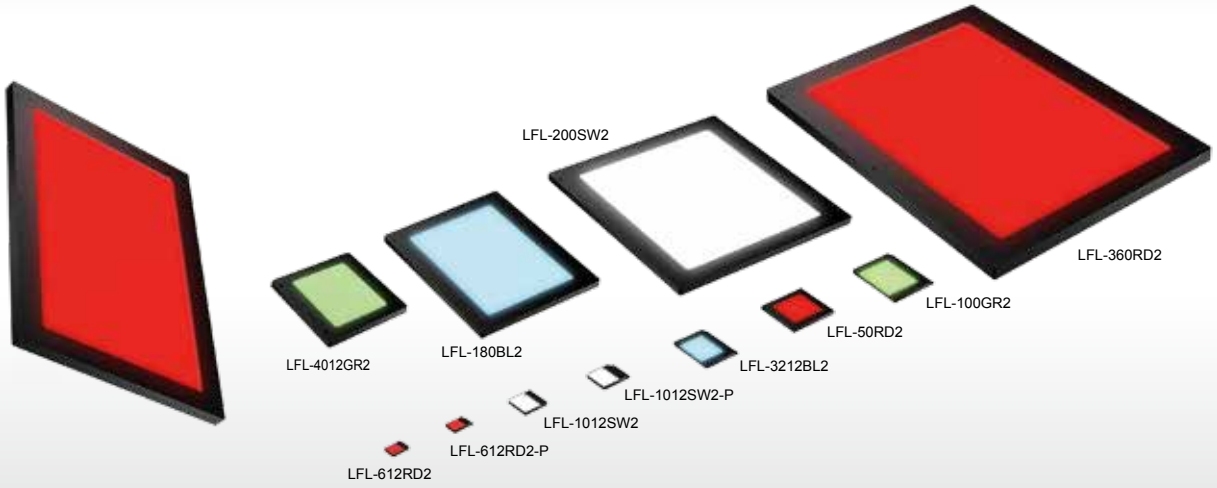
Flat Lights
LFL series

Diffused illumination from a flat emitting surface



Applications Dimension measuring, visual inspection, foreign material inspections, liquid level inspection, burr inspection for metal parts, and inspection for tears / 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

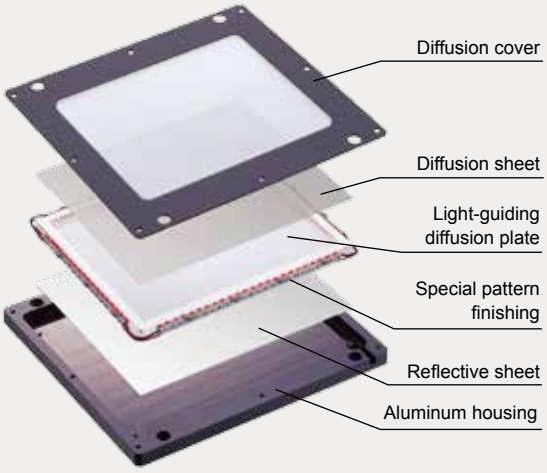
The Light Unit's thin design, with a minimum thickness of 6 mm, allows for space-saving installation.

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



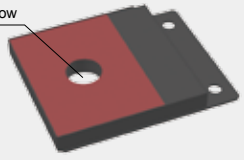
Custom orders

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

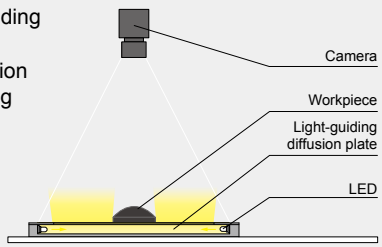
External/internal diameter | Wavelength/ color | Increase output | Cable length | Illuminating angle | Format/ material | Connector format | Installation/ mounting

Etc.

Example configuration

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

LFL-100



STEMMER® IMAGING

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

Description	Liquid volume inspection
Workpiece	Glass container
Before the proposal	LED Ring Light
After the proposal	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
Before the proposal	LED Ring Light
After the proposal	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

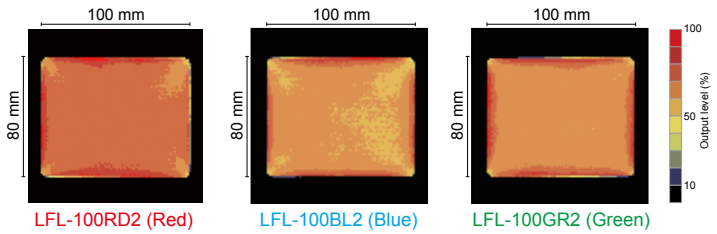
It is possible to form an image of the liquid level without surface reflection.

Data : Uniformity graph (Representative example)

*The graph included is for reference only and does not guarantee the quality of this product.

LFL-100

Uniformity graph (Relative radiance)



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

LFL series

Lineup

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

Model name	LED color	Power consumption	Peak wavelength/ correlated color temperature	Options	Recommended Control Units	Weight
LFL-612RD2*1	Red	24 V / 0.6 W	630 nm	–	PD3 CC-ST-1024 PSB PTU2	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	–	PD3 CC-ST-1024 PSB PTU2	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	–	PD3 CC-ST-1024 PSB PTU2	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	–	PD3 CC-ST-1024 PSB PTU2	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	–	PD3 CC-ST-1024 PSB PTU2	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	–	PD3 CC-ST-1024 PSB PTU2	105 g
LFL-4012SW2	White	24 V / 2.7 W	5,500 K			110 g
LFL-4012BL2	Blue		470 nm			105 g
LFL-4012GR2	Green		525 nm			
LFL-50RD2	Red	24 V / 2.1 W	630 nm	Light control film	PD3 CC-ST-1024 PSB PTU2	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	PD3 CC-ST-1024 PSB PTU2	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	Light control film	PD3 CC-ST-1024 PSB PTU2	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		PD3 PSB PTU2	500 g
LFL-200SW2	White		5,500 K			
LFL-200BL2	Blue		470 nm			495 g
LFL-200GR2	Green		525 nm			
LFL-360RD2	Red	24 V / 30 W	630 nm	–	PD3 PSB* *Can only use red.	2,360 g
LFL-360SW2	White	24 V / 37 W	5,500 K			2,320 g
LFL-360BL2	Blue	24 V / 38 W	470 nm			

LED Properties: Light Spectrum ▶ P.234 | Extension Cables ▶ P.222 | Control Unit Selection Guide ▶ P.181 | Control Unit Page ▶ P.185

*1: Cannot be used with the Digital Control Unit PD3-5024-4/10024-8 series.

Options

This is a plastic film which lines up fine louvers with an extremely narrow gap between them. It reduces light diffusion in a certain direction and increases parallelism.

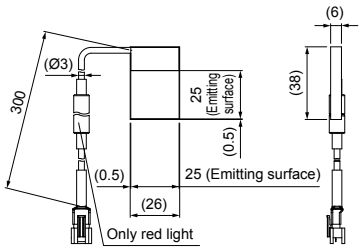
Light control film

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

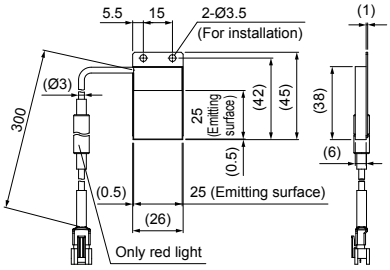
▶ P.218

Dimensions (mm)

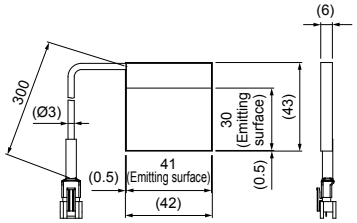
LFL-612RD2/SW2/BL2/GR2



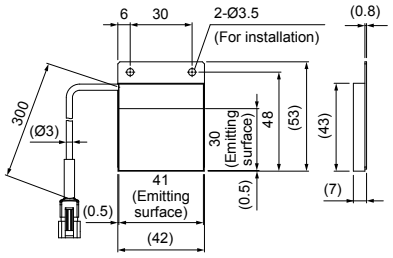
LFL-612RD2-P/SW2-P/BL2-P/GR2-P



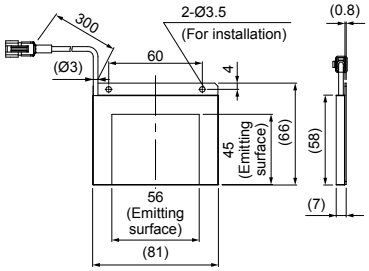
LFL-1012RD2/SW2/BL2/GR2



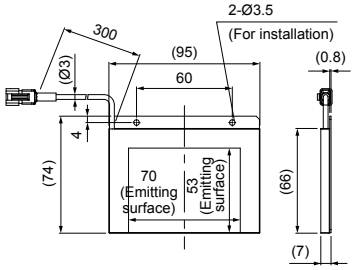
LFL-1012RD2-P/SW2-P/BL2-P/GR2-P



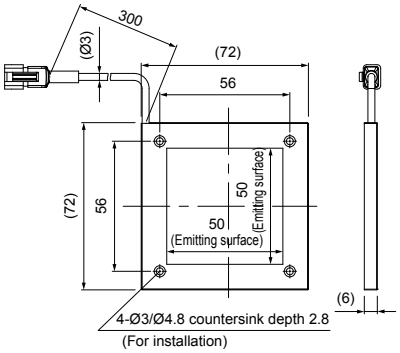
LFL-3212RD2/SW2/BL2/GR2



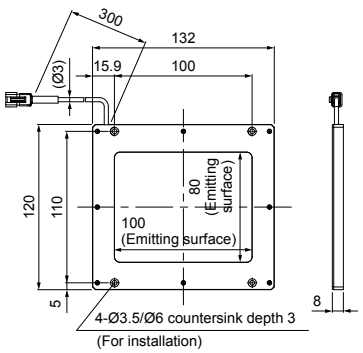
LFL-4012RD2/SW2/BL2/GR2



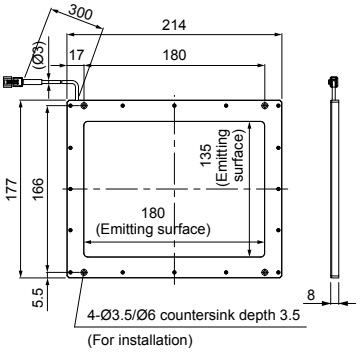
LFL-50RD2/SW2/BL2/GR2



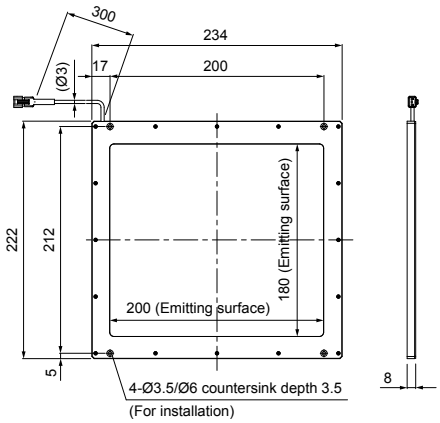
LFL-100RD2/SW2/BL2/GR2



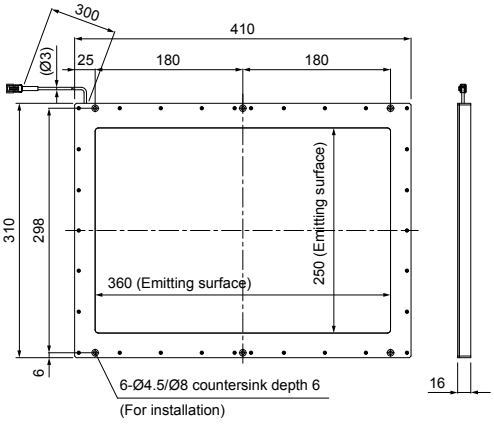
LFL-180RD2/SW2/BL2/GR2



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.125 for details.