



# SOLAR LIGHT TUBE

## 100% Natural Lighting

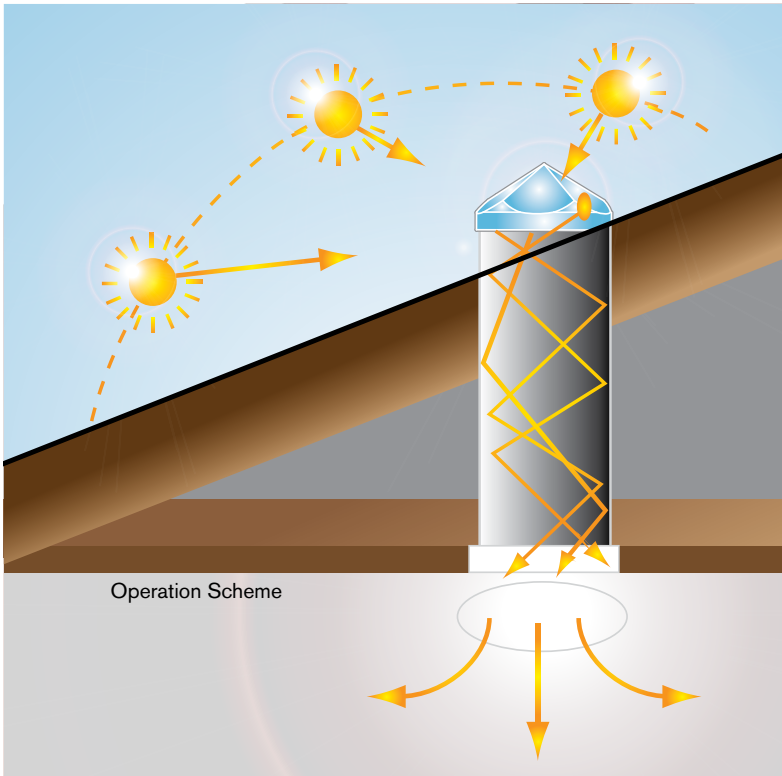


They are ecological systems, where natural light is captured and directed through internally coated tube by highly reflective material, which minimizes the dispersion of the rays and allows a supply of light at considerable distances, without heat or cold transfer.

Made with robust materials, are resistant to the most severe weather conditions.

Studies indicate an average of about 80% of working hours indoors can be performed with natural light, thus contributing directly to reducing energy consumption and consequently to improve the energy efficiency of buildings.





## Solar Light Tube Constitution:

Chatron solar Light tube consists of:

- Dome in polycarbonate high-impact top-shaped diamond, maximizing solar capture
- “Max Lighting” accessory that can increase the solar capture when the sun goes down (winter solstice) and at sunrise and sunset
- Aluminum tube coated inside by highly reflective material (almost perfect mirror), reflecting 99.7% of the sunlight, sending it to the inside

### Agricultural Applications



1- Application in sandwich panel



### Commercial applications



2- Sidedress Deck with screen pvc coating



### Types of sealing bases:

#### All kind of accessories for a perfect assembly

Chatron developed Roof bases in PE or metal for many different roof applications.

Chatron can build the molds to customer coverage of measure, providing with corrugated or formats suitable for seamless integration in different situations.

Contact us for your specific case.



Type 1: Flat base



Type 2: Base with angle



Type 3: Base with parapet



Type 4: Shaped with cover



Type 5: Tile

### Applications

- Houses
- Offices
- Gymnasiums
- Sports Halls
- Factories
- Supermarkets
- Warehouses
- Industrial Pavilions
- Amphitheatres
- Room Centers
- Creative Applications

### Advantages

- Ability of lighting superior than one window.
- Perfectly natural light.
- No thermal transfer (Cold and Heat).
- No need for cleaning or maintenance
- Resistance to UV radiation.
- Solutions for inclusion in the coverage 100% reliable and guaranteed.

### Versions available:

- Ventilation and solar tube in the same vertical lines of conduct
- Dimmer On / Off or motorized positional adjustment to the amount of light for the interconnection of home automation building
- Solar tube with LedIn system. Led lighting integration in solar tubes, allowing efficient lighting 24 hours day.



Solar Light Tubes + LEDIn + Photovoltaic Panels

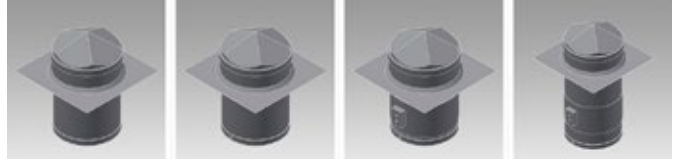


Light Controller Console

## Models for sizing and design

Chatron developed in partnership with prestigious Portuguese Universities, models for daylighting design within spaces. For all levels of outdoor natural lighting (Lux) properly parameterized (eg Sky Clear 120,000 Lux, sky clear with 85,000 Lux, sky with clouds 45,000 Lux) and for different times of day, we can do the Dialux project using the .IES models developed by Chatron. Contact us for your specific project.

## 3D models in BIM format



Chatron has available Solar Light Tube products in BIM format for integration into projects.

## Table with the different models and respective technical specifications

| Solar Light Tube Model | Diameter (mm) | Tube Length * (mm) | Clear Sky with 120.000 Lux measured at 14h | Clear Sky with 85.000 Lux measured at 14h | Sky with clouds 45.000 Lux measured at 14h | Cloudy with 20.000 Lux measured at 14h |
|------------------------|---------------|--------------------|--|---|--|--|
| TS 250                 | 250           | 625                | 4.600                                      | 2.900                                     | 1.350                                      | 540                                    |
| TS 350                 | 350           | 625                | 9.400                                      | 6.700                                     | 2.900                                      | 1.300                                  |
| TS 530                 | 530           | 625                | 20.000                                     | 13.000                                    | 6.350                                      | 2.500                                  |
| TS 750                 | 750           | 1250               | 30.000                                     | 24.000                                    | 11.620                                     | 5.300                                  |
| TS 1000                | 1000          | 1250               | 53.000                                     | 37.000                                    | 24.650                                     | 8.400                                  |

\* Minimum length recommended for each model is 1.5 x diameter. Below this value there is loss of uniformity of light in the diffuser.

## Industrial applications



3- Application in ribbed sandwich panel

## Domestic applications



4- Application in housing with slab

## Dome



The dome is made of high-impact polycarbonate, with optimal characteristics lag fire and extremely robust allowing them to withstand strong impacts. Good filtering UV radiation. Leaves the factory with antistatic treatment. Requires no maintenance. Is maintenance-free. Its geometric shape has been developed for self-cleaning. Weather conditions such as wind and rain shall dome cleaning. Moreover domes are subjected during the manufacture of an anti-adhesion treatment.

## Connection accessory



Element of transition between the various components of the solar tube.

## Solar Tube



The solar light tube (aluminum from the outside) is subjected to overlapping hot laminated inner layer of high reflectivity (greater than 99.7%), thus preventing loss of brightness and allowing the transport of light over considerable distances. Chatron has already installed solar tubes with length up to 25 m with low losses (less than 20% of their income).

## Diffusers

| Model  | ST Flat<br>Heights greater than 9 m | ST High spherical<br>Heights less than 5 m | ST Low spherical<br>Heights between 5 to 9 m | STB<br>Application on slabs or suspended ceiling | STB1<br>Application in suspended ceiling | Easy Clic<br>Application on slabs or suspended ceiling |
|--------|-------------------------------------|--|--|--|--|--|
| TS250  | •                                   |  |  |  | •  |  |
| TS350  | •                                   |  |  | •  |  | •  |
| TS530  | •                                   | •  | •  | •  |  |  |
| TS750  | •                                   |  |  | •  |  |  |
| TS1000 | •                                   |  |  |  |  |  |

## Dimmer



Dimmer entry of light with remote control infrared. Allows, in certain situations that require less input light, regulate the amount of light that is output to the space to be illuminated.

## Angles



Angles 30 °, 45 ° and 90 °. All can be regulated. Additional lengths of pipe 625 mm, 1,250 mm or other measures on request.

## LEDin



The electric lighting kit allows you to adjust light bulbs of low consumption in the solar diffuser mirror, for operation during the night periods.



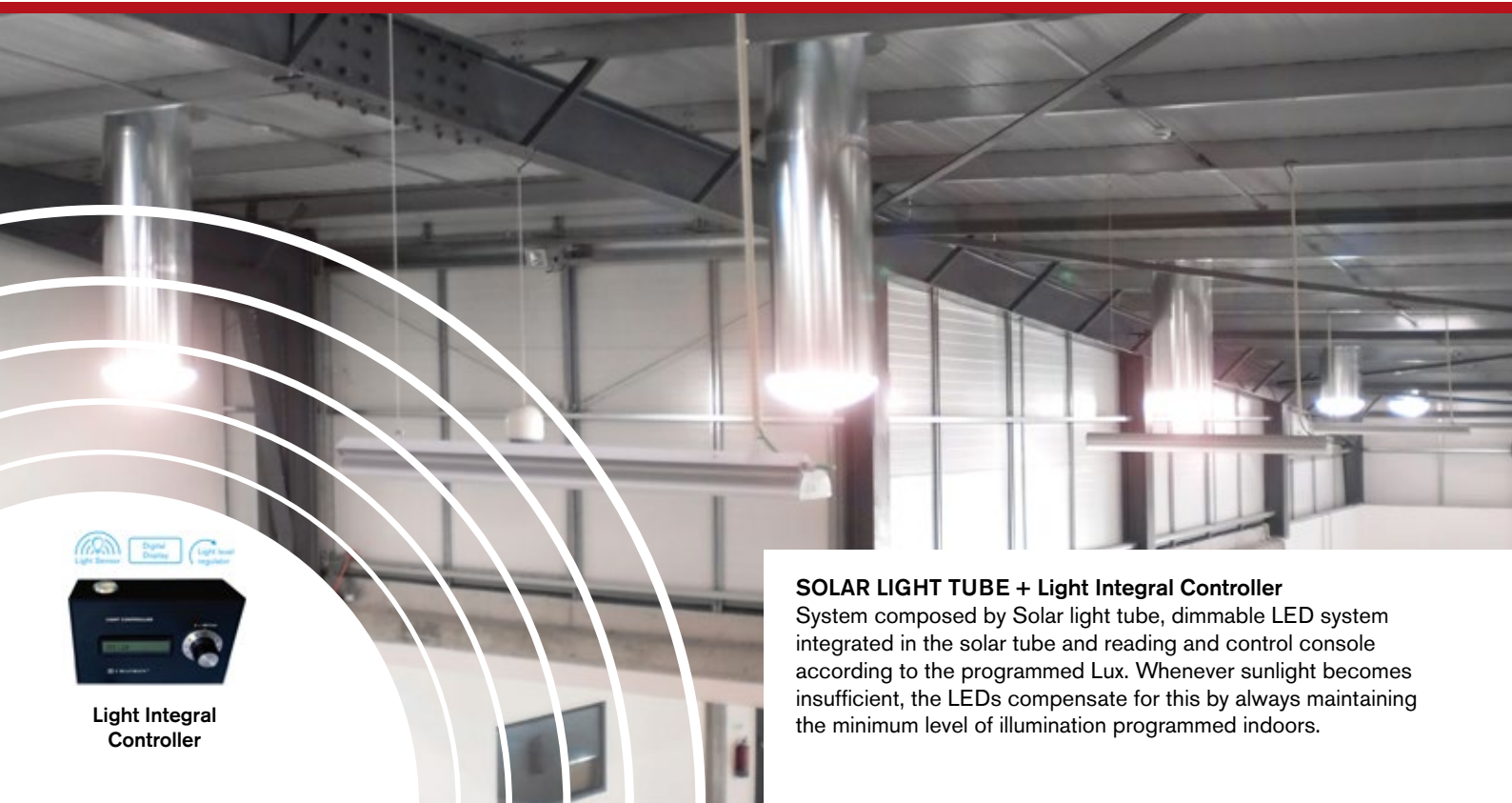
### SOLAR LIGHT TUBE PERSA

This kit is designed to work during the day in the traditional way, capturing and introducing light into the space to be illuminated. Simultaneously during the day, the photovoltaic kit completely integrated in the solar tube structure charges a battery that allows to illuminate at night.



**Factory:** Travessa da Zona Industrial - 1, n° 95 Rossio, 3730-601 Vila Cova do Perrinho, Vale de Cambra, PORTUGAL.  
**Tel.** (+351) 256 472 888  
**Fax:** (+351) 256 425 794  
**Email:** comercial@chatron.pt  
**Url:** www.chatron.pt

### Distributor:



Light Integral Controller

### SOLAR LIGHT TUBE + Light Integral Controller

System composed by Solar light tube, dimmable LED system integrated in the solar tube and reading and control console according to the programmed Lux. Whenever sunlight becomes insufficient, the LEDs compensate for this by always maintaining the minimum level of illumination programmed indoors.