Flat-Dome Lights
LFX2 series

Refer to our website for product details.
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Uses original lighting technology to recreate the effect of a Coaxial and Dome Light

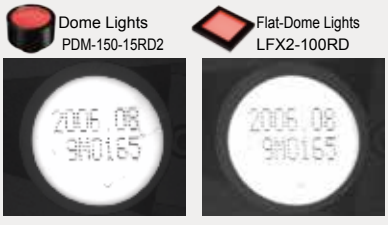
Applications Inspection for the exterior/text on metal surfaces, curved surfaces, or uneven surfaces, mixed foreign materials inspection for food and medicine, character recognition for packaging, and inspection for text on can surfaces, etc.

Recreates the effect of Dome Light and Coaxial Light

The Flat-Dome Light can, with one device, recreate the effects of Dome Light and Coaxial Light.

Imaging example: Imaging of packaging film

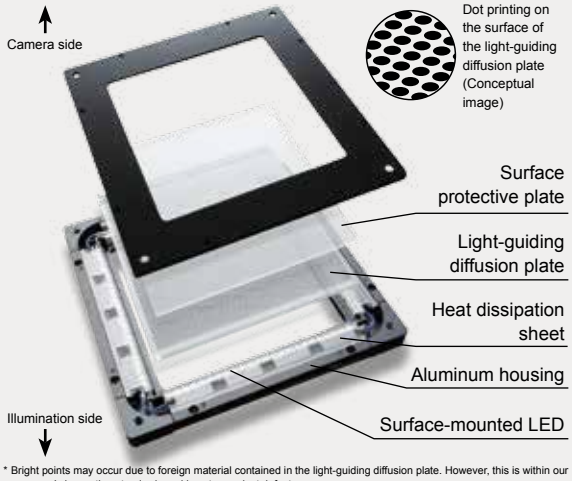
Imaging example: Imaging of printed text



Illuminates uniform diffused light using original lighting technology

The dot pattern on the surface of the light-guiding diffusion plate controls the diffusion and transmission of the illuminated light. It can illuminate uniform diffused light onto the workpiece.

Cross-section image of the LFX2-100

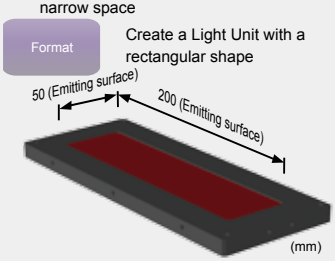


* Bright points may occur due to foreign material contained in the light-guiding diffusion plate. However, this is within our company's inspection standards and is not a product defect.

Custom orders

Please contact your CCS sales representative.

E.g.: Increase the size of a Light Unit in a narrow space



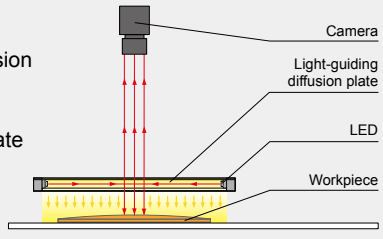
Customizable items

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

Example configuration

The dot pattern on the surface of the light-guiding diffusion plate controls the diffusion and transmission of the illuminated light. Can illuminate uniform diffused light onto the workpiece.

LFX2-100



We have various materials.
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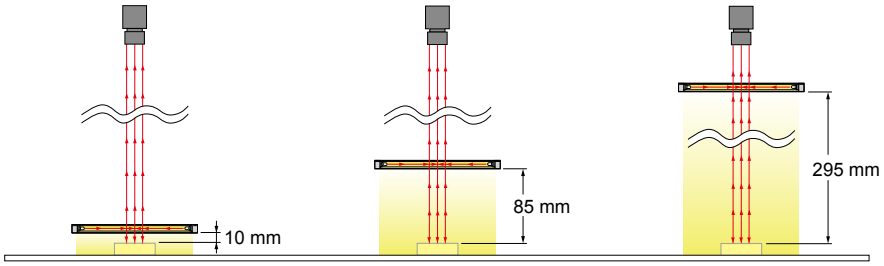
Supports a wide variety of applications from low angles to high angles

Comparison of images of the top of the can
Changing the distance between the Light Unit and the workpiece (LWD) allows for imaging to fit your purpose.

■ Workpiece image

Canned food



With illumination from LWD 10 mm, flat imaging that evenly illuminates the whole thing is possible.

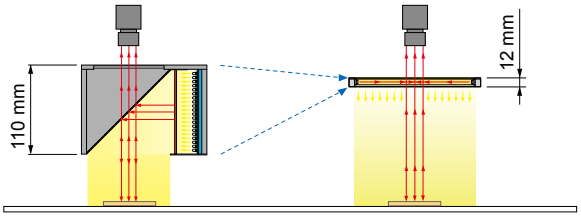
With illumination from LWD 85 mm, imaging that emphasizes only the unevenness of the pull tab is possible.

With illumination from LWD 295 mm, imaging that emphasizes the surface unevenness is possible.

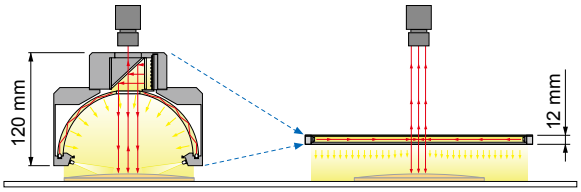
* Imaging environment: LFX2-100RD, f25 lens, WD 365 mm, field of vision: 69 mm

Light-weight and compact, it achieves a space-saving installation with its thin design

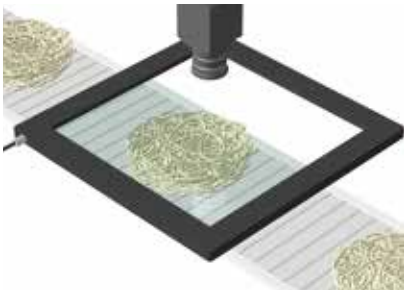
Coaxial Light (LFV3-100) | Flat-Dome Light (LFX2-100)



Dome Light (PDM-150-15) | Flat-Dome Light (LFX2-200)



Imaging example : Imaging of foreign materials mixed in instant noodles

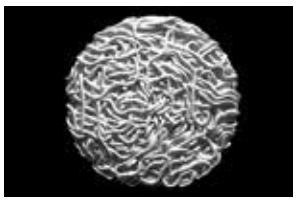


Description	Mixed foreign materials inspection
Workpiece	Instant noodles
Before the proposal	LED Ring Light
After the proposal	LFX2-200IR850: Infrared type
Result	Emphasizes the foreign material

■ Workpiece image

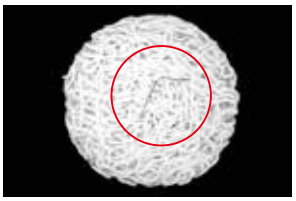
Instant noodles

■ LED Ring Light



Due to effect from the unevenness and small bumps on the surface, it is difficult to get an image of the foreign material.

■ LFX2-200IR850



Effect from the unevenness and small bumps on the surface is reduced, allowing for an image of the foreign material.

* This workpiece was processed by CCS for sample imaging.

LFX2 series

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CCS LFX2 ▶ Search

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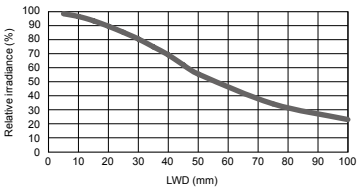
Data: Relative irradiance graph/Uniformity graph (Representative example)

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

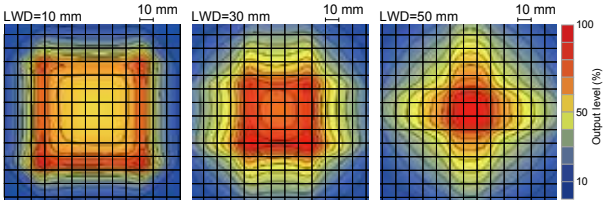
LFX2-100SW

Relative irradiance graph (LWD Characteristics)*2 *1

*1: Irradiance on the optical axis
*2: Illuminating distance from the Light Unit to the workpiece



Uniformity graph (Relative irradiance)



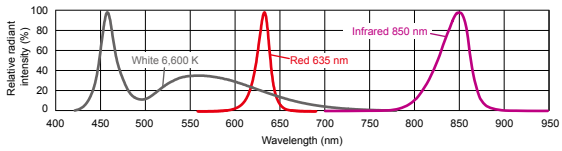
Lineup

Model name	LED color	Power consumption	Peak wavelength/ correlated color temperature	Options	Recommended Control Units	Weight
LFX2-50RD	Red	24 V / 11 W	635 nm	–	PD3, CC-ST-1024, PSB, PTU2	180 g
LFX2-50SW	White	24 V / 6.1 W	6,600 K			
LFX2-50IR850	Infrared	24 V / 6.6 W	850 nm			
LFX2-75RD	Red	24 V / 11 W	635 nm	–	PD3, CC-ST-1024*, PSB, PTU2 *Can only use white.	270 g
LFX2-75SW	White	24 V / 9.1 W	6,600 K			
LFX2-75IR850	Infrared	24 V / 14 W	850 nm			
LFX2-100RD	Red	24 V / 16 W	635 nm	–	PD3, PSB, PTU2	350 g
LFX2-100SW	White	24 V / 13 W	6,600 K			
LFX2-100IR850	Infrared	24 V / 14 W	850 nm			
LFX2-150RD	Red	24 V / 21 W	635 nm	–	PD3, PSB, PTU2	570 g
LFX2-150SW	White	24 V / 19 W	6,600 K			
LFX2-150IR850	Infrared	24 V / 20 W	850 nm			
LFX2-200RD	Red	24 V / 31 W	635 nm	–	PD3, PSB*, PTU2* *Can only use white and infrared.	920 g
LFX2-200SW	White	24 V / 25 W	6,600 K			
LFX2-200IR850	Infrared	24 V / 27 W	850 nm			

Extension Cables ▶ P.222 | Control Unit Selection Guide ▶ P.181 | Control Unit Page ▶ P.185

LED properties

Light spectrum



If using a sharp-cut filter, please use the R60 (option). For details about the sharp-cut filter, refer to P.215.

Be sure to read the "Instruction Guide" included with the product before use and observe cautionary information.
The data included is for reference only and does not guarantee the quality of this product.

Precautions for use

Imaging may be affected by dirt or dust becoming attached to the Light Unit's surface

Method for preventing effects from dirt and dust

- Be careful when handling the Light Unit and do not let dirt, dust, or fingerprints get on the Light Unit.
- Do not touch dirt or dust by hand. Remove by blowing air.
- If finger prints get on the Light Unit, wipe them off using a fine soft cloth.
- If the Light Unit is very dirty, use a diluted neutral cleaner to lightly wipe it down.

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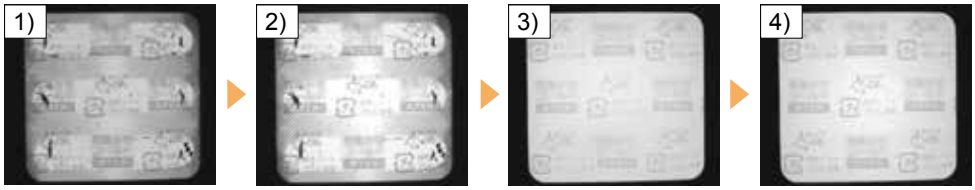
To achieve a perfect image

Uneven imaging may occur due to the dot pattern on the emitting surface

Method for reducing the image unevenness caused by the dots

1) Open the lens somewhat.
2) Match the focus to the target workpiece.
3) Adjust the position of the Light Unit (set outside of the depth of field).
4) Adjust the Light Unit intensity (prevent reflection and glare).
5) If there is too much light, increase the camera's shutter speed.


Workpiece: Medicine (Blister pack)



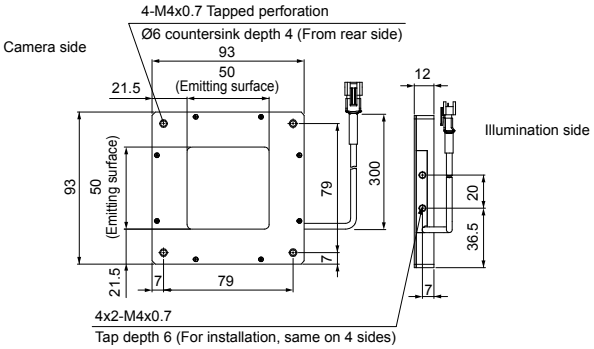
Ambient light may reflect off the Light Unit surface or workpiece surface, affecting the imaging

Method for preventing effects from ambient light

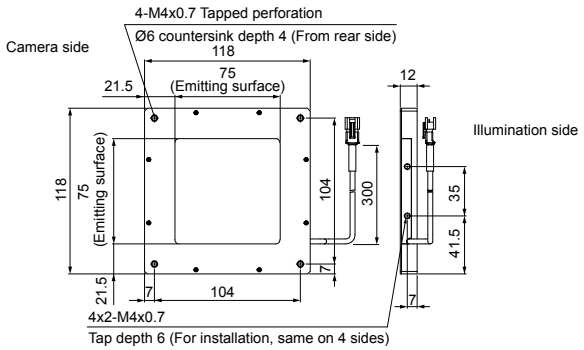
- Prevent ambient light from entering with a hood or the like.
- If using red light, equip a sharp-cut filter to the lens.
- Increase the camera's shutter speed. (Increase the Light Unit intensity somewhat.)

Dimensions (mm)

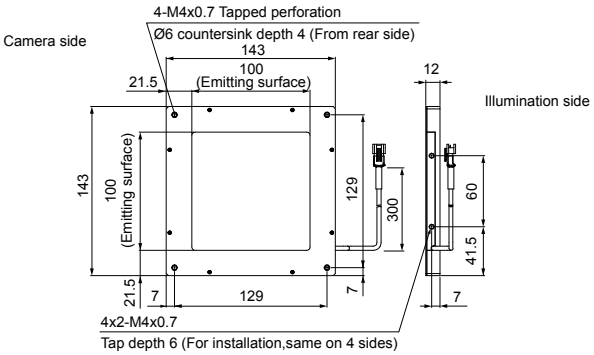
LFX2-50RD/SW/IR850



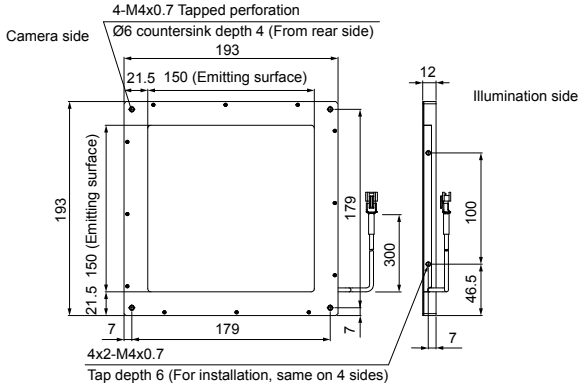
LFX2-75RD/SW/IR850



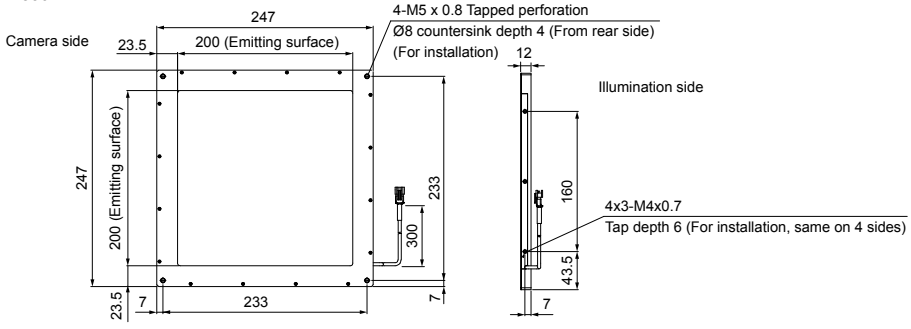
LFX2-100RD/SW/IR850



LFX2-150RD/SW/IR850



LFX2-200RD/SW/IR850



You can change the connectors of the Light Unit cable. Choose between M12 connectors and flying leads. Refer to P.125 for details.