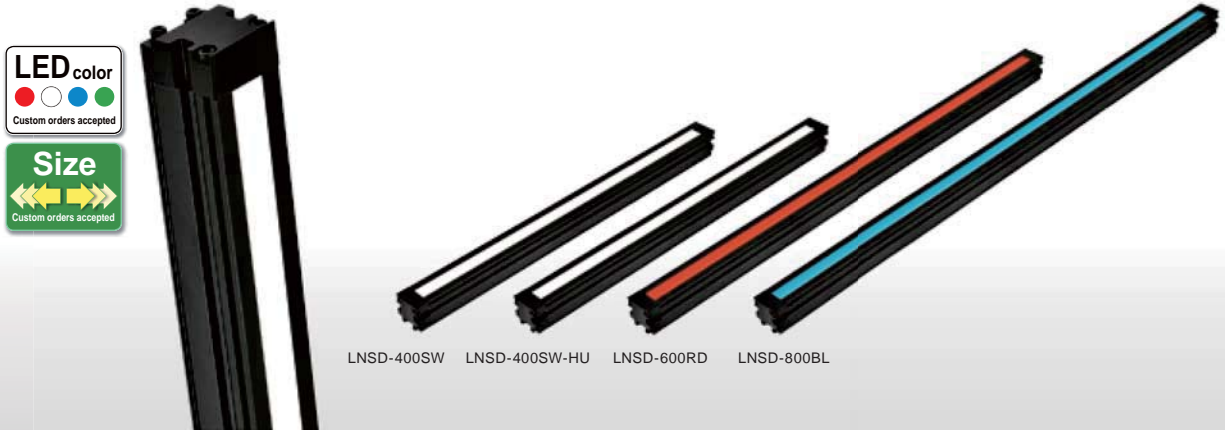


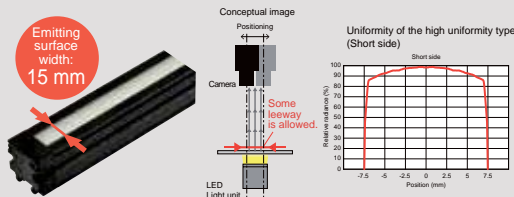
Highly-versatile Line Lights with a variety of uses



**Applications** Inspection for dents, foreign-material, or fish-eye-holes on clear film; inspection for blots, unevenness, or scratches on metallic foil; inspection for oil-sots, holes, or edge-breaking on paper; inspection for blots, mixing-of-hairs, or crude-density on non-woven fabric; etc.

➤ Easy-to-Setup, Compact, and Lightweight

The wide and uniform emitting surface facilitates the positioning of the camera. You can improve the efficiency of the setting work.



**Compact and lightweight**



**Stable quality even in a harsh environment**

Operation temp. **50°C** allowed

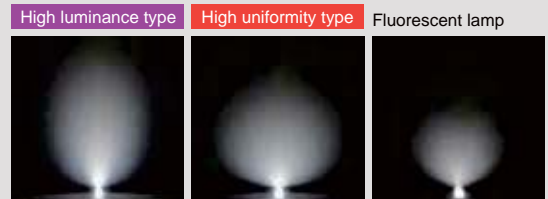
**Heat resistant design for a high temperature environment**

- Optimized case design for heat dissipation
- Heat resistant cable and diffusion plate
- Other components for thorough heat resistance

Also make sure the operating temperature of the Control Unit and the optional accessories.

➤ Optimum for Replacing Your Fluorescent Lights

**Excellent brightness and the same uniformity as a fluorescent light**

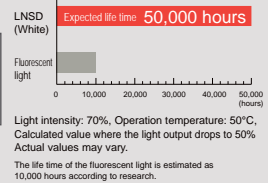


Measurement condition: 100% intensity, short side

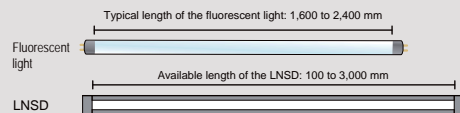
**Great for replacing fluorescent lights due to the equal size**



**Life time comparison**



**Supports 1,600 to 2,400 mm length as with the fluorescent light**



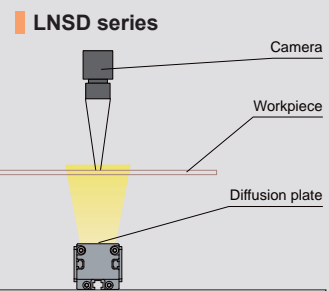
➤ Applications

**Inspection for foreign material on clear films**

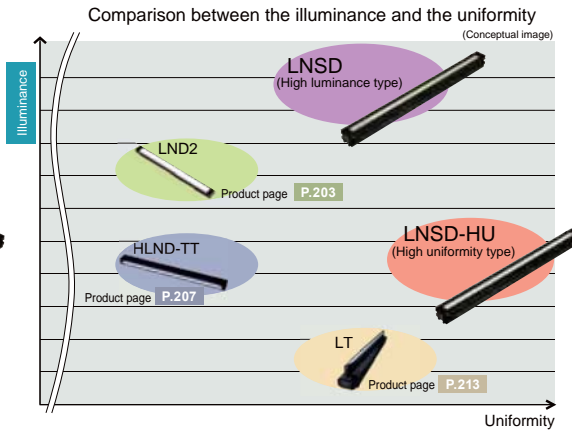
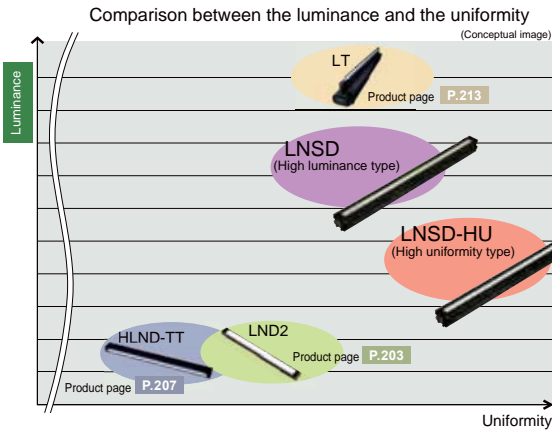


➤ Example Configuration

Light from the chip LEDs on the flat boards passes through a diffusion plate to produce a band of diffused illumination.



## ▶ Comparing Performance of the LNSD with Other CCS Line Lights

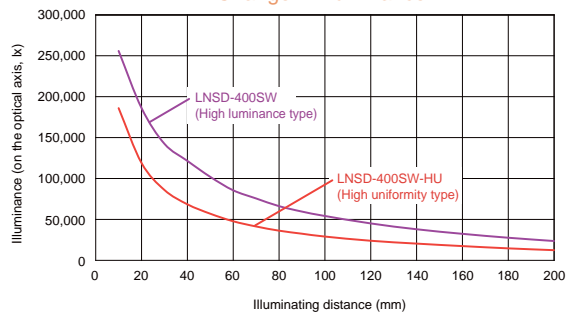


## ▶ Data (Representative Example) The graph included is for reference only. Actual values may vary.

### Brightness

Series name	Luminance	Illuminance
LNSD-400SW (High luminance type)	265,000 cd/m <sup>2</sup>	101,000 lx LWD=50 mm
LNSD-400SW-HU (High uniformity type)	125,000 cd/m <sup>2</sup>	56,000 lx LWD=50 mm

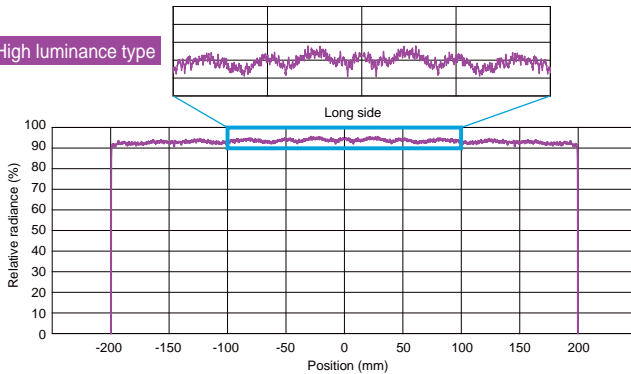
### Change in illuminance



### LNSD-400SW

#### Relative radiance distribution

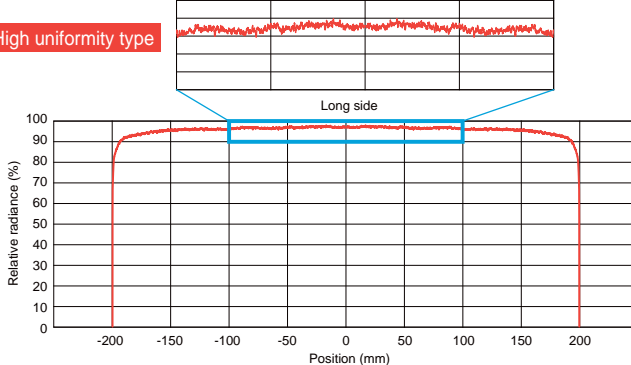
High luminance type



### LNSD-400SW-HU

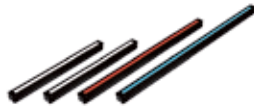
#### Relative radiance distribution

High uniformity type



- Direct Lighting
  - LDR2
  - LDR2-LA
  - LDR-LA1
  - SQR
  - SQR-TP
- Diffused Lighting
  - HPR2
  - LFR
  - LKR
  - FPR
  - FPQ2
  - LDL2
  - LDLB
  - HLDL2
  - HL
- Direct Lighting
  - TH2 (5 types)
  - TH
  - LFL
- Diffused Lighting
  - HPD2
  - LDM2
  - LAV
  - PDM
  - LFX3
  - LFX3-PT
  - LFV3
- Coaxial Lighting
  - MSU
  - MFU
- Stroke Lighting
  - PF
- Water-proof Lighting
  - HLDR-IP/ HSL-PCL
- Ultraviolet Lighting
  - UV2
  - UV
  - LNSP-UV-FN
- Infrared Control Lighting
  - IR2
  - IU
- Spot Lighting, Etc.
  - HLV3
  - HLV2
  - LV
  - LSP
  - HFS/HFR
  - HLV3-3M-RGB-4
  - HLV2-NR
  - HLV2-3M-RGB-3W
  - PFB3
  - PFB2
- Convergent Lighting
  - LNLP
  - LNSP2
  - LNSP
  - Coaxial Units
  - LNSP-FN
  - LN/LN-HK
- Diffused Lighting
  - LNSD
  - LND2
  - HLND
  - LT
  - LNV
- Oblique-Angled Lighting
  - LDNG
  - LNIS2
  - LNIS
  - LNIS-FN
- Lenses
  - Telecentric Lens
  - Macro Lens

# LNSD Series

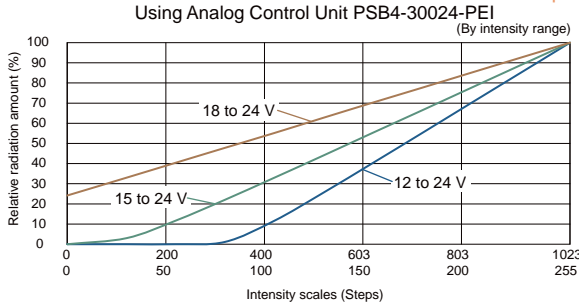


## Data (Representative Example)

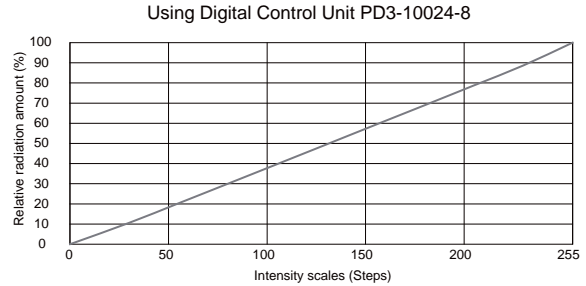
The graph included is for reference only. Actual values may vary.

### LNSD-400SW / LNSD-400SW-HU

#### Output characteristics



Actual measurement values using the Analog Control Unit PSB4-30024-PEI. Results for individual products may vary.



Actual measurement values using the Digital Control Unit PD3-10024-8. Results for individual products may vary. Custom products with a PWM frequency of 500 kHz are available for Digital Control Unit PD3 series. Please contact your sales representative for details.

## Lineup

Model name: High luminance type LNSD-□□□□□□□□ High uniformity type LNSD-□□□□□□□□-HU  
(□: Emitting surface length) (□: LED color)

Model name	LED color	Power consumption	Peak wavelength / correlated color temperature	Extension cables	Recommended Control Units	Weight
LNSD-100SW/RD/BL	White (SW) Red (RD) Blue (BL)	24 V / 11 W	White: 6,600 K Red: 631 nm Blue: 470 nm	FCB-EL2	PSB4-30024-PEI PD3-10024-8*2	200 g
LNSD-200SW/RD/BL		24 V / 21 W				320 g
LNSD-300SW/RD/BL		24 V / 31 W				460 g
LNSD-400SW/RD/BL		24 V / 41 W				590 g
LNSD-500SW/RD/BL		24 V / 51 W				720 g
LNSD-600SW/RD/BL		24 V / 61 W				860 g
LNSD-700SW/RD/BL		24 V / 71 W				990 g
LNSD-800SW/RD/BL		24 V / 81 W				1,120 g
LNSD-900SW/RD/BL		24 V / 91 W				1,240 g
LNSD-1000SW/RD/BL		24 V / 101 W				1,370 g
LNSD-1100SW/RD/BL		24 V / 111 W				1,500 g
LNSD-1200SW/RD/BL		24 V / 121 W				1,640 g
LNSD-1300SW/RD/BL		White, Blue: 131 W / Red: 132 W				1,770 g
LNSD-1400SW/RD/BL		White, Blue: 141 W / Red: 142 W				1,910 g
LNSD-1500SW/RD/BL		White, Blue: 151 W / Red: 152 W				2,040 g
LNSD-1600SW/RD/BL		White, Blue: 161 W / Red: 162 W		2,170 g		
LNSD-1700SW/RD/BL		White, Blue: 171 W / Red: 172 W		2,300 g		
LNSD-1800SW/RD/BL		White, Blue: 181 W / Red: 182 W		2,440 g		
LNSD-1900SW/RD/BL		24 V / 192 W		2,570 g		
LNSD-2000SW/RD/BL		24 V / 202 W		2,700 g		
LNSD-2100SW/RD/BL		24 V / 212 W		2,830 g		
LNSD-2200SW/RD/BL		24 V / 222 W		2,960 g		
LNSD-2300SW/RD/BL		24 V / 232 W		3,090 g		
LNSD-2400SW/RD/BL		24 V / 242 W		3,220 g		
LNSD-2500SW/RD/BL		White, Blue: 230 W / Red: 227 W		3,350 g		
LNSD-2600SW/RD/BL		White, Blue: 239 W / Red: 236 W		3,480 g		
LNSD-2700SW/RD/BL		White, Blue: 248 W / Red: 245 W		3,610 g		
LNSD-2800SW/RD/BL		White, Blue: 257 W / Red: 255 W		3,740 g		
LNSD-2900SW/RD/BL		White, Blue: 267 W / Red: 264 W		3,870 g		
LNSD-3000SW/RD/BL		White, Blue: 276 W / Red: 273 W		4,000 g		
LNSD-2100SW/RD/BL			FCB-EL2	PSB4-30024-PEI		
LNSD-2200SW/RD/BL			FCB-EL2			
LNSD-2300SW/RD/BL			x 2 *1			

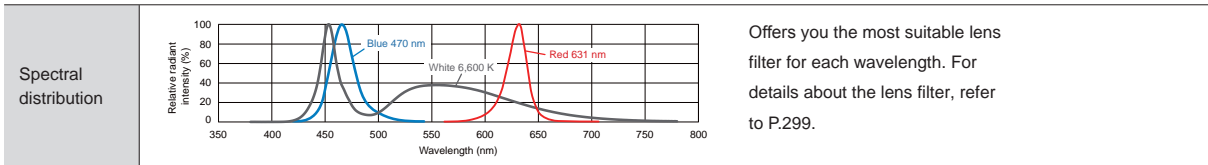
Extension Cables ▶ P.308

List of Control Unit Specifications ▶ P.253

\*1 The Light Units with an emitting surface length of 1,200 mm or more have two input connectors. To install the Light Unit, use two Extension Cables of the same length. Using the cables of different length may cause uneven emission due to a difference in voltage drop caused by the DC resistance of the cables.  
\*2 Custom products with a PWM frequency of 500 kHz are available for Digital Control Unit PD3 series. Please contact your sales representative for details.

We accept custom orders, such as changes to the LED color (green/IR/UV, etc.) and size changes. Inquire at your sales representative for details.

## LED Properties



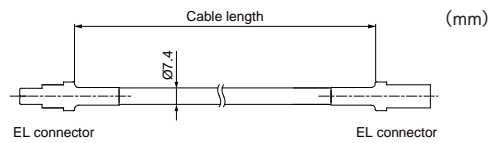
Be sure to read the "Instruction Guide" included with the product before use and follow the safety precautions upon use. The data included is for reference only. Actual values may vary.

## Extension Cables

### FCB-EL2

Model name	Cable length	Model name	Cable length
FCB-1-EL2	1 m	FCB-5-EL2	5 m
FCB-2-EL2	2 m	FCB-10-EL2	10 m
FCB-3-EL2	3 m	FCB-15-EL2	15 m

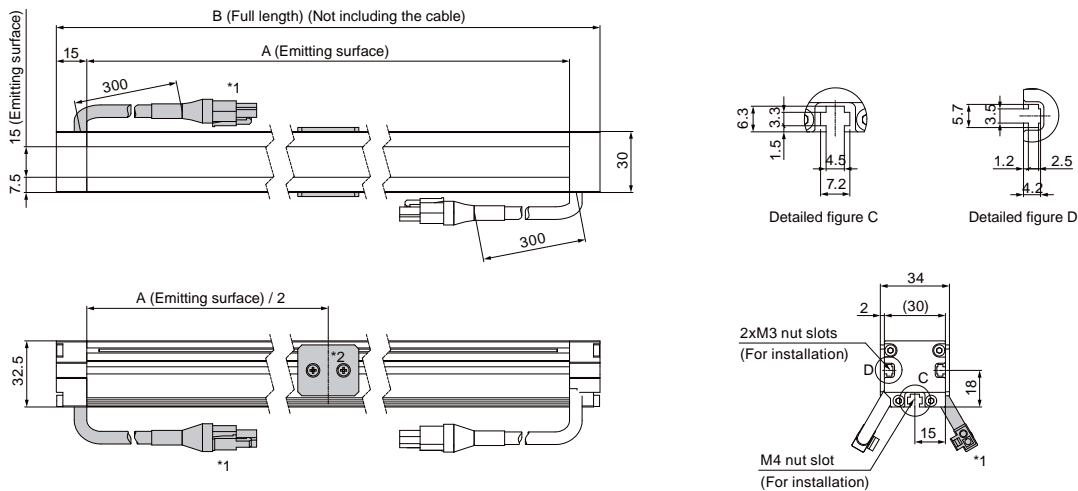
Extension Cables Page ▶ P.308



Cable permitted bending radius: 29.6 mm

The above cable permitted bending radius is a reference value. Actual value may vary.

## Dimensions (mm)



\*1 Only the Light Units with an emitting surface length of 1,200 mm or more have two connectors.

\*2 Only the Light Units with an emitting surface length of 1,600 mm or more have reinforcing metal fittings.

	Model name	A (Emitting surface)	B (Full length)	Model name	A (Emitting surface)	B (Full length)
High luminance type / High uniformity type (Add "HU" at the end of the model name.)	LNSD-100SW/RD/BL	100	130	LNSD-1600SW/RD/BL	1,600	1,630
	LNSD-200SW/RD/BL	200	230	LNSD-1700SW/RD/BL	1,700	1,730
	LNSD-300SW/RD/BL	300	330	LNSD-1800SW/RD/BL	1,800	1,830
	LNSD-400SW/RD/BL	400	430	LNSD-1900SW/RD/BL	1,900	1,930
	LNSD-500SW/RD/BL	500	530	LNSD-2000SW/RD/BL	2,000	2,030
	LNSD-600SW/RD/BL	600	630	LNSD-2100SW/RD/BL	2,100	2,130
	LNSD-700SW/RD/BL	700	730	LNSD-2200SW/RD/BL	2,200	2,230
	LNSD-800SW/RD/BL	800	830	LNSD-2300SW/RD/BL	2,300	2,330
	LNSD-900SW/RD/BL	900	930	LNSD-2400SW/RD/BL	2,400	2,430
	LNSD-1000SW/RD/BL	1,000	1,030	LNSD-2500SW/RD/BL	2,500	2,530
	LNSD-1100SW/RD/BL	1,100	1,130	LNSD-2600SW/RD/BL	2,600	2,630
	LNSD-1200SW/RD/BL	1,200	1,230	LNSD-2700SW/RD/BL	2,700	2,730
	LNSD-1300SW/RD/BL	1,300	1,330	LNSD-2800SW/RD/BL	2,800	2,830
	LNSD-1400SW/RD/BL	1,400	1,430	LNSD-2900SW/RD/BL	2,900	2,930
	LNSD-1500SW/RD/BL	1,500	1,530	LNSD-3000SW/RD/BL	3,000	3,030

Direct Lighting

- LDR2
- LDR2-LA
- LDR-LA1
- SQR
- SQR-TP

Diffused Lighting

- HPR2
- LFR
- LKR
- FPR
- FPQ2

Direct Lighting

- LDL2
- LDLB
- HLDL2
- HL
- TH2 (5 types)
- TH

Diffused Lighting

- LFL
- HPD2
- LDM2
- LAV
- PDM
- LFX3
- LFX3-PT
- LFV3

Coaxial Lighting

- MSU
- MFU

Strobe Lighting

- PF

Water-proof

- HLDR-IP/HSL-PCL

Ultraviolet

- UV2
- UV
- LNSP-UV-FN

Infrared

- IR2

Intensity Control

- IU

Spot Lighting, Etc.

- HLV3
- HLV2
- LV
- LSP
- HFS/HFR
- HLV3-NR
- HLV3-3M-RGB-4
- HLV2-NR
- HLV2-3M-RGB-3W
- PFBR
- PFB3
- PFB2

Convergent Lighting

- LNLP
- LNSP2
- LNSP
- Coaxial Units
- LNSP-FN
- LN/LN-HK

Diffused Lighting

- LNSD
- LND2
- HLND
- LT
- LNV
- LNDG
- LNS2
- LNIS
- LNIS-FN
- Telecentric Lens
- Macro Lens