# UV3/VL3 Series

Refer to our website for product details.

CCS UV3/VL3 ▶ Search

You can also use your smartphone or cell phone.

## Increased range of applications with high output and 4 wavelengths

NEW

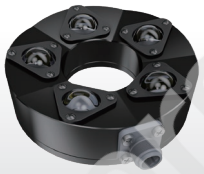
LDR2-60UV3/VL3-N (Narrow Type)

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

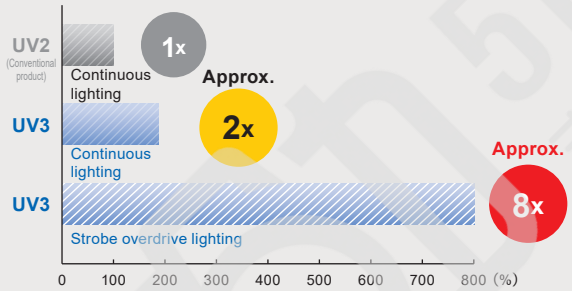
HLV2-24UV3/VL3

* 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.

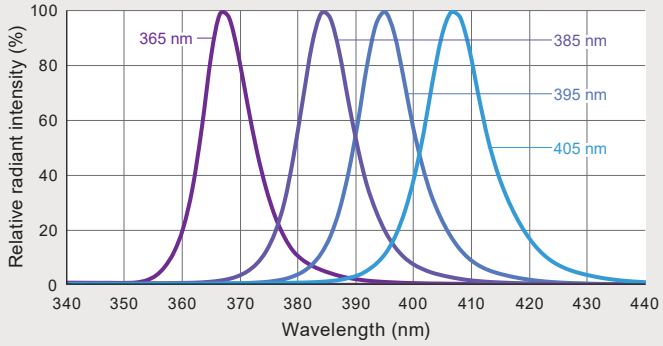
Example of imaging with UV3 (Strobe overdrive lighting)

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 for ultraviolet light UV3 Series. 385 nm, 395 nm, and 405 nm wavelengths for violet light 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



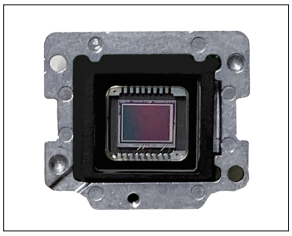


Various technical documents available. PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs

Register to use them.

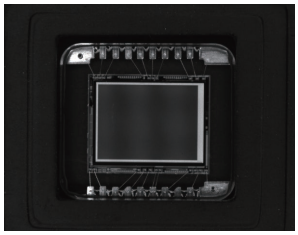
## Imaging Example: Imaging Adhesive on an Imaging Sensor Substrate

Workpiece image



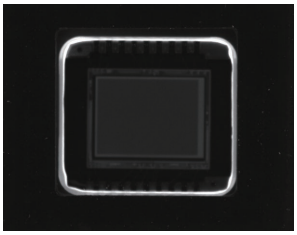
Imaging sensor substrate

White LED lighting (LDR2-90-30SW2)



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

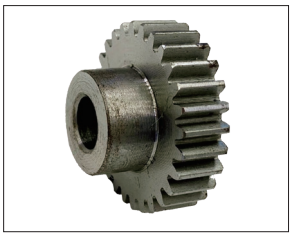
UV-LED lighting (LDR2-100UV3-365-W)



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

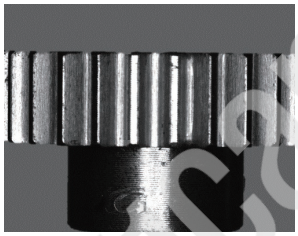
## Imaging Example: Imaging of Grease Applied on a Gear Part

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)

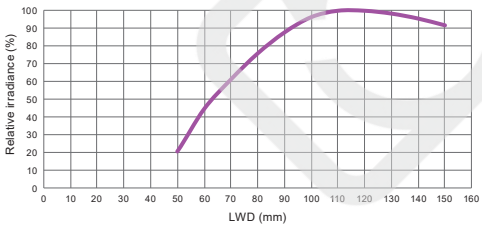
The data included is for reference only. Actual values may vary.

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

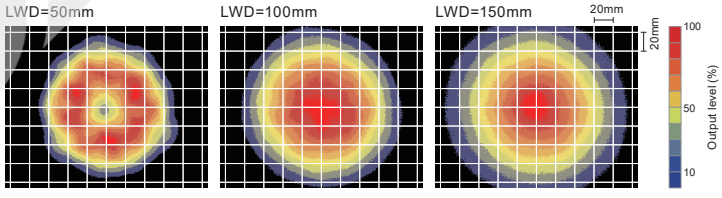
Relative irradiance graph*1 (LWD characteristics)*2

*1 Irradiance on the optical axis

*2 Illuminating distance from the Light Unit to the workpiece




Uniformity (Relative irradiance)



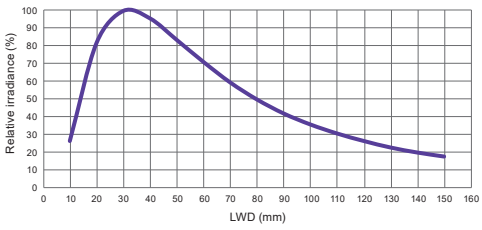

* At short distances, uniformity of irradiation from narrow type Light Units is reduced. This may affect imaging depending on the type of workpiece.

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

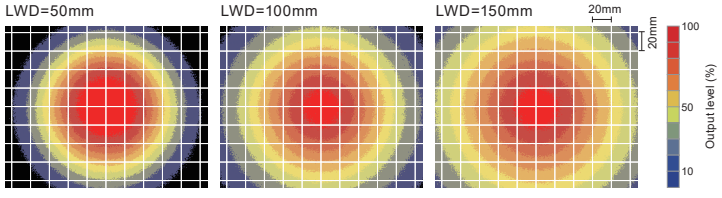
Relative irradiance graph*1 (LWD characteristics)*2

*1 Irradiance on the optical axis

*2 Illuminating distance from the Light Unit to the workpiece




Uniformity (Relative irradiance)



# UV3/VL3 Series

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CCS UV3/VL3 ▶ Search

You can also use your smartphone or cell phone.

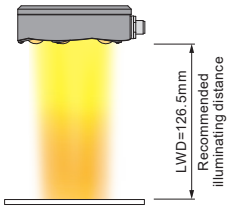
## Data: Relative Irradiance Graph and Uniformity (Representative Example)

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

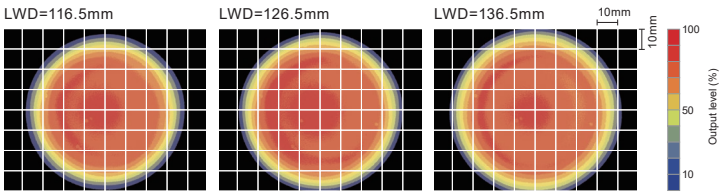
### HLDR-IP67-100UV3-365

#### 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.



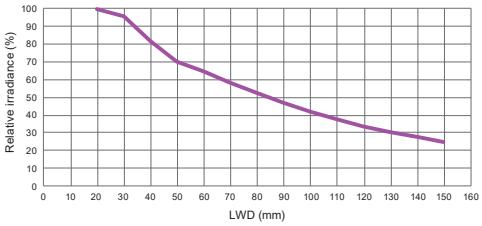

#### Uniformity (Relative irradiance)



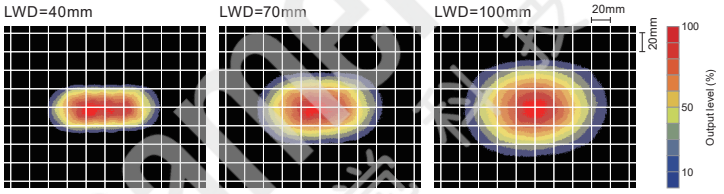

### LDL-71X12UV3-365-N  (Narrow Type)

#### 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)

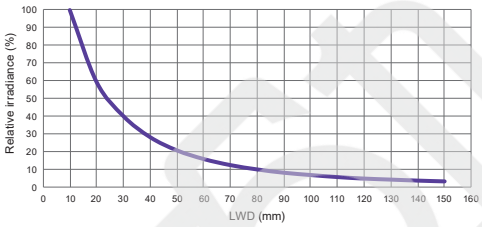



* At short distances, uniformity of irradiation from narrow type Light Units is reduced. This may affect imaging depending on the type of workpiece.

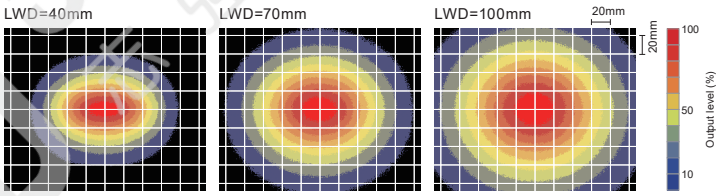
### LDL-71X12UV3-365-W  (Wide Type)

#### Relative irradiance graph*1 (LWD characteristics)*2

*1 Irradiance on the optical axis
*2 Illuminating distance from the Light Unit to the workpiece



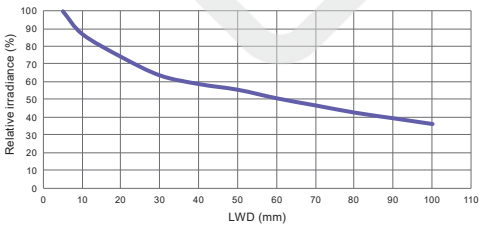

#### Uniformity (Relative irradiance)



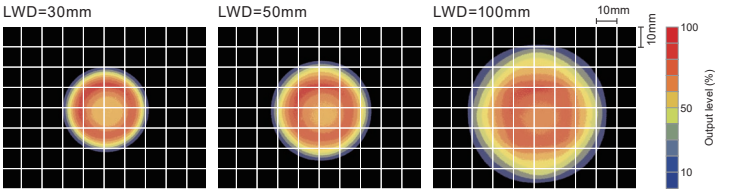

### HLV2-24UV3-365 

#### Relative irradiance graph*1 (LWD characteristics)*2

*1 Irradiance on the optical axis
*2 Illuminating distance from the Light Unit to the workpiece



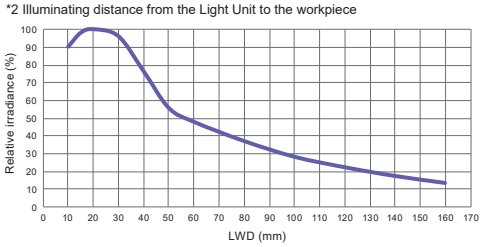

#### Uniformity (Relative irradiance)



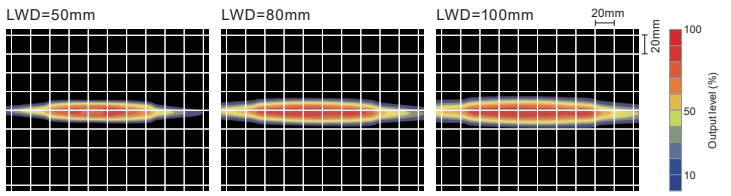

### LN-61UV3-365 

#### 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*2 Straight Cable<br>FCB-W*3 2-branch Cable<br>FCB-F 4-branch Cable<br>FRCB Robot Cable | PD3 | CC-ST-1024 | End of the model name -N: 80g |
| LDR2-60VL3-□-N/-W | Violet | | | PSB | POD*4 | End of the model name -W: 85g |
| LDR2-100UV3-365-N/-W | Ultraviolet | 24 V / 23 W | | PD3 | | End of the model name -N: 210g |
| LDR2-100VL3-□-N/-W | Violet | | | PSB | POD*4 | End of the model name -W: 240g |
| LDL-71X12UV3-365-N/-W | Ultraviolet | 24 V / 7.6 W | | PD3 | CC-ST-1024 | 270 g |
| LDL-71X12VL3-□-N/-W | Violet | | | PSB | POD*4 | |
| LDL-138X12UV3-365-N/-W | Ultraviolet | 24 V / 16 W | | PD3 | | 450 g |
| LDL-138X12VL3-□-N/-W | Violet | | | PSB | POD*4 | |
| LDL-205X12UV3-365-N/-W | Ultraviolet | 24 V / 23 W | | PD3 | | 600 g |
| LDL-205X12VL3-□-N/-W | Violet | | | PSB | POD*4 | |
| LDL-339X12UV3-365-N/-W | Ultraviolet | 24 V / 38 W | | PD3 | POD*4 | 950 g |
| LDL-339X12VL3-□-N/-W | Violet | | | | | |
| LN-61UV3-365 | Ultraviolet | 24 V / 7.6 W | | PD3 | CC-ST-1024 | 430 g |
| LN-61VL3-□ | Violet | | | PSB | POD*4 | |
| LN-128UV3-365 | Ultraviolet | 24 V / 16 W | | PD3 | | 700 g |
| LN-128VL3-□ | Violet | | | PSB | POD*4 | |
| 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) | PD3 | PSB | 420 g |
| HLDR-IP67-100VL3-□ | Violet | | | | | |
| HLV2-24UV3-365 | Ultraviolet | 0.7 A / 2.8 W | FCB*2 Straight Cable<br>FRCB Robot Cable | PD3 | CC-PJ-0707 | 50 g |
| HLV2-24VL3-□ | Violet | | | PJ | PJ2 | |

*1 □ in the model name contains the wavelength 385/395/405.
*2 The cables with a model name that ends with "-ME7", "-EL2", "-PF", or "-PF-EL9" are not included.
*3 The cables with a model name that ends with "-EL2" are not included.
*4 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

Extension Cables ▶ P.381 | Control Unit Selection Guide ▶ P.321 | List of Control Unit Specifications ▶ P.323

**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)<br>Screws: SUS<br>Washers: SUS, elastomer (TPE)<br>Connectors: PA resin<br>Lens: silicone | Light Unit side connector: soft PBT<br>Cable: PVC<br>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

You can also use your smartphone or cell phone.

## Options

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

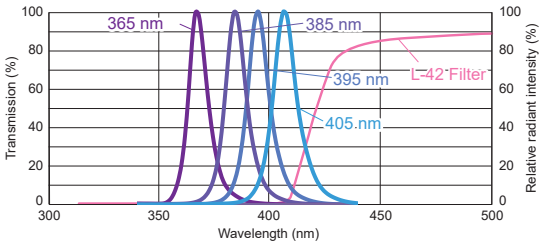
Ultraviolet cutting filter
L42 Series

| Model name | Screw hole diam. × Screw pitch |
|---|---|
| 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.372

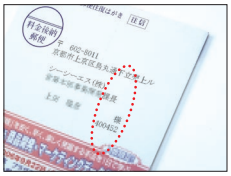
* Y48 filters to absorb wavelengths 480 nm or smaller are available for VL3 Series. Contact our local sales office for details.

### Filter Characteristics and UV-LED Spectral Distribution




### Imaging Examples

Workpiece

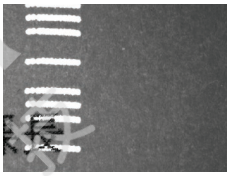


Postcard

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.

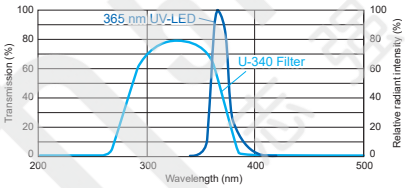
Transmits light with wavelength range of approx. 280 nm to 380 nm, centered around 340 nm.

Ultraviolet transmission filter
U340 Series

| Model name | Screw hole diam. × Screw pitch |
|---|---|
| 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.372

### 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

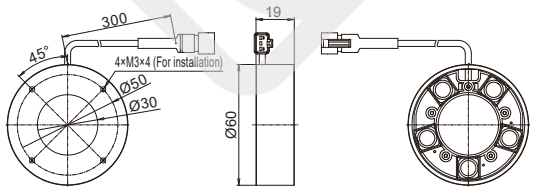
- High transmittance at 90% or greater
- Hard coated filter with high durability
- Twelve-product lineup available for a wide range of wavelengths

▶ P.369

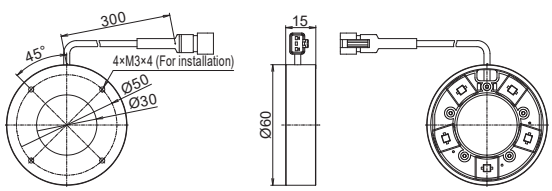
## Dimensions (mm)

### Ring Lights

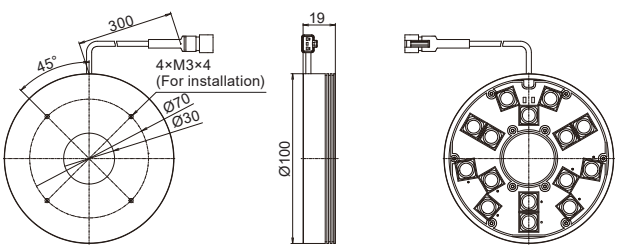
LDR2-60UV3/VL3-N (Narrow Type)



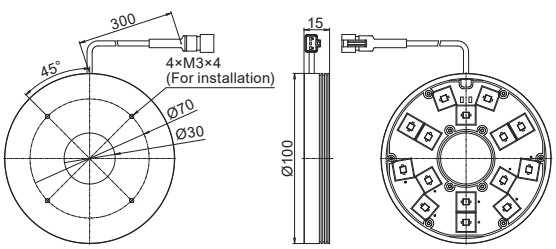

LDR2-60UV3/VL3-W (Wide Type)




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




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




Various technical documents available.

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

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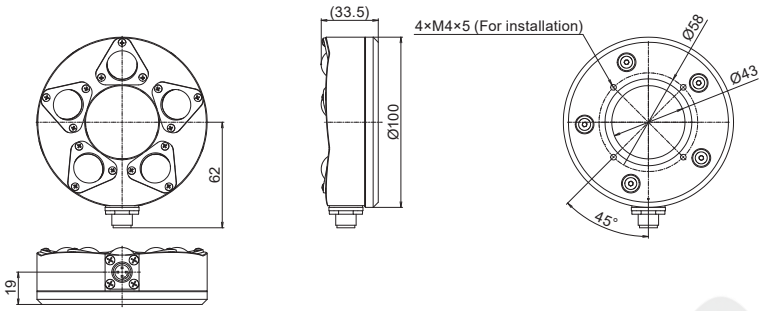
# Dimensions (mm)

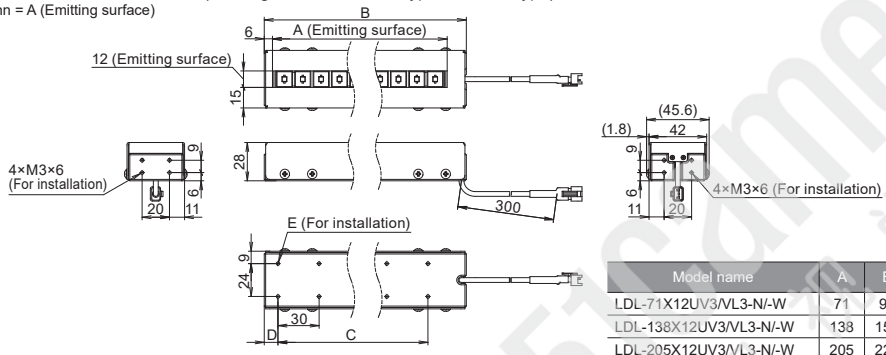
## Ring Lights (Waterproof Type)

HLDR-IP67-100UV3/VL3




## Bar Lights

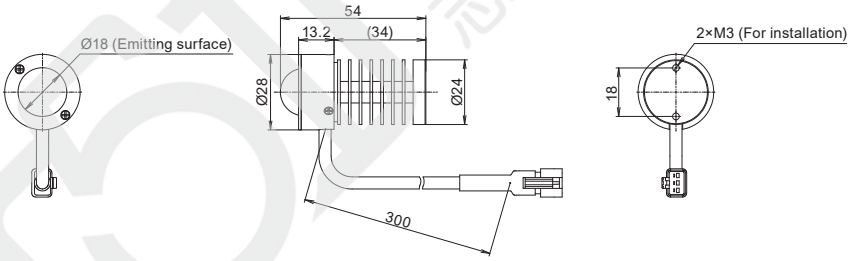
LDL-nnnX12UV3/VL3-N/-W (drawings for both narrow type and wide type)
nnn = A (Emitting surface)




| 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 |

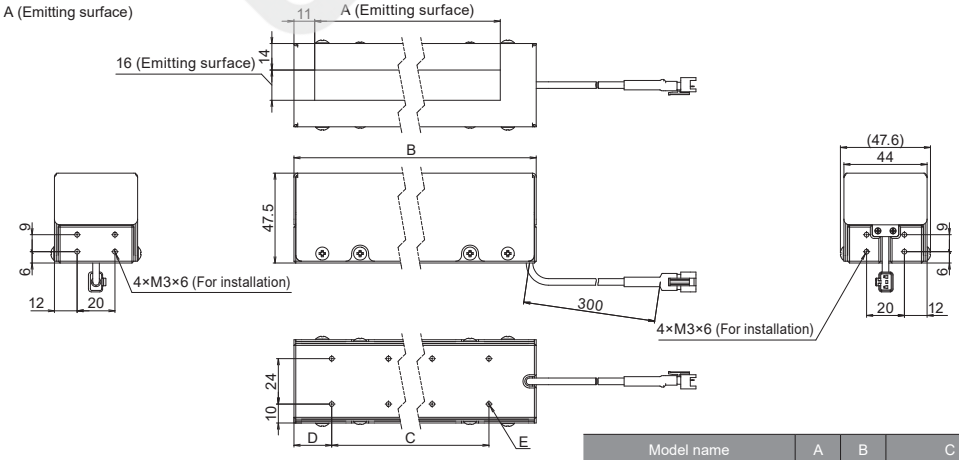
## Spot Lights

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

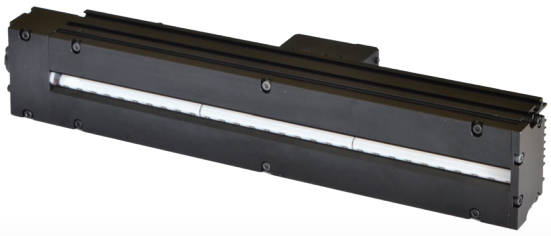
Refer to our website for product details.

CCS LNSP-UV3 ▶ Search

You can also use your smartphone or cell phone.

## Increased range of applications with high output and 4 wavelengths

NEW



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

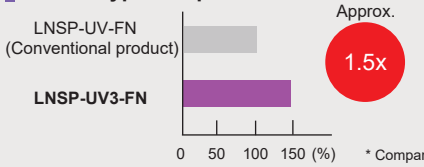
LNSP-300UV3/VL3-FN (Wide Type)

* 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

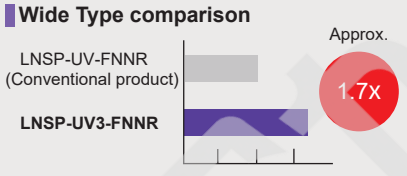
### Increased brightness compared with conventional products

**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

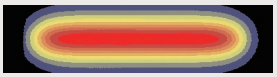
Two types are available. The narrow type can focus illumination on a narrow area using a rod lens, while the wide type offers wider illumination.

**Narrow Type**

Uniformity graph

**Wide Type**

Uniformity graph



### Data: Relative Irradiance Graph and Uniformity (Representative Example)

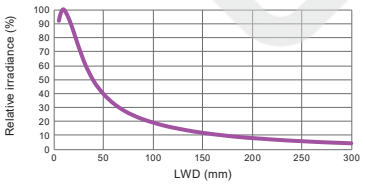
The data included is for reference only. Actual values may vary.

**LNSP-300UV3-365-FN**  (Narrow Type)

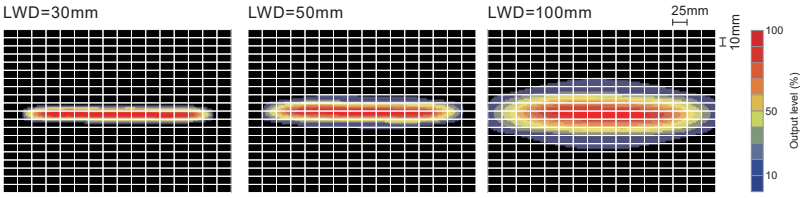
Relative irradiance graph*1 (LWD characteristics)*2

*1 Irradiance on the optical axis

*2 Illuminating distance from the Light Unit to the workpiece




Uniformity (Relative irradiance)

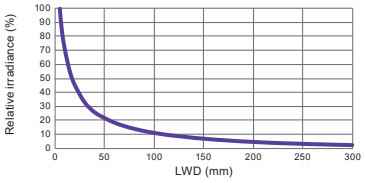



**LNSP-300UV3-365-FNNR**  (Wide Type)

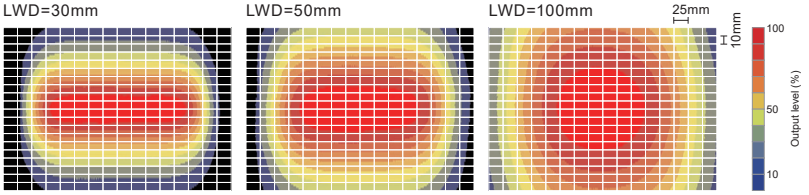
Relative irradiance graph*1 (LWD characteristics)*2

*1 Irradiance on the optical axis

*2 Illuminating distance from the Light Unit to the workpiece




Uniformity (Relative irradiance)




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 -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<br>QCB | PSCC-30048 (A)<br>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.381 | Control Unit Selection Guide ▶ P.321 | List of Control Unit Specifications ▶ P.323

## Options

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

Ultraviolet cutting filter L42 Series

| Model name | Screw hole diam. × Screw pitch |
|---|---|
| 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.372

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

Ultraviolet transmission filter U340 Series

| Model name | Screw hole diam. × Screw pitch |
|---|---|
| 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.372

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

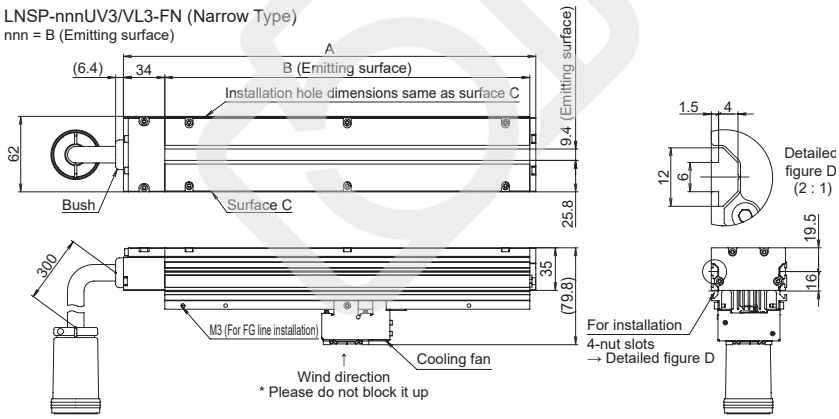
Band-pass filter
F-BP Series

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

▶ P.369

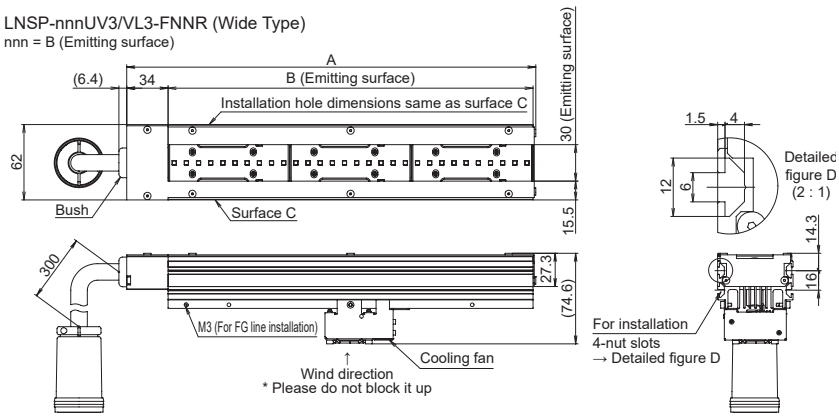
## Dimensions (mm)

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 |

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/