



TECHNICAL DESCRIPTION

SPLxx-W



WESTERN CO. SPLxx-W PV street-lamp is composed of :

- **Crystalline PV module** ;
- **PWM Charge regulator** that manages the battery charge with solar energy during the day and the turn-on/off and dimming of the PV street-lamp during the night;
- Pb sealed **battery** without maintenance;
- **Steel top-of-pole mounting structure** with opening battery box with fixed tilt;
- **Smart LED luminaire**;
- **Lamp-bracket**
- **Pole** (OPTIONAL)

The PV street-lamp is designed to work 12 hours per night with an autonomy of 3 no sun days.

Technical description of each component

1. Western Co. electronic charge regulator

- Western Co. charge regulator code SPC07IP
- SMT technology.
- Working voltage: 12V
- Max Current from PV module: 10A
- Typical current on load: 7A
- Recharge with temperature compensation of the batteries.
- Threshold voltage on PV module for light sensor activation: 1.5V
- Threshold voltage on PV module for light sensor deactivation: 3V
- Programmable output with timer inside that is programmable to 3/6/8/10 hours or complete light sensor.
- Programming through micro switches that can be set on the regulator case.
- Remote input for connection with infrared sensor.
- IP56 insulation degree.
- PWM system charge.
- Maximum battery discharge of 30% or of 70% which is programmable according to the timer
- NTC sensor for revealing of battery temperature.



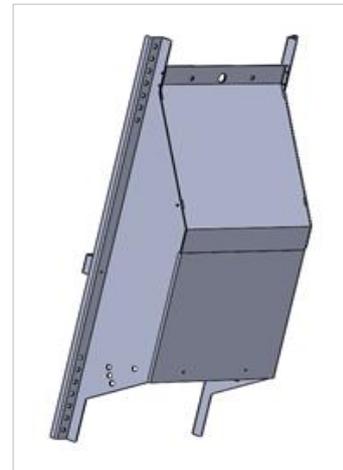
2. PV module

- P = 100Wp
- N° 36 solar cells in a series



3. Top-of-pole mounting structure

- Western Co. code PSE002
- Galvanised and dark grey painted structure with drawer for battery and electronics
- Articulation for variable inclination with single pressure pin
- Container with slits for aeration



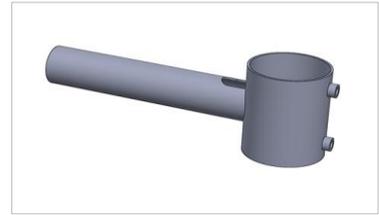
4. Battery

- Voltage: 12V
- Capacity: 60 Ah in C20
- Low auto-discharge.
- For cyclic use of charge and discharge
- Pb technology – sealed without maintenance



5. Lamp-bracket

- BVPSE002 Model
- Galvanised and grey-painted lamp-bracket
- Diameter: 60mm - Tilt angle: 0°
- Dark Grey color



6. Kit of cables

- Modello K.CAVI/SPL
- Kit of cables for outdoor applications
- Cables for PV modules
- Cables with terminals for batteries



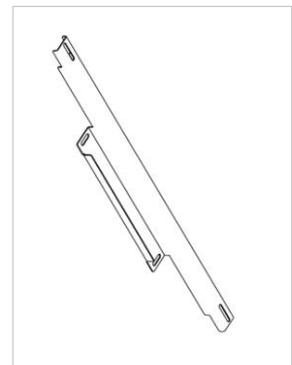
7. Pole

- Cylindrical galvanized pole H4,5mt over the ground
- H tot 5mt
- diameter = 102mm
- Dark Grey-painted



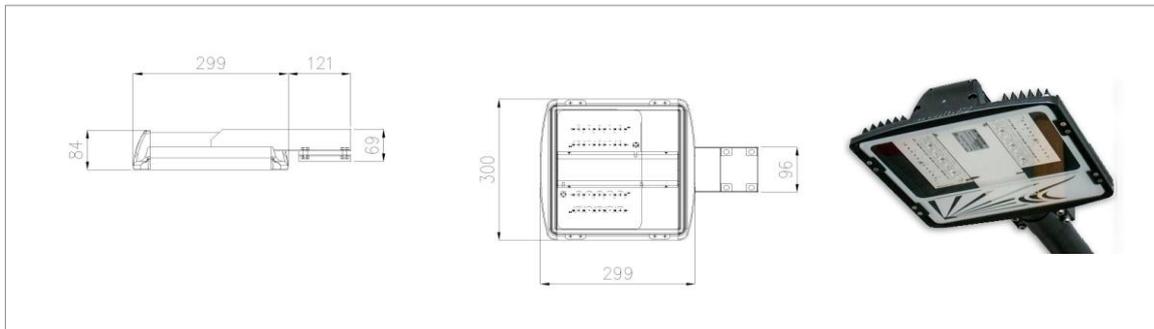
8. Kit of brackets

- PSE-KSL680 Model
- Steel structure
- PV module fixing on the top-pole mounting structure
- Length in function of PV module length
- Dark Grey-painted



9. Smart LED luminaire

LED lighting luminaire suitable for bracket installation. The supporting structure of the luminaire, which acts as a heat sink too, is made of **extruded aluminium alloy EN AW 6060 T5 EN - T6** state made up of a suitable number of fins exchanging the heat produced by the lighting body with the external environment. The anodising treatment is able to ensure resistance to the external environment and promotes heat dissipation. The perfectly flat lower section of the frame is used to secure optics light sources. **The side caps are made of die-cast aluminum - alloy EN 46100** - epoxy enamelled, after phosphodegreasing treatment (chromium-free) and they are coupled with the body by silicone sealant and screws. **Universal not regulable (fixed) attack to bracket** made of hot galvanized and painted steel \varnothing 60 mm. **EPDM gasket** applied on proper housing obtained from the body and from the side caps. **The closing screen is in tempered high transparency flat glass - thickness 4mm** with decorative serigraphy; it is fixed on the apparatus body by 4 **glass-stop accessories made of die-cast aluminum - alloy EN 46100** - epoxy glazed after phosphodegreasing treatment (chromium-free) and screws. The screen can be easily removed to allow the access to wiring compartment. The color of the side caps, of the glass-stop and of the attack is: "black". The luminaire has an interior **air exchange filter**. The photometric measure complies with UNI EN 11356 and LM-79-08. **"Semi Cut-off"** photometric emission. The optical system is composed of optical modules with high optical efficiency (about 92%) made of polymethylmethacrylate (PMMA). Luminous source constituted of high efficiency LED. The LEDs are mounted on printed circuit boards manufactured with a layer of aluminum support, ceramic insulation layer and copper conductive layer, total thickness of 1,6 mm. Between the dissipating part and the LED circuit there is a layer of thermo-conductive material so to improve the thermal continuity between the parties. LED 5mm – 15° blue color with decorative function installed in the street side cap. Power supply composed of **electronic LED Driver** (92% typical) - **Class of Insulation III**, entirely located inside the wiring compartment, that has to ensure the continuity of the LED modules' power supplying, fixed with screws on housing obtained on the luminaire extruded body and connected to LED modules through cables fixed on the output terminal. **12VDC supplying voltage. Thermal protection, overload / short-circuit and overvoltage protections. Possibility to make the luminaire work at reduced flux** of 30% according to the settings on the external Western Co charge regulator or automatically. H07RN-F 3x1.5 mmq. neoprene black supply cable (+Vin, -Vin, Dimmer) outgoing from the luminaire. IP68 external connector for cable with max section 4mmq and max external diameter of 13,5mm.



Available versions

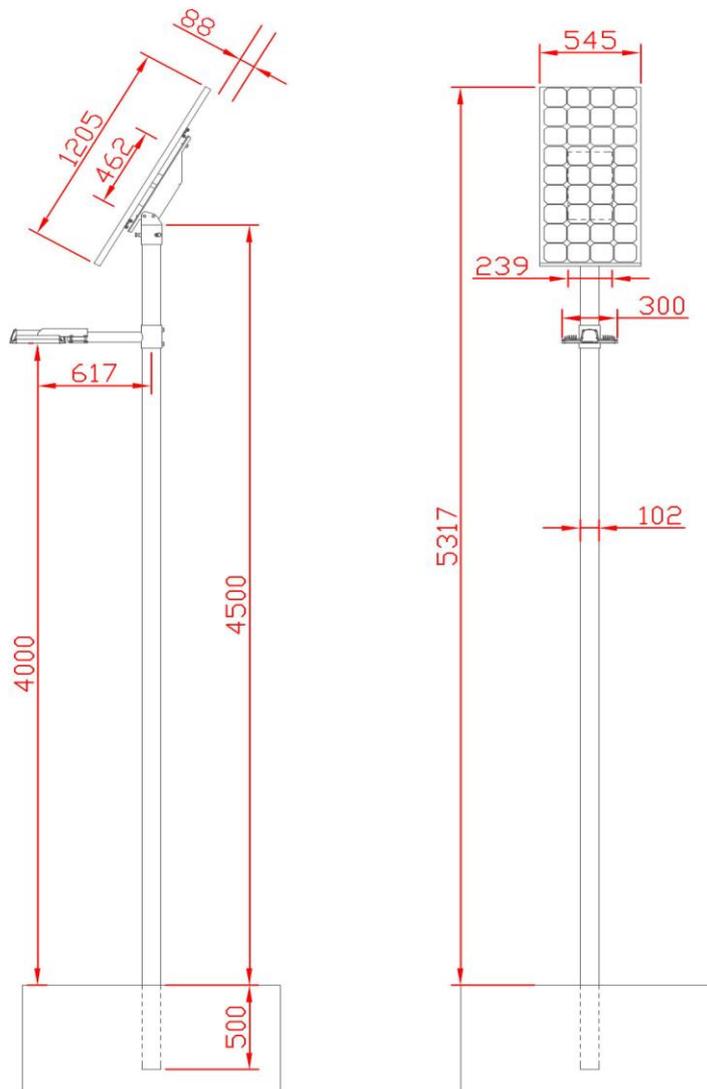
CODE	NUMBER OF LEDs	LUMINAIRE POWER @ Tq=25°C [W]**	LED CURRENT [mA]	NOMINAL LED FLUX @ Tj=85°C [lm]*	LUMINAIRE FLUX @ Tq=25°C [lm]**	LUMINAIRE EFFICIENCY @ Tq=25°C [lm/W]**
WL12	12	12	330	1770	1620	135
WL18	12	18	490	2480	2260	125

* Rated data extrapolated from LED manufacturer datasheet

** Rated data extrapolated from photometric measures executed in an accredited laboratory according to UNI EN 13032-4 rule

The indicated values on this technical sheet are to be considered rated values subjected to a tolerance of +/-5%.
The characteristics of the product listed above are subjected to change without notice.

10. Technical drawing



11. Basement

The study and the calculation of the size of the plinth for the fixing of the PV lamp must be made by the system designer and must take into consideration the soil type and location of the installation. In the entered data there are standard indications.

