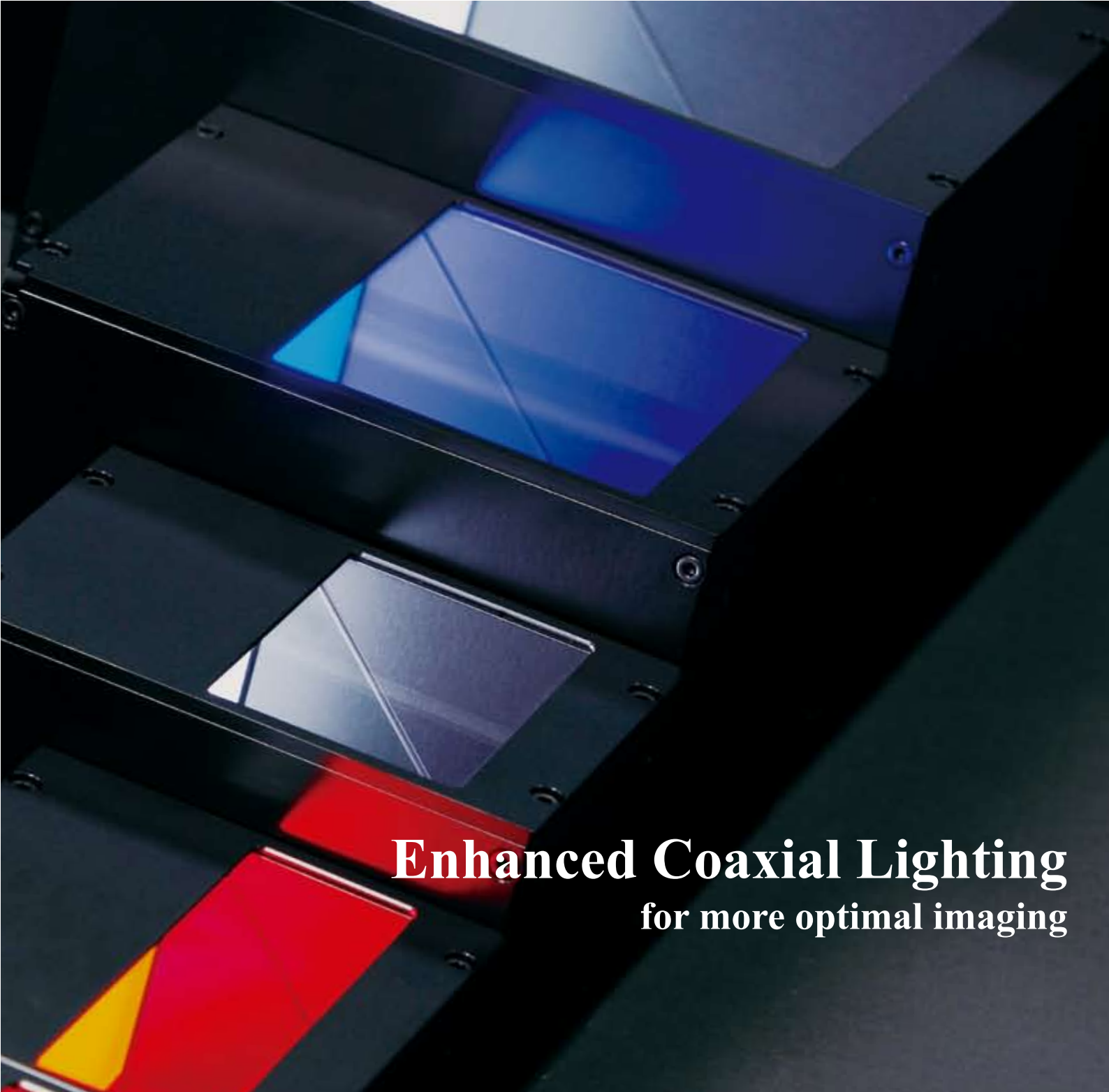


Coaxial Lights LFV3 Series



Enhanced Coaxial Lighting
for more optimal imaging

Coaxial Lighting

Re-engineered **LFV3 Series**

Brighter

Two times brighter than LFV2

Higher Quality Glass Window

Glass surface accuracy ($0.3\mu\text{m}^*$)

*According to our analysis.

Choice of Diffusers

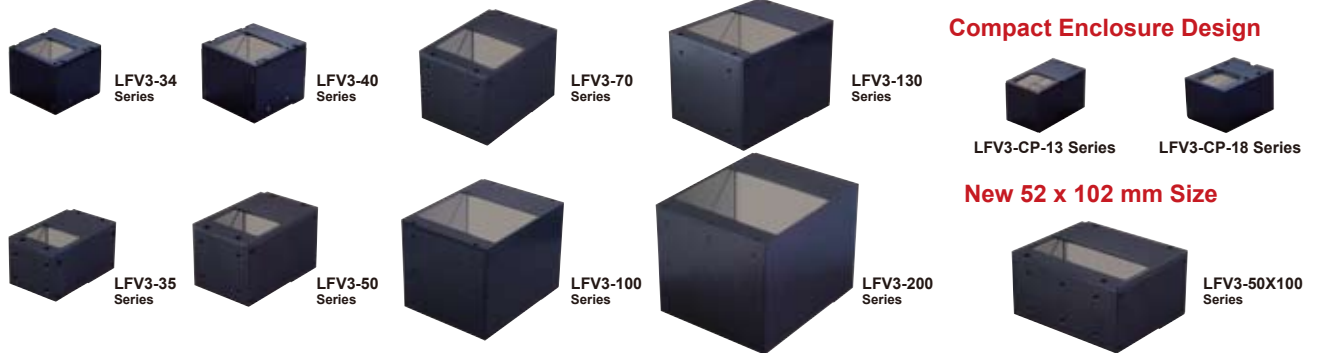
Low or high transmission diffusers available for unique effects

*Not available for LFV3-CP series or LFV3-34, -40 series

Product Line-up Available in Red, White, or Blue

*Green available upon request.

Eleven Standard Sizes



Compact Enclosure Design

New 52 x 102 mm Size

Optical Glass

Optical glass on the camera window and a half-mirror that can also be used in laser light source interferometry. High-quality, accurate images can be taken.

Enlarged Camera Window Area

Ensures a large field of view.

Aluminum Body

Robust, aluminum alloy body allows for enhanced heat dissipation.

Camera window

Attachable to Cable Surface

Cable can be bent flat against the mounting surface. Installation is possible using the mounting holes on the cable surface.

Ease of Installation

Additional mounting holes allow for flexible mounting options in a variety of orientations.

Half-mirror

Note: These explanations for the LFV3 Series except the LFV3-CP-13 Series and LFV3-CP-18 Series.

Obtain optimal images for your application with LFB3 Series

Option 1

Selectable diffuser option and position creates desired effect

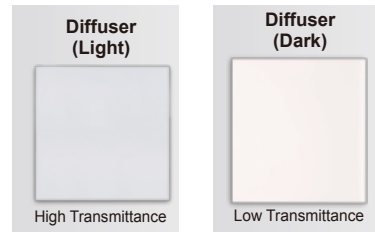
2 Diffuser Options

High Transmittance Diffuser: **Light** Standard for red & white colors

Low Transmittance Diffuser: **Dark** Standard for blue color

Applicable Models: LFB3-35,-50,-50X100,-70,-100,-130,-200.

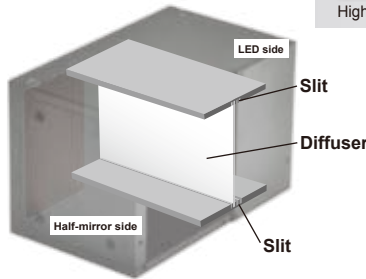
*Not available for LFB3-CP Series, or LFB3-34 & LFB3-40 Series.



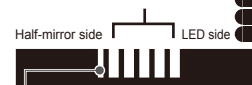
Flexible Diffuser Positions

Applicable Models: LFB3-50, -50X100, -70, -100, -130, -200.

*Not available for LFB3-CP, LFB3-34, LFB3-35 & LFB3-40 Series.



Diffuser position slits
3 locations: for LFB3-50,-50X100,-70
5 locations: for LFB3-100,-130,-200

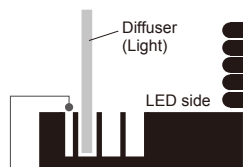


Slit for mounting polarizing plate or light control film.

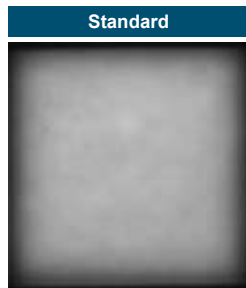
Examples

Light Diffuser + LFB3-50RD

• Standard

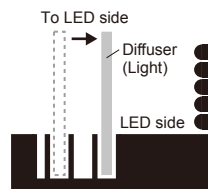


Slit for mounting polarizing plate or light control film.

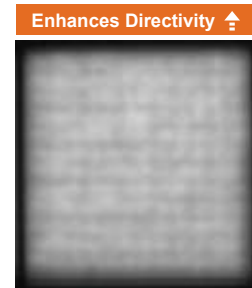


Light Diffuser + LFB3-50RD

• Modified diffuser position



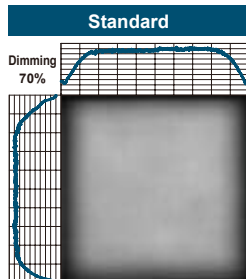
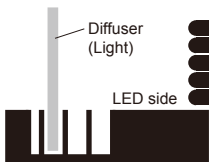
↑ Standard position



Enhances Directivity ↑
Reduces Uniformity ↓

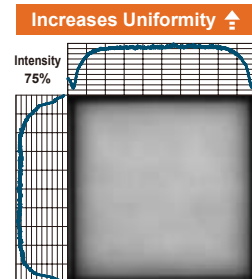
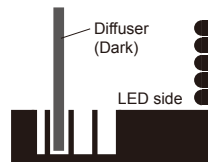
Light Diffuser + LFB3-50SW

• Standard



Dark Diffuser + LFB3-50SW

• Dark diffuser increases uniformity



Increases Uniformity ↑
Decreases Brightness ↓

Option 2

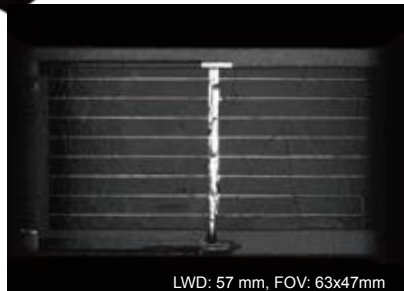
Evenly illuminate rectangular shapes



Solar Panel

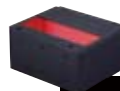


LFB2-50RD



LWD: 57 mm, FOV: 63x47mm

Due to the square shape of the light, the outer edges of the solar panel appear dark.



LFB3-50X100RD

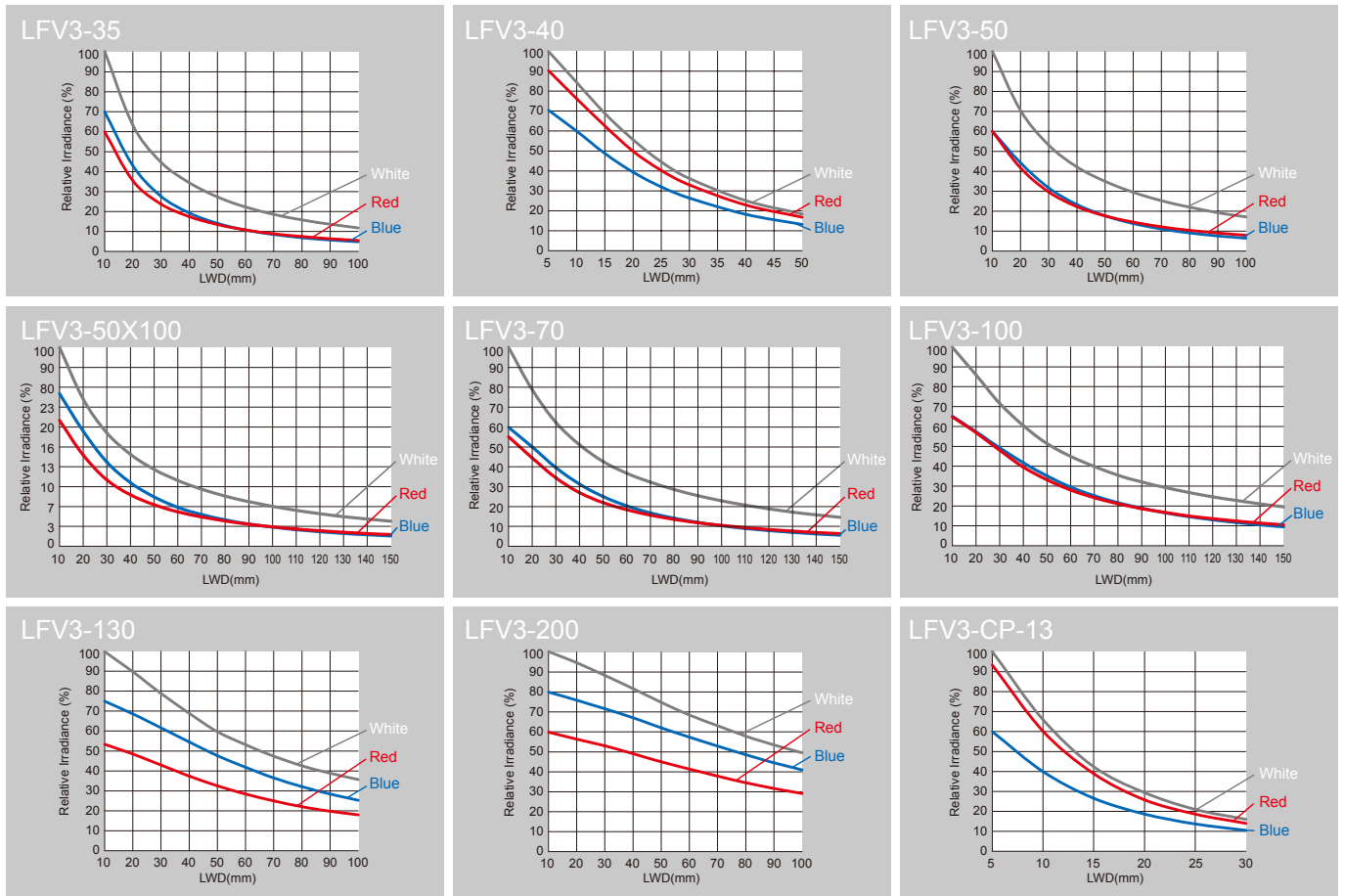


LWD: 57 mm, FOV: 63x47mm

Wide FOV

With the rectangular 100 x 50mm size light, the entire solar panel can be uniformly lit.

Brightness Data

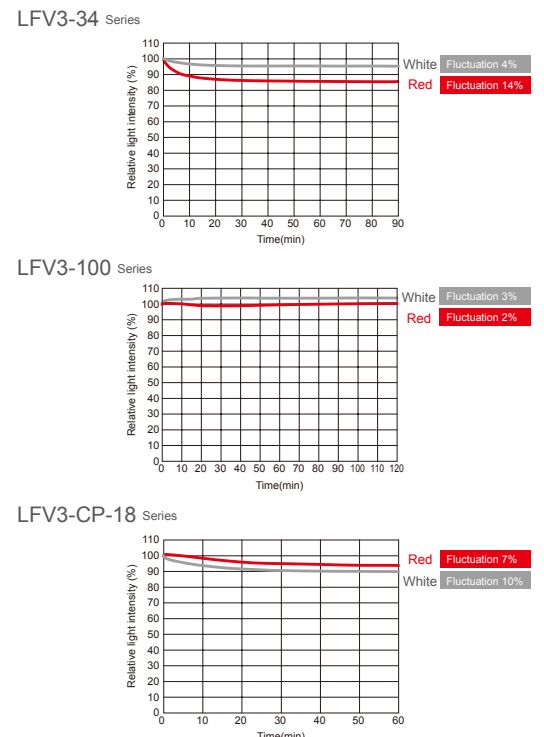


Brightness Comparison

Previous Model	New Model	Factor of Brightness		
		Red	White	Blue
LFBV-34 Series	LFBV3-34 Series	2.1x	2.4x	2.8x
LFBV2-35 Series	LFBV3-35 Series	2.3x	2.1x	1.5x
LFBV-40 Series	LFBV3-40 Series	2.2x	2.3x	2.5x
LFBV2-50 Series	LFBV3-50 Series	1.8x	1.9x	1.5x
LFBV2-70 Series	LFBV3-70 Series	2.1x	4.1x	1.7x
LFBV2-100 Series	LFBV3-100 Series	2.4x	1.8x	1.8x
LFBV2-130 Series	LFBV3-130 Series	1.7x	1.5x	2.0x
LFBV2-200 Series	LFBV3-200 Series	2.0x	1.8x	2.3x
LFBV2-CP-13 Series	LFBV3-CP-13 Series	3.1x	3.7x	3.8x
LFBV2-CP-18 Series	LFBV3-CP-18 Series	3.0x	2.9x	3.1x

* This data is for reference only and does not guarantee product quality. * Brightness varies depending on the spectral sensitivity of the camera. * Brightness comparison: Irradiance comparison between previous and new models (are actual measured values). * Measurements taken using standard diffuser type and standard mounting position used for each light.

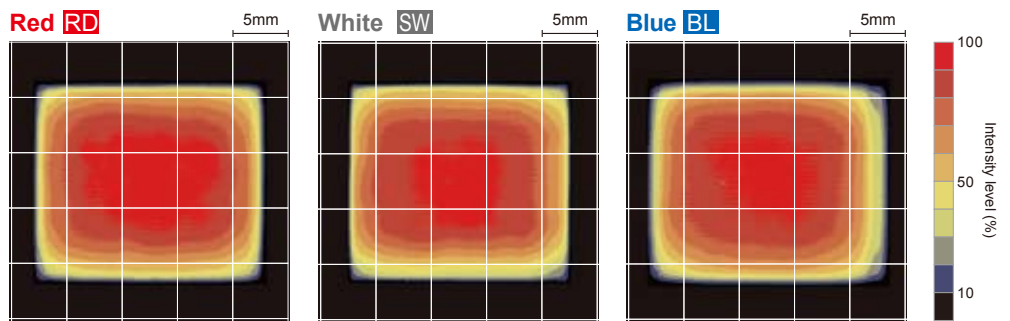
Light Intensity Fluctuation Comparison



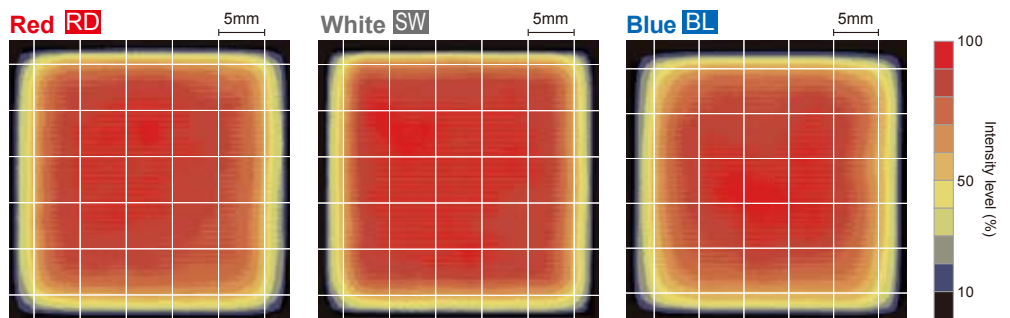
Uniformity



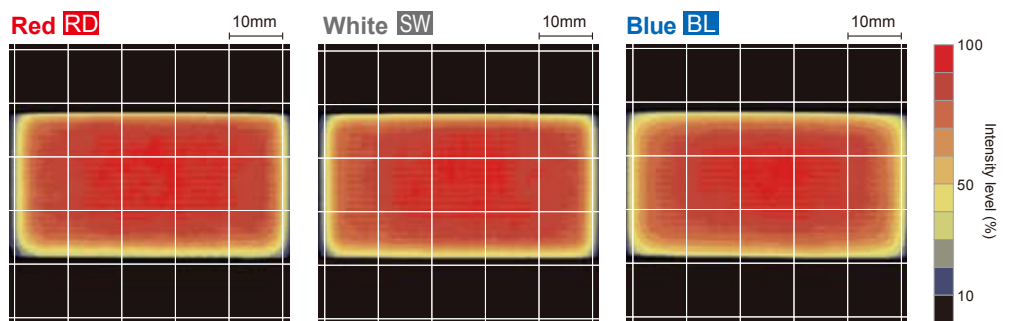
LWD=100mm



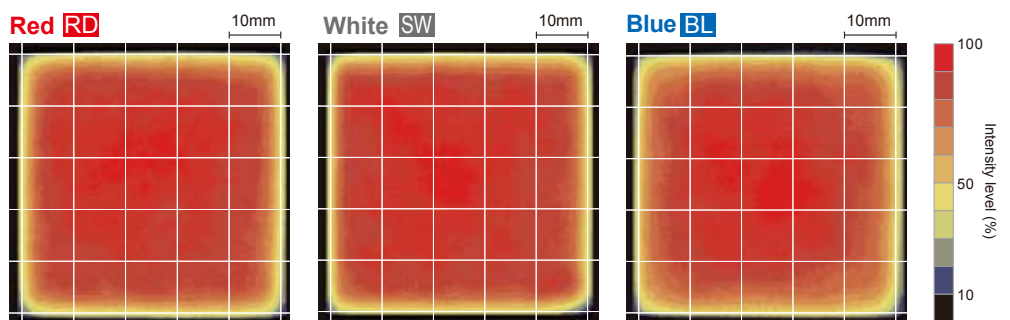
LWD=100mm



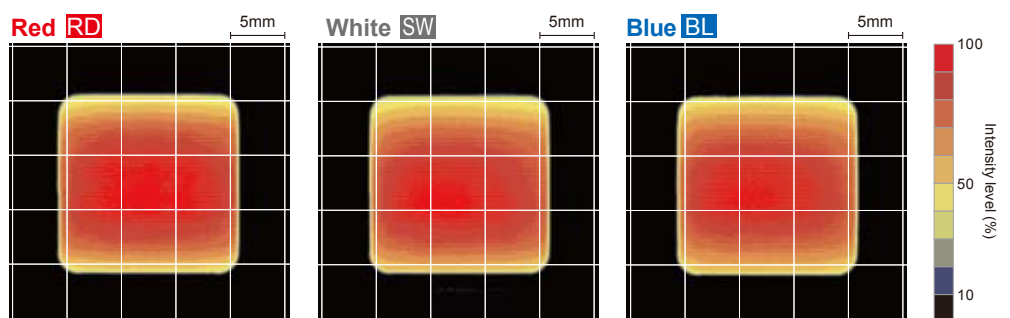
LWD=100mm



LWD=150mm



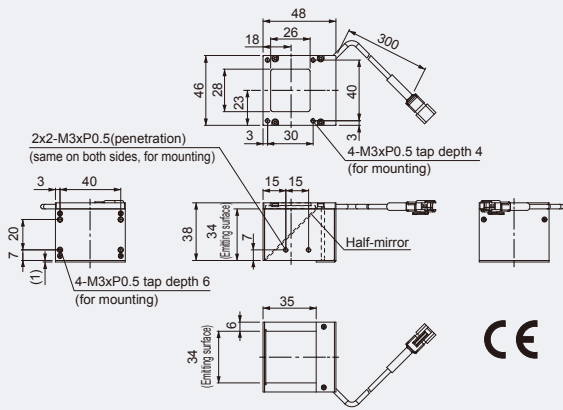
LWD=30mm



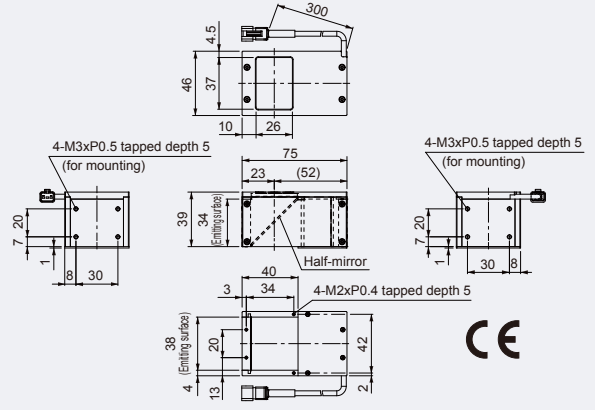
* Representative examples. * Measurements taken using standard diffuser type and standard mounting position used for each light. * This data is for reference only and does not guarantee product quality.

DIMENSION DIAGRAMS (mm)

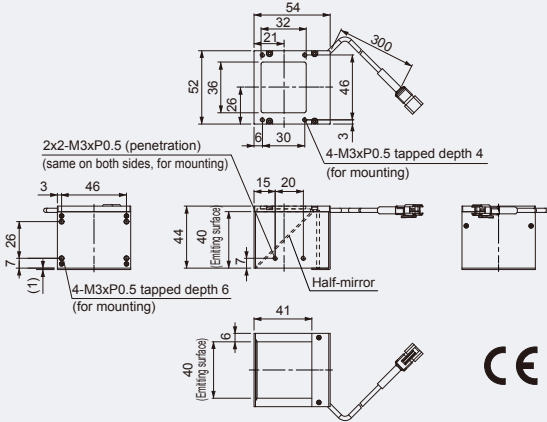
1 Lfv3-34RD/SW/BL



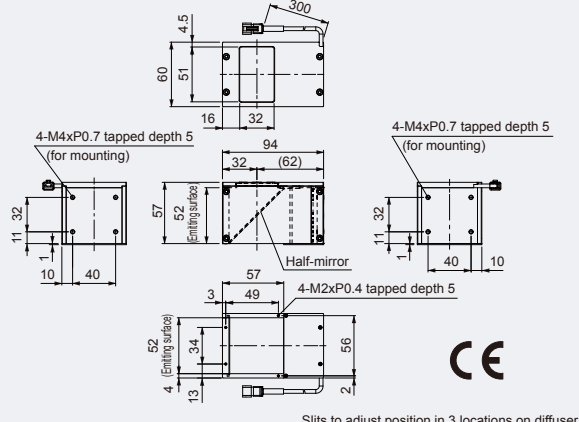
2 Lfv3-35RD/SW/BL



3 Lfv3-40RD/SW/BL

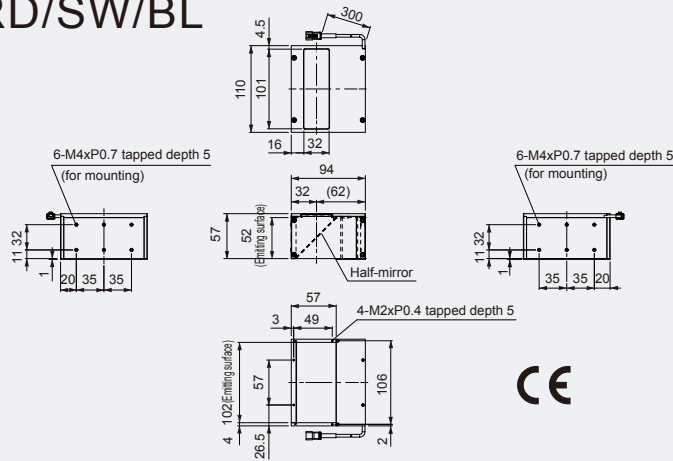


4 Lfv3-50RD/SW/BL



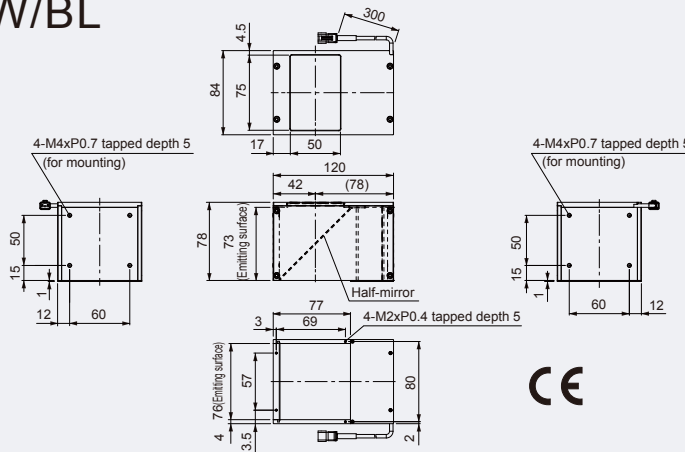
Slits to adjust position in 3 locations on diffuser

5 Lfv3-50X100RD/SW/BL



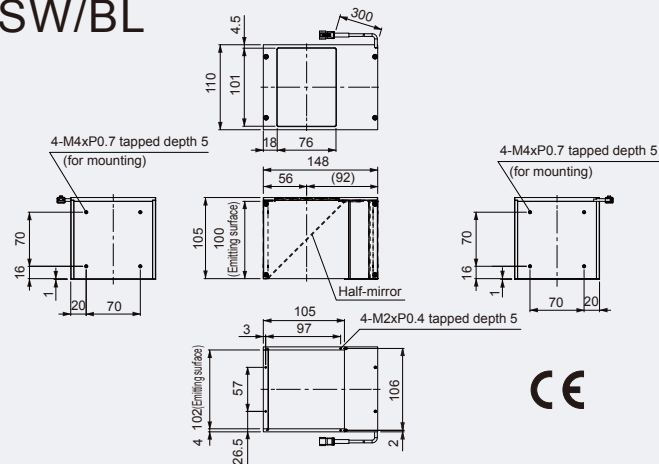
Slits to adjust position in 3 locations on diffuser

6 Lfv3-70RD/SW/BL



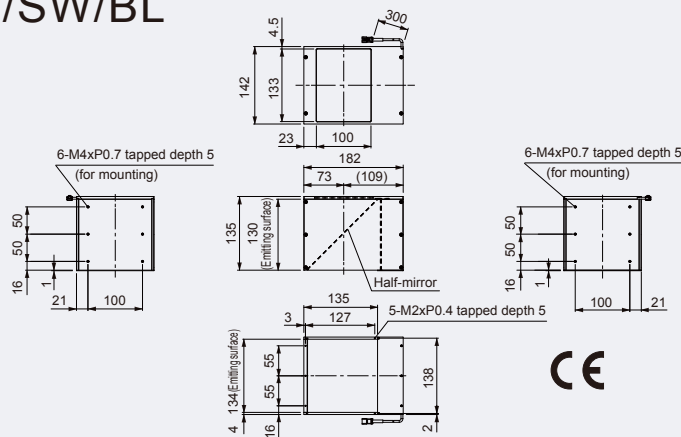
Slits to adjust position in 3 locations on diffuser

7 Lfv3-100RD/SW/BL



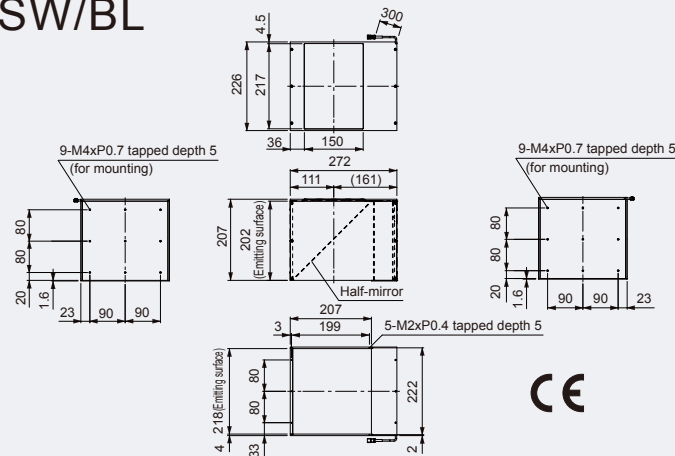
Slits to adjust position in 5 locations on diffuser

8 Lfv3-130RD/SW/BL



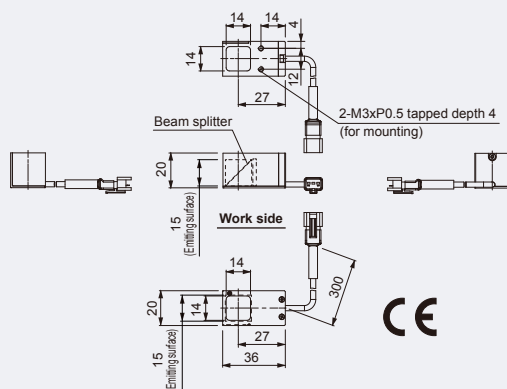
Slits to adjust position in 5 locations on diffuser

9 Lfv3-200RD/SW/BL

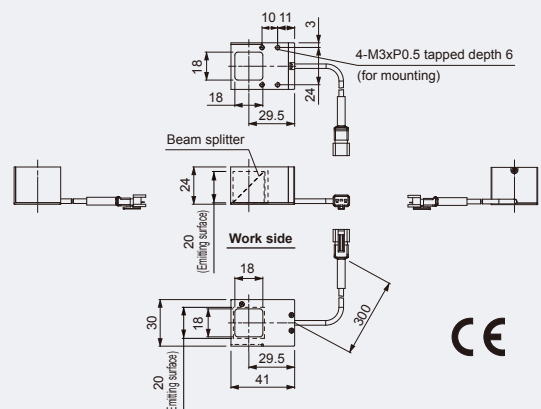


Slits to adjust position in 5 locations on diffuser

10 Lfv3-CP-13RD/SW/BL



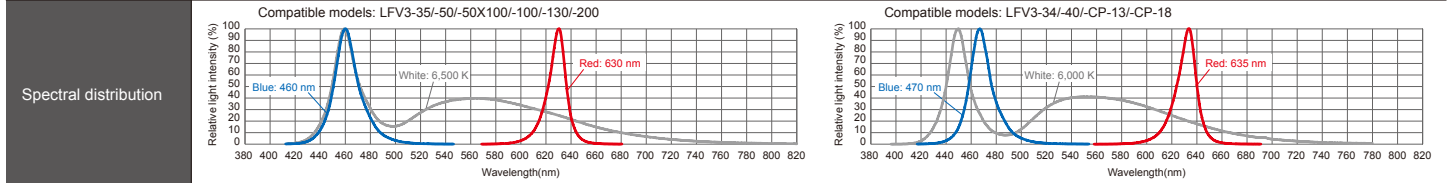
11 Lfv3-CP-18RD/SW/BL



Specifications

*For quick access to product information, visit www.ccs-grp.com and select 'machine vision applications'. Search for products by entering the seven digit direct number.

LED color	Red(RD)	White(SW)	Blue(BL)
Input voltage	24V DC		
Case material	Aluminum alloy, glass, resin(LFV3-34 series, LFV3-40 series), steel plate(LFV3-CP-13 series, LFV3-CP-18 series, LFV3-200 series)		
Cable length	300 mm		
Connector	SMR-03V-B		
Polarity, signal	1: (+), 2: no connection, 3: (-)		
Usage environment	Temperature: 0 to 40°C, Humidity: 20% to 85% RH (with no condensation)		
Storage environment	Temperature: -20 to 60°C, Humidity: 20% to 85% RH (with no condensation)		
CE marking	Conforms to safety standard EN62471		
Environmental reg.	RoHS compliant		
Cooling method	Natural cooling		



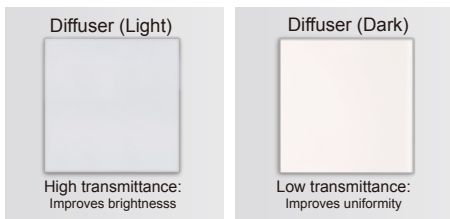
Direct Number	Model	Color	Peak wavelength/ Relative color temperature (typ.)	Emitting Surface	Power Consumption (max.)	Weight (max.)	Dimension
1006535	LFV3-34RD	Red	635 nm	34x34 mm	3.7 W	80 g	1
1006533	LFV3-34SW	White	6,000 K	34x34 mm	3.2 W	80 g	
1006534	LFV3-34BL	Blue	470 nm	34x34 mm	3.2 W	80 g	
1006187	LFV3-35RD	Red	630 nm	34x38 mm	3.1 W	175 g	2
1006185	LFV3-35SW	White	6,500 K	34x38 mm	3.7 W	175 g	
1006186	LFV3-35BL	Blue	460 nm	34x38 mm	3.1 W	175 g	
1006538	LFV3-40RD	Red	635 nm	40x40 mm	4.6 W	100 g	3
1006536	LFV3-40SW	White	6,000 K	40x40 mm	4.6 W	100 g	
1006537	LFV3-40BL	Blue	470 nm	40x40 mm	4.6 W	100 g	
1006190	LFV3-50RD	Red	630 nm	52x52 mm	8.1 W	335 g	4
1006188	LFV3-50SW	White	6,500 K	52x52 mm	11 W	335 g	
1006189	LFV3-50BL	Blue	460 nm	52x52 mm	9.1 W	335 g	
1006332	LFV3-50X100RD	Red	630 nm	52x102 mm	17 W	530 g	5
1006330	LFV3-50X100SW	White	6,500 K	52x102 mm	20 W	530 g	
1006331	LFV3-50X100BL	Blue	460 nm	52x102 mm	17 W	530 g	
1006193	LFV3-70RD	Red	630 nm	73x76 mm	13 W	620 g	6
1006191	LFV3-70SW	White	6,500 K	73x76 mm	19 W	620 g	
1006192	LFV3-70BL	Blue	460 nm	73x76 mm	16 W	620 g	

Direct Number	Model	Color	Peak wavelength/ Relative color temperature (typ.)	Emitting surface	Power Consumption (max.)	Weight (max.)	Dimension
1006196	LFV3-100RD	Red	630 nm	100x102 mm	22 W	1,060 g	7
1006194	LFV3-100SW	White	6,500 K	100x102 mm	27 W	1,060 g	
1006195	LFV3-100BL	Blue	460 nm	100x102 mm	27 W	1,060 g	
1006335	LFV3-130RD	Red	630 nm	130x134 mm	31 W	1,750 g	8
1006333	LFV3-130SW	White	6,500 K	130x134 mm	46 W	1,750 g	
1006334	LFV3-130BL	Blue	460 nm	130x134 mm	38 W	1,750 g	
1006338	LFV3-200RD	Red	630 nm	202x218 mm	43 W	4,350 g	9
1006336	LFV3-200SW	White	6,500 K	202x218 mm	64 W	4,350 g	
1006337	LFV3-200BL	Blue	460 nm	202x218 mm	53 W	4,350 g	
1006529	LFV3-CP-13RD	Red	635 nm	15x15 mm	2.1 W	37 g	10
1006527	LFV3-CP-13SW	White	6,000 K	15x15 mm	2.3 W	37 g	
1006528	LFV3-CP-13BL	Blue	470 nm	15x15 mm	1.3 W	37 g	
1006532	LFV3-CP-18RD	Red	635 nm	20x20 mm	3.3 W	70 g	11
1006530	LFV3-CP-18SW	White	6,000 K	20x20 mm	4.1 W	70 g	
1006531	LFV3-CP-18BL	Blue	470 nm	20x20 mm	3.4 W	70 g	

*See pages 5-6 for dimensional diagrams.

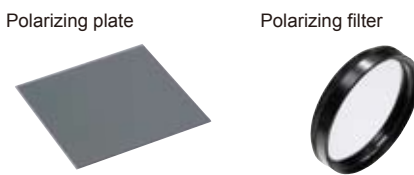
Options

2 choices of diffuser plates



Direct number	Model	Direct number	Model
4001358	DF-LFV3-35	4001365	DF-LFV3-35-UF
4001359	DF-LFV3-50	4001366	DF-LFV3-50-UF
4001360	DF-LFV3-50X100	4001367	DF-LFV3-50X100-UF
4001361	DF-LFV3-70	4001368	DF-LFV3-70-UF
4001362	DF-LFV3-100	4001369	DF-LFV3-100-UF
4001363	DF-LFV3-130	4001370	DF-LFV3-130-UF
4001364	DF-LFV3-200	4001371	DF-LFV3-200-UF

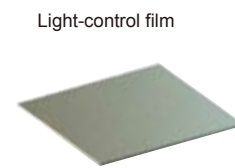
Polarizers: Minimize hot spots and glare



Direct number	Model	Direct number	Model
4001389	PL-LFV3-35	4000370	PL-25 (M25.5 P0.5)
4001390	PL-LFV3-50	4000372	PL-25-NL (M25.5 P0.5)
4001391	PL-LFV3-50X100	4000374	PL-27 (M27.0 P0.5)
4001392	PL-LFV3-70	4000376	PL-27-NL (M27.0 P0.5)
4001393	PL-LFV3-100	4000377	PL-30 (M30.5 P0.5)
4001394	PL-LFV3-130	4000379	PL-30-NL (M30.5 P0.5)
4001395	PL-LFV3-200	4000383	PL-40 (M40.5 P0.5)
		4000384	PL-40-NL (M40.5 P0.5)
		4000388	PL-46 (M46.0 P0.75)

*-NL has lock attached

LC film: Collimates light



Direct number	Model
4001344	LC-LFV3-35
4001345	LC-LFV3-50
4001346	LC-LFV3-50X100
4001347	LC-LFV3-70
4001348	LC-LFV3-100
4001349	LC-LFV3-130
4001350	LC-LFV3-200

Examples of compatible models

DF-LFV3-35-UF compatible models:

- LFV3-35RD
- LFV3-35SW
- LFV3-35BL

□□=LFV3 model

DF-LFV3-□□

PL-LFV3-□□

LC-LFV3-□□

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NOTES:

- To ensure proper safety, read the "Instruction Guide" before use. •Due to continuing quality improvements, product specifications and design are subject to change without notice.
- The examples of workpiece imaging in this brochure are intended as a guide to help you choose your own products. Please check the functions and requirements of your equipment when making your selections.



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Content current as of February 2013. 02002-01-1302-LFV3