

# Low-angle Ring Lights

## FPR series

Refer to our website for product details.

CCS FPR

Search



You can also use your smartphone or cell phone.

Use a search engine.

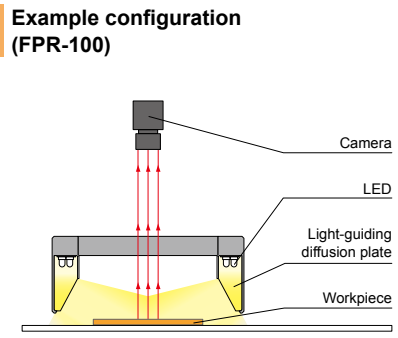
Provides diffused light at a low angle from an angled emitting surface



**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.



We accept custom orders. Please feel free to inquire.

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

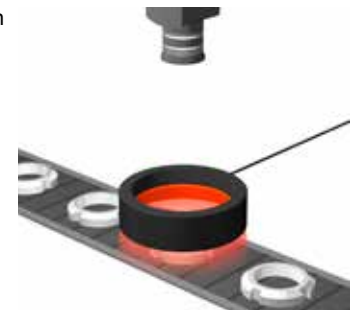
### Imaging example: Exterior imaging for metal parts



Workpiece: Nut for bearings



It is difficult to evenly illuminate the slanted exterior.



It is possible to evenly illuminate the slanted exterior.

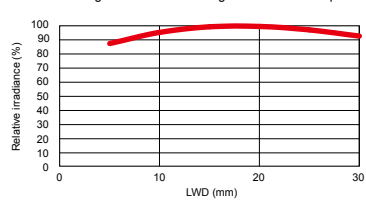
### Data: Relative irradiance graph/Uniformity graph (Representative example)

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

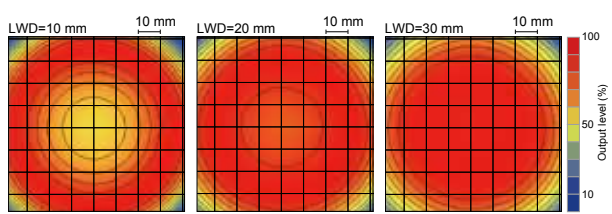
#### FPR-100RD2

Relative irradiance graph<sup>\*1</sup>  
(LWD Characteristics)<sup>\*2</sup>

\*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	Direct Lighting
LDL2	Direct Lighting
LDLB	Direct Lighting
HLDL2	Direct Lighting
TH	Direct Lighting
LFL	Direct Lighting
HPD2	Diffused Lighting
HPD	Diffused Lighting
LDM2	Diffused Lighting
LAV	Diffused Lighting
PDM	Diffused Lighting
LFX2	Collimated Lighting
LFV3	Collimated Lighting
LFV2	Collimated 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
LNSD	Diffused Lighting
LND2	Diffused Lighting
HLND	Diffused Lighting
LT	Diffused Lighting
LNW/HLDN	Diffused Lighting
LNIS	Oblique Angled Lighting
LNIS-FN	Oblique Angled Lighting
Telecentric Lens	Lenses
Macro Lens	Lenses

We have various materials.

- PDF Drawings
- DXF Drawings
- 3D CAD
- Instruction Guides
- Product Filers
- Imaging Samples
- Data Sheets
- Examples of Custom Ordered Products

Download here. <http://www.ccs-grp.com/dl/>

LDR2  
LDR2-LA  
LDR-LA1  
SQR  
SQR-TP

HLDR-IP

HPR2  
HPR  
LFR  
LKR  
FPR  
FPQ2LDL2  
LDLBHLDL2  
THLFL  
HPD2  
HPD  
LDM2  
LAV  
PDM  
LFX2  
LFV3  
LFV2MSU  
MFUUV2  
UV  
LNSP-UV-FN

IR2

HLV2  
LVLSP  
HFS/HFR  
HLV2-NR  
HLV2-3M-RGB-3W  
PFB2  
PFBRLNSP  
CU-LNSP  
LNSP-FN  
LN/LN-HKLNSD  
LND2  
HLNDLT  
LNV/HLDN

LNIS

LNIS-FN

Telecentric Lens  
Macro Lens

## Lineup

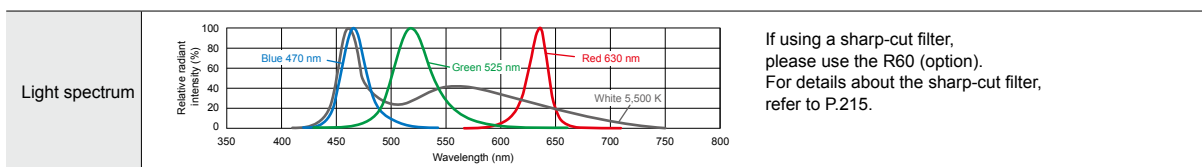
Model name	LED color	Power consumption	Peak wavelength/ correlated color temperature	Options	Recommended Control Units	Weight
FPR-100RD2	Red	24 V / 6.1 W	630 nm	-	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">PD3</div> <div style="border: 1px solid black; padding: 2px;">CC-ST-1024</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;">PSB</div> <div style="border: 1px solid black; padding: 2px;">PTU2</div> </div>	220 g
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	-	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">PD3</div> <div style="border: 1px solid black; padding: 2px;">CC-ST-1024*</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px;">PSB</div> <div style="border: 1px solid black; padding: 2px;">PTU2</div> </div> <p style="font-size: small; margin-top: 5px;">*Can only use red.</p>	300 g
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	-	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">PD3</div> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">PSB</div> <div style="border: 1px solid black; padding: 2px;">PTU2</div> </div>	400 g
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

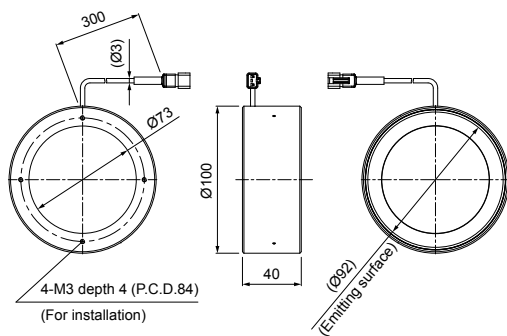
## LED properties



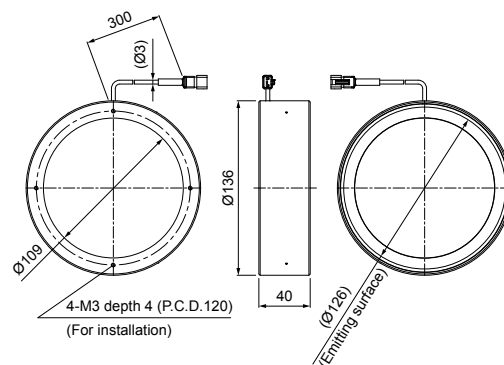
Be sure to read the "Instruction Guide" included with the product before use and observe cautionary information. The data included is for reference only and does not guarantee the quality of this product.

## Dimensions (mm)

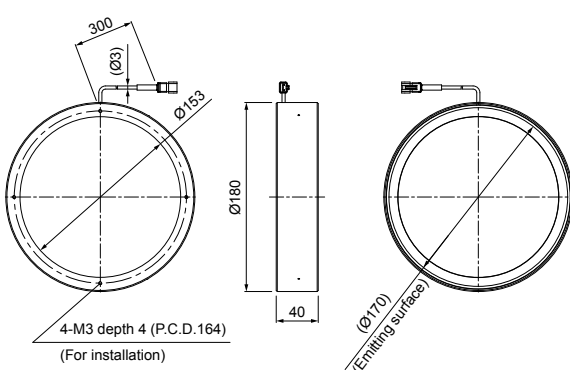
FPR-100RD2/SW2/BL2/GR2



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.

You can inquire using our website.

Requests for Light Unit Selection

Requests for Loan Products

Requests for Estimates

Requests for a Catalog

Product Inquiries

Other Inquiries

Inquire on our website here.  
<http://www.ccs-grp.com/contact/>