

















A Variety of LED Street Lights

and accessories combination

As another outstanding product from Leadsun, the VertHex Solar Power System boasts versatile applications, compatible with a variety of lighting fixtures and battery combinations. It can be used in conjunction with Leadsun's Freedom Classic and Freedom Plus street lights, as well as Bell-shaped and V-shaped street lights, accommodating various battery configurations (with independent controllers or built-in controllers). These systems are highly suitable for a wide range of project scenarios and requirements.





LEADSUN

Mind Mapping

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	Freedom Plus LED Street Light9~10
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VertHex Solar Power System

PRODUCT FEATURES

360° sunlight reception

Cylindrical design captures sunlight from all directions.

Leadsun MPPT controller

Power generation efficiency is about 40% higher than that of PWM controller.

Durable Aluminum Frame

Superior corrosion resistance and mechanical strength.

Vertical installation

Less wind resistance, helps reduce light pole costs, prevents fallen leaves, dust, rain and snow buildup.

Flexible use

Can be used with a variety of luminaires and battery configurations.

Wide application

Ideal for street lights, monitoring systems, and other outdoor electrical equipment power supplies.







PHYSICAL DIMENSIONS (mm)









VSPV150W22-280

VSPV230W38-280

PRODUCT ADVANTAGES

High efficiency and safety

Power station-grade monocrystalline solar cell efficiency >23%.

MPPT controller operates efficiently in early morning, dusk and cloudy weather.

Well-protected against back charging, over current, over voltage, over temperature, etc.

Better integration

Well integrated with the light pole, has good heat dissipation performance and looks more technological.

PV panels working independently

Ensure uninterrupted operation of other panels in the event of one panel being broken.

Less wind resistance

Stands strong against strong wind, can reduce the requirements for light pole strength.

Easy installation and well-adapted

Suitable for all types of extreme environments, such as high latitude areas, sandy areas, desert areas and seaside, etc.

VertHex Solar Power System



Specifications

Model No. Verystocil Parameters Peak Power/Pm (W)(Espand flat power) 156 240 Peak Power/Pm (W)(Vertical service power) 78 120 Max. Power Voltager/Vmp (V) 23.4 18.0 Max. Power Voltager/Vmp (V) 25.87 22.8 Short Circuit Current/lac (A) 3.88 6.77 Short Circuit Current/lac (A) 3.88 Acroud 23% Grade Osbar Cells Acroude 23% Acroud 23% Grade Osbar Cells and Colls China China Solar Cell Songin China China Operating Temperature Range 40°C18°C 40°C-48°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) Max. System Voltage 0.07 0.07 Max. System Voltage 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) NetWeight of Product (%) 0.03 138(L)×280(W)×240(T) NetWeight of Product (kg) 138(L)×280(W)×240(T) 1898(L)×330(W)×30(W)×30(W) Main Package Gross Weight (kg) 158(L) 158 Solar Panel Material List Low-iron tempered glass / 3.2mm			
Peak Power/Pm (W) (Expand flat power) 156 240 Peak Power/Pm (W) (Vertical service power) 78 120 Max. Power Voltage/Vmp (V) 23.4 18.9 Max. Power Current/Imp (A) 3.38 3.5 Open Circuit Voltage/Voc (V) 25.87 22.8 Short Circuit Current/Isc (A) 3.88 7.7 Solar Cells Efficiency Acround 23% Acround 23% Grade of Solar Cells A Grade Acround 23% Solar Cells Origin China China Output Tolerance (Pm) ±5% 4.6 Solar Cell / No. of Cells and Connections monocrystalline/38*6-cell in series monocrystalline/50*6-cell in series Operating Temperature Range 40°C~485°C 40°C~485°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%K) 0.03 0.36 TKCurrent (%K) 0.38 0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1888(L)×230(W)×240(T) Net Weight of Product (kg) 1385(L)×330(W)×300(T) 1898(L)×330(W)×300(T) Main Package Gross W	Model No.	VSPV150W22-280	VSPV240W18-280
Peak Power/Pm (W) (Vertical service power) 78 120 Max. Power Voltage/Vmp (V) 23.4 18.9 Max. Power Current/Imp (A) 3.36 6.35 Open Circuit Voltage/Vac (V) 25.87 22.8 Short Circuit Current/Isc (A) 3.88 6.77 Solar Cells Efficiency A Grade A Grade Solar Cells Origin China 6.6 Output Tolerance (Pm) ±5% 56 Solar Cell / No. of Cells and Connections monocrystalline/38*6-cell in series monocrystalline/50*6-cell in series Operating Temperature Range 40°C~485°C 40°C~485°C 40°C~485°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKCurrent (%/K) 0.36 0.38 0.38 Demension of Product (my) 1316(L)×280(W)×240(T) 1888(L)×280(W)×240(T) 1888(L)×280(W)×240(T) Net Weight of Product (kg) 1385(L)×330(W)×300(T) 1898(L)×330(W)×300(T) 1898(L)×330(W)×300(T) Main Package Gross Weight (kg) 1385(L)×330(W)×300(T) 968(L)×330(W)×300(T) 1970(W)×30(W) Solar Pane	Physical Parameters		
Max. Power Voltage/Vmp (V) 3.34 18.9 Max. Power Current/Imp (A) 3.36 3.55 Open Circuit Voltage/Voc (V) 25.87 22.8 Short Circuit Current/Isc (A) 3.88 6.77 Solar Cells Efficiency Around 23% Around 23% Grade of Solar Cells A Grade A Grade Solar Cells Origin China China Output Tolerance (Pm) ±5% ±5% Solar Cell No. of Cells and Connections monocrystalline/38°6-cell in series monocrystalline/50°6-cell in series Operating Temperature Range ±40°C~+85°C ±40°C~+85°C ±5% Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%/K) -0.36 -0.36 -0.36 TKCurrent (%/K) 0.07 1850v(V) 1898(L)×280(W)×240(T) 1898(L)×280(W)×240(T) National Package Carton Size (mm) 1316(L)×280(W)×300(T) 1898(L)×330(W)×300(T) 1898(L)×330(W)×300(T) Main Package Graton Size (mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) 1970v(V) Solar Panel Mater	Peak Power/Pm (W)(Expand flat power)	156	240
Max. Power Current/Imp (A) 3.36 6.35 Open Circuit Voltage/Voc (V) 25.87 22.8 Short Circuit Current/Isc (A) 3.88 6.77 Solar Cells Efficiency Around 23% Around 23% Grade of Solar Cells A Grade A Grade Solar Cells Origin China China Output Tolerance (Pm) ±5% ±5% Solar Cell / No. of Cells and Connections monocrystalline/38°6-cell in series monocrystalline/50°6-cell in series Operating Temperature Range 40°C~+85°C 40°C~+85°C 40°C~+85°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVOltage (%I/K) 0.36 0.36 0.36 TKVOltage (%I/K) 0.38 0.38 0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×230(W)×240(T) Net Weight of Product (kg) 135(L)×330(W)×300(T) 1966(L)×330(W)×300(T) Main Package Garton Size(mm) 1385(L)×330(W)×300(T) 1966(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 (H) Imperature resistance, fatigue resistance, represistance	Peak Power/Pm (W)(Vertical service power)	78	120
Open Circuit Voltage/Voc (V) 25.87 22.8 Short Circuit Current/Isc (A) 3.88 6.77 Solar Cells Efficiency Around 23% Around 23% Grade of Solar Cells A Grade A Grade Solar Cells Origin China China Output Tolerance (Pm) ±5% ±5% Solar Cell / No. of Cells and Connections monocrystalline/38*6-cell in series monocrystalline/60*6-cell in series Operating Temperature Range +40°C~+85°C +40°C~+85°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVourrent (%/K) 0.07 0.07 TKCurrent (%/K) 0.07 0.07 Net Weight of Product (mm) 136(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 19 25 Packing Parameters Main Package Gross Weight (kg) 19 25 Main Package Gross Weight (kg) 19 25 5 Solar Panel Material List Low-iron tempered glass / 3.2mm	Max. Power Voltage/Vmp (V)	23.4	18.9
Short Circuit Current/Isc (A) 3.88 6.77 Solar Cells Efficiency Around 23% Around 23% Grade of Solar Cells A Grade A Grade Solar Cells Origin China China Output Tolerance (Pm) ±5% ±5% Solar Cell / No. of Cells and Connections monocrystalline/38*6-cell in series monocrystalline/50*6-cell in series Operating Temperature Range 40°C~185°C 40°C~185°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoturent (%/K) 0.36 0.36 TKCurrent (%/K) 0.07 0.07 TKPOwer (%/K) 0.38 0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Nail Package Carton Size(mm) 1385(L)×30(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Low-iron tempered glass / 3.2mm EVA High temperature resistance, fatigue resistance, impact resistance, transmittance, transmittance, transmittance, transmittance, transmittance. EVA High temperature resistance, fatigue resistance	Max. Power Current/Imp (A)	3.36	6.35
Solar Cells Efficiency Around 23% Around 23% Grade of Solar Cells A Grade A Grade Solar Cells Origin China China Output Tolerance (Pm) ±5% ±5% Solar Cell / No. of Cells and Connections monocrystalline/38*6-cell in series monocrystalline/50*6-cell in series Operating Temperature Range -40*C~+85*C -40*C~+85*C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%/K) -0.36 -0.36 TKCurrent (%/K) 0.07 0.07 TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 2 Packing Parameters Main Package Grans Size(mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High Itemperature resistance, fatigue resistance, impact resistance, impact resistance, impact resist	Open Circuit Voltage/Voc (V)	25.87	22.8
Grade of Solar Cells A Grade A Grade Solar Cells Origin China China Output Tolerance (Pm) ±5% ±5% Solar Cell / No. of Cells and Connections monocrystalline/38°6-cell in series monocrystalline/50°6-cell in series Operating Temperature Range -40°C~+85°C 40°C~+85°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%/K) -0.36 -0.36 TKCurrent (%/K) 0.07 0.03 TKPower (%/K) -0.38 0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1889(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 2 Packing Parameters Main Package Carton Size (mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 5 Solar Panel Material Liet EVA High light transmittance, anti-oxed tion, anti-creating transmittance, artify transmittance,	Short Circuit Current/Isc (A)	3.88	6.77
Solar Cells Origin China China Output Tolerance (Pm) ±5% ±5% Solar Cell / No. of Cells and Connections monocrystalline/38°6-cell in series monocrystalline/50°6-cell in series Operating Temperature Range -40°C~+85°C 40°C~+85°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%/K) -0.36 -0.36 TKCurrent (%/K) 0.07 0.07 TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1888(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 2 Packing Parameters Main Package Carton Size (mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List EVA High light transmittance, anti-oxdation, anti-oxion resistance, impact resistance, orrosion res	Solar Cells Efficiency	Around 23%	Around 23%
Output Tolerance (Pm) ±5% ±5% Solar Cell / No. of Cells and Connections monocrystalline/38°6-cell in series monocrystalline/50°6-cell in series Operating Temperature Range -40°C~+85°C -40°C~+85°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%/K) -0.36 -0.36 TKCurrent (%/K) 0.07 0.07 TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Carton Size(mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 1968(L)×330(W)×300(T) 25 Solar Panel Material List EVA High light transmittance, anti-oxadation, anti-orresistance, resistance, resistance, resistance, resistance, resistance, resistance, resistance, impact resistance, limpact resistance, transmittance EVA High temperature resistance, corrosion resistance, resistance, impact resistance, transmittance	Grade of Solar Cells	A Grade	A Grade
Solar Cell / No. of Cells and Connections monocrystalline/38*6-cell in series monocrystalline/50*6-cell in series Operating Temperature Range -40°C~+85°C -40°C~+85°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%/K) -0.36 -0.36 TKCurrent (%/K) 0.07 0.07 TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 2 Packing Parameters Main Package Carton Size(mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High light transmittance, anti-oxdation, anti-corresponse Transparent TPE(Black) High temperature resistance, fatigue resistance, creep resistance, impact resistance, transmittance Aluminum frame(AL 6063, ADC12) High temperature resistance, corrosion resistance, anti-oxdation, anti-corresponse resistance Mounting Recommendation 4.76 6.86	Solar Cells Origin	China	China
Operating Temperature Range -40°C~+85°C -40°C~+85°C Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%/K) -0.36 -0.36 TKCurrent (%/K) 0.07 0.7 TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 22 Packing Parameters Main Package Carton Size(mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, recep resistance, impact resistance, transmittance Aluminum frame(AL6063, ADC12) High tension resistance, corrosion resistance resistance Mounting Recommendation 4.76 6.86 EPA(effective projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160 <	Output Tolerance (Pm)	±5%	±5%
Max. System Voltage 1000V(TUV)/600V(UL) 1000V(TUV)/600V(UL) TKVoltage (%/K) -0.36 -0.36 TKCurrent (%/K) 0.07 0.07 TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 22 Packing Parameters Main Package Carton Size (mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High tight transmittance, anti-oxdation, anti-oxiston Transparent TPE(Black) High temperature resistance, fatigue resistance, resper resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance brasion resistance Mounting Recommendation 4.76 6.86 EPA(effective projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	Solar Cell / No. of Cells and Connections	monocrystalline/38*6-cell in series	monocrystalline/50*6-cell in series
TKVoltage (%/K) -0.36 -0.36 TKCurrent (%/K) 0.07 0.07 TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 22 Packing Parameters Main Package Carton Size(mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, impact resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance, abrasion resistance Mounting Recommendation 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	Operating Temperature Range	-40°C~+85°C	-40°C~+85°C
TKCurrent (%/K) 0.07 0.07 TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 2 Packing Parameters Main Package Carton Size(mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, creep resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance, abrasion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	Max. System Voltage	1000V(TUV)/600V(UL)	1000V(TUV)/600V(UL)
TKPower (%/K) -0.38 -0.38 Demension of Product (mm) 1316 (L)×280 (W)×240 (T) 1898 (L)×280 (W)×240 (T) Net Weight of Product (kg) 16.5 22 Packing Parameters Main Package Carton Size(mm) 1385 (L)×330 (W)×300 (T) 1968 (L)×330 (W)×300 (T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High light transmittance, anti-oxdation, anti-orrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, impact resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	TKVoltage (%/K)	-0.36	-0.36
Demension of Product (mm) 1316(L)×280(W)×240(T) 1898(L)×280(W)×240(T) Net Weight of Product (kg) 16.5 22 Packing Parameters Main Package Carton Size(mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, creep resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance abrasion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	TKCurrent (%/K)	0.07	0.07
Net Weight of Product (kg) Packing Parameters Main Package Carton Size(mm) Main Package Gross Weight (kg) Solar Panel Material List Front cover(material/thickness) EVA High light transmittance, anti-oxdation, anti-corosion Transparent TPE(Black) Aluminum frame(AL6063,ADC12) Mounting Recommendation EPA(effective projected area) (ft²) APA (acutal projected area) (ft²) Mind Load Rate (mph) 16.5 1885(L)×330(W)×300(T) 1986(L)×330(W)×300(T) 1986(L)×330(W)×30(T) 1986(L)×30(W)×30(T) 1986(L)×330(W)×30(T) 1986(L)×3	TKPower (%/K)	-0.38	-0.38
Packing Parameters Main Package Carton Size(mm) 1385(L)×330(W)×300(T) 1968(L)×330(W)×300(T) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) Low-iron tempered glass / 3.2mm EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance brasion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160 160 160	Demension of Product (mm)	1316(L)×280(W)×240(T)	1898(L)×280(W)×240(T)
Main Package Carton Size(mm) Main Package Gross Weight (kg) 19 25 Solar Panel Material List Front cover(material/thickness) EVA High light transmittance, anti-oxdation, anti-corosion Transparent TPE(Black) High temperature resistance, fatigue resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) Mounting Recommendation EPA(effective projected area) (ft²) APA (acutal projected area) (ft²) 3.97 Mind Load Rate (mph) 1968(L)×330(W)×300(T) 25 APA (acutal projected area) (ft²) 106 108 108 108 108 108 108 108	Net Weight of Product (kg)	16.5	22
Main Package Gross Weight (kg) 50lar Panel Material List Front cover(material/thickness) EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) Aluminum frame(AL6063,ADC12) High tension resistance, fatigue resistance, reep resistance, impact resistance, transmittance PPA(effective projected area) (ft²) APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 19 25	Packing Parameters		
Solar Panel Material List Front cover(material/thickness) EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, creep resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance, abrasion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 4.76 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160	Main Package Carton Size(mm)	1385(L)×330(W)×300(T)	1968(L)×330(W)×300(T)
EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance, abrasion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	Main Package Gross Weight (kg)	19	25
EVA High light transmittance, anti-oxdation, anti-corrosion Transparent TPE(Black) High temperature resistance, fatigue resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance abrasion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	Solar Panel Material List		
High temperature resistance, fatigue resistance, impact resistance, impact resistance, transmittance Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance abrasion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	Front cover(material/thickness)	Low-iron tempered glass / 3.2mm	
Aluminum frame(AL6063,ADC12) High tension resistance, corrosion resistance, abrasion resistance Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	EVA	High light transmittance, anti-oxdation, ar	nti-corrosion
Mounting Recommendation EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	Transparent TPE(Black)		stance,creep resistance, impact
EPA(effective projected area) (ft²) 4.76 6.86 APA (acutal projected area) (ft²) 3.97 5.72 Wind Load Rate (mph) 160 160	Aluminum frame(AL6063,ADC12)	High tension resistance, corrosion resista	nce, abrasion resistance
APA (acutal projected area) (ft²) Wind Load Rate (mph) 160 5.72 160	Mounting Recommendation		
Wind Load Rate (mph) 160 160	EPA(effective projected area) (ft²)	4.76	6.86
	APA (acutal projected area) (ft²)	3.97	5.72
Install Dimensiont (mm) 60~171(Side 143mm) 60~171(Side 143mm)	Wind Load Rate (mph)	160	160
	Install Dimensiont (mm)	60~171(Side 143mm)	60~171(Side 143mm)



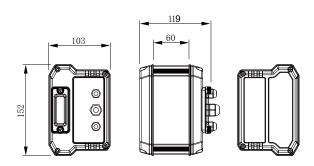
MPPT Controller

Ultra-Intelligent



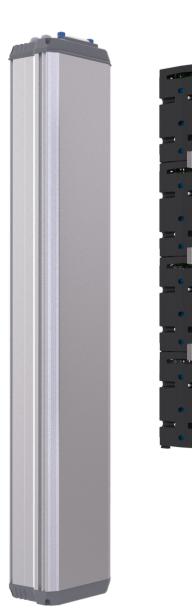
PRODUCT FEATURES

LEADSUN's independently developed MPPT controller offers flexible access and multiple charging modes. It provides a charging efficiency approximately 40% higher than PWM controllers. With a constant voltage charging function, it prevents impact damage to the battery during charging process. The controller is compatible with both 12V and 24V systems.



Model No.	VSMC220W12
Controller Parameters	
Max PV Input Power (W)	220
PV Input Voltage (V)	18
PV Input Voltage Range (V)	18~30
Battery Voltage (V)	12
Battery Voltage Range (V)	11.5~14.4
Max Charge Current (A)	15
Max MPPT Charge Efficiency	98%
Max LED Power (W)	100
Number of LED	2
Single LED Max Power (W)	50
LED Voltage (V)	24
Wireless Type	LORA
PIR Function	Yes
Number of Batteries	2
Operating Temperature	-20°C~60°C
Packing Parameters	
Demension of unit (mm)	152×103×119
Net Weight of Product (kg)	0.9
Demension of Carton (mm)/*4Set	380×280×200
Gross Weight of Package (kg)	5

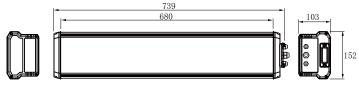
MPPT Controller with Battery



At the heart of every Leadsun solar lighting system are the ingenious Lithium LiFePO4 batteries featuring LEADSUN's patented advanced battery management system. They have much greater charging efficiency and also provide double the lifespan compared to traditional solar lighting batteries. The battery cycle life is up to 2000 times at 100% DOD. MPPT controller can be integrated with battery.

- / Light Weight
- **C** Eco-Friendly
- **Stable Performance**
- Long Life Span
- Safe and Explosion-proof
- High Temperature Resistance

PHYSICAL DIMENSIONS (mm)



VSBY082012-MC



MPPT Controller with Battery

Specifications

specification	VIII		
Model No.		VSBY082012-MC	VSBY122912-MC
Battery Paramete	rs		
Battery Capacity (WI	h)	820	1229
Standard Voltage (V)	12.8	12.8
Types of Batteries		26700/4000mA/3.2V/Lithium iro	on phosphate battery
Number of Batteries	(pcs)	64	96
Max. Charging Volta	ge (V)	22	22
Min.Charging Voltag	e (V)	14.5	14.5
Max. Charging Curre	ent (A)	20	20
	Cut-off Voltage (V)	14.4	14.4
Charge Conditions	Cut-off Current (A)	0.1	0.1
Discharge Cut-off Vo	oltage (V)	9.6	9.6
Max. Discharge Curr	rent (A)	20	20
Cycle Life (≥80% Ca	pacity)	2000 times	2000 times
Design Life (1 cycle	per day)	5 years	5 years
Certification		CB(IEC62133) / UN38.3 Transp	port certificate / EMC / ROHS
Charge Temperature	•	0°C~51°C	0°C~51°C
Discharge Temperat	ure	-20°C~60°C	-20°C~60°C
Storage Temperature	e (≤3months)	-20°C~45°C	-20°C~45°C
Controller Parame	eters		
Max PV Input Power	(W)	220	220
PV Input Voltage Rai	nge (V)	18~30	18~30
Max Charge Current	(A)	15	15
Max MPPT Charge E	Efficiency	98%	98%
Max LED Output Pov	ver (W)	100	100
LED Output Voltage	(V)	24	24
LED Open Circuit Vo	ltage (V)	42	42
Number of LED Driv	es	2	2
Wireless Type (Option	onal)	LORA	LORA
PIR Function		Yes	Yes
Number of Batteries		2	2
Operating Temperature		-20°C~80°C	-20°C~80°C
Packing Paramete	ers		
Net Weight of Produc	ct (kg)	10	15
Demension of unit (n	nm)	739×152×103	984×152×103
Gross Weight of Pac	kage (kg)	11	16.5
Demension of Carton	n (mm)/*1Set	756×200×160	1016×200×160



LITHIUM-ION Battery Pack (LiFePO4)



CB (FC UN38.3 🚳



$\left(rac{1}{2} ight)$ Long Battery Life

LiFePO4 battery has 2,000+ charge cycles at 100% DOD. This means fewer battery replacements.



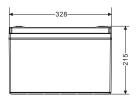
More Safety

Built-in BMS, automatic protection system to prevent over-charge, over-discharge, over-current and over-temperature.



Light Weight

Approximately 40% ~50% of the weight of the lead-acid battery.









Simplified Operations

Without complicated charging process, opportunistic charging will not shorten battery life. Drop-in replacement of lead-acid batteries.

Model No.	VSBY153612-LP
Electrical Parameters	
Nominal Voltage	12.8V
Nominal Capacity	120Ah@0.2C
Energy	1536Wh
Internal Resistance	45≤mΩ
Cycle Life	2000-3000 (Cycle Life @ 100% Depth of Discharge)
Self Discharge	<3.5% (Monthly@25°C)
Standard Charge	
Charging Voltage	14.0~14.6V
Charging Mode	Charging mode in 0°C~45°C environment, 0.2C5A constant current charge to 14.6V, then 14.6V constant voltage charge until the current drops to 0.02C5A and then stop
Charging Current	20A
Max Charging Current	50A
Standard Dischage	
Discharging Current	20A
Max Continuous Discharging Current	100A
Max Pulse Discharging Current	200A(<3S)
Discharging Cut-off Current	10.0A
Operation and Storage	
Charge Temp.	0°C to 45°C (32°F to 113°F) @60±25% humidity
Discharge Temp.	-20°C to 60°C (-4°F to 140°F) @60±25% humidity
Storage Temp.	0°C to 45°C (32°F to 113°F) @60±25% humidity
IP Class	IP55
Physical Parameters	
Battery Cells Type & Arrangement	IFR32140, 4S8P
Housing Material	ABS
Dimension (L×W×H)	328×172×215mm
N.Weight	13.1kg
Terminal Type	M8

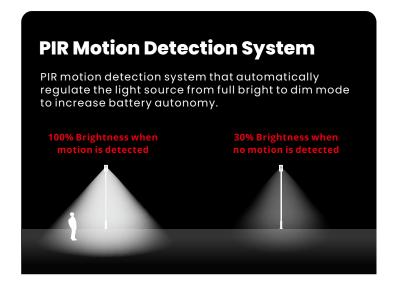
Freedom Classic **LED Street Light**

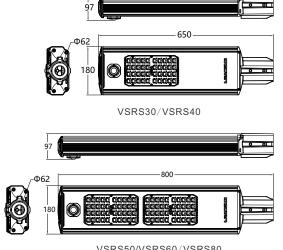




Using high-efficiency LED, luminous efficiency is up to 180lm/W (@25 C). The lights sealing lens is made of strong anti-ultraviolet PC, which has anti-aging and antiimpact performance, enabling long term usage. With the unique cutoff design of the optic lens, allows us to eliminate the lighting pollution to the environment.







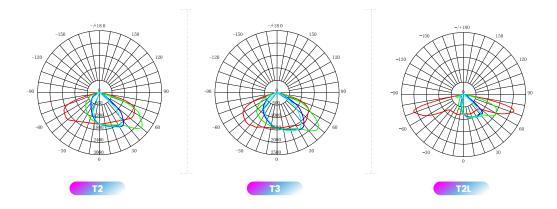
VSRS50/VSRS60/VSRS80

Freedom Classic LED Street Light



LIGHT DISTRIBUTION

The new lens design improves the lighting effect and the high quality optics and precision engineering of the lens provide options of T2/T3/T2L IES lighting distribution patterns, other benefits include increased uniformity and comfort. Dark Sky certificated luminaires are optional.



Model No.	VSRS30	VSRS40	VSRS50	VSRS60	VSRS80
Light Parameters					
Light Output (W)	30	40	50	60	80
Optional Light Distribution	T2/T3/T2L	T2/T3/T2L	T2/T3/T2L	T2/T3/T2L	T2/T3/T2L
Color Temperature (K)	3000/4000/5000	3000/4000/5000	3000/4000/5000	3000/4000/5000	3000/4000/5000
Typical Luminous Flux (Im) (5000K)	5550	7200	9500	11800	14800
Physical Parameters					
Qty. of LED Chips	36	36	2×36	2×36	2×36
Motion Sensor	PIR / DISS				
Range of input Voltage (V)	22V	22V	22V	22V	22V
Storage Temperature	-20°C~45°C	-20°C~45°C	-20°C~45°C	-20°C~45°C	-20°C~45°C
Dimension of Product (mm)	650×180×97	650×180×97	800×180×97	800×180×97	800×180×97
Net Weight of Product (kg)	3.2	3.2	3.2	4	4
Packing Parameters					
Dimension of Carton (mm)*2Set	680×240×210	680×240×210	830×240×210	830×240×210	830×240×210
Gross Weight of Product (kg)	8	8	10	10	10
Mounting Recommendation					
EPA (Effective projected area) (ft²)	0.57	0.57	0.70	0.70	0.70
APA (Acutal projected area) (ft²)	0.47	0.47	0.58	0.58	0.58
Wind Load Rate (mph)	160	160	160	160	160
Recommended Installation Height (m)	5~8	5~8	7~10	7~10	10~12
Recommended Installation Distance (m)	30~55	30~55	45~70	45~70	70~90
Top of Pole or Tenon OD (mm)	60	60	60	60	60

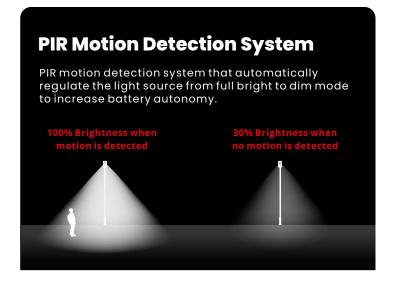


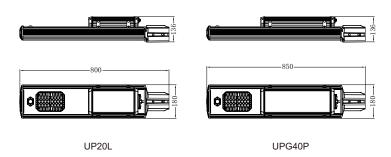
Freedom Plus LED Street Light



Incorporating a brilliant LED street light, smart LiFePO4 battery system, high efficiency controller and strong aluminium alloy cage, the Freedom Plus series provides a reliable and cost-effective solution for solar street lighting. With outstanding features of long life span, simple installation and low cost maintenance, the Freedom Plus series is indeed a classic work which can meet the needs of users.





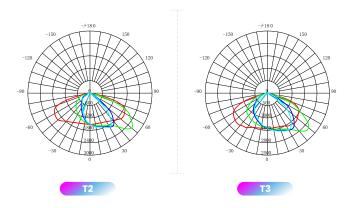


Freedom Plus LED Street Light



LIGHT DISTRIBUTION

The new lens design improves the lighting effect and the high quality optics and precision engineering of the lens provide options of T2 & T3 IES lighting distribution patterns, other benefits include increased uniformity and comfort.



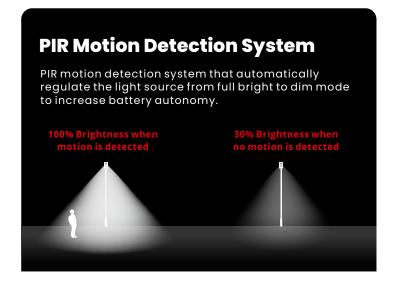
Model No.		UP20L	UPG40P	
Light Parameters				
Light Output (W)		20	40	
Optional Light Distri	bution	T2/T3	T2/T3	
Color Temperature (K)	3000/4000/5000	3000/4000/5000	
Typical Luminous Fl	ux (lm)(5000K)	3800	7200	
Working Mode		Full brightness when detected, 30% brightness when no motion detected		
Min. Working Time	Bright Mode	9	9	
(Hours)	DIM Mode (30%)	29	29	
Physical Paramet	ers			
Liuthium Battery Ca	pacity (Wh)	205	410	
Qty. of LED Chips		16	36	
Motion Sensor		PIR	PIR	
Dimension of Produc	ct (mm)	800×180×136	850×180×136	
Net Weight of Produ	ct (kg)	10	12	
Packing Paramete	ers			
Dimension of Carton	ı (mm)*2Set	855×170×230	910×190×240	
Gross Weight of Product (kg)		12	14	
Environment Requ	uirement			
Charge Temperature	9	0°C~51°C	0°C~51°C	
Discharge Temperat	ure	-20°C~60°C	-20°C~60°C	
Storage Temperatur	e (<3 months)	-20°C~45°C	-20°C~45°C	
Storage Temperature (3~12 months)		-20°C~25°C	-20°C~25°C	
Mounting Recomm	mendation			
EPA (Effective projective project	cted area) (ft²)	0.70	0.73	
APA (Acutal projected area) (ft²)		0.58	0.60	
Wind Load Rate (mph)		130	130	
Recommended Installation Height (m)		4~7	5~8	
Recommended Installation Distance (m)		15~25	20~30	
Top of Pole or Tenon	OD (mm)	60	60	

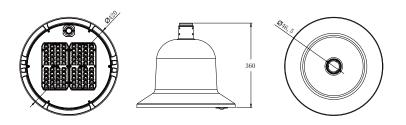


XL series (Bell-shaped) LED Street Light



XL series, a retro bell-shaped luminaire is compatible with various solar panel power supply systems. Its sleek and simple design prevents dust buildup when used outdoors. The internal space can accommodate batteries to meet diverse customer application requirements. It can be used with a variety of optical lenses.



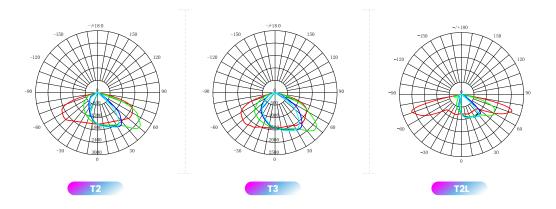


XL series (Bell-shaped) LED Street Light



LIGHT DISTRIBUTION

The new lens design improves the lighting effect and the high quality optics and precision engineering of the lens provide options of T2/T3/T2L IES lighting distribution patterns, other benefits include increased uniformity and comfort.

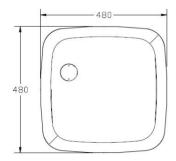


Light Output (W) 30 40 50 60 60 80 12/13/12L 12/13/13/13/13/13/13/13/13/13/13/13/13/13/	Model No.	VSBL30	VSBL40	VSBL50	VSBL60	VSBL80
Light Distribution	Light Parameters					
Color Temperaure (K) 3000/4000/5000 3000/4000 3000/4000/5000 3000/4000 3000/4000/4000 3000/4000/4	Light Output (W)	30	40	50	60	80
Typical Luminous Flux (Im)(5000K) 5550 7200 9500 11400 14800 Physical Parameters City. of LED Chips 36 36 2×36 2×36 2×36 Motion Sensor PIR/DISS PIR/DISS PIR/DISS PIR/DISS PIR/DISS Range of input Voltage (V) 22 22 22 22 22 22 22 22 20°C~45°C -20°C~45°C	Light Distribution	T2/T3/T2L	T2/T3/T2L	T2/T3/T2L	T2/T3/T2L	T2/T3/T2L
Physical Parameters City. of LED Chips 36 36 2×36 2×36 2×36 Motion Sensor PIR/DISS PIR/DISS PIR/DISS PIR/DISS PIR/DISS Range of input Voltage (V) 22 22 22 22 22 Storage Temperature -20°C~45°C -20°C~45°C <td>Color Temperaure (K)</td> <td>3000/4000/5000</td> <td>3000/4000/5000</td> <td>3000/4000/5000</td> <td>3000/4000/5000</td> <td>3000/4000/5000</td>	Color Temperaure (K)	3000/4000/5000	3000/4000/5000	3000/4000/5000	3000/4000/5000	3000/4000/5000
Outy. of LED Chips 36 36 2×36 2×36 2×36 2×36 Motion Sensor PIR/DISS 22 22 22 22 22 22 22 20 20°C~45°C -20°C~45°C -20°C~45°°C -20	Typical Luminous Flux (Im)(5000K)	5550	7200	9500	11400	14800
Motion Sensor PIR/DISS 200°C~45°C -20°C~45°C -20°C~45	Physical Parameters					
Range of input Voltage (V) 22 22 22 22 22 22 22 22 22 22 22 22 22	Qty. of LED Chips	36	36	2×36	2×36	2×36
Storage Temperature -20°C~45°C -20°C~4	Motion Sensor	PIR/DISS	PIR/DISS	PIR/DISS	PIR/DISS	PIR/DISS
Net Weight (kg) 4.5 4.5 5 5 5 Demension of unit (mm)	Range of input Voltage (V)	22	22	22	22	22
Demension of unit (mm)	Storage Temperature	-20°C~45°C	-20°C~45°C	-20°C~45°C	-20°C~45°C	-20°C~45°C
Packing Parameters Dimension of Carton (mm) 500×500×400	Net Weight (kg)	4.5	4.5	5	5	5
Dimension of Carton (mm) 500×500×400 500×500×400 500×500×400 500×500×400 500×500×400 Gross Weight of Product (kg) 6.5 6.5 7 7 7 7 7 Mounting Recommendation EPA (Effective projected area) (ft²) 1.95 1.95 1.95 1.95 1.95 1.95 APA (Acutal projected area) (ft²) 1.63 1.63 1.63 1.63 1.63 1.63 Wind Load Rate (mph) 160 160 160 160 160 Recommended Diameter of arm (mm) Ø42 Ø42 Ø42 Ø42 Ø42 Ø42	Demension of unit (mm)	Ø420×360	Ø420×360	Ø420×360	Ø420×360	Ø420×360
Gross Weight of Product (kg) 6.5 6.5 7 7 7 Mounting Recommendation EPA (Effective projected area) (ft²) 1.95 1.95 1.95 1.95 APA (Acutal projected area) (ft²) 1.63 1.63 1.63 1.63 Wind Load Rate (mph) 160 160 160 160 160 Recommended Diameter of arm (mm) Ø42 Ø42 Ø42 Ø42 Ø42	Packing Parameters					
Mounting Recommendation EPA (Effective projected area) (ft²) 1.95 1.95 1.95 1.95 APA (Acutal projected area) (ft²) 1.63 1.63 1.63 1.63 Wind Load Rate (mph) 160 160 160 160 Recommended Diameter of arm (mm) Ø42 Ø42 Ø42 Ø42 Ø42	Dimension of Carton (mm)	500×500×400	500×500×400	500×500×400	500×500×400	500×500×400
EPA (Effective projected area) (ft²) 1.95 1.95 1.95 1.95 1.95 APA (Acutal projected area) (ft²) 1.63 1.63 1.63 1.63 1.63 1.63 Wind Load Rate (mph) 160 160 160 160 160 Recommended Diameter of arm (mm) Ø42 Ø42 Ø42 Ø42 Ø42	Gross Weight of Product (kg)	6.5	6.5	7	7	7
APA (Acutal projected area) (ft²) 1.63 1.63 1.63 1.63 1.63 1.63 1.63 1.63	Mounting Recommendation					
Wind Load Rate (mph) 160 160 160 160 160 Recommended Diameter of arm (mm) Ø42 Ø42 Ø42 Ø42 Ø42	EPA (Effective projected area) (ft²)	1.95	1.95	1.95	1.95	1.95
Recommended Diameter of arm (mm) Ø42 Ø42 Ø42 Ø42 Ø42	APA (Acutal projected area) (ft²)	1.63	1.63	1.63	1.63	1.63
	Wind Load Rate (mph)	160	160	160	160	160
Recommended Installation Height (m) 5~8 5~8 7~10 7~10 8~12	Recommended Diameter of arm (mm)	Ø42	Ø42	Ø42	Ø42	Ø42
	Recommended Installation Height (m)	5~8	5~8	7~10	7~10	8~12
Recommended Installation Distance (m) 20~30 20~30 25~40 30~45 35~45	Recommended Installation Distance (m)	20~30	20~30	25~40	30~45	35~45

V-shaped Luminaire LED Garden Light



The V-shaped LED garden light is a cutting-edge luminary. Its design is a harmonious blend of simplicity and elegance, with an ergonomic touch that complements its functionality. Ideal for installation on poles ranging from 3 to 12 meters, it aptly illuminates both wide and narrow bicycle paths, parking lots, parks, highways, and various other outdoor spaces.





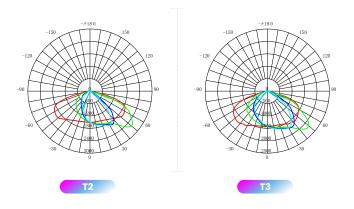


V-shaped Luminaire LED Garden Light



LIGHT DISTRIBUTION

The new lens design improves the lighting effect and the high quality optics and precision engineering of the lens provide options of T2 & T3 IES lighting distribution patterns, other benefits include increased uniformity and comfort.



Model No.	VSVL30	VSVL40	VSVL50	VSVL60	VSVL80
Light Parameters					
Light Output (W)	30	40	50	60	80
Optional Light Distribution	T2/T3	T2/T3	T2/T3	T2/T3	T2/T3
Color Temperature (K)	3000/4000/5000	3000/4000/5000	3000/4000/5000	3000/4000/5000	3000/4000/5000
Typical Luminous Flux (Im) (5000K)	5550	7200	9500	11400	14800
Physical Parameters					
Qty. of LED Chips	36	36	2×36	2×36	2×36
Motion Sensor	1	/	/	/	/
Range of input Voltage (V)	22V	22V	22V	22V	22V
Storage Temperature	-20°C~45°C	-20°C~45°C	-20°C~45°C	-20°C~45°C	-20°C~45°C
Dimension of Product (mm)	567×480×480	567×480×480	567×480×480	567×480×480	567×480×480
Net Weight of Product (kg)	9	9	9. 5	9. 5	9. 5
Packing Parameters					
Dimension of Carton (mm)*2Set	620×520×525	620×520×525	620×520×525	620×520×525	620×520×525
Gross Weight of Product (kg)	11	11	11.5	11.5	11.5
Mounting Recommendation					
EPA (Effective projected area) (ft²)	1.24	1.24	1.24	1.24	1.24
APA (Acutal projected area) (ft²)	1.03	1.03	1.03	1.03	1.03
Wind Load Rate (mph)	160	160	160	160	160
Recommended Installation Height (m)	5~8	5~8	7~10	7~10	8~12
Recommended Installation Distance (m)	20~30	20~30	25~40	30~45	35~45
Top of Pole or Tenon OD (mm)	Ø76	Ø76	Ø76	Ø76	Ø76