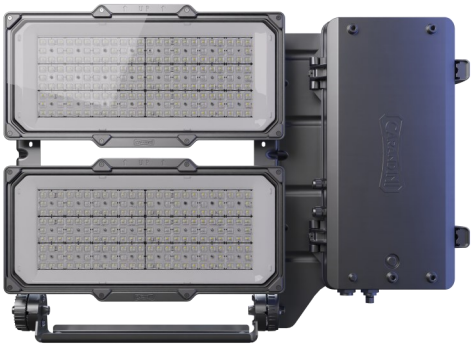
T-XTREME

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 5º with swivel joint)
- Ready for connection: Zhaga base, Nema, Dali or dedicated cable entry and communication nodes (ZD4i).
- Energy Efficient: up to 165 lm/W.
- Sturdiness: IP66 + IP69K + IK10.
- L90B10 useful life: 100,000h (Ta) 25ºC.
- Smart Ready: Designed to house both indoor and outdoor communications nodes.

IP66 IP69K | IK10 | CI | CII | RAL 7015 Textured | Marine finish (RAL M7015T)

reddot winner 2023

Eprotec | ZD i | Zhaga | DALI

2200K CRI>70 | 3000K CRI>70 | 4000K CRI>70

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 -40º and 50º 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.

TXR S: 4.489lm – 23.113lm (31W - 163W)
TXR M: 17.459lm – 38.302lm (114W - 269W)
TXR L: 34.921lm – 74.577lm (228W - 538W)

-40ºC to + 50ºC (depending on versión)

165 lm /W
Luminaire

0,00 - 0,02%

S: 7,80 Kg
M: 20 Kg
L: 30 Kg

S: 0,136 m²
M: 0,296 m²
L: 0,528 m²

220 - 240V / 100V - 277V
50-60Hz
L90B10 100.000h

STANDARDS / CERTIFICATES

- CE
- RoHS
- UNE-EN 60598-1:2009
- UNE-EN 60598-2-5:2003
- UNE-EN 62471:2009
- UNE-EN 61000-3-2:2006
- UNE-EN 61000-3-3 :2013
- UNE-EN 55015:2013
- UNE-EN 61547:2009
- UNE-EN 62031:2009
- UNE-EN 61347-2-13:2009
- UNE-EN 62384:2007
- UNE-EN 13032-4
- UNE EN ISO 9227

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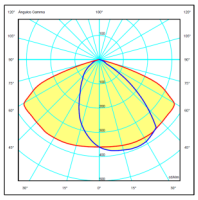
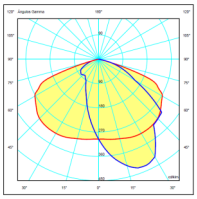
PHOTOMETRIC DISTRIBUTIONS

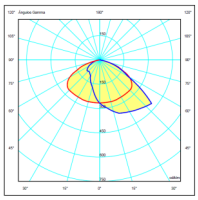
12 photometric configurations are available for use in the various environments where this type of luminaire might be installed, meaning it can be adapted to suit all situations:



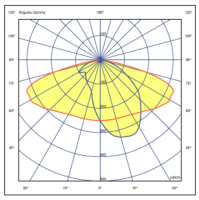
ACE3



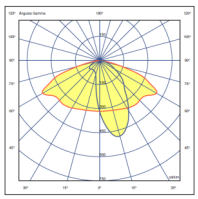
ACE4



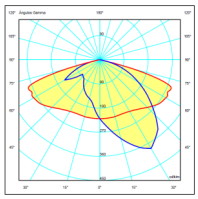
ACM4



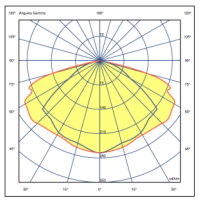
ALA3



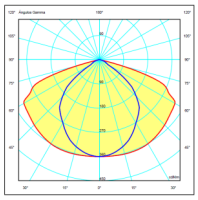
AME5



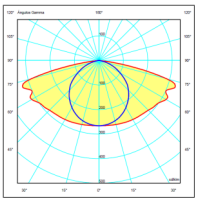
AMM6



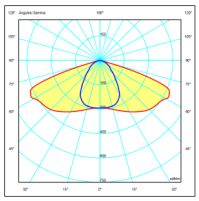
SCA1



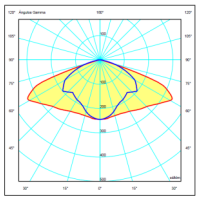
SCE6



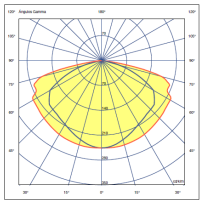
SME2



SME3



SME4



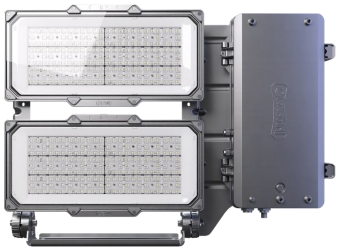
SMM1

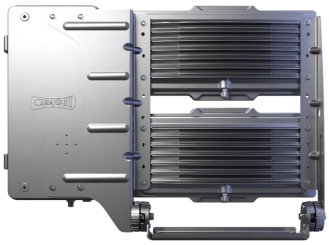
SIZES

T-XTREME S

T-XTREME M

T-XTREME L





APPLICATIONS

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

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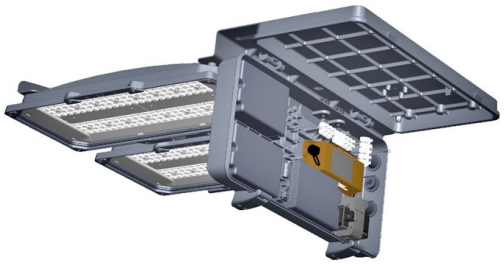
MAINTENANCE

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 –30º/ +90º.
SC0: Cenital bracket adjustable -20º/ +20º.
ST0: Ceiling bracket adjustable –20º/ +90º.

T-XTREME M

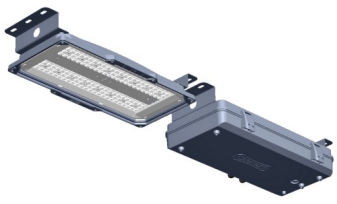
MP4: Side bracket adjustable -30º/ +90º with GBOX attached.

MC9: Cenital bracket adjustable -40º/+40º with GBOX separated from the wall - 90cm cable.
MD9: Cenital bracket adjustable -40º/+40º with GBOX separated from the ceiling - 90cm cable.

MT4: Ceiling bracket adjustable 0º/+90º with GBOX attached.

MP9: Side bracket adjustable -45º/+90º with GBOX separated from the wall- 90cm cable.
MQ9: Side bracket adjustable -45º/+90º with GBOX separate 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.



MT9: Ceiling bracket adjustable 0º / +90º with separate box - 90 cm cable.
MS9: Ceiling bracket adjustable 0º / +90º with separate GBOX to ceiling - 90 cm cable.

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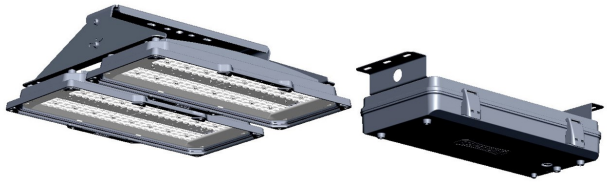
FIXATIONS

T-XTREME L

LP4: Side bracket adjustable –30º/+90º with GBOX attached.

LP9: Side bracket adjustable -45º/ +90º with GBOX separated from the wall - 90cm cable.
LQ9: Side bracket adjustable -45º/ +90º with GBOX separated from the celling - 90cm cable.

LC9: Cenital bracket adjustable -25º/ +25º with GBOX separated from the wall - 90cm cable.
LD9: Cenital bracket adjustable -25º/ +25º with GBOX separate from the ceiling - 90cm cable.



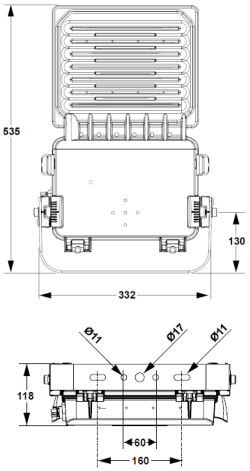
LF9: Fixing zenithal fixed with GBOX separate to wall - 90cm cable.
LG9: Fixing zenithal fixed with GBOX separate from ceiling - 90cm cable.

LT4: Ceiling bracket adjustable 0º / +90º with GBOX attached.

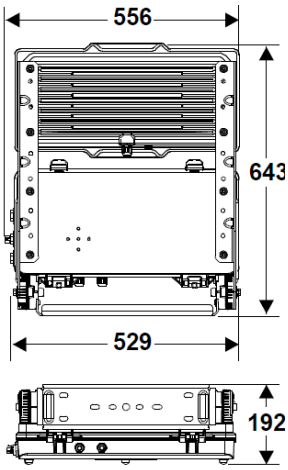
LT9: Ceiling bracket adjustable 0º / +90º with GBOX separated from the wall - 90cm cable.
LS9: Ceiling bracket adjustable 0º / +90º with GBOX separated from the ceiling - 90cm cable.

DIMENSIONS

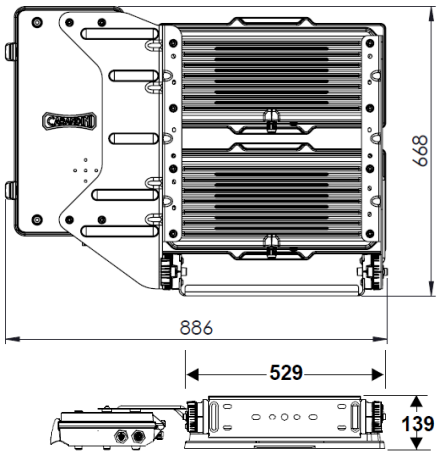
T-XTREME S



T-XTREME M



T-XTREME L



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T-XTREME CHARACTERISTICS

GENERAL INFORMATION

Sustainability	**TXR S:** Recyclability Valorisation: 99.37%. Maximum carbon footprint per use: 0.042476 kg kW/h of CO_2. **TXR M:** Recyclability Valorisation: 99.47%. Maximum carbon footprint per use: 0.069412 kg kW/h of CO_2. **TXR L:** Recyclability Valorisation: 99.48%. Maximum carbon footprint per use: 0.139083 kg kW/h of CO_2.
CE mark	In testing process
RoHS-compliant	In testing process
Testing standards	In testing process

GENERAL CHARACTERISTICS

Side covers	Die-cast aluminium EN AC 44100. Low Cu content <0,15%
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 finishes	Standard polyester powder coating (C2-C3 according to ISO 9223-2012 standard). Optional: Optional anodised polyester powder coating (C5-CX according to ISO 9223-2012 standard).
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 configura-
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 100 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: 4.489lm – 23.113lm (31W - 163W) TXR M: 17.459lm – 38.302lm (114W - 269W) TXR L: 34.921lm – 74.577lm (228W - 538W)
LED color temperature	4.000 K (Neutral White, nw). 3.000 K (Warm White, ww). 2.200K (Warm White, ww). Other colour temperatures, upon request.
LEDs	TXR S: 28 (1 PCB), 56 (2 PCB), 84 (3 PCB). TXR M: 112 (4 PCB), 168 (6 PCB). TXR L: 224 (8 PCB), 280 (10 PCB), 336 (PCB). The LEDs have been welded to the PCB in a zero oxygen atmosphere to considerably increase the sturdi-ness.
ULR / ULR	0,00 - 0,02%
Optics	Acrylic PMMA lenses especially designed for LEDs.
Photometric distributions	ACE3: Throw angle 50º spread angle 60º (Type II) ACE4: Throw angle 50º/60º spread angle 70º(Type II) ACM4: Throw angle 50º spread angle 65º (Type II) ALA3: Throw angle 30º/60º spread angle 70º (Type III) AME5: Throw angle 15º/45º spread angle 60º (Type II) AMM6: Throw angle 30º/60º spread angle 70º (Type III) SCA1: Throw angle 50º spread angle 70º (Type III) SCE6: Throw angle 50º spread angle 60º (Type II) SME2: Throw angle 60º spread angle 75º (Type II) SME3: Throw angle 30º spread angle 65º (Type I) SME4: Throw angle 50º spread angle 65º (Type III) SMM1: Throw angle 60º spread angle 75º (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 levera-ging the Venturi effect of the tunnel.

FINISHES

Predefined luminaire colour

RAL 7015	Slate grey polyester powder paint RAL 7015 textured.L

Corrosion protection

SEA SIDE SUITABLE	Marine Finish (1.000h) (Optional)

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T-XTREME CHARACTERISTICS

MAINTENANCE AND INSTALLATION

Maintenance and installation	Tool-free opening from the front for easy maintenance Mechanical lens mounting with bolts (no adhesives).
Orientation	Possible inclines (alignment every 5º With swivel joint).
Installation / Depending on type of Cable	**TUNNEL FIX** Dfferent mounting systems (from top, side, separated box, attached box, etc.) **TXR S:** **SP0:** TXR S_Side bracket adjustable –30º/ +90º. **SC0:** TXR S_Cenital bracket adjustable -20º/ +20º. **ST0:** TXR S_Ceiling bracket adjustable –20º/ +90º. **TXR M:** **MP4:** TXR M_Side bracket adjustable 30º/ +90º with GBOX attached. **MP9:** TXR M_Side bracket adjustable -45º/+90º with GBOX separated from the wall- 90cm cable. **MQ9:** TXR M_Side bracket adjustable -45º/+90º with GBOX separate from the ceiling - 90cm cable. **MC9:** TXR M_Cenital bracket adjustable -40º/+40º with GBOX separated from the wall - 90cm cable. **MD9**: TXR M_Cenital bracket adjustable -40º/+40º with GBOX separated from the ceiling - 90cm cable. **MF9:** TXR M_Fixing zenithal fixation with GBOX separate to wall - 90cm cable. **MG9**: TXR M_Fixing zenithal fixation with GBOX separate to ceiling - 90cm cable. **MT4:** TXR M_Ceiling bracket adjustable 0º/+90º with GBOX attached. **MT9**: Ceiling bracket adjustable 0º / +90º with separate box - 90 cm cable. **MS9:** Ceiling bracket adjustable 0º / +90º with separate GBOX to ceiling - 90 cm cable. **TXR L:** **LP4:** TXR L_Side bracket adjustable –30º/+90º with GBOX attached. **LP9:** TXR L_Side bracket adjustable -45º/ +90º with GBOX separated from the wall - 90cm cable. **LQ9:** TXR L_Side bracket adjustable -45º/ +90º with GBOX separated from the celling - 90cm cable. **LC9:** TXR L_Cenital bracket adjustable -25º/ +25º with GBOX separated from the wall - 90cm cable. **LD9:** TXR L_Cenital bracket adjustable -25º/ +25º with GBOX separate from the ceiling - 90cm cable. **LF9:** TXR L_Fixing zenithal fixed with GBOX separate to wall - 90cm cable. **LG9**: TXR L_Fixing zenithal fixed with GBOX separate from ceiling - 90cm cable. **LT4:** TXR L_Ceiling bracket adjustable 0º / +90º with GBOX attached. **LT9:** TXR L_Ceiling bracket adjustable 0º / +90º with GBOX separated from the wall - 90cm cable. **LS9:** TXR L_Ceiling bracket adjustable 0º / +90º with GBOX separated from the ceiling - 90cm cable.
Mechanical Resistance	The application of wind pressure is carried out according to UNE-EN 60598-2-3:2003: 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.
Weight	S: 7,80 Kg M: 20 Kg L: 30 Kg

MANAGEMENT AND CONTROL

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

LOGISTICAL INFORMATION

In process.

INNOVATIVE AND UPDATABLE OVER TIME (Zhaga/ ZD4i)

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.

Zhaga Consortium — Book 1-25 Overview by application

	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 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

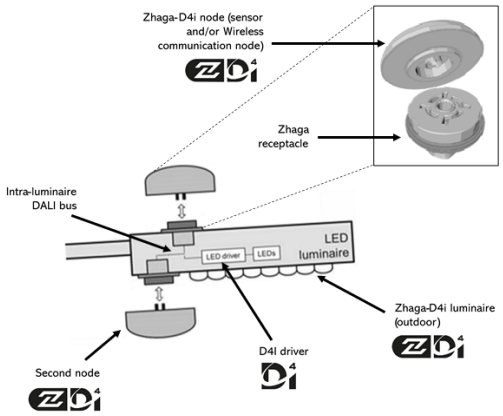
Zhaga-D4i certification covers all the essential characteristics, including automatic adjustment, digital communication, data reporting and power requirements in any single luminaire, ensuring plug-and-play interoperability for luminaires (drivers) and peripherals, such as connectivity nodes.

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.

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