High Power Lights
HPR2 / HPD2 Series

"Bright", "Uniform", "Easy to Use"

High Power Ring Lights & High Power Dome Lights

CCS Inc.
"Bright", "Uniform", "Easy to Use"

Improved support by increasing brightness

Achieved higher output than the conventional product

Conventional product: Imaging using the HPD-100SW (white)
New product: Imaging using the HPD2-100SW (white)

Shutter speed: 1/4,000 (sec)
Amount of light: 70% intensity

Improved support by adding sizes and wavelength variation

Added models of two sizes

Added wavelength variation

Providing optimal lighting through a rich lineup

Ring Light HPR2 Series - 7 types, 28 models

<table>
<thead>
<tr>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Red (635 nm)</th>
<th>White (6000 K)</th>
<th>Blue (470 nm)</th>
<th>New Full color (622/525/470 nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HPR2-50 Series</strong> Outer diameter size: Ø50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> HPR2-75 Series Outer diameter size: Ø91</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPR2-100 Series Outer diameter size: Ø116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPR2-150 Series Outer diameter size: Ø116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> HPR2-200 Series Outer diameter size: Ø216</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> HPR2-250 Series Outer diameter size: Ø256</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPR2-400-FT Series Outer diameter size: Ø424</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Dome Light HPD2 Series - 6 types, 30 models

<table>
<thead>
<tr>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Red (635 nm)</th>
<th>White (6500 K)</th>
<th>Blue (470 nm)</th>
<th>New Full color (622/525/470 nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEW</strong> HPD2-75 Series Outer diameter size: Ø91</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> HPD2-100 Series Outer diameter size: Ø116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> HPD2-150 Series Outer diameter size: Ø116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> HPD2-200 Series Outer diameter size: Ø216</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> HPD2-250 Series Outer diameter size: Ø256</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> HPD2-400 Series Outer diameter size: Ø424</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* This is a comparison between the HPR-100 and HPR2-100, using red and white colors.
* This is a comparison between the HPD-100 and HPD2-100, using red and white colors.
* The graphs included are for reference only. They do not guarantee the quality of the product.
* Brightness values based on the camera's spectral sensitivity.

Conventional HPR/HPD

New HPR2/HPD2

Output comparison with the conventional product

Increase output even further using overdrive

Combine with our strobe Control unit to achieve strobe lighting by overdrive.

Amount of light: 70% intensity

* This is a comparison between the HPD-100SW (white) and HPD2-100SW (white)
* For details, refer to pages 5 and 6
* Brightness values based on the camera's spectral sensitivity.

Improved support by adding sizes and wavelength variation

Added models of two sizes

Added wavelength variation

Providing optimal lighting through a rich lineup

Ring Light HPR2 Series

• HPR2-75 model
• HPR2-200 model

Refer to page 3 for examples of usage.

Full color (RGB) type

Refer to page 4 for examples of usage.

Dome Light HPD2 Series

• Full color (RGB) type
• Infrared (860 nm) type

Refer to pages 7 and 8 for examples of usage.

Conventional HPR/HPD

New HPR2/HPD2

Tripled conventional specs

Output comparison with the conventional product

Increase output even further using overdrive

Combine with our strobe Control unit to achieve strobe lighting by overdrive.

Amount of light: 70% intensity

* This is a comparison between the HPR-100 and HPR2-100, using red and white colors.
* This is a comparison between the HPD-100 and HPD2-100, using red and white colors.
* The graphs included are for reference only. They do not guarantee the quality of the product.
* Brightness values based on the camera's spectral sensitivity.

Achieved higher output than the conventional product

Imaging using the HPD-100SW (white)
Imaging using the HPD2-100SW (white)

Shutter speed: 1/4,000 (sec)
Amount of light: 70% intensity

Improved support by adding sizes and wavelength variation

Added models of two sizes

Added wavelength variation

Providing optimal lighting through a rich lineup

Ring Light HPR2 Series - 7 types, 28 models

Dome Light HPD2 Series - 6 types, 30 models

NEW!

NEW!

NEW!

NEW!

NEW!
High Power Lights series Renewal

Achieving expandability through a newly designed bracket

- **Light Joint Bracket**
  Combining the Dome Light and the Ring Light to achieve imaging through one-stage light switching or simultaneous lighting.

- **Coaxial Light Joint Bracket**
  Combining the Dome Light with the Coaxial Light to solve uneven illumination and achieve uniform illumination from every direction.

- **Expansion Mounting Bracket**
  Achieve installation on installation holes with a larger gap than the installation holes on the light, or installation on a vertical surface. Providing the optimal installation based on your imaging environment.

Flexible response through product improvement

Applying a curved type for the diffusion plate of large Ring Lights

- **Conventional product HPR-250**
  HPR-250SW (White)

- **New product HPR2-250**
  NEW!
  HPR2-250SW (White)

---

Allows for selection of the camera-side aperture of the Dome Light

- **Circle type**
  Circle model
  Narrowing the aperture results in a dome effect.

- **Square type**
  Square model
  Widening the aperture broadens the camera’s field of vision.

M12 Connector and Flying Leads Light Unit Cables Are Now Available

- **4-pin M12 Socket Connectors**
  Model name: standard model name + “-M12”
  Polarity & Signal:
  1: (+ DC24)
  2: No Connection
  3: (- GND)
  4: No Connection
  Cable Length: 300mm

- **Flying Leads**
  Model name: standard model name + “-FL”
  Polarity & Signal:
  Anode (+) Brown
  Cathode (-) Blue
  Cable Length: 2000mm

For example, to order the “HPR2-50RD” with an M12 connector attached, specify the model name as “HPR2-50RD-M12”.

Widening the aperture broadens the camera’s field of vision. Narrowing the aperture results in a dome effect.

Applying a curved type for the diffusion plate of large Ring Lights.* For the HPR2-400-FT model, the diffusion plate is flat.

NEW!
High Power Ring Light HPR2 Series

**Uniform illumination of high output diffused light**

Through the surface-mounted LED and specially finished* diffusion plate, we achieved high output illumination of uniform diffused light.

- Cross-section structure of the HPR2-100 (conceptual image)

![Diagram showing the structure of the HPR2-100](image)

* For the HPR2-400-FT model, the diffusion plate is flat.

**Supports a wide variety of applications, from low-angle to high-angle lighting**

Our original illuminating mechanism diffuses and illuminates without wasting any of the light illuminated from the LED. Even if the distance from the workpiece to the light is changed, there is little change in the uniform region. Therefore, it can be used in a wide range of applications.

- Workpiece: Food product container

![Diagram showing the illumination distances](image)

**Added size variation**

**HPR2-75 model** NEW!

Applications: Text recognition on electronics parts, detecting edges of metal parts, etc.

- Comparison of imaging for the HPR2-75RD (red) and with the Ring Light LDR2-70RD2 (red)

  ![Image of workpiece](image)

  Workpiece: Electronics part in embossed tape

  With Ring Lights, reflection from the embossed tape surface makes it difficult to perform stable examination.

  The new HPR2-75RD allows for text imaging that limits surface reflection.

**HPR2-200 Series** NEW!

Applications: Examining food products by color, examining for foreign materials in drugs, etc.

- Comparison of imaging for the HPR2-200SW (white) and with the Ring Light LDR2-90-30SW2 (white)

  ![Image of workpiece](image)

  Workpiece: Snack

  With Ring Lights, reflection from the packaging film makes it difficult to perform stable examination.

  The new HPR2-200SW allows for exterior surface imaging that limits surface reflection.
Comparison of imaging for the conventional HPR-250SW (white) and the new HPR2-250SW (white)

- Workpiece: Instant food product
  - The conventional product had difficulty with imaging of print on the package from a low angle.
  - The new product allows for imaging of print on the package from a low angle.
  - Illuminating distance: 50 mm

HPR2-250 Series NEW!
Applications: Examining text on packaging containers, examining the exterior of plastic products, etc.

Lineup of full color (RGB) types NEW!
Applications: Examining the exterior by color for multi-colored workpieces, examining the exterior of food products, etc.

- Imaging with the HPR2-200FC (full color)
  - Workpiece: Smartphone case
  - Imaging with red illumination
  - Imaging with blue illumination
  - Imaging with green illumination
  - Imaging with white (all colors lit up) illumination

Providing an expansion mounting bracket

- We provide the installation method that is optimal for your examination environment, such as by using the expansion mounting bracket to perform examinations on the side or bottom of the workpiece.

- Examples of using the expansion mounting bracket
  - Ring light: Image of usage with the HPR2-200RD
  - Dome Light: Image of usage with the HPD2-250SW

* The change in the radiation amount over time varies for each color (red, green, blue). Periodic adjustments may be necessary after initial radiation settings.

* Not supported for the HPR2-400-FT or HPD2-400 models.

* Not supported for the HPR2-400-FT or HPD2-400 models.

Refer to the rear cover.
Specifications

### HPR2-50 Series

<table>
<thead>
<tr>
<th>Model</th>
<th>LED color</th>
<th>Power consumption (max.)</th>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Weight (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPR2-50RD</td>
<td>Red</td>
<td>7.6 W</td>
<td>635 nm</td>
<td>46 g</td>
</tr>
<tr>
<td>HPR2-50SW</td>
<td>White</td>
<td>9.1 W</td>
<td>6000 K</td>
<td></td>
</tr>
<tr>
<td>HPR2-50BL</td>
<td>Blue</td>
<td>9.1 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td>HPR2-50FC</td>
<td>(Red/Green/Blue)</td>
<td>3.8 W (Red: 1.0 W / Green: 1.4 W / Blue: 1.4 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
</tr>
</tbody>
</table>

### HPR2-75 Series

<table>
<thead>
<tr>
<th>Model</th>
<th>LED color</th>
<th>Power consumption (max.)</th>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Weight (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPR2-75RD</td>
<td>Red</td>
<td>17 W</td>
<td>635 nm</td>
<td>160 g</td>
</tr>
<tr>
<td>HPR2-75SW</td>
<td>White</td>
<td>16 W</td>
<td>6000 K</td>
<td></td>
</tr>
<tr>
<td>HPR2-75BL</td>
<td>Blue</td>
<td>16 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td>HPR2-75FC</td>
<td>(Red/Green/Blue)</td>
<td>6.0 W (Red: 1.4 W / Green: 2.3 W / Blue: 2.3 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
</tr>
</tbody>
</table>

### HPR2-100 Series

<table>
<thead>
<tr>
<th>Model</th>
<th>LED color</th>
<th>Power consumption (max.)</th>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Weight (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPR2-100RD</td>
<td>Red</td>
<td>17 W</td>
<td>635 nm</td>
<td>170 g</td>
</tr>
<tr>
<td>HPR2-100SW</td>
<td>White</td>
<td>23 W</td>
<td>6000 K</td>
<td></td>
</tr>
<tr>
<td>HPR2-100BL</td>
<td>Blue</td>
<td>23 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td>HPR2-100FC</td>
<td>(Red/Green/Blue)</td>
<td>11 W (Red: 2.8 W / Green: 4.1 W / Blue: 4.1 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
</tr>
</tbody>
</table>

### HPR2-150 Series

<table>
<thead>
<tr>
<th>Model</th>
<th>LED color</th>
<th>Power consumption (max.)</th>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Weight (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPR2-150RD</td>
<td>Red</td>
<td>27 W</td>
<td>635 nm</td>
<td>250 g</td>
</tr>
<tr>
<td>HPR2-150SW</td>
<td>White</td>
<td>27 W</td>
<td>6000 K</td>
<td></td>
</tr>
<tr>
<td>HPR2-150BL</td>
<td>Blue</td>
<td>27 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td>HPR2-150FC</td>
<td>(Red/Green/Blue)</td>
<td>15 W (Red: 3.7 W / Green: 5.5 W / Blue: 5.5 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
</tr>
</tbody>
</table>

### HPR2-200 Series

<table>
<thead>
<tr>
<th>Model</th>
<th>LED color</th>
<th>Power consumption (max.)</th>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Weight (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPR2-200RD</td>
<td>Red</td>
<td>34 W</td>
<td>635 nm</td>
<td>380 g</td>
</tr>
<tr>
<td>HPR2-200SW</td>
<td>White</td>
<td>41 W</td>
<td>6000 K</td>
<td></td>
</tr>
<tr>
<td>HPR2-200BL</td>
<td>Blue</td>
<td>41 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td>HPR2-200FC</td>
<td>(Red/Green/Blue)</td>
<td>19 W (Red: 4.6 W / Green: 6.9 W / Blue: 6.9 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
</tr>
</tbody>
</table>

### HPR2-250 Series

<table>
<thead>
<tr>
<th>Model</th>
<th>LED color</th>
<th>Power consumption (max.)</th>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Weight (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPR2-250RD</td>
<td>Red</td>
<td>45 W</td>
<td>635 nm</td>
<td>510 g</td>
</tr>
<tr>
<td>HPR2-250SW</td>
<td>White</td>
<td>46 W</td>
<td>6000 K</td>
<td></td>
</tr>
<tr>
<td>HPR2-250BL</td>
<td>Blue</td>
<td>46 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td>HPR2-250FC</td>
<td>(Red/Green/Blue)</td>
<td>24 W (Red: 5.5 W / Green: 9.1 W / Blue: 9.1 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
</tr>
</tbody>
</table>

### HPR2-400-FT Series

<table>
<thead>
<tr>
<th>Model</th>
<th>LED color</th>
<th>Power consumption (max.)</th>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Weight (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPR2-400RD-FT</td>
<td>Red</td>
<td>45 W</td>
<td>635 nm</td>
<td>1,050 g</td>
</tr>
<tr>
<td>HPR2-400SW-FT</td>
<td>White</td>
<td>46 W</td>
<td>6000 K</td>
<td></td>
</tr>
<tr>
<td>HPR2-400BL-FT</td>
<td>Blue</td>
<td>46 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td>HPR2-400FC-FT</td>
<td>(Red/Green/Blue)</td>
<td>30 W (Red: 7.3 W / Green: 11 W / Blue: 11 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
</tr>
</tbody>
</table>

* Compared to the conventional HPR Series, the power consumption, peak wavelength, and correlated color temperature have changed. Confirm specifications and the applicable Control Unit before selecting.

* Regarding use of the full color type: The change in the radiation amount over time varies for each color (red, green, blue). Periodic adjustments may be necessary after initial radiation settings.

#### Common specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Connector</td>
<td>SMR-03V-B *</td>
</tr>
<tr>
<td>Polarity</td>
<td>1: (+), 2: NC, 3: (-)</td>
</tr>
<tr>
<td>Cable length</td>
<td>300 mm</td>
</tr>
<tr>
<td>Cooling method</td>
<td>Natural cooling</td>
</tr>
<tr>
<td>Operating environment</td>
<td>Temperature: 0 to 40°C, Humidity: 20% to 85% RH (with no condensation)</td>
</tr>
<tr>
<td>Storage environment</td>
<td>Temperature: -20 to 60°C, Humidity: 20% to 85% RH (with no condensation)</td>
</tr>
<tr>
<td>CE marking</td>
<td>Safety standard: EN62471 compliant</td>
</tr>
<tr>
<td>Environmental regulation</td>
<td>RoHS compliant</td>
</tr>
<tr>
<td>Case material</td>
<td>Aluminum alloy, Resin</td>
</tr>
</tbody>
</table>

* There are three connectors for the full color type.

#### Light spectrum

![Light spectrum graph]

Strobe lighting through overdrive achieves high output that is approximately triple* of the constant lighting

* This is a calculated value. Results may vary for individual units.

Combine with our strobe Control Unit (PTU2/BB Series) to achieve strobe lighting by overdrive. This allows for lighting much brighter than constant lighting (the full color type is not supported).

* Overdrive: The voltage or current provided to the light is increased, allowing for lighting brighter than normal.
Data: Radiation illumination graph / uniformity graph (Representative example)

* The graphs included are for reference only. They do not guarantee the quality of this product.

Dimensions (mm)

- **HPR2-75SW**
- **HPR2-200SW**
- **HPR2-50RD/SW/BL/FC**
- **HPR2-75RD/SW/BL/FC**
- **HPR2-100RD/SW/BL/FC**
- **HPR2-150RD/SW/BL/FC**
- **HPR2-200RD/SW/BL/FC**
- **HPR2-250RD/SW/BL/FC**
- **HPR2-400RD-FT/SW-FT/BL-FT/FC-FT**

* The full color type (HPR2-□□□FC, HPR2-400FC-FT) has three connectors. Use a Control Unit equipped with three channels when adjusting intensity by color.

* The full color type and our company’s strobe Control Unit (PTU2/BB Series) cannot be used together.

* For the HPR2-400-FT model, the diffusion plate is flat.
High Power Dome Light HPD2 Series

Uniform illumination of high output diffused light
Light from the surface-mounted LED is scattered inside of the dome-shaped reflective diffusion panel. The scattered light from the wide uniform region is illuminated onto the workpiece surface evenly.

⇒ Cross-section structure of the HPD2-100 (conceptual image)

Reflective diffusion panel
Aluminum chassis
Mounting board
Surface-mounted LED
Surface-mounted LED

Supports applications for a wide variety of industries
The Dome Lights are applicable for uses in various industry. The usage includes the appearance inspection of the glossy, curved or uneven surface, and also includes the printing inspection, color discrimination inspection and so on.

⇒ Semiconductor industry
(Substrate)
HPD2-100SW (White)
⇒ Electronics part industry
(Condenser)
HPD2-150SW (White)

⇒ Food industry
(Chocolate)
HPD2-75RD (red)
⇒ Packaging industry
(Top of a beverage container)
HPD2-250SW (White)

⇒ Imaging via the HPD2-200SW (White)

Workpiece: Macaroni

Performs accurate imaging of the engraved text, reducing reflection from the nut surface.

⇒ Imaging via the HPD2-75RD (red)

Workpiece: Nut

Performs accurate imaging of the engraved text, reducing reflection from the nut surface.

⇒ Imaging via the HPD2-200SW (White)

Workpiece: Metal parts

Performing accurate imaging of the exterior, reducing reflection from the metal surface.

Lineup of infrared variation

Applications: Examining for foreign material mixed in with food products, examining exterior of packaging, etc.

⇒ Comparison of imaging for the HPD2-200IR860 (infrared) and HPD2-200SW (white)

Workpiece: Macaroni

White light imaging makes differentiating between the foreign material and the macaroni difficult.

Infrared light imaging allows for differentiating between the foreign material and the macaroni.

Added size variation

HPD2-75 model  NEW!
Applications: Examining the text and exterior of metal parts, etc.

⇒ Imaging via the HPD2-75RD (red)

Workpiece: Nut

Performs accurate imaging of the engraved text, reducing reflection from the nut surface.

HPD2-200 model  NEW!
Applications: Examining faults, engraving, or print on glossy surfaces, etc.

⇒ Imaging via the HPD2-200SW (White)

Workpiece: Metal parts

Performing accurate imaging of the exterior, reducing reflection from the metal surface.

Added wavelength variation

Applications: Examining the text and exterior of metal parts, etc.

⇒ Imaging via the HPD2-75RD (red)

Workpiece: Nut

Performs accurate imaging of the engraved text, reducing reflection from the nut surface.

Applications: Examining faults, engraving, or print on glossy surfaces, etc.

⇒ Imaging via the HPD2-200SW (White)

Workpiece: Metal parts

Performing accurate imaging of the exterior, reducing reflection from the metal surface.

Applications: Examining for foreign material mixed in with food products, examining exterior of packaging, etc.

⇒ Comparison of imaging for the HPD2-200IR860 (infrared) and HPD2-200SW (white)

Workpiece: Macaroni

White light imaging makes differentiating between the foreign material and the macaroni difficult.

Infrared light imaging allows for differentiating between the foreign material and the macaroni.
NEW!

Comparison of imaging via the HPD2-200FC (full color)

Workpiece: Chocolate

Imaging with red illumination
Imaging with blue illumination
Imaging with green illumination
Imaging with white (all colors lit up) illumination

Provided two types of joint brackets

Achieve optimal imaging by combining the Dome Light HPD2 Series with the Ring Light or Coaxial Light.

Examples of using the light joint bracket

Comparison of imaging for the HPD2-75RD (red) and the combination with the low angle light LDR-96RD2-LA1 (red)

Workpiece: Electronics part on a substrate

With Dome Light imaging, the surface text is erased but the foreign materials and dirt are captured.
Combining the Dome Light and the low angle light allows for imaging of the text, foreign material, and dirt on the surface.

Examples of using the Coaxial Light joint bracket

Comparison of imaging for the HPD2-200RD (red) and the combination with the Coaxial Light LFV3-70RD (red)

Workpiece: Pet food container

Imaging with Dome Light captures reflections from the bumps on the container.
Allows for uniform imaging of the whole container by combining the Dome Light with a Coaxial Light.
## Specifications

<table>
<thead>
<tr>
<th>Series name</th>
<th>Model</th>
<th>LED color</th>
<th>Power consumption (max.)</th>
<th>Peak wavelength/Correlated color temperature (typ.)</th>
<th>Weight (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HPD2-75 Series</strong></td>
<td>HPD2-75RD</td>
<td>Red</td>
<td>17 W</td>
<td>635 nm</td>
<td>140 g</td>
</tr>
<tr>
<td></td>
<td>HPD2-75SW</td>
<td>White</td>
<td>16 W</td>
<td>6500 K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-75BL</td>
<td>Blue</td>
<td>16 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-75FC (Red/Green/Blue)</td>
<td>6.0 W (Red: 1.4 W / Green: 2.3 W / Blue: 2.3 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-75IR860</td>
<td>Infrared</td>
<td>12 W</td>
<td>860 nm</td>
<td></td>
</tr>
<tr>
<td><strong>HPD2-100 Series</strong></td>
<td>HPD2-100RD</td>
<td>Red</td>
<td>17 W</td>
<td>635 nm</td>
<td>160 g</td>
</tr>
<tr>
<td></td>
<td>HPD2-100SW</td>
<td>White</td>
<td>23 W</td>
<td>6500 K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-100BL</td>
<td>Blue</td>
<td>23 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-100FC (Red/Green/Blue)</td>
<td>11 W (Red: 2.8 W / Green: 4.1 W / Blue: 4.1 W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-100IR860</td>
<td>Infrared</td>
<td>23 W</td>
<td>860 nm</td>
<td></td>
</tr>
<tr>
<td><strong>HPD2-150 Series</strong></td>
<td>HPD2-150RD</td>
<td>Red</td>
<td>27 W</td>
<td>635 nm</td>
<td>285 g</td>
</tr>
<tr>
<td></td>
<td>HPD2-150SW</td>
<td>White</td>
<td>27 W</td>
<td>6500 K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-150BL</td>
<td>Blue</td>
<td>27 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-150FC (Red/Green/Blue)</td>
<td>15 W (Red: 3.7W / Green: 5.5W / Blue: 5.5W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-150IR860</td>
<td>Infrared</td>
<td>35 W</td>
<td>860 nm</td>
<td></td>
</tr>
<tr>
<td><strong>HPD2-200 Series</strong></td>
<td>HPD2-200RD</td>
<td>Red</td>
<td>34 W</td>
<td>635 nm</td>
<td>460 g</td>
</tr>
<tr>
<td></td>
<td>HPD2-200SW</td>
<td>White</td>
<td>41 W</td>
<td>6500 K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-200BL</td>
<td>Blue</td>
<td>41 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-200FC (Red/Green/Blue)</td>
<td>19 W (Red: 4.6W / Green: 6.9W / Blue: 6.9W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-200IR860</td>
<td>Infrared</td>
<td>46 W</td>
<td>860 nm</td>
<td></td>
</tr>
<tr>
<td><strong>HPD2-250 Series</strong></td>
<td>HPD2-250RD</td>
<td>Red</td>
<td>45 W</td>
<td>635 nm</td>
<td>650 g</td>
</tr>
<tr>
<td></td>
<td>HPD2-250SW</td>
<td>White</td>
<td>46 W</td>
<td>6500 K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-250BL</td>
<td>Blue</td>
<td>46 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-250FC (Red/Green/Blue)</td>
<td>24 W (Red: 5.5W / Green: 9.1W / Blue: 9.1W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-250IR860</td>
<td>Infrared</td>
<td>46 W</td>
<td>860 nm</td>
<td></td>
</tr>
<tr>
<td><strong>HPD2-400 Series</strong></td>
<td>HPD2-400RD</td>
<td>Red</td>
<td>45 W</td>
<td>635 nm</td>
<td>1,300 g</td>
</tr>
<tr>
<td></td>
<td>HPD2-400SW</td>
<td>White</td>
<td>46 W</td>
<td>6500 K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-400BL</td>
<td>Blue</td>
<td>46 W</td>
<td>470 nm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-400FC (Red/Green/Blue)</td>
<td>30 W (Red: 7.3W / Green: 11W / Blue: 11W)</td>
<td>(622 nm / 525 nm / 470 nm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPD2-400IR860</td>
<td>Infrared</td>
<td>46 W</td>
<td>860 nm</td>
<td></td>
</tr>
</tbody>
</table>

* Compared to the conventional HPR Series, the power consumption, peak wavelength, and correlated color temperature have changed. Confirm specifications and the applicable Control Unit before selecting.
* Regarding use of the full color type: The change in the radiation amount over time varies for each color (red, green, blue). Periodic adjustments may be necessary after initial radiation settings.

### Common specifications

- **Input voltage**: 24 VDC
- **Connector**: SMR-03V-B *
- **Polarity**: 1: (+), 2: NC, 3: (-)
- **Cable length**: 300 mm
- **Cooling method**: Natural cooling
- **Operating environment (indoors only)**: 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**: Safety standard: EN62471 compliant
- **Environmental regulation**: RoHS compliant
- **Case material**: Aluminum alloy, Resin

* There are three connectors for the full color type.

### Light spectrum

![Light spectrum graph]

**Strobe lighting through overdrive achieves high output that is approximately triple* of the constant lighting**

* This is a calculated value. Results may vary for individual units.

Combine with our strobe Control Unit (PTU2/BB Series) to achieve strobe lighting by overdrive.

This allows for lighting much brighter than constant lighting (the full color type is not supported).

* Overdrive: The voltage or current provided to the light is increased, allowing for lighting brighter than normal.
**Data: Radiation illumination graph / uniformity graph (Representative example)**

* The graphs included are for reference only. They do not guarantee the quality of this product.

**HPD2-75SW**

- [Graph 1: Radiation illumination graph]
- [Graph 2: Uniformity graph]
- Illuminating distance: 10 mm
- Output level (%)

**HPD2-200SW**

- [Graph 1: Radiation illumination graph]
- [Graph 2: Uniformity graph]
- Illuminating distance: 10 mm
- Output level (%)

---

**Dimensions (mm)**

- **HPD2-75RD/SW/BL/FC/IR860**
  - [Diagram 1]
  - Dimensions:
    - A dimension: 45.1
    - B dimension: 20

- **HPD2-100RD/SW/BL/FC/IR860**
  - [Diagram 2]
  - Dimensions:
    - A dimension: 56.7
    - B dimension: 30

- **HPD2-250RD/SW/BL/FC/IR860**
  - [Diagram 3]
  - Dimensions:
    - A dimension: 105.8
    - B dimension: 50

- **HPD2-400RD/SW/BL/FC/IR860**
  - [Diagram 4]
  - Dimensions:
    - A dimension: 205
    - B dimension: 80

---

**Square type dimensions**

- [Diagram 5]

---

**Dimensions table**

<table>
<thead>
<tr>
<th>Model</th>
<th>A dimension</th>
<th>B dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPD2-75RD-SQ20</td>
<td>45.1</td>
<td>20</td>
</tr>
<tr>
<td>HPD2-100RD-SQ30</td>
<td>56.7</td>
<td>30</td>
</tr>
<tr>
<td>HPD2-150RD-SQ40</td>
<td>81.3</td>
<td>40</td>
</tr>
<tr>
<td>HPD2-200RD-SQ50</td>
<td>105.8</td>
<td>50</td>
</tr>
<tr>
<td>HPD2-250RD-SQ60</td>
<td>130.3</td>
<td>60</td>
</tr>
<tr>
<td>HPD2-400RD-SQ80</td>
<td>205</td>
<td>80</td>
</tr>
</tbody>
</table>

1. A is a placeholder for letters that indicate the color of the emitted light.
2. The full color type (HPD2-3C3FC) has three connectors.
3. Use a Control Unit equipped with three channels when adjusting intensity by color.
4. The full color type and our company’s strobe Control Unit (PTU/BB Series) cannot be used together.
## Light Joint Bracket
( Includes two clamps and light installation screws )

<table>
<thead>
<tr>
<th>Bracket Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BK-75-JO</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-75 colors)</td>
</tr>
<tr>
<td><strong>BK-100-JO</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-100 colors)</td>
</tr>
<tr>
<td><strong>BK-150-JO</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-150 colors)</td>
</tr>
<tr>
<td><strong>BK-200-JO</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-200 colors)</td>
</tr>
<tr>
<td><strong>BK-250-JO</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-250 colors)</td>
</tr>
</tbody>
</table>

**Installation image for the HPD2-100 and HPD2-150**

**Supported Ring Lights**
(HPD2 Series)

**Supported Dome Lights**
(HPR2 Series)

---

## Coaxial Light Joint Bracket
( Includes one clamp and light installation screws )

<table>
<thead>
<tr>
<th>Bracket Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BK-HPD2-75-LFV</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-75 colors)</td>
</tr>
<tr>
<td><strong>BK-HPD2-100-LFV</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-100 colors)</td>
</tr>
<tr>
<td><strong>BK-HPD2-150-LFV</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-150 colors)</td>
</tr>
<tr>
<td><strong>BK-HPD2-200-LFV</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-200 colors)</td>
</tr>
<tr>
<td><strong>BK-HPD2-250-LFV</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-250 colors)</td>
</tr>
</tbody>
</table>

**Installation image for the HPD2-100 and LFV3-50**

**Supported Coaxial Light**
Used for all LFV3-35 colors

**Supported Dome Lights**
(HPD2 Series)

---

## Expansion Mounting Bracket
( Includes two clamps and light installation screws )

<table>
<thead>
<tr>
<th>Bracket Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BK-50-CI</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-50 colors)</td>
</tr>
<tr>
<td><strong>BK-75-CI</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-75 colors)</td>
</tr>
<tr>
<td><strong>BK-100-CI</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-100 colors)</td>
</tr>
<tr>
<td><strong>BK-150-CI</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-150 colors)</td>
</tr>
<tr>
<td><strong>BK-200-CI</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-200 colors)</td>
</tr>
<tr>
<td><strong>BK-250-CI</strong></td>
</tr>
<tr>
<td>( Used for all HPD2-250 colors)</td>
</tr>
</tbody>
</table>

**Installation image for the HPD2-100**

**Supported Ring Lights**
(HPR2 Series)

**Supported Dome Lights**
(HPD2 Series)

---

* If you would like to use the Light Joint Brackets together with the Coaxial Light Joint Bracket, contact CCS.

• **"CCS", "LIGHTING SOLUTION", "HPR", and "HPD"** are the trademarks or registered trademarks of CCS.

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### CAUTION

• 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.