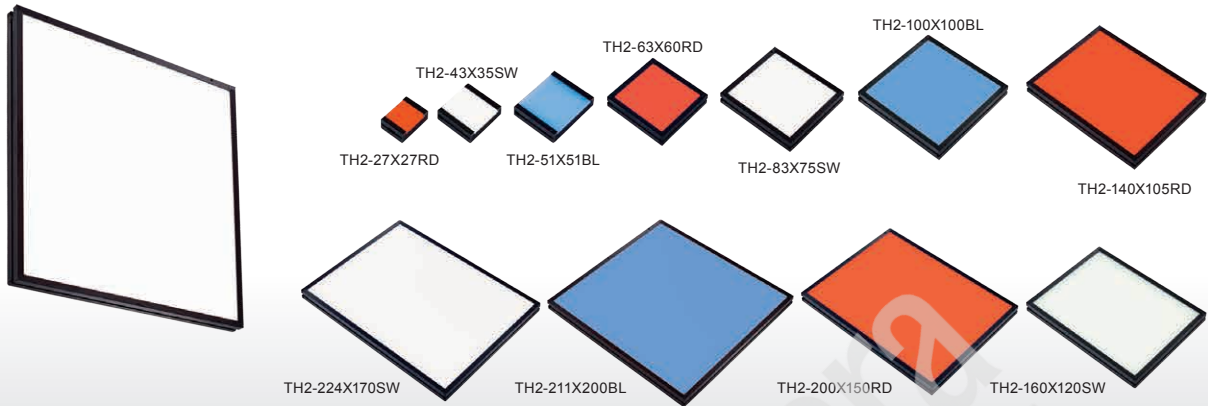




## Diffuse illumination from a flat emitting surface



### 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.

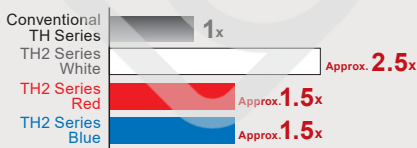
### Achieved Further-Higher Luminance

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

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



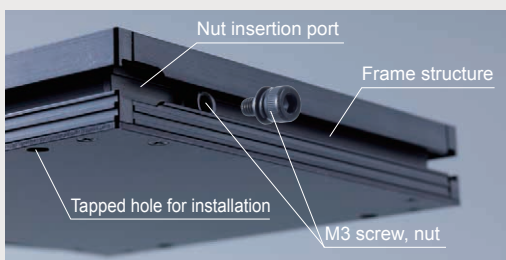
Graph of the radiance comparison



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

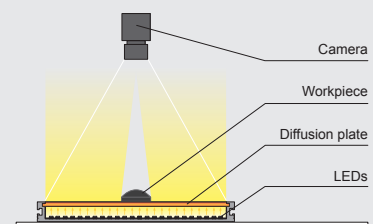
Our abundant product lineup can meet a wide range of needs. A total of 73 models of different types of Flat Lights.

- 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.
- 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.

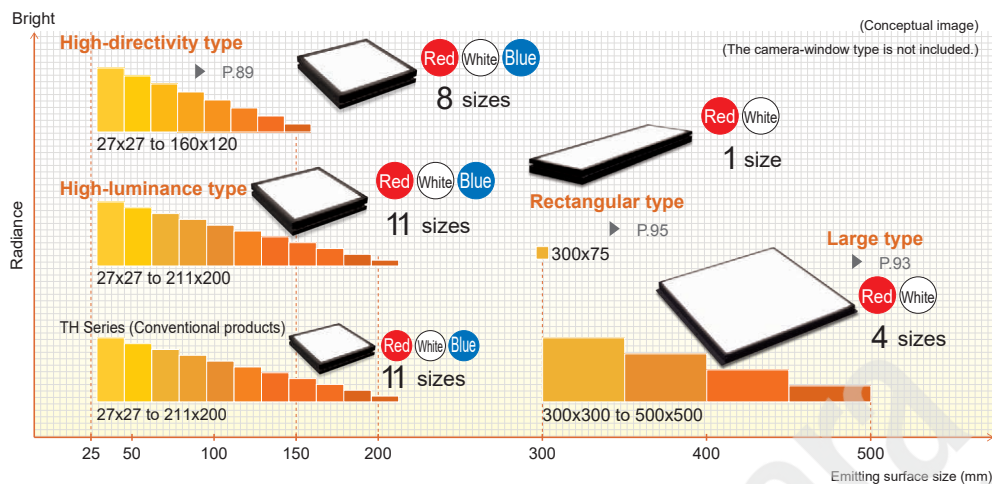
### Example Configuration

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



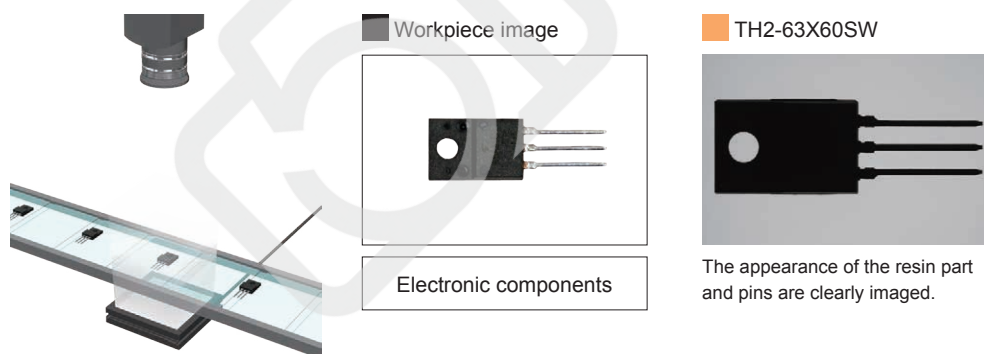
## Brightness and Size of Each Light Unit Type



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

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- Light Unit Selection
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# TH2 Series

High-Luminance Type



Refer to our website for product details.

CCS TH2

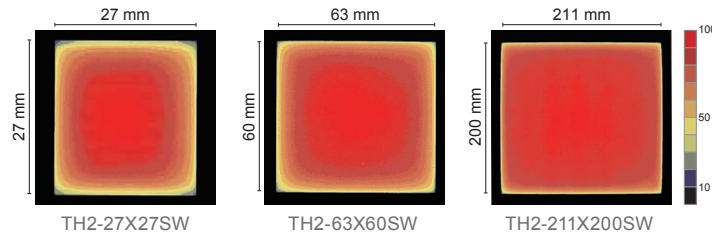
Search



## 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	PD4 PD3	30 g
TH2-43X35□□	24 V	4.9 W	4.8 W	4.8 W		FCB-W <sup>4</sup> 2-Branch Cable	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		PD4 PD3	140 g
TH2-100X100□□	24 V	26 W	25 W	25 W	Bracket		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 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> PSB4	580 g

LED Properties: Light Spectrum ▶ P.396

Extension Cables ▶ P.371

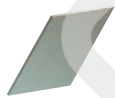
Control Unit Selection Guide ▶ P.305

List of Control Unit Specifications ▶ P.307

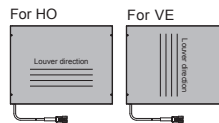
\*1 □□ in the model name contains the LED color. (RD: Red, SW: White, BL: Blue)

\*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)
LC-TH-27X27-HO	TH2-27X27	LC-TH-83X75-HO	TH2-83X75
LC-TH-27X27-VE		LC-TH-83X75-VE	
LC-TH-43X35-HO	TH2-43X35	LC-TH-100X100-HO	TH2-100X100
LC-TH-43X35-VE		LC-TH-100X100-VE	
LC-TH-51X51-HO	TH2-51X51	LC-TH-140X105-HO	TH2-140X105
LC-TH-51X51-VE		LC-TH-140X105-VE	
LC-TH-63X60-HO	TH2-63X60	LC-TH-160X120-HO	TH2-160X120
LC-TH-63X60-VE		LC-TH-160X120-VE	

▶ P.367

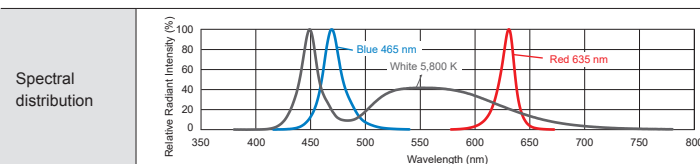
Model name	Applicable Light Unit (Common for all colors)
LC-TH-200X150-HO	TH2-200X150
LC-TH-200X150-VE	
LC-TH-224X170-HO	TH2-224X170
LC-TH-224X170-VE	
LC-TH-211X200-HO	TH2-211X200
LC-TH-211X200-VE	

Model name	Applicable Light Unit (Common for all colors)
BK-TH-LE12	Installation bracket common to all TH2 models (includes 4)

▶ P.369

## 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.

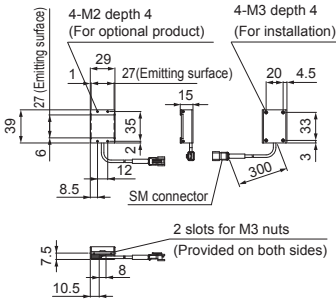
\* For both TH2 (current product) and TH (former product), the correlated color temperature as a light is 5800K, and the correlated color temperature for the LED alone is 6600K, yielding no difference.

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

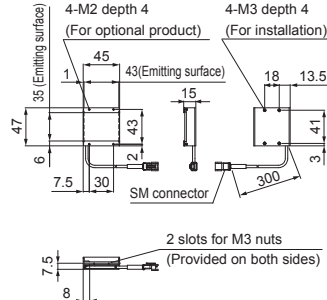
## Dimensions (mm)

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.

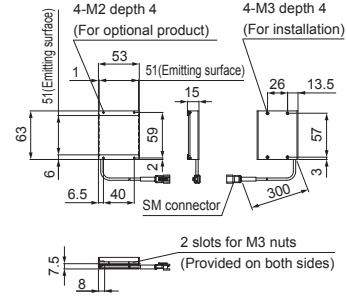
TH2-27X27RD/SW/BL



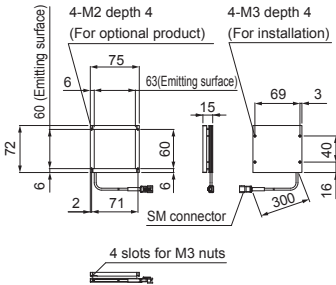
TH2-43X35RD/SW/BL



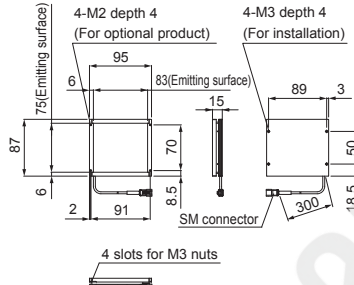
TH2-51X51RD/SW/BL



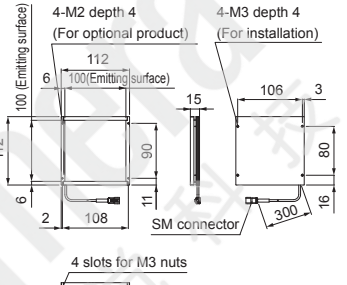
TH2-63X60RD/SW/BL



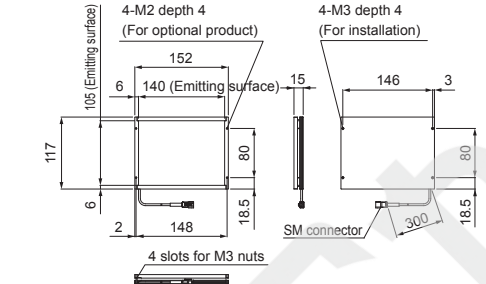
TH2-83X75RD/SW/BL



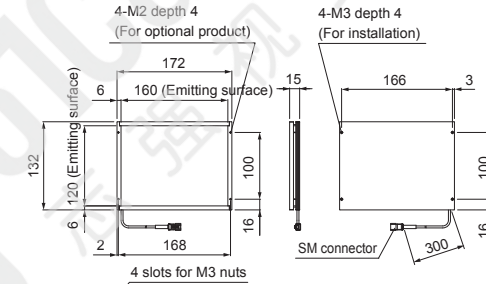
TH2-100X100RD/SW/BL



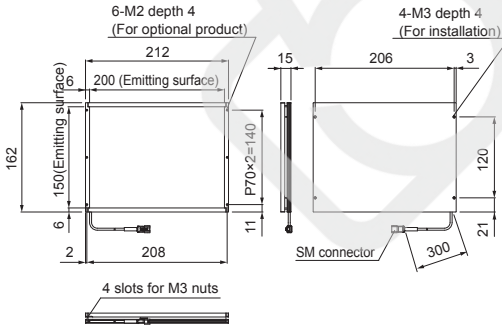
TH2-140X105RD/SW/BL



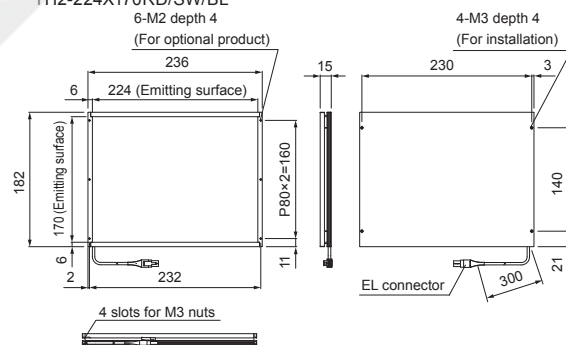
TH2-160X120RD/SW/BL



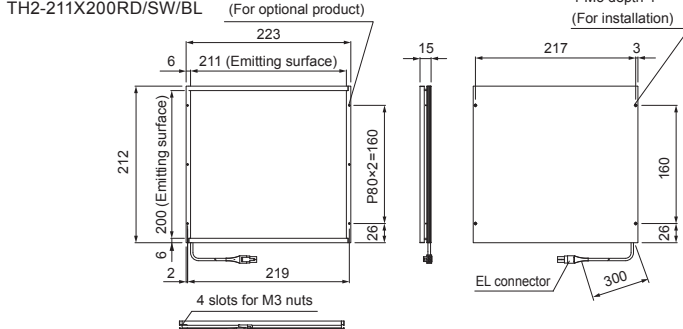
TH2-200X150RD/SW/BL



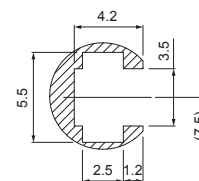
TH2-224X170RD/SW/BL



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.

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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	Violet
UV	Violet
LNSP-UV3-FN	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