Direct Lighting

Low-Angle Ring Lights

LDR-LA1 Series

Refer to our website for product details.

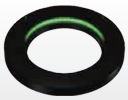
CCS LDR-LA1 ▶ Search

Provides direct light at a low angle from an emitting part directed horizontally

LDR-206SW2-LA1

LDR-176BL2-LA1

LDR-146RD2-LA1



LDR-96GR2-LA1

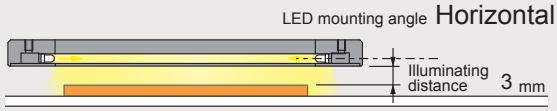
LDR-75RD2-LA1

Applications Edge detection; inspection for engraving, damage, or stains on metal surfaces; inspection for foreign material on wafers; inspection of bonding on shrink film; engraved character recognition for rubber; etc.

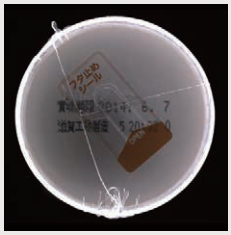
Illuminating Closest to the Workpiece

It's capable of illuminating the workpiece from a shorter distance than the LDR2-LA Series. Suitable for imaging fine unevenness, scratches and engraved letters.

Imaging example for the LDR-206SW2-LA1: Imaging the appearance of food containers

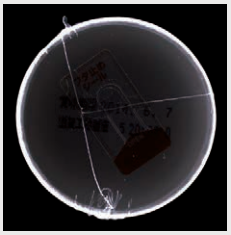


LDR2-208SW2-LA



The seal and engraved text affect the image, and the shrink seal cannot be sufficiently detected.

LDR-206SW2-LA1

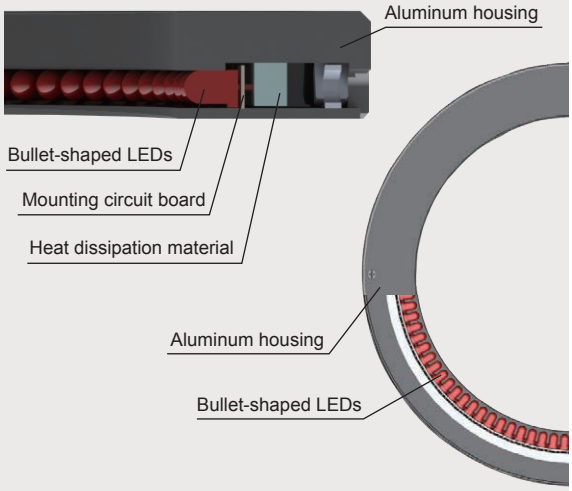


Only the shrink seal clearly stands out.

LEDs Mounted Horizontally

Achieved a thin device that is 10 mm thick by mounting LEDs horizontally in one line. Helps save space because it can be installed near the workpiece.

Cross-section image of the LDR-146-LA1



Custom Order Example

Please contact your CCS sales representative.

E.g.: Changed the format to take measures against interference with the device

Format/ material

Created a light unit with a shape to match the purpose

Cut to match the purpose

Customizable items

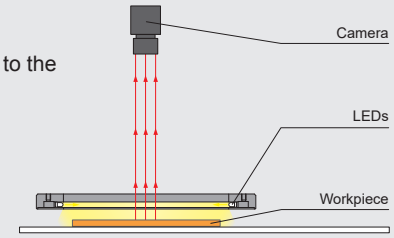
External/internal diameter | Wavelength/ Color | Increase output | Cable length | Illuminating angle | Format/ material | Connector format | Installation/ mounting

Etc.

Example Configuration

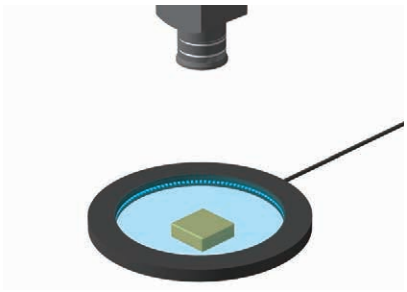
LEDs are arranged facing horizontally in a ring shape. It can be used extremely close to the workpiece.

LDR-146-LA1



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

Imaging Example: Imaging the Appearance of Plastic Case Surfaces



Description	Visual inspection
Workpiece	Plastic cases
Conventional lighting	Interior lamp
New lighting	LDR-146BL2-LA1
Result	Extracting the damage

■ Workpiece image

Plastic cases

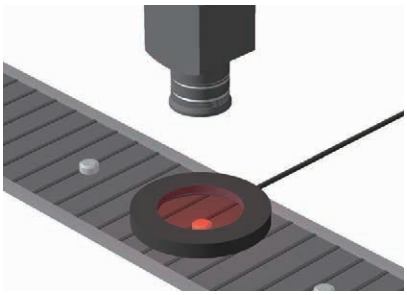
■ Interior lamp

The whole thing is evenly illuminated, making it difficult to detect the damage.

■ LDR-146BL2-LA1

It is possible to clearly get an image of the outside and damage on the surface.

Imaging Example: Imaging the Appearance of Button Cell Batteries

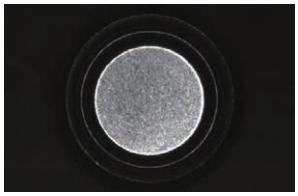


Description	Visual inspection
Workpiece	Button cell batteries
Conventional lighting	LED Ring Light
New lighting	LDR-75RD2-LA1
Result	Extracting the damage

■ Workpiece image

Button cell batteries

■ LED Ring Light



It is difficult to get an image of the button cell battery outside or damage on the surface.

■ LDR-75RD2-LA1

It is possible to clearly get an image of the outside and damage on the surface.

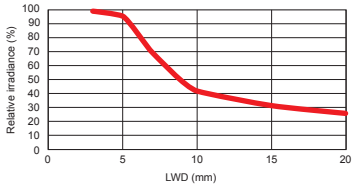
Data: Relative Irradiance Graph and Uniformity (Representative Example)

The data included is for reference only and does not guarantee the quality of this product.

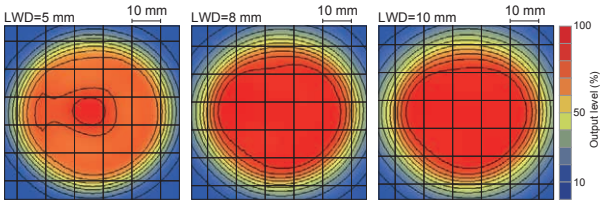
LDR-75RD2-LA1

Relative irradiance graph (LWD characteristics) *2 *1

*1 Irradiance on the optical axis
*2 Illuminating distance from the light unit to the workpiece



Uniformity (Relative irradiance)



You can inquire using our website.

Sample Testing | Light Unit Selection | Free Product Trial | Custom Orders | Product Details | Pricing/ Quotation | Discontinued Products

Inquire on our website here.
https://www.ccs-grp.com/contact/

Ring (Direct): LDR2, LDR2-LA, LDR-LA1, SQR, SQR-TP
Ring (Convergent / Diffused): HLDR3, HPR2, LFR, LKR, FPR
Square: FPQ3
Bar: LDL2, LDLB, HLDL3, LB
Flat: TH2 (5 types), LFL
Dome: HPD2, LDM2, LAV, PDM, LFXV, LFX3, LFX3-PT
Coaxial: LFV3, LFV3-G
Coaxial: 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): LNLP, LNSP2, Coaxial Units, LNSP-FN, LN/LN-HK
Line (Diffused): LNSD, LND2, LT, LNV, LFXV (Rectangular Type), TH2 (Rectangular Type)
Line (Oblique Angled): LNDG, LNIS2, LNIS, LNIS-FN
Lenses: Telecentric Lens, Macro Lens

LDR-LA1 Series

Refer to our website for product details.
CCS LDR-LA1 ▶ Search

Lineup

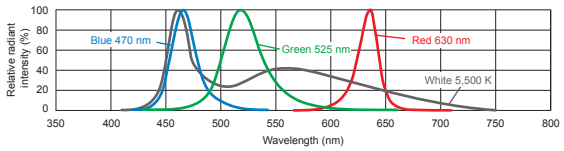
Model Name*1	Input Voltage	Power Consumption RD (Red)	SW (White)	BL (Blue)	GR (Green)	Options	Extension Cables	Recommended Control Units	Weight
LDR-75□□2-LA1	24 V	2.6 W	3.8 W	3.8 W	3.8 W	Bracket	FCB*3 Straight Cable FCB-W*4 2-Branch Cable FCB-F 4-Branch Cable FRCB Robot Cable *3 The cables with a model name that ends with "-ME7", "-EL2", "-PF", or "-PF-EL9" are not included. *4 The cables with a model name that ends with "-EL2" are not included.	PD4 PD3 CC-ST-1024 POD*2	55 g
LDR-96□□2-LA1	24 V	3.1 W	3.8 W	3.8 W	3.8 W				100 g
LDR-146□□2-LA1	24 V	4.6 W	6.0 W	6.1 W	6.1 W				160 g *RD is 170 g
LDR-176□□2-LA1	24 V	6.1 W	7.6 W	7.6 W	7.6 W				205 g *RD is 210 g
LDR-206□□2-LA1	24 V	7.1 W	9.1 W	9.1 W	9.1 W				220 g *RD is 250 g

Extension Cables ▶ P.371 | Control Unit Selection Guide ▶ P.305 | List of Control Unit Specifications ▶ P.307

*1 □□ in the model name contains the LED color. (RD: Red, SW: White, BL: Blue, GR: Green)
*2 For information on the combination of light units and POD Series control unit, please refer to our website. https://www.ccs-grp.com/lnk/qr/pod

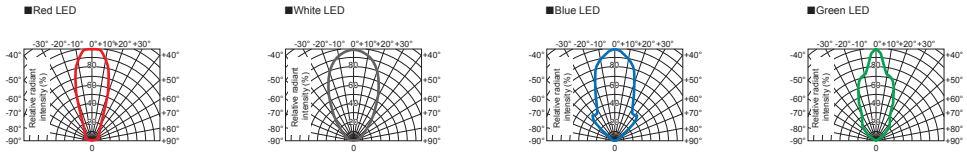
LED Properties

Spectral distribution



Lens filters suitable for each wavelength are available.
For details about the lens filter, refer to P.359.

Directional characteristics



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

Options

Combine with the Dome Light HPD2 Series to achieve imaging by light switching and simultaneous lighting.

Light joint bracket

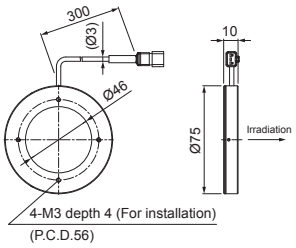
Model name	Applicable Light Unit 1 (Common for all colors)	Applicable Light Unit 2 (Common for all colors)
BK-75-JO	LDR-96-LA1	HPD2-75
BK-100-JO	LDR-146-LA1	HPD2-100
BK-150-JO	LDR-176-LA1	HPD2-150
BK-200-JO	LDR-206-LA1	HPD2-200

▶ P.370

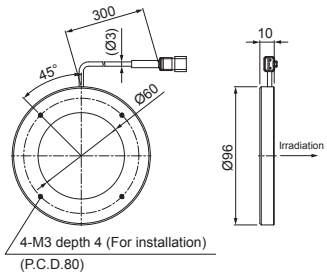
Various technical documents available. PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs
Register to use them.

Dimensions (mm)

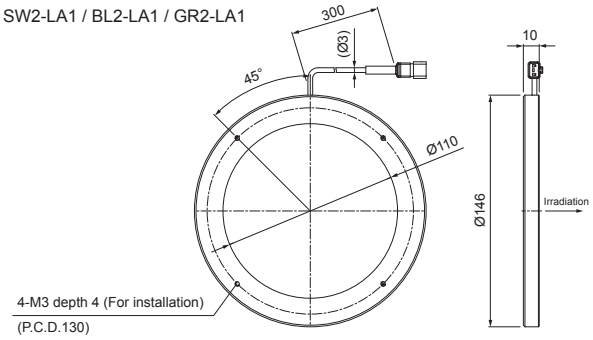
LDR-75RD2-LA1 / SW2-LA1 / BL2-LA1 / GR2-LA1



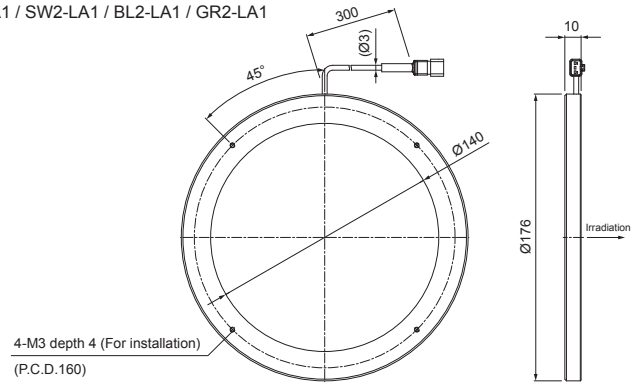
LDR-96RD2-LA1 / SW2-LA1 / BL2-LA1 / GR2-LA1



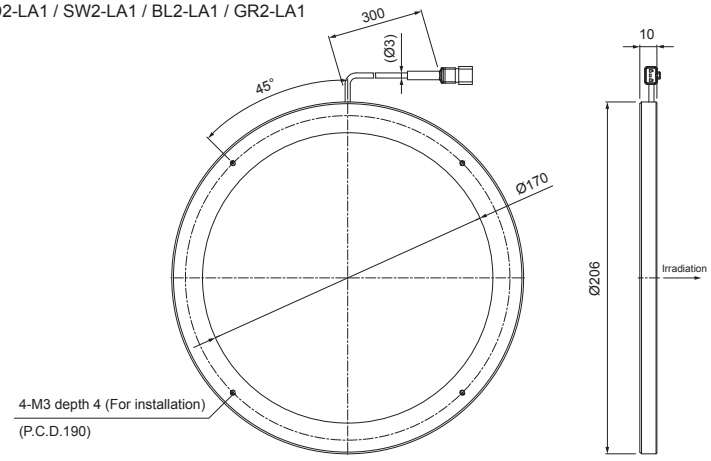
LDR-146RD2-LA1 / SW2-LA1 / BL2-LA1 / GR2-LA1



LDR-176RD2-LA1 / SW2-LA1 / BL2-LA1 / GR2-LA1



LDR-206RD2-LA1 / SW2-LA1 / BL2-LA1 / GR2-LA1



You can change the connectors of the light unit cable. Choose between M12 connectors and flying leads. Refer to P.19 for details.