



FV32 LED



Schröder





## CHARACTERISTICS – LUMINAIRE

Optical compartment tightness level:	IP 66 (*)
Impact resistance (glass):	IK 08 (**)
Nominal voltage:	230 V - 50 Hz
Electrical class:	1-US and I-EU

(\*) according to IEC - EN 60598

(\*\*) according to IEC - EN 62262

## KEY ADVANTAGES

- Maximum energy savings
- Safety: high performance LensoFlex®2 photometry that can be adapted to a wide range of different tunnel applications to provide safety in all driving conditions
- Service:
  - o Low maintenance: sturdy mechanical design offering a high level of protection against corrosion, impact and vibrations
  - o FutureProof: easy replacement of photometric engine and power supply on-site
  - o ThermiX®: maintains high performance over time
  - o Installation: various inclination possibilities on-site for optimal photometry
  - o Control system: can be adapted to customer requirements or integrated into the backbone system
  - o Complete solutions: including emergency lighting, road marking, fixture for service tunnels, railways
- Sustainable: durable and recyclable materials

## DESCRIPTION

Schröder has developed a complete new range of LED luminaires for tunnel lighting to offer customers a complete solution for the entrance, threshold and interior zones.

The FV32 LED provides a flexible solution to cover these different areas and meet the tunnel requirements.

The design of the LensoFlex®2 photometric engine and the flexibility of the photometric distributions makes the FV32 LED range an ideal instrument for lighting town and motorway tunnels or underpasses.

The extruded aluminium profile enables the number of LEDs to be adjusted in multiples of 16, starting with 64 up to a maximum of 240 LEDs.

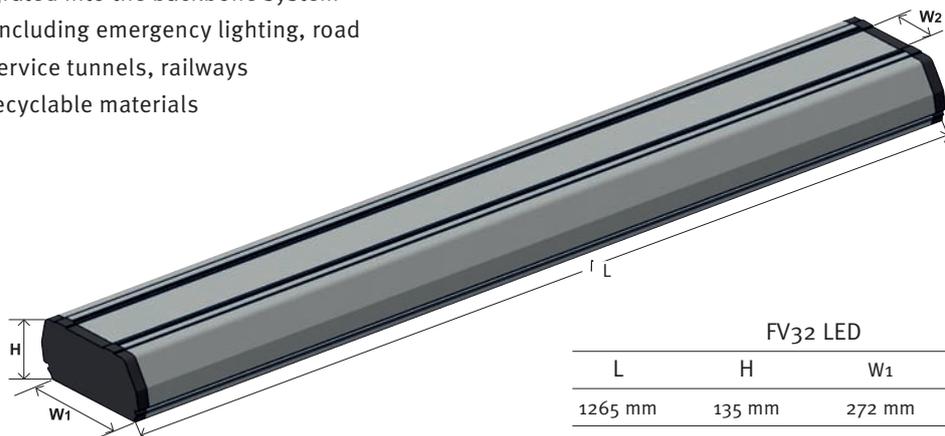
The FV32 LED luminaire is a sealed luminaire with front access consisting of a body and a continuous hinge/closure system made of extruded aluminium protected by electrolytic oxidation (class 15) and of two side plates made of die-cast aluminium protected by hot polyester powdering.

Colour: anodised aluminium

## OPTIONS

- All types of mounting systems can be accommodated: suspension with through-bolting system or suspension with through-bolting system and tilting mechanism
- Flexibility for cable gland installation: location, type, quantity

## DIMENSIONS



FV32 LED			
L	H	W1	W2
1265 mm	135 mm	272 mm	110 mm
731 mm	135 mm	272 mm	110 mm

# FV32 LED LED LIGHTING

## LENSOFLEX®2

FV32 LED luminaires are equipped with second generation LensoFlex®2 photometric engines.

This system is based upon the addition principle of photometric distribution. Each LED is associated with a specific lens that generates the complete photometric distribution of the luminaire. It is the number of LEDs in combination with the driving current that determines the intensity level of the light distribution.

## MAXIMUM ENERGY SAVINGS

A minimal Total Cost of Ownership (TCO) was the driving force behind the development of the FV32. It is equipped with LEDs and various dimming and remote management options for a dramatic reduction in energy consumption.

## RELIABLE SOLUTIONS

To offer reliable, durable and effective solutions, Schröder has developed 3 concepts:

**ThermiX®.** Optimises heat extraction:

- for use in ambient temperatures of  $-40^{\circ}$  to  $+55^{\circ}$  C
- to maintain 90% of the nominal luminous flux<sup>(\*)</sup> at 100,000 hours of use up to a yearly average night temperature of  $25^{\circ}$ C.

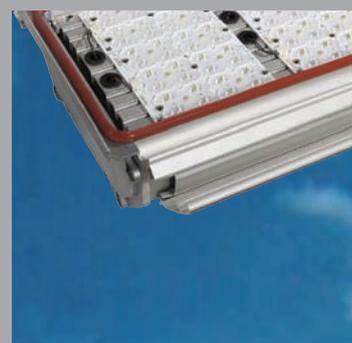
**Power Supply.** FV32 LED luminaires are equipped with power supplies. They ensure 90% efficiency.

**Control.** The possibility of bi-directional communication and failure detection can increase the reliability of the system.

## UPGRADABLE TECHNOLOGY - FUTUREPROOF & MAINTENANCE

FV32 LED luminaires are designed to meet our FutureProof concept and offer at the same time high flexibility for maintenance. Both the photometric engine and the electrical supply can be replaced on-site to take advantage of any future technological developments.

Each LED optical compartment could be replaced individually.



## PHOTOMETRY



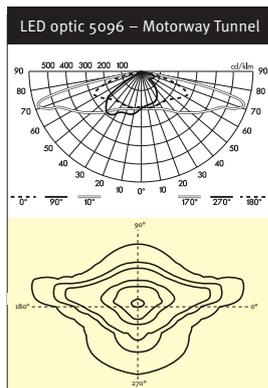
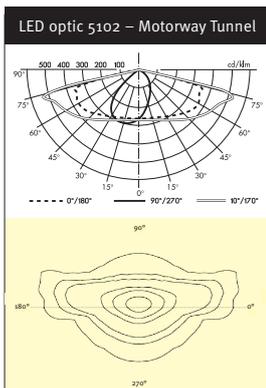
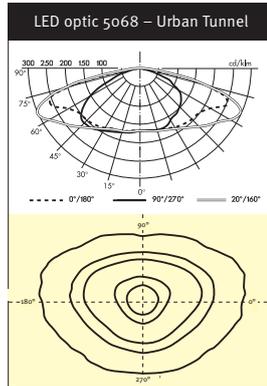
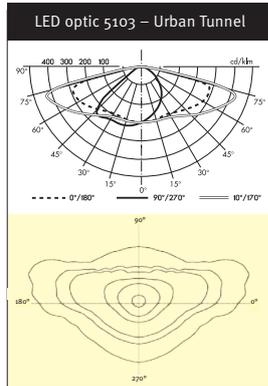
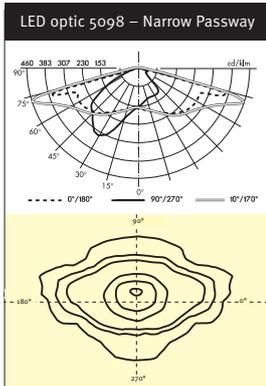
FV32 LED										Lifetime residual flux @ $t_c$ 25°C (**)
Number of LEDs	Neutral white (4000K)	64 LEDs	88 LEDs	96 LEDs	120 LEDs	160 LEDs	176 LEDs	192 LEDs	240 LEDs	@100.000h
Current: 350mA	Nominal flux (lm)*	9600	13200	14400	18000	24000	26400	28800	36000	90%
	Power consumption (W)	67	92	101	126	168	185	202	252	
Current: 500mA	Nominal flux (lm)*	-	-	-	-	-	34800	-	-	
	Power consumption (W)	-	-	-	-	-	264	-	-	

(\*) The nominal flux is an indicative LED flux @  $t_c$  25°C based on LED manufacturer's data. The real flux output of the luminaire depends on environmental conditions (e.g. temperature and pollution) and the optical efficiency of luminaire.

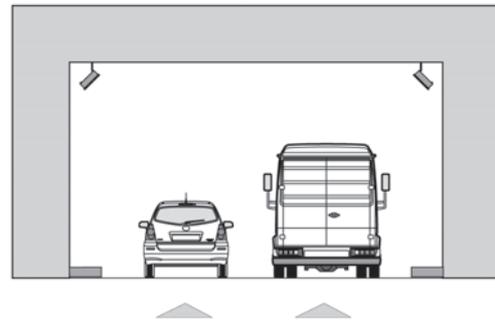
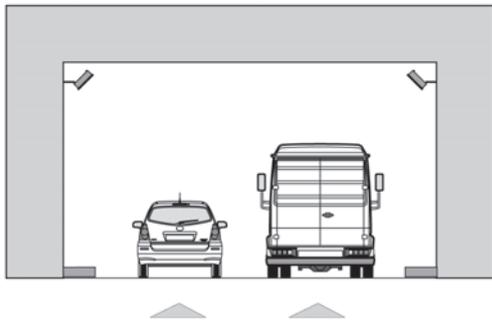
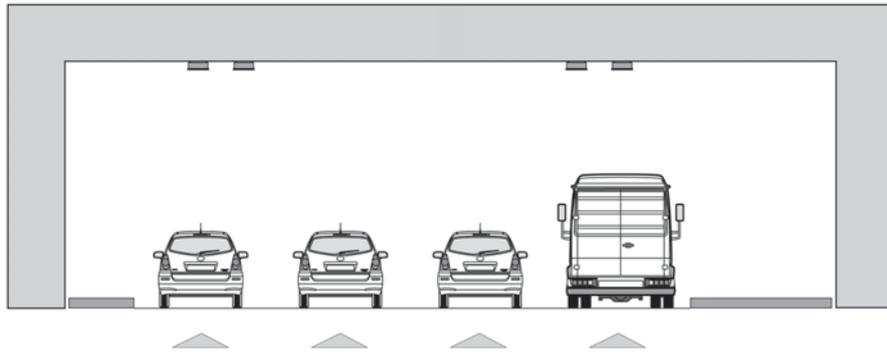
Nominal flux depends on the type of LED in use and likely to change in accordance with the continuous and rapid developments in LED technology.

To follow the progress of the luminous efficiency of the LEDs used, please visit our website.

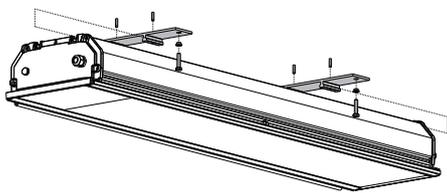
(\*\*) In accordance with IES LM-80 - TM-21.



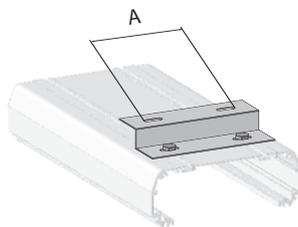
# INSTALLATION



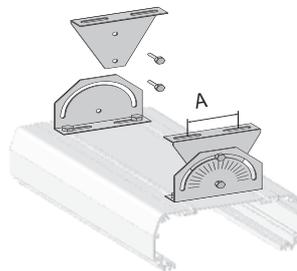
## I. Fixed suspended mountings



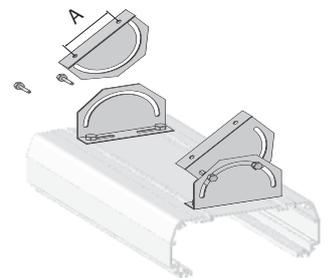
Direct



With 'Z'-shaped brackets

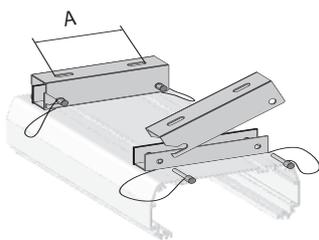


Swivelling

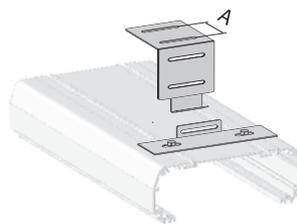


Swivelling and adjustable  
(luminaire/wall distance)

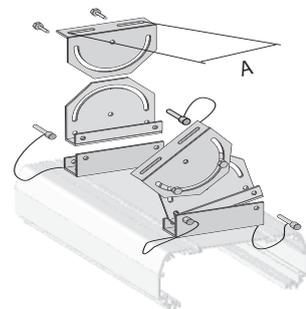
## II. Pull-out suspended mountings



Tilting



Horizontal ( $\pm 5^\circ$ )



Swivelling and adjustable  
(3 directions)

A = 90 mm with  $\pm 10$  mm transversal adjustment



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