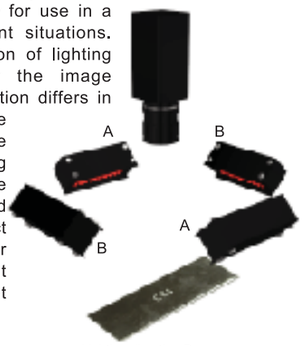
Bar Lights
LDL/LDQ Series

High-intensity LED arrays in a rectangular oblique illumination unit

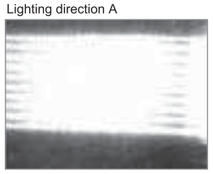
High-density arrays using high-intensity LEDs create optimum oblique lighting conditions for LCD character inspection, label inspection, and other inspection applications.

Independently Adjustable Axes

The angle of the LED arrays can be adjusted independently for use in a wide range of different situations. The angle and direction of lighting can completely alter the image obtained. Each application differs in its reflectivity and the presence of any surface characteristics. Using the LDQ Series, the lighting can be adjusted accordingly to use direct light, reflected light, or diffused reflected light to obtain the best possible image.



Lighting direction A



Lighting direction B

When the light shines in direction A, the light strikes the surface at right angles and causes the surface to shine. When the light shines in direction B, the light reflects in the opposite direction and is not caught, causing the creation of a dark field of view that sets off the characters.

Selectable focus angle characteristics

The focus angle characteristics of the LEDs can be selected to match the distance to the work and the field of view. LDL-74x27-W (±40°) and LDL-74x27-N (±20°). The W type is for uniform viewing of a wide field and the N type is for bright viewing of a narrow range.

Focus Angle characteristics of W-type LED

Focus Angle characteristics of N-type LED

Single-unit (LDQ) with 4-channel independent control

The LDQ Series with four independently adjustable angles is also available. This Series supports 4-channel independent control to enable high-precision lighting settings. The angle of incidence can be set from 0° to 90°.

Product Lineup Table

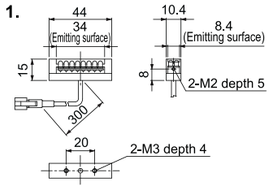
Series	Model Name	Color	Power Consumption	Options	Dimension
LDL*1	LDL-34x8	●	12V/1.2W	D•P	1□
	LDL-34x8-SW/-GR/-BL	○/●/●	24V/1.4W	D•P	
	LDL-42x15	●	12V/1.5W	D•P	2
	LDL-42x15-SW/-GR/-BL	○/●/●	24V/2.0W	D•P	
	LDL-74x27-N	●	12V/5.4W	D•P	3
	LDL-74x27-W	●	12V/5.4W	D•P	
	LDL-74x27-SW/-GR/-BL	○/●/●	24V/7.3W	D•P	
	LDL-82x15	●	12V/3.0W	D•P	4
	LDL-82x15-SW/-GR/-BL	○/●/●	24V/4.1W	D•P	
	LDL-130x15	●	12V/4.8W	D•P*	5□
	LDL-130x15-SW/-GR/-BL	○/●/●	24V/6.5W	D•P*	□
	LDL-180x16	●	12V/6.6W	D•P*	6
	LDL-180x16-SW/-GR/-BL	○/●/●	24V/9.0W	D•P*	
	LDL-247x16	●	12V/9.0W	D•P*	7
	LDL-247x16-SW/-GR/-BL	○/●/●	24V/12W	D•P*	8

Series	Model Name	Color	Power Consumption	Options	Dimension
LDQ	LDQ-60-25	●	12V/1.2W	—	9
	LDQ-60-25-SW/-GR/-BL	○/●/●	24V/1.4W	—	
	LDQ-78	●	12V/4.8W	D•P	10
	LDQ-78-SW/-GR/-BL	○/●/●	24V/5.8W	D•P	
	LDQ-100A	●	12V/6.0W	D•P	11
	LDQ-100A-SW/-GR/-BL	○/●/●	24V/8.2W	D•P	
	LDQ-150A	●	12V/12W	D•P	12
	LDQ-150A-SW/-GR/-BL	○/●/●	24V/16W	D•P	
	LDQ-200A	●	12V/20W	D•P*	13
	LDQ-200A-SW/-GR/-BL	○/●/●	24V/26W	D•P*	

* Indicates the polarizing plate is supplied with a clear acrylic panel used for installation.
* To order diffuser plates (D) for the LDQ Series please order four (4) diffuser plates for the LDL Series of the appropriate size (See page 67)

*1: LDL Series includes "SW2", white light with higher light intensity than "SW (white)". Please contact us for more details.

Dimensions (Unit: mm)

1.


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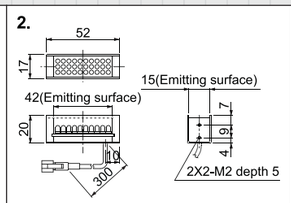

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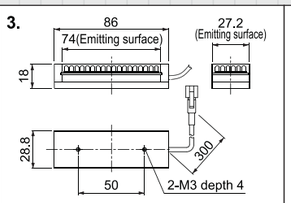

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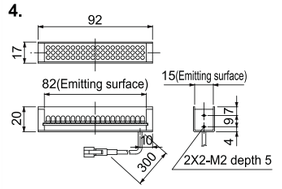

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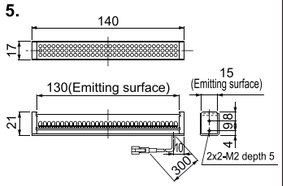

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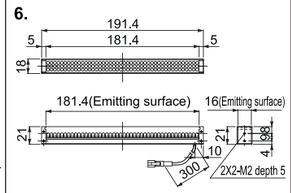

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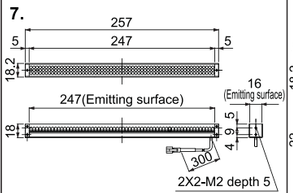

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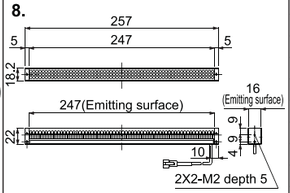

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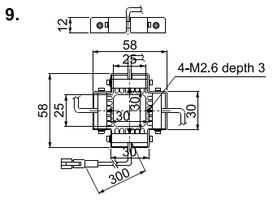

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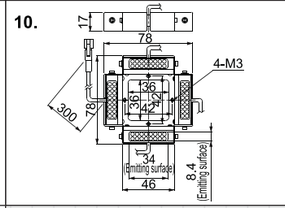

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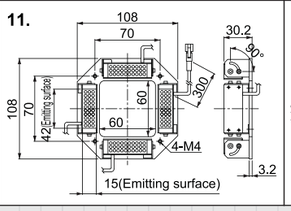

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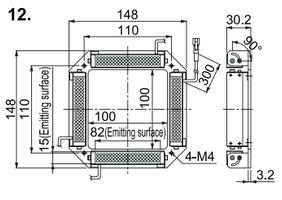

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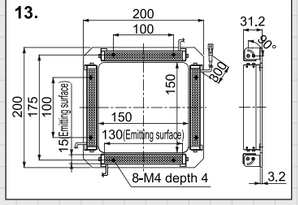

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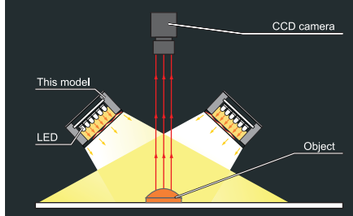
Illumination structure of LDL-74x27

LEDs are arranged at high-density on a single flat circuit board and the work can be illuminated from any angle as desired.

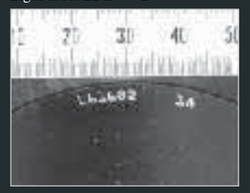


Examples of Bar Illumination Images

Inspecting characters engraved on a wafer

Only the characters stand out clearly.

Light used: LDL-74×27



Inspecting printed characters on a reflective curved surface (stamp case).

The top half of the image shows glare created when using direct reflection such as a ring light. The lower half shows clear image produced by using an LDL Series.

Reading two-dimensional bar code

A clear image is produced of two-dimensional bar code on a glass circuit board.

Light used: LDL custom light

CCD Sensitivity Chart and Brightness Distribution LDQ-150A

An adjustable angle of the LED arrays allows use in a wide range of applications. Direct light makes it possible to obtain high light intensity.

CCD intensity vs LWD