

# TENOM

## High Wattage Tunnel LED



RAL 9005

IP66

IK09

22kg

CLASS I

CLASS II

CE



## Product information

Tungsrarm's TENOM high wattage tunnel LED luminaire with its high efficiency and lumen package provides the required solution for tunnel lighting. TENOM is available in a range of optical combinations for flexibility across a wide range of applications such as low and high speed tunnels, underpasses and industrial areas. Maintenance in a tunnel environment can cause a headache not only for the operators but for the users as well. Tungsrarm's engineers therefore put major focus on developing a highly durable and reliable product with a long lifetime, providing an easy and rapid tool-less maintenance solution to speed up installation and reduce disruptive maintenance, as well as its costs. Safety is another important aspect regarding tunnels in which lighting has a key role. Our tunnel lighting solution can increase light quality and therefore safety through better visibility for drivers, who can react more rapidly to emergencies and other situations in tunnels, where every second matters.

## Application areas

- Underpasses
- Industrial areas
- Floodlight
- Tunnels

## Driver features

- 330 Watt driver with DynaDim, AmpDim and DALI control.
- Input power at minimum dimming level: 35 W

## Optics

Available photometric distributions:

- Extra narrow Asymmetric – medium (AA)
- Narrow Asymmetric – medium (AB)
- Asymmetric – short (AC)
- Asymmetric – medium (AE)
- Narrow Symmetric – medium (SB)
- Symmetric – short (SC)
- Symmetric – medium (SE)

Colour rendering index: >70

Rated correlated colour temperatures\*: 3000K, 4000K, 5000K

S/P rating for: 3000K - 1.22, 4000K - 1.5, 5000K - 1.71

ULOR: 0

Rated initial chromaticity co-ordinate values:

- 3000K: CIE(x=0.434, y=0.403) 5SDCM
- 4000K: CIE(x= 0.382, y= 0.380) 5SDCM
- 5000K: CIE(x= 0.345, y= 0.355) 5SDCM

## Installation and maintenance

### Mounting options:

- Three types of fixing bracket are available: short arm for ceiling mounting, long arm for wall mounting and remote driver placement. Additional mounting solutions are available on request.
- B1 and B3 brackets can adjusted between -20 and +20 degrees, B2 bracket can be adjusted between -90 and +90 degrees
- Weight: 22 Kg
- Recommended mounting height: 4-30 m
- The driver is replaceable without the need of tools, enabling a quick and easy maintenance solution
- Recommended maintenance factor for lighting design: 0.8
- Ambient temperature:
  - 200-280 W: -40 to +50 C
  - 281-360 W: -40 to +35 C
- Storage temperature up to 85°C

## Structures and materials

Housing material: die-cast aluminium

Optical material: polycarbonate

Optical cover: tempered glass

Colour: RAL9005

All materials used in this product are WEEE and ROHS compatible.

## Performance

Rated luminous flux: from 26,550 to 51,110 lm

Rated luminaire efficacy: up to 152.9 lm/W

Photometric code: 730/559, 740/559, 750/559

Rated median useful life and the associated rated LM factor: L80B50 > 178,000 hours

Rated useful life and the associated rated LM factor: L90B10 > 76,000 hours

Rated abrupt failure value: value < 10% at 100,000 hours\*

Lumen maintenance code: 9

Rated ambient temperature (tq) related to performance for a luminaire: 25°C

\*Definitions and tolerances according to IEC62722-2-1:2014

## Electrical

Input voltage and frequency: 220-240V, 50-60Hz  
Class I, Class II  
Surge immunity: minimum 10kV  
Rated input power: 200W to 361W  
Power factor > 0.97

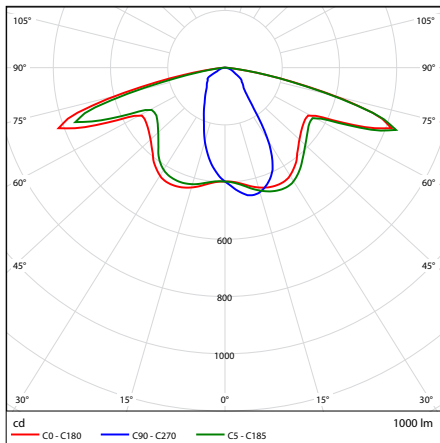
## Other options available

Precabing  
Mounted connectors with DALI loop-in loop out  
Extra surge protection device (10kV/5kA)

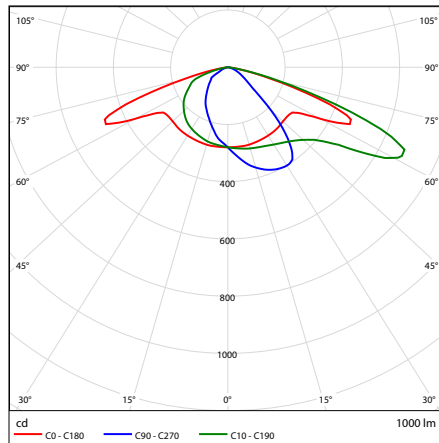
## Standards and regulation

CE, ENEC, Directive 2014/30/EU, 2014/35/EU, 2009/125/EC, 2019/2020/EU, 2011/65/EU, EN 60598-1 & EN 60598-2-5, EN 62471, EN 55015, EN 61000-3-2, EN 61000-3-3, EN 62493, EN 61547

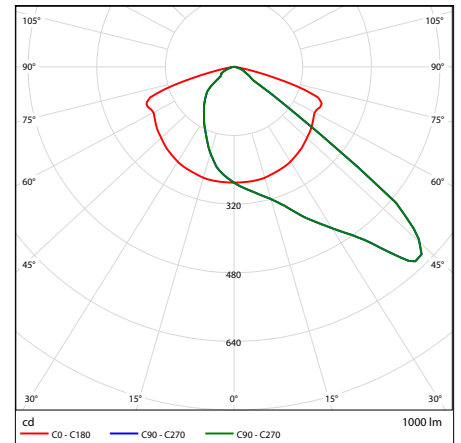
## Typical photometrical features



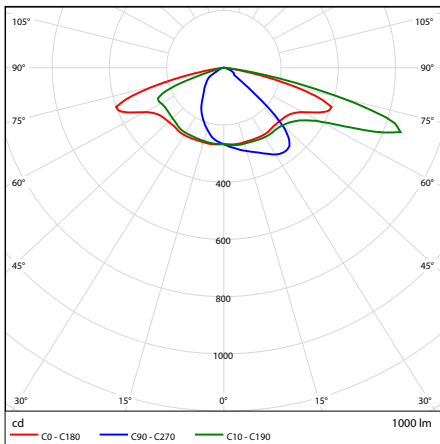
AA



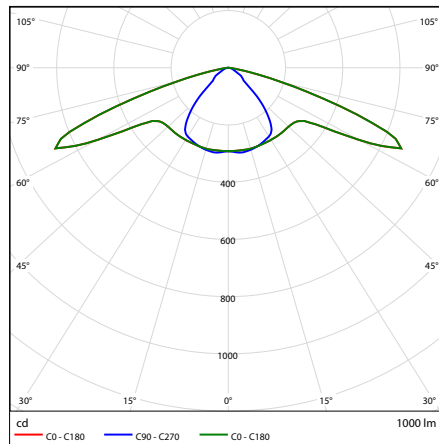
AB



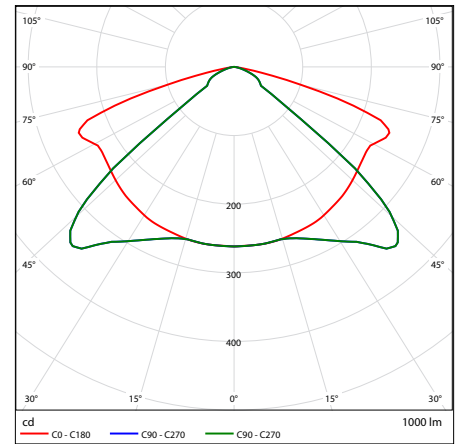
AC



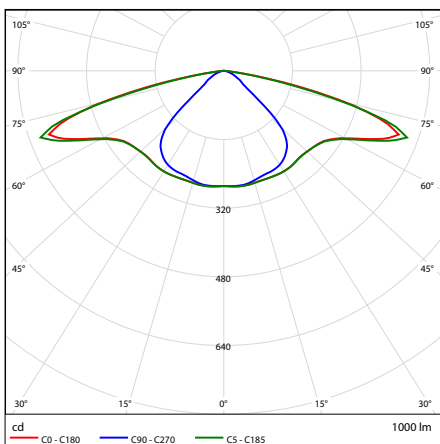
AE



SB



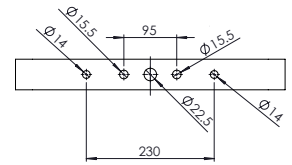
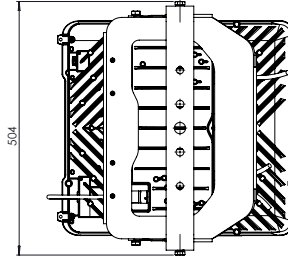
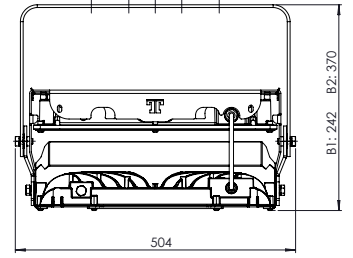
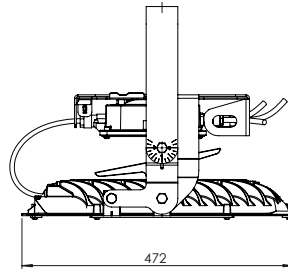
SC



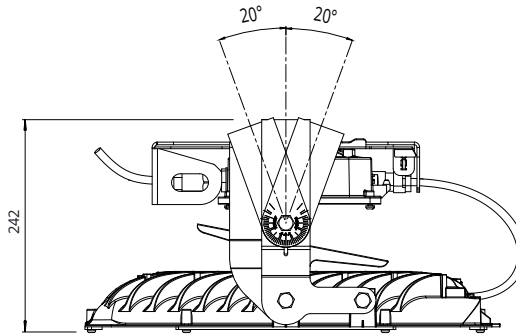
SE

# Dimensions (mm)

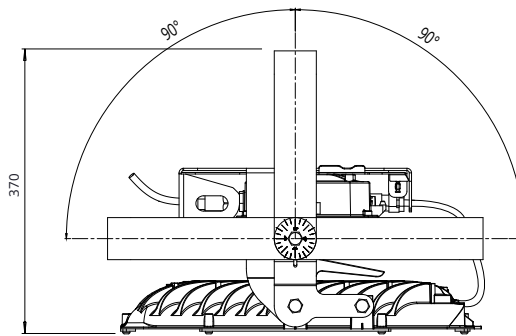
22kg



## Ceiling Mounting (B1)

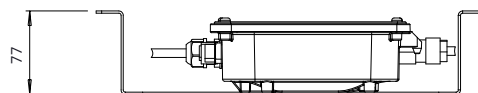
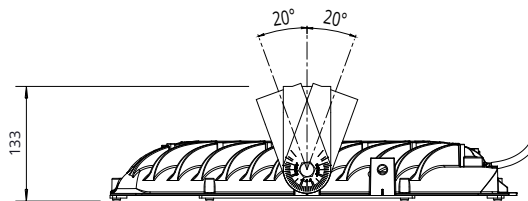


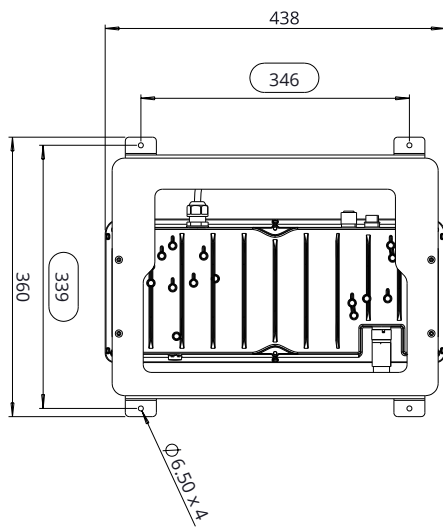
## Wall Mounting (B2)



## Remote Driver Mounting (B3)

16kg





## Order logic

Family	Gen.	Front glass	Optics	Nominal Power (W) <sup>(7)</sup>	CCT [K]	Control	Accessories	IEC protection class	Precabbling	Mounting <sup>(6)</sup>	Customer <sup>(8)</sup>
THBt	1	F - Flat Glass	AA - (Asym)	200	3 - 3000	N - No control	ST - Driver box mounted on luminaire <sup>(2)</sup>	C1 - Class I	PX - Precabbling with X meters <sup>(3)</sup>	B1 - Ceiling mounting	XXX
			AB - (Asym)	240	D - DALI	RST - Remote driver box with 2 m connection cable <sup>(2)</sup>			C2 - Class II		
			AC - (Asym)	280	Yxx - DynaDIM <sup>(1)</sup>		DLxx - DALI + CLO <sup>(1)</sup>	MCX - Mounted Connector <sup>(5)</sup>	B3 - Remote driver		
			AE - (Asym)	320	NLxx - No control + CLO <sup>(1)</sup>						
			SB - (Sym)	360	5 - 5000	YLxx - DynaDIM + CLO <sup>(1)</sup>					
			SC - (Sym)								
SE - (Sym)											

**Example:** THBt/1/F/AC/360/4/D/ST/1/MC2/B2

<sup>(1)</sup> x is integer

<sup>(2)</sup> 10 kV extra surge protection included

<sup>(3)</sup> Maximum precabbling length supplied with the product is 5 meters. Longer cabling is sold separately.

<sup>(4)</sup> Maximum precabbling length supplied with the product is 5 meters. Longer cabling is sold separately. This option is not available with C2 protection class.

<sup>(5)</sup> X="2": two extra connectors for DALI loop-in loop-out, X="0": no DALI loop. This option is not available with C2 protection class.

<sup>(6)</sup> B1 bracket limits rotation within +/- 20 degrees, B2 bracket allows any luminaire orientation, B3 is for remote driver option only.

<sup>(7)</sup> Power consumption of luminaire can be programmed by the manufacturer in 1W steps within the range (200-360). Ta value depends on performance: 200-280W Ta=50°C, 281-360W Ta=35°C.

<sup>(8)</sup> Optional customer/project specific product identifier. It has no impact on technical features. Leave it blank if it is standard.