



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



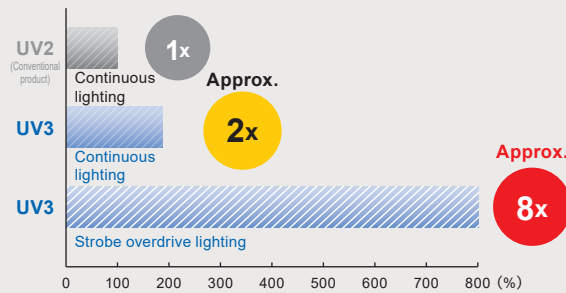
\* 365 nm wavelength for ultraviolet light UV3 Series. 385 nm, 395 nm, and 405 nm wavelengths for violet light VL3 Series.

### Applications

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

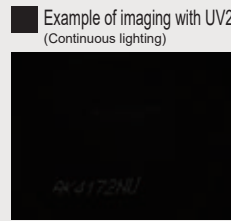
## Increased Brightness When Overdriving

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

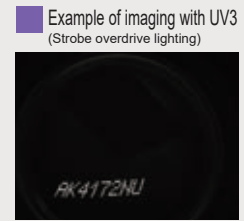


\* Comparison between the LDR2-60UV3-365-N and LDR2-60UV2-365-N at 100 mm LWLD. The increase in brightness varies depending on model. (These values are for reference only and are not guaranteed values.)

### Imaging special ink on can



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

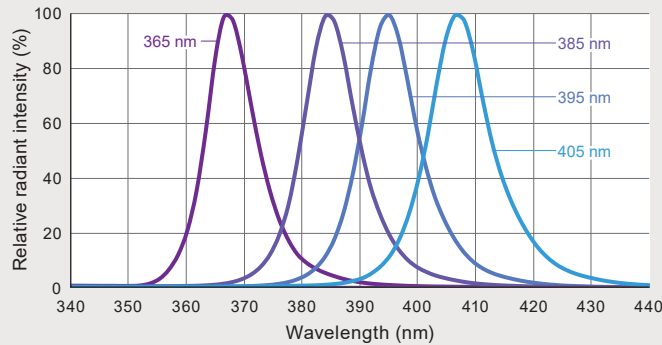


Enables fluorescence observation for special inks even with faster shutter speed.

\* 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

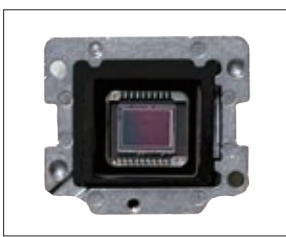
- Do not expose your eyes or skin to direct UV irradiation.
- When using UV illumination, be sure to wear UV blocking eye wear and avoid looking at irradiating parts (emitting parts).
- Do not turn on UV-LED irradiating parts (emitting parts) if they are facing someone's eyes.
- Wear long sleeves and 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



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

Workpiece image



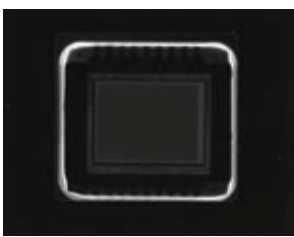
Imaging sensor substrate

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



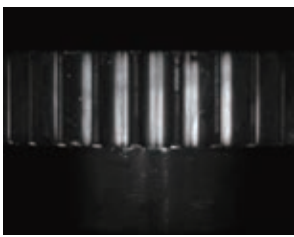
Gear part

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)



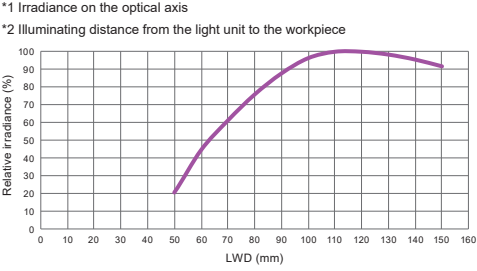
With UV light, the application of the grease can be observed because of emitted fluorescent light.

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

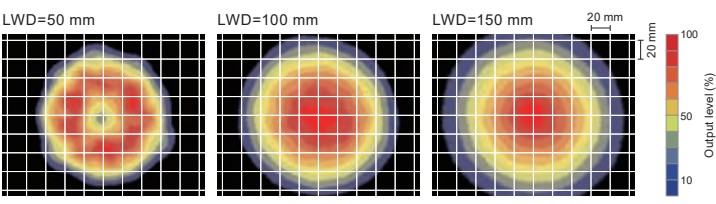
LDR2-100UV3-365-N (Narrow Type)

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

Relative irradiance graph<sup>\*1</sup> (LWD characteristics)<sup>\*2</sup>



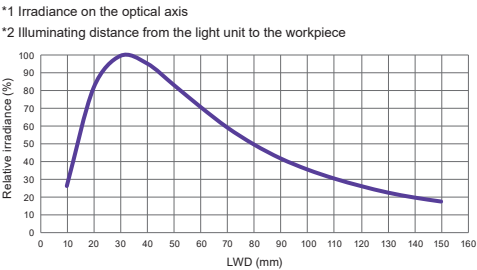
Uniformity (Relative irradiance)



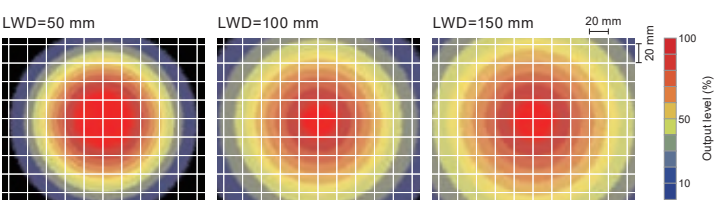
\* At short distances, uniformity of irradiance from narrow type light units is reduced. This may affect imaging depending on the type of workpiece.

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

Relative irradiance graph<sup>\*1</sup> (LWD characteristics)<sup>\*2</sup>



Uniformity (Relative irradiance)



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- Custom Orders
- Product Details
- Pricing/Quotation
- Discontinued Products

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|  |                               |
|--|-------------------------------|
| LDR2<br>LDR2-LA<br>LDR-LA1<br>SQR<br>SQR-TP  | Ring<br>(Direct)              |
| HLDR3<br>HPR2<br>LFR<br>LKR<br>FPR   | Ring<br>(Convergent/Diffused) |
| FPQ3   | Square                        |
| LDL2<br>LDLB<br>HLDL3<br>LB  | Bar                           |
| TH2 (5 types)<br>LFL   | Flat                          |
| HPD2<br>LDM2<br>LAV<br>PDM<br>LFXV<br>LFX3<br>LFX3-PT  | Dome                          |
| LFV3<br>LFV3-G   | Coaxial                       |
| MSU<br>MFU   | Coaxial                       |
| PF   | Strobe                        |
| HLDR-IP<br>HSL-PCL<br>UV3/VL3  | Water-proof<br>UV/Violet      |
| UV<br>LNSP-UV3-FN  | UV/Violet                     |
| IR2<br>(Under 1000-nm Type)<br>IR<br>(Over 1000-nm Type)<br>CIR  | Infrared                      |
| LDF-RLS  | Reference Light Source        |
| IU   | Intensity Control             |
| HLV3<br>LV<br>HFS/HFR<br>HLV3-22-4-NR<br>HLV3-3M-RGB-4<br>PFBR-600SW2<br>PFBR-150<br>SLG-150V-CCS<br>PFB3(A) | Spot, Etc.                    |
| LNLP<br>LNSP2<br>Coaxial Units<br>LNSP-FN<br>LN/LN-HK  | Line<br>(Convergent)          |
| LNSD<br>LND2<br>LT<br>LNV<br>LFXV<br>(Rectangular Type)<br>TH2<br>(Rectangular Type)                         | Line<br>(Diffused)            |
| LNDG<br>LNIS2<br>LNIS<br>LNIS-FN   | Line<br>(Oblique Angled)      |
| Telecentric Lens<br>Macro Lens   | Lenses                        |
| LDF-NB   | Other Products                |

# UV3/VL3 Series



Refer to our website for product details.

CCS UV3/VL3

Search

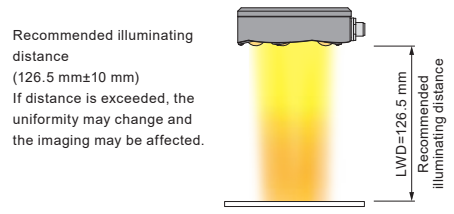


## Data: Relative Irradiance Graph and Uniformity (Representative Example)

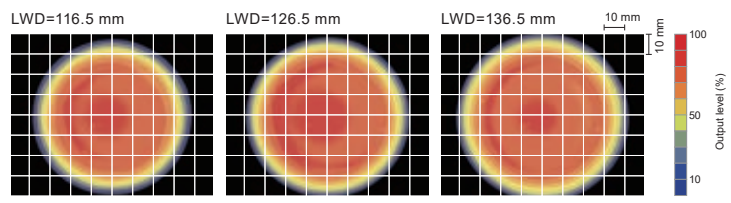
The data included is for reference only. Actual values may vary.

### HLDR-IP67-100UV3-365

Regarding recommended distance

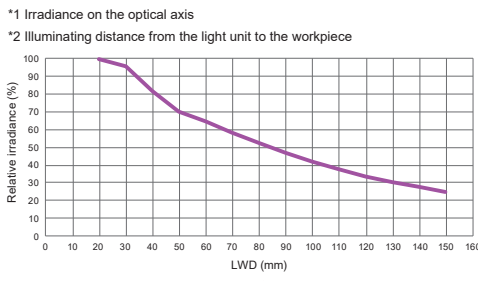


Uniformity (Relative irradiance)

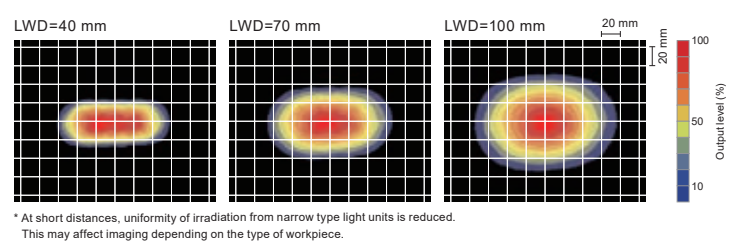


### LDL-71X12UV3-365-N (Narrow Type)

Relative irradiance graph<sup>\*1</sup> (LWD characteristics)<sup>\*2</sup>



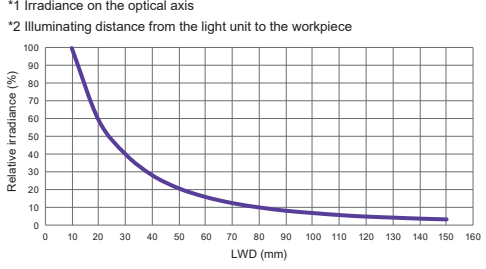
Uniformity (Relative irradiance)



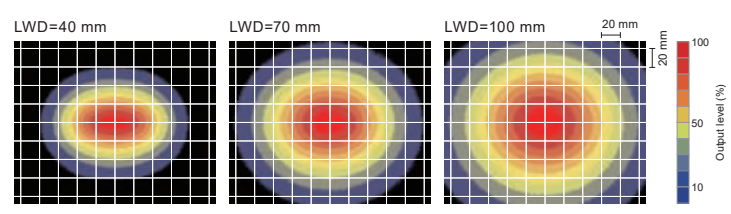
\* At short distances, uniformity of irradiation from narrow type light units is reduced. This may affect imaging depending on the type of workpiece.

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

Relative irradiance graph<sup>\*1</sup> (LWD characteristics)<sup>\*2</sup>

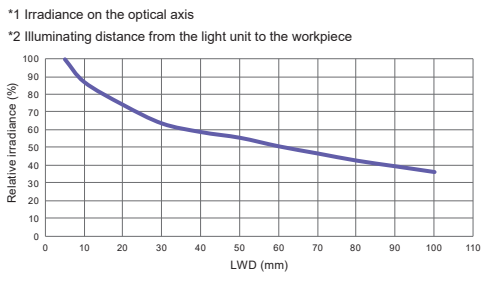


Uniformity (Relative irradiance)

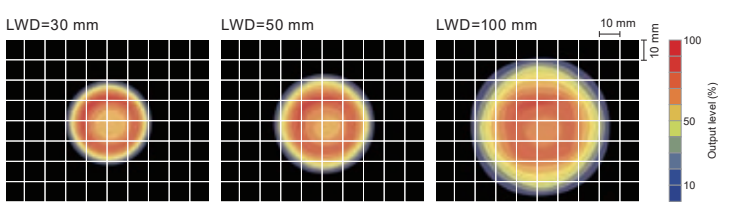


### HLV2-24UV3-365

Relative irradiance graph<sup>\*1</sup> (LWD characteristics)<sup>\*2</sup>

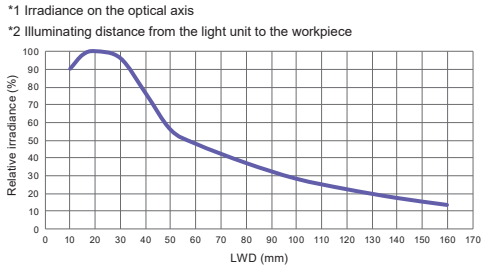


Uniformity (Relative irradiance)

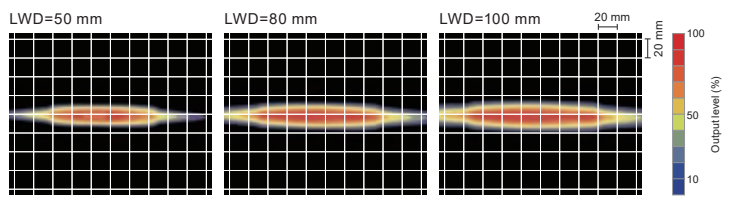


### LN-61UV3-365

Relative irradiance graph<sup>\*1</sup> (LWD characteristics)<sup>\*2</sup>



Uniformity (Relative irradiance)



|                              |   |
|------------------------------|---|
| Ring (Direct)                | LDR2<br>LDR2-LA<br>LDR-LA1<br>SQR<br>SQR-TP   |
| Ring (Convergent / Diffused) | HLDR3<br>HPR2<br>LFR<br>LKR<br>FPR  |
| Square                       | FPQ3  |
| Bar                          | LDL2<br>LDLB<br>HDL3<br>LB  |
| Flat (5 types)               | TH2 (5 types)<br>LFL  |
| Dome                         | HPD2<br>LDM2<br>LAV<br>PDM<br>LFXV<br>LFX3<br>LFX3-PT   |
| Coaxial                      | LFV3<br>LFV3-G  |
| Coaxial                      | MSU<br>MFU  |
| Strobe                       | PF  |
| Water-proof                  | HLDR-IP<br>HSL-PCL<br>UV3/VL3<br>UV<br>LNSP-UV3-FN  |
| Infrared                     | IR2 (Under 1000-nm Type)<br>IR (Over 1000-nm Type)<br>CIR   |
| Reference Light Source       | LDF-RLS   |
| Intensity Control            | IU  |
| Spot, Etc.                   | HLV3<br>LV<br>HFS/HFR<br>HLV3-22-4-NR<br>HLV3-3M-RGB-4<br>PFBR-600SW2<br>PFBR-150<br>SLG-150V-CCS<br>PFBR3(A) |
| Line (Convergent)            | LNLP<br>LNSP2<br>Coaxial Units<br>LNSP-FN<br>LN/LN-HK   |
| Line (Diffused)              | LNSD<br>LND2<br>LT<br>LNV<br>LFXV (Rectangular Type)<br>TH2 (Rectangular Type)                                |
| Line (Oblique Angled)        | LNDG<br>LNS2<br>LNS<br>LNS-FN   |
| Lenses                       | Telecentric Lens<br>Macro Lens  |
| Other Products               | LDF-NB  |

Various technical documents available.

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

Register to use them.

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

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

\*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/gr/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)<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.

|  |                               |
|--|-------------------------------|
| LDR2<br>LDR2-LA<br>LDR-LA1<br>SQR<br>SQR-TP  | Ring<br>(Direct)              |
| HLDR3<br>HPR2<br>LFR<br>LKR<br>FPR   | Ring<br>(Convergent/Diffused) |
| FPQ3<br>LDL2<br>LDLB<br>HLDL3<br>LB  | Square<br>Bar                 |
| TH2 (5 types)<br>LFL   | Flat                          |
| HPD2<br>LDM2<br>LAV<br>PDM<br>LFXV<br>LFX3<br>LFX3-PT  | Dome                          |
| LFV3<br>LFV3-G   | Coaxial                       |
| MSU<br>MFU   | Coaxial                       |
| PF   | Strobe                        |
| HLDR-IP<br>HSL-PCL   | Water-<br>proof               |
| UV3/VL3<br>UV<br>LNSP-UV3-FN   | UV/<br>Violet                 |
| IR2<br>(Under 1000-nm Type)<br>IR<br>(Over 1000-nm Type)<br>CIR  | Infrared                      |
| LDF-RLS  | Reference<br>Light Source     |
| IU   | Intensity<br>Control          |
| HLV3<br>LV<br>HFS/HFR<br>HLV3-22-4-NR<br>HLV3-3M-RGB-4<br>PFBR-600SW2<br>PFBR-150<br>SLG-150V-CCS<br>PFB3(A) | Spot, Etc.                    |
| LNSL<br>LNSP2<br>Coaxial Units<br>LNSP-FN<br>LN/LN-HK  | Line<br>(Convergent)          |
| LNSD<br>LND2<br>LT<br>LNV<br>LFXV<br>(Rectangular Type)<br>TH2<br>(Rectangular Type)                         | Line<br>(Diffused)            |
| LNDG<br>LNSIS2<br>LNSIS<br>LNSIS-FN  | Line<br>(Oblique Angled)      |
| Telecentric Lens<br>Macro Lens   | Lenses                        |
| LDF-NB   | Other<br>Products             |

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- Light Unit Selection
- Free Product Trial
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- Discontinued Products

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



# 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.

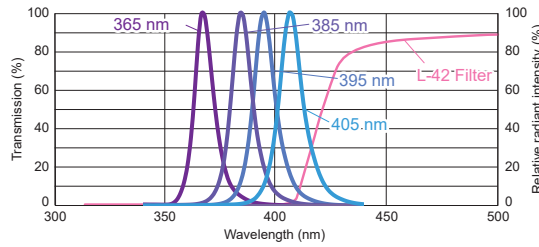
Ultraviolet cutting filter  
L42 Series

| 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



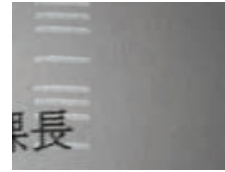
## Imaging Examples

Workpiece



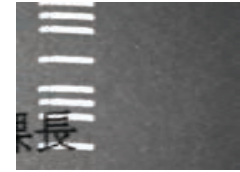
Postcard

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.



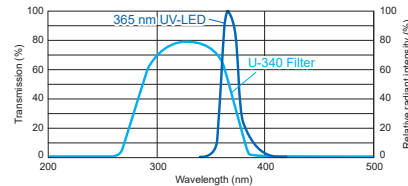
Transmits light with wavelength range of approx. 280 nm to 380 nm, centered around 340 nm.

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

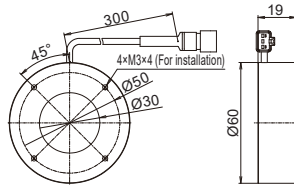
- High transmittance at 90% or greater
- Hard coated filter with high durability
- Twelve-product lineup available for a wide range of wavelengths

▶ P.371

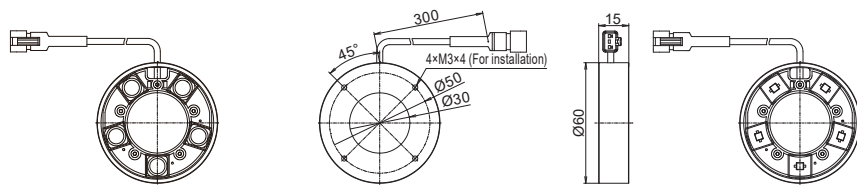
## Dimensions (mm)

### Ring Lights

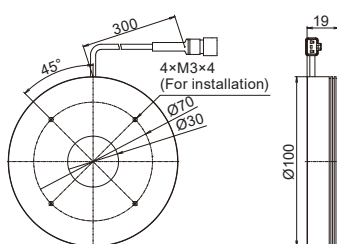
LDR2-60UV3/VL3-N (Narrow Type)



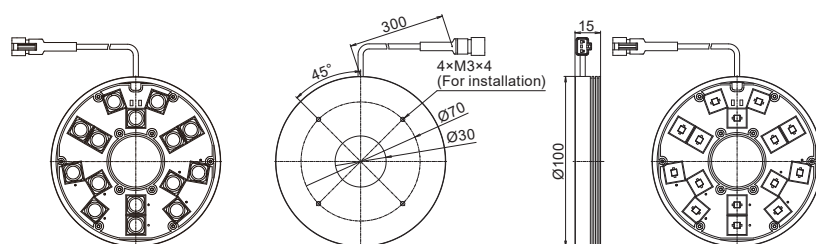
LDR2-60UV3/VL3-W (Wide Type)



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



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



Various technical documents available.

PDF Drawings

DXF Drawings

Product Brochures

Instruction Guides

3D CAD

Data Sheets

Imaging Examples

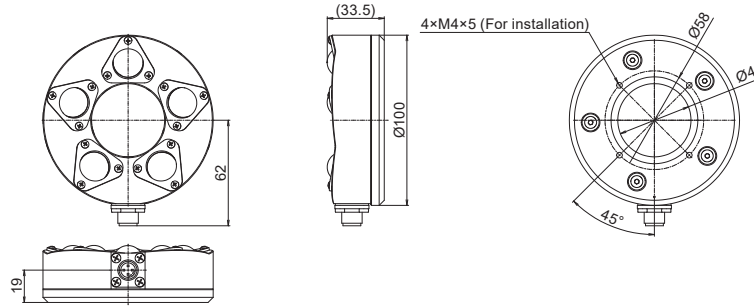
Digital Catalogs

Register to use them.

## ➤ Dimensions (mm)

### Ring Lights (Waterproof Type)

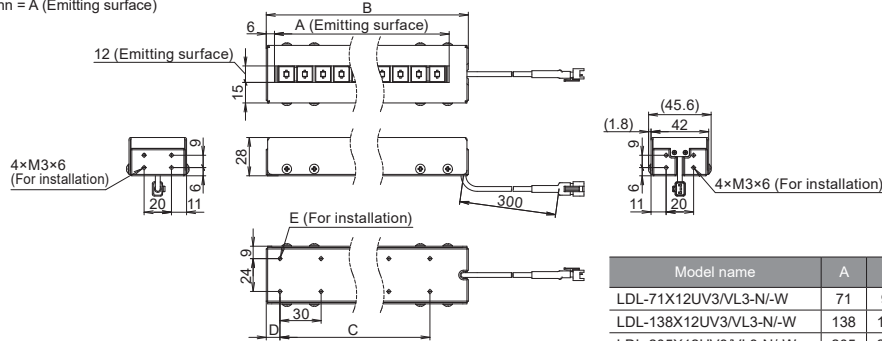
HLDR-IP67-100UV3/VL3



### Bar Lights

LDL-nnnX12UV3/VL3-N/-W (drawings for both narrow type and wide type)

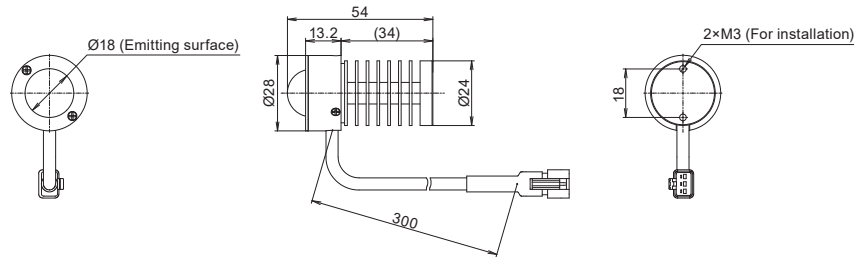
nnn = A (Emitting surface)



| 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

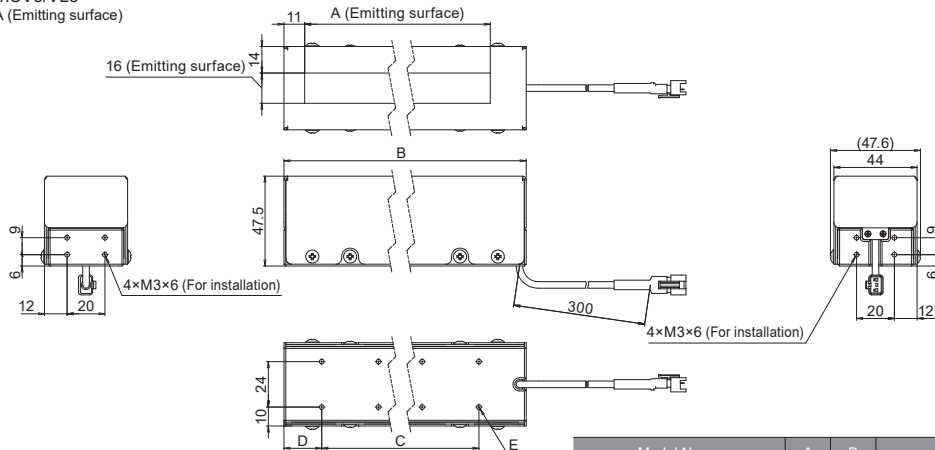
HLV2-24UV3/VL3



### 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 |

|  |                                  |
|--|----------------------------------|
| LDR2<br>LDR2-LA<br>LDR-LA1<br>SQR<br>SQR-TP  | Ring<br>(Direct)                 |
| HLDR3<br>HPR2<br>LFR<br>LKR<br>FPR   | Ring<br>(Convergent/Diffused)    |
| FPQ3   | Square                           |
| LDL2<br>LDLB<br>HLDL3<br>LB  | Bar                              |
| TH2 (5 types)<br>LFL   | Flat                             |
| HPD2<br>LDM2<br>LAV<br>PDM<br>LFXV<br>LFX3<br>LFX3-PT  | Dome                             |
| LFV3<br>LFV3-G   | Coaxial                          |
| MSU<br>MFU   | Coaxial                          |
| PF   | Strobe                           |
| HLDR-IP<br>HSL-PCL<br>UV3/VL3  | Water-<br>proof<br>UV/<br>Violet |
| UV<br>LN-SP-UV3-FN   | UV/<br>Violet                    |
| IR2<br>(Under 1000-nm Type)<br>IR<br>(Over 1000-nm Type)<br>CIR  | Infrared                         |
| LDF-RLS  | Reference<br>Light Source        |
| IU   | Intensity<br>Control             |
| HLV3<br>LV<br>HFS/HFR<br>HLV3-22-4-NR<br>HLV3-3M-RGB-4<br>PFBR-600SW2<br>PFBR-150<br>SLG-150V-CCS<br>PFB3(A) | Spot, Etc.                       |
| LNLP<br>LN-SP2<br>Coaxial Units<br>LN-SP-FN<br>LN/LN-HK  | Line<br>(Convergent)             |
| LNSD<br>LND2<br>LT<br>LNV<br>LFXV<br>(Rectangular Type)<br>TH2<br>(Rectangular Type)                         | Line<br>(Diffused)               |
| LNDG<br>LNIS2<br>LNIS<br>LNIS-FN   | Line<br>(Oblique Angled)         |
| Telecentric Lens<br>Macro Lens   | Lens                             |
| LDF-NB   | Other<br>Products                |

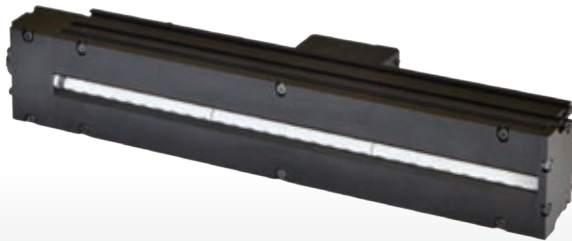
You can inquire using our website.

- 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/>



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



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



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

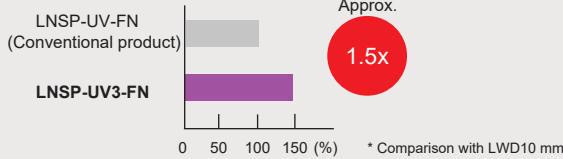
\* 365 nm wavelength for ultraviolet light UV3 Series. 385 nm, 395 nm, and 405 nm wavelengths for violet light VL3 Series.

### Applications

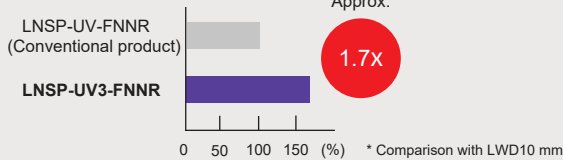
Seal material presence inspection using fluorescence excitation, various inspections using different spectral reflectance, various inspections using scattering rate differences

### Increased brightness compared with conventional products

#### Narrow Type comparison



#### Wide Type comparison



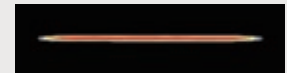
### The light distribution angle can be selected based on the application

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

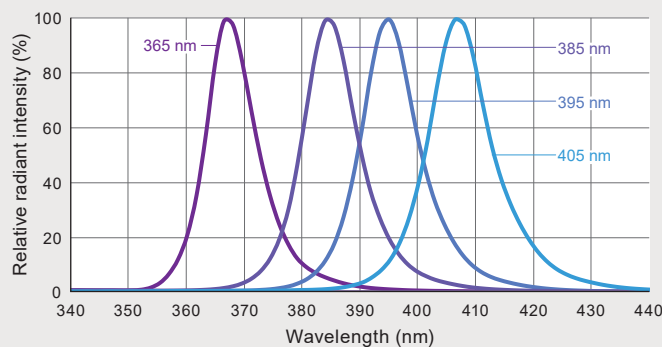


Uniformity graph



### 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



➤ **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.

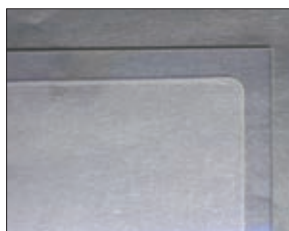
LNSP-300UV3-365-FNNR



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

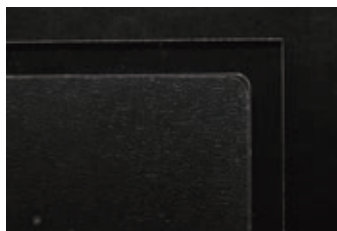
➤ **Imaging Example: Imaging for the Alignment of Clear Films**

Workpiece image



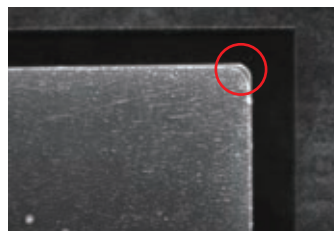
Clear plate (bottom) and film (top)

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



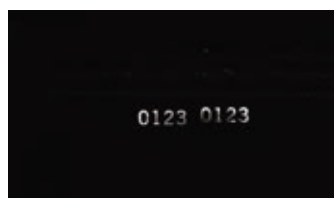
Plastic plate

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



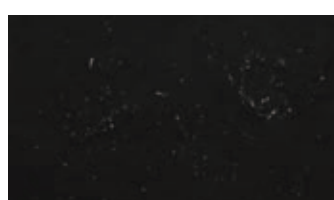
White paper (Tissue)

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.

|  |                               |
|--|-------------------------------|
| LDR2<br>LDR2-LA<br>LDR-LA1<br>SQR<br>SQR-TP  | Ring<br>(Direct)              |
| HLDR3<br>HPR2<br>LFR<br>LKR<br>FPR   | Ring<br>(Convergent/Diffused) |
| FPQ3   | Square                        |
| LDL2<br>LDLB<br>HLDL3<br>LB  | Bar                           |
| TH2 (5 types)<br>LFL   | Flat                          |
| HPD2<br>LDM2<br>LAV<br>PDM<br>LFXV<br>LFX3<br>LFX3-PT  | Dome                          |
| LFV3<br>LFV3-G   | Coaxial                       |
| MSU<br>MFU   | Coaxial                       |
| PF   | Strobe                        |
| HLDL-IP<br>HSL-PCL   | Water-proof                   |
| UV3/VL3<br>UV<br>LNSP-UV3-FN   | UV/<br>Violet                 |
| IR2<br>(Under 1000-nm Type)<br>IR<br>(Over 1000-nm Type)<br>CIR  | Infrared                      |
| LDF-RLS  | Reference<br>Light Source     |
| IU   | Intensity<br>Control          |
| HLV3<br>LV<br>HFS/HFR<br>HLV3-22-4-NR<br>HLV3-3M-RGB-4<br>PFBR-600SW2<br>PFBR-150<br>SLG-150V-CCS<br>PFB3(A) | Spot, Etc.                    |
| LNL<br>LNSP2<br>Coaxial Units<br>LNSP-FN<br>LN/LN-HK   | Line<br>(Convergent)          |
| LNSD<br>LND2<br>LT<br>LNV<br>LFXV<br>(Rectangular Type)<br>TH2<br>(Rectangular Type)                         | Line<br>(Diffused)            |
| LNDG<br>LNS2<br>LNS<br>LNS-FN  | Line<br>(Oblique Angled)      |
| Telecentric Lens<br>Macro Lens   | Lenses                        |
| LDF-NB   | Other<br>Products             |



# LNSP-UV3/VL3-FN Series



Refer to our website for product details.

CCS LNSP-UV3

Search



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

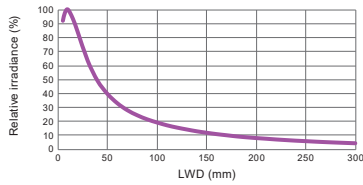
### LNSP-300UV3-365-FN (Narrow Type)

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

#### Relative irradiance graph<sup>\*1</sup> (LWD characteristics)<sup>\*2</sup>

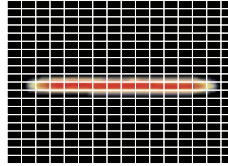
\*1 Irradiance on the optical axis

\*2 Illuminating distance from the light unit to the workpiece

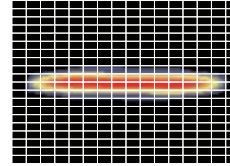


#### Uniformity (Relative irradiance)

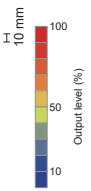
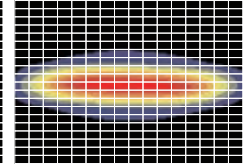
LWD=30 mm



LWD=50 mm



LWD=100 mm

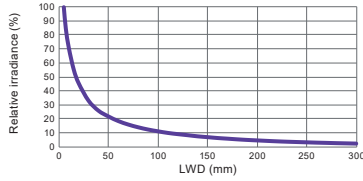


### LNSP-300UV3-365-FNNR (Wide Type)

#### Relative irradiance graph<sup>\*1</sup> (LWD characteristics)<sup>\*2</sup>

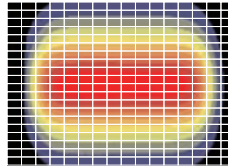
\*1 Irradiance on the optical axis

\*2 Illuminating distance from the light unit to the workpiece

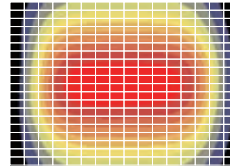


#### Uniformity (Relative irradiance)

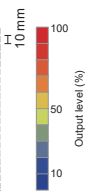
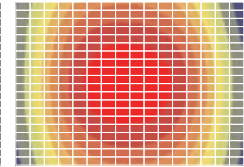
LWD=30 mm



LWD=50 mm



LWD=100 mm



## 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 <sup>*1</sup> | LED Color   | Power Consumption <sup>*2</sup> | Extension Cables | Recommended Control Units        | Weight  |         |
|--------------------------|-------------|---------------------------------|------------------|----------------------------------|---------|---------|
| LNSP-100UV3-365-FN       | Ultraviolet | 36 W                            |                  | 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                            |                  |                                  | QCBM    | 1,300 g |
| LNSP-200VL3-□-FN         | Violet      |                                 |                  |                                  | QCB     | 1,000 g |
| LNSP-200UV3-365-FNNR     | Ultraviolet |                                 |                  |                                  |         |         |
| 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                           |                  |                                  |         |         |
| LNSP-300VL3-□-FNNR       | Violet      | 104 W                           |                  |                                  | 1,300 g |         |

\*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 Power consumption includes the cooling fan.

## 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

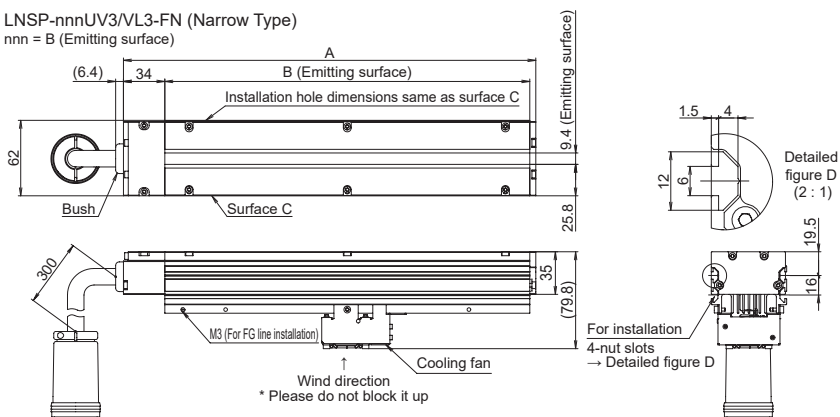
- High transmittance at 90% or greater
- Hard coated filter with high durability
- Twelve-product lineup available for a wide range of wavelengths

▶ P.371

➤ **Dimensions (mm)**

LNSP-nnnUV3/VL3-FN (Narrow Type)

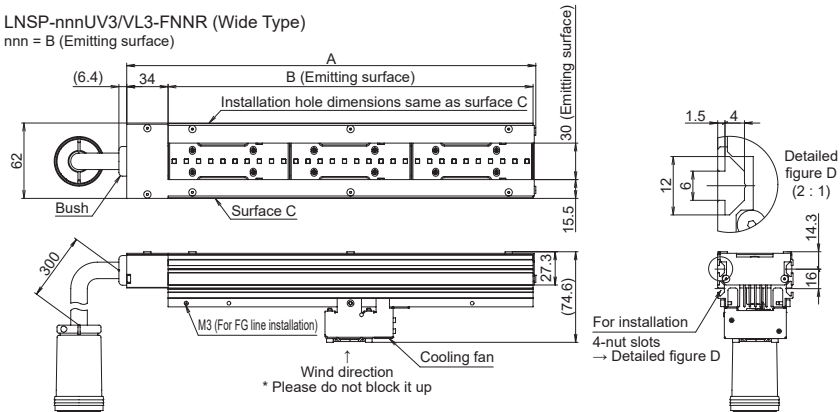
nnn = B (Emitting surface)



| 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 |

|                             |                                |     |
|-----------------------------|--------------------------------|-----|
| LDR2                        | Ring<br>(Direct)               |     |
| LDR2-LA                     |                                |     |
| LDR-LA1                     |                                |     |
| SQR                         |                                |     |
| SQR-TP                      | Ring<br>(Convergent/Diffused)  |     |
| HLDR3                       |                                |     |
| HPR2                        |                                |     |
| LFR                         |                                |     |
| LKR                         | Square                         |     |
| FPR                         |                                |     |
| LDL2                        |                                | Bar |
| LDLB                        |                                |     |
| HLDL3                       |                                |     |
| LB                          |                                |     |
| TH2 (5 types)               | Flat                           |     |
| LFL                         |                                |     |
| HPD2                        | Dome                           |     |
| LDM2                        |                                |     |
| LAV                         |                                |     |
| PDM                         |                                |     |
| LFXV                        |                                |     |
| LFX3                        |                                |     |
| LFX3-PT                     | Coaxial                        |     |
| LFV3                        |                                |     |
| LFV3-G                      | Coaxial                        |     |
| MSU                         |                                |     |
| MFU                         | Strobe                         |     |
| PF                          |                                |     |
| HLDR-IP                     | Water-proof                    |     |
| HSL-PCL                     |                                |     |
| UV3/VL3                     | UV/<br>Violet                  |     |
| UV                          |                                |     |
| LNSP-UV3-FN                 | Infrared                       |     |
| IR2<br>(Under 1000-nm Type) |                                |     |
| IR<br>(Over 1000-nm Type)   |                                |     |
| CIR                         |                                |     |
| LDF-RLS                     | Reference<br>Light Source      |     |
| IU                          | Intensity<br>Control           |     |
| HLV3                        | Spot, Etc.                     |     |
| LV                          |                                |     |
| HFS/HFR                     |                                |     |
| HLV3-22-4-NR                |                                |     |
| HLV3-3M-RGB-4               |                                |     |
| PFBR-600SW2                 |                                |     |
| PFBR-150                    |                                |     |
| SLG-150V-CCS                |                                |     |
| PFBR3(A)                    | Line<br>(Convergent)           |     |
| LNLP                        |                                |     |
| LNSP2                       |                                |     |
| Coaxial Units               |                                |     |
| LNFP-FN                     | Line<br>(Diffused)             |     |
| LN/LN-HK                    |                                |     |
| LNLD                        |                                |     |
| LND2                        |                                |     |
| LT                          |                                |     |
| LNVD                        |                                |     |
| LFXV<br>(Rectangular Type)  |                                |     |
| TH2<br>(Rectangular Type)   | Line<br>(Oblique Angled)       |     |
| LNDG                        |                                |     |
| LNIS2                       |                                |     |
| LNIS                        |                                |     |
| LNIS-FN                     | Telecentric Lens<br>Macro Lens |     |
| Other<br>Products           |                                |     |
| LDF-NB                      |                                |     |

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

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<https://www.ccs-grp.com/contact/>