



Increased range of applications with high output and 4 wavelengths



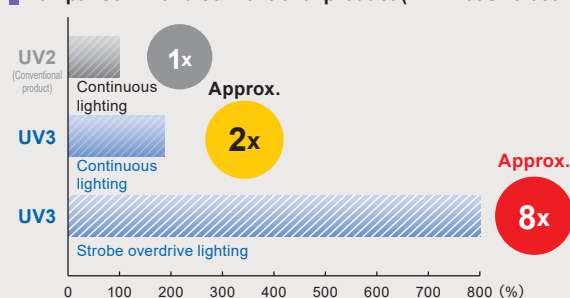
* 365 nm wavelength for ultraviolet light UV3 Series. 385 nm, 395 nm, and 405 nm wavelengths for violet light VL3 Series.

Applications

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

Increased Brightness When Overdriving

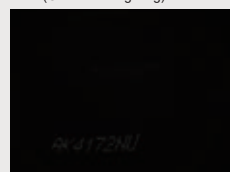
Comparison with a conventional product (LDR2-60UV3-365-N)



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

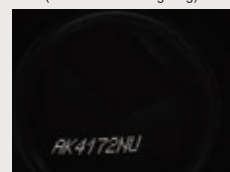
Imaging special ink on can

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)

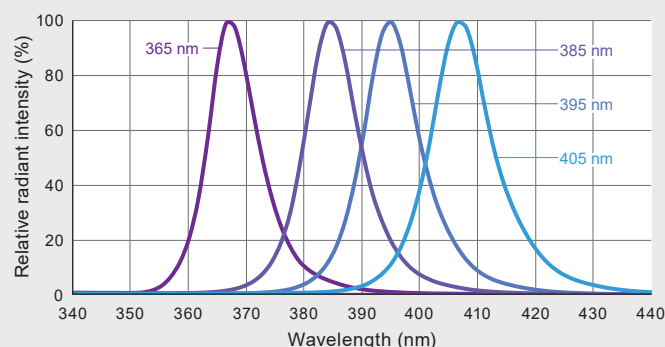


Enables fluorescence observation for special inks even with faster shutter speed.

* 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

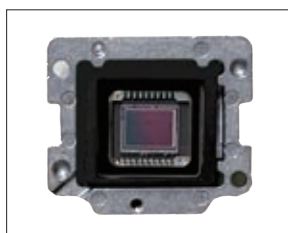
- Do not expose your eyes or skin to direct UV irradiation.
- When using UV illumination, be sure to wear UV blocking eye wear and avoid looking at irradiating parts (emitting parts).
- Do not turn on UV-LED irradiating parts (emitting parts) if they are facing someone's eyes.
- Wear long sleeves and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



➤ Imaging Example: Imaging Adhesive on an Imaging Sensor Substrate

Workpiece image



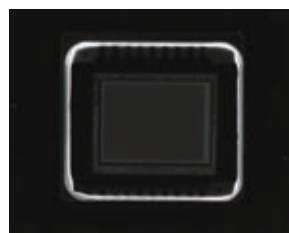
Imaging sensor substrate

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



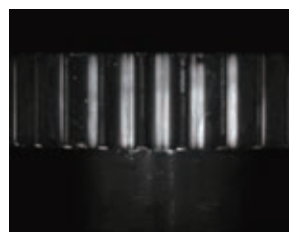
Gear part

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)

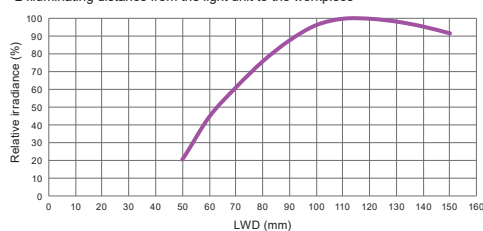


The data included is for reference only. Actual values may vary.

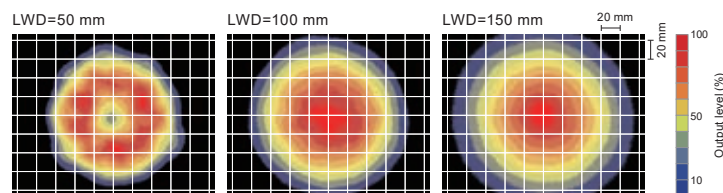
Relative irradiance graph^{*1} (LWD characteristics)^{*2}

^{*1} Irradiance on the optical axis

^{*2} Illuminating distance from the light unit to the workpiece



Uniformity (Relative irradiance)



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

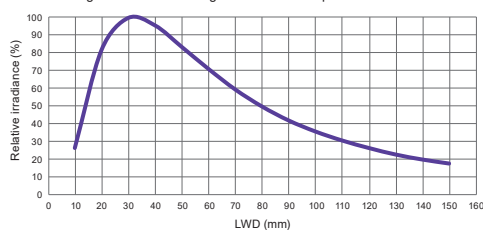
LDR2-100UV3-365-W (Wide Type)



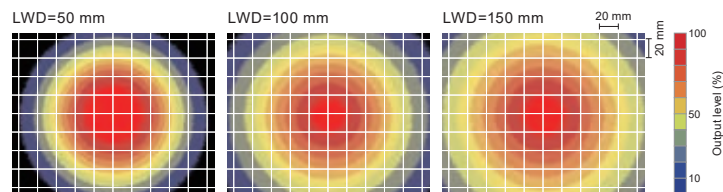
Relative irradiance graph^{*1} (LWD characteristics)^{*2}

^{*1} Irradiance on the optical axis

^{*2} Illuminating distance from the light unit to the workpiece



Uniformity (Relative irradiance)



LDR2 LDR2-LA LDR-LA1 SQR SQR-TP	Ring (Direct)
HLDR3 HPR2 LFR LKR FPR	Ring (Convergent/Diffused)
FPQ3	Square
LDL2 LDLB HDL3 LB	Bar
TH2 (5 types) LFL	Flat
HPD2 LDM2 LAV PDM LFXV LFX3 LFX3-PT	Dome
LFV3 LFV3-G	Coaxial
MSU MFU	Coaxial
PF	Strobe
HLDR-IP HSL-PCL UV3/VL3 UV LNSP-UV3-FN	Water- proof UV/ Violet
IR2 (Under 1000-nm Type) IR (Over 1000-nm Type) CIR	Infrared
LDF-RLS	Reference Light Source
IU	Intensity Control
HLV3 LV HFS/HFR HLV3-22-4-NR HLV3-3M-RGB-4 PFB3-600SW2 PFB3-150 SLG-150V-CCS PFB3(A)	Spot, Etc.
LNL2 LNSP2 Coaxial Units LNSP-FN LNLN-HK	Line (Convergent)
LNSD LND2 LT LNV LFXV (Rectangular Type) TH2 (Rectangular Type)	Line (Diffused)
LNDG LNS2 LNS LNS-FN	Line (Oblique Angled)
Telecentric Lens 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.

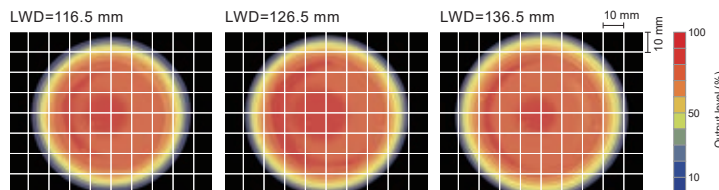
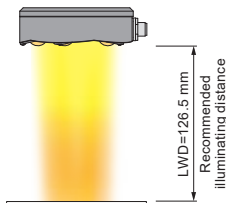
HLDR-IP67-100UV3-365



Regarding recommended distance

Uniformity (Relative irradiance)

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



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

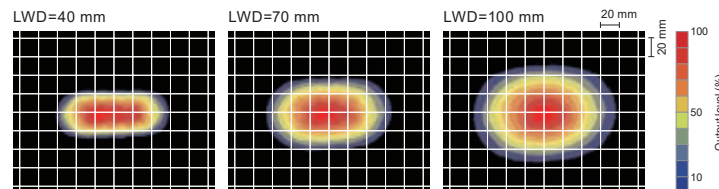
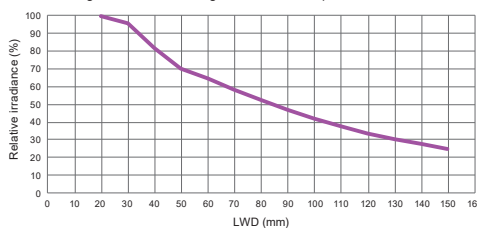


Relative irradiance graph^{*1} (LWD characteristics)^{*2}

Uniformity (Relative irradiance)

^{*1} Irradiance on the optical axis

^{*2} Illuminating distance from the light unit to the workpiece



* 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)

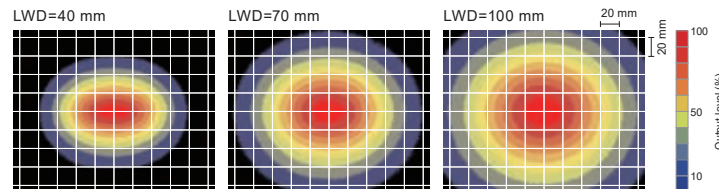
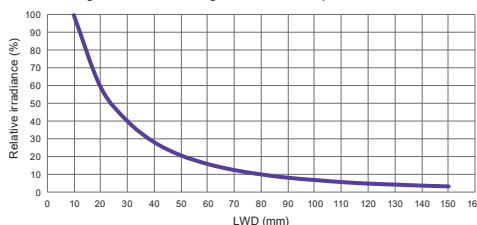


Relative irradiance graph^{*1} (LWD characteristics)^{*2}

Uniformity (Relative irradiance)

^{*1} Irradiance on the optical axis

^{*2} Illuminating distance from the light unit to the workpiece



HLV2-24UV3-365

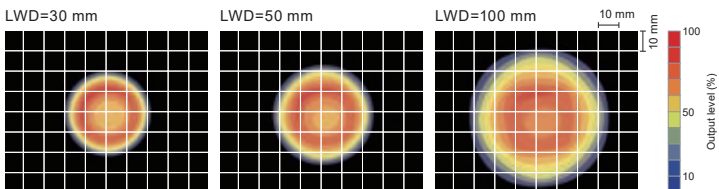
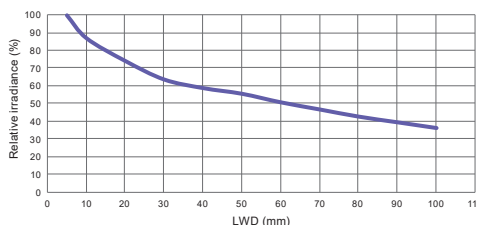


Relative irradiance graph^{*1} (LWD characteristics)^{*2}

Uniformity (Relative irradiance)

^{*1} Irradiance on the optical axis

^{*2} Illuminating distance from the light unit to the workpiece



LN-61UV3-365

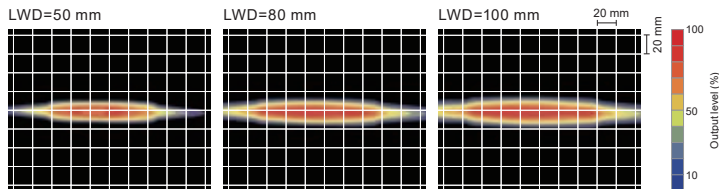
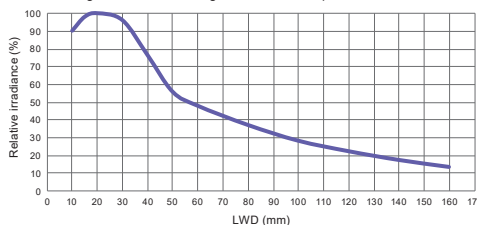


Relative irradiance graph^{*1} (LWD characteristics)^{*2}

Uniformity (Relative irradiance)

^{*1} Irradiance on the optical axis

^{*2} Illuminating distance from the light unit to the workpiece



Various technical documents available.

PDF Drawings

DXF Drawings

Product Brochures

Instruction Guides

3D CAD

Data Sheets

Imaging Examples

Digital Catalogs

Register to use them.

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.

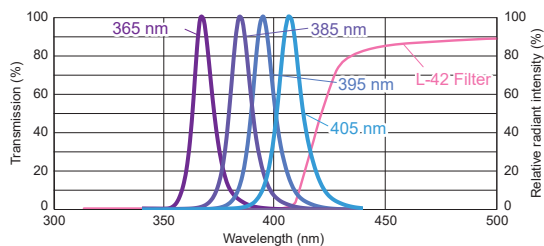
Ultraviolet cutting filter
L42 Series

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



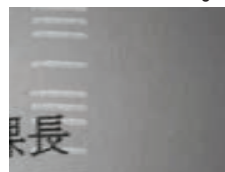
Imaging Examples

Workpiece



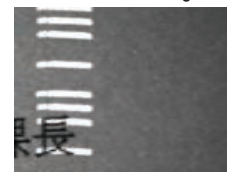
Postcard

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.



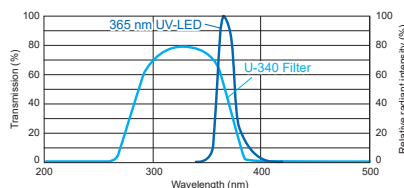
Transmits light with wavelength range of approx. 280 nm to 380 nm, centered around 340 nm.

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

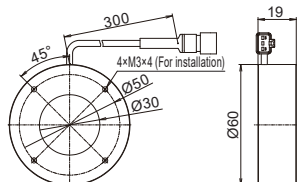
- High transmittance at 90% or greater
- Hard coated filter with high durability
- Twelve-product lineup available for a wide range of wavelengths

P.371

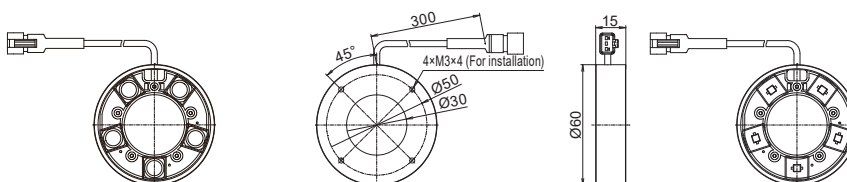
Dimensions (mm)

Ring Lights

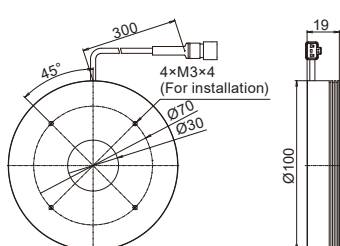
LDR2-60UV3/VL3-N (Narrow Type)



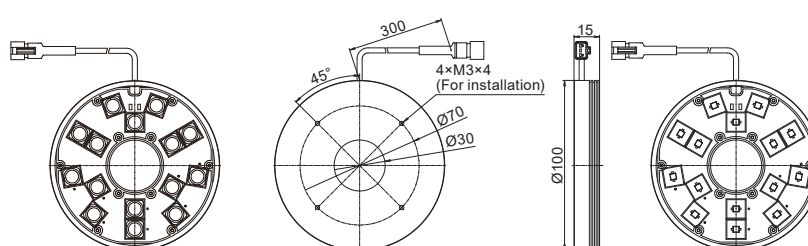
LDR2-60UV3/VL3-W (Wide Type)



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

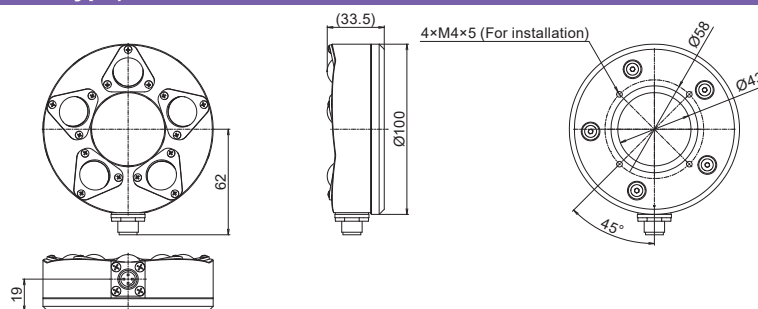
Digital Catalogs

Register to use them.

➤ Dimensions (mm)

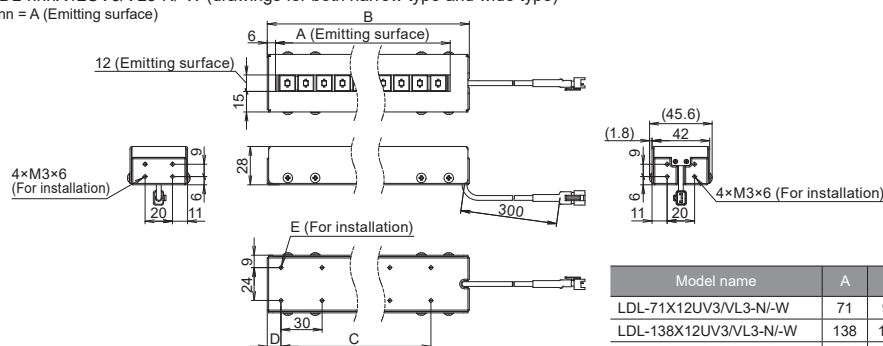
Ring Lights (Waterproof Type)

HLDR-IP67-100UV3/VL3



Bar Lights

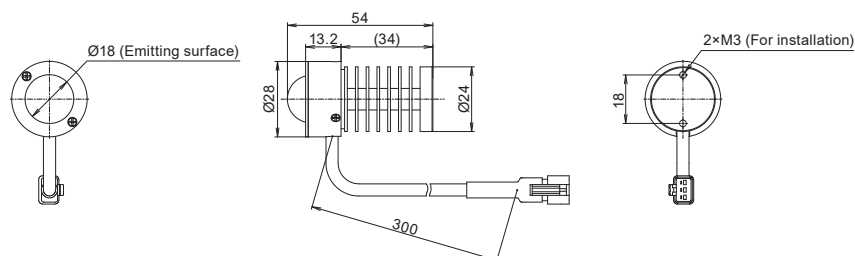
LDL-nnnX12UV3/VL3-N/-W (drawings for both narrow type and wide type)
nnn = A (Emitting surface)



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

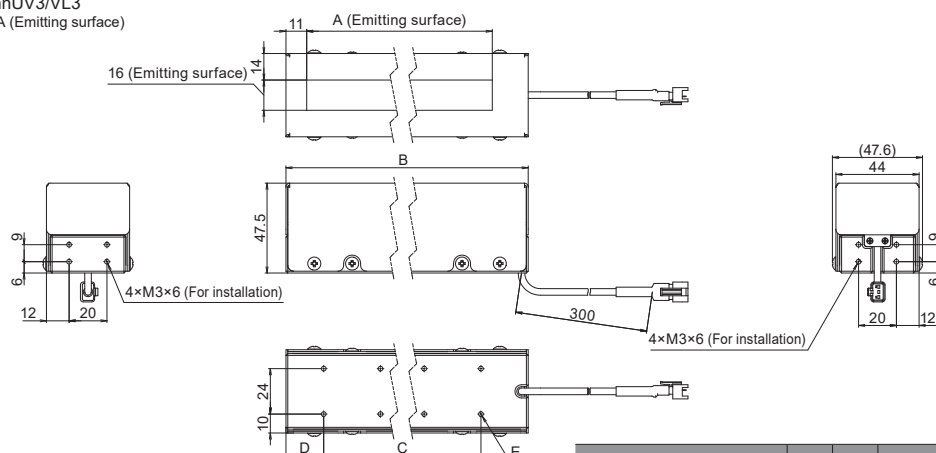
Spot Lights

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

You can inquire
using our website.

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

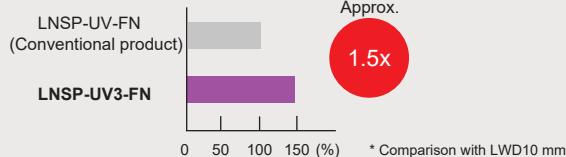
* 365 nm wavelength for ultraviolet light UV3 Series. 385 nm, 395 nm, and 405 nm wavelengths for violet light VL3 Series.

Applications

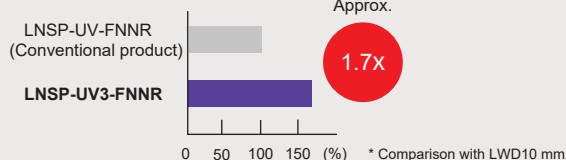
Seal material presence inspection using fluorescence excitation, various inspections using different spectral reflectance, various inspections using scattering rate differences

Increased brightness compared with conventional products

Narrow Type comparison



Wide Type comparison



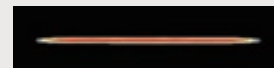
The light distribution angle can be selected based on the application

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

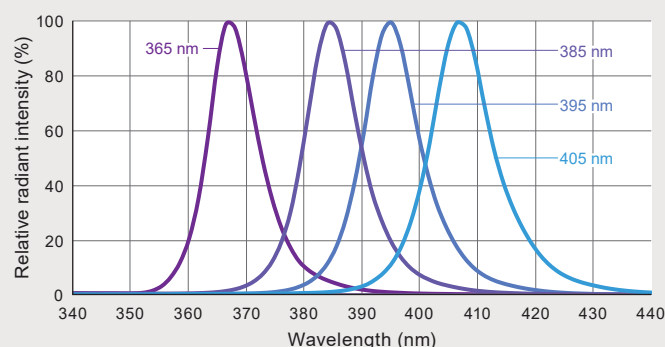


Uniformity graph



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.

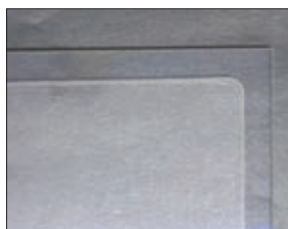
LNSP-300UV3-365-FNNR



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

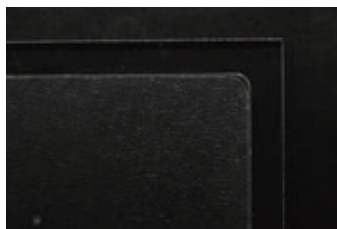
➤ Imaging Example: Imaging for the Alignment of Clear Films

Workpiece image



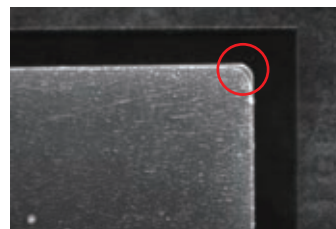
Clear plate (bottom) and film (top)

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



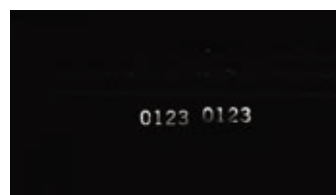
Plastic plate

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



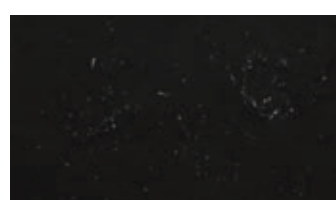
White paper (Tissue)

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

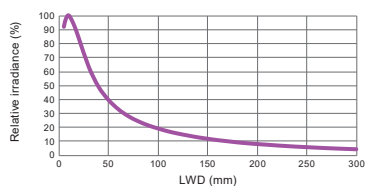
LNSP-300UV3-365-FN (Narrow Type)

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

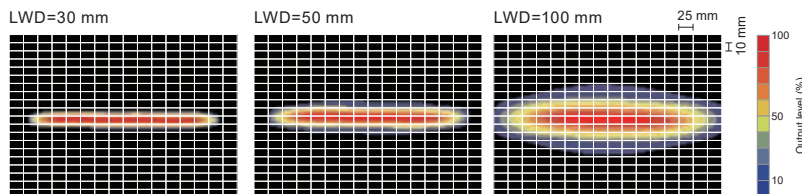
Relative irradiance graph^{*1} (LWD characteristics)^{*2}

*1 Irradiance on the optical axis

*2 Illuminating distance from the light unit to the workpiece



Uniformity (Relative irradiance)

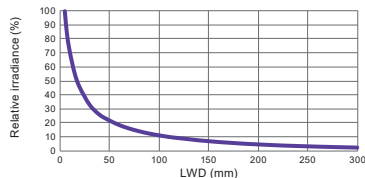


LNSP-300UV3-365-FNNR (Wide Type)

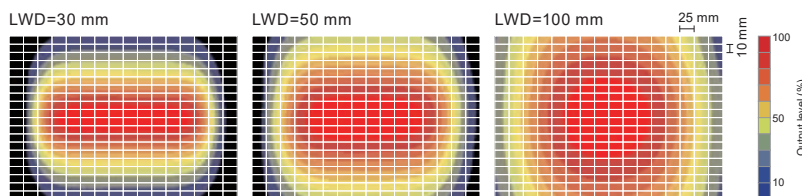
Relative irradiance graph^{*1} (LWD characteristics)^{*2}

*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				700 g				
LNSP-100UV3-365-FNNR	Ultraviolet								
LNSP-100VL3-□-FNNR	Violet								
LNSP-200UV3-365-FN	Ultraviolet	70 W			QCBM QCB	PSCC-30048 (A) PSCC-60048 (A)	1,300 g		
LNSP-200VL3-□-FN	Violet						1,000 g		
LNSP-200UV3-365-FNNR	Ultraviolet								
LNSP-200VL3-□-FNNR	Violet								
LNSP-300UV3-365-FN	Ultraviolet	103 W					QCBM QCB	PSCC-30048 (A) PSCC-60048 (A)	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.

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

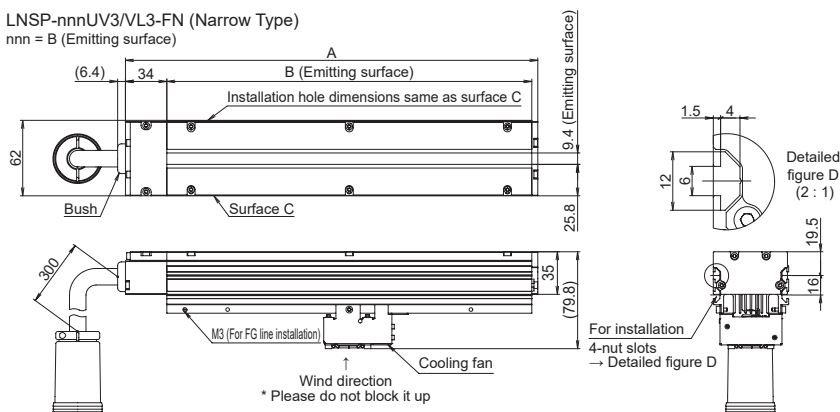
Band-pass filter F-BP Series

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

▶ P.371

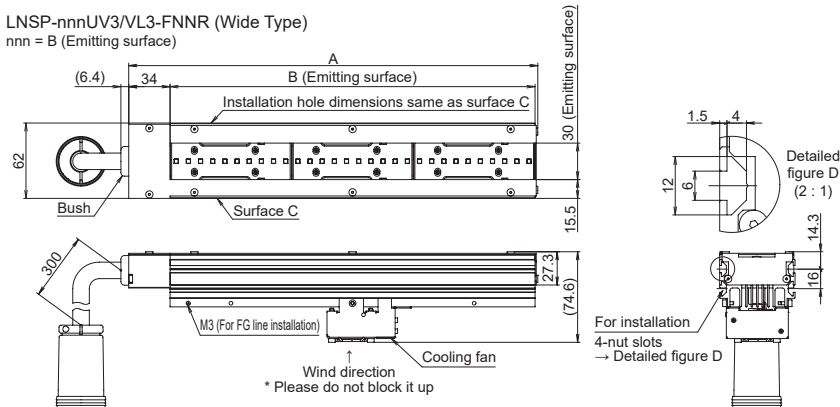
Dimensions (mm)

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

You can inquire
using our website.

Sample Testing	Light Unit Selection	Free Product Trial	Custom Orders	Product Details	Pricing/ Quotation	Discontinued Products
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Inquire on our website here.
<https://www.ccs-grp.com/contact/>

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