



Ring Lights

LDR2/SQR Series

High-intensity light output, creating crisp vivid image

Direct light can be irradiated with focus on the center of the workpiece from any angle.



Flexible Circuit Boards

CCS has established a manufacturing method using flexible circuit boards. Using a flexible board makes it possible to improve product quality and increase manufacturing speed.

Flexible Board

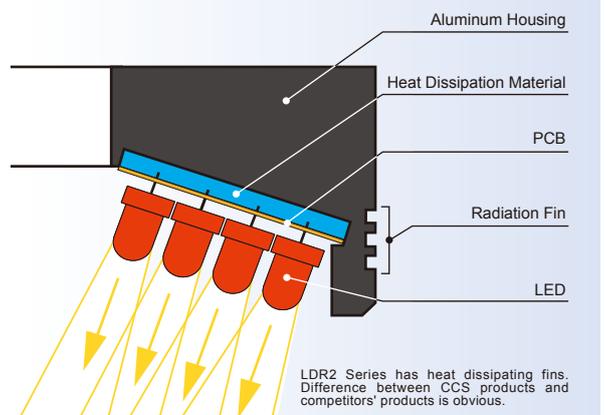


Using a flexible board makes it possible to adjust the outer diameter, inner diameter, illumination angle, and other characteristics to create an illumination system that is ideal for the object being illuminated.

Significantly Suppressing the Temperature Rise of LEDs

The LDR2 Series uses a special heat dissipating casing to prevent heat from building up in the LEDs and increase the life expectancy.

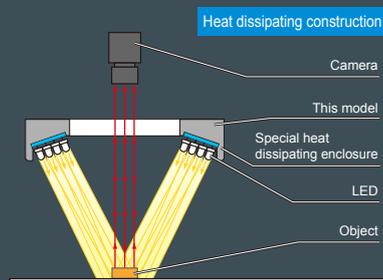
Structure of LDR2



With conventional construction, LED lights were not able to efficiently dissipate heat due to the gap between the PCB and aluminum housing. By employing a special heat dissipating material between the PCB and the housing in the new CCS construction, heat generated from the LEDs can be more effectively conducted into the housing. This new design suppresses the temperature rise of the LEDs, providing stable images for a long period of time. (Refer to page 103.)

Illumination Structure of LDR2-90

The flexible board is formed to the desired shape and a high-density LED array placed on the substrate. The light is concentrated at the center of the illumination system.

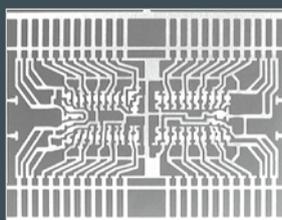


Examples of Ring Light Images

Lead Frame Inspection

The whole frame is illuminated from above using an LDR2 Series.

Standard Illumination



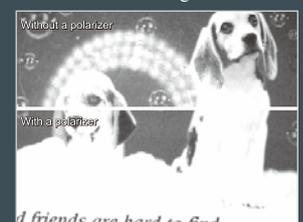
By decreasing the working distance of the illuminator, the silver plated sections of the lead frame become much more clear.

Light used: LDR2 Series



Image comparisons utilizing a polarizer

LED glare in the top half of the image distorts the image. Using a polarizing plate and filter can eliminate this glare, as shown in the bottom half of the image.



Direct Number : A direct number is a 7-digit number assigned to a CCS product. You can easily access the web page providing information on any desired product by simply entering the direct number in the space provided on the CCS website pages for machine vision. (Refer to the back cover of this brochure.)

Product Lineup Table

Series	Direct Number	Model Name	Color	Power Consumption	Option	Dimension
LDR2	1005296	LDR2-32RD2	●	24V / 1.6W	D·P·A	1
	1001435	LDR2-32RD	●	12V / 1.5W		
	1002719	LDR2-32SW2	○	24V / 1.9W		
	1001427	LDR2-32BL	●	24V / 2.0W		
	1001434	LDR2-32GR	●			
	1005297	LDR2-42RD2	●			
	1001443	LDR2-42RD	●	12V / 2.1W	D·P·A	2
	1002720	LDR2-42SW2	○	24V / 2.7W		
	1001439	LDR2-42BL	●	24V / 2.9W		
	1001440	LDR2-42GR	●			
	1005298	LDR2-50RD2	●			
	1001460	LDR2-50RD	●	12V / 3.0W		
	1005303	LDR2-50RD2-WD	●	24V / 3.1W		
	1001462	LDR2-50RD-WD	●	12V / 3.0W		
	1002721	LDR2-50SW2	○	24V / 3.8W		
	1001455	LDR2-50BL	●	24V / 4.1W		
	1001457	LDR2-50GR	●			
	1005299	LDR2-70RD2	●		24V / 6.1W	
	1001479	LDR2-70RD	●	12V / 6.0W	D·P*	4
	1005302	LDR2-70RD2-WD	●	24V / 6.1W		
	1001481	LDR2-70RD-WD	●	12V / 6.0W		
	1002722	LDR2-70SW2	○	24V / 7.6W		
	1001475	LDR2-70BL	●	24V / 8.2W		
	1001476	LDR2-70GR	●			
	1005301	LDR2-90RD2	●		24V / 11W	
	1001516	LDR2-90RD	●	12V / 9.5W	D·P·A	6
	1005304	LDR2-90RD2-WD	●	24V / 11W		
	1001518	LDR2-90RD-WD	●	12V / 9.5W		
	1002723	LDR2-90SW2	○	24V / 14W		
	1001510	LDR2-90BL	●	24V / 15W		
1001514	LDR2-90GR	●				

Series	Direct Number	Model Name	Color	Power Consumption	Option	Dimension	
LDR2	1005300	LDR2-90-30RD2	●	24V / 14W	—	7	
	1001507	LDR2-90-30RD	●	12V / 14W			
	1002755	LDR2-90-30SW2	○	24V / 18W			
	1001505	LDR2-90-30BL	●				
	1001506	LDR2-90-30GR	●				
	1005305	LDR2-120RD2-WD	●	24V / 24W			D·P·A
	1001388	LDR2-120RD-WD	●	12V / 24W			
	1002756	LDR2-120SW2	○	24V / 28W			
	1001384	LDR2-120BL	●				
	1001385	LDR2-120GR	●				
	SQR	1005317	SQR-56RD2	●	24V / 3.1W	D·P	
		1002524	SQR-56-N	●	12V / 3.0W		
1005318		SQR-56RD2-WD	●	24V / 3.1W			
1002519		SQR-56	●	12V / 3.0W			
1002525		SQR-56-SW	○	24V / 4.1W	D·P	10	
1002520		SQR-56-BL	●				
1002585		SQR-56-GR	●				
1005258		SQR-TP-28RD	●				24V / 0.4W
SQR-TP	1005259	SQR-TP-34RD	●	24V / 0.8W	—	11	
					—	12	

*WD in the model name represents LED cone angle (±) 40 (refer to P.104).

*N in the model name represents LED cone angle (±) 20 (refer to P.104).

*The peak wavelength for SQR-TP-28RD/SQR-TP-34RD is 630 nm.

*Items marked with an asterisk under 'Options' are items with an adapter used for installation.

*The following letters indicate options.

D: Diffusion Plate, P: Polarizing Plate, A: Fixing Adapter

*For further details on these options, refer to page 99 to 101.

Existing RD-type Red Lights will be discontinued at the April 15, 2013. RD2-type Red Lights is recommended as replacement.

The RD-type and RD2-type Lights have different input voltages. Always use a 24-VDC Control Unit with RD2-type Lights. For a comparison between the RD-type and RD2-type Lights, refer to page 1.

Dimension Diagrams (Unit: mm)

