# Solar LED Light Series Product

**Solar Ground Lighting is grid-independent stand alone plug-and-play system designed to provide contemporary aesthetic illumination for outdoor residential,commercial and industrial spaces.**
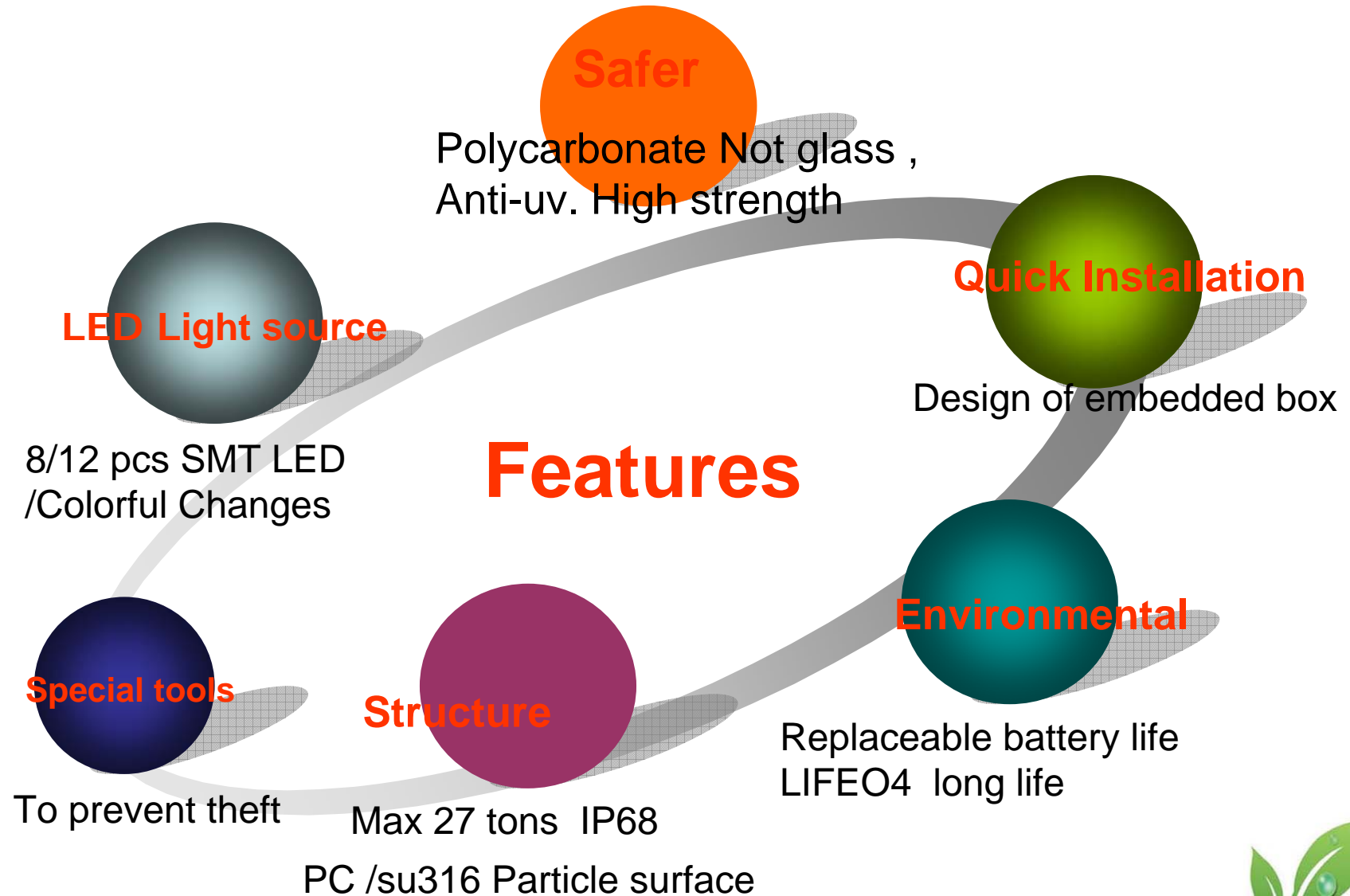
**EWatts Solar LED Ground Lights are manufactured in accordance with ISO 9001Standards and have received CE,SGS and SGS IP68 Certifications.**

1.100% solar powered device, free of electrical wires
2.Easy installation – no wiring
3.Anti-theft design – unique locking tools
4.Non-glass Bayer anti-UV PC shell -  withstands 12 tons 15 tons 24 tons 27 tons
5.Highest waterproof rating IP68
6.Lithium iron phosphate battery offers endurance and longer life span.
7.SU 316 stainless steel cover with non-slip surface in an attractive embedded design

# Features

maintenance-free solar electricity to save energy to reduce Co2 emissions

**Safer**

Polycarbonate Not glass ,
Anti-uv. High strength

**Quick Installation**

Design of embedded box

**LED Light source**

8/12 pcs SMT LED
/Colorful Changes

# Features

**Environmental**

**Special tools**

**Structure**

Replaceable battery life
LIFEO4  long life

To prevent theft

Max 27 tons  IP68

PC /su316 Particle surface

Road guide, pool

Park Area

Ads solar tiles

## Product use

**Building exteriors,Boardwalks,Fountains,Facades**
**Helipads – Flash Mode,Landscapes,Pavers**
**Pool decks ,Patios,Pathways,Stairways,Security –**
**Flash Mode,Sundecks………**

Safer and more beautiful

Park Trail

Buliding

# SGS Test Report

**Test Report :HD90018A/2011**
**1.IP68 Waterproof**
**2.NeurtraL Salt Spray**
**3.Compression Test**
**4.High Low Temperature**
**5. Wet and dry friction coefficient test**

# Certificate

- ## Made In Taiwan
**DNV / ISO9001-2008, ISO14001:2004**
**UL, 3C**



**DET NORSKE VERITAS**

**MANAGEMENT SYSTEM CERTIFICATE**

Certificate No. 91235-2011-AE-RGC-RvA

*This is to certify that*

**Yenom Technology Services Inc.**

3Fl & 4Fl., No. 37, Wu-Chuan Rd., Wu Ku Industrial Park, Wuku Shiang, Taipei, 248, Taiwan

*has been found to conform to the Management System Standard:*

ISO 14001:2004

*This Certificate is valid for the following product or service ranges:*

**Manufacture of Computer, Communication and Consumer Peripherals Cards, Hubs and Power Supply**

Initial Certification date:
January 26th, 2011

Place and date:
Taipei, January 26th, 2011

This Certificate is valid until:
January 26th, 2014

for the Accredited Unit:
DNV CERTIFICATION B.V.,
THE NETHERLANDS

The audit has been performed under the supervision of
Fred Cheng
Lead Auditor

Chen Yi
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.

Det Norske Veritas Certification B.V. Zwolseweg 1, 2994 LB Beverdrecht, The Netherlands, TEL: +31 10 2922 688 - www.dnv.com / www.dnv.nl



**DET NORSKE VERITAS**

**MANAGEMENT SYSTEM CERTIFICATE**

Master Certificate No. 0445-2001-AQ-RGC-RvA

*This is to certify that*

**Yenom Technology Services Inc.**
**Pronology Services Inc.**

3Fl & 4Fl., No. 37, Wu-Chuan Rd., Wu Ku Industrial Park, Wuku Shiang, Taipei, Taiwan
2nd Industrial Zone, Lou Village, Gongming, Baoan, Shenzhen City, Guangdong, China

*has been found to conform to the Management System Standard:*

ISO 9001:2008

*This Certificate is valid for the following product or service ranges:*

**Manufacture of Computer, Communication and Consumer Peripherals Cards, Hubs and Power Supply**

Initial Certification date:
January 12th, 2001

Place and date:
Taipei, January 20th, 2010

This Certificate is valid until:
January 12th, 2013

for the Accredited Unit:
DNV CERTIFICATION B.V.,
THE NETHERLANDS

The audit has been performed under the supervision of
Tony Lin
Lead Auditor

Chen Yi
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.

Det Norske Veritas Certification B.V. Zwolseweg 1, 2994 LB Beverdrecht, The Netherlands, TEL: +31 10 2922 688 - www.dnv.com / www.dnv.nl

# Equipment

**IC Programming**

**PCB Baker**

## 3 x SMT Lines

* 3 x Loader/ Unloader (Large size)
* 3 x Ekra 2D inspection screen printer (Large size-550*550mm)
* 1 x Sanyo Dispenser Machine (Large size-360x460mm)
* 2 x Sanyo Hi-speed Mounter(Large size-360x460mm)
* 2 x Sanyo multi-functional mounter (Large size-381x460mm)
* 1 x Panasonic Hi-speed Machine (Middle size-330x250mm)
* 1 x Panasonic multi-functional mounter (Middle size-330x250mm)
* Vitronics & 2 x Folungwin N2 Reflow (PCB width-63.5~457mm)
* Kurasep N2 Generator
* 2 x Air Compressor
* Solder Paste stirrer
* SMD component Tapping machine
* 2 x PCB Baker
* 2 x HiLo IC Programmer
* 3 x Marantz AOI machine
* 1 x Solder Paste Inspector
* 1 x Stencil Cleaner

**Visual Inspection**

**AOI Machine**

**N2 Generator**   **SMT Line**   **Solder Paste Inspector**   **Dehumidifier**   **Stencil Cleaner**

**Forming Area**

**Manual Insertion Line**

**2 * DIP insertion Line**

* X* Forming Equipment
* 2 * DIP insertion conveyor
* 2 * Lead Free Soldering Machine with Spray Flux Machine
* 2 * Slicer PCB cutting Machine
* 3 * Touch-Up line
* X* Temperature control soldering Iron
* X* 40X Magnifier
* 1 * TRI ICT Machine

**I.P.Q.C.**

**ICT Machine**

**Soldering Machine**   **Touch Up Line**   **PCBA Cleaner**   **PCBA Slicer**   **Press fit**

**Testing Line**

**Assembly Line**

**Burn-in Room**

**60℃ Chamber**

## Engineering
* Meisho BGA rework machine
* Hakko SMT rework machine
* Hitachi Oscilloscope
* Temperature control soldering Iron

## Packing Line
* Packing Conveyor* 2 lines
* Bar Code Scanner & Printer* 3 sets
* Clamshell Ultrasonic press machine
* High Frequency plastic press machine
* Shrink packing machine
* Scales

## Assembly Line
* Assembly Conveyor* 2 lines
* Testing Stations* 70 sets
* 50 ˚C Burn-in room
* 60 ˚C Burn-in Chamber
* 48V DC power Burn-in source
* Bar Code Scanner & Printer* 4 sets
* Torque Meter* 1pc

**Palletized**

**Plastic Case Assy**

**Packing line**

**Shrink Packing**

**Clamshell Pack**

## Quality Assurance

* Multi meter for IQC
* Hi-Pot Tester
* Force gauge meter
* Micro Scope
* Rohs X-ray Tester
* Vacuum Packing machine for Humility sensitive parts
* High Temperature Chamber for Reliability (Over 60 ℃)
* 24 hrs SMT/DIP material Temp/Humidity control system

**High Temp Chamber**

**Vacuum Packing Machine**

**I.Q.C**

**FQA**

**ESD Impedance Tester**

**Hi_Pot Tester**

**Force Gauge Meter**

**Micro Scope**

**RoHS X-ray Machine**

**LCR Meter**

## **SR203** (for small)
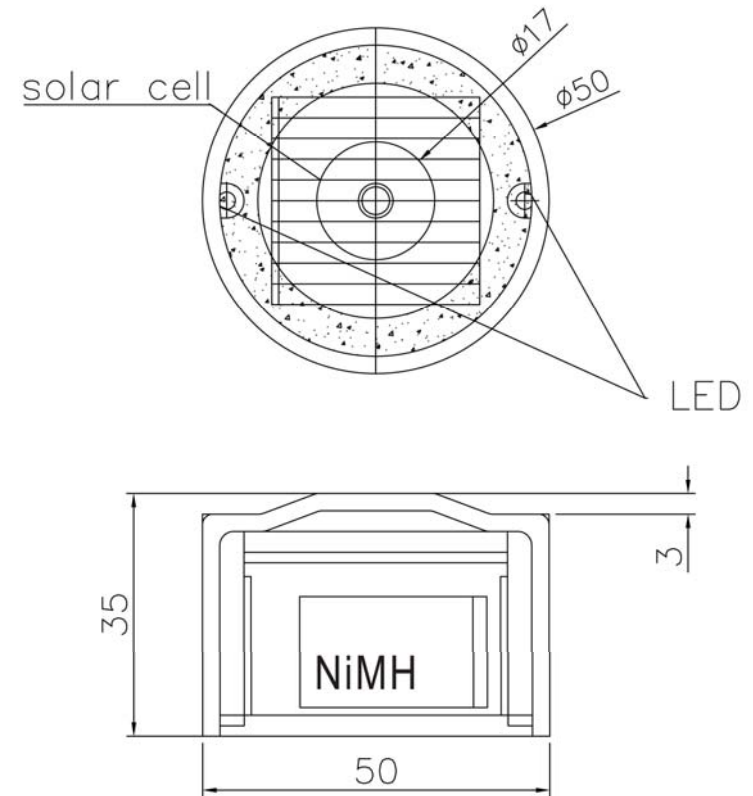






**Solar LED Ground Light –**
**1.Bayer PC, Option Su316 Stainless Steel Flange**
**2.SMT LED 1 or 2 PCS (Color: RGBYW )**
**3.LED Mode: Steady Flash (2 Hz)**
**4.NiMH Battery 1.2V 800maH Rechargeable and can be updated**
**5.SizeLDim 50mm x H35mm 200g**
**6.Coefficient test: SGS, IP68 ,CE, 6.Withstand 5 tons Salt spray test**

## **SR106** (cat eye for Road)
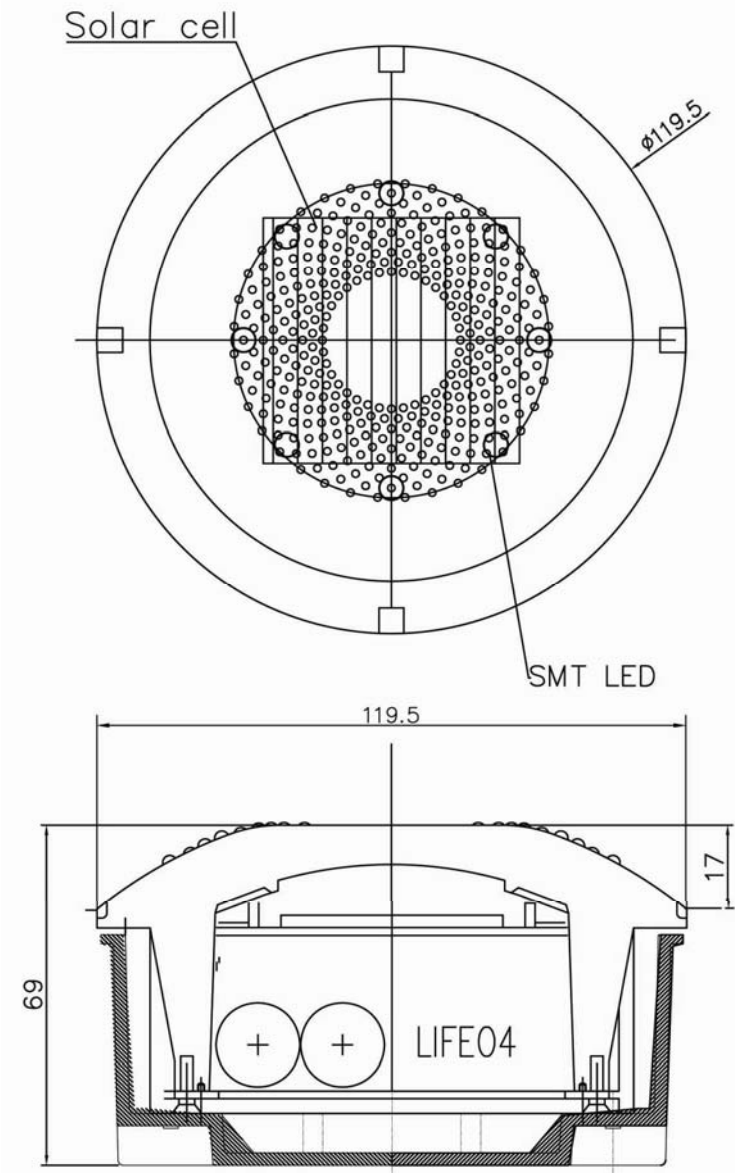




SMT LED 12PCS
Solar cell
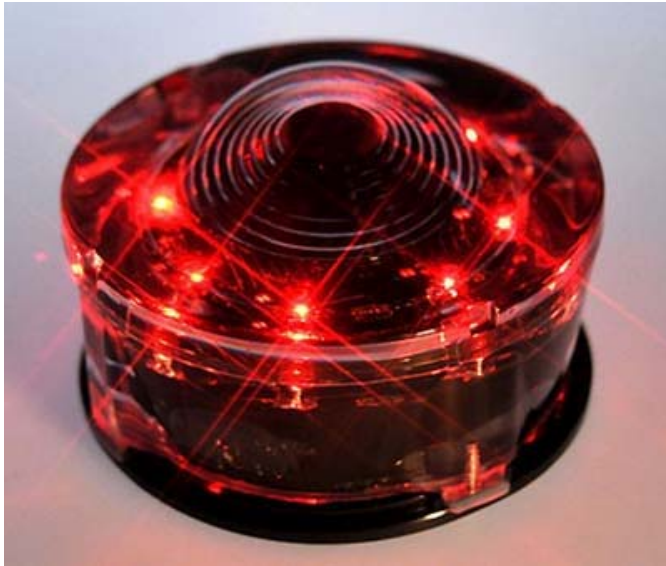


Lifeo4 Battery

**Solar LED Ground Light –**
**1.Bayer PC**
**2.SMT LED 8 /12 PCS (Color: RBYW)**
**3.LED Mode: Steady Flash (2 Hz/1HZ)**
**4.Lifeo4 Battery 3.2V 1800maH**
   **Rechargeable and can be updated**
**5.SizeLDim 100mm x H70mm 500g**
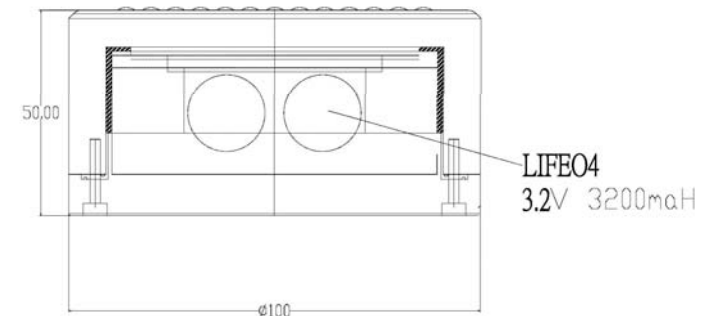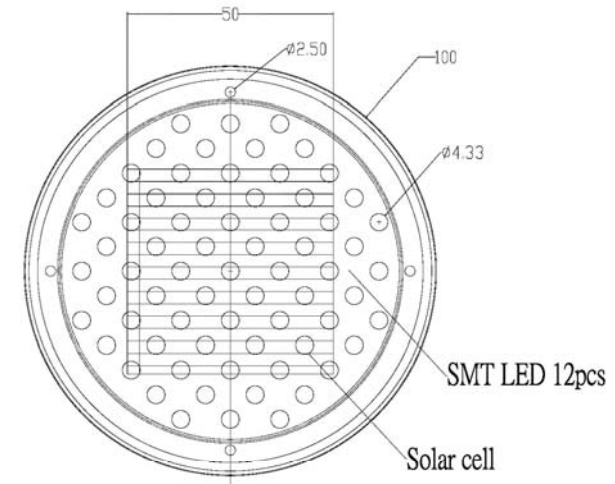**6.Coefficient test: SGS, IP68 ,CE, 6.Withstand 24 tons  Salt spray test**
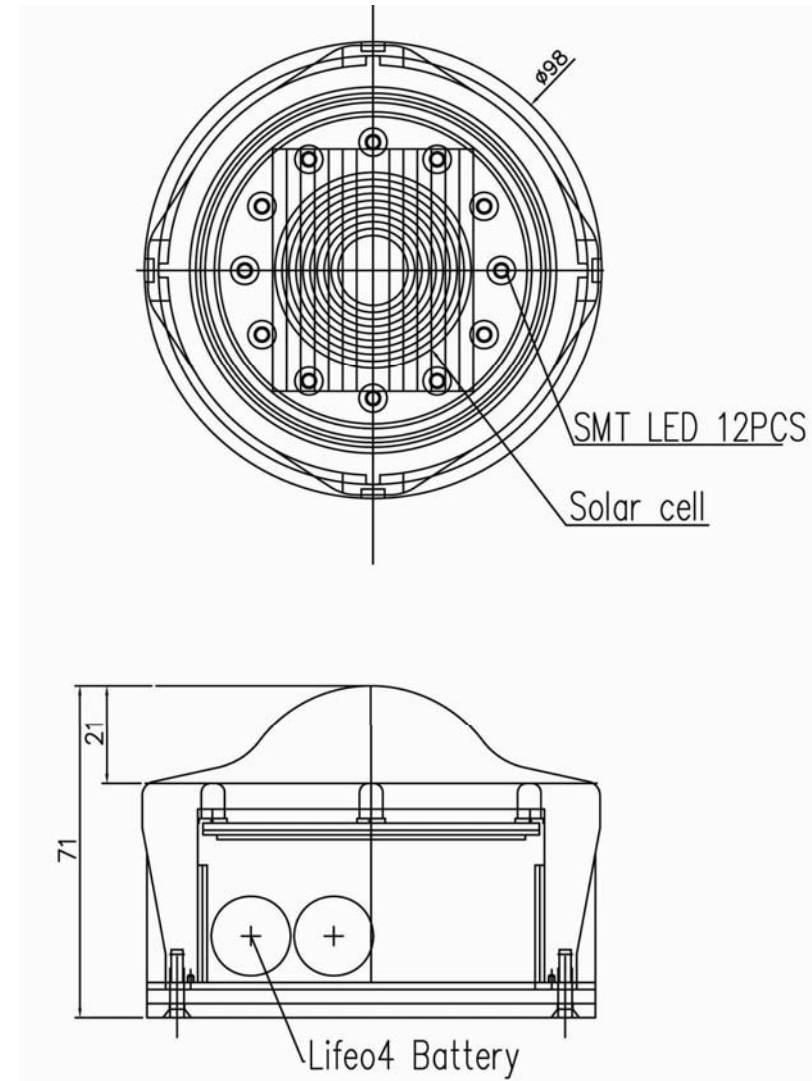
# **SR204** (For Park and Wall)

**Solar LED Ground Light –**
**1.Bayer PC**
**2.SMT LED 8 /12 PCS (Color: RGBYW and full color)**
**3.LED Mode: Steady Flash (2 Hz) and Gradually light**
**4.Lifeo4 Battery 3.2V 1800maH**
 **Rechargeable and can be updated**
**5.SizeLDim 90mm x H50mm 500g**
**6.Coefficient test: SGS, IP68 ,CE, 6.Withstand 10 tons Salt spray test**

Ø88

SMT LED

SOLAZR CELL

48.5

Lifeo4Battery

Ø89
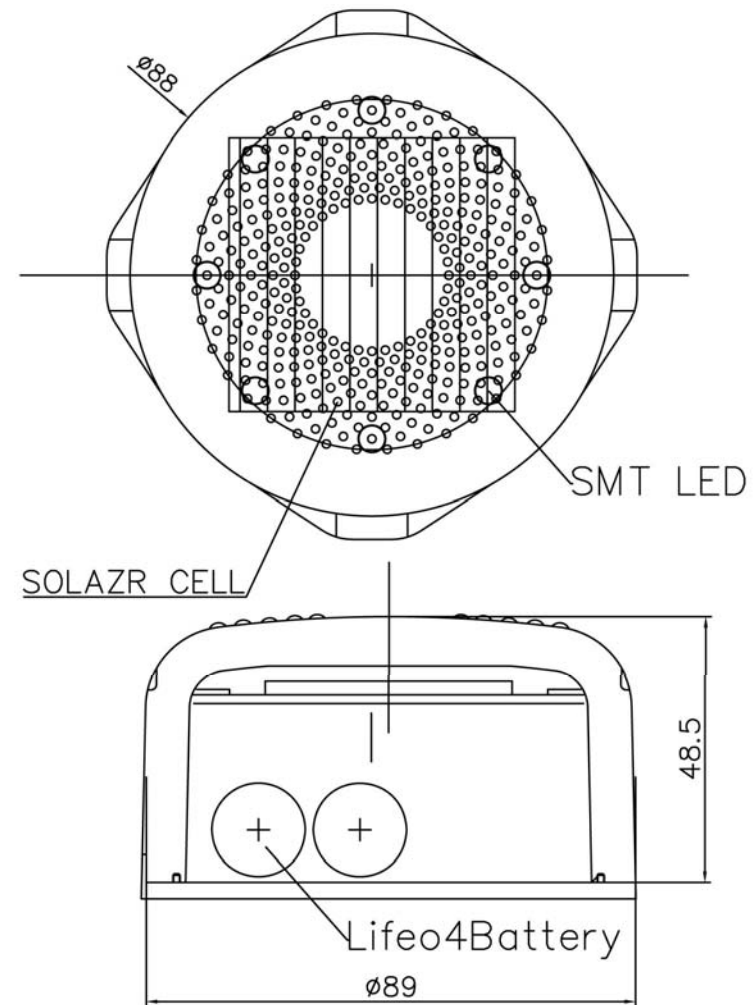
# **SR205**
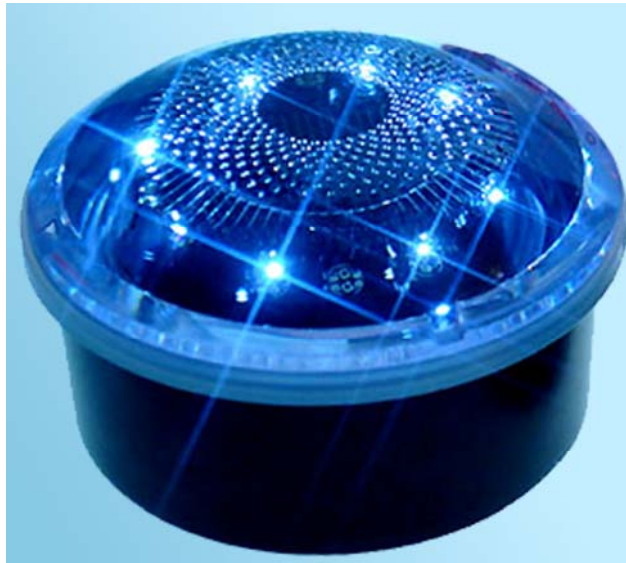


**Solar LED Ground Light –**
1.**Bayer PC, AL case**(embedded box )
2.**SMT LED 8 /12 PCS (Color: RGBYW and full color)**
3.**LED Mode: Steady Flash (2 Hz) and**
**Gradually light Gradually dark**
4.**Lifeo4 Battery 3.2V 1800maH**
   **Rechargeable and can be updated**
5.**SizeLDim 120mm x H70mm 750g**
6.**Coefficient test: SGS, IP68 ,CE, 6.Withstand 20 tons**
   **Salt spray test**

# SR100



**Solar LED Ground Light –**
1.Bayer PC, Su316 Stainless Steel Flange  AL case
2.SMT LED 8 /12 PCS (Color: RGBYW and full color)
3.LED Mode: Steady Flash (2 Hz) and **Gradually light Gradually dark**
4.Lifeo4 Battery 3.2V 1800maH  **Rechargeable and can be updated**
5.SizeLDim 100mm x H50mm 650g
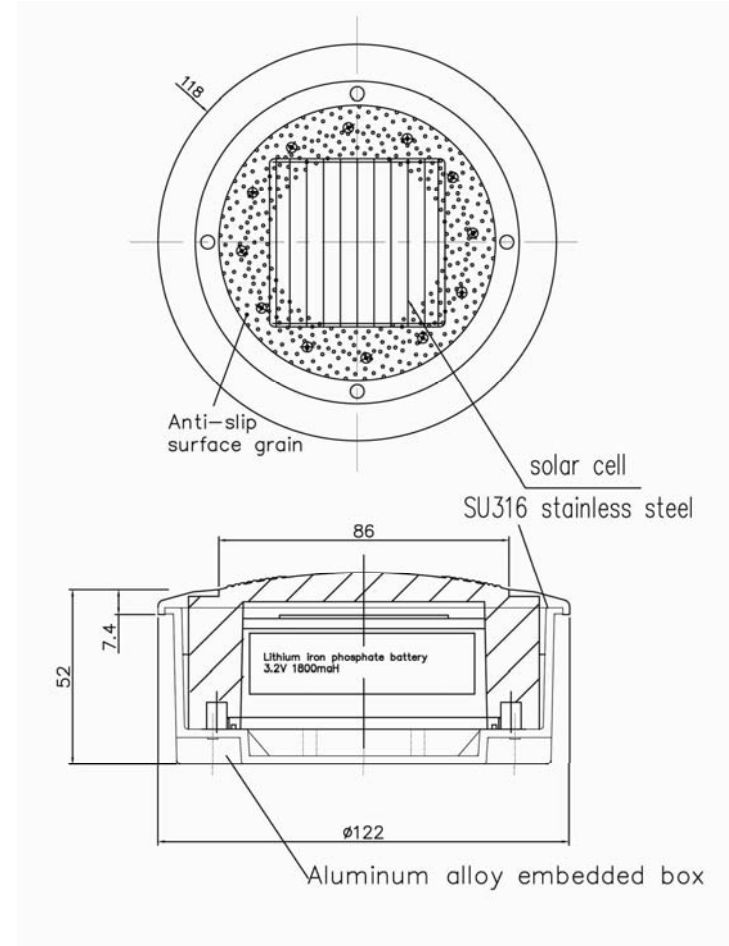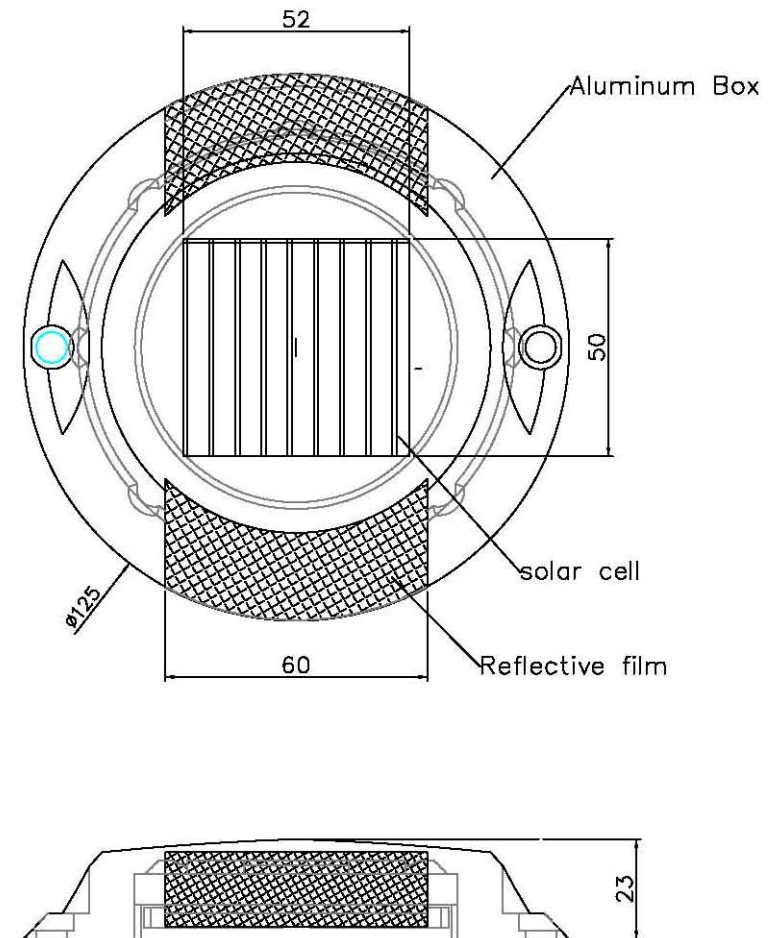6.Coefficient test: SGS, IP68 ,CE, 6.Withstand 16 tons  **Salt spray test**

# **Win701**





**Solar LED Ground Light –**
1.**Bayer PC, Su316 Stainless Steel Flange  AL case**
2.**SMT LED 8 /12 PCS (Color: RGBYW and full color)**
3.**LED Mode: Steady Flash (2 Hz) and Gradually light Gradually dark**
4.**Lifeo4 Battery 3.2V 1800maH  Rechargeable and can be updated**
5.**SizeLDim 125mm x H65mm 1100g**
6.**Coefficient test: SGS, IP68 ,CE, 6.Withstand 27 tons  Salt spray test**
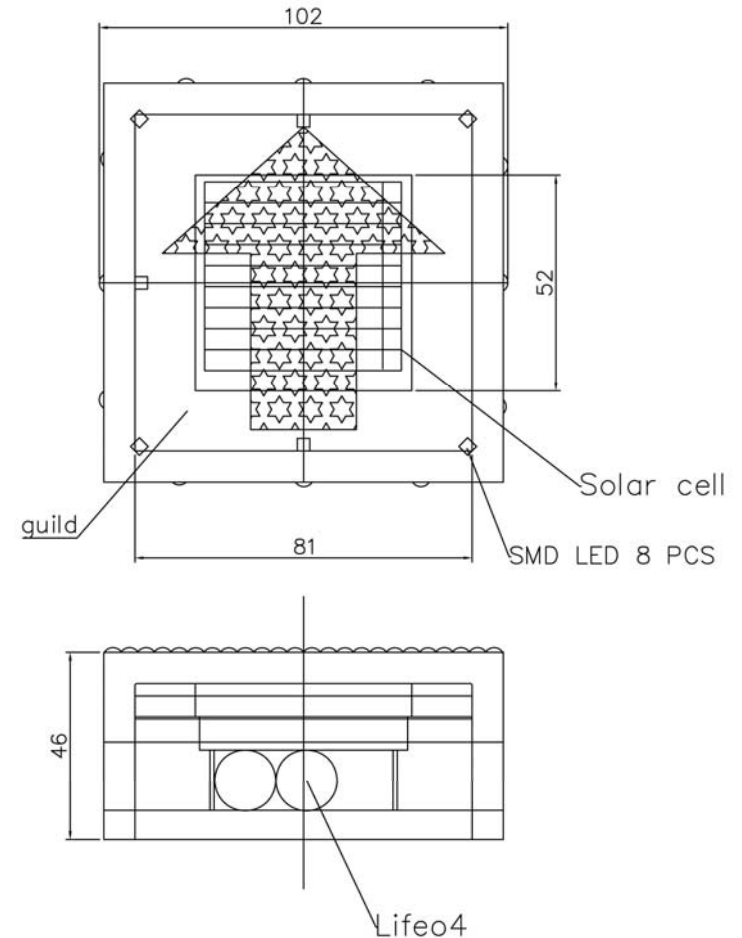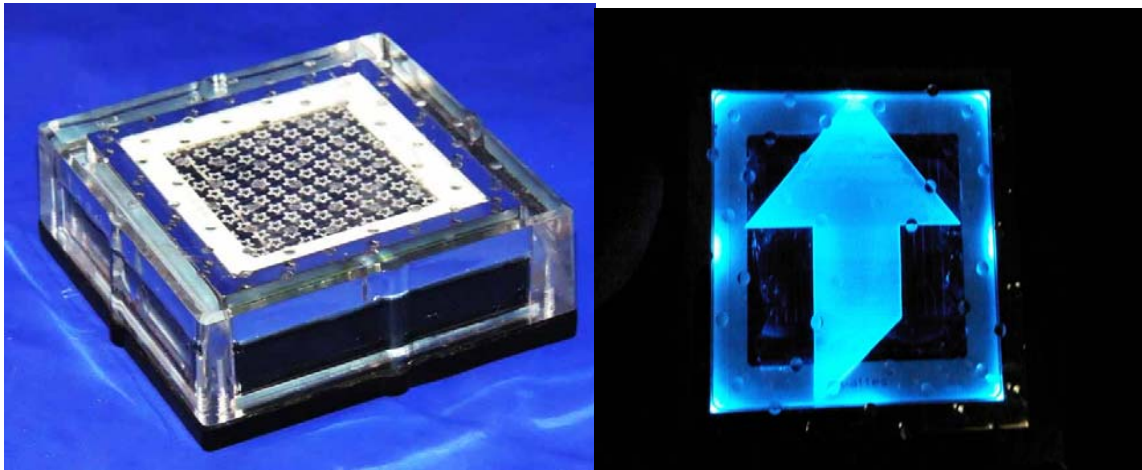
# Star523 (for Road Mark)



Solar LED Ground Light –

1. AL case
2. SMT LED 8 /12 PCS (Color: RGBYW)
3. LED Mode: Steady Flash (2 Hz) and
   Gradually light Gradually dark
4. Lifeo4 Battery 3.2V 700maH
**Rechargeable and can be updated**
5. SizeLDim 125mm x H23mm 450g
6. Coefficient test: SGS, IP68 ,CE, 6.Withstand 24 tons  Salt spray test



52

Aluminum Box

50

60

Ø125

solar cell

Reflective film

23

# **SB100** (it can put logo)



Solar LED Ground Light –
1. Bayer PC,
2. SMT LED 8 PCS (Color: RGBYW and full color)
3. LED Mode: Steady Flash (2 Hz) and **Gradually light Grad**
4. Lifeo4 Battery 3.2V 1800maH **Rechargeable and can be updated**
5. SizeL100mm x100mm x40mm 400g
6. Coefficient test: SGS, IP68 ,CE, 6.Withstand 10 tons **Salt spray test**

# SB200   (it can put logo)



**Solar LED Ground Light –**
1.**Bayer PC,**
2.**SMT LED 8 PCS (Color: RGBYW and full color)**
3.**LED Mode: Steady Flash (2 Hz) and Gradually light Gradually dark**
4.**Lifeo4 Battery 3.2V 3600maH** **Rechargeable and can be updated**
5.**SizeL 200mm x 200 xH50mm 1500g**
6.**Coefficient test: SGS, IP68 ,CE, 6.Withstand 20 tons** **Salt spray test**
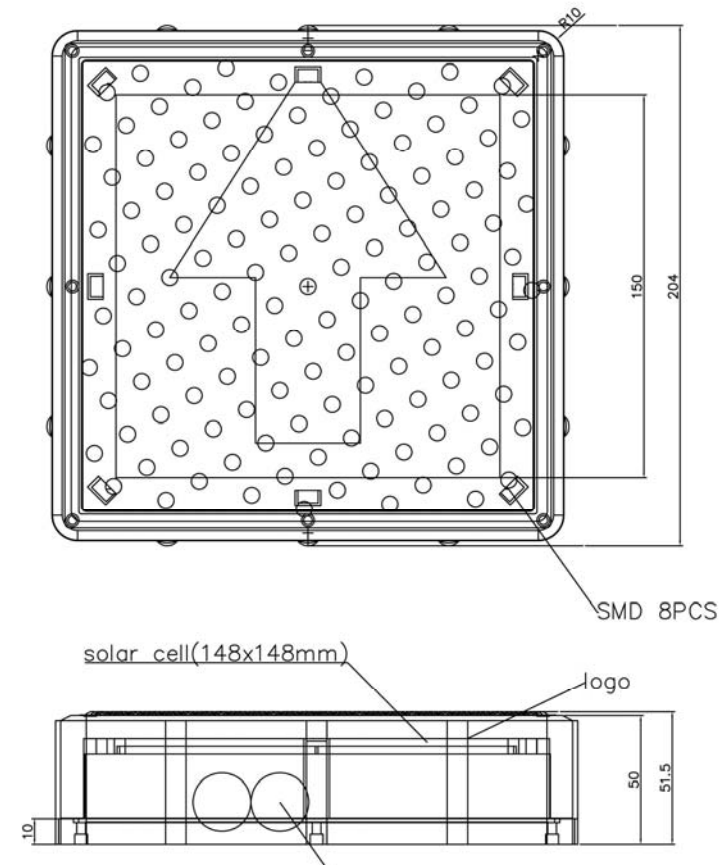
# Comparison Chart

| | Solar LED Ground Light | LED Ground Light (5w) |
|---|---|---|
| Cost | | |
| Surface Temperature | None | Extremely HOT |
| Transformer | None | Transformers |
| Installation | easy | Core cut + Cabling |
| Waterproof Rating | IP68:Dust proof, protected from continuous immersion in water under more severe conditions than 1 meter deep | IP65 Dust proof, protected from splashes and low-pressure jets |
| Wiring Cost | No | Yes |
| Maintenance | No ( 5 yeasr Replace the Battery) | Yes |
| Electricity Cost | No | Yes |
| power fee per year | Euro 0.00 | ex:100pcs 100x5Wx10hrx365 days xPer kWh electricity /1000=Euro |
| Co2 | No | 1162 kgCo2e |

# Application

Taipei Arena (win701-12B 280pcs)
2008-11 install ~ Taipei

District Square (SR205-8B 140pcs)
2007-10 install~Tamsui

Community Trail (SR205-8B 120pcs)
2005-10 install-Taichung
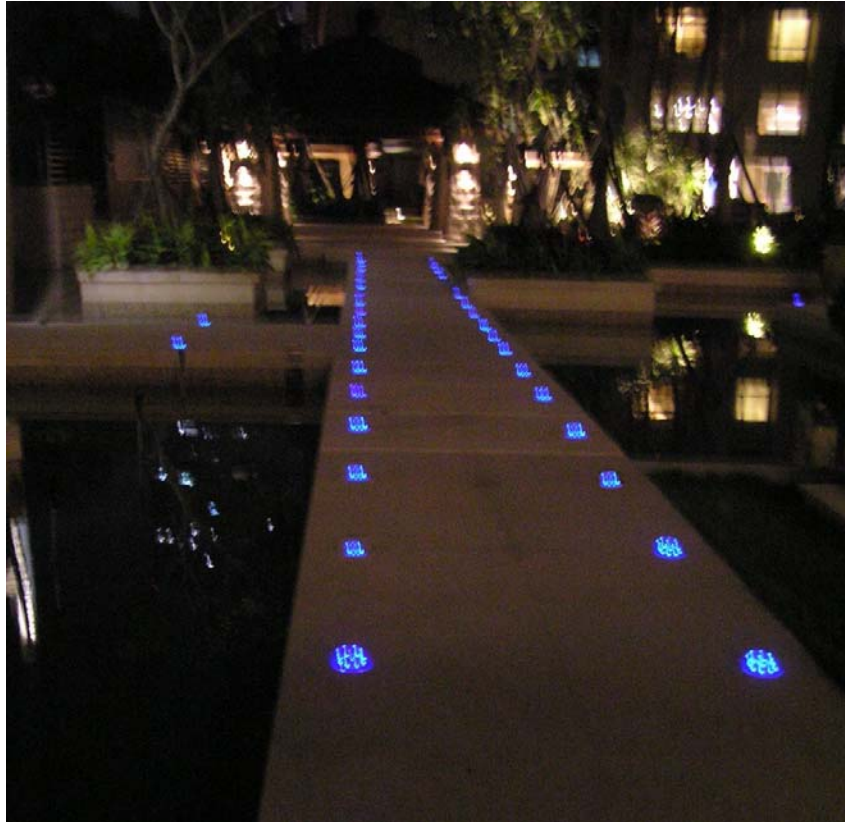
**Building's exterior walls
(SR204-8B flash 350pcs)**
**2004-5 install-Taichung**

**Pedestrian trails
(SR204-8B 65 PCS 2005-5 Install**

**Trails**
**SR205-8B  150 PCS**
**2005-11 Install -Taichung City**
 **Dike**
 **SR106-8B Flash 280pcs**
 **2006-4 install -Keelung City**

**Parking lot**
**SR106-8B FLASH  140PCS**
**2006-4-INSTALL Kaohsiung City**

**Square**

**WIN701-8Y 186 PCS**

**2008-7-Install  Taipei city**
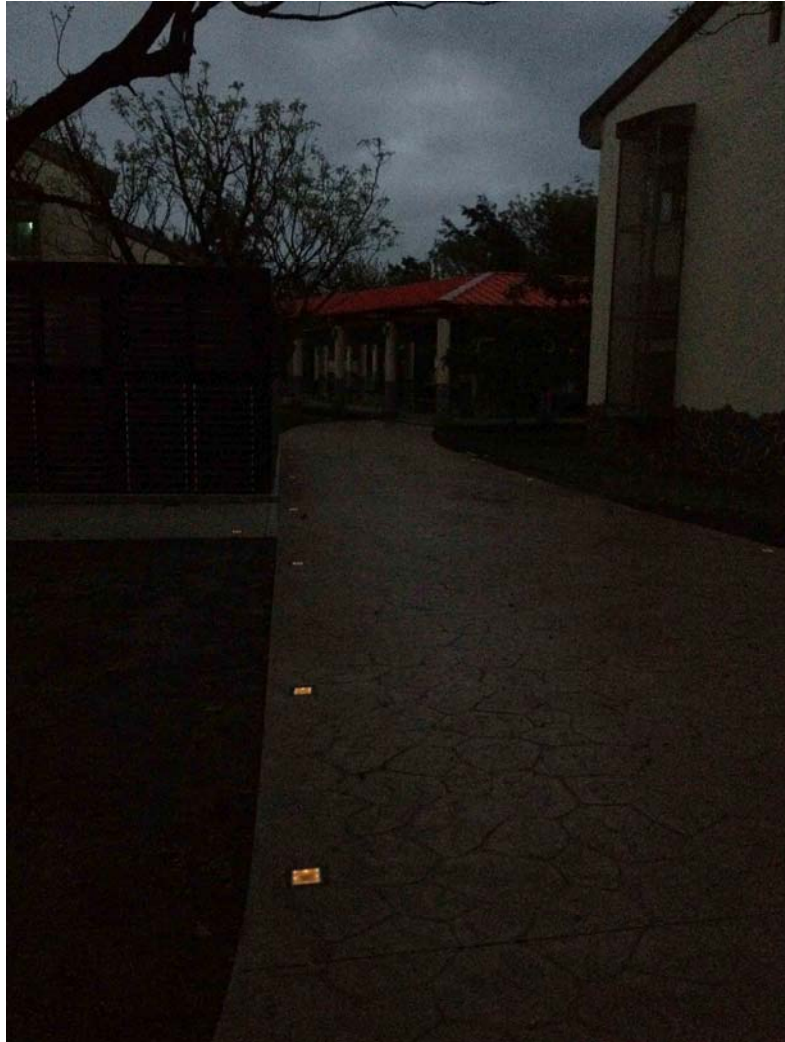
**Campsites Area**

**SB100-8Y  498PCS**

**2011-11 Imstall  -Yilan County**
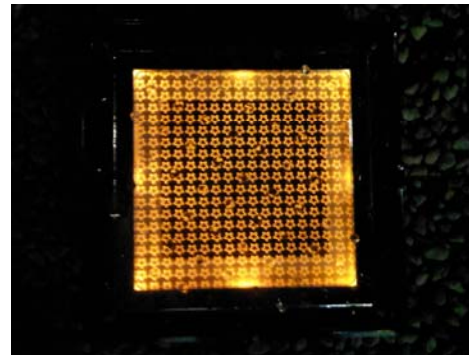
**Ramp boundary**

**Fog zone on the mountain Star523-6R Flash 460 pcs**
**New Taipei City**

**Stonewall**
**Sr205-8Y-8R-8B-8W**
**150PCS**
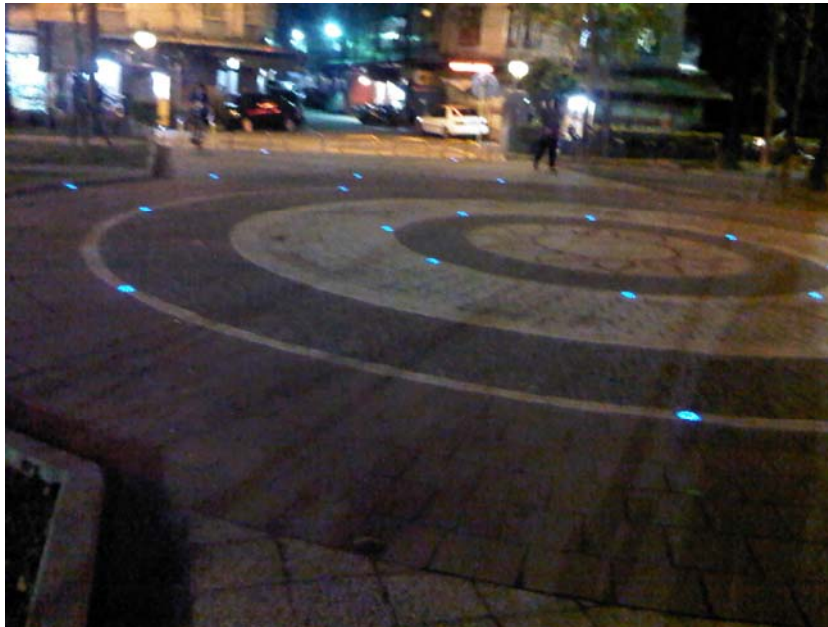**2005-7 Install -Taoyuan County**

**Swimming pool**
**SR106-8R Flash  40pcs**
**2008-05 install-indonicia**

**Park**
**SR205-8B  360PCS**
**2009-11 Install –new Taipei city**

**1**

**2**

**3**

**4**

**5**

**6**

# Thank you

**And God said, "Let there be light," and there was light.**
**God saw that the light was good, and He separated the light from the darkness.**
**~ Genesis 1:3-4**