



Provides direct light from an angled emitting part



LDR2-90-30RD2



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.

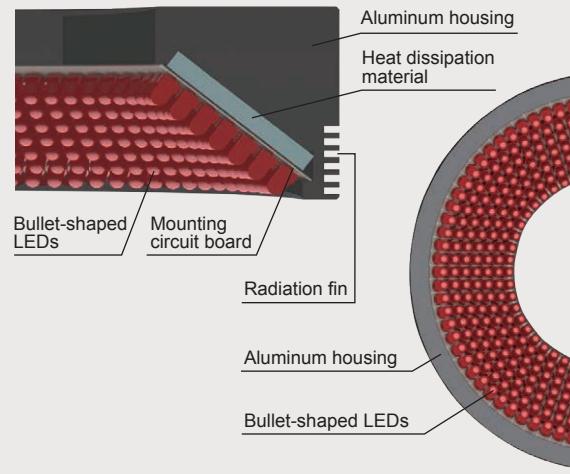
Flexible circuit board



➤ 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

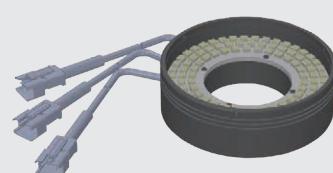


➤ Custom Order Example

Please contact your CCS sales representative.

E.g.: Different color

Wavelength/ Color
Creating a full color (RGB) light unit



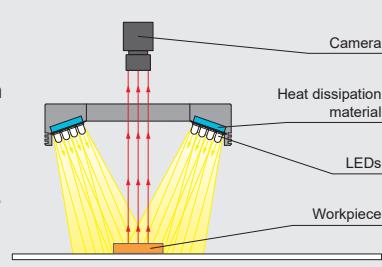
Customizable items

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

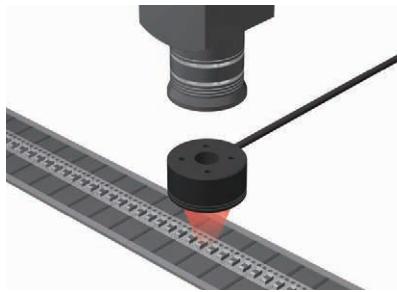
➤ Example Configuration

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

LDR2-90



➤ Imaging Example: Imaging Electrodes of Electronic Parts

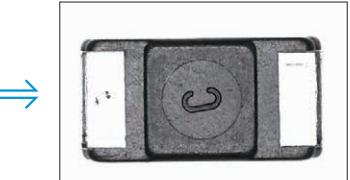


Description	Visual inspection
Workpiece	Electronic parts
Conventional lighting	LED Bar Light
New lighting	LDR2-32RD2
Result	Improved uniformity

■ Workpiece image



LED Bar Light



LDR2-32RD2

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

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



LED Ring Light



LDR2-50RD2

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

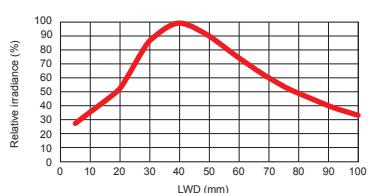
Allows for image that makes the character edges stand out.

➤ Data: Relative Irradiance Graph and Uniformity (Representative Example)

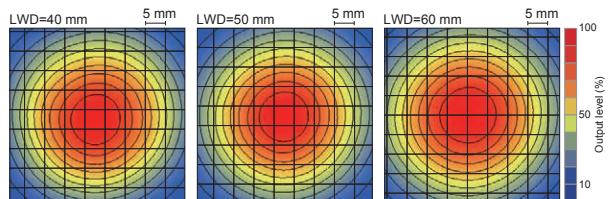
LDR2-50RD2

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

Refer to our website for product details.



CCS LDR2

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➤ Introduction to Half Ring Lights (Custom Order Example)

LDR2-HF Series

It has a space-saving design that can be installed and used in a limited space

- The contrast can be increased by illuminating only the required parts
- Can be installed in a device with limited space and illuminates the area to be observed in pinpoint
- Can be customized according to the application such as emission color and size



LDR2-50SW2-HF

Ring (Direct)	LDR2 LDR2-LA LDR-LA1 SQR SQR-TP
	HLDL3 HPR2 LFR LKR FPR

Ring (Convergent/Diffracted)	HLDL3 HPR2 LFR LKR FPR

Square	FPQ3
	LDL2
Bar	LDBL
	HLDL3
	LB

Flat	TH2 (5 types) LFL
	HPD2
	LDM2
	LAV
Dome	PDM
	LFXV
	LFX3
	LFX3-PT

Coaxial	LFV3
	LFV3-G
	MSU
	MFU
Strobe	PF

Water-proof	HLDR-IP
	HSL-PCL
COB	Small COB Lights
UV/Violet	UV3/VL3
	UV
	LNSP-UV3-FN

Infrared	IR2 (Under 1000-nm Type)
	IR (Over 1000-nm Type)
	CIR

Intensity Control	IU

Spot, Etc.	HLV3
	LV
	LSP
	HFS/HFR
	HLV3-22-4-NR
	HLV3-3M-RGB-4
	PFBR-600SW2
	PFBR-150
	PFB3

Line (Convergent)	LNL2
	LNSP2
	Coaxial Units
	LNSP-FN
	LN/LN-HK

Line (Diffused)	LNSD
	LND2
	LT
	LNV
	LFVX (Rectangular Type)
	TH2 (Rectangular Type)

Line (Oblique Angled)	LNDG
	LNIS2
	LNIS
	LNIS-FN

Lenses	Telecentric Lens
	Macro Lens

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