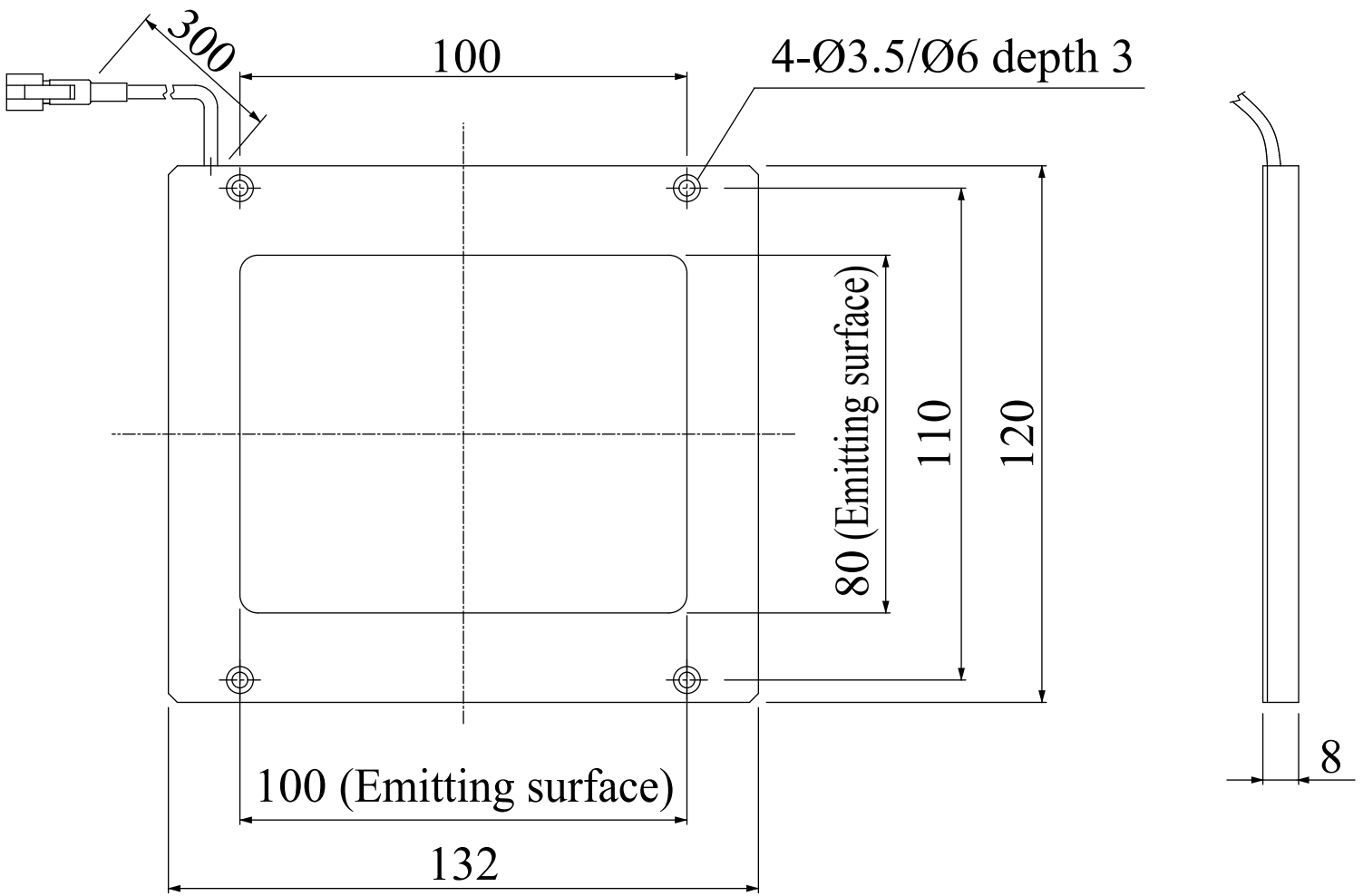
LFL-100/-SW/-GR/-BL

Model	LFL-100	LFL-100-SW/-GR/-BL
Voltage	12V DC	24V DC
Power consumption	4.2W	5.7W
Mass	220g	220g
Connector type	2P (1: + , 2: –)	3P (1: + , 2: NC , 3: –)

Third Angle Projection Units: mm



CCS Inc.

Indirect Lighting

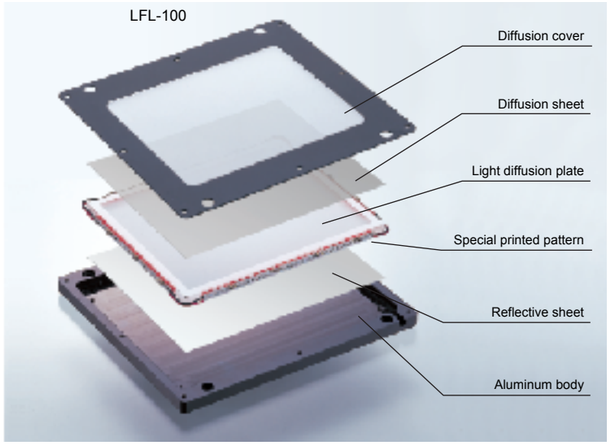
Flat Lights
LFL Series

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.



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

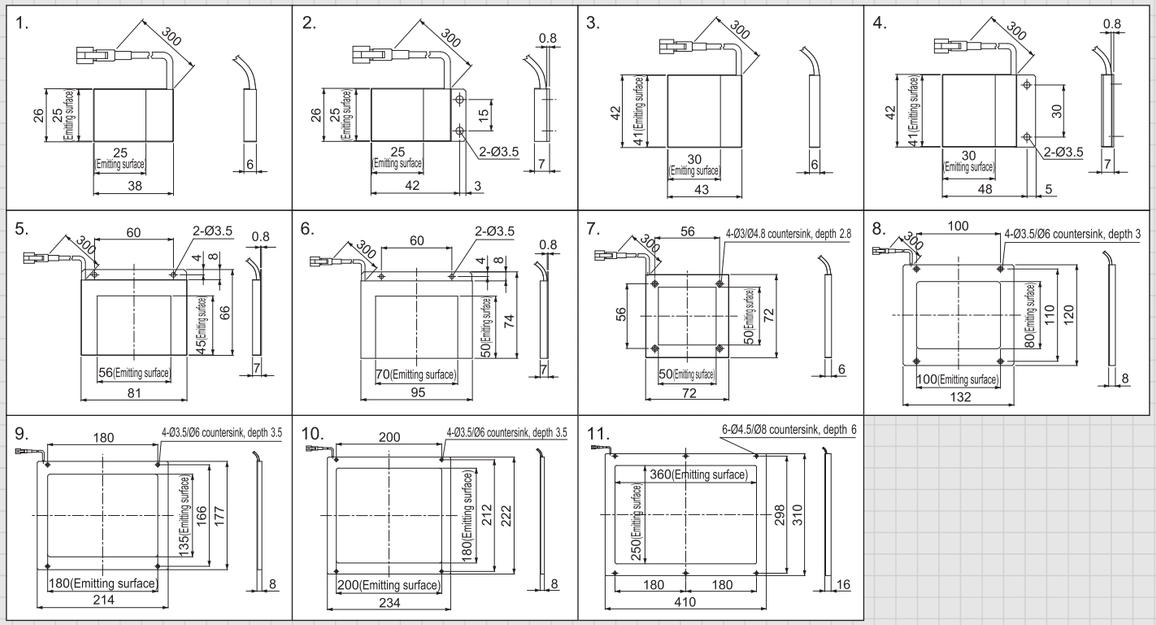
White, blue and green colors are available as custom products in addition to the standard red. A wide variety of sizes are available to match the application.

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-1012P	●	12V/0.6W	—	4
	LFL-1012-SW-P/-GR-P/-BL-P	○/●/●	24V/0.8W	—	
	LFL-3212	●	12V/1.8W	—	5
	LFL-3212-SW/-GR/-BL	○/●/●	24V/2.4W	—	
	LFL-4012	●	12V/2.1W	—	6
	LFL-4012-SW/-GR/-BL	○/●/●	24V/2.9W	—	

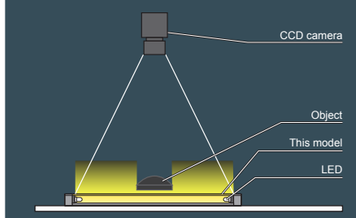
Series	Model Name	Color	Power Consumption	Options	Dimension
LFL	LFL-50	●	12V/2.4W	—	7
	LFL-50-SW/-GR/-BL	○/●/●	24V/3.3W	—	
	LFL-100	●	12V/4.2W	L	8□
	LFL-100-SW-P/-GR-P/-BL-P	○/●/●	24V/5.7W	L	
	LFL-180	●	12V/7.2W	L	9
	LFL-180-SW/-GR/-BL	○/●/●	24V/9.8W	L	
	LFL-200	●	12V/9.0W	L	10
	LFL-200-SW-P/-GR-P/-BL-P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

Dimensions (Unit: mm)



Illumination Structure of LFL-100

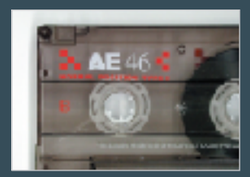
Light from the LEDs that are arranged around the periphery of the light diffusion plate passes through the plate to produce uniform illumination.



Examples of Flat-lights Illumination images

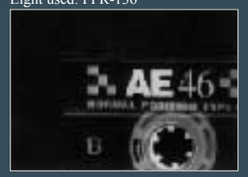
Inspecting printing on tape cassettes

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



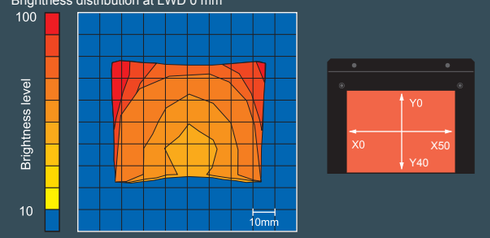
The entire object is evenly illuminated and the printed surface stands out clearly.

Light used: LFL-100

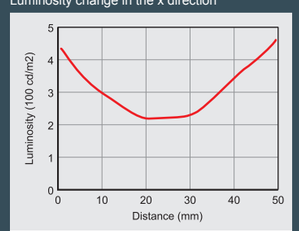
Brightness Distribution and luminosity Characteristics of the LFL-4012

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