

# Structured Lights **OPT-SL/OPT-SLS Series**

**Patented**



## OPT-SL Direct Structured Lights

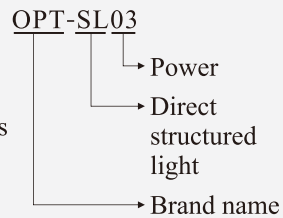
### Product Features

- Adjustable back focal length, without requiring additional adapter rings
- Compatible with all C-Mount lenses
- Multiple pattern available, possible for customization
- Uniform pattern with sharp edge, high illumination accuracy
- Perpendicular to the measured surface (For tilt illumination, please refer to OPT-SLS).

### Application Cases

- 3D analysis and reconstruction
- Gauging for objects with complex structures or bevels
- Gauging for electronic components
- Product flatness inspection
- Pick and place with robot

### Selection Guide



### Customizable Items



Color



Mounting

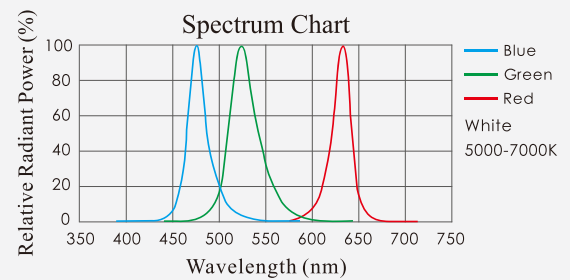
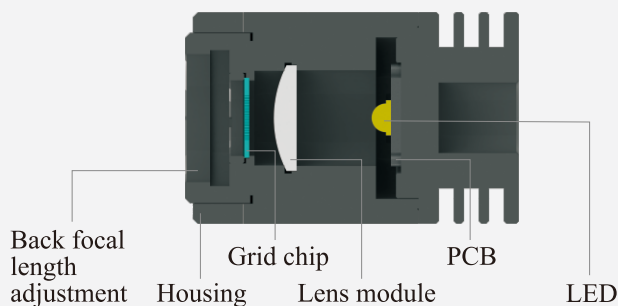


Power

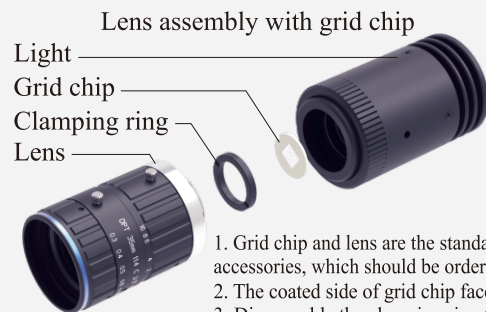


Size

### Section Structure Drawing



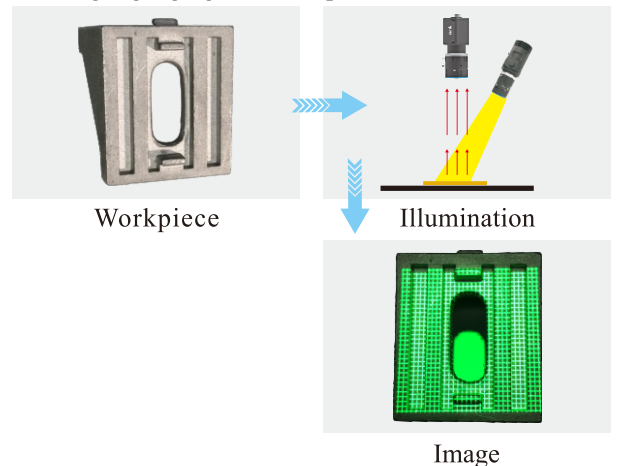
Note: The data is for reference only.



- Grid chip and lens are the standard accessories, which should be ordered separately.
- The coated side of grid chip faces the lens.
- Disassemble the clamping ring to replace the grid chip

### Application Example

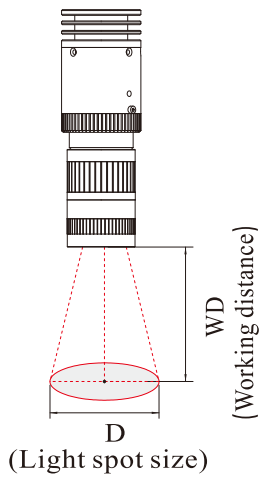
- Height gauging for metal parts



### Lens and spot size

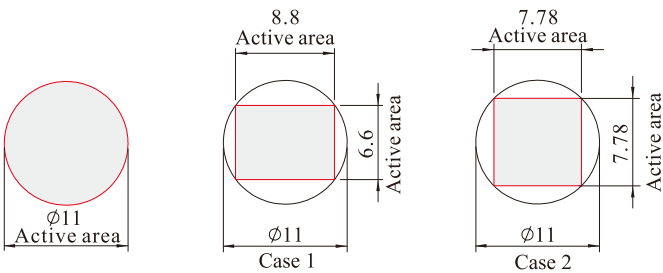
Lens Model	Working Distance (WD)						
	50mm	100mm	150mm	200mm	300mm	400mm	500mm
Light Spot Size (mm)							
OPT-C0825-5M	90	160	220	280	420	460	-
OPT-C1216-5M	70	110	160	200	290	380	490
OPT-C1614-5M	-	90	120	150	220	300	360
OPT-C2514-5M	-	-	70	100	140	170	210
OPT-C3514-5M	-	-	-	-	100	130	160

Notes: 1. The data is tested with OPT-SL03 and OPT-SL10, which is for reference only.  
2. The light is also compatible with other C-Mount lenses with 2/3" image circle.



### Customization for Grid Chip

Grid chip active area



- OPT-PGS-L-0.05  
Spec.: Line  
Line width: 0.05mm
- OPT-PGS-G-0.05-0.45  
Spec.: Grid  
Line width: 0.05mm  
Line gap: 0.45mm
- OPT-PGS-G-0.05  
Spec.: Cross  
Line width: 0.05mm
- OPT-PGS-R-0.05-0.15  
Spec.: Round  
Line width: 0.05mm  
Line gap: 0.15mm
- OPT-PGS-L-0.05-0.45  
Spec.: Stripe  
Line width: 0.05mm  
Line gap: 0.45mm

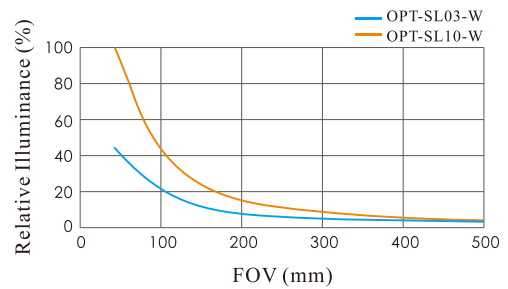
- Grid chip accuracy can be  $\leq 2\mu\text{m}$ .
- Grid chip is customizable with provided precise geometric parameters.

### Illuminance

Model	Illuminance (Unit: 100 lx)	Model	Illuminance (Unit: 100 lx)
OPT-SL03-R	120	OPT-SL10-R	280
OPT-SL03-G	130	OPT-SL10-G	320
OPT-SL03-B	170	OPT-SL10-B	510
OPT-SL03-W	330	OPT-SL10-W	700

Note: The data is obtained with the 25mm focal length lens (F#=1.4, WD=100mm) and no grid chip. It is for reference only.

#### Relative Illuminance Comparison



Note: The data is obtained in the same testing conditions. It is for reference only.

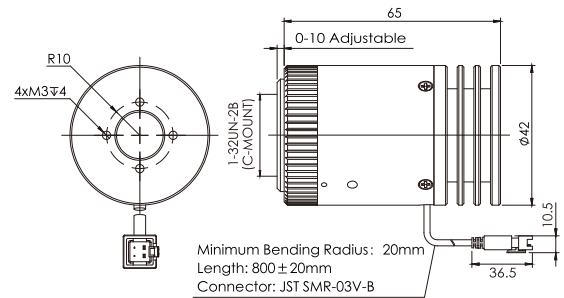
### Model Table

No.	Model	* Output ●	* Output ●●●	Recommended controller
1	OPT-SL03	1A/2.6W	1A/3.5W	OPT-DPA2005E
2	OPT-SL10	0.7A/7.4W	0.7A/9.1W	OPT-DPA2012E

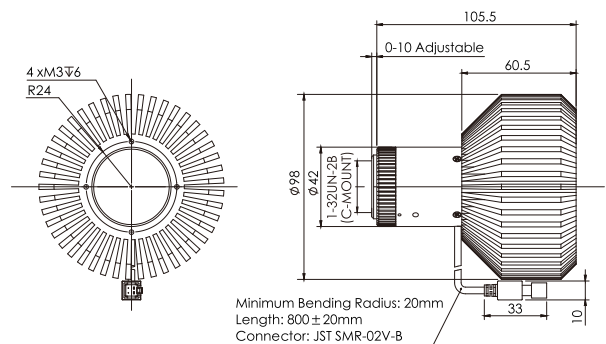
\* Note: The data is for reference only.

### Dimensions (mm)

#### 1.OPT-SL03



#### 2.OPT-SL10



# OPT-SLS Slant Structured Lights

**Selection Guide**

**OPT-SLS03**

- Power
- Slant structured light
- Brand name

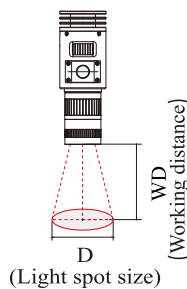
**Section Structure Drawing**

Labels in drawing: Back focal length adjustment, Grid chip angle adjustment, Grid chip, Lens module, PCB, Housing, LED.

**Lens and Spot Size**

Lens Model	Working Distance (WD)						
	50mm	100mm	150mm	200mm	300mm	400mm	500mm
Light Spot Size (mm)							
OPT-C0825-5M	60	115	160	210	300	390	480
OPT-C1216-5M	45	75	105	140	205	270	335
OPT-C1614-5M	40	65	90	115	160	210	260
OPT-C2514-5M	20	35	45	65	95	125	160
OPT-C3514-5M	-	25	35	50	70	90	115

Above test data is obtained with OPT-SLS03 and OPT-SLS10 at zero grid chip angle.



**Instructions**

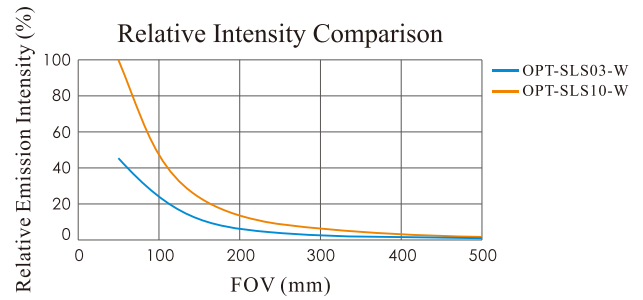
Only partial features can be focused when the grid chip is not adjusted.

All the features can be focused after adjusting the grid chip. (Adjustment range:  $\leq 45$  degrees)

**Model Table**

No.	Model	* Output ●	* Output ●●●	Recommended controller
1	OPT-SLS03	1A/2.6W	1A/3.5W	OPT-DPA2005E
2	OPT-SLS10	0.7A/7.4W	0.7A/9.1W	OPT-DPA2012E

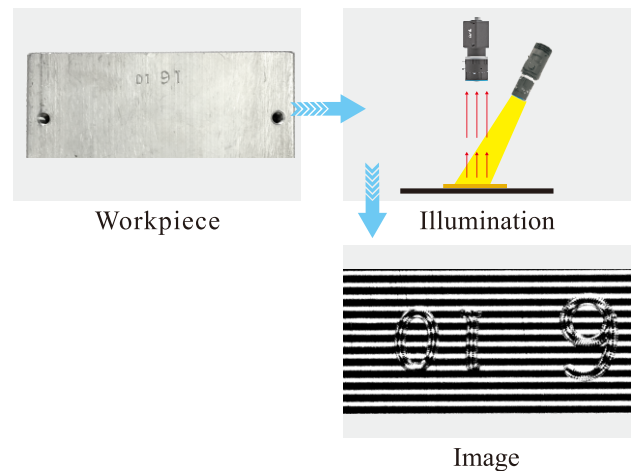
\* Note: The data is for reference only.



Note: The test data is obtained at zero grid chip angle. It is for reference only.

**Application Example**

Character depth inspection on metal surface



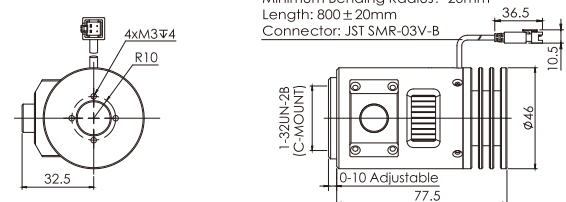
**Illuminance**

Model	Illuminance (Unit: 100 lx)	Model	Illuminance (Unit: 100 lx)
OPT-SLS03-R	100	OPT-SLS10-R	180
OPT-SLS03-G	90	OPT-SLS10-G	210
OPT-SLS03-B	130	OPT-SLS10-B	300
OPT-SLS03-W	250	OPT-SLS10-W	650

Note: The data is obtained with the 25mm focal length lens (F#=1.4, WD=100mm) and no grid chip. It is for reference only.

**Dimensions (mm)**

1.OPT-SLS03



2.OPT-SLS10

