



Gardco SolarForm Gen 2 is an all in one, integrated, off-grid and cost-effective solar solution with a high quality of light and reliable performance consisting of a LED light with a solar photovoltaic panel, a battery, and a smart controller, making it easy to specify, sell, install, configure, and maintain. It comes with field-configurable operating profiles adapted to night activities and expected solar energy performance ready to be turned-on for customers to have a lighting solution in areas where electricity is not available (inc. temporary) and/or more expensive.

Project:	
Location:	
Cat.No:	
Type:	
Lumens:	Qty:
Notes:	

Ordering guide

Prefix	Configuration	LED Color	Distribution	Motion Sensor	Dimming Profile*	Battery Capacity	Finish
SOF-S			T2			B256	
SOF-S SolarForm Small (PV Panel 36Wp)	LED20 2000lm	730 70 CRI, 3000K	T2 Type 2	Blank No motion sensor	FDX01 Fixed dimming #1	B256 Battery 256Wh	BK Black
	LED30 3000lm	740 70 CRI, 4000K			FDX02 Fixed dimming #2 FD530 Fixed dimming: 100% for 5 hrs then 30% till sunrise FD550 Fixed dimming: 100% for 5 hrs then 50% till sunrise		WH White BZ Bronze DGY Dark grey MGY Medium grey RALXXXX RAL color CC Custom color
				MR Motion sensor	PDX01 Profile dimming #1 PDX02 Profile dimming #2 PD30 Profile dimming: 100% with motion override and 30% without PD50 Profile dimming: 100% with motion override and 50% without		

Dimming Profiles

FD – Fixed Dimming (no motion sensor or motion sensor disabled):

FDX01 – First 5 hours from dusk light level fixed at **100%**. Next 5 hours light level fixed at **30%**. Remaining hours to dawn, light level fixed at **100%**.

FDX02 – First 5 hours from dusk light level fixed at **100%**. Next 5 hours light level fixed at **50%**. Remaining hours to dawn, light level fixed at **100%**.

FD530 – First 5 hours from dusk light level fixed at **100%**. Remaining hours to dawn, light level fixed at **30%**.

FD550 – First 5 hours from dusk light level fixed at **100%**. Remaining hours to dawn, light level fixed at **50%**.

PD – Profile Dimming (with motion sensor, motion sensor is enabled, and light level is **100%** when motion is detected):

PDX01 – First 5 hours from dusk light level at **30% without motion**.

Next 5 hours, **motion sensor disabled**, and light level fixed at **30%**. Remaining hours to dawn light level at **30% without motion**.

PDX02 – First 5 hours from dusk light level at **50% without motion**.

Next 5 hours, **motion sensor disabled**, and light level fixed at **50%**. Remaining hours to dawn light level at **50% without motion**.

PD30 – Dusk to dawn, light level is at **30% without motion**.

PD50 – Dusk to dawn, light level is at **50% without motion**.

See additional details in pages 3 and 4.

For custom fixed and profile dimming other than listed above, please contact factory.

Operating profiles can be set and updated in site via a BLE APP by an approved Gardco agent.

Accessories

(ordered separately through Signify, field installed)

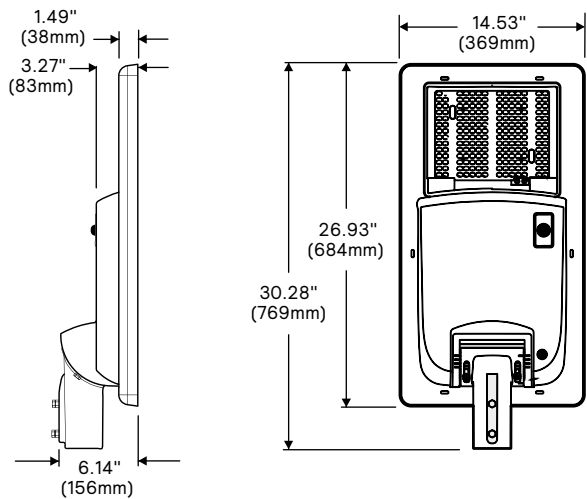


SOF-EHSS-finish Side and back house shield

SolarForm Gen 2 Small

Off-grid luminaire

Dimensions



Weight:

2000L: 19.8 lbs (9 Kg)
3000L: 23.1 lbs (10.5Kg)

Effective Projected Area (EPA):

2000-3000L: .683 ft² (.063 m²)

LED Wattage and Lumen Values - CCT = 3000K

(at 100% with motion sensor activated)

Ordering Code	Total LEDs	LED Current (mA)	System Lumen Output	Average System Watts	BUG Rating	Efficacy (LPW)
SOF-S-LED20-730-XX	112	35	2040	11	B1-U0-G1	185
SOF-S-LED30-730-XX	196	31	3110	17	B1-U0-G1	183

LED Wattage and Lumen Values - CCT = 4000K

(at 100% with motion sensor activated)

Ordering Code	Total LEDs	LED Current (mA)	System Lumen Output	Average System Watts	BUG Rating	Efficacy (LPW)
SOF-S-LED20-740-XX	112	35	2060	11	B1-U0-G1	187
SOF-S-LED30-740-XX	196	31	3280	17	B1-U0-G1	193

Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown. Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout.
NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.

Predicted Lumen Depreciation Data*

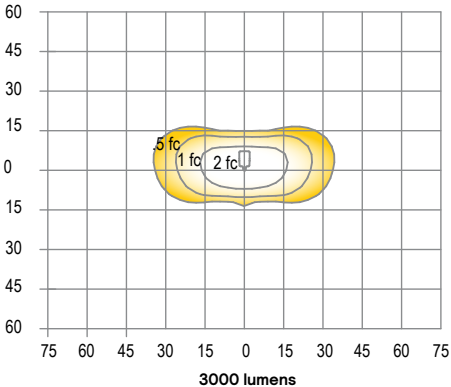
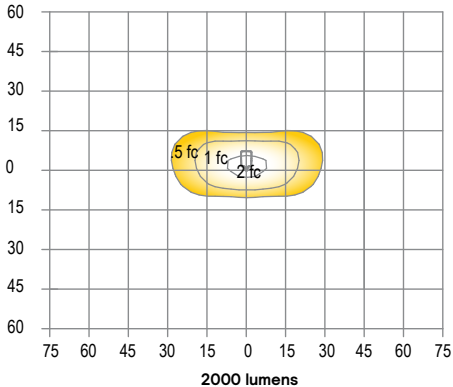
Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours

Ambient Temperature °C	Drive current	L ₇₀ per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	900 mA	>60,000 hours	>94%

Lifetime data is based off worst case LED45 configuration.

Optical Distributions

Based on mounting height of 15ft (Dimensions below are in ft)



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FD - Fixed Dimming

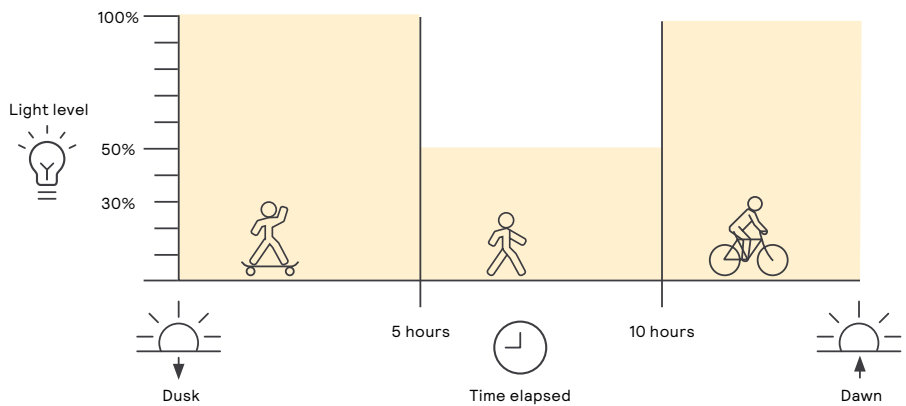
FDX01

First 5 hours from dusk light level fixed at **100%**.
Next 5 hours light level fixed at **30%**.
Remaining hours to dawn, light level fixed at **100%**.



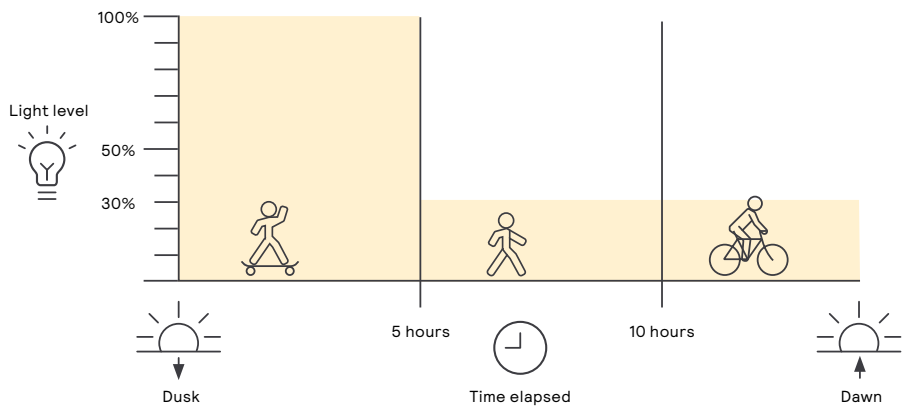
FDX02

First 5 hours from dusk light level fixed at **100%**.
Next 5 hours light level fixed at **50%**.
Remaining hours to dawn, light level fixed at **100%**.



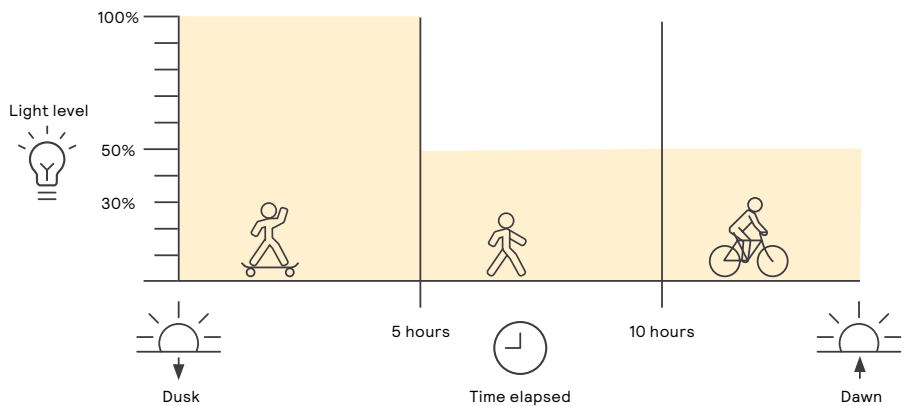
FD530

First 5 hours from dusk light level fixed at **100%**.
Remaining hours to dawn, light level fixed at **30%**.



FD550

First 5 hours from dusk light level fixed at **100%**.
Remaining hours to dawn, light level fixed at **50%**.



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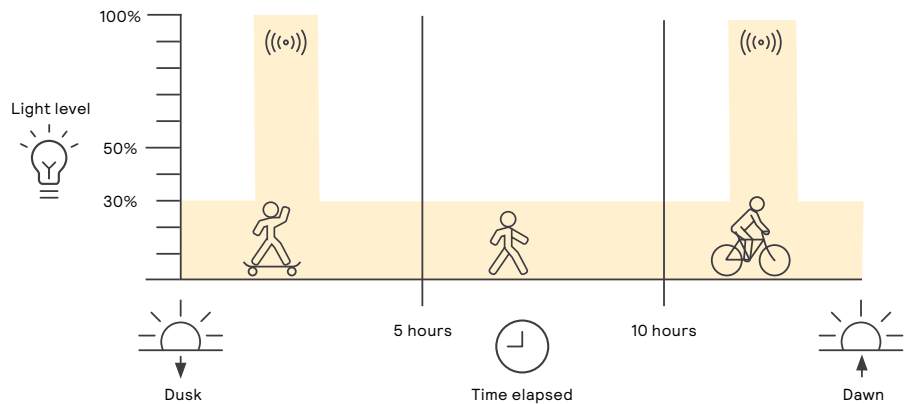
PD - Profile Dimming

PDX01

First 5 hours from dusk light level 100% when motion is detected and **30%** when **no motion is detected**.

Next 5 hours, **motion sensor disabled**, and light level fixed at **30%**.

Remaining hours to dawn light level at **100%** when **motion is detected** and **30%** **without motion**.

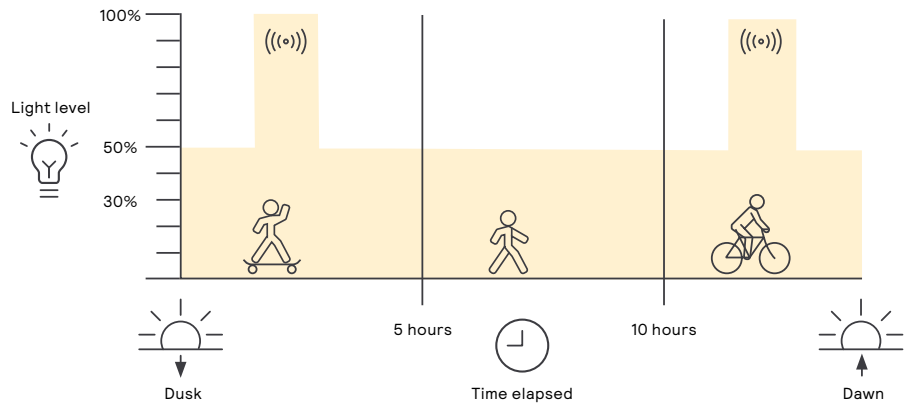


PDX02

First 5 hours from dusk light level 100% when motion is detected and **50%** when **no motion is detected**.

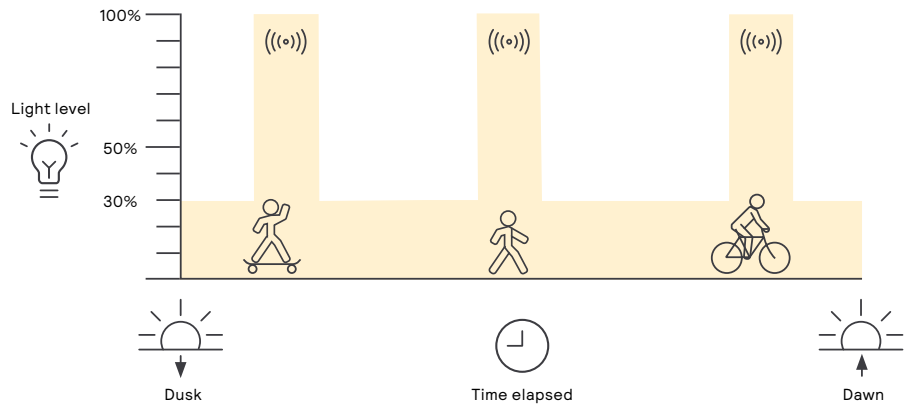
Next 5 hours, **motion sensor disabled**, and light level fixed at **50%**.

Remaining hours to dawn light level at **100%** when **motion is detected** and **50%** **without motion**.



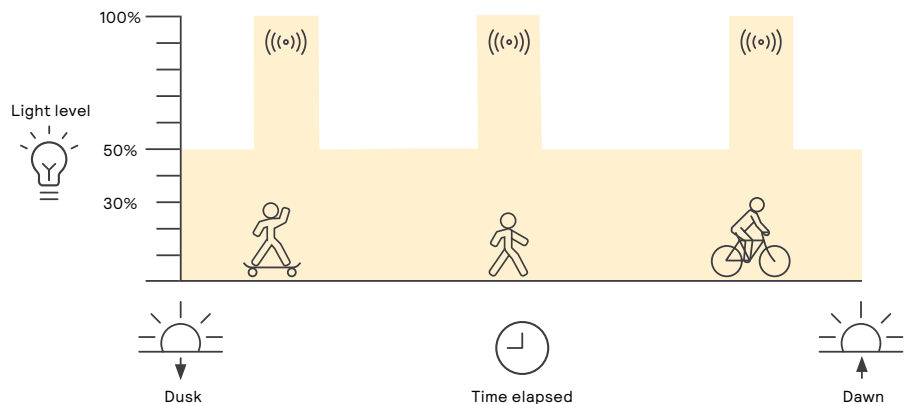
PD30

Dusk to dawn, light level is at **100%** with motion and at **30%** **without motion**.



PD50

Dusk to dawn, light level is at **100%** with motion and at **50%** **without motion**.



SolarForm Gen 2 Small

Off-grid luminaire

Poles and Brackets

Ordering guide

example: SSS-CB-4-11-12-T2D6L-N-BK

Family	Base	Pole Size (in.)	Pole Gauge	Height (ft.)	Drilling/Tenon Configuration	Drilling Template	Finish
SSS Straight Square Steel	CB Carbon Steel Base with Base Cover	4	11 11 ga.	10	Horizontal Mounting		BK Black
				12	D1 1 Way	DT6 Drill template 6 (requires RLAR brackets, ordered separately)*	BZ Bronze
				14	D1@180 1 Way @ 180		WH White
				15	D2 2 Way @ 180		DG Dark Grey
				16	D2@90 2 Way @ 90		MG Medium Grey
				18	Vertical Mounting		
				20	T2D6L 2-3/8" OD tenon x 6" length	N No drilling (for tenons)	

* RLAR brackets are to be ordered as a separate accessory, 1 per luminaire: RLAR-1A-SQ4--(finish)

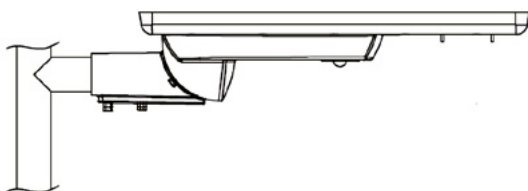
Ordering guide

example: SSS-CB-4-11-12-T2D6L-N-BK

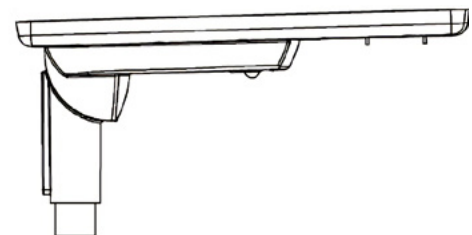
Family	Base	Pole Size (in.)	Pole Gauge	Height (ft.)	Drilling/Tenon Configuration	Drilling Template	Finish
SRS Straight Round Steel	CB Carbon Steel Base with Base Cover	4	11 11 ga.	10	Horizontal Mounting		BK Black
				12	D1 1 Way	DT6 Drill template 6 (requires RLAR brackets, ordered separately)**	BZ Bronze
				14	D1@180 1 Way @ 180		WH White
				16	D2 2 Way @ 180		DG Dark Grey
				20	D2@90 2 Way @ 90		MG Medium Grey
				Vertical Mounting			
				T2D6L 2-3/8" OD tenon x 6" length	N No drilling (for tenons)		

** RLAR brackets are to be ordered as a separate accessory, 1 per luminaire:
 RLAR-1A-R4@4.9--(finish) (for 4" Poles)
 RLAR-1A-R5@6--(finish) (for 5" Poles)

Horizontal Mounting (requires RLAR brackets, offered separately)



Vertical mounting



* **Warning:** Additional wind loading, in terms of EPA, from banners, cameras, floodlights and other accessories attached to the pole, must be added to the luminaire(s) EPA before selecting the pole with the appropriate wind load capability. See pole spec sheets for the most up to date EPA data and general design warnings.

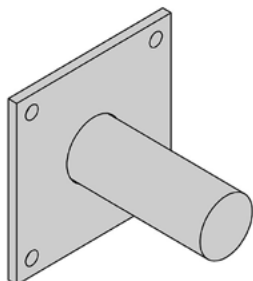
† Factory supplied template must be used when setting anchor bolts. Gardco will not honor any claim for incorrect anchorage placement resulting from failure to use factory supplied templates.

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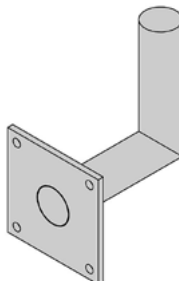
Off-grid luminaire

Wall Mount Steel Brackets

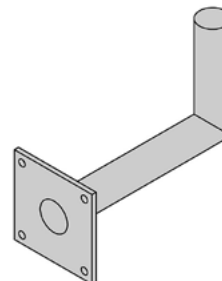
SBRKT-VTN-L1-6-WA-(finish)



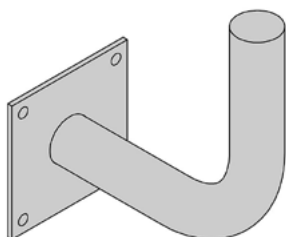
SBRKT-RAH-L1-8.5/8-WA-(finish)



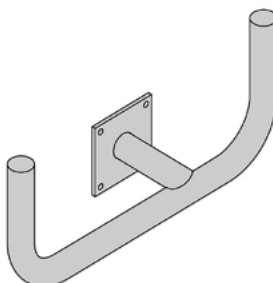
SBRKT-RAH-L1-14/8-WA-(finish)



SBRKT-RA-L1-12/13-WA-(finish)



SBRKT-RA-L2-30-WA-(finish)



* **Warning:** Additional wind loading, in terms of EPA, from banners, cameras, floodlights and other accessories attached to the pole, must be added to the luminaire(s) EPA before selecting the pole with the appropriate wind load capability. See pole spec sheets for the most up to date EPA data and general design warnings.

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Off-grid luminaire

Specifications

Housing

One-piece aluminum die-cast housing with anti-corrosive coating. Luminaire housing rated to IP65, tested in accordance to Section 9 of IEC 60598-1. Fits on 1.9" (48mm) O.D. or 2 3/8" (60mm) O.D. by 5 1/2" (140mm) minimum long tenon. Specially designed pole mounting bracket with adjustable tilt angles of 0 to 15°.

Light Engine

Light engine comprises of a module of 112 and 196 LED aluminum metal clad board fully sealed with optics. Module is RoHS compliant. Color temperatures available are 3000K +/-125K, 4000K, +/- 200K. Minimum CRI of 70. LED light engine is rated IP65 in accordance to Section 9 of IEC 60598-1.

Energy Saving Benefits

System efficacy > 175 lm/W and completely independent of the line power, which makes the product 100% energy efficient vs traditional electrical line powered luminaires. Dimming profiles can be selected to optimize energy usage which would result in extended hours / days of autonomy.

Optical Systems

Type 2 available. Performance tested per LM-79 and TM-15 (IESNA) certifying its photometric performance.

Battery

An advanced long-life Lithium Iron Phosphate (LiFePO4) 12.8V battery is used for hassle-free operations. Battery capacity is 256Wh. The charging and discharging is about 2,000 cycles based on 90% depth of discharged (DoD). Ambient temperature range for charging is 0°C to +45°C. They are well adapted to demanding applications such as solar lighting for their easy maintenance, light weight, longevity, and safety-related aspects. Spare batteries are available for future maintenance.

Photovoltaic (PV) module

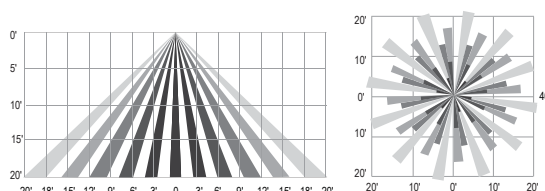
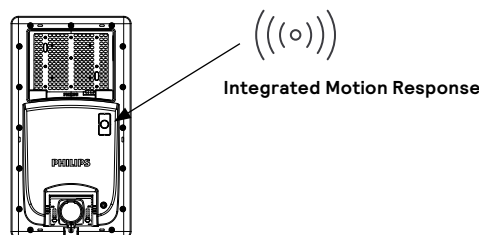
Mono / Poly Crystalline Silicon are used to maximize solar radiation energy and the longevity of the PV. Panel voltage 17 Vmp, 21 Voc. Panel acts as a photocell, turning off the luminaire at dawn and on at dusk.

Charge Controller

The luminaire comes with a highly efficient, configurable, and integrated microprocessor based MPPT charge controller with driver mounted on the same board to minimize power loss. This intelligent power management system maximizes the overall system efficiency to > 175 lm/W. SolarForm comes pre-configured with one of the standard operating profiles options which can be customized as per customer request and/or changed at using an app by a Signify trained field technician.

Motion Response

If the luminaire is equipped with a Motion Response (MR) module. The motion response device will simply override luminaire lighting schedule when the sensor detects activities on site, underneath the luminaire. It is factory set for a 10 sec delay time after motion is detected.



Finish

Luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidyl isocyanurate (TGIC) textured polyester powder coat finish. Luminaire has 5 standard finishes.

Runtime Extension (RTE)

A smart algorithm that enables the controller to intervene in cases where the battery drops to lower state of charge and keeps the light ON.

Listings

This product is CE listed, FCC CFR 47 Part 15B certified and electrical components are RoHS compliant.

Vibration Resistance

Luminaire is rated 1.5G over 100,000 cycles and tests were performed in accordance with requirements of ANSI C136.31-2018. Testing includes vibration in three axes, all performed on the same luminaire.

Limited Warranty

5-year limited warranty on luminaires including panels. Batteries and charge controllers carry a 3-year limited warranty. See [signify.com/warranties](https://www.signify.com/warranties) for complete details and exclusions.

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Off-grid luminaire

Specifications (continued)



	2000lm	3000lm
System wattage	11W	17W
Solar panel capacity	35W	
Battery capacity	256Wh (20AH)	
Battery type	Lithium Iron Phosphate (LiFePO ₄)	
Charging ambient temperature	32°F to 113°F 0°C to 45°C	
Discharge ambient temperature	-4°F to 113°F -20°C to 45°C	
PIR motion sensor range	12' (3.7m) to 20' (6m)	
CRI	>70	
Color temperature	3000K and 4000K	
System efficacy	>180 LPW	
Charge controller	Integrated, BLE programmable and MPPT type charge controller with LED driver	
Driver efficiency	>90%	
IP Rating	IP65	
Housing	Die-cast aluminum with anti-corrosive coating	
Front cover	UV stabilized polycarbonate cover	
Switch for On-Off	Included	
Charging and discharging indicator	Included	
Mounting	Horizontal and vertical pole mounting options (requires 2-3/8" x 6" long tenon)	
Adjustable tilt angle	0-15 degree adjustable	
Outer mounting diameter	1.9" (48mm) O.D. or 2 3/8" (60mm) O.D.	
Operating humidity	Up to 95%	
Estimated autonomy days	Varies by location. Contact factory for calculation details.	



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