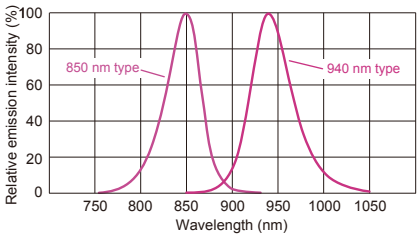
Infrared Lighting

Infrared Lights
IR Series

Higher transmittance than visible light
Suitable for checking the presence of substances, inclusions of foreign matter, and character recognition.

Peak wavelengths of 850-nm or 940-nm

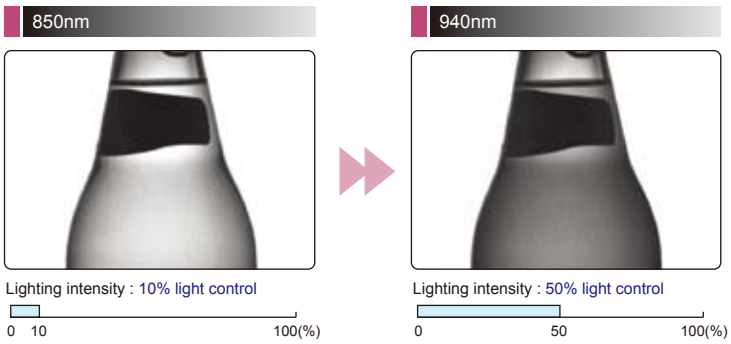
Emission Spectrums for 850-nm vs. 940-nm Peak Wavelength



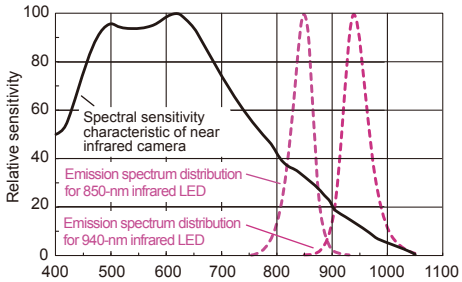
IR Series available in peak wavelengths of 850nm and 940nm. A wide product lineup offers optimum lighting solutions for a variety of inspection objects, inspection environments and optical systems.

Product line for IR

Imaging with peak wavelength of 850 nm vs. 940 nm



Spectral Sensitivity Characteristics of Near Infrared Camera Sensors



*CV-M50IR provided by JAI Corp.

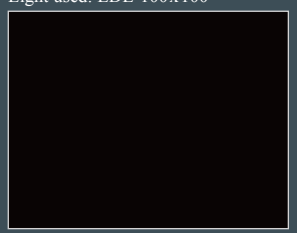
Use a camera sensitive in the near infrared region for use with an Infrared Light. The photographed image is affected by the distribution of the emission spectrum of the infrared LED and the spectral sensitivity characteristics of the camera. Optimized combination with an optical system is very important to achieve stable images.

Examples of Infrared light Images

Wafer image

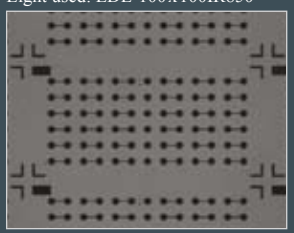
A backlight with visible light does not transmit through wafer.

Light used: LDL-100x100



An IR backlight passes through the wafer material to uniformly silhouette the pattern.

Light used: LDL-100x100IR850



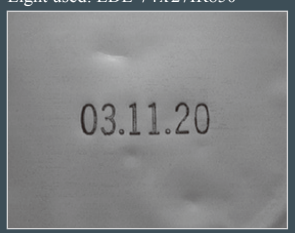
With occluding graphics

Visible light of any wavelength illuminates the graphics behind the date.

Light used: LDL-74x27-SW

IR light passes through the occluding graphic pigment but not this printed date code enabling reliable OCR/OCV.

Light used: LDL-74x27IR850



Product Lineup Table

Direct Number : You can easily access the web page providing information on any desired product by simply entering the 7-digit direct number in the space provided. (Refer to the back cover of this brochure.)

Series	Direct Number	Model Name	Color	Power Consumption	Option	Dimension
LDR2	1002578	LDR2-50IR850	●	12V / 3.8W	—	1
	1002577	LDR2-50IR940	●			
	1002576	LDR2-70IR850	●	12V / 7.6W	—	2
	1002575	LDR2-70IR940	●			
	1002574	LDR2-90IR850	●	12V / 14W	—	3
	1002573	LDR2-90IR940	●			
SQR	1002580	SQR-56IR850	●	12V / 3.8W	—	4
	1002556	SQR-56IR940	●			
LDR2-LA	1002557	LDR2-74IR850-LA	●	12V / 5.7W	—	5
	1002558	LDR2-74IR940-LA	●			
	1002559	LDR2-132IR850-LA	●	12V / 16W	—	6
	1002560	LDR2-132IR940-LA	●			
LDL2	1004650	LDL2-33×8IR850	●	24V / 1.3W	B	7
LDL	1002561	LDL-42×15IR850	●	12V / 1.9W	—	9
	1002562	LDL-42×15IR940	●			
	1002563	LDL-74×27IR850	●	12V / 6.9W	—	8
	1002564	LDL-74×27IR940	●			

Series	Direct Number	Model Name	Color	Power Consumption	Option	Dimension
LDL	1002565	LDL-82×15IR850	●	12V / 3.8W	—	9
	1002566	LDL-82×15IR940	●			
	1002567	LDL-130×15IR850	●	12V / 6.1W	—	9
	1002568	LDL-130×15IR940	●			
	1002569	LDL-180×16IR850	●	12V / 8.4W	—	10
	1002570	LDL-180×16IR940	●			
LDQ	1002571	LDQ-78IR850	●	12V / 6.1W	—	11
	1002572	LDQ-78IR940	●			
	1002581	LDQ-150IR850	●	12V / 16W	—	12
	1002582	LDQ-150IR940	●			
LDL	1002748	LDL-100×100IR850	●	24V / 21W	—	13
	1002749	LDL-100×100IR940	●			
LFL	1002742	LFL-100IR850	●	12V / 5.3W	—	14
	1002745	LFL-100IR940	●			
LFV2	1002746	LFV2-50IR850	●	12V / 8.4W	—	15
	1002747	LFV2-50IR940	●			

*The LDL2-33×8 provides only the wide directional pattern.
*The following letters indicate options.
B: Bracket
*For further details on these options, refer to page 93.

Dimension Diagrams (Unit: mm)

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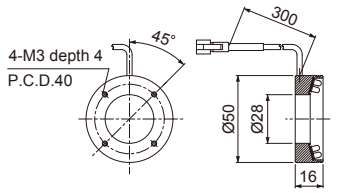

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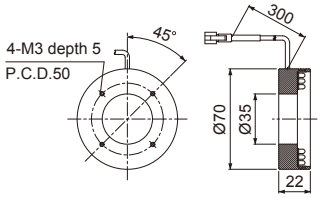

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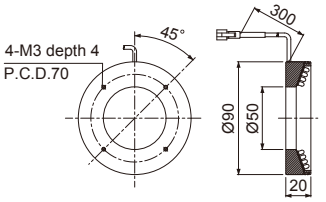

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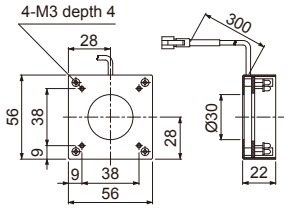

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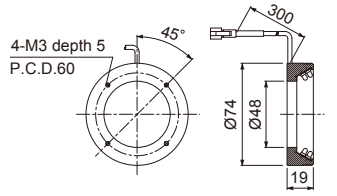

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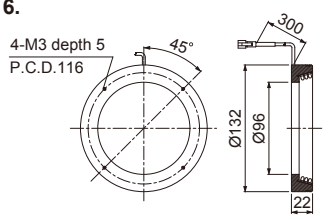

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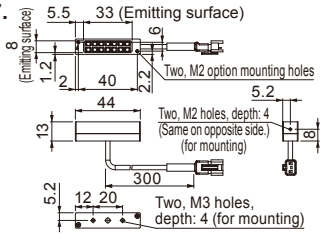

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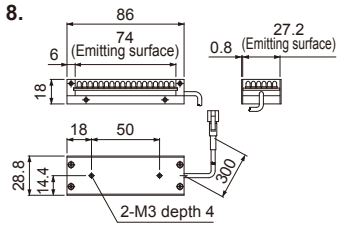

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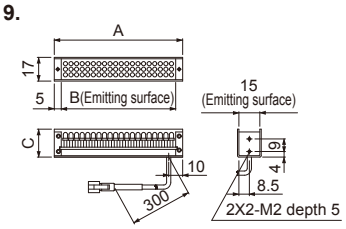
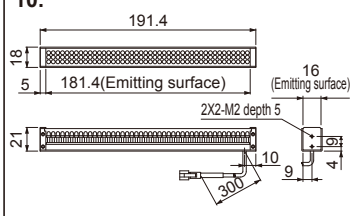


Model Name	A	B	C
LDL-42×15IR850	52	42	20
LDL-42×15IR940	52	42	20
LDL-82×15IR850	92	82	20
LDL-82×15IR940	92	82	20
LDL-130×15IR850	140	130	21
LDL-130×15IR940	140	130	21

10.


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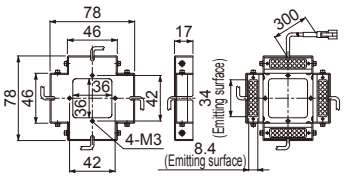

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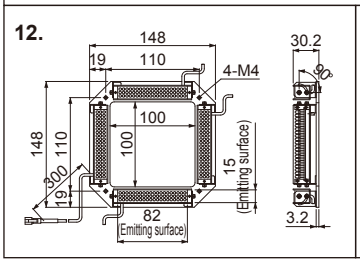

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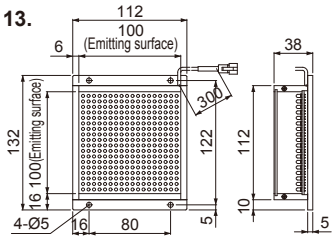

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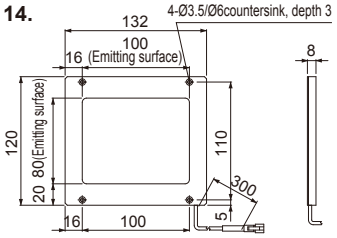

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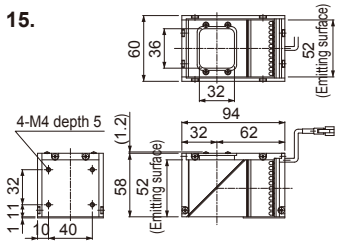

Examples of Infrared light Images

Printed date code occluding molded surface features

Printed text on the cap absorbs visible light causing it to occlude any surface defects or feature detection in the image.

Light used: LDR2-132SW-LA

IR light passes through the printed text and reflect uniformly from the unbroken surface allowing for defect or feature detection.

Light used: LDR2-132IR940-LA

Foreign matter mixed in beverage container

A visible light from a backlight does not penetrate the plastic bottle.

Light used: LFL-100

An IR backlight penetrates the plastic bottle and silhouettes the foreign object resting at the bottom for reliable detection.

Light used: LFL-100IR940