

Solar Bollard *Lighting*



Can
Submerge



Vandal
Resistant



No
Power Bills



Simple & Low
Install Cost



Clean Energy
Lighting



Minimal
Maintenance



Install
Yourself

SBL2 Model Range

New Zealand

www.solarbollardlighting.com



Innovation Patent No:
2016102225

SBL2 Series S Model



Solar Powered LED Bollard



The all new SBL2 S Model solar powered LED pole top bollard light is ideal for lighting locations where cyclones/hurricanes/typhoons, tsunamis, tidal surges and generalised flooding is prominent. The sealed self-contained design combined with high quality impact resistant construction with proven market performance makes the SBL2 S Model the perfect asset in high risk areas where continuous lighting is required no matter what situation arises.

KEY FEATURES OF THE SBL2 OVER COMPETITORS & ON-GRID PRODUCTS

- Low cost and quick installation, no trenching, cabling or wiring required
- IP68 Certified (AS/NZS 60529:2004 IPx8, IP4x, IP6x) submersible to 3m depth
- IK10 Certified (IEC 62262:2002) can withstand impact from debris and vandalism
- Isolated from power outages for continuous illumination
- Up to 70% more autonomy than competitors at full power output dusk until dawn

From vandal attack, severe high wind events, flood disasters, monsoonal rain, crashing waves, golf ball size hail or just daily snow coverage, no similar product will out perform our SBL2 S Model Solar LED Bollard pole top light design for durability and continuous performance. Electronic circuit design fully operationally tested in the field from Saudi Arabia to the sub zero snow regions of Canada.

TECHNICAL SPECIFICATIONS

Overview

- **Dome Material** SABIC SLX Lexan (Highest UV Stabilised PC available)
- **Housing Material** LG LUPOY (UV Stabilised)
- **Internal Materials** STAREX ASA
- **LED Chips** 8 x 5mm Piranha LED Super Bright
 - Asymmetrical Light Distribution
4300K +/- (Natural White) / 3000K (Warm White)
 - Symmetrical Light Distribution
4300K +/- (Natural White) / 3000K (Warm White)
- **Voltage** 3.2V (ELV intrinsically safe no UL certification required for USA)
- **Operate Temp** -30°C ~ +60°C ambient (runs safely up to 100°C)
- **Maintenance** Annual clean and polish for peak performance
- **Warranty** 7 Years (subject to SBL Warranty T&C's)
- **Certifications**
 - IP68 (AS/NZS 60529:2004 IPx8, IP4x, IP6x)
 - IK10 (IEC 62262:2002)
 - Photometric (IESNA LM-79-08)
 - Hazardous Area/CE/RCM (T.B.T)
- **Weight** Net Weight 3kg (6.6lbs)

Solar Module

- **Wattage** 5w Mono-Crystalline
- **Vmp (V)** 5V
- **Imp (A)** 1 Amp
- **Design Life** 10 Years @ 100%

Battery

- **Type** 3.2V 17Ah Cylindrical LiFePo4
- **Cycles** 3700 (expected minimum)
- **Design Life** 10 Years + (expected minimum)

Electronics



- **Design Life** 10 Years + (expected minimum)
- **Runtime** Dusk until Dawn full power
- **On/Off** Solar Panel Voltage

Poles (25um anodised standard or powder coated)

- **Material** 6106 T6 Aluminium Marine Grade
- **Grade** High Tensile / Light Weight
- **Durability** High Corrosion Resistance
- **Collar** 25um Anodised
- **Hardware** Security Bolts 4 x M6 - 316 SS



Can Submerge



Vandal Resistant



No Power Bills



Simple & Low Install Cost



Clean Energy Lighting



Minimal Maintenance



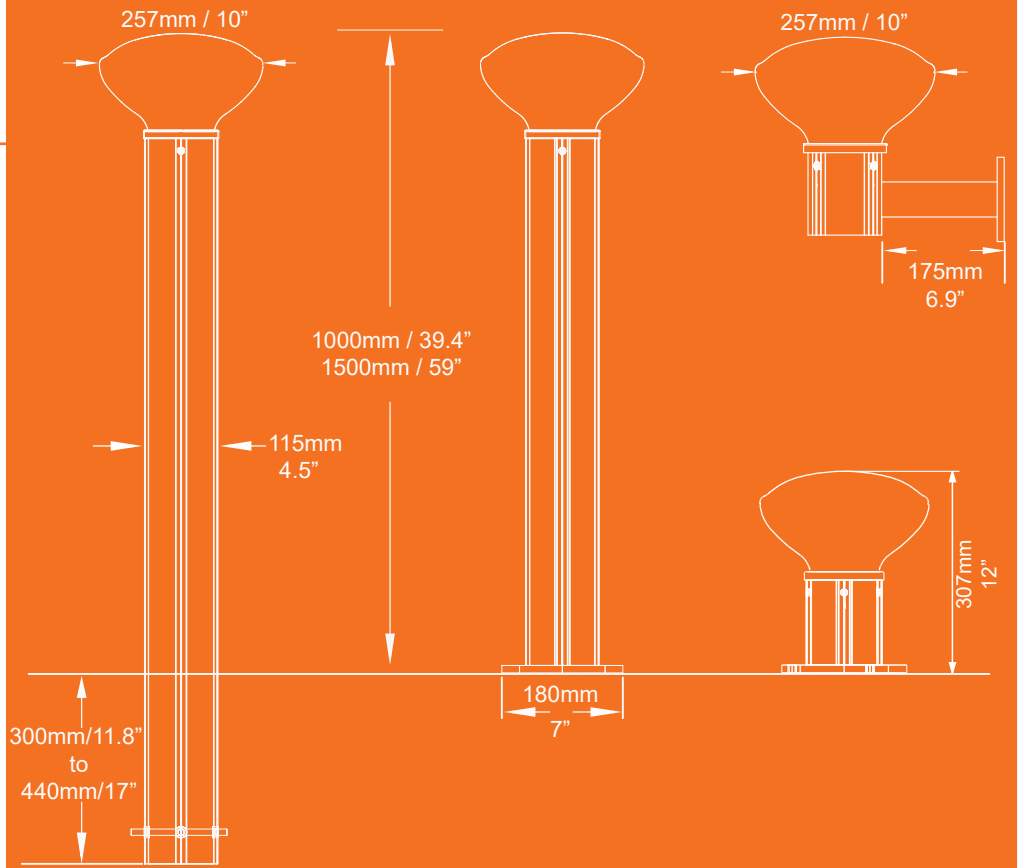
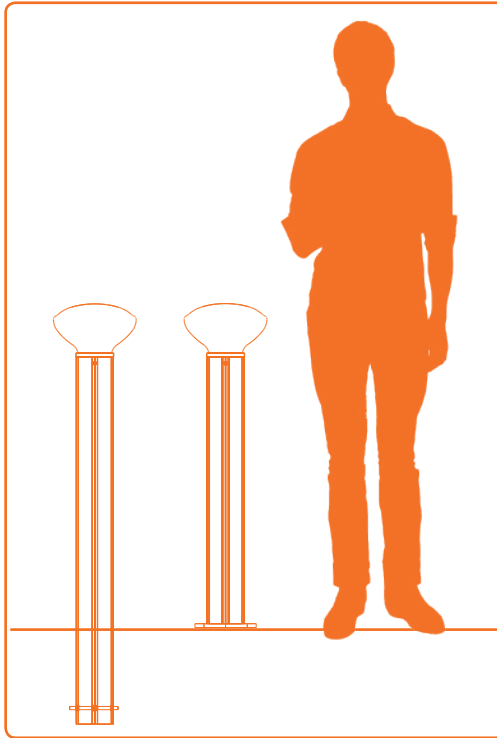
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SBL2 Series S Model

Solar Powered LED Bollard



ORDER MATRIX

Power	Type	Pole Length	Installed Height	Mounting Type	Powder Coating Options
040	ANW	# 130mm/5.1"	290mm / 11.4"	# WM - Wall Mount Anodised - Silver	BK - Black Satin 27219268 (Default Colour)
080	SNW	^ 142mm/5.6"	302mm / 11.9"	# WMPC - Wall Mount Powder Coated	CC - Custom Colour From Dulux Colour Range DURALLOY or ALPHATEC (under 15 poles \$200 Loading on top of total cost)
120	AWW	^ 840mm/33"	1000mm / 39.4"	* DBA - Direct Bury Anodised - Silver	
160	SWW	* 1140mm/44.9"	1000mm / 39.4"	* DBPC - Direct Bury Powder Coated	
200		^ 1340mm/53"	1500mm / 59"	^ BPA - Base Plate Anodised - Silver	
240		* 1790mm/70.4"	1500mm / 59"	^ BPPC - Base Plate Powder Coated	
280		^ 1840mm/79"	2000mm / 79"		
		* 2440mm/96.5"	2000mm / 79"		

Ordering Example : **SBL2-160ANW-1140DBPC** = 160mA Asymmetrical Natural White Light on 1140mm/44.9" Powder Coated Direct Bury Pole

Power Model	Type	Height	Mounting	Powder Coat Colour
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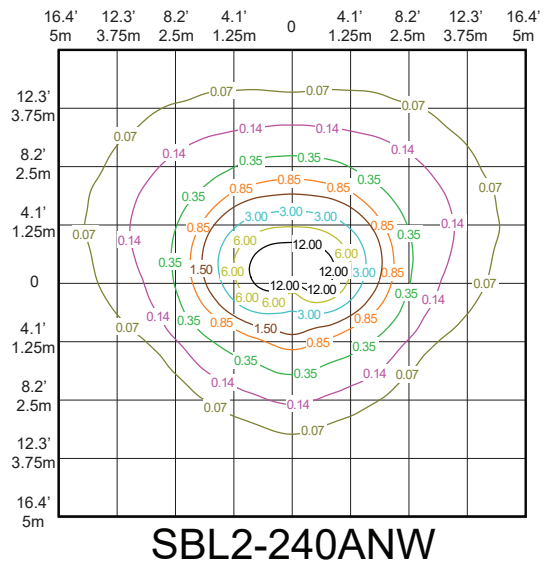
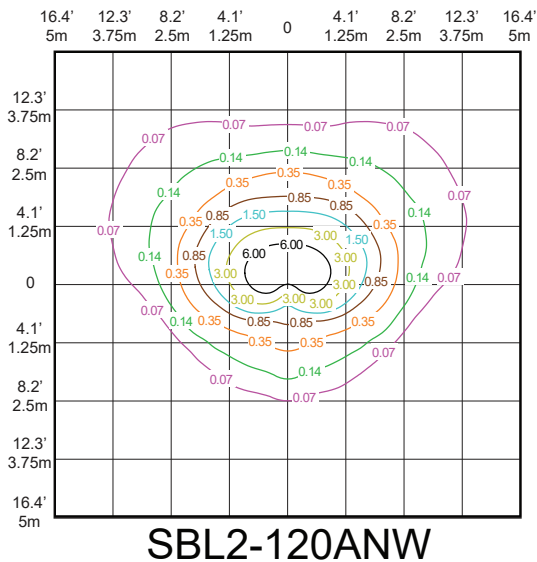
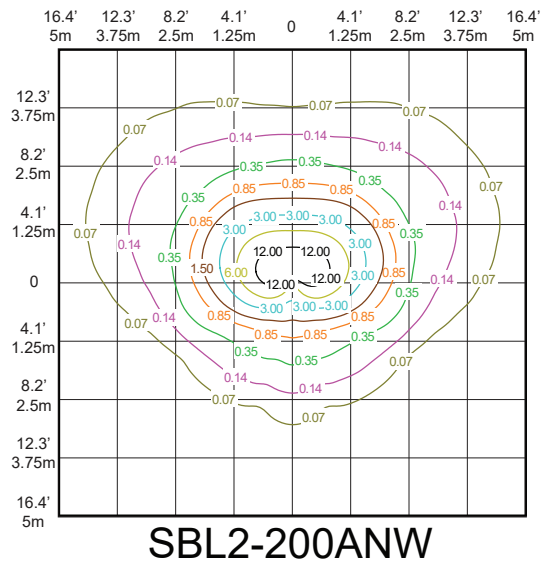
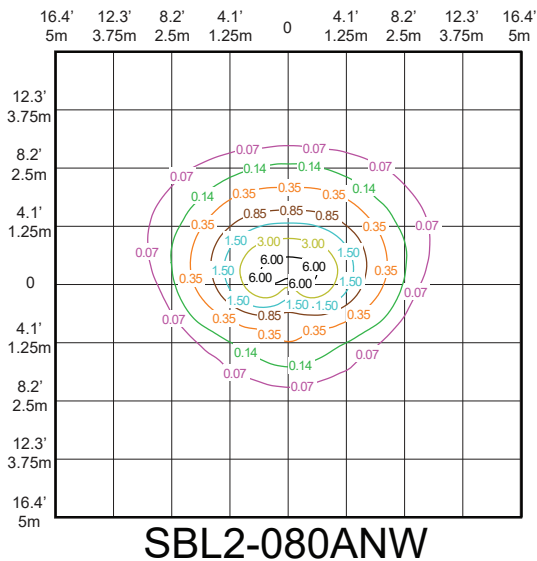
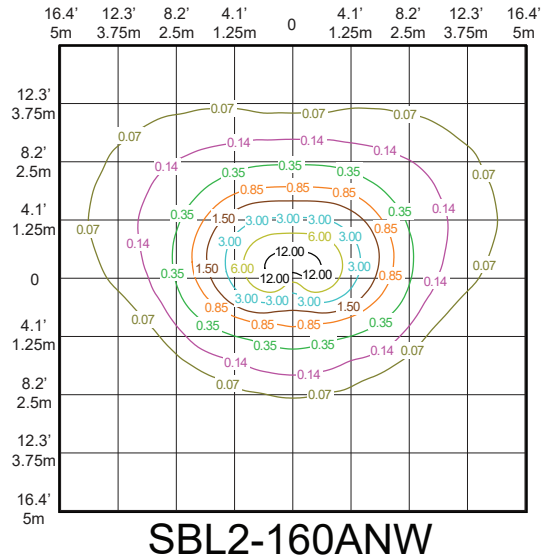
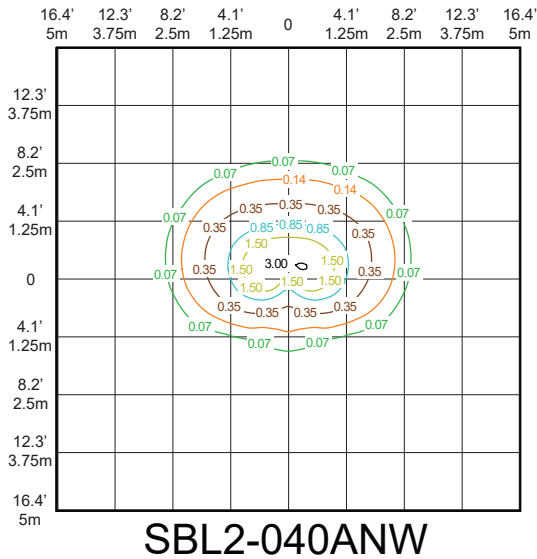
Notes:
- Specifications subject to change without notice
- All light levels in lux



Innovation Patent No:
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ASYMMETRICAL ISOLUX EXAMPLES

4300K +/- 300K LED - GRID = 10m / 32.8' x 10m / 32.8' All Values = Lux @ 1m / 40" Overall Height





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SBL2 Series S Model

Solar Powered LED Bollard

P4 Spacing - Install Location - Autonomy

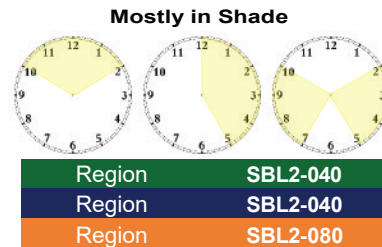
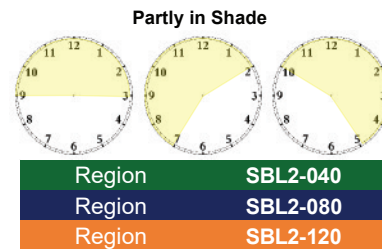
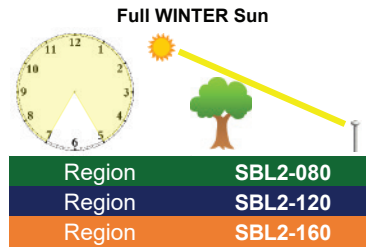
P4 Pole Spacing

(examples only - IES files available for your own spacing parameters)

AS/NZS 1158.3.1:2005 P4 Light Spacing Example based on Standard Asymmetrical Model 1m overall mounting height					
Model No.	Lumen	Path width			
		1.2m	1.5m	1.8m	2.4m
SBL2-040ANW	16	6m	4.9m	3.9m	3.7m
SBL2-080ANW	32	6.5m	6.5m	6.5m	6m
SBL2-120ANW	48	8.1m	8.1m	8.1m	7.5m
SBL2-160ANW	64	9.2m	9.3m	9.3m	8.9m
SBL2-200ANW	80	9.5m	9.6m	9.6m	9.2m
SBL2-240ANW	97	10m	10m	10m	10m
SBL2-280ANW	112	10.6m	10.6m	10.7m	10.6m

AS/NZS 1158.3.1:2005 P4 Light Spacing Example based on Standard Asymmetrical Model 1.5m overall mounting height					
Model No.	Lumen	Path width			
		1.2m	1.5m	1.8m	2.4m
SBL2-040ANW	16	5m	4.4m	4m	3.1m
SBL2-080ANW	32	8.6m	8.6m	7.4m	6.7m
SBL2-120ANW	48	9.4m	9.3m	9.3m	8.7m
SBL2-160ANW	64	10m	10m	10m	10m
SBL2-200ANW	80	10m	10m	10.1m	10m
SBL2-240ANW	97	11.3m	11.3m	11.4m	11.3m
SBL2-280ANW	112	12.5m	12.5m	12.5m	12.4m

Model Locations



Daily Depth of Discharge / Autonomy (Zero Daily Charge Assumed with 17Ah Power Cell @ 90%)

MODEL	MODEL LUMENS	POWER DRAW mA	LOCATION EXAMPLE	LONGEST NIGHT Hours	TOTAL Amp/s USED	DAILY DEPTH OF DISCHARGE	AUTONOMY IN DAYS	AUTONOMY IN HOURS
SBL2-040ANW	16	40	Reykjavik, Iceland	19.93	0.80	5%	19.2	382.5
SBL2-080ANW	32	80	Invercargill, New Zealand	15.65	1.34	9%	11.4	191.3
SBL2-120ANW	48	120	Timaru, New Zealand	15.50	1.86	12%	8.1	127.5
SBL2-160ANW	64	160	Greymouth, New Zealand	14.97	2.40	16%	6.4	95.6
SBL2-200ANW	80	200	Mildura, Australia	14.07	2.81	18%	5.4	76.5

*All above example locations based on installation location of SBL2 in direct sunlight all day without shading from dawn until dusk



Solar Powered LED Bollard



The all new SBL2 SR Model overhead solar powered LED pole top bollard light is ideal for lighting locations where cyclones/hurricanes/typhoons, tsunamis, tidal surges and generalised flooding is prominent. The sealed self-contained design combined with high quality impact resistant construction, stainless steel external reflector with proven market performance makes the SBL2 SR Model the perfect asset in high risk areas where continuous lighting is required no matter what situation arises.

Significant benefit over mains powered lights and other solar bollard competitors:

- Low cost and quick installation, no trenching, cabling or wiring required
- No costly energy bills, lamps or batteries to change
- Isolated from power outages for continuous illumination without dimming requirement
- Submersible so no need for replacement after severe weather events like flooding
- More autonomy than other competitor products running full power dusk until dawn

From vandal attack, severe high wind events, flood disasters, monsoonal rain, crashing waves, golf ball size hail or just daily snow coverage, no similar product will out perform our SBL2 SR Model Solar LED Bollard pole top light design for durability and continuous performance. Electronic circuit design fully operationally tested in the field from Saudi Arabia to the sub zero snow regions of Canada.

TECHNICAL SPECIFICATIONS

Overview

- Dome Material SABIC SLX Lexan
- Housing Material UV Stabilised Polycarbonate designed for lighting
- Internal Materials ASA
- External Reflector Stainless Steel powder coated to colour match
- LED Chips 8 x LED Chips initial lm/w 150lm
 - ANW 4300K +/- (Natural White) Asymmetrical Light Pattern
 - AWW 3000K (Warm White) Asymmetrical Light Pattern (Symmetrical Light Pattern by Special Order Only)
- Voltage 3.2V (ELV intrinsically safe no UL certification required for USA)
- Operate Temp -30°C ~ +60°C ambient (runs safely up to 100°C)
- On/Off Control Solar Panel Voltage
- Maintenance Annual clean and dome polish for peak performance
- Warranty 7 Years (subject to SBL Warranty T&C's)
- Certifications (T.B.T) – Photometric / Hazardous Area / CE & RCM
 - IP (IP67/68 T.B.C when production version tested) / IK
- Weight Net Weight 3kg (6.6lbs)
- Hardware Security Bolts 4 x M6 - 316 Stainless Steel

Solar Module

- Wattage 5w Mono-Crystalline
- Vmp (V) 5V
- Imp (A) 1 Amp
- Design Life 10 Years @ 100%

Battery

- Type 3.2VLithium LiFePo4
- Cycles 3700 (expected minimum)
- Design Life 10 Years + (expected minimum)

Electronics

- Design Life 10 Years + (expected minimum)
- Runtime Dusk until Dawn full power

Poles (25um anodised standard or powder coated)

- Material 6106 T6 Aluminium Marine Grade
- Grade High Tensile / Light Weight
- Durability High Corrosion Resistance
- Spun Collar 25um Anodised



Can Submerge



Vandal Resistant



No Power Bills



Simple & Low Install Cost



Clean Energy Lighting



Minimal Maintenance



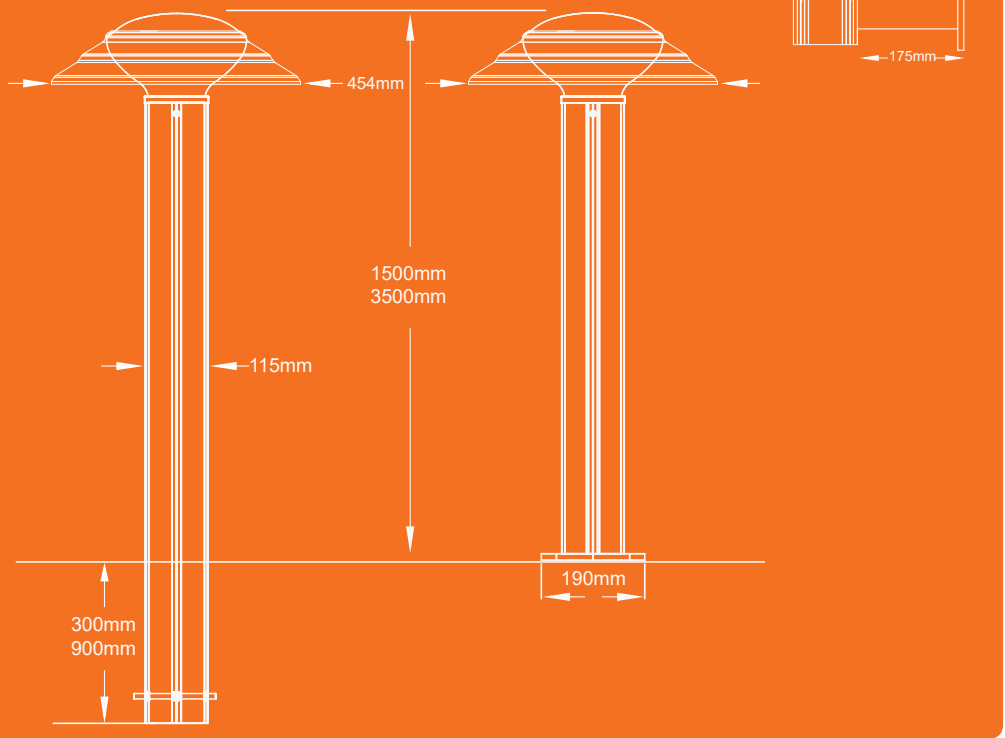
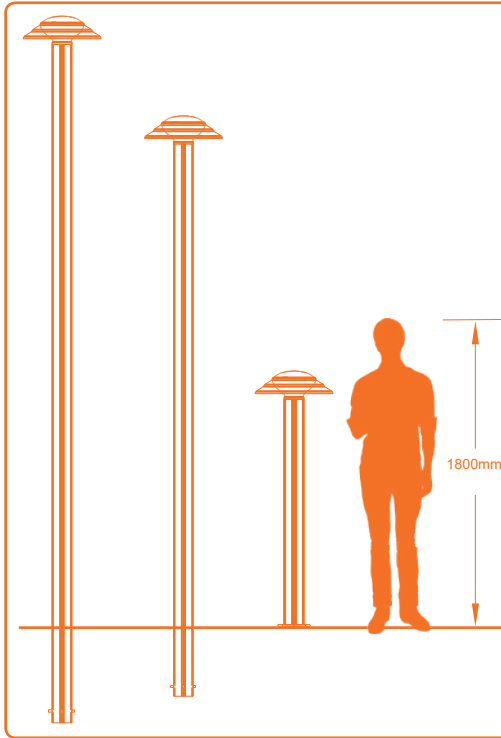
Install Yourself



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SBL2 Series SR Model

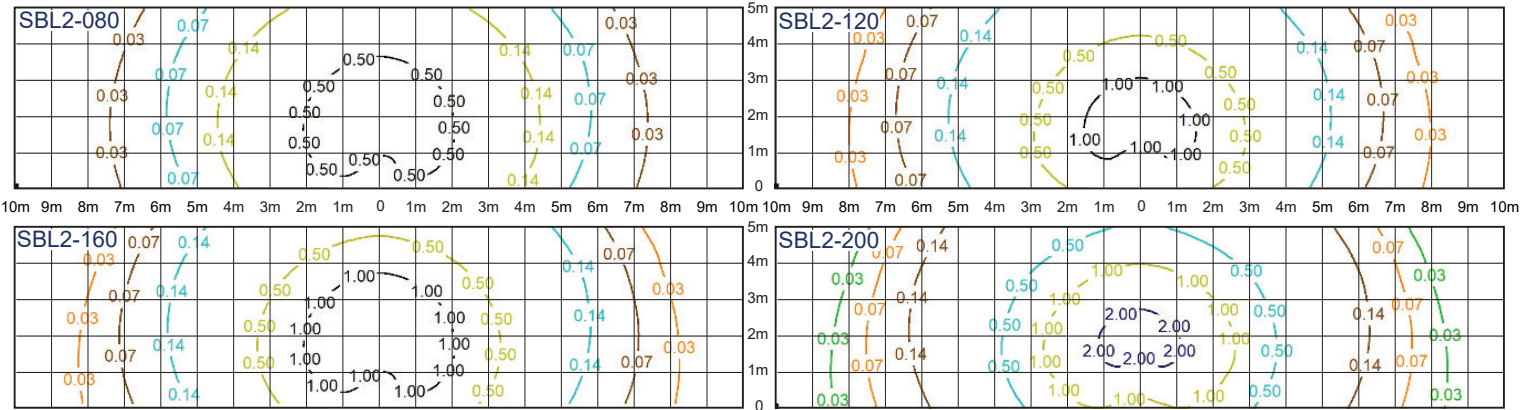
Solar Powered LED Bollard



PHOTOMETRIC

(IES files available)

GRID = 20m x 5m All Values = Lux @ 3m Overall Height



ORDER MATRIX

Power	Type	Height mm	Mounting	Powder Coat	
040	ANW	130 [^] / 142 [#]	DBA - Direct Bury Anodised - Silver *	BK - Satin Black (Default Powder Coat Colour)	
080	SNW	1152 [^] / 1340 [^]	DBPC - Direct Bury Powder Coated *	CC - Custom Colour <small>From Dulux Colour Range DURALLOY or ALPHATEC (under 15 poles \$200 Loading on top of total cost)</small>	
120	AWW	1740*	BPA - Base Plate Anodised - Silver [^]		
160	SWW	2340 [^] / 2840*	BPPC - Base Plate Powder Coated [^]		
200	AA	3640*	WM - Wall Mount Anodised - Silver [#]		
250	SA	4240* / 4340 [^]	WMPC - Wall Mount Powder Coated [#]		
300		TYPE: LED chips come in Natural White 4,300K +/- , Warm White 3,000K and Amber in Asymmetrical (Symmetrical Special Order)			

Ordering Example : **SBL2-160ANW-SR-3640DBPC** = 160mA Asymmetrical Natural White Light with SR Reflector on 3640mm Powder Coated Direct Bury Pole

Power Model Type Reflector Height Mounting Powder Coat Colour

SBL2 SR

Notes:
- Specifications subject to change without notice
- All light levels in lux



Innovation Patent No:
2016102225

SBL2 Series SR Model

Solar Powered LED Bollard

P4 Spacing - Install Location - Autonomy

P4 Pole Spacing

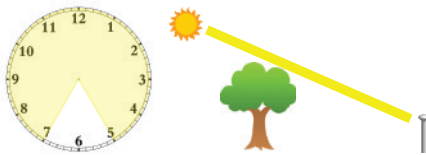
(examples only - IES files available for your own spacing parameters)

AS/NZS 1158.3.1:2005 P4 Light Spacing Examples Only based on SR Asymmetrical Model 2.5m overall mounting height					
Model No.	Lumens	Pathwidth			
		1.2m	1.5m	1.8m	2.4m
SBL2-040ANW	16	3m	3m	2.8m	1.8m
SBL2-080ANW	32	7.2m	7.3m	7.1m	5.9m
SBL2-120ANW	48	10.9m	11m	10.7m	9m
SBL2-160ANW	64	13.2m	13.2m	13.2m	12m
SBL2-200ANW	80	13.8m	13.8m	13.7m	13.3m

AS/NZS 1158.3.1:2005 P4 Light Spacing Examples Only based on SR Asymmetrical Model 3m overall mounting height					
Model No.	Lumens	Pathwidth			
		1.2m	1.5m	1.8m	2.4m
SBL2-040ANW	16	6m	4.9m	3.9m	3.7m
SBL2-080ANW	32	5.5m	5.6m	5.7m	4.8m
SBL2-120ANW	48	8.8m	8.9m	8.9m	7.8m
SBL2-160ANW	64	12m	12m	11.7m	10.3m
SBL2-200ANW	80	14.9m	15m	14.5m	12.9m

Model Locations

Full WINTER Sun (Lowest Annual Angle)



Region **SBL2-160**

Region **SBL2-120**

Mostly in Sun

or Snow Covered Southern Region - Full WINTER Sun



Region **SBL2-120**

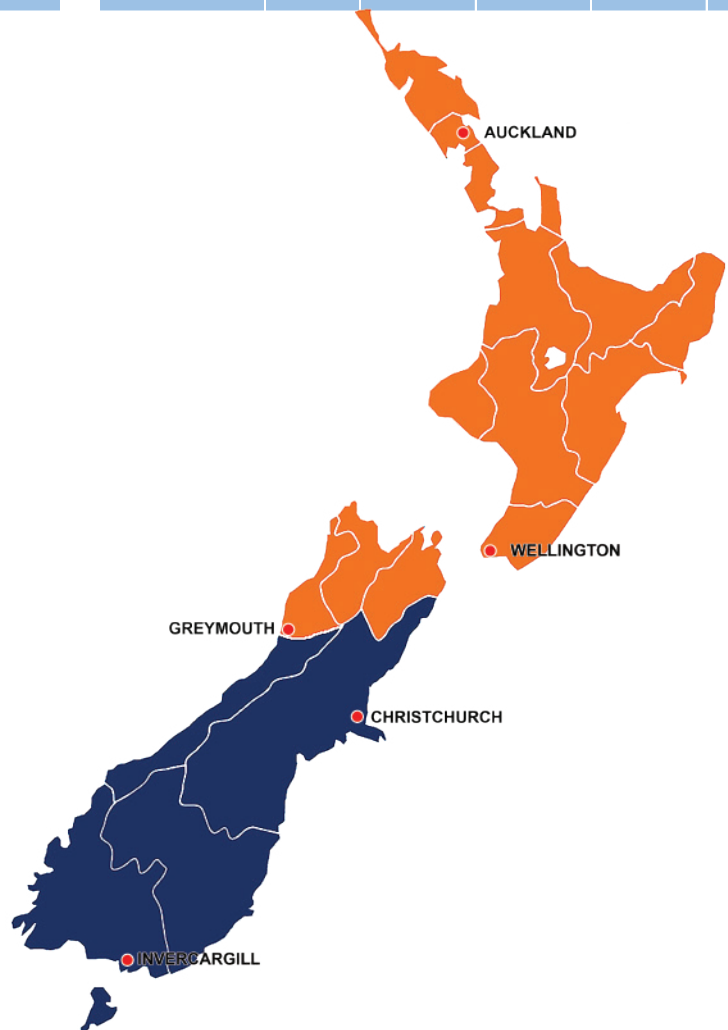
Region **SBL2-080**

Mostly in Shade



Region **SBL2-080**

Region **SBL2-040**



Daily Depth of Discharge / Autonomy (Zero Daily Charge Assumed with 17Ah Power Cell @ 90%)

MODEL	MODEL LUMENS	POWER DRAW mA	LOCATION EXAMPLE	LONGEST NIGHT Hours	TOTAL Amp/s USED	DAILY DEPTH OF DISCHARGE	AUTONOMY IN DAYS	AUTONOMY IN HOURS
SBL2-040ANW	16	40	Reykjavik, Iceland	19.93	0.80	5%	19.2	382.5
SBL2-080ANW	32	80	Edmonton, Canada	16.73	1.34	9%	11.4	191.3
SBL2-120ANW	48	120	Invercargill, New Zealand	15.65	1.88	12%	8.1	127.5
SBL2-160ANW	64	160	Greymouth, New Zealand	14.97	2.40	16%	6.4	95.6
SBL2-200ANW	80	200	Mildura, Australia	14.07	2.81	18%	5.4	76.5

*All above example locations based on installation location of SBL2 in direct sunlight all day without shading from dawn until dusk



The all new SBL2 Series SR2OH Model overhead solar powered dual LED pole top bollard light is ideal for lighting locations where cyclones/hurricanes/typhoons, tsunamis, tidal surges and generalised flooding is prominent. The sealed self-contained design combined with high quality impact resistant construction, powder-coated stainless steel external reflector with proven market performance makes the SBL2 Series SR2OH Model the perfect asset in high risk areas.

Significant benefit over mains powered lights and other solar bollard competitors:

- Low cost and quick installation, no trenching, cabling or wiring required
- No costly energy bills, lamps or batteries to change
- Isolated from power outages for continuous illumination without dimming requirement
- Submersible so no need for replacement after severe weather events like flooding
- More autonomy than other competitor products running full power dusk until dawn

From vandal attack, severe high wind events, flood disasters, monsoonal rain, crashing waves, golf ball size hail or just daily snow coverage, no similar product will out perform our SBL2 Series SR2OH Model Solar LED Bollard pole top light design for durability and continuous performance. Electronic circuit design fully operationally tested in the field from Saudi Arabia to the sub zero snow regions of Canada.

TECHNICAL SPECIFICATIONS

Overview

- Dome Material SABIC SLX Lexan
- Housing Material UV Stabilised Polycarbonate designed for lighting
- Internal Materials ASA
- External Reflector Stainless Steel powder coated to colour match
- LED Chips 8 x LED Chips initial lm/w 150lm per light
 - ANW 4300K +/- (Natural White) Asymmetrical Light Pattern
 - AWW 3000K (Warm White) Asymmetrical Light Pattern (Symmetrical Light Pattern by Special Order Only)
- Voltage 3.2V (ELV intrinsically safe no UL certification required for USA)
- Operate Temp -30°C ~ +60°C ambient (runs safely up to 100°C)
- On/Off Control Solar Panel Voltage
- Maintenance Annual clean and dome polish for peak performance
- Warranty 7 Years (subject to SBL Warranty T&C's)
- Certifications (T.B.T) – Photometric / Hazardous Area / CE & RCM
 - IP (IP67/68 T.B.C when production version tested) / IK
- Weight Net Weight 3kg (6.6lbs)
- Hardware Security Bolts 4 x M6 - 316 Stainless Steel

Solar Module

- Wattage 5w Mono-Crystalline
- Vmp (V) 5V
- Imp (A) 1 Amp
- Design Life 10 Years @ 100%

Battery

- Type 3.2VLithium LiFePo4
- Cycles 3700 (expected minimum)
- Design Life 10 Years + (expected minimum)

Electronics

- Design Life 10 Years + (expected minimum)
- Runtime Dusk until Dawn full power

Poles (25um anodised standard or powder coated)

- Material 6106 T6 Aluminium Marine Grade
- Grade High Tensile / Light Weight
- Durability High Corrosion Resistance
- Spun Collar 25um Anodised



Can Submerge



Vandal Resistant



No Power Bills



Simple & Low Install Cost



Clean Energy Lighting



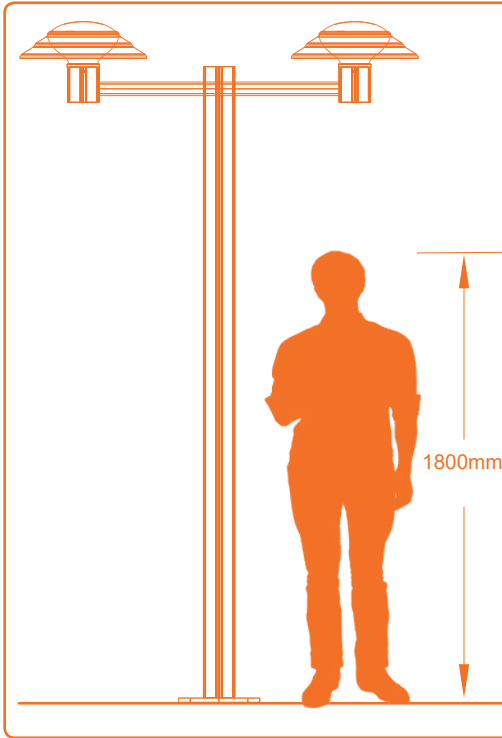
Minimal Maintenance



Install Yourself

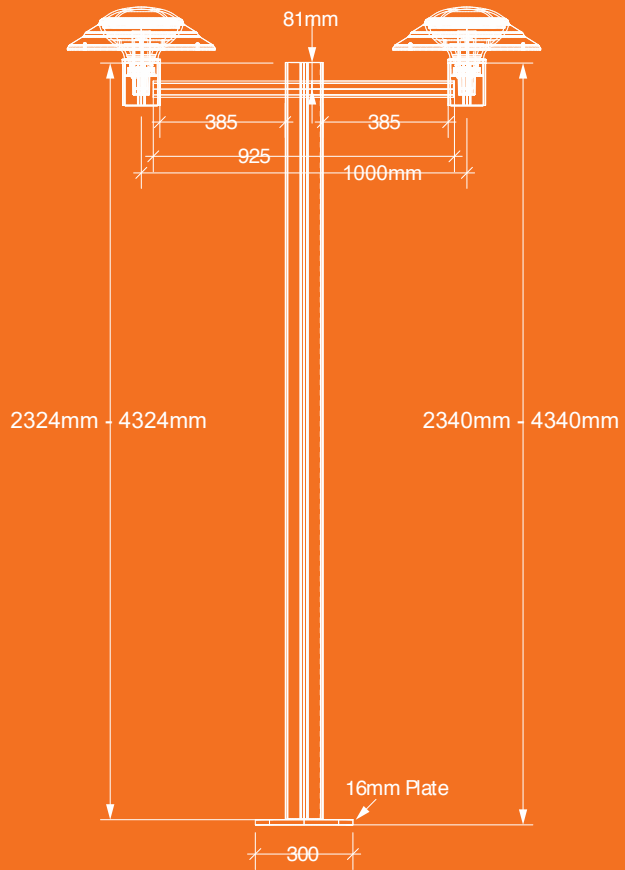


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SBL2 Series SR20H Model

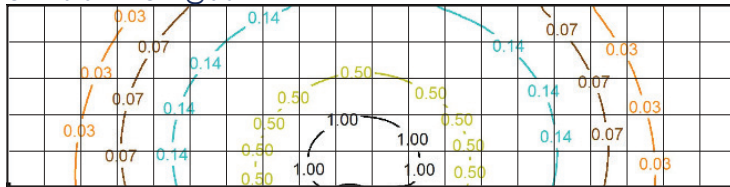
Solar Powered LED Bollard



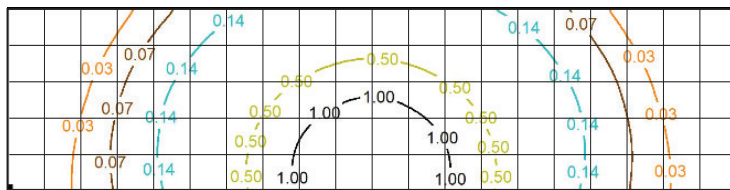
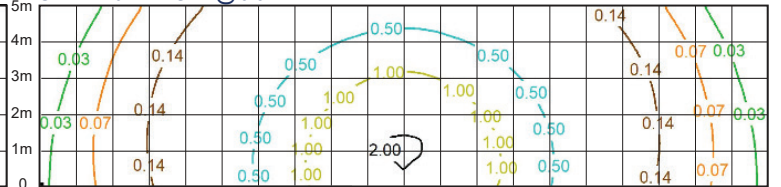
PHOTOMETRIC (IES files available)

GRID = 20m x 5m All Values = Lux

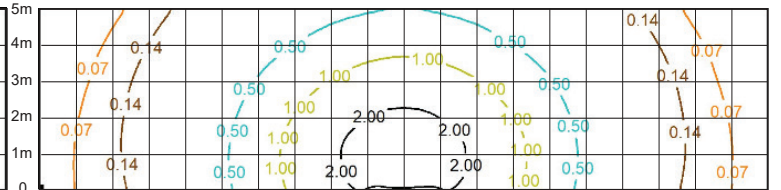
SBL2-040ANW-SR2 @ 3.0m



SBL2-120ANW-SR2 @ 3.5m



SBL2-080ANW-SR2 @ 3.0m



SBL2-160ANW-SR2 @ 3.5m

ORDER MATRIX

Power	Type	Height mm	Mounting	Powder Coat
160	ANW	2340	BPA - Base Plate Anodised - Silver	BK - Satin Black (Default Powder Coat Colour)
200	AWW	2840	BPPC - Base Plate Powder Coated	CC - Custom Colour
250		3340		
300		3640		
		4340	TYPE: LED chips come in Natural White 4,300K +/- , Warm White 3,000K and Amber in Asymmetrical (Symmetrical Special Order)	

From Dulux Colour Range DURALLOY or ALPHATEC (under 15 poles \$200 Loading on top of total cost)

Ordering Example : **SBL2-200ANW-SR2-3640BPPC** = Dual Light 200mA Asymmetrical Natural White Light with SR Reflector on 3640mm Powder Coated Base Plate

Power Model	Type	Reflector	Height	Mounting	Powder Coat Colour
SBL2	<input type="text"/>	SR2	<input type="text"/>	<input type="text"/>	<input type="text"/>

Notes:
- Specifications subject to change without notice
- All light levels in lux