

# Solar Bright Towers





# **LED STADIUM LIGHTS**

# 300W LED Flood Lights



# **Rotating Bracket**

The LED lights come with a versatile rotating mounting bracket that offers exceptional flexibility during installation. These lights can be easily tilted and rotated to different orientations, allowing for customized lighting configurations that ensure desired lighting uniformity and coverage

# **Top Quality LED Light Source**

The SMD LED package delivers exceptional energy efficiency with up to 150 lumens per watt. Also, it maintains stable color temperature and offers high color rendering index (CRI) of 80 or higher.

## **Mean Well Power Supply**

Mean Well is the industry standard producer of LED drivers, known for their exceptional longevity and ability to provide a stable operating environment for LED lights.

### **Finned Heat Sink**

The finned heat sink design improves the heat dissipation of the LED flood lights by providing a larger surface area to dissipate heat away from the lights. The fins on the heat sink increase the surface area in contact with surrounding air, allowing for greater heat transfer. The gap between the fins also allows for better airflow, which facilitates heat dissipation. This design allows the lights to operate at a lower temperature, which in turn improves the lifespan and stability of the lights and allows the LEDs to run at high power without risk of overheating.

### **Anti-Glare LED Lens**

The LED flood lights for commercial and industrial use are equipped with an anti-glare lens that effectively reduces glare by a minimum of 75%. This reduction in glare is highly beneficial as it improves safety, comfort and overall satisfaction for workers and occupants within these settings.

# **300V**



### Model: LS-ARE-300-LW

45.000lm Lumens: Total weight: 7kg

I FD: 3030 SMD LED (2022 low thermal tech)

CCT: 2700K to 7500K (regular), 1500 K to 10000K (customized)

CRI: 75 (regular), 80 / 90 / 95 / 98 (customized)

Beam angle:  $11^{\circ}/24^{\circ}/36^{\circ}/60^{\circ}/90^{\circ}$ 

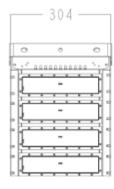
Input voltage: 90-295VAC, 50-60Hz (MEAN WELL HLG OR MOSO)

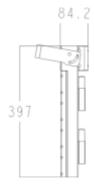
110VAC / 220V / 240VAC (MEAN WELL ELG OR MOSO)

Driver: MEAN WELL HLG or ELG, MOSO (IP67)

Power factor: >95%

100,000 hours Life span: Warranty: 5 years



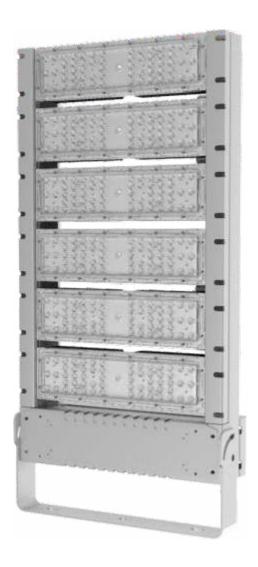






# **LED STADIUM LIGHTS**

# **500W LED Flood Lights**



# **Rotating Bracket**

The LED lights come with a versatile rotating mounting bracket that offers exceptional flexibility during installation. These lights can be easily tilted and rotated to different orientations, allowing for customized lighting configurations that ensure desired lighting uniformity and coverage

# **Top Quality LED Light Source**

The SMD LED package delivers exceptional energy efficiency with up to 150 lumens per watt. Also, it maintains stable color temperature and offers high color rendering index (CRI) of 80 or higher.

## **Mean Well Power Supply**

Mean Well is the industry standard producer of LED drivers, known for their exceptional longevity and ability to provide a stable operating environment for LED lights.

### **Finned Heat Sink**

The finned heat sink design improves the heat dissipation of the LED flood lights by providing a larger surface area to dissipate heat away from the lights. The fins on the heat sink increase the surface area in contact with surrounding air, allowing for greater heat transfer. The gap between the fins also allows for better airflow, which facilitates heat dissipation. This design allows the lights to operate at a lower temperature, which in turn improves the lifespan and stability of the lights and allows the LEDs to run at high power without risk of overheating.

### **Anti-Glare LED Lens**

The LED flood lights for commercial and industrial use are equipped with an anti-glare lens that effectively reduces glare by a minimum of 75%. This reduction in glare is highly beneficial as it improves safety, comfort and overall satisfaction for workers and occupants within these settings.

# 500V

### Model: LS-ARE-500-LW

75.000lm Lumens: Total weight: 7kg

I FD: 3030 SMD LED (2022 low thermal tech)

CCT: 2700K to 7500K (regular), 1500 K to 10000K (customized)

CRI: 75 (regular), 80 / 90 / 95 / 98 (customized)

11° / 24° / 36° / 60° / 90° Beam angle:

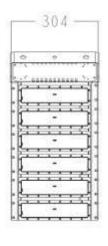
Input voltage: 90-295VAC, 50-60Hz (MEAN WELL HLG OR MOSO)

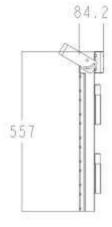
110VAC / 220V / 240VAC (MEAN WELL ELG OR MOSO)

Driver: MEAN WELL HLG or ELG, MOSO (IP67)

Power factor: >95%

100,000 hours Life span: Warranty: 5 years







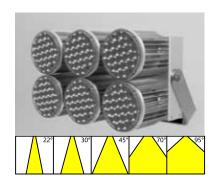


# LED PROFESSIONAL GRADE STADIUM LIGHTS



# **LS-ARE-170**

Designed for arenas and stadiums, stable color temperature and high quality, the ARE-170 series generates color rendered index (CRI) of up to 95; non-flickering lighting; good uniformity of illumination; low glare. Very good for video and television relay. High photo synthetic efficiency, environmental protection and energy saving, waterproof design suitable for outdoor applications.

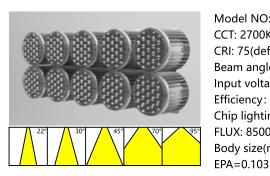


Model NO: LS-ARE-300-170 Power: 300W CCT: 2700K-3500K/5000K-6500K/6500K-7500K CRI: 75(defaults) ,Customizable up to 95 Beam angle: 22°/30°/45°/70°/95° Input voltage: 90-295V AC 50-60HZ Efficiency:  $\geq 90\%$  PF:  $\geq 95\%$ Chip lighting Effect: 170lm/W

FLUX: 51000lm

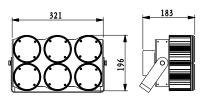
Body size(mm):321\*196\*183 Weight(kg): 7.1

EPA=0.065

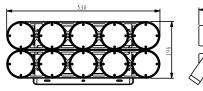


Model NO: LS-ARE-500-170 Power: 500W CCT: 2700K-3500K/5000K-6500K/6500K-7500K CRI: 75(defaults) ,Customizable up to95 Beam angle: 22°/30°/45°/70°/95° Input voltage: 90-295V AC 50-60HZ Efficiency: ≥90% PF: ≥95% Chip lighting Effect: 170lm/W FLUX: 85000lm Body size(mm):530\*196\*189 Weight(kg): 10.2

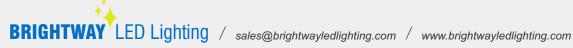
# Dimensioning



# Dimensioning









# **SOLAR PANELS - 420W**

### **Great Performance and Reliability**

- The multi-busbar half-cut technology
- Certified in TUV for salt spray & ammonia corrosion
- 2400Pa wind load and 5400Pa snow load testing
- Effectively reducing BOS costs to achieve lower LCOE
- First-year degradation is less than 2%
- Low hot-spot & micro crack risk

# **Performance Warranty**

### 12 YEARS

Enhanced product warranty on materials and workmanship

### **25 YEARS**

Linear power performance warranty

### **Management System Characteristics**

- ISO 9001: 2015 Quality Management System
- ISO 14001: 2015 Environment Management System
- ISO 450001: 2018 Occupational Health and Safety Management Systems

### **Product Certificates**

IEC 61215 / IEC 61730 / UL 61730



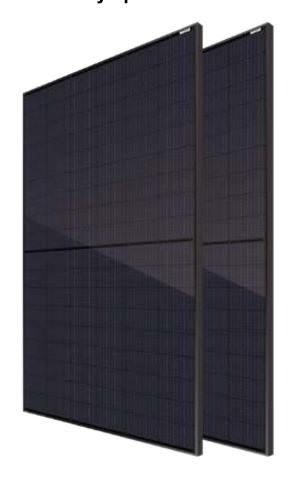






**Electrical Data (NMOT)** 

# Black Mono-Facial Perc 420W Efficiency up to 21.48%



Dimensions: 1724\*1134\*35mm

Weight: 22.0kg

Max. System Voltage: 1000V/1500V (IED/UL)

# **Electrical Data (STC)**

| Maximum Power (Pmax/W)           | 420   | Maximum Power (Pmax/W)           | 316   |
|----------------------------------|-------|----------------------------------|-------|
| Operating Voltage (Vmp/V)        | 37.56 | Operating Voltage (Vmpp/V)       | 34.57 |
| Short Circuit Current (Isc/A)    | 13.98 | Short Circuit Current (Isc/A)    | 11.43 |
| Voltage at Maximum Power (Vmp/V) | 31.60 | Voltage at Maximum Power (Vmp/V) | 28.79 |
| Current at Maximum Power (Imp/A) | 13.30 | Current at Maximum Power (Imp/A) | 10.98 |
| Module Efficiency ηm(%)          | 21.48 |                                  |       |

STC (Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, Cell Temperature25°C, AM1.5, OperatingTemperature: -40°C~+85°C NMOT (Nominal Module Operating Temperature): Irradiance 800W/m², Ambient Temperature 20°C, AM1.5, Wind Speed 1m/s.

| Mechanical Data   |   |  |  |  |  |  |
|-------------------|---|--|--|--|--|--|
| Cell Type         | 182×91mm Mono   |  |  |  |  |  |
| Cell Orientation  | 108 (6×18)  |  |  |  |  |  |
| Module Dimensions | 1724×1134×35mm  |  |  |  |  |  |
| Weight            | 22.0kg  |  |  |  |  |  |
| Glass             | 3.2mm high transmittance, reinforced glass                      |  |  |  |  |  |
| Backsheet         | Anti-aging film(Black)  |  |  |  |  |  |
| Frame Material    | Anodized aluminum alloy (Black)                                 |  |  |  |  |  |
| Junction Box      | Protection class IP68   |  |  |  |  |  |
| Cable             | 4.0 mm² positive pole: 200 mm negative pole: 250 mm wire length |  |  |  |  |  |
| Connector         | MC4 compatible connector  |  |  |  |  |  |





# **SOLAR PANELS - 420W**

| Electrical Data (STC)   |                        |       |              |                     |       |  |
|---|------------------------|-------|--------------|---------------------|-------|--|
| Maximum Power (Pmax/W)  | 400                    | 405   | 410          | 415                 | 420   |  |
| Operating Voltage (Vmp/V)   | 36.96                  | 37.11 | 37.26        | 37.41               | 37.56 |  |
| Short Circuit Current (Isc/A)   | 13.60                  | 13.70 | 13.79        | 13.89               | 13.98 |  |
| Voltage at Maximum Power (Vmp/V)  | 31.00                  | 31.15 | 31.30        | 31.45               | 31.60 |  |
| Current at Maximum Power (Imp/A)  | 12.91                  | 13.01 | 13.10        | 13.20               | 13.30 |  |
| Module Efficiency ηm(%)   | 20.46                  | 20.72 | 20.97        | 21.23               | 21.48 |  |
| STC (Standard Testing Conditions): Irradiance 1000W/m <sup>2</sup> , Cell Temperature 25°C, AM1.5 Operating Temperature:-40°C~+85°C |                        |       |              |                     |       |  |
| Electrical Data (NMOT)  |                        |       |              |                     |       |  |
| Maximum Power (Pmax/W)  | 300                    | 304   | 308          | 312                 | 316   |  |
| Operating Voltage (Vmpp/V)  | 33.97                  | 34.12 | 34.27        | 34.42               | 34.57 |  |
| Short Circuit Current (Isc/A)   | 11.10                  | 11.18 | 11.27        | 11.35               | 11.43 |  |
| Voltage at Maximum Power (Vmp/V)  | 28.19                  | 28.34 | 28.49        | 28.64               | 28.79 |  |
| Current at Maximum Power (Imp/A)  | 10.65                  | 10.73 | 10.82°C, AM1 | .5, Wind 9990 1m/s. | 10.98 |  |
| NMOT (Nominal Moudule Operating Temperature): Irradiance 800W/m , A   | Ambient Temperature 20 |       |              |                     |       |  |

|  | han |  |  |
|--|-----|--|--|
|  |     |  |  |
|  |     |  |  |

| Cell Type         | 182×91mm Mono   |
|-------------------|---|
| Cell Orientation  | 108(6×18)   |
| Module Dimensions | 1724×1134×35mm  |
| Weight            | 22.0kg  |
| Glass             | 3.2mm high transmittance, reinforced glass  |
| Backsheet         | Anti-aging film(Black)  |
| Frame Material    | Anodized aluminum alloy (Black)   |
| Junction Box      | Protection class IP68   |
| Cable             | 4.0 mm <sup>2</sup> positive pole: 200 mm negative pole: 250 mm wire length can be customized |
| Connector         | MC4 compatible connector  |

# **TECHNICAL DRAWINGS**

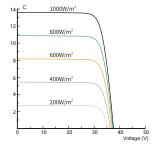
| Temperature Coefficient (Pm)                 | -0.340%/°C |
|--|------------|
| Temperature Coefficient (Voc)                | -0.270%/°C |
| Temperature Coefficient (Isc)                | 0.048%/°C  |
| NMOT (Nominal Moudule Operating Temperature) | 41±3°C     |

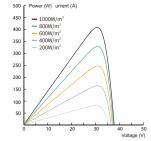
# **Packaging** Transportation methods Number of modules per cabinet

Number of modules per pallet

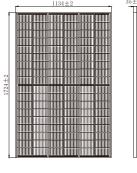
# I-V CURVE

Current-Voltage Curve(420W)





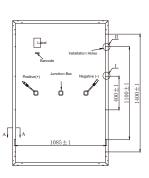
## **Module Dimensions (mm)**



40HQ container

31pcs+31pcs

806pcs





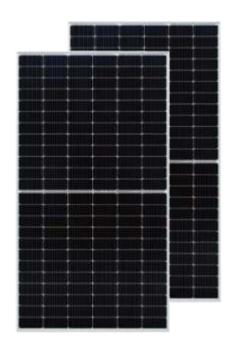








# **BIFACIAL SOLAR PANELS - 550W**



# **BSM550M10-72HBD**

Bifacial Dual Glass 530W-550W **LEADING 5%-25% MORE YIELD EFFICIENCY UP TO 21.2%** 

### Dimensions:2285\*1134\*35mm

- · Weight:32.2kg
- Max. System Voltage: 1500 V/DC(IEC)

# PERFORMANCE WARRANTY

**Enhanced Product Warranty on Materials** and Workmanship

Linear Power Performance Warranty According to the applicable Bluesun Solar Limited Warranty Statement.

### GREAT PERFORMANCE AND RELIABILITY

- Bi-facial Perc Half Cut Technology
- Better Energy Yield
- Power Degradation -0.45%/30 Years Linear Warranty
- TUV SUD Anti PID Certificated
- IP68 Junction Box/High Water Proof Level
- Reduced Hot Spot Risk

### **MANAGEMENT SYSTEM CERTIFICATES**

- ISO 9001: 2015 Quality Management System
- ISO 14001: 2015 Environment Management System
- ISO 45001: 2018 Occupational Health and Safety Management Systems

### **PRODUCT CERTIFICATES**

- IEC 61215 / IEC 61730 / IEC 61701 / IEC TS 62804
- UL 1703 / UL61730













# **BIFACIAL SOLAR PANELS - 550W**

| ELECTRICAL PAR                 | AMETERS                            |                         |                    |                     |                   |           |       |  |
|--------------------------------|------------------------------------|-------------------------|--------------------|---------------------|-------------------|-----------|-------|--|
|                                | C (Power Tolerance 0 ~             | +3%)                    |                    |                     |                   |           |       |  |
| Maximum Power (Pmax/V          | ·                                  |                         | 530                | 535                 | 540               | 545       | 550   |  |
| Operating Voltage (Vmpp        | n/V)                               |                         | 41.32              | 41.48               | 41.64             | 41.80     | 41.96 |  |
| Operating Current (Impp//      | A)                                 |                         | 12.83              | 12.90               | 12.97             | 13.04     | 13.11 |  |
| Open-Circuit Voltage (Voc      | c/V)                               |                         | 49.32              | 49.46               | 49.60             | 49.76     | 49.92 |  |
| Short-Circuit Current (Isc/    | /A)                                |                         | 13.72              | 13.79               | 13.86             | 13.93     | 14.00 |  |
| Module Efficiency ηm(%)        |                                    |                         | 20.5               | 20.6                | 20.8              | 21.0      | 21.2  |  |
| Performance at NM              | ОТ                                 |                         |                    |                     |                   |           |       |  |
| Maximum Power (Pmax/\          | W)                                 |                         | 395                | 398                 | 402               | 406       | 410   |  |
| Operating Voltage (Vmpp        | o/V)                               |                         | 38.6               | 38.7                | 38.8              | 39.0      | 39.1  |  |
| Operating Current (Impp/       | (A)                                |                         | 10.24              | 10.30               | 10.36             | 10.41     | 10.47 |  |
| Open-Circuit Voltage (Vo       | oc/V)                              |                         | 46.4               | 46.5                | 46.7              | 46.8      | 47.0  |  |
| Short-Circuit Current (Isc     | /A)                                |                         | 11.06              | 11.12               | 11.17             | 11.23     | 11.28 |  |
| STC: Irradiance 1000W/m², Cell | l Temperature 25°C, Air Mass AM1.5 | NMOT: Irradiance at 800 | 0W/m², Ambient Tem | peratue 20°C, Air M | ass AM1.5, Wind S | peed 1m/s |       |  |
| Electrical characteri          | stics with different rear          | side power gain (       | refer to 530V      | V front)            |                   |           |       |  |
| Pmax gain                      | Pmax/W                             | Vmpp/V                  | Imp                | p/A                 | Voc/V             |           | Isc/A |  |
| 5%                             | 557                                | 41.32                   | 13.                | 47                  | 49.32             |           | 14.41 |  |
| 10%                            | 583                                | 41.32                   | 14.                | 11                  | 49.32             |           | 15.09 |  |
| 15%                            | 610                                | 41.32                   | 14.                | 75                  | 49.32             |           | 15.78 |  |
| 20%                            | 636                                | 41.32                   | 15.                | 40                  | 49.32             |           | 16.46 |  |
| 25%                            | 663                                | 41.32                   | 16.                | 04                  | 49.32             |           | 17.15 |  |

# **MECHANICAL SPECIFICATION**

| Cell Type                  | Monocrystalline                                    |
|----------------------------|--|
| Cell Dimensions            | 182*182mm  |
| Cell Arrangement           | 144 (6*24)   |
| Weight                     | 32.2kg   |
| Module Dimensions          | 2285*1134*35mm                                     |
| Cable Length               | Portrait 300mm/Landscape 1200mm/Customized         |
| Cable Cross Section Size   | TUV: 4mm² (0.006inches²)/UL: 12AWG                 |
| Front Glass                | 2.0mm (0.08 inches) AR Coating Semi-tempered Glass |
| Back Glass                 | 2.0mm (0.08 inches) Glazed Semi-tempered Glass     |
| No. of Bypass Diodes       | 3  |
| Packing Configuration (1)  | 31pcs/carton, 620pcs/40hq                          |
| Packing Configuration (for | USA) 31pcs/carton, 558pcs/40hq                     |
| Frame                      | Anodized Aluminium Alloy                           |
| Junction Box               | IP68   |

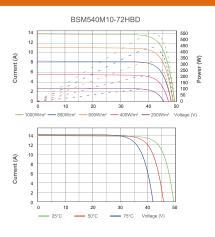
# **OPERATING CONDITIONS**

| Maximun System Voltage                                   | 1500V/DC(IEC)                              |
|--|--|
| Operating Temperature                                    | -40°C ~ +85°C                              |
| Maximun Series Fuse                                      | 30A  |
| Static Loading   | Snow Loading: 5400Pa/ Wind Loading: 2400Pa |
| Conductivity at Ground                                   | ≤0.1Ω                                      |
| Safety Class   | II   |
| Resistance   | ≥100MΩ                                     |
| Connector  | T01/LJQ-3-CSY/MC4/MC4-EVO2                 |
| Backside Output Ratio* *Under STC: Backside Output Ratio | = Pmay(roor) /Pmay(front) 70%±5%           |

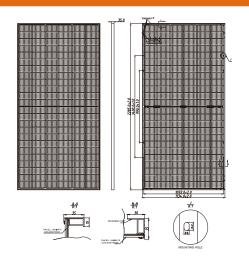
# **TEMPERATURE COEFFICIENT**

| Temperature Coefficient Pmax | -0.35%/°C  |
|------------------------------|------------|
| Temperature Coefficient Voc  | -0.26%/°C  |
| Temperature Coefficient Isc  | +0.048%/°C |
| NMOT                         | 43+2°C     |

## I-V CURVE



# **TECHNICAL DRAWINGS**



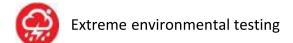


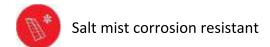


# **IMPACT RESISTANT SOLAR PANELS - 620W**



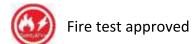


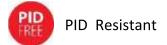














3% positive tolerance



Authorised photovoltaic certificates



Series of internal harsh tests



Linear performance warranty

# **Electrical Characteristics under STC\***

| Electrical characteristics and  |              |              |              |              |
|---------------------------------|--------------|--------------|--------------|--------------|
| Model No.:                      | TS-S600M-H39 | TS-S610M-H39 | TS-S620M-H39 | TS-S630M-H39 |
| Maximum Power-Pmax(Wp)          | 600          | 610          | 620          | 630          |
| Voltage at Maximum Power-Vmp(V) | 45.39        | 45.59        | 45.79        | 45.99        |
| Current at Maximum Power-Imp(A) | 13.22        | 13.38        | 13.54        | 13.7         |
| Open Circuit Voltage-Voc(V)     | 54.95        | 55.25        | 55.55        | 55.85        |
| Short Circuit Current-Isc(A)    | 13.97        | 14.11        | 14.25        | 14.39        |
| Solar Panel Efficiency(%)       | 21.46        | 21.82        | 22.18        | 22.54        |
| Power Tolerance(%)              | 0/+3         | 0/+3         | 0/+3         | 0/+3         |





# **IMPACT RESISTANT SOLAR PANELS - 620W**

| Electrical Characteristics under NOCT* |       |       |       |       |  |
|--|-------|-------|-------|-------|--|
| Maximum Power-Pmax(Wp)                 | 451   | 459   | 465   | 471   |  |
| Voltage at Maximum Power-Vmp(V)        | 42.05 | 42.28 | 42.5  | 42.72 |  |
| Current at Maximum Power-Imp(A)        | 10.73 | 10.85 | 10.97 | 11.09 |  |
| Open Circuit Voltage-Voc(V)            | 52.2  | 52.48 | 52.76 | 53.04 |  |
| Short Circuit Current-Isc(A)           | 11 28 | 11 39 | 11 51 | 11 63 |  |

# **Mechanical Characteristics**

| Cell Type         | N Type Mono 182*91mm          |  |  |  |
|-------------------|-------------------------------|--|--|--|
| Number of Cells   | 156 (12*13)                   |  |  |  |
| Dimension         | 2465*1134*30mm                |  |  |  |
| Weight            | 30.70kg                       |  |  |  |
| Front Glass       | 3.2mm,Low Iron Tempered Glass |  |  |  |
| Encapsulant       | EVA                           |  |  |  |
| Frame             | Anodized Aluminum Alloy       |  |  |  |
| Junction box      | IP68,3 diodes                 |  |  |  |
| Output cables     | 4mm²,35cm,MC4                 |  |  |  |
| MaxWind Load/Snow | 2400Pa/5400Pa                 |  |  |  |

# **Temperature Characteristics**

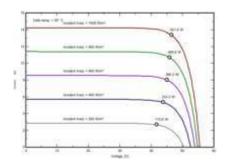
| NOCT*                              | 45±2°C    |
|------------------------------------|-----------|
| Temperature Coefficient of Pmax(%) | −0.300/°C |
| Temperature Coefficient of Voc(%)  | −0.250/°C |
| Temperature Coefficient of Isc(%)  | 0.046/°C  |

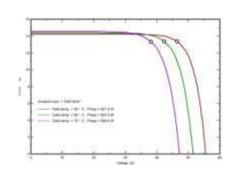
# **Maximum System Ratings**

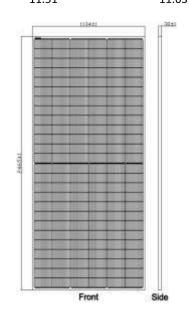
| Operating Temperature      | −40°C to +85°C |
|----------------------------|----------------|
| Maximum System Voltage     | 1500V DC       |
| Maximum Series Fuse Rating | 25A            |

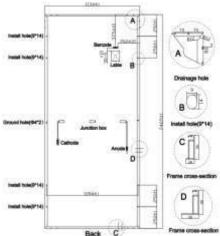
# Warranty

- 12 years product warranty
- 12 years warranty on 90% power output
- 25 years warranty on 80% power output











### JUNCTION BOX

High waterproof rating Protection Degree: IP67 Safety Class: Class II Rated Voltage: 1500V

resistance up to 5400 Pa Anodic oxidation layer resistant to chemical corrosion Available in silver and black



# **INVERTER**

# Single Phase Hybrid Inverter



HIR5~10KLNA Series

# **Elegant**

- Elegant appearance & light weight
- Low noise
- Touch LCD screen

### Safe and Reliable

- Supports full power charge and discharge, automatic battery management
- Supports 100% unbalanced load capacity
- Max. efficiency reaches up to 98.2%
- Battery reverse connect protection
- Anti-power control function
- IP65 waterproof

## **Flexible**

- Supports up to 8 units in parallel connection
- Supports multi-machine parallel battery sharing
- Compatible with lead-acid and lithium-ion batteries



# **BATTERY**

# Tier 1 Long Lifespan LifeP04 Battery

## 25.6V 100H & 200AH Battery

- Smart BMS to protect battery
- Supports multiple connections
- Plug & play
- LCD display screen, bluetooth and GPS tracking available





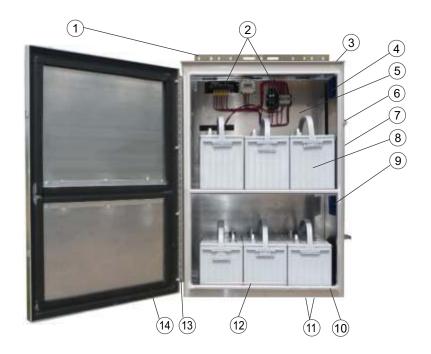


# **INVERTER SPECIFICATIONS**

| Model Number                           | HIR5KLNA                         | HIR6KLNA                    | HIR8KLNA                   | HIR10KLNA |  |
|--|----------------------------------|-----------------------------|----------------------------|-----------|--|
| Input (PV)                             |                                  |                             |                            |           |  |
| Max. power(kW)                         | 7.5                              | 9                           | 12                         | 13        |  |
| Max. DC voltage(V)                     |                                  | 55                          | 50                         |           |  |
| MPPT voltage range(V)                  |                                  | 120~                        | -500                       |           |  |
| Max.input current of single<br>MPPT(A) |                                  | 1                           | 2                          |           |  |
| MPPT tracker/strings                   |                                  | 4.                          | /1                         |           |  |
| AC Output                              |                                  |                             |                            |           |  |
| Rated output power(kVA)                | 5                                | 6                           | 8                          | 10        |  |
| Max. output current(A)                 | 24                               | 28.8                        | 38.3                       | 47.8      |  |
| Grid voltage/range(V)                  |                                  | 120/240(split phase),208(2/ | 3 phase),230(single phase) |           |  |
| Frequency (Hz)                         |                                  | 50 /                        | 60                         |           |  |
| PF                                     |                                  | 0.8 lagging-                | 0.8 leading                |           |  |
| THDi                                   |                                  | <3                          | 3%                         |           |  |
| AC output topology                     |                                  | split phase,2/3 ph          | nase,single phase          |           |  |
| Battery                                |                                  |                             |                            |           |  |
| Battery voltage range(V)               |                                  | 40~                         | -58                        |           |  |
| Max. charging voltage(V)               | 58                               |                             |                            |           |  |
| Max. charge/discharge current(A)       | 120/120                          | 135/135                     | 190/190                    | 210/210   |  |
| Battery type                           | Lithium / Lead-acid              |                             |                            |           |  |
| Communication interface                |                                  | CAN/F                       | RS485                      |           |  |
| EPS Output                             |                                  |                             |                            |           |  |
| Rated power (kVA)                      | 5                                | 6                           | 8                          | 10        |  |
| Rated output voltage(V)                |                                  | 120/240(split phase),208(2/ | 3 phase),230(single phase) |           |  |
| Rated output current(A)                | 24                               | 28.8                        | 38.3                       | 47.8      |  |
| Rated frequency (Hz)                   |                                  | 50 /                        | 60                         |           |  |
| Automatic switching time (ms)          |                                  | <2                          | 20                         |           |  |
| THDu                                   |                                  | <2%                         |                            |           |  |
| Overload capacity                      |                                  | 125%, 60S/150%, 1S          |                            |           |  |
| General Data                           |                                  |                             |                            |           |  |
| Max. efficiency                        |                                  | 98.2                        | 20%                        |           |  |
| North America efficiency               | <u> </u>                         | 97.2                        | 20%                        |           |  |
| IP Ratio                               |                                  | IP65/NE                     | EMA 3R                     |           |  |
| Noise emission (dB)                    | <25                              | <29                         | <29                        | <29       |  |
| Operation temperature                  |                                  | - 25°C 60°C                 |                            |           |  |
| Cooling                                |                                  | Nati                        | ural                       |           |  |
| Relative humidity                      |                                  | 0 ~95% non-                 | condensing                 |           |  |
| Altitude                               | 2,000m(>2,000 Derating)          |                             |                            |           |  |
| Isolation transformer                  | No                               |                             |                            |           |  |
| Self-consumption(W)                    | <3                               |                             |                            |           |  |
| Dimensions W*D*H (mm)                  | 430*220*710                      |                             |                            |           |  |
| Weight (kg)                            | 41                               |                             |                            |           |  |
| Display and communication              |                                  |                             |                            |           |  |
| Display                                | LCD                              |                             |                            |           |  |
| Interface:RS485/Wifi/4G/<br>CAN/DRM    | Yes/ Optional/Optional/ Yes/ Yes |                             |                            |           |  |



# **BATTERY ENCLOSURE**



- 1 Mounting Tab
- (2) Electrical Assembl(Not included)
- (3) Rain Drip Lip
- (4) Fiberglass "Insect Proof" Screen on all Louvered Openings
- (5) Back Panel
- (6) Stainless Lockable Draw Latch
- (7) BBA-6 Cabinet
- (8) Battery(Not included)
- (9) Filter Media (Removable for cleaning)
- 10 Double Flanged Door Opening
- (1) (2) 1/2" NPT Knock-outs (CGB's/Conduit Fittings)
- (12) Door Stop
- (13) Stainless Steel Hinge
- (14) Closed Cell Neoprene Gasket

# **BBA-6 Series Features:**

### **NEMA Ratings**

- NEMA 3R (Standard), NEMA 4, NEMA 4X

### **Available Material and Finish**

- Mill nished aluminum (Standard)
  - Powder coated aluminum (White)
  - Stainless steel (304 or 316)

## **Enclosure Dimensions**

- Overall: (H) 40.125" x (W) 25.25" x (D) 17.125"
- Opening: (H) 31.625" x (W) 21.5"
- Inside: (H) 35.75" x (W) 23.75" x (D) 14.875"

# **Back Panel Dimensions**

- (H) 17" x (W) 21.75"

# **Battery Capacity**

- (6) BCI Group 27
- (6) BCI Group 30
- (6) BCI Group 31
- (2) BCI Group 8G4D
- (2) BCI Group 8G8D

## Weight

- 61 lbs





Sized to meet solar system requirements



Door fans available in 12V, 24V, and 48V DC/120V AC

# **Additional Options:**

- Breather/drain for NEMA4 4X (Required for all battery applications)
- Heat strips (120V, 150W with thermostat)
- Interior insulation (Low E)
- Sun shields (Available for top, sides, and door





# **ALL-IN-ONE ESS & INVERTER CABINET**





# **PRODUCT OVERVIEW**

Outdoor cabinet air cooling energy storage system for offgrid commercial and industrial applications.

## **FEATURES**

- All-in-one battery and hybrid inverter
- Modular design, highly integrated.
- Standardized design, easy to expand and maintain.
- Supports parallel installation.
- Fast deployment and quick setup on-site.
- Reduces your carbon footprint.
- Tier-1 LFP batteries.
- Integrated battery management system and thermal management.
- Wide operating temperature range.
- Fire suppression system.
- IP54 for outdoor applications.
- C3 anti-corrosion.
- Saves capex.
- Low levelized cost of storage (LCOS).
- High energy density, space saving.

| MODEL#                    | EV- PQA-AA1220                                   | EV-PQA-AA1240 |  |  |
|---------------------------|--|---------------|--|--|
| DC BATTERY                |  |               |  |  |
| Nominal Voltage           | 51.2V  | 51.2V         |  |  |
| Rated Capacity            | 400Ah  | 800Ah         |  |  |
| Energy                    | 20.48KWh   | 40.96KWh      |  |  |
| AC                        |  |               |  |  |
| Rated Power               | 12KW   |               |  |  |
| Rated Voltage & Frequency | 230V, 50/60Hz                                    |               |  |  |
| THD                       | <3%  |               |  |  |
| Power Factor              | >0.99  |               |  |  |
| Adjustable Power Factor   | -1 leading ~ 1 lagging                           |               |  |  |
| GENERAL DATA              |  |               |  |  |
| Operating Temperature     | <ul><li>– 25°C□ 60C (&gt;45C derating)</li></ul> |               |  |  |
| Relative Humidity         | 0 ~95% □ non-condensing □                        |               |  |  |
| IP Rating                 | IP54   |               |  |  |
| Altitude                  | 5,000m (>3,000 derating)                         |               |  |  |
| Cooling                   | Air cooling                                      |               |  |  |
| DISPLAY & COMMUNICATION   |  |               |  |  |
| Display                   | LCD screen                                       |               |  |  |
| Communication Protocol    | Modbus   |               |  |  |
| Communication Interface   | RS485 / RS232 / CAN / dry connect                |               |  |  |





# **HIGH MAST SUPPORT POLES**

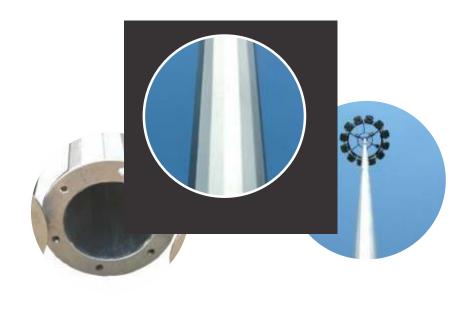


### **Features**

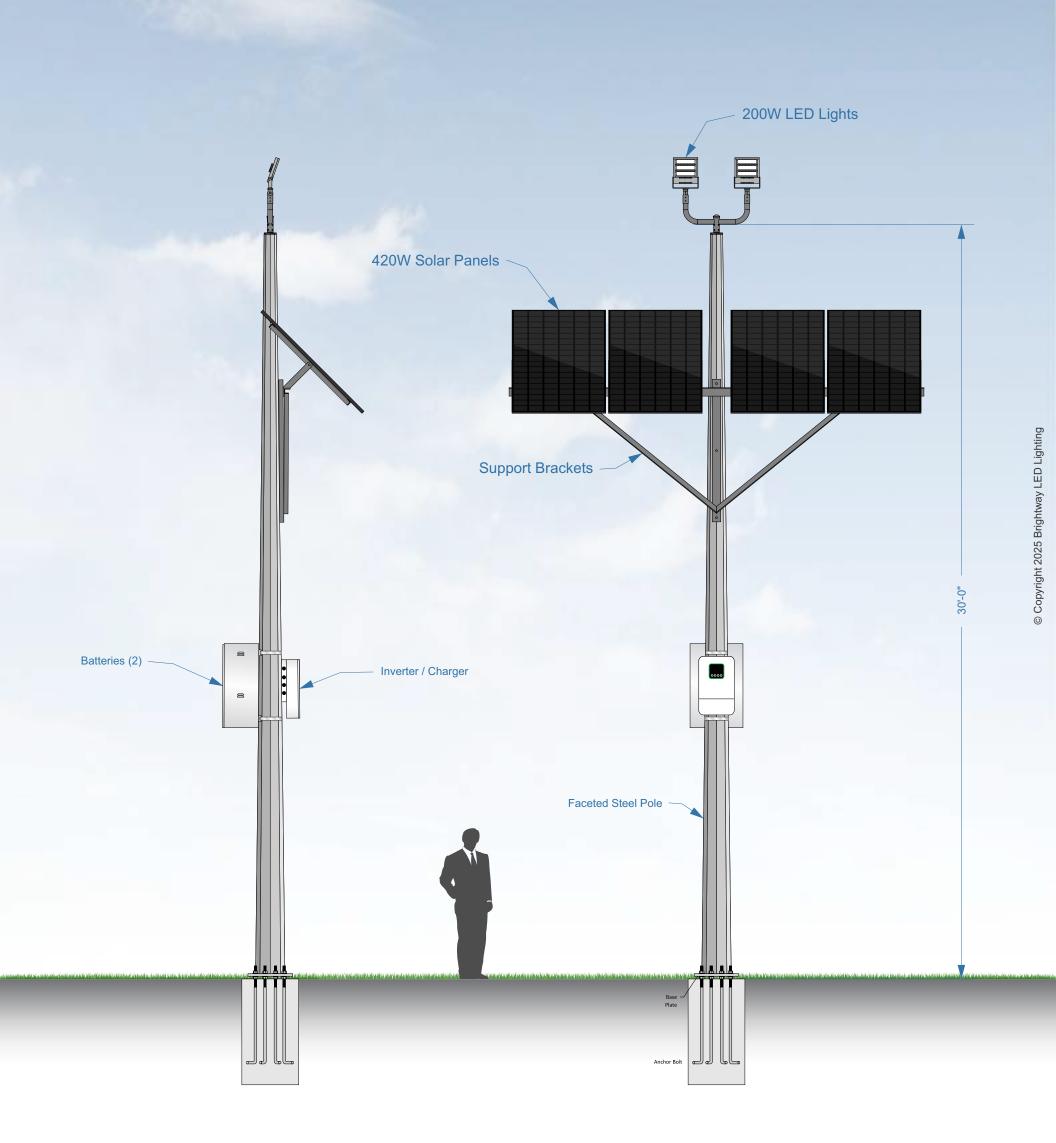
- High grade mild steel
- Strong base plate
- Hot dip galvanized
- Higher durability
- Corrosion free

# **Advantages**

Fabricated from stainless steel and with the best in class technology, our High Mast poles promise to provide quality with zero defect generation assurance. Additionally, the pole material is corrosionresistant and structurally durable.

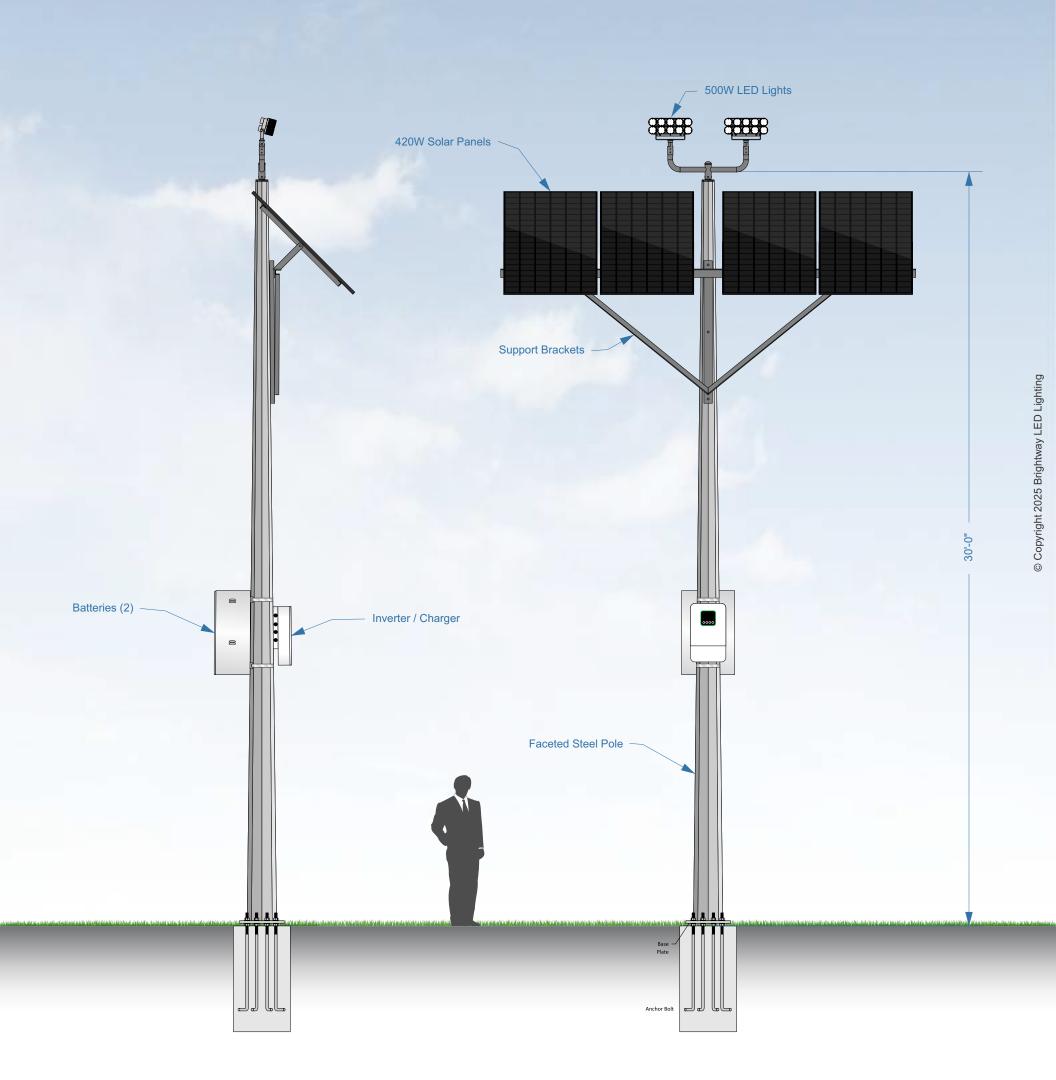


| Tech Detail             | 12 Mtr         | 12.5 Mtr   | 16 Mtr     | 20 Mtr     | 25 Mtr     | 30 Mtr     | 40 Mtr              |
|-------------------------|----------------|------------|------------|------------|------------|------------|---------------------|
| Material Construction   | BSEN10025 S355 |            |            |            |            |            |                     |
| Thickness               | 3, 3 mm        | 3, 3 mm    | 3, 4 mm    | 3, 4 mm    | 3, 4, 4 mm | 3, 4, 5 mm | 4, 4, 5, 5, 6, 6 mm |
| Top & Bottom Dia        | 150/310 mm     | 150/360 mm | 150/360 mm | 150/410 mm | 150/460 mm | 150/500 mm | 150/700 mm          |
| Size of base plate      | 500 mm         | 540 mm     | 540 mm     | 610 mm     | 660 mm     | 700 mm     | 900 mm              |
| Base plate thickness    | 16 mm          | 16 mm      | 20 mm      | 25 mm      | 25 mm      | 30 mm      | 40 mm               |
| No. of foundation bolts | 6 nos          | 6 nos      | 8 nos      | 8 nos      | 12 nos     | 12 nos     | 16 nos              |



# 400W 30' SOLAR LIGHT TOWER

(2) 200W LED lights with 4x420W monocrystalline solar panels. 3x12V/200Ah gel batteries. 400W inverter. 400W MPPT controller. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Gel batteries mounted in weather tight enclosures. Discharge = 12 hours at 100% full power (+/- based on 4 sun hours per day).

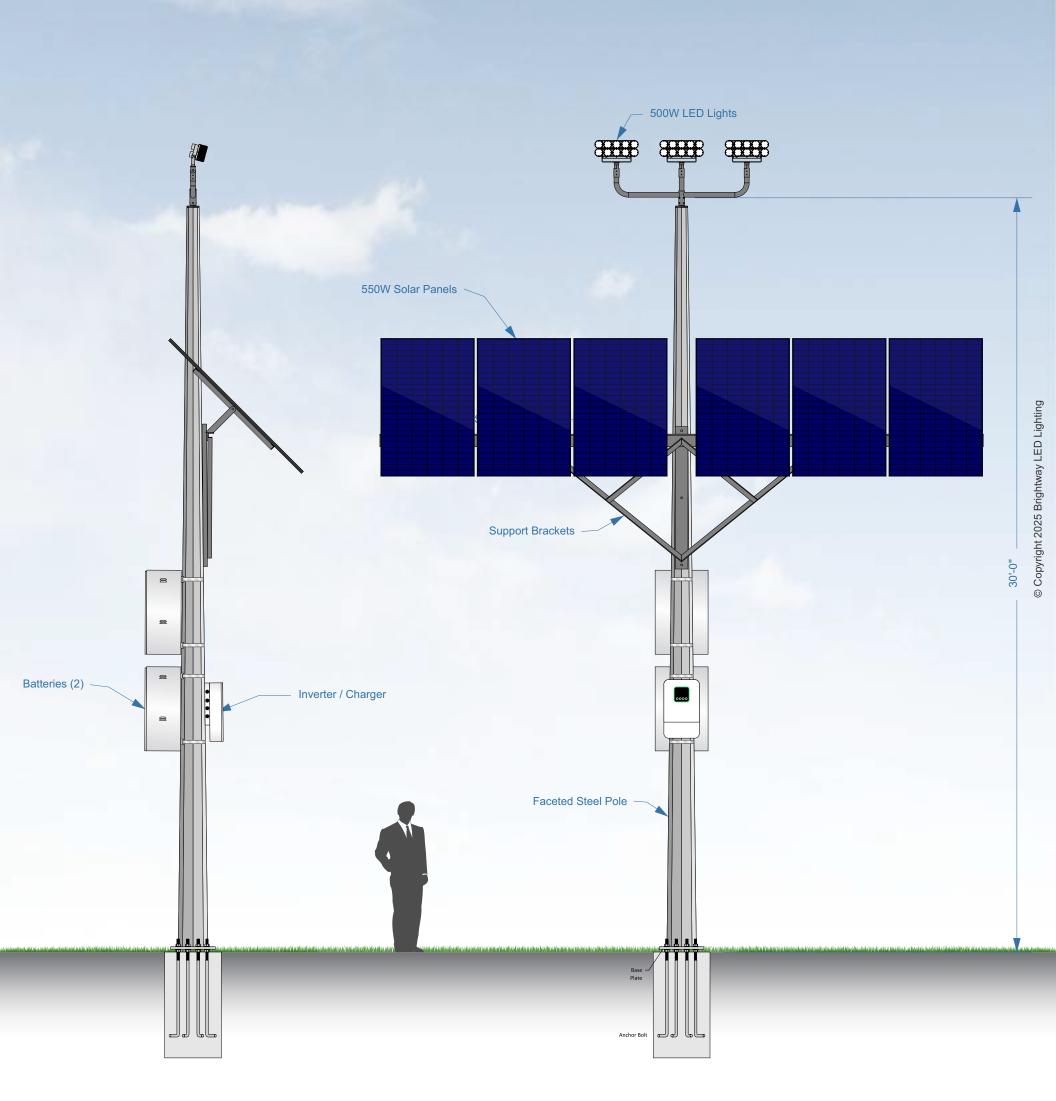


# 1000W 30' SOLAR LIGHT TOWER

2x500W LED lights with 4x420W solar panels. 2x200 AH / 25.6V batteries. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Lithium batteries mounted in weather tight enclosures. Discharge = 5.5 hours at 100% full power (+/- based on 4 sun hours per day).

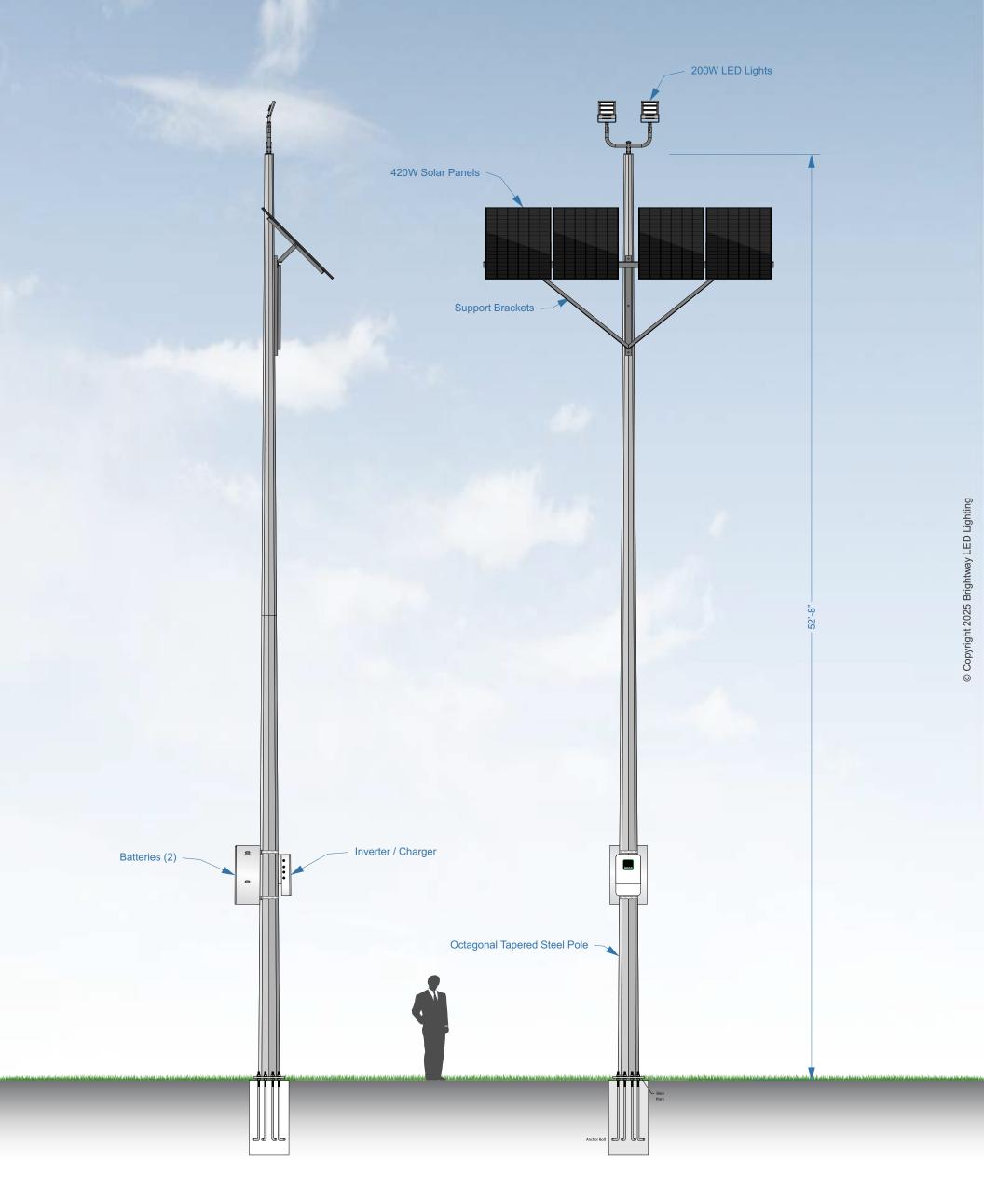






# 1500W 30' SOLAR LIGHT TOWER

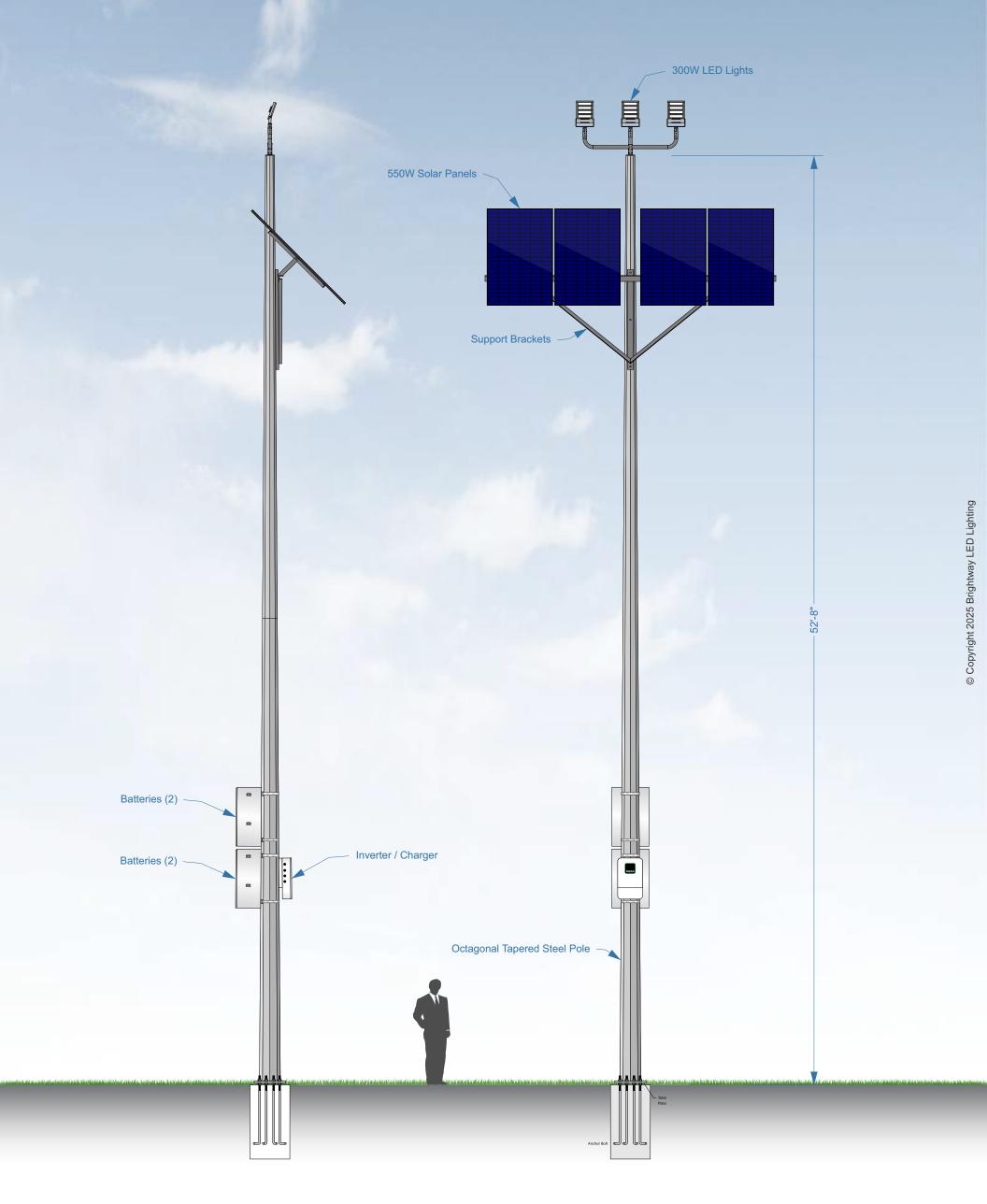
(3) 500W LED lights with 6x550W bi-facial solar panels. 4x200 AH / 25.6V batteries. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Lithium batteries mounted in weather tight enclosures. Discharge = 8 hours at 100% full power (+/- based on 4 sun hours per day).



# 400W 53' SOLAR LIGHT TOWER

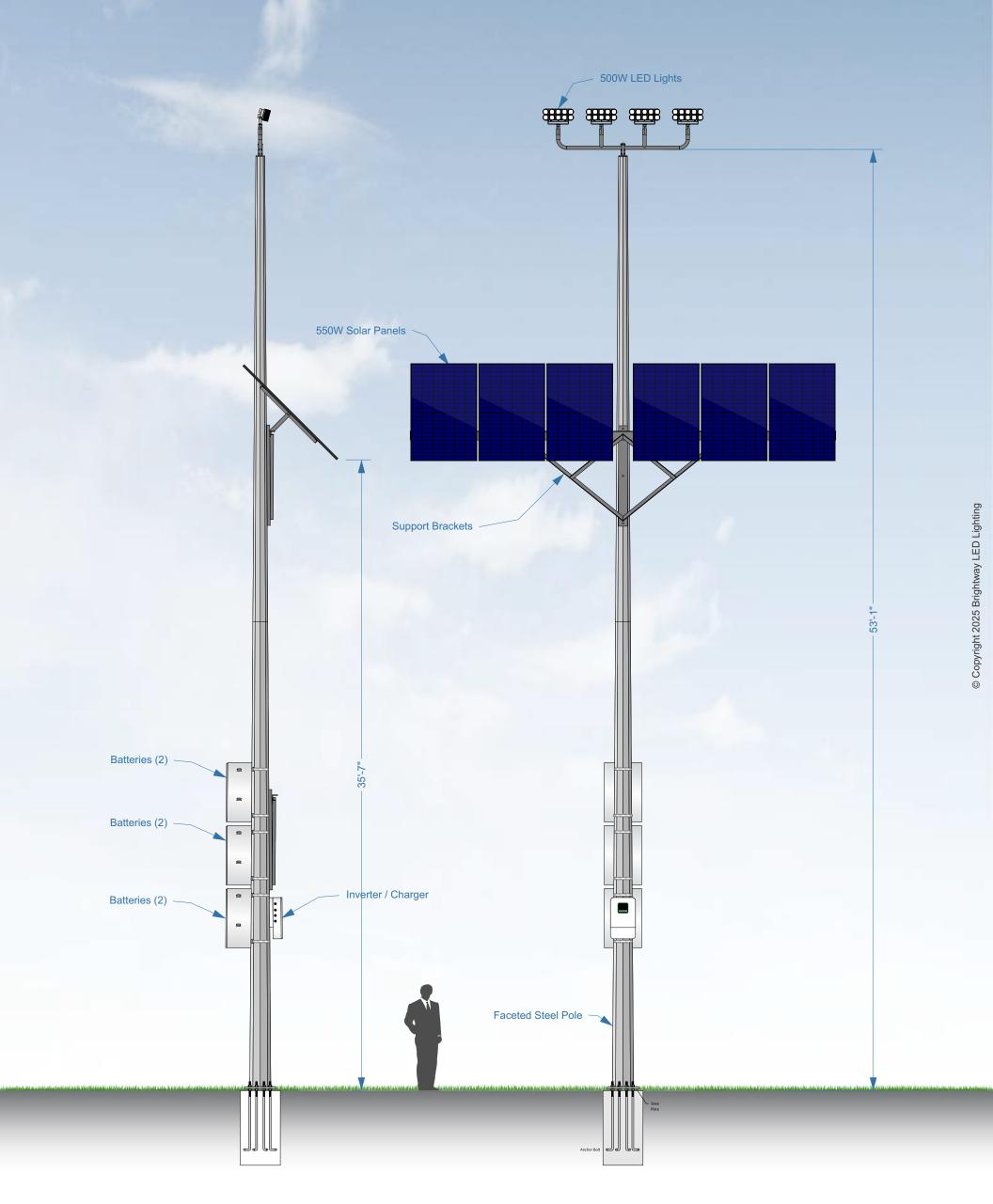
(2) 200W LED lights with 4x420W monocrystalline solar panels. 3x12V/200Ah gel batteries. 400W inverter. 400W MPPT controller. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Gel batteries mounted in weather tight enclosures. Discharge = 12 hours at 100% full power (+/- based on 4 sun hours per day).





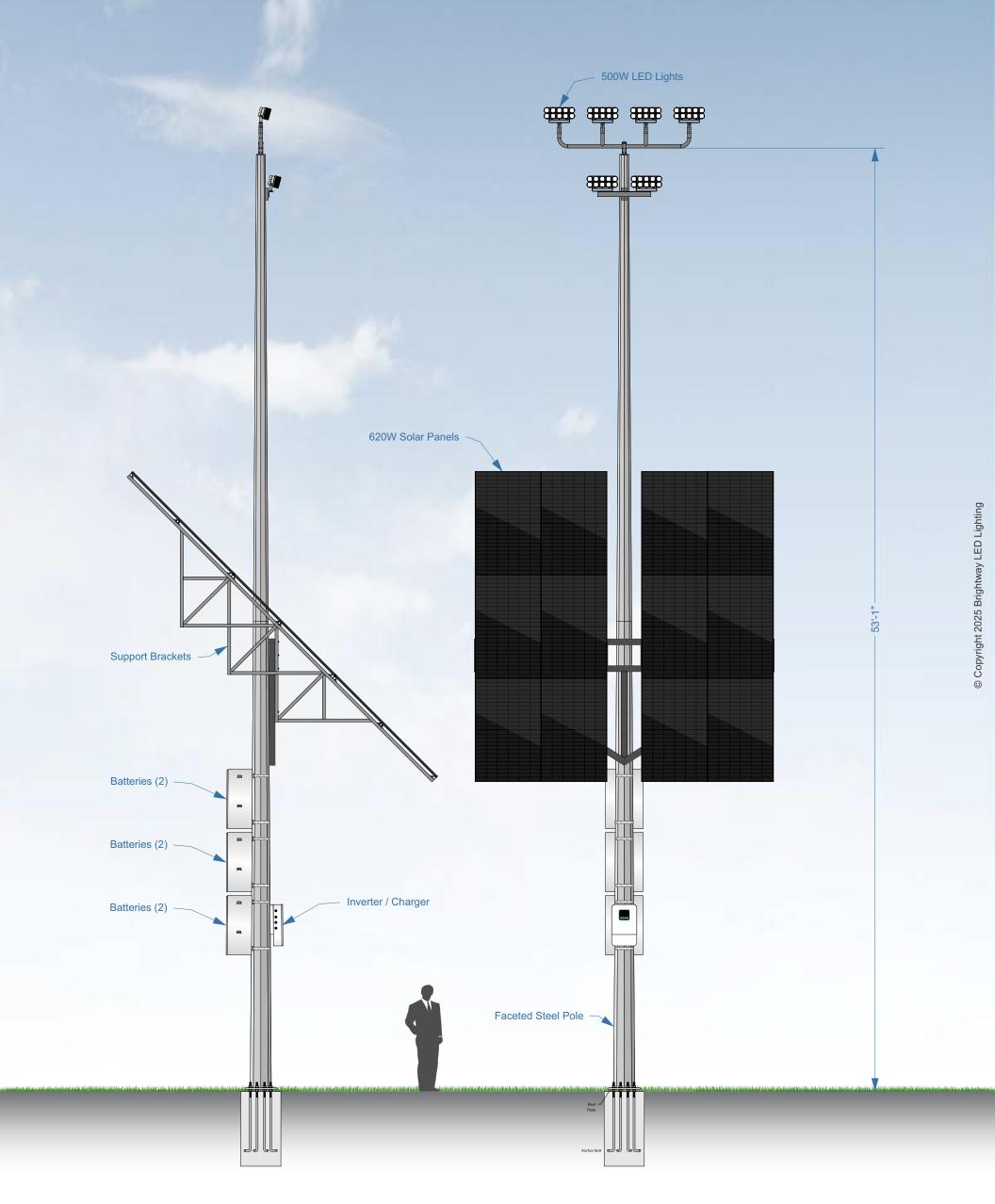
# 900W 53' SOLAR LIGHT TOWER

(3) 300W LED lights with 4x550W monocrystalline solar panels. 4x25.6V/100Ah gel batteries. 3000W inverter. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Gel batteries mounted in weather tight enclosures. Discharge = 9 hours at 100% full power (+/- based on 4 sun hours per day).



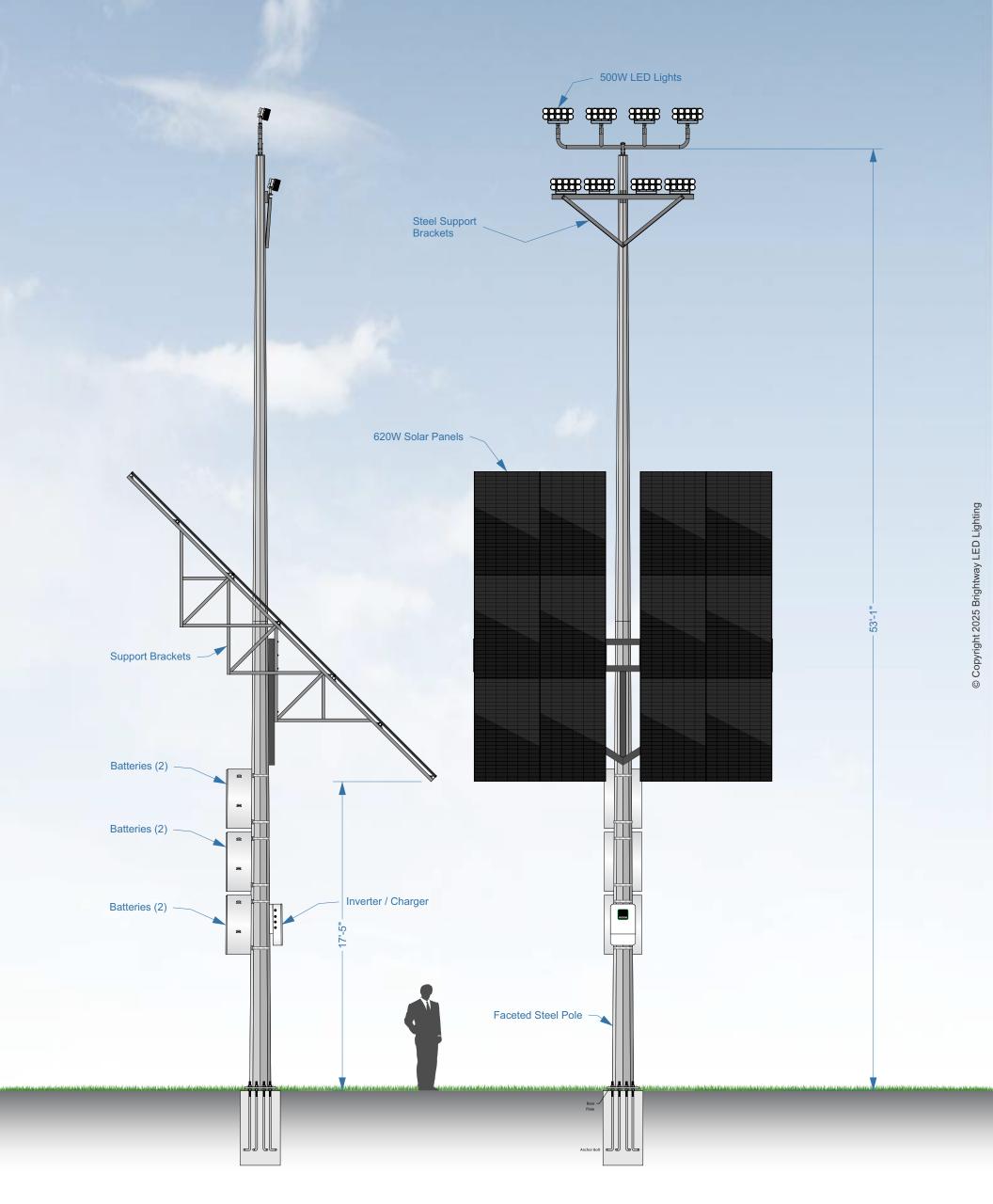
2000W 53' SOLAR LIGHT TOWER

(4) 500W LED lights with 6x550W bi-facial solar panels. 6x200 AH / 25.6V batteries. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Lithium batteries mounted in weather tight enclosures. Discharge = 8 hours at 100% full power (+/- based on 4 sun hours per day).



# 3000W 53' SOLAR LIGHT TOWER

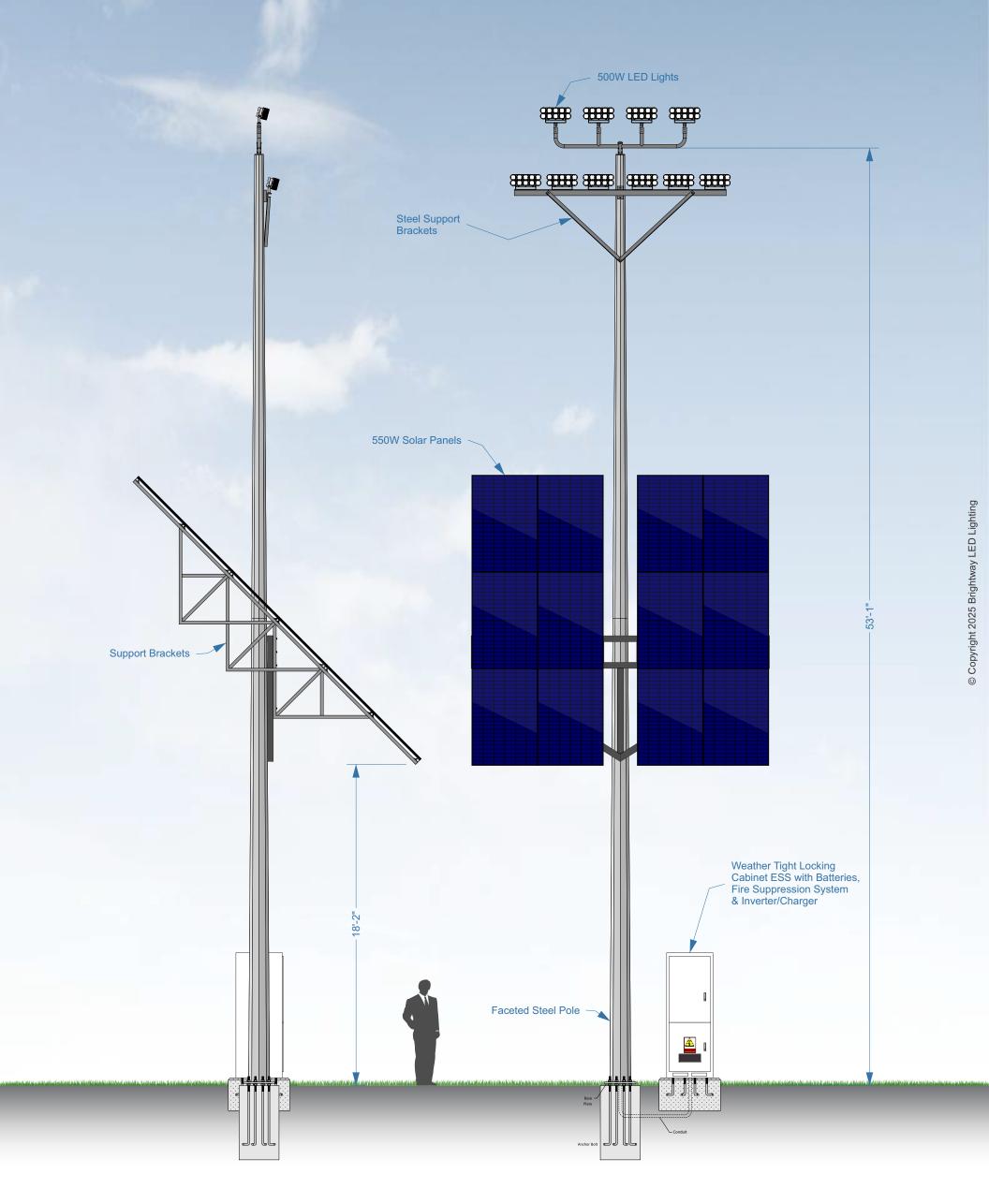
(6) 500W LED lights with 12x620W solar panels. 6x200 AH / 25.6V batteries. 5kW inverter/charger. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Lithium batteries mounted in weather tight enclosures. Discharge = 8 hours at 100% full power (+/- based on 4 sun hours per day).



# 4000W 53' SOLAR LIGHT TOWER

(8) 500W LED lights with 12x620W solar panels. 6x200 AH / 25.6V batteries. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Lithium batteries mounted in weather tight enclosures. Discharge = 6 hours at 100% full power (+/- based on 4 sun hours).

# **MODEL: LT53-5000C**

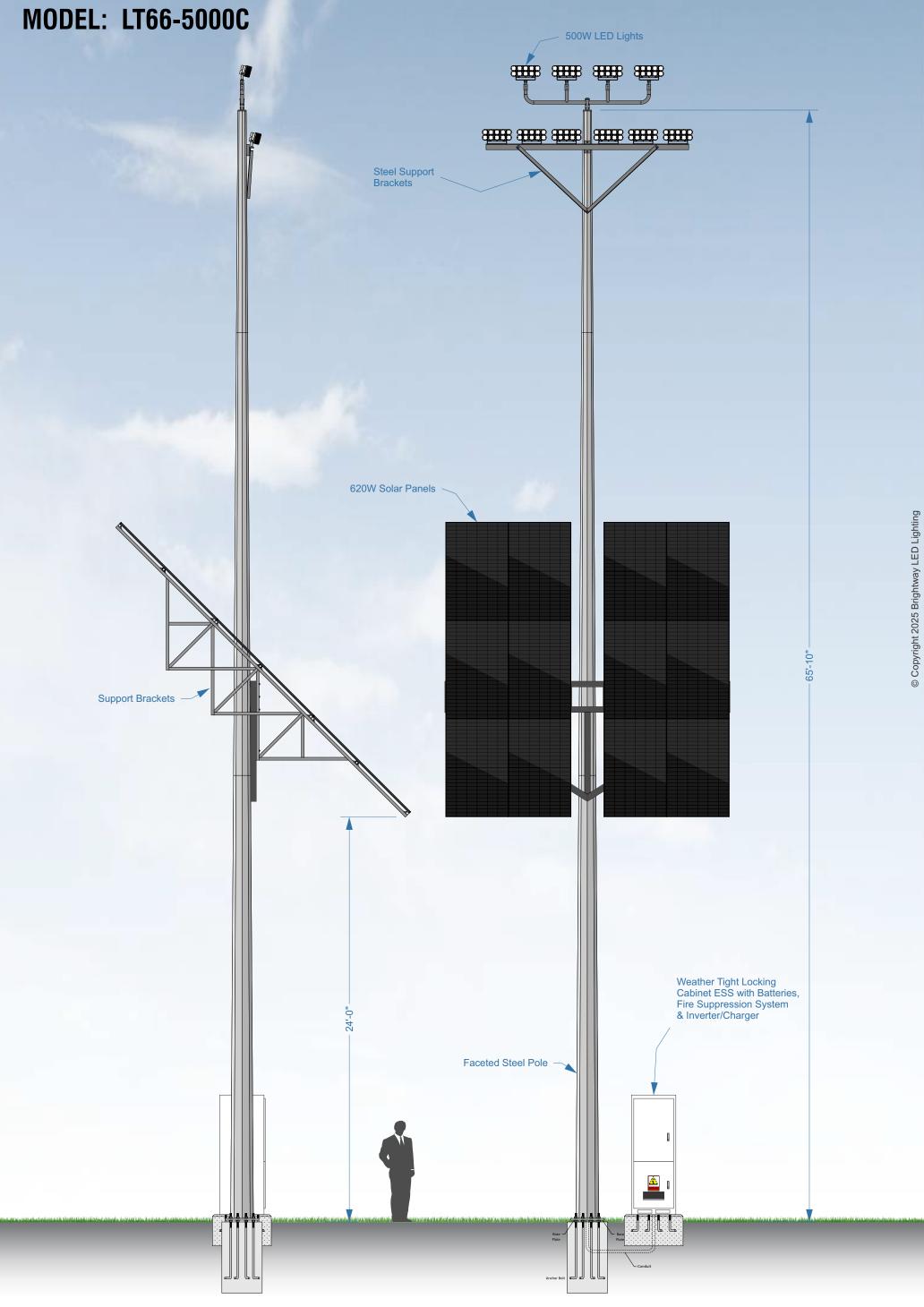


# 5000W 53' SOLAR LIGHT TOWER

(10) 500W LED lights with 12x620W impact resistant solar panels. BESS - Tier-1 LFP battery cell pack: 51.2V, 280AH, 14.336KWh, 4packs in parallel - total 57.344KWh. 10kW inverter, (11kW max PV input), 120VAC output 500VDC max open circuit voltage. Tapered steel pole with steel and aluminum support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Discharge = 5.5 hours at 100% full power (+/- based on 4 sun hours per day).

# 4800W 66' SOLAR LIGHT TOWER

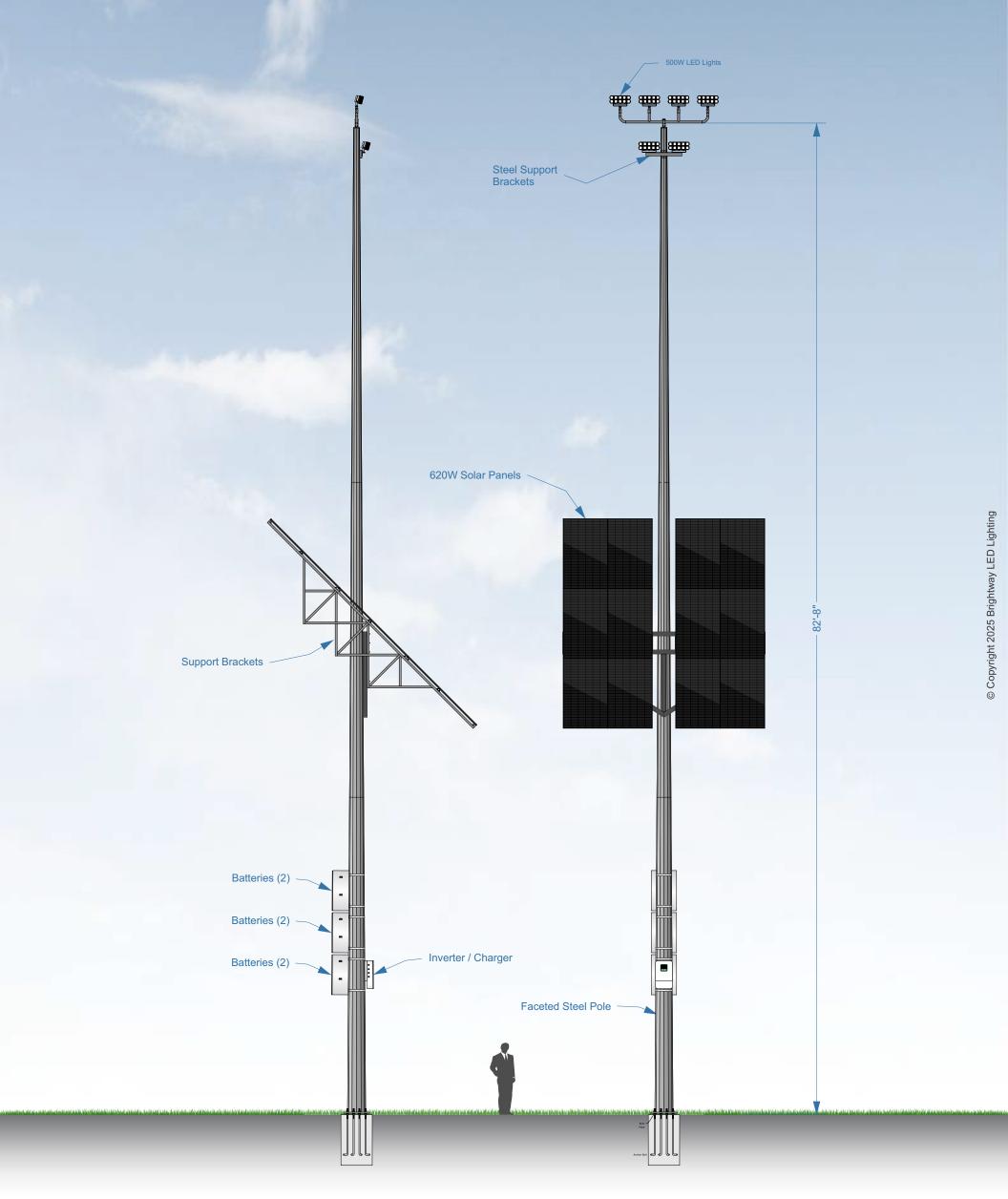
(8) 600W LED lights with 12x620W impact resistant solar panels. BESS - Tier-1 LFP battery cell pack: 51.2V, 280AH, 14.336KWh, 4packs in parallel - total 57.344KWh. 10kW inverter, (11kW max PV input), 120VAC output 500VDC max open circuit voltage. Tapered steel pole with steel and aluminum support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Discharge = 5.5 hours at 100% full power (+/- based on 4 sun hours per day).



5000W 66' SOLAR LIGHT TOWER
(10) 500W LED lights with 12x620W impact resistant solar panels. BESS - Tier-1 LFP battery cell pack: 51.2V, 280AH, 14.336KWh, 4packs in parallel - total 57.344KWh. 10kW inverter, (11kW max PV input), 120VAC output 500VDC max open circuit voltage. Tapered steel pole with steel and aluminum support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Discharge = 5.5 hours at 100% full power (+/- based on 4 sun hours per day).



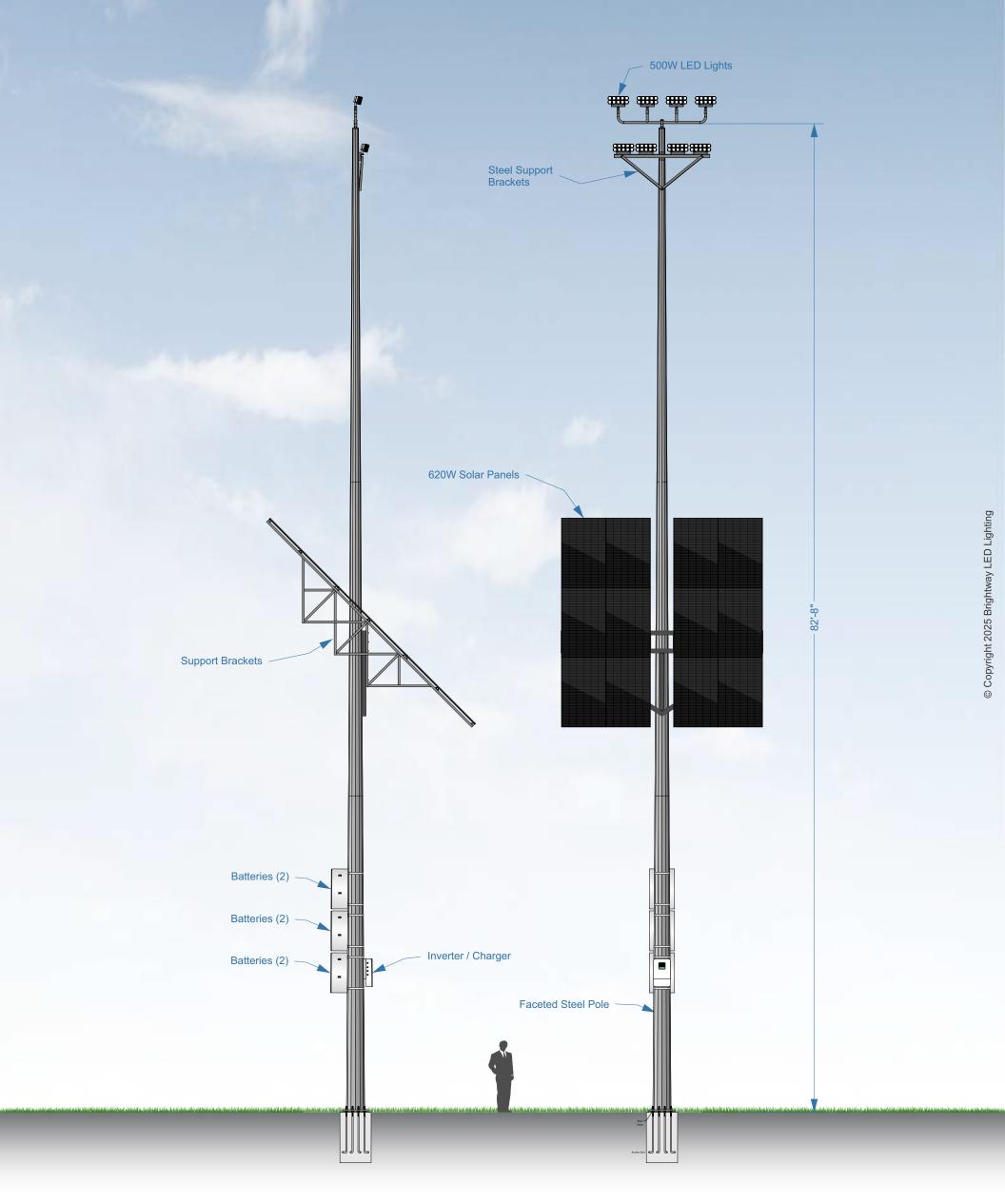
# MODEL: LT82-3000



# 3000W 82' SOLAR LIGHT TOWER

(6) 500W LED lights with 12x620W solar panels. 6x200 AH / 25.6V batteries. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Lithium batteries mounted in weather tight enclosures. Discharge = 8 hours at 100% full power. (+/- based on 4 sun hours per day)

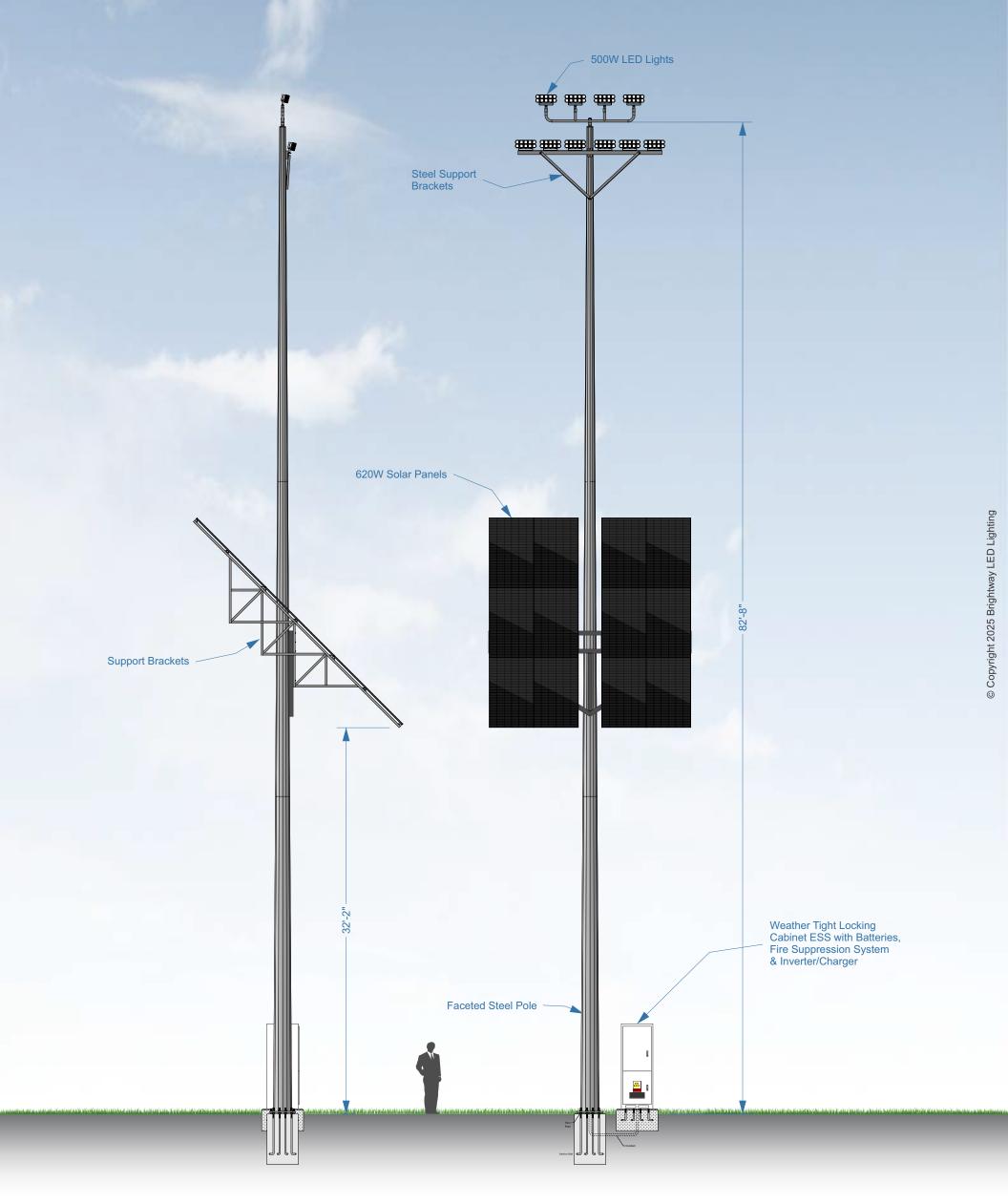
# MODEL: LT82-4000



# 4000W 82' SOLAR LIGHT TOWER

(8) 500W LED lights with 12x620W solar panels. 6x200 AH / 25.6V batteries. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Lithium batteries mounted in weather tight enclosures. Discharge = 6 hours at 100% full power (+/- based on 4 sun hours per day).

# **MODEL: LT82-5000C**



# 5000W 82' SOLAR LIGHT TOWER

(10) 500W LED lights with 12x620W impact resistant solar panels. BESS - Tier-1 LFP battery cell pack: 51.2V, 560AH, 14.336KWh, 4 packs in parallel - total 57.344KWh. 10kW inverter, (11000W max PV input), 120VAC output 500VDC max open circuit voltage. Tapered steel pole with steel angle support brackets and bullhorn mounting arms for lights, steel angle braces for solar panels. Concrete footings (footing dimension determined by registered engineer). Discharge = 5 hours at 100% full power (+/- based on 4 sun hours per day).





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