

# Friza



Designer : Achilles Design

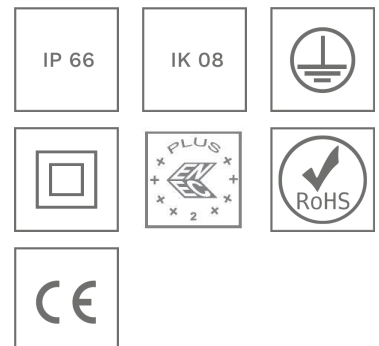


## Modern classic design for cost-effective urban lighting

Designed to light various urban landscapes such as residential areas, parks, squares, bicycle paths and urban historical centres, the Friza luminaire combines a timeless design with the energy efficiency of LED technology.

The name Friza refers to Friesland, a Dutch province and one of the many regions where the original conical 'Keegel' luminaire remains very popular. This classical shape is now refreshed to provide an aesthetic continuity while generating massive energy savings.

Friza ensures photometric performance and comfort (low glare) to offer safety and well-being in the public space. The robust design of the Friza luminaire guarantees maintained performance over time.



## Concept

The base section and main body of the Friza luminaire are made of high-pressure die-cast aluminium, with a polycarbonate protector and an injected plastic canopy. The design of the Friza luminaire guarantees an IP 66 tightness level to maintain performance over time.

Friza is equipped with the LensoFlex®2 photometric engine. Thanks to modules of 8 LEDs (from 8 to 32) and numerous lighting distributions, Friza can light various landscapes such as urban and residential streets, bike paths, squares, pedestrian areas or car parks. With its striated protector, it ensures photometric performance and comfort (low glare) to offer safety and well-being in the public space.

Reliable, efficient and robust, the Friza luminaire is supplied pre-cabled for an easy installation. There is no need to open the luminaire during the installation.

Friza is designed for post-top mounting on Ø60mm spigots. The canopy can be opened for maintenance by unscrewing 4 captive screws. An integrated hinge retains the canopy and prevents it from falling when opened. It gives direct access to the gear plate.



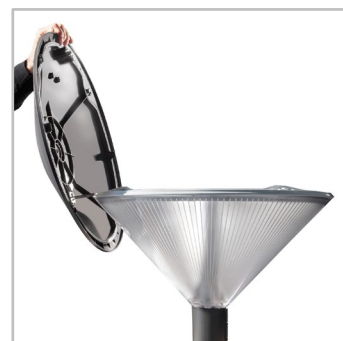
Friza ensures performance and comfort with its striated protector.



The luminaire is supplied pre-cabled to facilitate installation.



Friza offers a slip-over mounting onto Ø60mm spigots.



An integrated hinge retains the canopy and prevents it from falling when opened.

## Types of application

- URBAN & RESIDENTIAL STREETS
- BRIDGES
- BIKE & PEDESTRIAN PATHS
- RAILWAY STATIONS & METROS
- CAR PARKS
- SQUARES & PEDESTRIAN AREAS

## Key advantages

- Cost effective lighting solution for creation of ambiance
- Right lighting through LensoFlex®2 offering high performance photometry, comfort and safety
- IP 66 tightness level for long lasting performance
- Supplied pre-cabled to facilitate its installation
- FutureProof: easy replacement of the photometric engine and electronic assembly
- Designed to incorporate the Owlet range of control solutions



LensoFlex®2

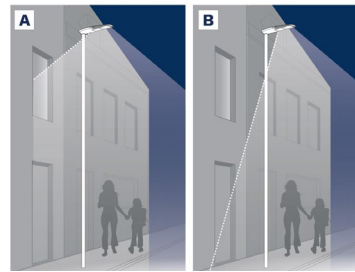
LensoFlex®2 is based upon the addition principle of photometric distribution. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LEDs in combination with the driving current determines the intensity level of the light distribution.



Back Light control

As an option, the LensoFlex®2 modules can be equipped with a Back Light control system.

This additional feature minimises light spill from the back of the luminaire to avoid intrusive light towards buildings.



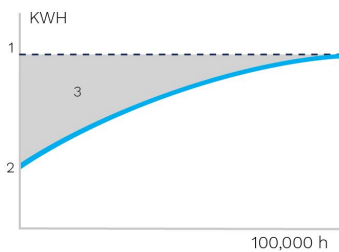
A. Without Back Light control | B. With Back Light control



### Constant Light Output (CLO)

This system compensates for the depreciation of luminous flux to avoid excess lighting at the beginning of the installation's service life. Luminous depreciation over time must be taken into account to ensure a predefined lighting level during the luminaire's useful life.

Without a CLO feature, this simply means increasing the initial power upon installation in order to make up for luminous depreciation. By precisely controlling the luminous flux, the energy needed to reach the required level can be maintained throughout the luminaire's life.



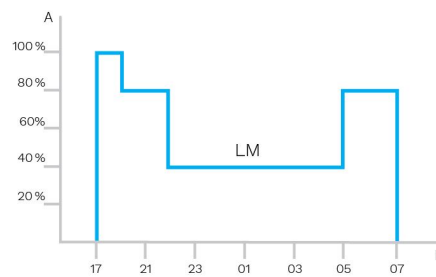
1. Standard lighting level | 2. LED lighting consumption with CLO | 3. Energy savings



### Custom dimming profile

Intelligent luminaire drivers can be programmed with complex dimming profiles. Up to five combinations of time intervals and light levels are possible. This feature does not require any extra wiring.

The period between switching on and switching off is used to activate the preset dimming profile. The customised dimming system generates maximum energy savings while respecting the required lighting levels and uniformity throughout the night.



A. Performance | B. Time

**GENERAL INFORMATION**

Recommended installation height	3m to 5m   10' to 16'
FutureProof	Easy replacement of the photometric engine and electronic assembly on-site
Driver included	Yes
CE Mark	Yes
ENEC+ certified	Yes
ROHS compliant	Yes
Testing standard	LM 79-08 (all measurements in ISO17025 accredited laboratory)

**HOUSING AND FINISH**

Housing	Aluminium
Optic	PMMA
Protector	Polycarbonate
Housing finish	Polyester powder coating
Standard colour(s)	AKZO grey 900 sanded
Tightness level	IP 66
Impact resistance	IK 08
Vibration test	Compliant with modified IEC 68-2-6 (0.5G)
Access for maintenance	By loosening screws on the top cover

· Any other RAL or AKZO colour upon request

**OPERATING CONDITIONS**

Operating temperature range (Ta)	-30 °C up to +40 °C / -22 °F up to 104°F with wind effect
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· Depending on the luminaire configuration. For more details, please contact us.

**ELECTRICAL INFORMATION**

Electrical class	Class I EU, Class II EU
Nominal voltage	220-240V – 50-60Hz
Power factor (at full load)	0.9
Surge protection options (kV)	10
Electromagnetic compatibility (EMC)	EN 55015 / EN 61000-3-2 / EN 61000-3-3 / EN 61547
Control protocol(s)	1-10V, DALI
Control options	Bi-power, Custom dimming profile, Remote management
Associated control system(s)	Owlet Nightshift

**OPTICAL INFORMATION**

LED colour temperature	2700K (Warm White 727) 3000K (Warm White 730) 3000K (Warm White 830) 4000K (Neutral White 740)
Colour rendering index (CRI)	>70 (Warm White 727) >70 (Warm White 730) >80 (Warm White 830) >70 (Neutral White 740)
Upward Light Output Ratio (ULOR)	<5%

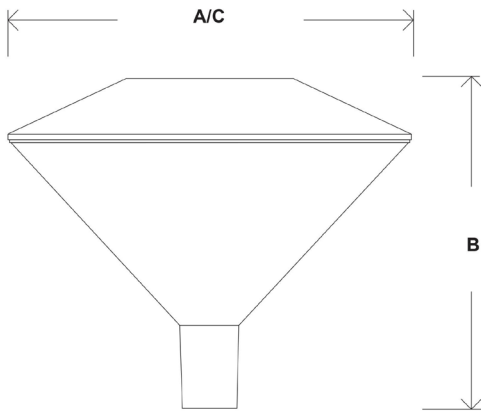
· ULOR may be different according to the configuration. Please consult us.

**LIFETIME OF THE LEDS @ TQ 25°C**

All configurations	100,000h - L90
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## DIMENSIONS AND MOUNTING

AxBxC (mm   inch)	564x462x564   22.2x18.2x22.2
Weight (kg   lbs)	9   19.8
Aerodynamic resistance (CxS)	0.08
Mounting possibilities	Post-top slip-over – Ø60mm





Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White 727		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Warm White 830		Luminaire output flux (lm) Neutral White 740		Power consumption (W)		Luminaire efficacy (lm/W)	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Up to	Photometry
FRIZA	8	350	900	1000	1000	1100	900	1000	1000	1200	9.7	9.7	124	
	8	500	1200	1300	1300	1500	1200	1300	1400	1500	13.6	13.6	110	
	8	700	1500	1700	1700	1900	1500	1700	1700	1900	19.1	19.1	99	
	16	250	1400	1500	1500	1700	1400	1500	1600	1800	14	14	129	
	16	350	1800	2100	2000	2300	1800	2100	2100	2400	18.2	18.2	132	
	16	500	2400	2700	2700	3000	2400	2700	2800	3100	25.7	25.7	121	
	16	700	3000	3400	3400	3800	3000	3400	3500	3900	36.2	36.2	108	
	32	350	3700	4200	4100	4600	3700	4200	4200	4800	35.1	35.1	137	
	32	500	4900	5500	5400	6100	4900	5500	5600	6300	49	49	129	

Tolerance on LED flux is ± 7% and on total luminaire power ± 5 %

