



# FL10

## Solar Floodlight System



- Sold as a complete lighting system with all components necessary for a typical installation.
- Illumination period can be designed subject to project requirements.
- Typical luminaire options are 5W, 10W, 20W or 30W.
- Lights can be permanently dimmed to any Wattage between 1 and 30 Watts. Light can also be dimmed temporarily for a period during each night for power conservation (if necessary).
- Solar panel power is calculated based on luminaire power, installation location, and illumination time.
- Refer to our website, or contact our sales team for solar panel and battery sizing requirements.



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**Lowest Price\***  
Guarantee

**20 Year\***  
Panel Warranty

**5 Year\***  
Product Warranty

**Lifetime\***  
Tech Support

**Worldwide\***  
Shipping

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## Solar Floodlight System

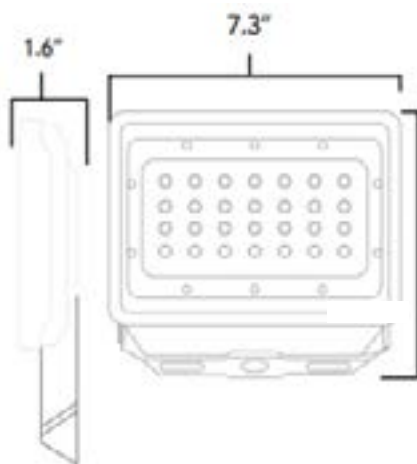


This floodlight system is supplied with one light fixture offered in 5W, 10W, 20W, or 30W. Increasing the power (Wattage) of the light fixture increases the light spread, as well as the light intensity.

Illumination time is up to 8 hours, or dusk to dawn. Additional illumination times are available upon request. Motion sensors, wired or remote controlled switches, and/or timers can be added to the system upon request.



Color Temperature	5700k	Waterproof Rating	IP65
CRI	>70	LED Brand	LUMILEDS
Input Power	5W, 10W, 20W or 30W	LED Type	LUXEON 3030 2D
Lumens	5W 665 lm	Cable Length	20'
	10W 1330 lm	PF	>0.9
	20W 2660 lm	Housing	Aluminum, PC, Steel
	30W 3990 lm	Housing Color	Brown / Bronze
Viewing Angle	7H7V	Operating Temperature	-4° to 113°F
Input Voltage	24V DC	Safety Certification	UL, cUL, DLC
Driver Model	Meanwell		



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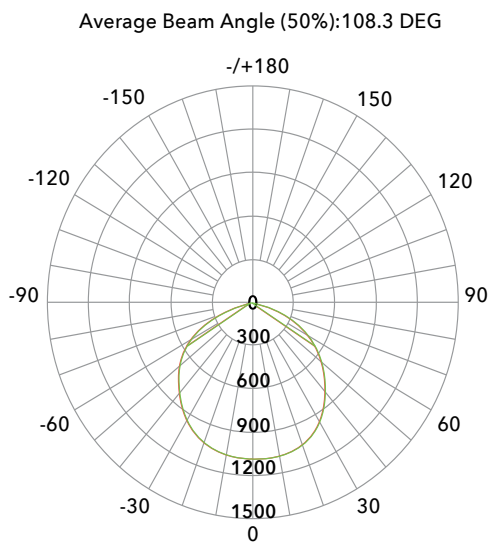
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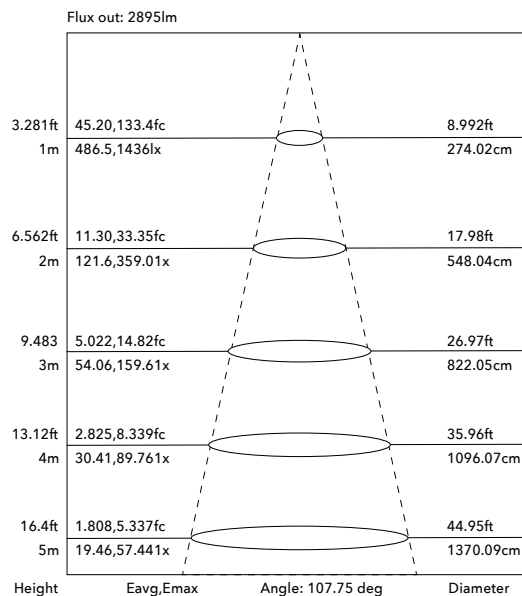
### LIGHT DISTRIBUTION TESTING PARAMETERS

Data of Lamp		Photometric Data			
Model		Imax (cd)	1437	S/MH (C0/180)	1.28
Nominal Power (W)	30	LOR (%)	100.0	S/MH (C90/270)	1.30
Rated Voltage (V)	24	Total Flux (lm)	3736.9	η UP, DN (C0-180)	0.1,50.6
Nominal Flux (1m)	3736.91	CIE Class	Direct	η UP, DN (C180-360)	0.1, 49.3
Lamps Inside	1	η up (%)	0.1	CIBSE SHR NOM	1.25
Test Voltage	24	η down (%)	99.9	CIBSE SHR MAX	1.35

### LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



Unit:cd  
 — C0/180, 53.5, 54.2  
 — C90/270, 53.7, 55.2



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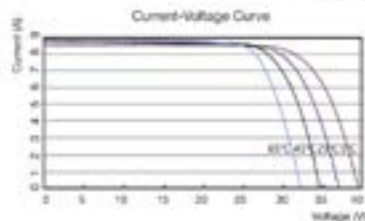
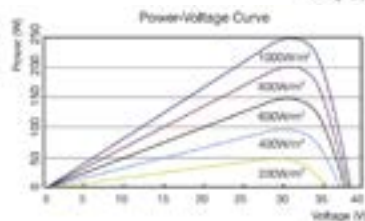
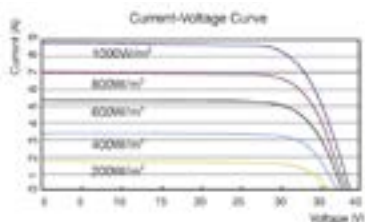
## Solar Floodlight System

### Solar Panel

Systems are supplied with high quality monocrystalline or polycrystalline solar panels with the highest performance and efficiency. They are designed to endure the harshest environments, and are guaranteed to provide power for well over 20 years. Typically manufactured in the USA, Canada, or Germany. The solar panel power is subject to LED consumption, installation location, and illumination period. Please consult with our engineers for specific details and solar power recommendations.



### MC4 Connector



### Photovoltaic Module

- Highly efficient monocrystalline or polycrystalline solar panel with aluminum frame, anti-aging, and encapsulated membrane.
- Anti-reflective and anti-soiling surface that reduces power losses from dirt and dust.
- Certified to withstand high wind loads (340PSI) and snow loads (780PSI); and resistance to high salt and ammonia.
- Manufactured to international standards, verified and certified by independent testing laboratories. (UL, ETL, IEC, MCS, & TUV)
- Assembled to strict quality control standards; international standards ISO 9001 and ISO 14001.
- Range of solar panel power available from 45W to +500W.
- The solar panel power is subject to LED consumption, installation location, and illumination period. Please consult our engineers for specific solar power requirements.
- Solar panels can be supplied in a single or dual format (2 x 70W = 140W, 2 x 100W = 200W etc.)
- Typical solar panel life is over 30 years, subject to environmental factors.
- 45W panel dimensions: 34.25" x 20.13" x 1.5"
- 70W panel dimensions: 32.35" x 26.22" x 1.5"
- 90W panel dimensions: 40.25" x 26.25" x 1.5"
- 100W panel dimensions: 47.87" x 26.43" x 1.5"
- 140W panel dimensions: 44" x 38.7" x 1.5" (or may be supplied as two 70W panels).
- 240W panel dimensions: 64.38" x 39" x 1.5"
- 280W panel consists of two 140W panels.



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"EastPenn batteries are engineered and tested to provide reliable, long-lasting power for Photovoltaic (PV) and renewable energy applications where frequent deep cycles are required and minimum maintenance is desirable."

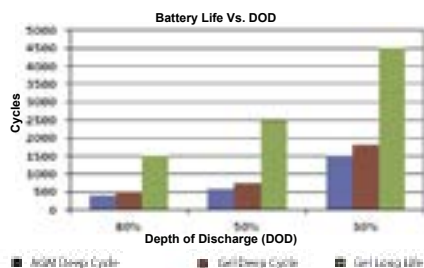
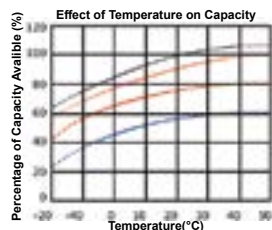


Made in the USA



### Battery

- Manufactured by: East Penn Manufacturing Co. Inc.
- 100% made in the USA.
- System supplied standard with two 12 Volt batteries. Batteries are wired in series to make a 24 Volt system.
- Available battery capacities range from 12Ah to 245Ah (per battery).
- Choice of two battery types: Absorbed Glass Mat (AGM) or Gel Cell.
- Please consult our engineers for specific battery capacity requirements.
- Classified as Non-spillable (defined by DOT, ICAO and IATA), NonHAZMAT, and valve regulate.
- Conforms to ISO9001, ISO/TS 16949, and ISO14001 standards.
- Typical battery life is approximately 5 to 7 years, subject to environmental factors.



### VRLA Technology

VRLA batteries are maintenance free for life. VRLA stands for Valve Regulated Lead Acid, which means the batteries are sealed. Gas will only escape through the safety valves in the case of overcharging or cell failure.

AGM and Gel batteries have exceptional discharge recovery, even after deep or prolonged discharge. However, it should be noted that repetitive deep discharge and prolonged deep discharge have a negative influence on the service life of all lead acid batteries.

Gel batteries in general have a longer service life and better cycle capacity than AGM batteries.

Please Note: The rated capacity of our AGM or gel deep cycle batteries refer to 20 hour discharge rate (i.e. 0.05CA). Most products actually operate near, or at a 100 hour discharge rate (i.e. 0.01CA) and thus actual available battery capacity is slightly higher than the advertised rate.

The total available battery power is measured in watt-hour (Wh) or V\*Ah. When comparing our total battery capacity with competitor's, please note that the battery capacity from a 12V system is not interchangeable with the battery capacity of a 24V system. However, the total battery power (i.e. watt-hours) is always comparable provided the correct system voltage is considered during calculation.



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### Maximum Power Point Tracking

Supplied standard with the most advanced and sophisticated MPPT charge controller technology. Allowing for full system programmability and light control; including active dimming and intelligent battery management. MPPT technology increases power generation by up to 30% during inclement periods, and intelligent battery management provides extended battery life and extra protection against excessive discharge.

### MPPT Control Module

- The MPPT controller will improve energy harvest by up to 30% compared to PWM charge controllers. Especially in the case of cold cloudy winter weather, when light intensity is changing continuously.
- Offers full programmability of load output: dusk to dawn, multi-timed mode, and integrated dimming (all standard features).
- Intelligent battery management software is used to protect the battery from being excessively discharged. The controller will monitor the state of charge on the battery, and if needed, day by day slightly increase the load disconnect level (i. e. disconnect the load earlier) until the harvested solar energy is sufficient to recharge the battery to nearly the full 100% at least once a week. Allowing for the longest life possible from the batteries.
- Controller size and ratings are subject to solar panel and battery specifications.
- \*Supports real time data monitoring, 30 day performance history, and user programmability from Apple or Android smartphones, tablets, etc. Use of this feature requires the optional MPPT Bluetooth Dongle.

The comprehensive light control system allows for extensive configuration, including dynamic activation and optional dimming. Lighting activation is controlled by the charge controller and solar panel. Dimming of the luminaire is adjusted by percentage, i.e 100% is equal to full power, 50% is equal to half power, etc.

Dusk Till Dawn	Maximum Power									
Single Time Operation	X Hours at Maximum Power					Off				
Single Time Operation	Off					X Hours at Maximum Power				
Dual Time Operation	X Hours at Max. Power			Off			X Hours at Max. Power			
Single Time Operation w/ dimming	X Hours at Max. Power						X Hours at X% Dimming			
Dual Time Operation w/ Dimming	X Hours at Max. Power			X Hours at X% Dim.			X Hours at Max. Power			
Multiple Dimming Operation	X Hours at X% Dimming					X Hours at X% Dimming				

\*The lighting control options are variable, and not all options are listed. If you require a specific control operation not listed, please contact one of our engineers to verify feasibility.

\*\*A midnight feature is available as a timed operation parameter. Midnight is determined by calculating the middle of the night and does not necessarily mean 12AM (although it will be close). It also can be adjusted earlier or later by X number of hours.



\*Real time data monitoring, 30 day performance history, and user programmability from Apple or Android smartphones.



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We stock several types of battery enclosures, ranging from various sizes and construction materials. The type of battery enclosure provided will depend on the size of the batteries required, and/or how the battery enclosure needs to be mounted. All battery enclosures are weather rated, designed for interior or exterior installation.

BE01



- BE01 Battery Enclosure**
- Plastic construction.
  - Supplied with outlets or cable glands dependant on system requirements.
  - Hinged lockable lid (padlock not included).
  - Dimensions: 12 3/16" x 9" x 6 1/2" (310mm x 225mm x 165mm)

BE02



- BE02 Battery Enclosure**
- Galvanized steel construction.
  - Fitted with 4 outlets, and one solar panel input.
  - Hinged lockable lid (padlock not included).
  - Dimensions: 13" x 9 7/8" x 8 7/8" (330mm x 250mm x 225mm)
  - Dimensions including lid over-hang: 9 7/8" x 15 6/8" x 8 7/8" (250mm x 400mm x 225mm)

BE03



- BE03 Battery Enclosure**
- Galvanized steel construction.
  - Fitted with 8 outlets, and one solar panel input.
  - Hinged lockable lid (padlock not included).
  - Dimensions: 18 1/8" x 14 3/8" x 11 3/16" (460mm x 365mm x 284mm)
  - Dimensions including lid over-hang and side flanges: 21 1/4" x 15 3/8" x 11 3/16" (510mm x 390mm x 284mm)

### Optional Battery Enclosure Mounting Hardware

If you need to mount your battery enclosure to a round post or pole, you can purchase our optional battery enclosure pole mount hardware kits.



#### SP13

The SP13 battery enclosure pole mount kit can be used to mount our BE01, BE02, or BE03 to a round pole or post. Pole diameter options vary between 2" to 8" diameter.



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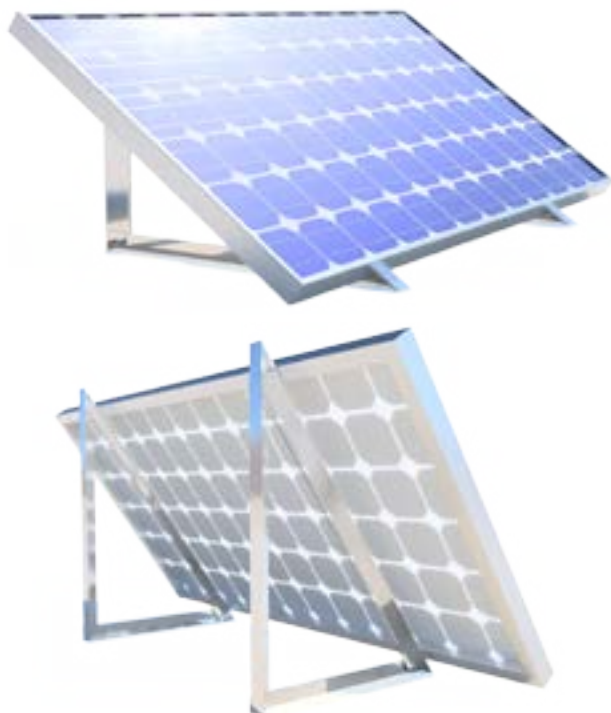
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Each solar panel is supplied with a pair of metal mounting triangles. These triangles allow the installer to mount the solar panel at an appropriate angle to a solid vertical or horizontal surface (such as a wall or concrete pad).

The panels can be installed in numerous ways, but note that the solar must be mounted at an appropriate angle ( $15^{\circ}$  plus site latitude), face due south for the northern hemisphere and north for the southern hemisphere, and be in clear view of the sun (with no shading).

If any of these requirements are not possible, please notify us prior to ordering so we can calculate solar panel sizing options.

### Optional Solar Panel Mounting Hardware

Below are solar panel pole mount options that can be purchased as an optional extra.

#### SP11

Can accomodate panels up to 39" wide



#### SP12

Can accomodate one or two panels, up to 39" wide each.



#### SP04 / SP08

SP04 can accomodate panels up to 20" wide. SP08 can accomodate panels up to 26" wide.



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