

# Flat Lights

## LFL Series

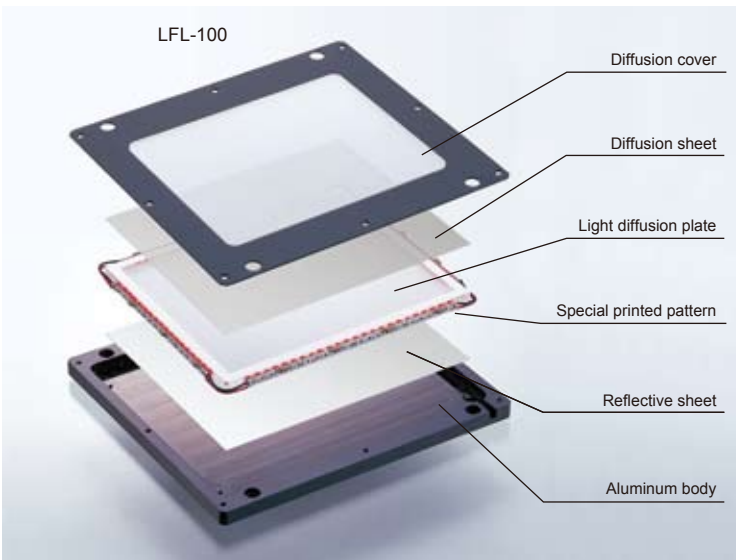
### Silhouette inspection of an object using uniform lighting

Power-saving Flat Lights with a compact design.



#### Flat Lights with Unique Light-guiding Technology

The use of a unique CCS light-guiding method realized to irradiate uniform diffused light.



Allocated LEDs are fixed around the periphery of the Diffusion Plate with a transparent fixing material. This unique structure makes more complex to reflect and scatter the light from LEDs and it makes possible to irradiate uniform diffused light from flat light emitting surface.

#### Lightweight, Thin Design with Low Power Consumption

With a thin design allows installing this light in any place.

Inspecting for defects in rectangular PET bottles

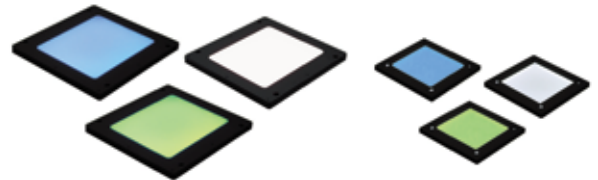


Inspecting the level of a liquid in bottles



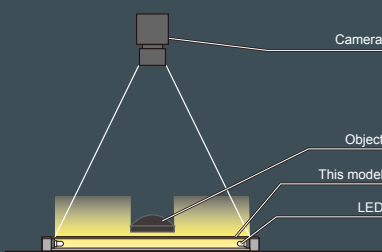
#### Varied Selection

A wide variety of sizes and colors are available to use for various applications. Models with a mounting panel (P) for installing lights are also available.



#### 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-light images

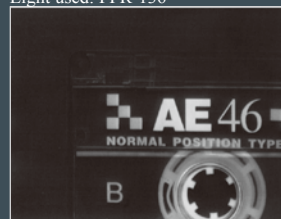
##### Inspecting printing on tape cassettes

Image as seen with the human eye in normal light.



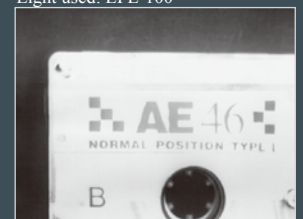
The entire object is evenly illuminated without shadows; however, internal parts are also being imaged and it makes inspection difficult.

Light used: FPR-136



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

Light used: LFL-100



Direct Number : A direct number is a 7-digit number assigned to a CCS product. You can easily access the web page providing information on any desired product by simply entering the direct number in the space provided on the CCS website pages for machine vision. (Refer to the back cover of this brochure.)

## Product Lineup Table

Series	Direct Number	Model Name	Color	Power Consumption	Option	Dimension
LFL	1005528	LFL-612RD2	●	24V / 0.6W	—	1
	1004230	LFL-612SW2	○	24V / 0.4W		
	1006130	LFL-612BL2	●			
	1001676	LFL-612-BL	TBD			
	1006552	LFL-612GR2	●			
	1001679	LFL-612-GR	TBD			
	1005529	LFL-612RD2-P	●		24V / 0.6W	—
	1004231	LFL-612SW2-P	○	24V / 0.4W		
	1006129	LFL-612BL2-P	●			
	1001677	LFL-612-BL-P	TBD			
	1006595	LFL-612GR2-P	●			
	1001680	LFL-612-GR-P	TBD			
	1005520	LFL-1012RD2	●		24V / 0.6W	—
	1004225	LFL-1012SW2	○	24V / 0.8W		
	1006126	LFL-1012BL2	●			
	1001570	LFL-1012-BL	TBD			
	—	LFL-1012GR2	●			
	1001573	LFL-1012-GR	TBD			
	1005521	LFL-1012RD2-P	●		24V / 0.6W	—
	1004293	LFL-1012SW2-P	○	24V / 0.8W		
	1006127	LFL-1012BL2-P	●			
	1001571	LFL-1012-BL-P	TBD			
	1006721	LFL-1012GR2-P	●			
	1001574	LFL-1012-GR-P	TBD			
	1005524	LFL-3212RD2	●		24V / 1.6W	—
	1004232	LFL-3212SW2	○	24V / 2.3W		
	—	LFL-3212BL2	●			
	1001634	LFL-3212-BL	TBD			
	—	LFL-3212GR2	●			
	1001635	LFL-3212-GR	TBD			
1005526	LFL-4012RD2	●	24V / 2.1W		—	6
1004228	LFL-4012SW2	○	24V / 2.7W			
—	LFL-4012BL2	●				
1001642	LFL-4012-BL	TBD				
—	LFL-4012GR2	●				
1001643	LFL-4012-GR	TBD				

Series	Direct Number	Model Name	Color	Power Consumption	Option	Dimension
LFL	1005527	LFL-50RD2	●	24V / 2.1W	—	7
	1004229	LFL-50SW2	○	24V / 3.1W		
	1006128	LFL-50BL2	●			
	1001654	LFL-50-BL	TBD			
	—	LFL-50GR2	●			
	1001655	LFL-50-GR	TBD			
	1005519	LFL-100RD2	●		24V / 5.1W	L
	1004226	LFL-100SW2	○	24V / 5.3W		
	1006131	LFL-100BL2	●			
	1001558	LFL-100-BL	TBD			
	1006134	LFL-100GR2	●			
	1001559	LFL-100-GR	TBD			
	1005522	LFL-180RD2	●		24V / 7.1W	L
	1004223	LFL-180SW2	○	24V / 9.1W		
	—	LFL-180BL2	●			
	1001598	LFL-180-BL	TBD			
	—	LFL-180GR2	●			
	1001599	LFL-180-GR	TBD			
	1005523	LFL-200RD2	●		24V / 12W	L
	1004224	LFL-200SW2	○			
	1006132	LFL-200BL2	●			
	1001607	LFL-200-BL	TBD			
	—	LFL-200GR2	●			
	1003050	LFL-200-GR	TBD			
1005525	LFL-360RD2	●	24V / 30W	—	11	
1004227	LFL-360SW2	○	24V / 37W			
1006133	LFL-360BL2	●				
1003567	LFL-360-BL	TBD				

Products with the "TBD" mark are scheduled to be discontinued. Refer to the discontinued product information on the CCS website for specific discontinuation schedules.

\*The following letters indicate options.

L: Light Control Film

\*For further details on these options, refer to page 104.

## Dimension Diagrams (Unit: mm)

