

# Line Lights LNSP series

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CCS LNSP

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Uses original converging technology to achieve illumination with reduced diffusion



LNSP-600SW

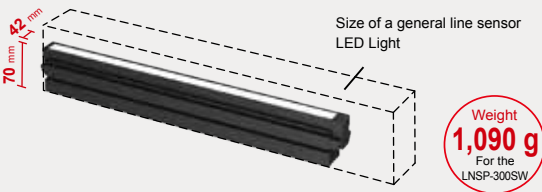
**Applications**

Inspection for parts mounted on circuit boards, inspection for scratches on clear film, inspecting alignment for label seals, visual inspection of cans, and inspection for unevenness in sheet metal, etc.

**➤ Illuminance of 400,000 lx with a natural air cooling type**

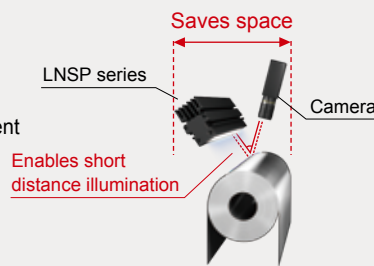
**■ Achieving both high output and compact space**

Achieved a more compact design compared to LED Lights for general high output line sensors.



**■ Saving space for your inspection environment**

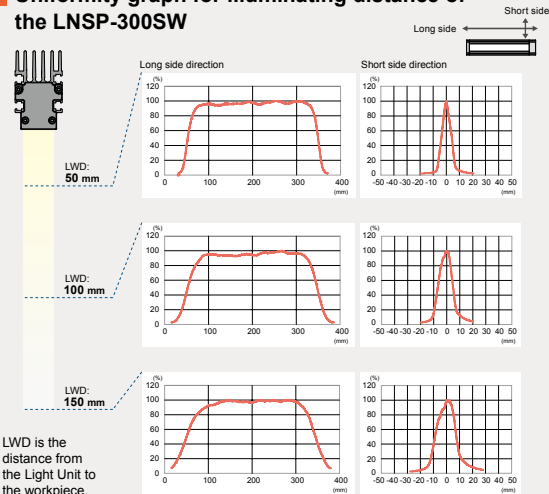
By making the Light Unit more compact, we contribute to saving space in your inspection environment or equipment environment.



**➤ Unique illuminating mechanism with little light diffusion**

By controlling light diffusion through the unique illuminating mechanism, there is little change in the brightness due to distance, so you can flexibly set the distance between the workpiece and the Light Unit. Uses constant-voltage control.

**■ Uniformity graph for illuminating distance of the LNSP-300SW**

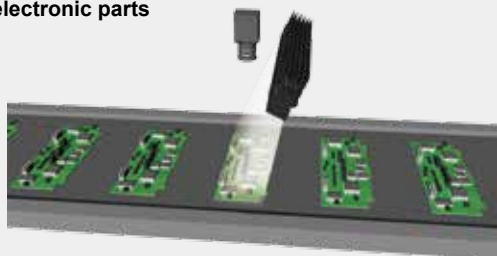


\* LWD is the distance from the Light Unit to the workpiece.

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

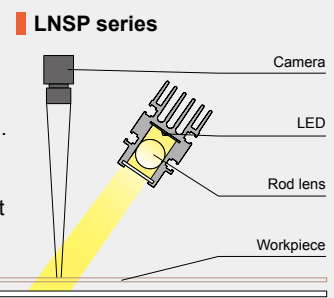
**➤ Applications**

**■ Visual inspection for circuit boards mounted with electronic parts**



**➤ Example configuration**

Achieves high output illumination with controlled diffusion due to this unique illuminating mechanism. Because light does not easily diffuse, there is little loss for the amount of light, allowing for illumination over long distances.



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	Diffused Lighting
LFL	Diffused Lighting
HPD2	Diffused Lighting
HPD	Diffused Lighting
LDM2	Diffused Lighting
LAV	Diffused Lighting
PDM	Diffused Lighting
LFX2	Diffused Lighting
LFV3	Diffused Lighting
LFV2	Diffused 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	Spot Lighting, Etc.
PFBR	Spot Lighting, Etc.
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

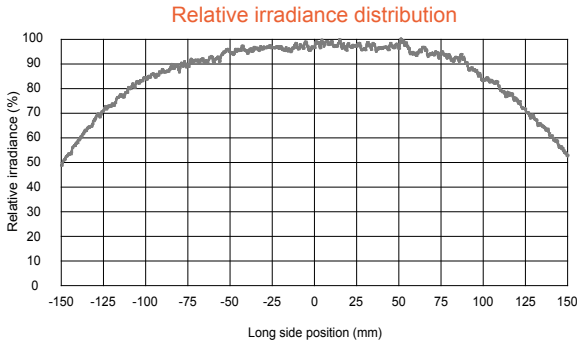
We have various materials.

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

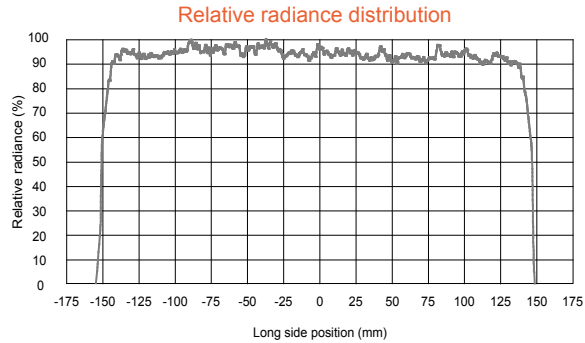
Download here. <http://www.ccs-grp.com/dl/>

**Data** (Representative example) \*The graph included is for reference only and does not guarantee the quality of this product.

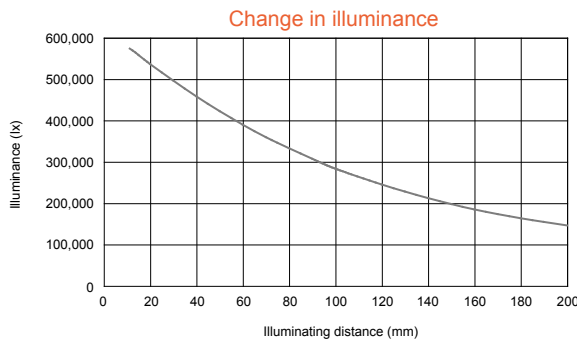
**LNSP-300SW**



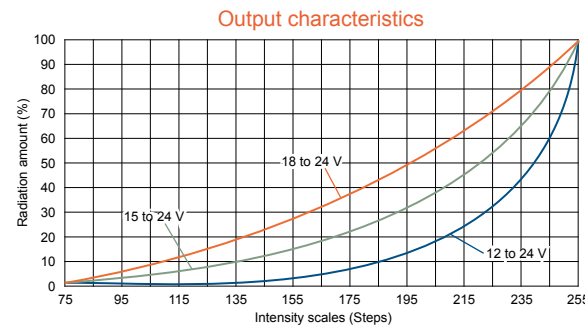
\* Actual measurement values at 100% intensity in 100 mm illuminating distance. (This does not guarantee product quality.)



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



\* Actual measurement values at 100% intensity in each illuminating distance. (This does not guarantee product quality.)



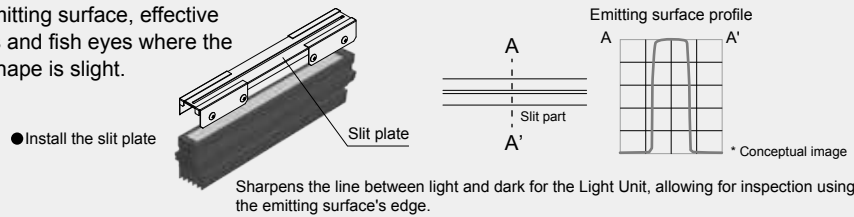
\* Actual measurement values using the Analog Control Unit PSB3-30024. (This does not guarantee product quality.)  
\* Measured in each voltage range because the Analog Control Unit PSB3-30024 has a switching function for the lower limit of the output voltage.

**Custom orders**

Please contact your CCS sales representative.

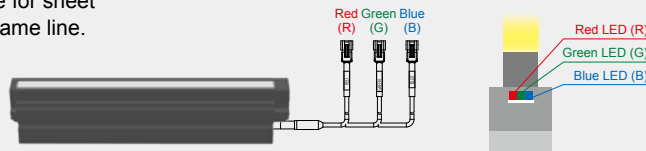
Example 1: Slit specifications (Install a slit plate on the emitting surface)

Result: Uses the edge of the emitting surface, effective for inspections for dents and fish eyes where the change in the surface shape is slight.



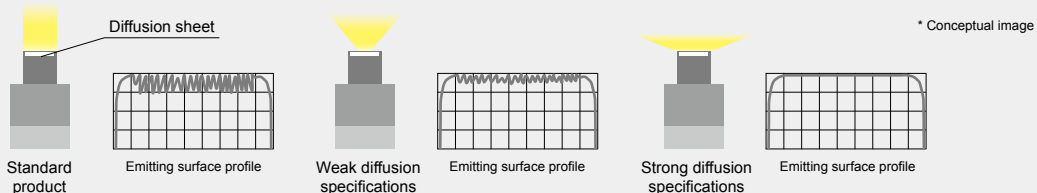
Example 2: Full color (RGB) specifications

Result: Because each emitted color (red, green, blue) can be controlled separately, this is effective for sheet inspections of different models on the same line.



Example 3: High uniformity specifications

Result: Achieved higher uniformity than a standard product by replacing the diffusion sheet.



Direct Lighting	LDR2 LDR2-LA LDR-LA1 SQR SQR-TP
Convergent Lighting	HLDL-IP
Diffused Lighting	HPR2 HPR LFR LKR FPR FPQ2
Direct Lighting	LDL2 LDLB HLDL2
Direct Lighting	TH LFL HPD2
Diffused Lighting	HPD LDM2 LAV PDM LFX2 LFX3 LFX2
Collimated Lighting	MSU MFU
Ultraviolet Lighting	UV2 UV LNSP-UV-FN
Infrared Lighting	IR2
Spot Lighting, Etc.	HLV2 LV LSP HFS/HFR HLV2-NR HLV2-3M-RGB-3W PFB2 PFBR
Convergent Lighting	LNSP CU-LNSP LNSP-FN LN/LN-HK
Diffused Lighting	LNSD LND2 HLND LT LNV/HLDN
Oblique Angled Lighting	LNIS
Lenses	LNIS-FN Telecentric Lens Macro Lens



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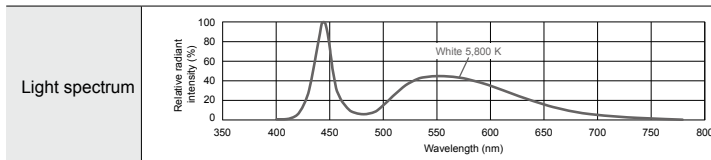
Lineup

	Model name	LED color	Power consumption	Correlated color temperature	Extension cables	Recommended Control Units	Weight
Standard products	LNSP-100SW	White	24 V / 21 W	5,800 K	2 m (FCB-2-1.25SQ-ME7)	PSB3-30024	430 g
	LNSP-200SW		24 V / 41 W				760 g
	LNSP-300SW		24 V / 61 W				1,090 g
	LNSP-400SW		24 V / 81 W				1,420 g
	LNSP-500SW		24 V / 101 W				1,740 g
	LNSP-600SW		24 V / 121 W				2,070 g
	LNSP-700SW		24 V / 142 W				2,400 g
	LNSP-800SW		24 V / 162 W				2,730 g
	LNSP-900SW		24 V / 182 W				3,050 g
	LNSP-1000SW		24 V / 202 W				3,380 g
Special orders	LNSP-1100SW	White	24 V / 222 W	5,800 K	2 m/3 m/5 m/10 m/20 m Extension cable x1	PSB3-30024 x 1	3,700 g
	LNSP-1200SW		24 V / 242 W				4,000 g
	LNSP-1300SW		24 V / 263 W				4,300 g
	LNSP-1400SW		24 V / 283 W				4,600 g
	LNSP-1500SW		24 V / 299 W				4,900 g
	LNSP-1600SW		24 V / 324 W				5,300 g
	LNSP-1700SW		24 V / 344 W				5,700 g
	LNSP-1800SW		24 V / 364 W				6,100 g
	LNSP-1900SW		24 V / 384 W				6,500 g
	LNSP-2000SW		24 V / 404 W				6,900 g
	LNSP-2100SW		24 V / 424 W				7,300 g
	LNSP-2200SW		24 V / 444 W				7,700 g
	LNSP-2300SW		24 V / 464 W				8,100 g
	LNSP-2400SW		24 V / 484 W				8,500 g
	LNSP-2500SW		24 V / 505 W				8,900 g
	LNSP-2600SW		24 V / 526 W				9,300 g
	LNSP-2700SW		24 V / 541 W				9,700 g
	LNSP-2800SW		24 V / 562 W				10,100 g
	LNSP-2900SW		24 V / 582 W				10,500 g
	LNSP-3000SW		24 V / 598 W				10,900 g

PSB3-30024 Product Page ▶ P.213

The emitting surface is available in sizes of 100 mm units. For details about other sizes, inquire with your CCS sales representative. In addition, we accept custom orders, such as changes to the LED color (red/blue/IR, etc.) and size changes. Inquire at your CCS sales representative for details.

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.

Options



Model name	Applicable Light Unit
CU-LNSP-100-GL	LNSP-100SW
CU-LNSP-200-GL	LNSP-200SW
CU-LNSP-300-GL	LNSP-300SW
CU-LNSP-400-GL	LNSP-400SW
CU-LNSP-500-GL	LNSP-500SW

CU-LNSP Product Page ▶ P.133

Coaxial Unit

Allows for imaging with illumination on the same axis as the camera.

We have various materials.

PDF Drawings

DXF Drawings

3D CAD

Instruction Guides

Product Files

Imaging Samples

Data Sheets

Examples of Custom Ordered Products

Download here.

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

- Line Lights
- Direct Lighting
  - LDR2
  - LDR2-LA
  - LDR-LA1
  - SQR
  - SQR-TP
- Convergent Lighting
  - HLDR-IP
- Diffused Lighting
  - HPR2
  - HPR
  - LFR
  - LKR
  - FPR
- Direct Lighting
  - FPQ2
  - LDL2
  - LDLB
  - HLDL2
- Diffused Lighting
  - TH
  - LFL
  - HPD2
  - HPD
  - LDM2
  - LAV
  - PDM
  - LFX2
  - LFV3
  - LFV2
- Collimated Lighting
  - MSU
  - MFU
- Ultraviolet Lighting
  - UV2
  - UV
  - LNSP-UV-FN
- Infrared Lighting
  - IR2
- Spot Lighting, Etc.
  - HLV2
  - LV
  - LSP
  - HFS/HFR
  - HLV2-NR
  - HLV2-3M-RGB-3W
  - PFB2
  - PFB3
- Convergent Lighting
  - LNSP
  - CU-LNSP
  - LNSP-FN
  - LN/LN-HK
- Diffused Lighting
  - LNSD
  - LND2
  - HLND
  - LT
  - LNW/HLDN
- Oblique Angled Lighting
  - LNIS
  - LNIS-FN
- Lenses
  - Telecentric Lens
  - Macro Lens

Direct Lighting	LDR2
	LDR2-LA
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	SQR
	SQR-TP
Convergent Lighting	HLDR-IP
Diffused Lighting	HPR2
	HPR
	LFR
	LKR
	FPR
	FPQ2
Direct Lighting	LDL2
	LDLB
	HLDL2
	TH
	LFL
Diffused Lighting	HPD2
	HPD
	LDM2
	LAV
	PDM
	LFX2
	LFV3
	LFV2
Colimated Lighting	MSU
	MFU
Ultraviolet Lighting	UV2
	UV
	LNSP-UV-FN
Infrared Lighting	IR2
	HLV2
	LV
	LSP
	HFS/HFR
	HLV2-NR
	HLV2-3M-RGB-3W
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## Extension cables

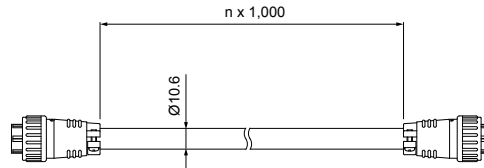
Model name	Cable length	Weight
FCB-2-1.25SQ-ME7	2 m	430 g
FCB-3-1.25SQ-ME7	3 m	580 g
FCB-5-1.25SQ-ME7	5 m	1,000 g
FCB-10-1.25SQ-ME7	10 m	2,000 g
FCB-20-2.0SQ-ME7	20 m	5,000 g

\* Necessary when connecting the Light Unit to the recommended Control Unit, the PSB3-30024.

FCB-n-1.25SQ-ME7

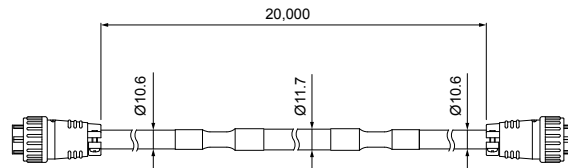
(n=2, 3, 5, 10)

(mm)



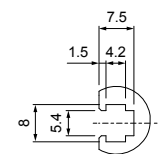
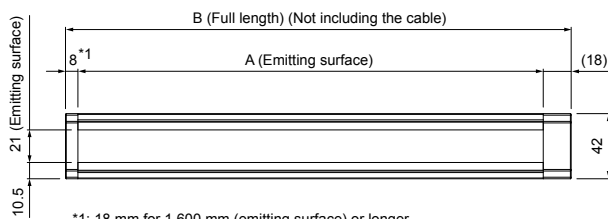
Cable permitted bending radius: 63.6 mm

FCB-20-2.0SQ-ME7

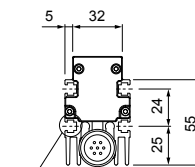
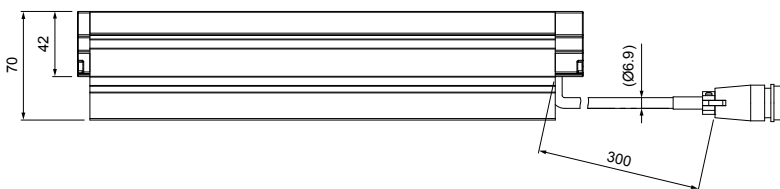


Cable permitted bending radius: 63.6 mm

## Dimensions (mm)



Detailed figure C



For installation  
4-M5 nut slots  
→ Detailed figure C

\* For sizes 1,600 mm (emitting surface) or longer, a cable comes out of each end of the Light Unit.

\* For sizes 1,100 mm (emitting surface) or longer, the cable radius is thick (Ø9.7).

	Model name	A (Emitting surface)	B (Full length)	Model name	A (Emitting surface)	B (Full length)	
Standard products	LNSP-100SW	100	126	Special orders	LNSP-1600SW	1,600	1,636
	LNSP-200SW	200	226		LNSP-1700SW	1,700	1,736
	LNSP-300SW	300	326		LNSP-1800SW	1,800	1,836
	LNSP-400SW	400	426		LNSP-1900SW	1,900	1,936
	LNSP-500SW	500	526		LNSP-2000SW	2,000	2,036
	LNSP-600SW	600	626		LNSP-2100SW	2,100	2,136
	LNSP-700SW	700	726		LNSP-2200SW	2,200	2,236
	LNSP-800SW	800	826		LNSP-2300SW	2,300	2,336
	LNSP-900SW	900	926		LNSP-2400SW	2,400	2,436
	LNSP-1000SW	1,000	1,026		LNSP-2500SW	2,500	2,536
Special orders	LNSP-1100SW	1,100	1,126	LNSP-2600SW	2,600	2,636	
	LNSP-1200SW	1,200	1,226	LNSP-2700SW	2,700	2,736	
	LNSP-1300SW	1,300	1,326	LNSP-2800SW	2,800	2,836	
	LNSP-1400SW	1,400	1,426	LNSP-2900SW	2,900	2,936	
	LNSP-1500SW	1,500	1,526	LNSP-3000SW	3,000	3,036	