

# Solatube® 160 DS – nbs Special Offer



Buy the most effective tubular daylighting device for your windowless bathroom, toilet, shower room or utility room complete with Ventilation Add-On Kit.

Solatube® 160 DS exclusively offered as a complete specification by the nationwide build shop limited



The **nbs Special Offer** Solatube® 160 DS features an electric Light Add-On Kit, electric fan Ventilation Add-On Kit for installation complete with Pull-cord ON/OFF. The product features super efficient, 250mm Diameter, Solatube® Spectralight® Infinity Tubing.

The specification has been specifically selected for windowless bathrooms, toilets, shower rooms and utility rooms, where condensation and fumes can be a problem. The specification also includes a wall/soffit exit vent as standard and a choice of roof flashing suitable for plain and corrugated tiles, slate or slate composites.

The Solatube® 160 DS patented system pipes amazing levels of free light during the day and discreet electric light when it's very dull or dark outside. Highly efficient, cost effective and simple to install, the product can benefit your wellbeing and the efficiency of your home.

Transforms dark or gloomy bathrooms, toilets shower rooms and utility rooms - makes them brighter and more welcoming.

### INCLUDED IN THE SPECIAL OFFER PRICE ...

- **Electric Light Add-On Kit - discreetly installed inside the Tube**
- **Ventilation Add-On Kit, complete with Pull-cord ON/OFF switch. Ventilation exhaust capacity 3180 litres per minute as required by Building Regulations.**
- **Double glazed, White Trim Vusion™ Diffuser – reduces condensation.**

Windowless rooms reduce the value of your property - brighter rooms are much more attractive to tenants or buyers.

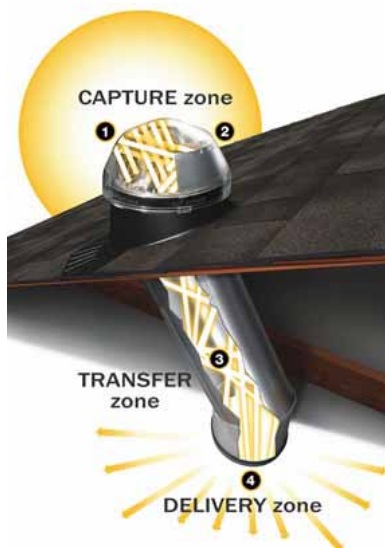
Product and performance guarantee from Solalighting Limited.

Virtually maintenance free.

Easy to install – Instructions guidelines available from **nbs**.

### How does the Solatube® 160 DS Daylighting System work?

The Solatube® Daylighting System captures daylight from your rooftop, directs it down a highly reflective tube, then delivers it into the room below - simple but brilliant! There are no running costs and the system is maintenance free. Below is a summary of the product features that make Solatube® the most efficient tubular daylight system ... ever.



1. Patented Dome with Raybender® 3000 Technology – Light capture zone  
Solatube doesn't just wait for light to fall on the roof dome and into the tube aperture ... our high tech dome uses a patented Fresnel lens system to actively harvest additional daylight that would otherwise have passed straight through the dome and out the other side, and redirects it down into the tube at the steepest possible angle to minimize bounces (see how fewer bounces mean less light loss in our comparison chart below).
2. Patented LightTracker™ Reflector – Light capture zone  
This unique reflector, 99.7% reflective, is fixed into the dome and greatly increases the surface area available to catch yet more light and redirect it down into the tube.
3. Spectralight® Infinity tubing – Light transfer zone  
Spectralight® Infinity tubing is 99.7% reflective. It is the most reflective material used in tubular daylight systems and is used exclusively by Solatube®. You may have seen it demonstrated on TV. Our comparison chart below shows how tube material with a reflective value lower than 99.7% will have a significant impact on the amount of light delivered.
4. Vusion™ diffuser – double glazed as standard, reduces condensation – an important feature when installed in a humid environment.

The daylight systems that will give more light, are those that take the greatest advantage of the available light levels at all times of the day and year - and this is where Solatube® Daylighting Systems are light years ahead of any other product currently available for home applications.

The patented **Dome with Raybender® 3000 Technology** and **LightTracker™ Reflector** together can more than double the amount of daylight that enters the tube aperture over a system without these features. This is particularly important when the sun is low in the sky - in the early morning, late evening, or during winter months.

The **99.7% reflective Spectralight® Infinity Tubes** ensures as much daylight as possible reflects down the tube. Every time light bounces off a surface a certain amount of light is inevitably absorbed by that surface - how much is absorbed depends on the reflective properties of the surface. The comparison table below shows how the reflective Spectralight® Infinity tubing plays a critical role in achieving its unrivalled performance.

Tube reflectivity comparison chart					
Tube reflectivity value	% of light remaining after bounces				
	0 bounces	5 bounces	10 bounces	15 bounces	20 bounces
<b>99.7% Spectralight® Infinity Tube</b>	<b>100%</b>	<b>98.51%</b>	<b>97.04%</b>	<b>95.59%</b>	<b>94.17%</b>
98.0%	100%	90.39%	81.71%	73.86%	66.76%
96.0%	100%	81.54%	66.48%	54.21%	44.20%
95.0%	100%	77.38%	59.87%	46.3%	35.85%

You can see that even small differences in reflective value will make a significant difference to the amount of light that is finally delivered. For example, the difference between 99.7% and 98% doesn't sound that great, but when you check the percentage of light remaining after just 20 bounces, you can see that Spectralight® Infinity delivers almost 30% more light than a 98% reflective material.

**The Solatube® Daylighting System give much more light than a Flexible duct daylight system**

The data in the chart above shows reflectivity values of rigid tube systems. We have not included flexible tube data in the chart because flexible tube by its very nature is not a reliable means of transferring light. Light entering a flexible tube will not necessarily continue to bounce on a downward path, but will scatter randomly in all directions (including upwards) as it bounces off the concertinaed surface of the tube. Some flexible tube system manufacturers claim a reflectivity value of 90% (rather optimistic in our view), but either way such systems are extremely inefficient. A recent study by the BRE (Building Research Establishment) showed that **Solatube® Daylighting Systems can produce more than 10 times the amount of light than a comparably sized flexible duct system.**

**Advantages over traditional skylights or roof-lights**

All Solatube® Daylighting Systems have some key advantages over traditional skylights too. While traditional skylights have their place, Solatube® can offer adaptable location options, lower cost of purchase and installation, and better lighting performance...

**Location** - Solatube® Brighten Up Series® models can be installed in places where a traditional skylight wouldn't be an option such as rooms without direct roof access or small areas such as bathrooms, closets and hallways. Systems are compact in design and supplied with two angle adapters as standard that allow for installation around attic obstructions and ease of fitting for different roof pitches/angles.

**Light output** - Traditional skylights pass light through a drywall shaft and into the home. This means that a large percentage of light is absorbed by the walls before it even reaches the room's interior. Also, when direct light enters the drywall boxed section, you often end up with a narrow shaft of light on the floor that can fade carpets and soft furnishings. The 99.7% Spectralight® Infinity tubing used ensures that any loss of light during transfer is minimal. The light is then distributed by a diffuser from *ceiling level* resulting in a uniform distribution of light. Soft furnishings and carpets tend not to fade as the Dome with Raybender® 3000 Technology is made of polycarbonate. This filters all but 0.1% of UV; Vusion™ Diffuser at ceiling level then filters all but 2.4% of that UV, with the final result that over 99.9% of UV is filtered out, so no harsh shaft of light - just beautiful, evenly spread, natural light.

**Heat loss/gain** - On a very hot, sunny day it could become uncomfortably hot in a room with a traditional roof light. Similarly, in winter much precious and expensive heat would be lost through a traditional roof light. With the Vusion™ Diffuser there is virtually no heat loss or gain so room temperatures are maintained, thereby saving on heating/air conditioning costs. The diffuser also reduces the risk of condensation in a damp environment.

**Cost** - The installed cost is usually much lower than for traditional skylights. Remember, the purchase cost of the traditional skylight is only a portion of the total cost, you must also add in the cost of framing members, paint, dry walling, etc.

**Leak-proof** - Traditional skylights have a reputation of leaking. Many times this is an issue of incorrect installation, but their square design invites problems. First, the flat up-slope side can collect branches, leaves and other debris, which can interfere with proper drainage. As the water dams up, it can migrate under slates or tiles to find an escape route, causing leaking. The round design of the flashing up-stand and dome allows water and debris to flow past unobstructed. The entire unit is sealed to lock out any moisture ingress.

**Maintenance free** – The product designed to be virtually maintenance free. The design and shape of the Dome means that debris does not build up and rain will clean away any airborne dirt. All tube joints are sealed with aluminium tape.

## What is supplied?



Vusion™ Diffuser incorporated in the Ventilation Add-On Kit. OpiView® Diffuser as shown optionally available



Electric Light Add-On Kit installed inside the tube

The **nbs Special Offer**, Solatube® 160 DS is supplied with everything you need for installation – All you may have to specify extension tubes for your particular project – see below.

Comprising...

- Impact-resistant and UV-stabilized polycarbonate roof dome with Raybender® 3000 Fresnel lens system and LightTracker™ dome reflector.
- A Solatube® Universal roof flashing for most tile and slate roofs.
- 99.7% reflective Spectralight® Infinity Top Tube assembly incorporating adjustable 0-30° angle adaptor, pre-assembled dome ring and moisture control system.
- 99.7% reflective Spectralight® Infinity Bottom Tube assembly incorporating adjustable 0-30° angle adaptor, pre-assembled ceiling ring with integrated triple seal and twist locking mechanism
- Double-glazed, Vusion™ Diffuser with white ceiling bezel incorporating extract ventilation fan inlet.
- Extract fan – Ventilation Add-On Kit with separate flexible ducting and including a wall/soffit exit vent. An optional universal roof exit vent is also available.
- Discreet electric Light Add-On Kit fitted inside the light-pipe by the installer.
- TWO telescopic Spectralight® Infinity Extension tubes supplied as standard. Extra tubes can be ordered as necessary to fit application.
- All seals, sealants, fixings and Installation Instructions.

PDF leaflets detailing the Technical Information and Installation Instructions for the Solatube® 160 DS are available from **nbs**.

**Please note, interconnecting electrical wiring, light switch and light bulb for electric light fitting to be supplied by the installer.**



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