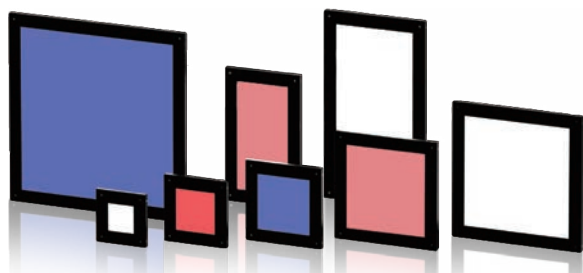# Square Dome Light
IFHA series

Lightweight, thin 8-mm dome lighting
Much brighter and clearer imaging is possible. Its no camera window design enables wide range and high uniform irradiation!

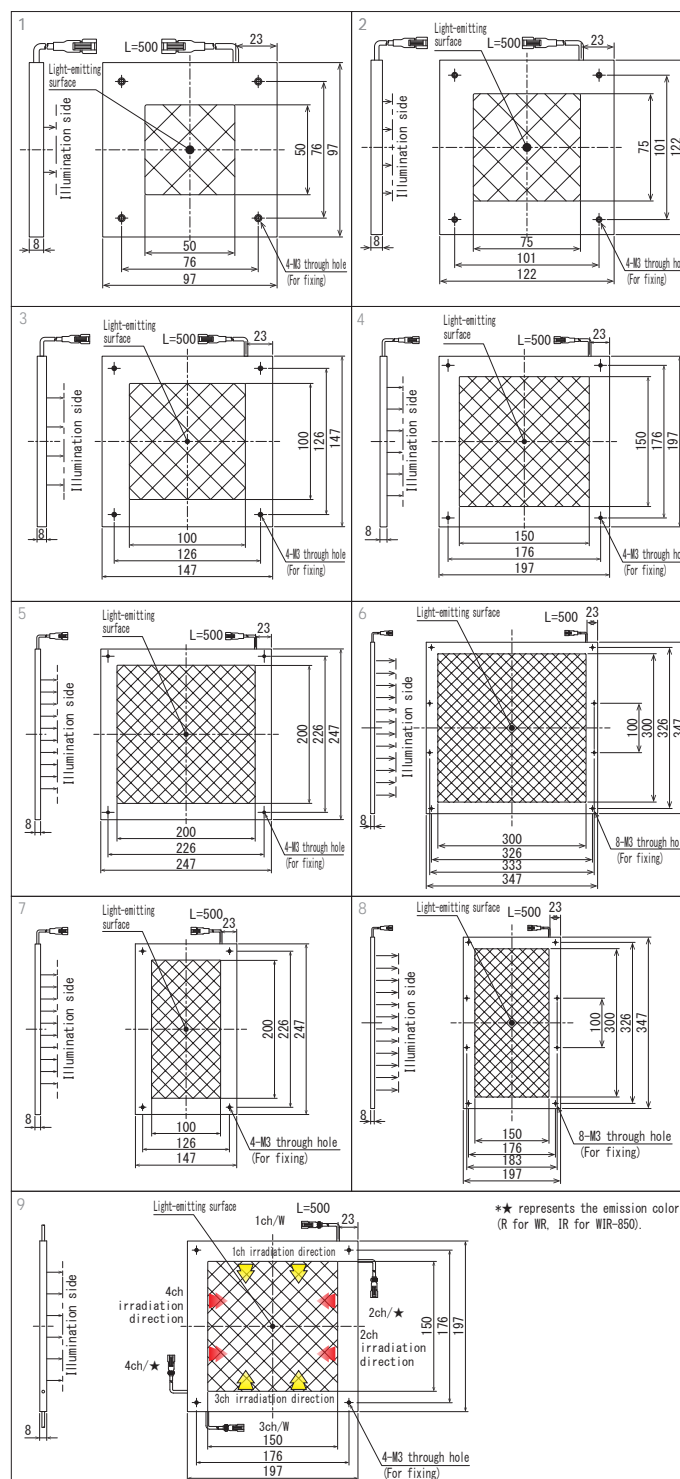24V DC Models Available   Patent Applied for

Side navigation: INDEX · Line Light · Ring Light · Bar Light · Transmissive Light · Dome Light · Coaxial Light · Special Light · Power Supplies · Optional Accessories

Model	Light Color		Power Consumption	Input Voltage	SAG (*)	Power supply type	Power Supply	Drawing
IFHA-50□	R		9.5W	DC12V	D0	①	【Power supply type①】 ILP-30M2 (P.81) IDGB series (P.89) other, overdrive power supply etc.　【Power supply type②】 ILP-60M2-24 (P.81) IDGB-24シリーズ (P.89)　【Power supply type③】 IDGB-■M4 IDGB-■M8 (P.89) other,overdrive power supply (Over 4CH) etc.	1
	W				CB			
	B				AD			
	IR(850)		6W		FF			
IFHA-75□	R		14W		DC			2
	W				E0			
	B				B6			
	IR(850)		9W		FF			
IFHA-100□	R		22W		C3			3
	W				BC			
	B				A5			
	IR(850)		12.5W		FF			
IFHA-150□	R		30W		DA			4
	W				B8			
	B				B6			
	IR(850)		17W		FF			
IFHA-200□HV	R		33W	DC24V	-	②		5
	W							
	B							
IFHA-200□	IR(850)		20.5W	DC12V	FF	①		
IFHA-300□HV	R		46W	DC24V	-	②		6
	W							
	B							
	IR(850)		38W					
IFHA-200/100□	R		20W	DC12V	FF	①		7
	W				FF			
	B				F1			
	IR(850)		17.5W		FF			
IFHA-300/150□HV	R		30W	DC24V	-	②		8
	W							
	B							
	IR(850)		26W					
IFHA-150WR	R	W:7Wx2ch	DC12V	B8(W)	③		9
	W	R:7Wx2ch		DA(R)			
IFHA-150WIR-850	W	W:7Wx2ch	DC12V	B8(W)	③		
	IR(850)	IR:6.2Wx2ch		FF(IR)			

*□represents the color, (R=Red, W=White, B=Blue, IR-850=Infrared).
*■represents the power capacity (30=30W, 50=50W, 100=100W).
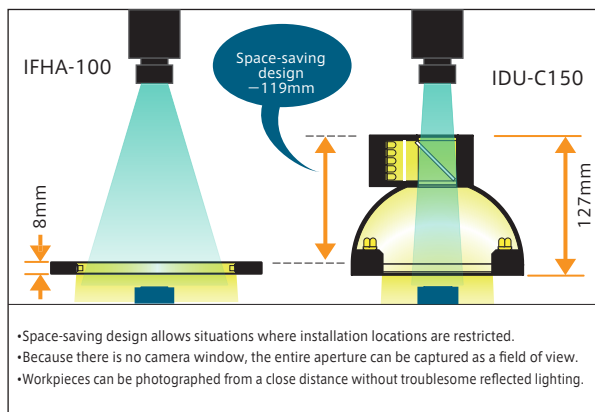*Input voltage is DC12V, but DC24V models are also available(exclude IFHA-75IR-850).
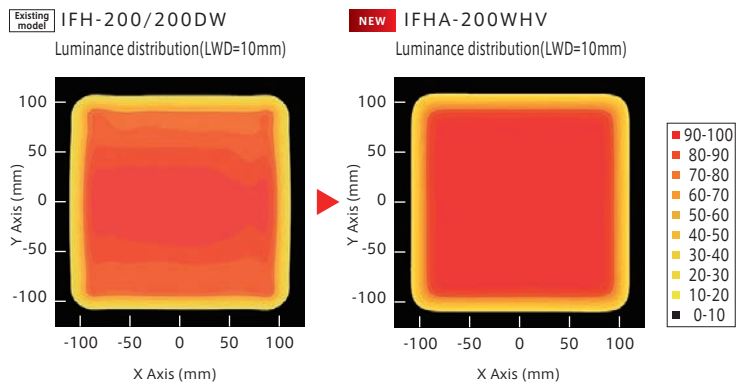*Please refer page 80 to confirm the details of DC 24V models.
＊The SAG value means the maximum voltage setting for SAG power supplies. For details, see page 101.

Drawings (1–9): dimensioned technical drawings showing Light-emitting surface, Illumination side, L=500 cable, 23 dimension, 8 mm thickness, and 4-M3 / 8-M3 through holes (For fixing).

- Drawing 1: 50 / 76 / 97 (X), 50 / 76 / 97 (Y)
- Drawing 2: 75 / 101 / 122
- Drawing 3: 100 / 126 / 147
- Drawing 4: 150 / 176 / 197
- Drawing 5: 200 / 226 / 247
- Drawing 6: 100 / 300 / 326 / 333 / 347
- Drawing 7: 100 / 126 / 147 and 200 / 226 / 247
- Drawing 8: 100 / 300 / 326 / 347 and 150 / 176 / 183 / 197
- Drawing 9: 1ch/W, 2ch/★, 3ch/W, 4ch/★ irradiation directions; 150 / 176 / 197

＊★ represents the emission color (R for WR, IR for WIR-850).

Much lighter and easy installation. Its no camera window design realizes wide field of view

IFHA-100

Space-saving design −119mm

IDU-C150

8mm

127mm

- Space-saving design allows situations where installation locations are restricted.
- Because there is no camera window, the entire aperture can be captured as a field of view.
- Workpieces can be photographed from a close distance without troublesome reflected lighting.

Significant improvement in uniformity

Existing model IFH-200/200DW
Luminance distribution(LWD=10mm)

NEW IFHA-200WHV
Luminance distribution(LWD=10mm)

■	90-100
■	80-90
■	70-80
■	60-70
■	50-60
■	40-50
■	30-40
■	20-30
■	10-20
■	0-10

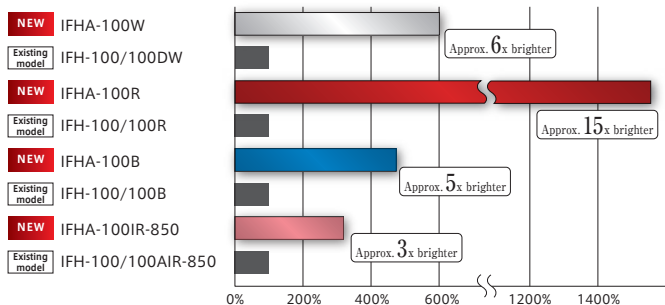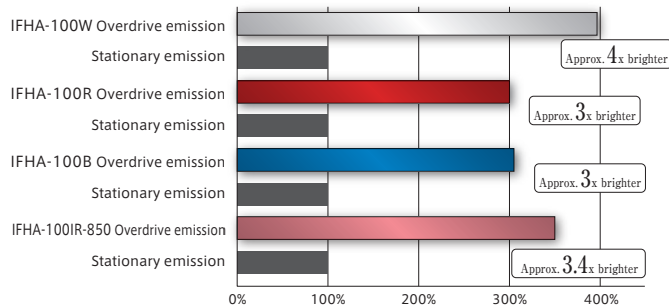## Compared to existing model, it is approximately 6 times brighter (white)

Our improved light guide plate realizes more than tripled illuminance compared to conventional products of the same size.

NEW IFHA-100W
Existing model IFH-100/100DW
Approx. 6x brighter

NEW IFHA-100R
Existing model IFH-100/100R
Approx. 15x brighter

NEW IFHA-100B
Existing model IFH-100/100B
Approx. 5x brighter

NEW IFHA-100IR-850
Existing model IFH-100/100AIR-850
Approx. 3x brighter

0% 200% 400% 600% 1200% 1400%

By operating overdrive, light can become approx. 4 times brighter (When using with white light)

By operating overdrive, a 3-4 times high light intensification can be achieved.

IFHA-100W Overdrive emission
Stationary emission
Approx. 4x brighter

IFHA-100R Overdrive emission
Stationary emission
Approx. 3x brighter

IFHA-100B Overdrive emission
Stationary emission
Approx. 3x brighter

IFHA-100IR-850 Overdrive emission
Stationary emission
Approx. 3.4x brighter
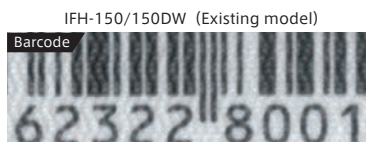
0% 100% 200% 300% 400%

Transparency of the acrylic is greatly improved

The printing can clearly be seen, and that makes inspection of blurring of printing easy.

Object: a package of coffee

IFH-150/150DW （Existing model）

Barcode

62322 8001

IFHA-150W

62322 8001

The barcodes can be clearly seen. That makes recognition of space between codes and width of them easy.
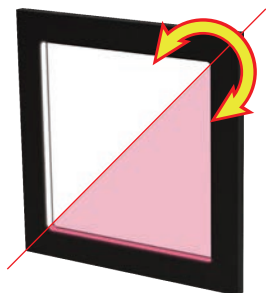
Printing

16.09.29
5.11.G7

Camera:
monochrome camera
USB3.0
Shutter speed:1/1000
Lens:25mm
Aperture:4

16.09.29
5.11.G7

Camera:
monochrome camera
USB3.0
Shutter speed:1/1000
Lens:25mm
Aperture:6

Composite configuration of different luminescent colors can be produced by customization
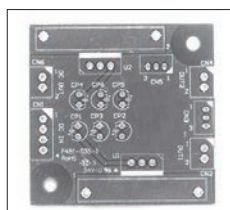
By customizing, two-color model is available.
This customization makes it enable to emphasis the features of objects by two-color irradiation, and save the installation space.
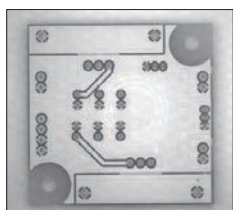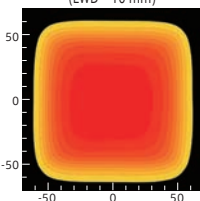
<IR>
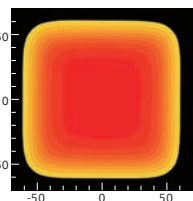Printed circuit board layout patterns can be seen through the printed letters or resist layer.

<White>
Silk print on the circuit board can be seen clearly.

<IFHA-100WIR：White/IR>
Illuminance distribution at white monochromatic irradiation
(LWD = 10 mm)

<IFHA-100W>
Illuminance distribution
(LWD=10mm)

■	90-100
■	80-90
■	70-80
■	60-70
■	50-60
■	40-50
■	30-40
■	20-30
■	10-20
■	0-10

Comparison of the illuminance distribution shows that even two color model has high uniformity.

See the next page for the effects (image examples).

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Image Examples with IFHA series

Brightly irradiates the entire field of view uniformly, while suppressing halation.
Since the IR specification permits a certain type of ink to pass light through, it is possible to obtain an image where the printed areas are filtered out and no longer visible.
Possible to recognize scratches and dust on a printed part.

Simultaneous Inspection of carved seal and printed letters

Object:Button battery

Dome light:IDDA-KH120AW (LWD=10mm)

Although the stamp can be detected, the print can not be recognized.
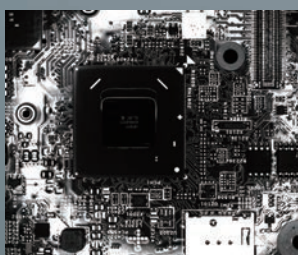Contamination and such on the surface are recognized.

Light:IFHA-150W (LWD=20mm)

Stamping and printing can be recognized at the same time.
Contamination on the surface is suppressed.
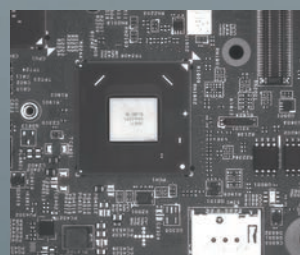
Silk printing inspection on the mounting board

Object:Mounting board

Ring light:IMAR-130W (LWD=100mm)

Halation occurs near the light-emitting element. It becomes dark in the central area of the camera hole.

Light:IFHA-150W (LWD=10mm)

The entire view field can be illuminated homogeneously and silk-printed letters and lines are clearly visible.
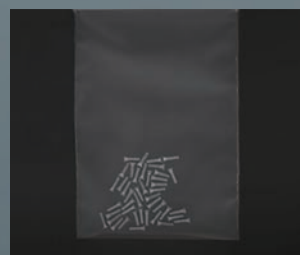
Number inspection in plastic bag

Object: screws in a polyethyl bag

Ring light:IMAR-200W (LWD=80mm)

Halation occurs on the surface of the bag and is not suitable for number inspection in the plastic bag.

Light:IFHA-150W (LWD=10mm)

Reduced surface halation and internal number can be easily inspected.

Printing inspection of curved surfaces such as cans

Object:Can

Bar light:Bar light×2 Oblique irradiation

Barcodes, etc. on the curved surface can not be recognized due to the light reflection.

Light:IFHA-150W (LWD=5mm)

The influence of reflections is small, even on a curved surface, and the recognizable area is comparatively large.

Printing inspection of the recess

Object: Paper container (bottom)

Light:IMAR-130W (LWD=60mm)

Shadows appear around the printed area, therefore, characters are difficult to recognize.

Light:IFHA-150W (LWD=10mm)

Characters can be easily recognized due to low shadow reflection.

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Printing Inspection of Film

Workpiece: Aluminum deposited film

Ring light：IMAR-130W (LWD=50mm)

Color unevenness occurs on the printed area due to halation on the film surface.

Light：IFHA-150W (LWD=20mm)

No color unevenness due to halation, and print and peripheral characters can be clearly recognized.

Inspection of scratches and contamination in the printing area

Object: Paper container lid

Light：IFHA-150W (LWD=15mm)

The reflection of paint / shrink-wrapped surface texture is suppressed and the printed image beneath is clearly readable.
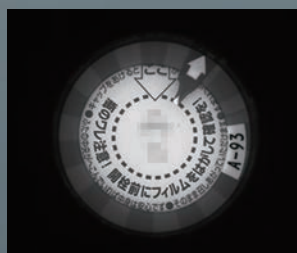

Light：IFHA-150IR-850 (LWD=15mm)

Due to permeation of printing ink, printing can be erased, which makes scratches, dust, etc. in the printing area recognizable.

Inspection of printing, scratches, dust, etc.

Object: metal lid & shrink packaging

Light：IFHA-150W (LWD=15mm)

The reflection of paint / shrink-wrapped surface texture is suppressed and the printed image beneath is clearly readable.

Light：IFHA-150IR-850 (LWD=15mm)

Infrared can erase printing other than printed letters, and can recognize the printed area in addition to scratches, contamination, etc.

LIGHTING STRUCTURE

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