

High-output UV LED Light Units

UV2 Series



Ideal for observation
by fluorescence

Applications

Magnetic particle inspection
Penetrant inspection
Coating agent inspection
Adhesive application inspection
and more

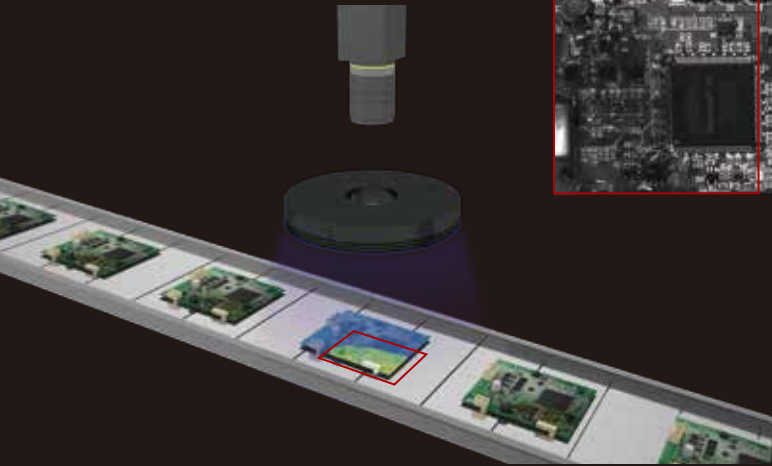
Ideal for observation by fluorescence
Replacing black lights

High-output UV LED Light Units

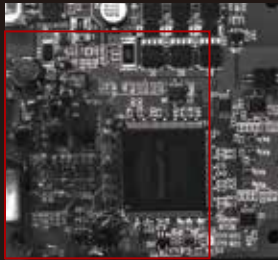
SERIES

Coating Inspection

Application Example



Visible Light



High-output UV Light Unit



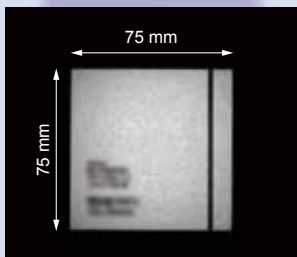
Only the coating agent on the board is captured.

NEW

Narrow type

Narrow-range irradiation

● With Lenses



The irradiation is concentrated in a narrow range using lenses.

Workpiece: Sticky note (75x75 mm)

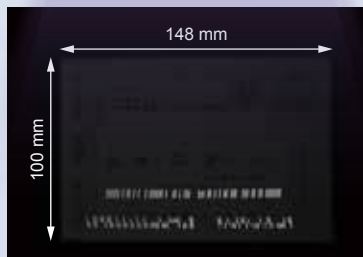
Image subject: Packing tape on a film

Light Unit: LDR2-100UV2-365-N

Wide type

Wide-range irradiation

● Lensless



The irradiation covers a wide range.

Workpiece: Postcard (100x148 mm)

Image subject: Invisible ink

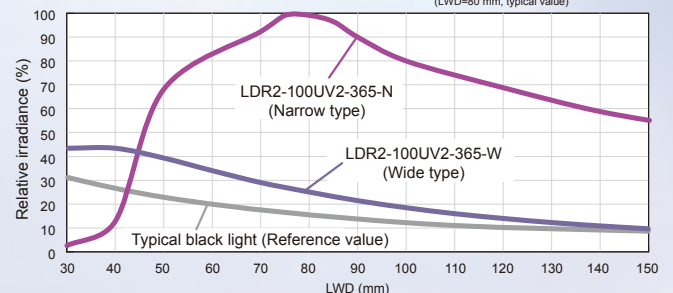
Light Unit: LDR2-100UV2-365-W

Expanded Lineup

Narrow type now supported

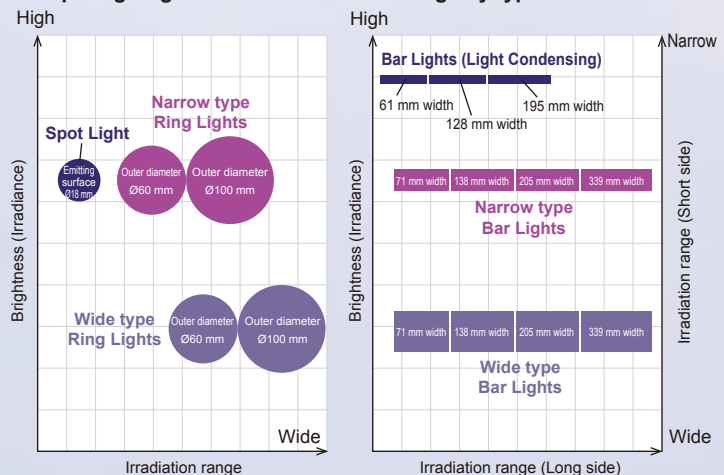
Irradiance
Approx. 3x*
Long Distance
Irradiation

* Comparison with the wide type product. (LWD=80 mm, typical value)



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

Comparing brightness and irradiation range by types



Ring Lights

Narrow type

Narrow range irradiation



NEW
LDR2-60UV2-365-N



NEW
LDR2-100UV2-365-N

Wide type

Wide range irradiation



LDR2-60UV2-365-W



LDR2-100UV2-365-W

| Model | LDR2-60UV2-365-N | LDR2-60UV2-365-W | LDR2-100UV2-365-N | LDR2-100UV2-365-W |
|--------------------------|---|------------------|--|-------------------|
| Type | Narrow type | Wide type | Narrow type | Wide type |
| Peak wavelength (typ.) | 365 nm | | | |
| Input voltage (max.) | 24 VDC | | | |
| Power consumption (max.) | 7.6 W | | 23 W | |
| Dimensions (mm) | Outer dia.: Ø60, Inner dia.: Ø30, Height: 34 (narrow)/30 (wide) | | Outer dia.: Ø100, Inner dia.: Ø30, Height: 19 (narrow)/15 (wide) | |
| Weight (max. g) | 170 | | 250 | |
| Applicable Control Units | PD3 Series, PD2 Series, PSB Series, BB Series, CC-ST-1024* | | | |

* For LDR2-60UV2-365-N/-W only.

Note: These Light Units cannot be used with CCS Strobe Control Units which have overdrive specifications. For details on the applicable Control Units, refer to the general catalog or the CCS website.

Bar Lights

Narrow type

Narrow range irradiation



NEW LDL SERIES
Emitting surface
71×12 mm
138×12 mm
205×12 mm
339×12 mm

Wide type

Wide range irradiation



LDL SERIES
Emitting surface
71×12 mm
138×12 mm
205×12 mm
NEW 339×12 mm

Newly designed length

| Model | Narrow type | LDL-71X12UV2-365-N | LDL-138X12UV2-365-N | LDL-205X12UV2-365-N | LDL-339X12UV2-365-N |
|----------------------------------|---|--------------------|---------------------|---------------------|---------------------|
| | Wide type | LDL-71X12UV2-365 | LDL-138X12UV2-365 | LDL-205X12UV2-365 | LDL-339X12UV2-365 |
| Peak wavelength (typ.) | 365 nm | | | | |
| Input voltage (max.) | 24 VDC | | | | |
| Power consumption (max.) | 7.6 W | 16 W | 23 W | 38 W | |
| Emitting surface dimensions (mm) | 71x12 | 138x12 | 205x12 | 339x12 | |
| Weight (max. g) | 300 | 500 | 700 | 1090 | |
| Applicable Control Units | PD3 Series, PD2 Series, PSB Series*1, BB Series*1, CC-ST-1024*2 | | | | |

*1: Excluding the LDL-339X12UV2-365-N/-365. *2: For LDL-71X12UV2-365-N/-365 only.

Note: These Light Units cannot be used with CCS Strobe Control Units which have overdrive specifications. For details on the applicable Control Units, refer to the general catalog or the CCS website.

Bar Lights (Light Condensing)



LN SERIES
Emitting surface
61×16 mm
128×16 mm
195×16 mm

| Model | LN-61UV2-365 | LN-128UV2-365 | LN-195UV2-365 |
|-----------------------------|--|---------------|---------------|
| Peak wavelength (typ.) | 365 nm | | |
| Input voltage (max.) | 24 VDC | | |
| Power consumption (max.) | 7.6 W | 16 W | 23 W |
| Emitting surface dimensions | 61x16 | 128x16 | 195x16 |
| Weight (max. g) | 450 | 750 | 1050 |
| Applicable Control Units | PD3 Series, PD2 Series, PSB Series, BB Series, CC-ST-1024* | | |

* For LN-61UV2-365 only.

Note: These Light Units cannot be used with CCS Strobe Control Units which have overdrive specifications. For details on the applicable Control Units, refer to the general catalog or the CCS website.

Spot Light



HLV2-24UV2-365

Emitting surface
Ø18 mm

| Model | HLV2-24UV2-365 |
|--------------------------|---|
| Peak wavelength (typ.) | 365 nm |
| Input current (max.) | 0.7 A |
| Power consumption (max.) | 3.2 W |
| Dimensions (mm) | Outer dia.: Ø28 (lens), Inner dia.: Ø24 (mounting hole), Height: 54 |
| Weight (max. g) | 50 |
| Applicable Control Units | PJ Series, CC-PJ-0707, PD3 Series* |

* Must be one of the HLV2-series compatible models.

Note: This Light Unit cannot be used with CCS Strobe Control Units which have overdrive specifications. For details on the applicable Control Units, refer to the general catalog or the CCS website.

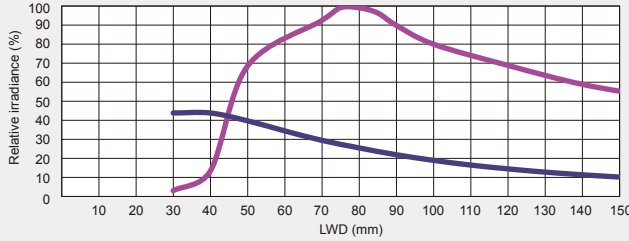
We accept custom orders for products to fit your needs in length, etc.

Please feel free to ask your CCS representative for more details.



Ring Lights LDR2-60UV2-365-N LDR2-60UV2-365-W LDR2-100UV2-365-N LDR2-100UV2-365-W

LWD characteristics

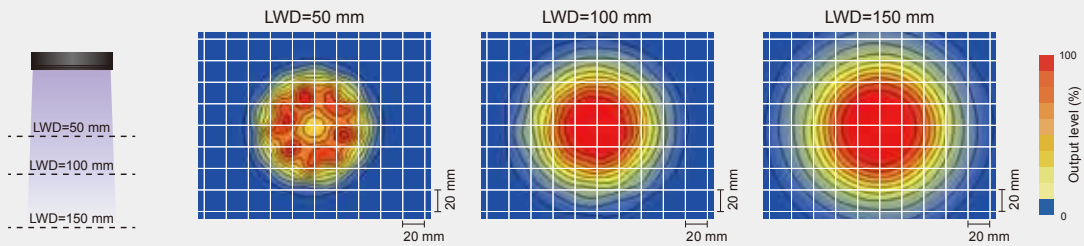


— Narrow type (LDR2-100UV2-365-N)
— Wide type (LDR2-100UV2-365-W)

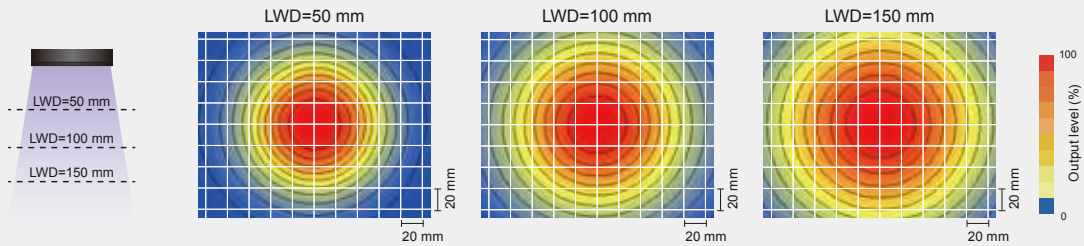
Note: At short distances, uniformity of irradiation from narrow type Light Units is reduced. This may affect imaging depending on the type of workpiece.

Uniformity

Narrow type Light Unit in use: LDR2-100UV2-365-N



Wide type Light Unit in use: LDR2-100UV2-365-W



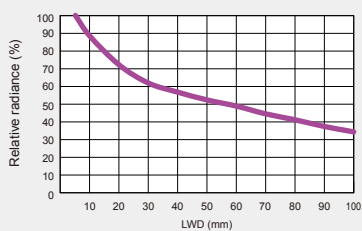
Note: The data shown above is for reference only. Results for individual products may vary.



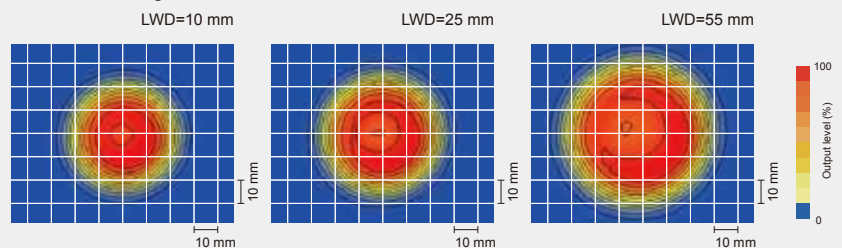
Spot Light HL2-24UV2-365

Light Unit in use: HL2-24UV2-365

LWD characteristics



Uniformity

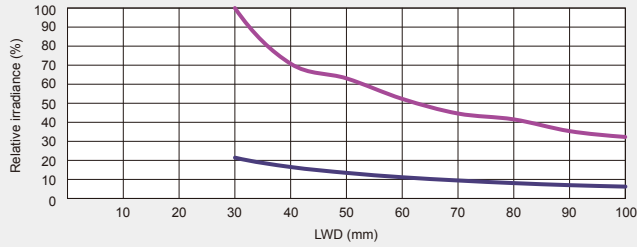


Note: The data shown above is for reference only. Results for individual products may vary.



Bar Lights LDL-71X12UV2-365-N/-365 LDL-138X12UV2-365-N/-365 LDL-205X12UV2-365-N/-365 LDL-339X12UV2-365-N/-365

LWD characteristics

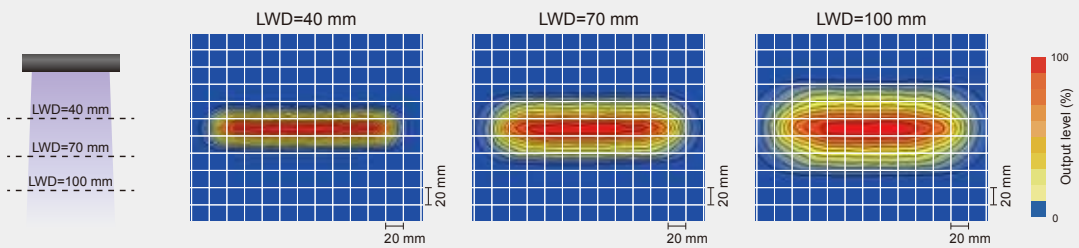


— Narrow type (LDL-205X12UV2-365-N)
— Wide type (LDL-205X12UV2-365)

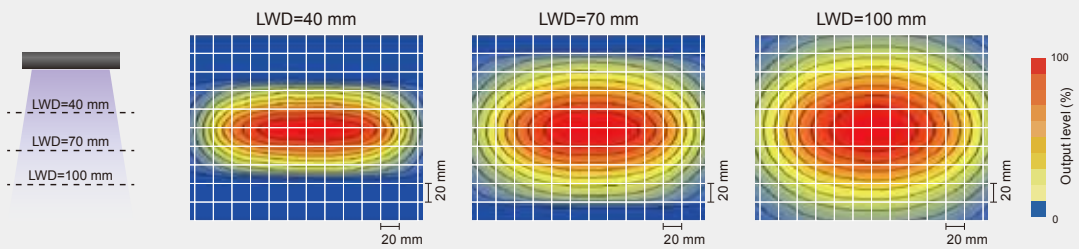
Note: At short distances, uniformity of irradiation from narrow type Light Units is reduced. This may affect imaging depending on the type of workpiece.

Uniformity

Narrow type Light Unit in use: LDL-205X12UV2-365-N



Wide type Light Unit in use: LDL-205X12UV2-365



Note: The data shown above is for reference only. Results for individual products may vary.

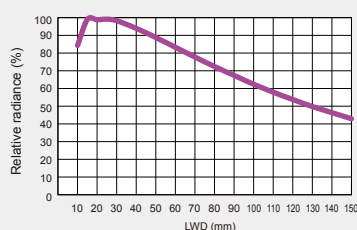


Bar Lights (Light condensing) LN-61UV2-365 LN-128UV2-365 LN-195UV2-365

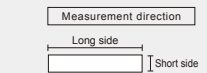
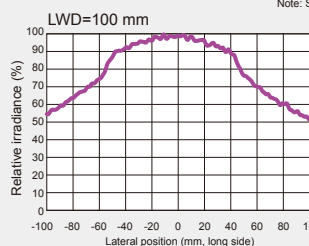
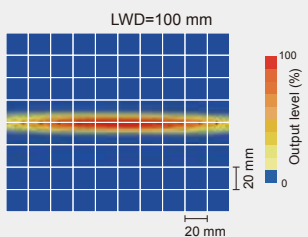
Light Unit in use: LN-195UV2-365

Emitting surface width (long side): 195 mm

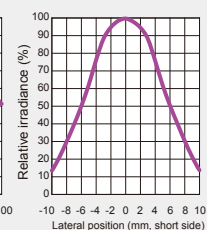
LWD characteristics



Uniformity



Relative irradiance distribution
Note: Simulation values. Actual values may vary.



Note: The data shown above is for reference only. Results for individual products may vary.

Imaging of Scratches by Magnetic Particle Inspection

Workpiece



Metal component

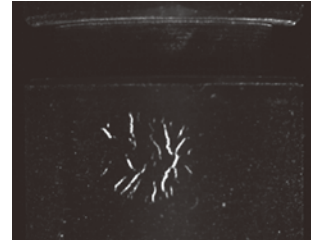
High-output UV LED Light Unit
(LDL-71X12UV2-365-N) **Narrow type**



Visual inspection

Image of magnetic particle inspection viewed with the naked eye. With a high-output UV LED Light Unit, the scratches can be observed by fluorescence.

High-output UV LED Light Unit
(LDL-71X12UV2-365-N) **Narrow type**



Monochromatic camera

Image of magnetic particle inspection captured using a monochromatic camera. With a high-output UV LED Light Unit, the scratches can be observed by fluorescence.

Note: The contrast of the image can be enhanced using the optional filters.

Imaging of Text at the Bottom of an Aluminum Can

Workpiece



Aluminum can

White Light
(LDL2-146X30SW)



With white light, it is difficult to capture the printed text at the bottom of the can.

High-output UV LED Light Unit
(LDL-138X12UV2-365-N) **Narrow type**



With a high-output UV LED Light Unit, observation by fluorescence is possible.

Note: The contrast of the image can be enhanced using the optional filters.

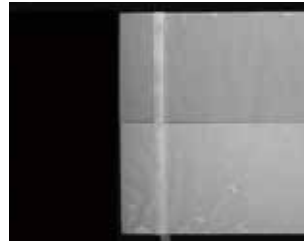
Imaging of Packing Tape on Film

Workpiece



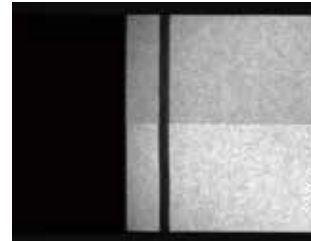
Sticky notes

White Light
(LDL2-146X30SW2)



With white light, it is difficult to capture the sticky notes and the packing tape with high contrast.

High-output UV LED Light Unit
(LDR2-100UV2-365-N) **Narrow type**



With a high-output UV LED Light Unit, observation by fluorescence is possible.

Note: The contrast of the image can be enhanced using the optional filters.

Imaging of Grease Coating on a Bearing

Workpiece



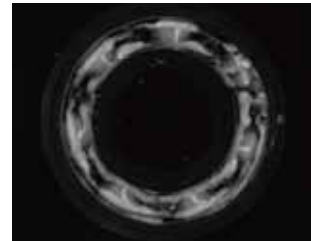
Bearing

White Light
(LDR2-90SW2)



With white light, it is difficult to capture the grease coating.

High-output UV LED Light Unit
(LDR2-100UV2-365-W) **Wide type**



With a high-output UV LED Light Unit, observation by fluorescence is possible.

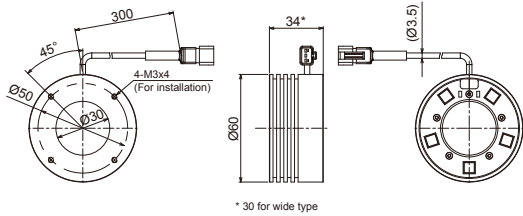
Note: The contrast of the image can be enhanced using the optional filters.
The above sample workpiece has been made specifically for sample imaging.

DIMENSIONS

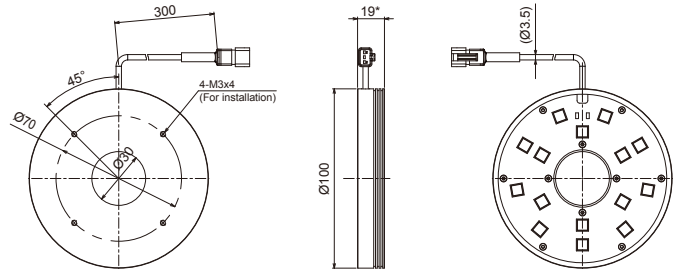
Dimension Diagrams (Unit: mm)

Ring Lights

LDR2-60UV2-365-N/-W Common dimensions for both narrow and wide types

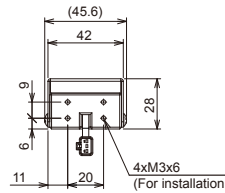
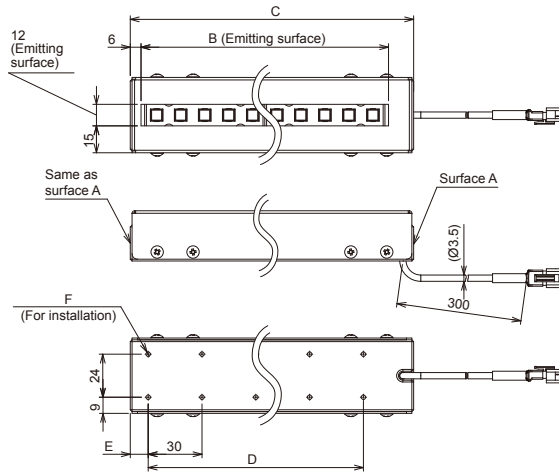


LDR2-100UV2-365-N/-W Common dimensions for both narrow and wide types



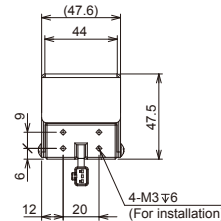
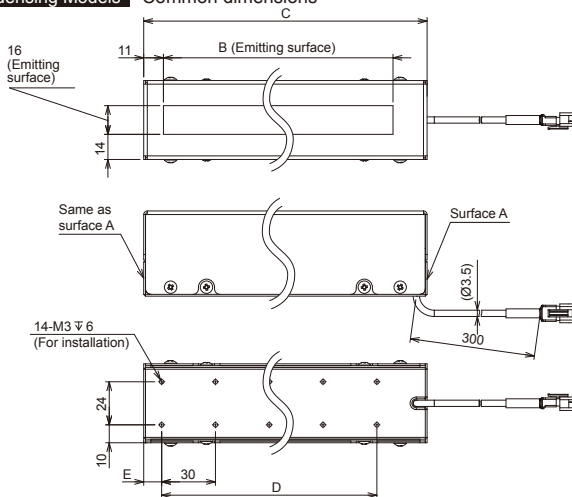
Bar Lights

Common dimensions for both narrow and wide types



| Model (Narrow/Wide) | B (Emitting surface) | C (Overall length) | D | E | F |
|--------------------------|----------------------|--------------------|------------|------|---------|
| LDL-71X12UV2-365-N/-365 | 71 | 91 | P30x2=60 | 10 | 6xM3x6 |
| LDL-138X12UV2-365-N/-365 | 138 | 158 | P30x4=120 | 10 | 10xM3x6 |
| LDL-205X12UV2-365-N/-365 | 205 | 225 | P30x6=180 | 20 | 14xM3x6 |
| LDL-339X12UV2-365-N/-365 | 339 | 359 | P30x10=300 | 29.5 | 22xM3x6 |

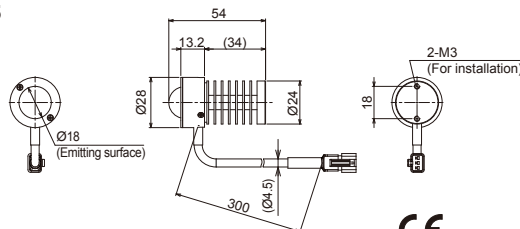
Light Condensing Models Common dimensions



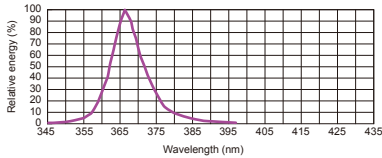
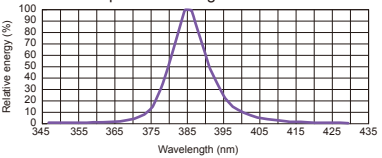
| Model | B (Emitting surface) | C (Overall length) | D | E |
|---------------|----------------------|--------------------|-----------|----|
| LN-61UV2-365 | 61 | 91 | P30x2=60 | 10 |
| LN-128UV2-365 | 128 | 158 | P30x4=120 | 10 |
| LN-195UV2-365 | 195 | 225 | P30x6=180 | 20 |

Spot Light

HLV2-24UV2-365



Common Specifications

| | | | |
|-----------------------|--|---------------------------|---------------------------------------|
| Input voltage | 24 VDC (max.) | CE Marking | Conforms to safety standard EN 62471. |
| Operating environment | Temperature: 0 to 40°C, Humidity: 20% to 85% RH (with no condensation) | Environmental regulations | RoHS compliant |
| Storage environment | Temperature: -20 to 60°C, Humidity: 20% to 85% RH (with no condensation) | Cooling method | Natural air cooling |
| Light spectrum | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Standard products: 365 nm</p>  </div> <div style="text-align: center;"> <p>Orders are accepted for custom Light Units with a peak wavelength of 385 nm.</p>  </div> </div> | | |

Note: The data shown above is for reference only. Results for individual products may vary.

Optional UV Products

Transmits UV light waves and absorbs visible light.

Ultraviolet Transmission Filters

U340 Series



| Model | Size |
|---------|-------------|
| U340-25 | M25.5 P0.5 |
| U340-27 | M27.0 P0.5 |
| U340-30 | M30.5 P0.5 |
| U340-40 | M40.5 P0.5 |
| U340-46 | M46.0 P0.75 |

Absorbs wavelengths of 420 nm and shorter and passes longer wavelengths.

Ultraviolet Cutting Filters

L42 Series



| Model | Size |
|--------|-------------|
| L42-25 | M25.5 P0.5 |
| L42-27 | M27.0 P0.5 |
| L42-30 | M30.5 P0.5 |
| L42-40 | M40.5 P0.5 |
| L42-46 | M46.0 P0.75 |

For assistance in selecting a Filter that is suitable for the excitation wavelength, contact your CCS sales representative.

Transmits blue light only.

Blue Filters

V44 Series



Transmits wavelengths within 350 to 520 nm.

Cuts specific range of wavelength.

Sharp-cut Filters

R60 Series



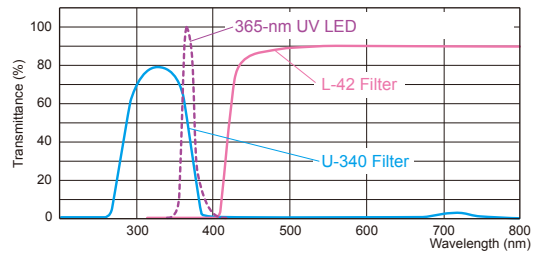
Cuts 600 nm and shorter.

R64 Series

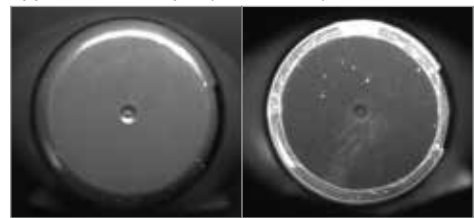


Cuts 640 nm and shorter.

Filter Characteristics and UV LED Spectrum Comparison



Application Example (Shrink Film)



Without Filter

With Ultraviolet Cutting Filter

Other Filters

Customized Filters

Green, yellow, and more.



For details on the customized filters, please contact your CCS sales representative.

CCS has various standard filters suitable for wavelengths other than those above. For details, refer to the Product Options page of our website or contact your CCS sales representative.

Precautions for UV Products

CAUTION

- Never look directly at or touch an ultraviolet light source.
- When the Light Unit is ON, always wear protective UV glasses and be sure not to let any ultraviolet light enter your eyes.
- Do NOT look directly at the radiating surface of the Light Unit while it is turned on. Also, do NOT turn it towards others.
- Wear long sleeves and gloves and do not expose your skin to the ultraviolet light during operation.
- Make sure that everyone in the vicinity of the Light Unit is aware of the dangers of ultraviolet light LEDs.

Example:
Protective UV glasses



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CAUTION

- Carefully read the User Manual before using the product to ensure correct operation.
- For product improvement, specifications and designs are subject to change without notice.
- Use the workpiece imaging examples provided in this pamphlet as reference material for the selection of Light Units. The sample workpieces used in this pamphlet have been made specifically for sample imaging, and are not intended to represent product quality and performance.



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