CREATING CUSTOMER SATISFACTION

UV2 Series

Expanded Lineup

Narrow type now supported

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

LIGHTING SOLUTION

CCS Inc.

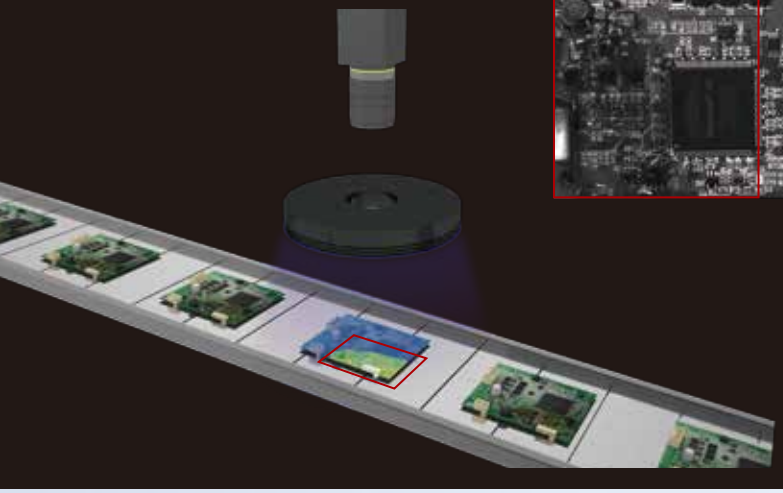
Ideal for observation by fluorescence
Replacing black lights

High-output UV LED Light Units

UV2 SERIES

Coating Inspection

Application Example



Visible Light

High-output UV Light Unit

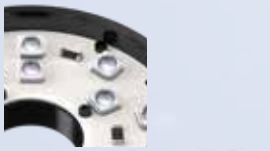
Only the coating agent on the board is captured.

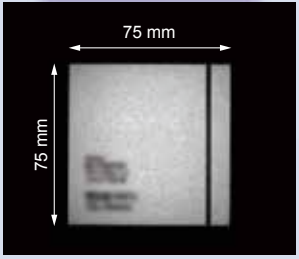
NEW

Narrow type

Narrow-range irradiation

● With Lenses





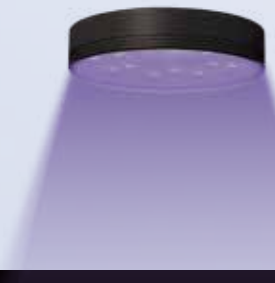
The irradiation is concentrated in a narrow range using lenses.

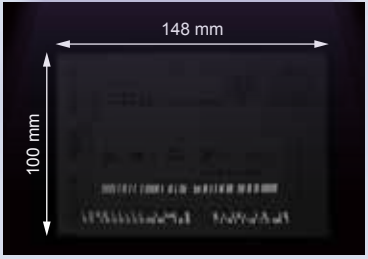
Workpiece: Sticky note (75x75 mm)
Image subject: Packing tape on a film
Light Unit: LDR2-100UV2-365-N

Wide type

Wide-range irradiation

● Lensless





The irradiation covers a wide range.

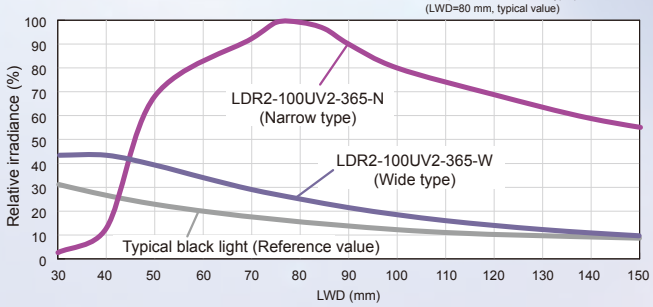
Workpiece: Postcard (100x148 mm)
Image subject: Invisible ink
Light Unit: LDR2-100UV2-365-W

Expanded Lineup

Narrow type now supported

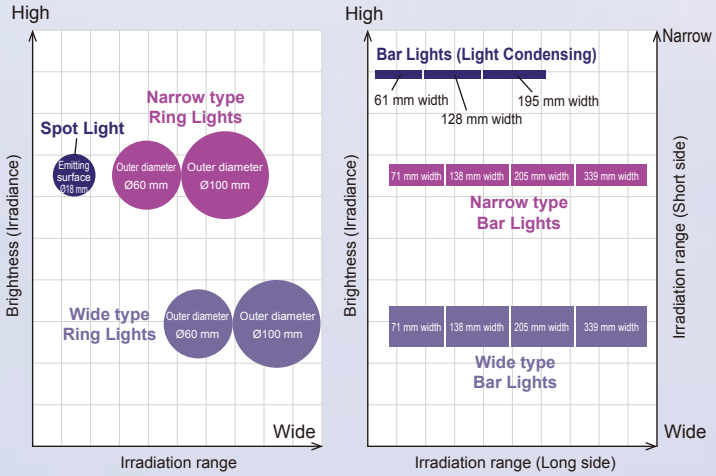
Irradiance Approx. 3x* Long Distance Irradiation

* 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



Product Lineup

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		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.

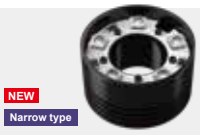
Note: This Light Unit cannot be used with CCS Strobe Control Units which have overdrive specifications. For details on the applicable Control Units, refer to the general catalog or the CCS website.

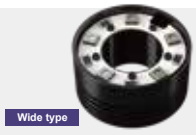
We accept custom orders for products to fit your needs in length, etc.

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

DATA

Technical Data for High-output UV LED Light Units

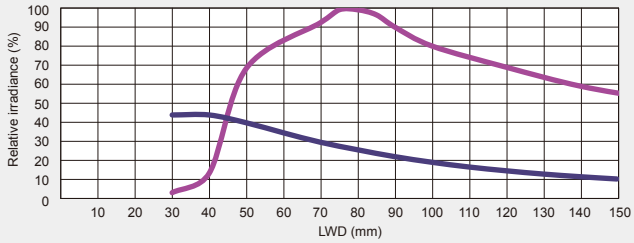




Ring Lights

LDR2-60UV2-365-N | LDR2-60UV2-365-W | LDR2-100UV2-365-N | LDR2-100UV2-365-W

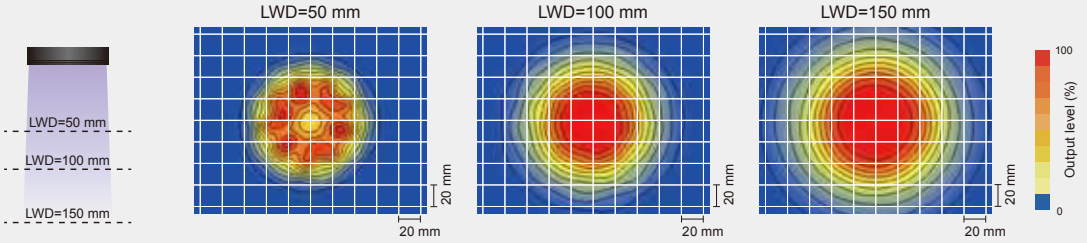
LWD characteristics



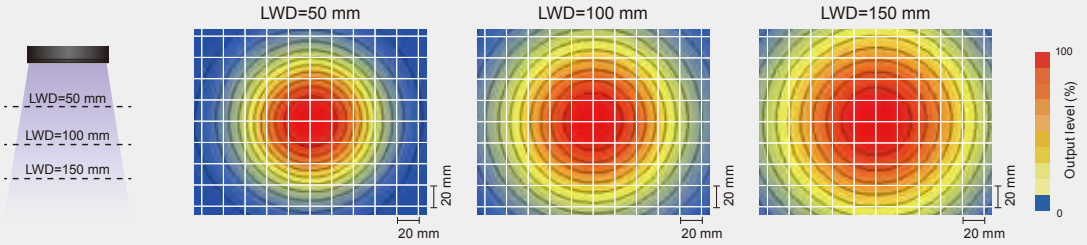
Note: At short distances, uniformity of irradiation from narrow type Light Units is reduced. This may affect imaging depending on the type of workpiece.

Uniformity

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



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



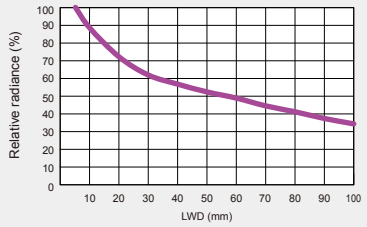
Note: The data shown above is for reference only. Results for individual products may vary.

Spot Light

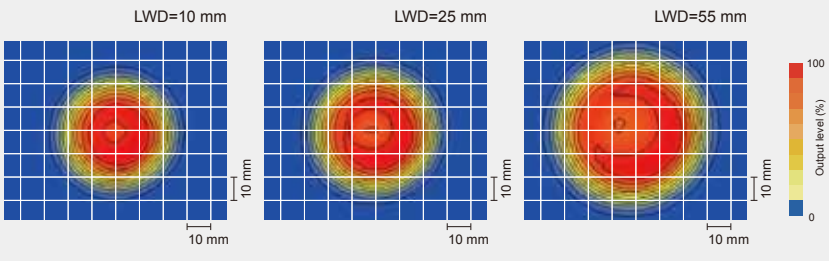
HLV2-24UV2-365

Light Unit in use: HLV2-24UV2-365

LWD characteristics



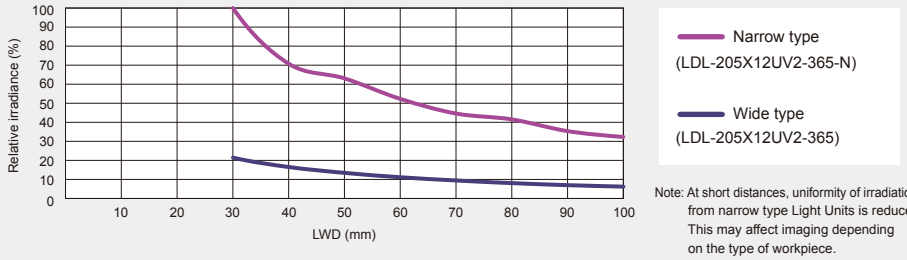
Uniformity



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

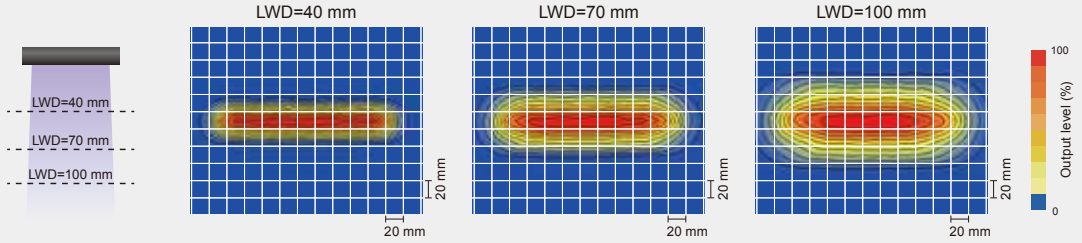
LWD characteristics



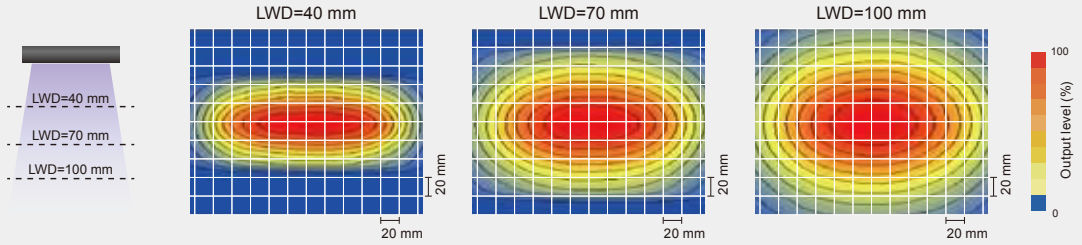
Note: At short distances, uniformity of irradiation from narrow type Light Units is reduced. This may affect imaging depending on the type of workpiece.

Uniformity

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



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

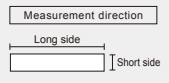


Note: The data shown above is for reference only. Results for individual products may vary.

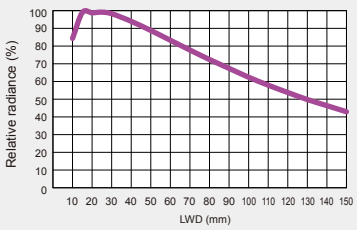
Bar Lights (Light condensing) LN-61UV2-365 LN-128UV2-365 LN-195UV2-365

Light Unit in use: LN-195UV2-365

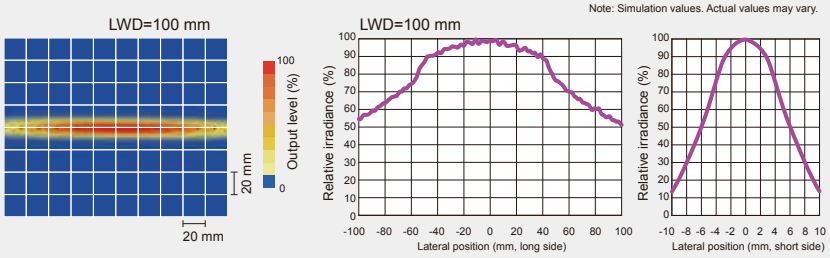
Emitting surface width (long side): 195 mm



LWD characteristics



Uniformity



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

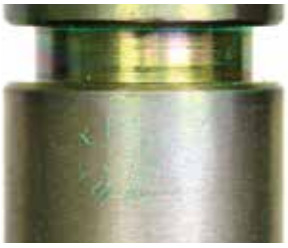
APPLICATIONS

Imaging of Scratches by Magnetic Particle Inspection

Workpiece

Metal component

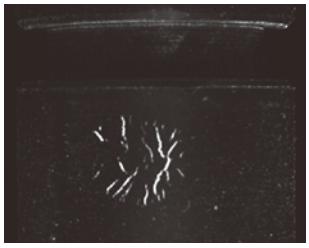
High-output UV LED Light Unit
(LDL-71X12UV2-365-N) Narrow type



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

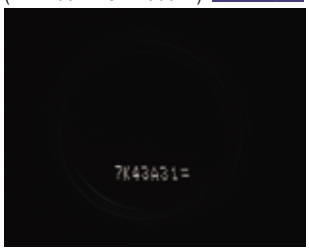
Workpiece

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.

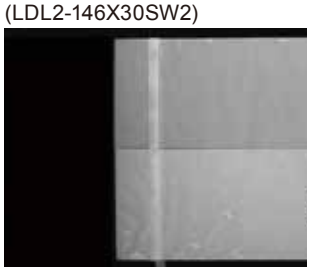
Note: The contrast of the image can be enhanced using the optional filters.

Imaging of Packing Tape on Film

Workpiece

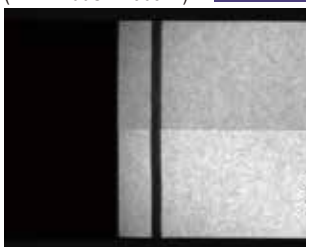
Sticky notes

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

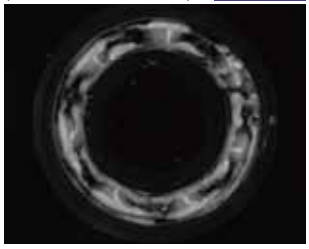
Workpiece

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.

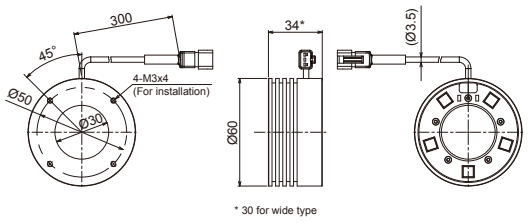
DIMENSIONS

Dimension Diagrams (Unit: mm)

Ring Lights

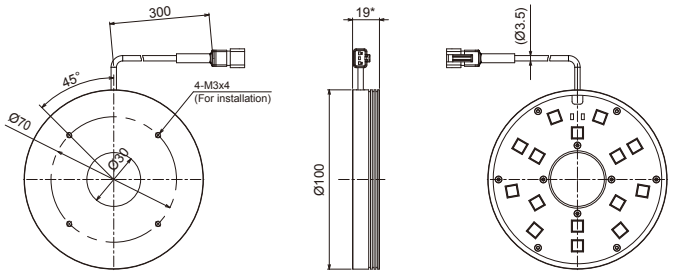
LDR2-60UV2-365-N/-W

Common dimensions for both narrow and wide types



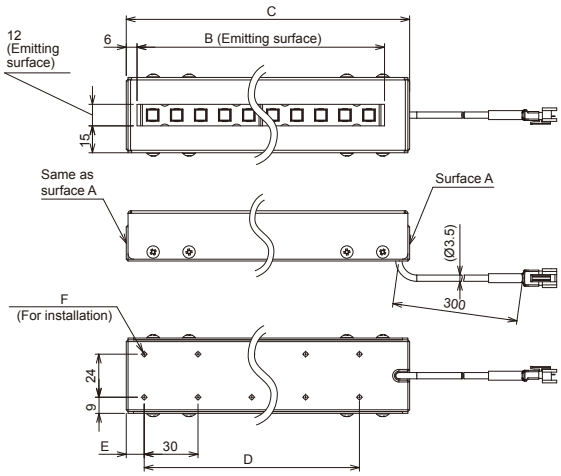
LDR2-100UV2-365-N/-W

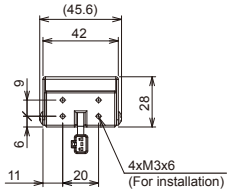
Common dimensions for both narrow and wide types



Bar Lights

Common dimensions for both narrow and wide types

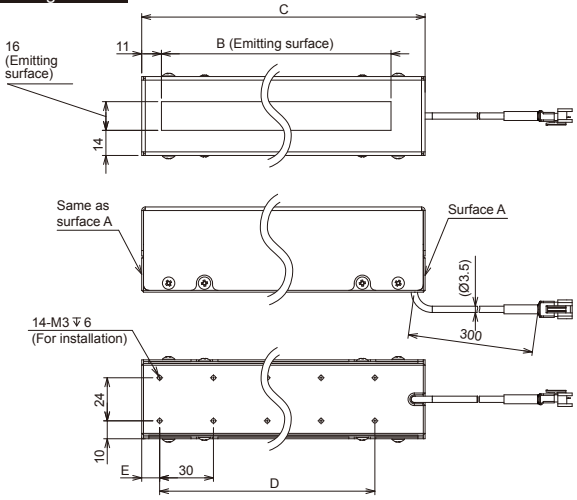


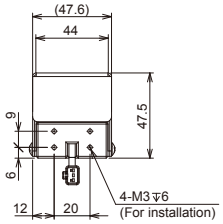


Model (Narrow/Wide)	B (Emitting surface)	C (Overall length)	D	E	F
LDL-71X12UV2-365-N/-365	71	91	P30x2=60	10	6xM3x6
LDL-138X12UV2-365-N/-365	138	158	P30x4=120	10	10xM3x6
LDL-205X12UV2-365-N/-365	205	225	P30x6=180	20	14xM3x6
LDL-339X12UV2-365-N/-365	339	359	P30x10=300	29.5	22xM3x6

Light Condensing Models

Common dimensions

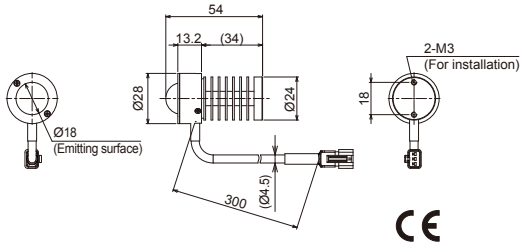




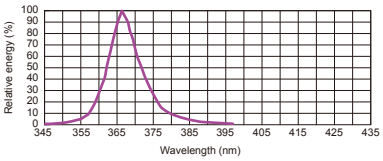
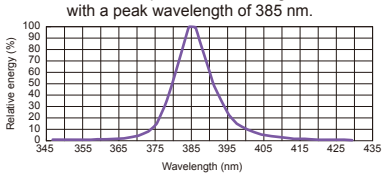
Model	B (Emitting surface)	C (Overall length)	D	E
LN-61UV2-365	61	91	P30x2=60	10
LN-128UV2-365	128	158	P30x4=120	10
LN-195UV2-365	195	225	P30x6=180	20

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	Standard products: 365 nm  Orders are accepted for custom Light Units with a peak wavelength of 385 nm. 		

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.

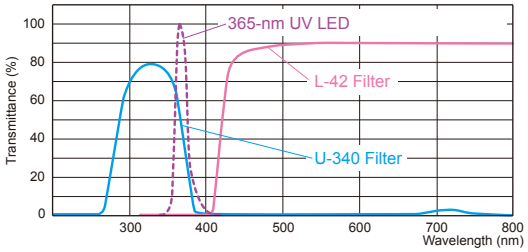
Ultraviolet Cutting Filters

L42 Series

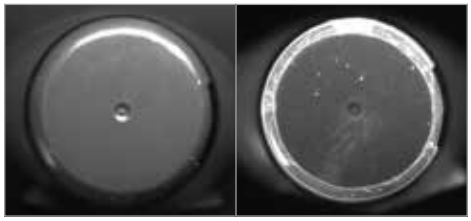
Model	Size
L42-25	M25.5 P0.5
L42-27	M27.0 P0.5
L42-30	M30.5 P0.5
L42-40	M40.5 P0.5
L42-46	M46.0 P0.75

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

Filter Characteristics and UV LED Spectrum Comparison



Application Example (Shrink Film)



Without Filter — With Ultraviolet Cutting Filter

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.

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

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.

CCS Inc.

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