



Highly-versatile Line Lights with a variety of uses



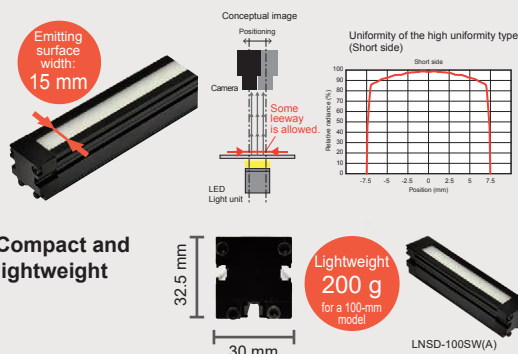
LNSD-400SW(A) LNSD-400SW-HU(A) LNSD-600RD LNSD-800BL

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

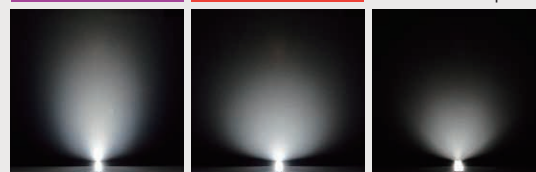
- Optimized case design for heat dissipation
- Heat resistant cable and diffusion plate
- Other components for thorough heat resistance

Also make sure the operating temperature of the control unit and the optional accessories.

Can replace fluorescent lights

Excellent brightness and the same uniformity as a fluorescent light

High luminance type High uniformity type (-HU) Fluorescent lamp

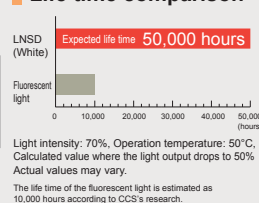


Measurement condition: 100% intensity, short side

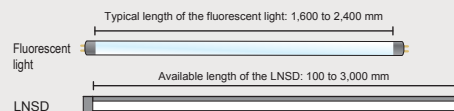
Great for replacing fluorescent lights due to the equal size



Life time comparison

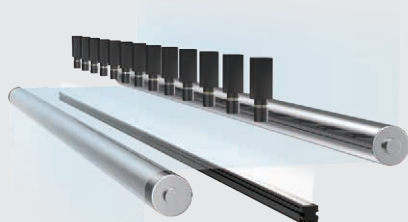


Supports 1,600 to 2,400 mm length as with the fluorescent light



Applications

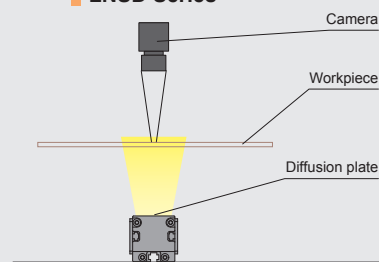
Inspection for foreign material on clear films



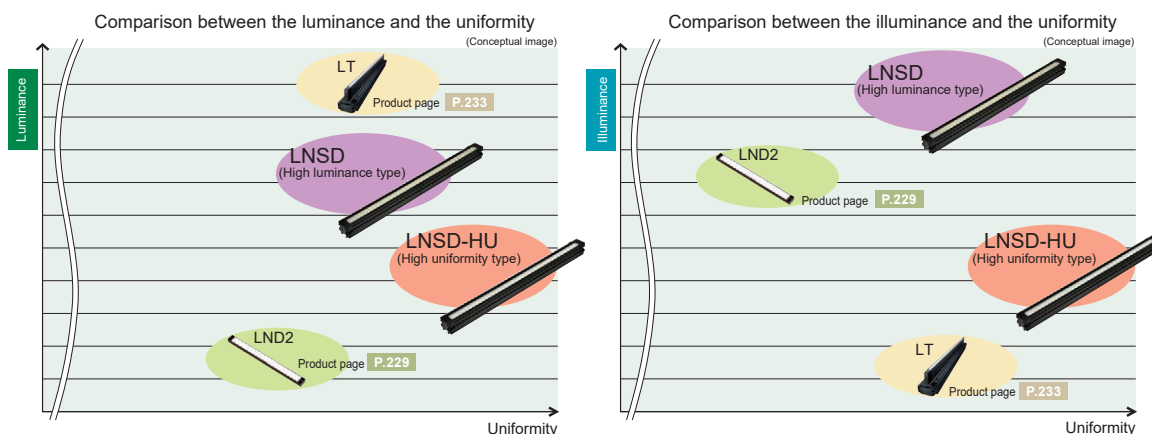
Example Configuration

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

LNSD Series



Comparing Performance of the LNSD with Other CCS Line Lights



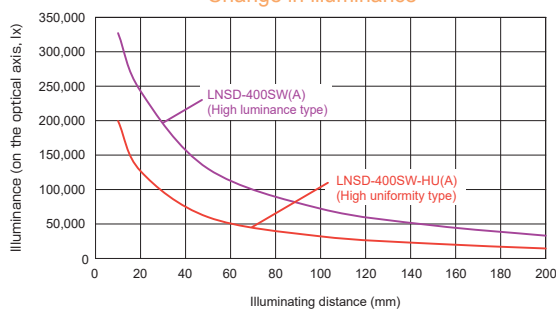
Data (Representative Example)

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

Brightness

Series name	Luminance	Illuminance
LNSD-400SW(A) (High luminance type)	328,000 cd/m ²	128,000 lx LWD=50 mm
LNSD-400SW-HU(A) (High uniformity type)	117,000 cd/m ²	58,000 lx LWD=50 mm

Change in illuminance

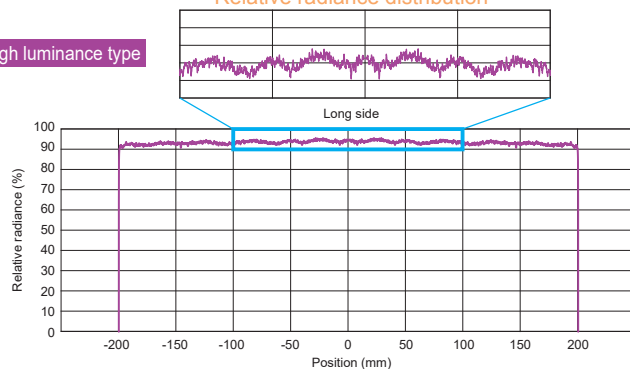


Actual measurement values at 100% intensity in each illuminating distance. Results for individual products may vary.

LNSD-400SW(A)

Relative radiance distribution

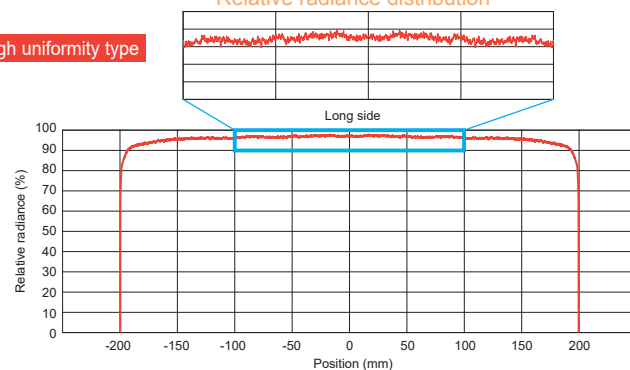
High luminance type



LNSD-400SW-HU(A)

Relative radiance distribution

High uniformity type



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	Dome
LFX3-PT					
LFV3	LFV3-G				Coaxial
MSU	MFU				Coaxial
PF					Stroke
HLDR-IP	HSL-PCL				Water-proof
Small COB Lights					COB
UV3/VL3	UV				UV / Violet
LNSP-UV3-FN					
IR2 (Under 1000-nm Type)	IR (Over 1000-nm Type)				Infrared
CI					Control
HLV3	LV	LSP	HFS/HFR	HLV3-22-4-NR	Spot, Etc.
HLV3-3M-RGB-A					
PFBR-600SW2					
PFBR-150					
LNSP	LNSP2	Coaxial Units	LNSP-FN	LNSP-HK	Line (Convergent)
LNSD	LND2	LT	LNV	LFXV (Rectangular Type)	Line (Diffused)
TH2 (Rectangular Type)					
LNDG	LNSIS2	LNSIS			Line (Oblique Angled)
LNSIS-FN					
Telecentric Lens					Lenses
Macro Lens					

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/>

LNSD Series



Refer to our website for product details.

CCS LNSD

Search



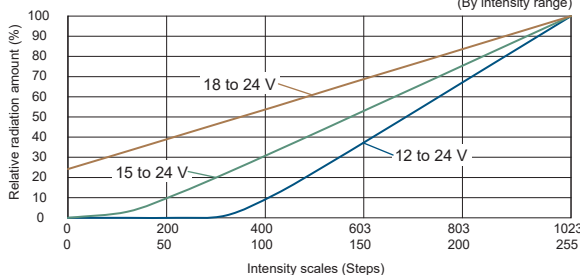
Data (Representative Example)

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

LNSD-400SW(A) / LNSD-400SW-HU(A) Output characteristics

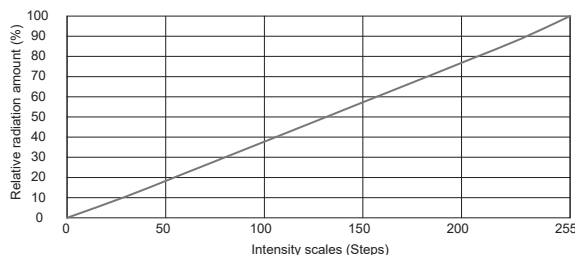
Using Analog Control Unit PSB4-30024-PEI

(By intensity range)



Actual measurement values using the PSB4-30024-PEI analog control unit. Results for individual products may vary.

Using Digital Control Unit PD3-10024-8



Actual measurement values using the PD3-10024-8 digital control unit. Results for individual products may vary.

Lineup

Model Name: High Luminance Type LNSD-□□□□□□□□□□ LED Color Low Uniformity Type LNSD-□□□□□□□□□□ HU LED Color

Model Name	LED Color	Power Consumption	Peak Wavelength / Correlated Color Temperature	Extension Cables	Recommended Control Units	Weight
LNSD-100SW(A)/RD/BL		24 V / 11 W				200 g
LNSD-200SW(A)/RD/BL		24 V / 21 W				320 g
LNSD-300SW(A)/RD/BL		24 V / 31 W			PSB4	460 g
LNSD-400SW(A)/RD/BL		24 V / 41 W			PD4-12024	590 g
LNSD-500SW(A)/RD/BL		24 V / 51 W			PD3-10024-8*	720 g
LNSD-600SW(A)/RD/BL		24 V / 61 W		FCB-EL2		860 g
LNSD-700SW(A)/RD/BL		24 V / 71 W				990 g
LNSD-800SW(A)/RD/BL		24 V / 81 W				1,120 g
LNSD-900SW(A)/RD/BL		24 V / 91 W				1,240 g
LNSD-1000SW(A)/RD/BL		24 V / 101 W			PSB4	1,370 g
LNSD-1100SW(A)/RD/BL		24 V / 111 W			PD4-12024	1,500 g
LNSD-1200SW(A)/RD/BL		24 V / 121 W				1,640 g
LNSD-1300SW(A)/RD/BL		White, Blue: 131 W / Red: 132 W				1,770 g
LNSD-1400SW(A)/RD/BL		White, Blue: 141 W / Red: 142 W				1,910 g
LNSD-1500SW(A)/RD/BL	White (SW)	White, Blue: 151 W / Red: 152 W	White: 6,000 K			2,040 g
LNSD-1600SW(A)/RD/BL	Red (RD)	White, Blue: 161 W / Red: 162 W	Red: 631 nm			2,170 g
LNSD-1700SW(A)/RD/BL	Blue (BL)	White, Blue: 171 W / Red: 172 W	Blue: 470 nm			2,300 g
LNSD-1800SW(A)/RD/BL		White, Blue: 181 W / Red: 182 W				2,440 g
LNSD-1900SW(A)/RD/BL		24 V / 192 W				2,570 g
LNSD-2000SW(A)/RD/BL		24 V / 202 W				2,700 g
LNSD-2100SW(A)/RD/BL		24 V / 212 W		FCB-EL2	PSB4	2,830 g
LNSD-2200SW(A)/RD/BL		24 V / 222 W		x 2 *		2,960 g
LNSD-2300SW(A)/RD/BL		24 V / 232 W				3,090 g
LNSD-2400SW(A)/RD/BL		24 V / 242 W				3,220 g
LNSD-2500SW(A)/RD/BL		White, Blue: 230 W / Red: 227 W				3,350 g
LNSD-2600SW(A)/RD/BL		White, Blue: 239 W / Red: 236 W				3,480 g
LNSD-2700SW(A)/RD/BL		White, Blue: 248 W / Red: 245 W				3,610 g
LNSD-2800SW(A)/RD/BL		White, Blue: 257 W / Red: 255 W				3,740 g
LNSD-2900SW(A)/RD/BL		White, Blue: 267 W / Red: 264 W				3,870 g
LNSD-3000SW(A)/RD/BL		White, Blue: 276 W / Red: 273 W				4,000 g

High luminance type / High uniformity type (Add "-HU" at the end of the model name.)

*1 The light units with an emitting surface length more than 1,200 mm 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 PD3 Series digital control unit. Please contact your CCS sales representative for details.

Change in model names "(A)" is added to the end of select model names e.g. LFX3-25SW → LFX3-25SW(A)

Reason	Effect on functions and performance
LEDs have been changed due to the discontinuation of the LEDs used.	Lower correlated color temperature (more yellow) Conventional product: 6600 K New product: 6000 K

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

Various technical documents available.

PDF Drawings

DXF Drawings

Product Brochures

Instruction Guides

3D CAD

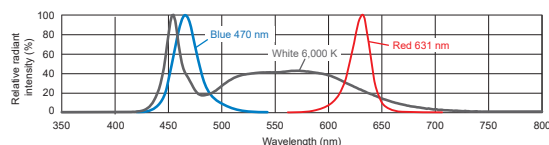
Data Sheets

Imaging Examples

Digital Catalogs

Register to use them.

LED Properties

Spectral
distribution

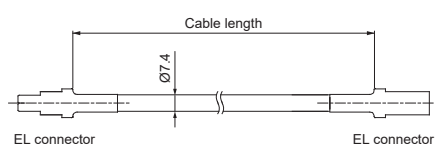
Lens filters suitable for each wavelength are available. For details about the lens filter, refer to P 359.

Be sure to read the User Manual 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-FI 2	3 m	FCB-15-FI 2	15 m



Cable permitted bending radius: 29.6 mm

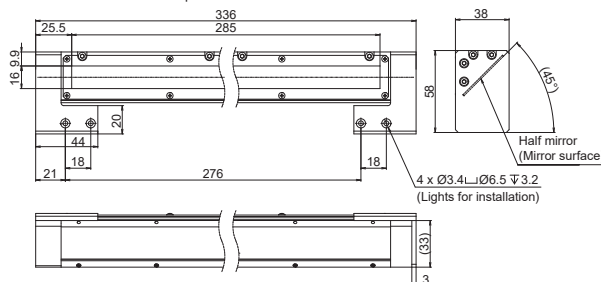
The above cable permitted bending radius is a reference value. Actual value may vary.

➤ **Option (mm)**

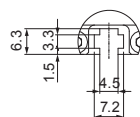
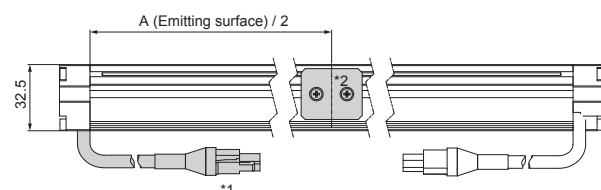
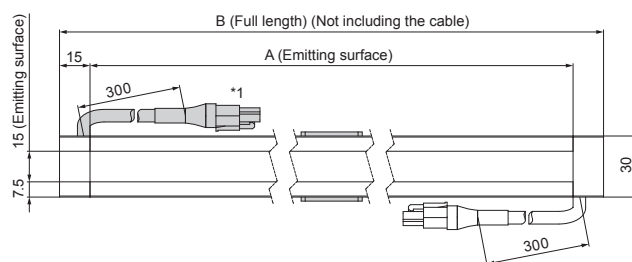
Coaxial unit: CU-LNSD-300-GL

Capable of imaging by illumination from the same axis as the camera.

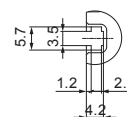
*This is a custom-order product. Contact our local sales office for details.



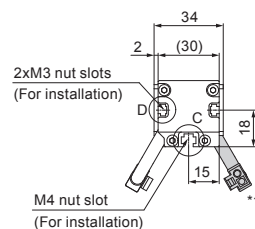
Dimensions (mm)



Detailed figure C



Detailed figure D



*1 Only the light units with an emitting surface length more than 1.200 mm have two connectors.

*2 Only the light units with an emitting surface length more than 1.600 mm 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(A)/RD/BL	100	130	High luminance type / High uniformity type (Add "-HU" at the end of the model name.)	LNSD-1600SW(A)/RD/BL	1,600	1,630
	LNSD-200SW(A)/RD/BL	200	230		LNSD-1700SW(A)/RD/BL	1,700	1,730
	LNSD-300SW(A)/RD/BL	300	330		LNSD-1800SW(A)/RD/BL	1,800	1,830
	LNSD-400SW(A)/RD/BL	400	430		LNSD-1900SW(A)/RD/BL	1,900	1,930
	LNSD-500SW(A)/RD/BL	500	530		LNSD-2000SW(A)/RD/BL	2,000	2,030
	LNSD-600SW(A)/RD/BL	600	630		LNSD-2100SW(A)/RD/BL	2,100	2,130
	LNSD-700SW(A)/RD/BL	700	730		LNSD-2200SW(A)/RD/BL	2,200	2,230
	LNSD-800SW(A)/RD/BL	800	830		LNSD-2300SW(A)/RD/BL	2,300	2,330
	LNSD-900SW(A)/RD/BL	900	930		LNSD-2400SW(A)/RD/BL	2,400	2,430
	LNSD-1000SW(A)/RD/BL	1,000	1,030		LNSD-2500SW(A)/RD/BL	2,500	2,530
LNSD-1100SW(A)/RD/BL	1,100	1,130	LNSD-2600SW(A)/RD/BL	2,600	2,630		
LNSD-1200SW(A)/RD/BL	1,200	1,230	LNSD-2700SW(A)/RD/BL	2,700	2,730		
LNSD-1300SW(A)/RD/BL	1,300	1,330	LNSD-2800SW(A)/RD/BL	2,800	2,830		
LNSD-1400SW(A)/RD/BL	1,400	1,430	LNSD-2900SW(A)/RD/BL	2,900	2,930		
LNSD-1500SW(A)/RD/BL	1,500	1,530	LNSD-3000SW(A)/RD/BL	3,000	3,030		

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	
LDR-LA1	
SQR	
SQR-TP	
HLDR3	Ring (Convergent/Diffused)
HPR2	
LFR	
LKR	
FPR	
FPQ3	Square
LDL2	Bar
LDLB	
HLDL3	
LB	
TH2 (5 types)	Flat
LFL	
HPD2	
LDM2	Dome
LAV	
PDM	
LFXV	
LFX3	Coaxial
LFX3-PT	
LFV3	
LFV3-G	Coaxial
MSU	
MFU	Coaxial
PF	Strobe
	Water-proof
HLDR-IP	COB
HSL-PCL	
Small COB Lights	
UV3/ML3	UV / Violet
UV	
LNSP-UV3-FN	UV / Infrared
IR2 (Under 1000-nm Type)	
IR3 (Over 1000-nm Type)	
CIR	Intensity Control
HLV3	Spot, Etc.
LV	
LSP	
HFS/HR	
HLV3-224-4NR	
HLV3-3M-RGB-4	
PFBR-600S-W2	
PFBR-150	
PFBR3	
LNLP	Line (Convergent)
LNSP2	
Coaxial Units	
LNSP-FN	
LN/LN-HK	
LNSD	Line (Diffused)
LN2	
LT	
LFXV (Rectangular Type)	
TH2 (Rectangular Type)	
LDNG	Line (Oblique Angled)
LNIS2	
LNIS	
LNIS-FN	
Telecentric Lens	
Macro Lens	