

# Coaxial Lights for High-Resolution Cameras LFV3-G Series

## Bright, uniform, high-resolution imaging

- | Equipped with a slim half mirror
- | Prevents ghost images and achieves high-resolution imaging
- | Unique lighting technology achieves high output and high uniformity
- | Available in 8 sizes and 3 LED colors, for a total of 24 models



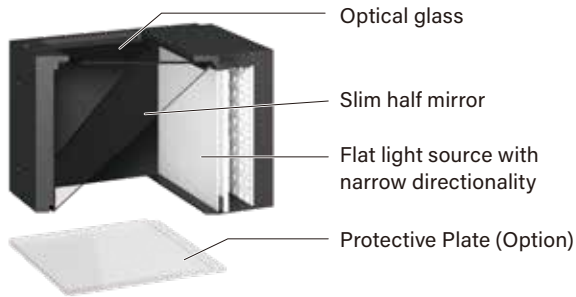
**8<sub>size</sub>, 24<sub>model</sub>  
LINE-UP!**

# Coaxial Lights for High-Resolution Cameras LFV3-G Series

Equipped with a slim half mirror to support imaging using high-resolution cameras

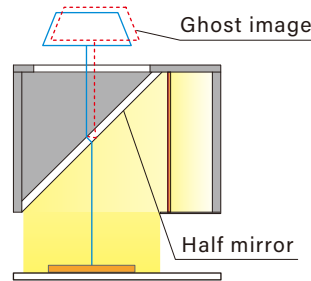
Prevents ghost images and achieves higher resolution imaging than conventional products. Ideal for imaging using high-resolution cameras.

## LFV3-G Series Structure (example)



## Causes of Ghost Images\* (example)

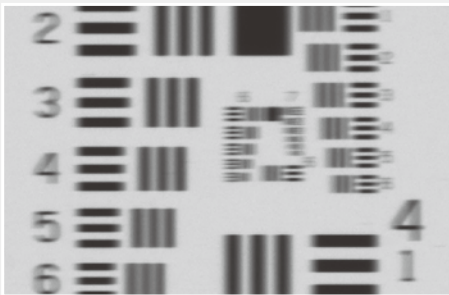
\*Double images



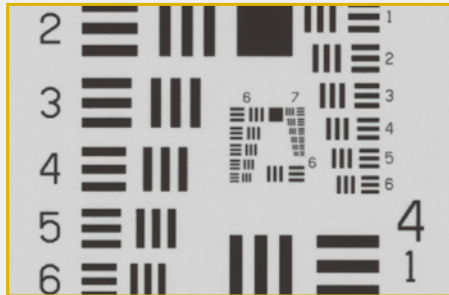
Ghost images are caused by the thickness of the half mirror creating differences in the light path. Use of a thinner mirror reduces the deviation of the ghost images, enabling high-resolution imaging.

## Imaging comparison

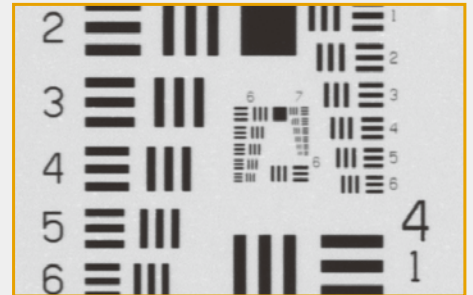
### LFV3-50SW(A)



### LFV3-G-27SW



### LFV3-G-50X100SW

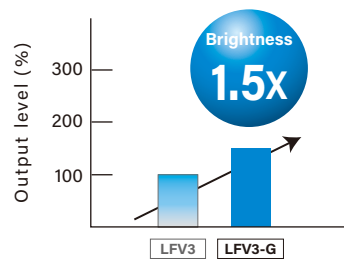
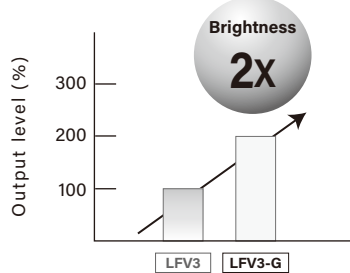
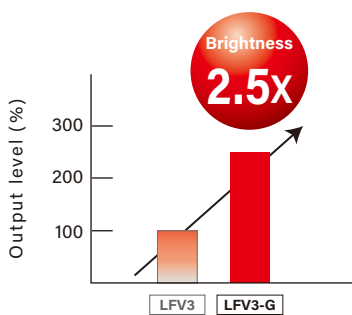


[Imaging conditions] Camera: 2448x2048 3.45  $\mu\text{m}$  monochrome camera, Lens: 2x telecentric lens, Field of view: 4.2 x 3.5 mm (the image shows the center portion of the workpiece measuring 1.3 x 1.0 mm in size), Resolution: 1.7  $\mu\text{m}/\text{pixel}$ , WD: 110 mm, LWD: 25 mm.

\* The shutter speed and light intensity are adjusted for each image.

Achieves up to 2.5 times higher output compared to LFV3

Can be combined with the strobe overdrive power supply POD series to further increase the brightness several times more.



Even  
**brighter**  
with the strobe overdrive  
power supply

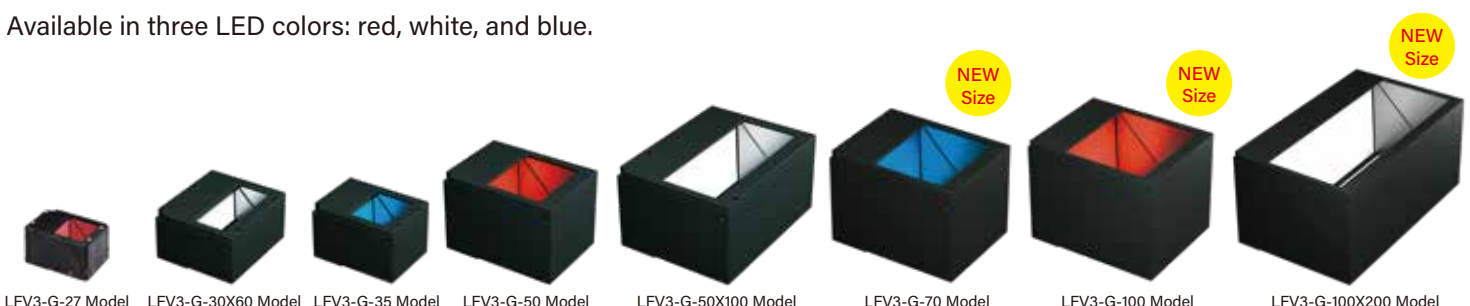


Strobe Overdrive Power Supply  
POD Series

In comparison with light colors of the LFV3 series. The increase in brightness varies depending on size. (These values are for reference only and are not guaranteed values.)  
For more information on the strobe overdrive power supply POD series, refer to the CCS website.

Available in 8 sizes, for a total of 24 models

Available in three LED colors: red, white, and blue.



# LFV3-G series

## Lineup Overview

Model name	LED color	Power consumption	Peak wavelength / correlated color temperature	Options*1	Extension cables	Recommended Control Units	Weight
LFV3-G-27RD	Red	24 V / 5.0 W	630 nm	Protective Plate	FCB*5 Straight Cable  FCB-W*6 2-Branch Cable  FCB-F 4-Branch Cable  FRCB Robot Cable	<input type="checkbox"/> PD3 <input type="checkbox"/> CC-ST-1024 <input type="checkbox"/> PSB <input type="checkbox"/> POD*2	110 g
LFV3-G-27SW	White	24 V / 5.0 W	7,000 K			<input type="checkbox"/> PD3 <input type="checkbox"/> CC-ST-1024*3 <input type="checkbox"/> PSB <input type="checkbox"/> POD*2	165 g
LFV3-G-27BL	Blue	24 V / 5.0 W	470 nm			<input type="checkbox"/> PD3 <input type="checkbox"/> PSB <input type="checkbox"/> POD*2	140 g
LFV3-G-30X60RD	Red	24 V / 12 W	630 nm			<input type="checkbox"/> PD3 <input type="checkbox"/> PSB <input type="checkbox"/> POD*2	285 g
LFV3-G-30X60SW	White	24 V / 11 W	5,500 K			<input type="checkbox"/> PD3 <input type="checkbox"/> PSB*4 <input type="checkbox"/> POD*2	445 g
LFV3-G-30X60BL	Blue	24 V / 8.1 W	467 nm			<input type="checkbox"/> PD3 <input type="checkbox"/> PSB <input type="checkbox"/> POD*2	570 g
LFV3-G-35RD	Red	24 V / 8.4 W	630 nm			<input type="checkbox"/> PD3 <input type="checkbox"/> PSB <input type="checkbox"/> POD*2	990 g
LFV3-G-35SW	White	24 V / 8.3 W	5,500 K				
LFV3-G-35BL	Blue	24 V / 7.1 W	467 nm			<input type="checkbox"/> PD3 <input type="checkbox"/> PSB <input type="checkbox"/> POD*2	1730 g
LFV3-G-50RD	Red	24 V / 17 W	630 nm				
LFV3-G-50SW	White	24 V / 17 W	5,500 K				
LFV3-G-50BL	Blue	24 V / 15 W	467 nm				
LFV3-G-50X100RD	Red	24 V / 34 W	630 nm				
LFV3-G-50X100SW	White	24 V / 34 W	5,500 K				
LFV3-G-50X100BL	Blue	24 V / 29 W	467 nm				
LFV3-G-70RD	Red	24 V / 28 W	630 nm				
LFV3-G-70SW	White	24 V / 25 W	5,500 K				
LFV3-G-70BL	Blue	24 V / 22 W	467 nm				
LFV3-G-100RD	Red	24 V / 40 W	630 nm				
LFV3-G-100SW	White	24 V / 37 W	5,500 K				
LFV3-G-100BL	Blue	24 V / 32 W	467 nm				
LFV3-G-100X200RD	Red	24 V / 59 W	630 nm				
LFV3-G-100X200SW	White	24 V / 59 W	5,500 K				
LFV3-G-100X200BL	Blue	24 V / 59 W	467 nm				

\*1 An alternate diffusion plate or polarizing plate can be installed as a custom order. \*2 For information on the combination of the LFV3-G and POD Series, please refer to the CCS website. <http://www.ccs-grp.com/lnk/qr/pod>

## Common Specifications

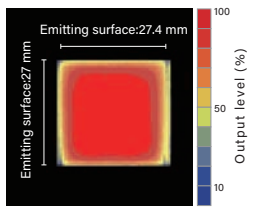
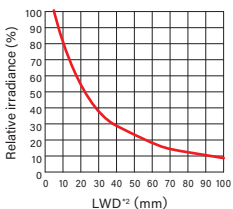
Input voltage (max.)	24 VDC	Operating environment (indoors only)	Temperature: 0 to 40°C, Humidity: 20 to 85% RH (non-condensing)
Connector	SM connector (SMR-03V-B)	Storage environment	Temperature: -20 to 60°C, Humidity: 20 to 85% RH (non-condensing)
Polarity, signal	1: (+), 2: NC, 3: (-)	Cooling method	Natural air-cooling
CE marking	Safety standard: Conforms to EN 62471	Spectral distribution	
Environmental regulations	RoHS compliant		
Case material	Aluminum alloy, Resin		
Cable length	300 mm		

\* The data included is for reference only. Actual values may vary.

## Data

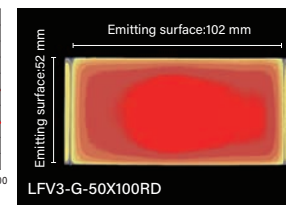
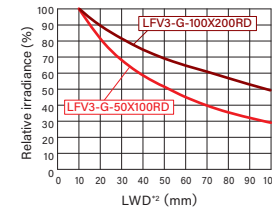
### LFV3-G-27RD (Red)

Relative Irradiance\*1 Graph    Uniformity (Relative Irradiance)

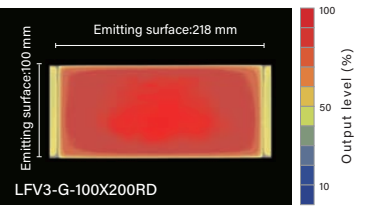


### LFV3-G-50X100RD (Red) / 100X200RD (Red)

Relative Irradiance\*1 Graph    Uniformity (Relative Irradiance)



Uniformity (Relative Irradiance)



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

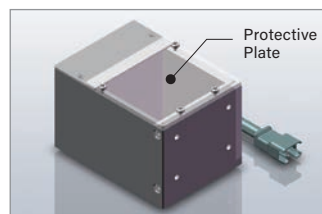
\* The data included is for reference only. Actual values may vary.

## Options

### Protective Plate

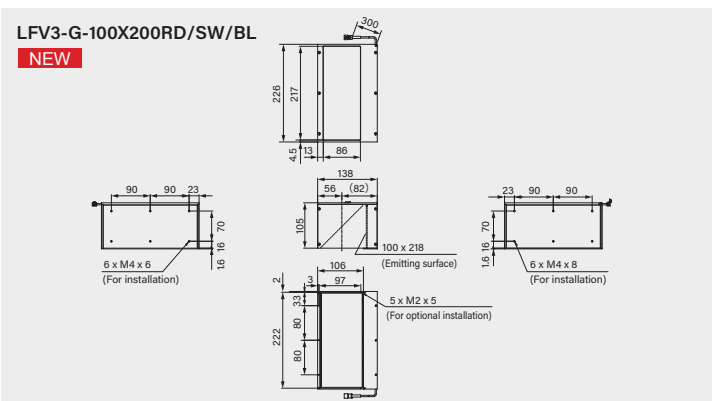
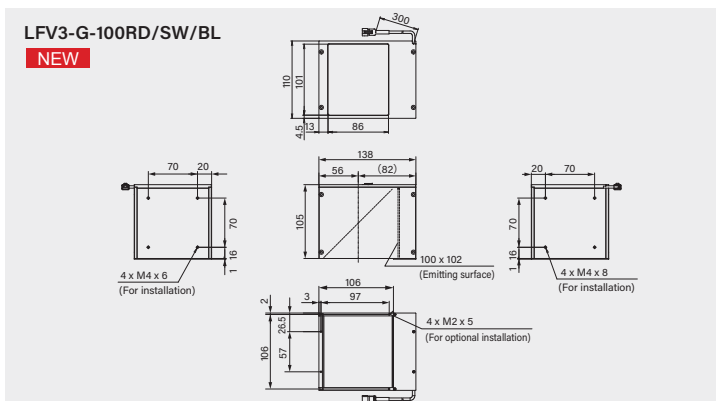
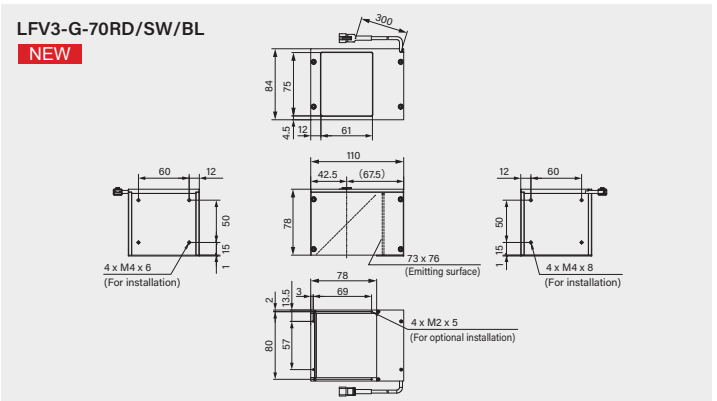
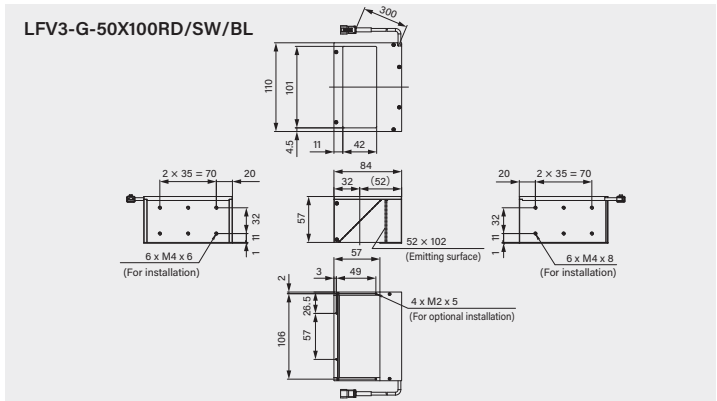
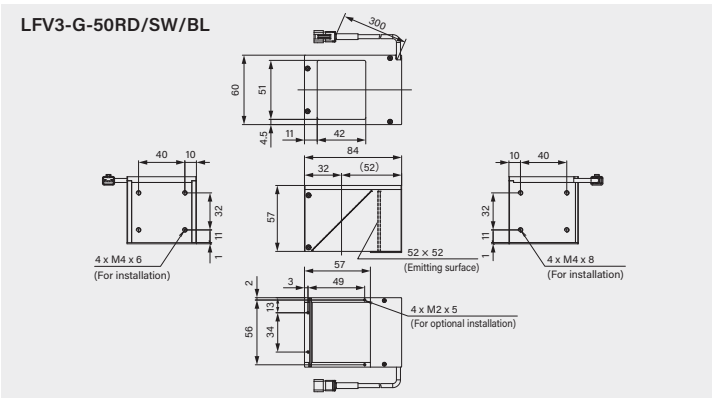
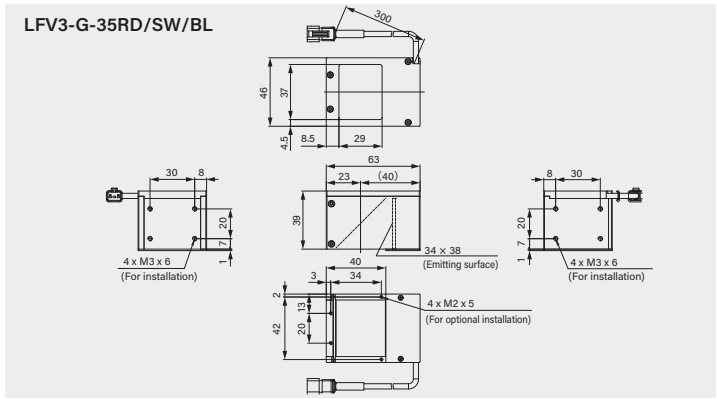
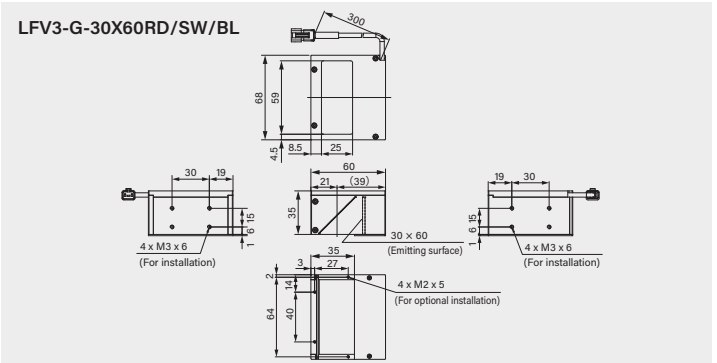
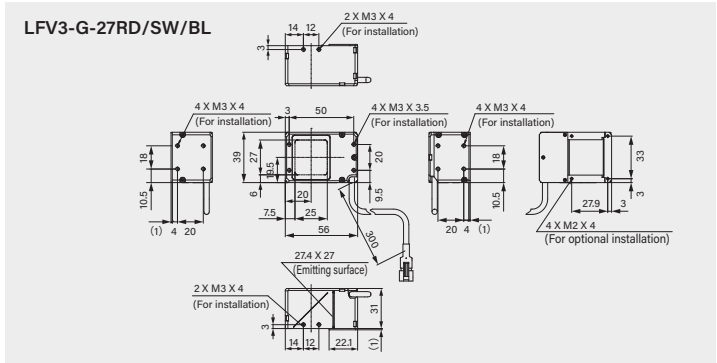
- Protects the emitting surface from scratches and dirt.
- Anti-reflective (AR coating) has been applied.
- Made from 2 mm-thick transparent acrylic.

**Notes**  
Be aware that installing a protective plate may reduce image resolution.



Model name	Compatible light
PR-LFV3-27	LFV3-G-27 series
PR-LFV3-30X60	LFV3-G-30X60 series
PR-LFV3-35	LFV3-G-35 series
PR-LFV3-50	LFV3-G-50 series
PR-LFV3-50X100	LFV3-G-50X100 series
PR-LFV3-70	LFV3-G-70 series
PR-LFV3-100	LFV3-G-100 series
PR-LFV3-100X200	LFV3-G-100X200 series





Notes

- To ensure proper and safe use of the product, please read the Instruction Guide completely before using the product.
- The design and specifications of this product are subject to change without notification for product improvement.
- Spots of light may appear due to foreign objects in the light-guiding plate, but this falls within our testing standards and is not a product defect.
- The workpiece imaging examples included in this brochure are intended to serve only as references to help you select a suitable Light Unit. Please verify the functionality and conditions required for your particular application before you make a final selection. The sample workpieces used in this brochure have been processed specifically for sample imaging. They are not intended to represent product quality and performance.