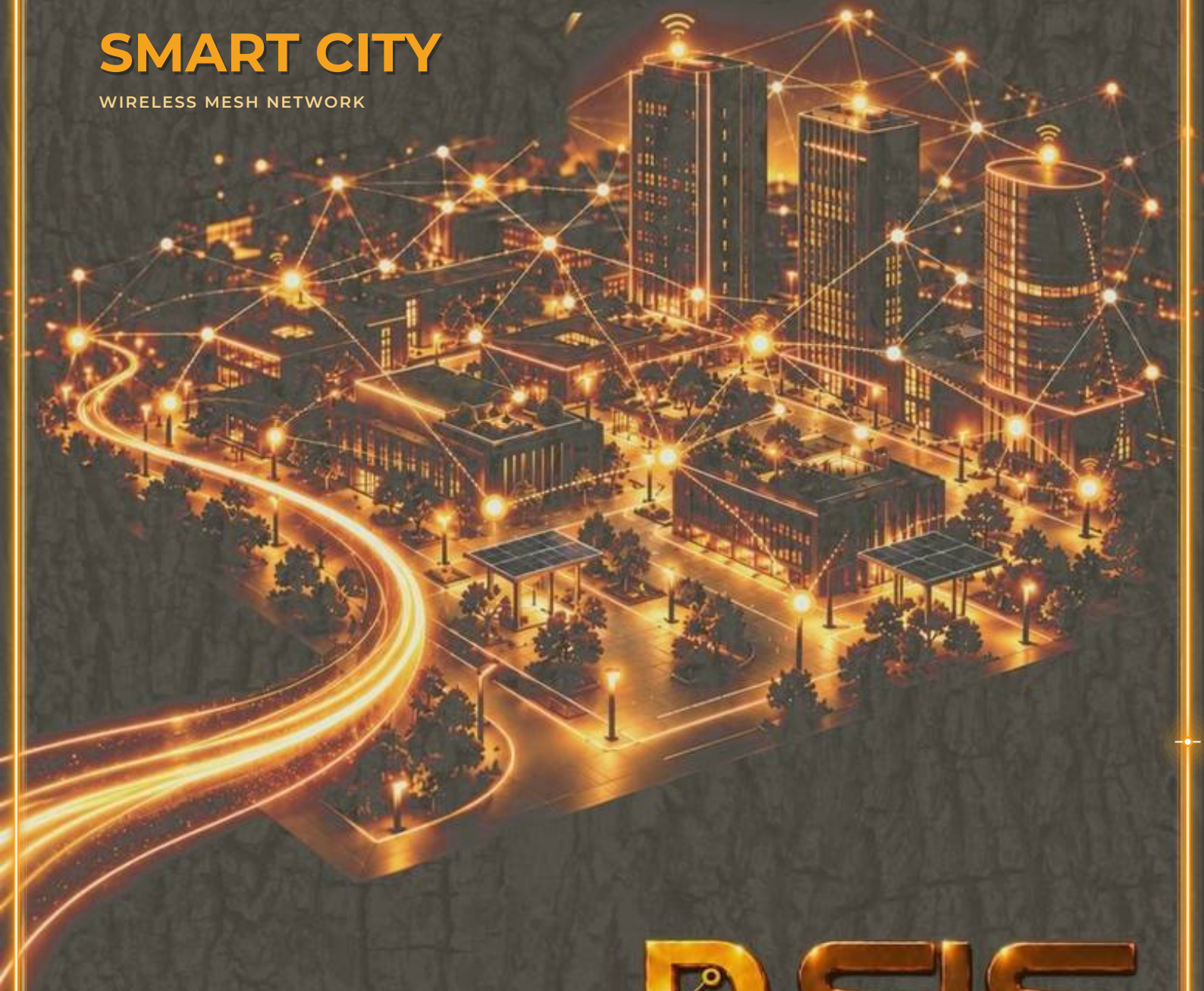
# Light shapes the city of tomorrow.

STREET LIGHTING · SOLAR · CONNECTED

## SMART CITY

WIRELESS MESH NETWORK



CATALOGUE D-SLS-23

# 2026

D-SLS

Digital-Smart Lighting Solutions

D-SLS-23 20 – 150 W · Crown lantern with bowl

# OVERVIEW · CROWN LANTERN WITH BOWL · D-SLS-23

*Gilded royal crown and ogival bowl — the lighting signature of historic centres*

D-SLS-23 — gold crown, clear ogival bowl

**28 050 lm**
maximum luminaire flux · 150 W · 4000 K

**187 lm/W**
luminaire efficacy · CRI 70

**20 – 150 W**
power range

**IP66 · IK08**
optical unit · impact resistance

**100 000 h**
L90B10 · IES TM-21

**7 years**
warranty · 10 years optional

OVERVIEW

## Made one by one, equipped like a road luminaire

The **D-SLS-23** combines a **crown finial** and a **chased frieze** in brass or gilded aluminium with an **ogival bowl** in UV-stabilised polycarbonate or blown glass, clear or opal. Beneath the décor lies the technical platform of D-SLS road luminaires: four **LUSSO-5050AUX** LED bars with **indirect reflector** under flat tempered glass, **DALI-2 D4i + DT8** driver programmable via NFC, 10 kV / 10 kA SPD and **Zhaga Book 18** socket for LidarMesh remote management. Suspended by **M22** threaded entry on bracket, gallows arm or wall mount.

### Historic centres

Mounting height 3.5 to 5 m, CCT 2700 K, opal bowl: warm light that respects the buildings.

### Squares & esplanades

Mounting height 4 to 10 m, 40 to 150 W: uniform illuminance of squares and forecourts.

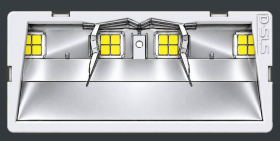
### Paths & promenades

20 to 40 W, on-demand LiDAR dimming: pedestrian safety, low consumption at night.

# D-SLS-23 · NEW EMBEDDED TECHNOLOGIES

*Indirect inter-reflection reflector, LiDAR node, D4i · DALI-2 · Thread — the range's connected platform*

## Indirect reflector (inter-reflection) — reflectance ≥ 98 %



Satin aluminium reflector optics, the LED is never seen directly: reflected, glare-free light, no PMMA lens. Reflectance ≥ 98 %, ULOR 0 %, asymmetric or symmetric ambient distribution. One-piece LED matrix, removable by screws.

## New technologies used

**LiDAR node**
presence detection, counting, Zhaga D4i socket underneath

**Static detection**
integrated mmWave radar — presence without motion

**Thread mesh network**
IPv6, self-healing, TALQ 2.7.1

**Tunable White**
2700 → 6500 K controlled via D4i + DT8

## Certified interfaces

THREAD · TALQ 2.7.1 · ZHAGA BOOK 18 · NFC · DALI-2 · D4i

### D4i

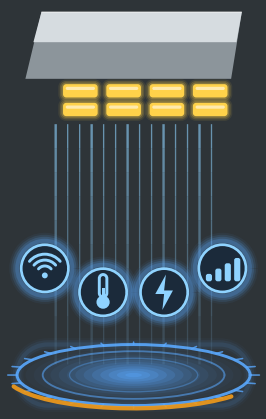
Intelligence serving urban lighting

**Interoperability**
D4i-compliant for open ecosystems

**Power and data over the same cable**
standardised interface

**Smart sensors**
detection, counting, energy monitoring

**Predictive maintenance**
real-time diagnostics and remote management



### DALI+

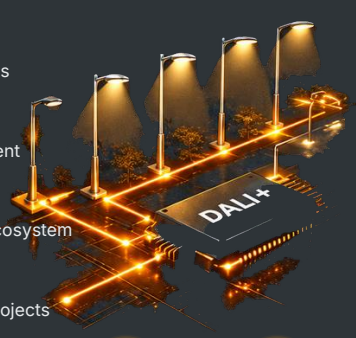
Advanced, scalable management

**Precise control**
dimming and lighting scenarios

**Multi-device**
group and address management

**Interoperability**
certified multi-brand DALI+ ecosystem

**Flexibility**
suited to current and future projects




Scenarios · Schedule · Control · Supervision

## D-SLS-23 — the six connected functions

TUNABLE WHITE · LIDAR AI · MESH NETWORK · SECURE VPN · SELF-HEALING OTA · AI ANTI-THEFT

TECHNOLOGIES

# PRODUCT ARCHITECTURE · D-SLS-23 · SIX KEY POINTS

*A fully dismountable luminaire: everything can be replaced on site, without special tools*

## 1 Gilded crown & frieze

Top crown and chased frieze in brass or gilded aluminium — patinated, gilded or RAL finish.

## 2 Indirect reflector

Four inter-reflection LED bars ρ≥ 98 % under flat tempered glass: the source is never seen.

## 3 Programmable driver

DALI-2 · D4i + DT8 via NFC, standalone dimming profiles, Tunable White optional.

## 4 Full protection

SPD 10 kV / 10 kA, stainless pressure-equalising valve, IP66 / IK08.

## 5 Ready for remote management

Zhaga Book 18 socket: LiDAR node and LidarMesh CMS without opening the lantern.

## 6 Replaceable bowl

Clear or opal ogival bowl removable on its own; LED plate accessible from above.

ARCHITECTURE

## IN BRIEF

| | |
|---|---|
| Construction | Die-cast aluminium dome (high-pressure) EN AC-46100 — crown and frieze in brass or gilded aluminium |
| Screen / bowl | Ogival bowl — UV-stabilised polycarbonate or blown glass, clear or opal |
| Mounting | M22 threaded entry — crook, bracket arm or wall mount · mounting height 3.5 to 10 m |
| Protection | IP66 · IK08 · SPD 10 kV / 10 kA · stainless pressure-equalising valve |
| Range | 20 · 30 · 40 · 50 · 60 · 80 · 100 · 120 · 150 W |

| 20 – 150 W | 187 lm/W | IP66 · IK08 | Zhaga Book 18 |
|---|---|---|---|
| power range | luminaire efficacy | sealing · impact | remote management ready |

# PERFORMANCE & SAVINGS · DASHBOARD

| ≥ 95 % | > 94 % | −78 % |
|---|---|---|
| optical efficiency | driver efficiency | energy |

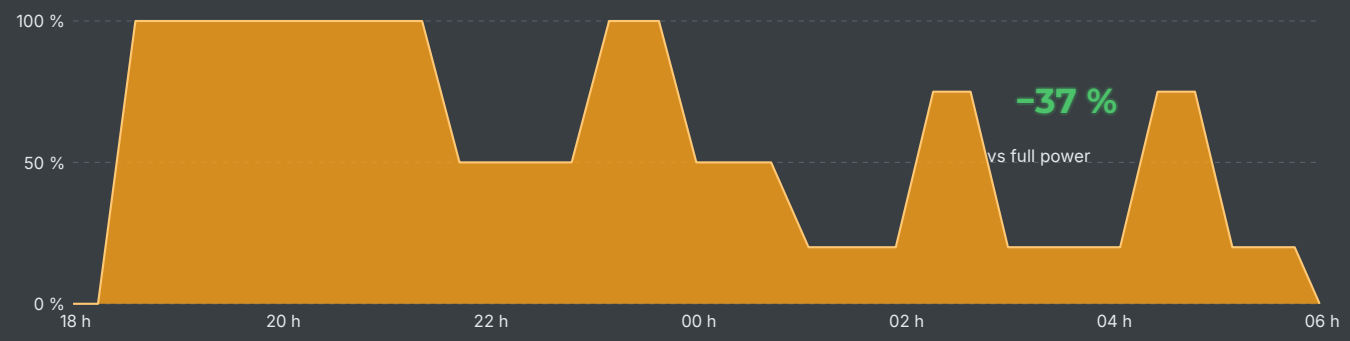
## TUNABLE WHITE — CCT RANGE (TW OPTION)

2700 K WARM — COOL 6500 K

D4i + DT8 control — CRI 70 · 80 · 90 · 97, MacAdam < 3 SDCM

*Fixed CCTs: 2700 · 3000 · 4000 · 5000 K*

## LiDAR ADAPTIVE DIMMING — TYPICAL NIGHT PROFILE




--- constant 100 % lighting — D-SLS-23 — LiDAR detection — peaks match detected passages (pedestrian, cyclist, vehicle)

## ANNUAL CONSUMPTION PER POINT — 4 200 h/yr · 0.25 €/kWh

| | |
|---|---|
| HPS 150 W (existing) | 714 kWh/yr · 178 € |
| D-SLS-23 60 W | 252 kWh/year · 63 € −65 % |
| D-SLS-23 60 W + LidarMesh | 158 kWh/yr · 40 € −78 % |

*Assumptions: HPS 150 W (170 W system, ballast included) replaced by a D-SLS-23 60 W at the same illuminance level.*

| ≈ 9.4 years | −139 kg | zero | 100 % |
|---|---|---|---|
| return on investment* | CO2 avoided per point per year | relamping — L90B10 ≥ 100 000 h | remotely controllable (TALQ 2.7.1) |

## Reading the dashboard

* Energy only, based on the price above and an indicative investment of 1 300 € per point — excluding installation and avoided relamping; precise figures on study. Savings combine the LED platform's efficacy (187 lm/W luminaire), optics that direct the flux onto the useful area, and controlled dimming (LidarMesh) that runs at full power only when needed.

# KEY STRENGTHS · 8 REASONS TO CHOOSE THE D-SLS-23

## Gilded royal crown

Top crown and **chased frieze** in brass or gilded aluminium — patinated, gilded or RAL, municipal coat of arms optional.

## Replaceable ogival bowl

UV-stabilised polycarbonate or **blown glass**, clear or opal — the wear part is replaced on its own.

## “Dark-light” indirect reflector

Indirect (inter-reflection) aluminium reflector ρ≥ **98 %** (ISO 7668 / DIN 5036-3): the LED is never seen directly — optical efficiency ≥ **95 %**, glare-free, no PMMA lens.

## LUSSO-5050AUX LED module

Source **280 lm/W**, luminaire **187 lm/W** (4000 K · CRI 70 · Tq 25 °C), L90B10 ≥ 100 000 h (TM-21) — module replaceable on site.

## NFC-programmable driver

**DALI-2** and **D4i + DT8**: wirelessly adjustable output current, dim-to-off < 0.5 W, stand-alone dimming profiles, OLC compensation.

## Remote management ready

**Zhaga Book 18 socket: the LiDAR-ATMANI-AI node and the LidarMesh CMS platform can be added at any time, without opening the luminaire.**

## Full protection

Type II SPD **10 kV / 10 kA** with end-of-life indicator, **IP66**, **IK08**, stainless steel pressure-equalising valve.

## 7-year warranty

Extension to **10 years** (W10 option) — electronics from ENEC-certified series, product-specific EU declaration of conformity.

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CPS

# MATERIALS & CONSTRUCTION · THE D-SLS-23 BODY

*CPS technical file — 1 / 3: luminaire body materials & construction*

| | |
|---|---|
| **Housing** | Housing in **injected** aluminium (high-pressure die-cast) — alloy **EN AC-46100 (AlSi11Cu2(Fe))** to UNI EN 1706, EN 10204 3.1 material certificate |
| **LED module** | Removable / replaceable — **Zhaga Book 18** standard · under-driven LUSSO-5050AUX LEDs · Zhaga Book 18 sensor socket fitted as standard |
| **Dome** | **Die-cast** aluminium EN AC-46100 (high-pressure casting) — heat dissipation by conduction to the dome |
| **Crown & frieze** | Chased brass or gilded aluminium — patina, gold or RAL finish |
| **Bowl** | Ogival — UV-stabilised **polycarbonate** or **blown glass**, clear or opal — EPDM gasket |
| **Optical unit** | Four LED bars on aluminium plate, indirect reflector ρ≥ 98 %, under flat tempered glass |
| **Mounting** | **M22** brass threaded entry — bracket, arm or wall mount, stainless locking screw |
| **Fasteners** | A2 stainless steel |
| **Reflector** | High-reflectance aluminium ρ≥ **98 %** (ISO 7668 / DIN 5036-3), inter-reflection — anti-iridescence textured surface, sealed optical chamber, EN 10204 3.1 material certificate |
| **Sealing** | EPDM gaskets · M20 × 1.5 stainless IP68 cable gland — IP66 optical unit |
| **Pressure-equalising valve** | Stainless steel with hydrophobic membrane — lets air through, never water or dust |
| **Anti-corrosion treatment** | Housing surface preparation before painting: alkaline degreasing, pickling and **chemical conversion passivation, then oven-cured polyester powder coating ≥ 70 µm — salt spray 500 h (ISO 9227), corrosivity C3 standard, C5-M seaside optional (MAR)** |
| **Paint finish** | Outdoor-grade polyester powder ≥ 70 µm (ISO 2360), adhesion class 0 (ISO 2409), UV resistant — C5 seaside optional (MAR) |
| **Driver** | Programmable DALI-2 / D4i + DT8 electronics — tool-free plug-in, integrated 10 kV / 10 kA SPD |

MATERIALS

## A fully dismountable luminaire

All wear parts — LED module, driver, SPD, gaskets — are replaced on site from the aerial platform, without removing the luminaire or returning it to the workshop. A repairable architecture compliant with EU ecodesign (EU) 2019/2020.

### DOCUMENTATION

LED LM-80 files, driver datasheets and material certificates available on request for tender dossiers.

D-SLS-23

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CPS

# TECHNICAL SPECIFICATIONS · D-SLS-23

*CPS technical file — 2 / 3: technical data to compare point by point with the CPS*

| | |
|---|---|
| Applications | Heritage street lighting — historic centres, squares and esplanades, alleys and promenades · C and P classes (EN 13201) |
| Body / construction | Die-cast aluminium dome (high-pressure) EN AC-46100 — crown and frieze in brass or gilded aluminium |
| Optical unit | **Indirect** (inter-reflection) satin aluminium reflector — total reflectance ρ≥ **98 %** (ISO 7668 / DIN 5036-3) · LED never seen directly, no PMMA lens · asymmetric or symmetric ambient distribution |
| Optical efficiency | ≥ **95 %** — TI ≤ 10 % |
| Screen / bowl | Ogival bowl — UV-stabilised polycarbonate or blown glass, clear or opal |
| Photobiological safety | EN 62471 — risk group 0 (RG0), no UVA emission |
| Insulation class | Class I (standard) · class II optional |
| Anti-corrosion treatment | Housing surface preparation before painting: alkaline degreasing, pickling and **chemical conversion passivation**, then oven-cured polyester powder coating ≥ 70 µm — salt spray 500 h (ISO 9227), corrosivity C3 standard, **C5-M seaside** optional (MAR) |
| Ingress protection | **IP 66** (IEC 60529) · **IK 08** (IEC 62262) |
| Pressure equalisation | **Stainless-steel** pressure-equalising valve with hydrophobic membrane — no internal condensation or thermal pumping |
| Mounting / fixing | M22 threaded entry — crook, bracket arm or wall mount · mounting height 3.5 to 10 m |
| Dimensions & weight | Overall height 860 mm · Ø 520 mm at frieze · 11 to 14 kg depending on version |
| Wiring | Plug-in terminal block · tool-free connectors · M20 × 1.5 stainless cable gland IP68 |
| Temperatures | Operation −30 °C / +50 °C (ta 50 °C) · storage −40 °C / +80 °C |
| Power supply | 220 – 240 V AC · 50 / 60 Hz — 90 – 305 V AC optional |
| Driver | Programmable **DALI-2** · **D4i + DT8** via NFC · efficiency > 94 % · power factor > 0.95 · dim-to-off < 0.5 W |
| Surge protection | **Integrated type II SPD 10 kV common mode / 6 kV differential mode (10 kA), end-of-life indicator — 20 kV external SPD optional (SP20)** |
| Thermal controller | Thermal controller **NTC-ETM DIGITAL** — NTC probe on LED array and driver, digital threshold programmable via NFC, automatic current reduction when the threshold is exceeded |
| LED | Ceramic **LUSSO-5050AUX CSP TECHNOLOGIES** LED chip, under-driven — source **280 lm/W** · luminaire **187 lm/W** (4000 K · CRI 70 · Tq 25 °C) |
| Wattages & flux | 20 · 30 · 40 · 50 · 60 · 80 · 100 · 120 · 150 W — up to **28 050 lm** (4000 K · CRI 70 · Tq 25 °C) |
| Colour temperatures | 2700 · 3000 · **4000** · 5000 K — Tunable White 2700 – 6500 K (TW option) |
| CRI · MacAdam | CRI 70 (standard) · 80 · 90 · 97 — **< 3 SDCM** |
| Lifetime | **L90B10 ≥ 100 000 h** (IES LM-80 / TM-21) — maintenance factor 0.80 used in studies |
| Dimming & remote management | DALI-2 · D4i + DT8 · stand-alone profiles · **Zhaga Book 18** socket — LiDAR node and LidarMesh CMS TALQ 2.7.1 (LD option) |
| Warranty | **7 years** — 10 years optional (W10) |

FEATURES

RoHS · IP66 · IK08 · EN 60598 · EN 62471 · DALI-2 · D4i + DT8 · Zhaga Book 18 · TALQ 2.7.1

## Standards framework

Reference standards: EN IEC 60598-1:2021/A11:2022, EN 60598-2-3, EN 62493, EN 62471, EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3, EN 61000-4-5, EN 13201, IEEE 1789 — driver EN 61347-1 / EN 61347-2-13. LDT / IES files and DIALux study supplied with every offer.

3 /3
CPS

# CERTIFICATIONS & STANDARDS

*CPS technical file — 3 / 3: certificates, tests and standards framework*

## Current D-SLS certificates

| | |
|---|---|
| ENEC | Certificate No. HN 69290740 — TÜV Rheinland InterCert Kft. · EN IEC 60598-1:2021 + EN 60598-2-3 |
| Types covered | 443 types D-SLS-a-b-cd — series 03 to 21A and 25 |
| ENEC parameters | AC 220 – 240 V · 50/60 Hz · class I · IP66 · ta 45 °C |
| TÜV SÜD | Certificate 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 |
| This product | The D-SLS-23 uses the electronic platform (driver, SPD, LED module) of the certified series; it is covered by its own EU declaration of conformity. |

*Copies of certificates and test reports supplied with every tender.*

## Additional tests

- **IP66 / IP67** — 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

**Photobiology**
EN 62471

**Electromagnetic compatibility**
EN 55015 · EN 61547 · EN 61000-3-2 · EN 61000-3-3 · EN 61000-4-5

**Protection**
EN 60529 (IP) · EN 62262 (IK)

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

**Control & interoperability**
IEC 62386 (DALI-2 · D4i) · Zhaga Book 18 · TALQ 2.7.1

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

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

RoHS · IP66 · IK08 · EN 60598 · EN 62471 · DALI-2 · D4i + DT8 · Zhaga Book 18 · TALQ 2.7.1

## Compliance dossier

The above parameters are those stated on the current ENEC certificate and TÜV SÜD attestation; the product features on the previous pages reflect the luminaire's current commercial definition. Compliant 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 every tender file.

## Documents supplied with every offer

**ENEC certificate**
Certificate No. HN 69290740 and test report — TÜV Rheinland InterCert

**TÜV SÜD attestation**
Certificate 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**
IP67 / IP66 to IEC 60529 · IK09 / IK10 to IEC 62262, per family

**LED lifetime**
LM-80 reports and IES TM-21 projection of LED modules

**Photometry**
LDT / IES files per reference and CCT · DIALux / Relux calculation report

# 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 08 — IEC 62262 (5 joules), on assembled luminaire. |
| Vibration | IEC 60068-2-6 — depending on mounting: m22 threaded entry — crook, bracket arm or wall mount · mounting height 3.5 to 10 m. |
| Surges | 10 kV / 10 kA — EN 61000-4-5; replaceable type II SPD with end-of-life indicator — optional 20 kV external SPD. |
| Photometry | EN 13032 / LM-79 — LDT and IES files per reference and per CCT. |
| Long-term flux | LM-80 + TM-21 — L90B10 ≥ 100 000 h. |
| Corrosion | ISO 9227 salt spray — 500 h on coating and fasteners. |

## ROBUST PRODUCT — DESIGN CHOICES

| | |
|---|---|
| Construction | High-pressure die-cast aluminium dome EN AC-46100 — crown and frieze in brass or gilded aluminium. |
| Screen / bowl | Ogival bowl — UV-stabilised polycarbonate or blown glass, clear or opal. |
| Mounting | **M22** brass threaded entry — bracket, arm or wall mount, stainless locking screw |
| Fasteners | A2 stainless steel |

TESTS

## Repairability

The D-SLS-23 is designed to be **repairable on site**: LED module, driver and SPD are replaced individually, without removal or special tools. This architecture meets the circular-economy requirements of EU ecodesign and extends the installation's useful life well beyond the warranty.

| ta 50 °C | 5 J | 500 h | 10 kV / 10 kA |
|---|---|---|---|
| operating ambient temperature | IK08 on assembled luminaire | salt spray ISO 9227 | 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 per LED in operation*

## An under-driven LED, an over-sized warranty

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

## PROJECTED LED MODULE LIFETIME

| SOLDER POINT TEMPERATURE Ts | 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 adopted 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 by the **number of hours after which it still retains a given percentage of its initial light**. That is what the figure after the "L" means:

- **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 reference in specifications.
- **L80** = 80 % of light remaining (20 % loss) — the conventional "end of life" threshold for an LED.

**Ts** 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 Ts 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

| 280 lm/W | × 92 % | × 78 % | × 93 % | = 187 lm/W |
|---|---|---|---|---|
| LED source · 160 mA · Tq 25 °C | thermal factor Ts 85 °C | reflector 86.26 % · bowl | driver efficiency | published luminaire · 180 lm/W at ta 50 °C |

*187 lm/W calculated and published at Tq 25 °C · 180 lm/W at ta 50 °C — 150 W → 28 050 lm · 60 W → 11 220 lm · flux tolerance ±7 %.*

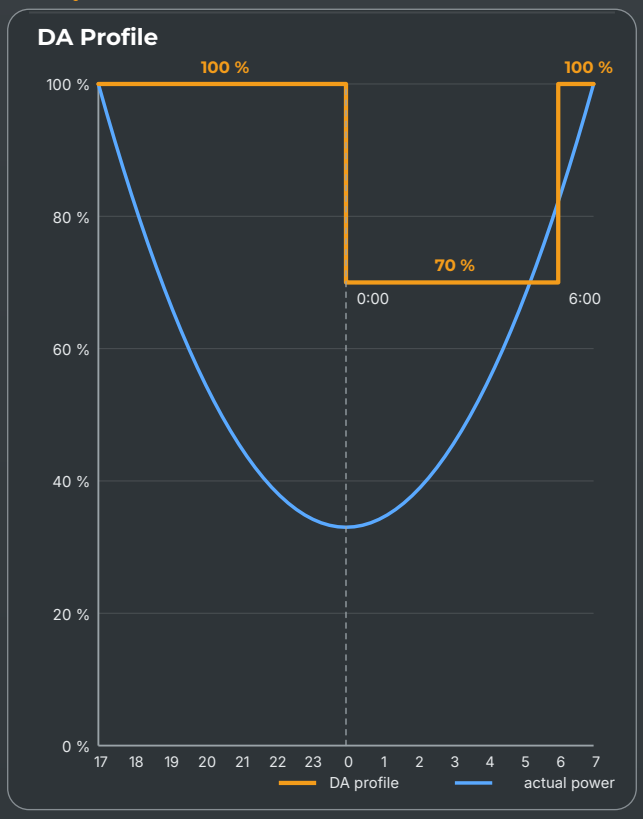
# ELECTRICAL FEATURES · PROGRAMMABLE DRIVER

| | |
|---|---|
| Power supply | 220 – 240 V AC · 50 / 60 Hz (90 – 305 V AC optional · tolerance ±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 | Zhaga-certified **DALI-2** · **D4i + DT8** · NFC · PWM · 0 – 10 V |
| Auxiliary power supply | 24 V DC / 125 mA / 3 W always on (12 V DC with option A12) · built-in 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 indicator and thermal fuse: load disconnection at end of life · external SPD 20 kV (SP20 option) |
| Lifetime | ≥ 100 000 h L90B10 · ≥ 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 service life
- **OTP** — **NTC-ETM DIGITAL** built into the driver and LED array, programmable digital thresholds
- Thermal sensing and LED module protection
- End-of-life indicator · light output compensation
- **F** (fixed) · **DA** (autonomous dimming) · **DAC** (autonomous + control) modes
- Astronomical clock and calendar profiles (LD option)

## DA profile — stand-alone dimming




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

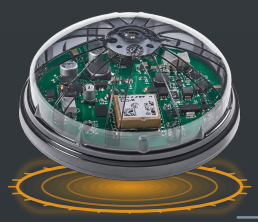
# REMOTE MANAGEMENT · LidarMesh CMS & D-SLS LiDAR NODE (LD OPTION)

## D-SLS smart node — Zhaga Book 18 / D4i

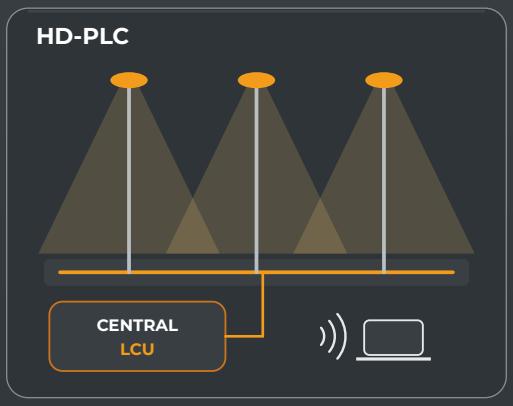
- **LiDAR presence detection** — pedestrians, cyclists, vehicles: on-demand switching and dimming
- **GPS location** · astronomical clock · calendar
- **D4i** interface: the node powers, meters and controls the driver (energy, diagnostics)
- **Thread** mesh network (IPv6) · **TALQ 2.7.1** gateway · LoRaWAN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




Communication over the existing power 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, schedule 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

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

## Road scenario — four levels, zero intervention

| 100 % | 50 % | 20 % | 0 % |
|---|---|---|---|
| **Evening** | **Quiet night** | **Standby** | **Dawn** |
| from sunset to 23:00 — full level per EN 13201 | scheduled dimming to calendar | empty road — instant ramp-up on LiDAR detection | astronomical switch-off, driver < 0,5 W |

## Implementation

The LiDAR node mounts on the luminaire's Zhaga Book 18 socket — at 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 | 3 – 15 km | 0 – 10 km | TALQ 2.7.1 |
|---|---|---|---|
| Thread mesh network | LoRaWAN range | HD-PLC power-line carrier | CMS interoperability |

# NETWORK, UPDATES & SUPERVISION · LD OPTION

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

## MESH NETWORK & CONNECTIVITY

| | |
|---|---|
| Architecture | Every 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 automatically routes around it. |
| Internet access | At the client's choice: WiFi, 4G/LTE, Ethernet or fibre — a single link serves a whole segment, with instant failover if it drops. |
| Network frugality | A single download per segment: updates spread hop by hop 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) up to the platform. |

## REMOTE UPDATES (OTA) — SELF-HEALING

| | |
|---|---|
| Principle | Remote firmware update of the whole fleet, no site visit — dual A/B partition: a sound version always remains available. |
| Probation | Each new version must prove correct operation (network, DALI, supervision) within 10 minutes — otherwise it automatically rolls back to the previous version. |
| Rollback guards | Hardware watchdog, reboot loop, network or routing loss, silent DALI, memory fault — each guard triggers a rollback. |
| Canary deployment | In controlled waves 1 % → 10 % → 50 % → 100 % of the fleet — 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 incident diagnosis, deployment recommendations and automatic campaign report. |
| Predictive maintenance | Pre-failure alert for LED module / driver / SPD — optional sensors: brightness, 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-23 — the six connected functions

TUNABLE WHITE · LIDAR AI · MESH NETWORK · SECURE VPN · SELF-HEALING OTA · AI ANTI-THEFT

# LidarMesh CMS · D-SLS PROPRIETARY REMOTE MANAGEMENT PLATFORM

**Proprietary D-SLS cloud platform — no dependence on any third-party provider.**

Each luminaire is a TALQ 2.7.1 gateway. The installation is managed from a web browser, with no software to install: multi-user access with differentiated permissions, open API, cloud or on-premise 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 BUDGET & SOLAR

| | |
|---|---|
| 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 generation, storage and grid feed-in — adaptive control based on weather and reserve |
| Savings report | Dashboard of kWh saved / CO2 avoided / euros billed — automatic monthly report |
| Dynamic pricing | Lighting programme adapted to the 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 |
| Schedules | Real astronomical calendars (GPS + RTC sunrise / sunset) · scenarios · manual override |
| Independence | 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 · rights delegation · full operation traceability |
| Hosting | D-SLS Cloud Infrastructure (European Union) · 99.9 % availability · 24/7 technical support |

| 10 000+ | 99,9 % | 24/7 | 0000 |
|---|---|---|---|
| nodes per mesh network | platform availability | technical support | software to install |

## Stand-alone mode — no Internet

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

# OPTIONS · COMBINABLE ORDER CODES

### LD — LidarMesh remote management

LiDAR-ATMANI-AI D4i node on Zhaga Book 18 socket: presence detection, GPS, astronomical clock, TALQ 2.7.1 gateway, access to LidarMesh CMS.

### M22 / CR — Crook, bracket or wall mount

M22 threaded entry — matching decorative brackets and arms, reuse of existing supports.

### SP20 — External 20 kV SPD

External surge arrester cascaded with the built-in 10 kV / 10 kA SPD — high-lightning areas, overhead networks.

### W10 — 10-year warranty

Standard warranty extended from 7 to 10 years, subject to project registration and compliant operating conditions.

### MAR — C5 coastal anti-corrosion

Reinforced surface treatment for marine or industrial atmospheres (ISO 12944 C5), stainless fasteners.

### RAL — Colour of choice

Custom RAL colour — municipal marking and co-branding on request.

### TW — Tunable White

Tunable white 2700 – 6500 K controlled via D4i + DT8 — circadian and event scenarios.

### A12 — 12 V DC auxiliary

12 V DC auxiliary output replacing the standard 24 V DC — supply for third-party sensors and nodes.

### CAP — Expandable sensors

Air quality, noise, weather — add-on modules on the LiDAR node, data reported to LidarMesh CMS.

### S3 — CRI 80 · 90 · 97 · 3 SDCM

Colour rendering above the CRI 70 standard and tighter colour binning — enhancing historic buildings.

## Control

All options can be combined and are added at the end of the reference, in the order of the coding table — e.g. **D-SLS-23-50-60A-740-LD-SP20-W10**. Mechanical options are supplied fitted; the LD option is factory-installed and configured, or added later on the Zhaga Book 18 socket without opening the luminaire.

# CASE STUDY · 300 HISTORIC CENTRE LANTERNS

*150 W HPS to replace — indicative example*

| −78 % | 167 MWh | 41 682 € |
|---|---|---|
| energy with LidarMesh | saved per year across the installation | of energy bill avoided each year |

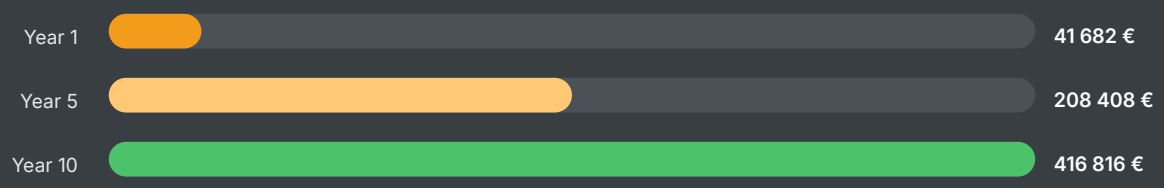
## Existing fleet — HPS 150 W

- 300 points · 170 W system per point
- 214 200 kWh/year · 53 550 € bill
- Lamp replacement every 3 to 4 years
- On/off switching, no dimming
- No remote metering or diagnostics

## D-SLS-23 60 W solution

- 300 × D-SLS-23-50-60A-740
- 47 474 kWh/yr · 11 868 € with LidarMesh
- Zero relamping — L90B10 ≥ 100 000 h
- On-demand LiDAR dimming
- D4i metering per point, monthly report

### CUMULATIVE SAVINGS — D-SLS-23 + LidarMesh vs HPS 150 W (in €)




*Energy only — excluding avoided relamping. Indicative investment ≈ 390 000 € (luminaires + nodes + platform), excl. installation: payback ≈ 9.4 years · −42 t CO2 per year.*

## Calculation assumptions

Assumptions: 4 200 h/year · 0.25 €/kWh · 0.25 kg CO2/kWh — the D-SLS-23 60 W reaches the required EN 13201 levels when replacing 150 W HPS lamps. DIALux / Relux study supplied with every project.

# PROJECT PATH · FROM ORDER TO OPERATION

| 01 Survey & study | 02 Validation | 03 Manufacturing | 04 Mounting | 05 Commissioning | 06 Operation |
|---|---|---|---|---|---|
| DIALux / Relux · project sheet | sample · RAL colour | driver configuration in factory | bucket truck · no special tools | LidarMesh CMS · training | 7 → 10 years · after-sales |

# THE D-SLS-23 & THE ENVIRONMENT

*Responsible public lighting — respectful of biodiversity, the night sky and local residents*

## Light the useful area — and nothing else.

Every technical choice — optics, spectrum, control — aims to reduce light trespass and impact on wildlife: compliance with EU directives, ecodesign (EU) 2019/2020, photobiological group RG0, zero UVA emission.

## OBTRUSIVE LIGHT & NEIGHBOURS

| | |
|---|---|
| Upward flux | LED board under the opaque dome, indirect reflector aimed at the ground: the bowl emits only a faint decorative component. |
| Environmental zones | Design to CIE 150 and EN 13201 (zones E1 to E4): façade luminance, glare and upward flux verified in a DIALux study. |
| Scheduled switch-off | Astronomical switch-off and dimming, zone scenarios: no more space lit at full power when empty. |

## NOCTURNAL WILDLIFE

| | |
|---|---|
| Tailored spectrum | 2700 K and 3000 K versions: warm wavelengths attract far fewer insects than cool-white sources or discharge lamps. |
| Zero UV | LEDs emit no UVA / UVB radiation — insects are not attracted to the source, even at close range. |
| Controlled dimming | Lighting on demand: when unused, intensity drops to 10 – 30 %, limiting the attraction effect and preserving nocturnal flight cycles. |
| Logarithmic dimming | Smooth 0.1 – 100 % transitions per EN 62386 — no flash or abrupt gradient. |

## ECODESIGN & LIFE CYCLE

| | |
|---|---|
| EU ecodesign | Compliant with Regulation (EU) 2019/2020: PstLM ≤ 1 · SVM ≤ 0.4 · light sources and drivers replaceable without tools. |
| Longevity | L90B10 ≥ 100 000 h: no relamping, zero lamp waste, zero mercury contamination. |
| CO2 avoided | Case study (300 × HPS 150 W → D-SLS-23 60 W): about 42 t of CO2 avoided per year. |

**RG0**
photobiological group — EN 62471

**0 UVA**
no ultraviolet radiation

**2700 K**
warm “wildlife” spectrum option

## References & project study

References: CIE 150 (limitation of obtrusive light) · EN 13201 and UNI 11248 (lighting classes) · ecodesign Regulation (EU) 2019/2020 · International Dark-Sky Association. Obtrusive-light study supplied with every project.

# PHOTOMETRY · D-SLS-23 · FROM SOURCE TO LUMINAIRE

## Indirect reflector — measurement conditions

**Indirect reflector** optics by inter-reflection — satin aluminium ρ≥ 98 %, the LED is never seen directly. Values in the following tables are **complete luminaire** values — driver and optics included — measured at Vin = 230 V AC, F / DA / DAC modes. The **LUSSO-5050AUX** source (280 lm/W) is underdriven: the luminaire efficacy of **187 lm/W** (4000 – 5000 K, CRI 70, Tq 25 °C) includes thermal, optical (optical efficiency ≥ 95 %) and driver (> 94 %) losses. At operating ambient ta 50 °C: **180 lm/W**. Tolerance ±7 % on flux, ±5 % on power.

| 280 lm/W | 187 lm/W | 180 lm/W | L90B10 |
|---|---|---|---|
| LUSSO-5050AUX source | luminaire · Tq 25 °C | luminaire · ta 50 °C | ≥ 100 000 h · TM-21 |

## PHOTOMETRIC DATA

| | |
|---|---|
| Optics | **Indirect** (inter-reflection) satin aluminium reflector — reflectance ρ≥ **98 %** (ISO 7668 / DIN 5036-3), LED never seen directly, no PMMA lens |
| Photometric files | **LDT** and **IES** per reference and colour temperature |
| Photobiological safety | EN 62471 — risk group 0 (RG0), no UVA emission |
| Lumen maintenance | LM-80 + TM-21 — L90B10 ≥ 100 000 h |
| Colour rendering | CRI 70 standard · 80 · 90 · 97 optional · MacAdam < 3 SDCM |
| Layout study | DIALux / Relux to EN 13201 (M, C, P classes), supplied with every project |

DATA

**A** Asymmetric photometry

**B** Symmetrical ambient photometry

## Available colour temperatures

| 2700 K | 3000 K | 4000 K | 5000 K | TW |
|---|---|---|---|---|
| 727 | 730 | 740 | 750 | 2700 – 6500 K |

| ≥ 95 % | RG0 | ±7 % |
|---|---|---|
| optical efficiency | EN 62471 photobiological group | flux tolerance |

# PHOTOMETRIC TABLES · 5000 K & 4000 K · CRI 70

*5000 K · CRI 70 · Vin 230 V AC · F / DA / DAC modes · Rev. 10/2026*

*Tq 25 °C: laboratory | ta 50 °C: operating ambient*

| REFERENCE | POWER* W · Tq 25 °C | EFFICIENCY lm/W · Tq 25 °C | FLUX* lm · Tq 25 °C | POWER* W · ta 50 °C | EFFICIENCY lm/W · ta 50 °C | FLUX* lm · ta 50 °C |
|---|---|---|---|---|---|---|
| D-SLS-23-40-20A | 20 | 187 | 3 740 | 20 | 180 | 3 600 |
| D-SLS-23-40-30A | 30 | 187 | 5 610 | 30 | 180 | 5 400 |
| D-SLS-23-50-40A | 40 | 187 | 7 480 | 40 | 180 | 7 200 |
| D-SLS-23-50-50A | 50 | 187 | 9 350 | 50 | 180 | 9 000 |
| **D-SLS-23-50-60A** | **60** | **187** | **11 220** | **60** | **180** | **10 800** |
| D-SLS-23-100-80A | 80 | 187 | 14 960 | 80 | 180 | 14 400 |
| D-SLS-23-100-100A | 100 | 187 | 18 700 | 100 | 180 | 18 000 |
| D-SLS-23-200-120A | 120 | 187 | 22 440 | 120 | 180 | 21 600 |
| D-SLS-23-200-150A | 150 | 187 | 28 050 | 150 | 180 | 27 000 |

*4000 K · CRI 70 · Vin 230 V AC · F / DA / DAC modes · Rev. 10/2026*

*Tq 25 °C: laboratory | ta 50 °C: operating ambient*

| REFERENCE | POWER* W · Tq 25 °C | EFFICIENCY lm/W · Tq 25 °C | FLUX* lm · Tq 25 °C | POWER* W · ta 50 °C | EFFICIENCY lm/W · ta 50 °C | FLUX* lm · ta 50 °C |
|---|---|---|---|---|---|---|
| D-SLS-23-40-20A | 20 | 187 | 3 740 | 20 | 180 | 3 600 |
| D-SLS-23-40-30A | 30 | 187 | 5 610 | 30 | 180 | 5 400 |
| D-SLS-23-50-40A | 40 | 187 | 7 480 | 40 | 180 | 7 200 |
| D-SLS-23-50-50A | 50 | 187 | 9 350 | 50 | 180 | 9 000 |
| **D-SLS-23-50-60A** | **60** | **187** | **11 220** | **60** | **180** | **10 800** |
| D-SLS-23-100-80A | 80 | 187 | 14 960 | 80 | 180 | 14 400 |
| D-SLS-23-100-100A | 100 | 187 | 18 700 | 100 | 180 | 18 000 |
| D-SLS-23-200-120A | 120 | 187 | 22 440 | 120 | 180 | 21 600 |
| D-SLS-23-200-150A | 150 | 187 | 28 050 | 150 | 180 | 27 000 |

* Power and flux ±5 % · complete-luminaire values (driver and optics included) · Tq 25 °C: laboratory; ta 50 °C: operating ambient. LDT / IES files and DIALux / Relux calculation provided per project.

# PHOTOMETRIC TABLES · 3000 K & 2700 K · CRI 70

*3000 K · CRI 70 · Vin 230 V AC · F / DA / DAC modes · Rev. 10/2026*

*Tq 25 °C: laboratory | ta 50 °C: operating ambient*

| REFERENCE | POWER* W · Tq 25 °C | EFFICIENCY lm/W · Tq 25 °C | FLUX* lm · Tq 25 °C | POWER* W · ta 50 °C | EFFICIENCY lm/W · ta 50 °C | FLUX* lm · ta 50 °C |
|---|---|---|---|---|---|---|
| D-SLS-23-40-20A | 20 | 177 | 3 540 | 20 | 170 | 3 400 |
| D-SLS-23-40-30A | 30 | 177 | 5 310 | 30 | 170 | 5 100 |
| D-SLS-23-50-40A | 40 | 177 | 7 080 | 40 | 170 | 6 800 |
| D-SLS-23-50-50A | 50 | 177 | 8 850 | 50 | 170 | 8 500 |
| **D-SLS-23-50-60A** | **60** | **177** | **10 620** | **60** | **170** | **10 200** |
| D-SLS-23-100-80A | 80 | 177 | 14 160 | 80 | 170 | 13 600 |
| D-SLS-23-100-100A | 100 | 177 | 17 700 | 100 | 170 | 17 000 |
| D-SLS-23-200-120A | 120 | 177 | 21 240 | 120 | 170 | 20 400 |
| D-SLS-23-200-150A | 150 | 177 | 26 550 | 150 | 170 | 25 500 |

*2700 K · CRI 70 · Vin 230 V AC · F / DA / DAC modes · Rev. 10/2026*

*Tq 25 °C: laboratory | ta 50 °C: operating ambient*

| REFERENCE | POWER* W · Tq 25 °C | EFFICIENCY lm/W · Tq 25 °C | FLUX* lm · Tq 25 °C | POWER* W · ta 50 °C | EFFICIENCY lm/W · ta 50 °C | FLUX* lm · ta 50 °C |
|---|---|---|---|---|---|---|
| D-SLS-23-40-20A | 20 | 171 | 3 420 | 20 | 165 | 3 300 |
| D-SLS-23-40-30A | 30 | 171 | 5 130 | 30 | 165 | 4 950 |
| D-SLS-23-50-40A | 40 | 171 | 6 840 | 40 | 165 | 6 600 |
| D-SLS-23-50-50A | 50 | 171 | 8 550 | 50 | 165 | 8 250 |
| **D-SLS-23-50-60A** | **60** | **171** | **10 260** | **60** | **165** | **9 900** |
| D-SLS-23-100-80A | 80 | 171 | 13 680 | 80 | 165 | 13 200 |
| D-SLS-23-100-100A | 100 | 171 | 17 100 | 100 | 165 | 16 500 |
| D-SLS-23-200-120A | 120 | 171 | 20 520 | 120 | 165 | 19 800 |
| D-SLS-23-200-150A | 150 | 171 | 25 650 | 150 | 165 | 24 750 |

Tunable White 2700 – 6500 K (TW option): efficacy depends on the programmed colour point. CRI ≥ 80 / 90 / 97 on request — dedicated tables supplied with the quote.

# REPLACEMENT EQUIVALENCES · HIGH CRI & TUNABLE WHITE

## DISCHARGE LAMPS → D-SLS-23

| Existing lamp | System power | Equivalent D-SLS-23 | Luminaire flux (4000 K) | Energy saving |
|---|---|---|---|---|
| Mercury vapour 125 W | 137 W | D-SLS-23-40-30A | 5 610 lm | −78 % |
| HPS 70 W | 84 W | D-SLS-23-50-40A | 7 480 lm | −52 % |
| HPS 100 W | 115 W | D-SLS-23-50-50A | 9 350 lm | −57 % |
| HPS 150 W | 170 W | D-SLS-23-50-60A | 11 220 lm | −65 % |
| HPS 250 W | 275 W | D-SLS-23-100-80A | 14 960 lm | −71 % |
| Metal halide 250 W | 280 W | D-SLS-23-100-100A | 18 700 lm | −64 % |
| HPS 400 W | 430 W | D-SLS-23-200-150A | 28 050 lm | −65 % |

*Indicative equivalences at maintained illuminance — to be confirmed by a DIALux / Relux study accounting for geometry, mounting height and the chosen maintenance factor.*

## CRI ≥ 90 / 97 (option S3) & Tunable White (option TW) — 60 W reference

**187 lm/W**
CRI 70 · 4000 – 5000 K · Tq 25 °C

**CRI 80 · 90 · 97**
S3 option — tables on request

**< 3 SDCM**
MacAdam colour binning

**2700 – 6500 K**
Tunable White · D4i + DT8

High colour-rendering versions keep the same optical chain; values indicative, dedicated tables supplied with the offer. The Tunable White version is controlled via D4i + DT8: efficacy depends on the programmed colour point.

**EN 13201**
maintained illuminance level

**−52 → −78 %**
of energy on retrofit

**DIALux / Relux**
study supplied with every project

# CODING · BUILDING AN ORDER REFERENCE

## D-SLS-23 reference structure

| D-SLS-23 | – | 50 | – | 60 | – | A | – | 740 | – | LD |
|---|---|---|---|---|---|---|---|---|---|---|
| Series | | Size | | Power | | Photometry | | CCT · CRI | | Options |

*Example: D-SLS-23-50-60A-740-LD — 60 W, 4000 K CRI 70, LidarMesh remote management.*

## AVAILABLE CHOICES

| | |
|---|---|
| Power | 20 · 30 · 40 · 50 · 60 · 80 · 100 · 120 · 150 W |
| Size | 40 (20 – 30 W) · 50 (40 – 60 W) · 100 (80 – 100 W) · 200 (120 – 150 W) |
| Photometry | A asymmetric · B ambient symmetric |
| CCT · CRI | 727 · 730 · 740 · 750 (CRI 70) — 8xx / 9xx at CRI 80 / 90 — TW Tunable White |
| Finish | Black dome · gold crown and frieze (standard) — patinated, gold or RAL as chosen |

## Combinable option suffixes

| | | | |
|---|---|---|---|
| **LD** | **SP20** | **W10** | **MAR** |
| LidarMesh remote management | External SPD 20 kV | 10-year warranty | C5 anti-corrosion |
| **A12** | **TW** | **S3** | **RALxxxx** |
| 12 V auxiliary | Tunable White | 3 SDCM / higher CRI | colour of choice |

## Quotes & purchase orders

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

# WARRANTY & SERVICES

## 1 7-year warranty

Standard **7-year** warranty on the complete luminaire — LED module, optics, driver and SPD — for a compliant installation and an operating ambient temperature ≤ 50 °C.

## 2 10-year extension (W10)

With project registration at commissioning: warranty extended to **10 years**, covering 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 set at the factory per the project sheet — luminaires ready to install.

## 5 LidarMesh commissioning

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

## 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

| | |
|---|---|
| E-mail | sa@d-sls.com |
| WhatsApp | +39 333 765 0586 |
| Web | www.d-sls.it |
| Headquarters | D-SLS SRL — Via Bocchetto 6, 20123 Milano (MI), Italia — P.IVA IT14260650966 |

Digital Smart Lighting Solutions

# D-SLS

Digital Smart Lighting Solutions

## D-SLS-23 · 20 – 150 W

**D-SLS SRL — Digital Smart Lighting Solutions**

Via Bocchetto 6 · 20123 Milano (MI) · Italia · P.IVA IT14260650966

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D-SLS-23 Catalogue 2026 · Rev. 10/2026 · Crown lantern with bowl, 20 – 150 W range · Non-contractual document: D-SLS reserves the right to modify specifications without notice.

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