

SOLAR STREETLIGHT

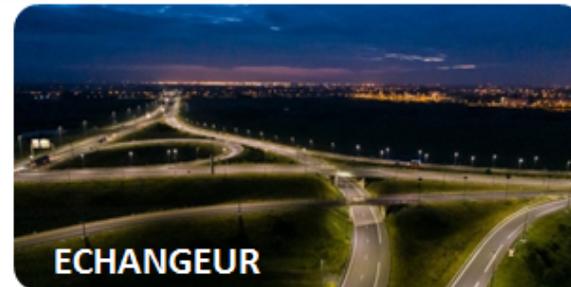
365 nights of lighting per year



FONROCHE
lighting



Applications



Solar streetlight

How does it work?



During the day the PV module receives the sun's energy and stores it in the battery.



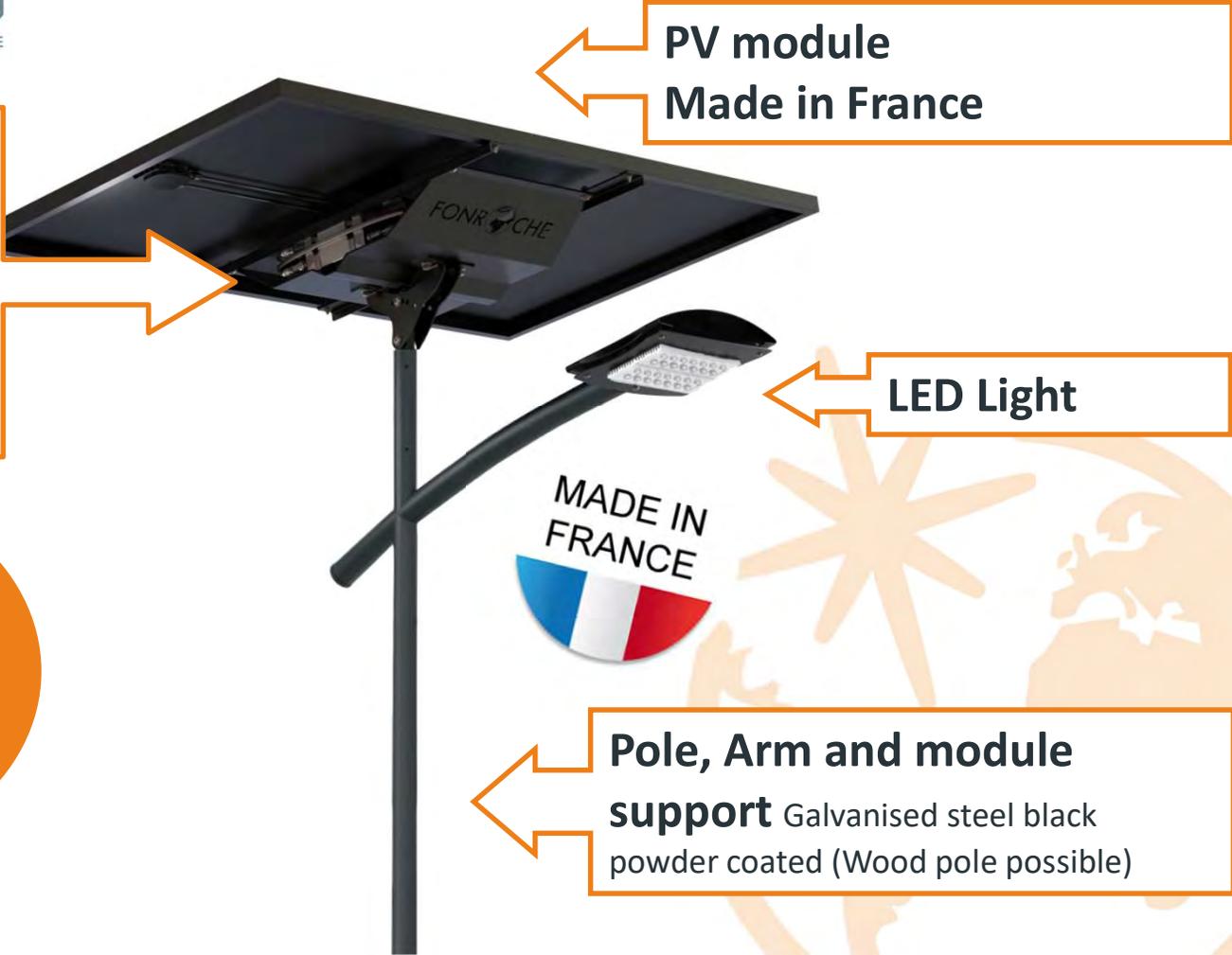
During the night the battery releases the stored energy to power the LED lamps. The smart energy management system of the Power365 ensures selected lighting profile.

An innovative technology

POWER 365
TECHNOLOGIE d'éclairage solaire BY FONROCHE

Solar battery
FONROCHE
LIGHTING
Nickel alloy
Smart management
system

LIGHTING
GUARANTEED
365 NIGHTS
PER YEAR



SOLAR

PV Solar Panel



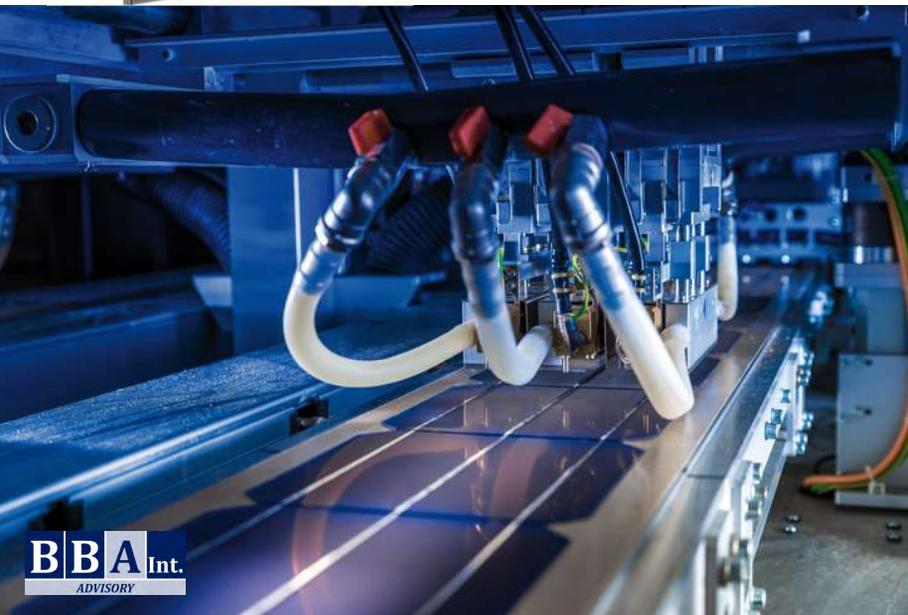
- Self cleaning tempered glass lining
- Optimized light collection
- **High efficiency cells**
- **Lifetime: 30 years minimum**



LIGHT

LED Light

- Low energy consumption
- **High efficiency 180 Lm/W**
- Integrated heat dissipation
- **Lifetime : 12 years minimum**





STORAGE

Nickel Solar Battery

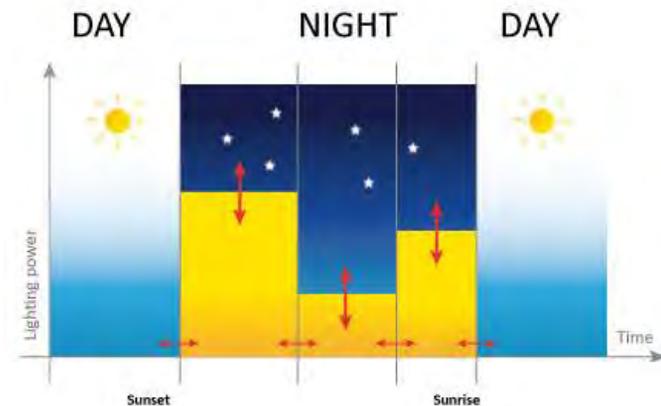
- Operates from **-40 to +70°C**
- 100% of the charge usable without affecting the battery
- Compact size and light weight
- Lifetime : 3650 cycles minimum **10 to 12 years**

POWER 365
TECHNOLOGIE d'éclairage solaire BY FONROCHE

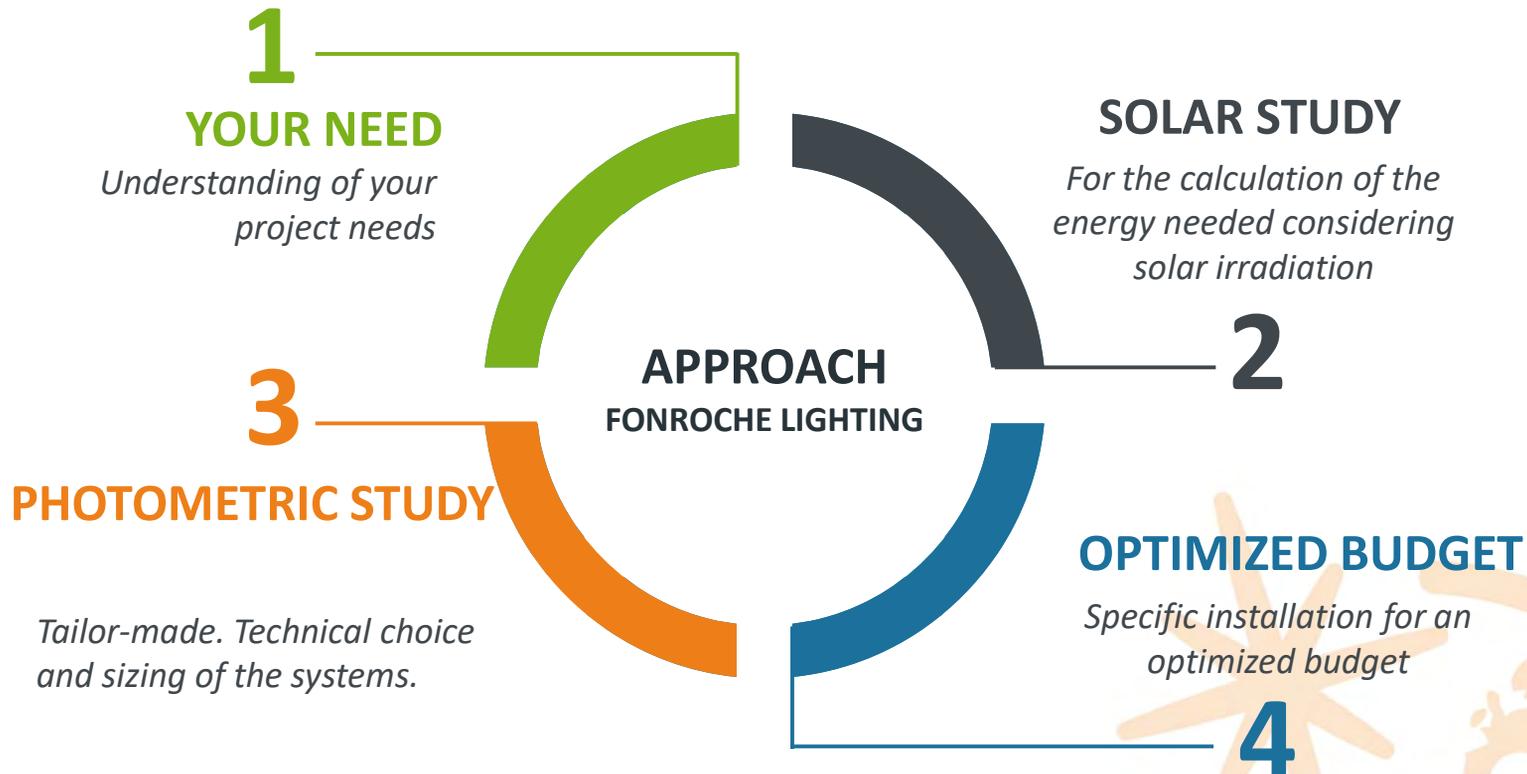
INTELLIGENCE

Technology Power 365

- Smart system **developed** by Fonroche **specifically** for solar lighting
- Operating ranges **programming** based on installation location
- **Anti Blackout** security



Our approach



RECOGNIZED SOFTWARE

DIALux
Featured Project Award



Your needs *which application ?*

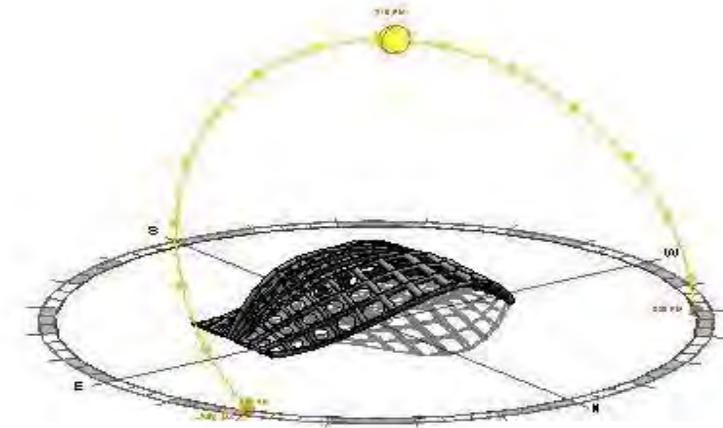
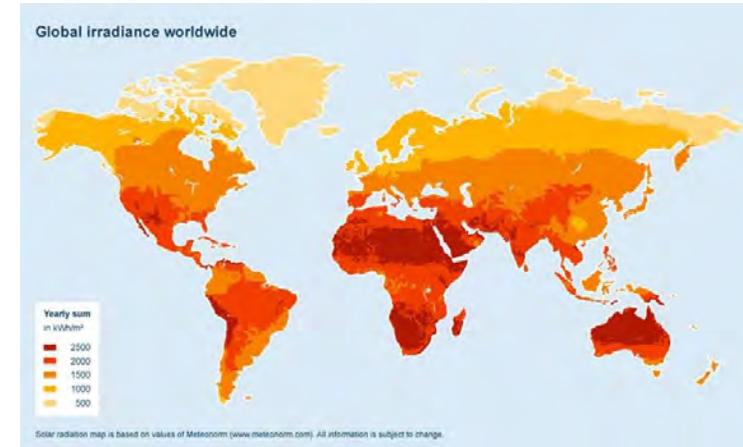
- Roads and highways
- Pathways
- Community complexes
- Parking lots (malls, hospitals, schools, sports complexes)
- Roundabouts
- Isolated points
- ...



Solar study

which irradiation ?

- Determines shadows/obstacles based on sun path at the project's exact location
- Visualizing impact of natural light
- Takes into consideration terrain
- Available energy calculations
- Use of well known and proven database and software (*Meteornorm, PVSyst, Dialux*)
- **Worst case scenario approach :** the worst insolated month and the longest night of the year

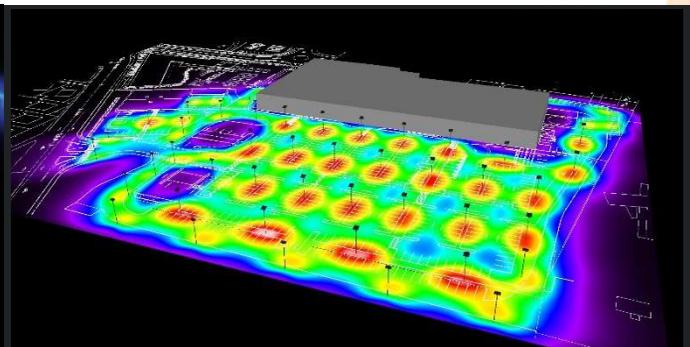
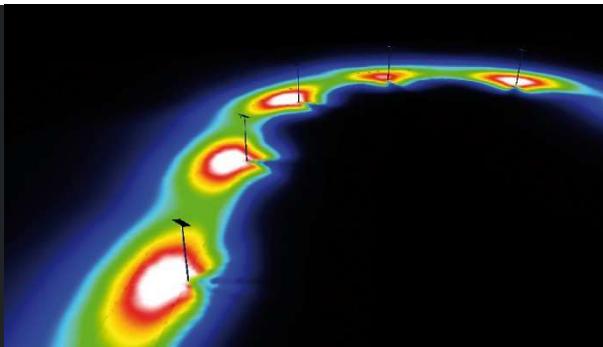
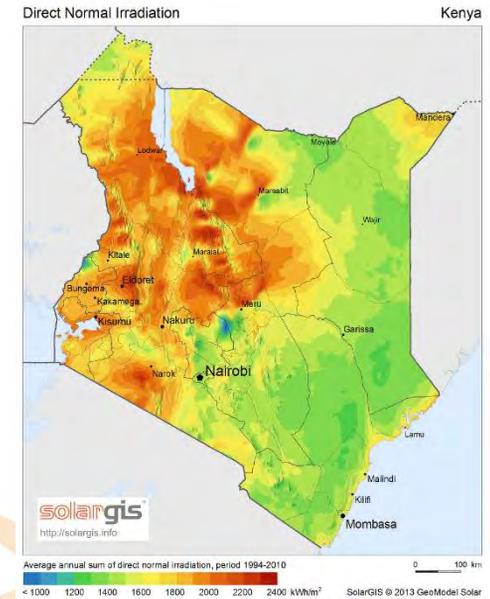


Our approach – Step 3

Photometric study

which illumination level ?

- Combining client needs with solar study results
- Fine tune technical details : panel tilt, intensity (brightness), uniformity
- Light dispersion analysis
- Compliance with outdoor lighting standards; EN13201 (Europe), LATAM standard (South America), 3D and **false color rendering**



Optimized budget

Which product at which quantities ?

- Bespoke lighting profile
- Optimized layout
- Maximized distance between 2 poles
- Translating budget into efficient spending for best overall results
- Ensures that spending aligns with needs and project strategy

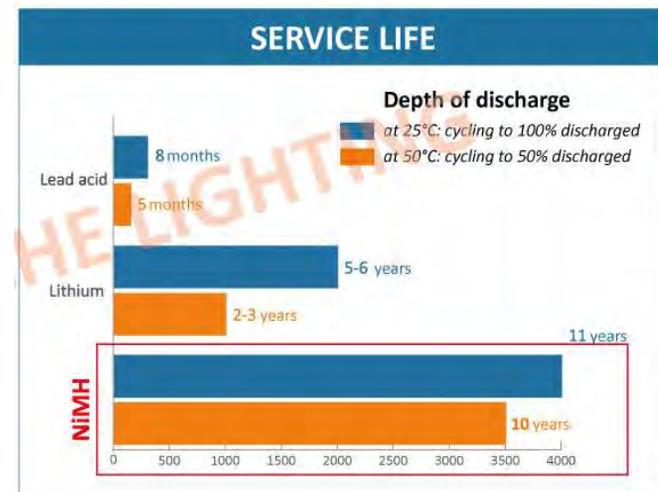
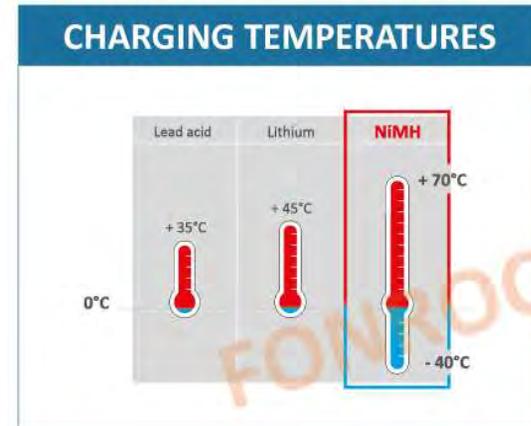


Advantages

- ✔ **Power 365 battery** developed in-house by Fonroche specifically for streetlighting :
 - nickel metal hydride (NiMH)
 - smart energy management and
 - storage system
- ✔ Withstands extreme temperatures (-40° up to 70°)
- ✔ Extremely long life span (4000 cycles, i.e. 10-12 years of functionality)
- ✔ No hazardous materials meaning no shipping restrictions
- ✔ Battery packs melted down and nickel salvaged for recycling

POWER 365

Ultimate Solar Lighting TECHNOLOGY BY FONROCHE



Protected against vandalism

- Compact battery packs installed on top of pole at high height in a locked box
- Power365 battery cannot be used for any other 24 VDC appliances

POWER 365
TECHNOLOGIE d'éclairage solaire BY FONROCHE



Power 365 technology in application

- 100% of battery charge can be usable without any deterioration
- Anti-blackout security
- **Project by project sizing** : optimal calibration of all aspects for budget optimization
- 365 nights of illumination per year guaranteed
- **Optional : Fonroche Connect** for remote monitoring



Power365 system



Smartlight 4.1 & 5.1



20-40 W - 4 do 5 m



Smartlight 6.1 & 8.1



60-80 W - 6 do 8 m

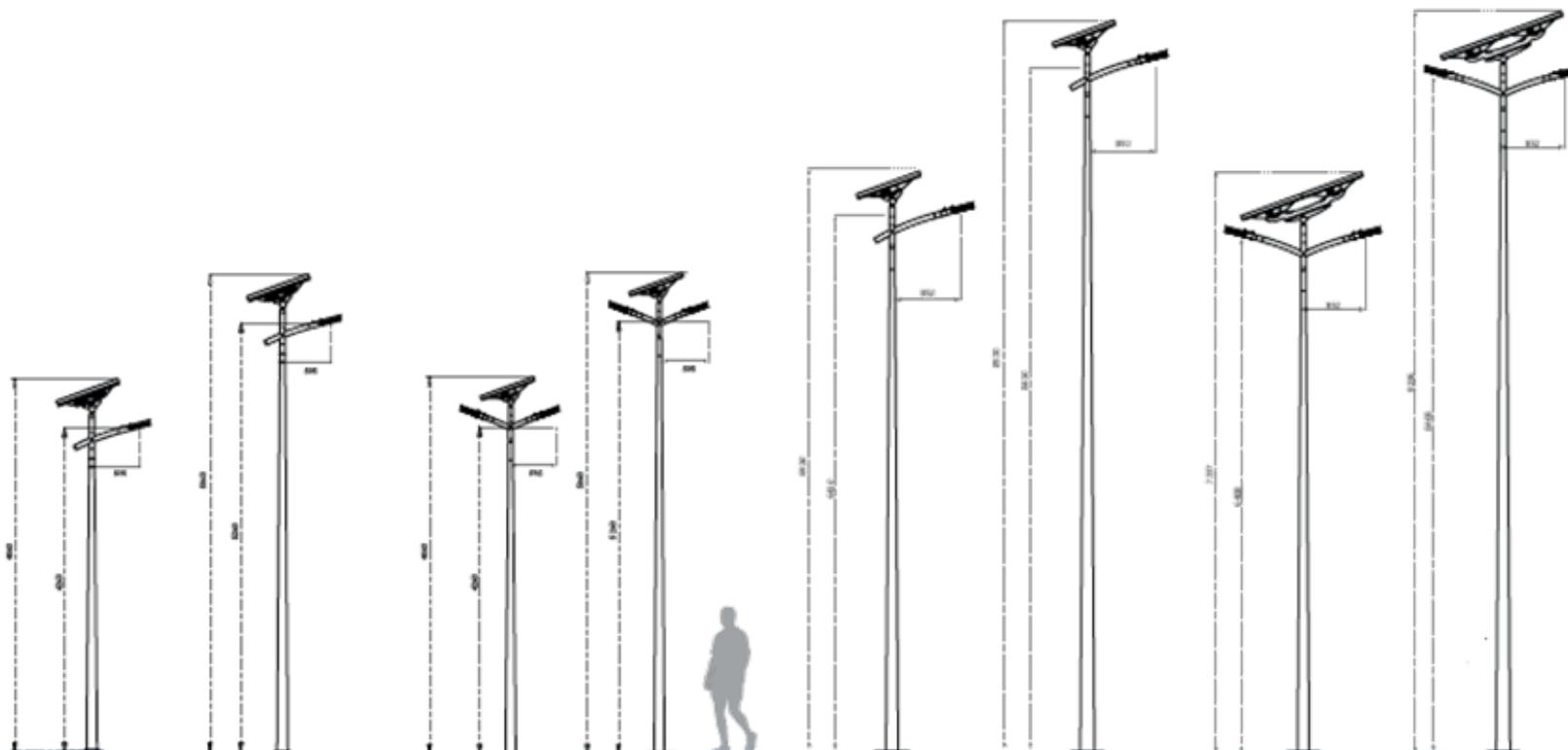


Smartlight 6.2 & 8.2



2 x 60-80 W - 6 do 8 m





Smartlight 4.1 & 5.1

Smartlight 4.2 & 5.2

Smartlight 6.1 & 8.1

Smartlight 6.2 & 8.2

Galvanized steel or powder-coated finish	4 m and 5 m
PV Module	250 Wc 1590 x 800 mm
Battery Power 365	312 Wh 624 Wh
Nominal Power	180 lm/W Color T° 3000/4000 K
Nominal Power	20 W 40 W

Galvanized steel or powder-coated finish	4 m and 5 m
PV module	305 Wc 1640 x 990 mm
Battery Power 365	624 Wh 1248 Wh
Nominal Power	180 lm/W Color T° 3000/4000 K
Nominal Power	2 x 20 W 2 x 40 W

Galvanized steel or powder-coated finish	6 m and 8 m
PV module	305 Wc 1640 x 990 mm
Battery Power 365	936 Wh 1248 Wh
Nominal Power	180 lm/W Color T° 3000/4000 K
Nominal Power	60 W 80 W

Galvanized steel or powder-coated finish	6 m and 8 m
PV module	2 x 305 Wc 1640 x 1980 mm
Battery Power 365	2 x 936 Wh 2 x 1248 Wh
Nominal Power	180 lm/W Color T° 3000/4000 K
Nominal Power	2 x 60 W 2 x 80 W



récyclum

engagés pour un recyclage responsable

>90% of the Smartlight recyclable



ISO 14 001
CERTIFIED



ISO 9 001
CERTIFIED



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