



by Signify

Solar lighting

SolarForm

BRP710 Off-grid luminaire



Gardco SolarForm off-grid luminaire is an all in one integrated 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 controller, making it easy to specify, sell, install, and maintain. It comes pre-programmed with dimming 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

Catalog Code	Lumen Output	Color	Distribution	Sensor	Dimming Profile*
BRP710 LED20 NW MR 12V 35MO PDIM50 Solar	2000	NW	IES Type 2	Y	1
BRP710 LED20 NW MR 12V 35MO FDIM50 Solar	2000	NW	IES Type 2	N	3
BRP710 LED20 WW MR 12V 35MO PDIM50 Solar	2000	WW	IES Type 2	Y	1
BRP710 LED20 WW MR 12V 35MO FDIM50 Solar	2000	WW	IES Type 2	N	3
BRP710 LED30 NW MR 12V FDIM Solar Equip	3000	NW	IES Type 2	N	4
BRP710 LED30 WW MR 12V LFP AIO Solar	3000	WW	IES Type 2	Y	2
BRP710 LED30 WW MR 12V FDIM Solar Equip	3000	WW	IES Type 2	N	4
BRP710 LED45 WW MR S1 12V LFP Solar	4500	WW	IES Type 2	Y	2
BRP710 LED45 WW MR S1 12V FD30 Solar	4500	WW	IES Type 2	N	4

Stocked luminaires ordering guide

Catalog Code	Lumen Output	Color	Distribution	Sensor	Dimming Profile*
BRP710 LED30 NW MR 12V LFP AIO Solar	3000	NW	IES Type 2	Y	2
BRP710 LED45 NW MR S1 12V LFP Solar	4500	NW	IES Type 2	Y	2
BRP710 LED45 NW MR S1 12V FD30 Solar	4500	NW	IES Type 2	N	4

Dimming Profile 1

First 5 hours from dusk, **motion sensor enabled**, and light level is at **50%** if there is no presence detected.
 Next 5 hours, **motion sensor disabled**, and light level fixed at **50%**.
 Remaining hours to dawn, **motion sensor enabled**, and light level is at **50%** if there is no presence detected.

Dimming Profile 2

First 5 hours from dusk, **motion sensor enabled**, and light level is at **30%** if there is no presence detected.
 Next 5 hours, **motion sensor disabled**, and light level fixed at **30%**.
 Remaining hours to dawn, **motion sensor enabled**, and light level is at **30%** if there is no presence detected.

Dimming Profile 3

First 5 hours from dusk, **no motion sensor**, and light level is fixed at **100%**.
 Remaining hours to dawn, **no motion sensor**, and light level is fixed at **50%**.

Dimming Profile 4

First 5 hours from dusk, **no motion sensor**, and light level is fixed at **100%**.
 Remaining hours to dawn, **no motion sensor**, and light level is fixed at **30%**.

See additional information on p. 3.

Replacement batteries

(ordered separately through Signify, field installed)

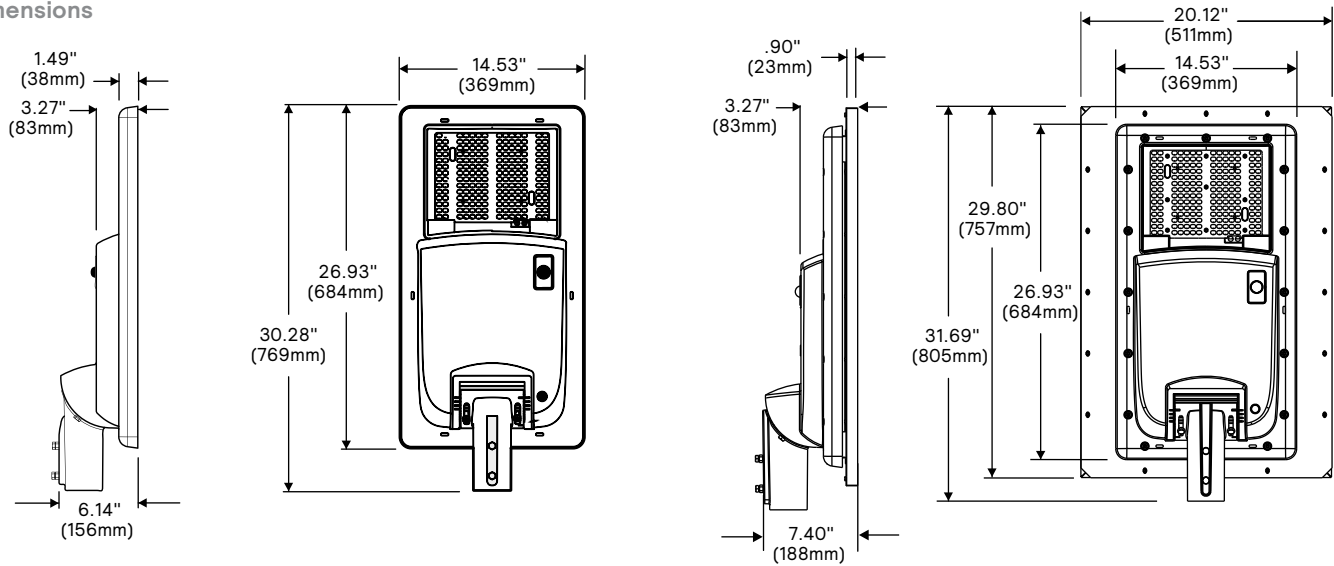
919415811054	SPARE BT LFP 12.8V 13.6Ah SOLAR EQUIP SolarForm 2000 lumen PDIM50 battery replacement
919415811055	SPARE BT LFP 12.8V 20Ah SOLAR EQUIP SolarForm 2000 lumen FDIM50 battery replacement
919415811055	SPARE BT LFP 12.8V 20Ah SOLAR EQUIP SolarForm 3000 lumen battery replacement
919415811056	SPARE BT LFP 12.8V 30Ah SOLAR EQUIP SolarForm 4500 lumen battery replacement



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Dimensions



Weight:

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

Effective Projected Area (EPA):

2000-3000L: .683 ft² (.063 m²)

Weight:

4500L weight: 41.9 lbs (19 Kg)

Effective Projected Area (EPA):

4500L: .832 ft² (.077 m²)

LED Wattage and Lumen Values - CCT = 3000K

(at 100% with motion sensor activated)

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Lumen Output	BUG Rating	Efficacy (LPW)
BRP710-LED20-WW-XX	112	35	3000	11	2042	B1-U0-G1	186
BRP710-LED30-WW-XX	196	31	3000	17	3113	B1-U0-G1	188
BRP710-LED45-WW-XX	196	46	3000	26	4544	B2-U0-G1	180

LED Wattage and Lumen Values - CCT = 4000K

(at 100% with motion sensor activated)

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Lumen Output	BUG Rating	Efficacy (LPW)
BRP710-LED20-NW-XX	112	35	4000	11	2056	B1-U0-G1	188
BRP710-LED30-NW-XX	196	31	4000	17	3276	B1-U0-G1	193
BRP710-LED45-NW-XX	196	46	4000	26	4698	B2-U0-G1	183

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*

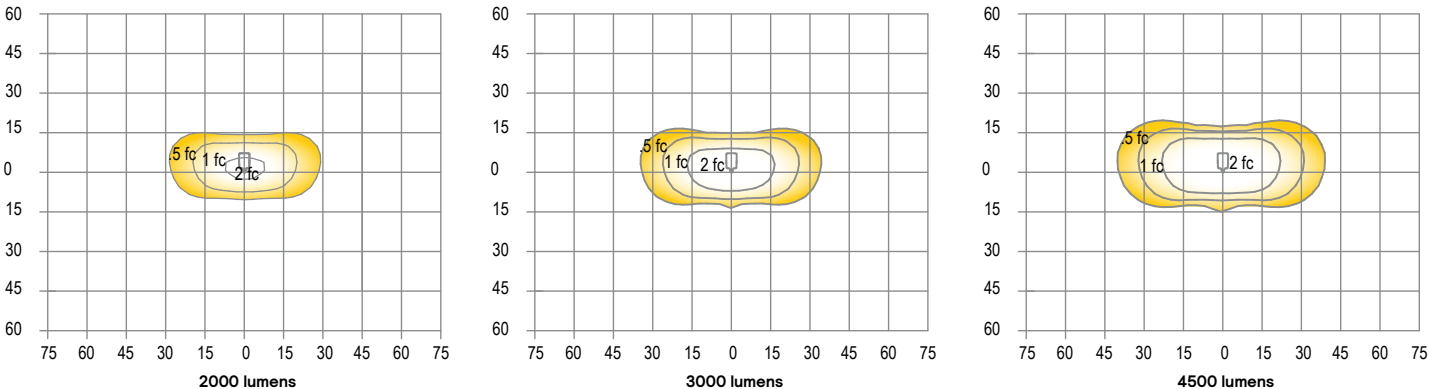
Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA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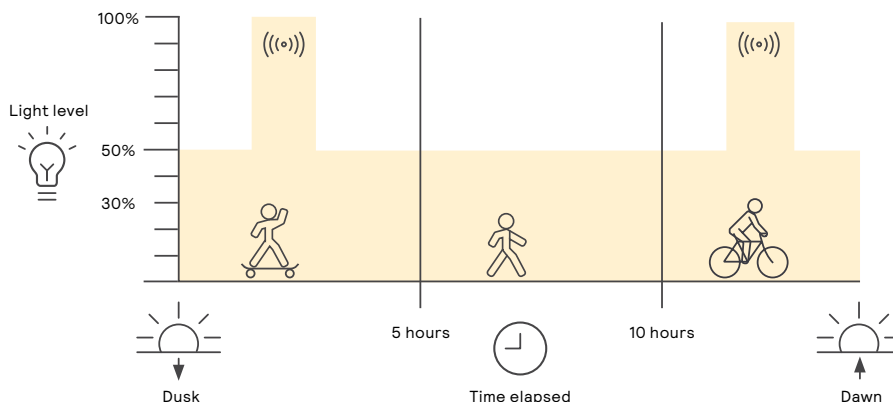
Dimming Profiles

Profile 1 – Energy Savings Priority (PDIM50 for 2000 lumen models only)

First 5 hours from dusk, **motion sensor enabled**, and light level is at **50%** if there is no presence detected.

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

Remaining hours to dawn, **motion sensor enabled**, and light level is at **50%** if there is no presence detected.

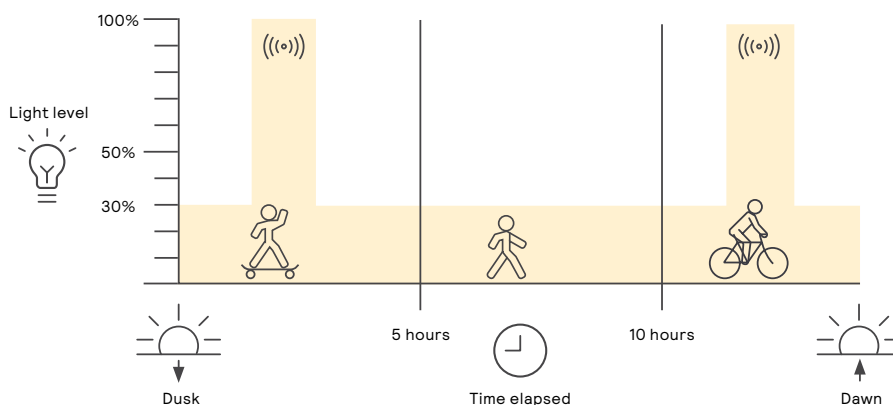


Profile 2 – Energy Savings Priority (Default for 3000 and 4500 lumen models only)

First 5 hours from dusk, **motion sensor enabled**, and light level is at **30%** if there is no presence detected.

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

Remaining hours to dawn, **motion sensor enabled**, and light level is at **30%** if there is no presence detected.



Profile 3 – Light Output Priority (FDIM50 for 2000 lumen models only)

First 5 hours from dusk, **no motion sensor**, and light level is fixed at **100%**.

Remaining hours to dawn, **no motion sensor**, and light level is fixed at **50%**.



Profile 4 – Light Output Priority (FDIM for 3000 and FD30 for 4500 lumen models only)

First 5 hours from dusk, **no motion sensor**, and light level is fixed at **100%**.

Remaining hours to dawn, **no motion sensor**, and light level is fixed at **30%**.



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Ordering Guide

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

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 12 14 15 16 18 20	D1 1 Way D1@180 1 Way @ 180 D2 2 Way @ 180 D2@90 2 Way @ 90	DT6 Drill Template 6 (requires RLAR Brackets, ordered seperatly)	SSDGY SolarForm Dark Grey
					T2D6L 2-3/8" OD Tenon x 6" length	N No Drilling (for Tenons)	

Ordering Guide

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

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 12 14 16 20	D1 1 Way D1@180 1 Way @ 180 D2 2 Way @ 180 D2@90 2 Way @ 90	DT6 Drill Template 6 (requires RLAR Brackets, ordered seperatly)	SSDGY SolarForm Dark Grey
					T2D6L 2-3/8" OD Tenon x 6" length	N No Drilling (for Tenons)	

* **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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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 ranges from 174Wh/256Wh (2000 lumen), 256Wh (3000 lumen), and 384Wh (4500 lumen). 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.

Controls Options

The luminaire comes with a highly efficient, 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-programmed with one of the 4 dimming profiles options described in detail on p. 3.

Motion Response

A Motion Response module is included when dimming profile #1 or #2 is chosen and is mounted integral to the luminaire. 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

A dark gray color (RAL 7011) luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish.

Listings

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

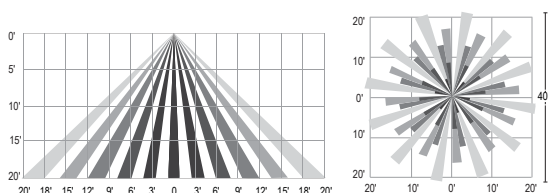
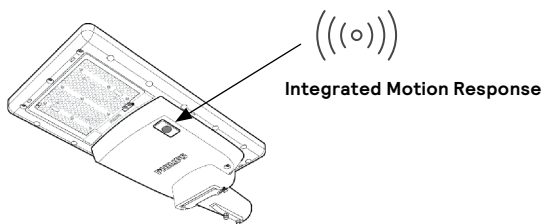
Vibration Resistance

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 for complete details and exclusions.



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Off-grid luminaire

Specifications (continued)



	2000lm	3000lm	4500lm
	Off-grid	Off-grid	Off-grid
Dimming profile*	PDIM50 and FDIM50	Default and FD30	Default and FD30
System wattage	12V DC, 11 Watts	12V DC, 17 Watts	12V DC, 26 Watts
System lumen output	2000	3000	4500
Solar panel module capacity	35W	35W	60W
Battery capacity	174Wh/256Wh	256Wh	384Wh
PIR range	12' (3.7m) to 20' (6m)		
Color temperature	3000K and 4000K		
System efficacy	>180LPW		
Ambient temperature	Charging: 0°C to 45°C (32°F to 113°F) Discharging: -20°C to 45°C (-4°F to 113°F)		
Battery type	Lithium Iron Phosphate LiFePO ₄		
Charging electronics	Integrated MPPT charger with driver		
Driver efficiency	>90%		
IP Rating	IP65		
Housing	Aluminium die-cast with anti-corrosive coating		
Front cover	UV stabilized polycarbonate cover		
CRI	>70		
Switch for On-Off	Provided		
Charging and discharging indicator	Provided		
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	2 days (Varies by location. Contact factory for calculation details.)		



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