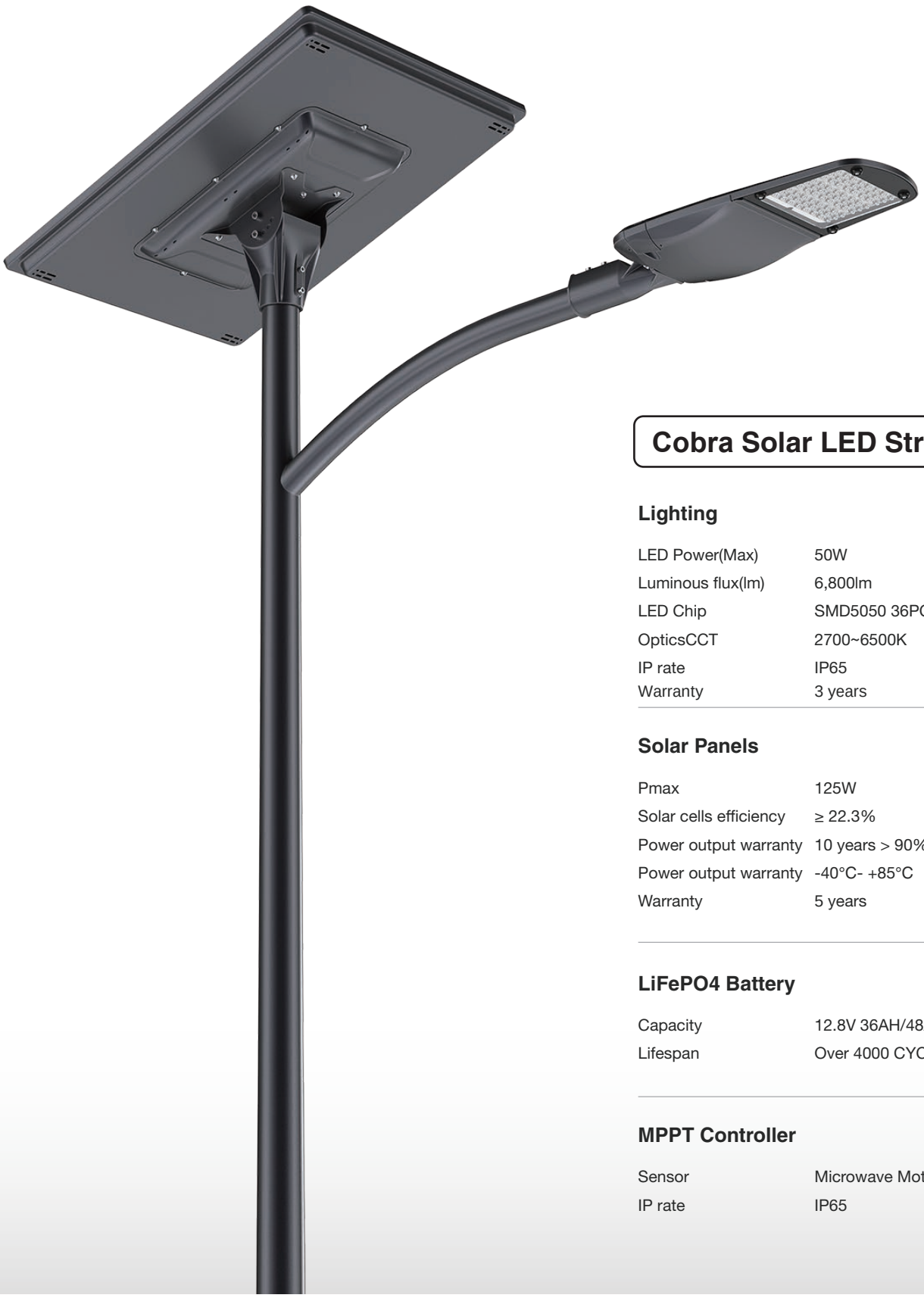
LightSource SOLAR AUSTRALIA

PRODUCT CHARACTERISTICS



Cobra Solar LED Street Light

Lighting

LED Power(Max)	50W	75W
Luminous flux(lm)	6,800lm	9,000lm
LED Chip	SMD5050 36PCS	SMD5050 36PCS
OpticsCCT	2700~6500K	2700~6500K
IP rate	IP65	IP65
Warranty	3 years	

Solar Panels

Pmax	125W
Solar cells efficiency	≥ 22.3%
Power output warranty	10 years > 90%, 25 years > 80%
Power output warranty	-40°C- +85°C
Warranty	5 years

LiFePO4 Battery

Capacity	12.8V 36AH/48AH/52AH/60AH
Lifespan	Over 4000 CYCLES @ 50% DOD over 10 years Lifetime

MPPT Controller

Sensor	Microwave Motion Sensor
IP rate	IP65

Application scenarios

Courtyard | Parks | Campsites | Car Parks & Rest Areas | Pathways

Aluminium die-cast housing

The LED street light head features a die-cast aluminum housing, providing excellent heat dissipation and protection against harsh environmental conditions. This ensures a long lifespan and reliable performance in diverse climates

High-Brightness LEDs

Equipped with high-luminance SMD5050 LED chips, this street light head offers exceptional brightness, enhancing visibility and safety on roads and pathways.

Versatile Optics

Multiple lens angles are available, allowing for customizable light distribution to meet specific project requirements. This versatility ensures optimal coverage and uniform illumination.

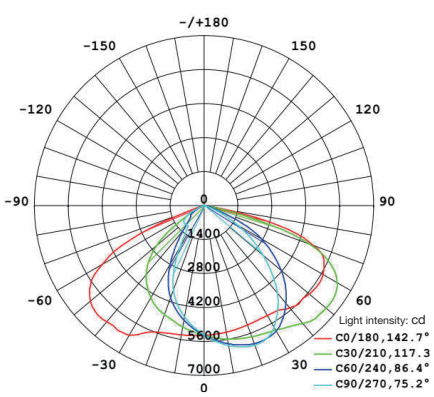
Adjustable Installation

The adjustable mounting angle allows for precise aiming, ensuring the light is directed exactly where it is needed. This feature provides flexibility in various installation scenarios, making it suitable for different pole heights and orientations.

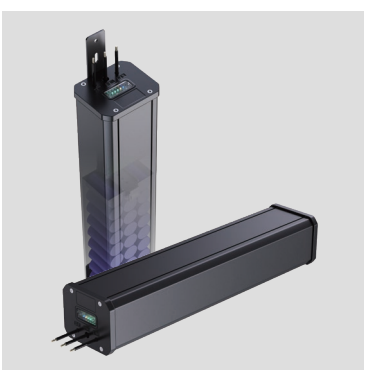
Aerodynamic Design

The sleek, streamlined design not only enhances the aesthetic appeal but also minimizes wind resistance, reducing the load on the pole and increasing stability.

Light distribution curve of meridional plane



Average beam angle (50%): 105.4 degrees



Cobra Solar

Street Light

Integrated Architecture

Solar panels tightly integrate controllers, batteries, and photovoltaic panels into a compact and efficient overall system. This design not only reduces the connection lines and interfaces between system components, reduces losses during energy transmission, but also greatly simplifies installation and maintenance processes, improving the overall reliability and stability of the system.

High Conversion Efficiency

By adopting advanced semiconductor materials and manufacturing processes, we ensure that the photoelectric conversion efficiency reaches industry-leading levels, exceeding 20%, and even approaching or exceeding 25%. This high efficiency means that under the same lighting conditions, our solar panels can generate more electricity.

Adaptive Adjustment

The system has adaptive adjustment function, which can automatically adjust the working mode according to weather changes and electricity demand, ensuring maximum power generation efficiency and effectively extending the service life of solar panels.

Long-life Technology

Special design and manufacturing processes are adopted to improve the weather resistance and aging resistance of solar panels, and the expected service life can reach more than 25 years.

Intelligent Monitoring System

Integrated with advanced intelligent management system, it can monitor key parameters such as power generation efficiency, operating status, and environmental temperature of solar panels in real time, and achieve remote monitoring and data analysis through IoT technology.

LIFEPO4 LITHIUM BATTERY CYLINDER

LiFePO4 Lithium Battery Cylinder

Nominal Capacity	12.8V 36AH
Charge mode	C.C + C.V
Charge Cut-off voltage	14.6±0.05V
Discharge Cut-off Voltage	11±0.05V
Storage Temperature	5°C～35°C
Operating Temperature	-10°C～65°C
Lifetime (D.OD. 50%)	4,000 cycles D.O.D 50%
Warranty	5 Years

Enhanced Safety:

The design, integrated into the light pole, effectively protects the battery from external environmental impacts such as extreme weather, theft, and vandalism. This ensures the battery's safety and longevity.

Simplified Installation and Maintenance:

The integrated battery design makes the system more unified, simplifying and speeding up the installation and maintenance processes, thus reducing labor and time costs.

Space Saving:

Utilizing the internal space of the light pole for battery installation avoids the issue of traditional external battery boxes occupying ground space, keeping the installation area clean and neat.

Aesthetic Uniformity:

Integrating the battery inside the light pole results in a cleaner, more stylish appearance for the entire solar street light system, aligning with the aesthetic standards of modern cities and high-end communities.

Efficient Heat Dissipation:

The environment inside the light pole typically offers excellent heat dissipation conditions, helping maintain the battery at an optimal working temperature, thereby extending battery life and enhancing system performance.

High-Performance Energy Storage:

Utilizing high-quality lithium batteries provides higher energy density and longer lifespan, ensuring street lights can operate normally even on cloudy days and at night.

MPPT SOLAR CONTROLLER

MPPT Solar Controller

Load current	50~3000mA
Load voltage	15V~40V
Maximum load power	80W/12V
Load conversion efficiency	85%-96%(Typical efficiency 95%)
Intelligent power	High, Moderate, Low, Auto, USE, NO
Period adjustment range	1min / 10min
Maximum solar input power	200W/12V
Maximum charge current	15A
Maximum solar input voltage	≤35V
MPPT Tracking efficiency	>99%
Light control voltage	3V ~ 11V ;×2,24V system
Light control delay	0S~60S/2min ~ 60min
IP rating	IP67

Enhanced Efficiency

MPPT controllers continuously track and adjust to the optimal voltage and current, ensuring the system operates at peak efficiency under varying conditions such as changes in sunlight, temperature, and shading.

Superior Performance

MPPT controllers convert available solar energy into usable power effectively, ensuring adequate battery charge even during cloudy or overcast days.

Increased Energy Harvest

MPPT controllers can boost energy collection by up to 30% compared to traditional PWM controllers. This ensures faster and more efficient battery charging, leading to longer operation times for the street lights.

Adaptability to Environmental Variations

MPPT controllers adjust to changes in temperature, irradiance, and shading, maintaining consistent performance throughout the year.

Improved Battery Longevity

By optimizing the charging process, MPPT controllers prevent overcharging and deep discharging, extending battery lifespan and reducing maintenance and replacement costs.