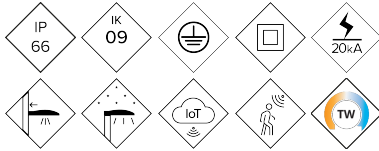
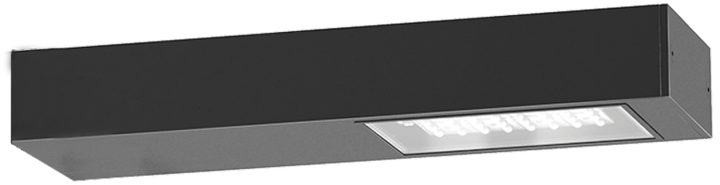


ALTM

luminaire TOMSK



Minimalist design luminaire in extruded aluminium with a rectangular profile of 7.87 in x 3.94 in. It offers great robustness and durability, its sober and modern design adapts to any type of urban environment. It incorporates at its end one or two BENITO LED modules for easy maintenance with a power range from 20W to 150W, which allows it to adapt to any lighting requirement.

MAIN FEATURES:

- High efficiency. Up to 145 lm/W net
- 2 different sizes. From 20W to 150W
- 18 light distribution curves
- Zhaga Standard (Book 15)
- Tempered 4mm glass with sealing joint to obtain an IP66 rating
- Double Cavity, Driver and Optical Group
- Ready4IOT. Ready for connectivity

APPLICATIONS:

- Historical Centres
- Residential Streets (Zones 30)
- Pedestrian Zones
- Commercial and Tourist Streets
- Squares
- Green Areas; Parks and Gardens

[Project sheet](#) | [CAD](#) | [Mounting instructions](#) | [HD image](#)

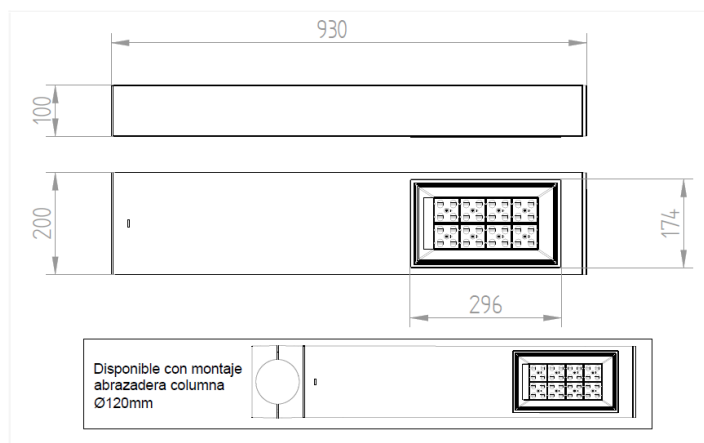
BENITO

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tel. 93 852 1000

SPECIFICATIONS :

Housing material:	Aluminum extrusion with a 200mm x 100mm rectangular profile
Diffuser (optic system enclosure):	4mm tempered safety glass. UV filter
Fixing elements:	Stainless steel 18/8 - AISI 304
Housing:	One-piece construction with register for Benito LED module in die-cast aluminium.
Sealing gaskets:	Silicone
IP rating (luminaire):	IP66
IP rating (optic system):	IP66
IK rating (impact resistance):	IK09
LEDs thermal dissipation:	Highly efficient heatsink with large dissipation surface, thanks to the LED module made of die-cast aluminium. Passive dissipation by convection and ensuring thermal contact of the LED modules through highly conductive heat transfer material.
Anti-condensation valve:	Pressure-balancing valve ensures the evacuation of humidity, preventing condensation and maintaining the IP tightness rating of the LED module.
Paint and finishes:	Extruded aluminium and with a polyester powder paint coating, electrostatically sprayed and sublimated in the oven. Resistant to corrosion
Colour:	Microtextured black (Optional: other colours on request)
Mounting:	Rectangular Column 100x200 / Cylindrical 120mm / Wall fixing
Tilt range:	No tilt.
Maintenance:	Modular concept for easy component replacement: LEDs, drivers, SPD
Recommended mounting height:	4 - 10 m
Driver:	Constant current adjustable and programmable driver on different levels (0-10V, 1-10V, DALI2, NFC). Embedded in the luminaire, pre-wired on a galvanised steel plate.
Flow Reduction:	Double level with control line, autonomous multi-level dimming or virtual midnight, flow reduction at the head-end.
Ready4IOT - Connectivity:	Zhaga Base (Book 18) - D4i. (Optional). NEMA 5,7 Pins Base (Optional). Bottom side Presence Sensor on Zhaga Base (Book 18) - D4i. (Optional).
Surge protection device (SPD):	Type T2+T3, 10-20kV and 20kA transient surge protector. Series connection with thermofuse, disconnection for a more effective protection at the end of the SPD service life. (Optional SPD Full Permanent Surge Protector >264Vac to <170VAc).
DarkSky Approved	

DRAWING:



INSTALLATION:



TECHNICAL DATA:

REF.	N° LEDs	Power W	I Driver mA	Real luminous flux (T) =85°C		Initial luminous flux (T) =25°C	
				Flux lm	Efficacy lm/W	Flux lm	Efficacy lm/W
Tomsk Luminaire	16	20	375	2842	142	3240	162
	16	30	563	4260	142	4856	162
	16	40	750	5642	141	6432	161
	32	60	563	8460	141	9644	161
	32	80	750	11360	142	12950	162
	64	100	470	14100	141	22701	161
	64	150	700	21000	140	24000	160

LEDs: 5050

Nominal efficacy LED: 172 lm/W.

Maximum LED current: 1000 mA.

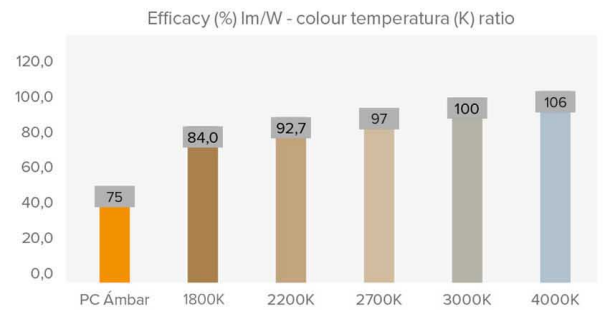
LED current = Driver current/2

Lifetime L90B10: >100,000 hours.

Luminous flux and efficacy at 4000°K and CRI>70.

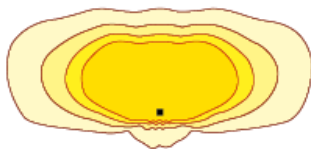
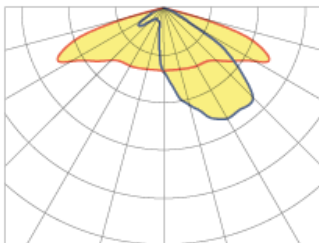
Luminous flux tolerance < +/-3%.

Values may be subject to change due to LED binning.

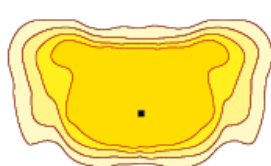
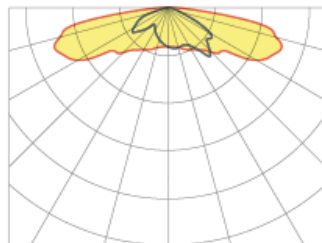


PHOTOMETRY:

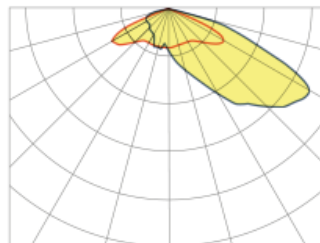
Asymmetric Extensive (AE)



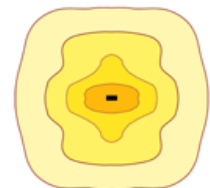
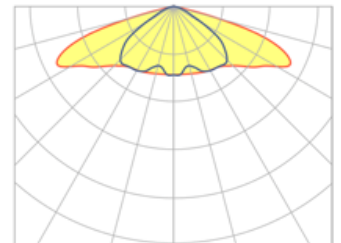
Asymmetric Super Extensive (A3)



Asymmetric Extensive Front (A1)



Symmetric Extensive Rectangular Symmetric (SE)



*Show 4 recommended lighting distributions. Refer to the 18 typologies.

LEDs MODULE:

LEDs module:	Benito Zhaga format 16 LED. Check other color temperatures, CRI and light distributions. (Optional NTC temperature sensor).	
Replaceable module:	Yes	
LED:	5050	
Number of LEDs:	16 - 32 - 64	
PCBs format:	1, 2 or 4 Zhaga (Book 15) 2x8	
LED nominal efficacy:	172	
Colour temperature:	PC Amber - 1K8, 2K2, 2K7, 3K, 4K, TW - Tunable White	
Colour rendering index CRI:	>70 (optional >80)	
Average LED useful time L90B10:	L90B10 >100,000 hours	

OPTIC SPECIFICATIONS:

Optic system:	PMMA lenses 2x2	
Light distributions:	18 light distribution curves	
Upward light output ratio ULOR:	0%	
Downward light output ratio DLOR:	100%	
Glare index:	Between D5 and D6 (depending on the light distribution)	
Luminous intensity category:	Between G*4 and G*6 (depending on the light distribution)	
Luminous flux CIE n°3:	>95% (See 18 Light Distributions).	
Photobiological safety:	RG0 (exempt of risk)	
Initial luminous flux Tj=25°C (up to):	lm	24000
Initial luminaire efficacy Tj=25°C (up to):	lm/W	162
Real luminous flux Tj=85°C (UNE EN 13032-4) (up to):	lm	21000
Real luminaire efficacy Tj=85°C (UNE EN 13032-4) (up to):	lm/W	142

ELECTRIC SPECIFICATIONS:

Nominal maximum power (LEDs):	135	
Maximum power consumed (luminaire):	W	150
Power range:	W	20 - 150
Maximum current of LED:	mA	<470 (LED Current = 50% Driver Current)
Power supply protection classes IEC:	Class I and II	
Surge protection device (SPD):	Type 2 and Type 3, 10-20kV and 20kA transient surge protector. Series connection with thermal fuse disconnecter for a more effective protection at the end of its service life.	
Common and differential mode protection (SPD) Udc:	kV	10
Max current (8/20) (SPD):	kA	20
Thermal phase disconnection (SPD):	Yes	
Input voltage:	Vac	220-240
Input voltage (max rate):	Vac	198-264
Input frequency:	Hz	47-63
Starting current:	A	<65
Duration of the starting voltage peak:	ms	<0.3
Driver efficacy:	>90%	
Power factor 100% consumption:	>0.98	
Power factor 50% consumption:	>0.95	
Total harmonic distortion (THD):	<10	
Power consumption on standby mode:	W	<0.4
Energy class:	C (According to EU Regulation 2019/2015 EPREL) - A++ IPEA>1,15	

OPERATING CONDITIONS:

Average LED useful time L90B10:	>100,000	
Average driver useful life to Tp <70°C:	100,000	
Average luminaire useful life L90B10 (TM-21):		
Ambient temperature (Ta):	°C	From -35°C to +50°C
Aerodynamic resistance (CxS):	m2	0,178
Vibration test (15Hz 3 axis):		
Guarantee:	years	5 (extensible up to 10 years)

PACKAGING DIMENSIONS:

Net weight	kg	7,5 - 12,5
Gross weight	kg	8,5 - 14
Luminaire dimensions (LxWxH)	mm	900-1250x200x100
Packaging dimensions (LxWxH)	mm	940-1290x240x140
Pieces per box		
Quantity per container 20ft	764 - 640	
Quantity per container 40ft	1792 - 1360	

CERTIFICATES:

Security certificates:	EN 40 / EN 62031 / EN 62493 / EN 62471 / IEC 62778 / EN 61247-2-13
EMC certificates:	EN 55015 / EN 61547 / EN 61000-3-2 / EN 61000-3-3 / EN 61347-2-13 / EN 61347-1 / EN 62384
Other certifications:	IEC 62262 / EN 13032-4 / EN 62717 / EN 6272-1 / EN 6272-2-1 / EN 61643-11

Company Certifications



BENITO

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