

# Rama

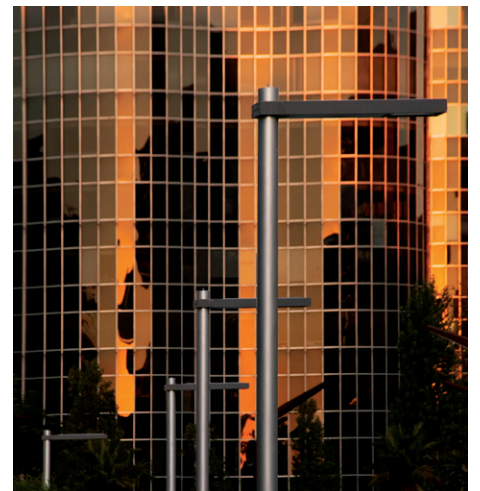
Gonzalo Milá, 2000

URBAN LUMINAIRE WHICH OFFERS LOW CONSUMPTION AND THE INSTALLATION OF AN OPTIONAL NUMBER OF LUMINAIRES PLACED AT DIFFERENT HEIGHTS AND POSITIONS



- <sup>1</sup> | Polyamide or aluminium injection
- <sup>2</sup> | Lighting at different heights
- <sup>3</sup> | Colours

Barcelona (Spain)



SANTA & COLE APPLIES THE MOST DEMANDING SUSTAINABILITY CRITERIA FOR THE LIGHTING OF PUBLIC SPACES: RATIONAL ENERGY USE, EFFICIENCY AND ENERGY SAVING, THE USE OF LOW-CONSUMPTION HIGH-EFFICIENCY LAMPS AVOIDING SKY GLOW AND LIGHT POLLUTION





## Rama Streetlamp

This streetlamp is a tree of light created with a three-fold objective: for ground-projected lighting, reduced consumption and an optional number of luminaires at different heights and in different positions.

Luminaire for outdoor lighting designed to house high pressure sodium vapour, metal halide or compact fluorescent luminaires. Dual level units for control line can be included as an option.  
The Rama luminaire is presented in two models which are distinguished by the change of material in their manufacture: polyamide or injected aluminium.

## Materials and finishes

- **Body**  
Luminaire and fastening clamp in aluminium injection or luminaire and fastening clamp in grey or brown polyamide injection.  
Aluminium reflector and diffuser in toughened glass.
- **Columns**  
Tubular column with circular cross section of different diameters and heights (depending on reference). Allows several luminaires to be fixed (1, 2 or 5).  
4.70m / 185.1" or 6.20m / 244.1" high and 127 mm / 5" diameter grey painted columns in hot-galvanized steel or anodized aluminium, for 1 or 2 luminaires at the same or different heights.

8m / 315" high double-section grey painted columns of hot galvanized steel with a Ø of 152 mm / 6" in the lower part and a Ø of 127 mm / 5" in the upper part, for 1 or 2 luminaires at the same or different heights, or for 5 luminaires at different heights.  
6.20m / 244.1" or 8.20m / 322.9" high double-section columns with a Ø of 152 mm / 6" in hot-galvanized steel and painted tube in the lower part and a Ø of 129 mm / 5.1" in stainless steel AISI 304 polished finish tube in the upper part, for 1 or 2 luminaires at the same or different heights, or for 5 luminaires at different heights (for the 8.20m / 323" column).

## Luminaire

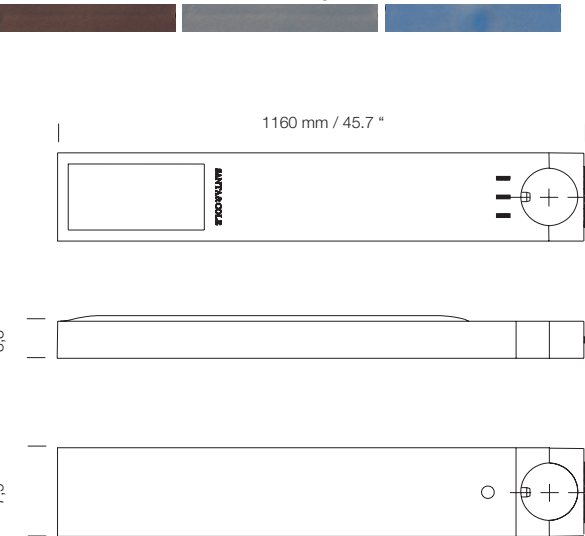
- **Fastening to column**  
Fastening of the body with aluminium or polyamide half-clamp using stainless steel screws.  
The gear-holding plate is easy to extract.  
Units prepared for VSAP and HM lamps.  
To improve the energy efficiency of the luminaire, optionally it can incorporate dual-level adjustable units.

- **Installation of the luminaire**  
The luminaire is delivered assembled.  
It is opened in the upper part with a ½ turn latch. The lid is attached to the body with a gas piston which aids the maintenance. It incorporates mousse sealing in EPDM.  
The aluminium model incorporates silicone sealing.  
The assembly instructions are enclosed with the street lamp.

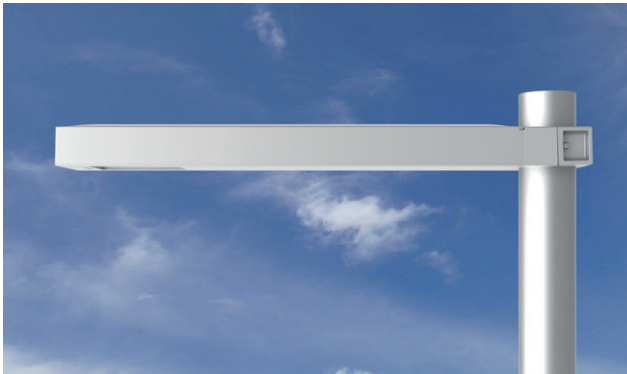
Polyamide injection



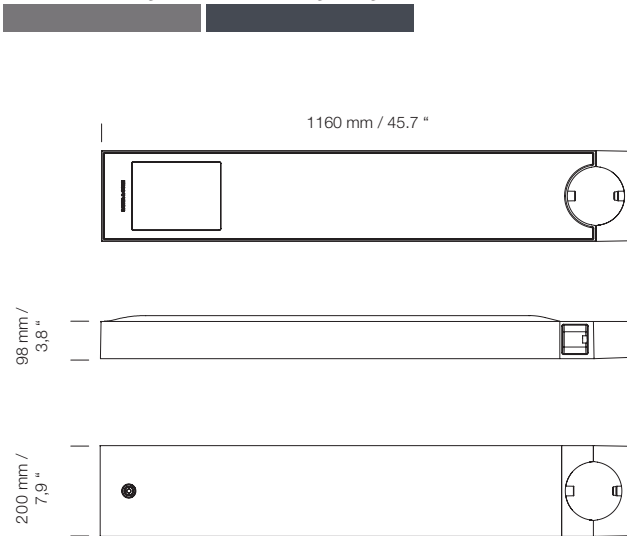
Polyamide injection Colours:  
RAL - 8014 (brown) / RAL - 9007 (dark grey) / RAL - 5023 (blue)



Aluminium injection



Aluminium injection Colours:  
RAL - 9007 (dark grey) / RAL - 7024 (grafita grey)



## · 70W / 100W / 150W HIT-CE

Lamp-holder E27 / E40 / E40 – G12 (USA)

Power of the system 84W / 115W / 167W

Luminaire efficiency 77.64%

Upper flux fraction 0.0%

## · 70W / 100W / 150W HST-MF

Lamp-holder E27 / E40 / E40 – E26 / E39 (USA)

Power of the system 83W / 115W / 170W

Luminaire efficiency 71.36%

Upper flux fraction 0.0%

## · 70W/150W HIT-DE-CE

Lamp-holder Rx7s

Power of the system 84W / 167W

Luminaire efficiency 77.42%

Upper flux fraction 0.0%

## · 70W/150 W HST-DE

Lamp-holder Rx7s

Power of the system 83W / 170W

Luminaire efficiency 71.22%

Upper flux fraction 0.0%

## · 57W/70W TC-QEL

Lamp-holder GX24q - 5 / 6

Power of the system 63W / 77W

Luminaire efficiency 58.13%

Upper flux fraction 0.0%

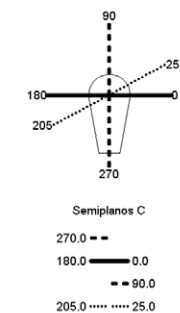
## · Power supply 230V- 50 Hz (EC)

– 120/277 V - 50/60 Hz (USA)

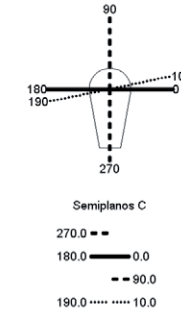
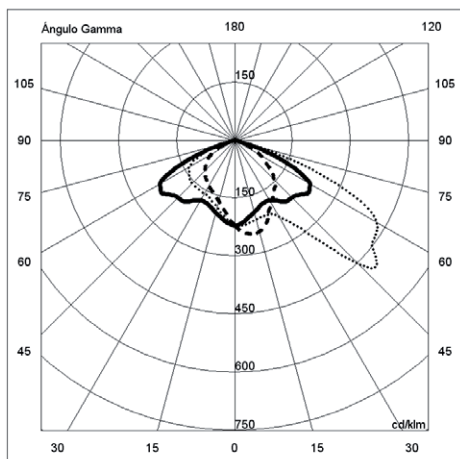
· Degree of protection IP-66

· Electrical class I (Class II consult)

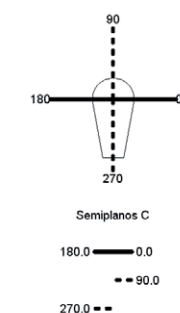
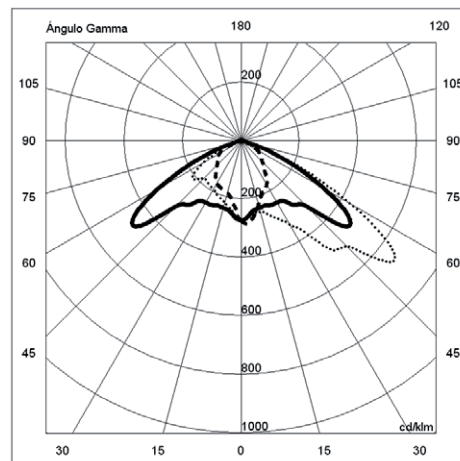
· EC Marking - Certificate UL (Aluminium model)



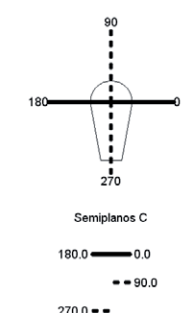
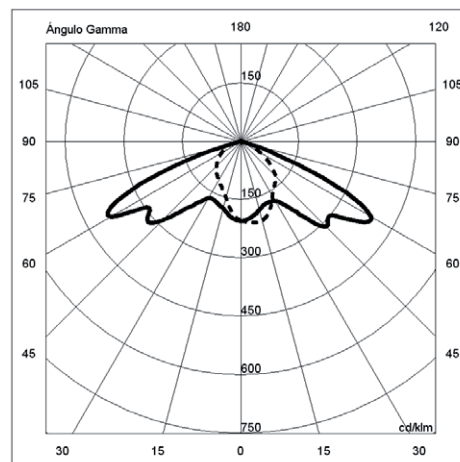
Maximum 489.70 cd/Klm  
Position C=25.00 G=47.50  
Productivity  $\eta$  = 77.42%  
FHS rate = 0.02%



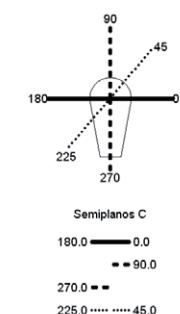
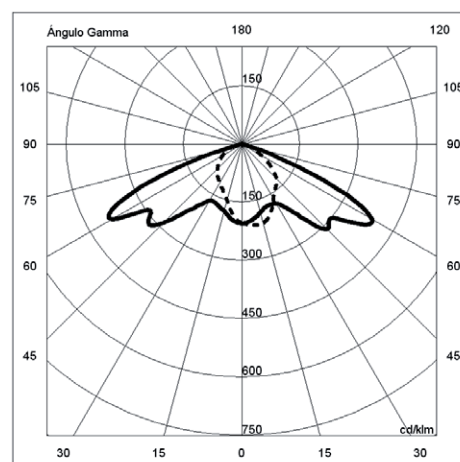
Maximum 662.24 cd/Klm  
Position C=10.00 G=52.50  
Productivity  $\eta$  = 77.64%  
FHS rate = 0.02%



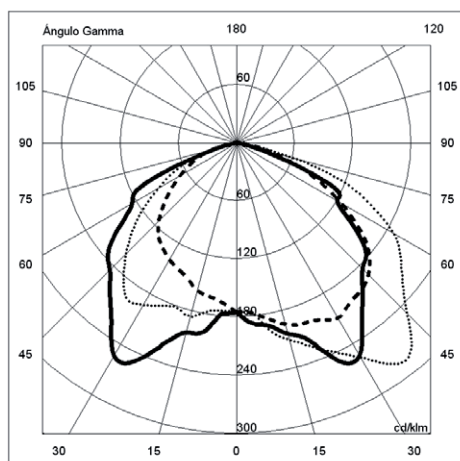
Maximum 384.70 cd/Klm  
Position C=0.00 G=60.00  
Productivity  $\eta$  = 71.22%  
FHS rate = 0.02%



Maximum 384.70 cd/Klm  
Position C=0.00 G=60.00  
Productivity  $\eta$  = 71.36%  
FHS rate = 0.02%



Maximum 282.60 cd/Klm  
Position C=135.00 G=35.00  
Productivity  $\eta$  = 58.13%  
FHS rate = 0.02%





2 luminaires at different height



1 luminaire



2 luminaires at same height

## Maintenance

Usual replacements and maintenance for the units.

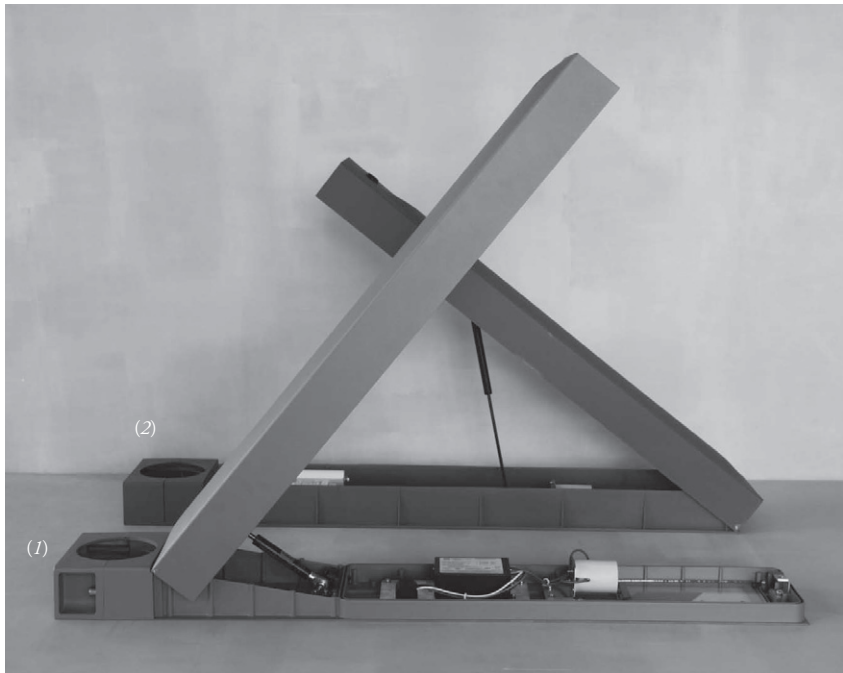
## Installation

The column is fixed by means of a concrete bucket installed in situ and anchor bolts, 20 cm / 7,9" below the paving. The foundations must foresee the groove for the electric connection.  
The unit is delivered dismantled. The assembly instructions are enclosed with the street lamp.  
The template and the anchor bolts are delivered with the column.  
Optional AISI 304 stainless steel wall support.

## Weights

- **1 luminaire / 2 luminaire (Polyamide)**  
8 Kg / 17,7 lb. 13,5 Kg / 29,8 lb
- **1 luminaire / 2 luminaire (Aluminium)**  
14 Kg / 30,9 lb. 24 Kg / 52,9 lb

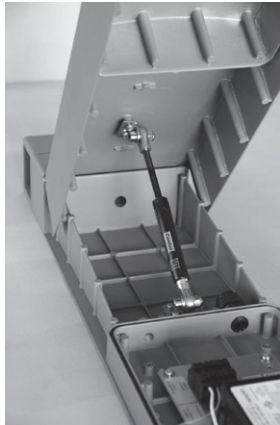
Rama Aluminium (1) and Rama Polyamide (2)



Rama Aluminium interior



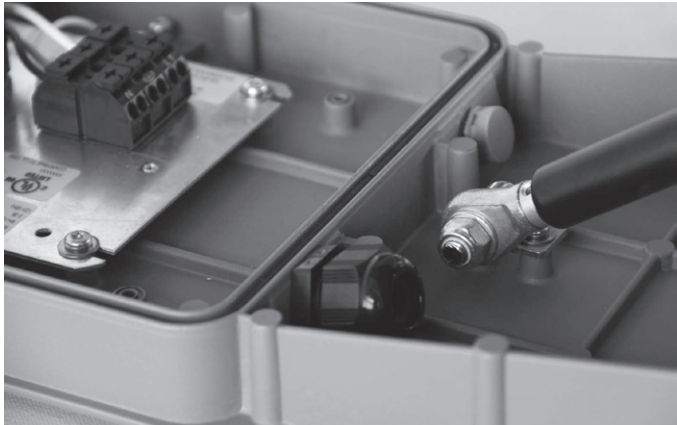
Clamping piston



Upper closing

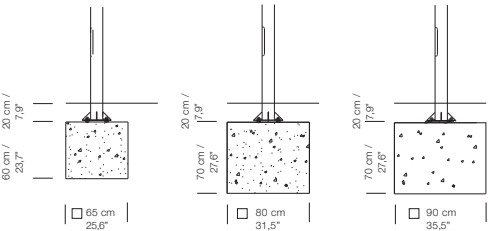


Sealing joint



Models

- Luminaire Rama polyamide
- Luminaire Rama aluminium injection



(4,70 m / 185,1") (6,20 m / 244,1") (8,20 m / 323")

1	4,70 m / 185,1"	5	6,20 m / 244,1"	9	8,20 m / 323"
· 1 section		· 2 sections		· 2 sections	
· 1 luminaire		· 2 luminaires at different height		· 1 luminaire	
2	4,70 m / 185,1"	6	6,20 m / 244,1"	10	8,20 m / 323"
· 1 section		· 2 sections		· 2 sections	
· 2 luminaire		· 1 luminaire		· 2 luminaires at same height	
3	6,20 m / 244,1"	7	6,20 m / 244,1"	11	8,20 m / 323"
· 1 section		· 2 sections		· 2 sections	
· 1 luminaire		· 2 luminaires at same height		· 2 luminaires at different height	
4	6,20 m / 244,1"	8	6,20 m / 244,1"	12	8,20 m / 323"
· 1 section		· 2 sections		· 2 sections	
· 2 luminaire at same height		· 2 luminaires at different height		· 5 luminaires	

