

**LLAMP** is an autonomous and efficient public lighting solution. An autonomous light point that generates the energy needed to illuminate public spaces all year round, in a discreet and elegant way, without needing to be connected to the electricity grid.

With different luminaire application options using LEDs with a high color rendering index (Ra>70) and a long service life (>100,000h), with different color temperatures available.



ILLUSTRATIVE IMAGE AS AN EXAMPLE OF AN OPTION



**PRODUCT DESCRIPTION**

<b>Assembly</b>	Attachment to the ground;
<b>Body</b>	Steel sheet with anti-corrosion surface treatment;
<b>Application</b>	Residential areas; Urban areas; Parking lots; Public squares;
<b>CRI</b>	Ra >70;
<b>Autonomy</b>	3 days without sun;

**ELECTRICAL SPECIFICATIONS**

<b>Max. Supply Current</b>	700 mA;
<b>Fator de Potência</b>	> 0,90;
<b>Class of electrical protection</b>	I ;

**STANDARDS (PRODUTOS FABRICADOS SEGUNDO:)**

- EN 60598-1:2018 + A1:2018
- EN 60598-2-3:2003 + A1:2011
- EN 10025-2

**PRODUCT STRUCTURE**

- Luminaire;
- Column;
- Controller;
- Solar panels;
- Wiring;
- Batteries;

**FINISHES**

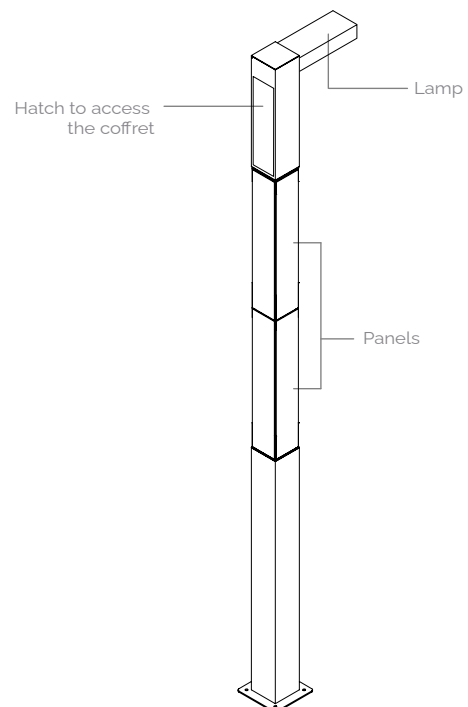
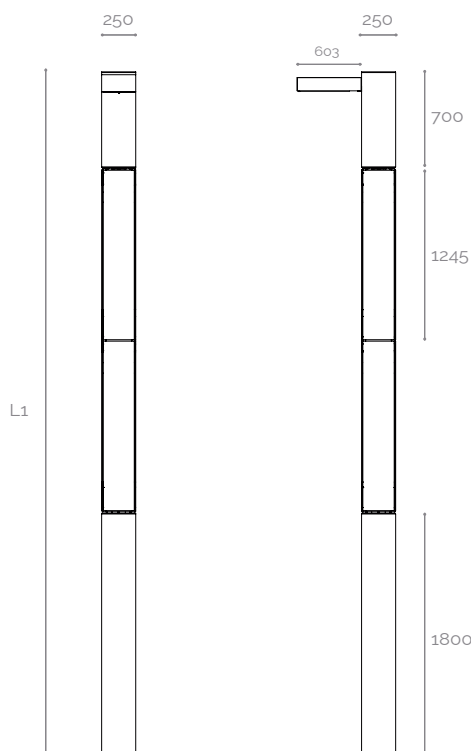
**Gr** Grey

RAL available on request

**MECHANICAL DRAWINGS (mm)**

L1 (Appx. mm)

- 4000
- 5000
- 6000
- 7000



### AUTONOMOUS LIGHT POINT STRUCTURE

#### GENERAL SPECIFICATIONS

##### COLUMN

Type	Square section;
Fixing	By flange;
Material	S275JR steel; (according to EN10025-2) Anti-corrosion protection;
Welding	MIG-MAG process; (recommended)

##### FUNCTIONALITY CONTROLLER

System	Autonomous with photoresistance (LDR), using ambient light;
Protection	Thermal; Against overload; Short circuit; Polarity reversal;
Sensor	Pyroelectric infrared (PIR) (availability on request)
Battery charging	Dynamic calculation of the optimum battery charge point (MPPT);
Measurements	Measuring the energy produced by photovoltaic panels; Battery measurement and management;
Driver	3-channel LED; (36V, 3,7A)
Management and configuration	Remotely; Remote management / telemetry system (optional) Time profiles can be created;
Communication	Wireless Zigbee;
Operating temperature	0°C to 60°C;

##### SOLAR PANELS

Quantity	12 solar panels (height of light point >6m); 8 solar panels (light point height <5m);
Protection	IP65;
Max. power	18W;
Max. voltage	13,7V;
Max. current	1,31A;
Open circuit voltage	17,8V;
Short circuit current	1,67A;
Efficiency	8%;
Operating temperature	-40°C to 85°C;

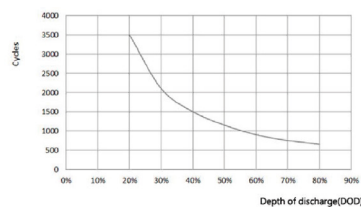
##### CABLAGE

Type	Solar cable;
Driver	Thickness 4mm2;
Protection	IP67;
Current	30A;
Class of electrical protection	II;
Voltage	1500V;
Contact resistance	5mΩ;
Fire resistance	UL94V0;
Operating temperature	-40°C to 90°C;
Guarantee	10 years;

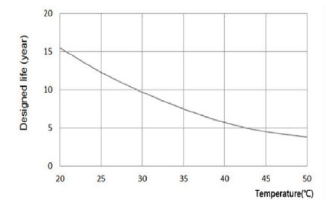
##### BATTERIES

Typology	(x2) 12V, 50Ah;
Autonomy	>3 days;
Max. power	36W;
Cycles for discharges	1400 cycles for 60% discharge;
Specifications	Low self-discharge rate and long shelf life; (9 months at 25°C)  No memory effect, thick flat plate, high calcium, low tin alloy;  Absorption Glass Mat Technology (AGM System); Built-in explosion-proof safety valve;
Operating temperature	-25°C a 45°C;
Maintenance	Maintenance-free;
Guarantee	5 years;

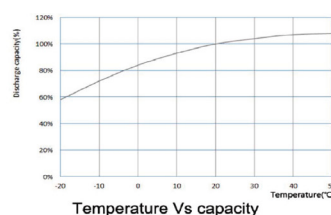
##### BATTERY PERFORMANCE CURVES



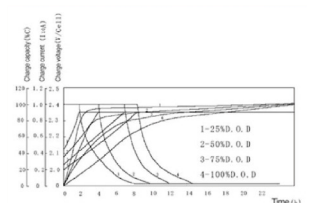
Cycle Vs Discharge depth



Designed life Vs temperature



Temperature Vs capacity



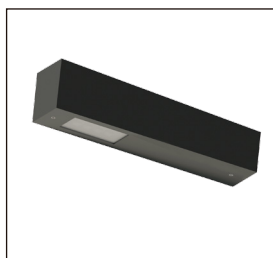
Charge performance

LUMINAIRES THAT CAN BE INTEGRATED

OPTION I

AUTONOMOUS LIGHT POINT + CRATUS S

ILLUSTRATIVE IMAGES



CRATUS S

PHOTOMETRIC SPECIFICATIONS

MODEL	PERFORMANCE	POWER (W)	PHOTOMETRIC CODE	LUMINOUS FLUX (lm)	SYSTEM EFFICIENCY* (lm/W)
CRATUS S	HE <sup>(1)</sup>	36	730	2282	141
			740	2357	146
			750	2357	146
			757	2432	150

**NOTE:** Nominal values at temperature (Tp - 25°C) | Transparent diffuser | Asymmetrical lens | Ambient temperature 40°C | (\*) - Normal system (without control); The luminous flux and input power of the luminaire are indicative values valid for an ambient temperature of 25°C. The actual flux emitted by the luminaire depends on environmental conditions (e.g. temperature and pollution) and may vary according to specific configurations. Reported values are subject to technology tolerances.



HE - High efficiency.

(1) - Only recommended for areas with solar radiation ≥ 2000 W/m².

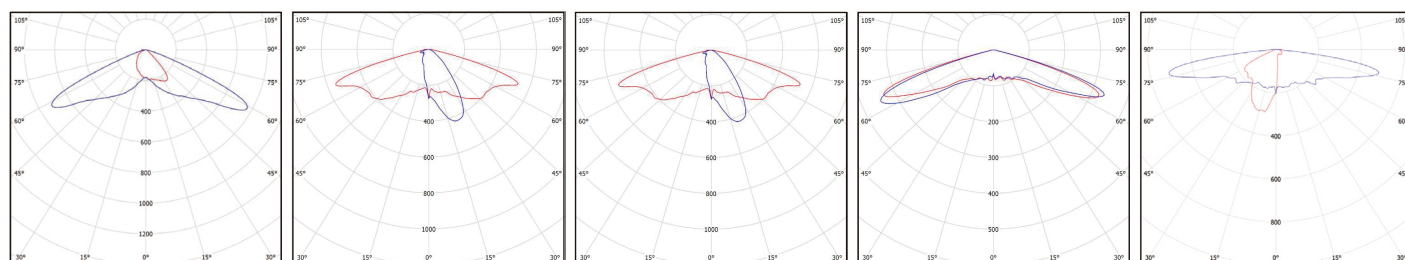
ELECTRICAL SPECIFICATIONS

Max. Supply Current	700 mA;
Power Factor	> 0,90;
Class of electrical protection	I;

LIGHT PROJECTION AREAS

	Projected surface	0.148 m²
	Projected lateral surface	0.074 m²

POLAR DIAGRAM



T1-A

T2

ME

VSM

SCL

LUMINAIRES THAT CAN BE INTEGRATED

OPTION II

AUTONOMOUS LIGHT POINT + CRATUS M

ILLUSTRATIVE IMAGES



CRATUS M

PHOTOMETRIC SPECIFICATIONS

MODEL	PERFORMANCE	POWER (W)	PHOTOMETRIC CODE	LUMINOUS FLUX (lm)	SYSTEM EFFICIENCY* (lm/W)
CRATUS M	HO <sup>(1)</sup>	36	730	4564	141
			740	4713	146
			750	4713	146
			757	4863	150
	HE	17	730	2282	141
			740	2357	146
			750	2357	146
			757	2432	150

**NOTE:** Nominal values at temperature (Tp - 25°C) | Transparent diffuser | Asymmetrical lens | Ambient temperature 40°C | (\*) - Normal system (without control); The luminous flux and input power of the luminaire are indicative values valid for an ambient temperature of 25°C. The actual flux emitted by the luminaire depends on environmental conditions (e.g. temperature and pollution) and may vary according to specific configurations. The reported values are subject to the tolerances in technology.



HO - High output flux;  
HE - High efficiency;

(1) - Only recommended for areas with solar radiation ≥ 2000 W/m<sup>2</sup>.

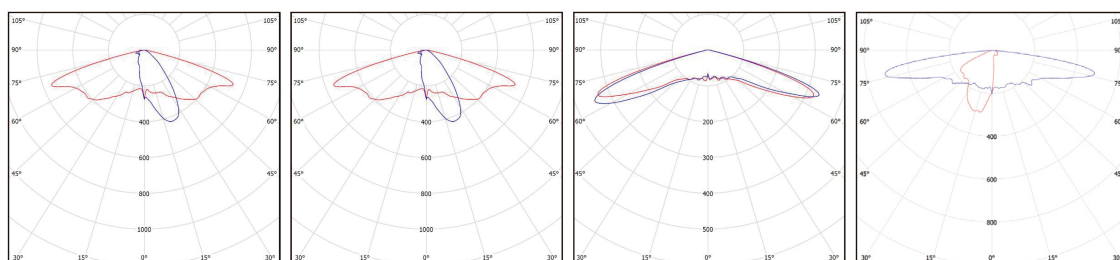
ELECTRICAL SPECIFICATIONS

Max. Supply Current 700 mA;  
Power Factor > 0,90;  
Class of electrical protection I;

LIGHT PROJECTION AREAS

 Projected surface 0.148 m<sup>2</sup>  
 Projected lateral surface 0.074 m<sup>2</sup>

POLAR DIAGRAM



T2

ME

VSM

SCL

LUMINAIRES THAT CAN BE INTEGRATED

OPTION III

AUTONOMOUS LIGHT POINT + PRIMAVER EVO

ILLUSTRATIVE IMAGES



PRIMAVER EVO

PHOTOMETRIC SPECIFICATIONS

MODEL	PERFORMANCE	POWER (W)	PHOTOMETRIC CODE	LUMINOUS FLUX (lm)	SYSTEM EFFICIENCY* (lm/W)
PRIMAVER EVO	HE <sup>(*)</sup>	36	730	2282	128
			740	2357	132
			750	2357	132
			757	2432	137

**NOTE:** Nominal values at temperature (Tp - 25°C) | Transparent diffuser | Asymmetrical lens | Ambient temperature 40°C | (\*) - Normal system (without control); The luminous flux and input power of the luminaire are indicative values valid for an ambient temperature of 25°C. The actual flux emitted by the luminaire depends on environmental conditions (e.g. temperature and pollution) and may vary according to specific configurations. Reported values are subject to technology tolerances.



HE - High efficiency;

(\*) - Only recommended for areas with solar radiation ≥ 2000 W/m<sup>2</sup>.

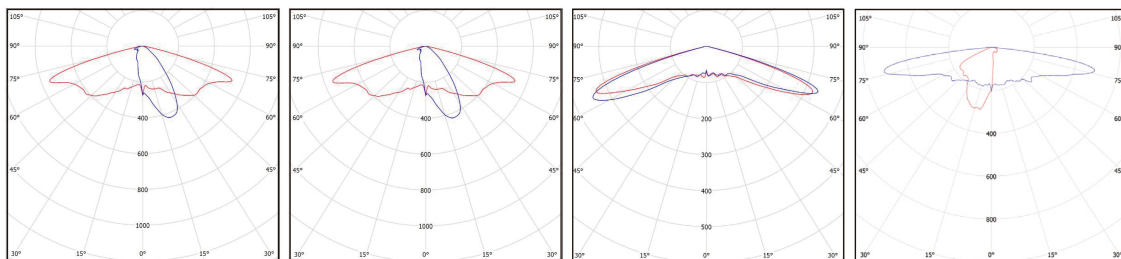
ELECTRICAL SPECIFICATIONS

Max. Supply Current	700 mA;
Power Factor	> 0,90;
Class of electrical protection	I;

LIGHT PROJECTION AREAS

 Projected surface	0,212 m <sup>2</sup>
 Projected lateral surface	0,071 m <sup>2</sup>

POLAR DIAGRAM



T2

ME

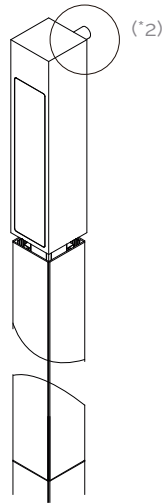
VSM

SCL

**LUMINAIRES THAT CAN BE INTEGRATED**

**DESIGN DETAILS**

ILLUSTRATIVE IMAGES - LUMINAIRE INTEGRATION

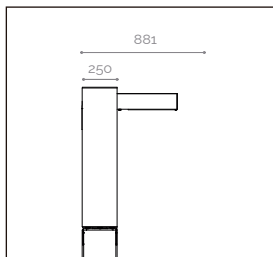


(\*2) **NOTES:**  
Horizontal arm mounting  
with a maximum diameter of 60mm;

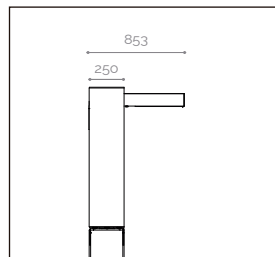
Tightening torque of the fixing screw according to  
EN 60598;  
(Max. 8 N m);

**TECHNICAL DETAILS**

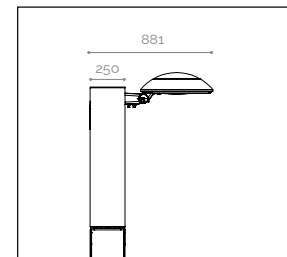
ILLUSTRATIVE IMAGES - TECHNICAL DRAWING AUTONOMOUS LIGHT POINT + LUMINAIRE



CRATUS S



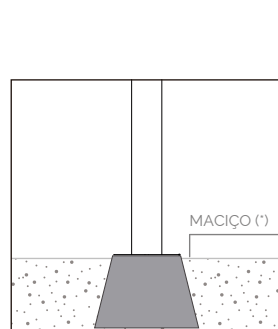
CRATUS M



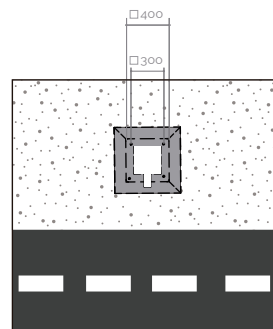
PRIMAVIR EVO

**CONSTRUCTION DETAILS**

ILLUSTRATIVE IMAGES - ASSEMBLY



MASSIVE



CHUMBERS (\*)

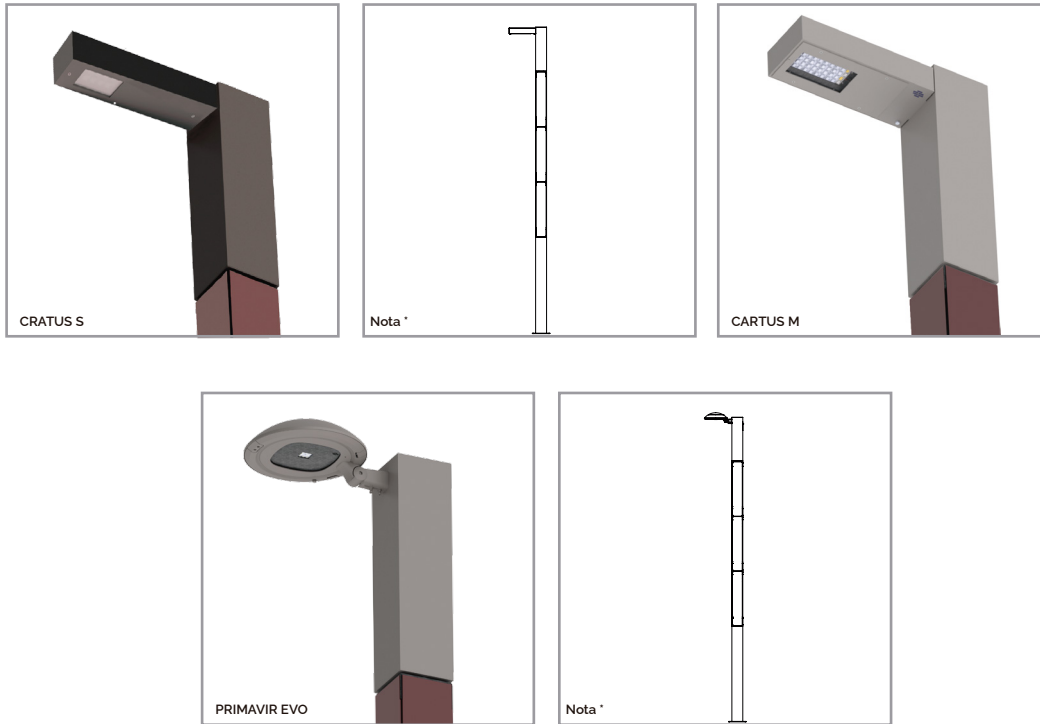
(\*) HAMMERS M20x500  
SINGLE WASHERS  
RECOMMENDED WEIGHT: 1400 KG

**ORDER EXAMPLE**

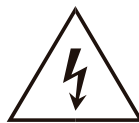
PRODUCT FAMILY	PERFORMANCE	PHOTOMETRIC CODE	LENTE	DIFFUSER	FINISHING	OPTIONS
LLAMP + CRATUS M	HO	730	VSM	T	Cz	-

**ILLUSTRATIVE IMAGES**

**Note \***  
(\*) Drawing in normal operating position;



**NOTES**



RISK OF  
ELECTRIC SHOCK

This device is not suitable for pricking out.  
Light source not user-replaceable.

For more information on the different architectures, solutions and functionalities available, please contact Lightenjin.

Under the general terms of the supply of our services and/or equipment, Lightenjin declines any responsibility for the use or purpose assigned to them, which are the sole and exclusive responsibility of the customer.

Lightenjin reserves the right to change the information contained in this document without prior notice.

**LIGHTENJIN II - LIGHTING INDUSTRY, LDA**

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