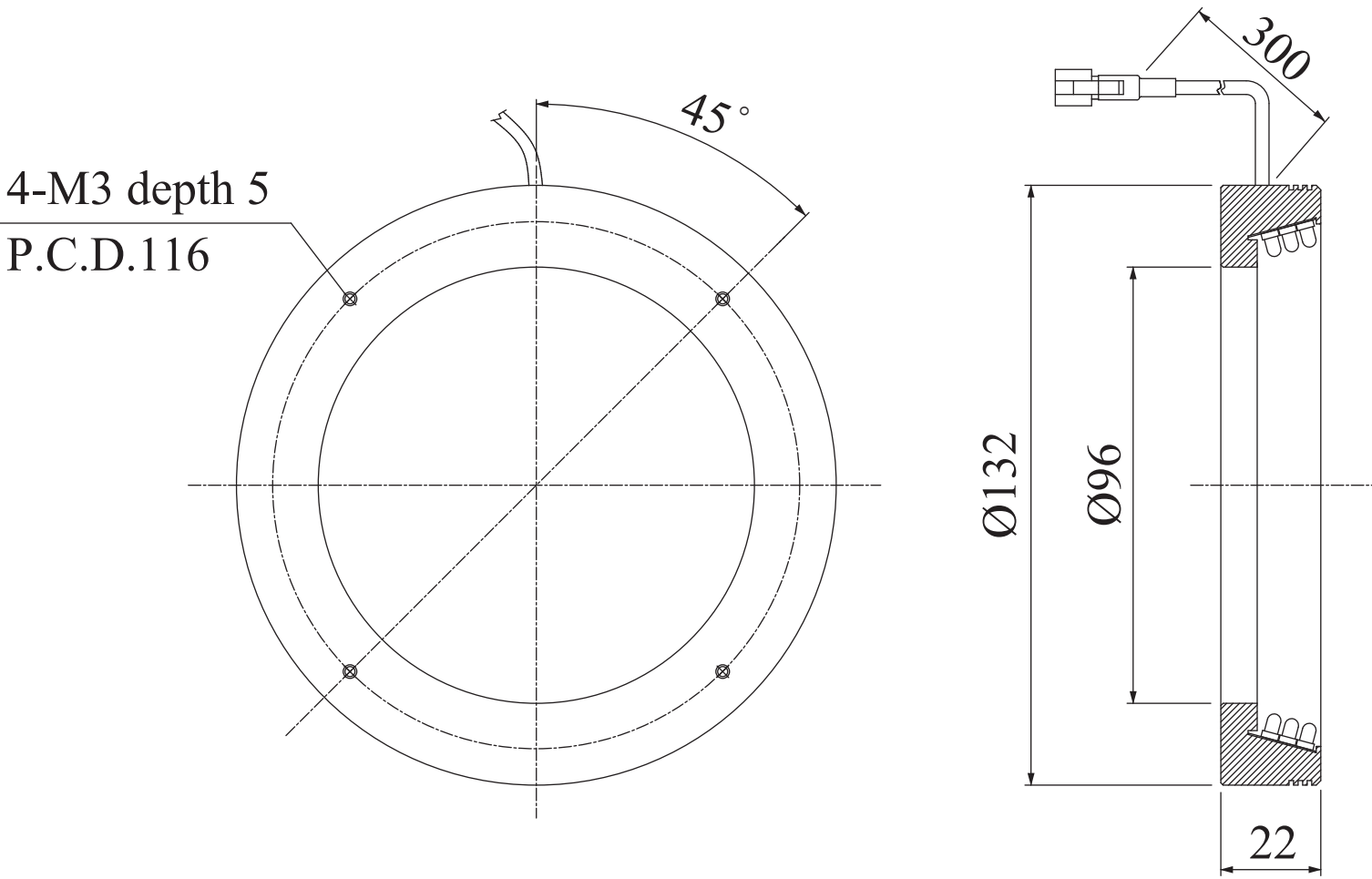


LDR2-132RD-LA/SW-LA/GR-LA/BL-LA

Model	LDR2-132RD-LA	LDR2-132SW-LA/GR-LA/BL-LA
Voltage	12V DC	24V DC
Power consumption	13W	17W
Mass	270g	270g
Connector type	2P (1: + , 2: -)	3P (1: + , 2: NC , 3: -)

Third Angle Projection Units: mm

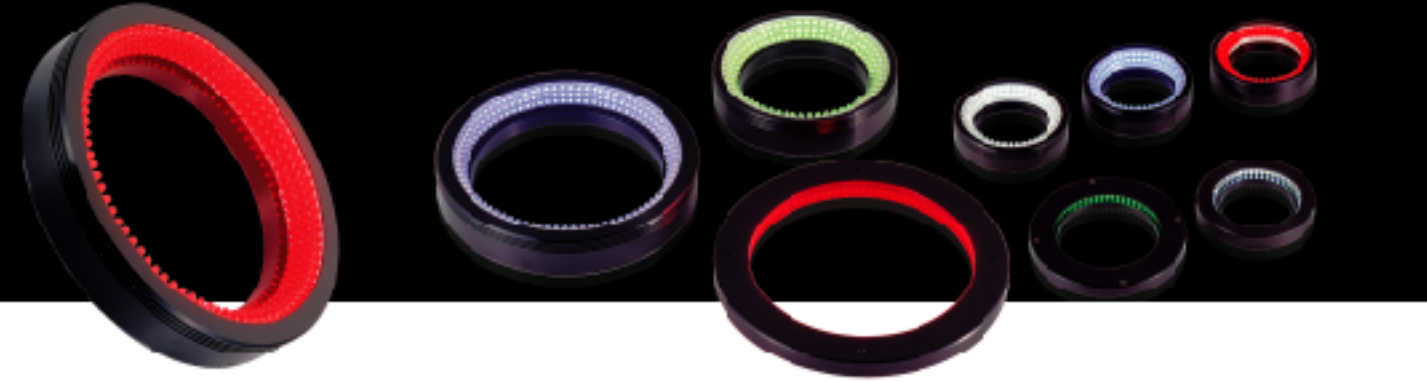




Low-angle Ring Lights

LDR2-LA/LDR-LA-1 Series

Ideal for edge detection and highlighting scratches on glossy surfaces
Low-angle illumination is ideally suited for edge detection and for emphasizing printing, damage, etc., on metal surfaces.



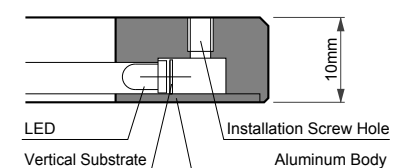
Low-angle illumination can clearly emphasize things that could not be seen before (LA-1).

The LDR-LA-1 is an ultra-low-angle illumination system with an ultra-thin design of just 10 mm. The thin design means that only minimal space is required for installation. At a working distance of 5 to 10 mm, the system can emphasize edges and height variations, as shown in the photograph below.

Sample Edge Detection Using a 1-Yen Coin



Cross-Sectional Illustration of the LA-1 Series



Aluminum Body Also Acts As a Highly-Effective Heat Sink

Aluminum is used as the outer material for nearly all of the image processing LEDs systems produced by CCS. Aluminum is a good heat conductor and acts as a heat sink to keep the internal temperature of the illumination system from rising. Heat can be a major problem for LED illumination systems, decreasing light intensity and reducing the life of the LEDs. The use of an aluminum body helps minimize these problems.

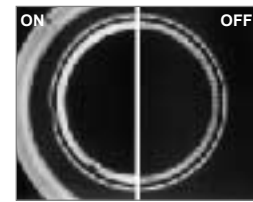


Compatible with Diffusion Rings and Plates

Optional diffusion rings and plates are available for many CCS lights.



Inspection of Cans for Dents (Effect of Using a Diffusion Panel)

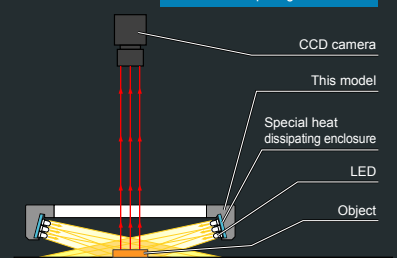


Using a diffusion ring or panel suppresses glare and LED reflections that may be a problem when capturing images of glossy applications.

Illumination structure of LDR-132LA

A flexible board is fixed at the desired angle to illuminate the work piece from a low angle.

New heat dissipating construction



Examples of Low-Angle Type Images

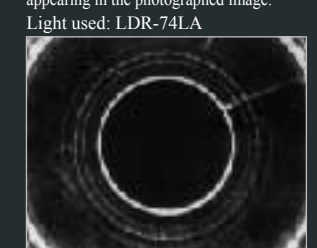
Inspection of Printed Characters on the Bottom of a Battery
A WD of 15 mm emphasizes printed characters.



Inspection of Disposable Camera Lenses for Damage
Low-angle illumination emphasizes scratches on the lens surface.



Inspection of CD-ROM for Inner Ring Cracking
Low-angle illumination emphasizes cracks while preventing LED reflections from appearing in the photographed image.



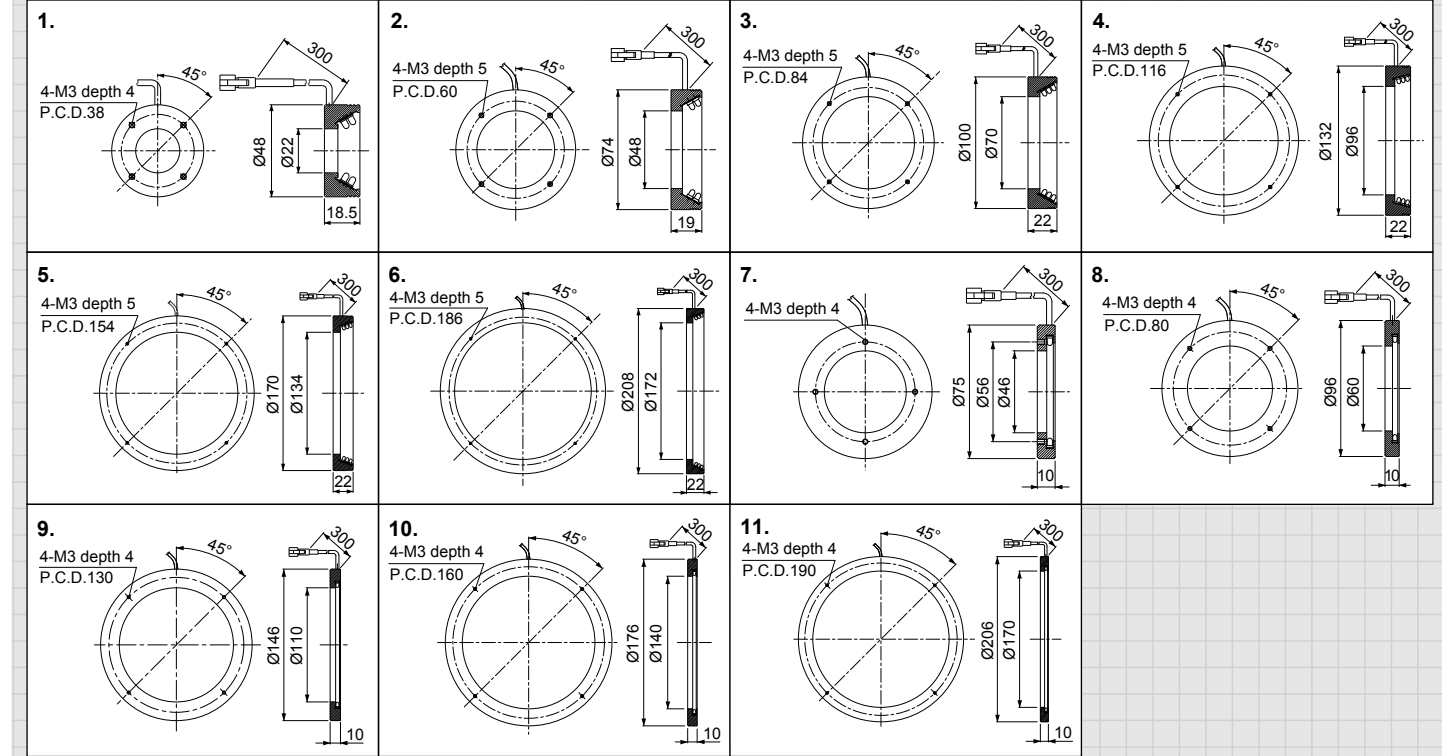
Product Lineup Table

Series	Model Name	Color	Power Consumption	Option	Dimension
LDR2-LA	LDR2-48RD-LA	Red	12V/2.4W	D	1□
	LDR2-48SW-LA/GR-LA/BL-LA	White/Blue/Black	24V/3.1W	D	
	LDR2-74RD-LA	Red	12V/4.5W	D	2
	LDR2-74SW-LA/GR-LA/BL-LA	White/Blue/Black	24V/6.1W	D	
	LDR2-100RD-LA	Red	12V/9.0W	D	3
	LDR2-100SW-LA/GR-LA/BL-LA	White/Blue/Black	24V/12W	D	
	LDR2-132RD-LA	Red	12V/13W	D	4
	LDR2-132SW-LA/GR-LA/BL-LA	White/Blue/Black	24V/17W	D	
	LDR2-170RD-LA	Red	12V/18W	D	5
	LDR2-170SW-LA/GR-LA/BL-LA	White/Blue/Black	24V/23W	D	
	LDR2-208RD-LA	Red	12V/22W	D	6□
	LDR2-208SW-LA/GR-LA/BL-LA	White/Blue/Black	24V/28W	D	

Series	Model Name	Color	Power Consumption	Option	Dimension
LDR-LA-1	LDR-75LA-1	Red	12V/3.0W	—	7
	LDR-75LA-1-SW /-GR/-BL	White/Blue/Black	24V/4.1W	—	
	LDR-96LA-1	Red	12V/3.0W	—	8
	LDR-96LA-1-SW /-GR/-BL	White/Blue/Black	24V/4.1W	—	
	LDR-146LA-1	Red	12V/4.8W	—	9
	LDR-146LA-1-SW /-GR/-BL	White/Blue/Black	24V/6.5W	—	
	LDR-176LA-1	Red	12V/6.0W	—	10
	LDR-176LA-1-SW /-GR/-BL	White/Blue/Black	24V/8.2W	—	
	LDR-206LA-1	Red	12V/7.2W	—	11
	LDR-206LA-1-SW /-GR/-BL	White/Blue/Black	24V/9.8W	—	

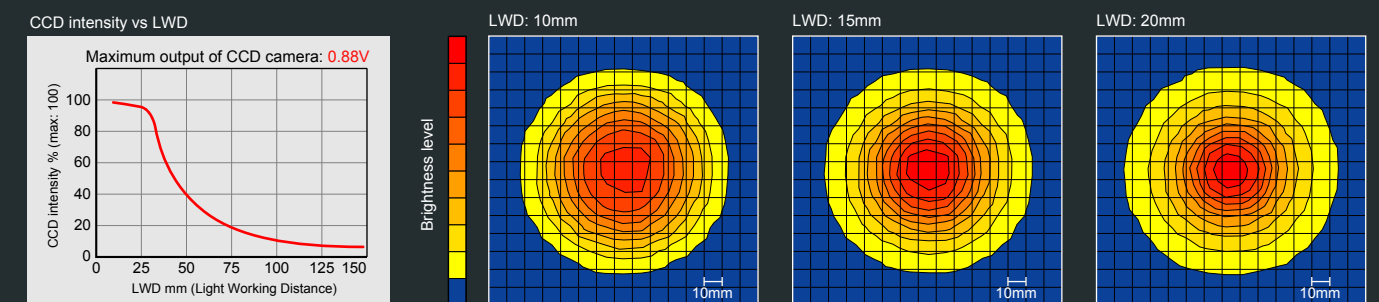
*1: LDR2-LA Series includes "SW2", white light with higher light intensity than "SW (white)". Please contact us for more details.

Dimensions (Unit: mm)



CCD Sensitivity Chart and Brightness Distribution LDR2-132LA

At the range of LWD 5-30mm, the oblique lighting is concentrated at the center.



CCD Sensitivity Chart and Brightness Distribution LDR-146LA-1

Allows illuminating even closer to the object.

