

LDL2 Series

Direct Illumination Bar Lights

Patented

Design Registered

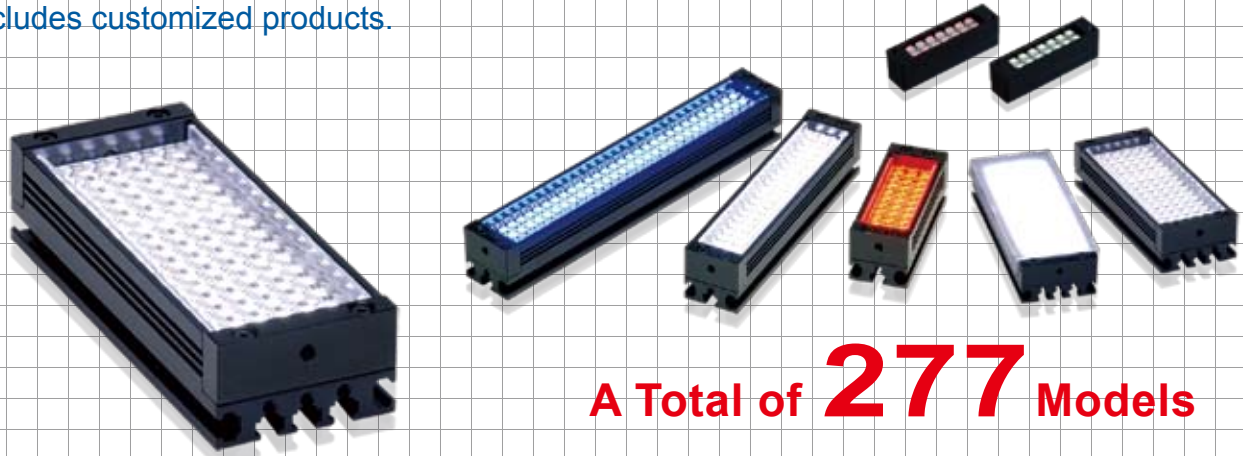
Wide Range of Variations

A Total of **277** Models



Wide Product Lineup with 277 Variations

* Includes customized products.



A Total of **277** Models

The standard LDL2 Series lineup includes 61 models with a light-emitting surface from a compact 33 mm × 8 mm to a wide 266 mm × 30 mm. In addition, up to 216 customized models are available. Various combinations of size, color, and directional characteristics can be selected from a total of 277 models.

Models with 16-mm-wide Light-emitting Surface

Sizes Light-emitting surface: 41 mm Up to **509 mm** max.

16 mm

41	80	119	158	197	236	275	314	353
392	431	470	509					

Standard products Special order

13 sizes

Light Color

Red White Blue Green

Directional Characteristics

Narrow type
Wide type

4 colors × **2 types** = **Total of 104 models**

Models with 30-mm-wide Light-emitting Surface

Sizes Light-emitting surface: 26 mm Up to **506 mm** max.

30 mm

26	50	74	98	122	146	170	194	218
242	266	290	314	338	362	386	410	434
458	482	506						

Standard products Special order

21 sizes

Light Color

Red White Blue Green

Directional Characteristics

Narrow type
Wide type

4 colors × **2 types** = **Total of 168 models**

Models with 8-mm-wide Light-emitting Surface

Sizes Light-emitting surface: 33 mm

8 mm

33

Standard products

1 size

Light Color

Red White Blue Green Infrared

Directional Characteristics

Wide type

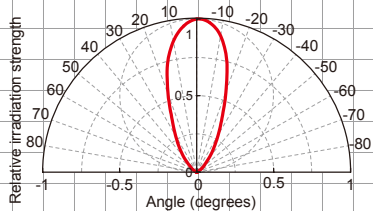
5 colors × **1 type** = **Total of 5 models**

Models with Either Narrow and Wide Directional Characteristics Can Be Selected

Two types of models are available with different directional characteristics: narrow models, which use an original lens, and wide models, which have diffuse illumination over a wide range.

Directional Characteristics of Narrow Models

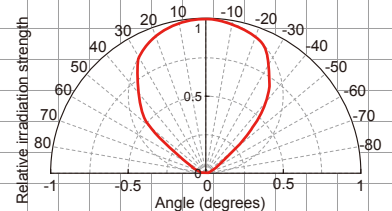
Enlargement of Light-emitting Surface



* Actual measurement using a model with 16-mm-wide light-emitting surface

Directional Characteristics of Wide Models

Enlargement of Light-emitting Surface

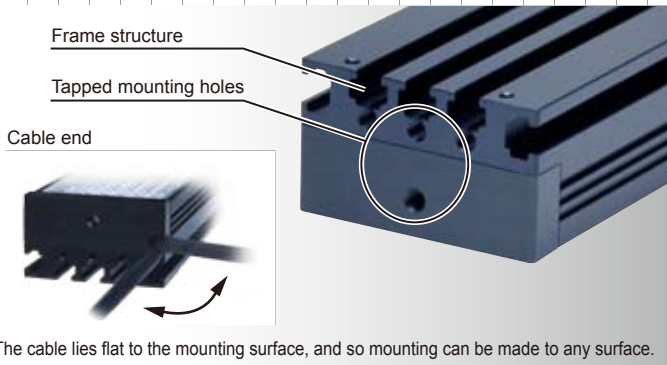


* Actual measurement using a model with 16-mm-wide light-emitting surface

Free Selection of Mounting to Match Your Site Environment

You can select from two methods for greater mounting versatility to match your installation environments: frame structure mounting or tapped mounting holes.

Brackets for which you can adjust the angle of irradiation are available to mount the Light Units.



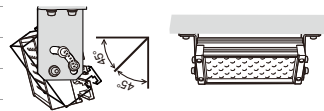
With frame structure mounting, the lighting position and mounting location can be adjusted by sliding the mounting nuts into the internal grooves in the frame structure.

* The LDL2-33×8 Series provides only tap holes for installation.

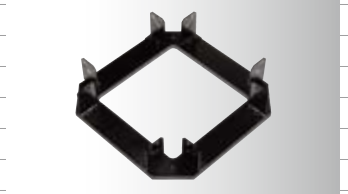
BK-LDL2



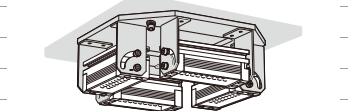
The angle of irradiation can be adjusted for a variety of methods, such as for parallel emission from two directions.



BK-LDQ2 series



The angle of irradiation can be adjusted when using surrounding emission from four directions.



High-efficiency Heat Dissipation

The heat radiating fins and the frame structure significantly increases the surface area. This improves the efficiency of heat dissipation and reduces the rise in temperature of the LED mounting section. This heat dissipation structure reduces the strain on the LEDs and enables a long and stable performance of the Light Unit.

Common Power Supply for All Colors

The same power supply can be used for all Light Units regardless of color. Although previously 12 V was used only for red light, the voltage is now 24 V for all colors.

The Compact LDL2-33×8 Helps You Save Space

Lightweight, compact designs lend themselves to installation in tight equipment spaces, contributing to saving space onsite.



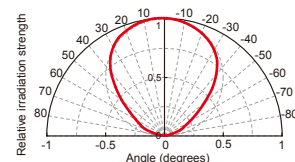
Features

- The LDL2-33×8-series Compact Bar Light Units have a lightweight and compact design weighing only 20 g.
- Infrared light is also available in addition to red, white, blue, and green light.
- Diffusion Plates and Polarizing Plates are available.
- Wide-type directional characteristics are provided.
- Use the tap holes on the ends or on the back for mounting. A special bracket is also available.

BK-LDQ2-33×8 Bracket



Directional Characteristics



Application Examples

Bar Light Units can be used to supplement other illumination devices and can be installed in small spaces.



Supported Options

Diffusion Plates, Polarizing Plates, and Protective Plates of various sizes are available. They can be easily mounted by inserting them in the grooves on the sides of the Light Units. Brackets for which you can adjust the angle of irradiation are also available.

* The LDL2-33×8-series Bar Light Units are mounted with screws.

Diffusion Plate **DF-LDL2 Series**



The irradiated light is diffused to suppress workpiece glare and reflections.

* This option is not effective with infrared light.

Polarizing Plate **PL-LDL2 Series**



This plate polarizes the light. Prevent light reflection by using the Polarizing Plate together with the Polarizing Filter (PL Series) mounted to the lens.

* This option is not effective with infrared light.

Protective Plate **CV-LDL2 Series**



This cover shields the light-emitting portion.

* It is not intended to protect the surface from dust or water droplets.

* Cannot be used with the LDL2-33×8 Series.

Bracket **BK-LDL2 (for All Series)**



You can adjust the irradiation angle when you secure the Light Unit.

* The Bracket cannot be used with LDL2-33×8 Series.

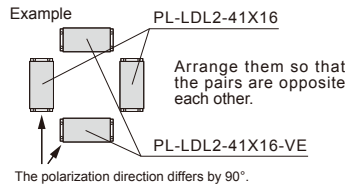
Bracket **BK-LDQ2 Series**



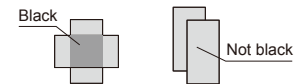
This Bracket can be used to mount four Bar Light Units.

You can adjust the irradiation angle when you secure the Light Unit.

There are two types of Polarizing Plates. Use a combination of pairs when mounting with emission from four directions.



How to Recognize a Polarizing Plate Pair



A pair of Polarizing Plates will form a dark area when they are overlapped at a right angle. They will not form a dark area when overlapped in parallel.

Specifications of Options

Diffusion Plate		Polarizing Plate				Protective Plate		Separate Brackets		Integrated Brackets	
Direct number	Model	Direct number	Model	Direct number	Model	Direct number	Model	Direct number	Model	Direct number	Model
4001026	DF-LDL2-33X8	4001028	PL-LDL2-33X8-HO	4001029	PL-LDL2-33X8-VE	-	-	4000867	BK-LDL2	4001031	BK-LDQ2-33X8
4000840	DF-LDL2-41X16	4000847	PL-LDL2-41X16	4000888	PL-LDL2-41X16-VE	4000860	CV-LDL2-41X16			4000985	BK-LDQ2-41X16
4000841	DF-LDL2-80X16	4000848	PL-LDL2-80X16	4000889	PL-LDL2-80X16-VE	4000861	CV-LDL2-80X16			4000986	BK-LDQ2-80X16
4000842	DF-LDL2-119X16	4000849	PL-LDL2-119X16	4000890	PL-LDL2-119X16-VE	4000862	CV-LDL2-119X16			4000987	BK-LDQ2-119X16
4000843	DF-LDL2-74X30	4000850	PL-LDL2-74X30	4000891	PL-LDL2-74X30-VE	4000863	CV-LDL2-74X30			4000988	BK-LDQ2-74X30
4000844	DF-LDL2-146X30	4000854	PL-LDL2-146X30	4000892	PL-LDL2-146X30-VE	4000864	CV-LDL2-146X30			4000989	BK-LDQ2-146X30
4000845	DF-LDL2-218X30	4000851	PL-LDL2-218X30	4000893	PL-LDL2-218X30-VE	4000866	CV-LDL2-218X30			4000990	BK-LDQ2-218X30
4000846	DF-LDL2-266X30	4000853	PL-LDL2-266X30	4000894	PL-LDL2-266X30-VE	4000865	CV-LDL2-266X30			4000991	BK-LDQ2-266X30

Model Number Description

Diffusion Plates, Polarizing Plates, and Protective Plates



Optional product
DF: Diffusion Plate
PL: Polarizing Plate
CV: Protective Plate

Model of applicable Light Unit

Polarizing direction (for Polarizing Plate)
None (H0 for LDL2-33×8 Series):
The direction of polarization is horizontal to the length of the Polarizing Plate.
V0: Light is polarized perpendicular to the length of the plate.

Separate Brackets

BK-LDL2

* The Separate Brackets are the same for all Light Units in the series.
(The Bracket cannot be used with LDL2-33×8 Series.)

Integrated Brackets

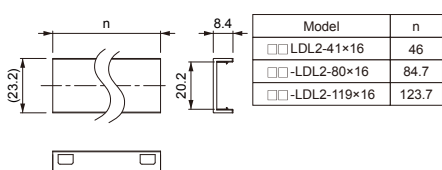
BK-LDQ2-○○X○○

Light Unit size

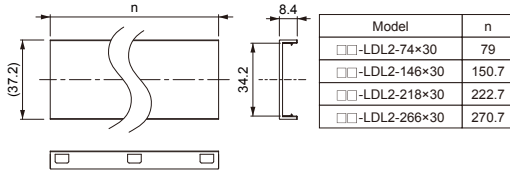
Dimension Diagrams

DF/PL/CV-LDL2 Series

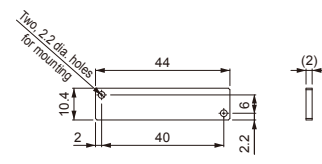
16-mm-wide Models



30-mm-wide Models

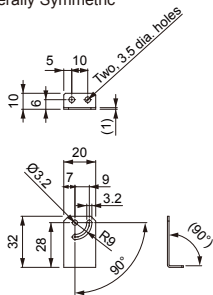


For the LDL2-33X8 Series



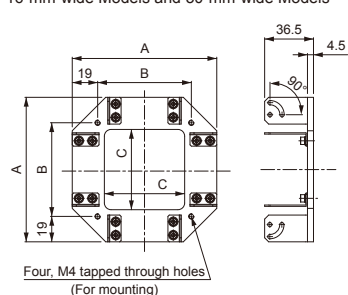
BK-LDL2 (for entire Series)

Bilaterally Symmetric



BK-LDQ2 Series

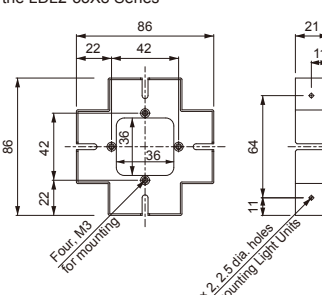
16-mm-wide Models and 30-mm-wide Models



Model	A	B	C
BK-LDQ2-41×16	108	70	60
BK-LDQ2-80×16	148	110	100
BK-LDQ2-119×16	186	148	138
BK-LDQ2-74×30	150	112	100
BK-LDQ2-146×30	222	184	172
BK-LDQ2-218×30	294	256	244
BK-LDQ2-266×30	342	304	292

BK-LDQ2-33×8

For the LDL2-33X8 Series



* Please contact a CCS sales representative for the dimension diagrams of special-order products.

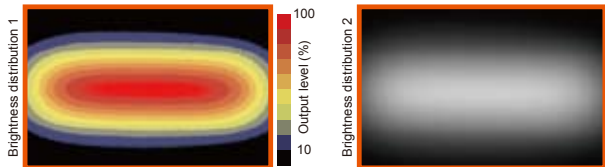
Technical Data

Brightness Distribution

The wide models provide uniform illumination over a wide area. We recommend models with this new feature.

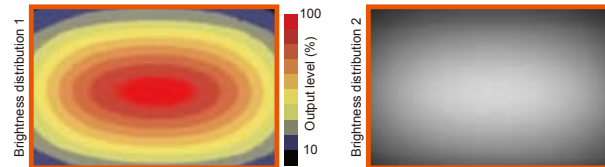
LWD=50mm

Shutter speed: 1/4,000 s Actual measurement of LDL2-266X30RD-WD (The values are for reference only.)



LWD=100mm

Shutter speed: 1/2,000 s Actual measurement of LDL2-266X30RD-WD (The values are for reference only.)



* Relative sensor brightness distribution measurement conditions: Intensity: 100%, Lens: F16, Width: 775 mm, Field of vision: 303 × 227 mm

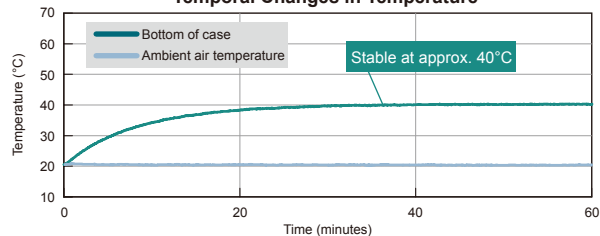
* Brightness will vary based on the camera's spectral response. The values given here are for reference only. The values are for reference only.

Graphs of Temporal Changes

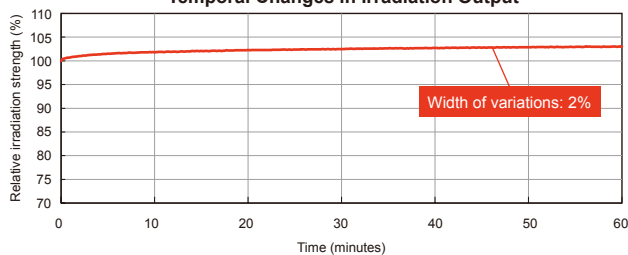
* There are virtually no changes in the graph values that result from the directional characteristics or whether optional products are mounted.

LDL2-41X16RD-WD (Red)

Temporal Changes in Temperature

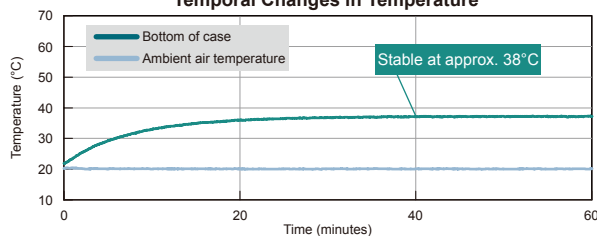


Temporal Changes in Irradiation Output

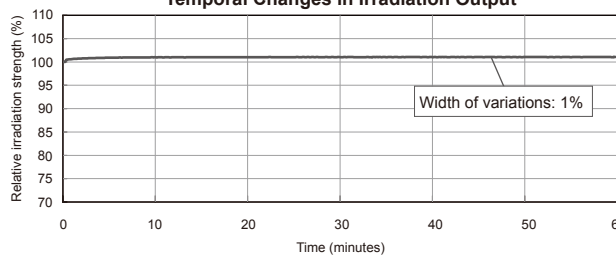


LDL2-41X16SW-WD (White)

Temporal Changes in Temperature



Temporal Changes in Irradiation Output



* Graph measurement conditions: Actual measurement values for an intensity or 100% and an ambient air temperature or 20°C. (These values are for reference only.)

Product Lineup

Standard Product Selection Table

The standard models have eight sizes of light-emitting surface from a compact 33 mm × 8 mm to a wide 266 mm × 30 mm. Up to 61 models with different combinations of size, light color, and directional characteristics are available.

* Product Number Guide: You can easily access the information page for any of our products by entering the item's 7-digit product number in the designated box on the CCS website (image processing page).

	Direct number	Model	LED color	Light-emitting surface size	Input voltage	Power consumption	Weight	Supported Options			
Models with 8-mm-wide light-emitting surface	Wide type	1004646	LDL2-33×8RD	Red	33 x 8 mm	24 V	20 g	Diffusion Plate	DF-LDL2-33X8		
		1004647	LDL2-33×8SW	White					PL-LDL2-33X8-HO		
		1004648	LDL2-33×8BL	Blue				Polarizing Plate	PL-LDL2-33X8-VE		
		1004649	LDL2-33×8GR	Green					CV-LDL2-33X8		
		1004650	LDL2-33×8IR850	Infrared					Bracket	BK-LDQ2-33X8	
Models with 16-mm-wide Light-emitting Surface	Narrow type	1003702	LDL2-41X16RD	Red	41 x 16 mm	24 V	50 g	Diffusion Plate	DF-LDL2-41X16		
		1003705	LDL2-41X16SW	White				Polarizing Plate	PL-LDL2-41X16		
		1003704	LDL2-41X16BL	Blue				Protective Plate	PL-LDL2-41X16-VE		
		1003703	LDL2-41X16GR	Green					CV-LDL2-41X16		
		1003710	LDL2-80X16RD	Red				Bracket	BK-LDQ2-41X16		
		1003713	LDL2-80X16SW	White					Diffusion Plate	DF-LDL2-80X16	
		1003712	LDL2-80X16BL	Blue					Polarizing Plate	PL-LDL2-80X16	
		1003711	LDL2-80X16GR	Green				Protective Plate	PL-LDL2-80X16-VE		
		1003718	LDL2-119X16RD	Red					CV-LDL2-80X16		
	1003721	LDL2-119X16SW	White	Bracket	BK-LDQ2-80X16						
	1003720	LDL2-119X16BL	Blue		Diffusion Plate	DF-LDL2-119X16					
	1003719	LDL2-119X16GR	Green		Polarizing Plate	PL-LDL2-119X16					
	Wide type	41 x 16 mm	1003706	LDL2-41X16RD-WD	Red	41 x 16 mm	24 V	50 g	Diffusion Plate	DF-LDL2-41X16	
			1003709	LDL2-41X16SW-WD	White				Polarizing Plate	PL-LDL2-41X16	
			1003708	LDL2-41X16BL-WD	Blue				Protective Plate	PL-LDL2-41X16-VE	
1003707			LDL2-41X16GR-WD	Green	CV-LDL2-41X16						
1003714			LDL2-80X16RD-WD	Red	Bracket				BK-LDQ2-41X16		
1003717			LDL2-80X16SW-WD	White					Diffusion Plate	DF-LDL2-80X16	
1003716		LDL2-80X16BL-WD	Blue	Polarizing Plate		PL-LDL2-80X16					
119 x 16 mm		80 x 16 mm	1003715	LDL2-80X16GR-WD	Green	119 x 16 mm	24 V	75 g	Protective Plate	PL-LDL2-80X16-VE	
			1003722	LDL2-119X16RD-WD	Red				CV-LDL2-80X16		
			1003725	LDL2-119X16SW-WD	White				Bracket	BK-LDQ2-80X16	
		1003724	LDL2-119X16BL-WD	Blue	Diffusion Plate					DF-LDL2-119X16	
		1003723	LDL2-119X16GR-WD	Green	Polarizing Plate				PL-LDL2-119X16		
	1003724	LDL2-119X16BL-WD	Blue	Protective Plate	PL-LDL2-119X16-VE						
1003723	LDL2-119X16GR-WD	Green	CV-LDL2-119X16								
Models with 30-mm-wide Light-emitting Surface	Narrow type	1003726	LDL2-74X30RD	Red	74 x 30 mm	24 V	100 g	Diffusion Plate	DF-LDL2-74X30		
		1003729	LDL2-74X30SW	White				Polarizing Plate	PL-LDL2-74X30		
		1003728	LDL2-74X30BL	Blue				Protective Plate	PL-LDL2-74X30-VE		
		1003727	LDL2-74X30GR	Green					CV-LDL2-74X30		
		1003734	LDL2-146X30RD	Red				Bracket	BK-LDQ2-74X30		
		1003737	LDL2-146X30SW	White	Diffusion Plate	DF-LDL2-146X30					
		1003736	LDL2-146X30BL	Blue	Polarizing Plate	PL-LDL2-146X30					
		1003735	LDL2-146X30GR	Green	Protective Plate	PL-LDL2-146X30-VE					
		1003742	LDL2-218X30RD	Red		CV-LDL2-146X30					
		1003745	LDL2-218X30SW	White	Bracket	BK-LDQ2-146X30					
		1003743	LDL2-218X30BL	Blue		Diffusion Plate	DF-LDL2-218X30				
		1003744	LDL2-218X30GR	Green		Polarizing Plate	PL-LDL2-218X30				
		1003750	LDL2-266X30RD	Red	Protective Plate	PL-LDL2-218X30-VE					
		1003753	LDL2-266X30SW	White		CV-LDL2-218X30					
		1003752	LDL2-266X30BL	Blue	Bracket	BK-LDQ2-218X30					
	1003751	LDL2-266X30GR	Green	Diffusion Plate		DF-LDL2-266X30					
	Wide type	74 x 30 mm	1003730	LDL2-74X30RD-WD	Red	74 x 30 mm	24 V	100 g	Polarizing Plate	PL-LDL2-74X30	
			1003733	LDL2-74X30SW-WD	White				PL-LDL2-74X30-VE		
			1003732	LDL2-74X30BL-WD	Blue				Protective Plate	CV-LDL2-74X30	
			1003731	LDL2-74X30GR-WD	Green					Bracket	BK-LDQ2-74X30
			1003738	LDL2-146X30RD-WD	Red				Bracket	BK-LDQ2-146X30	
			1003741	LDL2-146X30SW-WD	White					Diffusion Plate	DF-LDL2-146X30
		1003740	LDL2-146X30BL-WD	Blue	Polarizing Plate	PL-LDL2-146X30					
		218 x 30 mm	146 x 30 mm	1003739	LDL2-146X30GR-WD	Green	218 x 30 mm	24 V	170 g	Protective Plate	PL-LDL2-146X30-VE
				1003746	LDL2-218X30RD-WD	Red				CV-LDL2-146X30	
				1003749	LDL2-218X30SW-WD	White				Bracket	BK-LDQ2-146X30
			1003748	LDL2-218X30BL-WD	Blue	Diffusion Plate					DF-LDL2-218X30
1003747			LDL2-218X30GR-WD	Green	Polarizing Plate	PL-LDL2-218X30					
1003754	LDL2-266X30RD-WD		Red	Protective Plate	PL-LDL2-218X30-VE						
1003749	LDL2-266X30SW-WD	White	CV-LDL2-218X30								
266 x 30 mm	266 x 30 mm	1003756	LDL2-266X30BL-WD	Blue	266 x 30 mm	24 V	280 g	Bracket	BK-LDQ2-218X30		
		1003757	LDL2-266X30SW-WD	White					Diffusion Plate	DF-LDL2-266X30	
		1003755	LDL2-266X30GR-WD	Green				Polarizing Plate	PL-LDL2-266X30		
	1003756	LDL2-266X30BL-WD	Blue	Protective Plate				PL-LDL2-266X30-VE			
	1003755	LDL2-266X30GR-WD	Green					CV-LDL2-266X30			

Custom Product Selection Table

Ten sizes of models with 16-mm-wide light-emitting surface areas and 17 sizes of models with 30-mm-wide light-emitting surface areas are available. Various combinations of light color and directional characteristics can be selected from a lineup of 216 models.

	Direct number	Model	LED color	Light-emitting surface size	Input voltage	Power consumption	Weight	Supported Options	
Models with 16-mm-wide Light-emitting Surface	Narrow type	-	Red White Blue Green	158 x 16 mm	24 V	7.6 W	120 g	For details, please contact a CCS sales representative.	
		-		197 x 16 mm	24 V	9.5 W	145 g		
		-		236 x 16 mm	24 V	12 W	170 g		
		-		275 x 16 mm	24 V	14 W	195 g		
		-		314 x 16 mm	24 V	16 W	220 g		
		-		353 x 16 mm	24 V	18 W	245 g		
		-		392 x 16 mm	24 V	19 W	270 g		
		-		431 x 16 mm	24 V	21 W	295 g		
		-		470 x 16 mm	24 V	23 W	320 g		
		-		509 x 16 mm	24 V	25 W	345 g		
	Wide type	-		LDL2-158X16-WD	158 x 16 mm	24 V	7.6 W		120 g
		-		LDL2-197X16-WD	197 x 16 mm	24 V	9.5 W		145 g
		-		LDL2-236X16-WD	236 x 16 mm	24 V	12 W		170 g
		-		LDL2-275X16-WD	275 x 16 mm	24 V	14 W		195 g
		-		LDL2-314X16-WD	314 x 16 mm	24 V	16 W		220 g
		-		LDL2-353X16-WD	353 x 16 mm	24 V	18 W		245 g
		-		LDL2-392X16-WD	392 x 16 mm	24 V	19 W		270 g
		-		LDL2-431X16-WD	431 x 16 mm	24 V	21 W		295 g
		-		LDL2-470X16-WD	470 x 16 mm	24 V	23 W		320 g
		-		LDL2-509X16-WD	509 x 16 mm	24 V	25 W		345 g
Models with 30-mm-wide Light-emitting Surface	Narrow type	-	LDL2-26X30	26 x 30 mm	24 V	1.9 W	55 g		
		-	LDL2-50X30	50 x 30 mm	24 V	3.8 W	80 g		
		-	LDL2-98X30	98 x 30 mm	24 V	7.6 W	125 g		
		-	LDL2-122X30	122 x 30 mm	24 V	9.5 W	150 g		
		-	LDL2-170X30	170 x 30 mm	24 V	14 W	200 g		
		-	LDL2-194X30	194 x 30 mm	24 V	16 W	225 g		
		-	LDL2-242X30	242 x 30 mm	24 V	19 W	275 g		
		-	LDL2-290X30	290 x 30 mm	24 V	23 W	325 g		
		-	LDL2-314X30	314 x 30 mm	24 V	25 W	350 g		
		-	LDL2-338X30	338 x 30 mm	24 V	27 W	375 g		
		-	LDL2-362X30	362 x 30 mm	24 V	29 W	400 g		
		-	LDL2-386X30	386 x 30 mm	24 V	31 W	425 g		
		-	LDL2-410X30	410 x 30 mm	24 V	33 W	450 g		
		-	LDL2-434X30	434 x 30 mm	24 V	35 W	475 g		
		-	LDL2-458X30	458 x 30 mm	24 V	37 W	500 g		
		-	LDL2-482X30	482 x 30 mm	24 V	38 W	525 g		
		-	LDL2-506X30	506 x 30 mm	24 V	40 W	550 g		
	Wide type	-	LDL2-26X30-WD	26 x 30 mm	24 V	1.9 W	55 g		
		-	LDL2-50X30-WD	50 x 30 mm	24 V	3.8 W	80 g		
		-	LDL2-98X30-WD	98 x 30 mm	24 V	7.6 W	125 g		
		-	LDL2-122X30-WD	122 x 30 mm	24 V	9.5 W	150 g		
		-	LDL2-170X30-WD	170 x 30 mm	24 V	14 W	200 g		
		-	LDL2-194X30-WD	194 x 30 mm	24 V	16 W	225 g		
		-	LDL2-242X30-WD	242 x 30 mm	24 V	19 W	275 g		
		-	LDL2-290X30-WD	290 x 30 mm	24 V	23 W	325 g		
		-	LDL2-314X30-WD	314 x 30 mm	24 V	25 W	350 g		
		-	LDL2-338X30-WD	338 x 30 mm	24 V	27 W	375 g		
		-	LDL2-362X30-WD	362 x 30 mm	24 V	29 W	400 g		
		-	LDL2-386X30-WD	386 x 30 mm	24 V	31 W	425 g		
		-	LDL2-410X30-WD	410 x 30 mm	24 V	33 W	450 g		
		-	LDL2-434X30-WD	434 x 30 mm	24 V	35 W	475 g		
		-	LDL2-458X30-WD	458 x 30 mm	24 V	37 W	500 g		
		-	LDL2-482X30-WD	482 x 30 mm	24 V	38 W	525 g		
		-	LDL2-506X30-WD	506 x 30 mm	24 V	40 W	550 g		

Model Number Description

LDL2- ○○ ○○ □□ - △△

1 2 3

1 Light-emitting surface size
33 × 8 to 506 × 30

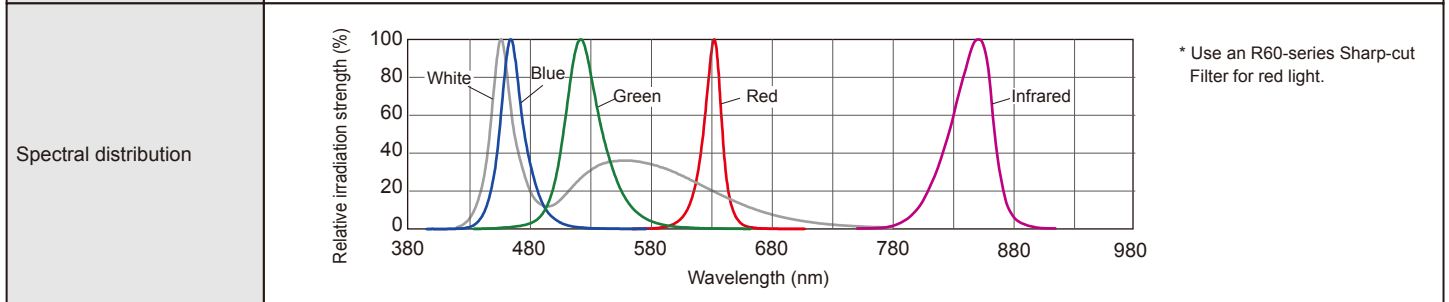
2 LED color
RD : Red
SW : White
BL : Blue
GR : Green
IR : Infrared (LDL2-33×8 only)

3 Directional Characteristics
None: Narrow type
(Wide type only for LDL2-33×8)

WD: Wide type

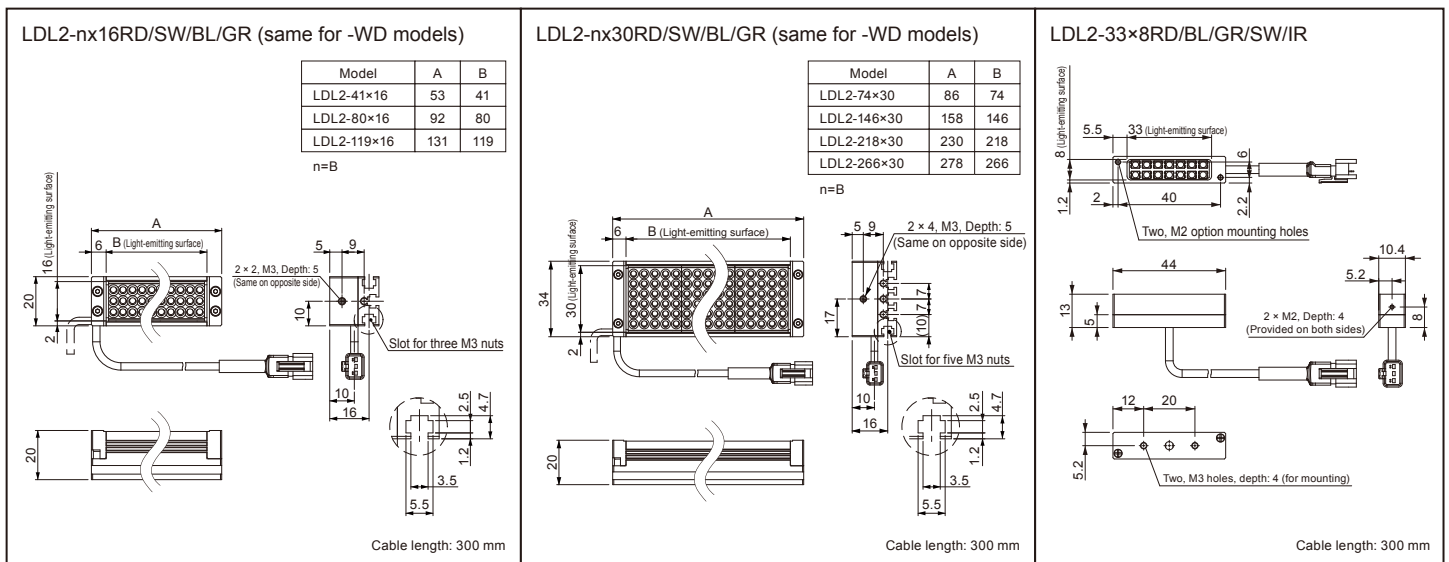
Common Specifications

LED color	Red (RD)	White (SW)	Blue (BL)	Green (GR)	Infrared (IR)
Input voltage (max.)	24 VDC				
Peak wavelength (typical)	635 nm	-	470 nm	525 nm	850 nm
Correlated color temperature (typical)	-	6600 K	-	-	-
Cable length	0.3 m				
Input connector	SMR-03V-B				
Polarity and signals	1: Anode (+), brown, 2: NC, 3: Cathode (-), blue				
Case material	Aluminum alloy				
Operating temperature and humidity	Temperature: 0 to 40°C, Humidity: 20% to 85% (with no condensation)				
Storage temperature and humidity	Temperature: -20 to 60°C, Humidity: 20% to 85% (with no condensation)				
Cooling method	Natural air cooling				



* The values for irradiation strength that are given in this catalog are for reference only.

Dimension Diagrams



* Please contact a CCS sales representative for the dimension diagrams of special-order products.

"LDL" is a trademark of CCS.

Precautions

- Carefully read the product's instruction manual before use to ensure correct operation.
- Product specifications and design are subject to change without notice.
- Examples of workpiece imaging in this catalog are a guide that may be informative for choosing Light Units. Please check the functions of the equipment and requirements before choosing a Light Unit.

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