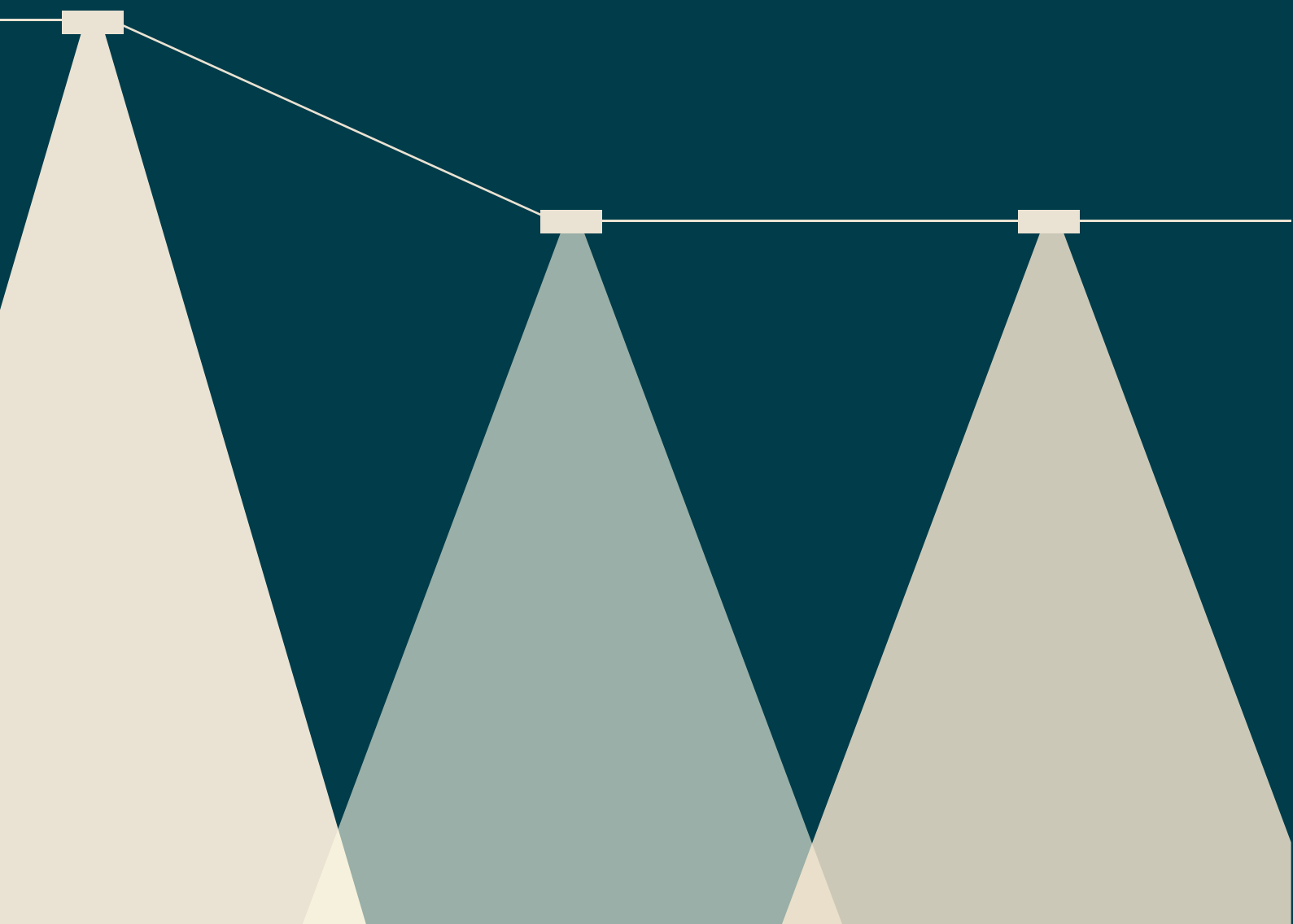


NEW

TILEA

LED street lighting fixture





NEW

TILEA M

A technological armour built to defy the test of time and wear

Aerodynamic design, maximum luminous efficiency, smart lighting management: Tilea is the answer to contemporary lighting.

TECHNICAL DESCRIPTION

LED lighting fixture for street lighting, **NITEKO** brand, **TILEA** series, **M** model, suitable for post-top mounting (adjustable from -10° a $+20^{\circ}$ in $2,5^{\circ}$ steps) or mast arm (adjustable from -20° a $+10^{\circ}$ in $2,5^{\circ}$ steps), with a standard mounting compatible with **60 mm** poles, requiring no adaptors or reducers.

Luminaire equipped with **high-power LEDs** powered by a constant current up to a maximum of **500mA**, with a correlated colour temperature of **3,000K** in the standard version, or with optional CCTs of **1,800K**, **2,200K**, **2,700K**, **3,000K**, **5.000K**, a colour rendering index (**CRI**) greater than **70** in the standard version, or **CRI>80** or **CRI>90** on request, and a photobiological risk class not exceeding **RG1**.

LEDs fitted with high-precision **PMMA secondary collimators** for focusing the light beam, with an overall minimum optical system efficiency of not less than **75%**, a wide choice of photometric curves suitable for any type of application, featuring asymmetrical, rotosymmetrical, elliptical light beams, or for pedestrian crossings, with a luminous intensity class of no less than **G*2**; all are **full cut-off**, in full compliance with legislation against light pollution, with zero luminous intensity beyond 90° in their standard installation position.

Light source

Light source efficiency greater than **190 lm/W** (3,000 K) and lifetime, under optimal operating conditions, of:

- Lifespan 100,000 h (L95 B10: $T_a = 25^{\circ}\text{C}$; $\text{IF} \leq 500\text{mA}$);
- Lifespan 120,000 h (L90 B10: $T_a = 25^{\circ}\text{C}$; $\text{IF} \leq 500\text{mA}$);
- Lifespan 270,000 h (L80 B10: $T_a = 25^{\circ}\text{C}$; $\text{IF} \leq 500\text{mA}$);
- Lifespan 450,000 h (L70 B10: $T_a = 25^{\circ}\text{C}$; $\text{IF} \leq 500\text{mA}$).

Fixture's luminous flux from **9,604lm** to **24,265lm**, with luminous efficacy greater than **135lm/W** (3,000K) depending on the configuration (number of LEDs and supply current, CCT, CRI, optics) and an energy efficiency rating higher than **A++**.

Power

Fixture with an effective power output of between **70W** e **130.2W** with 175–264V AC – 50/60Hz power supply in the standard version, or 120–277V AC – 50/60Hz power supply available on request in the optional version. High-efficiency electronic drivers integrated into the electrical compartment of the luminaire, characterised by a power factor greater than **PF>0.95** with a failure rate of less than 12% after 100,000 hours of operation and a minimum efficiency of **90%**.

In the standard version, the power supply unit comes with the following functions:

- Pre-programmed automatic dimming for up to 5 daily time profiles (PRG5);
- Control via a 1–10 V analogue signal (DIM);
- Constant lighting control during the lifetime (CLO.LITE).

Protection

Thermal protection, short-circuit protection and standard surge protection up to **10kV** in common mode and **6kV** in differential mode. On request, the luminaire can be equipped with an **SPD device** integrated into the electrical compartment, providing surge protection up to **10kV, 12kV** or **20 kV**, in both common mode and differential mode.

EOS-free luminaire equipped with specific technical features designed to prevent the formation of parasitic capacitance, thereby minimising damage caused by electrical overstress (EOS).

VOC-free luminaire constructed using non-metallic materials and components with high chemical compatibility with the LED source to prevent the release of volatile organic compounds (VOCs) that could affect performance, stability and colour temperature over time.

Class II insulated luminaire (or optional Class I) with an IP66 rating for the optical and electrical compartments, impact resistance rating of **IK10**, with an operating temperature range of **-40°C to +50°C** and a storage temperature range of **-40°C to +80°C**, consisting of:

- die-cast aluminium body with a built-in heat sink dimensioned to ensure a long service life and maximum efficiency of the diodes; the body has undergone sandblasting, cataphoresis and polyester powder coating in the standard **pearl light grey RAL 9022** (other colours available on request), VOC and EOS free, , resistant to corrosion, abrasion, flaking and salt spray, with testing up to 1,000 hours;
- optical and electrical compartments separated by a sealed partition;
- optical compartment accessible by removing the tempered glass screen and the relevant stainless steel sealing screws, and electrical compartment that can be opened tool-less, by clips;
- single air vent valve, calibrated to manage air exchange with the exterior for both the optical and electrical compartments. Concealed, not visible from the outside;
- adjustable accessory for post-top or mast arm mounting, made of die-cast aluminum and secured to the

luminaire body by means of screws. The screws properly secured allow installation in either of the two mounting configurations, with a possible inclination of -20° / $+10^{\circ}$ in $2,5^{\circ}$ steps (in the mast arm mounting configuration) and a possible inclination of -10° / $+20^{\circ}$ in $2,5^{\circ}$ steps (in the post-top mounting configuration);

- built-in spirit level (gradienter) to ensure perfectly horizontal installation;
- 6mm-thick extra-clear tempered glass screen with silicone rubber gasket shaped to the body's geometry;
- LED modules assembled on the fixture's body using screws only, without the use of adhesives or special glues, to facilitate maintenance and replacement;
- high-efficiency modular PMMA optical components assembled on the LED modules using special fixing screws; these can be removed to allow for easy replacement during maintenance;
- available on request with an H07RN-F outgoing cable fitted with a pair of IP66/IP68 plug-and-socket connectors for quick and safe connection to the mains.

Remote-control

On request, the luminaire can be equipped with a **remote-control** interface integrated into the luminaire body, available in the following versions:

- Control via DALI and DALI2.0 digital signals (DALI/DALI2.0);
- Automatic flux dimming according to pre-programmed settings (CLO-FULL);
- Voltage variation regulation (PLV);
- Power line carrier regulation (LPL);
- Interface with emergency lighting devices (DCE-DIM);
- Radio-frequency control (Nema Socket and Zhaga Socket).

Certifications

This appliance complies with product standards and meets the Minimum Environmental Criteria (CAM) in accordance with Ministerial Decree of 27 September 2017 (Official Gazette No. 244 of 18 October 2017).



TECHNICAL SPECIFICATIONS

MAIN

Features

Luminaire type	LED street lighting fixtures
Applications	Urban and extra-urban lighting, large areas, roundabouts, squares and car parks
Brand	Niteko
Series	TILEA
Model	M
Mounting	Post-top: inclination of -10° / $+20^{\circ}$ in $2,5^{\circ}$ steps Mast arm: inclination of -20° / $+10^{\circ}$ in $2,5^{\circ}$ steps Standard accessory: compatible with $\varnothing 60$ mm poles/arms; Optional accessory: compatible with $\varnothing 76$ mm poles/arms;
Effective power	70 W – 130.2W (Tolerance +5%)
Luminaire efficacy	$\eta_{APP} \geq 135$ lm/W (3,000K)
Operating temperature	Operating temperature: -40°C to $+50^{\circ}\text{C}$; Storage temperature: -40°C to $+80^{\circ}\text{C}$
Estimated service life	L95 B10: > 100.000 h ($T_a = 25^{\circ}\text{C}$; $IF \leq 500\text{mA}$); L90 B10: > 120.000 h ($T_a = 25^{\circ}\text{C}$; $IF \leq 500\text{mA}$); L80 B10: > 270.000 h ($T_a = 25^{\circ}\text{C}$; $IF \leq 500\text{mA}$); L70 B10: > 450.000 h ($T_a = 25^{\circ}\text{C}$; $IF \leq 500\text{mA}$);
Certifications	CE, RoHS, ENEC (pending), ENEC+ (pending), IP66 (pending), IK10 (pending), 1,000h hour salt spray test, photobiological safety, photometric certification, EOS Free, VOC Free, Shock&Vibration Test (pending), Zhaga D4i (pending), EPD Italy (pending).

OPTICAL

Features

Light source	High-power LEDs powered by a constant current of less than 500mA
Optical system	Independent and replaceable PMMA LED and optical modules
Source luminous flux	From 9,604lm (10W 1,800K CRI>70) to 24,265lm (200W 4,000K CRI>70) (Tolerance $\pm 7\%$)
Source luminous efficacy	$\eta_{LED} \geq 190$ lm/W (3,000K)
Colour temperature	Standard: 3.000K; Optional: 1,800K, 2,200K, 2,700K, 4,000K, 5,000K, 5,700K
Colour Rendering Index	Standard: CRI>70; Optional: CRI>80, CRI>90
Photometry	Asymmetrical, rotosymmetrical, elliptical and for pedestrian crossings
Optical Efficiency	75-86%
Photometric classes	Luminous intensity class G*2; Glare index class D.6
Photobiological safety	Risk class: RG1; IR and UV radiation: absent
Switch-on/re-switch-on time	$t_A < 1\text{sec.}$; $t_R < 1\text{sec.}$

ELECTRICAL**Features**

Power supply	Standard: 175/264 V a.c. – 50/60 Hz; Optional: 120/277 V a.c. – 50/60 Hz; Electronic power supplies built into the appliance's electrical compartment with efficiency $\eta > 95\%$ and power factor $PF > 0.97$ (Active PFC). Available standard functions: - Pre-programmed automatic dimming for up to 5 daily time profiles (PRG5); - Control via a 1–10 V analogue signal (DIM); - Constant lighting control during the lifetime (CLO.LITE).
Electrical connection	Standard: safety isolating switch with disconnection upon opening of the electrical compartment Optional: outgoing power supply cable with an IP68 electrical connector
Insulation class	Standard: Class II; Optional: Class I
Electrical protection	Standard: surge protection up to 10kV in common mode and 6kV in differential mode Optional: additional protection with an SPD device built into the electrical compartment, protecting the unit up to 10kV, 12kV or 20 kV, both in CM and DM.

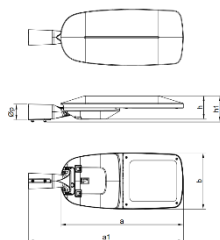
MECHANICAL**Features**

Materials	Body and brackets: die-cast aluminium with built-in heat sink; Adjustable mounting bracket: die-cast aluminium integrated into the body; Screen: 6 mm thick extra-clear flat tempered glass; Optics: PMMA modular optics; Gaskets: silicone; Screws: A2 stainless steel.
Colour	Standard: RAL 9006; Optional: other RAL colours available on request
Protection rating	IP66; IK10
Dimensions and weight	598 x 276 x 114 mm; 5,7kg Mast arm mounting: 752 x 276 x 128 mm Post-top mounting: 615 x 276 x 265 mm

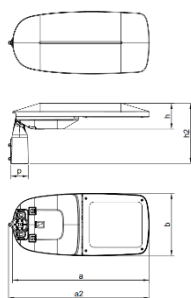
LIGHTING FEATURES

PRODUCT ITEM CODE	POWER	NOMINAL LUMINOUS FLUX (xyyy)					
		4070	3070	2270	3080	2270	1870
		5070		3580		2780	2790
				4080			
				5080			
				5780			
	W	lm					
TILEA-M-100W-xyyy-zz-rr	70,0	13.617	12.884	12.595	11.744	11.392	9.604
	75,2	14.531	13.751	13.440	12.534	12.158	10.250
	80,3	15.400	14.578	14.244	13.286	12.887	10.864
	85,6	16.303	15.432	15.079	14.066	13.644	11.502
	90,3	17.084	16.172	15.802	14.741	14.299	12.054
	95,4	17.939	16.982	16.592	15.479	15.015	12.658
	100,1	18.712	17.715	17.307	16.147	15.663	13.204
TILEA-M-130W-xyyy-zz-rr	80,6	16.124	15.259	14.914	13.908	13.491	11.373
	85,3	16.988	16.078	15.713	14.656	14.216	11.984
	90,4	17.902	16.945	16.558	15.446	14.983	12.630
	95,5	18.812	17.808	17.400	16.233	15.746	13.273
	100,9	19.770	18.717	18.286	17.061	16.549	13.951
	110,7	21.463	20.323	19.852	18.525	17.969	15.148
	120,2	22.621	21.404	20.923	19.510	18.925	15.954
	130,2	24.265	22.961	22.443	20.930	20.302	17.115

TECHNICAL DRAWINGS

Mast-arm
mounting

a 598 mm
a1 752 mm
b 276 mm
h 114 mm
h1 128 mm
Øp 60 mm (pole) x
115 mm (depth)

Post-top
mounting

a 598 mm
a1 615 mm
b 276 mm
h 114 mm
h2 265 mm
Øp 60 mm (pole) x
115 mm (depth)

TILEA XL

Weight 5,7 kg

Wind exposure surface

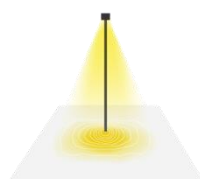
Base 0,16 m²

Side 0,06 m²

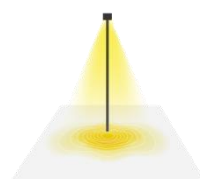
PHOTOMETRIC DATA



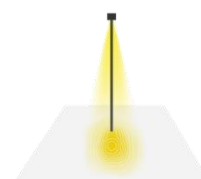
Asymmetrical



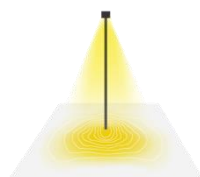
A1 - 150° x 50°
η 83,8% - G*6



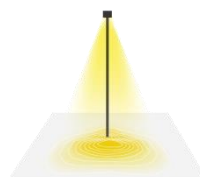
A2 - 140° x 45°
η 84,7% - G*4



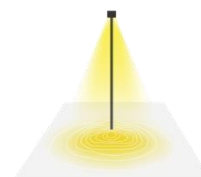
A3 - 90° x 60°
η 86,7% - G*6



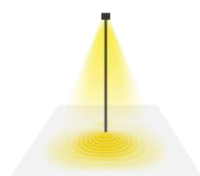
A4 - 145° x 55°
η 82,9% - G*4



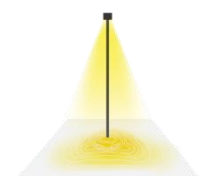
A7 - 140° x 70°
η 79,1% - G*2



A8 - 155° x 60°
η 81,9% - G*1



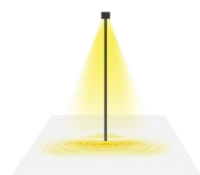
A9 - 145° x 55°
η 85,2% - G*4



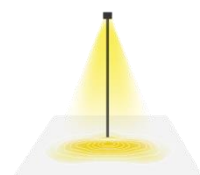
A10 - 155° x 65°
η 75,6% - G*2



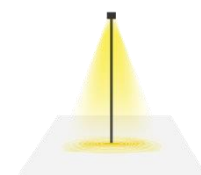
Black light stop



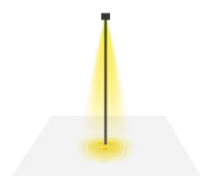
AB2 - 140° x 50°
η 84,6% - G*3



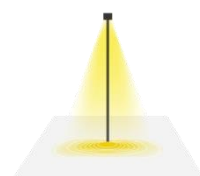
AB4 - 145° x 60°
η 83,9% - G*3



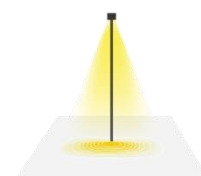
BA2 - 140° x 45°
η 78,7% - G*4



BA3 - 90° x 60°
η 81,1% - G*6



BA4 - 145° x 65°
η 77,0% - G*3

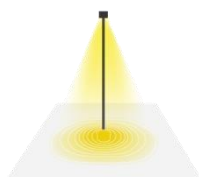


BA9 - 145° x 75°
η 81,3% - G*4

PHOTOMETRIC DATA

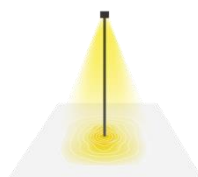


Elliptical



E3 - 145° x 110°

η 87,0% - G*6

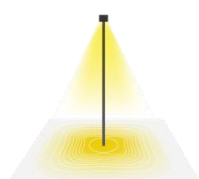


E4 - 140° x 100°

η 81,4% - G*6



Rotosymmetrical

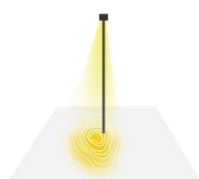


R1 - 140° x 140°

η 82,1% - G*6

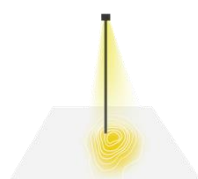


Pedestrian crossings



PCDX - R65° x 60°

η 85,4% - G*6



PCDX - R65° x 60°

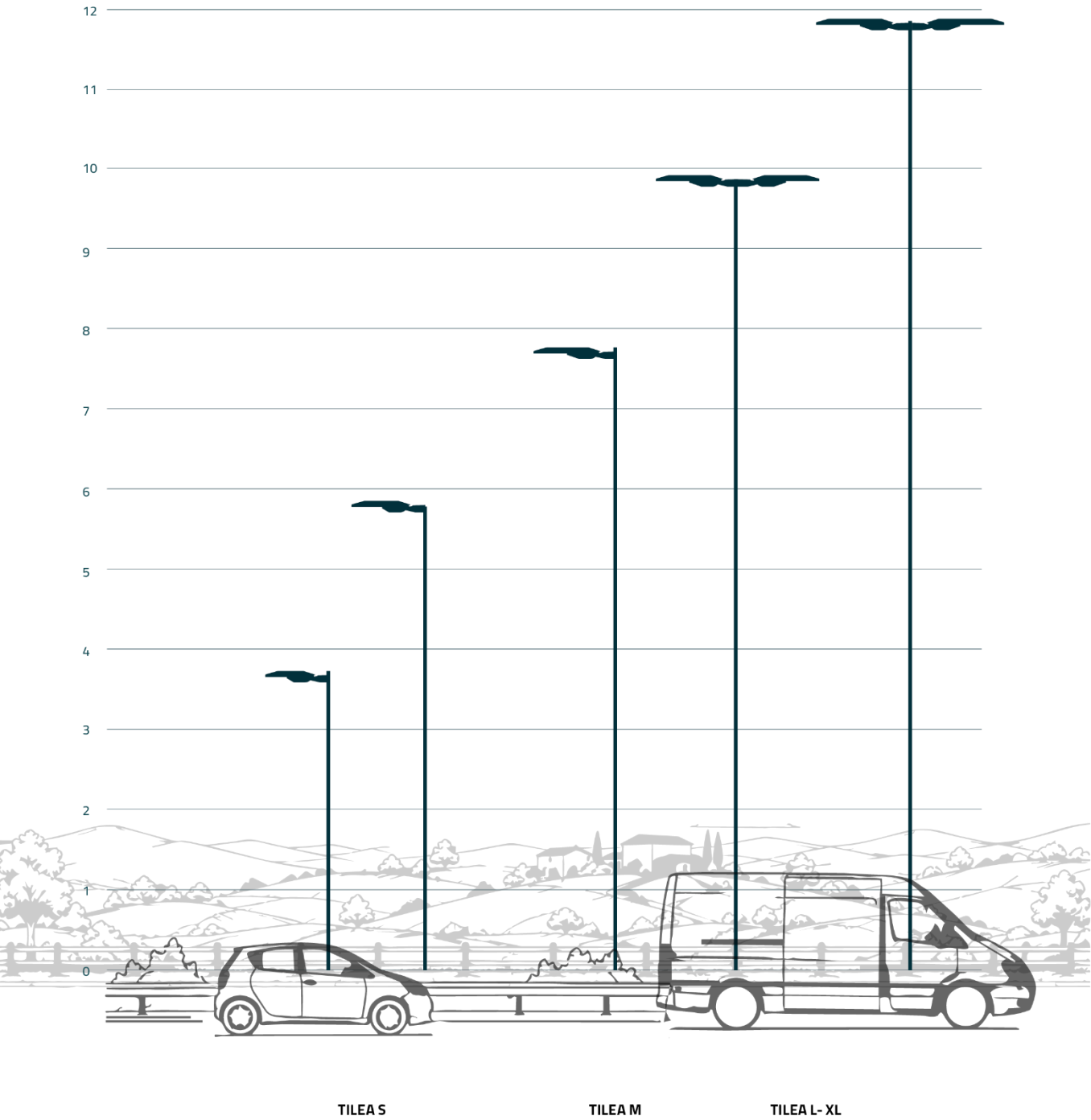
η 85,4% - G*6

TILEA M MODEL





MOUNTING EXAMPLES



REFERENCE





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