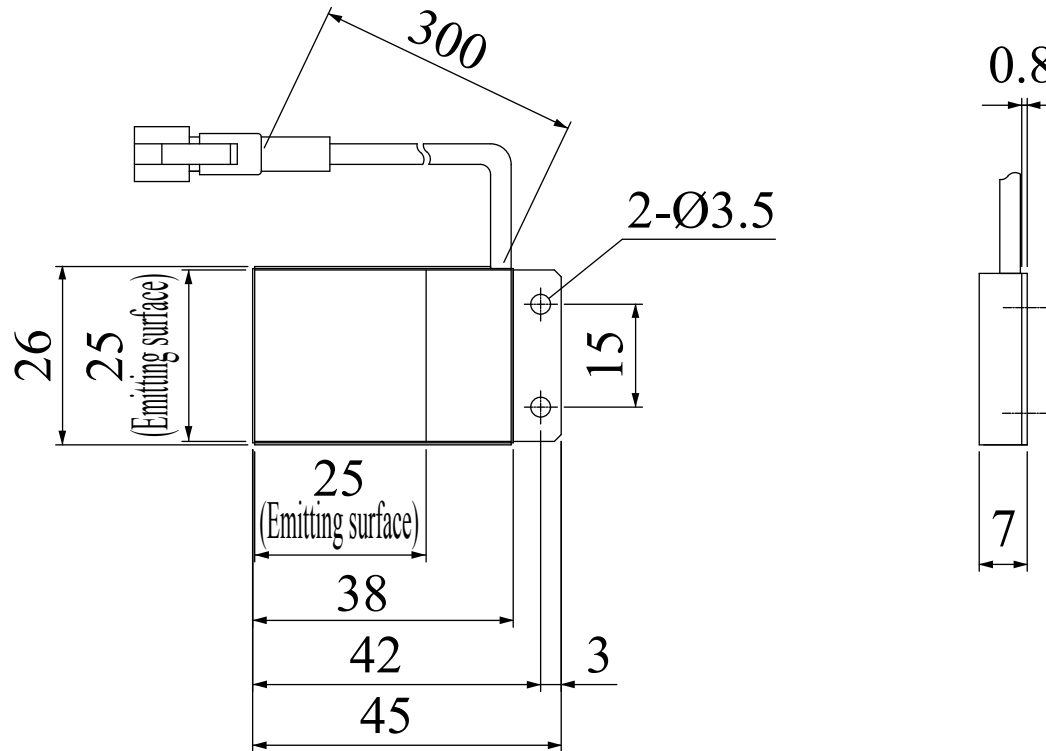


# LFL-612P/-SW-P/-GR-P/-BL-P

Model	LFL-612P	LFL-612-SW-P/-GR-P/-BL-P
Voltage	12V DC	24V DC
Power consumption	0.3W	0.4W
Mass	23g	23g
Connector type	2P (1: +, 2: -)	3P (1: +, 2: NC, 3: -)

Third Angle Projection Units: mm





# Flat Lights

## LFL Series

### Silhouette inspection of an object using uniform lighting.

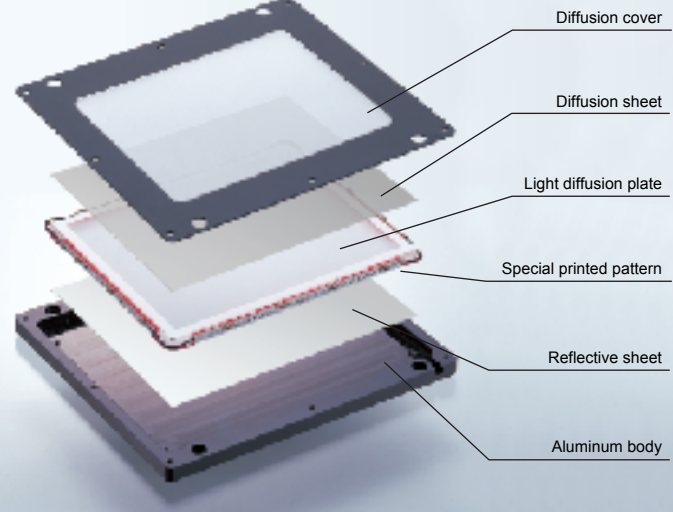
Power-saving backlight system with a very thin design and a very uniform surface light emission profile.



#### Proprietary technology achieves uniform surface light emission

The use of the CCS proprietary light conduction method makes it possible to achieve uniform surface light emission and power conservation.

LFL-100



- Diffusion cover
- Diffusion sheet
- Light diffusion plate
- Special printed pattern
- Reflective sheet
- Aluminum body

In addition, the LEDs that are arranged around the periphery of the light diffusion plate are sealed to the plate with a transparent fixing material. Light from the LEDs is refracted and scattered in a complex manner by the fixing material to reduce directivity and attain a uniform light.

#### Ultra-thin design

The ultra-thin design of the LFL Series is achieved by wrapping the LEDs around the perimeter of a light diffusion plate. Also, by using a special manufacturing process, a very uniform light output is produced that is unparalleled in the industry.

Inspecting for defects in rectangular PET bottles



Inspecting the level of a liquid in bottles



#### Full line-up

White, blue and green colors are available as custom products in addition to the standard red. A wide variety of sizes are available to match the application.

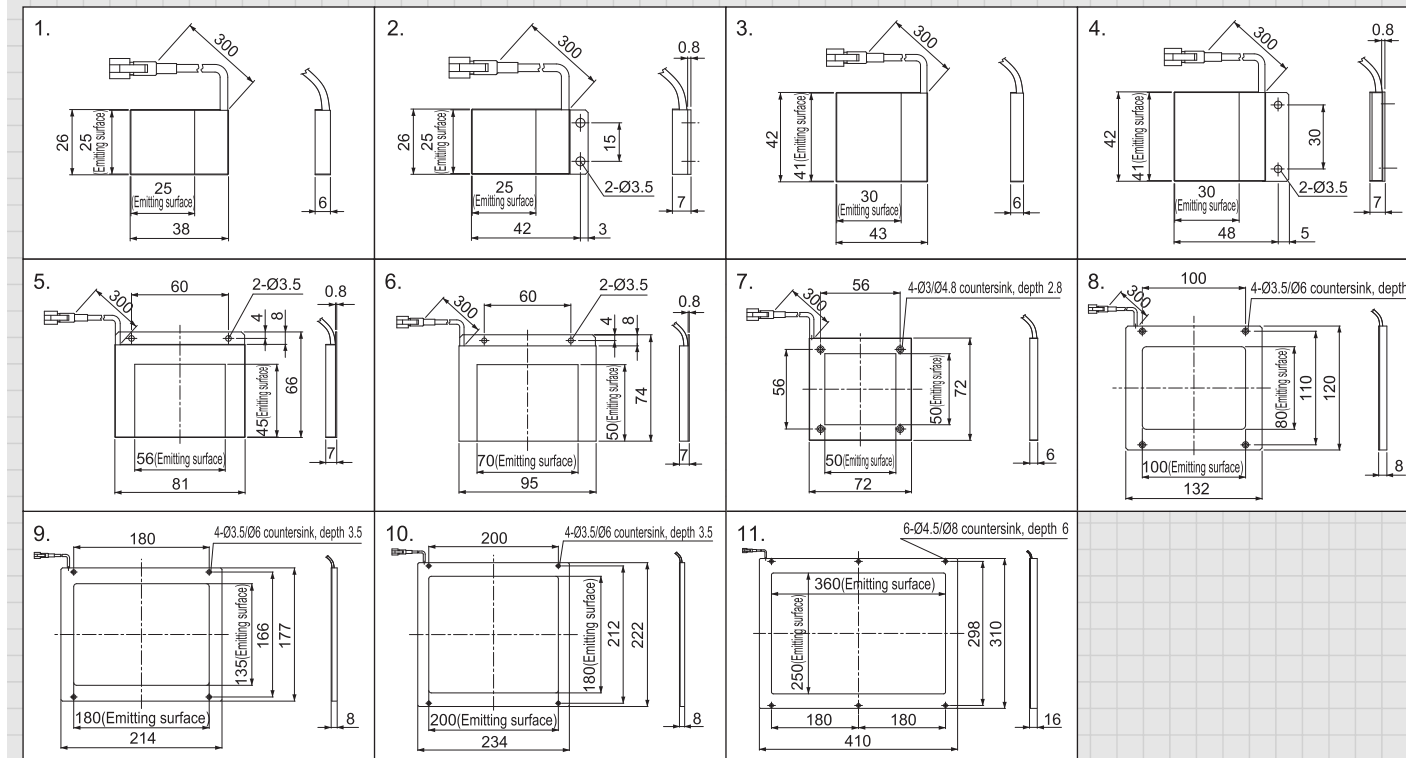


### Product Lineup Table

Series	Model Name	Color	Power Consumption	Options	Dimension
LFL	LFL-612	●	12V/0.3W	—	1
	LFL-612-SW/GR/BL	○/●/●	24V/0.4W	—	
	LFL-612P	●	12V/0.3W	—	2
	LFL-612-SW-P/GR-P/BL-P	○/●/●	24V/0.4W	—	
	LFL-1012	●	12V/0.6W	—	3
	LFL-1012-SW/GR/BL	○/●/●	24V/0.8W	—	
LFL	LFL-1012P	●	12V/0.6W	—	4
	LFL-1012-SW-P/GR-P/BL-P	○/●/●	24V/0.8W	—	
LFL	LFL-3212	●	12V/1.8W	—	5
	LFL-3212-SW/GR/BL	○/●/●	24V/2.4W	—	
LFL	LFL-4012	●	12V/2.1W	—	6
	LFL-4012-SW/GR/BL	○/●/●	24V/2.9W	—	

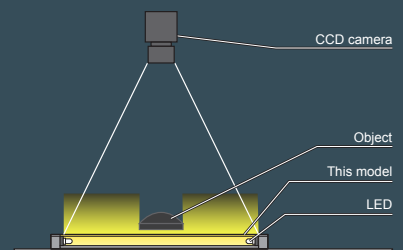
Series	Model Name	Color	Power Consumption	Options	Dimension
LFL	LFL-50	●	12V/2.4W	—	7
	LFL-50-SW/GR/BL	○/●/●	24V/3.3W	—	
	LFL-100	●	12V/4.2W	L	8
	LFL-100-SW-P/GR-P/BL-P	○/●/●	24V/5.7W	L	
	LFL-180	●	12V/7.2W	L	9
	LFL-180-SW/GR/BL	○/●/●	24V/9.8W	L	
	LFL-200	●	12V/9.0W	L	10
	LFL-200-SW-P/GR-P/BL-P	○/●/●	24V/12W	L	
	LFL-360	●	12V/27W	—	11
	LFL-360-SW/GR/BL	○/●/●	24V/40W	—	

### Dimensions (Unit: mm)



### Illumination Structure of LFL-100

Light from the LEDs that are arranged around the periphery of the light diffusion plate passes through the plate to produce uniform illumination.



### Examples of Flat-lights Illumination images

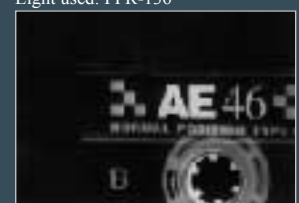
#### Inspecting printing on tape cassettes

Image as seen with the human eye in normal light.



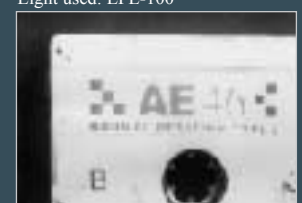
The entire object is evenly illuminated without shadows; however, internal parts are also being imaged and it makes inspection difficult.

Light used: FPR-136



The entire object is evenly illuminated and the printed surface stands out clearly.

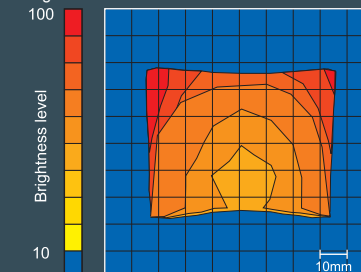
Light used: LFL-100



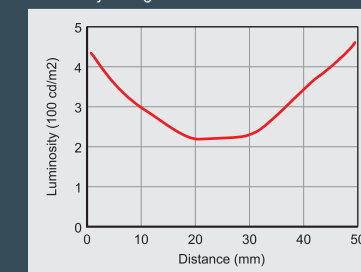
### Brightness Distribution and luminosity Characteristics of the LFL-4012

Illustrates how the light emitted from the LEDs passes through the diffusion plate and creates illumination. A low level of luminosity is evenly maintained.

Brightness distribution at LWD 0 mm



Luminosity change in the x direction



Luminosity change in the y direction

