

Shanghai Evergreen New Energy Science & Technology Inc.



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P1-P6



Street Lighting
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LED Lamp source



ADVANTAGES OF LED LAMP SOURCE

Ultra-long Life: more than 50 thousand hours life

High Efficiency & Energy-saving: saving more than 40 percent power compared with traditional HPS & HPM

Remarkable Quality: Outstanding design idea with advanced equipments provides a top level LED lighting both home and abroad.

Green Environmental protection: Comply with Rohs, be free of Pb and Hg, and no pollution to the environment.

ADVANTAGE OF LED ROAD LIGHTING

Operation cost Comparison between HPS and LED

Annual electricity consumption(kwh)			
HPS(150W) :	683	HPS(250W):	1116
LED(80W) :	330	LED(135W):	582
Annual electricity cost (RMB)			
HPS(150W) :	683	HPS(250W):	1116
LED(80W) :	330	LED(135W):	582
Annual maintenance charges (RMB)			
HPS(150W) :	300	HPS(250W):	300
LED(80W) :	0	LED(135W):	0
Total annual cost (RMB)			
HPS(150W) :	983	HPS(250W):	1416
LED(80W) :	330	LED(135W):	582

Annual electricity consumption(kwh)	
HPS(400W) :	1807
LED(180W) :	723
Annual electricity cost (RMB)	
HPS(400W) :	1807
LED(180W) :	723
Annual maintenance charges (RMB)	
HPS(400W) :	300
LED(180W) :	0
Total annual cost (RMB)	
HPS(400W) :	2107
LED(180W) :	723

Operation cost comparison between HPS and LED(1KM road installation, 5 years operation)

Items	Lighting installation		58 fixtures /KM (Double sides symmetrically installation with spacing 35M)		58 fixtures /KM (Double sides symmetrically installation with spacing 35M)	
	34 fixtures /KM (Single side with spacing of 30M)		HPS(250W)	LED(135W)	HPS(400W)	LED(180W)
Lamp source	HPS(150W)	LED(80W)	HPS(250W)	LED(135W)	HPS(400W)	LED(180W)
Lighting fixtures cost (10,000RMB)	3.06	12.92	9.28	36.54	11.02	49.30
Wiring & transformer cost (10,000RMB)	11.50	8.00	15.50	10.00	17.30	12.50
5 years electricity cost (10,000RMB)	11.60	5.80	32.37	16.88	52.40	21.19
Maintenance and inspection charges (10,000RMB)	5.10	0	8.70	0	8.00	0
Total cost (10,000RMB)	31.26	26.72	65.85	63.42	88.72	82.99
5years LED saving cost (10,000RMB)	4.54		2.43		5.73	

LED Lamp source



FEATURE OF LED ROAD LIGHTING

1, Imported high power LED lamp source with module of 1W or 5W is adopted, luminous efficiency $>90\text{Lm/w}$, long life with excellent stability and consistency, extensive range of color temperature (4300K-6200K), color rendering index $Ra \geq 70$

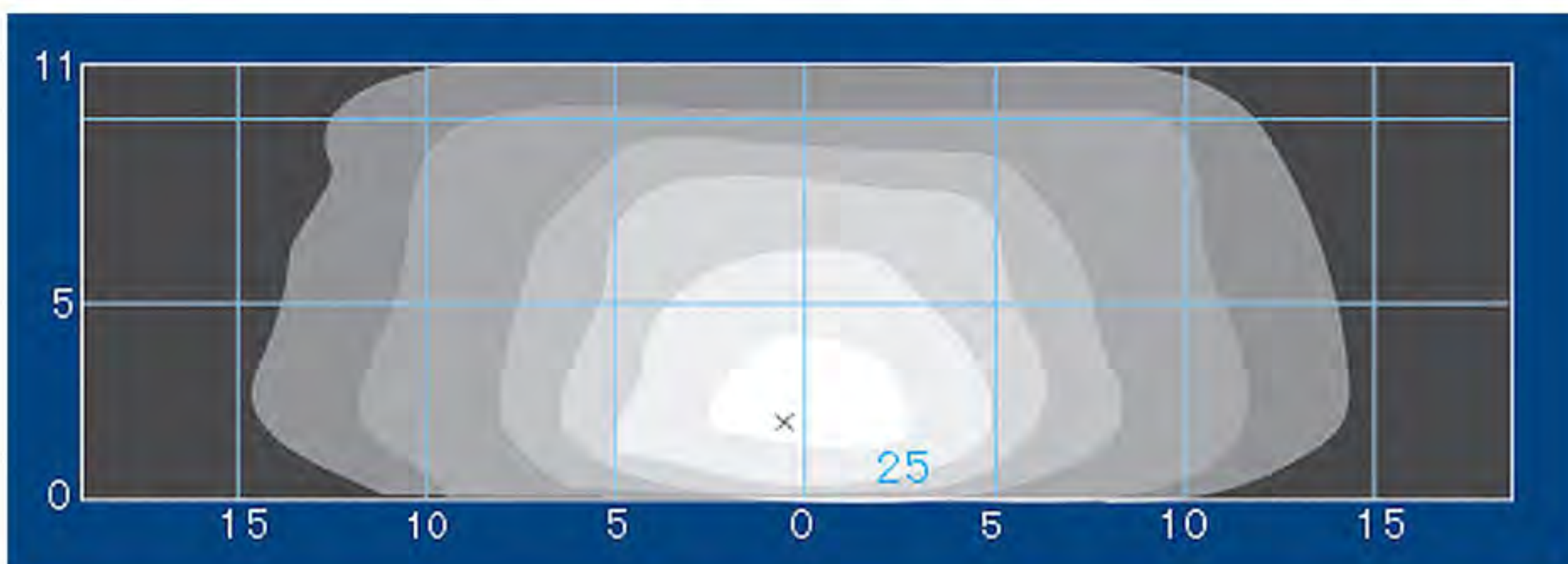
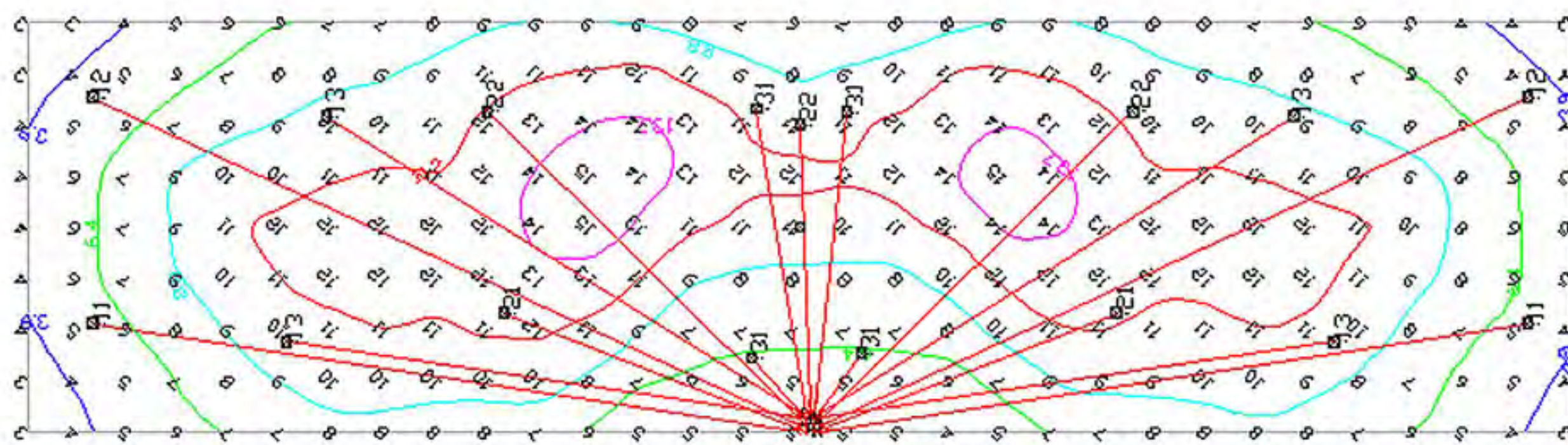
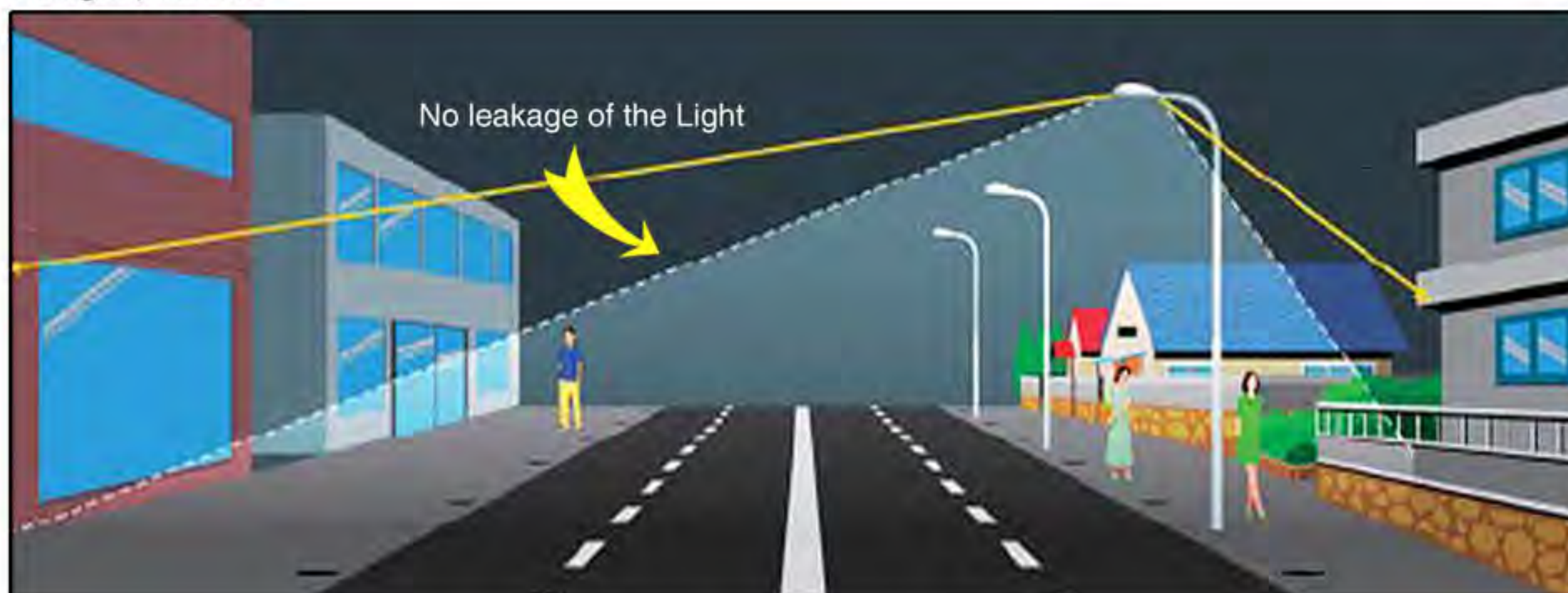
2, Optical compartment IP65. The attenuation for LED lamp is less than 3% for each year. Its life span is up to 10 years and free of maintenance, can be adapted to wretched working environment.

3, Patented secondary optical design is adopted with entire luminous efficiency up to 65Lm/w . Its cooperate light curve shows a shape of bat's wing, uniformity of illuminance up to 0.5, uniformity of luminance up to 0.6, which makes our products meet the requirement of road lighting.

4, Precision aiming technique can effectively control the direction of light rays, free of light pollution, improve the utilization, especially suitable for the roads surrounded with business and residential area. We can make scientific, reasonable design according to actual situation.

5, LED driver adopt integrated circuit which provides separate control, wide voltage working, with (AC-DC) conversion efficiency up to 89%, power factor up to 0.95

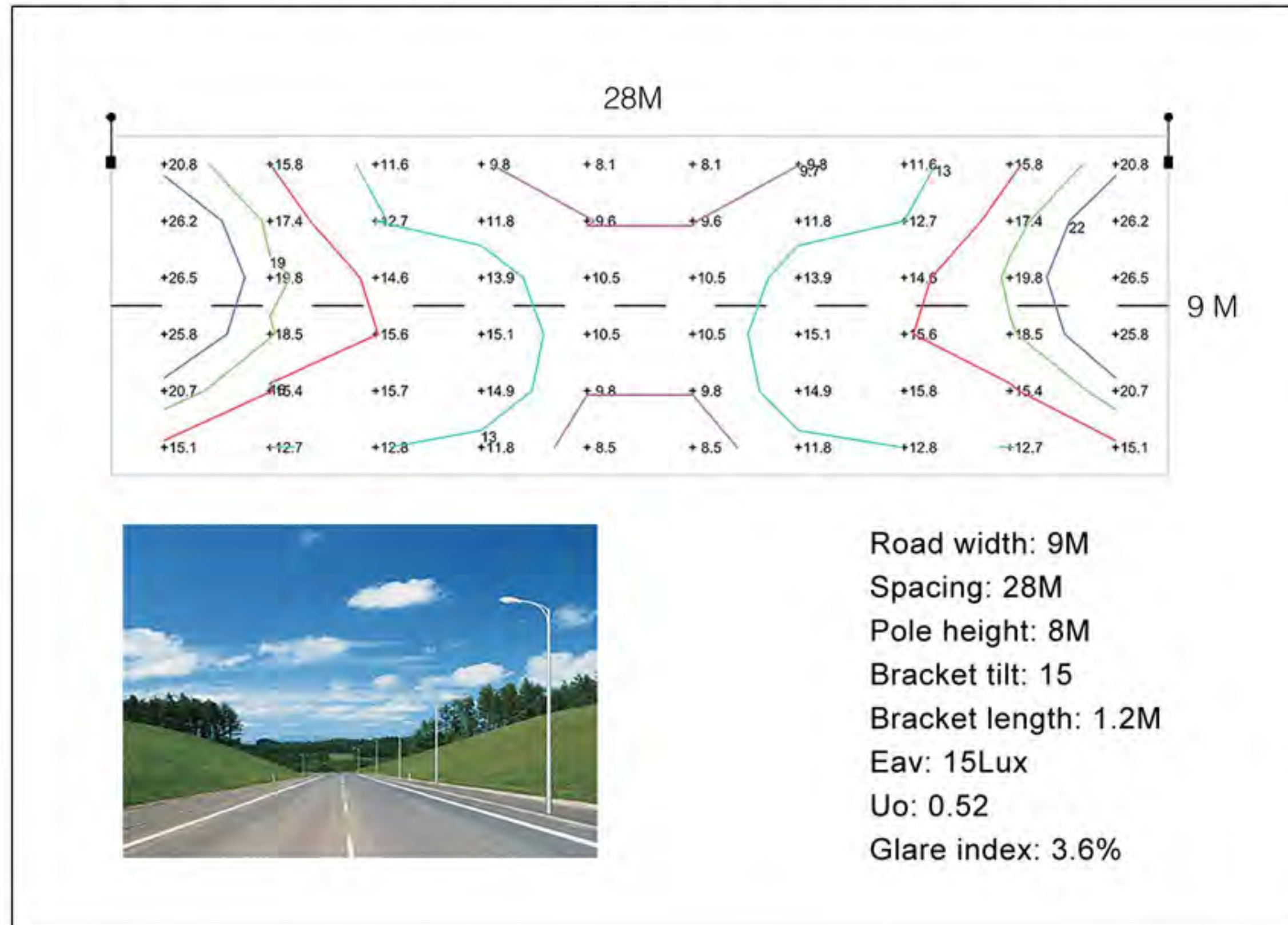
No light pollution



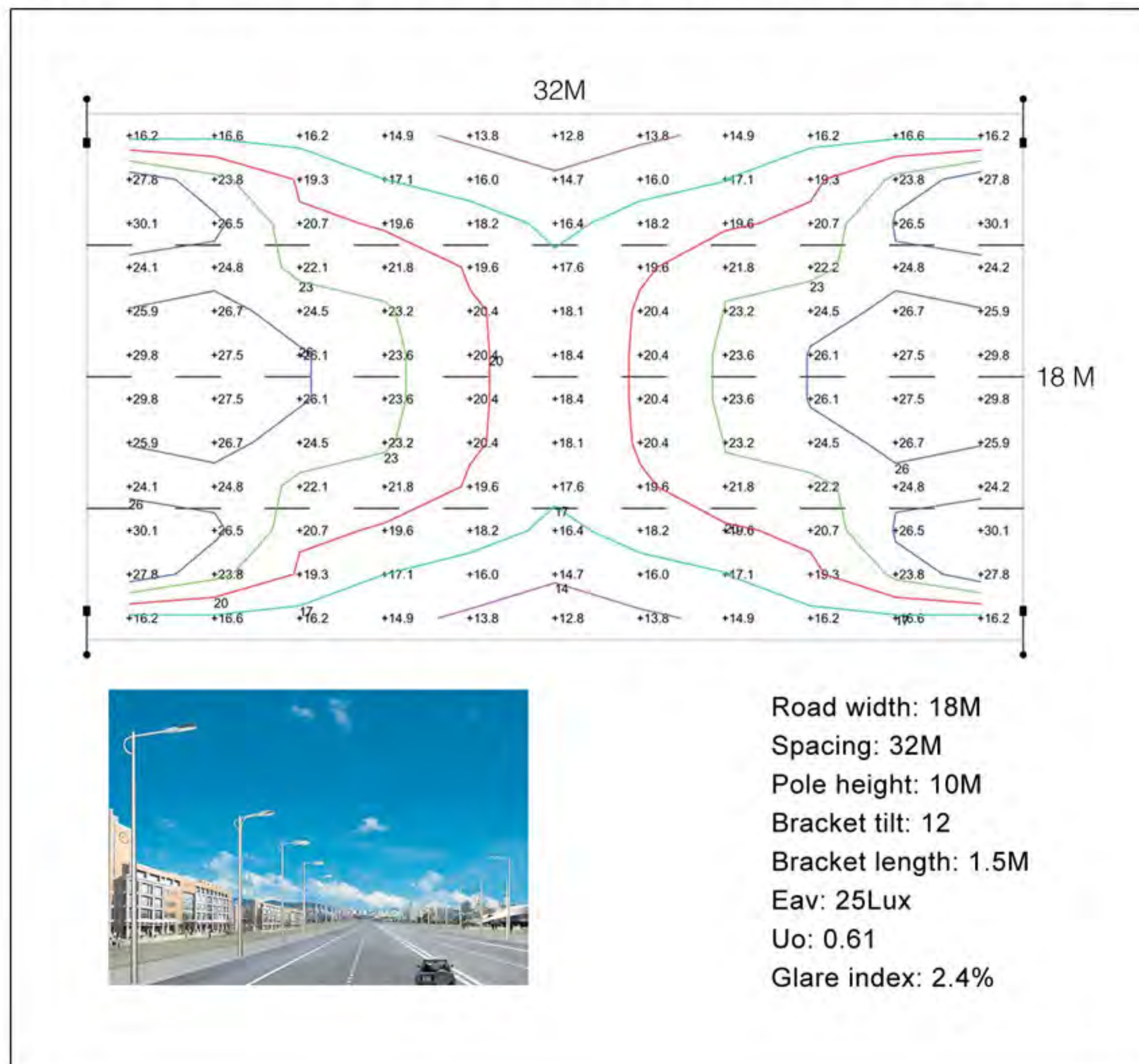
LED Lamp source



Typical scheme for 80W LED road lighting (single side) (single side)



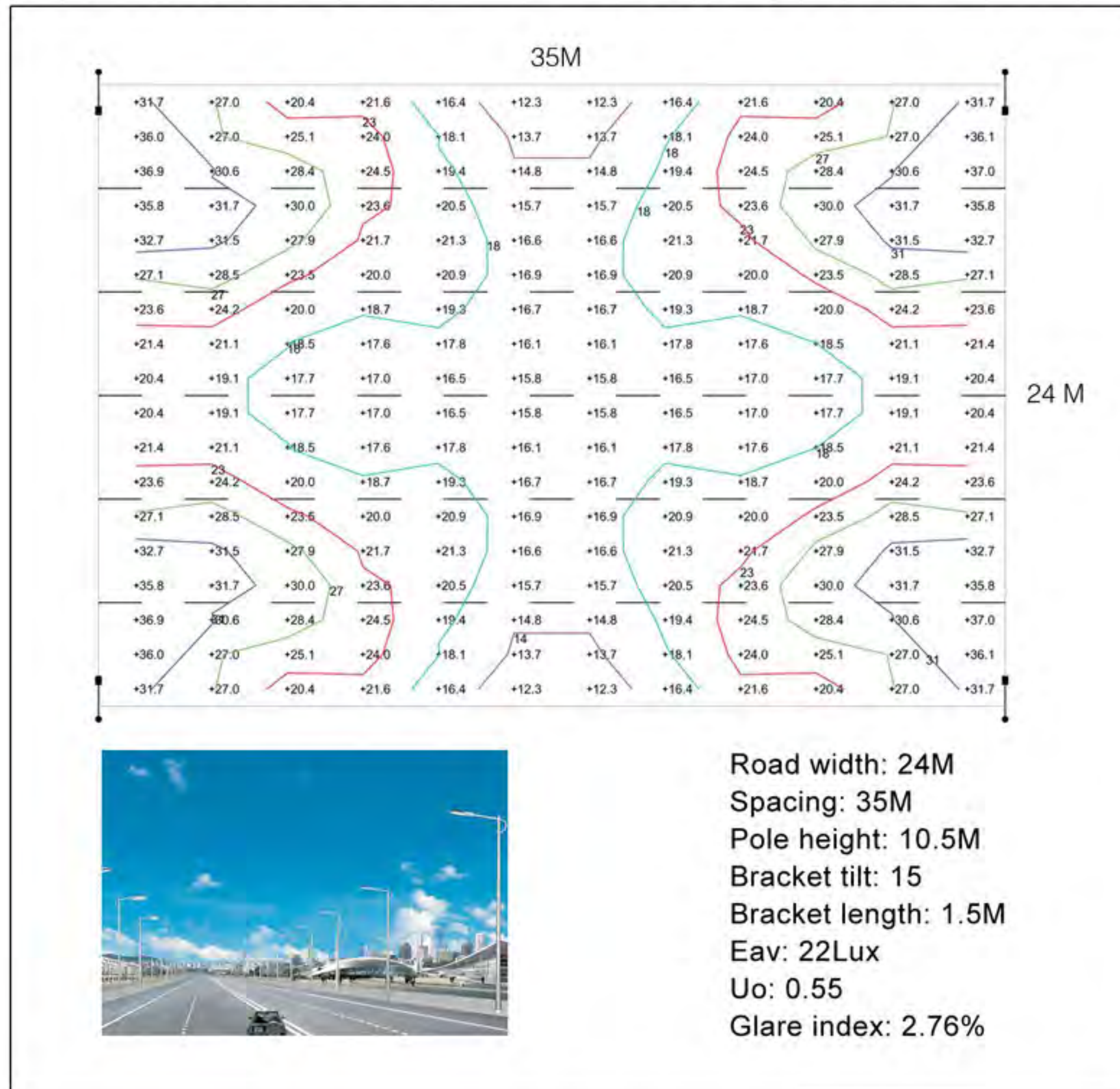
Typical scheme for 135W LED road lighting (Symmetrical double sides) (Symmetrical double sides)





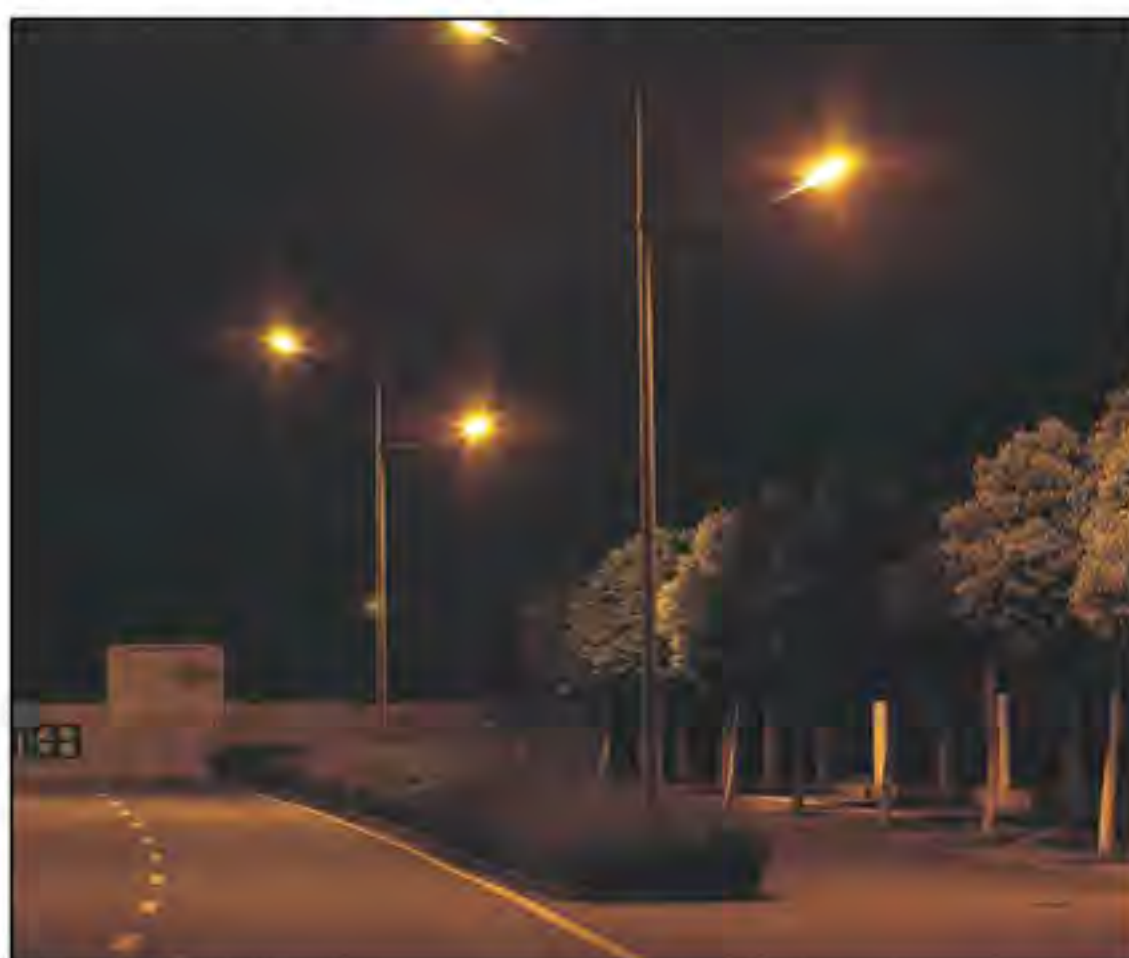
LED Lamp source

Typical scheme for 180W LED road lighting (Symmetrical double sides)



ADVANTAGES ON VISUAL DISTINCTION OF LED LAMP SOURCE

HPS illuminance (30–40 Lux)



With high power consumption, HPS provides enough brightness, but poor in color rendering and visual distinction at long distance which results in inferiority compared with white light for the pedestrians and drivers

LED illuminance (15–20 Lux)



LED lamp source with white light provides illuminance up to 15Lux, is excellent in color rendering, and ensures a better visual distinction at long distance and a safe road illumination environment for both pedestrians and drivers. With strong directionality, LED lighting source can effectively reduce the leakage of the light.

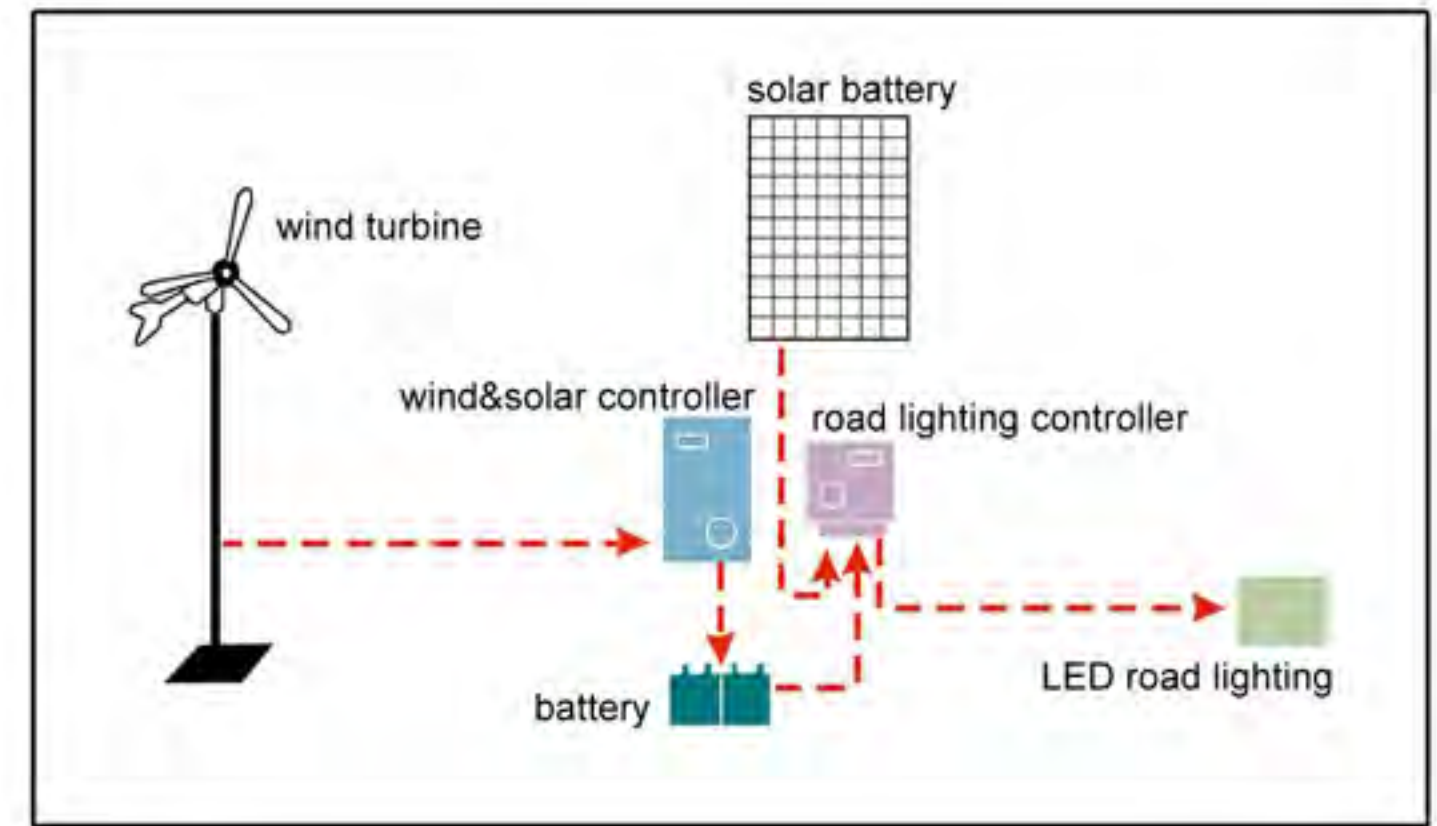
LED Lamp source



LED WIND/SOLAR HYBRID SYSTEM ROAD LIGHTING



The major advantage of solar/wind hybrid system is that when solar and wind power production are used together with LED road lighting consuming less energy, the reliability of the system is enhanced. Additionally, the size of battery storage can be reduced slightly as there is less reliance on one method of power production. Often, when there is no sun, there is plenty of wind. And the long life of LED lamp is much more economical.



Comparison between traditional road lighting and wind/solar hybrid system road lighting

Description	Traditional	Hybrid system	Notes
Pole Height	6-12m	6-12m	
Lamp source	HPS	High power LED	
Lamp source life	8000-10000 hours	50,000 hours	
Power supply	transformer substation supply	wind/solar hybrid system supply	
Each road lighting average electricity consumption(EX.250W)	about 1200KWH	No electricity need	Calculation by light on 11 hours per day including the gear wastage
Maintenance cost per year	330RMB	100RMB	Including lamp change, wiring maintenance, cleaning...
Cabling and infrastructure	Cabling channel and power distributor	No transmission wiring and equipment, no wiring construction	
Solar panel and wind turbine	N/A	Normal solar panel and wind turbine	Life above 10 years
Battery	N/A	Battery	Life above 5 years
the cost of road lighting and power	about 10,000-15,000RMB per road lighting	About 12,000-22,000RMB	Including pole, road lighting control, power supply and construction

WIND/SOLAR HYBRID SYSTEM ROAD LIGHTING APPLICATION SCHEME



1. Design Basic

The area where the average wind speed > 3.5m/s
 The area where the solar energy available, the energy grade > 2

2. Road Lighting Function Description

Switch on time easily controlled
 135W LED road lighting switched on by photocell, after 6-8 hours switched off time controller.
 Reliability: System can normally supply power for 3 days without wind & solar energy compensation.
 Structure: Pole height 11M, lighting height 9M



LED STREET LIGHTING

	SEG-LED-01(135W)	8
	SEG-LED-01B(80W)	9
	SEG-LED-02(45W~80W)	10
	SEG-LED-03(80W)	11
	SEG-LED-07(180W)	12

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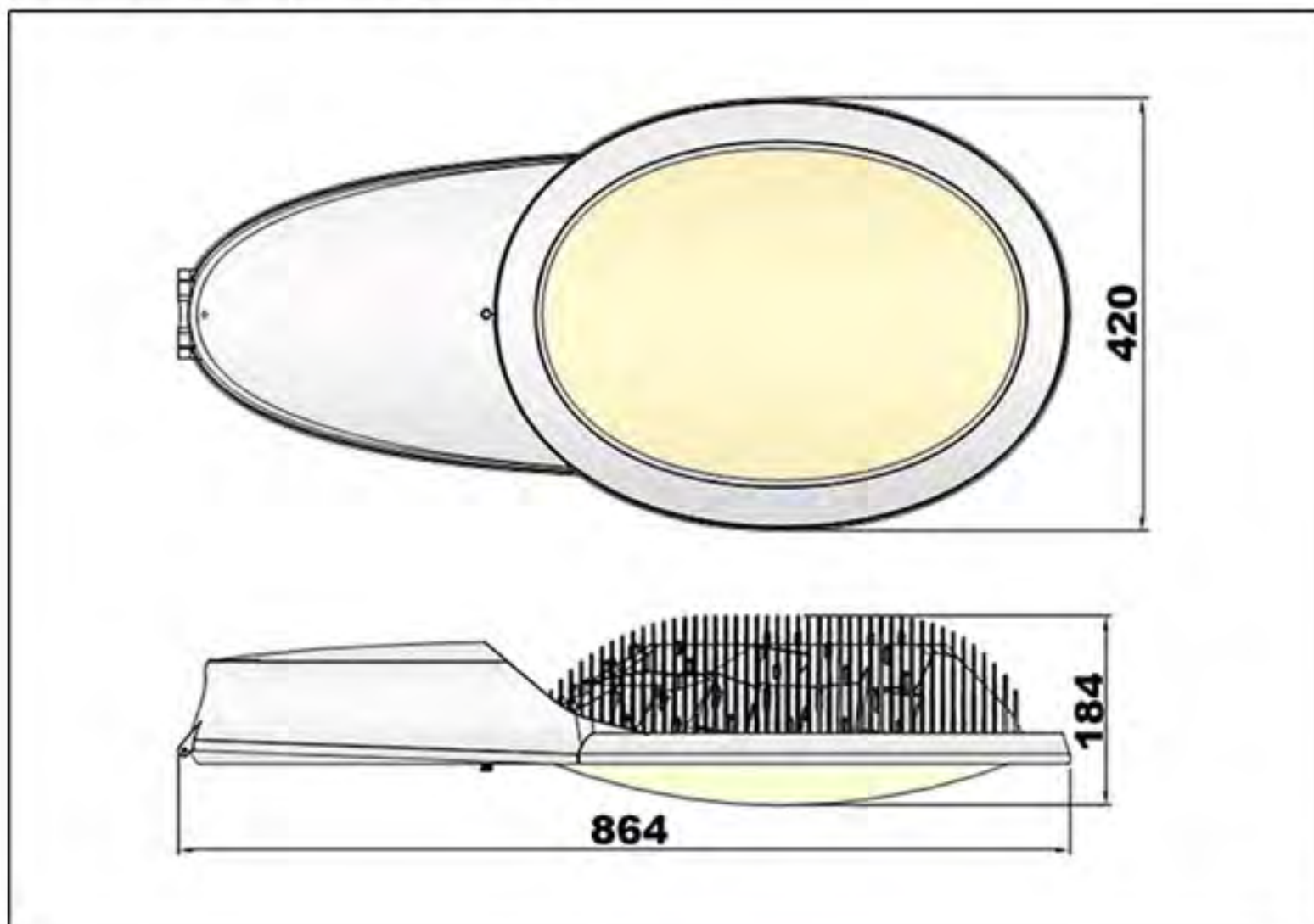
SEG-LED-01 (135W)

- Body: Pressure die-casting aluminium.
- Reflector: Anodized and sealed single piece high purity aluminium plate.
- Lens: High transparent 5mm toughened glass and optical grade PMMA
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: -30°C ~ +50°C
- Input: 90-260V 50/60HZ
- Weight: 12.85Kgs.

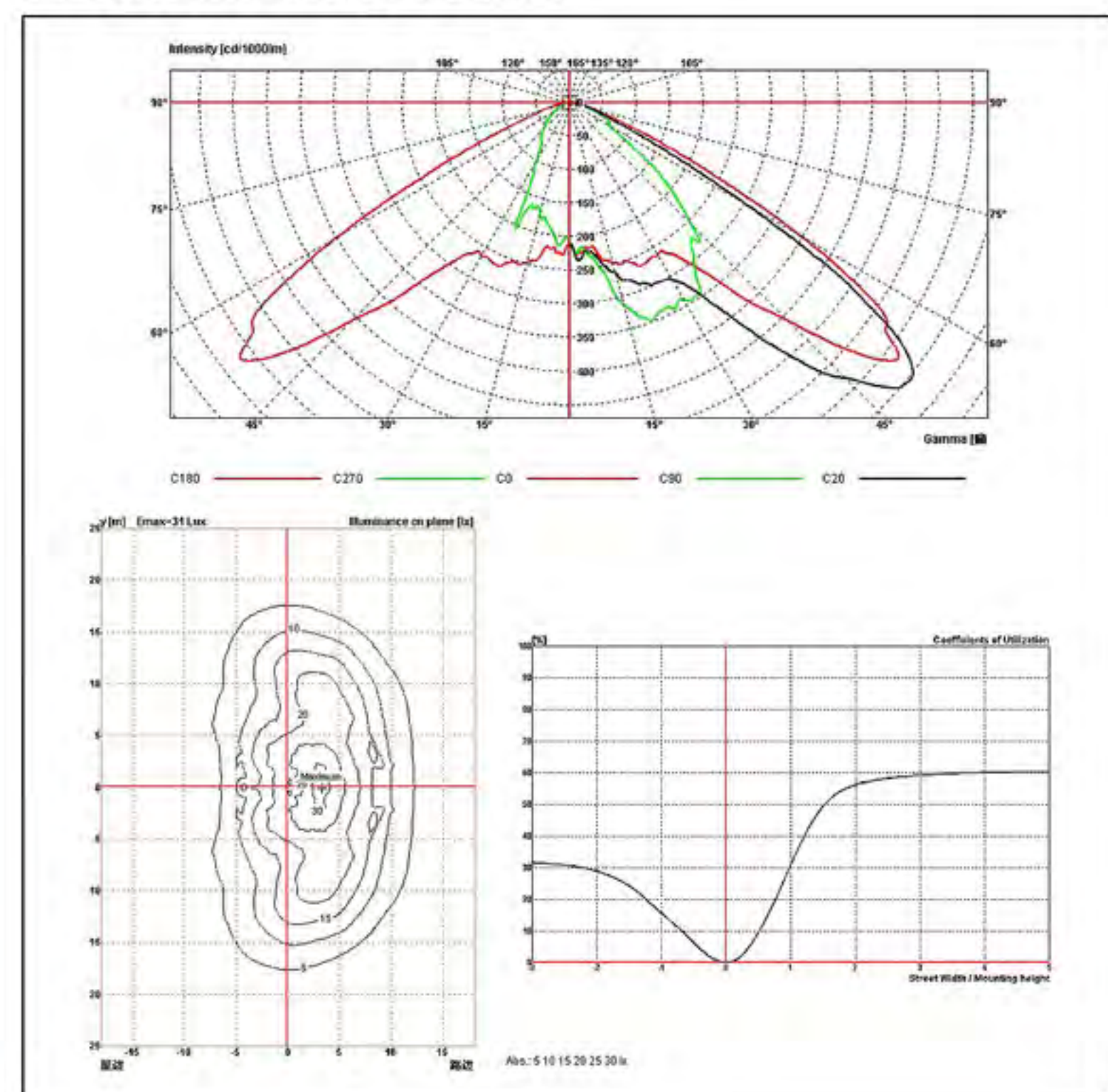
Feature:

- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (4300K-6200K), CRI ≥ 70 ;
- 2, Unique designed optical structure and cooling device to ensure the high efficient and reliable performance;
- 3, Easily and safety maintenance; Superior life over other lamp sources;
- 4, Suitable for the road: the width within 20M, 4 lanes.

DIMENSIONS(MM)

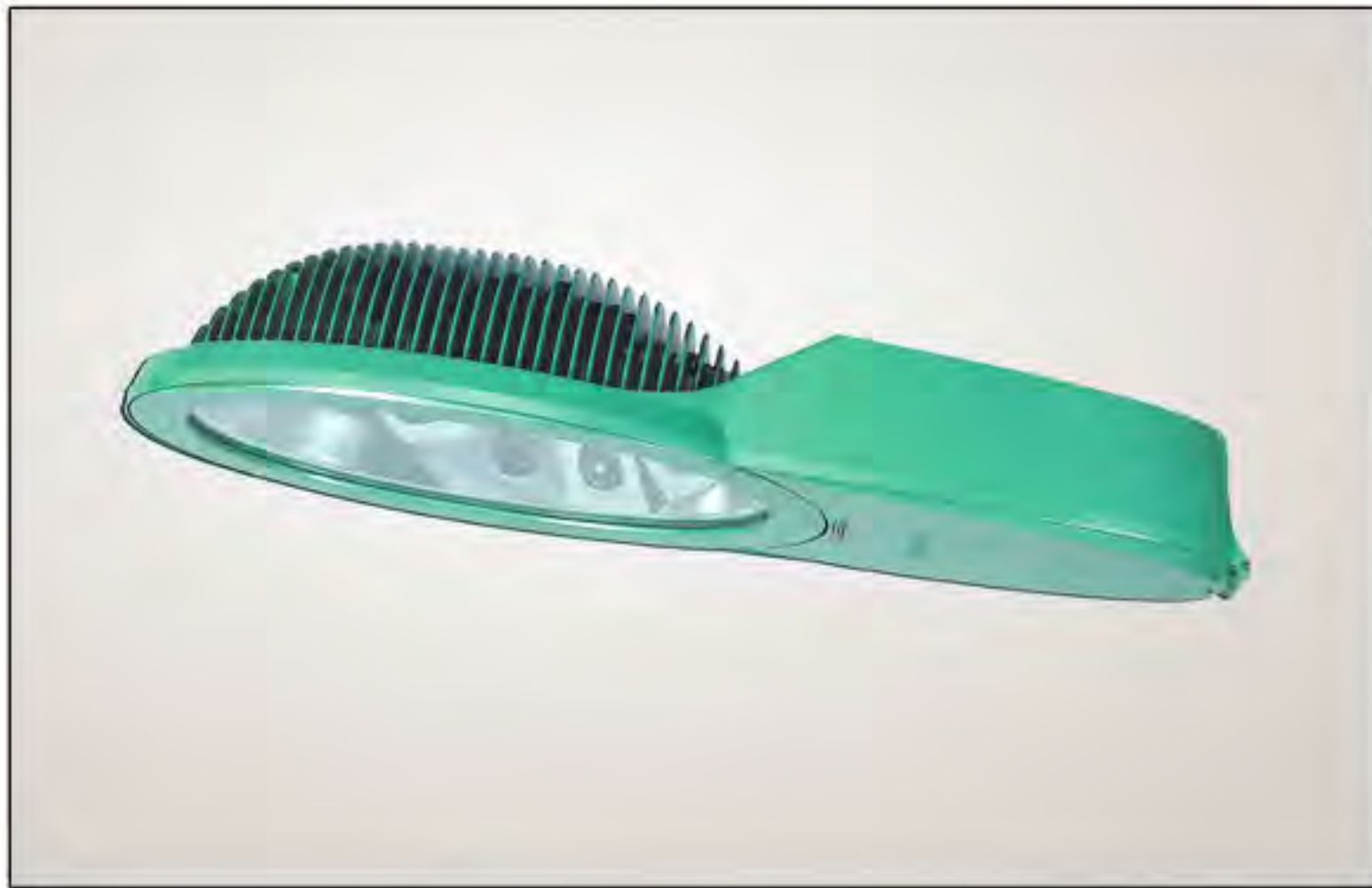


PHOTOMETRIC DATA



STREET LIGHTING

SEG-LED-01B(80W)



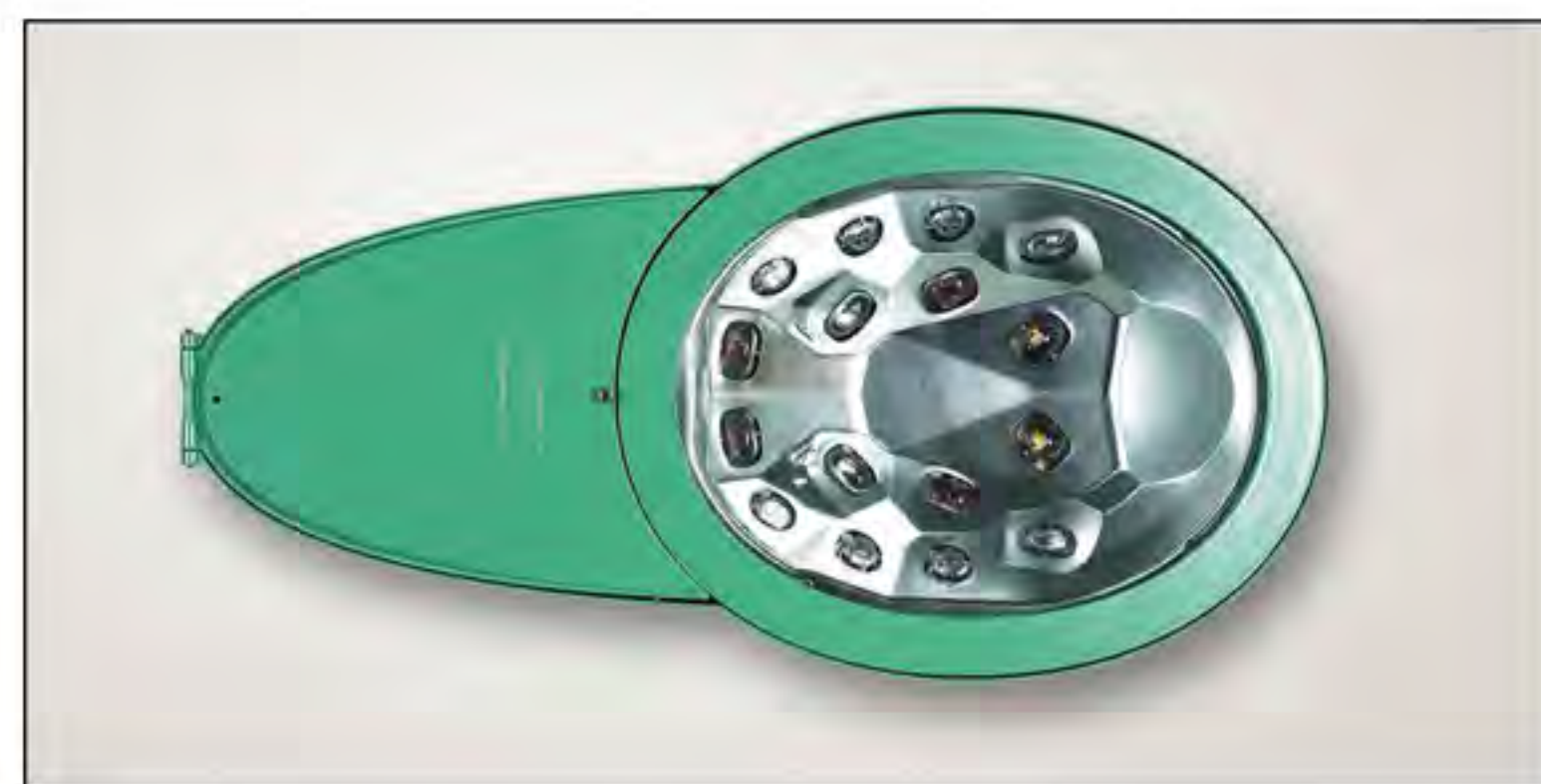
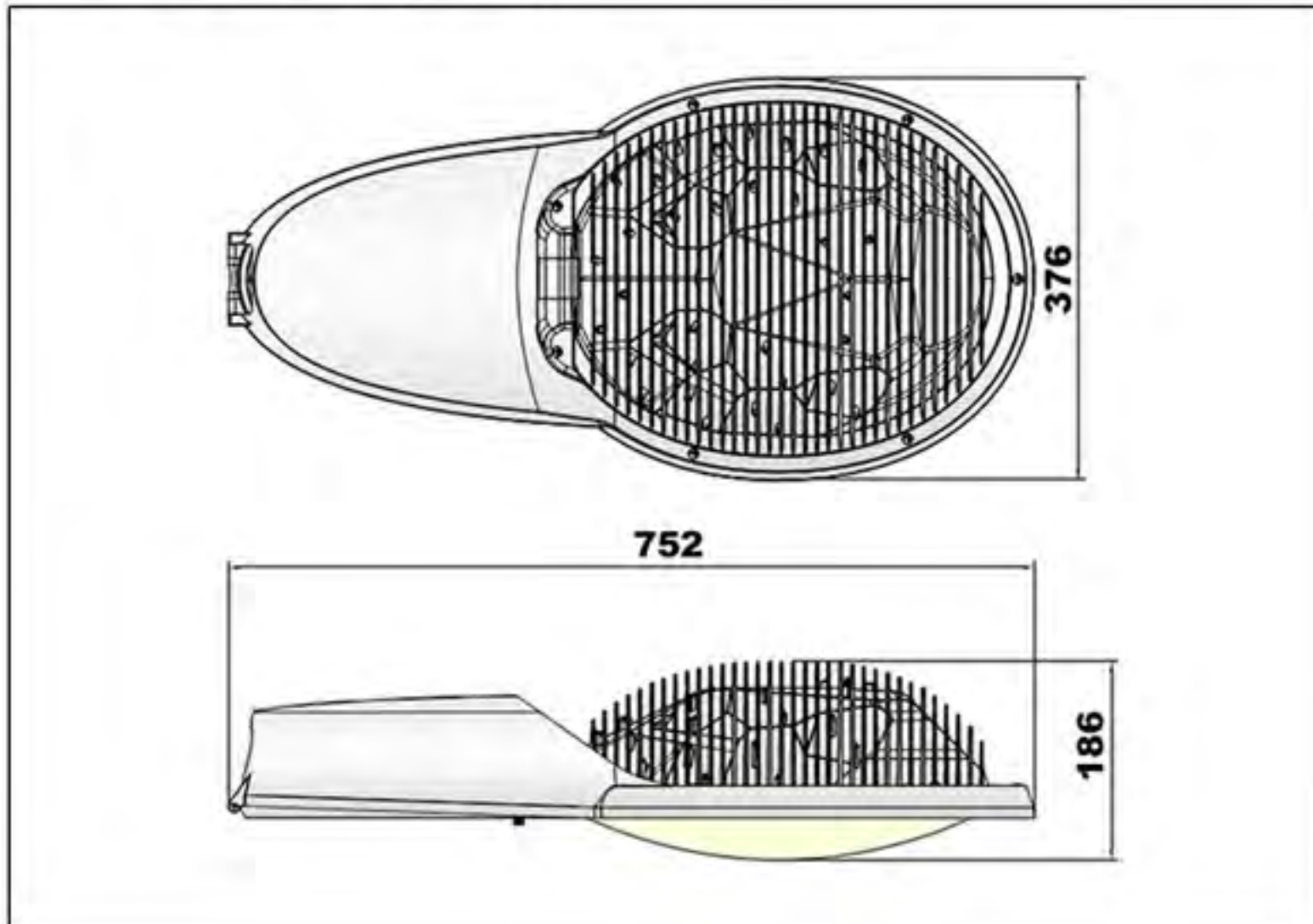
SEG-LED-01B (80W)

- Body: Pressure die-casting aluminium.
- Reflector: Anodized and sealed single piece high purity aluminium plate.
- Lens: High transparent 5mm toughened glass and optical grade PMMA
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: -30°C ~ +50°C
- Input: 90-260V 50/60HZ
- Weight: 9.5Kgs.

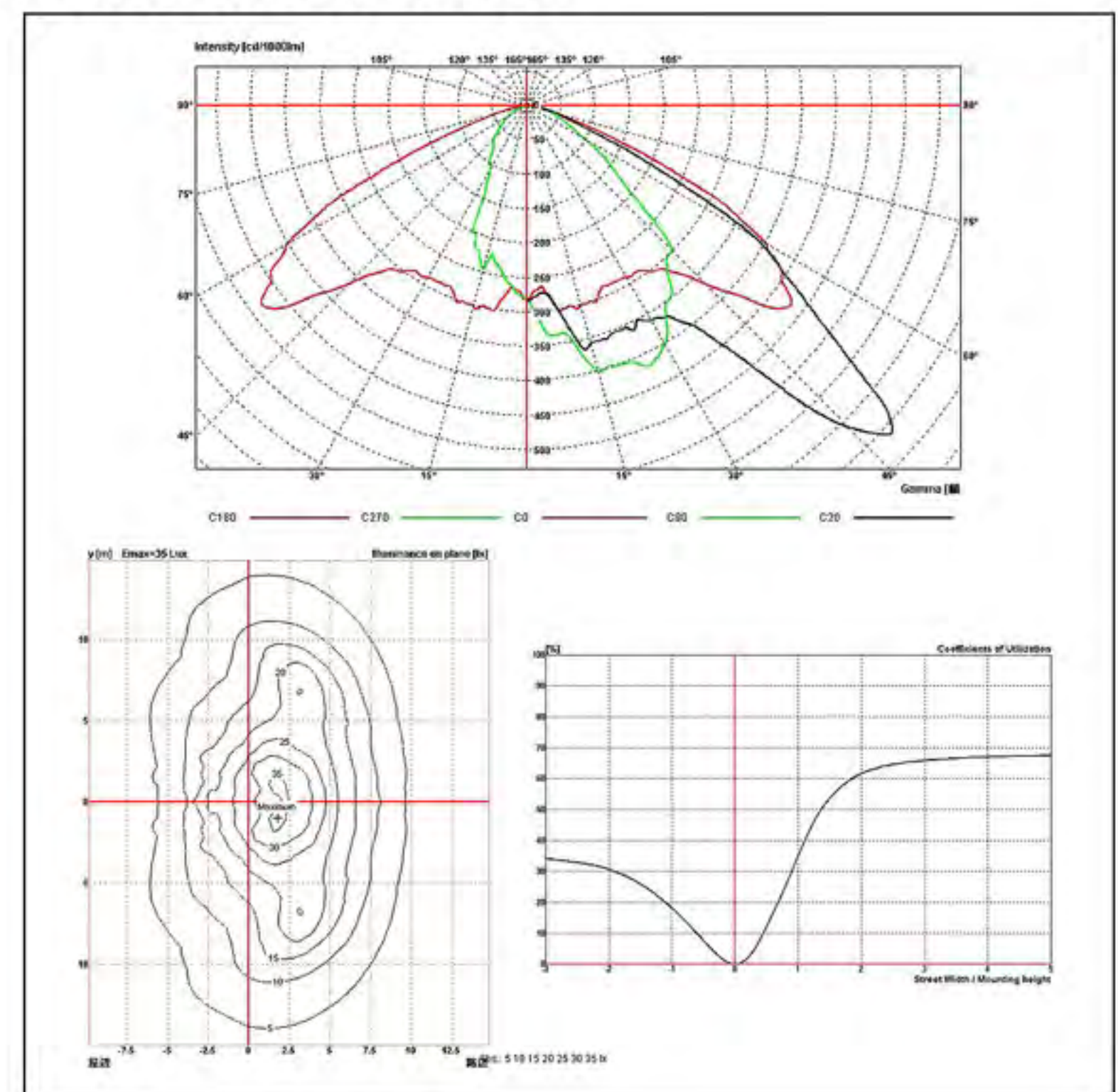
Feature:

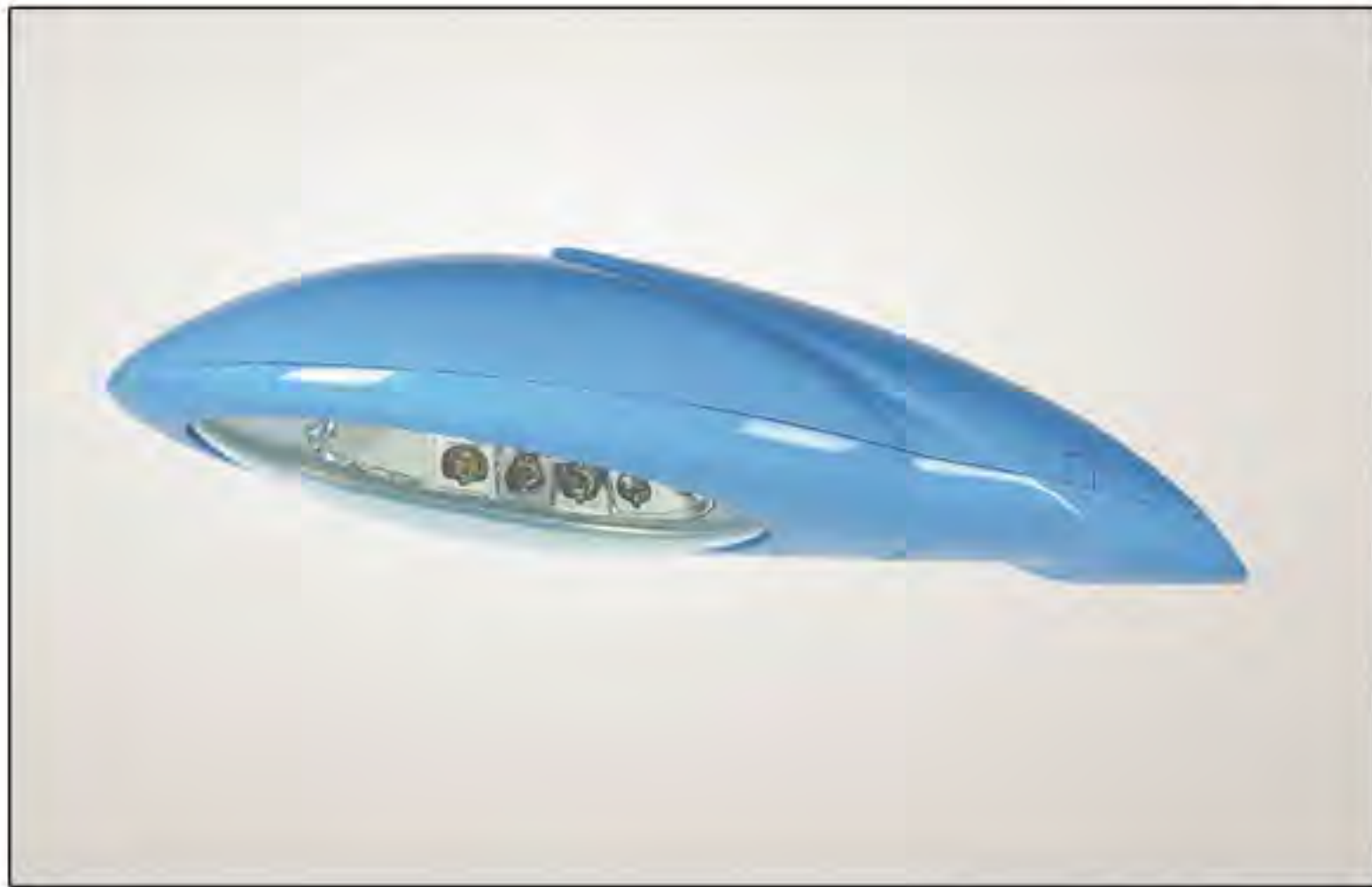
- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (4300K-6200K), CRI ≥ 70 ;
- 2, Unique designed optical structure and cooling device to ensure the high efficient and reliable performance;
- 3, Easily and safety maintenance; Superior life over other lamp sources;
- 4, Suitable for the road: the width within 16M.

DIMENSIONS(MM)

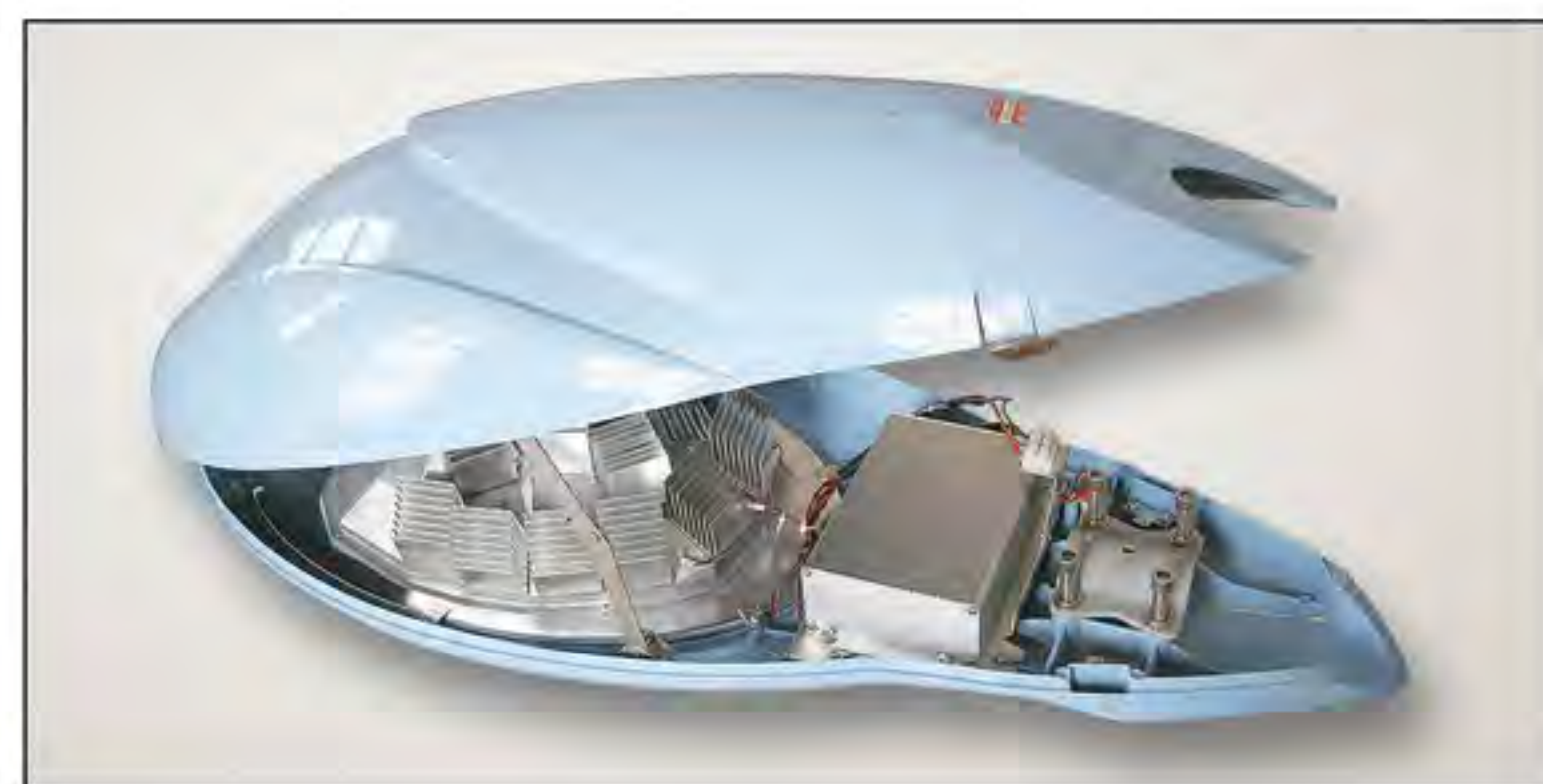
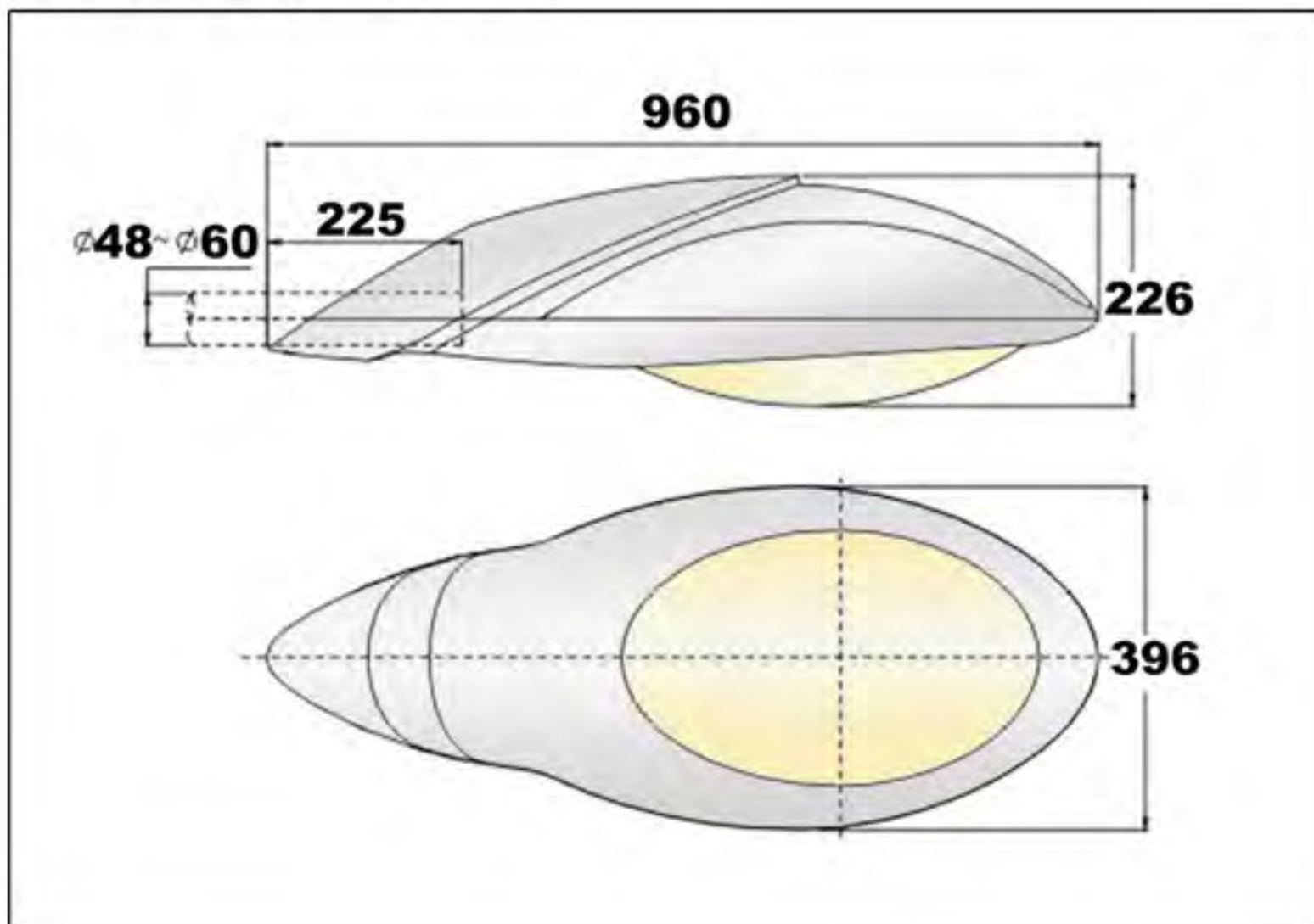


PHOTOMETRIC DATA





DIMENSIONS(MM)



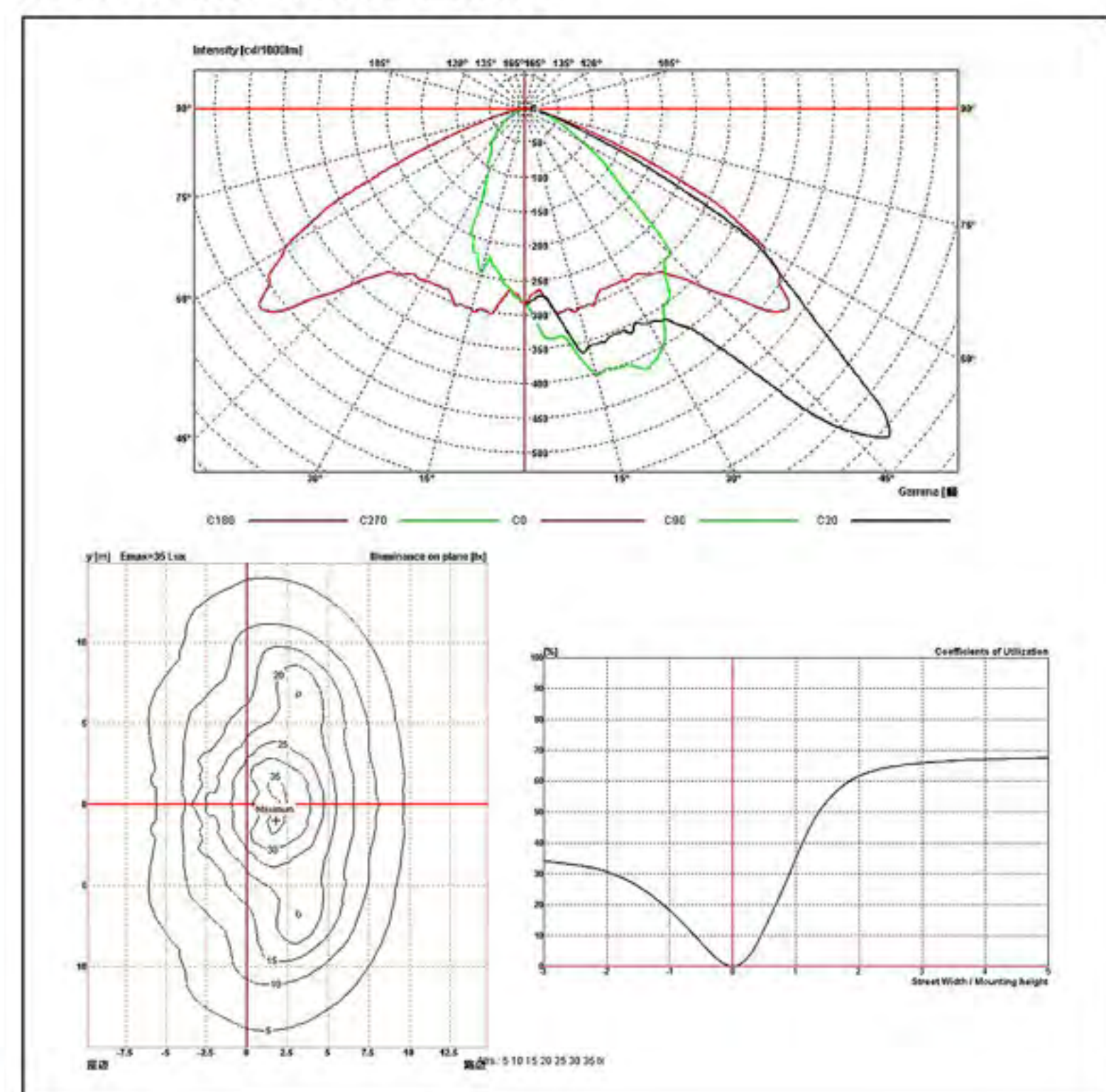
SEG-LED-02 (45W/60W/80W)

- Body: Pressure die-casting aluminium.
- Reflector: Anodized and sealed single piece high purity aluminium plate.
- Lens: High transparent 5mm toughened glass and optical grade PMMA
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: -30°C ~ +50°C
- Input: 90-260V 50/60HZ
- Weight: 11.3Kgs.

Feature:

- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (4300K-6200K), CRI ≥ 70 ;
- 2, Unique designed optical structure and cooling device to ensure the high efficient and reliable performance;
- 3, Easily and safety maintenance; Superior life over other lamp sources;
- 4, Suitable for the road: the width within 16M.

PHOTOMETRIC DATA





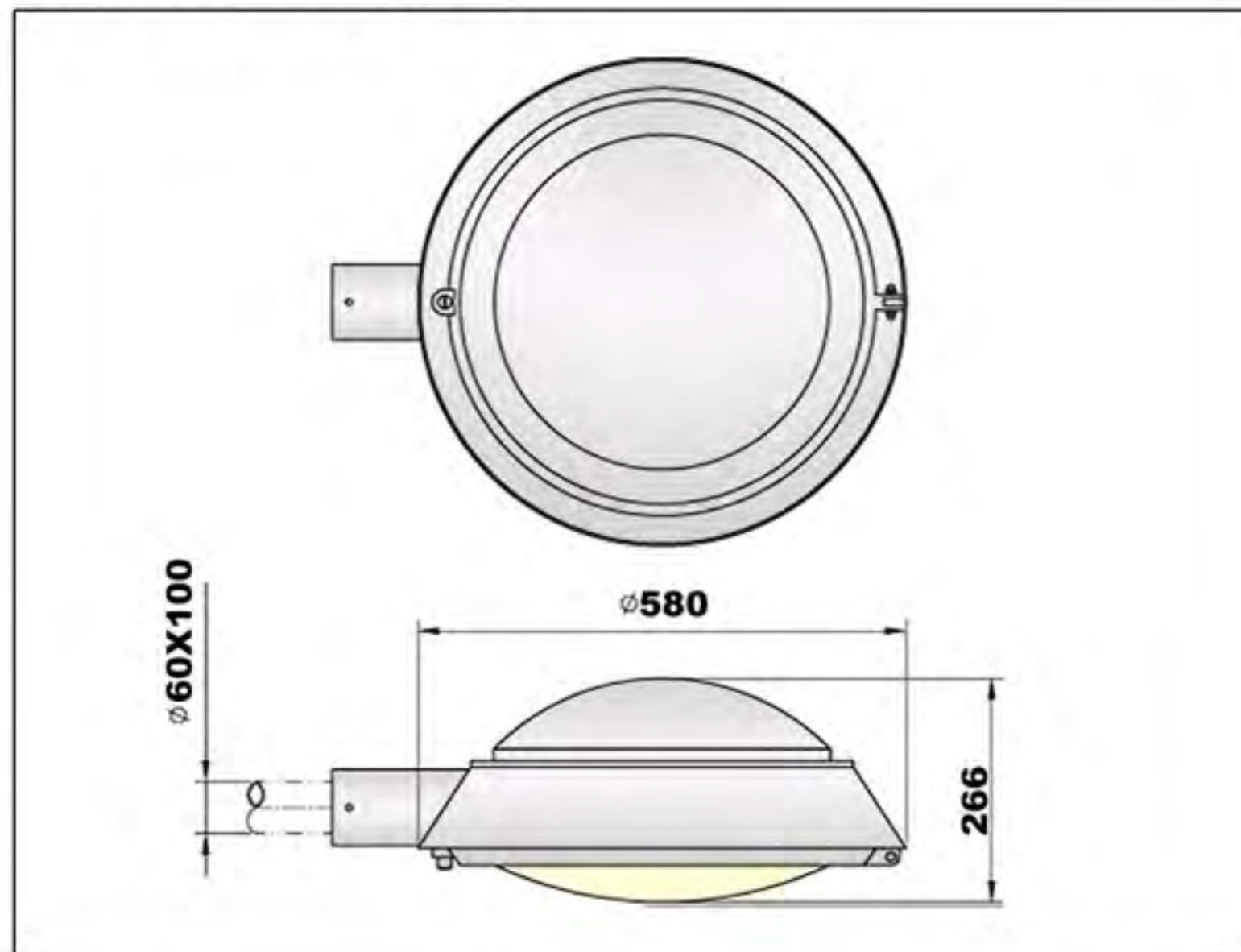
SEG-LED-03 (80W)

- Body: Pressure die-casting aluminium.
- Reflector: Anodized and sealed single piece high purity aluminium plate.
- Lens: High transparent 5mm toughened glass and optical grade PMMA
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: -30°C ~ +50°C
- Input: 90-260V 50/60HZ
- Weight: 11.5Kgs.

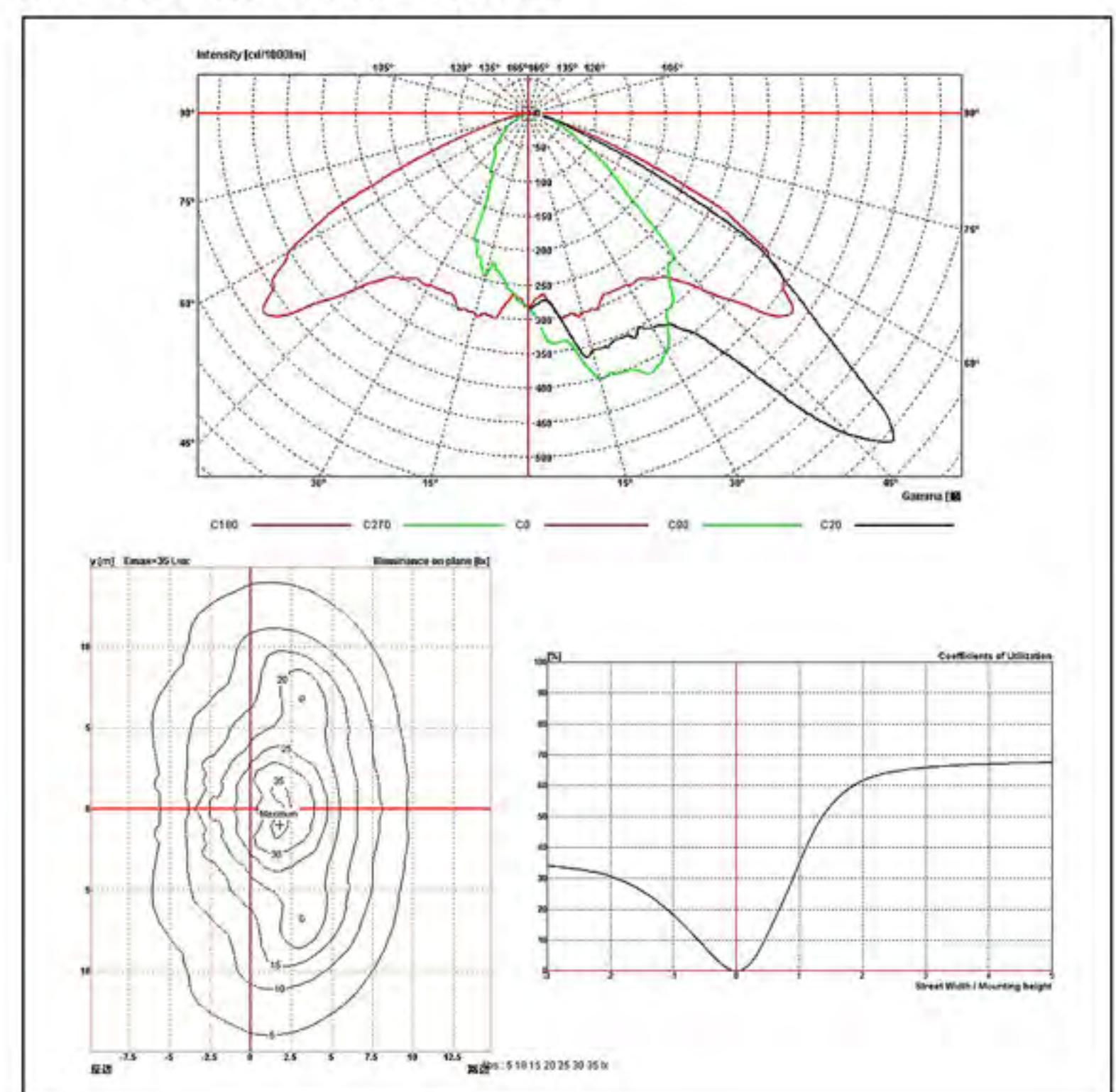
Feature:

- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (4300K-6200K), CRI ≥ 70 ;
- 2, Unique designed optical structure and cooling device to ensure the high efficient and reliable performance;
- 3, Easily and safety maintenance; Superior life over other lamp sources;
- 4, Recommended applications: Minor roads, one way road.

DIMENSIONS(MM)



PHOTOMETRIC DATA





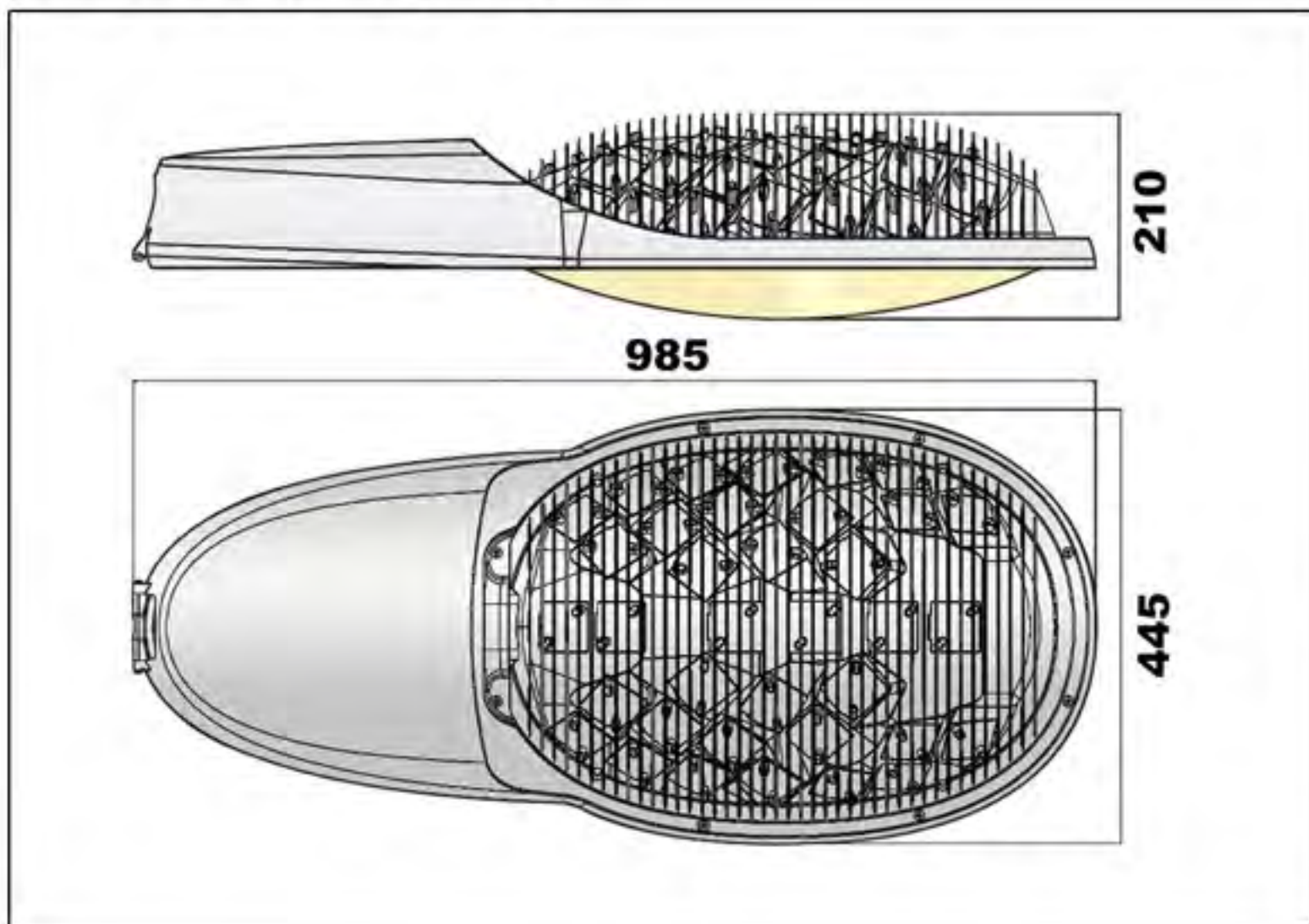
SEG-LED-07 (180W)

- Body: Pressure die-casting aluminium.
- Reflector: Anodized and sealed single piece high purity aluminium plate.
- Lens: High transparent 5mm toughened glass and optical grade PMMA
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: -30°C ~ +50°C
- Input: 90-260V 50/60HZ
- Weight: 15.6Kgs.

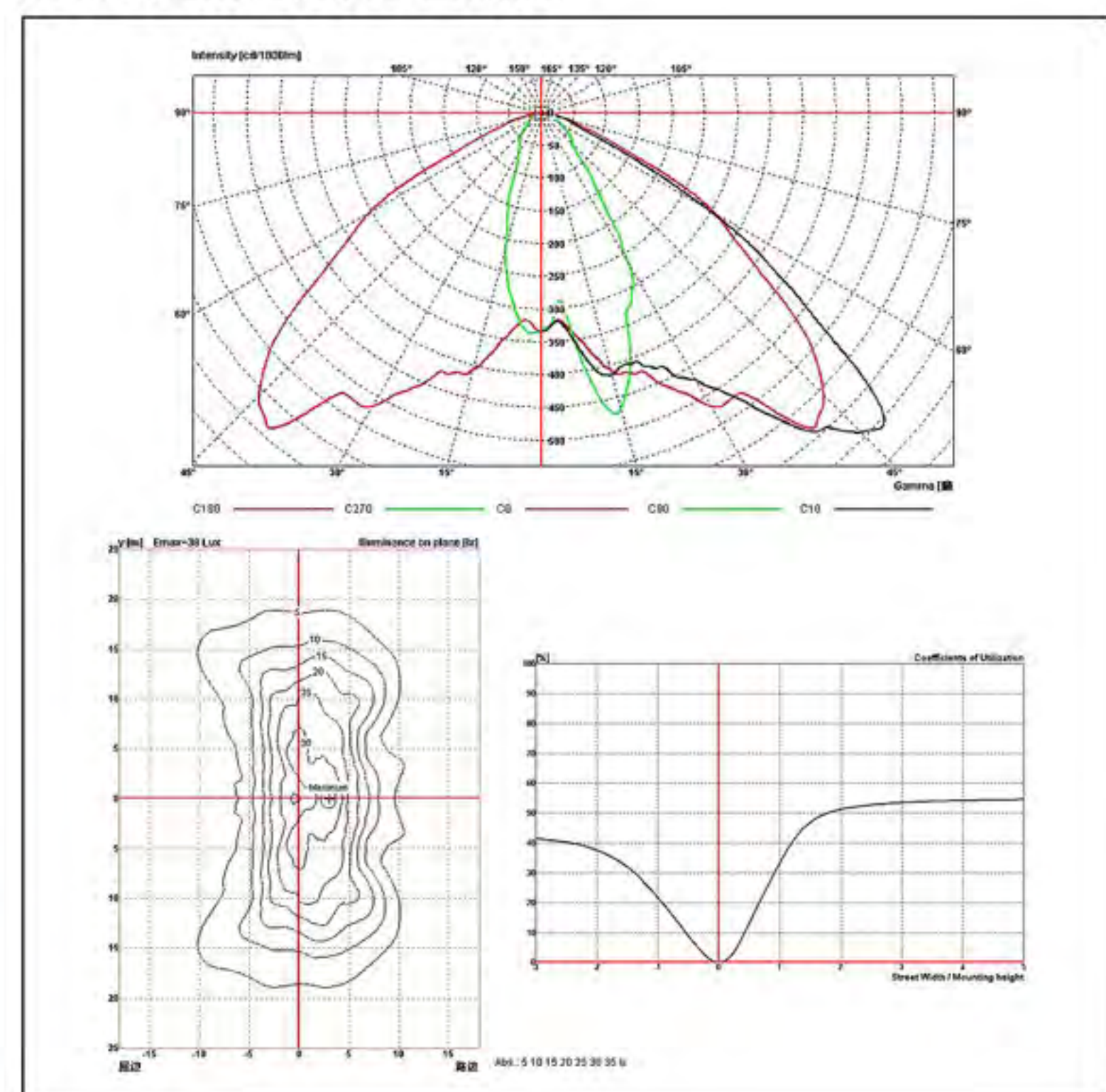
Feature:

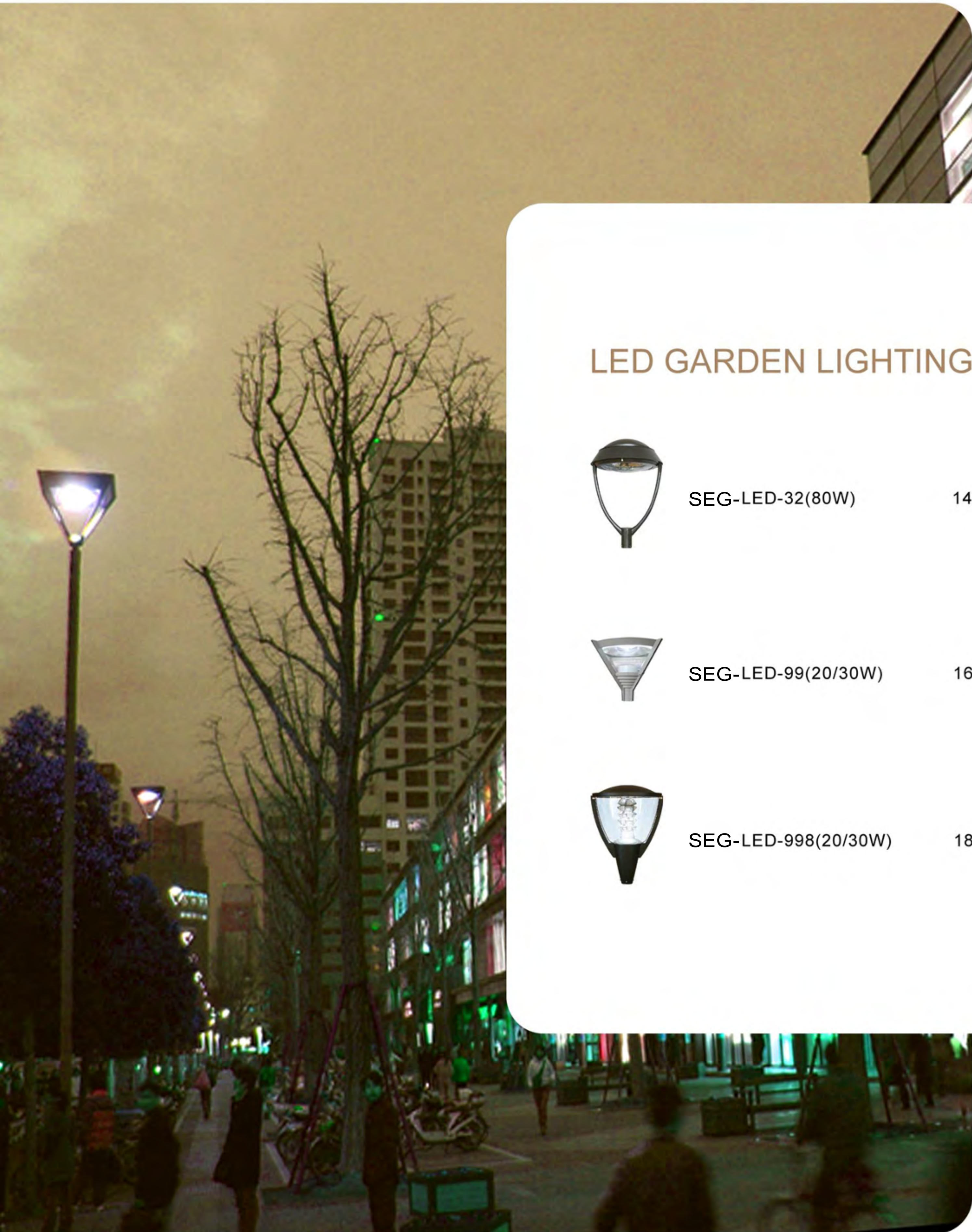
- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (4300K-6200K), CRI ≥ 70 ;
- 2, Unique designed optical structure and cooling device to ensure the high efficient and reliable performance;
- 3, Easily and safety maintenance; Superior life over other lamp sources;
- 4, Recommended applications: double ways with 4 lanes or 6 lanes.

DIMENSIONS(MM)



PHOTOMETRIC DATA





LED GARDEN LIGHTING



SEG-LED-32(80W)

14



SEG-LED-99(20/30W)

16



SEG-LED-998(20/30W)

18

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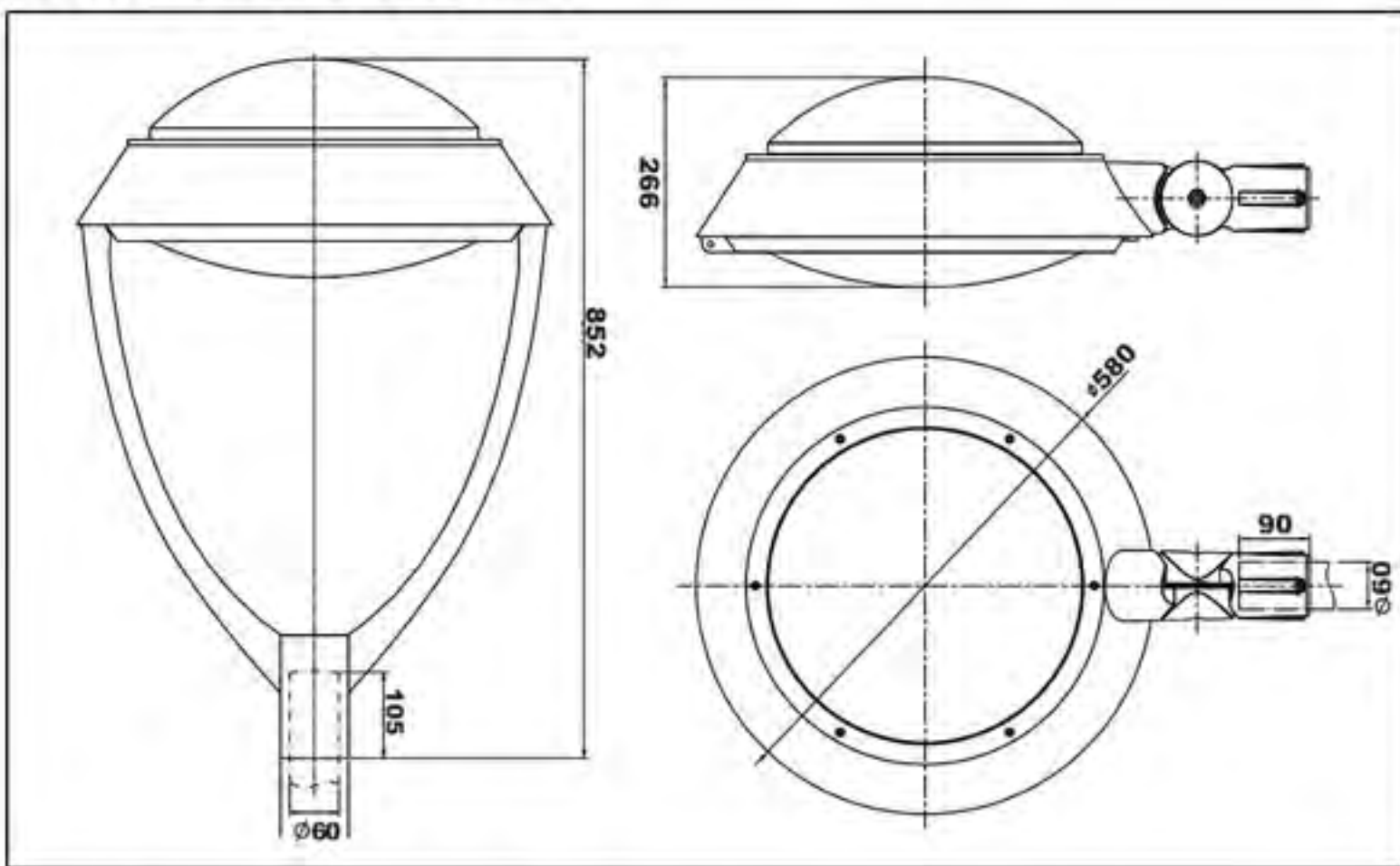
GARDEN LIGHTING SEG-32-LED



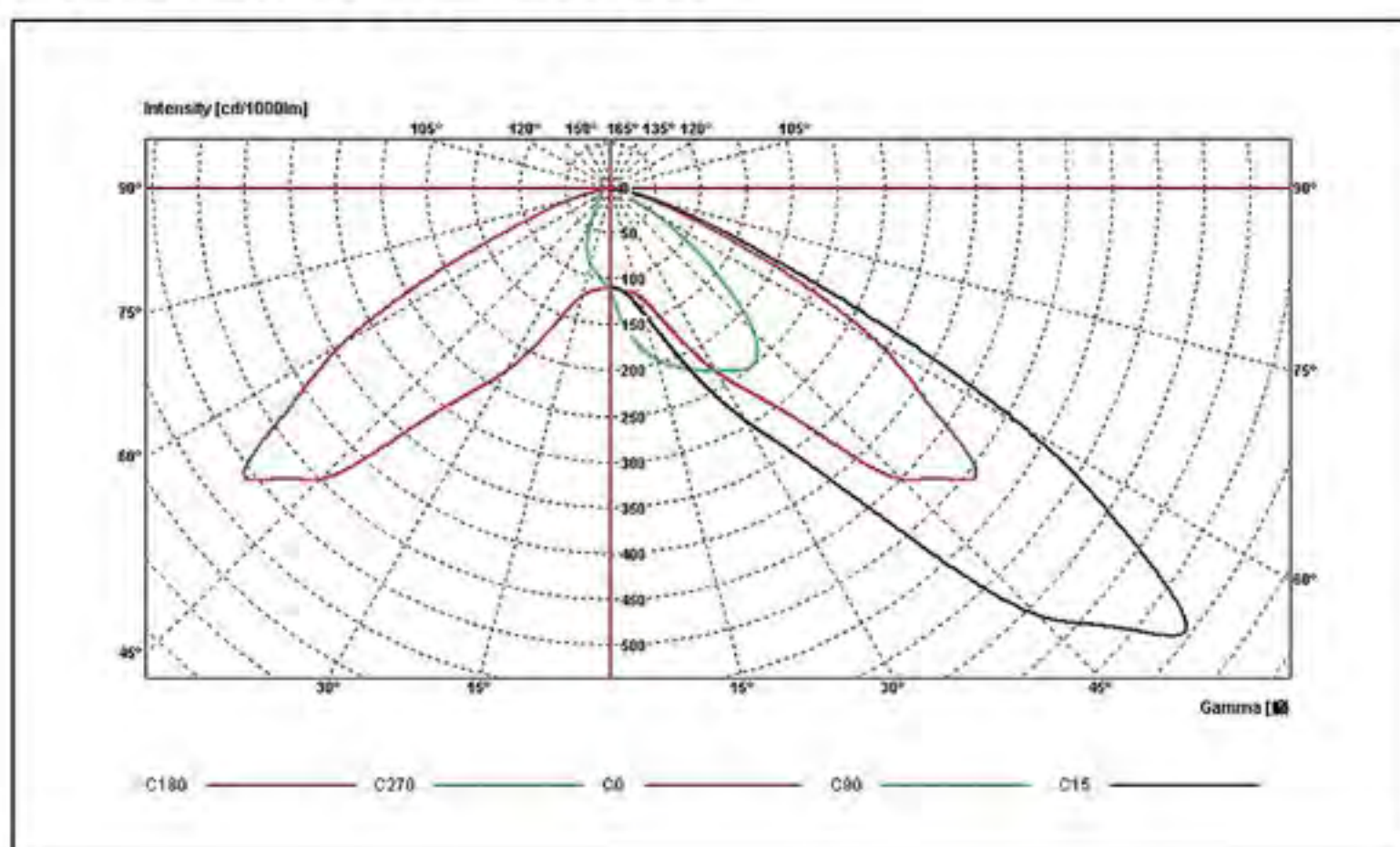
SEG-32-LED

- Body: Pressure die-casting aluminium with sand casting mounting bracket.
- Reflector: Anodized and sealed single piece high purity aluminium plate.
- Lens: High transparent 5mm toughened glass and optical grade PMMA
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: $-30^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- Input: 90-260V 50/60HZ
- Weight: 13.8Kgs (for lateral type), 12.8Kgs (for adjustable bracket type).

DIMENSIONS(MM)



PHOTOMETRIC DATA



Pole top mounting



Adjustable bracket mounting



Feature:

- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (4300K-6200K), CRI ≥ 70 ;
- 2, Unique designed optical structure and cooling device to ensure the high efficient and reliable performance;
- 3, Easily and safety maintenance; Superior life over other lamp sources;
- 4, No light pollution. No dark belt and shadow due to mounting bracket or lighting pole.

Application:

Parking area, garden, commercial street, residential area.

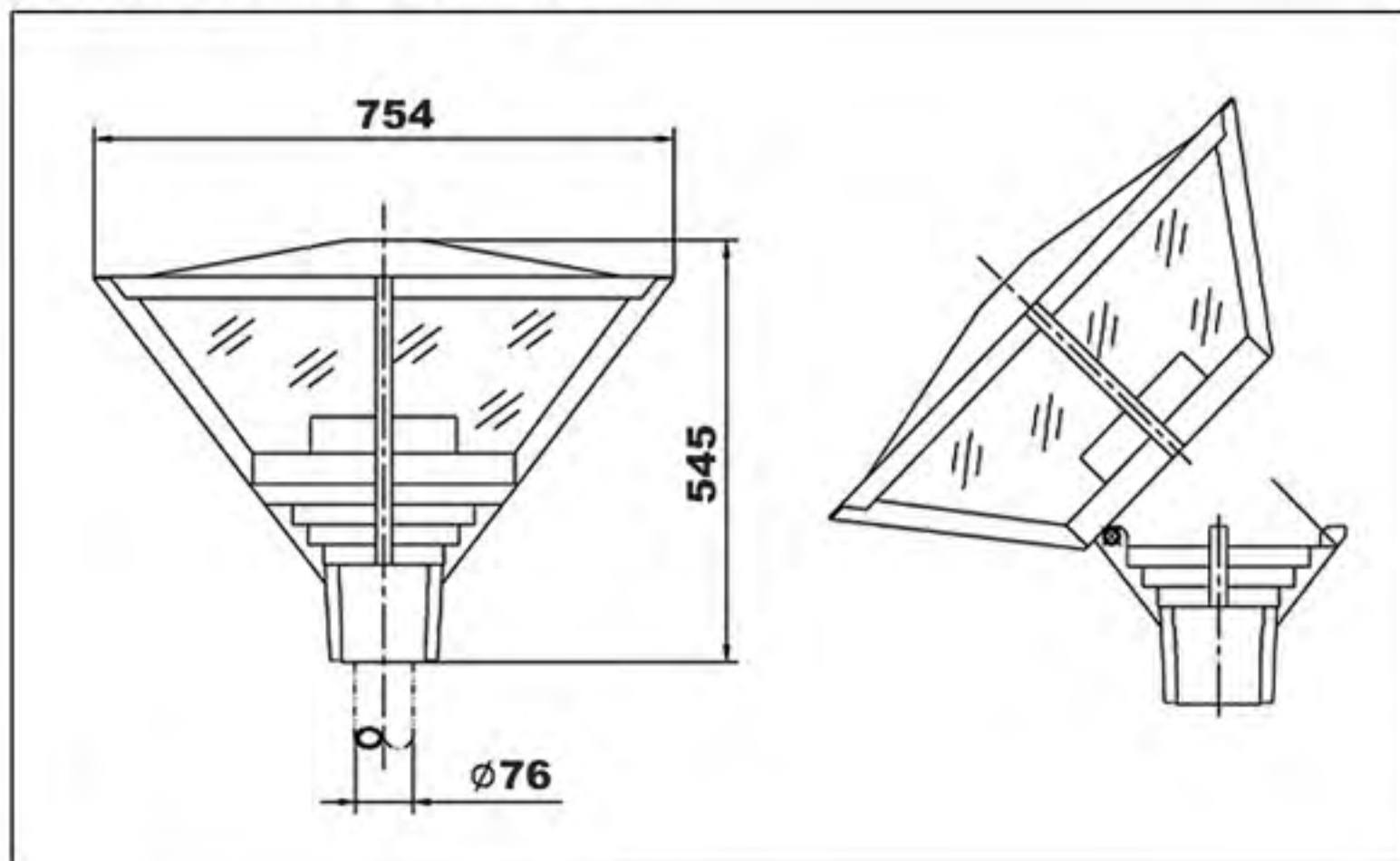
GARDEN LIGHTING SEG-32-LED



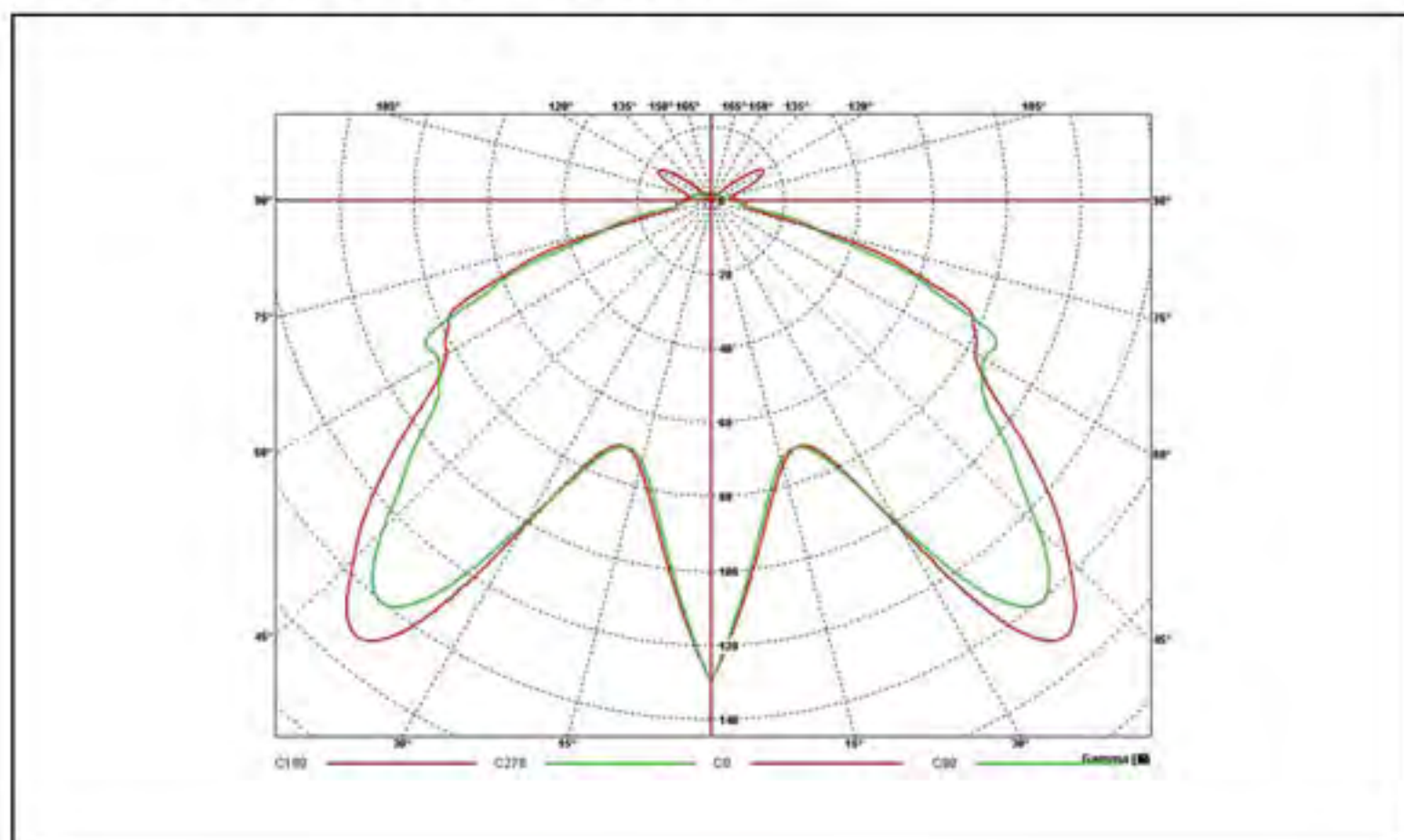
GARDEN LIGHTING SEG-99-LED



DIMENSIONS(MM)



PHOTOMETRIC DATA



SEG-99-LED

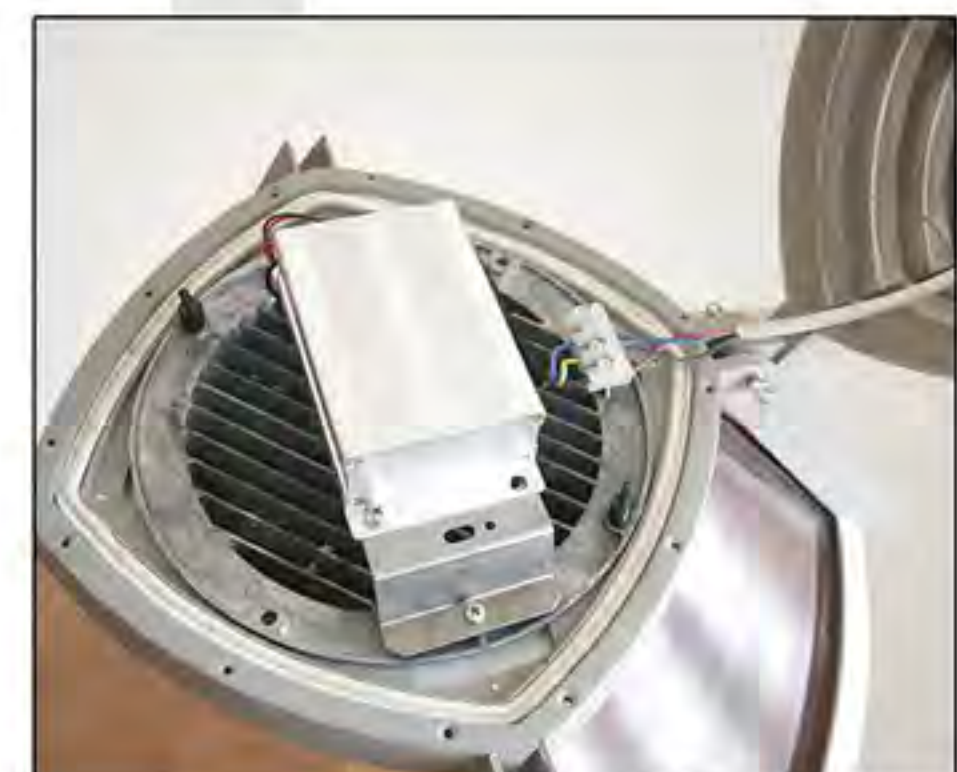
- Body: Pressure die-casting aluminium.
- Reflector: Anodized single piece high purity aluminium plate.
- Lens: High transparent PMMA
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: $-30^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- Input: 90-260V 50/60HZ
- Weight: 12.6Kgs.

Feature:

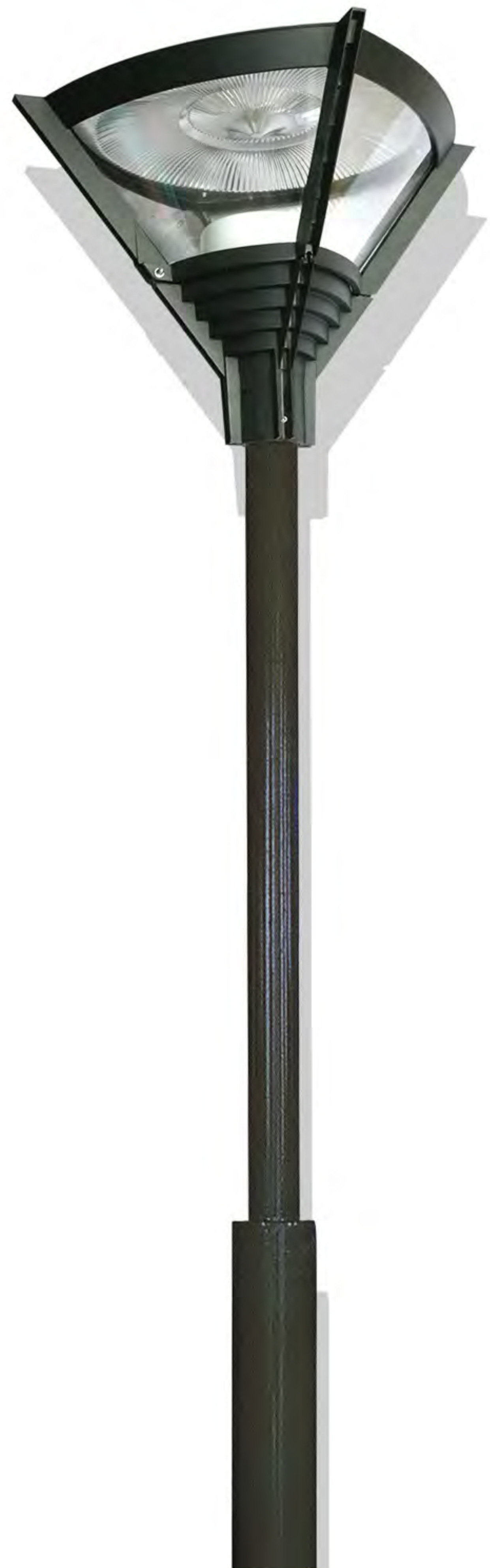
- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (2600K-6500K), CRI ≥ 70 ;
- 2, LED light radiation angle accurately controlled, no upward light pollution, improve the luminous flux utilization factor;
- 3, The irradiation radius can be 10M.
- 4, Easily and safety maintenance; Superior life over other lamp sources;

Application:

Parking area, garden, commercial street, residential area.



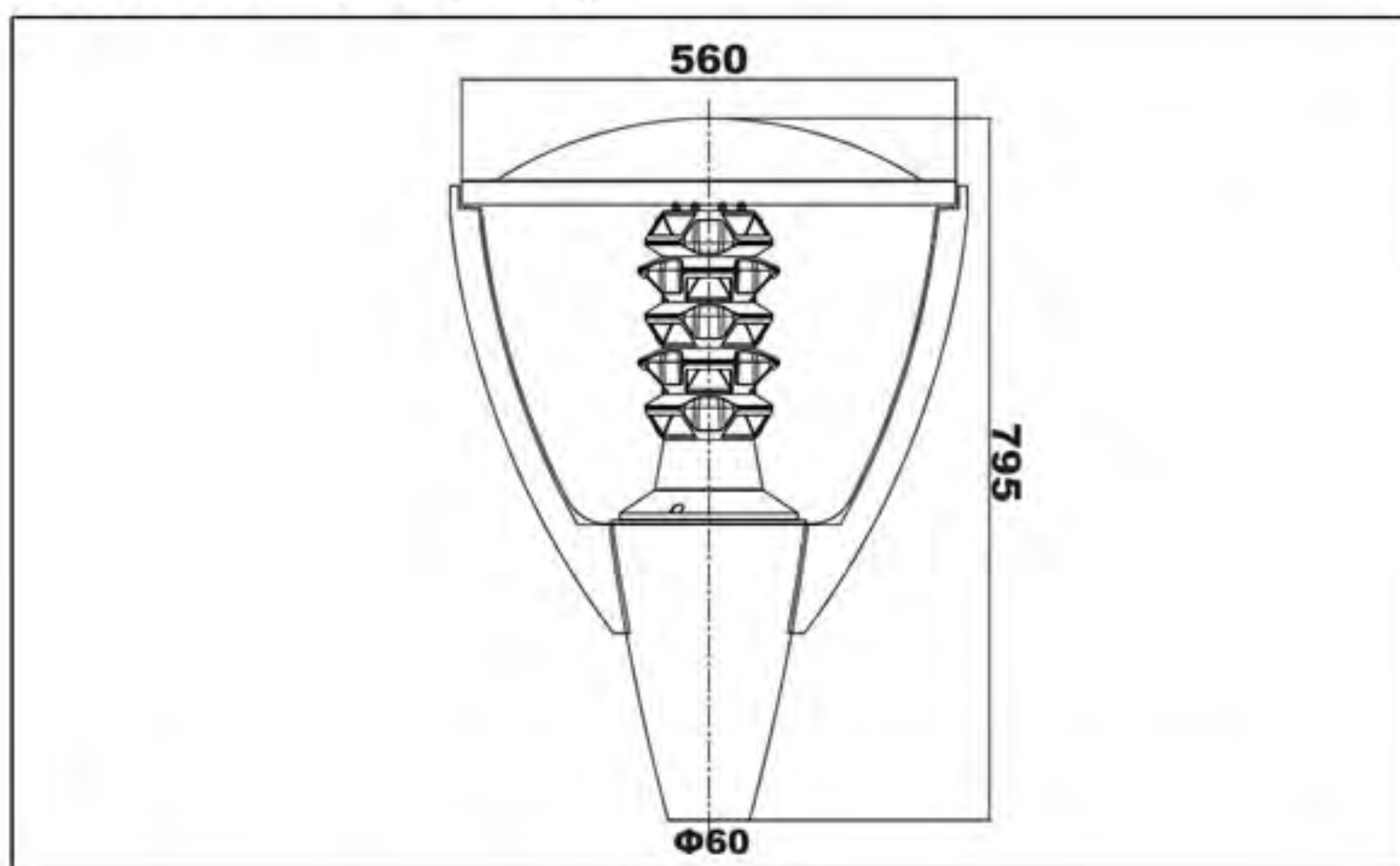
GARDEN LIGHTING SEG-99-LED



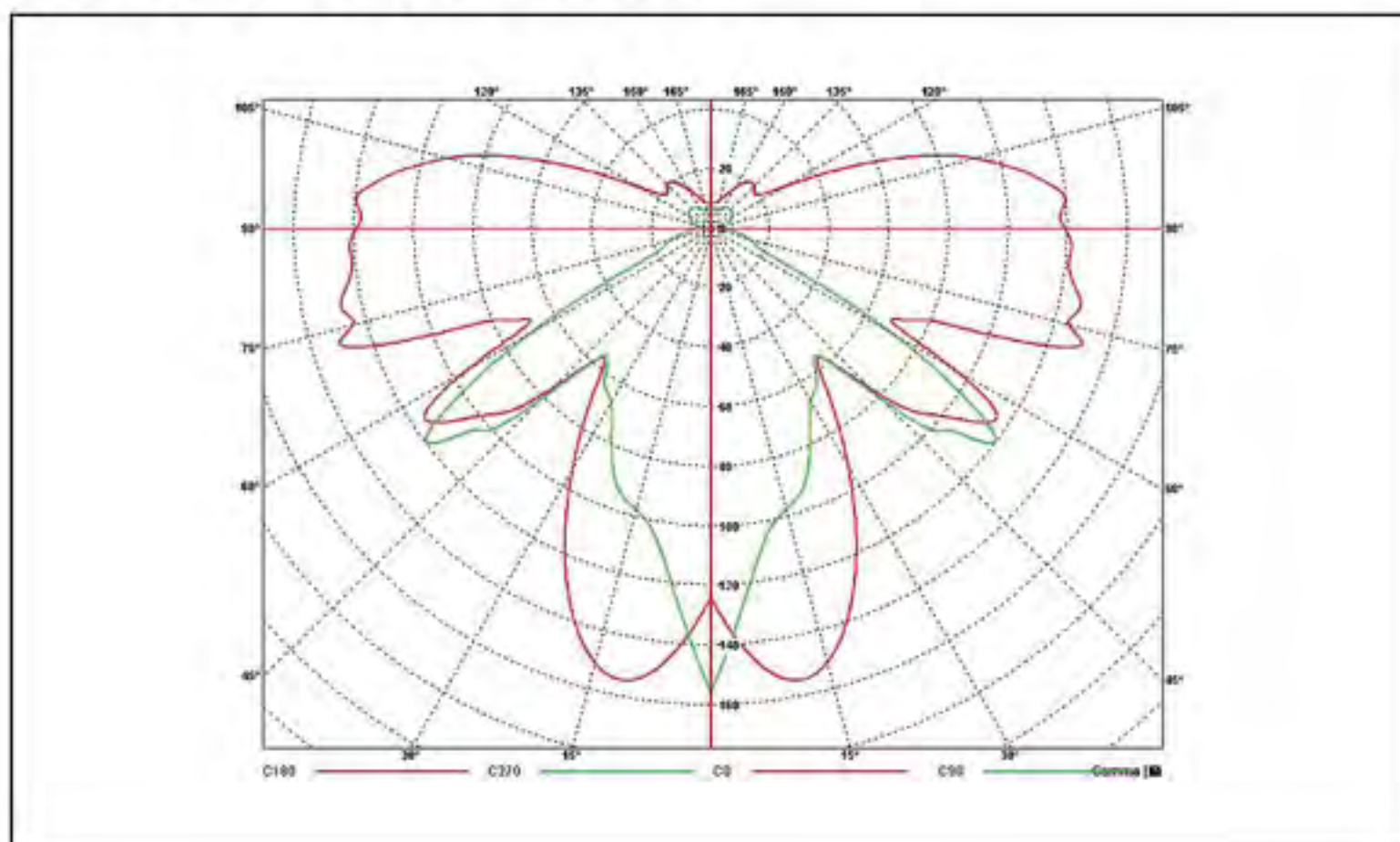
GARDEN LIGHTING SEG-998-LED



DIMENSIONS(MM)



PHOTOMETRIC DATA



SEG-998-LED

- Body: Pressure die-casting aluminium.
- Reflector: Anodized single piece high purity aluminium plate.
- Lens: High transparent PMMA
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: -30°C ~ +50°C
- Input: 90-260V 50/60HZ
- Weight: 12.6Kgs.

Feature:

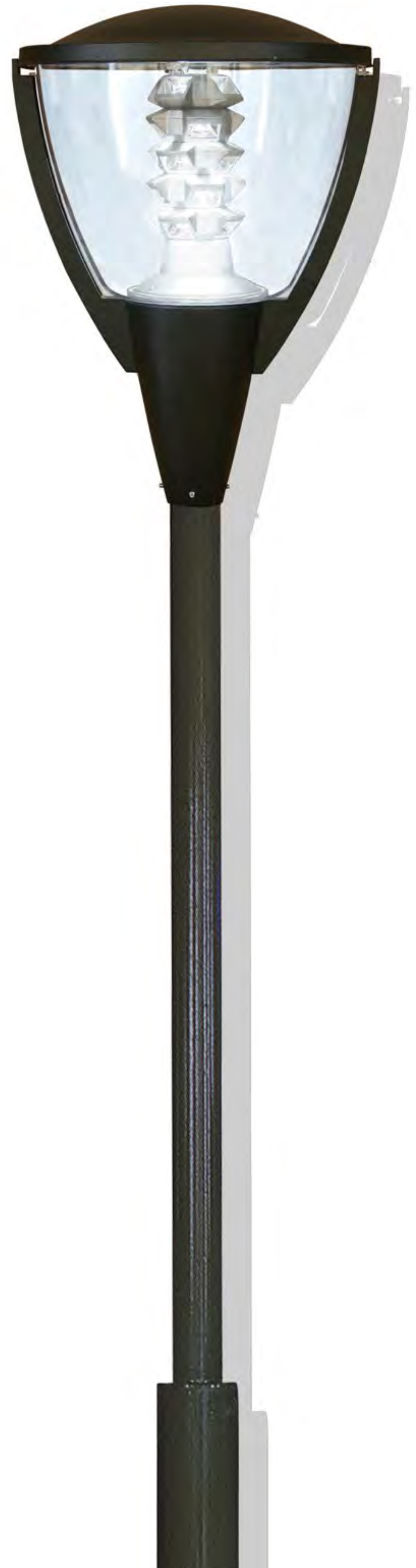
- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (2600K-6500K), CRI ≥ 70 ;
- 2, LED light radiation angle accurately controlled, no upward light pollution, improve the luminous flux utilization factor;
- 3, The irradiation radius can be 10M.
- 4, Easily and safety maintenance; Superior life over other lamp sources;

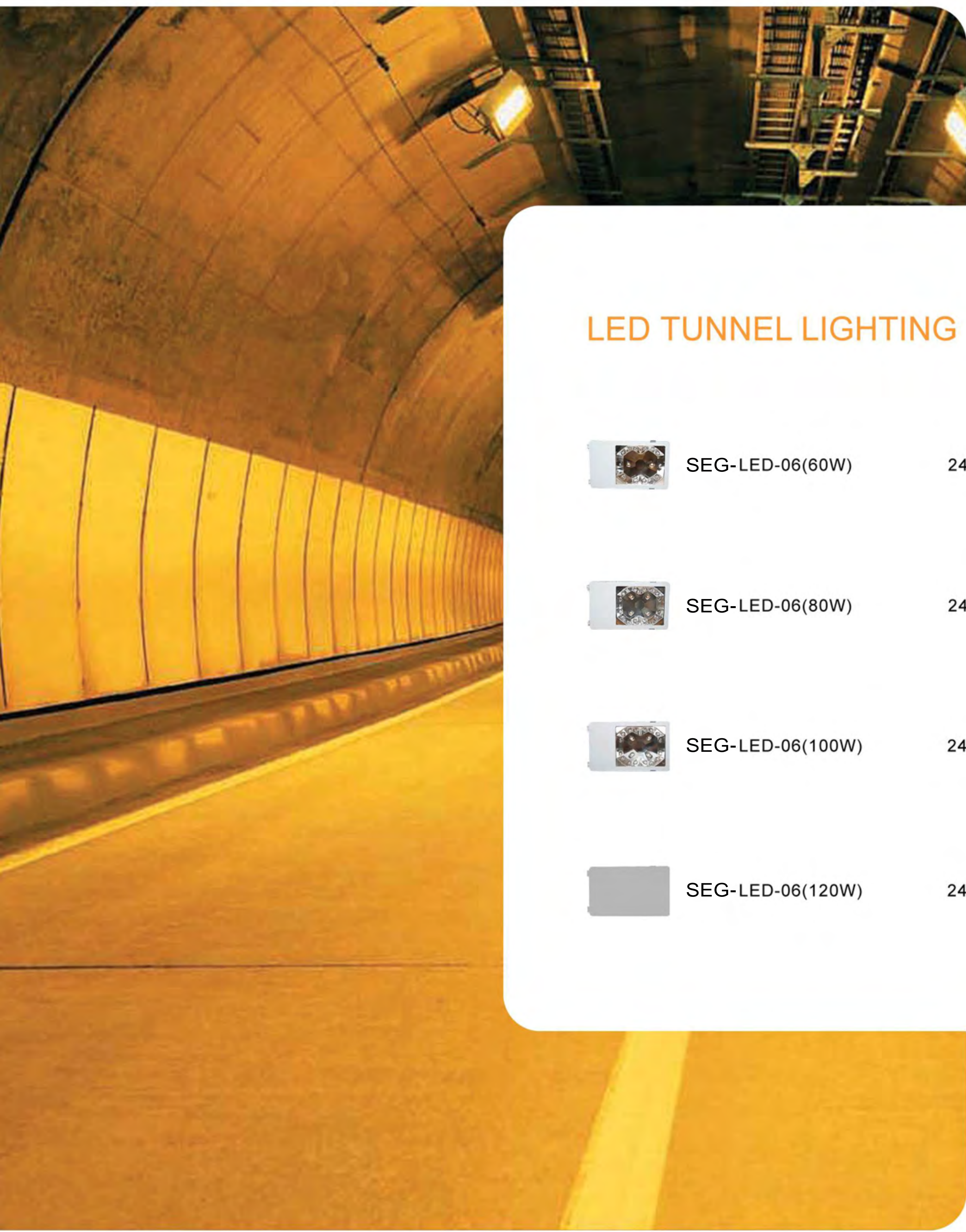
Application:

Parking area, garden, commercial street, residential area.



GARDEN LIGHTING SEG-998-LED





LED TUNNEL LIGHTING



SEG-LED-06(60W)

24



SEG-LED-06(80W)

24



SEG-LED-06(100W)

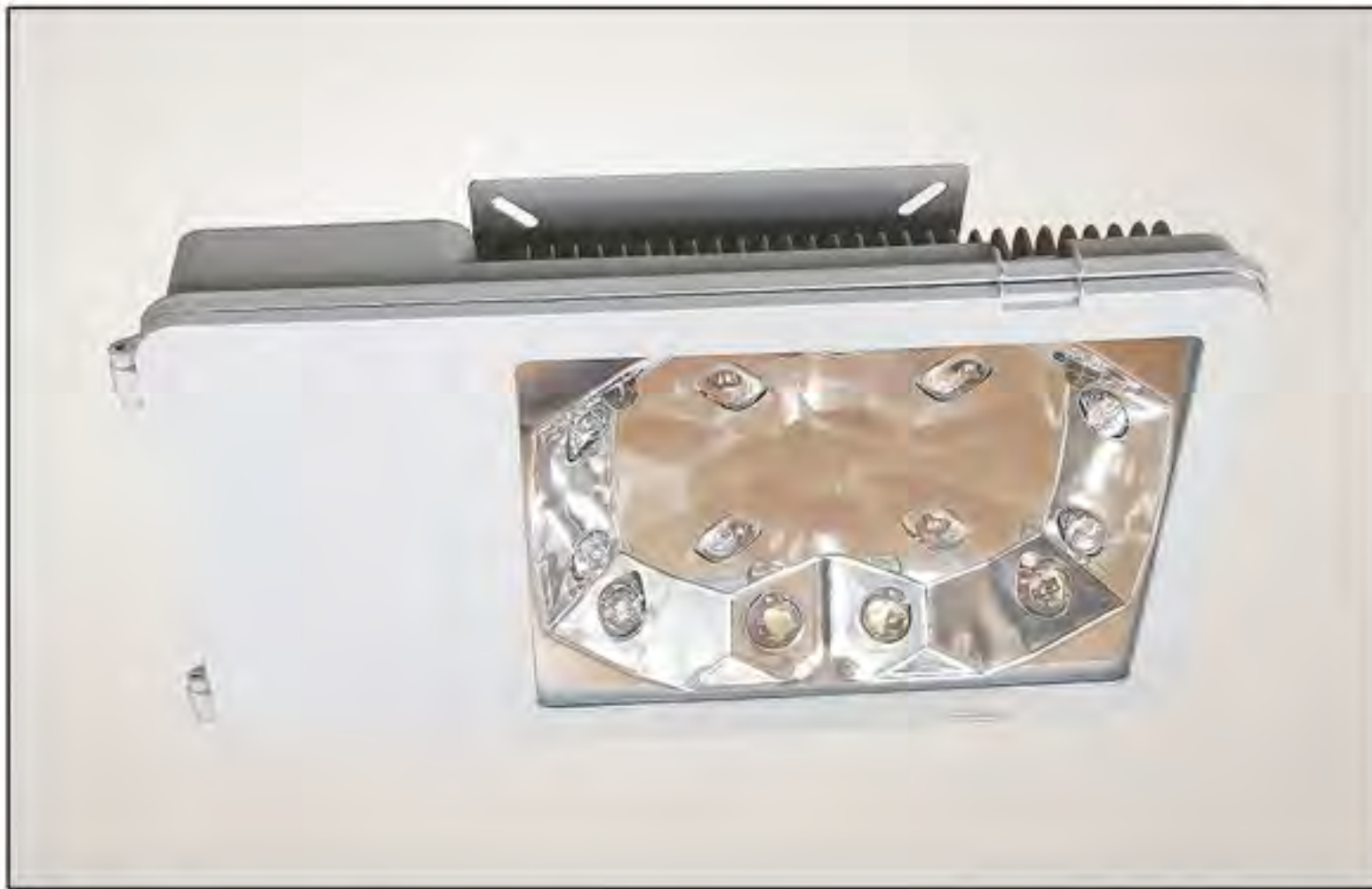
24



SEG-LED-06(120W)

24

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SEG-06-LED

- Body: Pressure die-casting aluminium.
- Reflector: Anodized single piece high purity aluminium plate.
- Lens: High transparent 5mm toughened glass.
- Mounting bracket: High strength, galvanized steel.
- IP: Optical compartment IP65
- Insulation: Class I
- Manufactured according to EN 60598-1:2003
- Ambient operating temperature: -30°C ~ +50°C
- Input: 90-260V 50/60HZ
- Weight: SEG-06-LED-60W 9.5Kgs
 SEG-06-LED-80W 9.7Kgs
 SEG-06-LED-100W 9.9Kgs
 SEG-06-LED-120W 10Kgs.

Adjustable bracket mounting



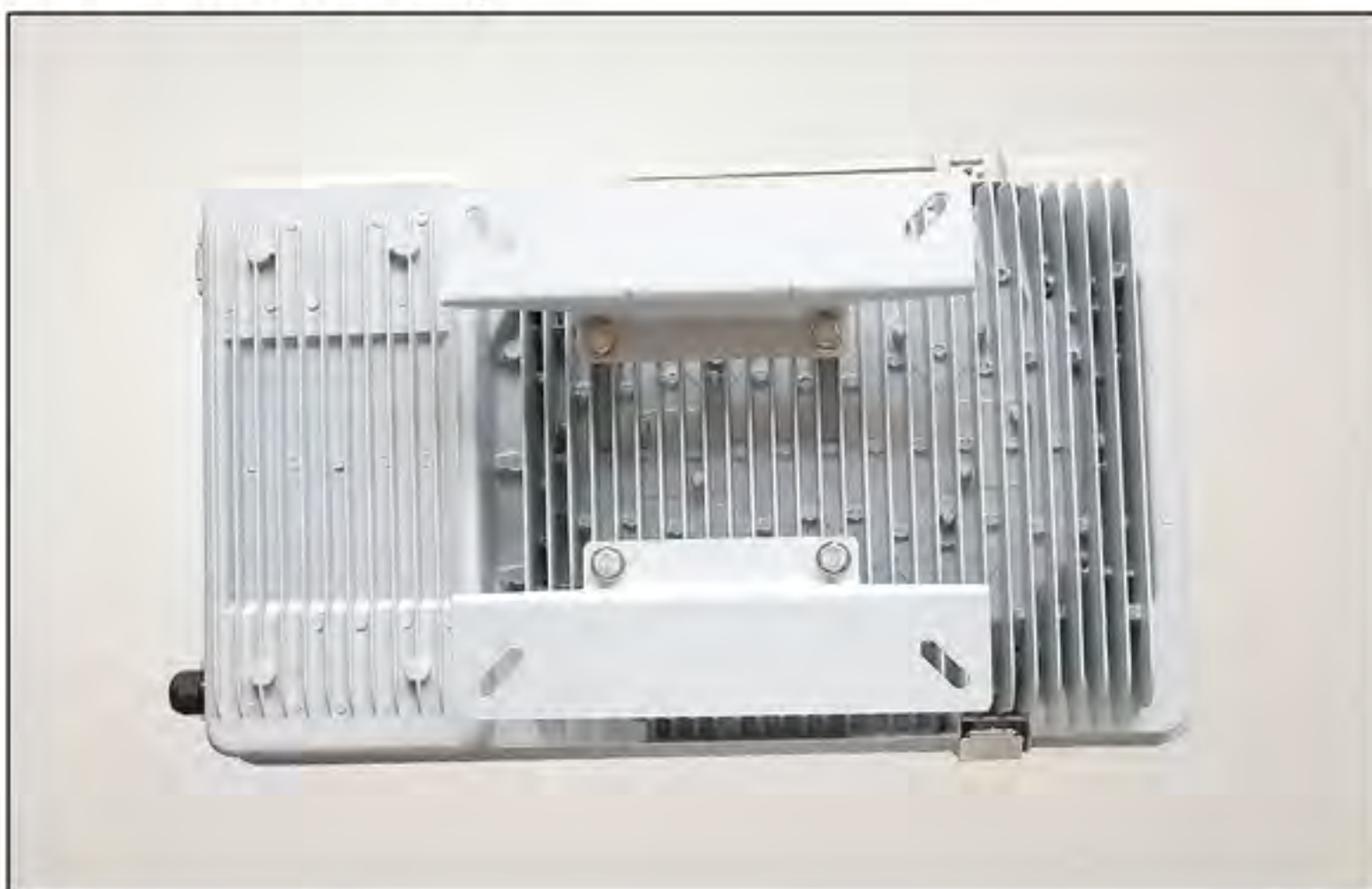
Feature:

- 1, use the imported high power LED source 1W or 5W module, efficient performance ≥ 90 lumens/watt, wide color temperature range (4300K-6200K), CRI ≥ 70 ; The LED lifetime can be 10 years, without maintenance, suitable for wretched working environment.
- 2, LED light radiation angle accurately controlled with patented secondary optical design technology, no light pollution, improve the luminous flux utilization factor;
- 3, Centre longitudinal mounting to illuminate the 2-3 lanes. Suitable for tunnel and viaduct illumination;
- 4, Easily and safety maintenance. Different wattages and mounting ways available. Optional for bracket with mounting angle adjustable and fixed bracket.
- 5, With high strength, galvanized steel flood lighting mounting bracket, this lighting can be used as flood lighting. Suitable for beamed illumination.

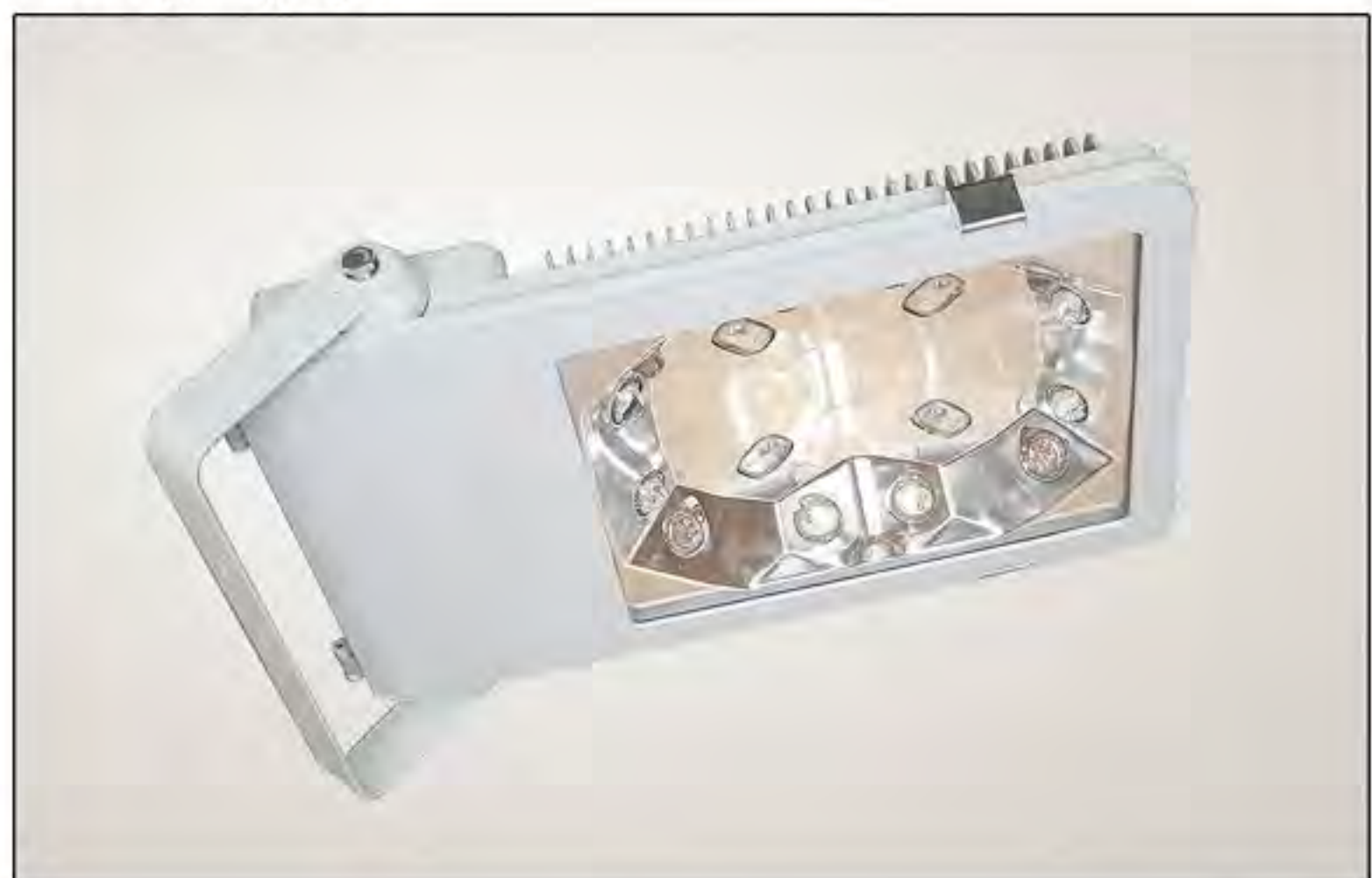
Application:

Tunnel, viaduct, building, racket court..

Fixed bracket mounting



Flood lighting style



LED 60W



LED 80W



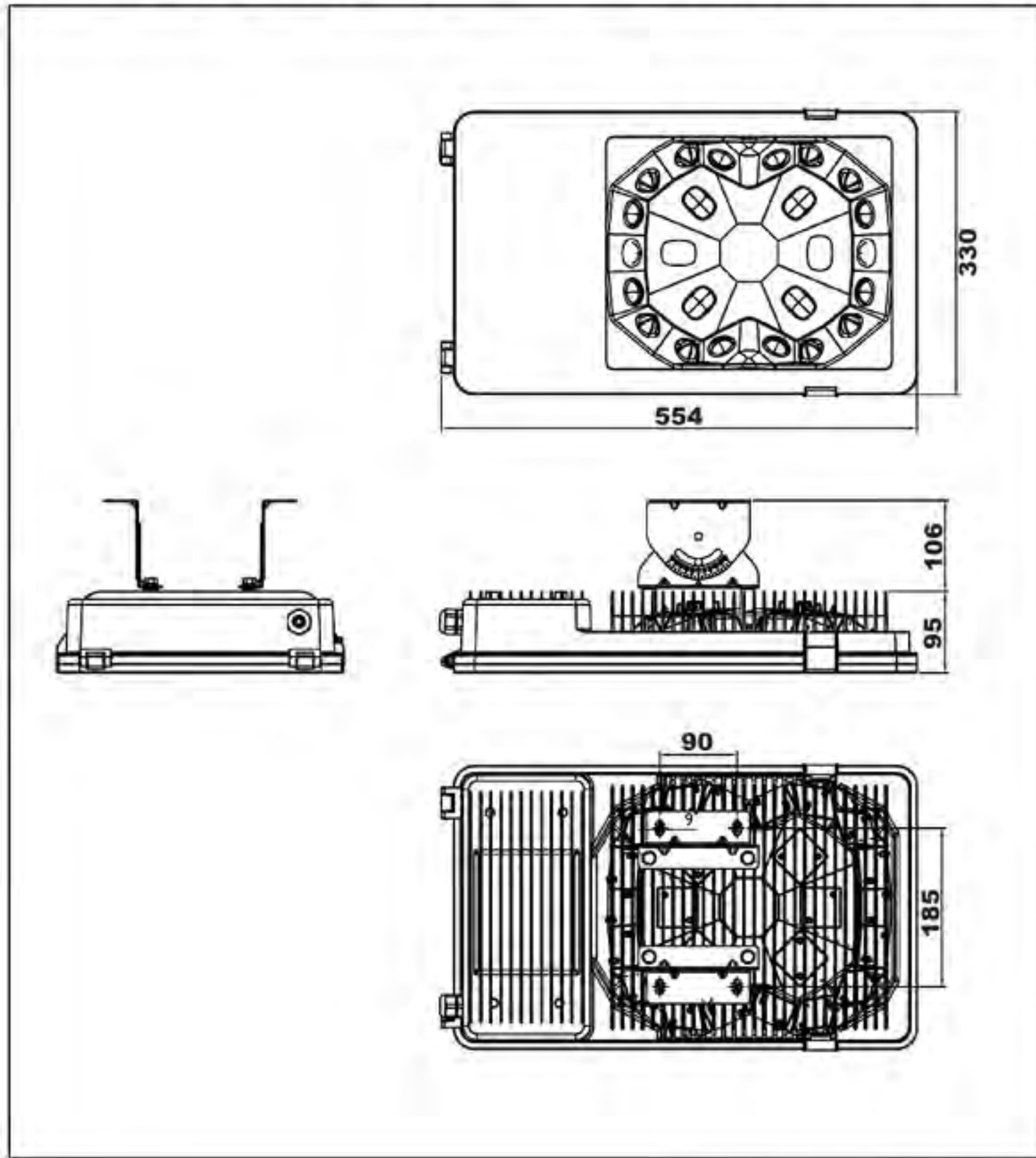
LED 100W



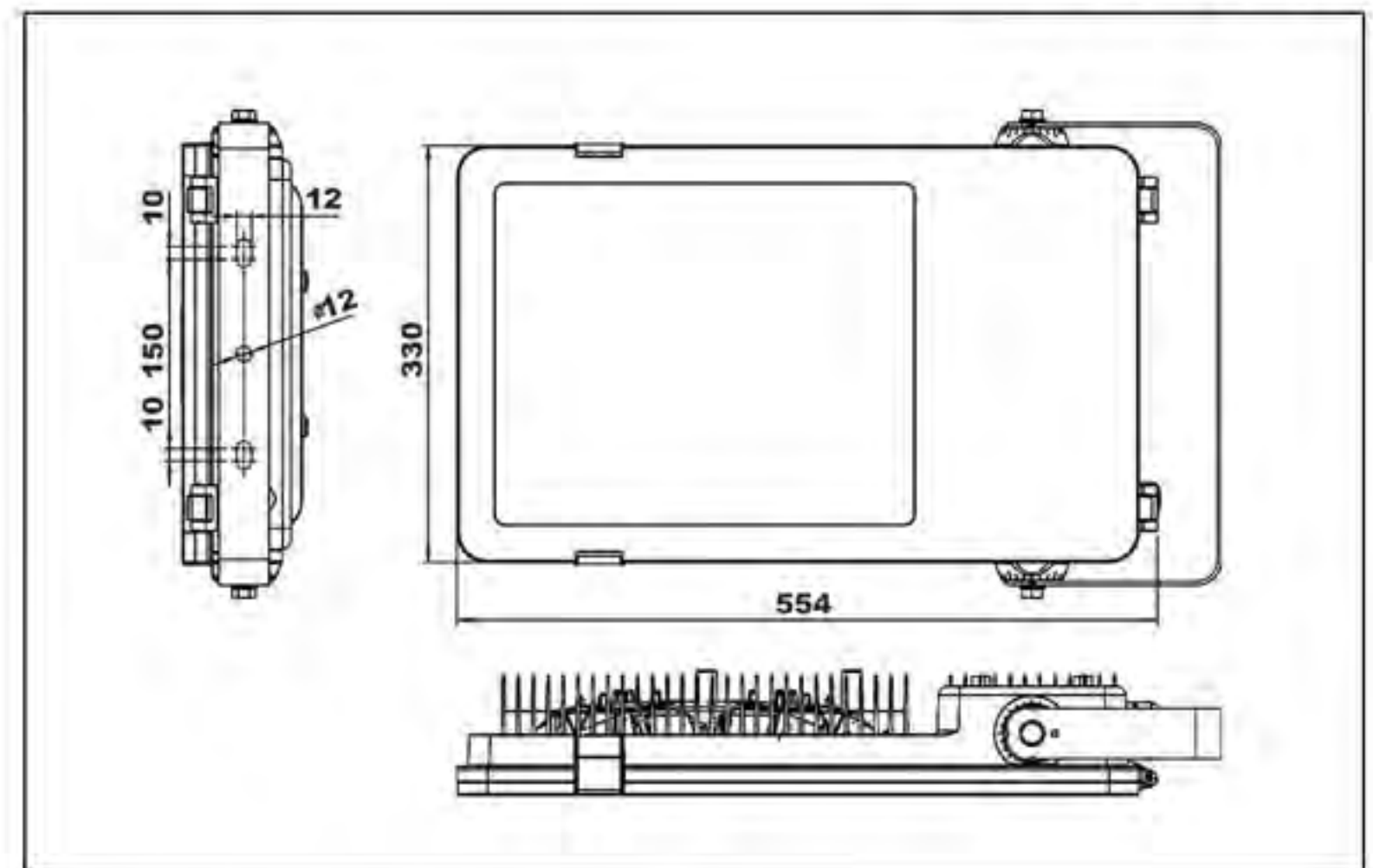


DIMENSIONS(MM)

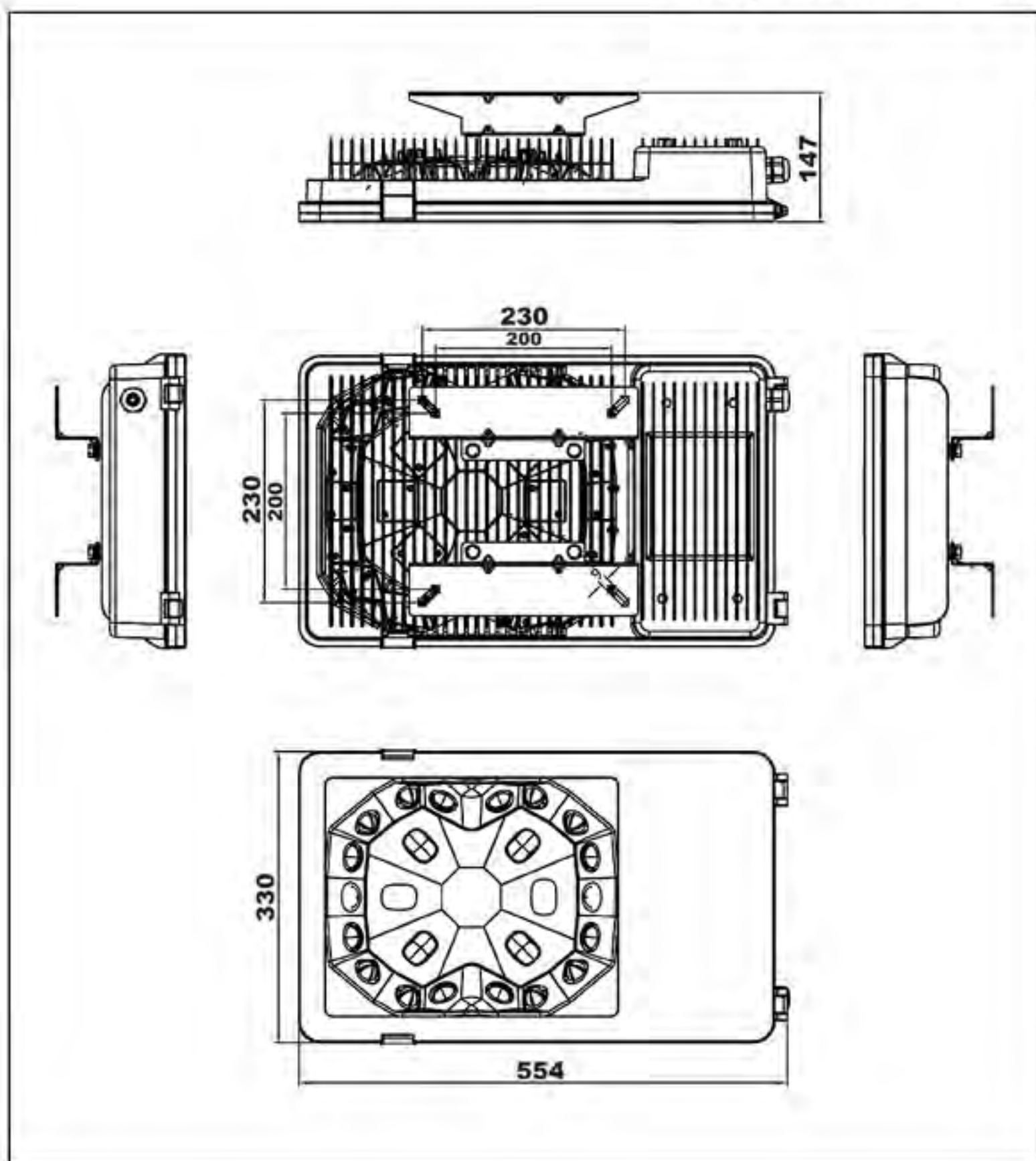
Adjustable bracket mounting



Flood lighting style

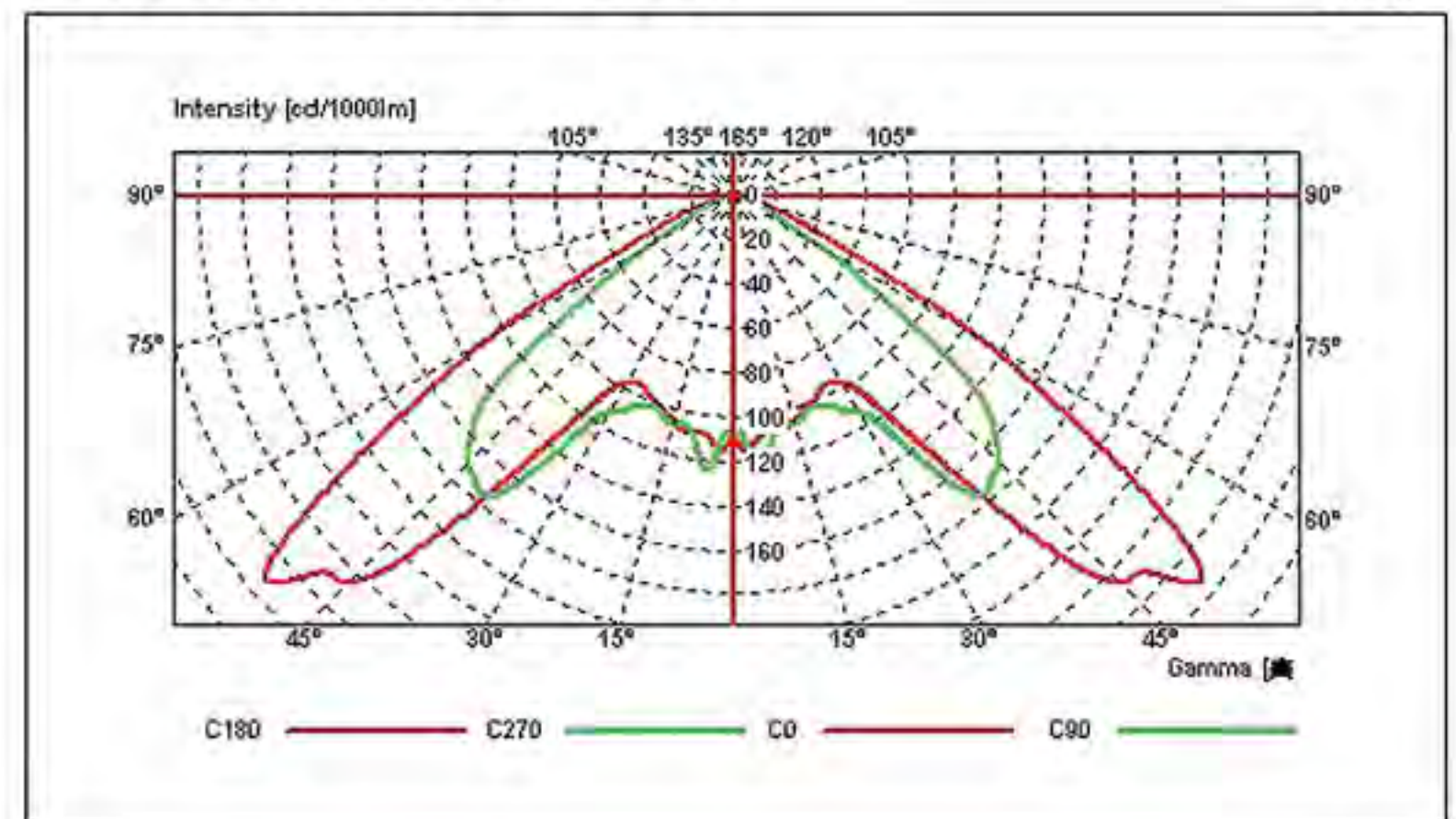


Fixing bracket mounting

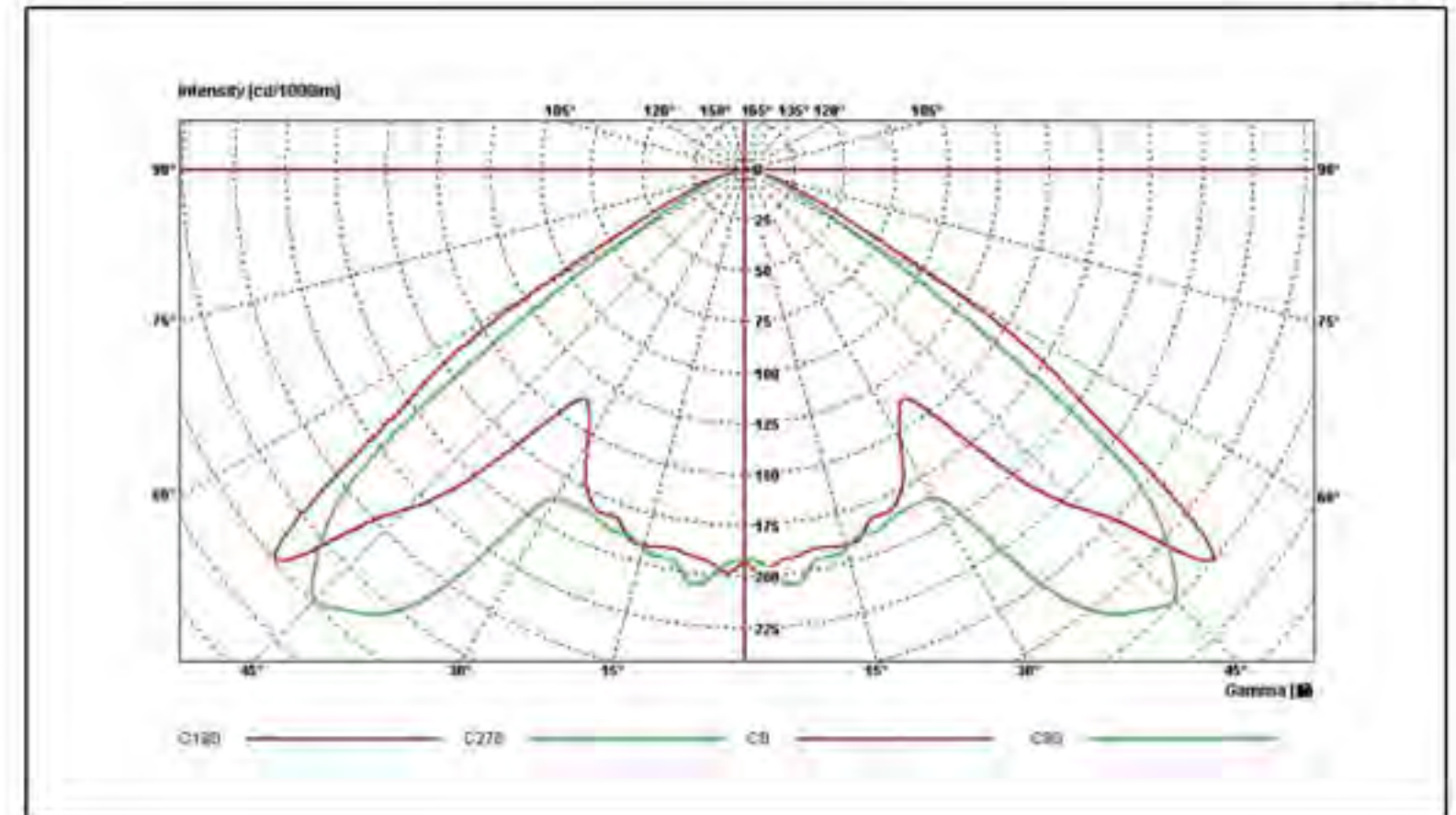


PHOTOMETRIC DATA

60W



80W



100W

