

Low-angle Ring Lights

FPR series

Provides diffused light at a low angle from an angled emitting surface

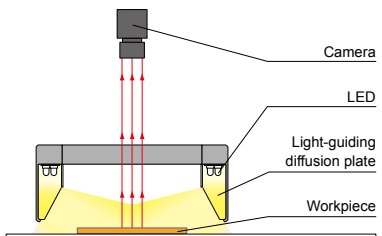


Applications Edge extraction of metal parts, character recognition for electronic parts, inspection for parts on circuit boards, label inspections, and imaging of alignment marks, etc.

Characteristics

Light from the vertically-arranged LEDs is transmitted through the light-guiding diffusion plate and uniform diffused light is illuminated centrally on the workpiece from a low angle.

Example configuration (FPR-100)



We accept custom orders. Please feel free to inquire.

- Change to format
- Increase brightness
- Change to wavelength, etc.

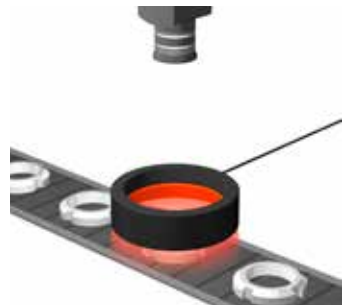
Imaging example: Exterior imaging for metal parts



Workpiece: Nut for bearings



LED Ring Light
It is difficult to evenly illuminate the slanted exterior.



FPR-136RD2
It is possible to evenly illuminate the slanted exterior.

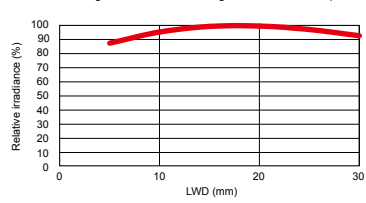
Data: Relative irradiance graph/Uniformity graph (Representative example)

*The graph included is for reference only and does not guarantee the quality of this product.

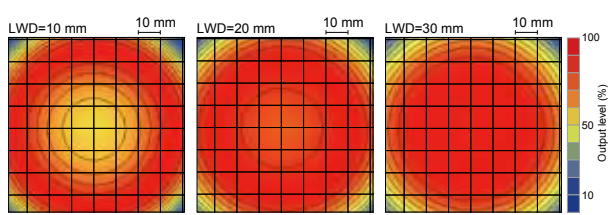
FPR-100RD2

Relative irradiance graph (LWD Characteristics)^{*1}

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



Uniformity graph (Relative irradiance)



LDR2	Direct Lighting
LDR2-LA	Direct Lighting
LDR-LA1	Direct Lighting
SQR	Direct Lighting
SQR-TP	Direct Lighting
HLDR-IP	Convergent Lighting
HPR2	Diffused Lighting
HPR	Diffused Lighting
LFR	Diffused Lighting
LKR	Diffused Lighting
FPR	Diffused Lighting
FPQ2	Diffused Lighting
LDL2	Direct Lighting
LDLB	Direct Lighting
HLDL2	Direct Lighting
TH	Diffused Lighting
LFL	Diffused Lighting
HPD2	Diffused Lighting
HPD	Diffused Lighting
LDM2	Diffused Lighting
LAV	Diffused Lighting
PDM	Diffused Lighting
LFX2	Diffused Lighting
LFV3	Diffused Lighting
LFV2	Diffused Lighting
MSU	Collimated Lighting
MFU	Collimated Lighting
UV2	Ultraviolet Lighting
UV	Ultraviolet Lighting
LNSP-UV-FN	Ultraviolet Lighting
IR2	Infrared Lighting
HLV2	Spot Lighting, Etc.
LV	Spot Lighting, Etc.
LSP	Spot Lighting, Etc.
HFS/HFR	Spot Lighting, Etc.
HLV2-NR	Spot Lighting, Etc.
HLV2-3M-RGB-3W	Spot Lighting, Etc.
PFB2	Convergent Lighting
PFBR	Convergent Lighting
LNSP	Convergent Lighting
CU-LNSP	Convergent Lighting
LNSP-FN	Convergent Lighting
LN/LN-HK	Convergent Lighting
LNLD	Diffused Lighting
LND2	Diffused Lighting
HLND	Diffused Lighting
LT	Diffused Lighting
LN/HLDN	Diffused Lighting
LNIS	Oblique Angled Lighting
LNIS-FN	Oblique Angled Lighting
Telecentric Lens	Lenses
Macro Lens	Lenses

Lineup

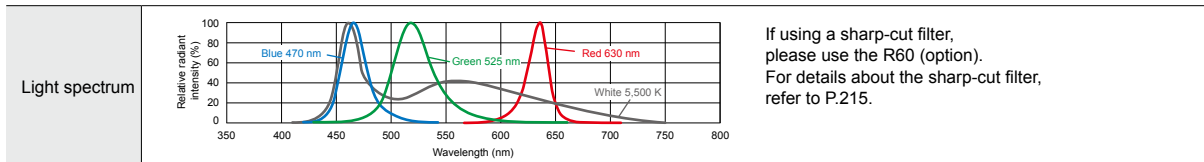
Model name	LED color	Power consumption	Peak wavelength/ correlated color temperature	Options	Recommended Control Units	Weight				
FPR-100RD2	Red	24 V / 6.1 W	630 nm	-	<table border="1"> <tr> <td>PD3</td> <td>CC-ST-1024</td> </tr> <tr> <td>PSB</td> <td>PTU2</td> </tr> </table>	PD3	CC-ST-1024	PSB	PTU2	220 g
PD3	CC-ST-1024									
PSB	PTU2									
FPR-100SW2	White		5,500 K							
FPR-100BL2	Blue	470 nm								
FPR-100GR2	Green	525 nm								
FPR-136RD2	Red	24 V / 9.1 W	630 nm	-	<table border="1"> <tr> <td>PD3</td> <td>CC-ST-1024*</td> </tr> <tr> <td>PSB</td> <td>PTU2</td> </tr> </table> <p>*Can only use red.</p>	PD3	CC-ST-1024*	PSB	PTU2	300 g
PD3	CC-ST-1024*									
PSB	PTU2									
FPR-136SW2	White		5,500 K							
FPR-136BL2	Blue	470 nm								
FPR-136GR2	Green	525 nm								
FPR-180RD2	Red	24 V / 13 W	630 nm	-	<table border="1"> <tr> <td>PD3</td> <td></td> </tr> <tr> <td>PSB</td> <td>PTU2</td> </tr> </table>	PD3		PSB	PTU2	400 g
PD3										
PSB	PTU2									
FPR-180SW2	White		5,500 K							
FPR-180BL2	Blue	470 nm								
FPR-180GR2	Green	525 nm								

Extension Cables ▶ P.222

Control Unit Selection Guide ▶ P.181

Control Unit Page ▶ P.185

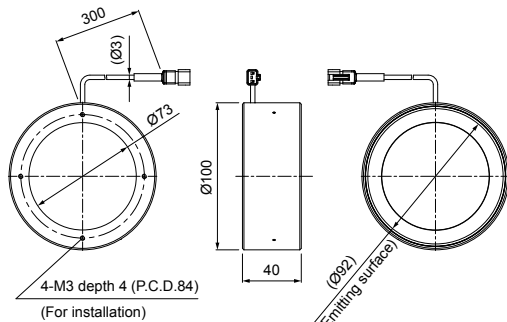
LED properties



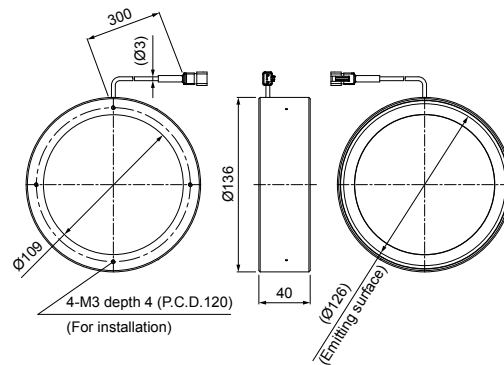
Be sure to read the "Instruction Guide" included with the product before use and observe cautionary information. The data included is for reference only and does not guarantee the quality of this product.

Dimensions (mm)

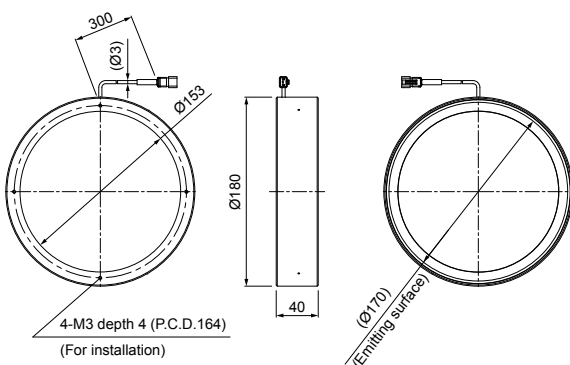
FPR-100RD2/SW2/BL2/GR2



FPR-136RD2/SW2/BL2/GR2



FPR-180RD2/SW2/BL2/GR2



You can change the connectors of the Light Unit cable. Choose between M12 connectors and flying leads. Refer to P.125 for details.