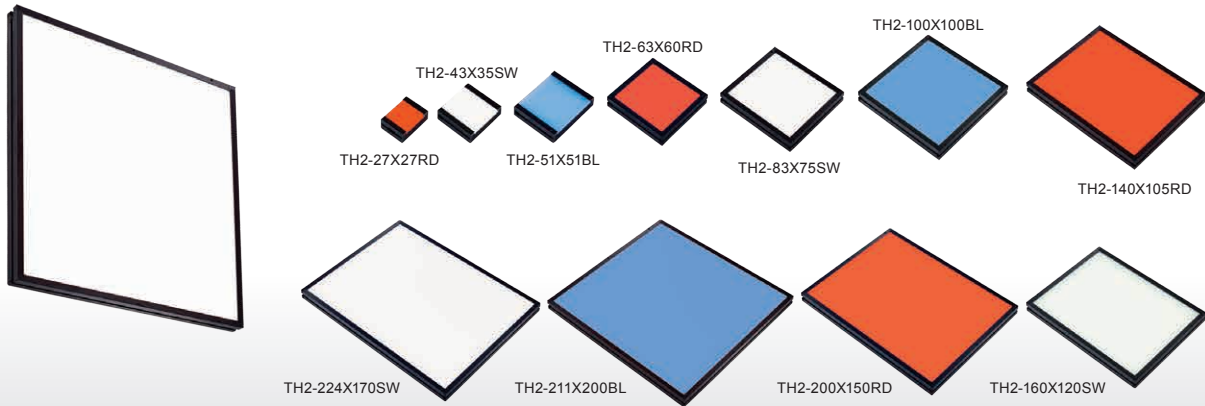




## Diffuse illumination from a flat emitting surface



### Applications

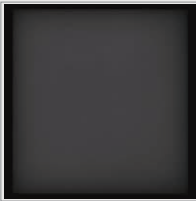
Inspection of liquid surface level in PET bottles, inspection of the appearance of electronic or automobile components, inspection of pinholes, inspection for burr of metal components, etc.

### Achieved Further-Higher Luminance

With their increased brightness, these Flat Lights are available at high-speed production lines.

#### Increased output greater than that of the conventional products

Conventional product  
TH-63X60SW (White)



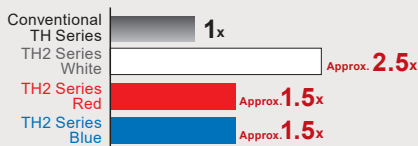
Shutter speed: 1/10,000  
Amount of light: 100% intensity

TH2-63X60SW (White)



Shutter speed: 1/10,000  
Amount of light: 100% intensity

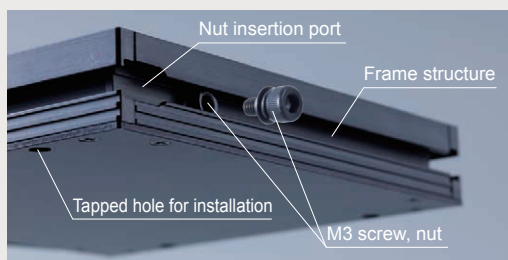
#### Graph of the radiance comparison



For the high-luminance type 63 x 60 models  
The data included is for reference only. Actual values may vary.

### Install freely to match your environment

Uses installation method by frame structure. Tapped holes for installation are included not only on the unit side but also on the bottom.



### Rich Product Lineup

Our abundant product lineup can meet a wide range of needs. A total of 73 models of different types of Flat Lights.

For transmission purpose

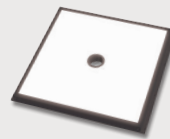


**High-directivity type** ▶ P.89  
High light directivity and effective for dimensional measurement.

**Large type** ▶ P.93  
Suitable for large workpieces. Secures a large inspection area.

**Rectangular type** ▶ P.95  
Supports sheet-shaped workpieces. Recommended for line sensor camera applications.

For reflection purpose

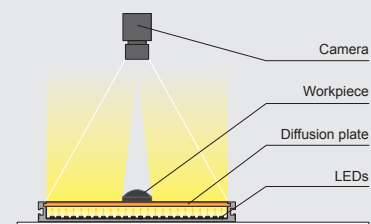


**Camera-window type** ▶ P.97  
Provide a light from the same axis as the camera and a wide range of uniform illumination. Available for reflection purpose.

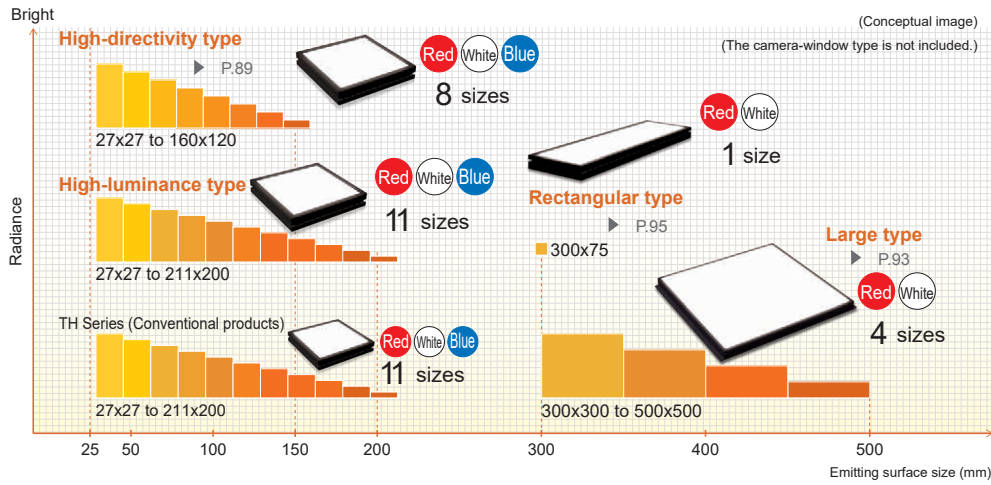
### Example Configuration

Achieved high output with a flat shape. Light from the LEDs is transmitted through the diffusion panel and illuminated on the rear of the workpiece.

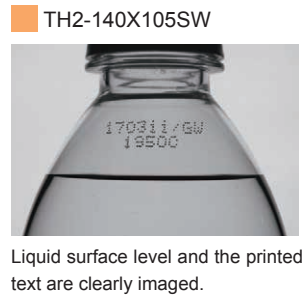
#### TH2-140X105



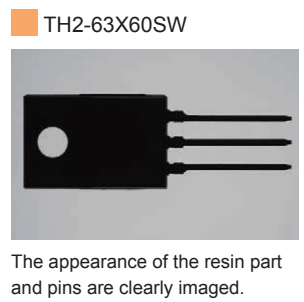
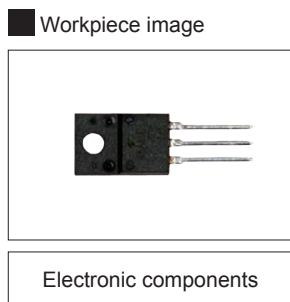
## ➤ Brightness and Size of Each Light Unit Type



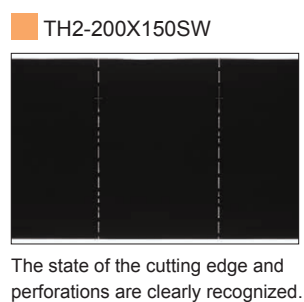
## ➤ Imaging Example: Imaging the Liquid Surface Level in PET Bottles



## ➤ Imaging Example: Imaging the Appearance of Electronic Components



## ➤ Imaging Example: Imaging the Appearance of Medicines (Individual Packaging)



|  |                               |
|--|-------------------------------|
| LDR2<br>LDR2-LA<br>LDR-LA1<br>SQR<br>SQR-TP  | Ring<br>(Direct)              |
| HLDR3<br>HPR2<br>LFR<br>LKR<br>FPR   | Ring<br>(Convergent/Diffused) |
| FPQ3   | Square                        |
| LDL2<br>LDLB<br>HLDL3<br>LB  | Bar                           |
| TH2 (5 types)  | Flat                          |
| LFL  | Flat                          |
| HPD2<br>LDM2<br>LAV<br>PDM<br>LFXV<br>LFX3<br>LFX3-PT  | Dome                          |
| LFV3<br>LFV3-G   | Coaxial                       |
| MSU<br>MFU   | Coaxial                       |
| PF   | Strobe                        |
| HLDR-IP<br>HSL-PCL   | Water-proof                   |
| Small COB Lights   | COB                           |
| UV3/VL3<br>UV<br>LNSP-UV3-FN   | UV / Violet                   |
| IR2 (Under 1000-nm Type)<br>IF<br>CIR (Over 1000-nm Type)  | Infrared                      |
| IU   | Intensity Control             |
| HLV3<br>LV<br>LSP<br>HFS/HFR<br>HLV3-22-4-NR<br>HLV3-3M-RGB-4<br>PFBR-600SW2<br>PFBR-150<br>PFB3 | Spot, Etc.                    |
| LNLP<br>LNSP2<br>Coaxial Units<br>LNSP-FN<br>LN/LN-HK  | Line<br>(Convergent)          |
| LNSD<br>LND2<br>LT<br>LNV<br>LFXV (Rectangular Type)<br>TH2 (Rectangular Type)                   | Line<br>(Diffused)            |
| LNDG<br>LNSI2<br>LNSI<br>LNSI-FN   | Line<br>(Oblique Angled)      |
| Telecentric Lens<br>Macro Lens   | Lenses                        |

# TH2 Series

High-Luminance Type



Refer to our website for product details.

CCS TH2

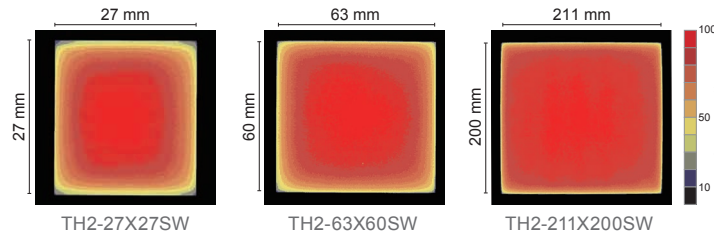
Search



## Data: Uniformity (Representative Example)

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

### Uniformity (Relative radiance)



## Lineup

| Model Name*1  | Input Voltage | Power Consumption |            |           | Options                       | Extension Cables                  | Recommended Control Units              | Weight |
|---------------|---------------|-------------------|------------|-----------|-------------------------------|-----------------------------------|--|--------|
|               |               | RD (Red)          | SW (White) | BL (Blue) |                               |                                   |  |        |
| TH2-27X27□□   | 24 V          | 2.3 W             | 2.9 W      | 2.7 W     |                               | FCB <sup>3</sup> Straight Cable   |  | 30 g   |
| TH2-43X35□□   | 24 V          | 4.9 W             | 4.8 W      | 4.8 W     |                               | FCB-W <sup>4</sup> 2-Branch Cable | PD4 PD3<br>CC-ST-1024 POD <sup>2</sup> | 40 g   |
| TH2-51X51□□   | 24 V          | 6.5 W             | 8.2 W      | 8.2 W     |                               | FCB-F 4-Branch Cable              |  | 60 g   |
| TH2-63X60□□   | 24 V          | 9.9 W             | 9.7 W      | 9.7 W     |                               | FRCB Robot Cable                  |  | 100 g  |
| TH2-83X75□□   | 24 V          | 15 W              | 16 W       | 16 W      | Light control film<br>Bracket |                                   |  | 140 g  |
| TH2-100X100□□ | 24 V          | 26 W              | 25 W       | 25 W      |                               |                                   | PD4 PD3<br>POD <sup>2</sup>            | 200 g  |
| TH2-140X105□□ | 24 V          | 28 W              | 28 W       | 28 W      |                               |                                   |  | 260 g  |
| TH2-160X120□□ | 24 V          | 35 W              | 35 W       | 35 W      |                               |                                   |  | 310 g  |
| TH2-200X150□□ | 24 V          | 45 W              | 44 W       | 44 W      |                               |                                   |  | 440 g  |
| TH2-224X170□□ | 24 V          | 66 W              | 66 W       | 66 W      |                               | FCB-EL2 Straight Cable            | PD4-10024<br>PD3-10024-8               | 540 g  |
| TH2-211X200□□ | 24 V          | 67 W              | 65 W       | 65 W      |                               | FCB-W-EL2 2-Branch Cable          | POD-22024-4-PEI <sup>2</sup><br>PSB4   | 580 g  |

LED Properties: Light Spectrum ▶ P.396

Extension Cables ▶ P.371

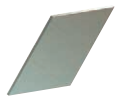
Control Unit Selection Guide ▶ P.305

List of Control Unit Specifications ▶ P.307

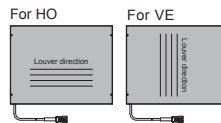
\*1 □□ in the model name contains the LED color. (RD: Red, SW: White, BL: Blue)

\*2 For information on the combination of light units and POD Series control unit, please refer to our website. <https://www.ccs-grp.com/lnk/qr/pod>

## Options



In this plastic film are fine louvers with extremely narrow gaps between them. It reduces light diffusion in a particular direction and increases parallelism.



This is a dedicated bracket for affixing the TH2 Series light units. The TH2 Series can be affixed in four points.

### Light control film

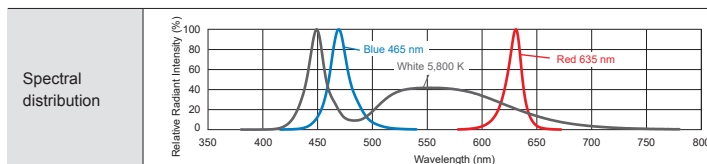
There are two types of light control films: the HO and the VE. For details, refer to P.367.

| Model name     | Applicable Light Unit (Common for all colors) | Model name       | Applicable Light Unit (Common for all colors) | Model name       | Applicable Light Unit (Common for all colors) | Model name | Applicable Light Unit (Common for all colors)              |
|----------------|---|------------------|---|------------------|---|------------|--|
| LC-TH-27X27-HO | TH2-27X27                                     | LC-TH-83X75-HO   | TH2-83X75                                     | LC-TH-200X150-HO | TH2-200X150                                   | BK-TH-LE12 | Installation bracket common to all TH2 models (includes 4) |
| LC-TH-27X27-VE |   | LC-TH-83X75-VE   |   | LC-TH-200X150-VE |   |            |  |
| LC-TH-43X35-HO | TH2-43X35                                     | LC-TH-100X100-HO | TH2-100X100                                   | LC-TH-224X170-HO | TH2-224X170                                   |            |  |
| LC-TH-43X35-VE |   | LC-TH-100X100-VE |   | LC-TH-224X170-VE |   |            |  |
| LC-TH-51X51-HO | TH2-51X51                                     | LC-TH-140X105-HO | TH2-140X105                                   | LC-TH-211X200-HO | TH2-211X200                                   |            |  |
| LC-TH-51X51-VE |   | LC-TH-140X105-VE |   | LC-TH-211X200-VE |   |            |  |
| LC-TH-63X60-HO | TH2-63X60                                     | LC-TH-160X120-HO | TH2-160X120                                   |                  |   |            |  |
| LC-TH-63X60-VE |   | LC-TH-160X120-VE |   |                  |   |            |  |

▶ P.367

## LED Properties

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



Lens filters suitable for each wavelength are available. For details about the lens filter, refer to P.359.

Before using the product, be sure to read the User Manual attached to the product and follow the usage precautions.

\* For both TH2 (current product) and TH (former product), the correlated color temperature as a light is 5800K, and the correlated color temperature for the LED alone is 6600K, yielding no difference.

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

Various technical documents available.

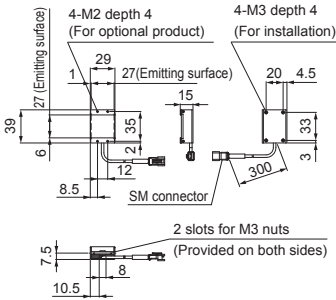
- PDF Drawings
- DXF Drawings
- Product Brochures
- Instruction Guides
- 3D CAD
- Data Sheets
- Imaging Examples
- Digital Catalogs

Register to use them.

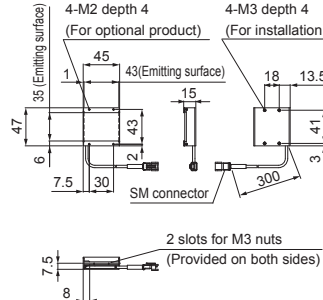
## Dimensions (mm)

Even for the light units of the same emitting surface size, the thickness and other dimensions of the product differ between the high-luminance and high-directivity type light units. Be sure to check the dimension diagrams before installing the light units.

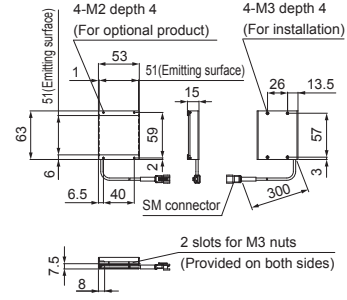
TH2-27X27RD/SW/BL



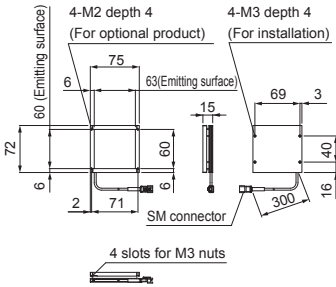
TH2-43X35RD/SW/BL



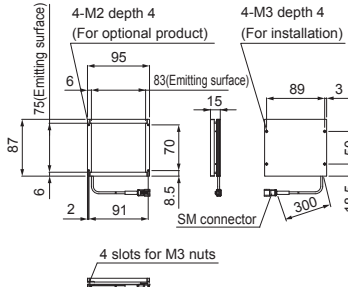
TH2-51X51RD/SW/BL



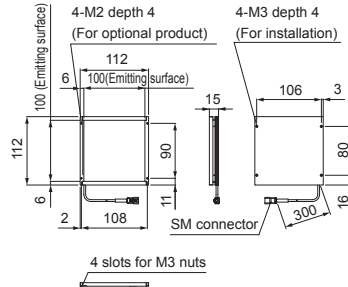
TH2-63X60RD/SW/BL



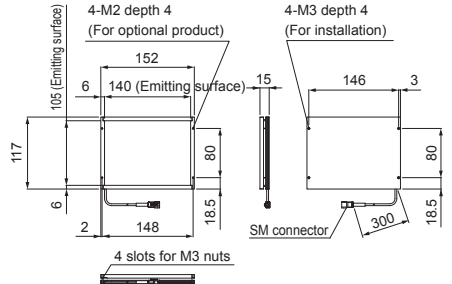
TH2-83X75RD/SW/BL



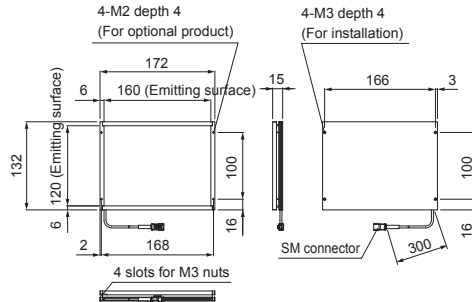
TH2-100X100RD/SW/BL



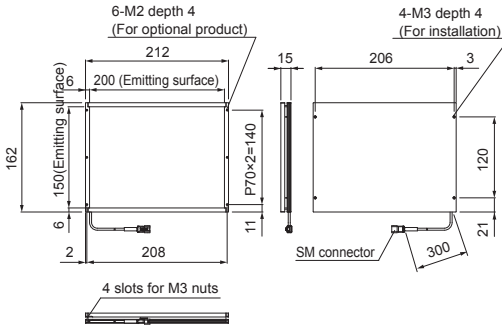
TH2-140X105RD/SW/BL



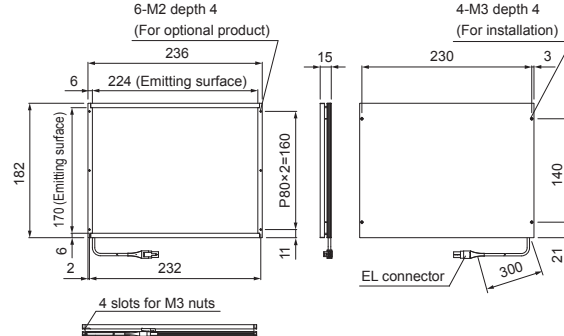
TH2-160X120RD/SW/BL



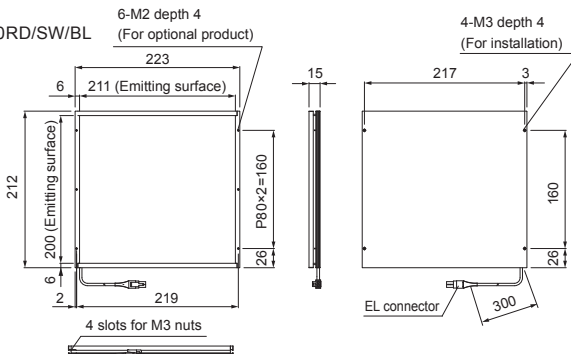
TH2-200X150RD/SW/BL



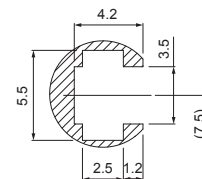
TH2-224X170RD/SW/BL



TH2-211X200RD/SW/BL



Nut slot detail diagram



You can change the connectors of the light unit cable. Choose between M12 connectors and flying leads. Refer to P.19 for details.

You can inquire using our website.

- Sample Testing
- Light Unit Selection
- Free Product Trial
- Custom Orders
- Product Details
- Pricing/Quotation
- Discontinued Products

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

|                          |                            |
|--------------------------|----------------------------|
| LDR2                     | Ring (Direct)              |
| LDR2-LA                  | Ring (Direct)              |
| LDR-LA1                  | Ring (Direct)              |
| SQR                      | Ring (Direct)              |
| SQR-TP                   | Ring (Direct)              |
| HLDR3                    | Ring (Convergent/Diffused) |
| HPR2                     | Ring (Convergent/Diffused) |
| LFR                      | Ring (Convergent/Diffused) |
| LKR                      | Ring (Convergent/Diffused) |
| FPR                      | Ring (Convergent/Diffused) |
| FPQ3                     | Square                     |
| LDL2                     | Bar                        |
| LDLB                     | Bar                        |
| HLDL3                    | Bar                        |
| LB                       | Bar                        |
| TH2 (5 types)            | Flat                       |
| LFL                      | Flat                       |
| HPD2                     | Dome                       |
| LDM2                     | Dome                       |
| LAV                      | Dome                       |
| PDM                      | Dome                       |
| LFXV                     | Dome                       |
| LFX3                     | Dome                       |
| LFX3-PT                  | Dome                       |
| LFV3                     | Coaxial                    |
| LFV3-G                   | Coaxial                    |
| MSU                      | Coaxial                    |
| MFU                      | Coaxial                    |
| PF                       | Strobe                     |
| HLDR-IP                  | Water-proof                |
| HSL-PCL                  | Water-proof                |
| Small COB Lights         | COB                        |
| UV3/VL3                  | UV / Violet                |
| UV                       | UV / Violet                |
| LNSP-UV3-FN              | UV / Violet                |
| IR2 (Under 1000-nm Type) | Infrared                   |
| IF (Over 1000-nm Type)   | Infrared                   |
| CIR                      | Infrared                   |
| IU                       | Intensity Control          |
| HLV3                     | Spot, Etc.                 |
| LV                       | Spot, Etc.                 |
| LSP                      | Spot, Etc.                 |
| HFS/HFR                  | Spot, Etc.                 |
| HLV3-22-4-NR             | Spot, Etc.                 |
| HLV3-3M-RGB-4            | Spot, Etc.                 |
| PFBR-600SW2              | Spot, Etc.                 |
| PFBR-150                 | Spot, Etc.                 |
| PNP3                     | Spot, Etc.                 |
| LNLP                     | Line (Convergent)          |
| LNLP2                    | Line (Convergent)          |
| Coaxial Units            | Line (Convergent)          |
| LNFP-FN                  | Line (Convergent)          |
| LN/LN-HK                 | Line (Convergent)          |
| LNLD                     | Line (Diffused)            |
| LND2                     | Line (Diffused)            |
| LT                       | Line (Diffused)            |
| LNV                      | Line (Diffused)            |
| LEFXV (Rectangular Type) | Line (Diffused)            |
| TH2 (Rectangular Type)   | Line (Diffused)            |
| LNDG                     | Line (Oblique Angled)      |
| LNIS2                    | Line (Oblique Angled)      |
| LNIS                     | Line (Oblique Angled)      |
| LNIS-FN                  | Line (Oblique Angled)      |
| Telecentric Lens         | Lenses                     |
| Macro Lens               | Lenses                     |