

# HLND series

## Super High Intensity

### LED Light for Line Sensors



**Next-generation Line Light achieving unprecedented brightness and performance.**

- Available in two types: Standard or high-intensity.
- Length (Light emitting surface) available in the increments of 100mm: 100mm min.–2,700mm max.
- CCS's unique, heat dissipation provides upgraded efficiency.
- Adopts strong solid aluminum housing.
- LED color available in white or red.

**Patent Pending**

# Next generation LED Linelights, illuminating a new era

## The HLND Series

Offering line lengths ideally suited to illumination applications



Emitting surface length can be specified in 100-mm increments

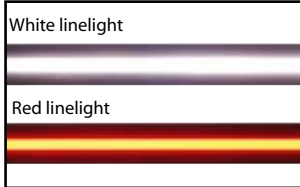
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within the range of 100 mm at minimum to 2,700 mm at maximum

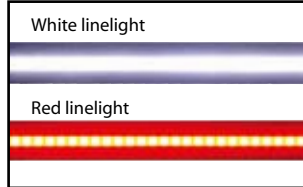
The HLND Series offers line lengths ideally suited to illumination applications for customers. Since the HLND Series is manufactured by joining LED-mounted printed circuit boards, customers are able to specify an emitting surface length in 100-mm increments. Furthermore, solid aluminum extrusion is used for the enclosure to ensure adequate strength.

Unprecedented luminosity for a wide variety of applications.

Standard type (T)



High intensity type (R)



The unique illuminating construction accomplishes high-intensity, convergent beam line illumination. Furthermore, in order to maximize the performance of the HLND Series, two types of linelights, standard type and high intensity type, are lined up to make them available for a wide variety of illumination applications.

High quality design for stable use of linelights.

Original heat dissipation structure



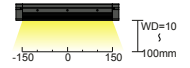
Adoption of metal connector



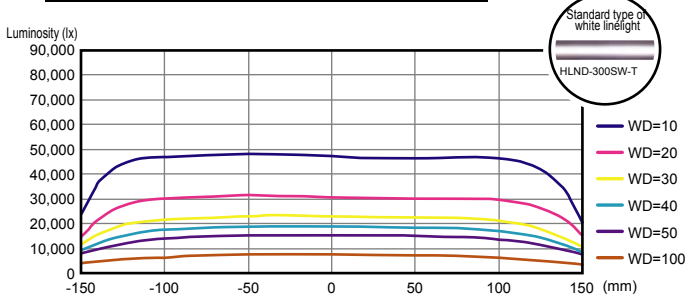
The HLND Series has incorporated the CCS's accumulated design technology in detail, thus realizing high quality design for long and stable use of linelights.

Luminosity data for HLND Series (Standard and high-intensity types)

\* Measurement conditions: Measured with a maximum of dimmer control immediately after the linelight turns ON. (Linelight used: 300-mm light emitting surface type) WD: Distance between the light emitting surface of linelight and the illuminometer

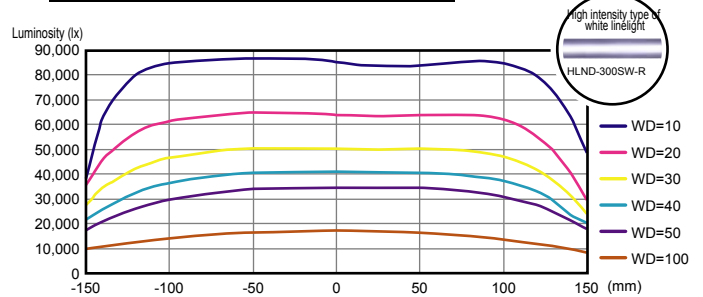


Luminosity data : standard type (white)



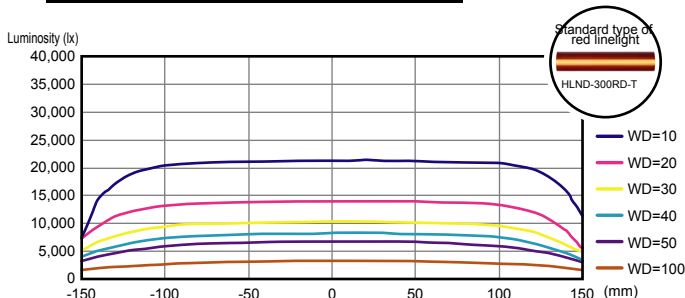
Using a high-diffusivity diffuser achieves compatibility between high light intensity and even illumination, thus executing power for imaging in bright fields with specular and transmitted light in use.

Luminosity data : High-intensity type (white)



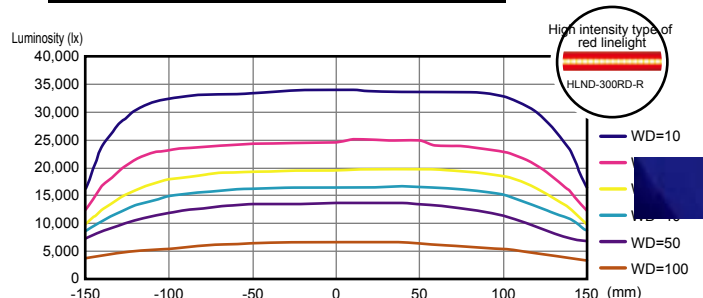
Using a high-transmittance diffuser ensures very high light intensity and even illumination with no extreme fluctuations in the intensity, thus executing power for imaging in dark fields with scattered light in use.

Luminosity data : standard type (red)



Using a high-diffusivity diffuser achieves even illumination, thus executing power for imaging in bright fields with specular and transmitted light in use.

Luminosity data : High-intensity type (red)

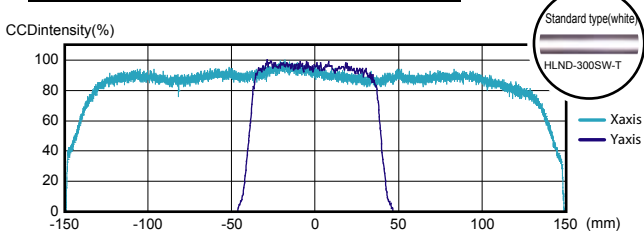


Using a high-transmittance diffuser ensures high light intensity and even illumination with minimized fluctuations in the intensity, thus executing power for imaging in dark fields with scattered light in use.

\*Data shown above are all for reference and provides no guarantees for the product quality.

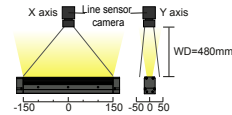
## CCD intensity measurement data for the HLND Series standard type

### CCD intensity measurement data: standard type(white)

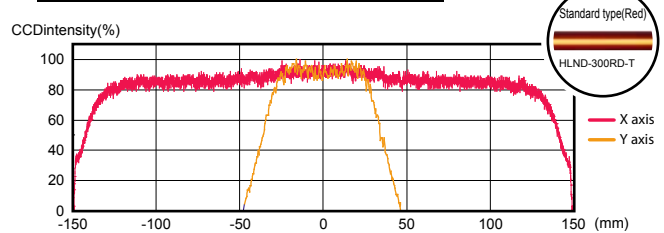


For the standard type of white line lights, light illumination within the effective illumination area of 200 mm in width is able to produce a uniform light with no extreme fluctuations.

\* Measurement conditions: Measured with a maximum of dimming control 30 minutes after the line light turns ON. (Line light used: 300-mm light emitting surface type).  
Line sensor camera is placed at a distance of 480 mm from the light emitting surface of a line light.  
CCD intensity: Luminosity of the line light measured with the CCD camera



### CCD intensity measurement data: standard type (red)

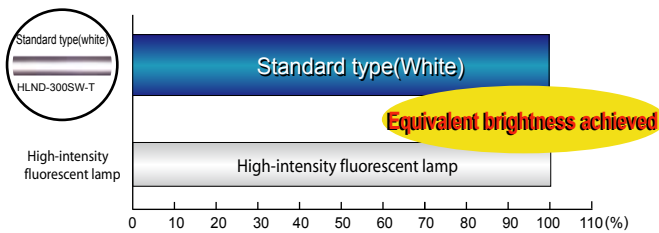


For the standard type of red line lights, light illumination within the effective illumination area of 200 mm in width is able to produce a uniform light with minimized fluctuations.

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## Brightness Comparison between the HLND Series and other line light

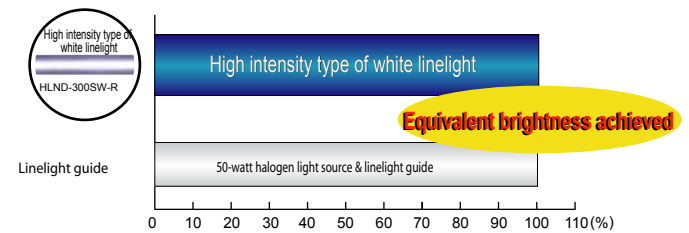
### Comparison of brightness with a high-intensity fluorescent lamp



For a comparison of brightness with a high-intensity fluorescent lamp, assuming that the brightness of the fluorescent lamp is 100%, the HLND-series standard type line light has produced the equal level of brightness.

\* Measurement conditions: Performed a comparison by placing illuminometer at the distance of 10mm from light emitting surface of line light. (Line light used: 300-mm light emitting surface type)

### Comparison of brightness with a 50-watt halogen line light



For a comparison of brightness with a 50-watt halogen line light, assuming that the brightness of the halogen line light is 100%, the HLND-series standard type line light has produced the equal level of brightness.

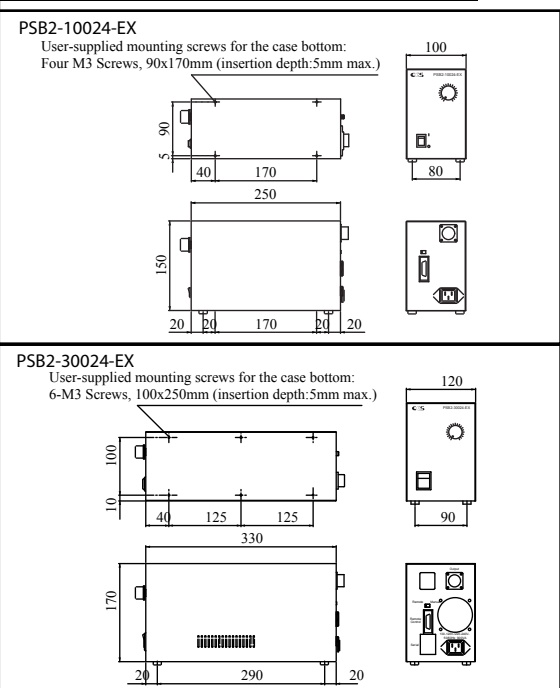
\*Data shown above are for reference and provides no guarantees for the product quality.

## Debut of HLND dedicated power supply unit PSB2-10024-EX, bringing out the best performance of the HLND Series

### Specifications for HLND Power Supply

Model	PSB2-10024-EX	PSB2-30024-EX
Input voltage	AC100V-120V/AC220V-240V	
Power consumption	240VA typ.	900VA typ.
Frequency	50/60Hz	
Inrush current	30A typ.	40A typ.
Output voltage fluctuation range	12V-24V	
Maximum power	100W	300W
Dimming method	Analog voltage control	
Dimming control selector switch	Manual(Internal): Only the dimming dial (Intensity) on the front panel is enabled. Remote(External): Only the external control signal is enabled. Dimming can be performed with an analog voltage of 0 to 5.0 V.	
Turning off control	Turning off control input: The first external control connector pin Turning off: 2V-5V Lighting: 0V-8V or Open	
Connector	Output connector: 15-pin D-sub male with metric threads.	
Lighting ON/OFF response	0.1sec. typ.	
Start-up time	0.5sec. typ.	
Weight	3.0kgMax	4.0kgMax

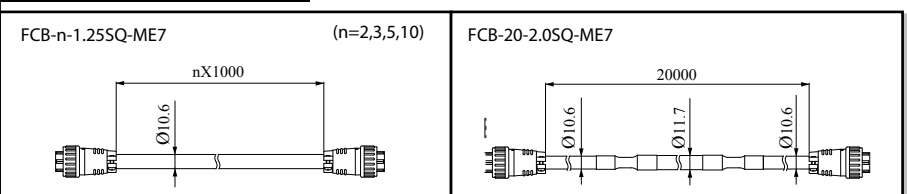
### External Dimensions of HLND Power Supply (mm)



## HLND Series dedicated cables

- FCB-2-1.25SQ-ME7.....2mCable
- FCB-3-1.25SQ-ME7.....3mCable
- FCB-5-1.25SQ-ME7.....5mCable
- FCB-10-1.25SQ-ME7.....10mCable
- FCB-20-2.0SQ-ME7.....20mCable

### Dimensions of HLND dedicated cables (mm)



Model	HLND-△△△SW-□		HLND-△△△RD-□	
△△△	Apply figures (in the range of 100 to 2,700) to this portion according to the length of light emitting surface.			
LED Color	SW(White)		RD(Red)	
□	T	R	T	R
Type	Standard	High intensity	Standard	High intensity
Peak Wavelength / Color Temp.	6500K		624nm	
Half radius of emission wavelength	-		15nm	
Connector	Metal connector(7 pins,male)			
Polarity and Signal	1,2,3:(+) 4,5,6:(-) 7:NC			
Cooling Method	Natural air cooling (Original heat dissipation structure)			
Housing material	Aluminum			
Operating Environment	Temp.: 0 to 40 C, Humidity: 20 to 85% RH (With no condensation)			
Storage Environment	Temp.: -20to 60 C, Humidity: 20 to 85% RH (With no condensation)			
Laser Class	Class-2 LED : Do not stare into the light beam.			

**HLND-(100xn)-T/R** (n = Number from 1 to 27)

Dimensions: B: 100 x n (emitting surface), 35 (height), 7.6 (emitting surface), 22, 72, P100x(n-1), 2 x n-M5, thread depth: 5, 5, 67, 67, (nx2)+4-M3, thread depth: 5, 31, 4.5, 21.

Specifications/Dimensions of Linelights for All Sizes

Light Emitting Surface (mm)	Model	LED Color	Type	Power Consumption (W)		Applicable outline dimensions			Weight (g)
				SW(White)	RD(Red)	n	A	B	
100	HLND-100	SW(White) / RD(Red)	T(Standard) / R(High intensity)	10	4.8	1	156.3	100	520
200	HLND-200			20	9.6	2	256.3	200	840
300	HLND-300			30	14	3	356.3	300	1,160
600	HLND-600			60	29	6	656.3	600	2,120
900	HLND-900			91	43	9	956.3	900	3,080
1,200	HLND-1200			107	58	12	1,256.3	1,200	4,040
1,500	HLND-1500			133	72	15	1,556.3	1,500	5,000
1,800	HLND-1800			160	86	18	1,856.3	1,800	5,960
2,100	HLND-2100			186	101	21	2,156.3	2,100	6,920
2,400	HLND-2400			213	115	24	2,456.3	2,400	7,880
2,700	HLND-2700			240	130	27	2,756.3	2,700	8,840

\*Please contact your nearest CCS office for Product specification other than listed above and it's delivery.

**To Use HLND Series**

- HLND Series requires the HLND dedicated cable and power supply unit.
- The dedicated cable is available for a maximum length of 20 m. Since it cannot be extended, prepare a cable with a required length.
- When using the HLND Series linelight under normal light ON control, it is recommended to set the dimming control volume of the power supply unit to lower than the maximum volume to achieve the best performance with stability. Installing a heat dissipation plate to the line light unit is recommended for better efficiency.
- The HLND Series linelight unit may become hot when the dimming control volume on the power supply unit is set to HIGH under normal light ON control.



For RoHS-compliant products and other detail information, visit <http://www.ccs-grp.com>

**Caution**

- To ensure safe usage, be sure to read the Operating Manual before operating the product.
- In the interest of product improvement, the specifications and design described herein may change without prior notice.

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