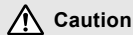


# Operation Guide for Optional Products

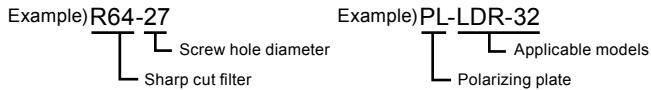
Thank you for purchasing a CCS product. To ensure proper use of the product, please read this Operation guide before use and keep it for your future reference.



**Caution** These products are designed exclusively for CCS LED illuminations. Do not mount them to other products. Please use them correctly confirming that they are the appropriate model. The products may be deformed or discolored by heat depending on the operating environment. Take proper heat dissipation measures and other measures to ensure that the products will not be in temperature that exceed their heat resistance.

## Model Numbers

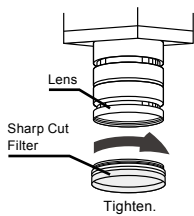
You may confirm applicable models (lenses and lights) by checking the model numbers.



## Filter

### Sharp Cut Filters

Prevents external stray light. Mounted on front lens thread to block light less than 640 nm and transmit approximately 85% of light with a longer wavelength. This filter blocks ambient light for better contrast when red lighting is used.



### R60 Series

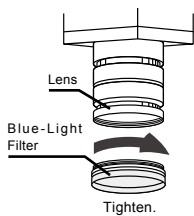
Model	R60-C	R60-16	R60-25	R60-27	R60-30	R60-40	R60-46
Size	For C-mount	M16.0	M25.5	M27.0	M30.5	M40.5	M46.0
		P0.5	P0.5	P0.5	P0.5	P0.5	P0.75

### R64 Series

Model	R64-C	R64-16	R64-25	R64-27	R64-30	R64-40	R64-46
Size	For C-mount	M16.0	M25.5	M27.0	M30.5	M40.5	M46.0
		P0.5	P0.5	P0.5	P0.5	P0.5	P0.75

### Blue-Light Filters

Blocks ambient light out of blue wavelength range. Mounted on front lens thread to transmit approximately 47% of in a wavelength band centered on 440 nm in the wavelength range from 350 to 520 nm.



### V44 Series

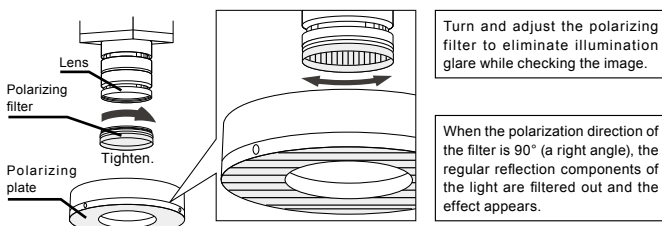
Model	V44-C	V44-25	V44-27	V44-30	V44-40	V44-46
Size	For C-mount	M25.5	M27.0	M30.5	M40.5	M46.0
		P0.5	P0.5	P0.5	P0.5	P0.75

### Polarizing Filters

Prevents glare from the light. Mounted on front lens. Works with a polarizing plate to eliminate glare from the light.

### PL Series

Model	PL-25	PL-25-NL	PL-27	PL-27-NL	PL-30	PL-30-NL	PL-40	PL-40-NL	PL-46
Size	M25.5	M25.5	M27.0	M27.0	M30.5	M30.5	M40.5	M40.5	M46.0
	P0.5	P0.5 (With lock)	P0.5	P0.5 (With lock)	P0.5	P0.5 (With lock)	P0.5	P0.5 (With lock)	P0.75



### How to Use

A polarizing filter and polarizing plate are used in combination. When the polarization direction of the light side and the polarization direction of the camera side differ by 90° (a right angle), regular reflection components of the light are filtered out.

1. Place the polarizing plate on the emitter of the light.
2. Place the polarizing filter on the end of the camera lens.
3. Rotate the polarizing filter until the polarization direction is 90° (a right angle) from the polarization direction of the polarizing plate.

## Polarizing Plate

Prevents glare from the light. Attaches to lights. Works in combination with the polarizing filter to prevent glare.

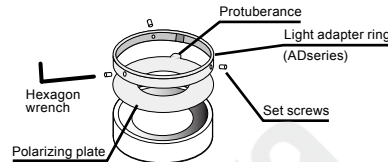
Model	Ring Lights	Bar Lights	Coaxial Lights	
Model	PL-LDR-32	PL-LDL-34X8	PL-LDQ-78	PL-LFV2-35
	PL-LDR-42	PL-LDL-42X15	PL-LDQ-100*	PL-LFV2-50
	PL-LDR-50	PL-LDL-74X27	PL-LDQ-150	PL-LFV2-70
	PL-LDR2-70	PL-LDL-82X15	PL-LDQ-200	PL-LFV2-100
	PL-LDR-90	PL-LDL-130X15*		PL-LFV2-130
	PL-LDR-120-40	PL-LDL-180X16*		PL-LFV2-200
	PL-SQR-56	PL-LDL-247X16*		
Transmissivity	30%			43%
Allowable temperature limit	60°C			

Note: The polarizing plate indicated with asterisk(\*) comes with a protect plate (transparent acrylic plate) for attaching. PL-LDR2-70 includes a Light adapter ring.

Polarizing plates are wear and tear items. Replace them periodically. If the polarizing plates are discolored or deformed upon inspection, replace them with brand new polarizing plates. It is recommended that you keep some extra polarizing plates.

## How to Mount

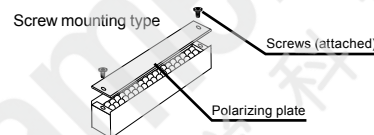
### LDR2/LDR Series (Ring Lights)



Applicable models	
LDR2-32	LDR-32
LDR2-42	LDR-42
LDR2-50	LDR-50B
LDR2-70	LDR-70A
LDR2-90	LDR-90B
LDR2-120	LDR-120B

Press down with the light adapter ring and attach with the set screws using a hexagon wrench.

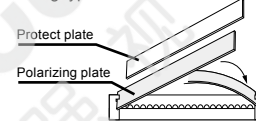
### LDL Series (Bar Lights)



Applicable models	
LDL-34X8	LDL-82X15
LDL-42X15	LDL-247X16
LDL-74X27	

Use the attached mounting screws. (Only the LDL-247X16 is attached with a protect plate.)

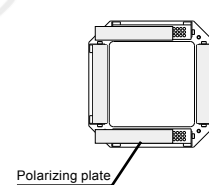
### Fitting type



Applicable models	
LDL-130X15	LDL-180X16

Insert the protect plate and polarizing plate together into the slot.

### LDQ Series (Bar Lights)

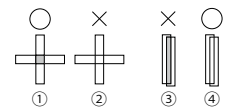


Applicable models	
LDQ-78	LDQ-150A
LDQ-100A	LDQ-200A

Attach the polarizing plates with the attached screws to the LDQ-78, LDQ-100A, and LDQ-150A. The LDQ-200A is attached with protect plates. Insert the protect plates and polarizing plates in pairs into the slots.

Attach the pairs of polarizing plates satisfying conditions (1) and (4).

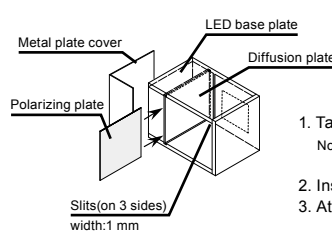
### Combination of polarizing plate



The four polarizing plates are classified into two pairs of different types. Attach one of the pairs horizontally to the upper side and lower side, and the other pair vertically on the left-hand side and right-hand side.

Note: These plates can be attached with no front/back or up/down directional restrictions.

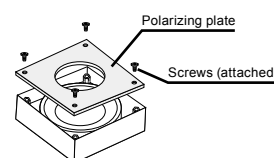
### LFV2 Series (Coaxial Lights)



Applicable models	
LFV2-35	LFV2-100
LFV2-50	LFV2-130
LFV2-70	LFV2-200

1. Take off a metal plate cover on the dimming side. Note: Be careful not to slip off a LED plate and a diffusion plate.
2. Insert a polarizing plate into the slits.
3. Attach a metal plate cover as it used to be.

### SQR Series (Ring Lights)



Applicable models	
SQR-56	

Use the attached mounting screws.

## Diffusion Plate

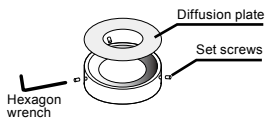
Prevents shine and glare. Attaches to lights to reduce shine from glossy applications.

	Ring Lights	Bar Lights	
Model	DF-LDR-32	PL-LDR-48LA	DF-LDL-34X8(Usable with the LDQ-78)
	DF-LDR-42	PL-LDR-74LA	DF-LDL-42X15(Usable with the LDQ-100A)
	DF-LDR-50	PL-LDR-100LA	DF-LDL-74X27
	DF-LDR2-70	PL-LDR2-132LA	DF-LDL-82X15(Usable with the LDQ-150A)
	DF-LDR-90	PL-LDR-170LA	DF-LDL-130X15(Usable with the LDQ-200A)
	DF-LDR-120-40	PL-LDR-120-208LA	DF-LDL-180X16
	DF-SQR-56		DF-LDL-247X16
	Allowable temperature limit	80°C	

There are a front and a back of a diffusion plate. Attach it with the smooth side facing to the LED lights.

## How to Mount

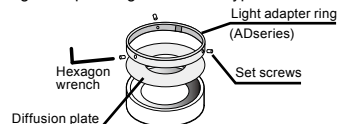
### LDR2/LDR Series (Ring Lights)



Attach the set screws with a hexagon wrench.

Applicable models	
LDR-70	LDR-70A

### Light adapter ring attachment type

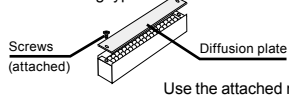


Press down with the light adapter ring and attach with the set screws using a hexagon wrench.

Applicable models	
LDR2-32	LDR-32
LDR2-42	LDR-42
LDR2-50	LDR-50B
LDR2-90	LDR-90B
LDR2-120	LDR-120B

### LDL Series (Bar Lights)

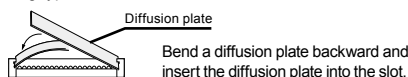
#### Screw mounting type



Use the attached mounting screws.

Applicable models	
LDL-34X8 (LDQ-78)	LDL-82X15 (LDQ-150A)
LDL-42X15 (LDQ-100A)	LDL-247X16
LDL-74X27	

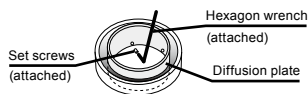
#### Fitting type



Bend a diffusion plate backward and insert the diffusion plate into the slot.

Applicable models	
LDL-130X15 (LDQ-200A)	LDL-180X16

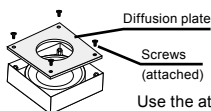
### LDR2-LA Series (Low-Angle Ring Lights)



Attach the set screws with a hexagon wrench.

Applicable models	
LDR2-48-LA	LDR2-132-LA
LDR2-74-LA	LDR2-170-LA
LDR2-100-LA	LDR2-208-LA

### SQR Series (Ring Lights)



Use the attached mounting screws.

Applicable models	
SQR-56	

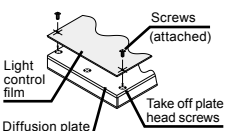
## Light Control Film

Attaches to lights to convert diffused light into parallel light.

	Flat Lights	Coaxial Lights	
Model	LC-LDL-TP-27*27	LC-LFL-100	LC-LFV-50
	LC-LDL-TP-43*35	LC-LFL-180	LC-LFV-70
	LC-LDL-TP-51*51	LC-LFL-200	LC-LFV-100
	LC-LDL-TP-63*60		LC-LFV-130
	LC-LDL-TP-83*75		LC-LFV-200
	LC-LDL-TP-100*100		
	LC-LDL-TP-100*100		LC-LFV2-200
Transmissivity	67%		
Allowable temperature limit	120°C		

## How to Mount

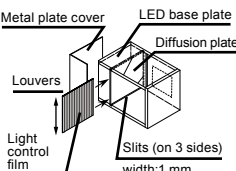
### LFL/LDL/LDL-TP Series (Flat Lights)



- Put a light control film on a diffusion plate. Be sure of the direction to attach it.
- Take off the plate screws with which a diffusion plate is attached.
- Screw a diffusion plate and a light control film together with the attached screws.

Applicable models	
LDL-TP-27X27	LDL-100X100
LDL-TP-43X35	LFL-100
LDL-TP-51X51	LFL-180
LDL-TP-63X60	LFL-200
LDL-TP-83X75	
LDL-TP-100X100	

### LFV/LFV2 Series (Coaxial Lights)



- Take off a metal plate cover on the dimming side.  
Note: Be careful not to slip off a LED plate and a diffusion plate.
- Insert a light control film into the slits. Be sure of the direction of louvers.
- Attach a metal plate cover as it used to be.

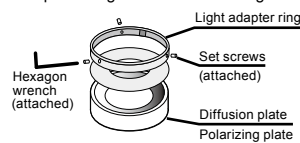
Applicable models	
LFV2-35	LFV-50A
LFV2-50	LFV-70
LFV2-70	LFV-100A
LFV2-100	LFV-130
LFV2-130	LFV-200C
LFV2-200	

## Adapter

### Light Adapter Rings (AD Series)

Used to attach diffusion plates and polarizing filters to different lights.

Model	
AD-LDR-32	AD-LDR-90
AD-LDR-42	AD-LDR-120
AD-LDR-50	

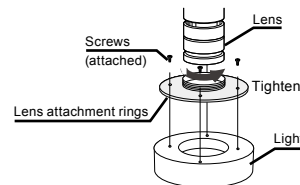


Applicable models	
LDR2-32	LDR-32
LDR2-42	LDR-42
LDR2-50	LDR-50B
LDR2-90	LDR-90B
LDR2-120	LDR-120B

### Lens Attachment Rings (MR Series)

Attach a light directly to the filter screw section of the lens. Ideal for cramped installation locations.

Model	Size
MR-LDR-32-M25	M25.5 P0.5
MR-LDR-32-M27	M27.0 P0.5
MR-LDR-32-M30	M30.5 P0.5
MR-LDR-50-M25	M25.5 P0.5
MR-LDR-50-M27	M27.0 P0.5
MR-LDR-50-M30	M30.5 P0.5



Applicable models	
LDR2-32	LDR-32
LDR2-50	LDR-50B

- Mount the lens attachment ring to the lens opening.
- Mount the lens attachment rings to the light.

MR-LDR-32: Use a hexagon wrench to tighten the attached set screws.  
MR-LDR-50: Use the attached mounting screws.

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**WARRANTY PERIOD: TWO YEARS STARTING FROM CCS INC. SHIPPING DATE.**

CCS Inc. WILL REPAIR OR REPLACE THE PRODUCT FREE OF CHARGE IF IT SHOULD FAIL TO FUNCTION WITHIN THE SPECIFIED WARRANTY PERIOD. IF EITHER OF THESE CONDITIONS OCCURS, PLEASE TAKE THE PRODUCT TO YOUR CCS SALES REPRESENTATIVE.

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    - IF THE PRODUCT HAS BEEN DAMAGED FROM IMPACTS DUE TO INAPPROPRIATE HANDLING.
    - IF DAMAGE TO THE PRODUCT RESULTS FROM EXTERNAL CAUSES INCLUDING ACCIDENTS, FIRE, POLLUTION, RIOTS, COMMUNICATION FAILURES, EARTHQUAKES, THUNDERSTORMS, WIND AND FLOOD DAMAGE, OR ANY OTHER ACT OF PROVIDENCE, OR FROM ANY EXTRAORDINARY CONDITIONS SUCH AS ELECTRICAL SURGES, WATER LEAKAGE, CONDENSATION, OR THE USE OF CHEMICALS.
    - IF THE DAMAGE RESULTS FROM CONNECTION TO ANY POWER SUPPLY OR TO ANY EQUIPMENT WHICH CCS INC. DOES NOT MANUFACTURE OR DOES NOT SPECIFY FOR USE.
  - CCS ASSUMES NO LIABILITY FOR ANY PURCHASER'S SECONDARY DAMAGE (DAMAGE OF EQUIPMENT, LOSS OF OPPORTUNITIES, LOSS OF PROFITS, ETC.) OR ANY OTHER DAMAGE RESULTING FROM A FAILURE OF OUR PRODUCT.
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