

Light shapes the city of tomorrow.

PUBLIC LIGHTING · SOLAR · CONNECTED

SMART CITY

WIRELESS MESH NETWORK

GENERAL CATALOGUE

2026

Street lighting manufacturer

D-SLS
Digital Smart Lighting Solutions

THE D-SLS RANGE AT A GLANCE

A single optical, electronic and remote-management platform — tailored by application

14

D-SLS-14 — LOTUS

Road luminaire

Three sizes, one platform. MIRO-SILVER direct optics $\rho \geq 98\%$ in 'dark-light' architecture, optical efficiency $\geq 95\%$, ULOR 0%, class G*6.

20 – 250 W

Dedicated catalogue available

18

D-SLS-18 — Decorative lantern

Heritage lighting

The silhouette of a classic lantern — crown and ornaments in cast aluminium — with the full electronics of D-SLS road luminaires.

20 – 150 W

Dedicated catalogue available

25M

D-SLS-25M — Modular floodlight

Sports lighting

27 wattages on a single passively cooled chassis. Asymmetric STU-M optic for sports grounds and large areas.

200 – 2 000 W

Dedicated catalogue available

41
20

D-SLS-41 / D-SLS-20 — Light column

Street furniture

4 m aluminium column, peripheral lighting. Flagship 120 W model, tunable white 2700 – 6500 K controlled via D4i + DT8. Flagship versions 150 W and 250 W.

20 – 260 W

Datasheet available

42

D-SLS-42 — 600 W floodlight

Sports lighting

Extruded aluminium floodlight with passive cooling, designed for sports lighting specifications: 600 W $\pm 5\%$, CRI ≥ 70 , IP66 / IK09.

600 W

Datasheet available

19

D-SLS-19 — 3 m lamp post

Complete assembly

3 m conical aluminium column and 60 W LED cobra-head lantern with two arms — ready-to-install set for municipal road contracts.

60 W

Datasheet available

4

D-SLS-4 — Square luminaire

Circular post-top luminaire

Circular cast aluminium cover carried by two curved arms: the underside stays clear, the optical block is recessed from view. Six LED modules with indirect reflector $\rho \geq 98\%$.

20 – 120 W

Dedicated catalogue available

22
34

D-SLS-22 · 28 · 31 · 33 · 34 — Handcrafted luminaires

One-off manufacturing

Empire, Crown, Wall crown, Bell Ø750 and Médina lanterns — handcrafted décor, road-luminaire technical core.

20 – 150 W

Dedicated catalogue available

K4

D-SLS-K4 — LED retrofit kit

Technical core

LED board, reflector, driver and ring to fit in a decorative shell of Ø 500 to 800 mm — the shell is retained.

20 – 120 W

Dedicated catalogue available

03

D-SLS-03 — Cigar-type column

Decorative street furniture

4 m column: Ø 200 × 2 000 mm light module in perforated aluminium with Moroccan patterns over an opal diffuser — 360° light, on a new or existing shaft.

20 – 150 W

Dedicated catalogue available

28
S

D-SLS-28 S — Solar lamp post

Stand-alone unit

Crown lantern, globe finial and royal skirt on a cylindrical glass photovoltaic shaft, controlled by the MPPT-ATMANI-AI controller.

20 – 150 W

Datasheet available

4
S

D-SLS-4 S — Solar lamp post

Top-mounted panel · roads

LED road luminaire and adjustable photovoltaic panel at pole top, MPPT-ATMANI-AI controller housed in the shaft.

20 – 150 W

Solar catalogue available

AI

MPPT-ATMANI-AI — Solar controller

Energy & control

MPPT 18 – 58 V, 16S multi-chemistry storage with weather AI, D4i + DT8 LED driver and TALQ 2.7.1 remote management in an IP66 enclosure.

400 W driver

Datasheet available

Common to all D-SLS products

- DALI-2 / D4i + DT8 driver, NFC-programmable
- SPD 10 kV / 10 kA · 7-year warranty (10 optional)
- Zhaga Book 18 socket · TALQ 2.7.1 remote management
- Stainless pressure-equalisation valve · parts replaceable on site

SELECTION MATRIX · WHICH LUMINAIRE FOR WHICH USE

Match the project application with the right family — families share options and remote management

	ROAD	URBAN	HISTORIC CENTRE	CYCLE PATH	SPORTS	LARGE AREAS	PARK	CAR PARK	FAÇADE
D-SLS-14 LOTUS · 20 – 250 W									
D-SLS-18 Decorative lantern · 20 – 150 W									
D-SLS-25M Modular floodlight · 200 – 2 000 W									
D-SLS-41 / D-SLS-20 Light column · 20 – 260 W									
D-SLS-42 600 W floodlight · 600 W									
D-SLS-19 3 m streetlight · 60 W									
D-SLS-4 Area luminaire · 20 – 120 W									
D-SLS-22 · 28 · 31 · 33 · 34 Artisan luminaires · 20 – 150 W									
D-SLS-K4 LED retrofit kit · 20 – 120 W									
D-SLS-03 Cigar-type column · 20 – 150 W									
D-SLS-28 S Decorative solar streetlight · 20 – 150 W									
D-SLS-4 S Top-panel solar streetlight · 20 – 150 W									

Reading the matrix

A coloured dot shows the family's main use; all accept the same options (LidarMesh remote management, external 20 kV SPD, Tunable White, C5 anti-corrosion, 10-year warranty) and the same control protocol. For mixed cases — a road crossing a historic centre, a sports forecourt open to the public — the families combine on a single mesh network and one supervision interface.

13

families in the 2026 catalogue

20 → 2 000 W

range covered by the family

1

common electronic platform

1

remote management platform (LidarMesh)

LOTUS · D-SLS-14

Road luminaire — 20 – 250 W



20 – 250 W

power range

46 750 lm

max. luminaire flux

187 lm/W

luminaire efficacy

Catalogue

documentation

In brief

Three sizes, one platform. MIRO-SILVER direct optics $p \geq 98\%$ in 'dark-light' architecture, optical efficiency $\geq 95\%$, ULOR 0 %, class G*6.

- MIRO-SILVER optic · ULOR 0 % · class G*6
- LED LUSO-5050AUX · L90B10 $\geq 100\,000$ h
- Zhaga Book 18 · 20 socket for LiDAR node

Applications

Road

Urban

Cycle path

Car park

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

DECORATIVE LANTERN · D-SLS-18

Heritage lighting — 20 – 150 W



20 – 150 W

power range

28 050 lm

max. luminaire flux

187 lm/W

luminaire efficacy

Catalogue

documentation

In brief

The silhouette of a classic lantern — crown and ornaments in cast aluminium — with the full electronics of D-SLS road luminaires.

- Die-cast aluminium crown and ornaments, finish of choice
- Flat-bottom bowl or globe · M22 threaded fixing
- Asymmetric road optic $\rho \geq 98 \%$

Applications

Historic centre

Urban

Installed base

Cycle path

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

MODULAR FLOODLIGHT · D-SLS-25M

Sports lighting — 200 – 2 000 W



D-SLS-25M

200 – 2 000 W

power range

374 000 lm

max. luminaire flux

187 lm/W

luminaire efficacy

Catalogue

documentation

In brief

27 wattages on a single chassis with 100 % passive cooling. Asymmetric STU-M optic with indirect reflector for sports grounds and large areas.

- 200 to 2 000 W · passive fanless cooling
- Asymmetric STU-M optic · controlled glare
- Adjustable bracket 0 – 180° with graduation

Applications

Sports

Large areas

Façade

Car park

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

AREA LUMINAIRE · D-SLS-4

Circular post-top — 20 – 120 W



20 – 120 W

power range

22 440 lm

max. luminaire flux

187 lm/W

luminaire efficacy

Catalogue

documentation

In brief

Circular cast aluminium cover carried by two curved arms: the underside stays clear, the optical block is recessed from view. Six LED modules with indirect reflector $\rho \geq 98\%$.

- Six indirect-reflector modules · symmetric distribution
- Post-top $\varnothing$ 60 mm · mounting height 3.5 to 6 m
- Opening cover, gear tray removable from the platform

Applications

Urban

Installed base

Car park

Cycle path

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

HANDCRAFTED LUMINAIRES · D-SLS-22 · 28 · 31 · 33 · 34

One-off manufacturing — 20 – 150 W



20 – 150 W

power range

28 050 lm

max. luminaire flux

187 lm/W

luminaire efficacy

Catalogue

documentation

In brief

Five models handcrafted one by one — Empire Lantern, Crown Lantern, Wall Crown, Bell Ø750 and Médina — artisanal décor, same technical core as the road luminaires.

- Decoration, colour and frieze defined on order
- Same driver, same LED module, same Zhaga socket
- Dedicated catalogue per model (D-SLS-23, 31, 33, 34)

Applications

Historic centre

Urban

Installed base

Façade

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

WALL-MOUNTED CROWN LANTERN · D-SLS-22

Heritage · open-cage wall lantern — 20 – 150 W



20 – 150 W

power range

28 050 lm

max. luminaire flux

187 lm/W

luminaire efficacy

Catalogue

documentation

In brief

Open-cage crown lantern for historic centres: crenellated crown, bronze ornamental frieze and green roof, with the technical core of D-SLS road luminaires.

- Decoration, colour and frieze defined on order
- Same driver, same LED module, same Zhaga socket
- Made one by one · 20 – 150 W

Applications

Historic centre

Urban

Installed base

Façade

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

EMPIRE LANTERN · D-SLS-31

Empire style · heritage — 20 – 150 W



20 – 150 W

power range

28 050 lm

max. luminaire flux

187 lm/W

luminaire efficacy

Catalogue

documentation

In brief

Empire-style lantern for historic centres: multi-sided glazed cage, spiked roof and gilded finishes, with the technical core of D-SLS road luminaires.

- Decoration, colour and frieze defined on order
- Same driver, same LED module, same Zhaga socket
- Made one by one · 20 – 150 W

Applications

Historic centre

Urban

Installed base

Façade

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

ROYAL SKIRT · REF. JUPROYEC

Your city's identity, lit up at night



Black & gold

finish

Royal emblem

lions, crown, star

Zellige

geometric patterns

Registered design

no. 30164 · law 17/97

In brief

Street lighting pole bearing symbols of Moroccan civilisation: the Kingdom's emblem, zellige art and Andalusian arches, in matt black and gold — a landmark everyone is proud of.

- Gives entrances, squares and promenades a clear Moroccan visual identity
- Smart LED public lighting from an Italian manufacturer · customisable per project
- Exclusive registered design: no. 30164 (law 17/97) · ref. JUPROYEC

Applications

Historic centre

Urban

Installed base

Registered and protected design

Industrial design no. 30164 (Law 17/97), filed 19/05/2025, protected until 19/05/2030. Copying, imitation or manufacture prohibited without authorisation.

LIGHT FINIAL · Ø60/75

For Ø60/75 column top — 600 mm · street lighting · RGBW + amber LED



1 – 10 W

power

600 mm · 3 kg

height · weight

IP65 / IK10

protection

RGBW + amber

DALI+ addressable LED

In brief

Light finial at the pole top: conical anti-UV PMMA diffuser, anthracite base, fixing on Ø60 and Ø75 mm columns, colour to customer's choice.

- Height 600 mm · weight 3 kg · mounting on Ø60 and Ø75 mm columns, anthracite base
- Addressable RGBW + amber LED, DALI+ · 1 – 10 W · IP65 / IK10
- Anti-theft function: light signal of the customer's choice · IPv6 mesh network, TALQ 2.7.1
- For public lighting use only

Applications

Public lighting

Anti-theft

RGBW + amber

Dedicated datasheet available

Dedicated 6-page datasheet: Ø60 / 75 mounting, technology, RGBW + amber anti-theft function and specifications. Available on request: sa@d-sls.com.

LIGHT FINIAL · GLOBE VERSION

For Ø60/75 column top — 600 mm · street lighting · RGBW + amber LED



1 – 10 W

power

600 mm · 3 kg

height · weight

IP65 / IK10

protection

RGBW + amber

DALI+ addressable LED

In brief

Globe version of the light finial: **white opal globe Ø 150 mm** on anthracite base — **same characteristics as the Ø60/75 finial** (600 mm, 3 kg, 1 – 10 W, IP65 / IK10), colour of the client's choice.

- White opal globe Ø 150 mm · Height 600 mm · weight 3 kg · mounting on Ø60 and Ø75 mm columns, anthracite base
- Addressable RGBW + amber LED, DALI+ · 1 – 10 W · IP65 / IK10
- Anti-theft function: light signal of the customer's choice · IPv6 mesh network, TALQ 2.7.1
- For public lighting use only

Applications

Public lighting

Anti-theft

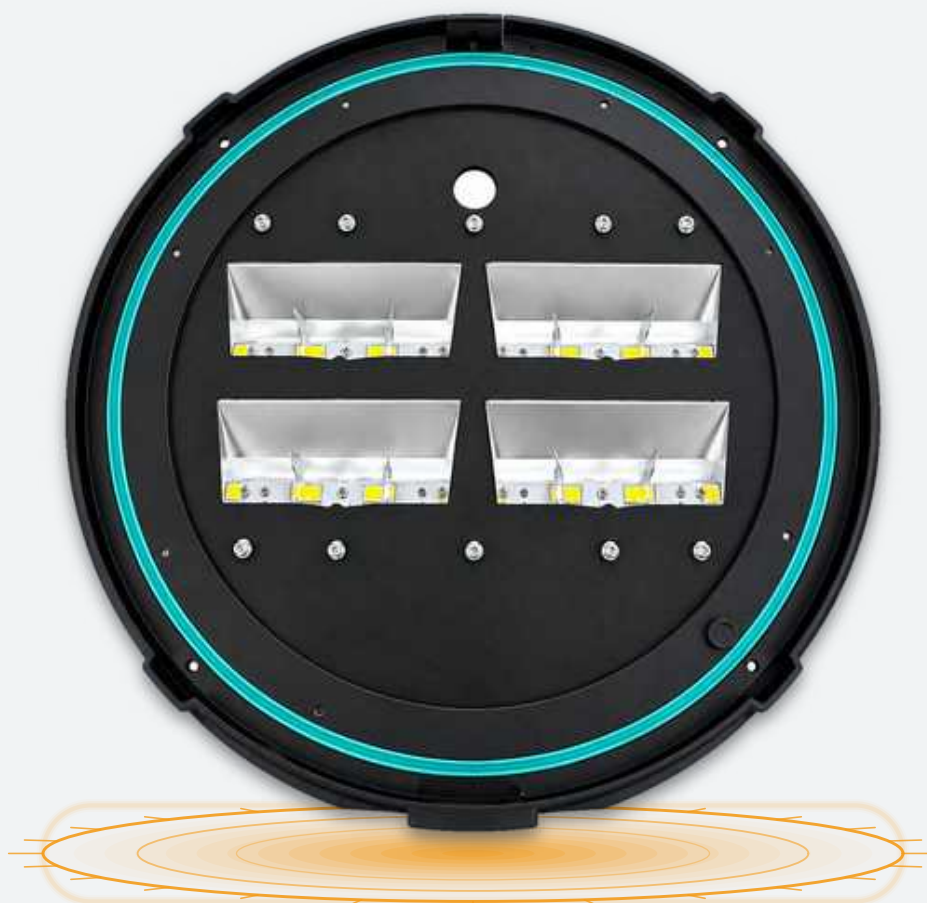
RGBW + amber

Dedicated datasheet available

Dedicated 6-page datasheet: Ø60 / 75 mounting, technology, RGBW + amber anti-theft function and specifications. Available on request: sa@d-sls.com.

LED RETROFIT KIT · D-SLS-K4

Technical core — 20 – 120 W



20 – 120 W

power range

22 440 lm

max. luminaire flux

187 lm/W

luminaire efficacy

Catalogue

documentation

In brief

LED board, reflector, driver and adapter ring to fit in a new or existing decorative shell of Ø 500 to 800 mm — the shell is retained, only the core is new.

- 1 to 4 LED modules · 20 to 120 W
- Adaptor ring for older luminaires
- Integrated DALI-2 / D4i + DT8 driver and Zhaga socket

Applications

Historic centre

Urban

Installed base

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

CIGAR-TYPE LIGHT COLUMN · D-SLS-03

Decorative street furniture — 20 – 150 W · new in the 2026 catalogue



D-SLS-03 in service — existing shaft retained

20 – 150 W

power range

16 500 lm

max. luminaire flux

110 lm/W

luminaire efficacy

Catalogue

documentation

In brief

4 m "cigar"-type column: 2 000 mm Ø 200 mm light section in marine-grade aluminium, laser-cut with Moroccan geometric patterns over an opal PMMA diffuser — continuous 360° light, glare-free.

- 2 000 mm module on existing shaft (retrofit) or complete 4 000 mm column
- IP66 · IK08 · Tunable White 2 700 – 6 500 K, CRI up to 97
- DALI-2 / D4i + DT8 driver and Zhaga Book 18 socket for LiDAR node

Applications

Historic centre

Urban

Installed base

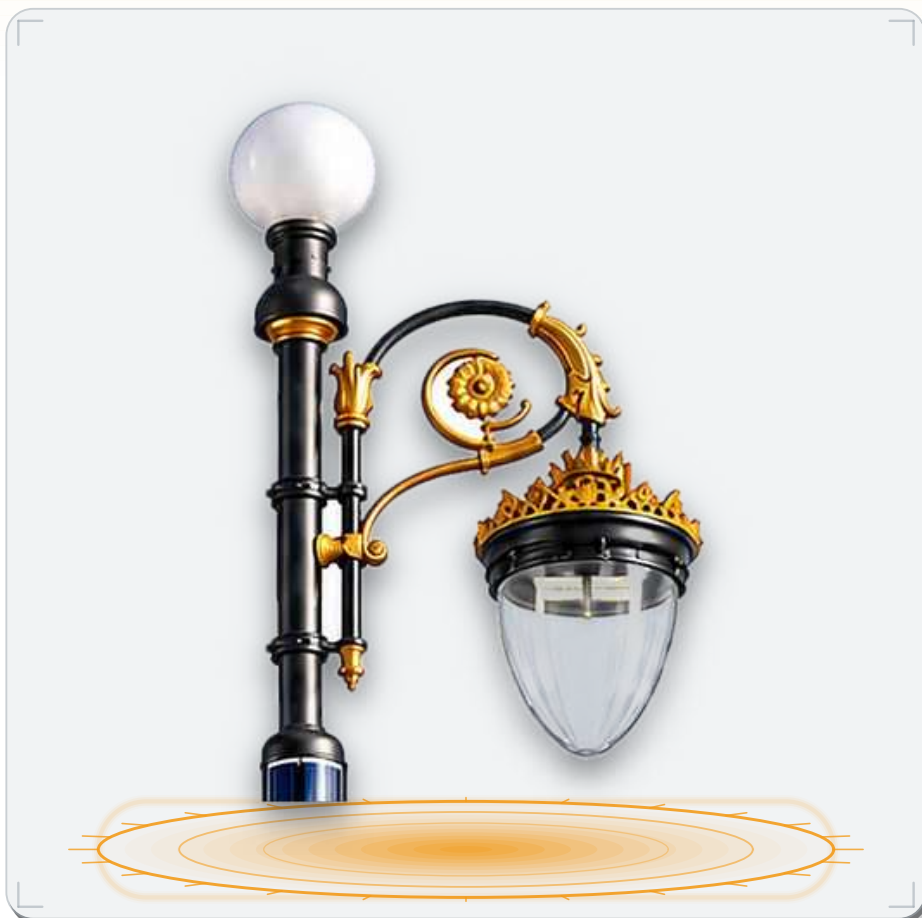
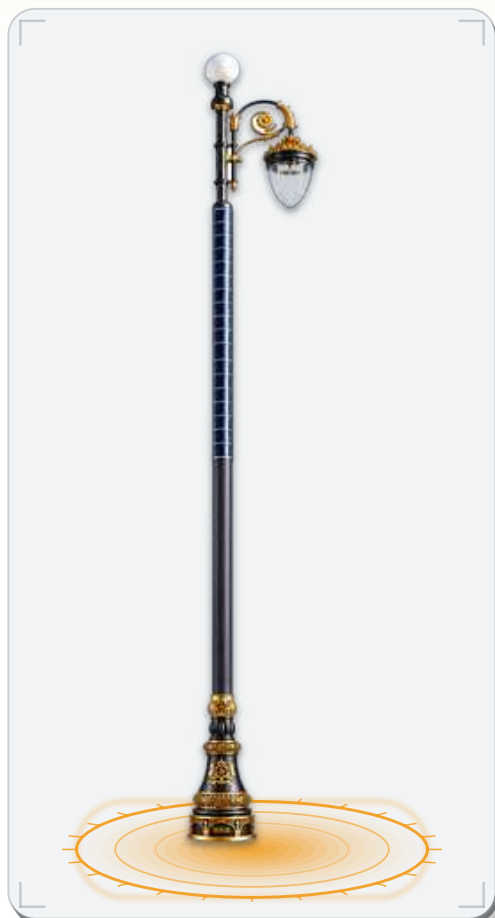
Squares & esplanades

Dedicated catalogue available

Dedicated product catalogue: full specifications, photometric tables per colour temperature, order coding, certifications and costed case study. Available on request or for download.

SOLAR STREETLIGHT · D-SLS-28 S

Stand-alone unit — 20 – 150 W · new in the 2026 catalogue



20 – 150 W

LED power

187 lm/W

luminaire efficacy

360°

solar harvesting

3 nights

reference autonomy

In brief

D-SLS-23 crown lantern, gilded ornamental bracket, globe light finial and royal skirt on a cylindrical glass photovoltaic shaft: a fully autonomous decorative streetlight, controlled by the integrated MPPT-ATMANI-AI controller.

- Cylindrical glass PV shaft: 360° harvesting, no panel at pole top
- MPPT-ATMANI-AI controller · 16S storage · AI predictive reserve
- One reference, one price: complete set delivered, no cabling or trenching

Applications

Historic centre

Urban

Installed base

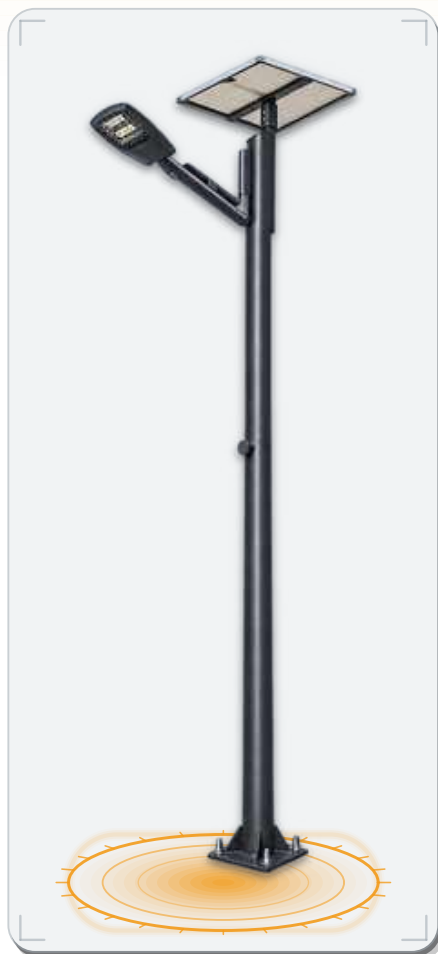
Off-grid

Dedicated datasheet available

Dedicated 9-page datasheet: assembly composition, photovoltaic shaft, integrated controller, 3-night sizing, power scenarios and specifications. Available on request or for download.

SOLAR STREETLIGHT · D-SLS-4 S

Top-mounted panel — roads, rural routes and off-grid areas · new in the 2026 catalogue



20 – 150 W

LED power

187 lm/W

luminaire efficacy

≤ 400 Wp

panel at top

3 nights

reference autonomy

In brief

LED road luminaire with asymmetric optic and south-facing monocrystalline photovoltaic panel at pole top: the high-yield version of D-SLS solar lighting, controlled by the MPPT-ATMANI-AI controller housed in the shaft.

- Panel facing due south, tilted to latitude: maximum harvesting yield
- Three sizes S · M · L from 20 to 150 W, LiFePO4 storage sized for 3 nights
- Panel and luminaire out of reach, controller protected in the pole

Applications

Road

Off-grid

Car park

Cycle path

Solar catalogue available

14-page D-SLS solar lighting catalogue: comparison of both versions, top-mounted panel, 3-night sizing per size, MPPT-ATMANI-AI controller and remote management. Available on request or for download.

SOLAR CONTROLLER · MPPT-ATMANI-AI

Smart solar street lighting controller · new in the 2026 catalogue



MPPT CONTROLLER

18 – 58 V

PV input · bidirectional MPPT

16S BMS

supercap / lithium

400 W

LED driver · D4i + DT8

IP66

die-cast aluminium housing

In brief

A single device in the luminaire, from solar energy to cloud control: MPPT harvesting, multi-chemistry storage with AI predictive reserve, tunable-white D4i + DT8 LED driver and TALQ 2.7.1 connected node.

- Autonomous, hybrid solar + grid, backup on power failure and V2G scenarios
- AMOLED autonomy display readable from the ground · NFC · panel I-V scan
- Compatible with the whole D-SLS range: lanterns, LOTUS, columns and artisanal

Applications

Solar

Off-grid

Hybrid

Backup

Dedicated datasheet available

Dedicated 10-page datasheet: architecture, features, power scenarios, MESH connectivity, ecosystem and standards framework. Available on request or for download.

EXPANDING RANGE · ITEMS IN PREPARATION

The general catalogue follows the range: each new item joins this page, then gets its own dedicated catalogue



D-SLS-41 / D-SLS-20 — Light column

Street furniture · 20 – 260 W

4 m aluminium column, peripheral lighting. Flagship 120 W model, tunable white 2700 – 6500 K controlled via D4i + DT8. Flagship versions 150 W and 250 W.

Datasheet available



D-SLS-42 — 600 W floodlight

Sports lighting · 600 W

Extruded aluminium floodlight with passive cooling, designed for sports lighting specifications: 600 W $\pm$ 5 %, CRI $\geq$ 70, IP66 / IK09.

Datasheet available



D-SLS-19 — 3 m lamp post

Complete assembly · 60 W

3 m conical aluminium column and 60 W LED cobra-head lantern with two arms — ready-to-install set for municipal road contracts.

Datasheet available



D-SLS-03 — Cigar-type column

Added to range · 10/2026

NEW

First product to follow this path in 2026: with consolidated photometric data and certificate, it moves to a product page (p. 15) with its own 26-page catalogue.

Dedicated catalogue available

IN PREPARATION

The catalogue follows the range, not the other way round

All D-SLS families are documented on the same template: same chapters, same blocks, same order. A new item first enters this page, then receives its dedicated catalogue as soon as its photometric data and certificate are consolidated. Buyers thus find the same information in the same place, whatever the product.

Features

Photometry

Coding

Certifications

Case study

Warranty

Coming soon

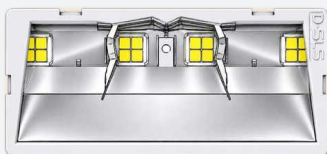
Next entries planned: light columns in 150 W and 250 W versions, and variants of the decorative lantern. For any datasheet or photometric study request on a product in preparation: sa@d-sls.com.

Path of a new product



ONE SINGLE PLATFORM · WHAT NEVER CHANGES FROM ONE PRODUCT TO ANOTHER

D-SLS optical signature — indirect reflector across the entire D-SLS range



Satin aluminium reflector optics, the LED is never seen directly: reflected, anti-glare light, no PMMA lens. Reflectance $\geq 98\%$, ULOR 0 %, asymmetric road distribution. One-piece LED matrix, screw-removable.

$\rho \geq 98\%$

aluminium reflectance

$\geq 95\%$

optical efficiency

ULOR 0 %

no upward flux

1

Programmable driver

Zhaga-certified DALI-2 and D4i + DT8 · NFC-adjustable output current (AOC) · dim-to-off $< 0.5\text{ W}$ · 3 timer modes · OLC compensation · efficiency $> 94\%$.



2

Replaceable LED module

Ceramic LEDs underdriven at 700 mA, removable Zhaga Book 18 module — on-site replacement without special tools, L90B10 $\geq 100\,000\text{ h}$.



3

Zhaga Book 18 · 20 socket

Fitted as standard across the range: the LiDAR node and remote management can be added years later, without opening or removing the luminaire.



4

Full protection

SPD 10 kV / 10 kA type II with end-of-life indicator and thermal fuse · IP66 · IK09 · stainless steel IP68 cable gland · external 20 kV SPD optional.



5

Universal control

D4i + DT8 · DALI-2 · PWM · 0 – 10 V · HD-PLC · DMX · Art-Net — plus Thread / TALQ 2.7.1 mesh network with the remote management option.



6

Repairable on site

Tool-free opening cover, removable wiring plate, pluggable driver and SPD: maintenance from the aerial platform, compliant with ecodesign requirements.



COMMON PLATFORM

What it changes for an asset manager

A single spare-parts stock

drivers, LED modules and SPD common to all families

A single training course

the same maintenance procedure on every luminaire

A single supervisor

road, decorative and sports on the same LidarMesh map

A single upgrade path

remote management is added to the existing stock, not replacing it

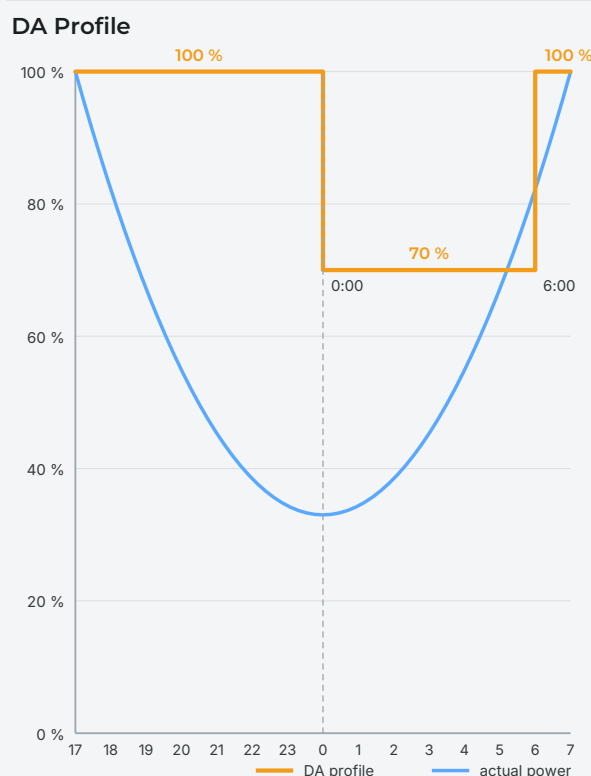
ELECTRICAL SPECIFICATIONS · PROGRAMMABLE DRIVER

Power supply	220 – 240 V AC · 50 / 60 Hz (90 – 305 V AC optional · tolerance $\pm 10\%$)
LED current	350 – 1 000 mA — wirelessly adjustable via NFC (AOC: programmable output current)
Power factor	> 0.95 (full load — PLM) > 0.98 (full load — F, DA, DAC)
Efficiency	$> 94\%$
Interfaces	DALI-2 · D4i + DT8 Zhaga-certified · NFC · PWM · 0 – 10 V
Auxiliary supply	24 V DC / 125 mA / 3 W always on (12 V DC optional A12) · integrated 16 V DC bus (DALI-2)
Surge protection	Integrated SPD 10 kV / 10 kA type II — 10 kV common mode / 6 kV differential mode — LED signal and thermal fuse: load disconnected at end of life · external 20 kV SPD (option SP20)
Lifetime	$\geq 100\,000$ h L90B10 · $\geq 100\,000$ h L90 (IES TM-21)
Warranty	7 years (10 years with W10 option)

Built-in smart functions

- **Dim-to-off** — smart board standby < 0.5 W
- **3 timer modes** (Timer setup) — scheduled consumption reduction
- **OLC** Output Lumen Compensation — constant flux over lifetime
- **OTP** — **NTC-ETM DIGITAL** built into driver and LED matrix, programmable digital thresholds
- Thermal sensing and LED module protection
- End-of-life indicator · output light compensation
- Modes **F** (fixed) · **DA** (autonomous dimming) · **DAC** (autonomous + control)
- Astronomical clock and calendar profiles (option LD)

DA profile — autonomous dimming



Example of an NFC-programmed profile: 100 % at dusk, reduced to 70 % from 0:00 to 6:00, back to 100 % before dawn — no control wiring, matched to the actual power curve (blue).

REMOTE MANAGEMENT · LidarMesh CMS & D-SLS LiDAR NODE (OPTION LD)

D-SLS smart node — Zhaga Book 18 / D4i

- **LiDAR presence detection** — pedestrians, cyclists, vehicles: switching and dimming on demand
- **GPS location** · astronomical clock · calendar
- **D4i interface**: the node powers, meters and controls the driver (energy, diagnostics)
- **Thread** mesh network (IPv6) · **TALQ 2.7.1** gateway · LoRaWAN 3 – 15 km · HD-PLC 0 – 10 km
- Peripherals: CCTV camera, audio / video, environmental sensors, Internet access
- **DMX / Art-Net** dynamic lighting for façades and ceremonies

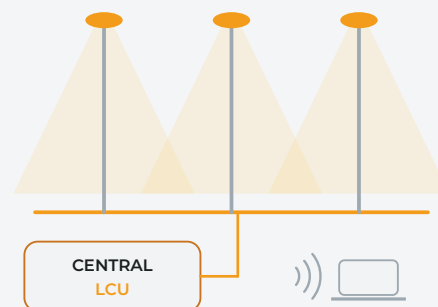
Protocols:

D4i DALI-2 TALQ 2.7.1 Thread
LoRaWAN HD-PLC PWM 0 – 10 V
DMX Art-Net



HD-PLC architecture — powerline

HD-PLC



Communication over the existing supply cable to the control unit — no additional network to deploy on the poles.



LidarMesh CMS — D-SLS remote-management platform (D-SLS Cloud Infrastructure)

- GIS mapping of light points and cabinets
- Dimming scenarios by zone, calendar and detection
- Alarms and diagnostics: driver, SPD, temperature, voltage
- D4i energy metering, reports and export
- Predictive maintenance and work-order management
- Open TALQ 2.7.1 API — interoperable with third-party CMS

Role-based secure access, European hosting on the D-SLS Cloud Infrastructure — control from smartphone, tablet or supervision workstation.



Road scenario — four levels, zero intervention

100 %

Evening

from sunset to 11 pm — full level per EN 13201

50 %

Quiet night

calendar-scheduled dimming

20 %

Standby

empty road — instant ramp-up on LiDAR detection

0 %

Dawn

astronomical switch-off, driver < 0.5 W

Implementation

The LiDAR node mounts on the luminaire's Zhaga Book 18 socket — in the factory or retrofitted on an existing installation, without opening the luminaire. The D4i driver powers it and reports energy consumed, operating hours and diagnostics. Each luminaire becomes an individual measurement and control point of the LidarMesh CMS platform.

IPv6

Thread mesh network

3 – 15 km

LoRaWAN range

0 – 10 km

HD-PLC powerline

TALQ 2.7.1

CMS interoperability

NETWORK, UPDATES & SUPERVISION · LD OPTION

Functions of the LidarMesh CMS platform and the D-SLS LiDAR node — optional, not included in the standard supply.

MESH NETWORK & CONNECTIVITY

Architecture	Each luminaire is an identical TALQ 2.7.1 gateway — exposed TALQ API, DALI D4i functions, IPv6 addressing.
Mesh network	Self-organising, self-healing mesh — sized for over 10 000 nodes: if a node fails, traffic is rerouted automatically.
Internet access	At the owner's choice: WiFi, 4G/LTE, Ethernet or fibre — a single link serves a whole segment, instant failover if it drops.
Network sobriety	A single download per segment: updates propagate node to node across the mesh.
Stand-alone mode	Full offline operation: lighting, DALI dimming, LiDAR detection, astronomical calendar (RTC + GPS) and local log — synchronisation resumes when the network returns.
Network security	End-to-end encrypted link (WireGuard, ChaCha20-Poly1305) to the platform.

REMOTE UPDATES (OTA) — SELF-HEALING

Principle	Firmware update of the entire installed base remotely, without field intervention — dual A/B partition: a healthy version is always available.
Probation	Each new version must prove correct operation (network, DALI, supervision) within 10 minutes — otherwise automatic rollback to the previous version.
Rollback guards	Hardware watchdog, reboot loop, network or routing loss, silent DALI, memory anomaly — every guard triggers rollback.
Canary deployment	In controlled waves 1 % → 10 % → 50 % → 100 % of the installed base — automatic halt and operator alert at the slightest rollback.
OTA security	Images signed and verified by a hardware secure element before flashing — secure boot, encrypted memory, SHA-256 integrity check, anti-rollback.

SUPERVISION & AI COPILOT

Dashboard	GPS map of every luminaire · real-time status, consumption, alarms and history · one-click DALI configuration.
AI copilot	Plain-language fault diagnosis, deployment recommendations and automatic campaign report.
Predictive maintenance	Pre-failure alert for LED module / driver / SPD — optional sensors: light level, temperature, air quality, noise.
Energy budget	Cap set by the operator, never exceeded: self-regulation if spending drifts, per-luminaire monitoring, savings and CO2 report.

D-SLS RANGE — the six connected functions



TUNABLE WHITE



LIDAR AI



MESH NETWORK



SECURE VPN



OTA SELF-HEALING



AI ANTI-THEFT

LidarMesh CMS · D-SLS PROPRIETARY REMOTE-MANAGEMENT PLATFORM

D-SLS proprietary cloud platform — no dependence on any third-party supplier.

Each luminaire is a TALQ 2.7.1 gateway. The installed base is managed from a browser, no software to install: multi-user access with differentiated permissions, open API, cloud or on-premises deployment on request.

SMART MESH NETWORK

Technology	Self-organising, self-healing mesh — over 10 000 nodes per network
Protocols	IPv6 SLAAC · Thread · TALQ 2.7.1 · DALI-2 D4i + DT8
Safety	End-to-end encrypted tunnel · secure boot · signed firmware
Connectivity	WiFi · 4G/LTE · Ethernet · fibre — a single link per segment

ENERGY & SOLAR BUDGET

Energy budget	Cap in euros or kWh set by the operator — never exceeded: real-time self-regulation, luminaire by luminaire
Solar integration	Monitoring of PV production, storage and grid injection — adaptive control based on weather and reserve
Savings report	Dashboard of kWh saved / CO2 avoided / euros invoiced — automatic monthly report
Dynamic pricing	Lighting programme matched to grid tariff (off-peak / peak hours)

TALQ 2.7.1 INTEROPERABILITY

TALQ standard	TALQ 2.7.1 API exposed on every node — compatible with any third-party TALQ-certified CMS
DALI D4i functions	The 8 mandatory D4i functions (Part 102/103/251/252/253/304/306/351) + diagnostics
Calendars	True astronomical calendars (GPS sunrise / sunset + RTC) · scenarios · manual override
Autonomy	The operator remains owner of its data · CSV / JSON export · portability to any other TALQ CMS

ACCESS & SERVICE

Client access	Multi-browser web interface · iOS and Android mobile app
Multi-site	Multi-municipality and multi-district management · delegation of rights · full operation traceability
Hosting	D-SLS Cloud Infrastructure (European Union) · 99.9 % availability · 24/7 technical support

10 000+

nodes per mesh network

99,9 %

platform availability

24/7

technical support

0

software to install

Stand-alone mode — no Internet

The fleet remains controllable even without a connection: lighting, DALI dimming, LiDAR detection, astronomical calendar and local log work offline. Synchronisation with the platform resumes automatically when the network returns — no permanent connection is required for daily operation.

ENERGY SAVINGS · FOUR TYPICAL REPLACEMENTS

Annual consumption per light point · 4 200 h/yr for roads and columns, 1 000 h/yr for sports · 0.25 €/kWh

Roads — HPS 250 W → LOTUS 80 W

HPS 250 W (275 W system)		1 155 kWh/yr	
LOTUS 80 W		336 kWh/yr	-71 %
LOTUS 80 W + LidarMesh		144 kWh/yr	-88 %

Historic centre — HPS 150 W → D-SLS-18 50 W

HPS 150 W (170 W system)		714 kWh/yr	
D-SLS-18 50 W		210 kWh/yr	-71 %
D-SLS-18 50 W + LidarMesh		90 kWh/yr	-87 %

Cigar column — 2 × HPS 150 W → D-SLS-03 120 W

NEW

2 × HPS 150 W (340 W system)		1 428 kWh/yr	
D-SLS-03 120 W		504 kWh/yr	-65 %
D-SLS-03 120 W + LidarMesh		216 kWh/yr	-85 %

Sports pitch — 16 × MH 2 000 W → 8 × D-SLS-25M 1 200 W

Metal halide (35.2 kW)		35 200 kWh/yr	
D-SLS-25M (9.6 kW)		9 600 kWh/yr	-73 %
D-SLS-25M + LidarMesh		3 650 kWh/yr	-90 %

Calculation basis

Common assumptions: 0.25 €/kWh · 0.25 kg CO₂/kWh · illuminance levels maintained or exceeded (EN 13201 for roads, NM EN 12193 for sports). Savings on the « + LidarMesh » line come from on-demand dimming via LiDAR detection and astronomical calendars. Each project is subject to a DIALux / Relux study and an individual quotation.

TYPE TESTS & ROBUSTNESS

TYPE TESTS

Temperature rise	ta 50 °C — EN 60598-1 § 12: driver tc and LED module tp, values corrected to the reference ambient.
Sealing	IP 66 — IEC 60529 (dust · powerful water jets).
Mechanical impact	IK 09 overall — IEC 62262 (10 joules), on assembled luminaire.
Vibration	IEC 60068-2-6 — road mounting, post-top, console and suspension.
Surges	10 kV / 10 kA — EN 61000-4-5; replaceable type II SPD with end-of-life indicator — external 20 kV SPD optional.
Photometry	EN 13032 / LM-79 — LDT and IES files per reference and per CCT; LM-79 reports with standard optic: in progress.
Long-term flux	LM-80 + TM-21 — L90B10 ≥ 100 000 h.
Corrosion	Salt spray ISO 9227 — 500 h on coating and fasteners.

ROBUST PRODUCT — DESIGN CHOICES

Body / cover	Die-cast aluminium (high-pressure) EN AC-46100 (AlSi11Cu2(Fe)) to UNI EN 1706 — EN 10204 type 3.1 material certificate.
Coating	Exterior-grade polyester powder coating: thickness ≥ 70 µm (ISO 2360), adhesion class 0 (ISO 2409), salt spray 500 h (ISO 9227), UV resistant.
Reflector	High-reflectance aluminium ρ ≥ 98 % (ISO 7668 / DIN 5036-3), anti-iridescence textured surface, sealed optical chamber.
Screen	5 mm extra-clear flat tempered glass: EN 12150-1, heat-soak test EN 14179, double-sided anti-reflective coating (EN 410).
Closure	Die-cast aluminium hooks + stainless-steel springs — A2 stainless fasteners, tool-free opening.
Wiring	Removable wiring plate, plug-in connectors — tool-free driver and SPD replacement.
Pressure-equalisation valve	Stainless steel valve with hydrophobic membrane — equalises internal pressure at every day / night cycle without affecting sealing; replaceable without opening the luminaire.

Repairability

The luminaire is designed to be **repairable on site**: LED module, driver and SPD are replaced individually, without removing the luminaire or using special tools. This architecture meets the circular-economy requirements of European ecodesign and extends the installation's useful life well beyond the warranty.

ta 50 °C

certified ambient temperature

10 J

IK09 on assembled luminaire

500 h

salt spray ISO 9227

10 kV / 10 kA

surge immunity

LED MODULE LIFETIME · IES TM-21 PROJECTION

LM-80-21 report · 18 000 h · 180 samples · 0 failures · 55 to 105 °C · 160 mA operation per LED

An under-driven LED, an over-sized warranty

D-SLS luminaires use a high-power ceramic **LUSSO-5050AUX** LED chip driven at only **160 mA**, i.e. 19 % of the test current: the junction works far from its limits, heat to dissipate is reduced and ageing becomes almost imperceptible. The chip manufacturer's LM-80 tests, conducted at 850 mA and up to 105 °C, still give **96 % of initial flux after 100 000 hours**; under real operating conditions, flux loss over ten years of operation is below 2 %. This performance reserve allows D-SLS to commit the company to **7 years parts, labour and travel, extendable to 10 years**, with 90 % guaranteed flux (L90).

PROJECTED LED MODULE LIFETIME

SOLDER POINT TEMPERATURE T_s	FLUX AT 100 000 h	L97	L96	L90	L80
55 °C	97,8 %	≈ 130 000 h	≈ 170 000 h	≈ 418 000 h	≈ 868 000 h
85 °C	97,4 %	≈ 114 000 h	≈ 150 000 h	≈ 372 000 h	≈ 779 000 h
100 °C	96,8 %	≈ 94 000 h	≈ 124 000 h	≈ 312 000 h	≈ 655 000 h

TM-21 reportable values (cap 6 × 18 000 h): L96 · L90 · L80 > 108 000 h at all temperatures; L97 > 108 000 h at 55 and 85 °C. Highlighted row: envelope operating condition used for the warranty — **L96B10 at 100 000 h**. 100 °C obtained by Arrhenius interpolation between the 85 °C and 105 °C datasets.

Reading note

An LED does not 'burn out': it slowly loses light. Its lifetime is therefore measured as the **number of hours after which it still retains a given percentage of its initial light**. That is what the figure after the 'L' indicates:

- **L97** = operating hours before the LED drops to 97 % of its initial light (3 % loss).
- **L96** = 96 % of light remaining (4 % loss).
- **L90** = 90 % of light remaining (10 % loss) — the usual specification reference.
- **L80** = 80 % of light remaining (20 % loss) — the conventional "end-of-life" threshold of an LED.

T_s is the temperature measured at the LED solder point on its board: the lower it is, the longer the LED lasts. A well-cooled luminaire runs at around 55 – 85 °C; 100 °C is the worst case used for the warranty.

Reading example: at T_s 100 °C, after **100 000 hours** (about 23 years at 12 h per night), the LED still delivers **96.8 %** of its initial light; it would take **312 000 hours** (over 70 years) to fall to 90 %.

CALCULATION CHAIN — LUSSO-5050AUX LED + ALUMINIUM REFLECTOR

LED CSP

LED source · 160 mA · T_q 25 °C

× 92 %

thermal factor T_s 85 °C

× 78 %

reflector 86.26 % · screen / bowl

× 93 %

driver efficiency

= 187 lm/W

published luminaire · 180 lm/W at t_a 50 °C

187 lm/W calculated and published at T_q 25 °C · 180 lm/W at t_a 50 °C — 250 W → 46 750 lm · 150 W → 28 050 lm · tolerance ± 7 % on flux.

CERTIFICATIONS & STANDARDS

Current D-SLS certificates

ENEC	Certificate no. HN 69290740 — TÜV Rheinland InterCert Kft. · EN IEC 60598-1:2021 + EN 60598-2-3
Covered types	443 D-SLS-a-b-cd types — series 03 to 21A and 25
ENEC parameters	AC 220 – 240 V · 50/60 Hz · class I · IP66 · ta 45 °C
TÜV SÜD	Attestation no. N8A 08132 0101 — Low Voltage Directive 2014/35/EU · EN 62493
Families	D-SLS-a-b-cd — series 03 · 05 · 06 · 07 · 09 · 11B · 12A · 13 · 14 · 15 · 18 · 19 · 20 · 21A
TÜV SÜD parameters	200 – 240 V · 50/60 Hz · class II · IP66 · IK09 · ta 50 °C

Copies of certificates and test reports supplied with every bid.

Additional tests

- **IP66** — IEC 60529 depending on family
- **IK08 / IK09** — IEC 62262 (impact resistance)
- **EN 62471** — photobiological safety RG0
- **EN 61000-4-5** — surge immunity 10 kV / 6 kV
- **EMC** — EN 55015 · EN 61547 · EN 61000-3-2 / -3-3
- **LM-80 / TM-21** — lifetime ≥ 100 000 h L90B10

Standards framework

Luminaire safety

EN IEC 60598-1 · EN 60598-2-3 · EN 60598-2-5

Electromagnetic compatibility

EN 55015 · EN 61547 · EN 61000-3-2 · EN 61000-3-3 · EN 61000-4-5

Application

EN 13201 (street lighting) · UNI 11248 (classes M, C, P) · CIE 150 (light pollution)

Lifetime

IES LM-80 · IES TM-21 · IES LM-79 · UNI EN 13032-1

Photobiology

EN 62471

Protection

EN 60529 (IP) · EN 62262 (IK)

Control & interoperability

IEC 62386 (DALI-2 · D4i) · Zhaga Book 18 · TALQ 2.7.1

European directives

2014/35/EU (low voltage) · 2014/30/EU (EMC) · 2011/65/EU (RoHS)

ENEC

TÜV SÜD

RoHS

IP66

IK09

DALI-2

D4i + DT8

Zhaga Book 18

TALQ 2.7.1

Compliance file

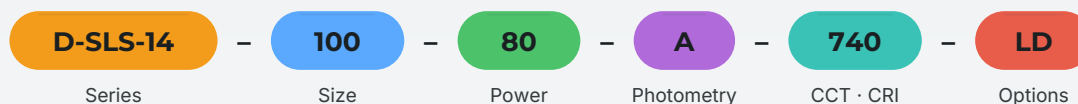
The parameters above are those on the current ENEC certificate and TÜV SÜD attestation; the product characteristics on previous pages correspond to the luminaire's current commercial definition. Compliance with directives 2014/35/EU, 2014/30/EU and 2011/65/EU; EU declaration of conformity, ENEC certificate, IP / IK reports and photometric files attached to each tender file.

Documents supplied with every offer

 ENEC certificate Certificate no. HN 69290740 and test report — TÜV Rheinland InterCert	 TÜV SÜD attestation Attestation no. N8A 08132 0101 — series 03 (cigar-type column)
 EU Declaration EU Declaration of Conformity — directives 2014/35/EU · 2014/30/EU · 2011/65/EU	 IP / IK reports IP66 per IEC 60529 · IK09 / IK10 per IEC 62262, by family
 LED lifetime LM-80 reports and IES TM-21 projection of the LED modules	 Photometry LDT / IES files per reference and per CCT · DIALux / Relux calculation

COMMON CODING · ONE REFERENCE, ONE CONFIGURATION

Identical structure across the range



ENEC-certified type D-SLS-a-b-cd — a = series, b = size, c = wattage, d = photometry A / B / C.

Range series

D-SLS-14 — LOTUS

D-SLS-18 — Decorative lantern

D-SLS-25M — Modular floodlight

D-SLS-41 / D-SLS-20 — Light column

D-SLS-42 — 600 W floodlight

D-SLS-19 — 3 m lamp post

D-SLS-4 — Square luminaire

D-SLS-22 · 28 · 31 · 33 · 34 — Handcrafted luminaires

D-SLS-K4 — LED retrofit kit

Road luminaire · 20 – 250 W

Heritage lighting · 20 – 150 W

Sports lighting · 200 – 2 000 W

Street furniture · 20 – 260 W

Sports lighting · 600 W

Complete assembly · 60 W

Circular post-top · 20 – 120 W

One-off manufacturing · 20 – 150 W

Technical core · 20 – 120 W

D-SLS-03 — Cigar-type column

Decorative street furniture · 20 – 150 W

NEW

D-SLS-28 S — Decorative solar lamp post

Cylindrical PV shaft · 20 – 150 W

NEW

D-SLS-4 S — Solar lamp post, top-mounted panel

Roads · 20 – 150 W

NEW

MPPT-ATMANI-AI — Solar controller

Energy & control · 400 W driver

NEW

Option suffixes — common to all families

LD

LidarMesh remote management

SP20

External 20 kV SPD

W10

10-year warranty

MAR

C5 anti-corrosion

A12

12 V auxiliary

TW

Tunable White

S3

3 SDCM / higher CRI

RALxxxx

colour of choice

Quotes & purchase orders

A reference fully describes the delivered configuration: it is carried over as is to quotations, purchase orders and bills of quantities. Options are cumulative and added in this order at the end of the reference.

Examples

D-SLS-14-100-80A-740-LD

LOTUS 80 W, 4000 K CRI 70, remote management

D-SLS-03-200-120A-9TW

120 W cigar column, CRI ≥ 97, Tunable White

WARRANTY & SERVICES

1

7-year warranty

Standard **7-year** warranty on the complete luminaire — LED module, optic, driver and SPD — for a compliant installation and an operating ambient temperature $\leq 50^{\circ}\text{C}$.



2

10-year extension (W10)

On project registration at commissioning: warranty extended to **10 years**, including flux maintenance (L90) and spare-part availability.



3

Lighting studies

DIALux / Relux photometric study to EN 13201 / UNI 11248, LDT / IES files, LED LM-80 reports and calculation notes for tender files (LM-79 reports in progress).



4

Factory configuration

LED current (NFC), DA / DAC dimming profiles, DALI-2 addresses, OTP thresholds and D4i parameters factory-set per project sheet — luminaires ready to install.



5

LidarMesh commissioning

Integration of light points into **LidarMesh CMS**, scenario creation, operator training and remote assistance.



6

Spare parts & after-sales

Zhaga Book 18 LED modules, drivers, glass and gaskets available throughout the warranty period — on-site replacement without special tools.



Sales & technical contact

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**D-SLS RANGE • 2026****D-SLS SRL — Digital Smart Lighting Solutions**

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