Diffused Lighting

Dome Lights
HPD2 Series

Provides diffused light evenly through the dome-shaped reflective panel

HPD2-250IR860

HPD2-200FC

HPD2-400RD

HPD2-150BL

HPD2-100SW

HPD2-75RD

Applications Visual, text, or color determination inspections on glossy surfaces, curved surfaces, or uneven surfaces; inspection for engraving, damage, or stains on stain finishing; visual inspection of metal with hairline finishing; inspection of parts on circuit boards; etc.

Applicable to a Wide Variety of Industries

It is bright and even if the distance from the workpiece to the Light Unit is changed, there is little change in the uniform region. Therefore, it can be used in a wide range of industries.

Semiconductor industry (Circuit board)

HPD2-100SW (White)

Electronic parts industry (Capacitor)

HPD2-150SW (White)

Food industry (Chocolate)

HPD2-250SW (White)

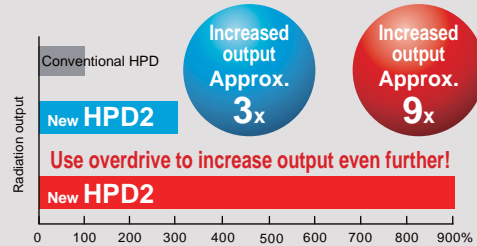**Packaging industry** (Top of a drink container)

HPD2-150SW (White)

Illuminates Diffused Light at High Output

Light from the surface-mounted LEDs is diffused inside the dome-shaped reflective panel. The diffused light from the wide uniform region is illuminated evenly.

Achieved higher output than the conventional product

■ Output comparison with the conventional product

Conventional HPD

New **HPD2**

Increased output Approx. **3x**

Increased output Approx. **9x**

Use overdrive to increase output even further!

New **HPD2**

Radiation output

0 100 200 300 400 500 600 700 800 900%

• This is a comparison between the HPD-100 and HPD2-100 Light Units, using red and white colors.
• It can be combined with a Strobe Control Unit for even brighter emission than continuous emission.
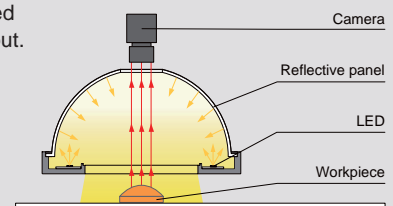• The data included is for reference only. Actual values may vary.

Added two sizes and an infrared and full color (RGB) type

We added the HPD2-75 and HPD2-200 models. Also, we added infrared (860 nm) and full color (RGB) types to the lineup as variation for wavelengths, increasing the applications of our products.

Custom Orders

Please contact your sales representative.

E.g.: Different shape

Format/material

Changed the camera aperture to a rectangle

Customizable items

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

Etc.

Example Configuration

Uses a unique illuminating mechanism to illuminate diffused light at high output.

HPD2-150

Camera

Reflective panel

LED

Workpiece

Various technical documents available.

| PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs |

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Dome Lights

⮕ Imaging Example: Imaging Foreign Materials Mixed in Food

Description	Mixed foreign materials inspection
Workpiece	Macaroni
Conventional lighting	HPD2-200SW
New lighting	HPD2-200IR860: Infrared type
Result	Emphasizes the foreign material

■ Workpiece image

Macaroni

■ HPD2-200SW
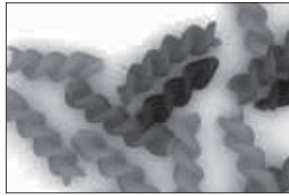
It is difficult to form an image of the foreign material using white light.

■ HPD2-200IR860

It is possible to form an image of the foreign material using infrared light.

This workpiece was processed by for sample imaging.

⮕ Imaging Example: Imaging the Appearance of Multi-Colored Workpieces for Color Determination

■ Workpiece image

Chocolate

Description	Visual inspection
Workpiece	Chocolate
Conventional lighting	–
New lighting	HPD2-200FC: Full color (RGB) type
Result	Allows for multi-color determination

■ HPD2-200FC: Full color (RGB) type
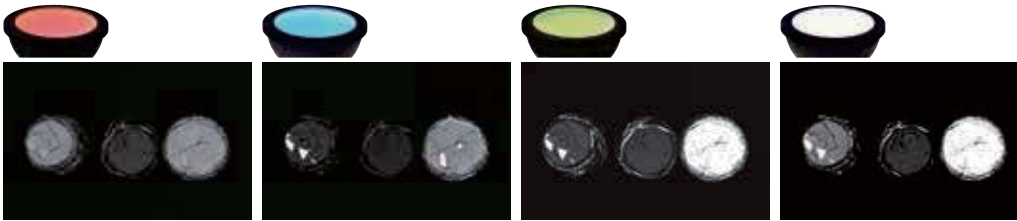
Imaging with red illumination

Imaging with blue illumination
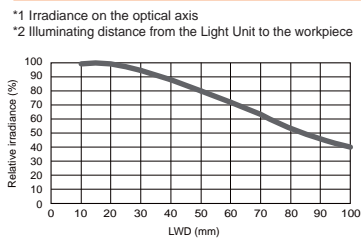
Imaging with green illumination

Imaging with white illumination

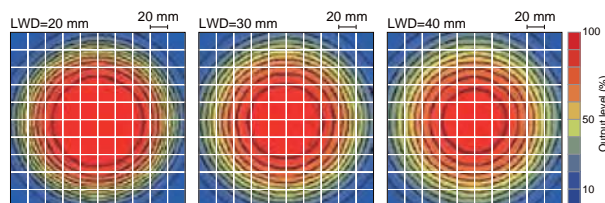## ⮕ Data: Relative Irradiance Graph and Uniformity (Representative Example)

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

❚ HPD2-200SW

Relative irradiance graph [1] (LWD characteristics) [2]

[1] Irradiance on the optical axis
[2] Illuminating distance from the Light Unit to the workpiece

Uniformity (Relative irradiance)

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HPD2 Series

▶ Lineup

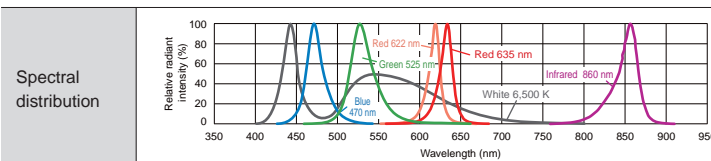| Model name	LED color	Power consumption	Peak wavelength / correlated color temperature	Options	Extension cables	Recommended Control Units		Weight
HPD2-75RD	Red	24 V / 17 W	635 nm	Bracket		PD3		140 g
HPD2-75SW	White	24 V / 16 W	6,500 K			PSB	POD*2	
HPD2-75BL	Blue		470 nm					
HPD2-75IR860	Infrared	24 V / 12 W	860 nm					
HPD2-75FC	Red/Green/Blue	24 V / 6.0 W	622 nm / 525 nm / 470 nm			PD3*1		
HPD2-100RD	Red	24 V / 17 W	635 nm			PD3		160 g
HPD2-100SW	White	24 V / 23 W	6,500 K			PSB	POD*2	
HPD2-100BL	Blue		470 nm					
HPD2-100IR860	Infrared	24 V / 23 W	860 nm		FCB*4 Straight Cable			
HPD2-100FC	Red/Green/Blue	24 V / 11 W	622 nm / 525 nm / 470 nm			PD3*1		
HPD2-150RD	Red	24 V / 27 W	635 nm		FCB-W*5 2-branch Cable	PD3		285 g
HPD2-150SW	White		6,500 K			PSB*3	POD*2	
HPD2-150BL	Blue		470 nm		FCB-F 4-branch Cable	*3 Cannot use infrared.		
HPD2-150IR860	Infrared	24 V / 35 W	860 nm					
HPD2-150FC	Red/Green/Blue	24 V / 15 W	622 nm / 525 nm / 470 nm		FRCB Robot Cable	PD3*1		
HPD2-200RD	Red	24 V / 34 W	635 nm			PD3	POD*2	460 g
HPD2-200SW	White	24 V / 41 W	6,500 K					
HPD2-200BL	Blue		470 nm		*4 The cables with a model name that ends with "-ME7", "-EL2", "-PF", or "-PF-EL9" are not included. *5 The cables with a model name that ends with "-EL2" are not included.			
HPD2-200IR860	Infrared	24 V / 46 W	860 nm					
HPD2-200FC	Red/Green/Blue	24 V / 19 W	622 nm / 525 nm / 470 nm			PD3*1		
HPD2-250RD	Red	24 V / 45 W	635 nm			PD3	POD*2	650 g
HPD2-250SW	White	24 V / 46 W	6,500 K					
HPD2-250BL	Blue		470 nm					
HPD2-250IR860	Infrared	24 V / 46 W	860 nm					
HPD2-250FC	Red/Green/Blue	24 V / 24 W	622 nm / 525 nm / 470 nm			PD3*1		
HPD2-400RD	Red	24 V / 45 W	635 nm	–		PD3	POD*2	1,300 g
HPD2-400SW	White	24 V / 46 W	6,500 K					
HPD2-400BL	Blue		470 nm					
HPD2-400IR860	Infrared	24 V / 46 W	860 nm					
HPD2-400FC	Red/Green/Blue	24 V / 30 W	622 nm / 525 nm / 470 nm			PD3*1		

*1 Use a 3-channel Control Unit for a full color (RGB) type.

▶ LED Properties

Spectral distribution	

Relative radiant intensity (%)
100
80
60
40
20
0
350 400 450 500 550 600 650 700 750 800 850 900 950
Wavelength (nm)

Red 622 nm
Green 525 nm
Red 635 nm
Blue 470 nm
Infrared 860 nm
White 6,500 K

Offers you the most suitable lens filter for each wavelength. For details about the lens filter, refer to P.299.

Be sure to read the "Instruction Guide" included with the product before use and follow the safety precautions upon use.
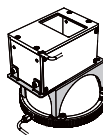The data included is for reference only. Actual values may vary.

▶ Options
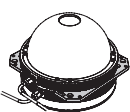
Combine with a Ring Light to achieve imaging by light switching and simultaneous lighting.

Combine with a Coaxial Light to solve uneven illumination and achieve uniform illumination from all directions.

Achieves installation using installation holes with a larger gap than the Light Unit body installation holes, or installation on a vertical surface.

Light joint bracket

Model name	Applicable Light Unit (Common for all colors)
BK-75-JO	HPD2-75 series
BK-100-JO	HPD2-100 series
BK-150-JO	HPD2-150 series
BK-200-JO	HPD2-200 series
BK-250-JO	HPD2-250 series

▶ P.305

Coaxial Light joint bracket

Model name	Applicable Light Unit (Common for all colors)
BK-HPD2-75-LFV	HPD2-75 series
BK-HPD2-100-LFV	HPD2-100 series
BK-HPD2-150-LFV	HPD2-150 series
BK-HPD2-200-LFV	HPD2-200 series
BK-HPD2-250-LFV	HPD2-250 series

▶ P.306

Expansion mounting bracket

Model name	Applicable Light Unit (Common for all colors)
BK-75-CI	HPD2-75 series
BK-100-CI	HPD2-100 series
BK-150-CI	HPD2-150 series
BK-200-CI	HPD2-200 series
BK-250-CI	HPD2-250 series

▶ P.306

**Example of the expansion mounting bracket in use**

Dome Light: Image of usage with the HPD2-250SW Light Unit.

Various technical documents available.

PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs

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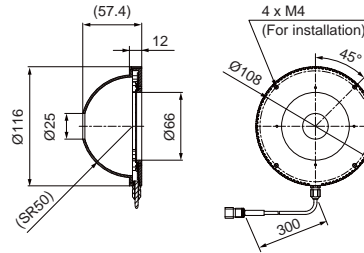
Dome Lights

⬆ Dimensions (mm)
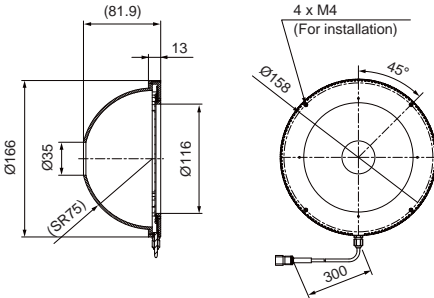M4 and M6 installation holes are tapped and perforated holes.
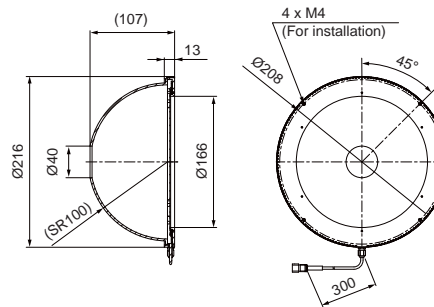
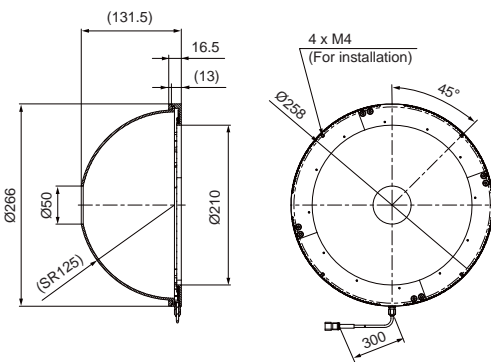HPD2-75RD/SW/BL/FC/IR860
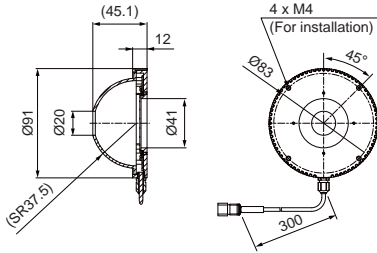
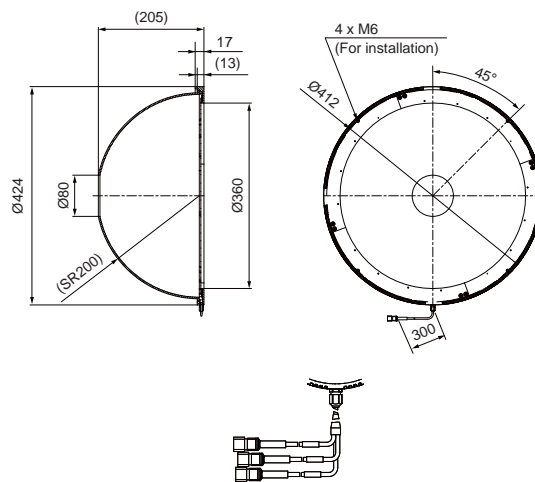HPD2-100RD/SW/BL/FC/IR860

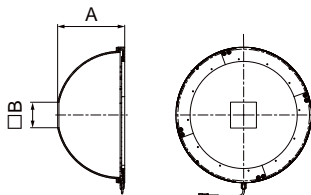HPD2-150RD/SW/BL/FC/IR860

HPD2-200RD/SW/BL/FC/IR860

HPD2-250RD/SW/BL/FC/IR860

HPD2-400RD/SW/BL/FC/IR860

● The camera aperture can be changed to a square.
● Special order

Model	Dimension A	Dimension B
HPD2-75☐-SQ20	45.1	20
HPD2-100☐-SQ30	56.7	30
HPD2-150☐-SQ40	81.3	40
HPD2-200☐-SQ50	105.8	50
HPD2-250☐-SQ60	130.3	60
HPD2-400☐-SQ80	205	80

☐ is a placeholder for letters that indicate the color of the emitted light.
Dimensions are subject to change.

The full color type (HPD2-☐☐FC, HPD2-400FC-FT) has three connectors.
Use a 3-channel Control Unit if controlling intensity separately for each color.

You can change the connectors of the Light Unit cable. Choose between M12 connectors and flying leads. Refer to P.5 for details.

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Side navigation: LDR2, LDR2-LA, LDR-LA1, SQR, SQR-TP, HPR2, LFR, LKR, FPR, FPQ2, LDL2, LDLB, HLDL2, HL, TH2 (5 types), TH, LFL, HPD2, LDM2, LAV, PDM, LFX3, LFX3-PT, LFV3, MSU, MFU, PF, HLDR-IP/HSL-PCL, UV2, UV, LNSP-UV-FN, IR2, IU, HLV3, HLV2, LV, LSP, HFS/HFR, HLV3-NR, HLV3-3M-RGB-4, HLV2-NR, HLV2-3M-RGB-3W, PFBR, PFB3, PFB2, LNLP, LNSP2, LNSP, Coaxial Units, LNSP-FN, LN/LN-HK, LNSD, LND2, HLND, LT, LNV, LNDG, LNIS2, LNIS, LNIS-FN, Telecentric Lens, Macro Lens