



Arrant-Light Oy

# Datasheet

CASA-M10W1

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# CA S A-M 10 W1

CA = Citizen Array

S = Square LED Module

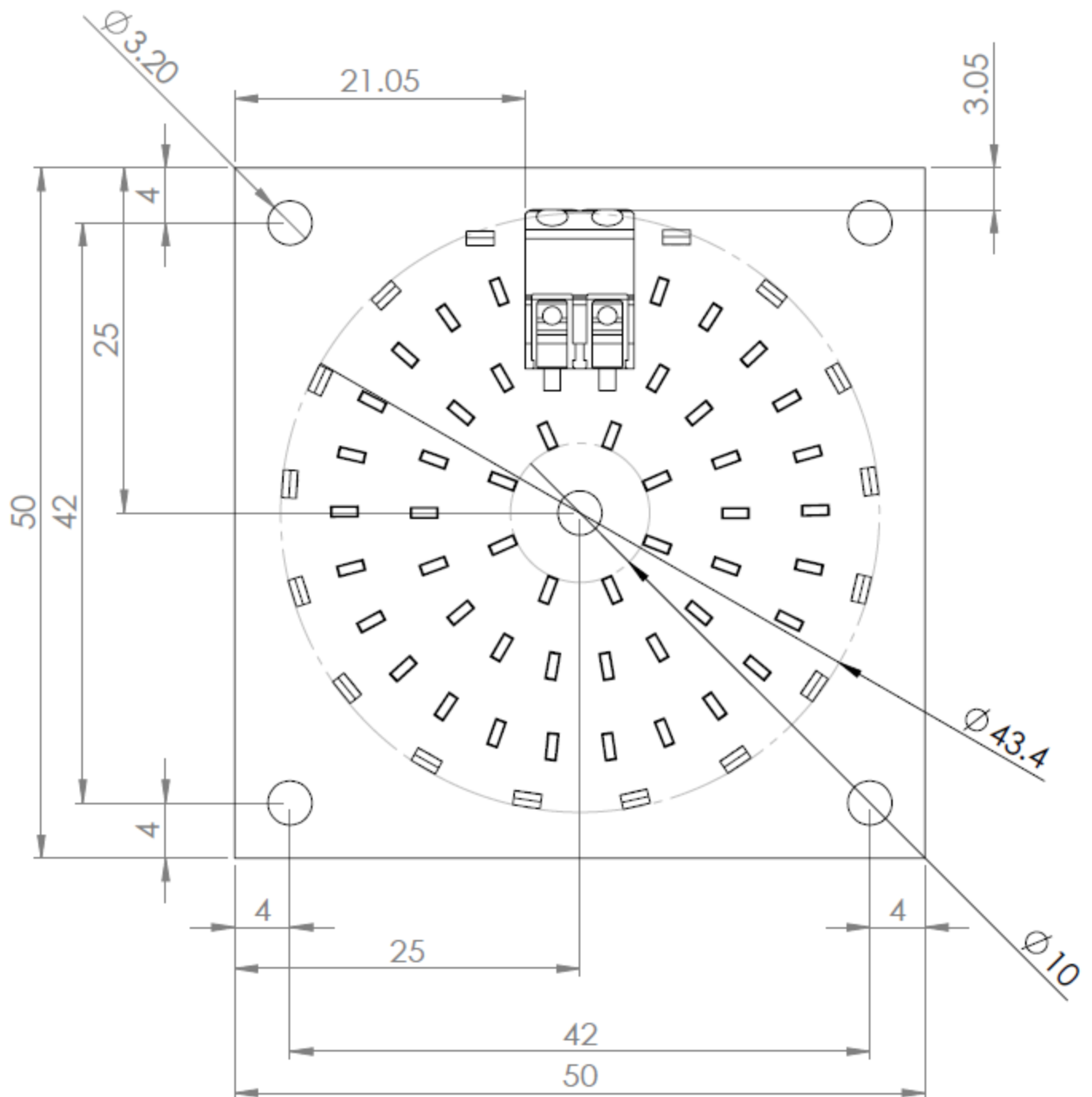
A = Product Index

M = General Color Rendering Index Min. 80

10 = 10,7 watt module

W1 = Energy Star Correlated Color Temperature 4000K

## 1. Outline drawing



Leds used in array:

CLL620-0101B2-403M1C5

CLL630-0101B2-40AM1A2

## 2. Performance

Following data is based on Citizen's CLL620-0101B2-403M1C5 and CLL630-0101B2-40AM1A2 datasheets. Please find more information about the LEDs from Citizen's datasheets.

Absolute Maximum Ratings:

Parameter	Symbol	Rating	Unit
Power Dissipation	$P_D$	19,6	W
Forward Current	$I_F$	1080	mA
Reverse Voltage *1	$V_R$	25	V
Operating Temperature	$T_{OP}$	-30 – +85	°C
Storage Temperature	$T_{ST}$	-40 – +100	°C
Tc-point max. Temperature	$T_{C\ MAX.}$	85	°C

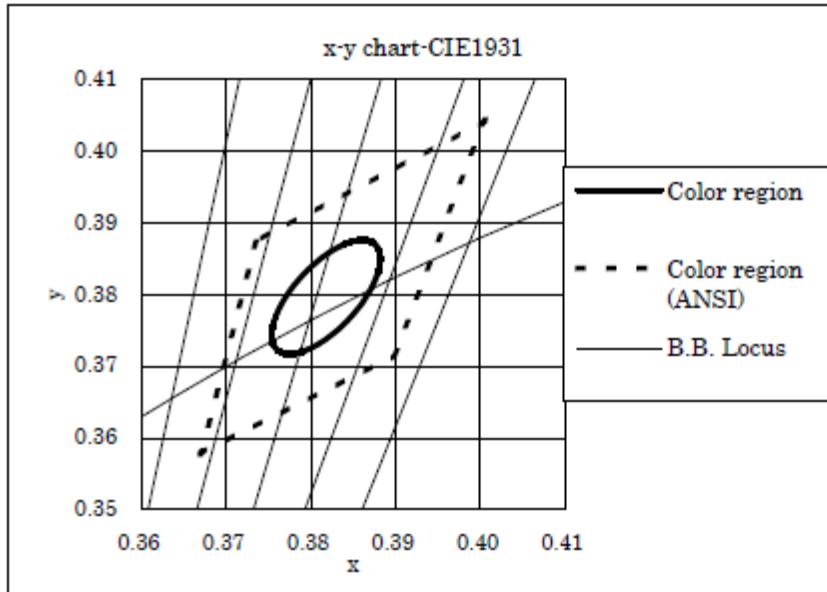
\*1 This module is NOT designed to be driven in reverse bias.

Note: Data above is calculated and extrapolated based on CLL620-0101B2-403M1C5 and CLL630-0101B2-40AM1A2 datasheets.

Typical Electro-optical characteristics:

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	$V_f$	$T_c=25^\circ\text{C}$ $I_f = 700\text{mA}$	13,85	15,35	16,85	V
Luminous Flux	$\Phi_v$		1062	1252	-	lm
Color Temperature	CCT		-	4000	-	K
General Color Rendering Index	$R_a$		80	83	-	-

Chromaticity coordinates for CLL620-0101B2-403M1C5 diode (Condition:  $I_F = 80\text{mA}$ ,  $T_c = 25\text{ }^\circ\text{C}$ )

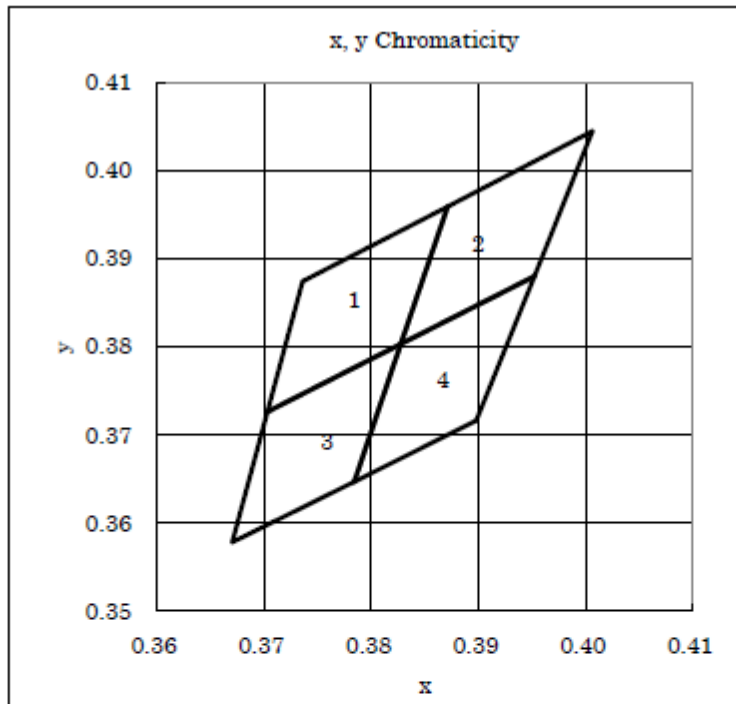


Center	
x	y
0.3818	0.3797
Oval parameter	
a	0.00939
b	0.00402
$\theta^\circ$	54.00

Reference (ANSI C78.377)

		x	y
4000K	Center	0.3818	0.3797
	a	0.4006	0.4044
	b	0.3736	0.3874
	c	0.3670	0.3578
	d	0.3898	0.3716

Chromaticity coordinates for CLL630-0101B2-40AM1A2 diode (Condition:  $I_F = 60\text{mA}$ ,  $T_c = 25\text{ }^\circ\text{C}$ )



Color Rank	x	y	Color Rank	x	y
1	0.3871	0.3959	2	0.4006	0.4044
	0.3736	0.3874		0.3871	0.3959
	0.3703	0.3726		0.3828	0.3803
	0.3828	0.3803		0.3952	0.3880

Color Rank	x	y	Color Rank	x	y
3	0.3828	0.3803	4	0.3952	0.3880
	0.3703	0.3726		0.3828	0.3803
	0.3670	0.3578		0.3784	0.3647
	0.3784	0.3647		0.3898	0.3716

Note 1) Tolerance of forward voltage ( $V_F$ ) measurement has been  $\pm 3\%$  in tester

Note 2) Tolerance of luminous flux ( $\Phi_v$ ) measurement has been  $\pm 7\%$  in tester

Note 3) Tolerance of chromaticity coordinates (x,y) measurement has been  $\pm 0.01$  in tester

## Precaution:

### Handling with care for this product:

- This product should not have the physical contact with any other parts when assembled as part of your lighting fixture or luminaire.
- Do not touch LED area with hands when installing the product into your lighting fixture or luminaire.
- Handle the product with care, touch the product only on the edges of the LED module.
- Do not bend the LED module.

### Countermeasure against static electricity:

- It is recommended to use countermeasures, such as wearing a wristband or antistatic gloves when handling of this product, to prevent any static electricity being produced.
- Throughout the production line, any manufacturing facility, that involves the contact with this product, is recommended to be grounded, if possible.
- LED modules could be tested by a light-on test with minimum current value in order to find the possible modules damaged by static electricity.

### Caution of product assembly:

- When you assemble your luminaire, please use M3 screws or two-sided thermally conductive tape to attach the LED module into your luminaire or metal profile in your luminaire.
- Please do not use tighten the screw too much because it may bend the LED module and affect the performance of the LED components.

### Driving current:

- A constant current is used with these modules, the values in this data sheet are given for constant current driving.
- Typical current given in the data sheet table is a recommendation; you can use also other current values as long as the current value does not exceed the maximum current value given in the table of Absolute Maximum Ratings.
- Do not apply reverse voltage, the LED components are not designed to be driven in reverse bias.

### Lighting at a minimum current value:

- Please notice that if you drive the LED module with minimum or very small current value, there may be differences in brightness between individual LED components due to manufacturing tolerances of individual components.
- The above is not meaning that the LED module itself would be non-functional.

### Electrical Safety:

- This product is designed and produced in compliance with IEC 62031: 2008 standard.
- IEC 62031:2008 LED modules for general lighting. Safety specification.
- As for conformity assessment for IEC 62031:2008, almost all items of the specification depend on your final product of LED lighting system.
- Please confirm with your final product for electrical safety of your product.

## Eye Safety:

- According to IEC 62471:2006 standard Photobiological safety of lamps and lamp systems our LED modules could be classified either to Exempt Group (no hazard) or to Risk Group 1 (low risk)
- Great care has to still be taken when directly viewing a LED module that is driven with high current.

## Condition limitations:

- There are some conditions under which you should evaluate their effect on the LED module and appropriate them.
- If the LED module gets directly or indirectly wet due to rain.
- If the LED module is damaged by seawater
- If the LED module is exposed to corrosive gas
- If the LED module is exposed to dust, fluid or oil

Notice: 5 year warranty is not given if one or more of those conditions above are met.

## Precautions with regard to product use:

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