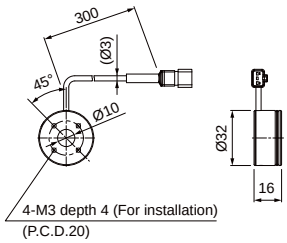
Lens attachment ring

Model name	Note	Applicable Light Unit (Common for all colors)
MR-LDR-32-M25	M25.5 P0.5	LDR2-32
MR-LDR-32-M27	M27.0 P0.5	
MR-LDR-32-M30	M30.5 P0.5	
MR-LDR-50-M25	M25.5 P0.5	LDR2-50
MR-LDR-50-M27	M27.0 P0.5	
MR-LDR-50-M30	M30.5 P0.5	

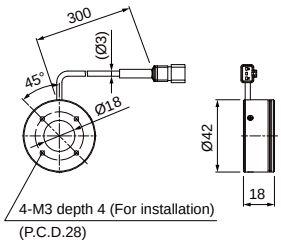
▶ P.307

Dimensions (mm)

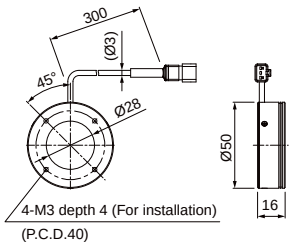
LDR2-32RD2/SW2/BL2/GR2



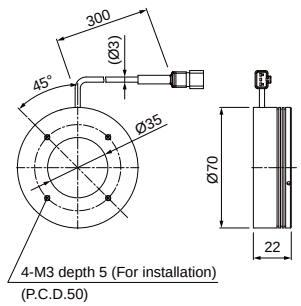
LDR2-42RD2/SW2/BL2/GR2



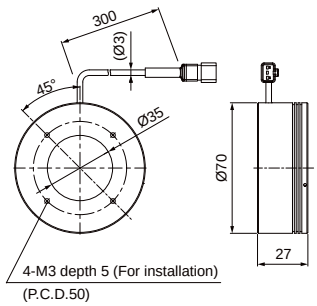
LDR2-50RD2/RD2-WD/SW2/BL2/GR2



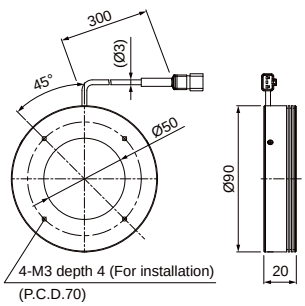
LDR2-70RD2/RD2-WD



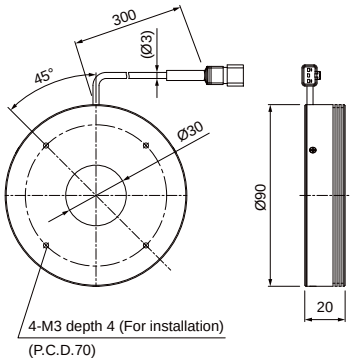
LDR2-70SW2/BL2/GR2



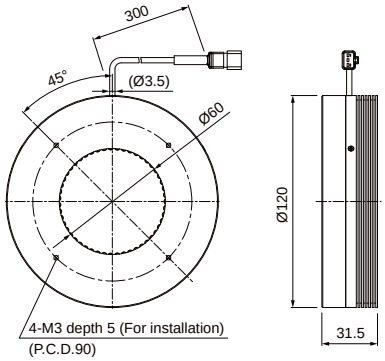
LDR2-90RD2/RD2-WD/SW2/BL2/GR2



LDR2-90-30RD2/SW2/BL2/GR2



LDR2-120RD2-WD/SW2/BL2/GR2



The cable diameter of LDR2-90-30SW2/BL2/GR2 is Ø3.5.

You can change the connectors of the Light Unit cable. Choose between M12 connectors and flying leads. Refer to P.5 for details.