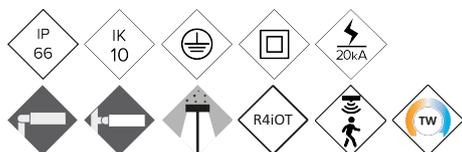


ALFUM

Luminaire

# FUSION M



A complete road luminaire family at the forefront of LED technology to offer excellent lighting performance thanks to its aerodynamic design, which increases the dissipation surface. Comprehensive range available in three sizes with extensive optical and light distributions from 20W up to 240W. Housing composed of two parts that can be disassembled without tools. Ready for any smart lighting control solutions.

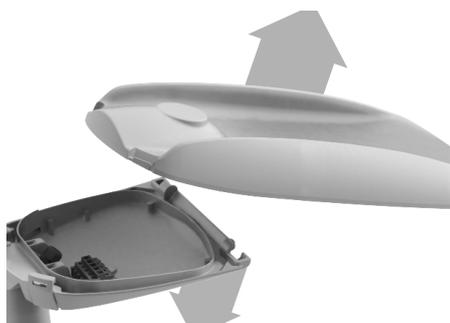
## MAIN FEATURES:

- High efficiency. Up to 145 lm/W net
- 3 different sizes. From 20W to 240W
- Double compartment: driver and LED module
- Tool-less opening - 18 light distribution curves
- Zhaga Standard (Book 15)
- Ready 4IoT. Ready for any intelligent lighting control solution

## APPLICATIONS:

- Roads and Motorways
- Roundabouts
- Urban Roads and Streets
- Pedestrian Crossings
- Bicycle Lanes and Narrow Roads
- Car Parks

## DETAILS:



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

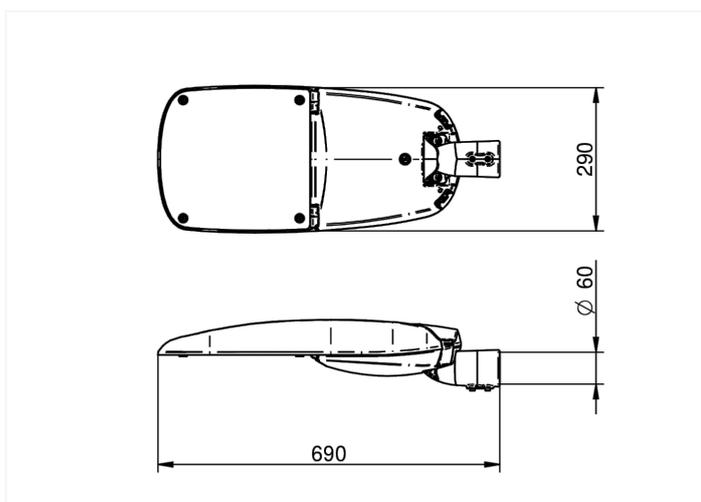
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## SPECIFICATIONS :

Housing material:	High pressure die-cast aluminium EN AC-43000, EN AC-43100, EN AC-43400, EN AC-44100, EN AC-47100 according to the UNE EN 1706 standard
Diffuser (optic system enclosure):	5mm tempered safety glass, filters UV. Optionally in polycarbonate.
Fixing elements:	Stainless steel 18/8 - AISI 304
Housing:	Double compartment: driver / LED module
Sealing gaskets:	Silicone foam
IP rating (luminaire):	IP66
IP rating (optic system):	IP66
IK rating (impact resistance):	IK10
LEDs thermal dissipation:	Thermal dissipation through finless luminaire body, without conductive fluids. Passive convection dissipation ensuring thermal contact with the LED modules through a high-conductivity thermal transfer material
Anti-condensation valve:	Pressure-balancing valve to ensure moisture release, avoid condensation and maintain the luminaire IP tightness
Paint and finishes:	Polyester powder paint coating, electrostatically sprayed and sublimated in the oven. Resistant to corrosion
Colour:	RAL 9022. Optional: other colours
Mounting:	Post-Top Ø60mm (Optional; Ø76mm and by means of accessories Ø48mm)
Tilt range:	From -15° to +15°
Maintenance:	Easy, tool-less opening. Modular concept for easy component replacement: LEDs, drivers, SPD
Recommended mounting height:	6 - 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, 10kV 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).

## DRAWING:



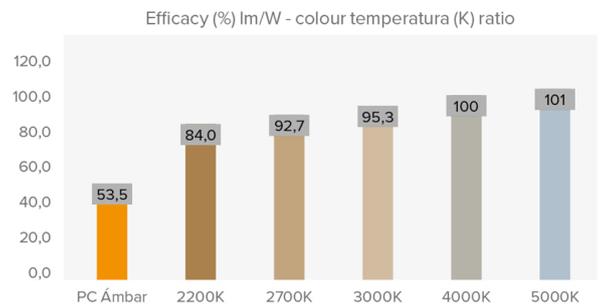
## INSTALLATION:



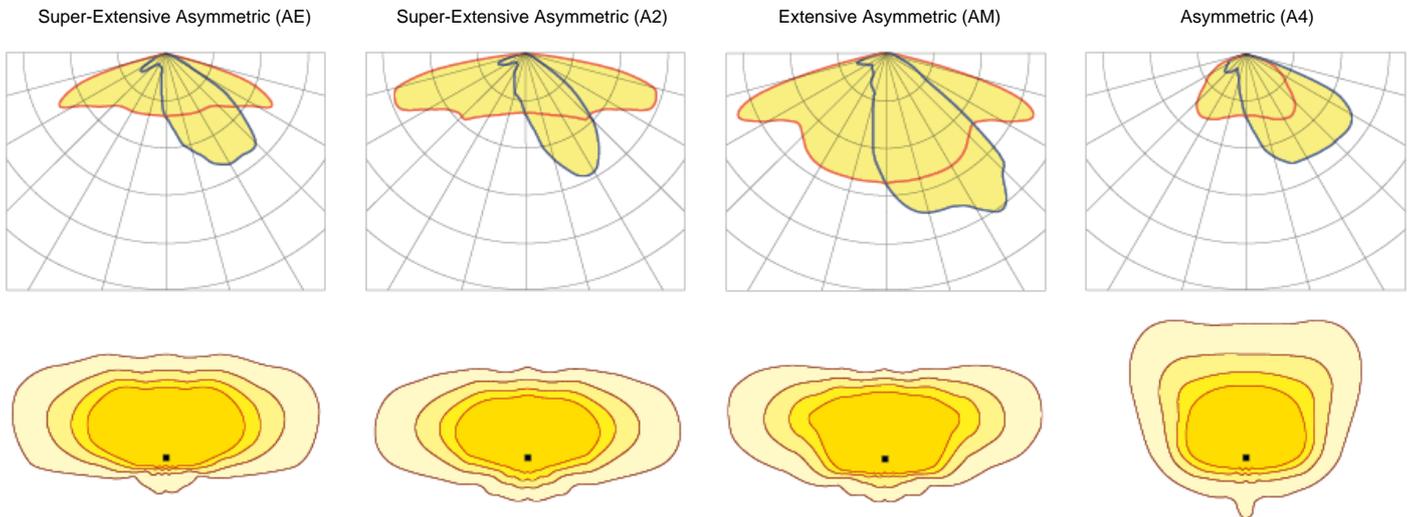
## TECHNICAL DATA:

FUSION M	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
	ALFUM80	32	60	563	8520	142	9713	162
		32	80	750	11193	140	12760	160
	ALFUM120	48	100	625	14066	141	16035	160
		48	120	750	16800	140	19152	160

Luminous flux and efficiency at 4000°K and CRI>70.  
 Luminous flux tolerance < +/-3%.  
 Values may be subject to changes due to LED binning.



## PHOTOMETRY:



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

## LEDs MODULE:

LEDs module:	BENITO Zhaga standard with 8, 12 and 16 LEDs. Check colour temperatures, CRI and Luminous distributions (Optional NTC temperature probe).	
Replaceable module:	Yes	
LED:	5050	
Number of LEDs:	32-48	
PCBs format:	2 or 3 Zhaga (Book 15) 2x8	
LED nominal efficacy:	172	
Colour temperature:	PC Amber - 1K8, 2K2, 2K7, 3K, 4K, 5K, 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	19152
Initial luminaire efficacy Tj=25°C (up to):	lm/W	160
Real luminous flux Tj=85°C (UNE EN 13032-4) (up to):	lm	16800
Real luminaire efficacy Tj=85°C (UNE EN 13032-4) (up to):	lm/W	140

## ELECTRIC SPECIFICATIONS:

Nominal maximum power (LEDs):	108	
Maximum power consumed (luminaire):	W	120
Power range:	W	60 - 120W
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, 10kV 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):	>100,000	
Ambient temperature (Ta):	°C	From -35°C to +50°C
Aerodynamic resistance (CxS):	m2	0.042
Vibration test (15Hz 3 axis):		
Guarantee:	years	5 (extensible up to 10 years)

## PACKAGING DIMENSIONS:

Net weight	kg	8
Gross weight	kg	8.8
Luminaire dimensions (LxWxH)	mm	735x340x165
Packaging dimensions (LxWxH)		
Pieces per box	1	
Quantity per container 20ft	624	
Quantity per container 40ft	1326	

## CERTIFICATES:

Security certificates:	EN 60598-1 / EN 60598-2-3 / EN 62493 / IEC 62471
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:	EN 13032-4

Company Certifications



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