Flat Lights
LFL series

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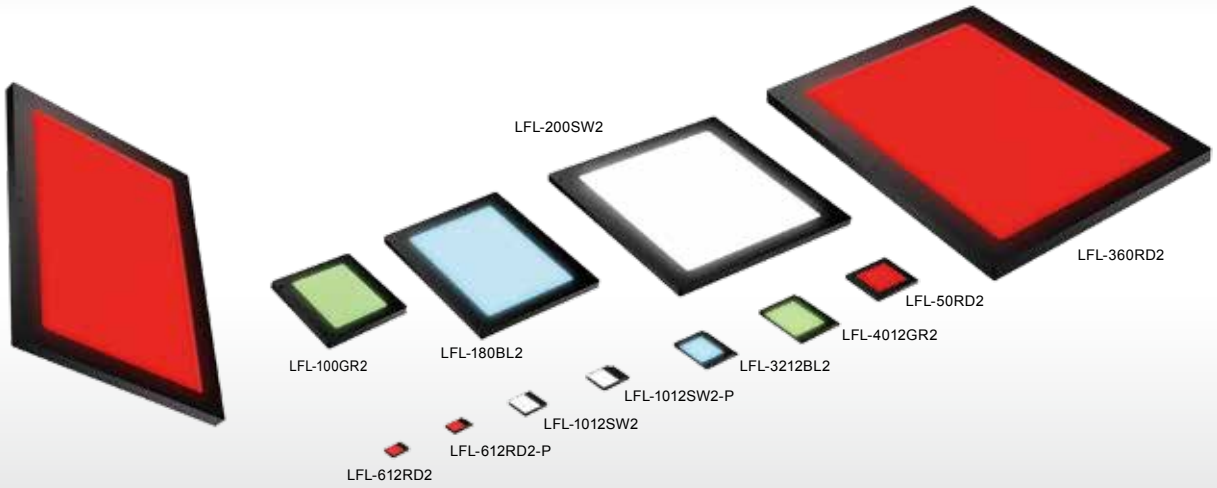
You can also use your smartphone or cell phone.

Diffused illumination from a flat emitting surface



Applications Dimension measuring, visual inspection, foreign material inspections, liquid level inspection, burr inspection of metal parts, inspection for tears or stains on packaging, etc.

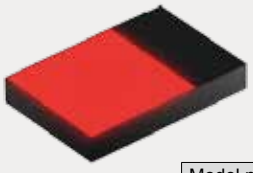
Rich lineup with 43 models

Rich lineup

The lineup consists of 35 models, with 9 sizes of emitting surfaces from 25 x 25 mm to 360 x 250 mm in each color. The rich lineup has a total of 43 models, including the LFL-612-P and LFL-1012-P, which add a plate for installation to the housing.

Energy-saving type that is light-weight and thin

The Light Unit's thin design, with a minimum thickness of 6 mm, allows for space-saving installation.

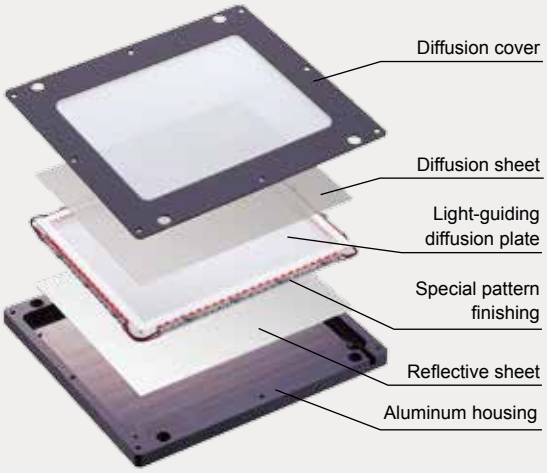


Model name	LFL-612RD2
Power consumption	24 V / 0.6 W
Weight	25 g

Uses a unique method of light guidance

LEDs are placed around the light-guiding diffusion plate. The special pattern finishing achieves illumination with even greater diffusion.

Cross-section image of the LFL-100



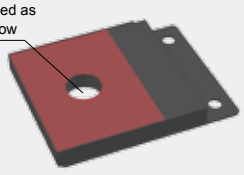
Custom orders

Please contact your CCS sales representative.

E.g.: Different shape

Format — Allows you to create a Light Unit with a hole in it and pass things through the center

Can also be used as a camera window



Customizable items

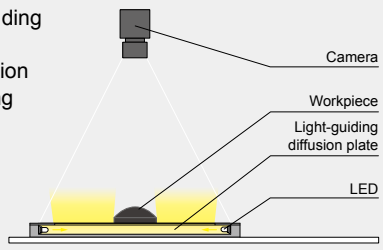
External/internal diameter | Wavelength/ color | Increase output | Cable length | Illuminating angle | Format/ material | Connector format | Installation/ mounting

Etc.

Example configuration

LEDs embedded around the outside of a square light-guiding diffusion plate. Diffused illumination from a flat emitting surface.

LFL-100



Various technical documents available.
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Imaging example : Imaging of the level of liquid inside a glass container

Description	Liquid volume inspection
Workpiece	Glass container
Conventional lighting	LED Ring Light
New lighting	LFL-180SW2
Result	Emphasizes the level of the liquid

■ Workpiece image

Glass container

■ LED Ring Light

It is difficult to form an image of the liquid level due to surface reflection.

■ LFL-180SW2

It is possible to form an image of the liquid level without surface reflection.

Imaging example : Imaging of the level of liquid inside a plastic container

Description	Liquid volume inspection
Workpiece	Plastic container
Conventional lighting	LED Ring Light
New lighting	LFL-180SW2
Result	Emphasizes the level of the liquid

■ Workpiece image

Plastic container

■ LED Ring Light

It is difficult to form an image of the liquid level due to surface reflection.

■ LFL-180SW2

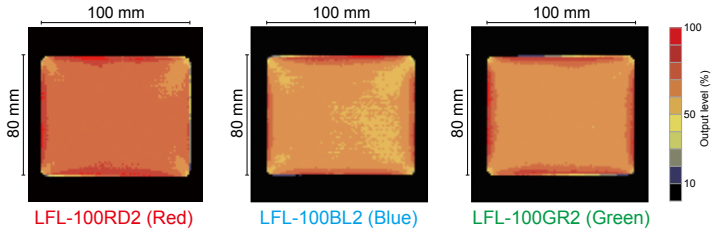
It is possible to form an image of the liquid level without surface reflection.

Data : Uniformity (Representative example)

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

LFL-100

Uniformity (Relative radiance)



LFL-100RD2 (Red) LFL-100BL2 (Blue) LFL-100GR2 (Green)

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LDR2
LDR2-LA
LDR-LA1
SQR
SQR-TP
Direct Lighting
HPR2
LFR
LKR
FPR
FPQ2
Diffused Lighting
LDL2
LDLB
HLDL2
HL
Direct Lighting
TH2 (5 types)
TH
LFL
HPD2
LDM2
LAV
PDM
LFX3
LFX3-PT
LFX2
LFV3
Diffused Lighting
MSU
MFU
Collimated Lighting
PF
Strobe Lighting
HLDR-IP/IQ/HSL-PCL
Water-proof
UV2
UV
LNSP-UV-FN
Ultraviolet Lighting
IR2
Infrared Lighting
IU
Intensity Control
HLV2
LV
LSP
HFS/HFR
HLV2-NR
HLV2-3M-RGB-3W
PFBR
PFB2
Spot Lighting, Etc.
LNLP
LNSP2
LNSP
Coaxial Units
LNSP-FN
LN/LN-HK
Convergent Lighting
LNSD
LND2
HLND
LT
LNV/HLDN
Diffused Lighting
LNDG
LNIS2
LNIS
LNIS-FN
Oblique-Angled Lighting
Telecentric Lens
Macro Lens
Lenses

LFL series

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Lineup

End of the model name: -P: Type with an affixing plate

Model name	LED color	Power consumption	Peak wavelength/ correlated color temperature	Options	Extension cables	Recommended Control Units	Weight
LFL-612RD2*1	Red	24 V / 0.6 W	630 nm	–	FCB*4 Straight Cable FCB-W 2-branch Cable FCB-F 4-branch Cable FRCB Robot Cable *4 The cables with a model name that ends with "-ME7" or "-EL2" are not included.	PD3*1 CC-ST-1024 PSB POD*2	25 g
LFL-612SW2	White	24 V / 0.4 W	5,500 K				20 g
LFL-612BL2	Blue		470 nm				25 g
LFL-612GR2	Green		525 nm				
LFL-612RD2-P*1	Red	24 V / 0.6 W	630 nm				25 g
LFL-612SW2-P	White	24 V / 0.4 W	5,500 K				
LFL-612BL2-P	Blue		470 nm				
LFL-612GR2-P	Green		525 nm				
LFL-1012RD2	Red	24 V / 0.6 W	630 nm				35 g
LFL-1012SW2	White	24 V / 0.8 W	5,500 K				30 g
LFL-1012BL2	Blue		470 nm				35 g
LFL-1012GR2	Green		525 nm				
LFL-1012RD2-P	Red	24 V / 0.6 W	630 nm				35 g
LFL-1012SW2-P	White	24 V / 0.8 W	5,500 K				30 g
LFL-1012BL2-P	Blue		470 nm				35 g
LFL-1012GR2-P	Green		525 nm				
LFL-3212RD2	Red	24 V / 1.6 W	630 nm				80 g
LFL-3212SW2	White	24 V / 2.3 W	5,500 K				
LFL-3212BL2	Blue		470 nm				
LFL-3212GR2	Green		525 nm				
LFL-4012RD2	Red	24 V / 2.1 W	630 nm				105 g
LFL-4012SW2	White	24 V / 2.7 W	5,500 K			PD3 CC-ST-1024	110 g
LFL-4012BL2	Blue		470 nm			PSB POD*2	105 g
LFL-4012GR2	Green		525 nm				
LFL-50RD2	Red	24 V / 2.1 W	630 nm				50 g
LFL-50SW2	White	24 V / 3.1 W	5,500 K				
LFL-50BL2	Blue	24 V / 3.0 W	470 nm				
LFL-50GR2	Green		525 nm				
LFL-100RD2	Red	24 V / 5.1 W	630 nm	Light control film			215 g
LFL-100SW2	White	24 V / 5.3 W	5,500 K				220 g
LFL-100BL2	Blue		470 nm				215 g
LFL-100GR2	Green		525 nm				
LFL-180RD2	Red	24 V / 7.1 W	630 nm				375 g
LFL-180SW2	White	24 V / 9.1 W	5,500 K				370 g
LFL-180BL2	Blue		470 nm				375 g
LFL-180GR2	Green		525 nm				
LFL-200RD2	Red	24 V / 12 W	630 nm				500 g
LFL-200SW2	White		5,500 K			PD3	
LFL-200BL2	Blue		470 nm			PSB POD*2	495 g
LFL-200GR2	Green		525 nm				
LFL-360RD2	Red	24 V / 30 W	630 nm	–		PD3	2,360 g
LFL-360SW2	White	24 V / 37 W	5,500 K			PSB*3 POD*2 *3 Can only use red.	2,320 g
LFL-360BL2	Blue	24 V / 38 W	470 nm				

LED Properties: Spectral Distribution ▶ P.306 | Extension Cables ▶ P.296 | Control Unit Selection Guide ▶ P.243 | List of Control Unit Specifications ▶ P.245

*1 These red lights cannot be used with the PD3-5024-4-SI or PD3-5024-4-ET Control Unit.
*2 For information on the combination of Light Units and POD-series Control Unit, please refer to our website. http://www.ccs-grp.com/lnk/qr/pod

Options

In this plastic film are fine louvers with extremely narrow gaps between them. It reduces light diffusion in a particular direction and increases parallelism.

Light control film

Model name	Applicable Light Unit (Common for all colors)
LC-LFL-100	LFL-100
LC-LFL-180	LFL-180
LC-LFL-200	LFL-200

▶ P.292

Various technical documents available. PDF Drawings | DXF Drawings | 3D CAD | Instruction Guides | Product Fliers | Imaging Samples | Data Sheets | Examples of Custom Ordered Products

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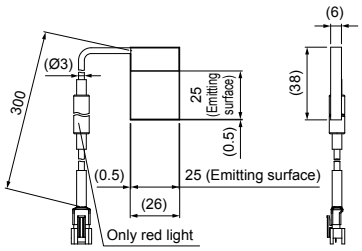
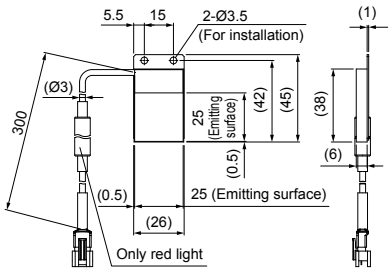
Dimensions (mm)

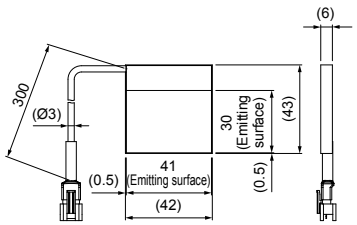
LFL-612RD2/SW2/BL2/GR2



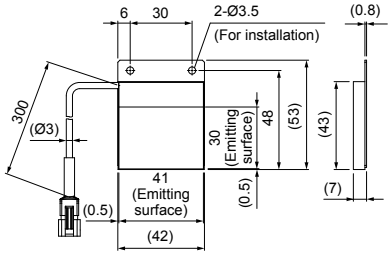
LFL-612RD2-P/SW2-P/BL2-P/GR2-P



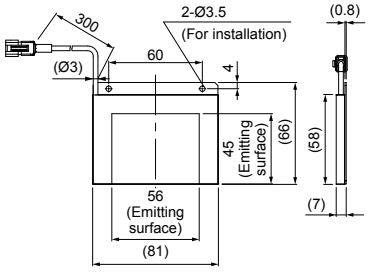
LFL-1012RD2/SW2/BL2/GR2



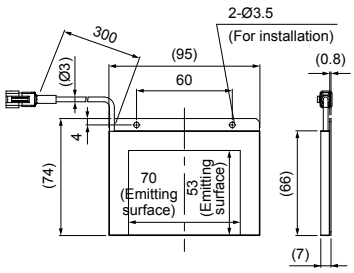
LFL-1012RD2-P/SW2-P/BL2-P/GR2-P



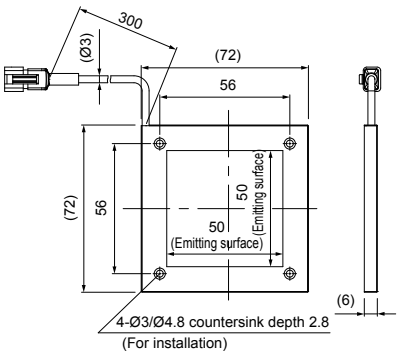
LFL-3212RD2/SW2/BL2/GR2



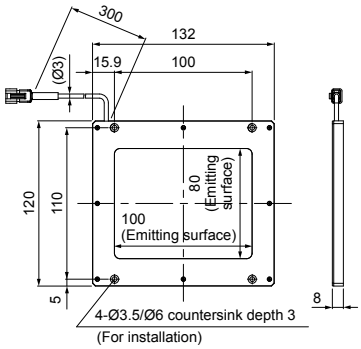
LFL-4012RD2/SW2/BL2/GR2



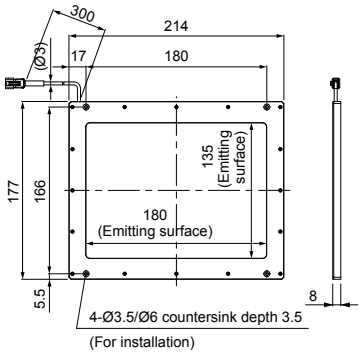
LFL-50RD2/SW2/BL2/GR2



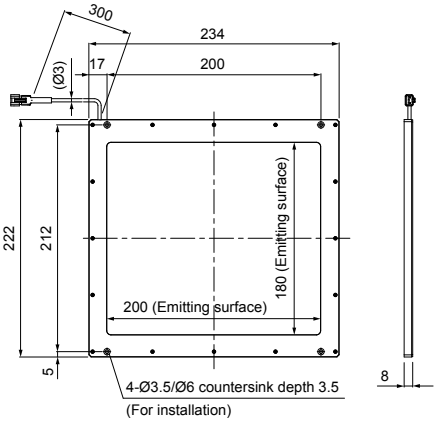
LFL-100RD2/SW2/BL2/GR2



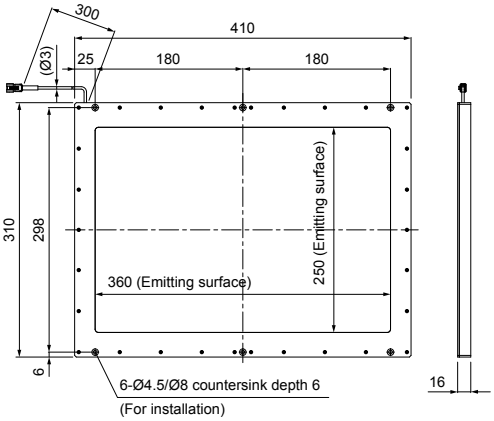
LFL-180RD2/SW2/BL2/GR2



LFL-200RD2/SW2/BL2/GR2



LFL-360RD2/SW2/BL2



You can change the connectors of the Light Unit cable. Choose between M12 connectors and flying leads. Refer to P.5 for details.

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