











INTRODUCTION

ATMOSLED

OUTDOOR LED LIGHTING

PROFESSIONAL LED LIGHTING



10

22

34



URBAN



NEW URBAN LUMINAIRES



LAMPS

ORNAMENTAL LUMINAIRES



RETROFIT

SWITCHING TO LED LIGHTING



LED**FLOODLIGHTS**

OUTDOOR AND INDOOR LED LIGHTING





INDOOR LED LIGHTING

Taking advantage of its wide experience in electronic technology and metal structure manufacturing, Televes offers a complete set of outdoor and indoor solutions in the Televes LED lighting range. Televes' luminaires allow for energy savings of up to 80% as compared to conventional lighting systems. They stand out for their first-class engineering and their excellent thermal management that ensure a long maintenance-free working life.

Televes' LED lighting solution provides from a **PROGRAMMING AND CONTROL** option to the point to point **CONNECTIVITY**.

This enables the implementation of projects in which the installation's light intensity has to be programmed based on schedules defined by a manager.

QUALITY GUARANTEED

Our commitment to quality is one of our core values and ensures all our products meet our clients' most stringent requirements.

We develop the product all the way from design to manufacturing. This is why we are in a position to provide a high degree of versatility and personalisation in the design, and supply products that are fully adapted to meet each client's specific needs.

In the Televes Corporation's post-production laboratory, we carry out rigorous electromagnetic compatibility and electrical safety tests, as well as excessive heat exposure and freezing temperatures tests. We also perform extreme component ageing tests to validate the product correct performance under extreme environmental conditions. As a result, our luminaires exceed the expectations of a market that requires high-efficiency and high-quality products to meet all the established requirements.



LED technology is definitely the lighting technology of the future, given the **huge benefits** it provides as compared to traditional lighting.



6	
 Up to 80% energy savings as compared to traditional lighting. Low power consumption. Low maintenance. Long service life. High energy efficiency. 	 High light quality. Instant start. The on/off cycles do not reduce product's service life. Low heat emission. Vibration resistant. Adjustable intensity thanks to the lighting control.
O Low voltage.	 Low CO₂ emissions.
• Free of electromagnetic interference.	O Mercury-free.

- O Do not create light pollution.
- O No maintenance costs.



ENERGY SAVINGS

The energy savings achieved by using our luminaires can be very significant, depending on the luminaire being replaced and the specific type of lighting required.

Our luminaires have a long maintenance-free working life, which increases the cost savings as compared with other technologies.

An assessment must be always carried out prior to replacing conventional luminaires by equivalent ones as per the site lighting requirements.



CERTIFICATIN



ENEC (European Norms Electrical Certification). A certification recognized both nationally and internationally, granted in Spain to manufacturers only by AENOR*, in the role of entity for product conformity assessment. With this certification, AENOR* certifies:

- The product was evaluated in an independent, impartial laboratory according to the applicable standards.
- The manufacturer passed the audit on manufacturing requirements, quality controls and production facilities.
- A 100% of the products passed a specific electric test in compliance with the electrical safety regulations.
- The manufacturer is ISO 9001 and ISO 14001 certified.
- Annual production revision to assess conformity with the requirements.

AENO

ISO 9001-2015: Quality management system. ISO 14001:2015: Environmental management system.

ISO 45001:2018: Health and Safety management system.

GUARANTEE SCHEME

The luminaires in the Televes range stand out for the first-class engineering and the excellent thermal management.

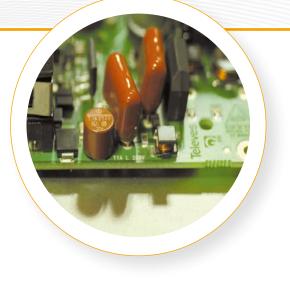
This is why Televes provides a 5 or 7 year luminaire guarantee (depending on the model) with the possibility of further extension.



*AENOR: National Accreditation Entity (ENAC) in Spain. Equivalent to BSI or ITCL in United Kingdom and Intertek Semko in Sweden.

DRIVERS

- Drivers designed and manufactured by Televes in Spain. New models certificated by AENOR*.
- **Class II electric insulation** to secure any contact with active parts. No grounding connection required.
- SELV: Output voltage under 60 V. Does not require any additional safety measures to avoid electric shock hazard.
- Equipped with a **separate output for each LED module**.
- 196 254 VAC Input voltage.
- Up to 700 mA constant output current.
- Short-circuit, open circuit, surge and overheating protection: equipped with a protection system that turns the luminaire off in case a given critical temperature is reached.
- Equipped with up to 10 KV electric discharge protection.
- PFC > 0.95.
- Mounted using an easily removable support for a convenient replacement.
- New options for 40W.





Our drivers and LED modules are designed and manufactured in Televes. 100% European Quality!

LED MODULE

- 12 LEDs modules designed and manufactured by Televes in Spain.
- The aluminium-based circuit contributes to heat dissipation.
- Equipped with a quick connector for an easy mount and replacement.
- Up to 190 lumen/W module efficiency.
- Protected against electrostatic discharge.
- Wide range of Colour Temperature
 From ultra warm white to cool white
 2,700, 3,000, 4,000 or 5,000K.
 - **2,200K** (Ultra warm white IAC).
- The independent connections **increase their working life**.
- The optical system is IP67 certified against water and dust.
- Minimum CRI: 70. On demand CRI>80.



NORMATIVA

- Drivers designed and manufactured by Televes in Spain.
- LED module designed and manufactured by Televes in Spain.



TESTS PERFORMED IN A LABORATORY CERTIFIED BY A ACCREDITED ENTITY IN EUROPE



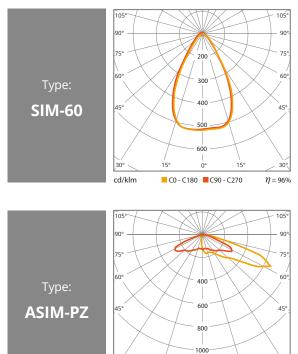
LENSES

- Now more options to reach the optimal solution in all scenarios.
- Our luminaires are equipped with european highquality lenses.
- The optical design allows lighting just on the required spot.
- The type of lenses used allow to increase the separation between luminaires, thus raising performance and reducing costs.

- They limit LEDs' direct vision, which enhances convenience in the field of vision.
- Multiple combinations are available depending on the application, the road width and the mounting height.

For other lens types, please check with us.

LIGHT DISTRIBUTIONS: FLOODLIGHT

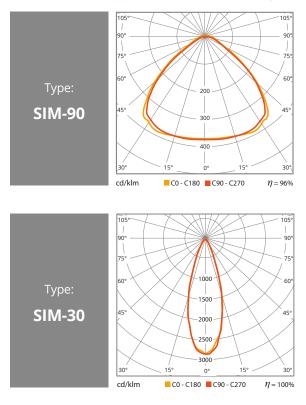


cd/klm

C0 - C180 C90 - C270

 η = 96%

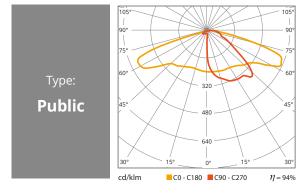
Approximate reference illumination diagrams

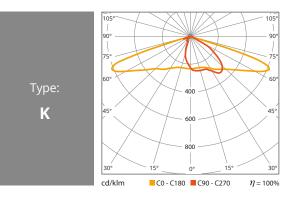


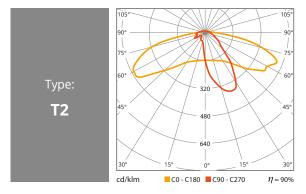


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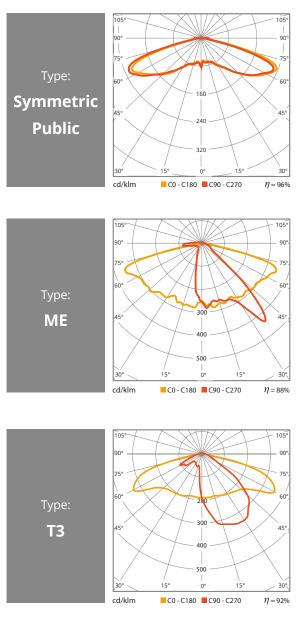
LIGHT DISTRIBUTIONS: ROAD







Approximate reference illumination diagrams



ATMOSLED OUTDOOR LED LIGHTING

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QUALITY AND EFFICIENT

Our highly versatile luminaires adapt to any environment.

They are easy to mount and maintain.

ADVANTAGES MAKE THE DIFFERENCE

- NEW DRIVERS
 Designed and manufactured in Televes.
- WIDE RANGE OF COLOUR TEMPERATURES
 From ultra warm white to cool white
 3,000, 4,000 or 5,000K
 - **2,200K** (Ultra warm white)
- CLASS II No need for grounding connection.
- SELV
 Output voltage under 60V.
- INDIVIDUAL OUTPUTS FOR EACH LED CIRCUIT
 They ensure the same current flows across all LEDs at all times.
- DIMMING OR LIGHTING LEVEL CONTROL Optimizes energy savings.
- WIDE RANGE OF OPERATING TEMPERATURES From -20° to 50 °C *.
- NEW CIRCUIT AND LED MODULE More efficient.

MULTIPLE APPLICATIONS

STREET (ROAD) LIGHTING:

Streets, avenues, squares, parks, residential areas, industrial areas, roads, highways...

MULTIPLE OUTDOOR AREAS:

Outdoors of industrial premises, shopping centres, recreational areas, sports facilities...

- **IK10** Tamper proof.
- MULTIPLE MOUNTING OPTIONS
 Can be adapted to multiple anchoring systems and positions.
- SUITABLE FOR THE MARINE AMBIENCES Extruded aluminium body 6063-T5 machined and anodized which act as element of support and excelent heat sink.
- LIGHT POLLUTION PREVENTION No light is emitted to the upper hemisphere.
- VERSATILE FINISH Multiple anodized or painted finishes in any colour in the RAL range.
- L80 B10 Estimated luminaire life > 100,000 hours for a working environment temperature of 25°C.
- UP TO 10 KV ELECTRIC DISCHARGE PROTECTION.
- PROTECTION INDEX
 Tests passed for grades IP66 and IP67.

FLOODLIGHT:

Historic monuments, building fronts, commercial premises...

ATMOSLED OUTDOOR LED LIGHTING

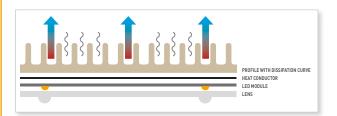
CHARACTERISTICS

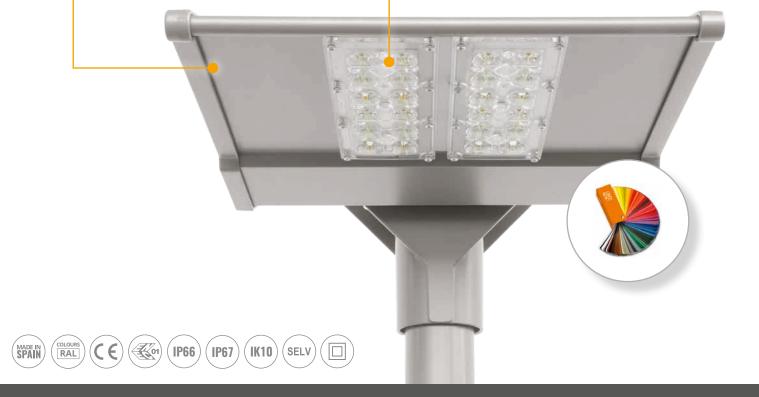
STRUCTURE

- Extruded anodized aluminium covering, specifically designed for a perfect thermal management keeping both LED and driver's temperature as low as possible.
- Two independent areas: a LED cavity (IP67) where both equipment and electrical connections are housed, and a ventilated cavity that functions as a heat sink.
- Manufactured in Televes. From the LED circuit and the driver to the luminaire blend.

THERMAL MANAGEMENT

Heat conduction and convection in the luminaire is favoured by dissipation curves included in the profile itself and located inside a ventilated cavity, separated from the electric area.





OUTSTANDING CORROSION RESISTANCE

The structure's anodized finish improves both hardness and corrosion resistance.

COLOURS

- MATT STEEL lacquered (RAL 9006 aluminium).
- Available in any RAL colour on demand.



SCREWS

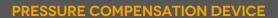
All screws are corrosion resistant **stainless steel**.

SIDE COVERS

- Made of injection-moulded lacquered aluminium.
- They have vents to allow the air to flow in the ventilated cavity.

TIGHTNESS

The optical system is IP67 certified for water and dust tightness.



The **ATMOS**LED luminaires are equipped with a pressure compensation device to prevent dust and humidity to be absorbed whenever the inside pressure is lower than the outside pressure.

CONNECTIONS

11

- **ATMOS**LED luminaire connections provide permanent tightness and electrical safety.
- The M16 stuffing gland ensures IP67 is met in the equipment's tight cavity.
- External IP68 connector for 6 to 12 mm diameters (Ø 6 -12 mm)

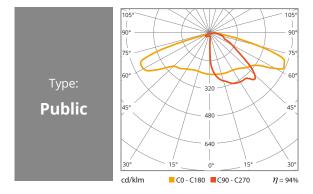
ATMOSLED OUTDOOR LED LIGHTING

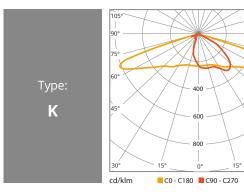
ATMOSLED E and N Series

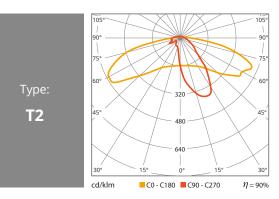
- The E SERIES stands out for efficiency and performance, up to 160 lum/W.
- The N SERIE. Televes has developed the new range aiming at maximum efficiency and robustness. The N series is equipped with an ANSI C136.41 NEMA regulation connector, which allows establishing a plug-and-play connection with the remote control nodes, therefore providing connection capacity to IoT infrastructures.



LIGHT DISTRIBUTIONS

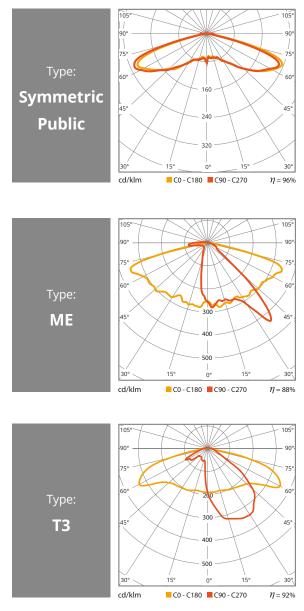






 $\eta = 100\%$

Approximate reference illumination diagrams





CRI = 70* - CTT 2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>0.95

	REFERENCES ⁽¹⁾	No. LEDs	WEIGTH	L	OPERATING CURRENT	TOTAL POWER CONSUMPTION [±8%]	TOTAL LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾
			(kg)	(mm)	(mA)	(W)	(lm)	(h)
	680500xxxxxxx	12	5.9	260 -	400	29	4,350	100.000
	OOUJUUXXXXXXXX	12	J.7		500	39	5,538	>100,000
	681500xxxxxxx	24	7	340	330	49 (regulated)	7,746	- >100,000
					370	59	8,968	
SERIES	682500xxxxxxx	36	7.2	340 -	310	69 (regulated)	10,626	>100,000
		30			330	78	11,622	- >100,000
	683500xxxxxxx	48	9.4	388 -	300	86 (regulated)	14,040	> 100 000
		48			340	108	15,984	- >100,000

CRI = 70* - CTT 2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>0.95

	REFERENCES (1)	No. LEDs	WEIGTH L OPERATING CURRENT		TOTAL POWER CONSUMPTION [±8%]	TOTAL LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾		
			(kg)z	(mm)	(mA)	(W)	(lm)	(h)	
	680300xxxxxxx	12	5.9	260 -	400	29 (regulated)	4,350	- >100,000	
		12	5.7		500	39	5,538		
-	681300xxxxxxx	24	7	340	330	49 (regulated)	7,746	- >100,000	
E					370	59	8,968		
SERIES	682300xxxxxxx	36	7.2	340	310	69 (regulated)	10,626	>100,000	
	002300****	50	1.2		330	78	11,622	- >100,000	
	483300	48	9.4	388	300	86 (regulated)	14,040	100.000	
	683300xxxxxxxx				340	108	15,984	>100,000	

Working environment temperature should be in the -15 °C to 40 °C range. -(On demand -35 to 40°C)

L: Luminous flux maintenance.

Estimated working life of the luminaire:

B: Probability of luminous flux loss.

On demand: CRI > 80. (1) Reference breakdown example: page 54.

*

(2) L80 B10 A 25°C for a working environment temperature of 25°C.

LxBy for a given number of hours and a given ambient temperature, usually 25°C.

Indicates the time when the flux level of y% of the LED population used for a given type of luminaire is likely to be below x%.



ATMOSLED 5 and 7 Series

- SERIES 5 stands out for longevity and performance, and is guaranteed for 7 years.
- SERIES 7 has a higher working power, and provides a higher light intensity for the same amount of LEDs (guaranteed for 5 years).





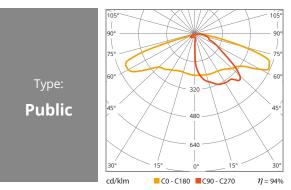




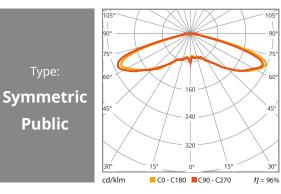




LIGHT DISTRIBUTIONS



Approximate reference illumination diagrams



REFERENCES ⁽¹⁾	No. LEDs	WEIGTH	L	OPERATING CURRENT	TOTAL POWER CONSUMPTION [±8%]	TOTAL LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾
		(kg)	(mm)	(mA)	(W)	(lm)	(h)
601500xxxxxxx	24 ^[3]	7	340	500	39	4,800	>100,000
602500xxxxxxx	36 ^[3]	7.2	340	500	60	7,200	>100,000
603500xxxxxxx	48 ^[3]	9.4	440	500	80	9,607	>100,000
604500xxxxxxx	60	9.6	520	500	95	11,335	>100,000
605500xxxxxxx	72	9.8	520	500	120	14,300	>100,000

All and an endersely support of the states

CRI = 70* - CCT=2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>0.95

CRI = 70* - CTT 2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>0.95

	REFERENCES ⁽¹⁾	No.	WEIGTH	L	OPERATING CURRENT	TOTAL POWER CONSUMPTION [±8%]	TOTAL LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾
		LEDs	(kg)	(mm)	(mA)	(W)	(lm)	(h)
	610500xxxxxxx	10	F O	260 -	720	29	3,280	- >100,000
		12	5.9		650	26	3,042	
7	611500xxxxxxx	24	7	340	720	58	6,313	>100,000
SERIES	612500xxxxxxx	36	7.2	340	720	85	8,965	>100,000
	613500xxxxxxx	48	9.4	440	630	100	1,1016	>100,000

Working environment temperature should be in the -15 °C to 45 °C range. $\:$ Estimated working life of the luminaire: -

* On demand: CRI > 80.

SEF

(1) Reference breakdown example: page 54.

L: Luminous flux maintenance.

 $\mathsf{LxBy}\xspace$ for a given number of hours and a given ambient temperature, usually 25°C.

(2) L80 B10 A 25°C for a working environment temperature of 25°C.

(3) -15 to 50°C for Atmosled5 of 24, 36 and 48 LEDs

Indicates the time when the flux level of y% of the LED B: Probability of luminous flux loss. population used for a given type of luminaire is likely to be below x% .



Point-to-point connectivity of LED lighting systems has become a must in Smart City management due to the extension, complexity, and undeniable benefits it brings to the citizens.

The main advantages are:

- System efficiency increase, as sensorization allows the modification of intensity based on the population needs in each location, in a much more flexible way than pre-set timing schedules.
- Capacity to control, and therefore to adapt to instant lighting changes required in the city (level increase due to unscheduled causes such as events, patron saints' feasts, or emergency situations).
- Capacity to monitor the network, and therefore to early detect incidents, which opens the door to planning and efficiency in network operation and maintenance.

Televes has equipped the new luminaire series with **ATMOS**LED **N** the **ANSI C136.41 NEMA**, regulation connector that allows establishing a plug-and-play connection with the remote control nodes, therefore providing connection capacity to IoT infrastructures.

This **open interface** allows our **ATMOS**LED **N** series to connect to any remote control system, irrespective of the technology used in each Smart City project, based both on the terrain and on the presence or not of other IoT networks in the city, or in the use cases and control to be implemented, which may be based on an electric line connection (PLC, wideband PLC) or on wireless networks (3G, NB-IoT, LoraWan, LoraMesh, Zigbee...).

- PLC: Traditional electric power line transmission technology for communication signal transmission purposes. PLC takes advantage of the electricity grid to convert it into a high-speed digital line for data transmission.
- **3G**: The third generation of mobile telephony voice and data transmission using UMTS (*Universal Mobile Telecommunications System*).
- NBIOT: (NarrowBand IoT). First open, standard communication technology to connect the small objects of our everyday life to the Internet. This technology uses the mobile network (3G/4G/5G) to connect any object of our everyday life in an easy, safe and reliable way. Since it uses the communications network of a mobile operator, it provides better coverage levels both indoors and outdoors.
- LoRa: Wireless technology that uses one type of radio frequency modulation.

DIMMING OR AUTONOMOUS LIGHTING CONTROL

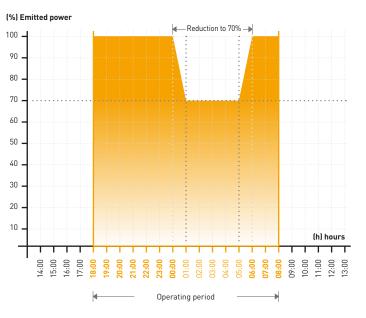
El *dimming* or lighting control allows the regulation of each light point to the level supported by the lamp; in this case, 10 light levels.

This **STANDALONE SOLUTION** consists in a controller installed on each luminaire with a pre-programmed timing for each lamppost that specifies the light level required for each hour of the night.

This system increases components' operating life, thus reducing maintenance costs and helping to increase the energy savings associated with LED lighting.

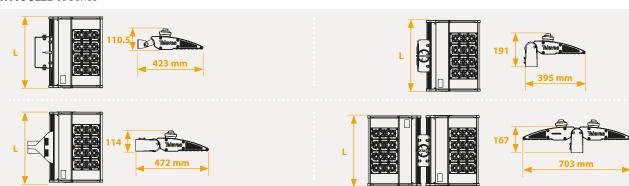
By default, the dimming's lighting plan consists in two time slots with maximum lighting and an intermediate slot with lower lighting. The system adjusts to the on/off schedule specified on the control panel, so that maximum lighting level (100%) is provided during the busy hours (early in the morning and late at night), and is progressively reduced during quieter times (dawn), reaching a lighting level of 70%. Furthermore, dimming is readjusted to adapt to schedule changes according to the time of year.

ATMOSLED 5.7 and E Series



Other programming options are available on demand (check with us). Dimming is only available for the references specified in the annex.

ATMOSLED N Series

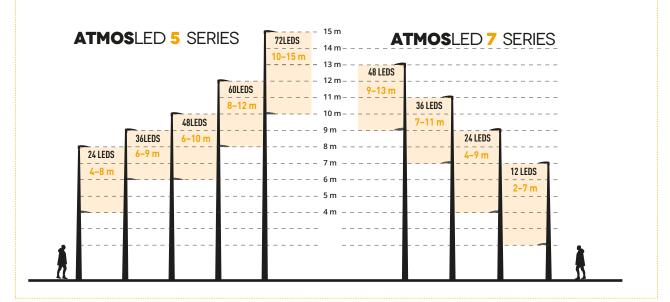


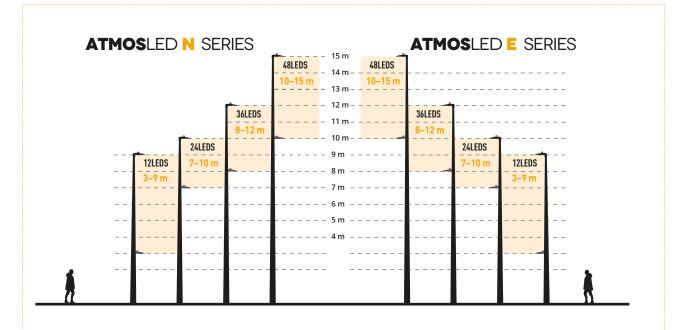
ATMOSLED OUTDOOR LED LIGHTING

LOCATION

MOUNTING HEIGHTS

The charts below show the approximate heights that are appropriate for each of the series types.





REGULATION

EN 60598-1:2015 + A1:2018 EN 60598-2-3:2003 + A1:2011 EN 62471:2008 EN 62031:2008 + A1:2013 + A2:2015 EN 62493:2015 EN 55015:2013 + A1:2015 EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013

TESTS PERFORMED IN A LABORATORY CERTIFIED BY A ACCREDITED ENTITY IN EUROPE

RoHS

IP67

IK10

E

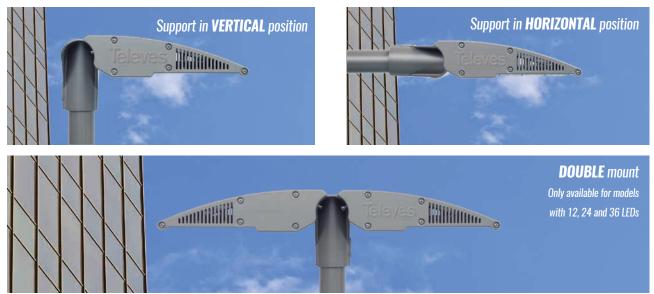
C



SELV

MOUNTING

Our luminaires can be mounted in different positions which allows them to adapt to any environment conditions.



ACCESSORIES

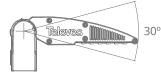
ARM

- Made of injection aluminium and lacquered in RAL 9006 aluminium colour.
 - Available in other RAL range colours on demand.
- Adaptable or mounting on commercial columns with diameters ranging from 40 to 60 mm (Ø: 40 - 60 mm). Adapters are available for other tube diameters.
- Allows a luminaire rotation up to 30°.



Rotation adjustable in 5-degree steps





WALL MOUNT SUPPORT

- Support designed for luminaire anchoring.
- Made of corrosion-resistant galvanized and lacquered steel. Available in any of the RAL range colours on demand.
- Allows a luminaire rotation up to 60°.



SPD MODULE

- Complementary accessory that provides additional surge protection in case of thunderstorms.
- Two models are available: **10,000 or 20,000 A** maximum current.
- Compliant with UL1449 and IEC61643-11 standards for Class II.
- They allow for maintenance costs reduction and ensure an even longer product service life.
- **10 KV surge protection**.



New models of luminaires **URBAN**.

With compact design and a tempered glass protector of high quality stands out for its simple installation and maintenance without needing to tools.

ADVANTAGES

- WIDE RANGE OF COLOUR TEMPERATURES From ultra warm white to cool white:
 - 3,000, 4,000 or 5,000K
 - + 2,200K (Ultra warm white)
- QUICK MAINTENANCE AND WITHOUT NEEDING TO TOOLS
 Design optimised to perform whatever maintenance

quickly and without needing to use tools.

- DIMMING OR LIGHTING LEVEL CONTROL Optimizes energy savings.
- CLASS II No need for grounding connection.
- SELV
 Output voltage under 60V.
- L80 B10

Estimated luminaire life >100,000 hours for a working environment temperature of 25 °C.

 DRIVER, OPTIC GROUP AND IP67 CONNECTIONS
 They offer integral protection to all optic and

electronic elements against water and dust .

MANUFACTURED IN ALUMINIUM ALLOY DIE CASTING

Light in weight. Making them easier to assemble.

- COLLAPSIBLE TOP For access to the driver and to the module LED.
- ALUMINIUM 6063 T5 ANODIZED HEAT SINK It guarantees excellent thermal management of the modules LED.

CHARACTERISTICS

- **TELEVES DRIVERS.**
- Constant output current to each module LED 500mA.
- OPEN CIRCUIT, SURGE AND OVERHEATING PROTECTION.
- **ELECTRIC DISCHARGE PROTECTION.**

TOTAL LUMINAIRE EFFICIENCY TO 120 LUMEN/W.

- Power factor **PF>0.95**.
- 220-240VAC 50Hz Input voltage.
- Operating temperature -20 to +40° C.

URBAN ALAMEDA





DIMMING OR AUTONOMOUS LIGHTING CONTROL

We have a standalone dimming solution, consisting of a pre-programmed controller on each lamppost.

More information on page19 (ATMOSLED Series).

4	<u>}</u>	CRI = 70* - CCT=2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>0.95										
U	VRBAN ALAMEDA	REFERENCES ⁽¹⁾	No. LEDs	WEIGTH	L	OPERATING CURRENT	TOTAL POWER CONSUMPTION [±8%]	LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾			
				(kg)	(mm)	(mA)	(W)	(lm)	(h)			
	39W	631713xxxxxxx	24	8	480x684	500	39	4,956 without diffuser	>100,000			
	53W	631703xxxxxxx	24	8.4	480x684	370	53	6,731 without diffuser	>100,000			

DO+

Working environment temperature should be in the -15 to 40°C range.

On demand: CRI>80. *

(1) Reference breakdown example: page 54.

[2] L80 B10 A 25° C for a working environment temperature of 25°C.

Estimated working life of the luminaire: L: Luminous flux maintenance.

B: Probability of luminous flux loss. LxBy for a given number of hours and a given ambient temperature 25°C.

Indicates the time when the flux level of y% of the LED population used for a given type of luminaire is likely to be below x%.



URBAN MAIA



DIMMING OR AUTONOMOUS LIGHTING CONTROL

We have a standalone dimming solution, consisting of a pre-programmed controller on each lamppost.

More information on page19 (ATMOSLED Series).

<u> </u>	CRI = 70* - CCT=2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>										
URBAN MAIA	REFERENCES (1)	No. LEDs	WEIGTH	L	OPERATING CURRENT	TOTAL POWER CONSUMPTION [±8%]	LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾			
			(kg)	(mm)	(mA)	(W)	(lm)	(h)			
39W	630714xxxxxxx	12	7	665x175	500	39	5,616 without diffuser	>100,000			
53W	631704xxxxxxx	24	7.4	665x175	370	53	7,950 without diffuser	>100,000			

Working environment temperature should be in the -15 to 40°C range.

* On demand: CRI>80.

(1) Reference breakdown example: page 54.

(2) L80 B10 A 25°C for a working environment temperature of 25°C.

Estimated working life of the luminaire: L: Luminous flux maintenance.

B: Probability of luminous flux loss. LxBy for a given number of hours and a given ambient temperature 25°C.

Indicates the time when the flux level of y% of the LED population used for a given type of luminaire is likely to be below x%.

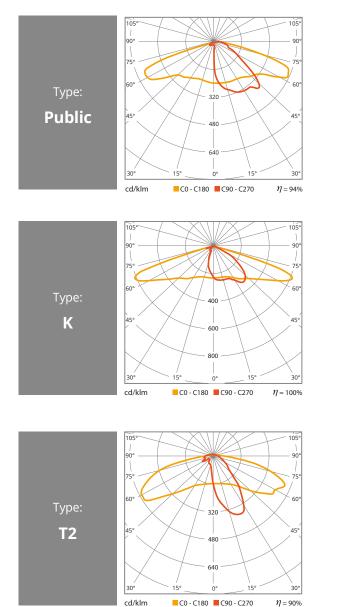




Approximate reference illumination diagrams

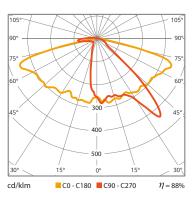
URBAN NEW URBAN LUMINAIRES

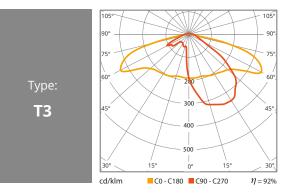
LIGHT DISTRIBUTIONS



105 105 90 75 Type: 60 Symmetric 45 240 Public 320 30' cd/klm C0 - C180 C90 - C270 $\eta = 96\%$

Type: ME





REGULATION

EN 60598-1:2015 + A1:2018 EN 60598-2-3:2003 + A1:2011 EN 62471:2008

EN 62031:2008 + A1:2013 + A2:2015 EN 62493:2015 EN 55015:2013 + A1:2015

 $\eta = 90\%$

EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013 TESTS PERFORMED IN A LABORATORY CERTIFIED BY A ACCREDITED ENTITY IN EUROPE





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Models of **LAMPS** with lighting technologies newer and more efficient.

With an easy mount and replacement their use is not limited to specific areas, they can light streets, avenues, parks, residential areas, squares, recreational areas...

ADVANTAGES

- WIDE RANGE OF COLOUR TEMPERATURES
 From ultra warm white to cool white
 3,000, 4,000 or 5,000K
 - **2,200K** (Ultra warm white)
- QUICK MAINTENANCE AND WITHOUT NEEDING TO TOOLS

Design optimised to perform whatever maintenance quickly and without needing to use tools.

- DIMMING OR LIGHTING LEVEL CONTROL Optimizes energy savings.
- CLASS II No need for grounding connection.
- SELV
 Output voltage under 60V.
- L80 B10 Estimated luminaire life >100,000 hours for a working environment temperature of 25 °C.
- POLYCARBONATE DIFFUSERS
 Possibility of incorporating opal or clear
 polycarbonate diffusers for a better visual comfort.

- IP68 CONNECTOR PLUG & PLAY They are delivered with tubular connector IP68 for the quick and secure installation of the luminaire.
- DRIVER, OPTIC GROUP AND IP67 CONNECTIONS
 They offer integral protection to all optic and electronic elements against water and dust .
- POWDER POLYESTER ELECTROSTATIC PAINTING Average thickness 90µV ±10µ.
- MANUFACTURED IN ALUMINIUM ALLOY DIE CASTING Light in weight. Making them easier to assemble.
- **COLLAPSIBLE TOP** For access to the driver and to the module LED.
- ALUMINIUM 6063 T5 ANODIZED HEAT SINK It guarantees excellent thermal management of the modules LED.

CHARACTERISTICS

- TELEVES DRIVERS.
- Constant output current to each module LED 650mA.
- OPEN CIRCUIT, SURGE AND OVERHEATING PROTECTION.
- ELECTRIC DISCHARGE PROTECTION.
- TOTAL LUMINAIRE EFFICIENCY TO 120 LUMEN/W.
- Power factor PF>0.95.
- 220-240VAC 50Hz Input voltage.
- HIGH EFFICIENCY.
- Operating temperature -15 a +40 °C.

LAMPS ORNAMENTAL LUMINAIRES

LAMPS VILLA





DIMMING OR AUTONOMOUS LIGHTING CONTROL

We have a standalone dimming solution, consisting of a pre-programmed controller on each lamppost.

More information on page19 (ATMOSLED Series).

					011 - 70	- 001-2,200 / 2,700 / 3,000		
LAMPS VILLA	REFERENCES ⁽¹⁾	No. LEDs	WEIGTH	L	OPERATING CURRENT	TOTAL POWER CONSUMPTION [±8%]	LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾
			(kg)	(mm)	(mA)	(W)	(lm)	(h)
29W	630701xxxxxxx	12	9.5	410x815	350	29	3,770 without diffuser	>100,000
39W	630711xxxxxxx	12	9.5	410x815	500	39	5,031 without diffuser	>100,000
53W	631701xxxxxxxx	24	10.3	410x815	700	53	7,155 without diffuser	>100,000

CRI = 70* - CCT=2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>0.95

 Working environment temperature should be in the -15 to 40°C range.

* On demand: CRI>80.

(1) Reference breakdown example: page 54.

L: Luminous flux maintenance.

B: Probability of luminous flux loss.

Estimated working life of the luminaire:

LxBy for a given number of hours and a given ambient temperature $\rm 25^{o}C.$

Indicates the time when the flux level of y% of the LED population used for a given type of luminaire is likely to be below x%.

(2) L80 B10 A 25°C for a working environment temperature of 25°C.



LAMPS FERNANDINA



DIMMING OR AUTONOMOUS LIGHTING CONTROL

We have a standalone dimming solution, consisting of a pre-programmed controller on each lamppost.

More information on page19 (ATMOSLED Series).

CRI = 70* - CCT	=2,200 / 2,700	/ 3,000 / 4,000	/5,000K -	FHS<0.1	% - PF>0.95

						, . , . , .	, . ,	
LAMPS FERNANDINA	REFERENCES ⁽¹⁾	No. LEDs	WEIGTH	L	OPERATING CURRENT	TOTAL POWER CONSUMPTION [±8%]	LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾
			(kg)	(mm)	(mA)	(W)	(lm)	(h)
29W	630702xxxxxxx	12	13.7	850x520	350	29	3,683 without diffuser	>100,000
39W	630712xxxxxxx	12	13.7	850x520	500	39	4,820 without diffuser	>100,000
53W	631702xxxxxxx	24	14.5	850x520	350	53	6,731 without diffuser	>100,000

 Working environment temperature should be in the -15 to 40°C range.

* On demand: CRI>80.

(1) Reference breakdown example: page 54.

[2] L80 B10 A 25°C for a working environment temperature of 25°C.

- Estimated working life of the luminaire:
- L: Luminous flux maintenance.

B: Probability of luminous flux loss.

LxBy for a given number of hours and a given ambient temperature $\ 25^{o}\text{C}.$

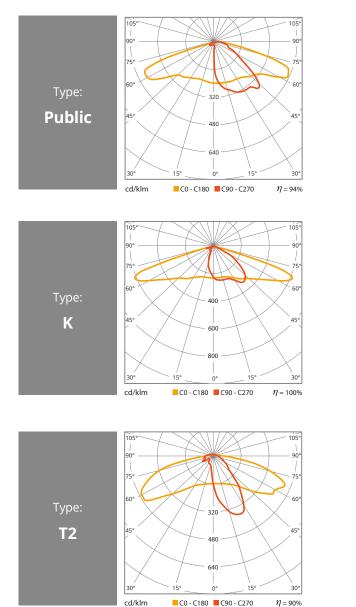
Indicates the time when the flux level of y% of the LED population used for a given type of luminaire is likely to be below x%.



Approximate reference illumination diagrams

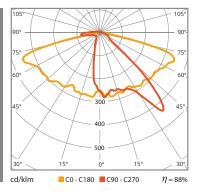
LAMPS ORNAMENTAL LUMINAIRES

LIGHT DISTRIBUTIONS



Type: Symmetric Public $d_{45^{*}}$ d_{4

Type: **ME**



105° 105 90 75 60 Type: 300 45 **T**3 400 500 15° 15° 30 0° 30% C0 - C180 C90 - C270 cd/klm $\eta = 92\%$

REGULATION

EN 60598-1:2015 + A1:2018 EN 60598-2-3:2003 + A1:2011 EN 62471:2008 EN 62031:2008 + A1:2013 + A2:2015 EN 62493:2015 EN 55015:2013 + A1:2015 EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013 TESTS PERFORMED IN A LABORATORY CERTIFIED BY A ACCREDITED ENTITY IN EUROPE





 RETROFIT is the direct replacement of old lighting technologies with newer, more efficient ones, using previous installations.

This lighting system is appropriate in cases where a balance is required between taking advantage of the new lighting technologies and making the most out of existing resources, thus achieving significant implementation savings.

ADVANTAGES

- WIDE RANGE OF COLOUR TEMPERATURES
 From ultra warm white to cool white
- 3,000, 4,000 or 5,000K
- 2,200K (Ultra warm white)
- INDIVIDUAL OUTPUTS FOR EACH LED
 CIRCUIT

They ensure the same current flows across all LEDs at all times.

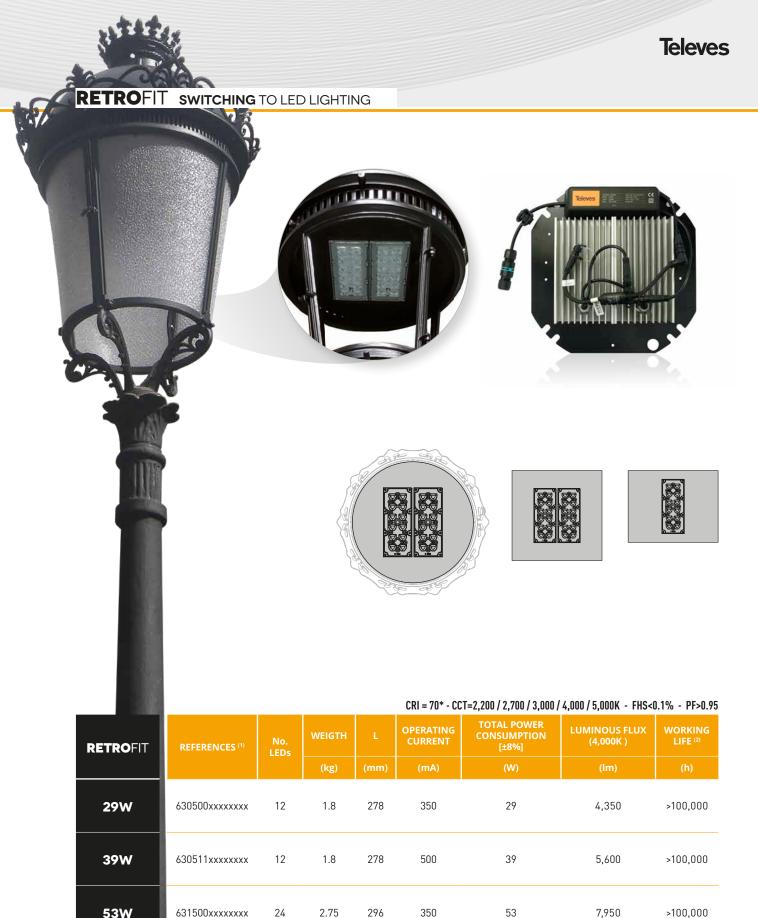
DIMMING OR LIGHTING LEVEL CONTROL Optimizes energy savings.

- LIGHT POLLUTION PREVENTION No light is emitted to the upper hemisphere.
- MULTIPLE MOUNTING OPTIONS It can be installed in virtually any existing luminaire, thanks to the four adaptable frames.
- VERSATILE FINISH Multiple finishes, optionally in anodized aluminium or lacquered in any colour in the RAL range.
- CERTIFIED AS INDEPENDENT LED MODULE

CHARACTERISTICS

- Adaptable to any classical shape luminaire.
- LED, an efficiency up to 190 lumen/W.
- Sealed **IP67** optical part.
- LED module protection up to IK10.
- Multiple photometric distributions.
- **6063 T5 aluminium anodized sink**, to ensure an appropriate system thermal management.
- SELV output voltage. Ensures safety regardless of the quality of the installations.

- Class II electric insulation.
- Total module efficiency, taking into account the losses in the drivers, reaches 140 lumen/W.
- Optionally, they can be manufactured in anodized aluminium or lacquered in any colour in the RAL range.
- Power factor PF > 0.95.
- Optionally, the base plate can be custom adjusted.
- Equipped with overheating protection.



Working environment temperature should be in the -15 to 40°C range (On demand -35 to 35).

On demand: CRI>80.

(1) Reference breakdown example: page 54.

[2] L80 B10 A 25°C for a working environment temperature of 25°C.

Estimated working life of the luminaire:

L: Luminous flux maintenance.

B: Probability of luminous flux loss.

RAL

 $\mathsf{Lx}\mathsf{By}$ for a given number of hours and a given ambient temperature 25°C.

SELV

RoHS

MADE IN

Indicates the time when the flux level of y% of the LED population used for a given type of luminaire is likely to be below x%.

IP67

IK10

DIMMING OR AUTONOMOUS LIGHTING CONTROL

We have a standalone dimming solution, consisting of a pre-programmed controller on each lamppost.

More information on page19 (ATMOSLED Series).

REMOTE CONTROL OPTION

Range with flexibility to be installed with point-to-point connectivity nodes

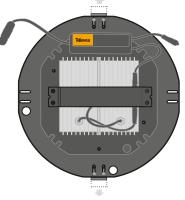
More information on page 18 (Serie **ATMOS**LED **N**).

RETROFIT ACCESSORIES

For the **RETRO**FIT to be carried out, a frame appropriate for the specific lamppost type is required.

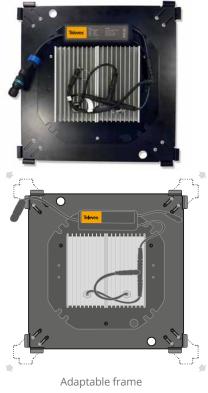
Frame for "Fernandina" lamppost





Adaptable frame

6902020010 (290 - 326mm) 6902020020 (326 - 353mm) 6902020030 (353 - 395mm) 6902020040 (371 - 412mm) 6902020050 (412 - 454mm) Televes' frames are adaptable in size, thus serving a wide range of lamppost sizes.



▲ 6902010010 (280 - 320mm) 6902010020 (300 - 340mm) 6902010030 (340 - 380mm) 6902010040 (380 - 420mm) 6902010050 (420 - 460mm)

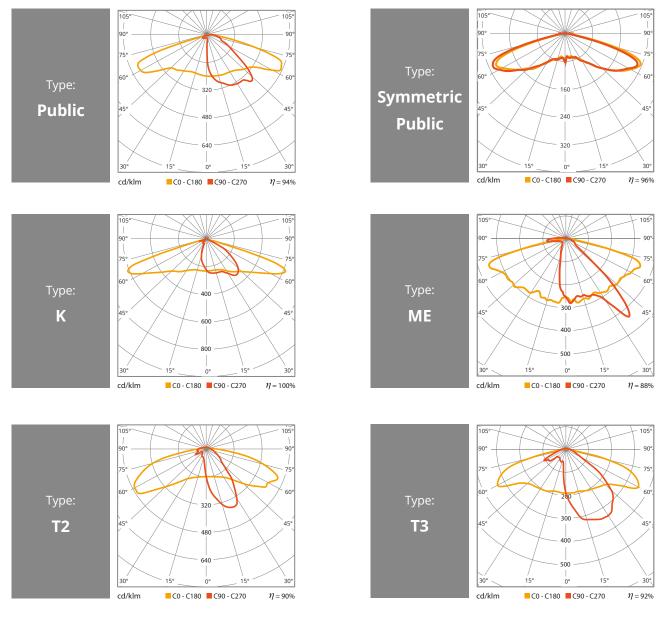
Frame for "Villa" lamppost



RETROFIT SWITCHING TO LED LIGHTING

LIGHT DISTRIBUTIONS

Approximate reference illumination diagrams



REGULATION

EN 62471:2008 EN 62031:2008 + A1:2013 + A2:2015 EN 62493:2015 EN 55015:2013 + A1:2015 EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013

TESTS PERFORMED IN A LABORATORY CERTIFIED BY A ACCREDITED ENTITY IN EUROPE



LEDFLOODLIGHTS

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OUTDOOR AND INDOOR LED LIGHTING

Televes

LED**FLOODLIGHTS**. The ideal range for areas where the light management and addressing accurately is important.

This lighting system offer a perfect eficiency for any types of sports areas and large areas, from stadiums and big areas to small enclosures.

ADVANTAGES

■ WIDE RANGE OF COLOUR TEMPERATURES

From ultra warm white to cool white

- 3,000, 4,000 or 5,000K (On demand 2,200 - 8,000K).
- MINIMIZES MAINTENANCE COSTS Long workin life.
- WIDE RANTE OF OPERATING TEMPERATURES

Floodlights: from -20°C to 40°C. MAXI Floodlights: from -35°C to 40°C.

MULTIPLE MOUNTING OPTION

Can be adapted to multiple anchoring systems and positions. Available accesories.

- QUICK RETURN ON INVESTMENT
- LONG WORKING LIFE L80B10 ≥ 100,000h.
- EASY CONNECTION
 No need open the luminaire for its installation.
- SUITABLE FOR THE MARINE AMBIENCES Extruded aluminium body 6063-T5 machined and anodized which act as element of support and excelent heat sink.

CHARACTERISTICS

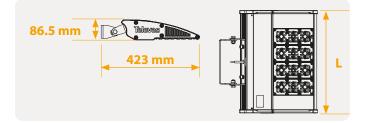
- LED efficiency up to 190 lumen/W.
- ∎ IP67.
- IK10 protection.
- Multiple photometric distributions.
- Total module efficiency, taking into account the losses in the drivers reaches 150 lumen/W.
- Class I electric insulation (MAXI Floodlights).
- Class II electric insulation (Floodlights).
- Optionally, lacquered in any colour in the RAL range.
- Power factor PF>0.95.
- Equipped with overheating protection



Televes

LEDFLOODLIGHTS OUTDOOR AND INDOOR LED LIGHTING





DIMMING OR AUTONOMOUS LIGHTING CONTROL

We have a standalone dimming solution, consisting of a pre-programmed controller on each lamppost.

More information on page19 (ATMOSLED Series).

FLOODLIGHTS	REFERENCES ⁽¹⁾	No. LEDs	WEIGTH (kg)	L (mm)	OPERATING CURRENT (mA)	TOTAL POWER CONSUMPTION [±8%] (W)	LUMINOUS FLUX (4,000K) (lm)	WORKING LIFE ⁽²⁾
58W	671000xxxxxxx	24	7	340	700	58	8,968	>100,000
100W	673000xxxxxxx	48	9.4	388	700	100	15,984	>100,000

CRI = 70* - CCT=2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>0.95

Working environment temperature should be in the -20° to 40°C range.
 (On demand -35 to 40°C)

* On demand : CRI > 80.

(1) Reference breakdown example: page 54.

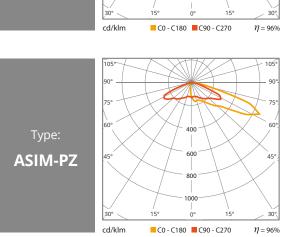
(2) L80 B10 A 25°C for a working environment temperature of 25°C.

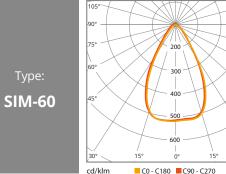
Estimated working life of the luminaire: L: Luminous flux maintenance.

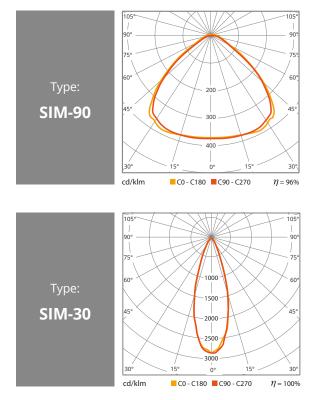
B: Probability of luminous flux loss.

LxBy for a given number of hours and a given ambient temperature, usually 25°C.

Indicates the time when the flux level of y% of the LED population used for a given type of luminaire is likely to be below x% .







LIGHT DISTRIBUTIONS

Approximate reference illumination diagrams



LEDFLOODLIGHTS OUTDOOR AND INDOOR LED LIGHTING

MAXI FLOODLIGHTS









CRI = 70* - CCT=2,200 / 2,700 / 3,000 / 4,000 / 5,000K - FHS<0.1% - PF>0.95

MAXI FLOODLIGHTS	REFERENCES ⁽¹⁾	No. LEDs	WEIGTH (kg)	L (mm)	OPERATING CURRENT (mA)	TOTAL POWER CONSUMPTION [±8%] (W)	LUMINOUS FLUX (4,000K) (lm)	WORKING LIFE ⁽²⁾ (h)
150W	673100xxxxxxx	48	6.9	330	500	150	22,500	>100,000
196W	675100xxxxxxx	72	8.5	405	450	196	29,400	>100,000

- Working environment temperature should be in the -20° to 40°C range.

* On demand : CRI > 80.

(1) Reference breakdown example: page 54.

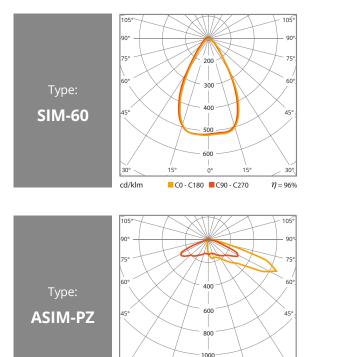
(2) L80 B10 A 25°C for a working environment temperature of 25°C.

Estimated working life of the luminaire: L: Luminous flux maintenance.

B: Probability of luminous flux loss.

LxBy for a given number of hours and a given ambient temperature, usually 25°C.

Indicates the time when the flux level of y% of the LED population used for a given type of luminaire is likely to be below x% .

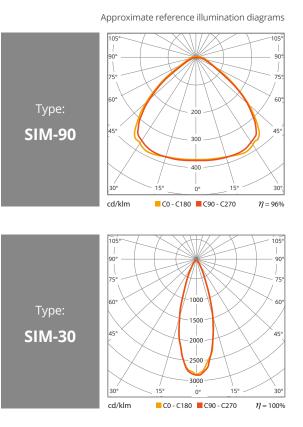


C0 - C180 C90 - C270

 η = 96%

cd/klm

LIGHT DISTRIBUTIONS



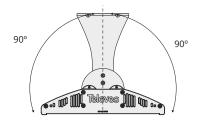


MOUNTING OPTIONS

EMBEDDED SUPPORT

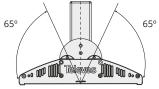


▲ 690101



WALL SUPPORT





CROSS SUPPORT



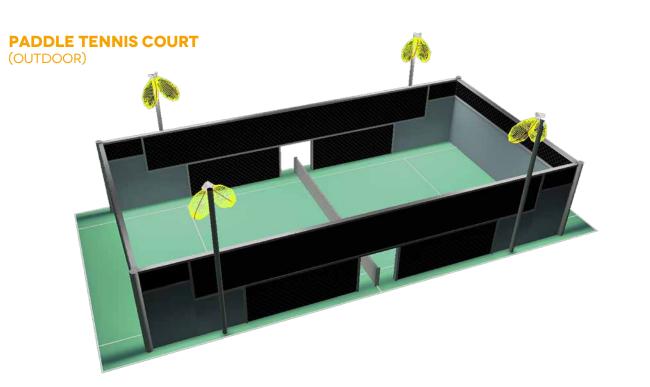
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LED**FLOODLIGHTS OUTDOOR** AND INDOOR LED LIGHTING

APPLICATION EXAMPLES

The Televes Maxi Floodlights are a large investment in order to optimise sport facilities powerfully.

Their high performance and range of lenses allow us to meet the regulatory requirements of this type of installations with the lowest energy consumption.



CLASS III

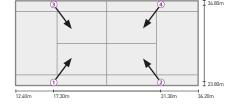
- Local competitions, training, amateur and academic use
- Average efficiency: 200 lux
- Average uniformity: 0.5
- No. of floodlights: 4 (200W)

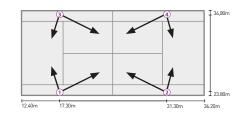


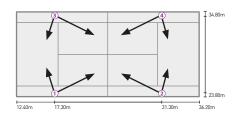
- Regional competitions, high level training
- Average efficiency: **300 lux**
- Average uniformity: 0.7
- No. of floodlights: 8 (150W)

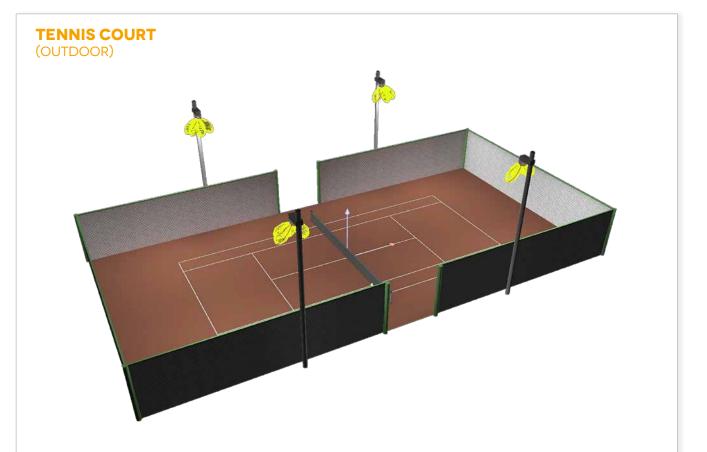
CLASS I

- National and international competitions
- Average efficiency: 500 lux
- Average uniformity: 0.7
- No. of floodlights: 8 (200W)









CLASS III

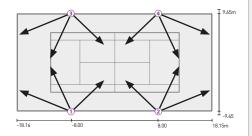
- Local competitions, training, amateur and academic use
- Average efficiency: 200 lux
- Average uniformity: 0.6
- No. of floodlights: 12 (200W)

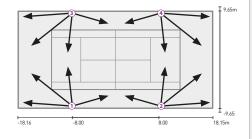
CLASS II

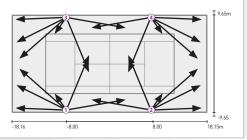
- Regional competitions, high level training
- Average efficiency: **300 lux**
- Average uniformity: 0.7
- No. of floodlights: 16 (200W)

CLASS I

- National and international competitions
- Average efficiency: 500 lux
- Average uniformity: 0.7
- No. of floodlights: 28 (200W)







INNERLED

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INDOOR LED LIGHTING

QUALITY AND EFFICIENCY

ADVANTAGES MAKE THE DIFFERENCE

- UNPARALLELED SAVINGS Up to 80% energy savings.
- WIDE RANGE OF COLOUR TEMPERATURES
 From warm white to cool white
 4,000 or 5,000K
- MINIMIZES MAINTENANCE COSTS Long working life.
- WIDE RANGE OF OPERATING TEMPERATURES From -35° to 40 °C.
- MULTIPLE MOUNTING OPTIONS
 Can be adapted to multiple anchoring systems and positions. Available accessories.

CAN BE CUSTOM RECESSED

- QUICK RETURN ON INVESTMENT
- VERSATILE FINISH
 Multiple anodized or painted finishes in any colour in the RAL range.
- LONG WORKING LIFE
 L80 B10 ≥ 70,000 hours.
- EASY CONNECTION

No need open the luminaire for its installation.

IMPROVED EFFICIENCY

CORROSION RESISTANT

Made of anodised aluminium with IP65 protection degree.

MULTIPLE APPLICATIONS

Factories, industrial premises, warehouses, shops , fairs, high work areas, logistics platforms, sports centres...

INNERLED INDOOR LED LIGHTING

CHARACTERISTICS

STRUCTURE

Anodized aluminium specifically designed for a perfect thermal management that keeps both LED and driver's temperature as low as possible.

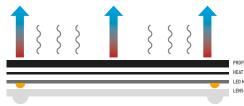
MAINTENANCE

- Easy component replacement.
- Information included in the product's manual.

EFFICIENCY

Final efficiency up to 150 lumen/W, including drivers' losses.

THERMAL MANAGEMENT



PROFILE WITH DISSIPATION CURVE Heat conductor Led Module

MOUNTING

Direct mains connection. Easy replacement of existing light points.

Furthermore, the luminaire can be installed in two ways:

- **Suspended** from the ceiling.
- Recessed in the ceiling or wall (support)



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COLOURS

Lacquered in RAL 9006 grey or RAL 9005 black.

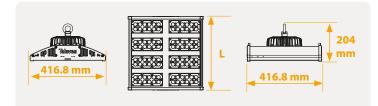
Available on demand in any colour in the RAL range.



INNERLED SERIES







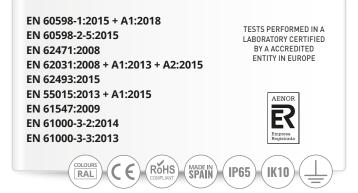
CRI = 70 (On demand CRI>80) - CTT 4,000 / 5,000K - FHS < 0.1% - PF > 0.95

	REFERENCES ⁽¹⁾	No. LEDs	WEIGTH	L	OPERATING CURRENT	TOTAL POWER CONSUMPTION [±8%]	TOTAL LUMINOUS FLUX (4,000K)	WORKING LIFE ⁽²⁾
			(kg)	(mm)	(mA)	(W)	(lm)	(h)
INNER LED	623500xxxxxxx	48	5.1	214	400	80	12,000	100,000
	625500xxxxxxx	72	6.8	311	400	130	19,500	100,000
	627500xxxxxxx	96	9.0	405	400	200	30,000	100,000

(1) Reference breakdown example: page 54.

(2) L80 B10 A 25°C for a working environment temperature of 25°C.

LOCATION



DIMMING OR LIGHTING CONTROL

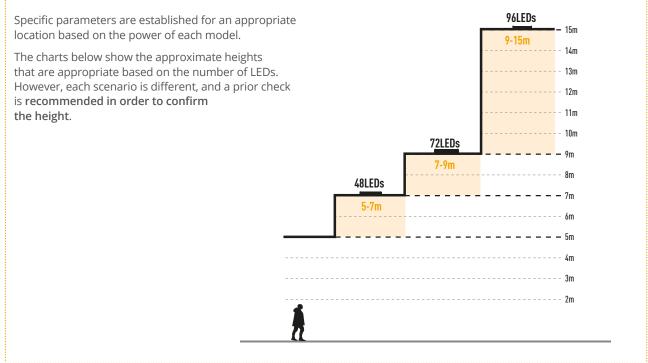
Dimable 1-10V and DALI models availables, fully compatible with solutions of presence detection and wich allows adjusting the light level to the installation needs according to eh natural light and the presence.

INNERLED INDOOR LED LIGHTING



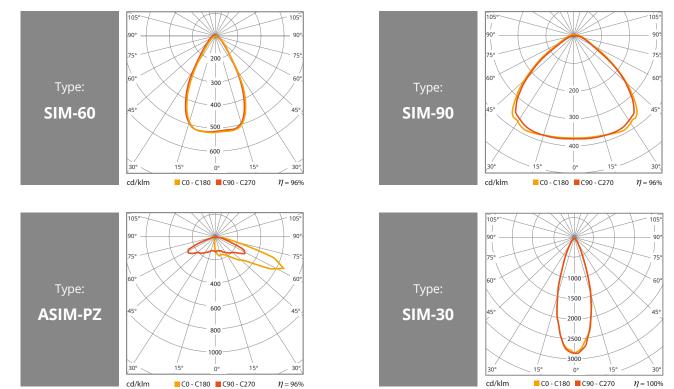
LOCATION

MOUNTING HEIGHTS





LIGHT DISTRIBUTIONS



Approximate reference illumination diagrams

REFERENCEBREAKDOWN**EXAMPLE**

680500 <mark>01</mark> 30 01 01

Series

680500

Possible values

ATMOSLED						
601500	ATMOSLED 5 24 LED 39W					
602500	ATMOSLED 5 36 LED 58W					
603500	ATMOSLED 5 48 LED 80W					
604500	ATMOSLED 5 60 LED 95W					
605500	ATMOSLED 5 72 LED 120W					
610500	ATMOSLED 7 12 LED 26W					
611500	ATMOSLED 7 24 LED 58W					
612500	ATMOSLED 7 36 LED 85W					
613500	ATMOSLED 7 48 LED 100W					
680500	ATMOSLED N 12 LED 39W					
681500	ATMOSLED N 24 LED 58W					
682500	ATMOSLED N 36 LED 78W					
683500	ATMOSLED N 48 LED 108W					
680300	ATMOSLED E 12 LED 39W					
681300	ATMOSLED E 24 LED 58W					
682300	ATMOSLED E 36 LED 78W					
683300	ATMOSLED E 48 LED 108W					
URBAN						
631713	URBAN ALAMEDA 24 LED 39W					
631703	URBAN ALAMEDA 24 LED 53W					
630714	URBAN MAIA 12 LED 39W					
631704	URBAN MAIA 24 LED 53W					
LAMPS						
630701	LAMP VILLA 12 LED 29W					
630711	LAMP VILLA 12 LED 39W					
631701	LAMP VILLA 24 LED 53W					
630702	LAMP FERNANDINA 12 LED 29W					
630712	LAMP FERNANDINA 12 LED 39W					
631702	LAMP FERNANDINA 24 LED 53W					
RETROFI	T					
630500	RETROFIT 12 LED 31W					
630511	RETROFIT 12 LED 39W					
631500	RETROFIT 24 LED 57W					
LED FLOODLIGHTS						
671000						
673000	FLOODLIGHT 48 LED 100W FLOODLIGHT MAXI 48 LED 150W					
673100						
675100	FLOODLIGHT MAXI 72 LED 196W					
INNERLED						
	1)					
623500	INNERLED 48 LED 80W					



680500 01 30 01 01

The last 8 digits of each reference will depend on the requested configuration for the luminaire.

Taking accout of the dimming, the colour temperature, the optic and the chassis where the luminaire is mounted as well as the chassis colour.

625500

627500

INNERLED 72 LED 130W

INNERLED 96 LED 210W

INTERNATIONALCOMMERCIAL**NETWORK**



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