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illuminazione
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Urban LED lighting



SELLA 1 - LED
M A D E I N I T A L Y





Higher energy efficiency and lower costs are important goals for public lighting networks and for smart cities in general. The new products offered by Disano have an operational life of over 50,000 hours and ensure extremely low maintenance costs; with these new fixtures it is possible to achieve excellent results when designing new lighting systems and when retrofitting existing ones. A solid investment in technologically advanced lighting improves the quality of life of residents and helps build a more sustainable economic development.

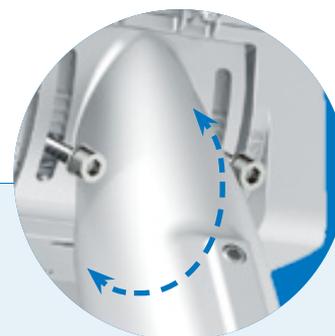


This product is of top quality and **Made in Italy**.

Latch opening system: enables the cover to be opened.



Pole connection: in die-cast aluminium suited for poles with a diameter ranging from min. 46mm to max. 76mm. Adjustable from 0° to 20° for side mounting and from 0° to 20° for mast-top mounting. Inclination angle: 5°.

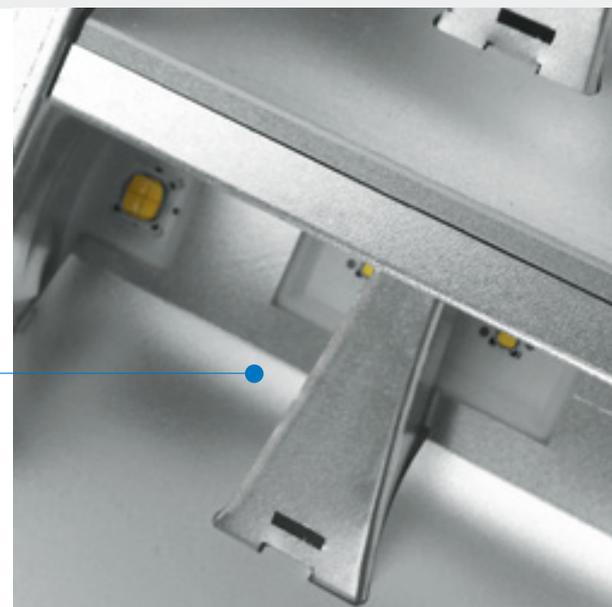


Optical system:

In aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD). The modularity of the optical system, the solutions used for the electronic circuit design and the optical control of operating temperatures, make the Sella product a highly professional, flexible and reliable lighting fixture, capable of guaranteeing huge application advantages in several situations.

LED

- ST beam: 4000K - CRI 70
- STWB beam: 4000K - CRI 70
- Power factor $\geq 0,92$
- 70% luminous flux maintenance: 50000 hrs (L70B20)
- No photobiological risk: exempt group according to EN 62471
- Working temperature: $-30^{\circ}\text{C} / + 40^{\circ}\text{C}$



Housing and cover:

in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Diffuser:

extra-clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN12150-1: 2001).

Wiring:

standard with 700mA with double-insulated driver 220-240V 50/60Hz.

Coating:

polyester resin based and UV-stabilised powder paint, resistant to corrosion and saline environments.

Standard supply:

- quick connection
- double insulation switch that cuts off electricity when the cover is opened
- insulation class II and IP66-IK09 rated according to EN 60598-1
- LED protector: protective impedance device compliant with EN 60598-1 to protect the LED module against electrostatic discharges
- Protection device according to EN 61547 when the fixture is installed on top of fibreglass poles: 4KV.

On request

The lamp can be equipped with several light dimmers installed directly on the fixture:

- **bi-power dimming** with virtual midnight option
- **1-10V dimmable driver** with external control
- power line carrier (PLC) **remote control**
- **wireless** control system



Protection device according to EN 61547 when the fixture is installed on top of fibreglass poles: **class 2** (protection up to 10KV).

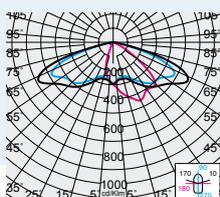


Suited to accommodate photocell

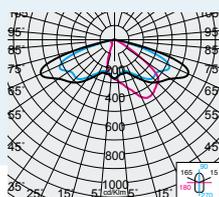


Outstanding photometric performance

This product was designed with an optical system capable of controlling the potential glare created by the growing light intensity of LEDs while achieving high photometric performance. This allows the application in street lighting schemes where there is a significant distance between the poles.



3290 - Sella 1 ST



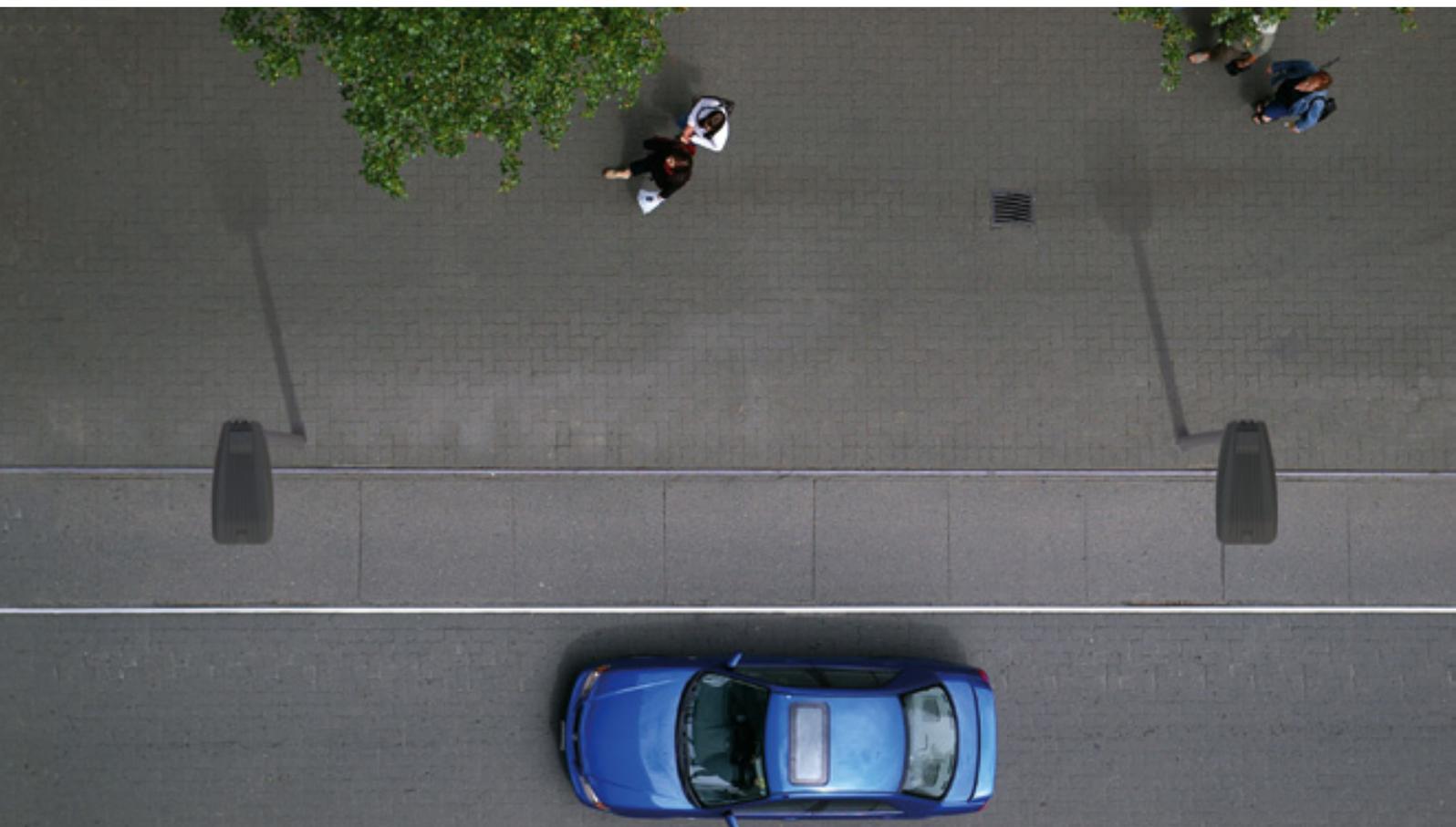
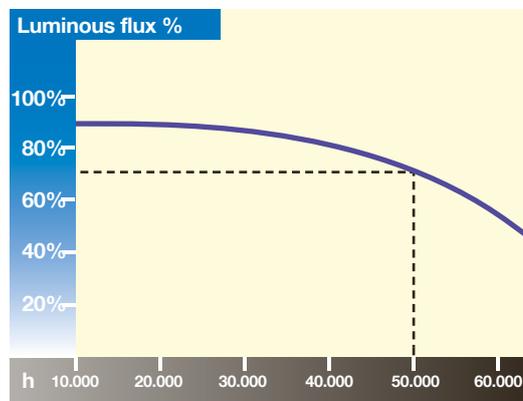
3291 - Sella 1 STWB

EXAMPLE: LED declared L70B20 = 50,000 hrs

This means that when the LED reaches 50,000 hours of operation, 80% (B20) of the LED will have a luminous flux corresponding to 70% of the initial flux (L70).

Life expectancy

LEDs, unlike traditional sources, will not turn off suddenly when their working life ends, but will slowly fade their initial luminous flux until they turn off completely. In fact, LEDs do not break (except for manufacturing damages) but decay gradually and constantly. The decrease of LED flux is defined by the working life and is represented by the L70 mark (see chart), which means that the flux is kept up to 70%. The "B" letter followed by a number ranging between 10 and 50 indicates the quality of the fixture and defines the LED percentage that keeps the declared characteristics when it reaches 50,000 working hours.



Photobiological safety

We often read about photobiological safety in lighting design. This very important factor is determined by the amount of radiations emitted by all the sources with a wave length ranging between 200 nm and 3000 nm. Excessive radiation exposure can be harmful for human health. The EN62471 standard classifies light sources into risk groups.

RG0 (exempt risk group): the lighting source is exempt from risks in compliance with EN 62471 Standard.

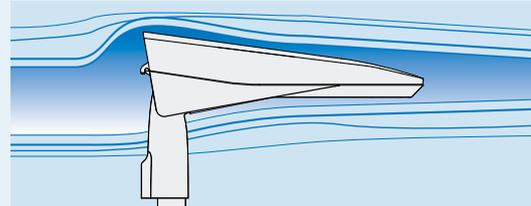
RG1 (low risk group): no risk deriving from a limited emission of radiation.

RG2 (moderate risk): the lighting source does not pose hazards because of our aversion response to very bright light sources, or due to the fact that we would experience thermal discomfort. The products of the Sella range belong to the RG0 group (exempt risk group).

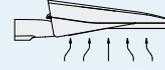


Surface exposed to wind

The fixture's design is configured to minimise wind exposure surfaces. 1750/790 sqcm of side surfaces for Sella.



Top area = 1750cm²



Top area = 790cm²



Heat dissipation

The heat dissipation system was designed and manufactured to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.



SMART CITY & SMART LIGHTING



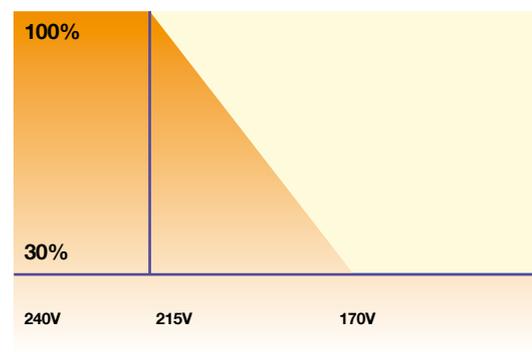
What is a smart city?

A smart city is a city where there is a **better quality of life** and where public spaces can help citizens achieve their full potential and move more freely, while saving time and respecting the surrounding environment. The intelligence of a «Smart City» is an intelligence that is **distributed, shared, horizontal and social that promotes** the participation of citizens and the organization of the city towards a greater optimization of resources and results.

Energy consumption, public resource use and time are all optimized. With the Web and the new technologies, access to services is easier and public spaces can be organized to favour mobility, **save time** and turn our cities smarter. Remote management systems make **objects more intelligent** and recognizable, so that they can communicate

Light dimming

In order to exploit the energy-saving potential of LED technology, lighting fixtures are equipped with an internal electronic system comprising a microprocessor which controls the luminous flux from 10 to 100%, making energy savings increase accordingly. This will enable users to operate a lighting fixture at reduced power rates in specific applications, according to programmable periods of time. In particular, according to the UNI-11248:2007 road standard, it is possible to classify roads dynamically into two categories, and reduce the luminous flux at night when traffic is low.



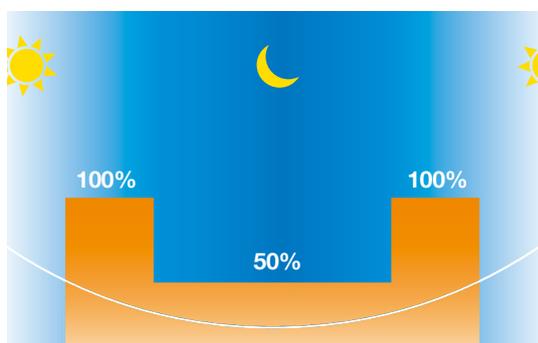
1-10V dimming
10%-100% dimming
with 1-10V system (subcode -12)



data and provide access to aggregated information. Thanks to a more efficient use of the Web, **everything within a city** (urban fittings, public buildings, monuments, etc.) can play an active role and become collectors and **distributors of information** about traffic, energy consumption, services and assistance to citizens, cultural and touristic attractions and much more.

Programmable lighting control systems (midnight option)

At the customer's request, the Sella range of products can be equipped with a special device to dim the lighting flux during the night-time without the need to install additional infrastructure. These fixtures can be installed into existing luminaires in the place of traditional street lighting systems, increasing energy savings resulting from the use of LEDs, with the automatic night-time dimming function. The device is capable of performing up to 5 night-time dimming steps; the system is supplied already programmed by Disano illuminazione and the user does not need to perform any type of programming during installation.



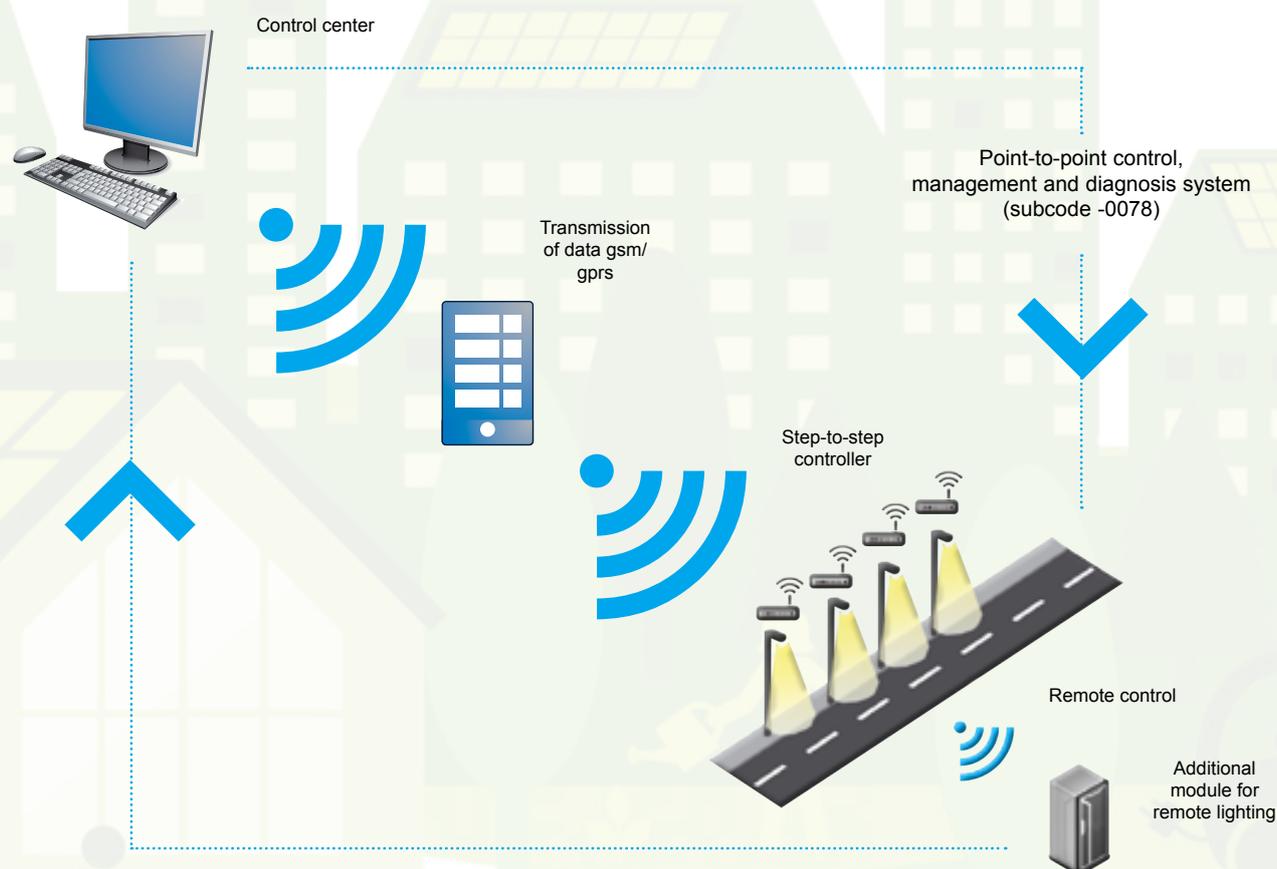
Virtual midnight - Stand-alone system with automatic flux reduction (subcode -30)

Wireless remote control

LED lighting also comes with Wi-Fi connectivity. The LEDs in Sella can be "controlled" via the system's remote control or smartphones.

Power line carrier remote control systems

A special control system can be inserted inside the lighting fixture or into the lamp pole to monitor the product's operating parameters. This type of remote control system is called "point-to-point". A "point-to-point" system is based on the power line carrier (PLC) technology that enables a digital two-way communication between the module installed in the fixture and the control system. The control system is located inside the control panel. The digital data are adjusted to the mains voltage, so no BUS or extra conductors are needed. Thanks to this "point-to-point" system, it is possible, for example, to monitor and save the fixture's electrical parameters and, based on these settings, generate failures or alarms, turn off/on or adjust the fixture's brightness. This is done through either manual or pre-set commands. The communication between the control centre (PC) and the "point-to-point" system occurs through a control panel using normal communication channels (GSM-GPRS-LAN network, etc.).





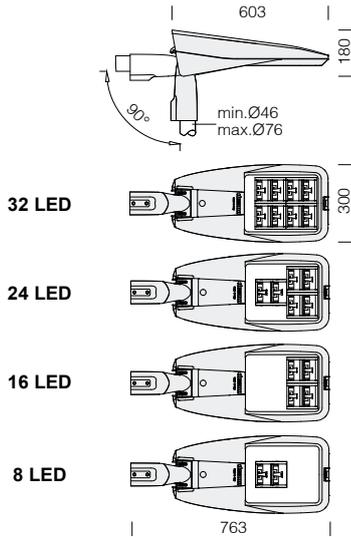
IP66IK09 □

CRI 70

4000K

5400lm
10780lm
16200lm
21600lm

50.000h
L70B20



	Power supply	n.LED	W	ølm
On request	350mA	8	19	3000lm
		16	38	6000lm
		24	57	9000lm
		32	76	11600lm
On request	530mA	8	29	4150lm
		16	59	8300lm
		24	88	12400lm
		32	117	16900lm

3290 Sella 1 - ST

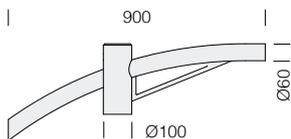
wattage (700mA)	couleur	CLD CELL		W	LED (Tj=85°C) K - ølm 700mA - CRI
		weight	code		
LED	s. silver	7,2	330603-00	39	4000K - 5400lm - CRI 70
	graphite		330600-00		
LED	s. silver		330604-00	78	4000K - 10780lm - CRI 70
	graphite		330601-00		
LED	s. silver		330605-00	118	4000K - 16200lm - CRI 70
	graphite		330602-00		
LED	s. silver	330607-00	157	4000K - 21600lm - CRI 70	
	graphite	330606-00			

Sella 1 ST	Wattage LED (W)	Total power consumption (W)
	39	42
	78	84
	118	126
	157	167

3291 Sella 1 - STWB

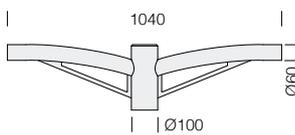
wattage (700mA)	couleur	CLD CELL		W	LED (Tj=85°C) K - ølm 700mA - CRI
		weight	code		
LED	s. silver	7,2	330613-00	39	4000K - 5400lm - CRI 70
	graphite		330610-00		
LED	s. silver		330614-00	78	4000K - 10780lm - CRI 70
	graphite		330611-00		
LED	s. silver		330615-00	118	4000K - 16200lm - CRI 70
	graphite		330612-00		
LED	s. silver	330617-00	157	4000K - 21600lm - CRI 70	
	graphite	330616-00			

Sella 1 STWB	Wattage LED (W)	Total power consumption (W)
	39	42
	78	84
	118	126
	157	167



acc. 504 single arm

s. silver	991262-00
graphite	991263-00



acc. 505 double arm

s. silver	991266-00
graphite	991267-00

Always use the power you need

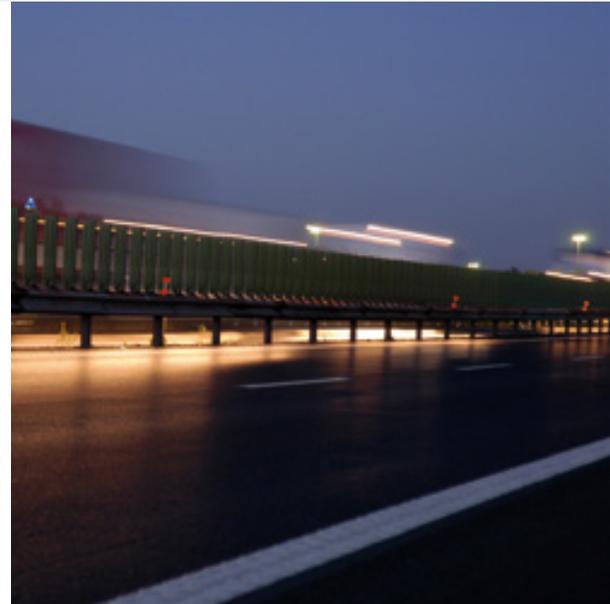
The modular optical system and the possibility to choose the correct drive current for LEDs will always allow you to have the right power under specific design conditions, and also help you deal with maintenance and retrofitting problems. Using a lower current will improve the efficiency of fixtures and therefore increase energy savings, whilst a higher current will result in a higher light flux so that you can reduce the number of fixtures.

Power supply		n.LED	W	ølm
Standard	700mA	8	39	5400lm
		16	78	10780lm
		24	118	16200lm
		32	157	21600lm
On request	350mA	8	19	3000lm
		16	38	6000lm
		24	57	9000lm
		32	76	11600lm
On request	530mA	8	29	4150lm
		16	59	8300lm
		24	88	12400lm
		32	117	16900lm



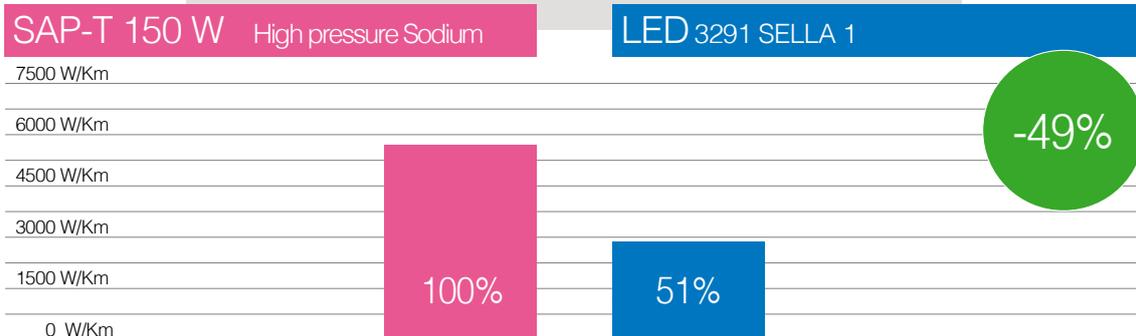
Energy efficiency and energy saving

Consuming less energy without giving up the benefits of technological progress. This is the great challenge for the future of our planet. This is because greater energy efficiency means lower consumption without compromising light quality. Being able to distinguish colours and perceive clear details when transiting on urban streets help improve the safety of drivers and pedestrians. In addition, lights that mimic daylight will improve the perception of faces and increase our sense of safety. Thanks to white LED light, cities are safer and more liveable even after dusk.



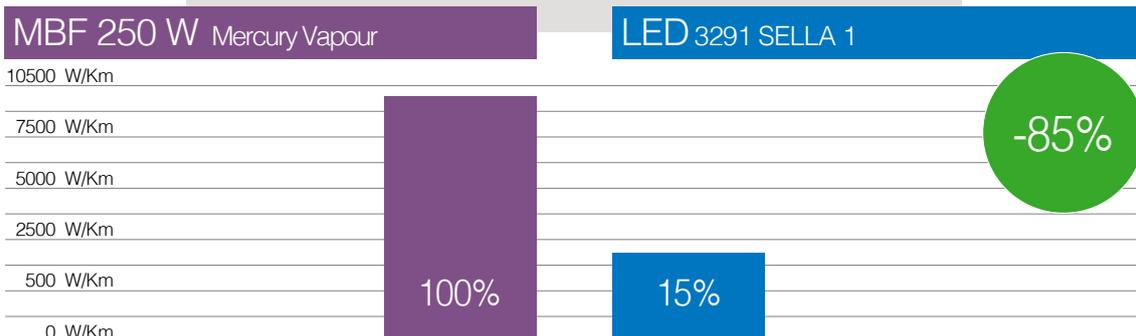
	width	H	distance	Cd/m ²	P(W)	W/Km
SAP-T 150 W	8 m	8 m	30 m	1,25	168	5600
SELLA 1 3291 (700mA)	8 m	8 m	30 m	1,28	85	2833

Comparison of consumptions on a ME3a road (C2 type of asphalt):



	width	H	distance	Cd/m ²	P(W)	W/Km
MBF 250 W	8 m	8 m	27 m	0,75	275	10185
SELLA 1 3291 (350mA)	8 m	8 m	27 m	0,76	41	1519

Comparison of consumptions on a ME4b road (C2 type of asphalt):

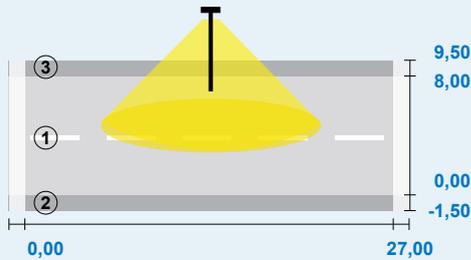


Advantages in replacing old luminaires

The replacement of obsolete lighting systems based on mercury vapour fixtures (still very common in residential zones despite being outdated and poorly efficient), will enable to reduce energy consumptions by 80-90%, while increasing the light output to the levels currently required by applicable legislation, without the need to modify neither the poles nor the systems. With the modularity offered by Sella fixtures you can always choose the exact amount of power necessary to deliver the right lighting levels without over-dimensioning and therefore wasting energy.



Example of a lighting system configuration with 3291 Sella 1 16 LED Total power consumption 350mA P=41W



Maintenance factor 0,9
Pole height 8m

Area of evaluation: roadway	①
Length: 27m - Width 8m	
Grid	10 x 6 points
Street elements	roadway 1
Road surface	C2, q0: 0,070
Selected lighting class	ME4b

Lighting design results	L_m [cd/m ²]	U0	UI	TI(%)	SR
Obtained values	0,78	0,47	0,76	8	0,50
Target values	≥0,75	≥0,40	≥0,50	≤15	≥0,50
Compliant / non-compliant	✓	✓	✓	✓	✓

Area of evaluation: pavement	②
Length: 29,7m - Width 1,5m	
Grid	10 x 3 points
Street elements	pavement 2
Selected lighting class	S3

Lighting design results	E_m [lx]	E_{min} [lx]
Obtained values	10,33	5,54
Target values	≥7,50	≥1,50
Compliant / non-compliant	✓	✓

Area of evaluation: pavement	③
Length: 29,7m - Width 1,5m	
Grid	10 x 3 points
Street elements	pavement 3
Selected lighting class	S3

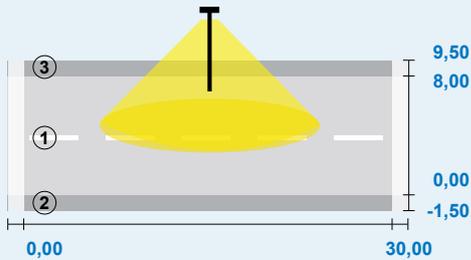
Lighting design results	E_m [lx]	E_{min} [lx]
Obtained values	7,51	4,99
Target values	≥7,50	≥1,50
Compliant / non-compliant	✓	✓

Advantages in installing new projects

Using Sella LED lights in the place of high-pressure sodium luminaires enables you to obtain the same lighting results, reducing power and consumptions by 40%-50% depending on the type of road. Compared to high pressure sodium, LED technology will significantly improve both the quality of the light (which is white and not yellow) and the colour rendering; moreover regular maintenance is no longer needed. Thanks to high performance LED optics (reflector + auxiliary lens), Sella LED fixtures can be used along roads keeping the same distance between poles, like for high-pressure sodium lamps. In this way you can save energy without increasing the number of light fixtures.



Example of a lighting system configuration with 3291 Sella 1 16 LED Total power consumption @700mA P=84W



Maintenance factor 0,9
Pole height 8m

Area of evaluation: roadway	①
Length: 30m - Width 8m	
Grid	10 x 6 points
Street elements	roadway 1
Road surface	C2, q0: 0,070
Selected lighting class	ME3a

Lighting design results	L_m [cd/m ²]	U0	UI	TI(%)	SR
Obtained values	1,28	0,44	0,70	10	0,52
Target values	≥1,00	≥0,40	≥0,70	≤15	≥0,50
Compliant / non-compliant	✓	✓	✓	✓	✓

Area of evaluation: pavement	②
Length: 30m - Width 1,5m	
Grid	10 x 3 points
Street elements	pavement 2
Selected lighting class	S1

Lighting design results	E_m [lx]	E_{min} [lx]
Obtained values	19,24	9,59
Target values	≥15,00	≥5,00
Compliant / non-compliant	✓	✓

Area of evaluation: pavement	③
Length: 30m - Width 1,5m	
Grid	10 x 3 points
Street elements	pavement 3
Selected lighting class	S2

Lighting design results	E_m [lx]	E_{min} [lx]
Obtained values	11,37	7,02
Target values	≥10,00	≥3,00
Compliant / non-compliant	✓	✓



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DISANO ILLUMINAZIONE s.p.a.
Rozzano, Milan, Italy
V.le Lombardia, 129
tel 39 02 824771
fax 39 02 8252355
email: info@disano.it
website: www.disano.it

All numbers are written in European format where decimals are separated by commas rather than dots (i.e. 33.00 will display as 33,00)

REVO - ENG

M A D E I N I T A L Y