

Analyzes wavelengths to visualize subtle differences in color, materials, and contaminants.

Hyperspectral Imaging

Hyperspectral Imaging is a technology for acquiring images using a hyperspectral camera that has the function of acquiring images with high wavelength resolution and corresponding illumination.

- Applications:**
- Vegetation & Agriculture
 - Phenotyping
 - Color & Density in Printing
 - Food Quality
 - Food Sorting
 - Food Inspection & Grading
 - Waste Sorting
 - Recycling

Application Example 1

Color Evaluation

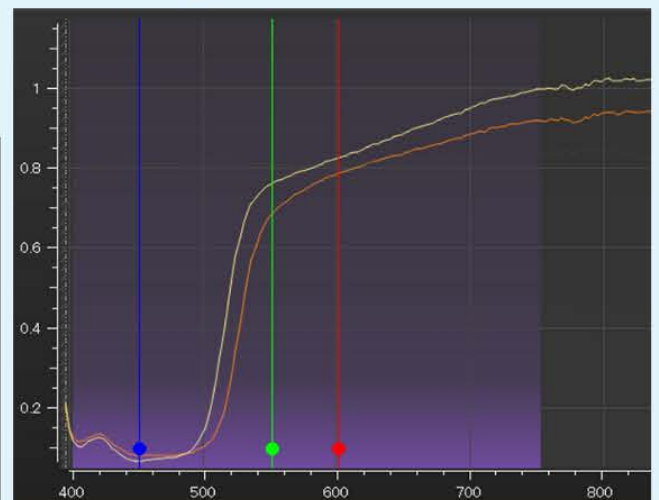
Button Color



Determines subtle differences in color that are difficult to inspect by human eyes.

Light Used: LED

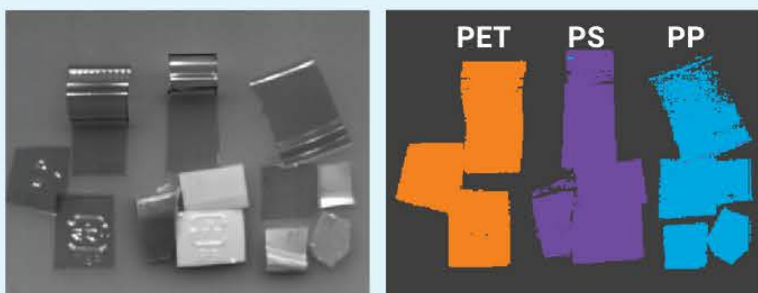
Wavelength Band: 400–800 nm



Application Example 2

Material Analysis

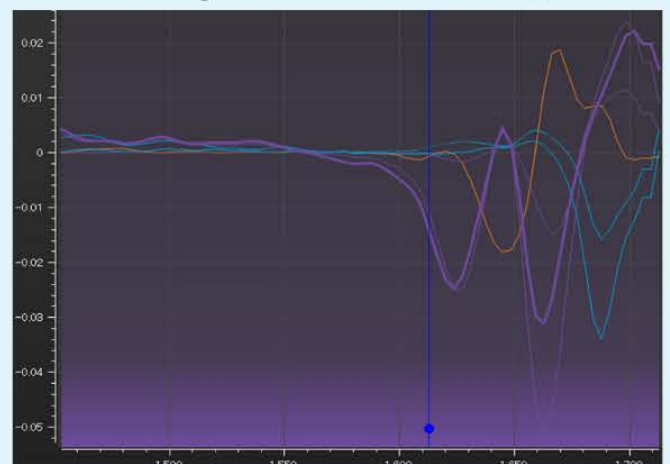
Plastic Material



Analyzes differences of each transmittance of workpieces with unknown materials.

Light Used: Halogen lamp

Wavelength Band: 400–2500 nm

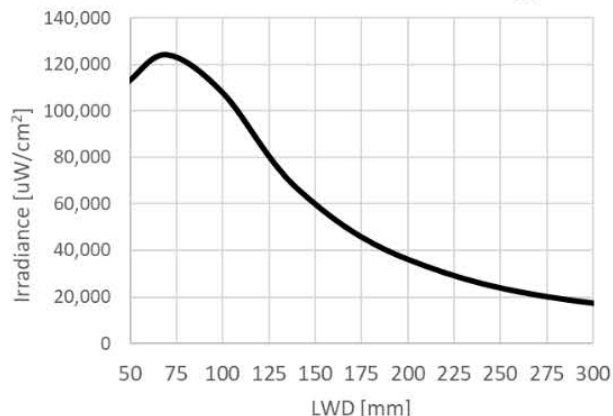
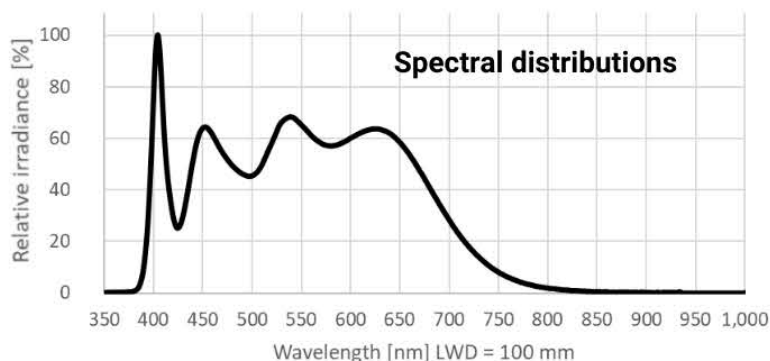


HLND-300W50-RFNFLSP



Wavelength band
400–800 nm

Benefit
Maintains a high level of irradiance across wide range of short working distances



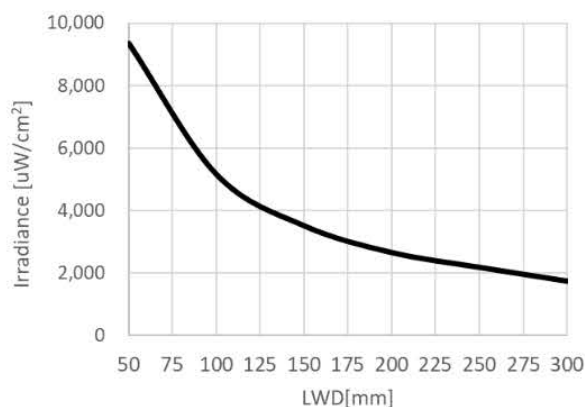
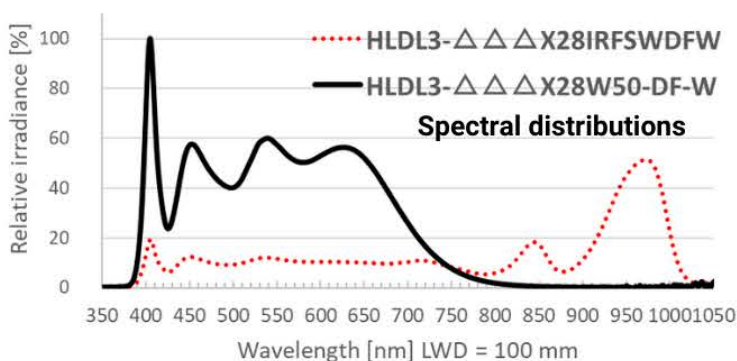
These values are reference measurements and are not guaranteed.

HLDL3-900X28W50-DF-W



Wavelength band
400–800 nm

Benefit
Quick and easy setting/
Cost effective



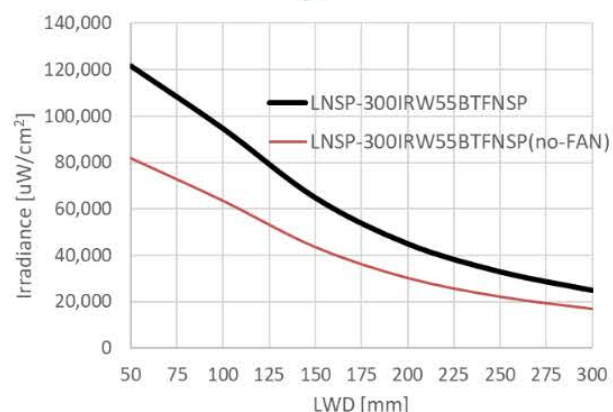
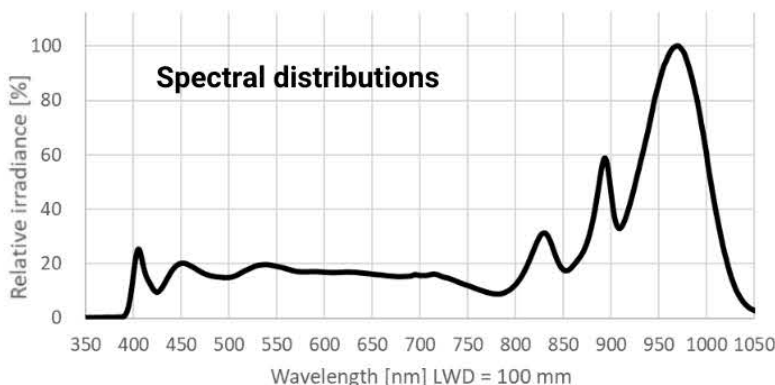
These values are reference measurements and are not guaranteed.

LNSP-300IRW55BTFNSP



Wavelength band
400–1000 nm

Benefit
Intensity adjustable for 4 spectral ranges per channel



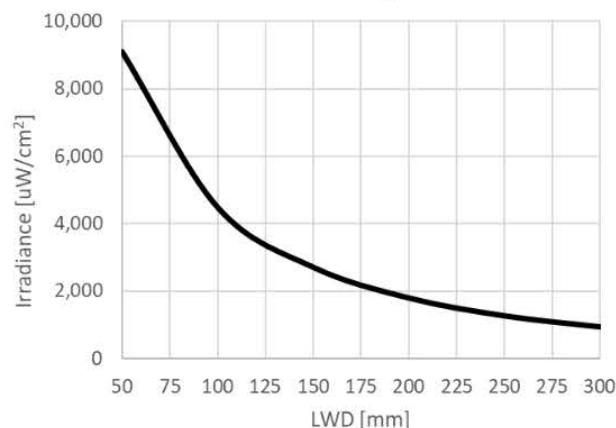
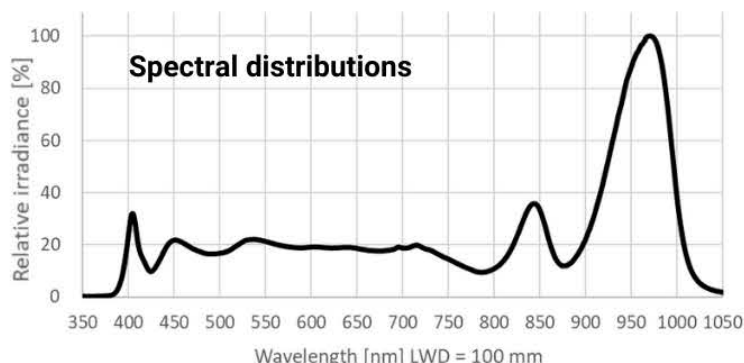
These values are reference measurements and are not guaranteed.

HLDL3-300X28IRFSWDFW



Wavelength band
400–1000 nm

Benefit
Quick and easy setting/
Cost effective



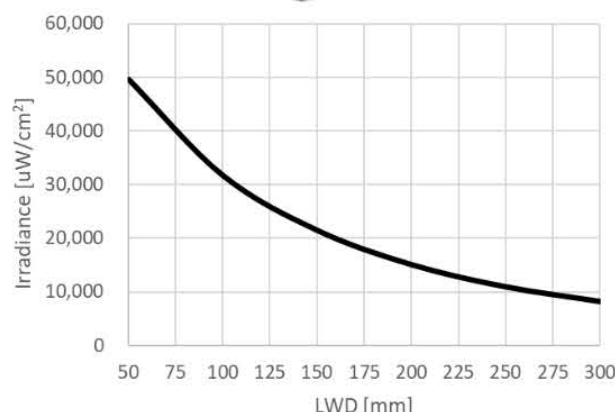
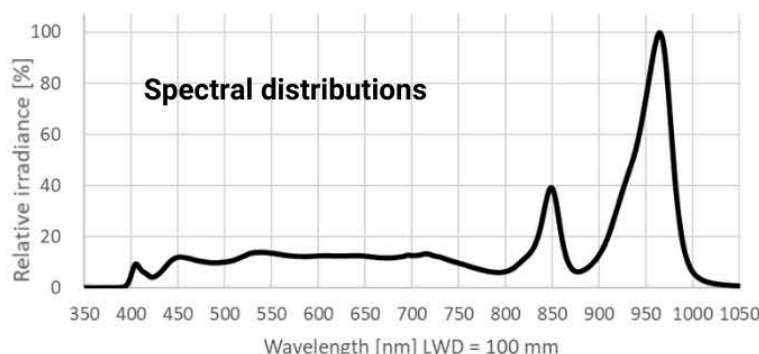
These values are reference measurements and are not guaranteed.

LNSP2-300IRW55-BTSP



Wavelength band
400–1000 nm

Benefit
Quick and easy setting



These values are reference measurements and are not guaranteed.

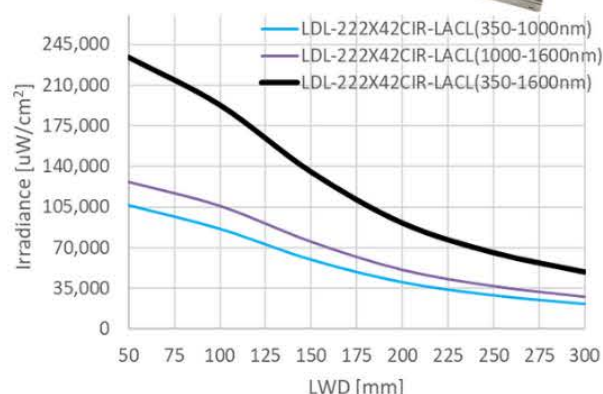
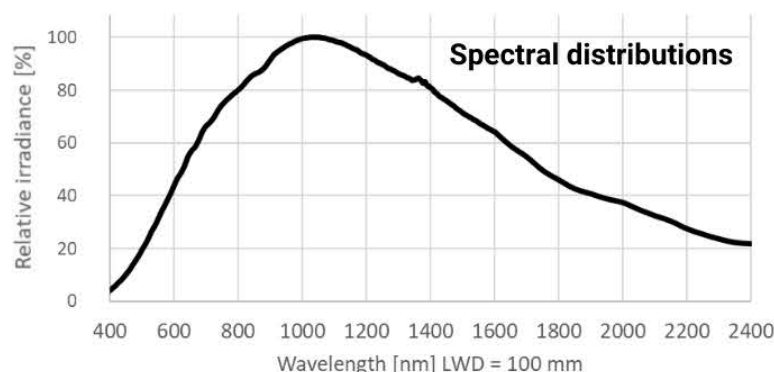
LDL-222X42CIR-LACL

Halogen lamp



Wavelength band
400–2500 nm

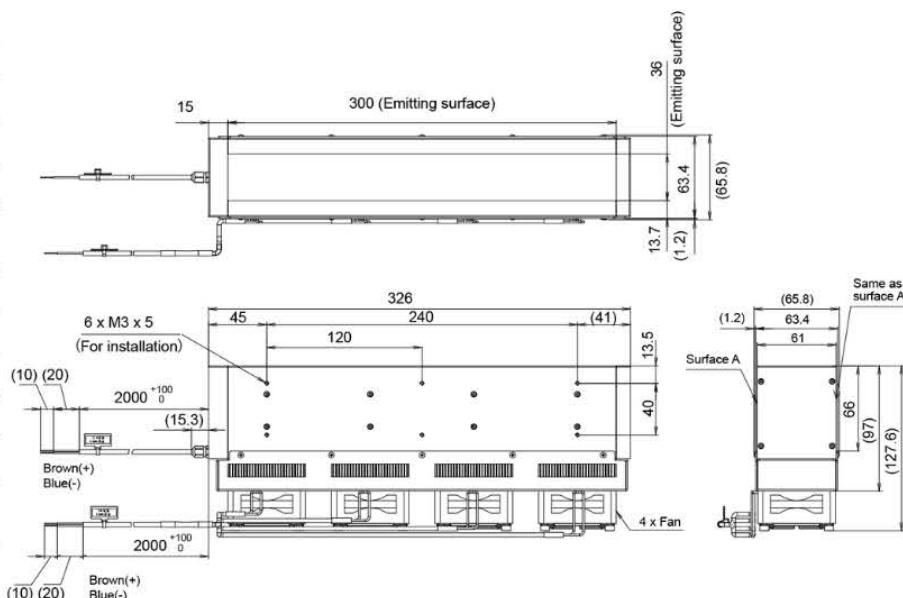
Benefit
Ultra wide bandwidth
covering the entire range
of a hyperspectral camera



These values are reference measurements and are not guaranteed.

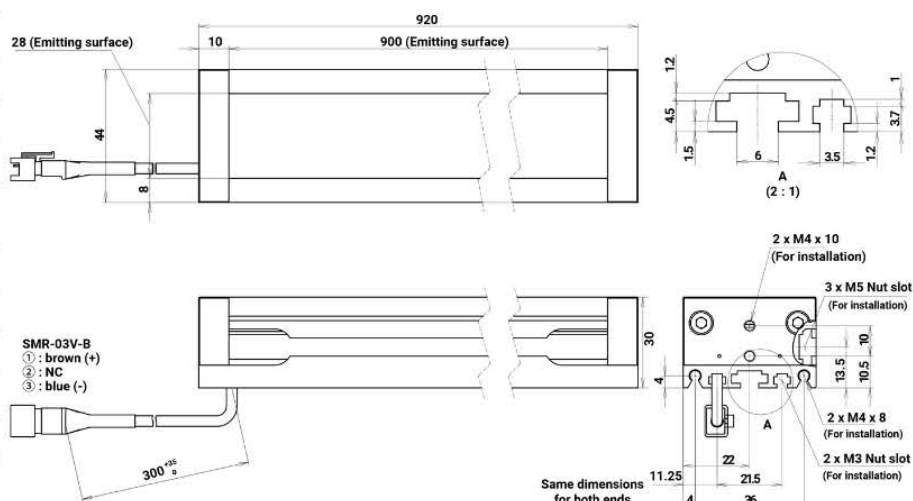
HLND-300W50-RFNFLSP

Input Current	1.34 A max.
Power Consumption	49.0 W max.
Weight	Approx. 2.6 kg
LED Color	Natural Light
Correlated Color Temperature	Typ.5000K
Polarity & Signal	brown(+), blue(-)
Fan Rating	DC 24 V, 24 W max.
Operating Conditions	Temperature: 0 to 35°C
	Humidity: 20% to 85%RH
Storage Conditions	Temperature: -20 to 60°C
	Humidity: 20% to 85%RH (with no condensation)
Compliance	RoHS Directive, REACH Regulation



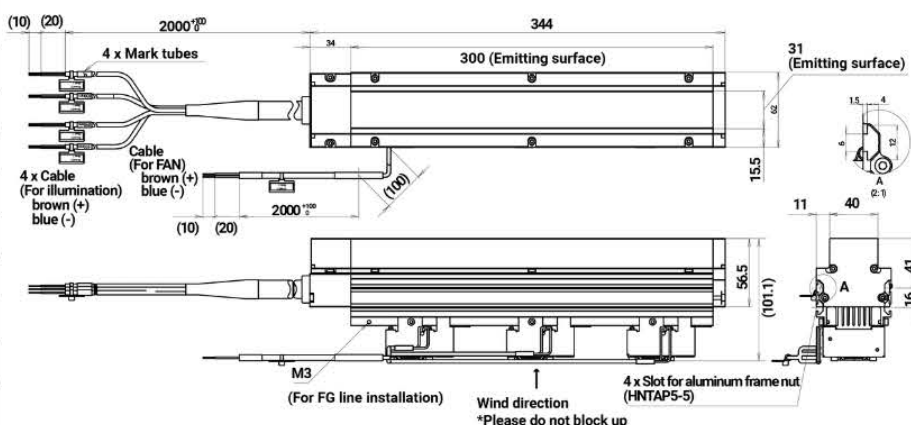
HLDL3-900X28W50-DF-W

Input Voltage	DC 24 V max.
Power Consumption	43.2 W max.
Current Consumption	1.80 A max.
Weight	Approx. 1.86 kg
LED Color	Natural Light
Correlated Color Temperature	Typ.5000K
Connector	SM Connector (SMR-03V-B)
Polarity & Signal	1: brown(+), 2: NC, 3: blue(-)
Operating Conditions	Temperature: 0 to 40°C
	Humidity: 20% to 85%RH
Storage Conditions	Temperature: -20 to 60°C
	Humidity: 20% to 85%RH (with no condensation)
Compliance	RoHS Directive, REACH Regulation



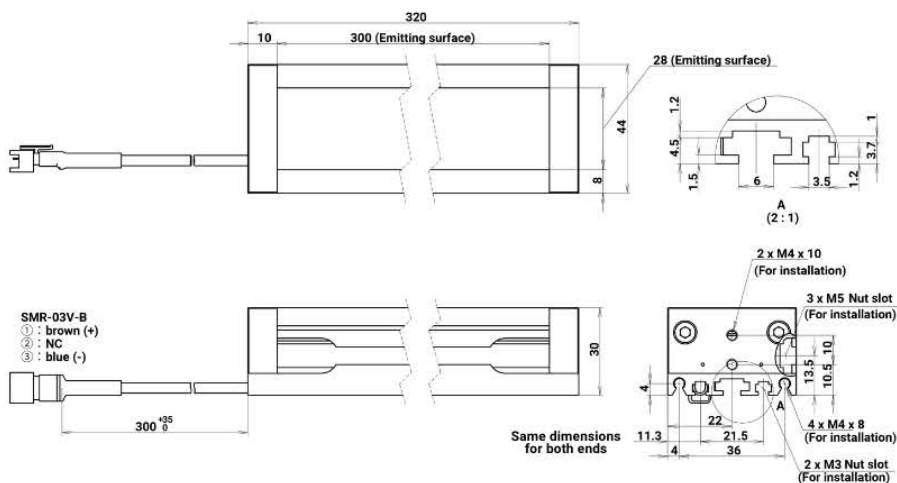
LNSP-300IRW55BTFNSP

Input Current	4.35 A (970 nm: 2.1 A, 890 nm: 0.3 A, 830 nm: 0.75 A, Natural light: 1.2 A)
Power Consumption	60 W (970 nm: 22.995 W, 890 nm: 3.15 W, 830 nm: 4.388 W, Natural light: 29.16 W)
Weight	Approx. 1.6 kg
LED Color	Natural Light, IR
Peak Wavelength	Typ. 830 nm, 890 nm, 970 nm
Polarity & Signal	brown(+), blue(-)
Fan Rating	DC 24 V, 5.1 W max.
Operating Conditions	Temperature: 0 to 40°C
	Humidity: 20% to 85%RH
Storage Conditions	Temperature: -20 to 60°C
	Humidity: 20% to 85%RH (with no condensation)
Compliance	RoHS Directive, REACH Regulation



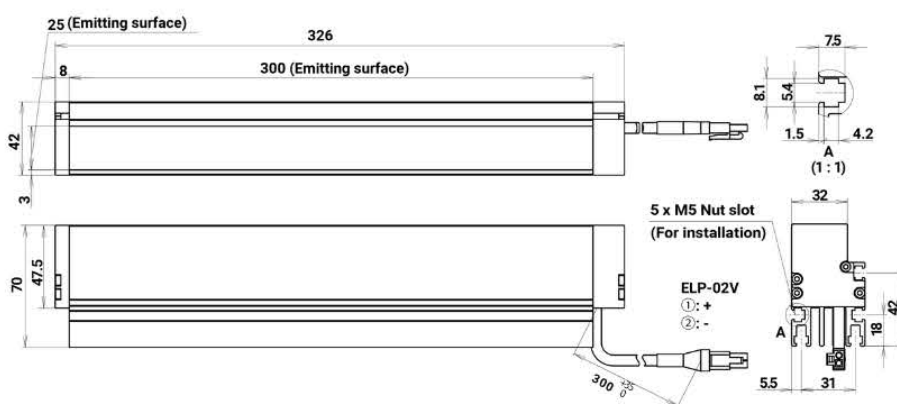
HLDL3-300X28IRFSWDFW

Input Voltage	DC 24 V max.
Power Consumption	19 W max.
Current Consumption	0.77 A max.
LED Color	Natural Light, IR
Connector	SM Connector (SMR-03V-B)
Polarity & Signal	1: brown(+), 2: NC, 3: blue(-)
Operating Conditions	Temperature: 0 to 40°C
	Humidity: 20% to 85%RH
Storage Conditions	Temperature: -20 to 60°C
	Humidity: 20% to 85%RH (with no condensation)
Compliance	RoHS Directive, REACH Regulation



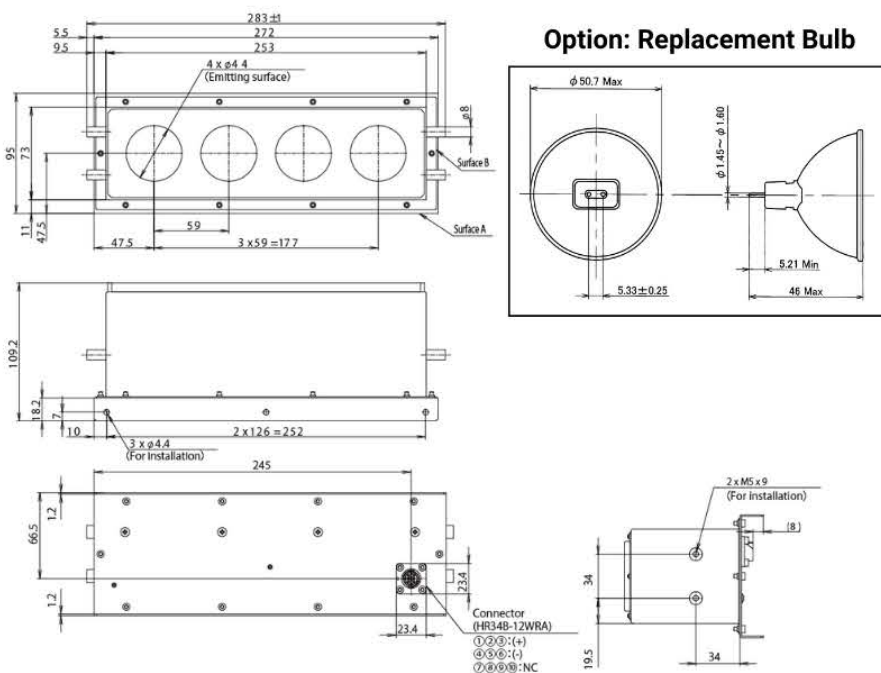
LNSP2-300IRW55-BTSP

Input Voltage	DC 24 V max.
Power Consumption	25.0 W max.
Current Consumption	1.04 A max.
LED Color	Natural Light, IR
Connector	EL Connector (ELP-02V)
Polarity & Signal	1: (+), 2: (-)
Operating Conditions	Temperature: 0 to 40°C
	Humidity: 20% to 85%RH
Storage Conditions	Temperature: -20 to 60°C
	Humidity: 20% to 85%RH (with no condensation)
Compliance	RoHS Directive, REACH Regulation



LDL-222X42CIR-LACL

Input Power (Rating)	DC 12 V max.
Power Consumption	87 W max.
Input Power (Range)	DC 11.4 to 12 V
Weight	Approx. 1.74 kg
Connector	HR34B-12WRA-10P
Operating Conditions	Temperature: 0 to 40°C
	Humidity: 20% to 85%RH
Storage Conditions	Temperature: -20 to 60°C
	Humidity: 20% to 70%RH (with no condensation)
Compliance	RoHS Directive, REACH Regulation



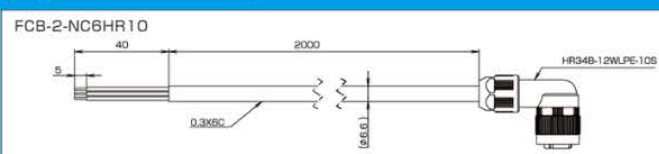
Band-pass Filters

F-BP Series

These filters transmit light in a specific wavelength region



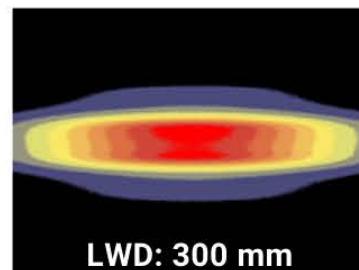
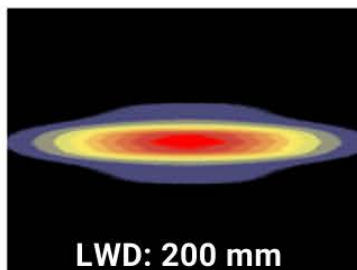
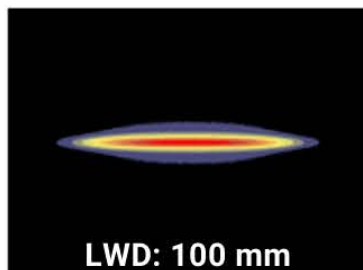
Option Cable



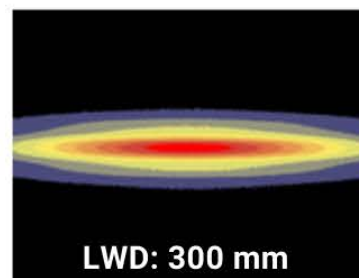
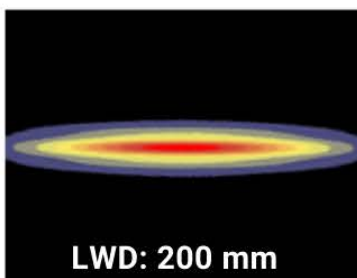
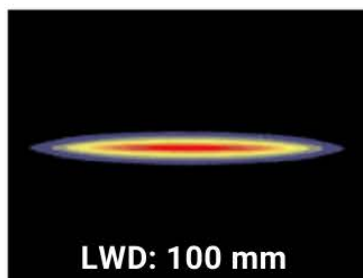
Uniformity

FOV: 500 x 375mm

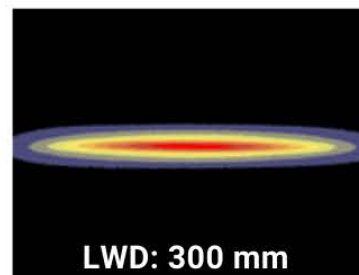
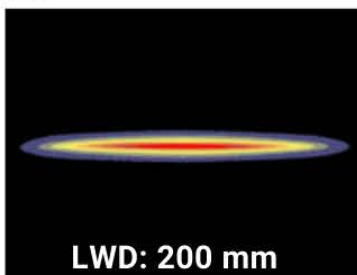
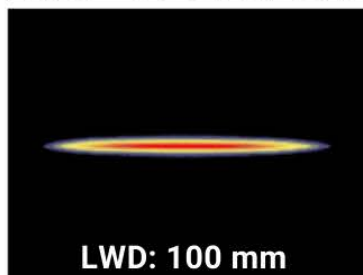
HLND-300W50-RFNFLSP



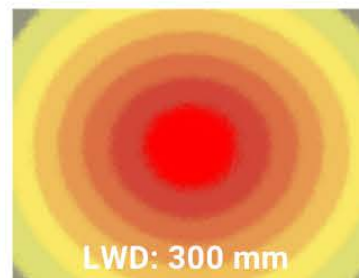
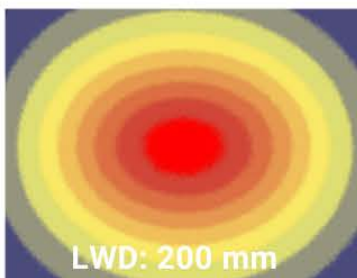
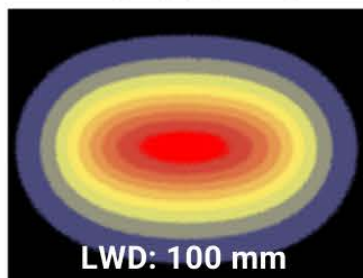
LNSP2-300IRW55-BTSP



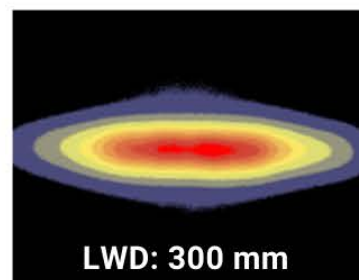
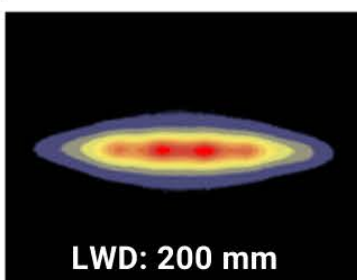
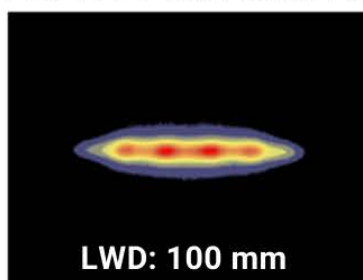
LNSP-300IRW55BTFNSP



HLDL3-300X28IRFSWDFW



LDL-222X42CIR-LACL



NEW

LED Custom Light LNSP-300IR165IR98FN2

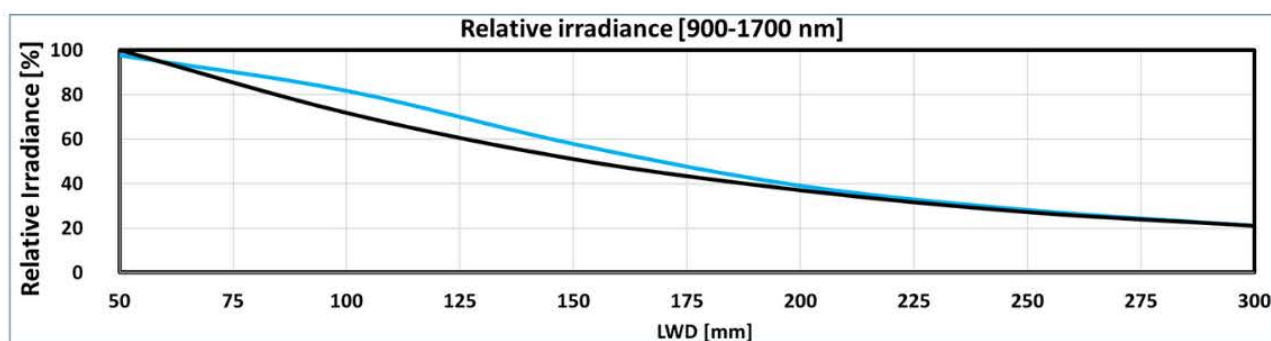
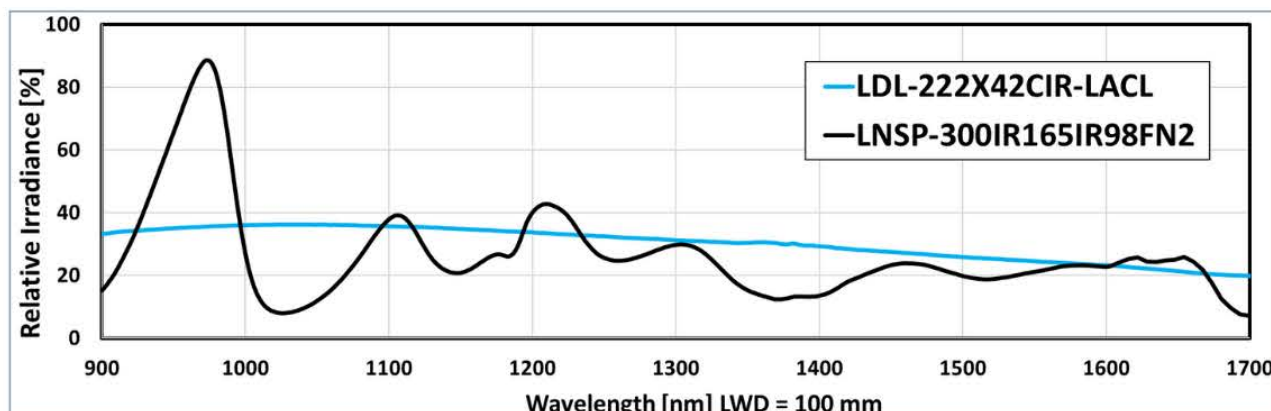
LED

SWIR

Wavelength band
900–1700 nm

Benefit

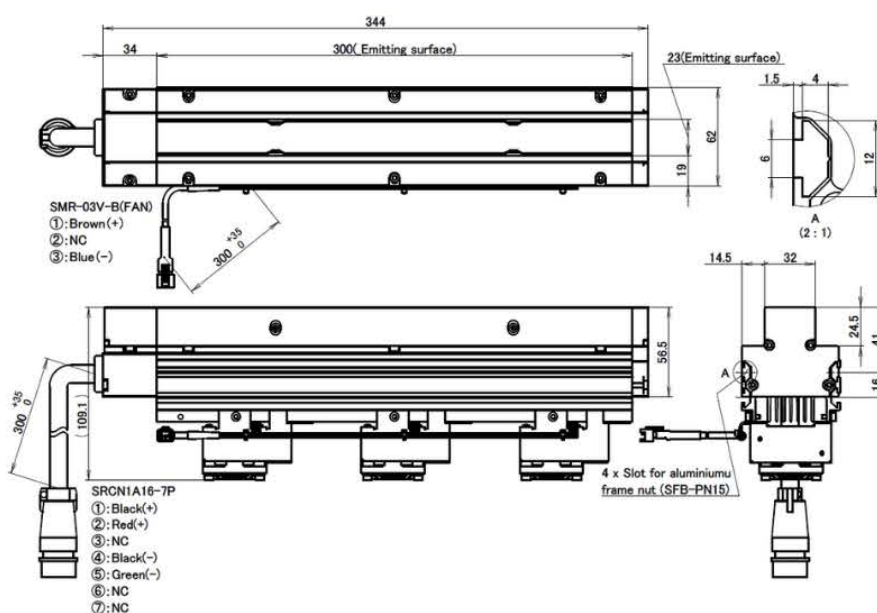
LEDs can replace halogen lamps
to be used in SWIR range



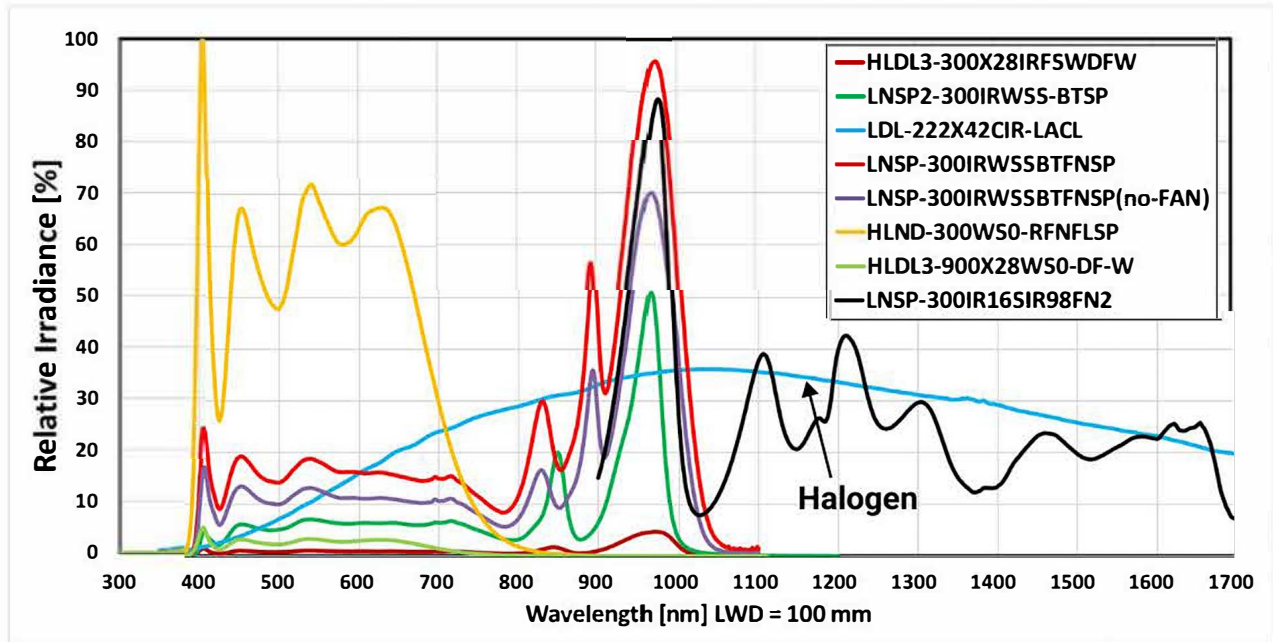
These values are reference measurements and are not guaranteed.

Specifications

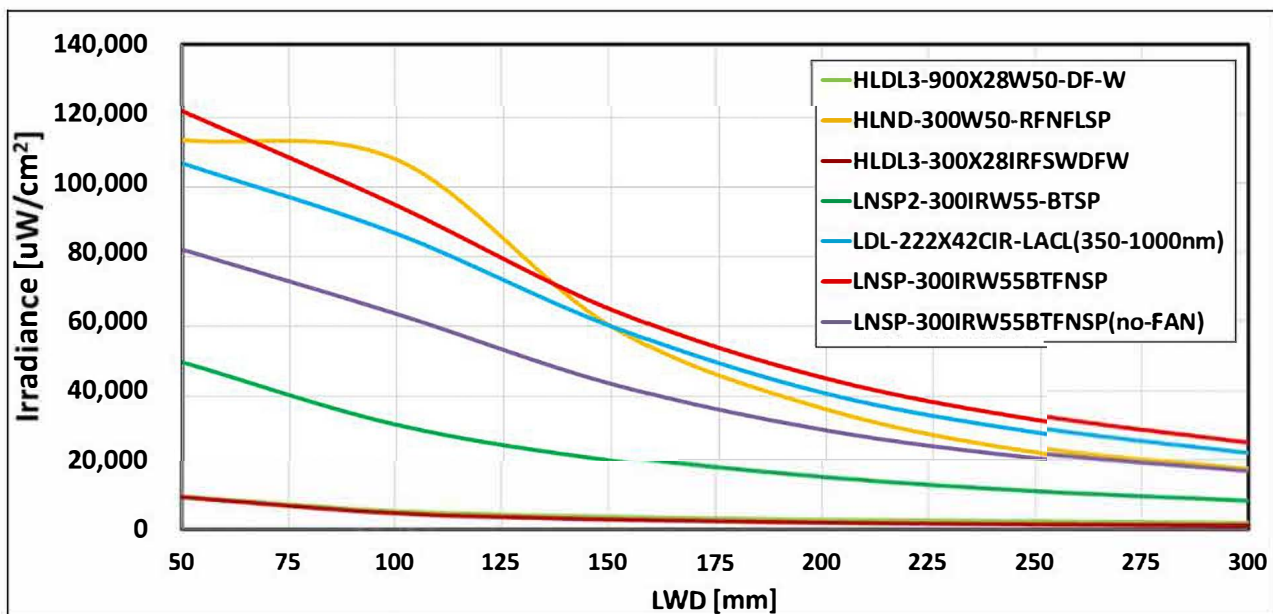
Input Voltage	DC 24 V max.
Power Consumption	236 W max.
Current Consumption	9.80 A max.
Weight	Approx. 1.9 kg
LED Color	IR
Connector (Light)	Metal Connector (SRCN1A16-7P)
Polarity & Signal (Light)	1: white(+), 2: red(+), 3: NC, 4: black(-), 5: green(-), 6: NC, 7: NC
Connector (Fan)	SM Connector (SMR-03V-B)
Polarity & Signal (Fan)	1: brown(+), 2: NC, 3: blue(-)
Fan Rating	DC 24 V, 20 W
Operating Conditions	Temperature: 0 to 40°C
	Humidity: 20% to 85%RH
Storage Conditions	Temperature: -20 to 60°C
	Humidity: 20% to 85%RH (with no condensation)
Compliance	RoHS Directive, REACH Regulation



Comparison of Spectral Distributions



Irradiance Comparison (380-1000nm)



These values are reference measurements and are not guaranteed.



CCS Inc.



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creating optical solutions

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