

## ParaLED AC 36185 Series Datasheet



**ParaLED®**

### Introduction :

Compared with DC LED modules, ParagonLED AC COB(Driver on Board)ParaLED® Series module does not need an external driver so that it is able to enhance lifespan and shows compact dimension.

### Description :

- 120/230VAC
- 11/14/22W
- 70-90 LM/W
- 2700/3000/3500/4000K CCT
- 4500/5000/5700/6500K CCT
- 70/80/90 CRI
- PF>0.85
- Customized available

### Feature and Benefits:

- Driver on Board
- Industry grade solid state components
- Up to 0.5KV Surge protection built-in
- Lifespan>50K hrs TC<105°C
- Lowest thermal resistance



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## General Information

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### Ordering Code Format

<u>C</u>	<u>B</u>	<u>AC</u>	-	<u>xx</u>	-	<u>36</u>	<u>185</u>	-	<u>yyyV</u>	-	<u>zzzz</u>
1	2	3		4		5	6		7		8
									120V		2700
									230V		3000
											3500
											4000
											4500
											5000
											5700
											6500

- 1 . Model type
- 2 . Chip efficacy
- 3 . Driving condition
- 4 . Numbers of chips
- 5 . Outline dimension
- 6 . Dimension of emission area
- 7 . Forward voltage (AC)
- 8 . Correlated color temperature (K)



## Characteristics

Parameter	Symbol	Value	Unit
Forward Voltage	V <sub>F</sub>	120/230	VAC
Forward Voltage	V <sub>F</sub>	±10%	VAC
Operation Frequency	F <sub>op</sub>	50/60	Hz
Power Dissipation	P <sub>D</sub>	11/14/22	W
Operating Temperature	T <sub>op</sub>	-40 ~ +105	°C
Storage Temperature	T <sub>st</sub>	-40 ~ +105	°C
Surges Protection(L/N)	V <sub>s</sub>	0.5	KV
Insulation voltage	Viso[RMS]	120V:1240 / 230V:1460	VAC
Power Factor	PF	>0.85	
Color coordination	ANSI C78.377:2008	IEC 60081:1997	

ANSI CCT	step*	C <sub>x</sub>	C <sub>y</sub>
2700K	3	0.458	0.410
3000K	3	0.434	0.403
3500K	3	0.407	0.392
4000K	3	0.382	0.380
4500k	3	0.361	0.366
5000K	3	0.345	0.355
5700k	5	0.329	0.342
6500K	5	0.312	0.328

\*Color region stay within MacAdam ellipse from the chromaticity center.

IEC CCT	step*	C <sub>x</sub>	C <sub>y</sub>
2700K	3	0.463	0.420
3000K	3	0.440	0.403
3500K	3	0.409	0.394
4000K	3	0.380	0.380
5000K	3	0.346	0.359
6500K	5	0.313	0.337

\* Color region stay within MacAdam ellipse from the chromaticity center.

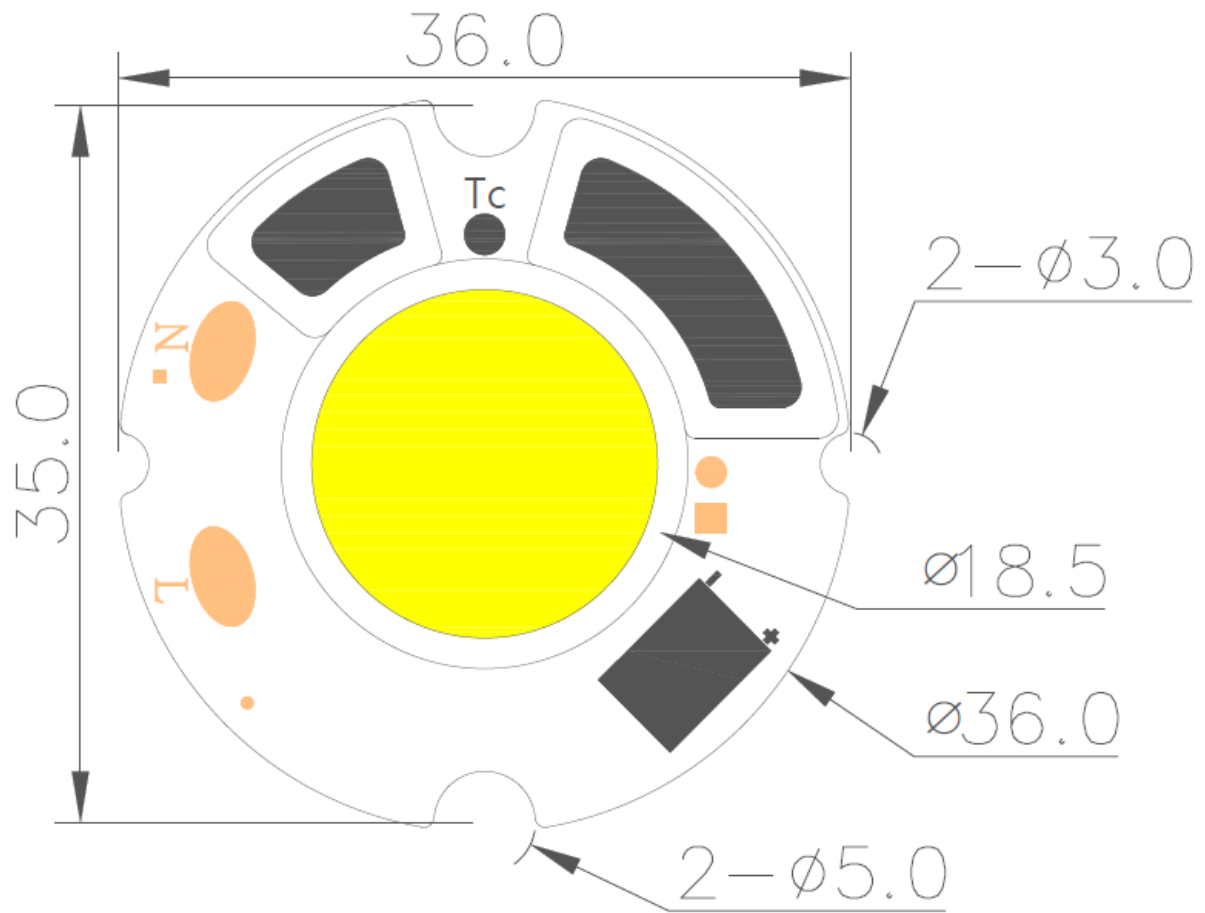


## Luminous Flux Characteristic

Product No	Forward Voltage	Watt	lm/W	Lumen	Color rendering	Color Temperature
CBAC-042-36185-120V-2700	120V	11	80	880	80	2700
CBAC-042-36185-120V-2700	120V	11	70	770	90	2700
CBAC-042-36185-120V-3000	120V	11	80	880	80	3000
CBAC-042-36185-120V-3000	120V	11	70	770	90	3000
CBAC-042-36185-120V-5000	120V	11	90	990	70	5000
CBAC-042-36185-120V-5000	120V	11	80	880	80	5000
CBAC-042-36185-120V-2700	120V	14	80	1120	80	2700
CBAC-042-36185-120V-2700	120V	14	70	980	90	2700
CBAC-042-36185-120V-3000	120V	14	80	1120	80	3000
CBAC-042-36185-120V-3000	120V	14	70	980	90	3000
CBAC-042-36185-120V-5000	120V	14	90	1260	70	5000
CBAC-042-36185-120V-5000	120V	14	80	1120	80	5000
CBAC-084-36185-120V-2700	120V	22	80	1760	80	2700
CBAC-084-36185-120V-2700	120V	22	70	1540	90	2700
CBAC-084-36185-120V-3000	120V	22	80	1760	80	3000
CBAC-084-36185-120V-3000	120V	22	70	1540	90	3000
CBAC-084-36185-120V-5000	120V	22	90	1980	70	5000
CBAC-084-36185-120V-5000	120V	22	80	1760	80	5000
CBAC-083-36185-230V-2700	230V	11	80	880	80	2700
CBAC-083-36185-230V-2700	230V	11	70	770	90	2700
CBAC-083-36185-230V-3000	230V	11	80	880	80	3000
CBAC-083-36185-230V-3000	230V	11	70	770	90	3000
CBAC-083-36185-230V-5000	230V	11	90	990	70	5000
CBAC-083-36185-230V-5000	230V	11	80	880	80	5000
CBAC-083-36185-230V-2700	230V	14	80	1120	80	2700
CBAC-083-36185-230V-2700	230V	14	70	980	90	2700
CBAC-083-36185-230V-3000	230V	14	80	1120	80	3000
CBAC-083-36185-230V-3000	230V	14	70	980	90	3000
CBAC-083-36185-230V-5000	230V	14	90	1260	70	5000
CBAC-083-36185-230V-5000	230V	14	80	1120	80	5000
CBAC-083-36185-230V-2700	230V	22	80	1760	80	2700
CBAC-083-36185-230V-2700	230V	22	70	1540	90	2700
CBAC-083-36185-230V-3000	230V	22	80	1760	80	3000
CBAC-083-36185-230V-3000	230V	22	70	1540	90	3000
CBAC-083-36185-230V-5000	230V	22	90	1980	70	5000
CBAC-083-36185-230V-5000	230V	22	80	1760	80	5000



## Mechanical Dimensions

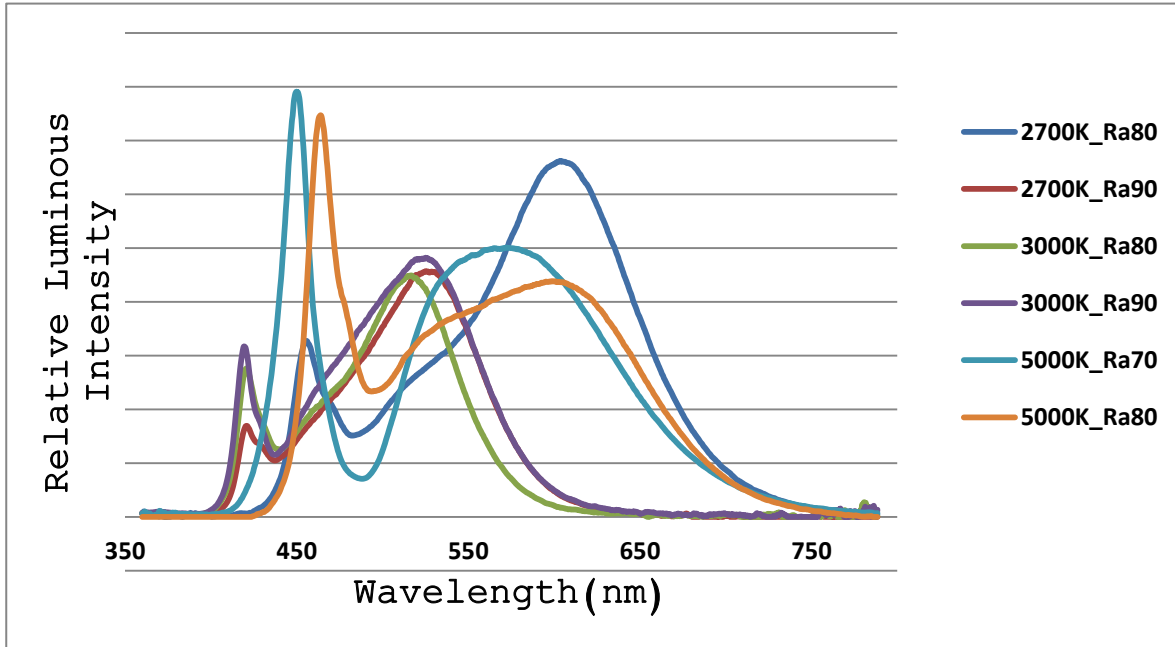


1. All dimensions are measured in mm.
2. Tolerance :  $\pm 0.2\text{mm}$
3. Thickness:  $1.0\pm 0.1\text{mm}$

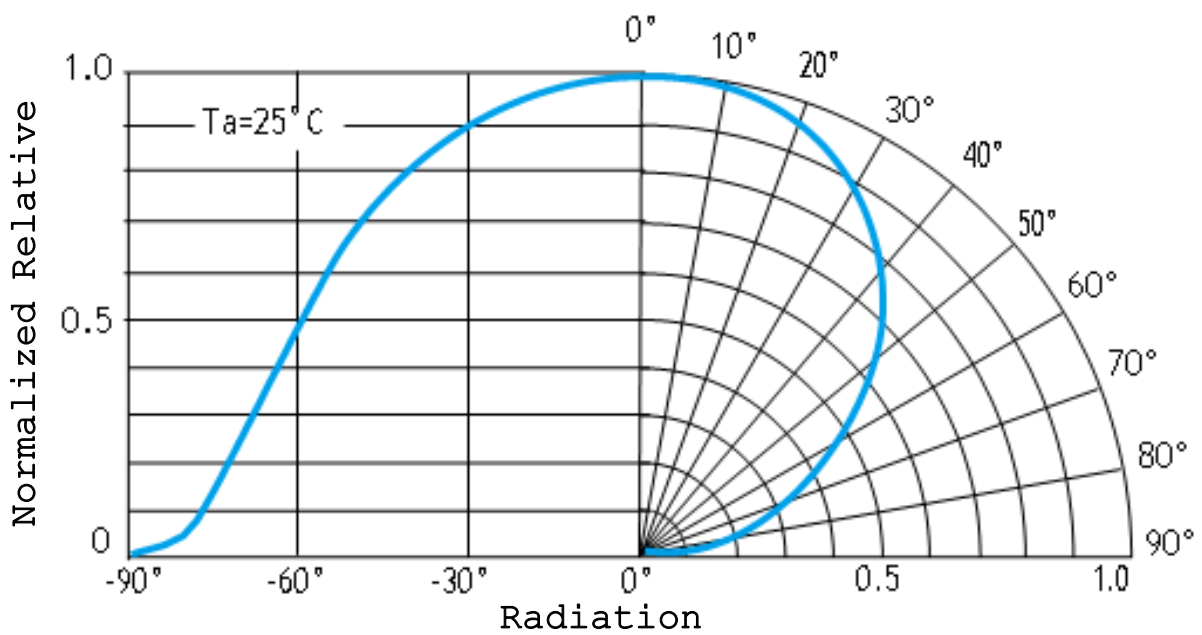


## Characteristic curve

### Color Spectrum

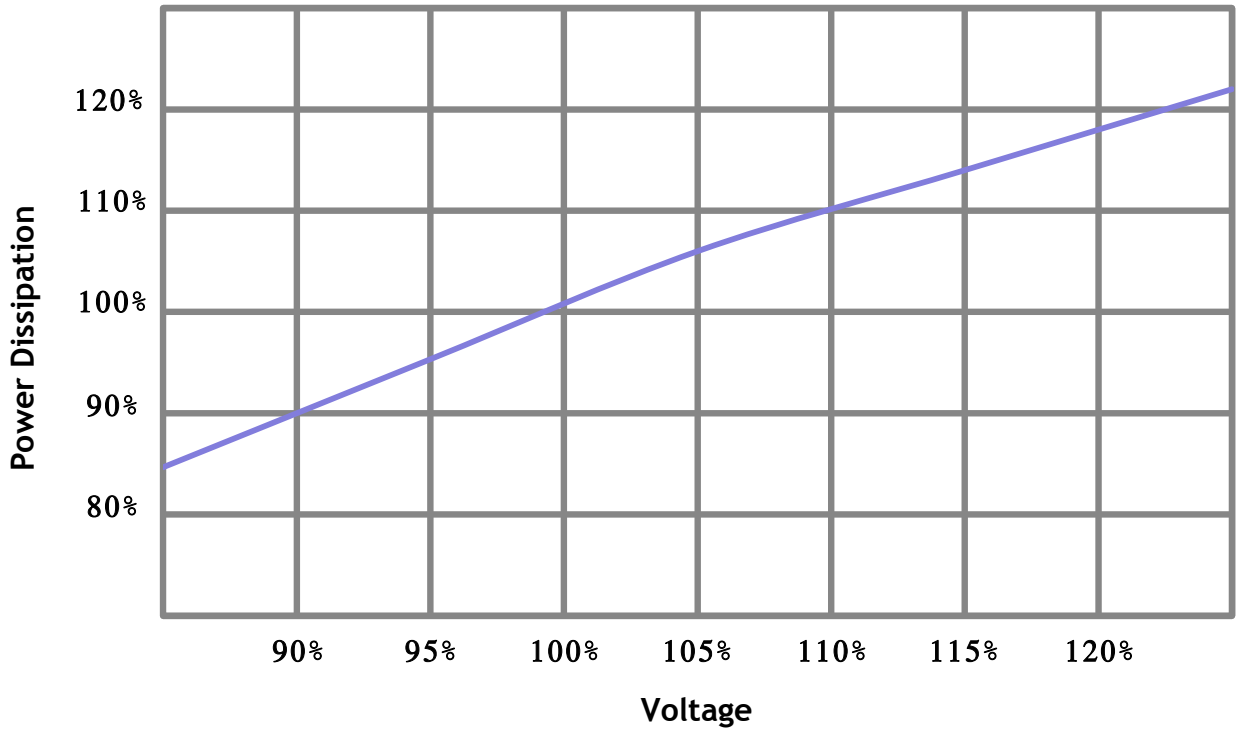


### Beam Pattern

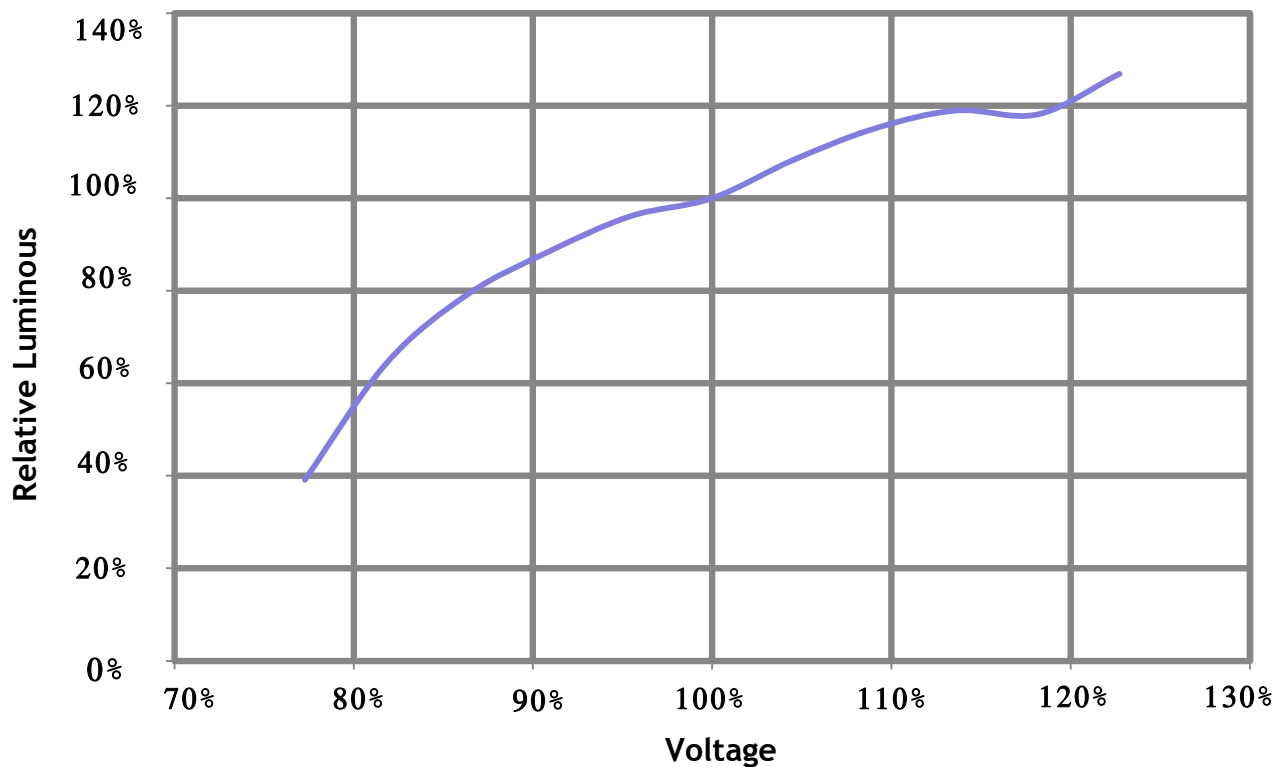


## Characteristic curve

### Power Dissipation vs. Voltage



### Relative Luminous Flux vs. Voltage





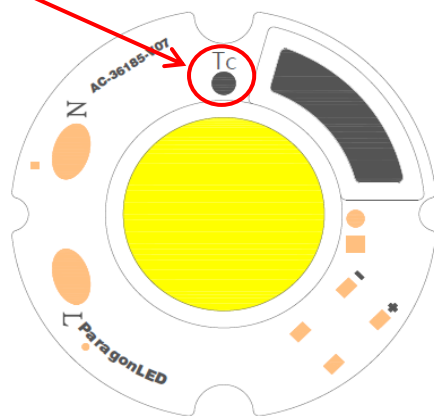
## Reliability

No.	Test Item	Test Condition	Remark
1	Temperature Cycle	-40°C~100°C ( 30 mins / 30 mins )	100 Cycle
2	Low-Temperature Storage	Ta= -40°C	1000 hrs
3	High-Temperature Storage	Ta=105°C	1000 hrs
4	High Temperature High Humidity Life test	Ta=85°C, RH=85%	500 hrs
5	High Temperature Operation Life test	Tc = 55°C / 85°C / 105°C	9000 hrs
6	ON/OFF Test	3 sec ON, 3 sec OFF	2Million times

Ta : Temperature Ambient

RH : Relative Humidity

Tc Point

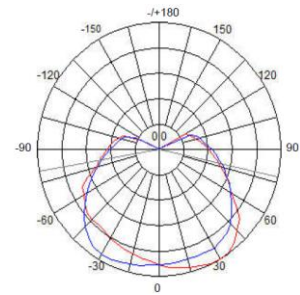
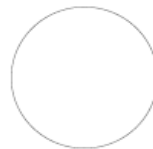
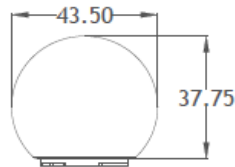


## Accessory

### Accessories

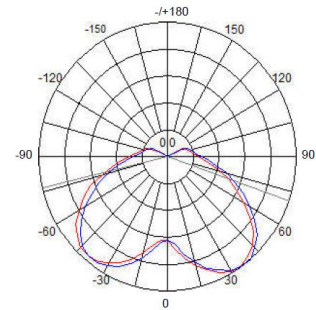
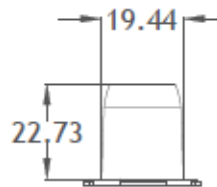
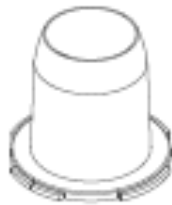
#### Bulb diffuser -270°

Dimensions (ØxH): 43.50x37.75mm



#### Light guide column-270°

Dimensions (LxH): 19.44x22.73mm



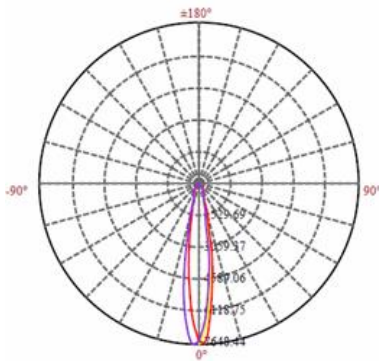
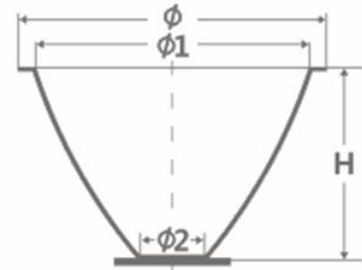
## Accessory

### Accessories

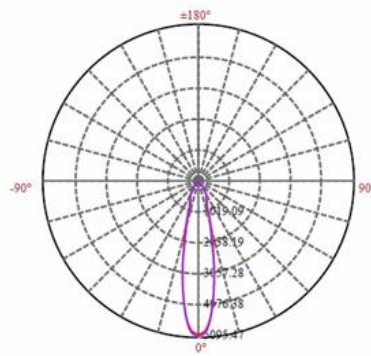
#### Reflective cup

Dimensions :mm

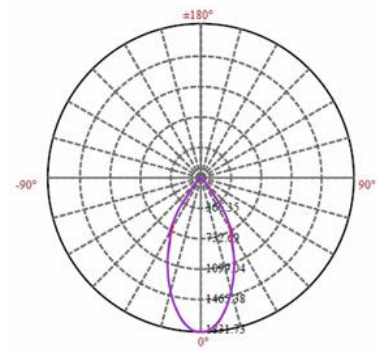
NO.	Holder	Ø	Ø1	Ø2	H	Notice		
2-1429-E	H48185AC	75.0	70.0	20.0	43.0	18°		
2-1430-E			68.4			23°		
2-1431-E		85.0	81.0		51.0	50°		
3-1806-E						14°		
4-2102-E					111.0	100.0	65.0	12°
4-2103-E							24°	



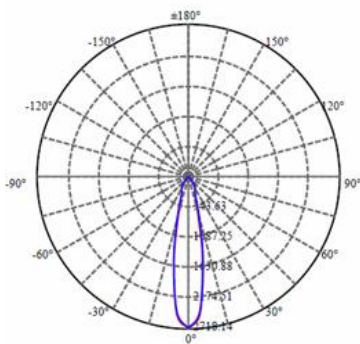
2-1429-E



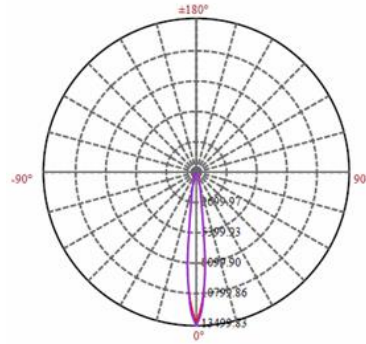
2-1430-E



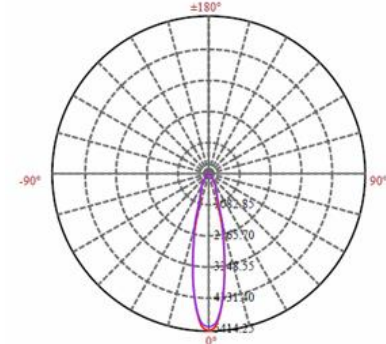
2-1431-E



3-1806-E



4-2102-E



4-2103-E



## Accessory

### Thermal Pad

Thermal pad applied for:

Gray : 1.5W/mk

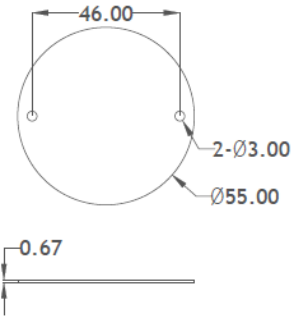
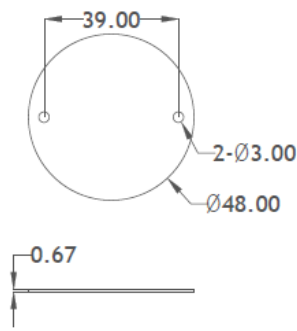
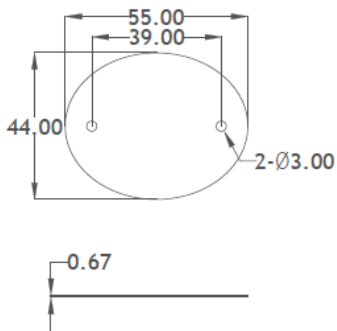
Yellow : 3W/mk

Blue : 5W/mk

Dimensions (LxWxH): 55x44x0.67mm

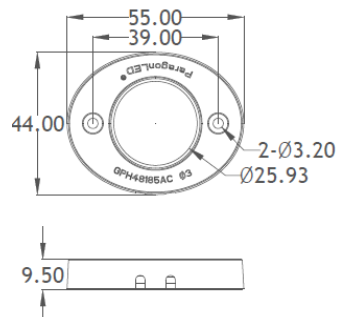
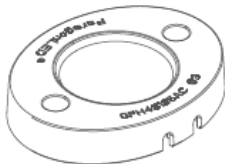
Dimensions (ØxH): 48x0.67mm

Dimensions (ØxH): 55x0.67mm

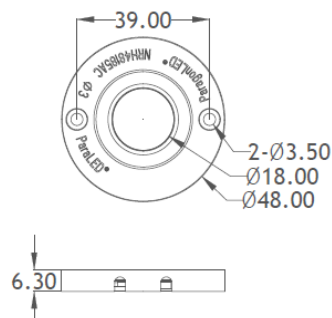


### Protection ring

Dimensions (LxWxH): 55x44x9.50mm  
NO.GPH48185AC Ø3 (with glass)



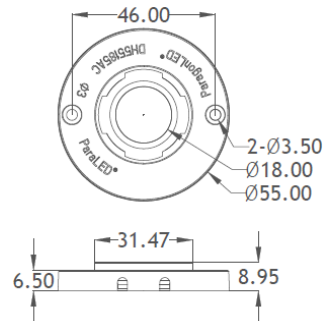
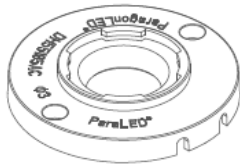
Dimensions (ØxH): 48x6.30mm  
NO.NRH48185AC Ø3



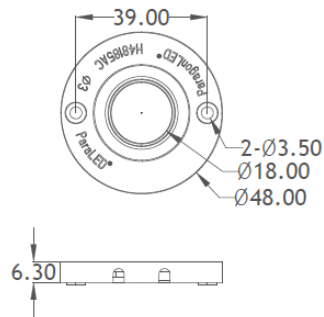
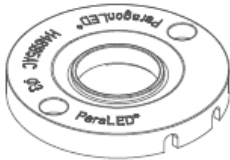
## Accessory

### Protection ring

Dimensions (ØxH): 55X8.95mm  
NO.DH55185AC Ø3



Dimensions (ØxH): 48X6.30mm  
NO.H48185AC Ø3



## Assembly Notes

Screw M3  
Mounting screws  
with 0.4N.m

ParagonLED  
COB Module

Thermal Pad  
Thickness:0.67mm  
Thermal  
Dielectric Breakdown  
Voltage>4kv  
UL-94-V0

Heat Sink



## Assembly Notes

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### Correct

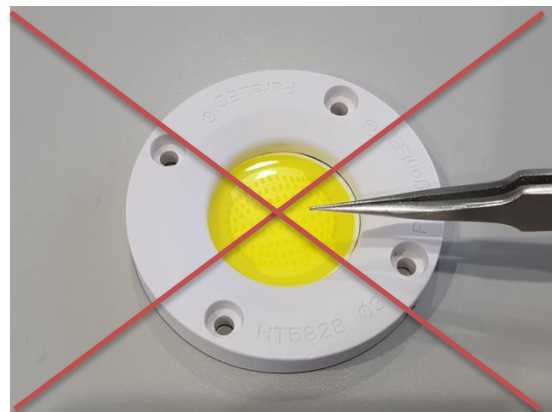
Recommended to use antistatic gloves



### Wrong



Do not touch the emitting area



Do not touch the emitting area



## About ParagonLED

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Established in 2008, Paragon Semiconductor Lighting Technology Co., Ltd. (ParagonLED®) has been devoted to be a comprehensive supplier of COB LED products. Our product lines include 1.AC LED module 2.Thermal management integration 3.Optical integration 4.AI integration 5.Constant power module series. We have been addressed ourselves to provide good quality products to satisfy clients' needs. Meanwhile we are not in a standstill situation, but keep pursuing progression and innovation.

ParagonLED® pride ourselves on our products, so we have overall arrangement in patent; the total applied patents have been reached 135 items until now. Our manufacturing techniques are also patented by many countries, and we still keep moving forward. Meanwhile we supply good quality products with good performance on CRI and efficiency (lm/w), and strictly controlled CCT.

In ParagonLED®, we do not only supply products, but also provide technical recommendations. What's more, we are more than willing to solve problems with clients together. Hence ParagonLED® and our clients can work together to supply reliable and qualified products to end users!

Devote ourselves to bring more added-value to clients

→Direct Marketing + Localized operation

We have offices in Taiwan, in DongGuan, China, so that we can deal with enquiries directly. Also with agents in many different countries, we and they are able to take care of clients on local basis.

→ Fast delivery

With the manufacturing site located in New Taipei City Linkou, Taiwan, we have different yet convenient transportation ways to reach the world.

→Customized service

Through professional and experienced research and development techniques, we provide customized products that can be tailored to different requirements.

