UV3/VL3 Series

Refer to our website for product details.

CCS UV3/VL3 ▶ Search

Increased range of applications with high output and 4 wavelengths

LDR2-60UV3/VL3-N
(Narrow Type)

LDL-71X12UV3/VL3-N
(Narrow Type)

LN-61UV3/VL3

LDR2-60UV3/VL3-W
(Wide Type)

LDL-71X12UV3/VL3-W
(Wide Type)

HLDR-IP67-100UV3/VL3

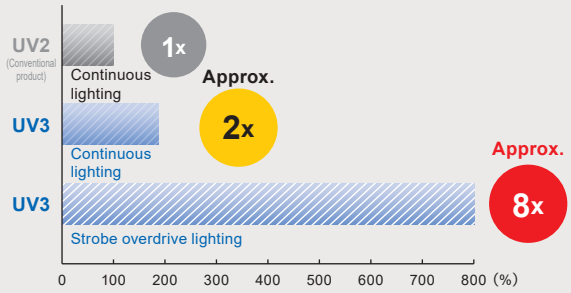
HLV2-24UV3/VL3

* 365 nm wavelength for ultraviolet light UV3 Series. 385 nm, 395 nm, and 405 nm wavelengths for violet light VL3 Series.

Applications Special ink observation, deep magnetic particle scratch inspection, adhesive coating inspection, deep penetration scratch inspection, coating inspection, etc.

Increased Brightness When Overdriving

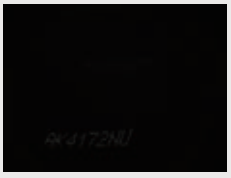
Comparison with a conventional product (LDR2-60UV3-365-N)



* Comparison between the LDR2-60UV3-365-N and LDR2-60UV2-365-N at 100 mm LWD. The increase in brightness varies depending on model.(These values are for reference only and are not guaranteed values.)

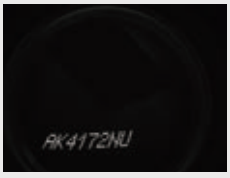
Imaging special ink on can

Example of imaging with UV2
(Continuous lighting)



A lack of brightness makes it difficult to perform fluorescence observation for special inks.

Example of imaging with UV3
(Strobe overdrive lighting)

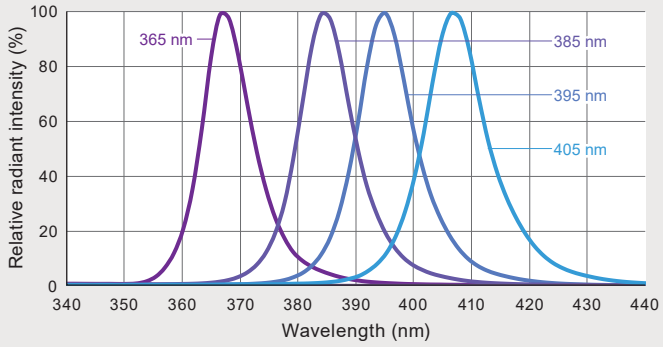


Enables fluorescence observation for special inks even with faster shutter speed.

* Comparison of imaging at 1ms shutter speed

4 Wavelengths (365/386/395/405 nm) Expand Possible Applications

Spectral distribution



* 365 nm wavelength is for the LNSP-UV3 ultraviolet light series.
385 nm, 395 nm, and 405 nm wavelengths are for the LNSP-VL3 series.

Cautionary Information regarding UV Products

- Do not expose your eyes or skin to direct UV irradiation.
- When using UV illumination, be sure to wear UV blocking eye wear and avoid looking at irradiating parts (emitting parts).
- Do not turn on UV-LED irradiating parts (emitting parts) if they are facing someone's eyes.
- Wear long sleeves and gloves to protect your skin from UV irradiation.
- Thoroughly educate all those involved near the product about the dangers of UV LEDs.

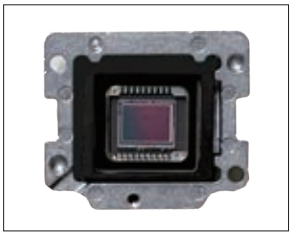
E.g.:
UV blocking eye wear

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 Adhesive on an Imaging Sensor Substrate

Workpiece image

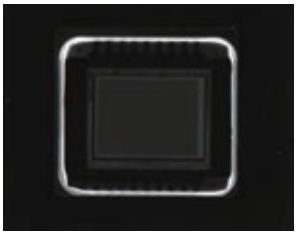


Imaging sensor substrate

White LED lighting (LDR2-90-30SW2)

It is difficult to capture the adhesive with white LED lighting.

UV-LED lighting (LDR2-100UV3-365-W)



With UV light, the adhesive can be observed because of emitted fluorescent light.

Imaging Example: Imaging of Grease Applied on a Gear Part

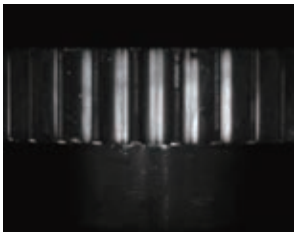
Workpiece image

Gear part

White LED lighting (LDR2-90SW2)

With white light, it is difficult to capture the application of the grease on the uneven surface.

UV-LED lighting (LDL-138X12UV3-365-W)



With UV light, the application of the grease can be observed because of emitted fluorescent light.

Data: Relative Irradiance Graph and Uniformity (Representative Example)

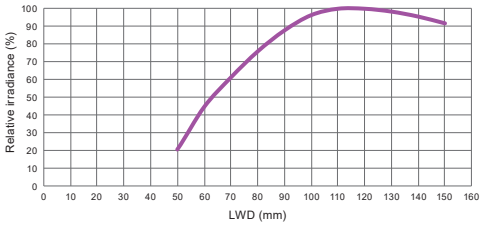
The data included is for reference only. Actual values may vary.

LDR2-100UV3-365-N (Narrow Type)

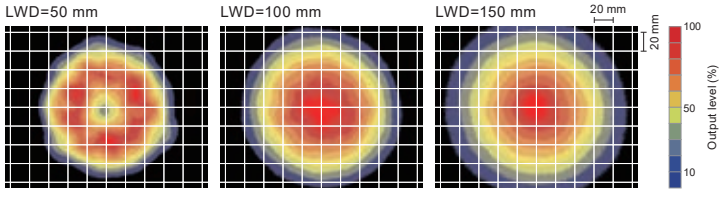
Relative irradiance graph*1 (LWD characteristics)*2

*1 Irradiance on the optical axis

*2 Illuminating distance from the light unit to the workpiece



Uniformity (Relative irradiance)



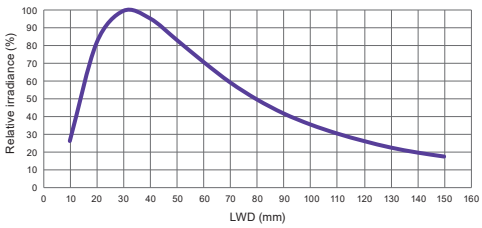
* At short distances, uniformity of irradiation from narrow type light units is reduced. This may affect imaging depending on the type of workpiece.

LDR2-100UV3-365-W (Wide Type)

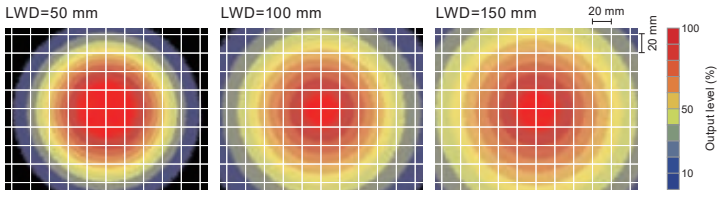
Relative irradiance graph*1 (LWD characteristics)*2

*1 Irradiance on the optical axis

*2 Illuminating distance from the light unit to the workpiece



Uniformity (Relative irradiance)



UV3/VL3 Series

Refer to our website for product details.

CCS UV3/VL3 ▶ Search

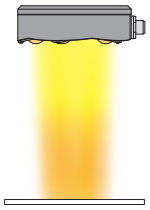
Data: Relative Irradiance Graph and Uniformity (Representative Example)

The data included is for reference only.
Actualvalues may vary.

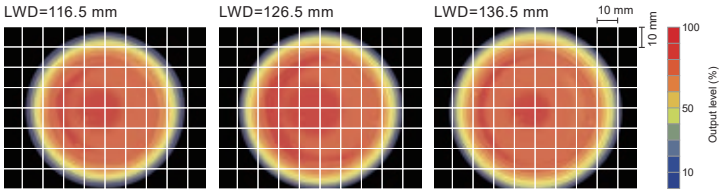
HLDR-IP67-100UV3-365

Regarding recommended distance

Recommended illuminating distance
(126.5 mm±10 mm)
If distance is exceeded, the uniformity may change and the imaging may be affected.



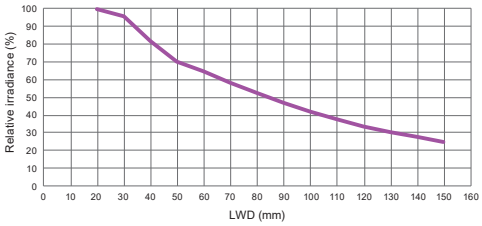
Uniformity (Relative irradiance)



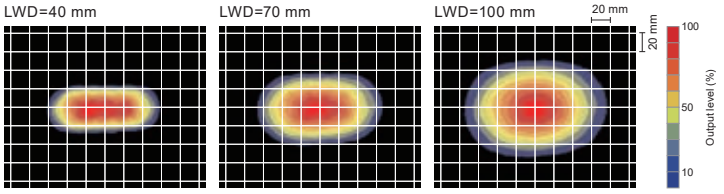
LDL-71X12UV3-365-N (Narrow Type)

Relative irradiance graph*1 (LWD characteristics)*2

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



Uniformity (Relative irradiance)

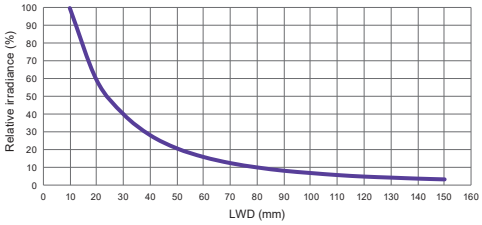


* At short distances, uniformity of irradiation from narrow type light units is reduced.
This may affect imaging depending on the type of workpiece.

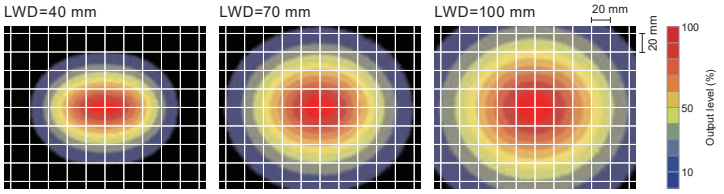
LDL-71X12UV3-365-W (Wide Type)

Relative irradiance graph*1 (LWD characteristics)*2

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



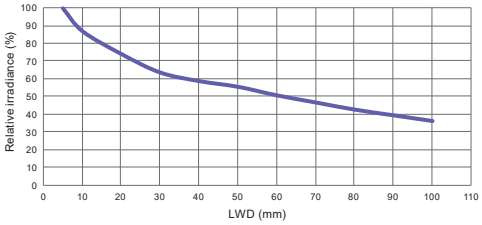
Uniformity (Relative irradiance)



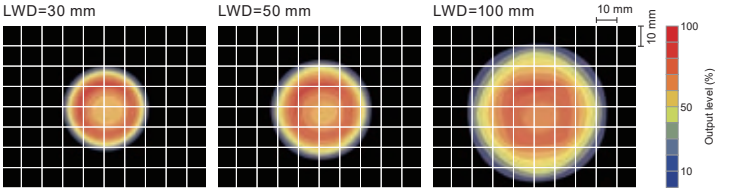
HLV2-24UV3-365

Relative irradiance graph*1 (LWD characteristics)*2

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



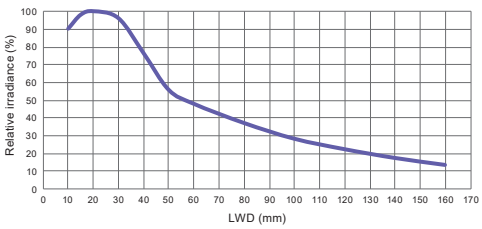
Uniformity (Relative irradiance)



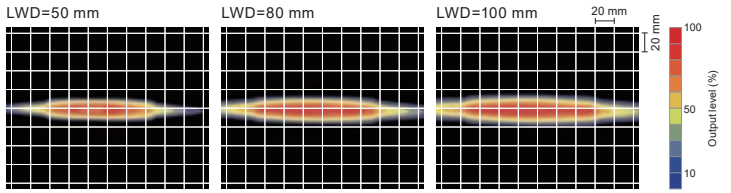
LN-61UV3-365

Relative irradiance graph*1 (LWD characteristics)*2

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



Uniformity (Relative irradiance)



Various technical documents available.

PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs

Register to use them.

Lineup End of the model name -N: Narrow Type / -W: Wide Type

Wavelength 385/395/405 nm will be manufactured on a built-to-order system.

Model Name*1	LED Color	Power Consumption	Extension Cables	Recommended Control Units	Weight
LDR2-60UV3-365-N/-W	Ultraviolet	24 V / 7.6 W	FCB*3 Straight Cable FCB-W*4 2-branch Cable FCB-F 4-branch Cable FRCB Robot Cable	PD4 PD3 CC-ST-1024 POD*5	End of the model name -N: 80g End of the model name -W: 85g
LDR2-60VL3-□-N/-W	Violet				
LDR2-100UV3-365-N/-W	Ultraviolet	24 V / 23 W		PD4 PD3 POD*5	End of the model name -N: 210g End of the model name -W: 240g
LDR2-100VL3-□-N/-W	Violet				
LDL-71X12UV3-365-N/-W	Ultraviolet	24 V / 7.6 W		PD4 PD3 CC-ST-1024 POD*5	270 g
LDL-71X12VL3-□-N/-W	Violet				
LDL-138X12UV3-365-N/-W	Ultraviolet	24 V / 16 W			450 g
LDL-138X12VL3-□-N/-W	Violet				
LDL-205X12UV3-365-N/-W	Ultraviolet	24 V / 23 W		PD4 PD3 POD*5	600 g
LDL-205X12VL3-□-N/-W	Violet				
LDL-339X12UV3-365-N/-W	Ultraviolet	24 V / 38 W			950 g
LDL-339X12VL3-□-N/-W	Violet				
LN-61UV3-365	Ultraviolet	24 V / 7.6 W		PD4 PD3 CC-ST-1024 POD*5	430 g
LN-61VL3-□	Violet				
LN-128UV3-365	Ultraviolet	24 V / 16 W		PD4 PD3 POD*5	700 g
LN-128VL3-□	Violet				
LN-195UV3-365	Ultraviolet	24 V / 23 W			970 g
LN-195VL3-□	Violet				
HLDR-IP67-100UV3-365	Ultraviolet	24 V / 18 W	FCB-M12 Straight Cable (Dedicated cables)	PD4 PD3 POD*5	420 g
HLDR-IP67-100VL3-□	Violet				
HLV2-24UV3-365	Ultraviolet	0.7 A / 2.8 W	FCB*3 Straight Cable FRCB Robot Cable	PD3*2 CC-PJ-0707 PJ PJ2	50 g
HLV2-24VL3-□	Violet				

*1 □ in the model name contains the wavelength 385/395/405.

Extension Cables ▶ P.383 | Control Unit Selection Guide ▶ P.309 | List of Control Unit Specifications ▶ P.311

*2 Not compatible with PD3-3024-3 Series or PD3-5024-3 Series.
*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.
*5 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

Note: Models without POD as the recommended control unit cannot be used in combination with the strobe overdrive control unit. Please contact us if you would like to make a special order for the combination.

About HLDR-IP67

Case Material

	LED Light	Dedicated Cables
Case Material	Body: aluminum alloy (black anodized) Screws: SUS Washers: SUS, elastomer (TPE) Connectors: PA resin Lens: silicone	Light unit side connector: soft PBT Cable: PVC Control unit side connector: nylon

Note

The 1st numeral "6" indicates the following level of protection:
- No dust inside the instrument. (dustproof)

The 2nd numeral "7" indicates the following level of protection:
- No damage when submerged in water at the rated pressure for the rated time. (watertight type)
- Can be submerged in water to a depth of 1 m (for instruments with a height of less than 850 mm) for 30 minutes.

Cautionary Information regarding Waterproofing

- After cleaning manufacturing lines, be sure to wipe away any moisture remaining on the lens. Imaging can be affected by moisture on the lens.
- Use water to wash away any cleaning agent adhered to this product.
- Use water to wash away any oils or chemicals adhered to this product.
- The control unit connectors (SM connectors) on dedicated cables are not waterproof.

UV3/VL3 Series

Refer to our website for product details.

CCS UV3/VL3 ▶ Search

Options

Blocks light with a wavelength of 420 nm or lower, transmits light with a longer wavelength.

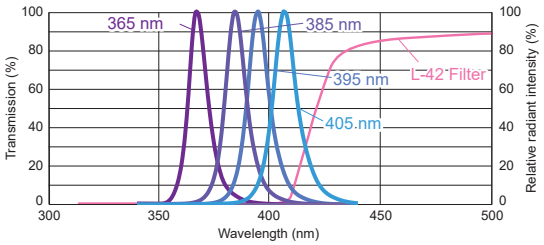
Ultraviolet cutting filter
L42 Series

Model Name	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

▶ P.374

* Y48 filters to absorb wavelengths 480 nm or smaller are available for VL3 Series. Contact our local sales office for details.

Filter Characteristics and UV-LED Spectral Distribution

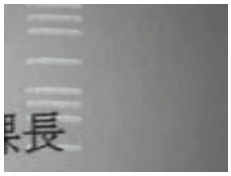


Imaging Examples

Workpiece

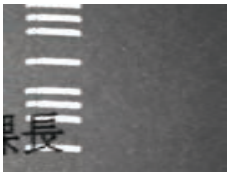
Postcard

Without ultraviolet cutting filter



Without a filter, both UV and visible light are captured.

With ultraviolet cutting filter



By using a UV cut filter, only the excited scattering light from the ink will be captured.

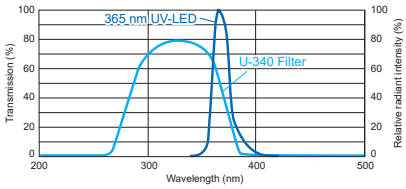
Transmits light with wavelength range of approx. 280 nm to 380 nm, centered around 340 nm.

Ultraviolet transmission filter
U340 Series

Model Name	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

▶ P.374

Characteristics of UV Transmission Filter and UV-LED Spectral Distribution



Transmits light with a specific range of wavelength and is available for a wide range of fluorescent wavelengths

Band-pass filter
F-BP Series

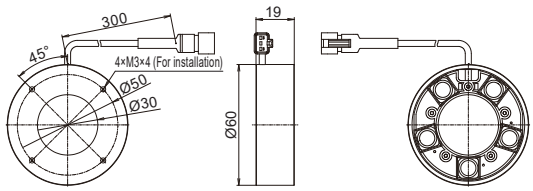
- High transmittance at 90% or greater
- Hard coated filter with high durability
- Twelve-product lineup available for a wide range of wavelengths

▶ P.371

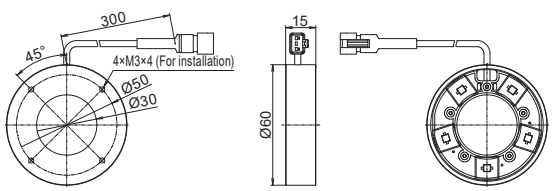
Dimensions (mm)

Ring Lights

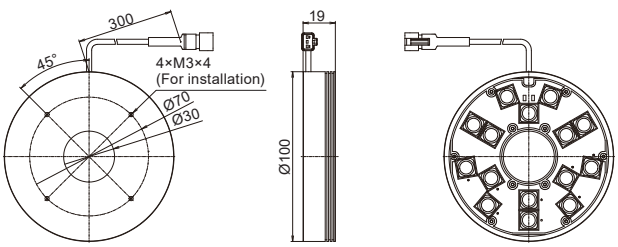
LDR2-60UV3/VL3-N (Narrow Type)



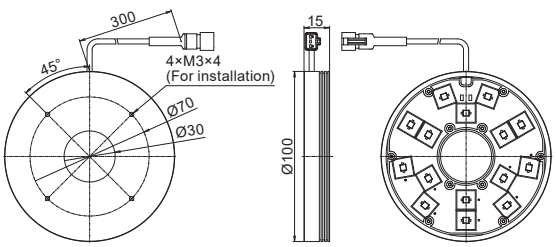
LDR2-60UV3/VL3-W (Wide Type)



LDR2-100UV3/VL3-N (Narrow Type)



LDR2-100UV3/VL3-W (Wide Type)



Various technical documents available.

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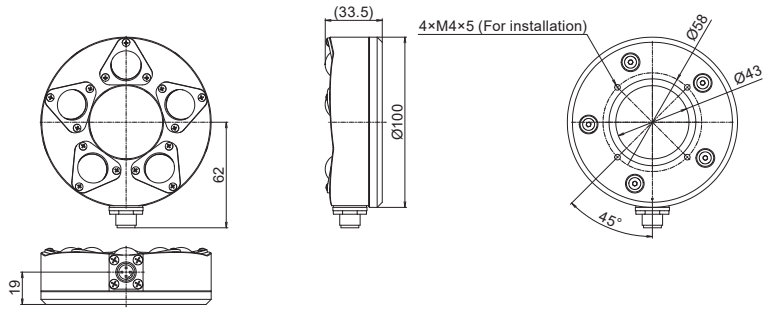
Register to use them.

Dimensions (mm)

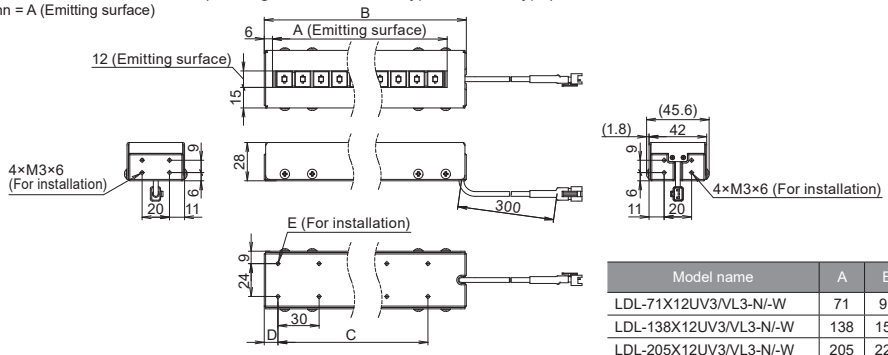
Ring Lights (Waterproof Type)

HLDR-IP67-100UV3/VL3



Bar Lights

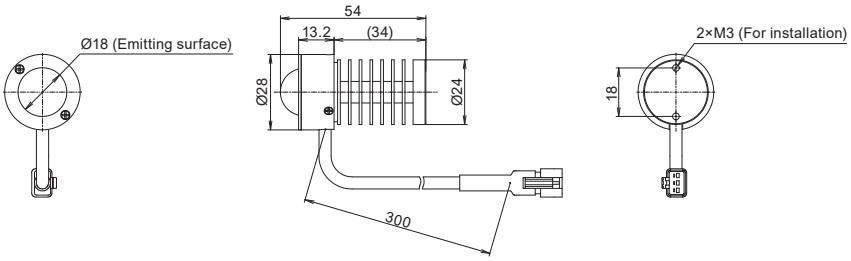
LDL-nnnX12UV3/VL3-N/-W (drawings for both narrow type and wide type)
nnn = A (Emitting surface)



Model name	A	B	C	D	E
LDL-71X12UV3/VL3-N/-W	71	91	P30×2=60	10	6×M3×6
LDL-138X12UV3/VL3-N/-W	138	158	P30×4=120	10	10×M3×6
LDL-205X12UV3/VL3-N/-W	205	225	P30×6=180	20	14×M3×6
LDL-339X12UV3/VL3-N/-W	339	359	P30×10=300	29.5	22×M3×6

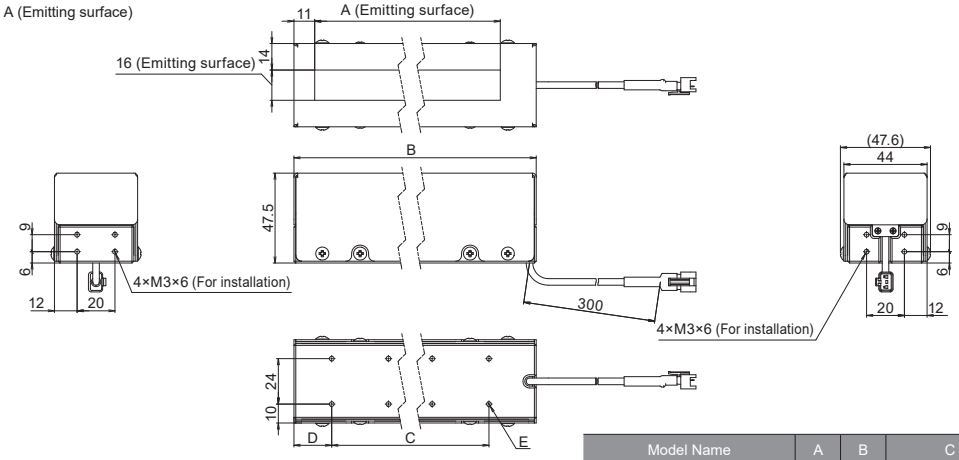
Spot Lights

HLV2-24UV3/VL3



Line Lights

LN-nnnUV3/VL3
nnn = A (Emitting surface)



Model Name	A	B	C	D	E
LN-61UV3/VL3	61	91	P30×2=60	10	6×M3×6
LN-128UV3/VL3	128	158	P30×4=120	10	10×M3×6
LN-195UV3/VL3	195	225	P30×6=180	20	14×M3×6

Ultraviolet/Violet

Ultraviolet/Violet Line Lights

LNSP-UV3/VL3-FN Series

Refer to our website for product details.

CCS LNSP-UV3 ▶ Search

Increased range of applications with high output and 4 wavelengths

LNSP-300UV3/VL3-FN
(Narrow Type)

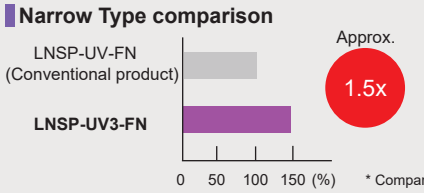
LNSP-300UV3/VL3-FN
(Wide Type)

* 365 nm wavelength for ultraviolet light UV3 Series. 385 nm, 395 nm, and 405 nm wavelengths for violet light VL3 Series.

Applications Seal material presence inspection using fluorescence excitation, various inspections using different spectral reflectance, various inspections using scattering rate differences

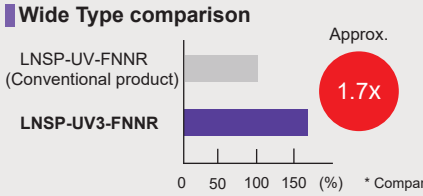
Increased brightness compared with conventional products

Narrow Type comparison



* Comparison with LWD10 mm

Wide Type comparison

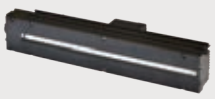


* Comparison with LWD10 mm

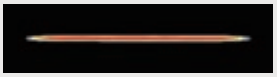
The light distribution angle can be selected based on the application

Two types are available. The narrow type can focus illumination on a narrow area using a rod lens, while the wide type offers wider illumination.

Narrow Type



Uniformity graph

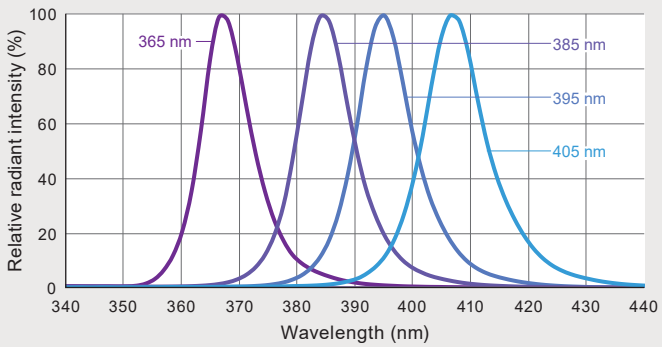


Wide Type

Uniformity graph

4 Wavelengths (365/386/395/405 nm) Expand Possible Applications

Spectral distribution



* 365 nm wavelength is for the LNSP-UV3 ultraviolet light series.
385 nm, 395 nm, and 405 nm wavelengths are for the LNSP-VL3 series.

Cautionary Information regarding UV Products

- Do not expose your eyes or skin to direct UV irradiation.
- When using UV illumination, be sure to wear UV blocking eye wear and avoid looking at irradiating parts (emitting parts).
- Do not turn on UV-LED irradiating parts (emitting parts) if they are facing someone's eyes.
- Wear long sleeves and gloves to protect your skin from UV irradiation.
- Thoroughly educate all those involved near the product about the dangers of UV LEDs.

E.g.:
UV blocking eye wear

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 for Detecting Contact Lenses inside Packaging

Workpiece image

Contact lenses

LED visible light lighting

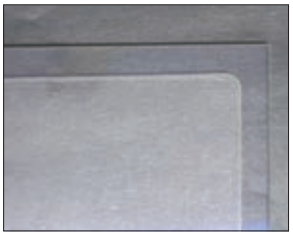
With visible light lighting, it is difficult to detect the contact lenses.

LNSP-300UV3-365-FNNR

Depending on the type of contact lens, they absorb the ultraviolet wavelength, allowing for the inside of the pack to be imaged.

Imaging Example: Imaging for the Alignment of Clear Films

Workpiece image

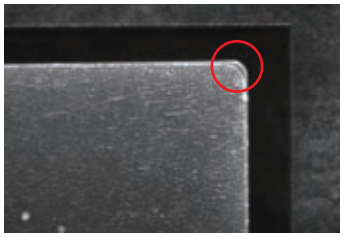


Clear plate (bottom) and film (top)

LED visible light lighting

With visible light lighting, it is difficult to form an image of the clear film.

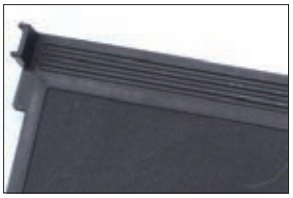
LNSP-300UV3-365-FN



Only the clear film causes scattering, emphasizing the edge.

Imaging Example: Imaging of invisible code

Workpiece image



Plastic plate

LED visible light lighting

Fluorescent observation is difficult with white light.

LNSP-300UV3-365-FN

Fluorescent observation for the invisible code is possible.

Imaging Example: Imaging foreign material on paper

Workpiece image

White paper (Tissue)

LED visible light lighting

Fluorescent observation is difficult with white light.

LNSP-300UV3-365-FNNR

Fluorescent observation for foreign material, such as dust, is possible.

LNSP-UV3/VL3-FN Series

Refer to our website for product details.
CCS LNSP-UV3 ▶ Search

Data: Relative Irradiance Graph and Uniformity (Representative Example)

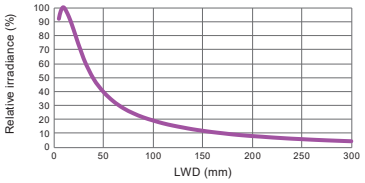
The data included is for reference only. Actual values may vary.

LNSP-300UV3-365-FN

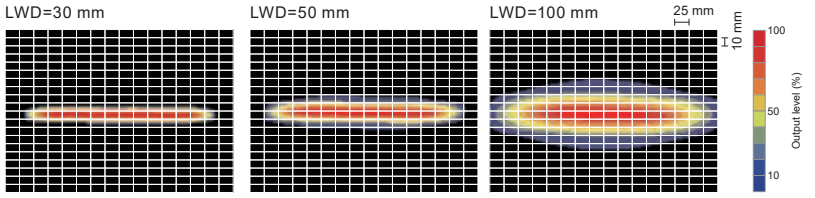
(Narrow Type)

Relative irradiance graph*1 (LWD characteristics)*2

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



Uniformity (Relative irradiance)

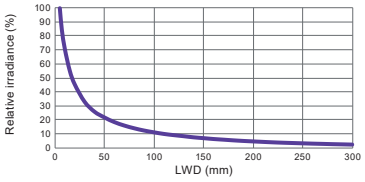


LNSP-300UV3-365-FNNR

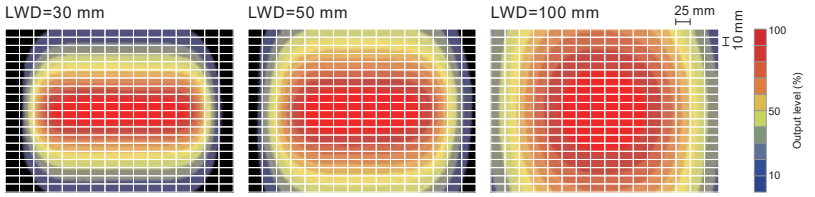
(Wide Type)

Relative irradiance graph*1 (LWD characteristics)*2

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



Uniformity (Relative irradiance)



Lineup

End of the model name -FN: Narrow Type / -FNNR: Wide Type

Wavelength 385/395/405 nm will be manufactured on a built-to-order system.

Model Name*1	LED Color	Power Consumption*2	Extension Cables	Recommended Control Units	Weight
LNSP-100UV3-365-FN	Ultraviolet	36 W	QCBM QCB	PSCC-30048 (A) PSCC-60048 (A)	900 g
LNSP-100VL3-□-FN	Violet				
LNSP-100UV3-365-FNNR	Ultraviolet				700 g
LNSP-100VL3-□-FNNR	Violet				
LNSP-200UV3-365-FN	Ultraviolet	70 W			1,300 g
LNSP-200VL3-□-FN	Violet				
LNSP-200UV3-365-FNNR	Ultraviolet				1,000 g
LNSP-200VL3-□-FNNR	Violet				
LNSP-300UV3-365-FN	Ultraviolet	103 W			1,700 g
LNSP-300VL3-□-FN	Violet	104 W			
LNSP-300UV3-365-FNNR	Ultraviolet	103 W			1,300 g
LNSP-300VL3-□-FNNR	Violet	104 W			

*1 □ in the model name contains the wavelength 385/395/405.
*2 Power consumption includes the cooling fan.

Extension Cables ▶ P.383
Control Unit Selection Guide ▶ P.309
List of Control Unit Specifications ▶ P.311

Options

Blocks light with a wavelength of 420 nm or lower, transmits light with a longer wavelength.

Ultraviolet cutting filter L42 Series

Model Name	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

▶ P.374

Transmits light with wavelength range of approx. 280 nm to 380 nm, centered around 340 nm.

Ultraviolet transmission filter U340 Series

Model Name	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

▶ P.374

Transmits light with a specific range of wavelength and is available for a wide range of fluorescent wavelengths

Band-pass filter
F-BP Series

- High transmittance at 90% or greater
- Hard coated filter with high durability
- Twelve-product lineup available for a wide range of wavelengths

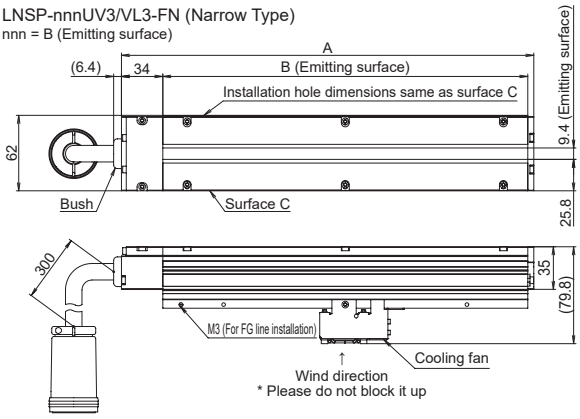
▶ P.371

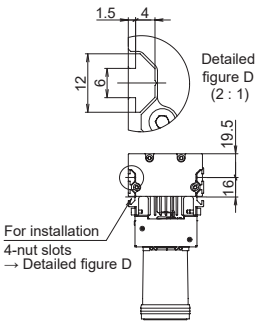
Various technical documents available. PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs

Register to use them.

Dimensions (mm)

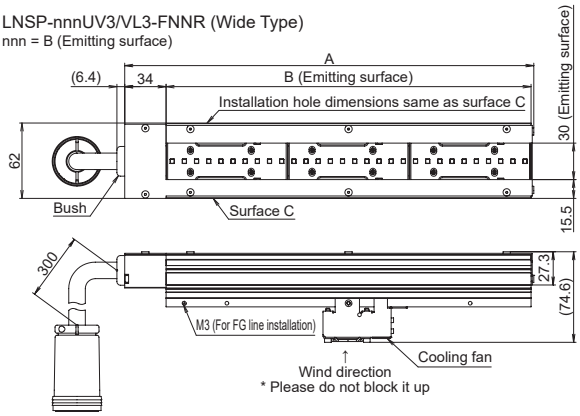
LNSP-nnnUV3/VL3-FN (Narrow Type)
nnn = B (Emitting surface)

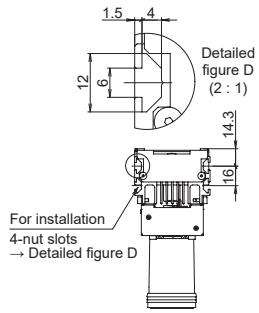




Model Name	A	B
LNSP-100UV3/VL3-FN	139	100
LNSP-200UV3/VL3-FN	239	200
LNSP-300UV3/VL3-FN	339	300

LNSP-nnnUV3/VL3-FNNR (Wide Type)
nnn = B (Emitting surface)





Model Name	A	B
LNSP-100UV3/VL3-FNNR	136.3	100
LNSP-200UV3/VL3-FNNR	236.3	200
LNSP-300UV3/VL3-FNNR	336.3	300