

# Ultraviolet Lights

## UV2 series



**Vision Light Tech**  
creating optical solutions

### UV Lights that use high output UV-LEDs



#### Applications

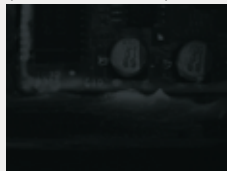
Detecting seal material through fluorescent excitation, reading invisible code, inspections using differences in spectral reflectivity, inspections using differences in scattering rates, etc.

#### Using high output UV-LEDs

The high output UV-LEDs achieved enhanced output power significantly higher than that of conventional products.

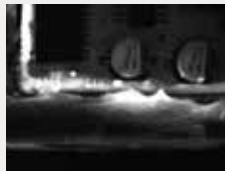
#### Comparison of imaging with conventional product

Conventional product (LDR2-90UV365)



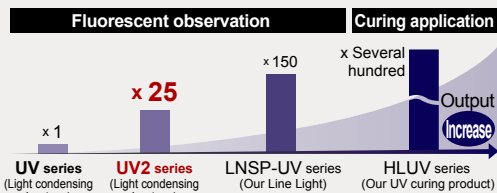
The conventional product lacks output and fluorescent observation is difficult.

#### LDR2-100UV2-365-W



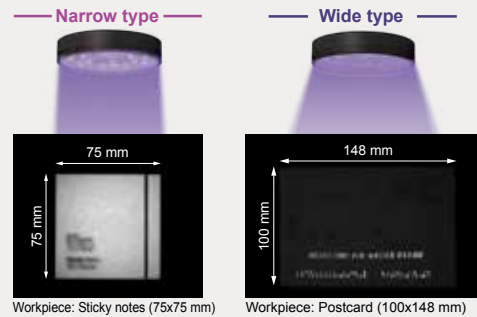
The increased output of the high output UV Light allows for fluorescent observation.

#### Image comparing output of UV Lights by application

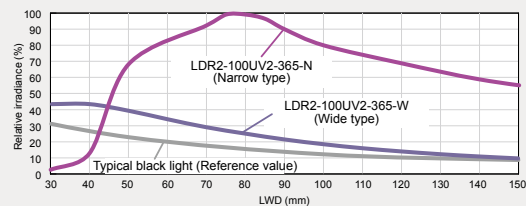


#### Narrow type to irradiate a narrow area

The product lineup includes wide type and narrow type Light Units to irradiate a respective extent. Select an optimum Light Unit to meet the purpose of use.



#### Comparison of output between a high output UV Light and a black light

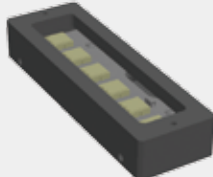


#### Custom orders

Please contact your CCS sales representative.

E.g.: Different shape

Format/material Created a format to match the needs



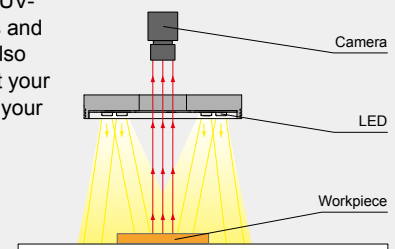
#### Customizable items

- External/internal diameter
  - Wavelength/color
  - Increase output
  - Cable length
  - Illuminating angle
  - Format/material
  - Connector format
  - Installation/mounting
- Etc.

#### Example configuration

Ring Lights that use high output UV-LEDs. Bar types and spot types are also available. Select your format to match your needs.

#### LDR2-100UV2-365-W



## Lineup

### Ring Lights

#### Narrow type

Narrow range irradiation

Outer diameter  
Ø60 mm



LDR2-60UV2-365-N



LDR2-100UV2-365-N

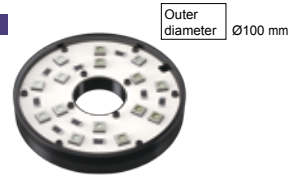
#### Wide type

Wide range irradiation

Outer diameter  
Ø60 mm



LDR2-60UV2-365-W



LDR2-100UV2-365-W

### Bar Lights

#### Narrow type

Narrow range irradiation



LDL SERIES  
Emitting surface  
71×12 mm  
138×12 mm  
205×12 mm  
339×12 mm

#### Wide type

Wide range irradiation



LDL SERIES  
Emitting surface  
71×12 mm  
138×12 mm  
205×12 mm  
339×12 mm

### Bar Lights (Light Condensing)



LN SERIES  
Emitting surface  
61×16 mm  
128×16 mm  
195×16 mm

### Spot Light



HLV2-24UV2-365

Emitting surface  
Ø18 mm

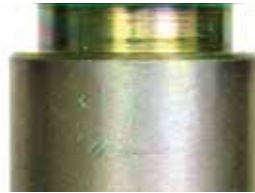
## Imaging example: Imaging of scratches by magnetic particle inspection

#### Workpiece image



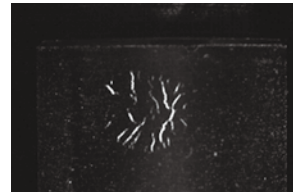
Metal component

#### LDL-71X12UV2-365-N



**Image of magnetic particle inspection viewed with the naked eye**  
With a high-output UV LED Light Unit, the scratches can be observed by fluorescence.

#### LDL-71X12UV2-365-N



**Image of magnetic particle inspection captured using a monochromatic camera**  
With a high-output UV LED Light Unit, the scratches can be observed by fluorescence.  
Use an optional filter for imaging with increased contrast.

## Imaging example : Imaging of grease application on a bearing

#### Workpiece image



Bearing

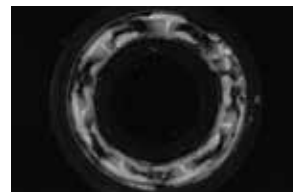
This workpiece was processed by CCS for sample imaging.

#### LED visible lighting



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

#### LDR2-100UV2-365-W



With a high output UV Light, fluorescent observation is possible.  
Use an optional filter for imaging with increased contrast.

Direct Lighting	LDR2 LDR2-LA LDR-LA1 SQR SQR-TP
Diffused Lighting	HPR2 LFR LKR FPR FPQ2
Direct Lighting	LDL2 LDLB HLDL2 HL
Diffused Lighting	TH2 (5 types) TH LFL HPD2 LDM2 LAV PDM LFX3 LFX3-PT LFX2 LFV3
Collimated Lighting	MSU MFU
Strobe Lighting	PF
Water-proof	HLDR-IP/ IQ/HSL-PCL
Ultraviolet Lighting	UV2 UV LNSP-UV-FN
Infrared Lighting	IR2
Intensity Control	IU
Spot Lighting, Etc.	HLV2 LV LSP HFS/HFR HLV2-NR HLV2-3M-RGB-3W PFBR PFB2
Convergent Lighting	LNLP LNSP2 LNSP Coaxial Units LNSP-FN LN/LN-HK
Diffused Lighting	LNSD LND2 HLND LT LNV/HLDN
Oblique Angled Lighting	LNDG
Lenses	LNIS LNIS-FN Telecentric Lens Macro Lens

LDR2	Direct Lighting
LDR2-LA	
LDR-LA1	
SQR	
SQR-TP	Diffused Lighting
HPR2	
LFR	
LKR	
FPR	Direct Lighting
FPQ2	
LDL2	
LDLB	
HLDL2	Diffused Lighting
HL	
TH2 (5 types)	
TH	
LFL	Diffused Lighting
HPD2	
LDM2	
LAV	
PDM	Collimated Lighting
LFX3	
LFX3-PT	
LFX2	
LFV3	Strobe Lighting
MSU	
MFU	
PF	
HLDR-IP/IO/HSL-PCL	Water-proof
UV2	
UV	
LNSP-UV-FN	
IR2	Infrared Control
IU	
HLV2	
LV	
LSP	Spot Lighting, Etc.
HFS/HFR	
HLV2-NR	
HLV2-3M-RGB-3W	
PFB2	Convergent Lighting
PFB1	
LNLP	
LNLP2	
LNSP	Coaxial Units
LNSP-FN	
LN/LN-HK	
LNSD	
LND2	Diffused Lighting
HLND	
LT	
LNV/HLND	
LNDG	Oblique Angled Lighting
LNIS	
LNIS-FN	
Telecentric Lens	
Macro Lens	Lenses

# UV2 series



Refer to our website for product details.

CCS UV2

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## Imaging example: Imaging of text at the bottom of an aluminum can

Workpiece image



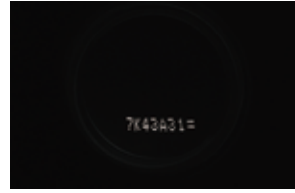
Aluminum can

LED visible lighting



With white light, it is difficult to capture the printed text at the bottom of the can.

LDL-138X12UV2-365-N



With a high output UV Light, fluorescent observation is possible. Use an optional filter for imaging with increased contrast.

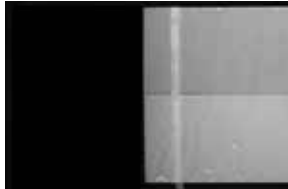
## Imaging example: Imaging of packing tape on film

Workpiece image



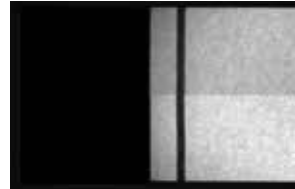
Sticky notes

LED visible lighting



With white light, it is difficult to capture the sticky notes and the packing tape with high contrast.

LDR2-100UV2-365-N



With a high output UV Light, fluorescent observation is possible. Use an optional filter for imaging with increased contrast.

## Data: Relative irradiance graph and uniformity (Representative example)

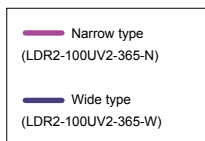
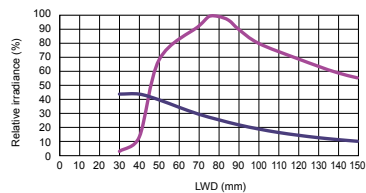
The data included is for reference only. Actual values may vary.

LDR2-100UV2-365-N



Relative irradiance graph \*1 (LWD Characteristics) \*2

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



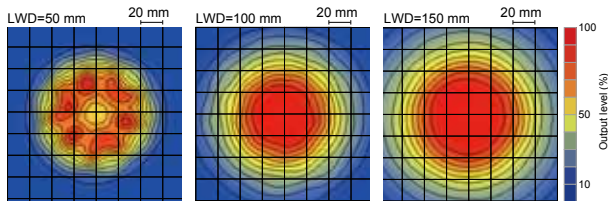
At short distances, uniformity of irradiation from narrow type Light Units is reduced. This may affect imaging depending on the type of workpiece.

LDR2-100UV2-365-W

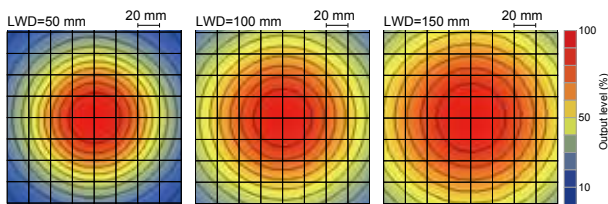


Uniformity (Relative irradiance)

LDR2-100UV2-365-N



LDR2-100UV2-365-W



## Data: Relative irradiance graph and uniformity (Representative example)

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

### LDL-205X12UV2-365-N



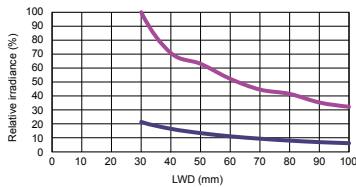
### LDL-205X12UV2-365



#### 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



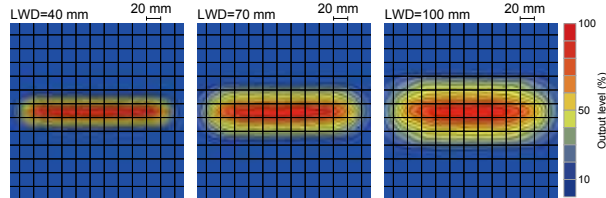
— Narrow type  
(LDL-205X12UV2-365-N)

— Wide type  
(LDL-205X12UV2-365)

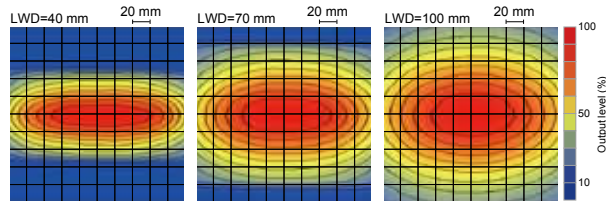
At short distances, uniformity of irradiation from narrow type Light Units is reduced. This may affect imaging depending on the type of workpiece.

#### Uniformity (Relative irradiance)

### LDL-205X12UV2-365-N



### LDL-205X12UV2-365



### LN-195UV2-365

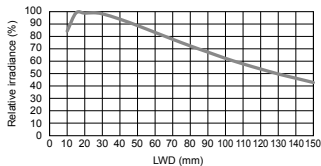


(Light condensing)

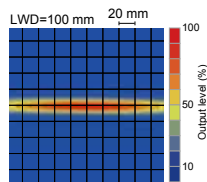
#### Relative irradiance graph<sup>\*1</sup> (LWD Characteristics)<sup>\*2</sup>

\*1: Irradiance on the optical axis

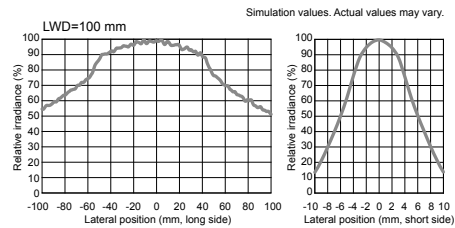
\*2: Illuminating distance from the Light Unit to the workpiece



#### Uniformity (Relative irradiance)



#### Relative irradiance distribution



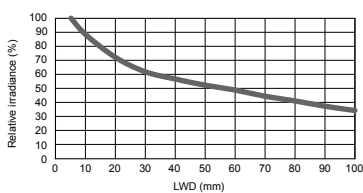
### HLV2-24UV2-365



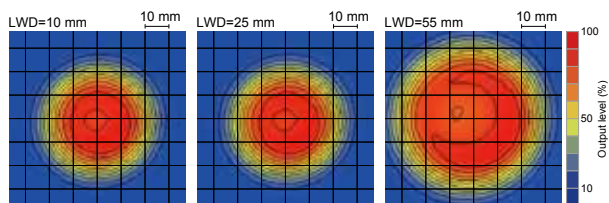
#### Relative irradiance graph<sup>\*1</sup> (LWD Characteristics)<sup>\*2</sup>

\*1: Irradiance on the optical axis

\*2: Illuminating distance from the Light Unit to the workpiece



#### Uniformity (Relative irradiance)



Direct Lighting	LDR2
	LDR2-LA
	LDR-LA1
	SQR
	SQR-TP
Diffused Lighting	HPR2
	LFR
	LKR
	FPR
	FPQ2
Direct Lighting	LDL2
	LDLB
	HLDL2
	HL
	TH2 (5 types)
	TH
	LFL
Diffused Lighting	HPD2
	LDM2
	LAV
	PDM
	LFX3
	LFX3-PT
	LFX2
	LFV3
Collimated Lighting	MSU
	MFU
Strobe Lighting	PF
Water-proof	HLDR-IP/ IQ/HSL-PCL
Ultraviolet Lighting	UV2
	UV
	LNSP-UV-FN
Infrared Lighting	IR2
Intensity Control	IU
Spot Lighting, Etc.	HLV2
	LV
	LSP
	HFS/HFR
	HLV2-NR
	HLV2-3M-RGB-3W
	PFBR
	PFB2
Convergent Lighting	LNLP
	LNSP2
	LNSP
	Coaxial Units
	LNSP-FN
	LN/LN-HK
Diffused Lighting	LNSD
	LND2
	HLND
	LT
	LNV/HLDN
Oblique Angled Lighting	LNDG
	LNIS
	LNIS-FN
Lenses	Telecentric Lens
	Macro Lens

# UV2 series



Refer to our website for product details.

CCS UV2

Search

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For quick access.

## Lineup

Model name	Type	LED color	Power consumption	Peak wavelength	Options	Extension cables	Recommended Control Units	Weight				
LDR2-60UV2-365-N	Narrow	Ultraviolet	24 V / 7.6 W	365 nm	Band-pass filters Ultraviolet cutting filters Ultraviolet transmission filters	FCB <sup>+5</sup> Straight Cable FCB-W 2-branch Cable FCB-F 4-branch Cable FRCB Robot Cable	<input type="checkbox"/> PD3 <input type="checkbox"/> CC-ST-1024 <sup>*1</sup>	170 g				
LDR2-100UV2-365-N			24 V / 23 W				250 g					
LDR2-60UV2-365-W	Wide		24 V / 7.6 W				170 g					
LDR2-100UV2-365-W			24 V / 23 W				250 g					
LDL-71X12UV2-365-N	Narrow	Ultraviolet	24 V / 7.6 W	365 nm			Band-pass filters Ultraviolet cutting filters Ultraviolet transmission filters	FCB <sup>+5</sup> Straight Cable FCB-W 2-branch Cable FCB-F 4-branch Cable FRCB Robot Cable	<input type="checkbox"/> PD3 <input type="checkbox"/> CC-ST-1024 <sup>*2</sup>	300 g		
LDL-138X12UV2-365-N			24 V / 16 W						500 g			
LDL-205X12UV2-365-N			24 V / 23 W						700 g			
LDL-339X12UV2-365-N			24 V / 38 W						1,090 g			
LDL-71X12UV2-365	Wide	Ultraviolet	24 V / 7.6 W	365 nm					Band-pass filters Ultraviolet cutting filters Ultraviolet transmission filters	FCB <sup>+5</sup> Straight Cable FCB-W 2-branch Cable FCB-F 4-branch Cable FRCB Robot Cable	<input type="checkbox"/> PD3 <input type="checkbox"/> PSB <sup>*3</sup>	300 g
LDL-138X12UV2-365			24 V / 16 W								500 g	
LDL-205X12UV2-365			24 V / 23 W								700 g	
LDL-339X12UV2-365			24 V / 38 W								1,090 g	
LN-61UV2-365	-	Ultraviolet	24 V / 7.6 W	365 nm	Band-pass filters Ultraviolet cutting filters Ultraviolet transmission filters	FCB <sup>+5</sup> Straight Cable FCB-W 2-branch Cable FCB-F 4-branch Cable FRCB Robot Cable					<input type="checkbox"/> PD3 <input type="checkbox"/> CC-ST-1024 <sup>*4</sup>	450 g
LN-128UV2-365			24 V / 16 W								750 g	
LN-195UV2-365			24 V / 23 W								1,050 g	
HLV2-24UV2-365	-	Ultraviolet	0.7 A / 3.2 W	365 nm							Band-pass filters Ultraviolet cutting filters Ultraviolet transmission filters	FCB <sup>+5</sup> Straight Cable FCB-W 2-branch Cable FCB-F 4-branch Cable FRCB Robot Cable

Please inquire if you want to use the Light Unit in combination with a Strobe Control Unit (overdrive type).

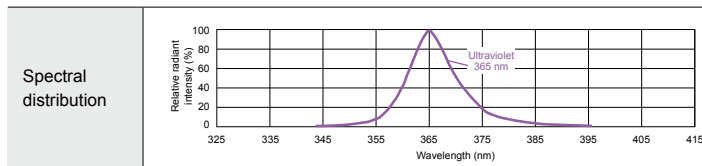
Extension Cables ▶ P.280

Control Unit Selection Guide ▶ P.229

List of Control Unit Specifications ▶ P.231

\*5 The cables with a model name that ends with "-ME7" or "-EL2" are not included.


## LED properties



CCS offers you the most suitable lens filter for each wavelength. For details about the lens filter, refer to P.271.

Be sure to read the "Instruction Guide" included with the product before use and follow the safety precautions upon use. The data included is for reference only. Actual values may vary.

## Options




**Band-pass filter F-BP324**

Transmits light with wavelength range of 290 nm to 365 nm. (Transmission of 90% min.)

Model name	Size
F-BP324	23 sizes (Refer to the pages on optional products.)

▶ P.271




**Ultraviolet cutting filter L42 series**

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

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.273



**Ultraviolet transmission filter U340 series**

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

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.273

## Cautionary information regarding UV products

- Do not expose your eyes or skin to direct UV irradiation.
- When using an 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.

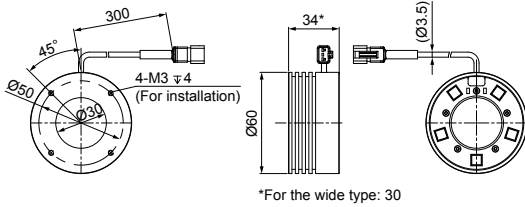
- PDF Drawings
- DXF Drawings
- 3D CAD
- Instruction Guides
- Product Filters
- Imaging Samples
- Data Sheets
- Examples of Custom Ordered Products

Download here. <http://www.ccs-grp.com/dl/>

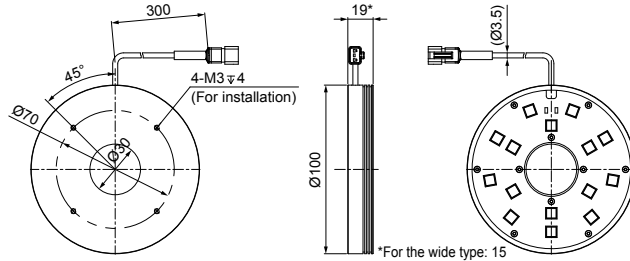
## Dimensions (mm)

### Ring Lights

LDR2-60UV2-365-N/-W (Common for the narrow/wide types)

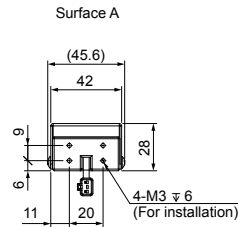
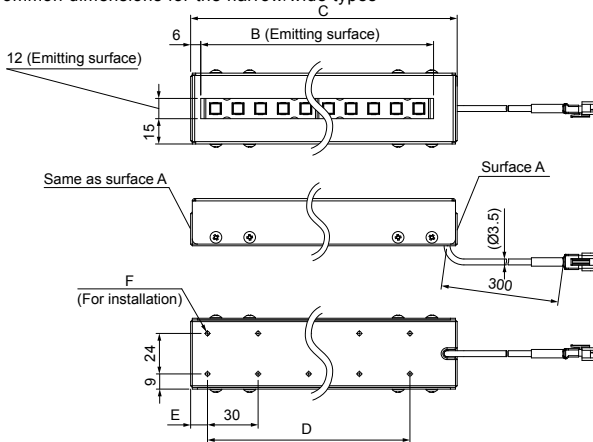


LDR2-100UV2-365-N/-W (Common for the narrow/wide types)



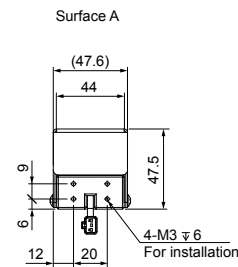
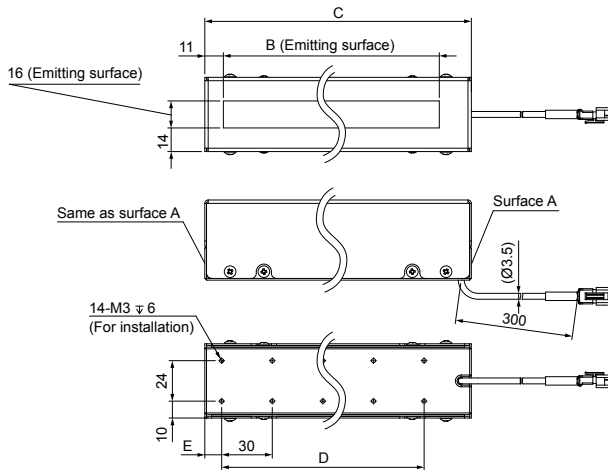
### Bar Lights

Common dimensions for the narrow/wide types



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

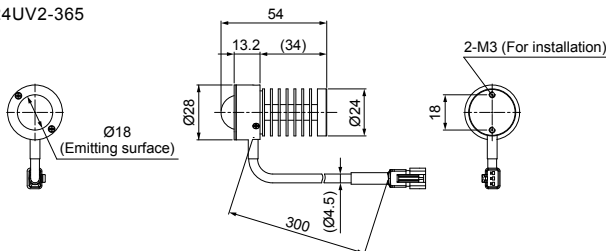
Convergent type Common dimensions



Model name	B	C	D	E
LN-61UV2-365	61	91	P30x2=60	10
LN-128UV2-365	128	158	P30x4=120	10
LN-195UV2-365	195	225	P30x6=180	20

### Spot Lights

HLV2-24UV2-365



You can change the connectors of the Light Unit cable (except for the HLV2-24UV2-365). Choose between M12 connectors and flying leads. Refer to P.5 for details.

Direct Lighting	LDR2 LDR2-LA LDR-LA1 SQR SQR-TP
Diffused Lighting	HPR2 LFR LKR FPR FPQ2
Direct Lighting	LDL2 LDLB HLDL2 HL
Diffused Lighting	TH2 (5 types) TH LFL HPD2 LDM2 LAV PDM LFX3 LFX3-PT LFX2 LFV3
Colimated Lighting	MSU MFU
Strobe Lighting	PF
Water-proof	HLDR-IP/ IQ/HSL-PCL
Ultraviolet Lighting	UV2 UV LNSP-UV-FN
Infrared Lighting	IR2
Intensity Control	IU
Spot Lighting, Etc.	HLV2 LV LSP HFS/HFR HLV2-NR HLV2-3M-RGB-3W PFBR PFB2
Convergent Lighting	LNLP LNSP2 LNSP Coaxial Units LNSP-FN LN/LN-HK
Diffused Lighting	LNSD LND2 HLND LT LNV/HLDN
Oblique Angled Lighting	LNDG LNIS LNIS-FN
Lenses	Telecentric Lens Macro Lens