

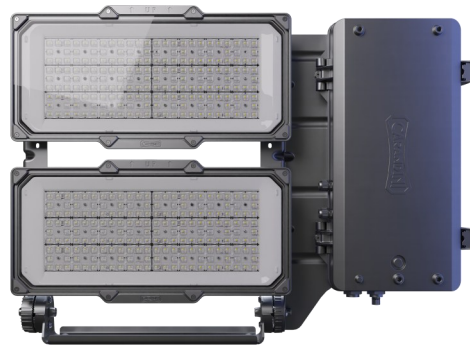
# T-XTREME



T-XTREME M



T-XTREME S



T-XTREME L

## KEY ADVANTAGES

- Robust projector to withstand decades of operation in tunnel environments.
- Modular design in 3 sizes with different fixing solutions.
- Easy maintenance: front tool-free access to drivers and quick connectors.
- TUNNEL-FIX system: for easy installation and alignment of the luminaire in the mounting bracket.
- Different mounting systems (from top, side, separated box, attached box, etc.)
- High lighting performance with reduced consumption.
- Separate compartment for LED and gear.
- Latest generation LEDs with high brightness, efficiency and reliability
- Possible inclines (alignment every 5° with swivel joint)
- Ready for connection: Zhaga base, Nema, Dali or dedicated cable entry and communication nodes (ZD4i).
- Energy Efficient: up to 166 lm/W.
- Sturdiness: IP66 + IP69K + IK10.
- Lifetime: L90B10 100,000h (Ta) 25°C.
- Smart Ready: Designed to house both indoor and outdoor communications nodes.
- 5 years warranty



## DESCRIPTION

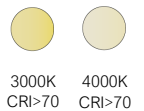
Carandini's new T-XTREME luminaire is specially designed to adapt to all types of tunnels and absorb the vibrations of passing vehicles.

It can work at temperatures ranging between -40° and 50° depending on the power chosen and is specially designed to provide correct lighting throughout the life of the project.

It uses Zhaga components to minimize and facilitate maintenance tasks. The driver is accessible from the front and requires no tools.

## STANDARDS / CERTIFICATES

- CE
- RoHS
- UNE-EN 60598-1
- UNE-EN 60598-2-5
- UNE-EN 62471
- UNE-EN 61000-3-2
- UNE-EN 61000-3-3
- UNE-EN 55015
- UNE-EN 61547
- UNE-EN 62031
- UNE-EN 61347-2-13
- UNE-EN 62384
- UNE-EN 13032-4



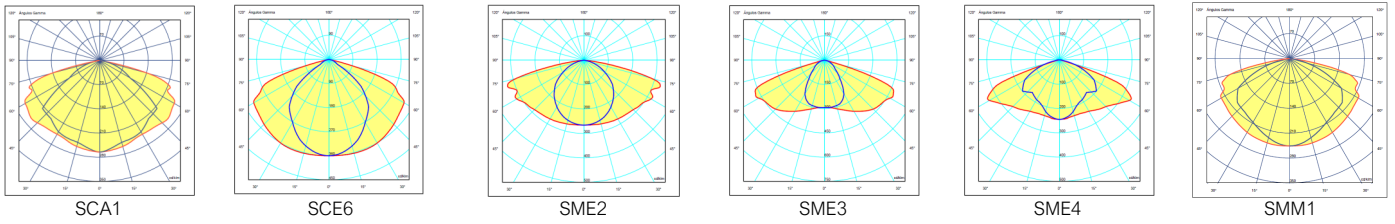
	TXR S: 2.444lm - 23.283lm (19W - 165W)		-40°C to + 50°C (depending on versión)
	TXR M: 9.314lm - 38.249lm (68W - 269W)		166 lm /W Luminaire
	TXR L: 18.453lm - 75.926lm (135W - 538W)		0,00 - 0,02%
	S: 7,80 Kg M: 20 Kg L: 30 Kg		S: 0,143 m² M: 0,336 m² L: 0,505 m²

220 - 240V / 120V - 277V (optional)  
50-60Hz  
L90B10 100.000h  
Ta 25°C

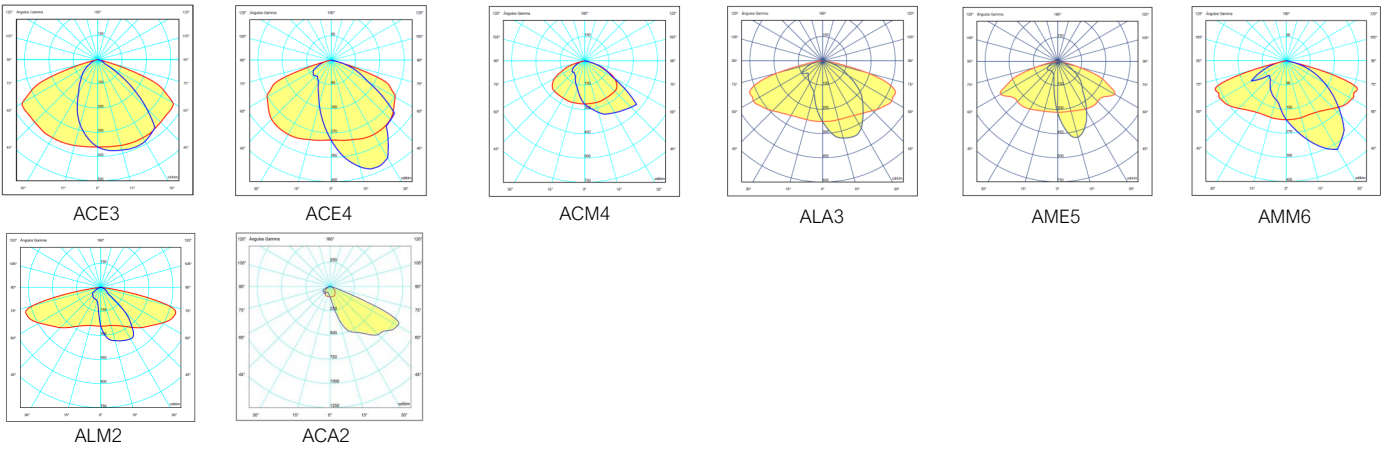
## PHOTOMETRIC DISTRIBUTIONS

It has the 19 photometric distributions used for the environments in which this type of luminaire is installed, allows it to adapt to all needs:

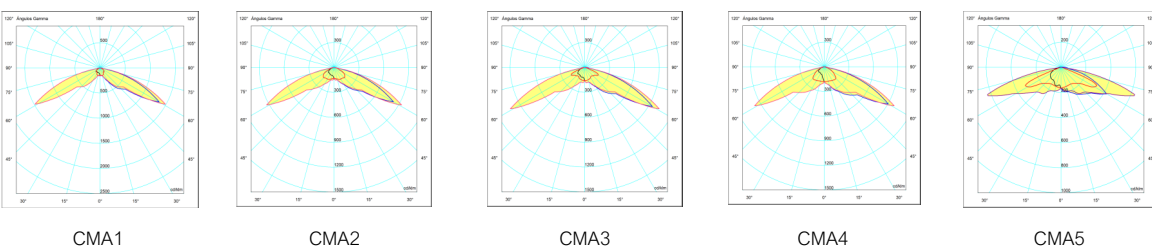
### Symmetrical



### Asymmetrical



### Contraflux



## SIZES

### T-XTREME S



### T-XTREME M



### T-XTREME L



## APPLICATIONS

Tunnels, Underpasses, Roundabouts, Car parks, Sports facilities, Sports centres, Industrial warehouses, Loading docks



Distributor: **EPK elektro s.r.o.**  
 info@carandini.cz - www.carandini.cz

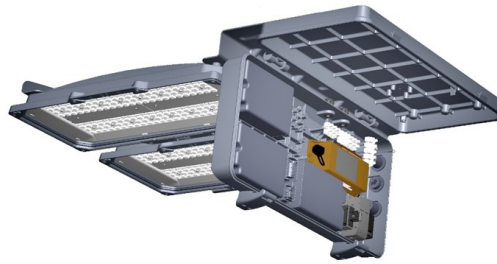
NOTE: Correct data on the date of printing. The company reserves the right to change the value at any time.  
 22/07/2025

## MAINTENANCE

Easy maintenance: front tool-free access to drivers and quick connectors.



T-Xtreme S



T-Xtreme L



T-Xtreme M



Electrical disconnection of modules without tools

## FIXATIONS

### T-Xtreme S

- SP0:** Side bracket adjustable  $-30^{\circ}/+90^{\circ}$ .
- SC0:** Cenital bracket adjustable  $-20^{\circ}/+20^{\circ}$ .
- ST0:** Ceiling bracket adjustable  $-20^{\circ}/+90^{\circ}$ .



### T-Xtreme M

- MP4:** Side bracket adjustable  $-30^{\circ}/+90^{\circ}$  with GBOX attached.



- MP9:** Side bracket adjustable  $-45^{\circ}/+90^{\circ}$  with GBOX separated from the wall - 90cm cable.

- MQ9:** Side bracket adjustable  $-45^{\circ}/+90^{\circ}$  with GBOX separate from the ceiling - 90cm cable.

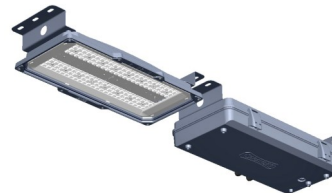
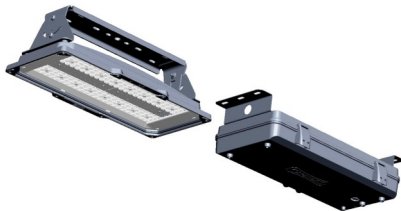


- MC9:** Cenital bracket adjustable  $-40^{\circ}/+40^{\circ}$  with GBOX separated from the wall - 90cm cable.

- MD9:** Cenital bracket adjustable  $-40^{\circ}/+40^{\circ}$  with GBOX separated from the ceiling - 90cm cable.

- MF9:** Fixing zenithal fixation with GBOX separate to wall - 90cm cable.

- MG9:** Fixing zenithal fixation with GBOX separate to ceiling - 90cm cable.



- MT4:** Ceiling bracket adjustable  $0^{\circ}/+90^{\circ}$  with GBOX attached.

- MT9:** Ceiling bracket adjustable  $0^{\circ}/+90^{\circ}$  with separate box - 90 cm cable.

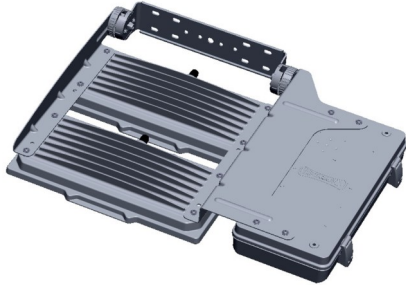
- MS9:** Ceiling bracket adjustable  $0^{\circ}/+90^{\circ}$  with separate GBOX to ceiling - 90 cm cable.



**FIXATIONS**

**T-XTREME L**

**LP4:** Side bracket adjustable  $-30^{\circ}/+90^{\circ}$  with GBOX attached.



**LP9:** Side bracket adjustable  $-45^{\circ}/+90^{\circ}$  with GBOX separated from the wall - 90cm cable.

**LQ9:** Side bracket adjustable  $-45^{\circ}/+90^{\circ}$  with GBOX separated from the ceiling - 90cm cable.



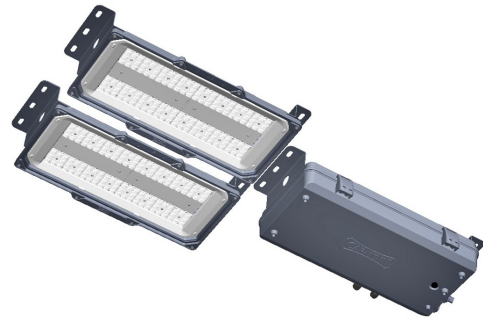
**LC9:** Cenital bracket adjustable  $-25^{\circ}/+25^{\circ}$  with GBOX separated from the wall - 90cm cable.

**LD9:** Cenital bracket adjustable  $-25^{\circ}/+25^{\circ}$  with GBOX separate from the ceiling - 90cm cable.



**LF9:** Fixing zenithal fixed with GBOX separate to wall - 90cm cable.

**LG9:** Fixing zenithal fixed with GBOX separate from ceiling - 90cm cable.



**LT4:** Ceiling bracket adjustable  $0^{\circ}/+90^{\circ}$  with GBOX attached.



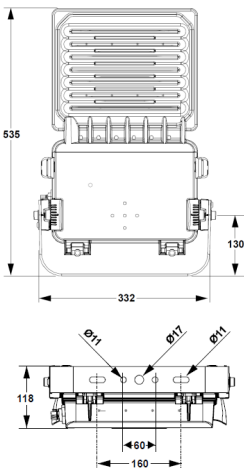
**LT9:** Ceiling bracket adjustable  $0^{\circ}/+90^{\circ}$  with GBOX separated from the wall - 90cm cable.

**LS9:** Ceiling bracket adjustable  $0^{\circ}/+90^{\circ}$  with GBOX separated from the ceiling - 90cm cable.

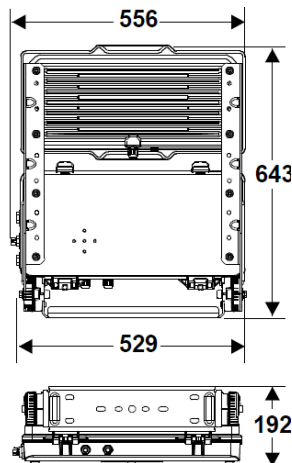


**DIMENSIONS**

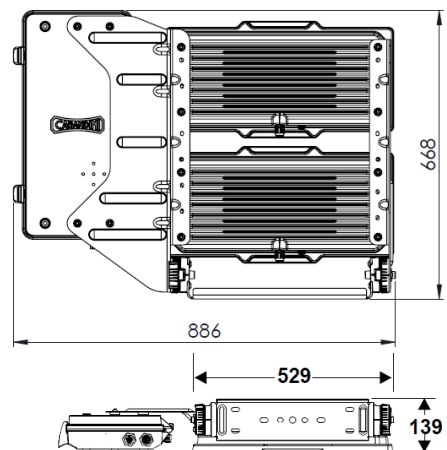
**T-XTREME S**



**T-XTREME M**



**T-XTREME L**



Distributor: EPK elektro s.r.o.  
info@carandini.cz - www.carandini.cz

## T-XTREME CHARACTERISTICS

### GENERAL INFORMATION

Sustainability	<p><b>TXR S:</b> Valorisation: 98,26%. Maximum carbon footprint per use: 0.042476 kg kWh of CO<sub>2</sub>.</p> <p><b>TXR M:</b> Valorisation: 98,26%. Maximum carbon footprint per use: 0.069412 kg kWh of CO<sub>2</sub>.</p> <p><b>TXR L:</b> Valorisation: 98,26%. Maximum carbon footprint per use: 0.139083 kg kWh of CO<sub>2</sub>.</p>
CE mark	Yes
ENEC Certificate	Yes
RoHS-compliant	Yes
Testing standards	LM 79-80 (all measurements in the laboratory certified according to ISO17025)

### GENERAL CHARACTERISTICS

Side covers	Die-cast aluminium EN AC 44100.
Closure	High transmittance tempered flat glass, 5mm thick.
Mounts	Painted steel with anti-corrosion treatment.
Finish	Slate grey polyester powder paint RAL 7015 textured (7015T).
Type of finish	Polyester powder coating with marine corrosion resistance.
Nuts outer and bolts	A4 stainless steel (AISI 316)
Galvanic isolation	To prevent galvanic corrosion, incorporates molded technical polymer insulators at the joints of LED and GBOX modules with the metal supports.
Watertightness	According to EN 60598-1 and EN 60529: Level of luminaire ingress protection IP66. Level of GBOX ingress protection IP66. Level of protection against high-pressure water jet IP69K (Luminaire and GBOX). Connector and cable gland IP68/IP69K.
Impact protection grade	IK10 (EN 62262).
Operating temperature	Ta -40°C to +50°C According to luminaire configuration.
Lifespan	L90B10 100,000 h at Ta 25°C. Light maintenance values at 25°C. Calculated by TM-21 based on LM-80 data.

### ELECTRICAL CHARACTERISTICS

Electrical class	Class I (For AC220-240V and AC120-277V driver) Class II (For AC220-240V driver)
Input voltage	220 V - 240 V / 50 Hz - 60 Hz Optional 120 V- 277 V
Power factor (at full load)	> 0.9
Surge protection	Surge protection device (1.2 / 50) 10 kV. Maximum current (8/20) 10 kA. Maximum service voltage (L-N) 320 V. Maximum service voltage (L/N-GND) 400 V. Optional overvoltage protection: 20 kA, 20 kV

### LIGHTING CHARACTERISTICS

Package real light	TXR S: 2.444lm - 23.283lm (19W - 165W) TXR M: 9.314lm - 38.249lm (68W - 269W) TXR L: 18.453lm - 75.926lm (135W - 538W)
LED color temperature	4.000 K (Neutral White, nw). 3.000 K (Warm White, ww). Other colour temperatures, upon request.
LEDs	TXR S: 16/24/28 (1 PCB), 32/48/56 (2 PCB), 48/72/84 (3 PCB) TXR M: 64/96/112 (4 PCB), 80 (5 PCB), 96/144/168 (6 PCB) TXR L: 128/192/224 (8 PCB), 160/240/280 (10 PCB), 192/288/336 (12 PCB)  The LEDs have been welded to the PCB in a zero oxygen atmosphere to considerably increase the sturdiness.
ULR / ULR	0,00 - 0,02%
Optics	Acrylic PMMA lenses especially designed for LEDs.
Photometric distributions	ACE3: Throw angle 50° spread angle 60° (Type II) ACE4: Throw angle 50°/60° spread angle 70°(Type II) ACM4: Throw angle 50° spread angle 65° (Type II) ALA3: Throw angle 30°/60° spread angle 70° (Type III) AME5: Throw angle 15°/45° spread angle 60° (Type II) AMM6: Throw angle 30°/60° spread angle 70° (Type III) ALM2: Throw angle 35° spread angle 60° (Type II). ACA2: Throw angle 143° spread angle 110° (Type III). AMA4: Throw angle 65° spread angle 75° (Type III) SCA1: Throw angle 50° spread angle 70° (Type III) SCE6: Throw angle 50° spread angle 60° (Type II) SME2: Throw angle 60° spread angle 75° (Type II) SME3: Throw angle 30° spread angle 65° (Type I) SME4: Throw angle 50° spread angle 65° (Type III) SMM1: Throw angle 60° spread angle 75° (Type III) CMA1: Throw angle 140° spread angle 121° (Type IV). CMA2: Throw angle 118° spread angle 131° (Type IV). CMA3: Throw angle 137° spread angle 137° (Type IV). CMA4: Throw angle 98° spread angle 125° (Type IV). CMA5: Throw angle 69° spread angle 31° (Type III).
LED thermal control	Temperature dissipation by the 3 principles of heat transfer (conduction, convection and radiation), through design modularity, body ventilation channels and leveraging the Venturi effect of the tunnel.

### FINISHES

#### Predefined luminaire colour



Slate grey polyester powder paint RAL 7015 textured.L

#### Corrosion protection



Marine Finish (1.000h)

T-XTREME CHARACTERISTICS

MAINTENANCE AND INSTALLATION

Maintenance and installation	<p>Tool-free opening from the front for easy maintenance Mechanical lens mounting with bolts (no adhesives).</p> <p><b>TXR S</b> can be installed outdoors at any height.</p> <p><b>TXR M</b> can be installed outdoors at any height, with a connected or separate box. Fixation with swivelling bracket.</p> <p><b>TXR L</b> can be installed outdoors at any height with separate box. Fixation with swivelling bracket.</p>
Orientation	Possible inclines (alignment every 5° With swivel joint).
Installation / Depending on type of Cable	<p><b>TUNNEL FIX</b> Different mounting systems (from top, side, separated box, attached box, etc.)</p> <p><b>TXR S:</b> <b>SP0:</b> TXR S_Side bracket adjustable -30°/+90°. <b>SC0:</b> TXR S_Cenital bracket adjustable -20°/+20°. <b>ST0:</b> TXR S_Ceiling bracket adjustable -20°/+90°.</p> <p><b>TXR M:</b> <b>MP4:</b> TXR M_Side bracket adjustable 30°/+90° with GBOX attached. <b>MP9:</b> TXR M_Side bracket adjustable -45°/+90° with GBOX separated from the wall- 90cm cable. <b>MQ9:</b> TXR M_Side bracket adjustable -45°/+90° with GBOX separate from the ceiling - 90cm cable. <b>MC9:</b> TXR M_Cenital bracket adjustable -40°/+40° with GBOX separated from the wall - 90cm cable. <b>MD9:</b> TXR M_Cenital bracket adjustable -40°/+40° with GBOX separated from the ceiling - 90cm cable. <b>MF9:</b> TXR M_Fixing zenithal fixation with GBOX separate to wall - 90cm cable. <b>MG9:</b> TXR M_Fixing zenithal fixation with GBOX separate to ceiling - 90cm cable. <b>MT4:</b> TXR M_Ceiling bracket adjustable 0°/+90° with GBOX attached. <b>MT9:</b> Ceiling bracket adjustable 0° / +90° with separate box - 90 cm cable. <b>MS9:</b> Ceiling bracket adjustable 0° / +90° with separate GBOX to ceiling - 90 cm cable. <b>MR9:</b> Side bracket adjustable -90°/+90° with GBOX separated to column - 90cm cable</p> <p><b>TXR L:</b> <b>LP4:</b> TXR L_Side bracket adjustable -30°/+90° with GBOX attached. <b>LP9:</b> TXR L_Side bracket adjustable -45°/+90° with GBOX separated from the wall - 90cm cable. <b>LQ9:</b> TXR L_Side bracket adjustable -45°/+90° with GBOX separated from the ceiling - 90cm cable. <b>LC9:</b> TXR L_Cenital bracket adjustable -25°/+25° with GBOX separated from the wall - 90cm cable. <b>LD9:</b> TXR L_Cenital bracket adjustable -25°/+25° with GBOX separate from the ceiling - 90cm cable. <b>LF9:</b> TXR L_Fixing zenithal fixed with GBOX separate to wall - 90cm cable. <b>LG9:</b> TXR L_Fixing zenithal fixed with GBOX separate from ceiling - 90cm cable. <b>LT4:</b> TXR L_Ceiling bracket adjustable 0° / +90° with GBOX attached. <b>LT9:</b> TXR L_Ceiling bracket adjustable 0° / +90° with GBOX separated from the wall - 90cm cable. <b>LS9:</b> TXR L_Ceiling bracket adjustable 0° / +90° with GBOX separated from the ceiling - 90cm cable. <b>LR9:</b> Side bracket adjustable -90°/+90° with GBOX separated to column - 90cm cable</p>
Mechanical Resistance	<p>The application of wind pressure is carried out according to UNE-EN 60598-2-3:2003:</p> <p>The wind speed above ground level must be 150 km/h (41.67m/s). Over the projection surface of the floodlight assembly without excessive deviations.</p>
Weight	<p>S: 7,80 Kg M: 20 Kg L: 30 Kg</p>

MANAGEMENT AND CONTROL

Equipment	<p><b>1N:</b> 1 level <b>RC:</b> Mains voltaje dimming. <b>RD:</b> DALI protocol adjustable (LRD). <b>RL:</b> Dimming a profile adjustable through mains (pulses). <b>SC:</b> Adjustable according to customer (LRTSC). <b>SR:</b> Smart Ready D4i.</p>
Socket connection	<p><b>3:</b> NEMA socket on/off without cover <b>U:</b> NEMA socket on/off with IP66 cover <b>5:</b> NEMA socket 5 pins without cover <b>V:</b> NEMA socket 5 pin with IP66 cover <b>7:</b> NEMA socket 7 pins without cover <b>W:</b> NEMA socket 7 pin with IP66 cover <b>4:</b> ZHAGA top socket 4 pins without cover <b>X:</b> ZHAGA top socket 4 pins with IP66 cover</p>
Sensor	<p><b>1:</b> Photocell for base NEMA 3, 5 and 7 (20 LUX) <b>2:</b> Photocell for upper ZHAGA base (20 LUX)</p>
Communication Node	<p><b>NH:</b> Controlux Tunnel LPC (TXR M and TXR L) <b>NL:</b> Controlux Tunnel LPC Lite (TXR S)</p>
Cables	Standard power wire from separate equipment box to LED module: 1m. Optional 2.5m and 5m accessory wires.

LOGISTICAL INFORMATION

European pallet

	T-XTREME S	T-XTREME M	T-XTREME L
Box dimensions:	550 x 390 x 150mm	600 x 670 x 200 mm	900 x 700 x 200 mm
Box weight:	8,4 kg	20 kg	31 kg
Number of boxes:	36	12	6
Pallet dimensions:	1200 x 800 x 1480 mm	1200 x 800 x 1350 mm	1200 x 800 x 1350 mm
Number of levels	9	6	6
Boxes per level	4	2	1
Total weight:	322 kg	260 kg	203 kg

INNOVATIVE AND UPDATABLE OVER TIME (Zhaga/ ZD4i)

# Zhaga

**Zhaga — “Future Proof”**

Zhaga is an industrial consortium that seeks to standardise the specifications used for interfaces between LED luminaires and light sources. The goal is to achieve interchangeability between products made by different manufacturers. Zhaga defines the testing procedures for light sources from luminaires and LEDs so that the luminaires accept the LED source.



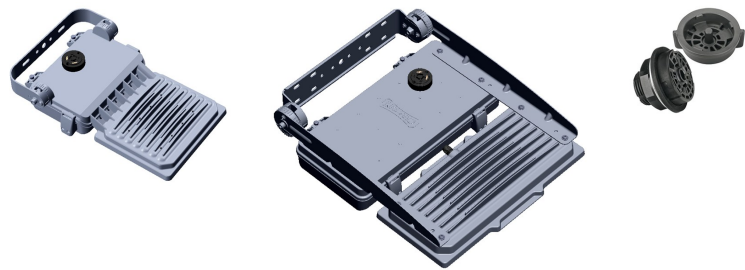
**Zhaga D4i — “Sensor Ready”**

The Zhaga consortium merged with DiiA to create one single Zhaga-D4i certificate that combines the specifications for outdoor connectivity from Version 2 of Zhaga Book 18 with the D4i specifications of Dii4 for intra-luminaire DALI.

**“BOOKS” PER APPLICATION. A PROFITABLE SOLUTION.**

	Office & Industry	Retail & Hospitality	Outdoor
Integrated LED light engines	14, 2.8	17, 16	
LED modules (non-integrated)	7, 21, 14	12, 9, 5, 3, 10	4, 15, 19
Drivers	13	LED set 22, 23	24, 25
Sensor and communication modules		20	18

The specifications indicating that a component is Zhaga can be found in a series of books that are only available to the consortium members and enable designs to be produced according to the marked standard. The advantages for society are clear given that, besides reducing the consumption of resources, luminaire re-use is increased with a focus on achieving a circular economy.



**CERTIFICATION PROGRAMME**

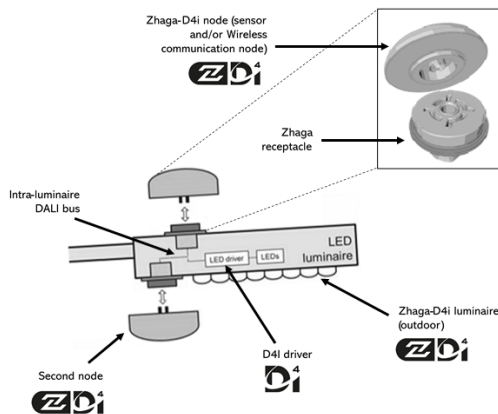
Zhaga-D4i certification covers all the essential characteristics, including automatic adjustment, digital communication, data reporting and power requirements in any single luminaire, ensuring plug-and-play interoperability for luminaires (drivers) and peripherals, such as connectivity nodes.

**STANDARDISATION AS A MEANS TO ACHIEVE SUSTAINABILITY**

The **T-XTREME** luminaire has been designed to function with the latest available market-proven technology based on standards. This also enables it to meet the CARANDINI sustainability requirements and become a product ready for maintenance in the future under better guarantees while respecting the environment and society.

The luminaires marked as Zhaga are a “Future Proof” design, meaning it is based on and designed around standard Zhaga components. These components are mainly the LED modules and the drivers. The electric compartment and dissipation area for LED modules has space and additional mountings to include any driver compliant with Zhaga “Book 13” based on market driver dimensions, or any LED module compliant with Zhaga “Book 15” based on LED controller interface specifications.

This makes it possible to have a sustainable product that can be updated over time.



**CONNECTIVITY**

D4i specifications take the best of the standard DALI2 protocol and adapt it to an interconnected lighting environment, but with certain limitations. Only the control devices installed in the luminaires can be combined with a Zhaga-D4i luminaire. According to the specifications, the control devices are respectively limited to an average power consumption of 2 W and 1 W.

**SMART CITY**

Luminaires marked ZD4i are a “Smart Ready” design, which means they are designed to house both indoor and outdoor communication nodes through connection sockets compliant with the Zhaga “Book 18” & Zhaga-D4i standard on sensor and communication node interoperability.