



PRODUCT CATALOG 2026

Smart Solar Lighting



Street, area and path lighting, bollards and smart poles.
Designed and manufactured by ZOLARIS Luminaire.

www.zolarisluminaire.com



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ABOUT ZOLARIS LUMINAIRE

Solar lighting, designed
and made by ZOLARIS.

ZOLARIS Luminaire is the solar and integrated lighting brand of ZOYCAR Group. Every family in this catalog shares one part-number system and one design language.

5-year

warranty on ZOLARIS systems

ISO 9001

certified quality management

CE · RoHS · IEC

compliance reports available

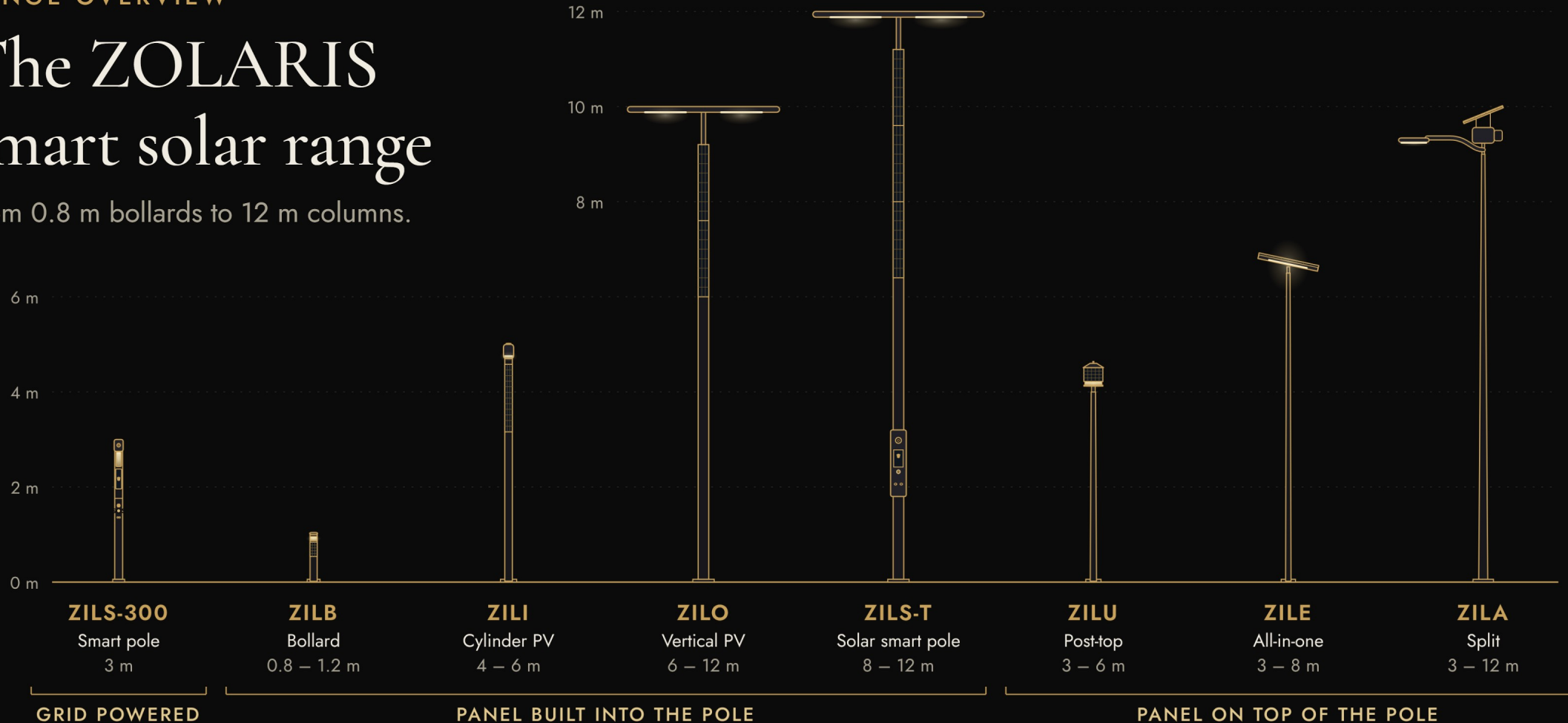
2 nights

standard battery autonomy

RANGE OVERVIEW

The ZOLARIS smart solar range

From 0.8 m bollards to 12 m columns.



HOW IT WORKS

From sunlight to street light

01

PV module

Monocrystalline cells
above 21 % efficiency.
20-year life.

02

MPPT

Charge controller,
97.3 % efficient. Tracks
the peak power point.

03

Battery

LiFePO4 cells. Two
nights of autonomy as
standard. 2 000+ cycles.

04

Driver

Constant current,
94 % efficient. Smart
dimming profiles.

05

LED module

160–180 lm/W chips.
IP68 module. More than
50 000 h.

SIZING RULES AT 4 PEAK SUN HOURS PER DAY

2.5 Wp

tilted PV per LED watt

ZILA · ZILE

5 Wp

vertical PV per LED watt

ZILU · ZILO · ZILI · ZILB · ZILS-T

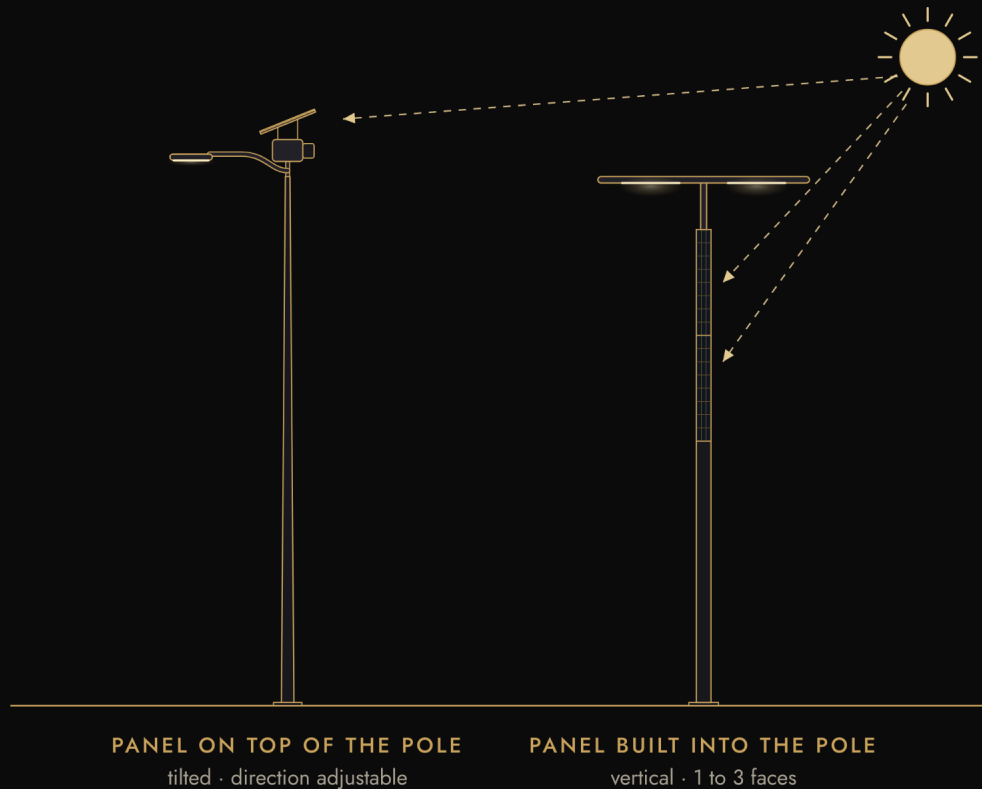
10.2 Wh

battery per LED watt

two nights of autonomy

PANEL POSITION

On top of the pole, or built into it

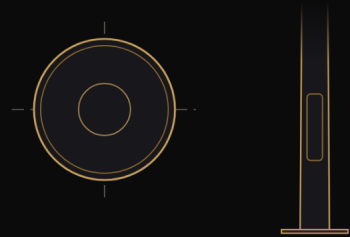


	On top of the pole	Built into the pole
Families	ZILA · ZILE · ZILU	ZILO · ZILI · ZILB · ZILS-T
Panel	Tilted, adjustable (ZILU: vertical)	Vertical, 1 to 3 faces
PV per LED W	2.5 Wp (ZILU: 5 Wp)	5 Wp
Heights	3 – 12 m	0.8 – 12 m
Choose it for	Open sites and the highest yield per Wp	Slim columns with no panel overhead

A vertical face sees less sun than a tilted one, so vertical panels carry twice the peak power per LED watt.

POLE SHAPES

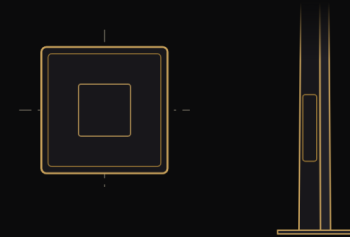
Round, square or decorative



Round, conical ZP-R

Tapered round tube in hot-dip galvanized steel. The standard choice for streets, roads and highways.

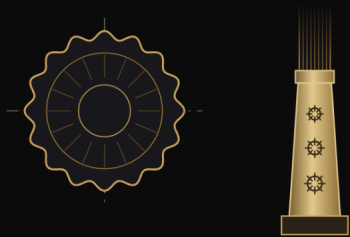
3 — 12 m
heights



Square, tapered ZP-Q

Tapered square tube with rounded corners. Suits plazas, campuses, business parks and architectural projects.

3 — 12 m
heights



Decorative ZP-D

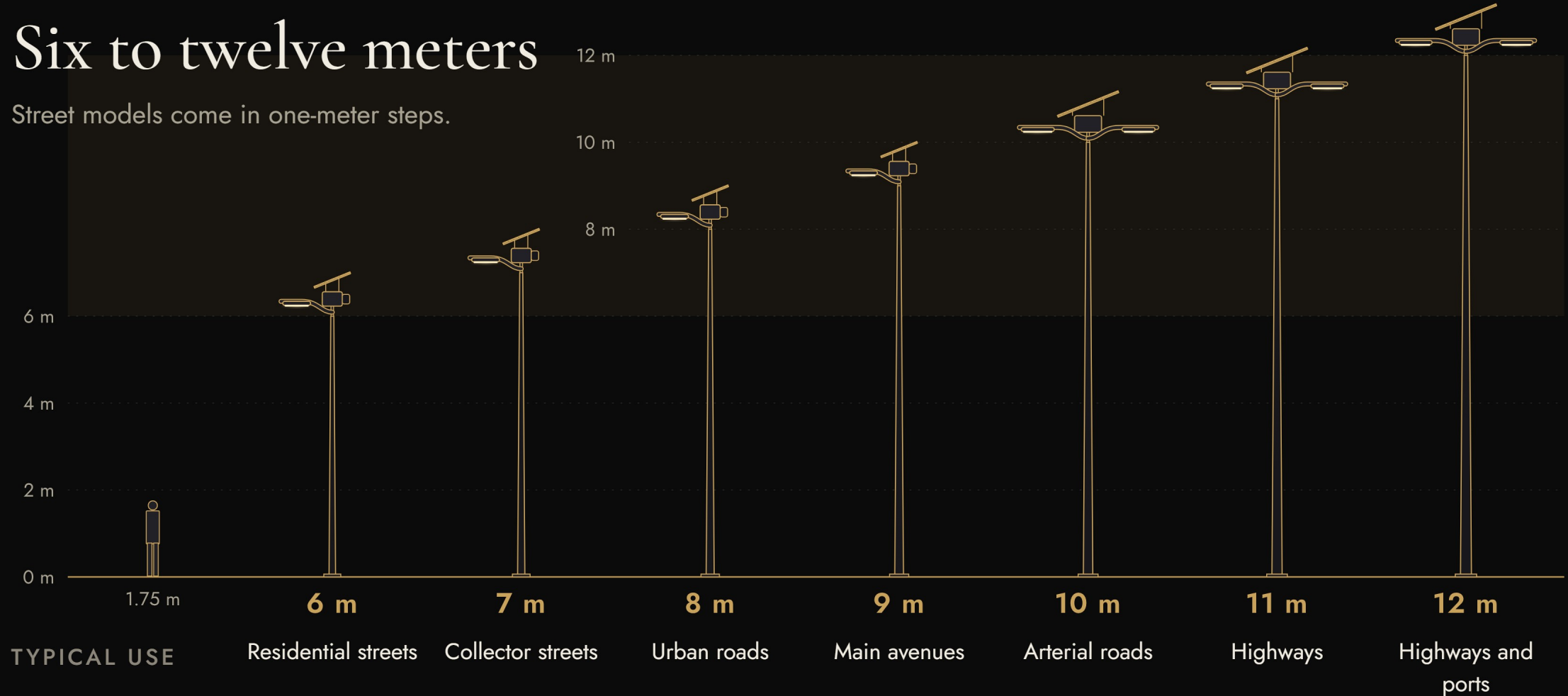
Fluted shaft with a cast base and collar, in classic or modern lines. For promenades, old towns and heritage sites.

4 — 10 m
heights

POLE HEIGHTS

Six to twelve meters

Street models come in one-meter steps.



HEIGHT MATRIX

Which model for which height

- Panel on top of the pole
- Panel built into the pole

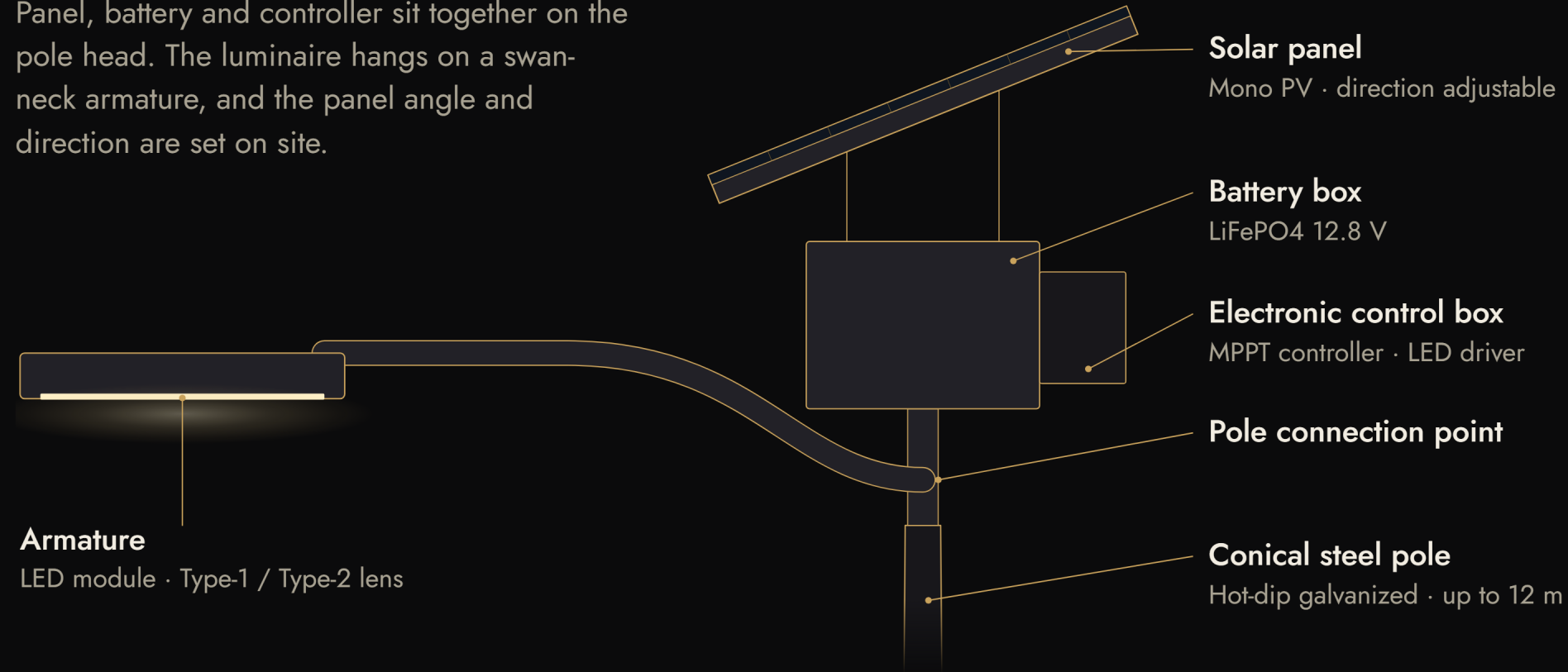
Model	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m
ZILA	A5300	5–7 m						
A8000		6–9 m						
A12000			8–11 m					
A16000				9–12 m				
ZILE	E5300	5–7 m						
E6700		6–8 m						
ZILO	S1-S		6–7 m					
T1-S		6–8 m						
S2-S			7–9 m					
T2-S			7–10 m					
S3-S				8–10 m				
T2-D				8–11 m				
T3-D					9–12 m			
ZILS-T	S8T2				8–11 m			
S9T3					9–12 m			

Not shown: ZILA, ZILE and ZILU models for 3–6 m, ZILI for 4–6 m and ZILB bollards for 0.8–1.2 m.

ZILA · PANEL ON TOP OF THE POLE

The split solar street light

Panel, battery and controller sit together on the pole head. The luminaire hangs on a swan-neck armature, and the panel angle and direction are set on site.



ZILA · MODELS AND RATINGS

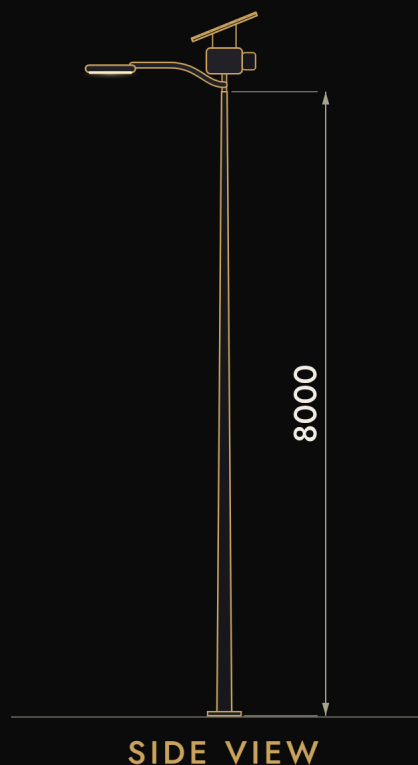
Seven sizes, one design

Part no.	Flux (lm)	LED (W)	PV (Wp)	Battery 12.8 V	Luminaires	Pole (m)
ZL-A2000	2 000	15	40	12 Ah · 154 Wh	1	3 – 4
ZL-A2700	2 700	20	50	16 Ah · 205 Wh	1	4 – 5
ZL-A4000	4 000	30	80	24 Ah · 307 Wh	1	4 – 6
ZL-A5300	5 300	40	100	32 Ah · 410 Wh	1	5 – 7
ZL-A8000	8 000	60	150	48 Ah · 614 Wh	1	6 – 9
ZL-A12000	12 000	90	230	72 Ah · 922 Wh	2	8 – 11
ZL-A16000	16 000	120	300	96 Ah · 1 229 Wh	2	9 – 12

Battery sized for two nights of autonomy. ZL-A12000 and ZL-A16000 carry two luminaire arms (2 × 6 000 lm and 2 × 8 000 lm). Color temperature, optic, RAL color, control and temperature range are added to the part number (page 32).

ZILA · SPECIFICATION

What is inside a ZILA



LED and optics

LED efficacy up to 160 lm/W
CRI above 70
4000 K as standard
3000 – 6000 K on request

PMMA lens, Type-1 road 150° × 70°
or Type-2 area 130°
Constant-current driver, 94 %
LED life above 50 000 h

Solar and battery

Monocrystalline PV, cells above 21 %
IEC 61215 · 61730-1 · 61701
20-year life, 90 % after 10 years
MPPT controller, 97.3 %

LiFePO4 battery, 12.8 V
4 000 cycles at 100 % DOD
Two nights of autonomy as standard
Automatic PWM dimming

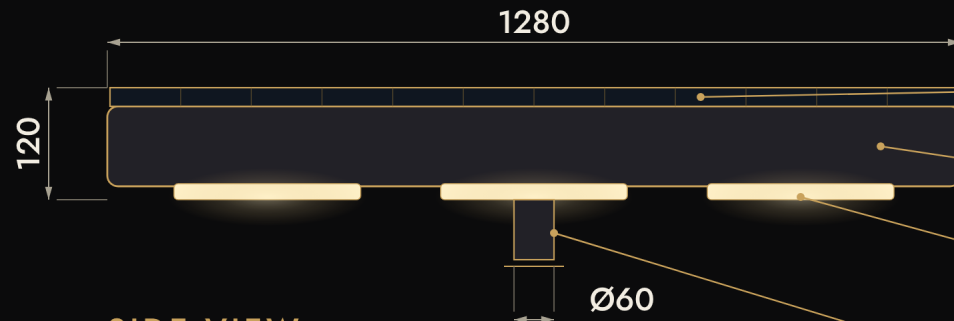
Mechanical and climate

IP67 system
IP68 LED module
0 to +50 °C operating
–20 to +60 °C on request

Hot-dip galvanized conical pole
Up to 12 m
Paint RAL 7016 as standard
Any RAL on request

ZILE · PANEL ON TOP OF THE POLE

The all-in-one solar street light



SIDE VIEW



PLAN VIEW · ZL-E5300 · MM

Mono PV panel

cell efficiency above 21 %

Battery + MPPT controller

integrated in the housing

LED modules

Type-1 road or Type-2 area lens

Mounting spigot

Ø60 mm pole top

Panel, battery, controller and LED module share one housing on a Ø60 mm spigot. No separate boxes at the pole head.

ZILE · MODELS AND RATINGS

Five sizes for pole tops

Part no.	Flux (lm)	LED (W)	PV (Wp)	Battery 12.8 V	L × W × H (mm)	Pole (m)
ZL-E2000	2 000	15	40	12 Ah · 154 Wh	760 × 300 × 95	3 – 4
ZL-E2700	2 700	20	50	16 Ah · 205 Wh	900 × 320 × 100	3 – 5
ZL-E4000	4 000	30	80	24 Ah · 307 Wh	1130 × 405 × 110	4 – 6
ZL-E5300	5 300	40	100	32 Ah · 410 Wh	1280 × 445 × 120	5 – 7
ZL-E6700	6 700	50	125	40 Ah · 512 Wh	1460 × 490 × 130	6 – 8

CHOOSE IT FOR

Pathways, parking lots, campuses and residential streets.

MOUNTING

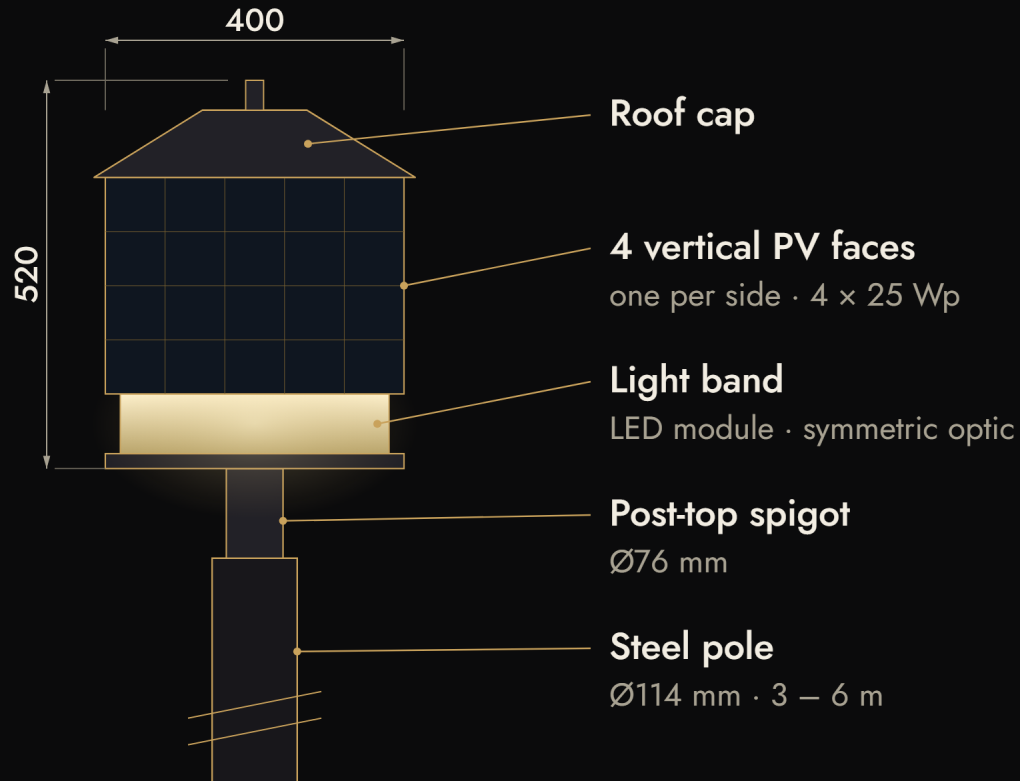
One Ø60 mm spigot on a 3 – 8 m pole. One unit, no cabling at the head.

LIMIT

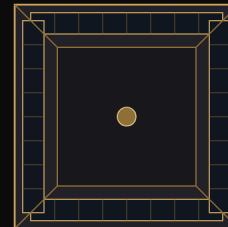
The housing top is the panel, so power stops at 50 W. Above that, choose ZILA.

ZILU · PANEL ON TOP OF THE POLE

The post-top solar lantern



	ZL-U1300	ZL-U2700	ZL-U4000
Flux (lm)	1 300	2 700	4 000
LED (W)	10	20	30
PV (Wp)	50	100	150
Battery (Ah)	8	16	24
Lantern (mm)	320 × 320 × 380	400 × 400 × 520	460 × 460 × 650
Pole (m)	3 – 4	3 – 5	4 – 6



PLAN VIEW

A PV face on every side keeps the battery charging whichever way the lantern faces.



ZILO · PANEL BUILT INTO THE POLE

The pole is the solar panel

Monocrystalline modules wrap the shaft, so nothing sits on top of the pole. Battery and controller are inside the column, and the luminaire arms hang from a slim head.

6 – 12 m

pole heights in 1 m steps

20 – 180 W

LED power, one or two arms

100 – 900 W_p

PV on one or three faces

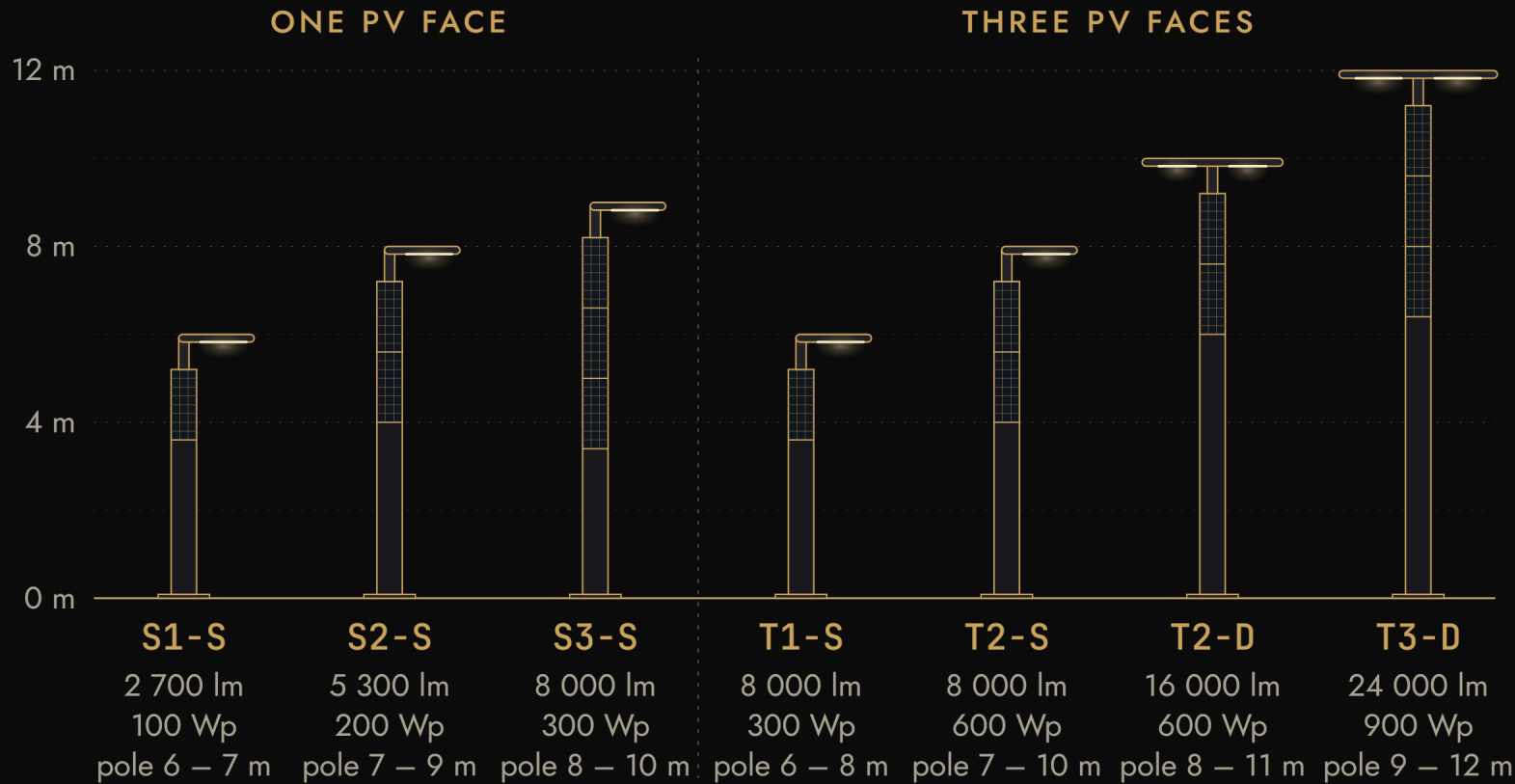
24 000 lm

maximum output, IoT-ready



ZILO · FAMILY

Seven types, one slim column



PART NUMBER

ZL-08T2D

8 pole height in meters
6 to 12

T PV on three faces
S = one face

2 PV zone 3.2 m
1 = 1.6 m · 3 = 4.8 m

D double armature
S = single

REFERENCE COLUMN

ZL-08T2D: 16 000 lm, 600 Wp,
96 Ah battery.

ZILO · MODELS AND RATINGS

Seven power steps, one family

Type	Flux (lm)	LED (W)	PV (Wp)	Battery LiFePO4	PV zone (m)	Pole (m)
S1-S	2 700	20	100	12.8 V · 16 Ah	1.6	6 – 7
S2-S	5 300	40	200	12.8 V · 32 Ah	3.2	7 – 9
S3-S	8 000	60	300	12.8 V · 48 Ah	4.8	8 – 10
T1-S	8 000	60	300	12.8 V · 48 Ah	1.6	6 – 8
T2-S	8 000	60	600	12.8 V · 96 Ah	3.2	7 – 10
T2-D	16 000	120	600	12.8 V · 96 Ah	3.2	8 – 11
T3-D	24 000	180	900	25.6 V · 72 Ah	4.8	9 – 12

POLE HEIGHT RULE

Shortest pole = PV zone + 0.8 m head + 2.4 m clear base, rounded up, never below 6 m. Two arms add 1 m.

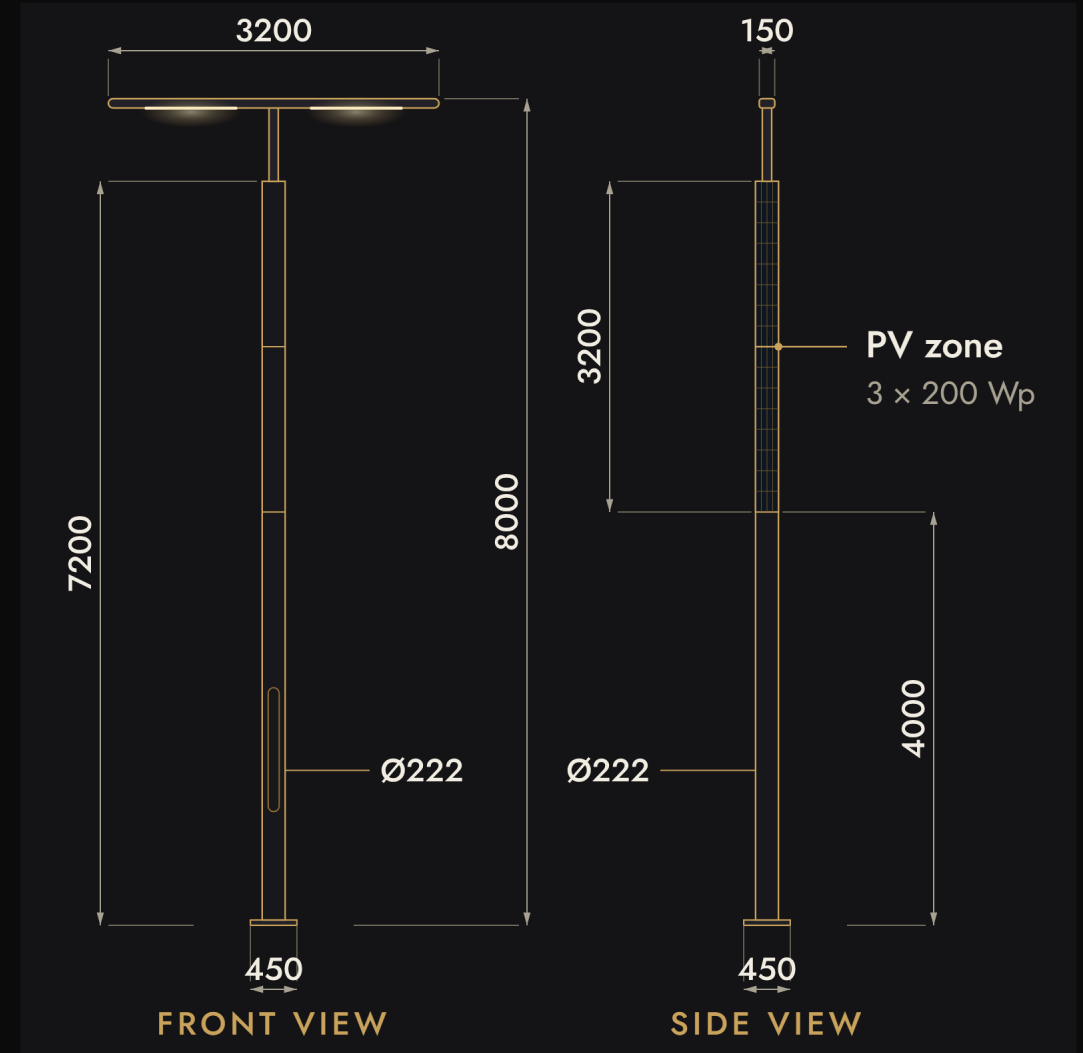
AUTONOMY

Two nights as standard. T2-S doubles the battery for four nights in low-sun regions.

ZILO · DATASHEET

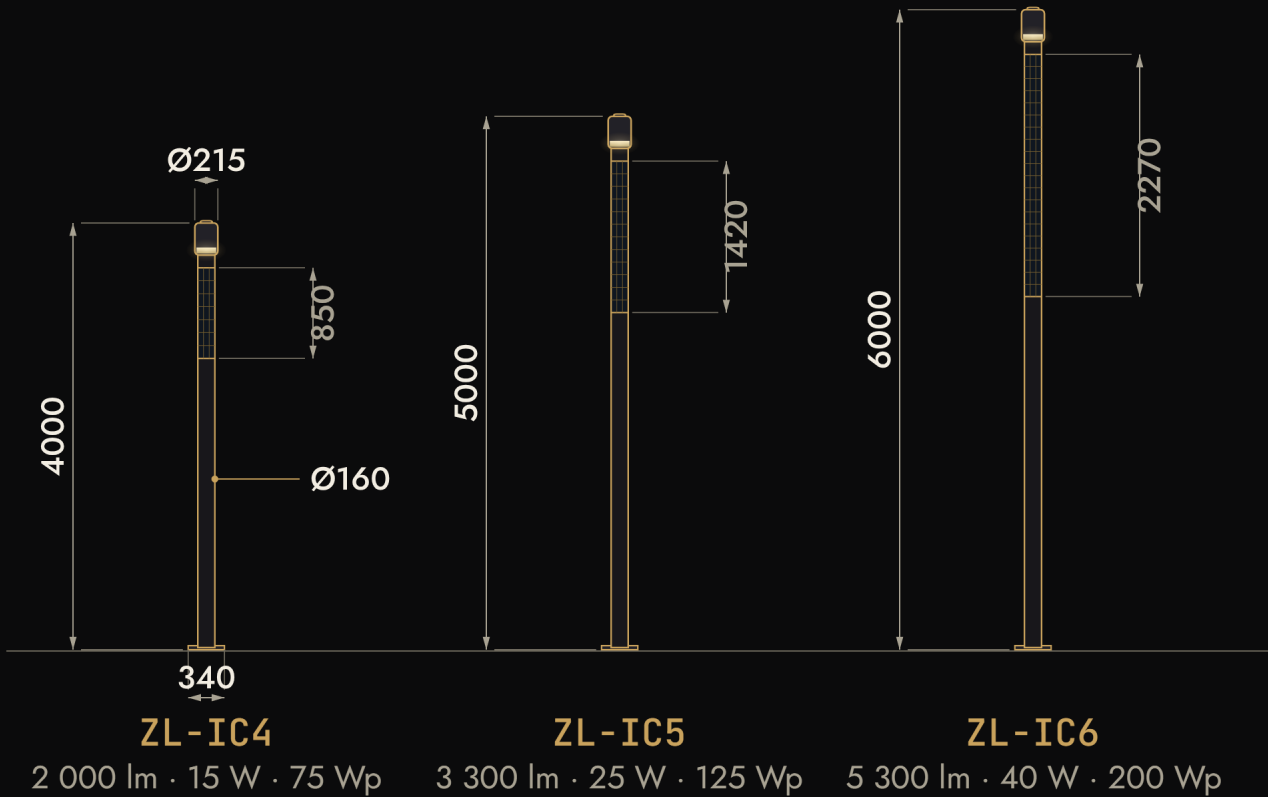
The reference column

Item	Value
Part number	ZL-O8T2D
LED module	120 W · 16 000 lm · CRI above 70
Color temp.	4000 K (3000 – 6000 K optional)
Solar	600 Wp mono PV · 3 faces · 3.2 m zone
Battery	LiFePO4 12.8 V · 96 Ah · 2 000 cycles
Autonomy	2 nights · PWM smart dimming
Pole	8 m · Ø222 mm shaft · 450 mm base
Finish	Hot-dip galvanized · RAL 9001
Protection	IP67 system · IP68 LED module



ZILI · CYLINDER COLUMN

A round column that harvests from every side



WHY A CYLINDER

Cells wrap the Ø160 tube, so the column collects sun from every direction and needs no orientation on site.

Type	H (m)	Band (mm)	Ah
ZL-IC4	4	850	12
ZL-IC5	5	1420	20
ZL-IC6	6	2270	32

Battery LiFePO4 12.8 V. The column is the housing: battery and controller sit inside the tube.

ZILI · RETROFIT SLEEVE

Add solar to the pole you already have



IR2700 · IR4000
single sleeve · 100 / 150 Wp

IR5300 · IR8000
two sleeves · 200 / 300 Wp

KEEP THE POLE, DROP THE CABLE

Replace the old head and wrap the pole with a PV sleeve. No trenching and no grid connection.

Type	W	Wp	Ah
ZL-IR2700	20	100	16
ZL-IR4000	30	150	24
ZL-IR5300	40	2 × 100	32
ZL-IR8000	60	2 × 150	48

W = LED power. Battery LiFePO4 12.8 V. Sleeve Ø190 mm fits existing poles of Ø76 – 140 mm.



ZILB · SOLAR BOLLARD

The solar bollard for paths

A slim column with the solar panel on its face and a light band under the cap. Battery and controller sit inside, so there is no cable and no trench.

0.8 – 1.2 m

three heights, one footprint

400 – 1 050 lm

LED output from 3 to 8 W

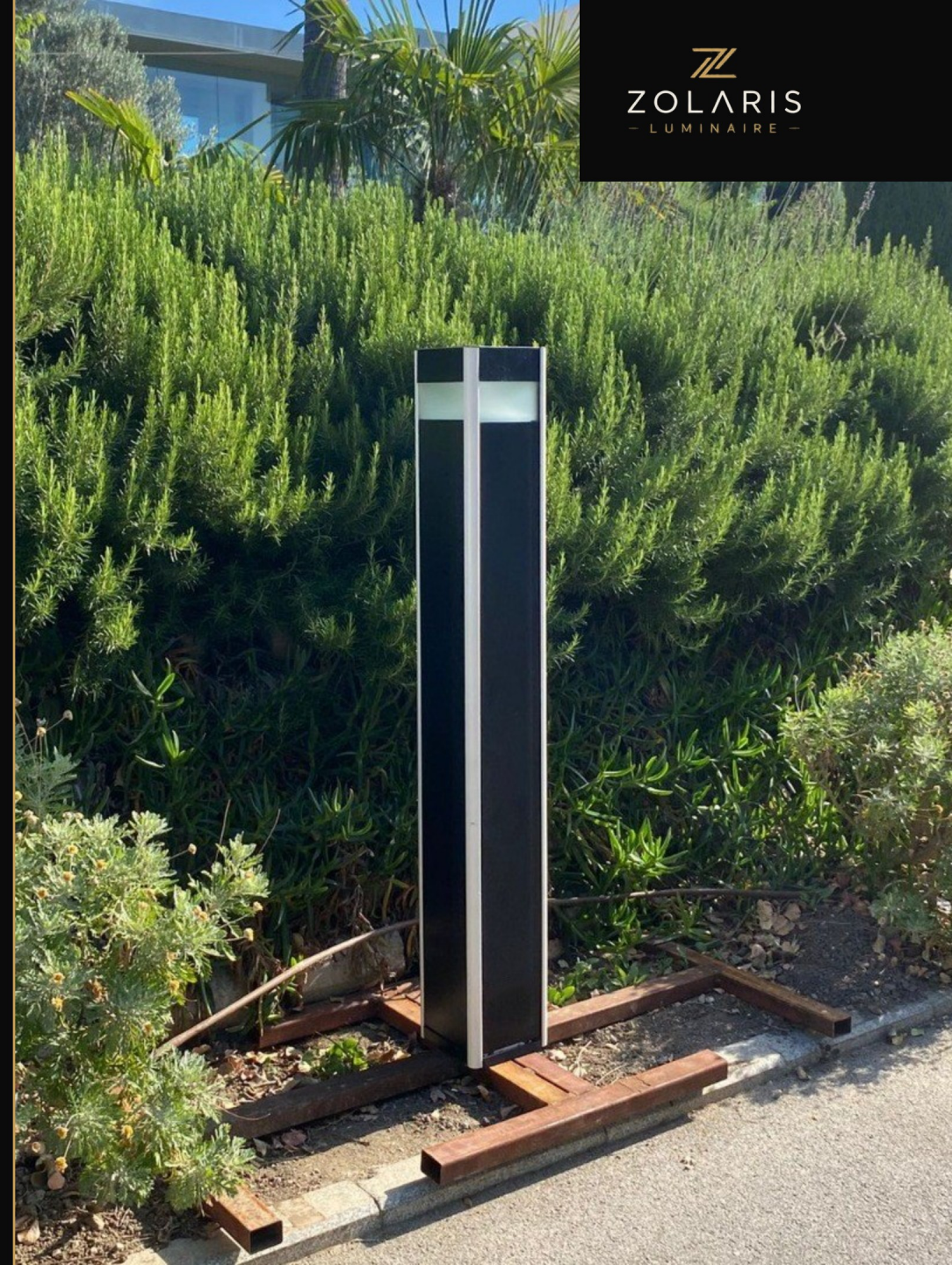
15 – 40 W_p

PV on the column face

6.4 V

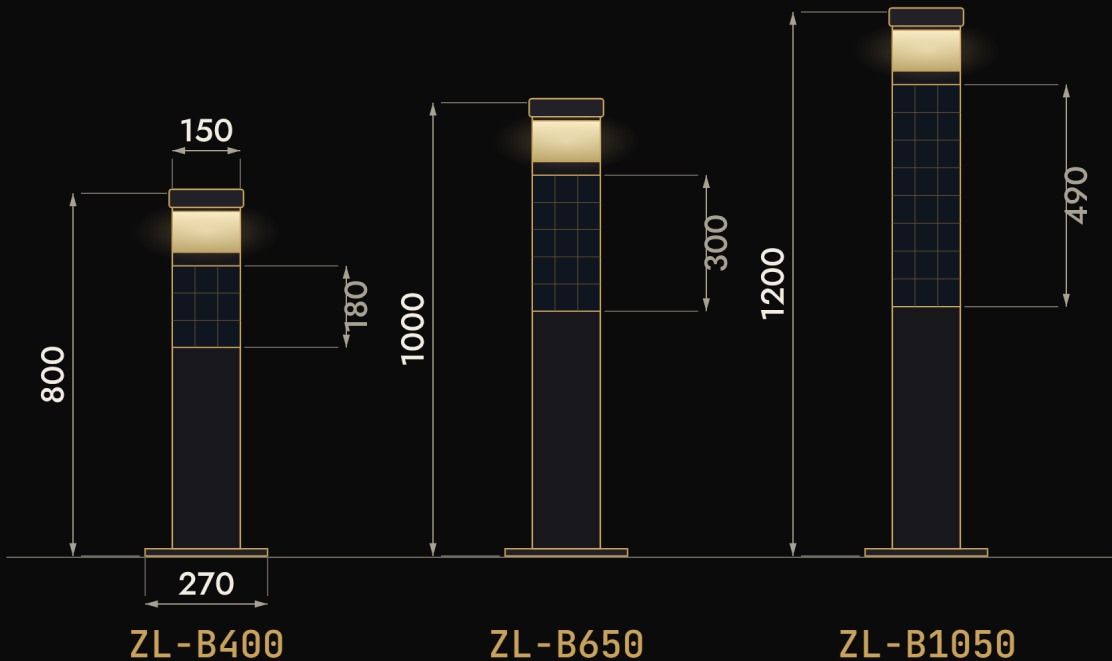
LiFePO₄ battery, two nights
of autonomy


ZOLARIS
— LUMINAIRE —



ZILB · MODELS AND RATINGS

Three heights for path edges



	ZL-B400	ZL-B650	ZL-B1050
Flux (lm)	400	650	1 050
LED (W)	3	5	8
PV (Wp)	15	25	40
Battery (Ah)	4.8	8.0	12.8
Height (mm)	800	1000	1200
PV band (mm)	180	300	490

FITTING

270 mm base plate on anchor bolts. Battery 6.4 V LiFePO4, sized for two nights.

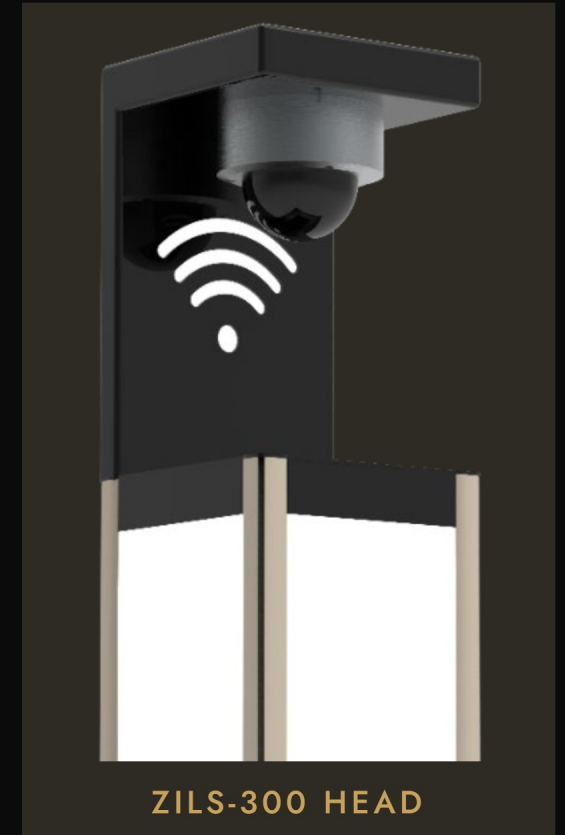
SMART POLES · MODULES

One pole, seven smart modules

Part no.	Module	Specification	Pack
ZM-CAM	Dome camera	4 MP · IP67 · IK10 · PoE	S
ZM-WIFI	Wi-Fi access point	Wi-Fi 6	S
ZM-SOS	SOS and intercom	Speaker · SOS button · SIP	S
ZM-USB	USB charging	2 × USB 3.0	S
ZM-CELL	Small-cell shroud	Housing for 4G / 5G antennas	M
ZM-ENV	Environment sensor	Air quality · noise · climate	M
ZM-PA	Public address	Horn speaker for alerts	M

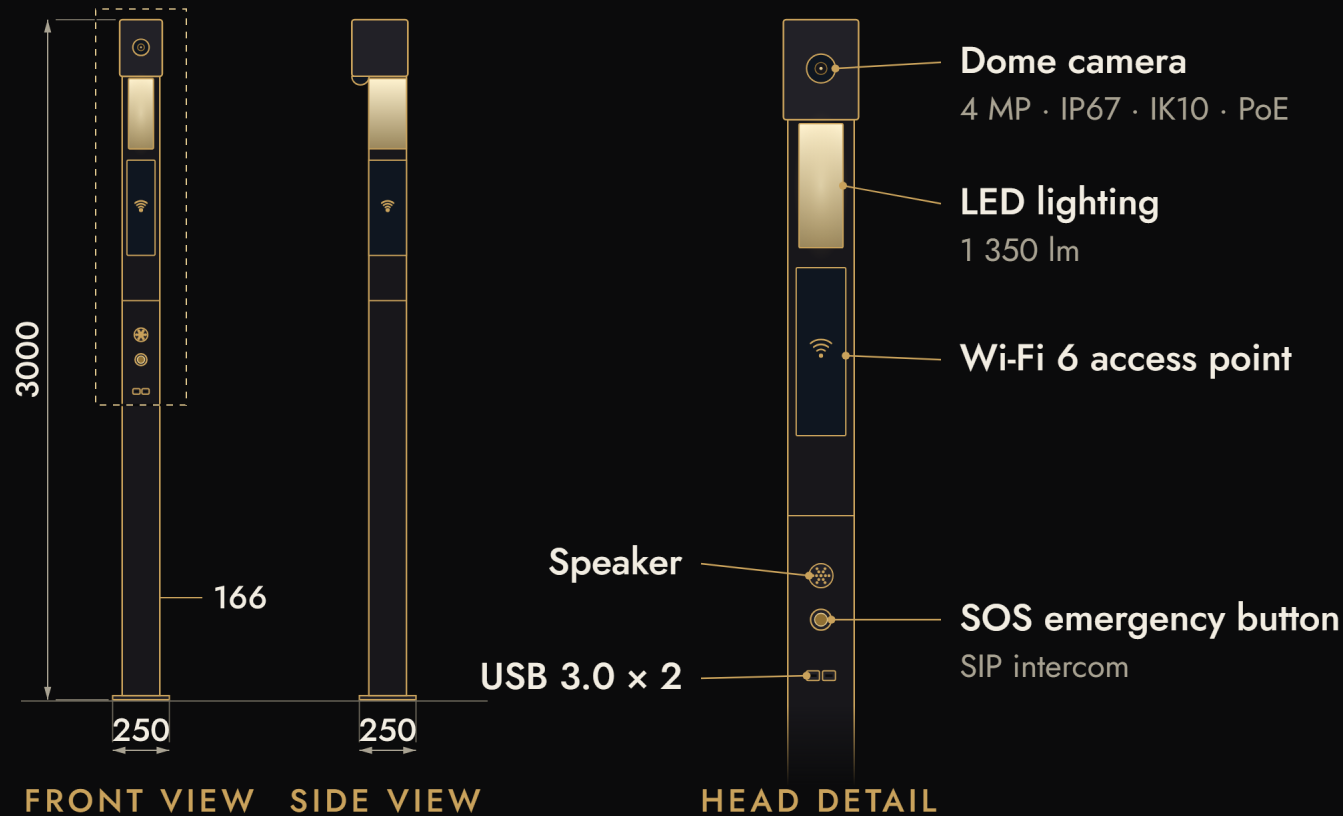
PACKS

Pack S = CAM + WIFI + SOS + USB. Pack M adds CELL, ENV and PA.



ZILS-300 · GRID-POWERED SMART POLE

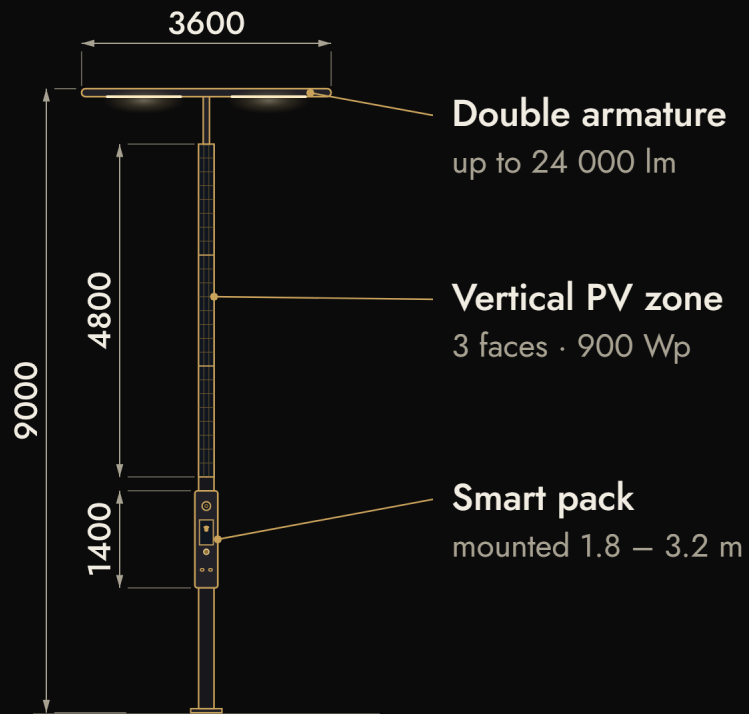
A three-meter pole that sees, speaks and connects



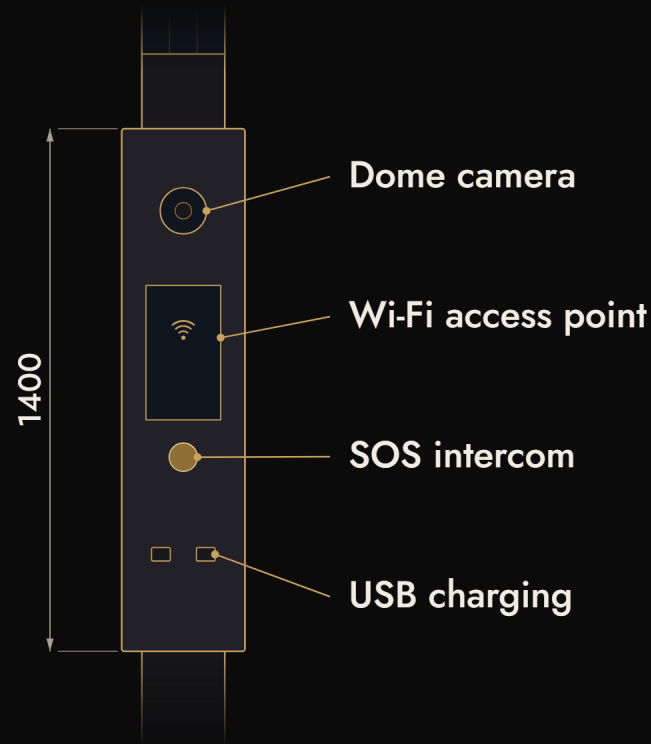
Item	Value
Part no.	ZL-S300
Pole	3 m aluminum, 250 mm base
Camera	4 MP dome · IP67 · IK10 · PoE
Network	Wi-Fi 6 access point
Safety	SOS button, speaker, SIP intercom
Charging	2 × USB 3.0
Light	LED, 1 350 lm
Power	Grid supply, 2 h LiFePO4 backup

ZILS-T · SOLAR SMART POLE

A solar pole with the smart pack built in



FRONT VIEW



SMART PACK

	ZL-S8T2	ZL-S9T3
Pole (m)	8 – 11	9 – 12
LED (W)	120	180
Flux (lm)	16 000	24 000
PV (Wp)	600	900
Pole battery	12.8 V 96 Ah	25.6 V 72 Ah
Smart pack	S or M	S or M

Built on the ZILO T2-D and T3-D columns. The pack has its own LiFePO4 battery, so cameras and Wi-Fi do not reduce the light's autonomy.

POLES · ZP-R ROUND · ZP-Q SQUARE

Round and square poles for every head

Height (m)	Round Ø	Square	Wall	Base plate	Bolts	Mass R / Q
3	114	100	3.0	200 × 200 × 12	4 × M16	25 / 30
4	127	110	3.0	220 × 220 × 12	4 × M16	35 / 40
5	140	120	3.0	240 × 240 × 12	4 × M18	45 / 55
6	150	130	3.0	260 × 260 × 14	4 × M18	60 / 70
7	160	140	3.5	280 × 280 × 14	4 × M20	80 / 95
8	170	150	3.5	300 × 300 × 16	4 × M20	100 / 115
9	190	160	4.0	320 × 320 × 16	4 × M24	135 / 155
10	200	170	4.0	340 × 340 × 18	4 × M24	155 / 180
11	220	190	4.0	360 × 360 × 18	4 × M27	185 / 210
12	240	200	4.5	380 × 380 × 20	4 × M27	240 / 270

TOP

Ø76 mm round or 80 mm square as standard. Other tops, such as Ø114 mm for ZILU lanterns, on request.

FINISH

Hot-dip galvanized. RAL 7016 as standard, any RAL on request.

FITTING

Cable access door with earth stud. Anchor bolts and template supplied.

READING THE TABLE

Dimensions in mm, mass in kg for round / square. Nominal values: wall and plate are confirmed by a wind-load calculation for the site.

ZP-D · DECORATIVE POLES

Heritage lines for old towns and promenades

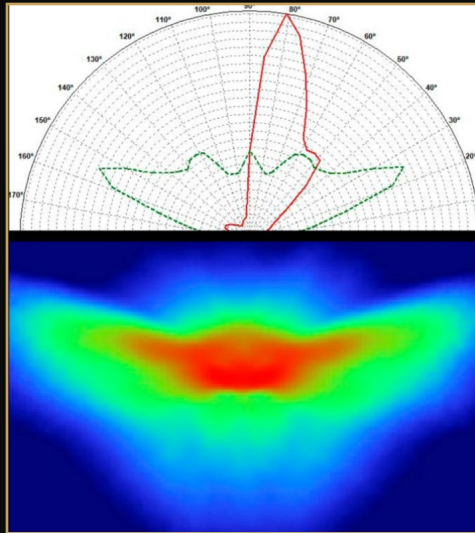


Item	Value
Part no.	ZP-D4 to ZP-D10
Height	4 – 10 m
Shaft	Fluted steel tube, hot-dip galvanized
Base	Cast pedestal with collar
Style	Classic star motif or modern smooth
Finish	Powder coat, any RAL, gold effect on request
Light head	ZILU lantern or custom heads

The winged design is a concept for heritage projects. Final lines, finish and light head are agreed for each site.

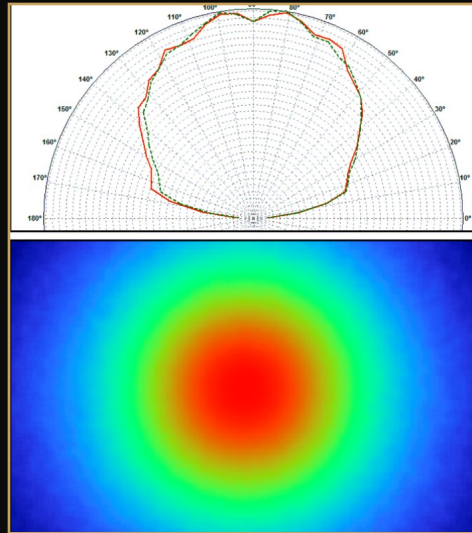
OPTICS · LIGHT DISTRIBUTION

Light where it is needed



R · Type-1 road

Polar curve and light map



A · Type-2 area

Polar curve and light map

COLOR TEMPERATURE



3000 K

4000 K standard

5000 K

6000 K

R

Type-1 road optic

150° × 70°. Long, narrow beam along the road.

USED ON

ZILA · ZILE · ZILO
ZILI · ZILS-T

A

Type-2 area optic

130°. Wide, round spread for paths and plazas.

USED ON

ZILA · ZILE · ZILO
ZILI · ZILS-T

S

Symmetric optic

Even light all around the lantern.

USED ON

ZILU

P

Path optic

Low, wide spread for walkways.

USED ON

ZILB

CONTROL AND CONNECTIVITY

Control that grows with the project

Code	Option	What it does	Needs
N	Standard	Dusk-to-dawn operation with a time-based PWM dimming profile.	Controller in every model
P	Presence	Dims when the area is empty and returns to full light when it detects movement.	Sensor in the luminaire
L	LoRaWAN	Remote monitoring and dimming of each light. 50 – 2 000 lights per gateway.	Luminaire node and ZG-LW gateway
G	4G	The same remote monitoring for single lights, with no gateway.	4G module in the luminaire



ENERGY DESIGN

Sized for the sun at your site

STANDARD SIZING

3.5+

peak sun hours per day

PV: 2.5 Wp tilted or 5 Wp vertical per LED watt

Battery: 2 nights, 10.2 Wh per LED watt

LOW-SUN SIZING

2.5 — 3.5

peak sun hours per day

PV × 1.3: 3.25 Wp tilted or 6.5 Wp vertical per LED watt

Battery: 3 nights, 15.4 Wh per LED watt

VERY-LOW-SUN SIZING

Below 2.5

peak sun hours per day

PV × 1.7: 4.25 Wp tilted or 8.5 Wp vertical per LED watt, or a hybrid supply

Battery: 3 nights, 15.4 Wh per LED watt

WORKED EXAMPLE

ZL-A8000 · 60 W LED · 4 sun hours

150 Wp

tilted PV · 60×2.5

614 Wh

battery · 60×10.24

48 Ah

at 12.8 V · $614 \div 12.8$

Peak sun hours are the daily solar energy on the panel in kWh/m², taken for the weakest month of the year. Send us the site and we confirm the system.

PART NUMBERS

Reading a part number

ZL-A8000	40	R	7016	N	S
MODEL	COLOR TEMP.	OPTIC	RAL COLOR	CONTROL	TEMP. RANGE
A ZILA · E ZILE U ZILU · O ZILO I ZILI · B ZILB S ZILS	30 · 3000 K 40 · 4000 K 50 · 5000 K 60 · 6000 K	R · Type-1 road A · Type-2 area S · symmetric P · path	7016 standard 9001 ZILO Any RAL on request	N · standard P · presence L · LoRaWAN G · 4G	S · standard X · extended

EXAMPLES

ZL-A8000-40R-7016-N-S	ZILA, 8 000 lm, 4000 K, Type-1 road optic, RAL 7016, standard control and range
ZL-08T2D-40R-9001-L-S	ZILO 8 m column (O8T2D: height, PV zone, arms), 4000 K, road optic, RAL 9001, LoRaWAN
ZP-R8-7016	ZP-R round pole, 8 m, RAL 7016 (ZP-Q square, ZP-D decorative)

Model number = lumens, except ZILO (height and type). Other codes: ZM modules, ZG gateways, ZX accessories.

ORDERING

Four steps from site to pole

01 Describe the site

Send the location, road width, pole spacing, lighting class and mounting height.

02 We size the system

We select the family, PV and battery for the sun hours at your site (page 31).

03 Confirm the part numbers

Choose color temperature, optic, RAL color, control, pole shape and height (page 32).

04 Production and delivery

ZOLARIS builds to the confirmed part numbers and ships with the technical manual.

WHAT TO SEND US

Site location, city or coordinates

Pole height and spacing

Road width and lighting class

Quantity of each model

Control option and smart modules

Color (RAL) and pole shape

ON REQUEST

Datasheets, photometric files, installation drawings and test reports.

QUALITY AND COMPLIANCE

Quality you can verify

ISO 9001

Quality management certificate. Every family is manufactured under it.

CE · RoHS · IEC

Compliance and test reports are available on request.

5 years

Warranty on ZOLARIS systems.

Component	Built to
PV module	Monocrystalline, above 21 % efficiency. IEC 61215, IEC 61730-1 and IEC 61701. 20-year life.
Controller	MPPT, 97.3 % efficient. Over-charge, over-discharge and over-current protection, automatic temperature compensation.
Battery	LiFePO4 cells, sized for two nights of autonomy as standard.
LED and driver	LED life above 50 000 h, CRI above 70. Constant-current driver, 94 % efficient, short-circuit and open-circuit protected.
Enclosure	IP67 system, IP68 LED module. Aluminum and steel housing. Poles hot-dip galvanized and electrostatically painted.



FACTORY

Designed and made by ZOLARIS

ZOLARIS designs and manufactures the families in this catalog in its own factory in Kocaeli, Türkiye, and runs sales and export from Istanbul.

Kocaeli

Factory: design and manufacturing.

Istanbul

Headquarters, sales and export.

ISO 9001

Certified quality management system.



APPLICATIONS

From parking lots to garden paths



Parking lots and campuses

ZILO · ZILA on ZP-R and ZP-Q poles



Plazas and junctions

ZILO · ZILS-T · custom heads



Promenades and estates

ZILE · ZILU · ZP-D decorative poles



Gardens and walkways

ZILB bollards · ZILI-C columns

CONTACT

Let us light your site

Send us the site, the pole height and the lighting class. We return a complete system with part numbers.

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