

# ILU - 008 series

## Appearance



Material : PMMA

## Application

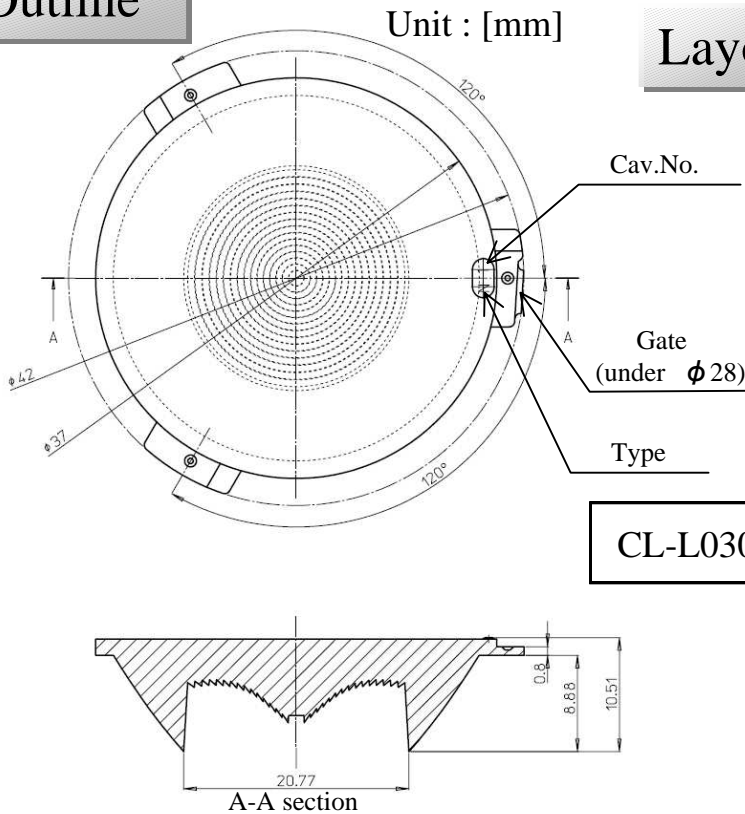
LED Bulb(MR16,GU10,etc...)  
LED Down-light , Street Light, others ...

### Recommended LED

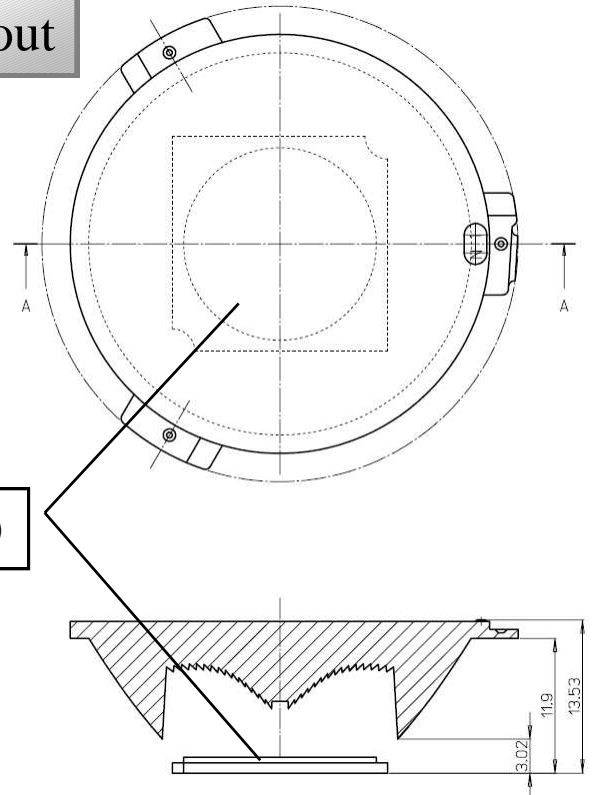
CLL030 series



## Outline



## Layout



### < Attention in the handling >

- To fix the lens, the use of its flange with thickness of 0.8mm is recommended.
- The lens should be placed against the LED “CLL030” as shown in the figure above.
- The specification is subject to change without notice.
- The prism shape is not accurate.
- Do not use this product under the temperature condition exceeding 85°C.

CITIZEN ELECTRONICS CO.,LTD.

Ref.CE-P1809 02/12

# ILU - 008 series

## Luminous intensity

## With CLL030 Series

LED			Lens		ILU-008-N	ILU-008-M	ILU-008-W
LED part code	CCT	Ra	Lumen		FWHM [34deg]	FWHM [38deg]	FWHM [41deg]
CLL030-1205A1-273M1A2	2700[K]	80 Min	385[lm]		684[cd]	548[cd]	477[cd]
			1075[lm]		1910[cd]	1530[cd]	1331[cd]
			1920[lm]		3412[cd]	2733[cd]	2377[cd]
CLL030-1205A1-303M1A2	3000[K]	80 Min	415[lm]		737[cd]	591[cd]	514[cd]
			1150[lm]		2043[cd]	1637[cd]	1424[cd]
			2050[lm]				
CLL030-1205A1-353M1A2	3500[K]	80 Min	420[lm]		746[cd]	598[cd]	520[cd]
			1160[lm]		2061[cd]	1651[cd]	1436[cd]
			2070[lm]				
CLL030-1205A1-403M1A2	4000[K]	80 Min	425[lm]		755[cd]	605[cd]	526[cd]
			1170[lm]		2079[cd]	1665[cd]	1449[cd]
			2095[lm]				
CLL030-1205A1-503M1A2	5000[K]	80 Min	440[lm]		782[cd]	626[cd]	545[cd]
			1215[lm]		2159[cd]	1729[cd]	1504[cd]
			2170[lm]				
CLL030-1205A1-50KL1A1	5000[K]	65 Typ	515[lm]		915[cd]	733[cd]	638[cd]
			1420[lm]		2523[cd]	2021[cd]	1758[cd]
			2540[lm]				

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- Do not use this product under the temperature condition exceeding 85°C.

# ILU - 008 series

## Luminous intensity

## With CLL030 Series

LED		Lens		ILU-008-N	ILU-008-M	ILU-008-W
LED part code	CCT	Ra	Lumen	FWHM [34deg]	FWHM [38deg]	FWHM [41deg]
CLL030-1206A1-273M1A2	2700[K]	80 Min	460[lm]	817[cd]	655[cd]	570[cd]
			1275[lm]	2266[cd]	1815[cd]	1579[cd]
			2280[lm]			
CLL030-1206A1-303M1A2	3000[K]	80 Min	490[lm]	871[cd]	697[cd]	607[cd]
			1365[lm]	2425[cd]	1943[cd]	1690[cd]
			2435[lm]			
CLL030-1206A1-353M1A2	3500[K]	80 Min	495[lm]	880[cd]	704[cd]	613[cd]
			1375[lm]	2443[cd]	1957[cd]	1703[cd]
			2460[lm]			
CLL030-1206A1-403M1A2	4000[K]	80 Min	500[lm]	888[cd]	712[cd]	619[cd]
			1390[lm]	2470[cd]	1978[cd]	1721[cd]
			2485[lm]			
CLL030-1206A1-503M1A2	5000[K]	80 Min	520[lm]	924[cd]	740[cd]	644[cd]
			1440[lm]	2559[cd]	2049[cd]	1783[cd]
			2580[lm]			
CLL030-1206A1-50KL1A1	5000[K]	65 Typ	1165[lm]	2070[cd]	1658[cd]	1443[cd]
			3235[lm]			
			5780[lm]			

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# ILU - 008 series

## Luminous intensity

## With CLL030 Series

LED		Lens		ILU-008-N	ILU-008-M	ILU-008-W
LED part code	CCT	Ra	Lumen	FWHM [34deg]	FWHM [38deg]	FWHM [41deg]
CLL030-1208A1-273M1A2	2700[K]	80 Min	610[lm]	1084[cd]	868[cd]	755[cd]
			1685[lm]	2994[cd]	2398[cd]	2086[cd]
			3015[lm]			
CLL030-1208A1-303M1A2	3000[K]	80 Min	650[lm]	1155[cd]	925[cd]	805[cd]
			1805[lm]	3207[cd]	2569[cd]	2235[cd]
			3225[lm]			
CLL030-1208A1-353M1A2	3500[K]	80 Min	655[lm]	1164[cd]	932[cd]	811[cd]
			1820[lm]	3234[cd]	2590[cd]	2254[cd]
			3255[lm]			
CLL030-1208A1-403M1A2	4000[K]	80 Min	665[lm]	1182[cd]	946[cd]	823[cd]
			1840[lm]	3270[cd]	2619[cd]	2278[cd]
			3290[lm]			
CLL030-1208A1-503M1A2	5000[K]	80 Min	690[lm]	1226[cd]	982[cd]	854[cd]
			1910[lm]	3394[cd]	2718[cd]	2365[cd]
			3410[lm]			
CLL030-1208A1-50KL1A1	5000[K]	65 Typ	805[lm]	1430[cd]	1146[cd]	997[cd]
			2230[lm]			
			3990[lm]			

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# ILU - 008 series

## Luminous intensity

## With CLL030 Series

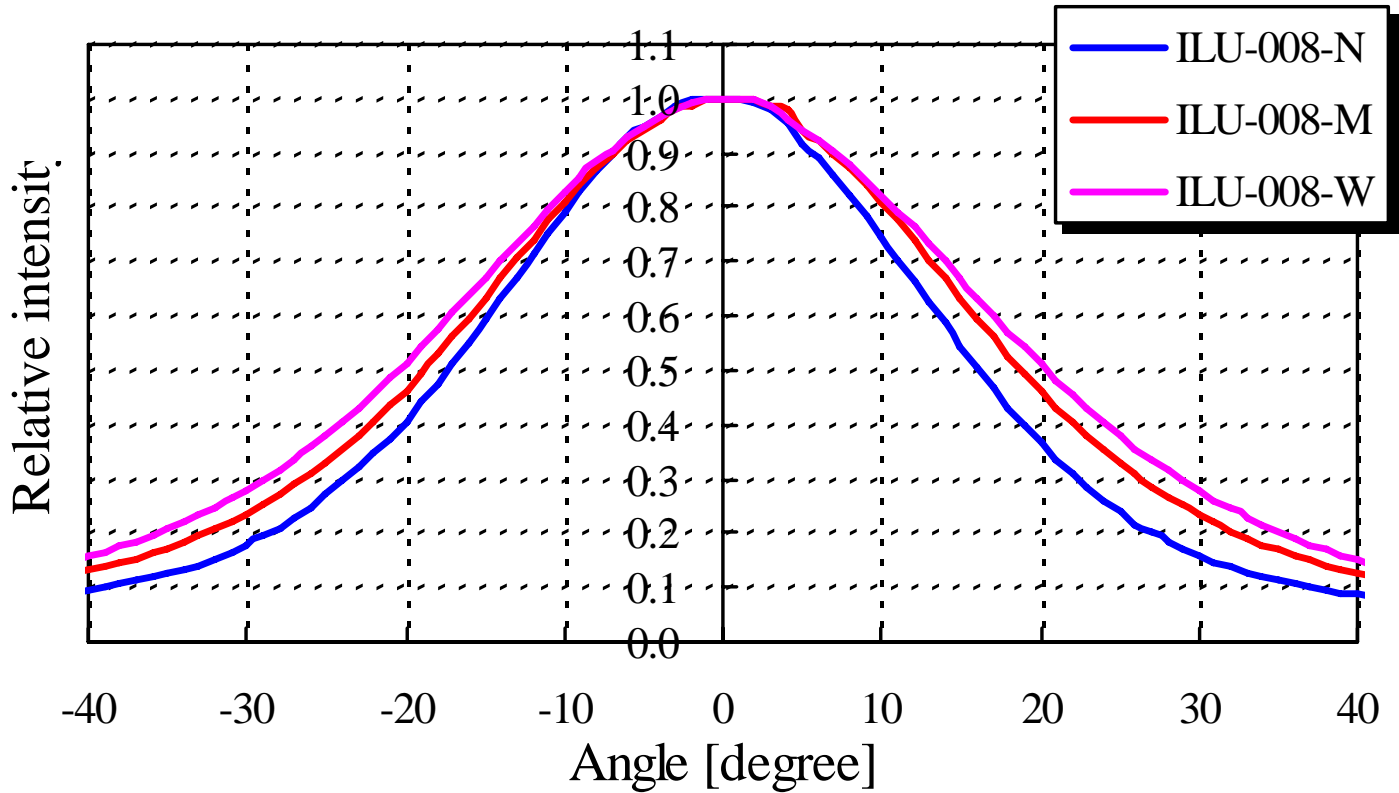
LED		Lens		ILU-008-N	ILU-008-M	ILU-008-W
LED part code	CCT	Ra	Lumen	FWHM [34deg]	FWHM [38deg]	FWHM [41deg]
CLL030-1212A1-273M1A2	2700[K]	80 Min	880[lm]	1564[cd]	1252[cd]	1090[cd]
			2445[lm]			
			4370[lm]			
L030-1212A1-303M1A2	3000[K]	80 Min	945[lm]	1679[cd]	1345[cd]	1170[cd]
			2615[lm]			
			4670[lm]			
CLL030-1212A1-353M1A2	3500[K]	80 Min	950[lm]	1688[cd]	1352[cd]	1176[cd]
			2640[lm]			
			4715[lm]			
CLL030-1212A1-403M1A2	4000[K]	80 Min	965[lm]	1715[cd]	1373[cd]	1195[cd]
			2670[lm]			
			4770[lm]			
CLL030-1212A1-503M1A2	5000[K]	80 Min	1000[lm]	1777[cd]	1423[cd]	1238[cd]
			2765[lm]			
			4940[lm]			
CLL030-1212A1-50KL1A1	5000[K]	65 Typ	1165[lm]	2070[cd]	1658[cd]	1443[cd]
			3235[lm]			
			5780[lm]			

### < Attention in the handling >

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# ILU - 008 series

## Directivity



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# ILU - 008 series

## Physical properties

Property	Test Method	Condition	Unit	Value
<b>Optical</b>				
Light transmission	ASTM D 1003	3.2mm	%	92
Reflectiv Index	ASTM D 542	ND@23°C	---	1.49
<b>Mechanical</b>				
Tensile modulus	ASTM D 638		MPa	3100
Tensile strength at yield	ASTM D 790	Max.	MPa	70
Nominal tensile strain at break	ASTM D 638	---	%	6
Flexual modulus	ASTM D 790	---	MPa	3200
Flexual strength	ASTM D 790	---	MPa	103
Charpy impact strength	ASTM D 256			7.5
Izod impact strength	ASTM D 256	Noched (23°C)	kJ/m <sup>2</sup>	1.2
Rockwell hardness	ASTM D 785	M scale	---	93
<b>Thermal</b>				
Heat deflection temperature	ASTM D 648	1820kPa	°C	102
Vicat softening point	ASTM D 1525	(Rate A;1kg)	°C	111
		(Rate A;5kg)	°C	104
Melt volume flow rate	ASTM D 1238	---	g/10min	3.7
Coeffient of linear expansion	ASTM D 696	---	× 10 <sup>-5</sup>	5.8
<b>Electrical</b>				
Surface resistivity	ASTM D 257	---	Ω /sq	1.00E+18
Volume resistivity	ASTM D 257	---	Ω cm	1.00E+18
Specific Inductive capacity	ASTM D 150	60cycles	---	3.7
		1,000,000cycles	---	2.2
Dielectric strength	ASTM D 149	volts/mil		500
Dielectric loss Factor	ASTM D 150	60cycles		0.19
		1,000,000cycles		0.007
Tracking resistance	ASTM D 405	---	seconds	no track
<b>Other</b>				
Density	ASTM D 792	---	g/cm <sup>3</sup>	1.19
Water absorption	ASTM D 570	---	%	0.3
Flammability	UL94	---	class	HB

\* Values reported are typical and should not be used for specification purpose.

### < Attention in the handling >

- The data on this document is the characteristics combining ILU-008 and CLL030 series.
- ILU-008 is the lens for CLL030 series.
- Discussion will be needed separately if you combine it with LEDs other than these.
- The specification is subject to change without notice.
- Do not use this product under the temperature condition exceeding 85°C.

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Ref.CE-P1809 02/12