DATA SHEET

AC Direct CSP Series

AC Direct CSP SERIES

The AC Direct CSP series of products do not need the standard converter essential for conventional general lighting products. This will also allow for a much smaller form factor from an overall fixture design allowing for higher creativity in the fixture; It is made up of flip chip LEDs and has small LES, more flexible when design and can meet various requirement from mechanical.

PRODUCT DESCRIPTION

Connects directly to AC line voltage

Multiple CCTs available (2700K-6500K)

CRI80&90 options

3 step MacAdam color binning

Small light emitting surface

Flicker Percent<30%

Triac Dimming

UL file number: E476040

5 year warranty at Tp≤ 70℃

TARGET APPLICATIONS

Down light

Spot Light

Ceiling lighting

…

APPLIED STANDARDS

EN 62031

EMC: EN 55015 EN 61547 EN 61000-3-2 EN 61000-3-3 EN 61000-4-4 EN 61000-4-5

EMI: EN55015 EN61000-3-2 EN61000-3-3

EMS: EN61547

EMF: EN62493

UL 8750

Energy Star surge protection requirements

Note: All specifications are subject to change without notice.

GLV74CA2A21/CW-DA40TSE148 WHITE SERIES

PARAMETER	CONDITIONS
PCB	MCPCB with Φ 102mm
	UL component file number: E213009
Emitter Type	48 x CSP emitter 1.34*1.34mm LEDs
	UL component file number: E347623
Circuit Layout	2P24S
Connector Type	Wago connector: 2060-451/998-404
Thermal Resistance (p-n junction to chip point)	Rth= 2 K/W
Thermal Resistance (Ts to Tp)	Approx. 0.0131℃/W
Thermal Resistance (Ts to the back of Tp)	Approx. 0.0288℃/W

PRODUCT SELECTION GUIDE

PART NUMBER (without cover)	PART NUMBER (with cover)	CCT	CRI (min.)
GLV74CA2A21/CW-DA40TSE148827	GLV74CA2A21/CW-DA40TSE148827P	2700K	80
GLV74CA2A21/CW-DA40TSE148927	GLV74CA2A21/CW-DA40TSE148927P		90
GLV74CA2A21/CW-DA40TSE148830	GLV74CA2A21/CW-DA40TSE148830P	3000K	80
GLV74CA2A21/CW-DA40TSE148930	GLV74CA2A21/CW-DA40TSE148930P		90
GLV74CA2A21/CW-DA40TSE148835	GLV74CA2A21/CW-DA40TSE148835P	3500K	80
GLV74CA2A21/CW-DA40TSE148840	GLV74CA2A21/CW-DA40TSE148840P	4000K	80
GLV74CA2A21/CW-DA40TSE148850	GLV74CA2A21/CW-DA40TSE148850P	5000K	80
GLV74CA2A21/CW-DA40TSE148857	GLV74CA2A21/CW-DA40TSE148857P	5700K	80
GLV74CA2A21/CW-DA40TSE148865	GLV74CA2A21/CW-DA40TSE148865P	6500K	80

Note: All specifications are subject to change without notice.

BOARD OPTICAL CHARACTERISTICS (Ts=25 ℃)

BOARD	CCT	CRI	FLUX (lm)		EFFICACY (lm/W)	
			MIN.	TYP.	MIN.	TYP.
GLV74CA2A21/CW-DA40TSE148 Series	2700K	80	3258	3532	81	88
		90	2709	3258	68	81
	3000K	80	3258	3532	81	88
		90	2709	3258	68	81
	3500K	80	3532	3806	88	95
	4000K	80	3532	3806	88	95
	5000K	80	3806	4081	95	102
	5700K	80	3532	3806	88	95
	6500K	80	3532	3806	88	95

BOARD OPTICAL CHARACTERISTICS (Ts=25 ℃)*

BOARD	CCT	CRI	FLUX (lm)		EFFICACY (lm/W)	
			MIN.	TYP.	MIN.	TYP.
GLV74CA2A21/CW-DA40TSE148 Series	2700K	80	2984	3235	75	81
		90	2482	2984	62	75
	3000K	80	2984	3235	75	81
		90	2482	2984	62	75
	3500K	80	3235	3487	81	87
	4000K	80	3235	3487	81	87
	5000K	80	3487	3738	87	93
	5700K	80	3235	3487	81	87
	6500K	80	3235	3487	81	87

*** The data is based on plastic protective cover efficiency 91.6%**

BOARD ELECTRICAL CHARACTERISTICS

	Min.	Typ.	Max.
Voltage (V)	108	120	132
Total Board Power (W)	-	40±10%	-

TECHNICAL CHARACTERISTICS*

Input Frequency	Vac(V)	Iin(A)	PF	THD（%）	Pin(W)	Flicker Percent（%）	Flicker Index	Surge Protection
50/60Hz	108	0.296	0.981	10.0	31.51	17.34	0.06	1KV
	115	0.327	0.986	15.5	37.15	23.35	0.07	
	120	0.328	0.992	6.7	39.1	23.77	0.07	
	125	0.324	0.992	3.8	40.29	22.29	0.07	
	132	0.313	0.995	7.3	41.13	21.14	0.06	

* sample testing data.

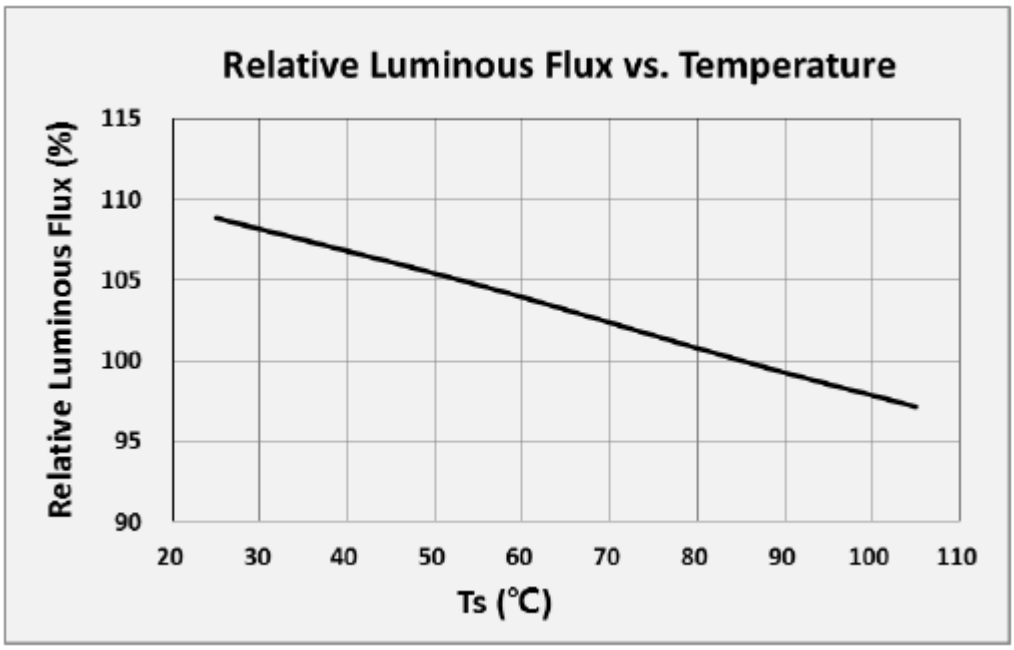
TECHNICAL CHARACTERISTICS

Input Frequency	PFC	THD	Surge Protection
50/60Hz	＞0.95	＜30%	1KV

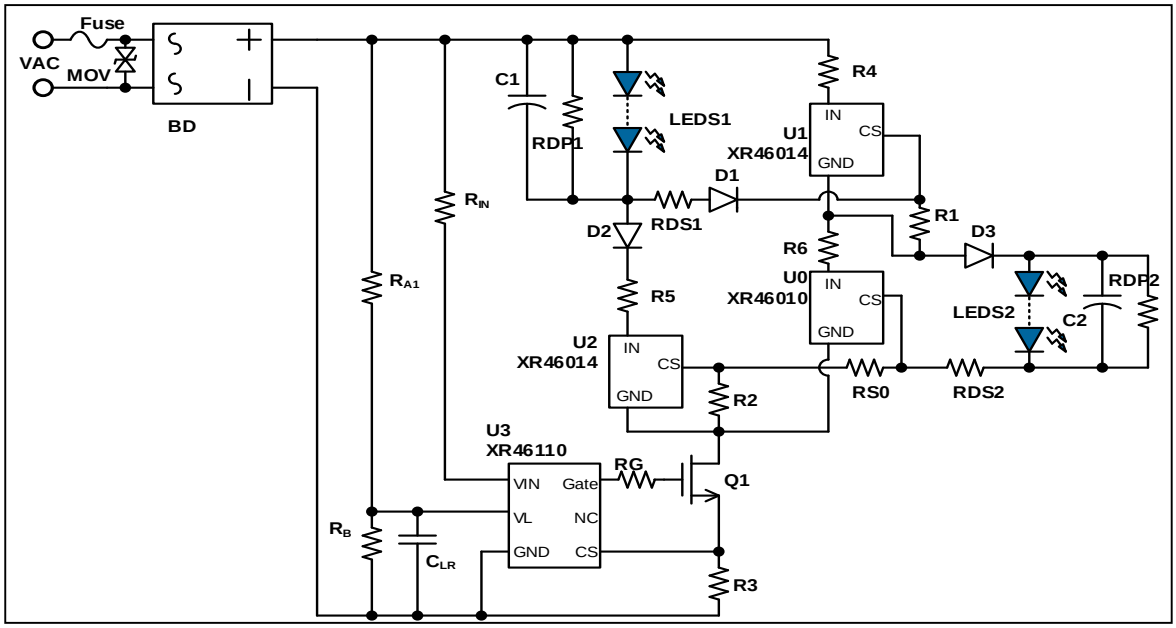
ENVIRONMENTAL CHARACTERISTICS

	Storage Temperature	PCB Temperature (T_p)
Min.	-40ºC	-40ºC
Max.	85ºC	80ºC

TEMPERATURE CHARACTERISTICS

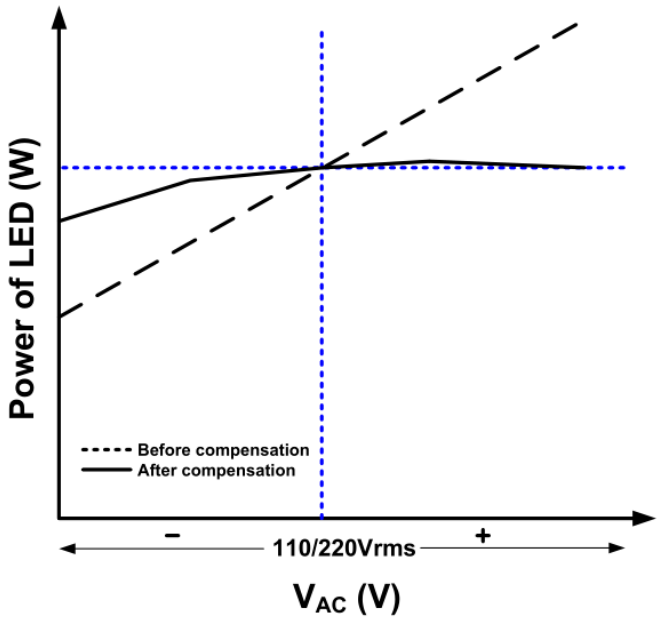


ELECTRICAL CIRCUIT DIAGRAM



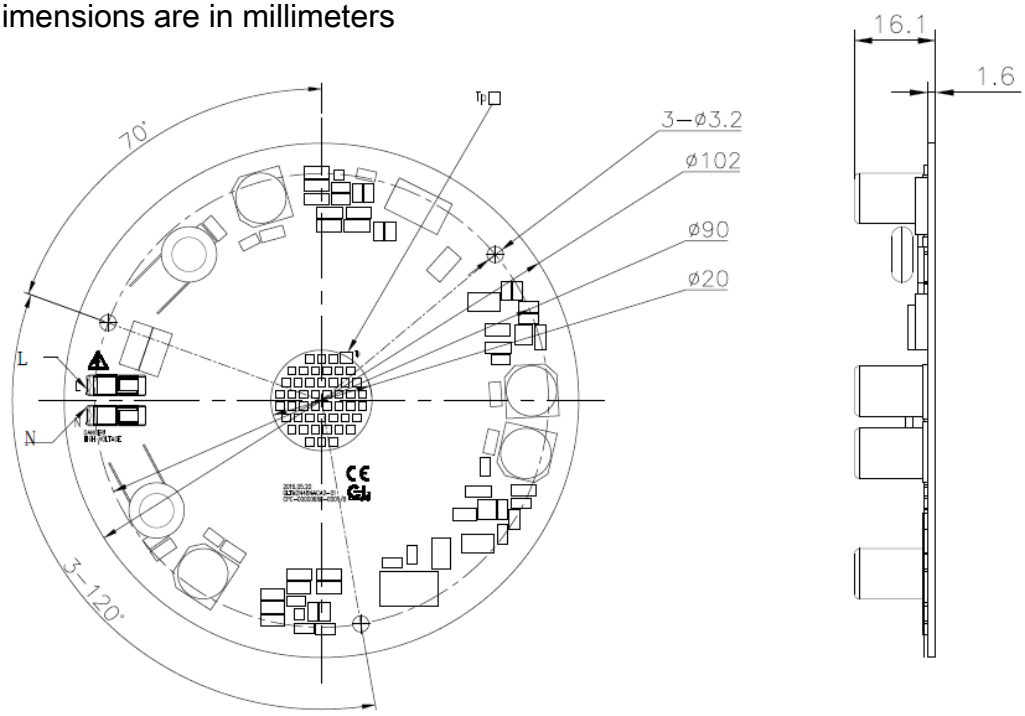
Note: All specifications are subject to change without notice.

POWER CHARACTERISTICS



MECHANICAL DIMENSIONS OF BOARD

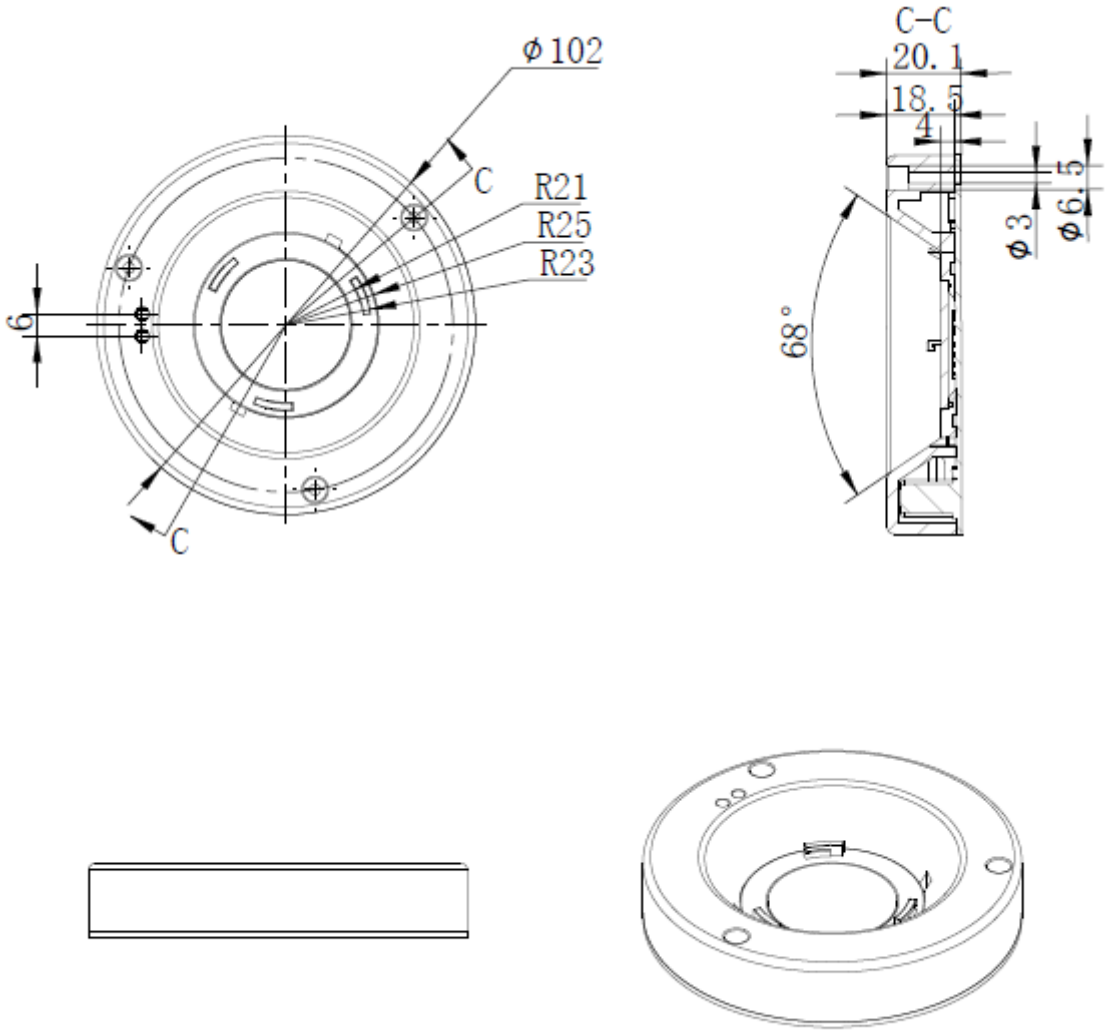
All dimensions are in millimeters



Note: All specifications are subject to change without notice.

MECHANICAL DIMENSIONS OF COVER

All dimensions are in millimeters



GLVA1PCA21	
Size	**Φ102mm**
Efficiency	**91.6%**

Note: All specifications are subject to change without notice.

ADDITIONAL INFORMATION

Installation by qualified electrician only

For safety reasons, the AC light engine must be operated with protection cover or safety glass

Suitable only for operation with line voltages

Suitable for luminaire of protection class 1, grounding is mandatory to comply with safety standards

The AC light engine needs to be mounted to a heat sink

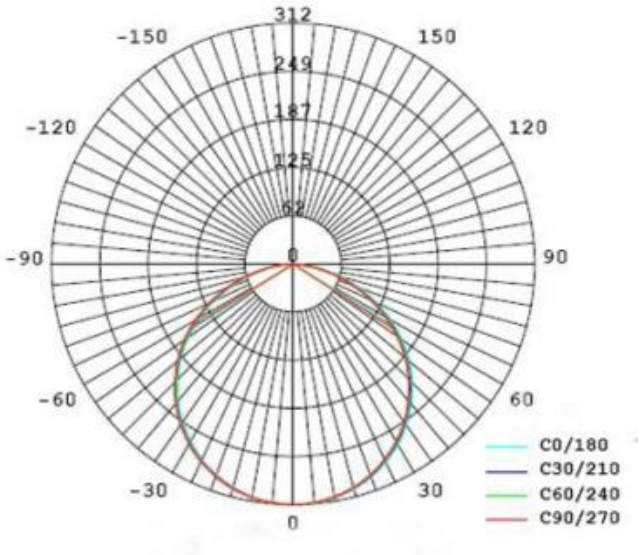
For optimal cooling a thermal interface material should be applied between AC light engine and heat sink

It is highly recommended to use **an electrically isolated** thermal interface material (TIM*). The TIM needs to enable adequate heat transfer, during installation it has to be taken care not to create air inclusions between surfaces. For this purpose it is recommended to use a heat sink with even and clean surfaces.

* 3M 8810 Thermal Conductive Adhesive Tapes are recommended

RADIATION CHARACTERISTICS (120VAC 40W Module)

luminous intensity unit: cd



Average beam angle(50%): 115.4°

Note: All specifications are subject to change without notice.

PART NUMBERING & ORDERING INFORMATION

1. PRODUCT SERIES

GLV74CA2A21
– Circular MCPCB dia.102mm

2. CONNECTOR TYPE

CW – Wago connector 2060-451/998-404

3. INPUT VOLTAGE

DA - IML low flicker solution for 120Vac ±10%

4. PRODUCT WATTAGE

40– 40W

5. DIMMING

T – Triac dimming

6. LED TYPE

SE1 – LM102A LED, 2P

7. LED NUMBER

48– 48 LEDs

8. CCT

827 – CRI80 2700K ANSI
927 – CRI90 2700K ANSI
830 – CRI80 3000K ANSI
930 – CRI90 3000K ANSI
835 – CRI80 3500K ANSI
840 – CRI80 4000K ANSI
850 – CRI80 5000K ANSI
865 – CRI80 6500K ANSI

9. COVER

P – Protective cover

Part Number :

GLV74CA2A21/	CW	–	DA	40	T	SE1	48	827	P
1	2		3	4	5	6	7	8	9

Note: All specifications are subject to change without notice.

DIMMER COMPATIBILITY

Brands	Model	Dimmer Type	Min Flux(%)
Cooper	DAL06P	Leading	0.98
Cooper	TAL06P	Leading	0.00
Cooper	SAL06P	Leading	0.40
Leviton	IP106-1LZ	Leading	2.16
Leviton	6602	Leading	0.00
Leviton	6633	Leading	0.00
Leviton	6681	Leading	0.00
Leviton	6683	Leading	0.00
Leviton	6672	Leading	2.18
Leviton	6674	Leading	2.63
Leviton	6631	Leading	0.00
LUTRON	DV-600P-IV	Leading	0.00
LUTRON	AY-600P-IV	Leading	0.00
LUTRON	DV-600PR-WH	Leading	0.00
LUTRON	DV-600PR-LA	Leading	0.00
LUTRON	TG-600PR-LA	Leading	0.50
LUTRON	CTCL-153P	Leading	0.00
LUTRON	MACL-153MH-WH	Leading	2.69
LUTRON	DVELV-300P	Trailing	3.14

LEDiL REFLECTOR COMPATIBILITY

Product Number	Family	Diameter (mm)	Height (mm)
F13839_ANGELINA-XW-B	ANGELINA	82	31
C11979_LENA-S	Lena	111	80
C11980_LENA-W	Lena	111	80
C12154_LENA-M	Lena	111	80
C12597_LENINA-S	Lenina	74	40
C12598_LENINA-M	Lenina	/	/
C12599_LENINA-W	Lenina	74	40
C12948_LENA-WAS	Lena	111	37
C12958_LENINA-XW	Lenina	74	40
C13101_LENA-X-WAS	Lena	111	37
C14346_ANGELETTE-WAS	Angelette	97.2*83.4	84.1
CN12293_LENA-S	Lena	111	85.6
CN12294_LENA-M	Lena	111	85.6
CN12295_LENA-W	Lena	111	85.6
CN12296_LENA-S-DL	Lena	111	85.6
CN12297_LENA-M-DL	Lena	111	85.6
CN12298_LENA-W-DL	Lena	111	85.6
CN12644_LENINA-S	Lenina	74	45.6
CN12645_LENINA-M	Lenina	74	45.6

LEDiL REFLECTOR COMPATIBILITY

Product Number	Family	Diameter (mm)	Height (mm)
CN12646_LENINA-W	Lenina	74	45.6
CN12647_LENINA-S-DL	Lenina	74	47.7
CN12648_LENINA-M-DL	Lenina	74	47.7
CN12649_LENINA-W-DL	Lenina	74	47.7
CN12706_LENINA-S	Lenina	74	46.3
CN12707_LENINA-M	Lenina	74	46.3
CN12708_LENINA-W	Lenina	74	46.3
CN12709_LENINA-S-DL	Lenina	74	48.4
CN12710_LENINA-M-DL	Lenina	74	48.4
CN12711_LENINA-W-DL	Lenina	74	48.4
CN12716_LENA-M	Lena	111	86.3
CN12717_LENA-W	Lena	111	86.3
CN12721_LENA-S-DL	Lena	111	87.6
CN12722_LENA-M-DL	Lena	111	87.6
CN12723_LENA-W-DL	Lena	111	87.6
CN12962_LENINA-XW	Lenina	74	45.6
CN12965_LENINA-XW	Lenina	74	46.3
CN12975_LENINA-XW-DL	Lenina	74	47.7
CN12979_LENINA-XW-DL	Lenina	74	48.4
CN13162_LENA-WAS	Lena	111	38.2

LEDiL REFLECTOR COMPATIBILITY

Product Number	Family	Diameter (mm)	Height (mm)
CN13164_LENA-WAS	Lena	111	/
CN13172_LENA-WAS-DL	Lena	111	40.3
CN13174_LENA-WAS-DL	Lena	111	/
CN13370_LENA-X-WAS	Lena	111	39.1
CN13372_LENA-X-WAS-DL	Lena	111	42
CN13457_LENA-X-WAS-DL	Lena	111	40.3
CN13461_LENA-X-WAS	Lena	111	38.2
CN13649_LENA-SS	Lena	111	87.6
CN13650_LENA-SS-DL	Lena	111	87.6
CN14060_LENA-S	Lena	/	/
CN14061_LENA-M	Lena	111	84.4
CN14063_LENA-WAS	Lena	111	37.01
CN14064_LENA-SS	Lena	111	84.4
CN14065_LENA-S-DL	Lena	111	86
CN14066_LENA-M-DL	Lena	111	86
CN14078_LENA-WAS-DL	Lena	111	39.11
CN14079_LENA-X-WAS	Lena	111	37.01
CN14080_LENA-X-WAS-DL	Lena	111	39.11
CN14081_LENA-SS-DL	Lena	111	86
CN14093_LENINA-S	Lenina	74	44.4

LEDiL REFLECTOR COMPATIBILITY

Product Number	Family	Diameter (mm)	Height (mm)
CN14094_LENINA-M	Lenina	74	44.4
CN14095_LENINA-W	Lenina	74	44.4
CN14096_LENINA-XW	Lenina	74	44.4
CN14097_LENINA-XW-DL	Lenina	74	46.15
CN14098_LENINA-W-DL	Lenina	74	46.15
CN14099_LENINA-M-DL	Lenina	74	46.15
CN14100_LENINA-S-DL	Lenina	74	46.15
CN14421_ANGELETTE-WAS	Angelette	97.2*83.4	/
CN14577_LENA-S-DL	Lena	/	/
CN14578_LENA-M-DL	Lena	/	/
CN14579_LENA-W-DL	Lena	/	/
CN14580_LENA-WAS-DL	Lena	/	/
CN14581_LENA-X-WAS-DL	Lena	/	/
CN14582_LENINA-S-DL	Lenina	/	/
CN14583_LENINA-M-DL	Lenina	/	/
CN14584_LENINA-W-DL	Lenina	/	/
CN14585_LENINA-XW-DL	Lenina	/	/
F13325_ANGELINA-S	ANGELINA	82	31
F13379_ANGELA-S	ANGELINA ANGELA	119.5	74.27

LEDiL REFLECTOR COMPATIBILITY

Product Number	Family	Diameter (mm)	Height (mm)
F13380_ANGELA-M	ANGELINA ANGELA	119.5	74.5
F13381_ANGELA-W	ANGELINA ANGELA	119.5	74.5
F13401_ANGELINA-M	ANGELINA	82	31
F13402_ANGELINA-W	ANGELINA	82	31
F13659_ANGELINA-S-B	ANGELINA	82	31
F13660_ANGELINA-M-B	ANGELINA	82	31
F13661_ANGELINA-W-B	ANGELINA	82	31
F13662_ANGELA-S-B	ANGELINA ANGELA	119.5	74.5
F13663_ANGELA-M-B	ANGELINA ANGELA	119.5	74.5
F13664_ANGELA-W-B	ANGELINA ANGELA	119.5	74.5
F13839_ANGELINA-XW-B	ANGELINA	82	31
F13840_ANGELA-XW	ANGELINA ANGELA	119.5	74.5
F13841_ANGELA-XW-B	ANGELINA ANGELA	119.5	74.5

LEDiL REFLECTOR COMPATIBILITY

Product Number	Family	Diameter (mm)	Height (mm)
F14532_ANGELETTE-S	Angelette	110	57.3
F14533_ANGELETTE-M	Angelette	110	57.3
F14534_ANGELETTE-WW	Angelette	110	57.3
F14616_ANGELETTE-S-B	Angelette	110	57.3
F14617_ANGELETTE-M-B	Angelette	110	57.3
F14618_ANGELETTE-WW-B	Angelette	110	57.3
F14619_ANGELETTE-S-PLAIN	Angelette	110	57.3
F14620_ANGELETTE-M-PLAIN	Angelette	110	57.3
F14621_ANGELETTE-M-B-PLAIN	Angelette	110	57.3
F14622_ANGELETTE-WW-PLAIN	Angelette	110	57.3
F14623_ANGELETTE-WW-B-PLAIN	Angelette	110	57.3
F14624_ANGELETTE-S-B-PLAIN	Angelette	110	57.3
FC13977_ANGELINA-RZ-S-B	ANGELINA	82	31
FC13978_ANGELINA-RZ-M-B	ANGELINA	82	31
FC13979_ANGELINA-RZ-W-B	ANGELINA	82	31
FC13980_ANGELA-RZ-S-B	ANGELA	119.5	74.5
FC13982_ANGELINA-RZ-XW-B	ANGELINA	82	31
FC13983_ANGELA-RZ-XW-B	ANGELA	119.5	74.5
FC13987_ANGELA-RZ-M-B	ANGELA	119.5	74.5
FC13988_ANGELA-RZ-W-B	ANGELA	119.5	74.5

LEDiL REFLECTOR COMPATIBILITY

Product Number	Family	Diameter (mm)	Height (mm)
FC13991_ANGELA-RZ-S	ANGELINA	119.5	74.5
FCN13691_ANGELINA-S	ANGELINA	82	36.04
FCN13692_ANGELINA-M	ANGELINA	82	36.04
FCN13693_ANGELINA-W	ANGELINA	82	36
FCN13697_ANGELA-S	ANGELA	119.5	79.31
FCN13698_ANGELA-M	ANGELA	119.5	79.31
FCN13704_ANGELA-W	ANGELA	119.5	79.31
FCN13912_ANGELINA-XW	ANGELINA	/	/
FCN14691_ANGELA-XW	ANGELA	119.5	/
FN13323_STELLA-A	STELLA	70	22
FN14074_STELLA-HB	STELLA	90	19.5
FN14253_STELLA-A	STELLA	90	22
FN14637_OLIVIA-S	Olivia	70	22.6
FN14645_STELLA-T4	STELLA	90	26.9
FN14720_STELLA-FRESNEL	STELLA	90	23
FN14828_OLIVIA-M	Olivia	70	22.6
FN14976_STELLA-DWC2	STELLA	90	19.25
FN15186_STELLA-HB	STELLA	90	19.5
FN15187_STELLA-T4	STELLA	90	26.9
FN15188_STELLA-FRESNEL	STELLA	90	23
FP15073_ZORYA-SC-50	Zorya	56	29.1

THERMAL CONSIDERATIONS

The LED module must be operated in environmental conditions where the ambient air temperature does NOT exceed a value which would cause the LEDs to exceed their maximum junction temperature (per the LED Supplier datasheet) or cause the maximum board temperature (Tp) to be exceeded.

A heat sink can be used with the LED module in order to maintain the LED junction temperature and the PCB temperature below their maximum ratings however, the following recommendations should be followed:
•The mounting surface for the LED module must be flat;
•Avoid bending of the PCB to avoid damaging the LEDs and the solder connections;
•Use a thermal interface material between the PCB and the heat sink.

For optimal lifetime performance, the LED module must be placed in an environment where air can flow freely around the luminaire, promoting heat transfer from conduction to the heat sink and from radiation to the air. It is not recommended to expose the module to direct sunlight or any other heat source.

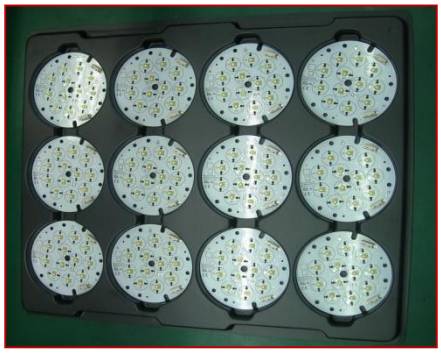
Thermal Measurement

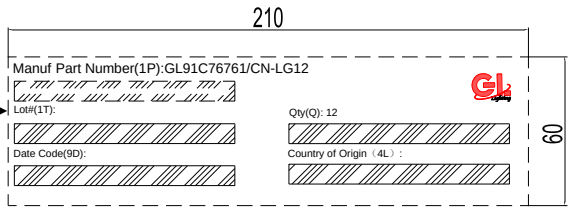
The maximum allowed temperature at the T_P point of the board is 70℃. This temperature is not based on the LM-80 standard but is for warranty purposes only.

Note: All specifications are subject to change without notice.

PACKAGING INFORMATION

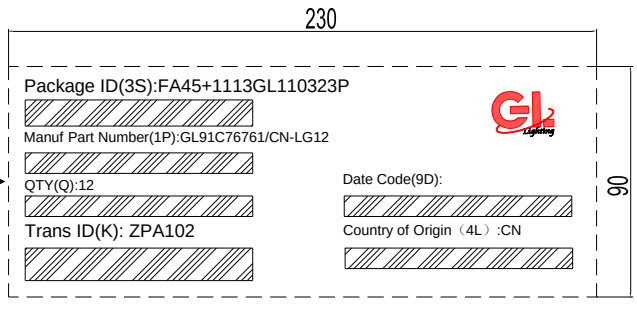
INNER PACKING	SIZE	TRAY	QTY
TYPE	345*295*11mm	1	20

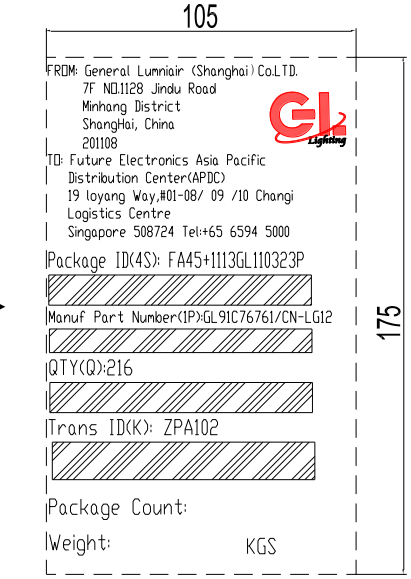




INNER PACKING	SIZE	TRAY	QTY
TYPE 1	350*300*250mm	15	300

PRODUCT LABELLING





Note: All specifications are subject to change without notice.