

Solutions for an extensive range of applications

High-Intensity White LED Lights

SVY2



Application Examples with the "SW2" Type High-intensity White LED Lights vs. the Competition

The "SW2" high-intensity white LED lights offer intensity, spectrum, and lifetime.

- To replace halogen or high-frequency fluorescent lights
- To image multicolored parts or products
- To use as a light source for color print quality inspections
- To use for applications requiring more light than legacy white LED lights could provide

The SW2 Series replace halogen or high-frequency fluorescent lights.

[Compare these images of print characters on the bottom Food package]



To image multicolored parts or products

[Compare these images of characters printed on fuses]



To use as a light source for color print quality inspection

[Compare these images of printing on a cap]



*LWD: Light Work Distance (Distance between the bottom of light and top of object)

*Imaging equipment used: * 90-mm fluorescent ring light, * 65-mm ring light ring guide with 50-watt halogen light source

*The sample works used in this catalog were purchased and processed by CCS, and they do not represent their original qualities and performances.

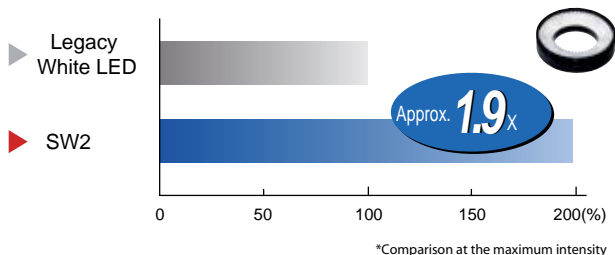
Solve a More Extensive Range of Applications with the "SW2" Type High-intensity White LED Lights

New LED brighter models and CCS design expertise enables double the light intensity of legacy white LEDs and opens up a range of applications and line speeds not previously suitable for LED based light sources

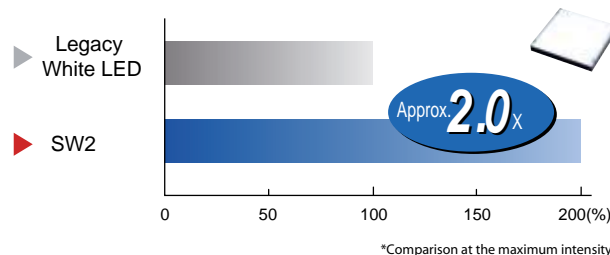
The "SW2" Type lights provide increased light intensity compared to that of conventional lights, responding to versatile and extensive lighting applications.

*Data shown here is for comparison and gives no guarantee of performance.

● Luminosity comparison between a legacy white LED light and the SW2 light(Standard package LED)



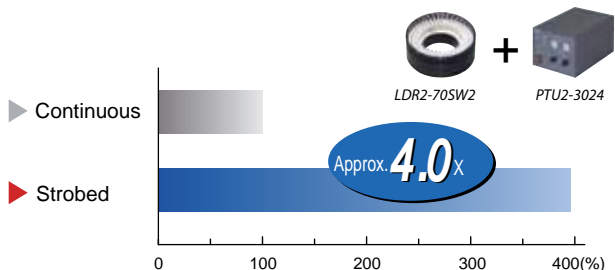
● Luminosity comparison between a legacy white LED light and the SW2 light (Diffused chip LED)



All SW2 lights can be strobed with a CCS strobe power supply to achieve further intensity increases for the short exposure times of fast moving applications.

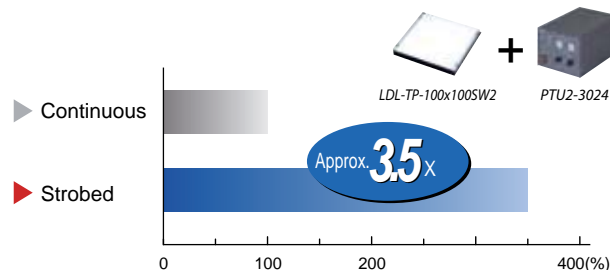
* Data shown here is for comparison and gives no guarantee of performance.

● Luminosity comparison between the SW2 standard package LED light at maximum continuous intensity and strobed with a CCS strobing power supply



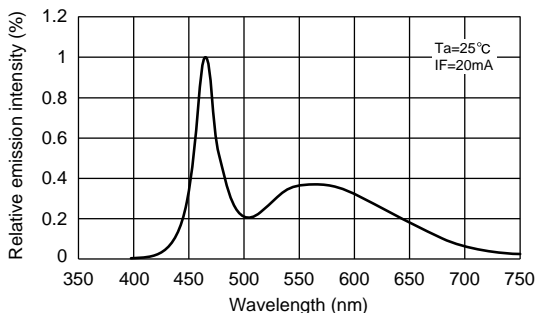
*Comparison with a LDR2-70SW2 light and PTU2-3024 strobing power supply providing a 500-microsecond strobe pulse & LDR2-70SW2 imaged with a 500-microsecond exposure time (continuous), both lights at maximum intensity

● Luminosity comparison between the SW2 diffused chip type LED light at maximum continuous intensity and strobed with a CCS strobing power supply

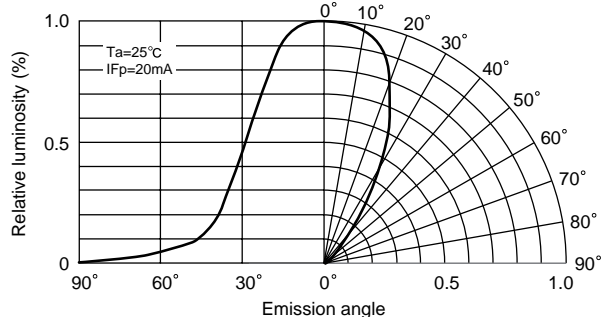


* Comparison with a LDL-TP-100 x100SW2 light and PTU2-3024 strobing power supply providing a 500-microsecond strobe pulse & LDL-TP-100 x100SW2 imaged with a 500-microsecond exposure time (continuous), both lights at maximum intensity

● Emission spectrum of SW2 type high-intensity white LEDs



● Directional characteristics of SW2 type high-intensity white LEDs (standard package type)



Line-up of 7 Series and 36 Models

SW2 Type includes 7 light types in 36 different models to solve most white light applications.

● SW2 Line-up

■ LDR2 Series



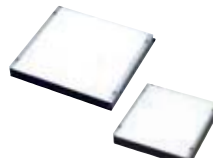
■ LDR2-LA Series



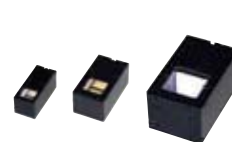
■ LDL Series



■ LDL-TP Series



■ LRV/LRV2/LRV2-CP Series



Reliable Vision Lighting with the SW2 Type of High-intensity White LED Lights

Typical Applications Imaged with the SW2 Type

Typical imaging with the "SW2" High-intensity white LED lights

Example image



Character Verification on a pharmaceutical product package

Halogen ring light



Shutter speed: 1/1000
LWD : 40 mm
Light intensity: 100%

High-intensity White LED Light SW2



Shutter speed: 1/1000
LWD : 10 mm
Light intensity: 75%

Example image



Lead, print, and defect inspection of electronic component package

Fluorescent ring light



Shutter speed: 1/1000
LWD : 20 mm
Light intensity: 100%

High-intensity White LED Light SW2



Shutter speed: 1/1000
LWD : 20 mm
Light intensity: 75%

Example image



Dimension gauging and scratch detection on metal parts

White LED coaxial light



Shutter speed: 1/4000
LWD : 50 mm
Light intensity: 75%

High-intensity White LED Light SW2



Shutter speed: 1/4000
LWD : 50 mm
Light intensity: 75%

Example image



Print inspection or reading characters on food packaging

White LED backlight



Shutter speed: 1/4000
LWD : 0 mm
Light intensity: 75%

High-intensity White LED Light SW2




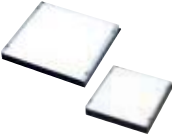



Shutter speed: 1/4000
LWD : 0 mm
Light intensity: 75%

*LWD: Light Work Distance (Distance between the light and the object)

*Imaging equipment used: Ø90-mm fluorescent ring light, Ø65-mm ring light ring guide and 50W halogen light source.

*The sample works used in this catalog were purchased and processed by CCS, and they do not represent their original qualities and performances.

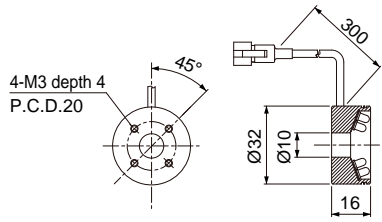
Series	Model	Power Consumption	Option	Dimensions(mm)	Weight (g)
	LDR2-32SW2	24V/1.9W	D • P • A	O.D.Ø32,I.D.Ø10,H.16	30
	LDR2-42SW2	24V/2.7W	D • P • A	O.D.Ø42,I.D.Ø18,H.18	50
	LDR2-50SW2	24V/3.8W	D • P • A	O.D.Ø50,I.D.Ø28,H.16	50
	LDR2-70SW2	24V/7.6W	D • P*	O.D.Ø70,I.D.Ø35,H.27	120
	LDR2-90SW2	24V/14W	D • P • A	O.D.Ø90,I.D.Ø50,H.20	170
	LDR2-90-30SW2	24V/18W	—	O.D.Ø90,I.D.Ø30,H.20	220
	LDR2-120SW2	24V/28W	D • P • A	O.D.Ø120,I.D.Ø60,H.31.5	500
	LDR2-48SW2-LA	24V/3.1W	D	O.D.Ø48,I.D.Ø23,H.18.5	50
	LDR2-74SW2-LA	24V/5.7W	D	O.D.Ø74,I.D.Ø48,H.19	90
	LDR2-100SW2-LA	24V/12W	D	O.D.Ø100,I.D.Ø70,H.22	170
	LDR2-132SW2-LA	24V/16W	D	O.D.Ø132,I.D.Ø96,H.22	270
	LDR2-170SW2-LA	24V/22W	D	O.D.Ø170,I.D.Ø134,H.22	350
	LDR2-208SW2-LA	24V/28W	D	O.D.Ø208,I.D.Ø172,H.22	380
	LDL-34x8SW2	24V/1.6W	D • P	Outer size44 x 10.4,H.15	15
	LDL-42x15SW2	24V/1.9W	D • P	Outer size52 x 17,H.20	35
	LDL-74x27SW2	24V/6.9W	D • P	Outer size86 x 28.8,H.18	80
	LDL-82x15SW2	24V/3.8W	D • P	Outer size92 x 17,H.20	60
	LDL-130x15SW2	24V/6.1W	D • P*	Outer size140 x 17,H.21	85
	LDL-180x16SW2	24V/8.4W	D • P*	Outer size191.4 x 18,H.21	110
	LDL-247x16SW2	24V/12W	D • P*	Outer size257 x 18.2,H.22	170
	LDL-TP-27x27SW2	24V/1.7W	L	Outer size37 x 37,H.15	35
	LDL-TP-43x35SW2	24V/2.7W	L	Outer size53 x 45,H.15	50
	LDL-TP-51x51SW2	24V/5.4W	L	Outer size61 x 61,H.15	70
	LDL-TP-63x60SW2	24V/6.8W	L	Outer size73 x 70,H.15	85
	LDL-TP-83x75SW2	24V/11W	L	Outer size95 x 85,H.15	135
	LDL-TP-100x100SW2	24V/16W	L	Outer size112 x 110,H.15	180
	LFV-34SW2	24V/2.2W	—	Outer size46 x 46,H.41	75
	LFV-40SW2	24V/3.1W	—	Outer size64 x 60,H.63	180
	LFV2-35SW2	24V/3.1W	P • L	Outer size75 x 46,H.41	160
	LFV2-50SW2	24V/8.4W	P • L	Outer size94 x 60,H.59	260
	LFV2-70SW2	24V/14W	P • L	Outer size120 x 84,H.80	455
	LFV2-100SW2	24V/23W	P • L	Outer size148 x 110,H.107	760
	LFV2-130SW2	24V/38W	P • L	Outer size182 x 142,H.137	1,335
	LFV2-200SW2	24V/46W	P • L	Outer size272 x 230,H.209.6	5,220
	LFV2-CP-13SW2	12V/0.6W	—	Outer size46.6 x 20,H.20	45
	LFV2-CP-18SW2	24V/1.6W	—	Outer size56 x 30,H.24	60

In the "Option" column, "D" stands for Diffusion plate, "P" for Polarizing plate, "A" for "Adapter" (used to mount the diffusion plate or the polarizing plate), and "L" for Light control film. Polarizing plates marked with an asterisk "" are equipped with a transparent acrylic plate used for mounting. For details, refer to the List of Options on the last page of this leaflet.

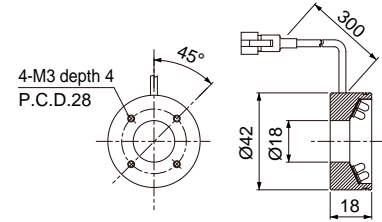
Specifications

LED emission color	White	
Color temperature(Typ.)	5500K	
Input Voltage	12VDC(LFV2-CP-13SW2)	24VDC
Connector	SMR-02V-B(JST)	SMR-03V-B(JST)
Polarity and Signal	1:Anode(+)Brown,2:Cathode(-)Blue	1:Anode(+)Brown,2:NC,3:Cathode(-)Blue
Cable Length	0.3m	
Case material	Aluminum,SPCC,POM	
Operating Conditions	Temperature: 0 - 40°C , Humidity: 20 - 85%RH (non-condensing)	
Storage Conditions	Temperature: -20 - 60°C , Humidity: 20 - 85%RH (non-condensing)	
Laser Class	Class 2 LED product: Do not look into or touch the beam directly.	

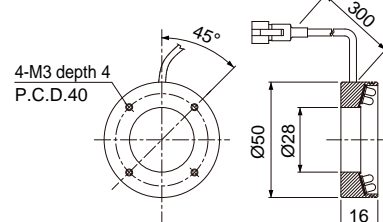
LDR2-32SW2



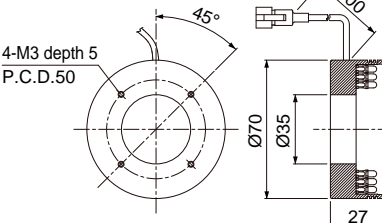
LDR2-42SW2



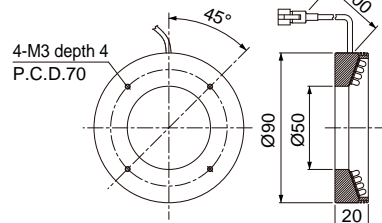
LDR2-50SW2



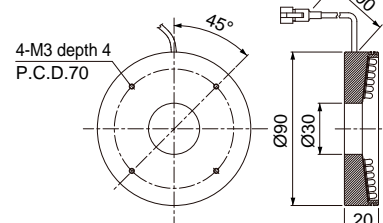
LDR2-70SW2



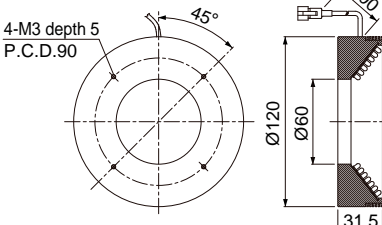
LDR2-90SW2



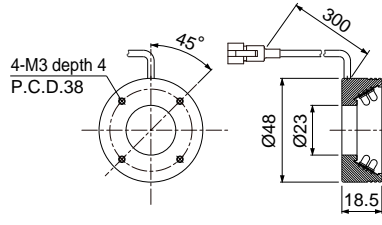
LDR2-90-30SW2



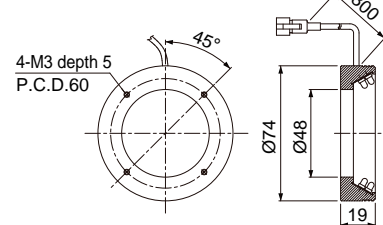
LDR2-120SW2



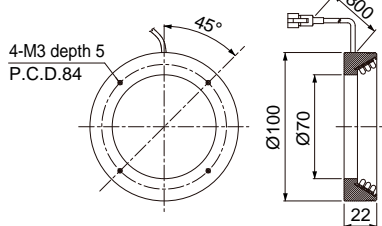
LDR2-48SW2-LA



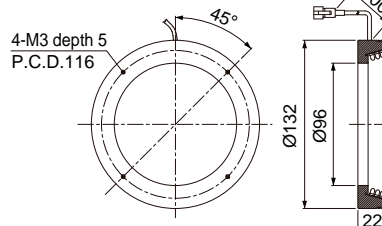
LDR2-74SW2-LA



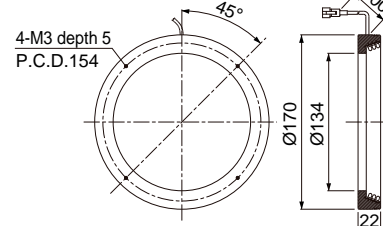
LDR2-100SW2-LA



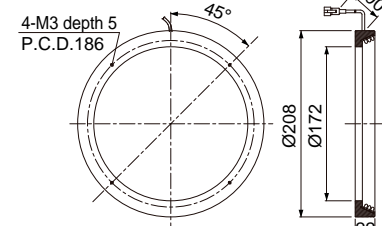
LDR2-132SW2-LA



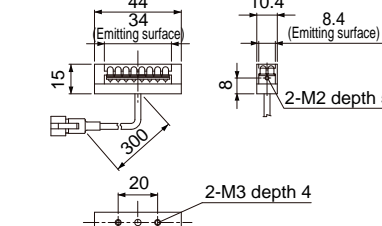
LDR2-170SW2-LA



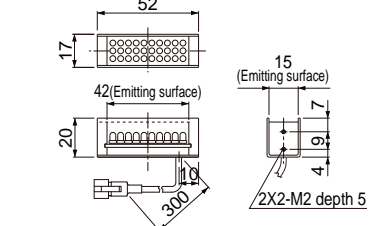
LDR2-208SW2-LA



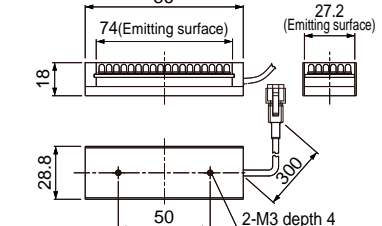
LDL-34x8SW2



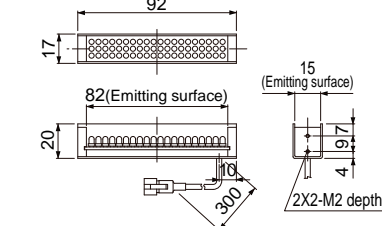
LDL-42x15SW2



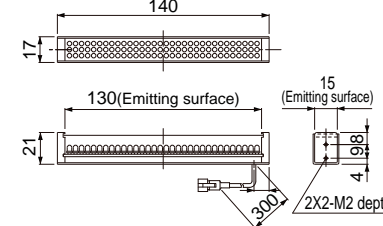
LDL-74x27SW2



LDL-92x15SW2



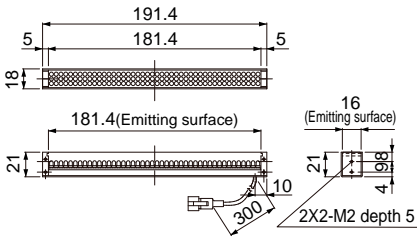
LDL-130x15SW2



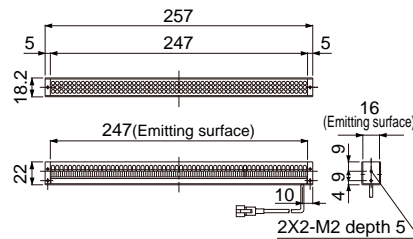
Dimensions (mm)

*Outline dimensions, mounting positions, weight, are common to the conventional SW Type.

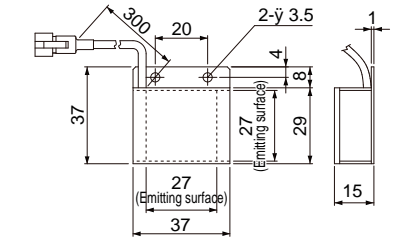
LDL-180x16SW2



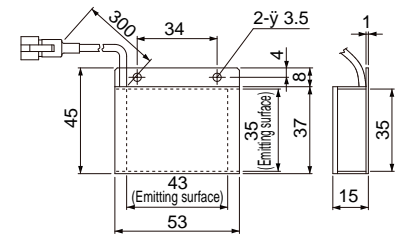
LDL-247x16SW2



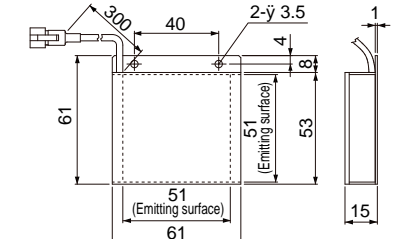
LDL-TP-27x27SW2



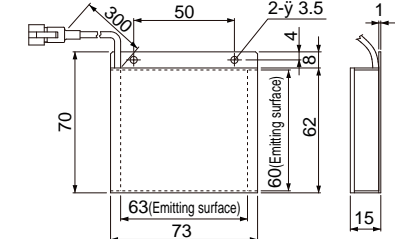
LDL-TP-43x35SW2



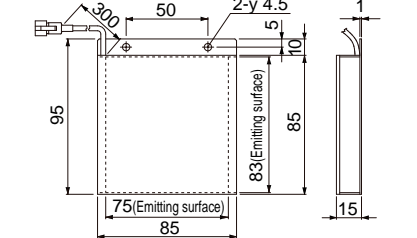
LDL-TP-51x51SW2



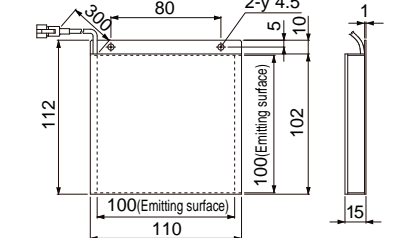
LDL-TP-63x60SW2



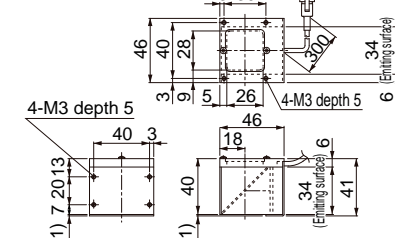
LDL-TP-83x75SW2



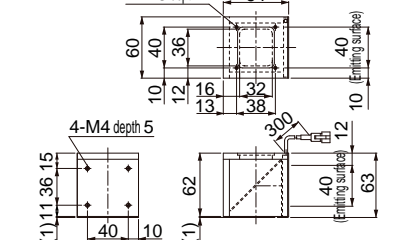
LDL-TP-100x100SW2



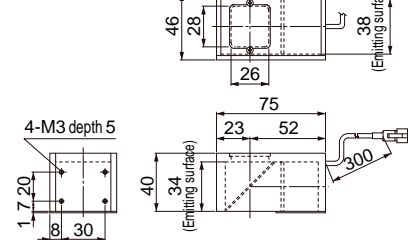
LFV-34SW2



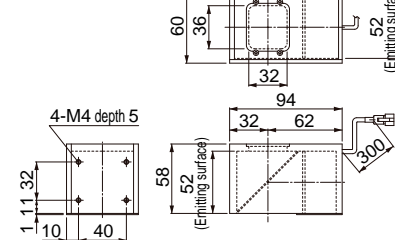
LFV-40SW2



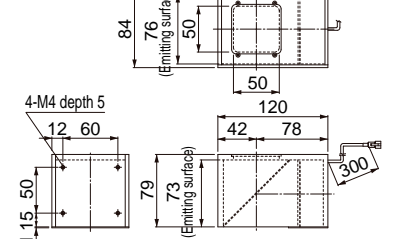
LFV2-35SW2



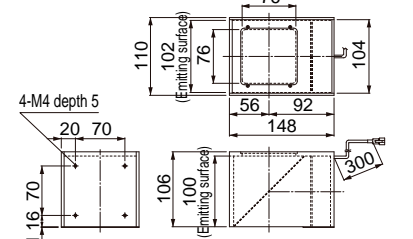
LFV2-50SW2



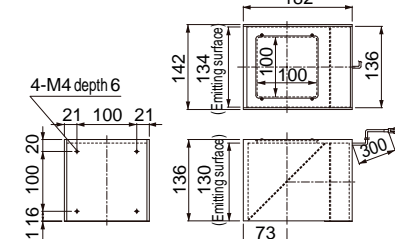
LFV2-70SW2



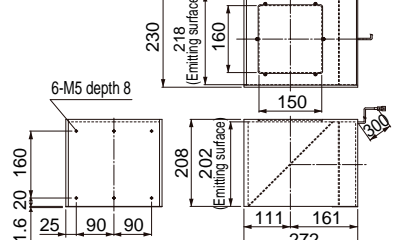
LFV2-100SW2



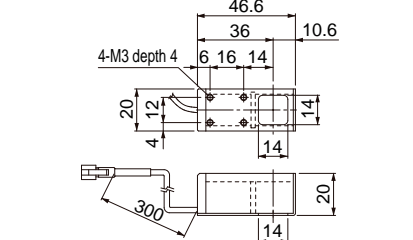
LFV2-130SW2



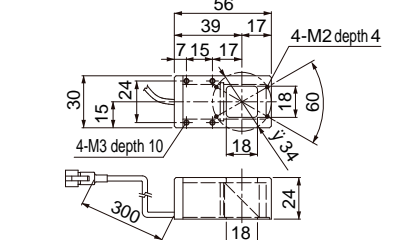
LFV2-200SW2



LFV2-CP-13SW2



LFV2-CP-18SW2



Option *Options are common to the conventional SW Type.

■ Polarizing Filters (PLseries)



Attaches to the filter screw hole on the camera. Works with a polarizing plate at right to eliminate glare from the light.

Model	Size
PL-25	M25.5 P0.5
PL-25-NL	M25.5 P0.5 (With lock)
PL-27	M27.0 P0.5
PL-27-NL	M27.0 P0.5 (With lock)
PL-30	M30.5 P0.5
PL-30-NL	M30.5 P0.5 (With lock)
PL-40	M40.5 P0.5
PL-40-NL	M40.5 P0.5 (With lock)
PL-46	M46.0 P0.75

■ Polarizing Plates (PLseries)



Attaches to many different lights. Works in combination with the polarizing filter at left to prevent glare.

Model	
PL-LDR-32	PL-LDL-130x15*
PL-LDR-42	PL-LDL-180x16*
PL-LDR-50	PL-LDL-247x16*
PL-LDR-2-70 *	PL-LFV2-35
PL-LDR-90	PL-LFV2-50
PL-LDR-120-40	PL-LFV2-70
PL-LDL-34x8	PL-LFV2-100
PL-LDL-42x15	PL-LFV2-130
PL-LDL-74x27	PL-LFV2-200
PL-LDL-82x15	

* The polarizing plate indicated with "*" comes with a transparent acrylic plate for attaching.
* PL-LDR-2-70 comes with an adaptor for installation.

■ Light Adapter Rings (ADseries)



Used to attach diffusion plates and polarizing filters to different lights.

Model	
AD-LDR-32	AD-LDR-90
AD-LDR-42	AD-LDR-120
AD-LDR-50	

■ Lens Attachment Rings (MRseries)



Allows you to attach a light directly to the filter screw section of the lens. Ideal for cramped installation locations.

Model	Size
MR-LDR-32-M25	M25.5 P0.5
MR-LDR-32-M27	M27.0 P0.5
MR-LDR-32-M30	M30.5 P0.5
MR-LDR-50-M25	M25.5 P0.5
MR-LDR-50-M27	M27.0 P0.5
MR-LDR-50-M30	M30.5 P0.5

■ Diffusion Plates (DFseries)



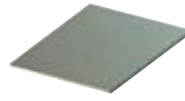
Attaches to the LDR2, LDR2-LA and SQR series of lights to reduce shine from glossy applications.

Model	
DF-LDR-32	DF-LDR-48LA
DF-LDR-42	DF-LDR-74LA
DF-LDR-50	DF-LDR-100LA
DF-LDR-70	DF-LDR-132LA
DF-LDR-90	DF-LDR-170LA
DF-LDR-120-45	DF-LDR-208LA

Attaches to the LDQ and LDL series of bar-type lights to reduce shine from glossy applications.

Model	
DF-LDL-34x8	DF-LDL-130x15
DF-LDL-42x15	DF-LDL-180x16
DF-LDL-74x27	DF-LDL-247x16
DF-LDL-82x15	

■ Light Control Films (LCseries)



Converts diffuse light into parallel light via the use of fine louvers arranged at very small intervals.

Mounted to back lights to suppress light diffraction for visual inspections, enabling sharp imaging of profiles.

Model	
LC-LDL-TP-27x27	LC-LDL-TP-63x60
LC-LDL-TP-43x35	LC-LDL-TP-83x75
LC-LDL-TP-51x51	LC-LDL-TP-100x100

Mounted to coaxial lights to increase light parallelism, enabling distinct imaging of object singularity.

Model	
LC-LFV2-35	LC-LFV2-100
LC-LFV2-50	LC-LFV2-130
LC-LFV2-70	LC-LFV2-200

Environmentally Friendly

The High-intensity White LED Lights SW2 Type

Conforms to the RoHS Directive.

For detailed information on RoHS Directive and compatibility status of products, please visit the CCS's website.

<http://www.ccs-grp.com>

Caution

- All specifications or design are subject to change without notice.
- Samples of the work images described in this catalog are referential for our customers to select lights. When selecting, be sure to check the functions and conditions of the equipment. In addition, the sample works were purchased and processed by our company, and they do not represent their original qualities and performances.

