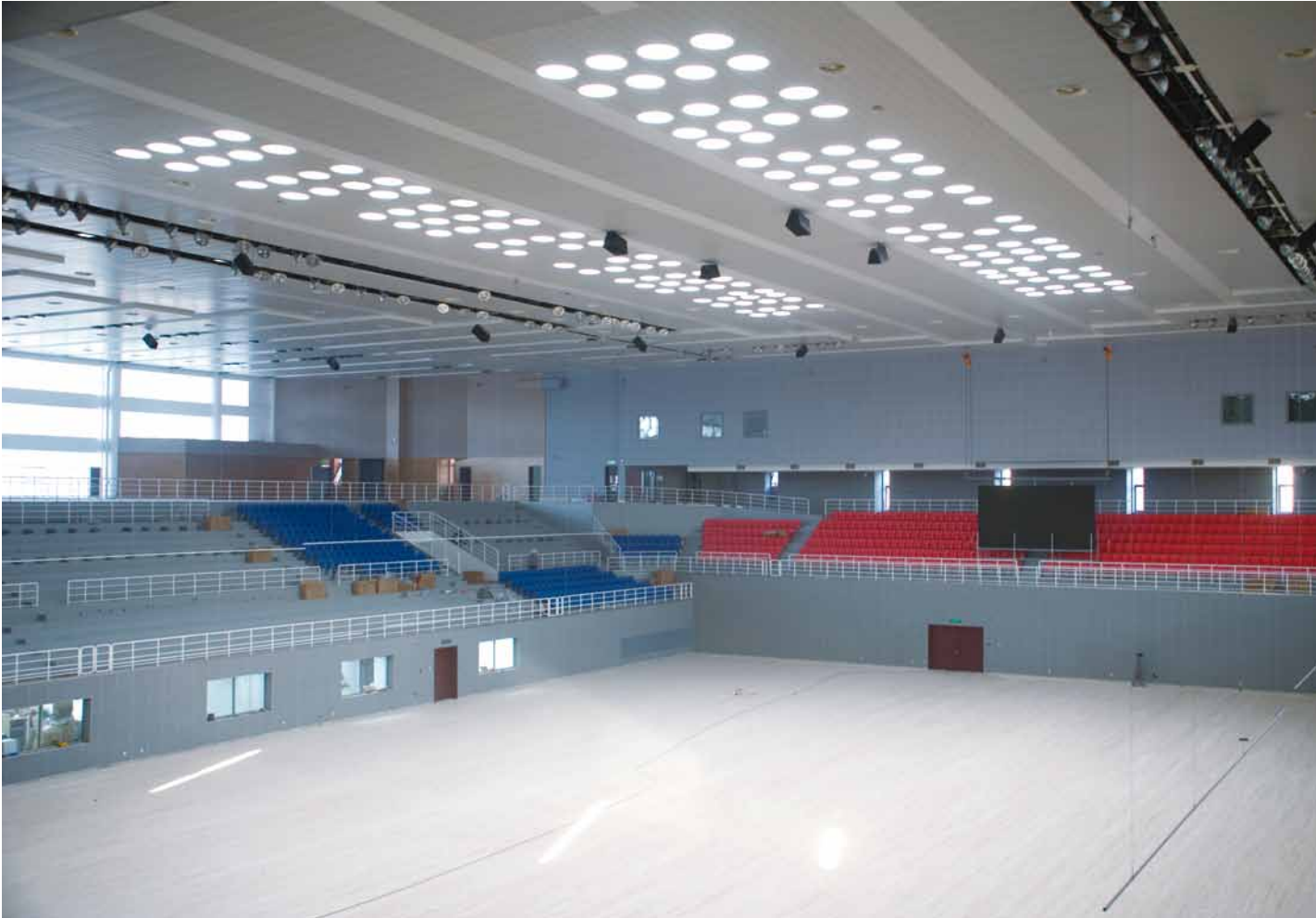


SOLARTUBE
®

Innovation in Daylighting™



COMMERCIAL PORTFOLIO



ABOVE:

148 Solatube® 330 DS Daylighting Systems installed in the Judo/Taekwondo arena for the Beijing Olympics

TOP RIGHT:

Roof detail, showing Solatube® 330 DS Daylighting System and Solar Star ventilation system, major supermarket's eco flagship store, Greenwich Peninsular, London

BOTTOM RIGHT:

17 Solatube® 290 DS Daylighting Systems, BP service station, Milton Keynes

Solatube® Daylighting Systems. The world's leading tubular daylighting device



With quality of life high on the agenda, most of us prefer to live and work in naturally lit spaces. Indeed, numerous studies exist showing the human benefits of daylighting in homes, offices, schools, retail outlets, hospitals and more.

Now, with rising energy costs coupled with the requirement to reduce our carbon footprint, the desire for a feasible and effective way of introducing natural light into buildings is greater than ever.

As the world-renowned innovator of daylighting systems, Solatube® Daylighting Systems provide a compelling alternative to artificial lighting, bringing the benefits of brilliant, natural light to both new and existing buildings while at the same time significantly reducing energy costs and consumption.

Solatube® Daylighting Systems actively capture daylight from the rooftop and pipe it through highly reflective tubing to where it's needed – brilliantly! Solatube uses the most advanced technologies to ensure that the efficiency and performance of our systems is unrivalled.



PROVEN BENEFITS

- Reduced energy costs – eliminates the need to use artificial lighting during the day
- Increased worker productivity
- Reduced staff absenteeism
- Improved student performance
- Increased property values
- Improved retail sales
- Truest and most vivid colour rendition
- Helps to meet Government targets for reducing carbon footprint
- Minimized solar gain in summer or heat loss in winter
- No maintenance required
- More secure than traditional skylights
- Easily installed into existing buildings or new build
- Unrivalled quality and performance from the world's leading manufacturer

Engineered for peace of mind and unrivalled performance...

There's more to creating a daylight system than meets the eye. Solatube® Daylighting Systems set the standard worldwide – no matter what the time of year and weather conditions, Solatube will provide unrivalled light transfer with quality products that are robust, maintenance free and easy to install.

DIFFUSERS

The double-glazed diffusers are engineered to provide optimal light distribution. Whether your goal is to blend in beautifully or stand artfully apart, the diffuser range offers an exciting array of possibilities.



RAYBENDER® 3000 DOME

All roof domes are manufactured from impact-resistant polycarbonate, fire-rated for safety, and incorporate UV screening up to 380 nano-meters to prevent discolouration from solar radiation. The unique dome geometry maximizes light collection while providing a maintenance-free surface, cleansed by the elements. The LightTracker™ reflector in the dome ensures unsurpassed year round performance.

REFLECTIVE TUBING & ANGLE ADAPTORS

Solatube® Daylighting Systems use 99.7% reflective Spectralight® Infinity material in all tubing, reflectors and angle adaptors. With this amazing material, there is no compromise in light transfer even over long tube lengths. A recent BRE test (Report No 233242) has demonstrated that even with an extraordinarily long tube length of 18 metres, Spectralight® Infinity transmitted an outstanding 50% of the daylight from the top to the bottom of the tube.

FLASHINGS

A full range of flashings is available for virtually all UK roof types and pitches. Our circular flashing upstand diverts water thus eliminating 'reservoirs' and no environmentally unfriendly lead products are required to fix Solatube® Daylighting Systems roof flashings.

CONDENSATION CONTROL SYSTEM

The Solatube Brighten Up® Series is constructed with factory-installed seals for minimum air infiltration, and a proprietary condensation control system that draws moisture into a special channel below the roof dome and out through specially-designed exit holes. The Solatube SolaMaster® Series uses special condensation filters to achieve the same high level of moisture control.



**With 99.7%
reflectivity,
Solatube®
Daylighting Systems
deliver unrivalled
performance
and value,
guaranteeing
more light
transfer than any
other system**

CODES & APPROVALS

Solatube® Daylighting Systems and accessories are manufactured to comply with all appropriate UK building and safety regulations, including:

Part B Fire B2 internal fire spread B3 internal fire spread (structures) B4 roof coverings
Part F Ventilation
Part L Thermal L1 and L2 conservation of fuel and power
Technical Standards (Scotland) TS 2 (Fire), TS 3 (Ventilation), TS 6 (Thermal)



Brighten Up® Series

SOLATUBE® 160 DS & 290 DS
DAYLIGHTING SYSTEMS

The Solatube® 160 DS Daylighting Systems and 290 DS Daylighting Systems set performance standards never seen before. These systems feature patented Raybender® 3000 Technology and LightTracker™ Reflector to deliver an unprecedented Effective Daylight Capture Surface (EDCS) even higher than previous Solatube models. Highly efficient and simple to install, the Solatube Brighten Up® Series can transform dark or windowless areas – ideal for residential applications such as kitchens, bathrooms, hallways, stairwells, utility rooms, living areas, or may be installed in multiples in larger, open workspaces such as corridors, offices, consultancy rooms, store rooms, and washrooms.



Breakthrough technology for a higher performance

Model	Tube diameter	EDCS*	Light coverage	Potential tube length
Solatube® 160 DS	250mm	1032sq cm	Up to 13sq m	Up to 6m
Solatube® 290 DS	350mm	1871sq cm	Up to 22sq m	Up to 9m

*EDCS (Effective Daylight Capture Surface) represents the surface area of the dome that actively collects and redirects daylight. For comparison, a clear dome with no lens on a typical 250mm diameter system has an EDCS of only 506cm²



RAYBENDER® 3000 TECHNOLOGY

Fresnel lens system in the dome boosts performance by collecting low angle light in early morning, late afternoon and during winter months, and during overcast conditions. Significantly increases the amount of daylight entering the tube aperture.

LIGHTTRACKER™ REFLECTOR

In-dome reflector captures and redirects light into the tube aperture, light that would otherwise have passed straight through the dome. Made from 99.7% reflective Spectralight® Infinity material with a 15% larger collection area than previous models for unsurpassed year-round performance.

SPECTRALIGHT® INFINITY TUBE

The most reflective tubing material available, with a 99.7% spectral reflectivity, purest colour rendition possible, and unrivalled light transmittance efficiency.

ENGINEERED LIGHT DIFFUSION

Choice of double-glazed, UV inhibited optical lenses that deliver superior light diffusion.

SOLATUBE 160 DS AND 290 DS DAYLIGHTING SYSTEMS ARE SUPPLIED WITH:

- Roof dome
- LightTracker™ dome reflector
- Top tube assembly incorporating 0-30° adjustable angle (305mm long)
- Extension tubes as required
- Bottom tube assembly incorporating 0-30° adjustable angle (305mm long)
- Double-glazed ceiling diffuser
- Roof flashing
- Fasteners and fixings
- Full installation instructions

Brighten Up® Series Designer Touches

DIFFUSER OPTIONS

The Brighten Up® Series offers a choice of diffusers that incorporate Solatube® proprietary lenses for highly effective light distribution. Each features a sleek low-profile dress ring. These attractive and stylish double-glazed diffusers integrate seamlessly into most ceiling surfaces with no visible fasteners.



VUSION™ DIFFUSER

The Vusion™ diffuser fits neatly to the ceiling and delivers outstanding natural light diffusion through a prismatic lens.

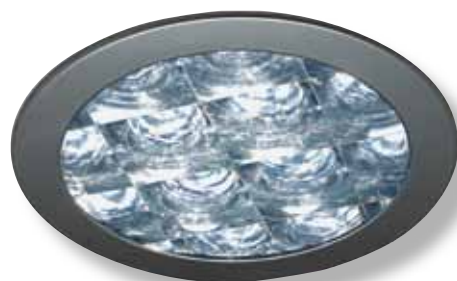


OPTIVIEW® DIFFUSERS

The technologically advanced OptiView® diffuser uses a multiple Fresnel lens system with a stunning architectural look to deliver crystal clear daylight.

Available in three designs.

- White Trim with OptiView® diffuser
- Stainless-Tone with OptiView® diffuser
- Frosted Shade with OptiView® diffuser



Brighten Up® Series flashing options



Designed for fast and efficient installation, Solatube roof flashings ensure leak proof performance and are available for virtually all UK roof types and pitches. No environmentally unfriendly lead is used in the manufacture or fitting of Solatube roof flashings.

Standard flashings include:

- Slate
- Plain tile
- Interlocking concrete tile
- Bituminous flat roof
- Membrane flat roofs
- Decra® and metal tile roofs
- Shingle
- Walls
- Curb mount fittings

Specialist flashings are available on request, including:

- Metal
- Standing seam
- Green roofs etc.
- Thatched

Brighten Up® Series accessories

SPECTRALIGHT® INFINITY EXTENSION TUBES

Extension tubes are available in lengths of 610mm (straight or with 0-90° adjustable angles). All reflective tubes – including adjustable angles – are manufactured from 99.7% reflective Spectralight® Infinity material allowing tube lengths of up to 6 metres for the Solatube® 160 DS and 9 metres for the Solatube® 290 DS.



VENTILATION ADD-ON KIT (SOLATUBE® 160 DS ONLY)

For use in bathrooms and shower rooms, this innovative and discreet accessory may be integrated into the Solatube 160 DS to provide both daylight and ventilation in a neat 2-in-1 feature that minimizes ceiling penetrations.



ELECTRIC LIGHT ADD-ON KIT

When equipped with an electric light add-on kit, the Solatube® Daylighting System provides the additional convenience of a switched light, rated to 75 watt, for night time use. May be combined with the Ventilation add-on kit to provide daylight, electric light and ventilation in one smart system.



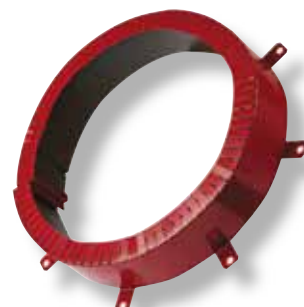
DAYLIGHT DIMMER™

Perfect for nurseries, bedrooms, boardrooms and presentation areas, the Solatube Daylight Dimmer™ controls the amount of daylight entering the room by means of a proprietary low-voltage variable butterfly valve, operated from a wall-mounted switch.



FIRE COLLARS*

A full range of intumescent fire collars is available from the UK's leading fire control equipment manufacturers for applications requiring compliance to BS476; Part 20;1987.



**Not a Solatube® Daylighting System product*

SolaMaster® series

The Solatube SolaMaster® Series provides daylight to larger, more expansive areas. Often specified in the educational, healthcare and commercial sectors, these daylighting systems feature our largest diameter tubing – 530mm – and patented LightTracker™ reflector for effective daylight capture. With our 99.7% reflective Spectralight® Infinity tubing, these systems make it possible to bring daylight deep into buildings where natural light has previously not been an option.



SOLAMASTER® 330 DS DAYLIGHTING SYSTEM – OPEN CEILING

The Solatube 330 DS Daylighting System brings high performance daylighting to areas without a ceiling such as warehouses, factories, sports facilities, etc. The 99.7% reflective Spectralight® Infinity tube brings the diffuser through any light-absorbing roof-supporting structures to deliver the highest levels of natural light. The Solatube® 330 DS Daylighting System is also excellent for retro fits because it can be installed from the roof, eliminating the need for interior scaffolding or lift systems and minimizing disruption to staff and production activities.

Model	Tube diameter	EDCS*	Light coverage	Potential tube length
Solatube 330 DS	530mm	2129sq cm	Up to 30sq m	Up to 15m

*EDCS (Effective Daylight Capture Surface) represents the surface area of the dome that actively collects and redirects daylight.



SOLAMASTER® 330 DS DAYLIGHTING SYSTEM – DRYWALL AND SUSPENDED CEILING

The Solatube® 330 DS Daylighting System for drywall and suspended ceilings features a patented transition box that ingeniously converts the 530mm diameter tubing to a 600mm square diffuser that fits neatly into a commercial suspended ceiling grid or drywall ceiling. Each system can illuminate an area up to 30sq m, subject to application. Spectralight® Infinity tube material means potential tube lengths of up to 15 metres are possible.

The SolaMaster® Series diffuser options

The SolaMaster® Series diffusers are engineered to give you optimal control over the vast amounts of daylight delivered from our proprietary Spectralight® Infinity reflective tubing. The Solatube® 330 DS is supplied with a prismatic diffuser as standard but can also be specified with an OptiView® diffuser.



SQUARE OPTIVIEW® DIFFUSER

The innovative design of our 600 x 600mm OptiView® diffuser delivers the cleanest, purest natural light imaginable. A matrix of thirty-six individual Fresnel lenses offers a unique view of the sky above and also provides highly efficient light diffusion.

SQUARE PRISMATIC DIFFUSER

The prismatic diffuser provides outstanding light diffusion and is ideal for matching the look and style of prismatic optics used in conventional electric light fittings.

OPTIVIEW® OPEN CEILING DIFFUSER

Designed for applications where the Solatube® 330 DS hangs freely from the ceiling. The example shown (left) features the optional round OptiView® diffuser. The prismatic diffuser is supplied as standard with the open ceiling model.



The SolaMaster® Series flashings

Durable flashings ensure leak proof performance and hassle-free installations for virtually any roof type and pitch. Turret extensions are available if the roof dome needs to be raised above obstructions that cause excessive shading on the roof dome.

Specialist/bespoke roof flashings are also available for standing seam, thatched, grass (land home), etc.

Specialist flashings are available on request, including:

- Metal
- Standing seam
- Green roofs etc.
- Thatched



Bespoke flashing for skylight replacement (not a Solatube product)



SPECTRALIGHT® INFINITY EXTENSION TUBES

Extension tubes are available in lengths of 610mm (straight) or 380mm long incorporating a 0-30° adjustable angle along with the new 0-90° angle unit. All reflective tubes – including adjustable tubes – are manufactured from 99.7% reflective Spectralight® Infinity material, allowing tube lengths of up to 15 metres for the SolaMaster® 330 DS.



DAYLIGHT DIMMER

Perfect for conference rooms, hospitals and presentation areas, the Solatube® Daylight Dimmer™ controls the amount of daylight entering the room by means of a proprietary low-voltage variable butterfly valve, operated from a wall-mounted switch. Multiple daylight dimmers can be operated from one switch.

DOMES SECURITY

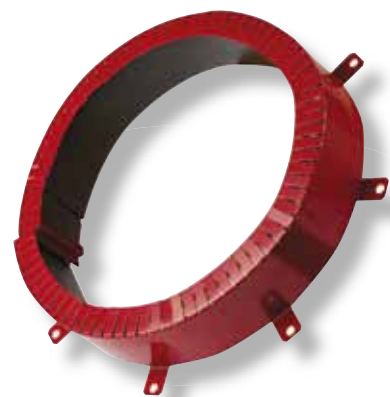
Stainless steel bars are available to insert into the flashing turret across the diameter of the opening. The bar is fastened using tamper-proof rivets and prohibits entry through the dome.



FIRE COLLARS*

A full range of intumescent fire collars is available from the UK's leading fire control equipment manufacturers for applications requiring compliance to BS476; Part 20;1987.

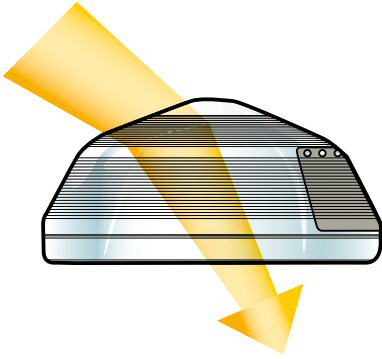
**Not a Solatube® Daylighting System product*



Patented technologies deliver unrivalled performance

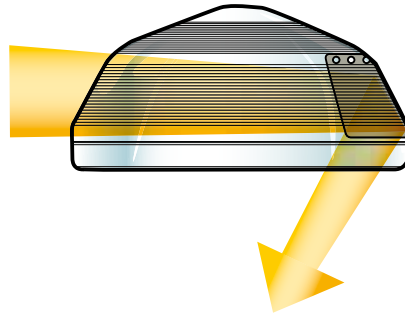
RAYBENDER® 3000 DOME

Raybender 3000® lens technologies actively harvest light into the dome.



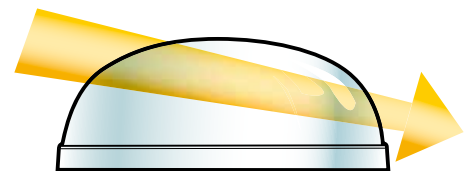
LIGHTRACKER™ REFLECTOR

LightTracker™ reflector captures low-level light and directs it into the tube.



STANDARD CLEAR DOME – NON SOLATUBE

On an ordinary dome low-level light just passes straight through the dome and not down into the tube.



Solatube® Daylighting Systems patented LightTracker™ reflector and Raybender® 3000 technology fresnel lens in the roof dome can more than double the amount of daylight entering the tube aperture when compared to a dome without these performance-enhancing features. They also ensure the light enters the aperture at the most efficient angle of incidence thus minimizing the number of times the light will bounce down the tube to reach the diffuser. This is important because some light is absorbed with each bounce and it is not uncommon to have tube lengths that produce over 100 light bounces within the tube.

Without the use of Fresnel lenses, low level light simply passes straight through the dome and does not enter the top of the tube. The Fresnel lens system and LightTracker™ reflector, actively captures twice as much light as a dome with no lenses. Another reason for Solatube® Daylighting Systems class-leading performance.

99.7% reflectivity for maximum light transfer

Once the light has entered the tube aperture, Solatube's Spectralight® Infinity tubing ensures that 99.7% of the available light continues on its path after each bounce within the tube. Spectralight® Infinity 99.7% reflective tubing is the most reflective commercially available material used in the manufacture of any tubular skylight. It is exclusive to Solatube and is used in all Solatube reflective surfaces including angle adaptors, extension tubes and dome reflectors. The chart shows how even small differences in the reflective properties of the tube material used can vastly affect light output.

% Reflectivity	0 bounces	5 bounces	10 bounces	15 bounces	20 bounces
99.7% Spectralight® Infinity	100%	98.51%	97.04%	95.59%	94.17%
98%	100%	90.39%	81.71%	73.86%	66.76%
96%	100%	81.54%	66.48%	54.21%	44.20%
95%	100%	77.38%	59.87%	46.33%	35.85%

Technical resources

The latest performance, test, design and installation information on Solatube products can be found on our website at www.solatube.co.uk, including:

- Architectural specifications
- Alliance Warranty Management
- CAD drawings
- Case studies
- Client list
- COSHH information
- CPD seminars

- Data sheets
- Daylighting facts and figures
- Installation instructions
- Product codes and approvals
- Solatube photometric and lumen data
- Solatube spacing criteria
- Solatube warranty

Technical Specifications

Solatube® Brighten Up® Series

Impact-resistant and UV-stabilized polycarbonate roof dome with Raybender® 3000 fresnel lens system and LightTracker™ dome reflector, covered by 10-year warranty against loss of light transmission, excessive yellowing and loss of impact strength.

Solatube roof flashing for specified roof type.

99.7% reflective Spectralight® Infinity top tube assembly incorporating adjustable 0-30° angle section, pre-assembled dome ring and condensation control system 99.7% reflective Spectralight® Infinity bottom tube assembly incorporating adjustable 0-30° angle section, pre-assembled ceiling ring with integrated triple seal and twist locking mechanism.

Double-glazed Diffuser, Vusion™ or OptiView® with specified ceiling trim.

All seals, sealants, fixings and installation instructions.

Extension tube sections:

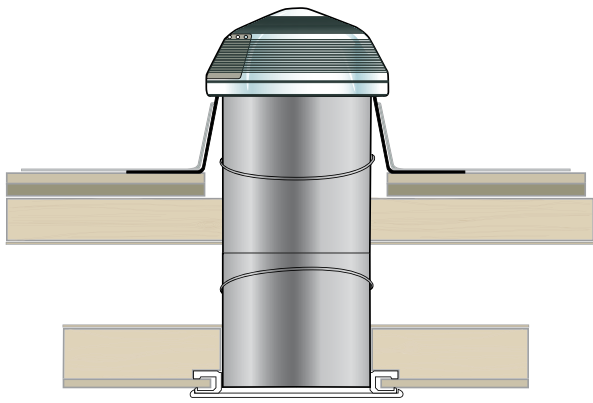
99.7% Spectralight® Infinity rigid tube extensions to cover roof to ceiling distance.

Additional angle adaptors:

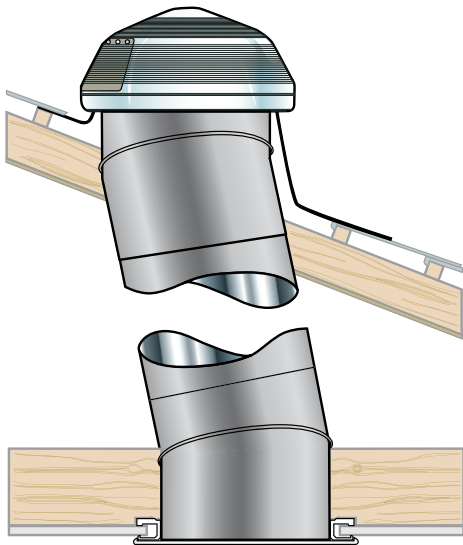
0-90° adjustable elbows are available if required.

PERFORMANCE CRITERIA

Standard reference BRE test report No 212921: transmittance efficiency (T) should not be less than 0.35 mean measurement in overcast sky conditions or 0.45 in simulated direct sunlight at a solar altitude of 58.1 degrees (solar azimuth 180 degrees from north) as certified by the Building Research Establishment for a reference tube length of 2.7m.



Solatube® 160 DS (shown typical in flat roof situation)



Solatube® 290 DS (shown in typical pitched roof situation)

Solatube SolaMaster® Series

Impact-resistant and UV-stabilized polycarbonate roof dome with LightTracker™ dome reflector, covered by a 10-year warranty against loss of light transmission, excessive yellowing and loss of impact strength.

Solatube roof flashing for specified roof type.

99.7% reflective Spectralight® Infinity top tube assembly incorporating 0-30° angles, pre-assembled dome ring with condensation filter.

99.7% reflective Spectralight® Infinity bottom tube incorporating adjustable 0-30° angle section or straight tube (open ceiling).

530mm round to 600 x 600mm transition box at ceiling level to fit suspended grid or drywall ceiling.

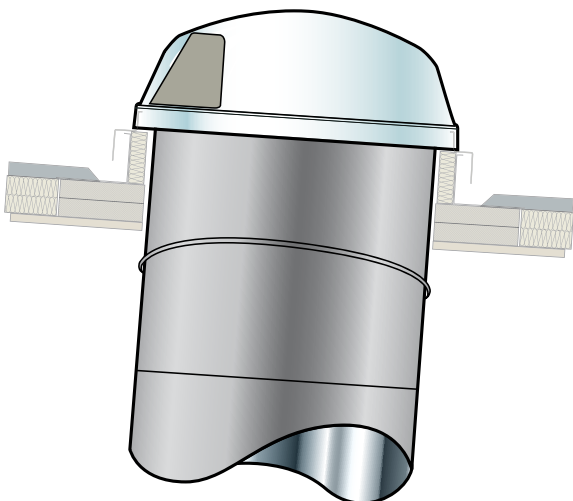
600 x 600mm square clip-in OptiView® or prismatic ceiling diffuser or circular OptiView® or prismatic (open ceiling).

Plus all seals, sealants, fixings and installation instructions.

PERFORMANCE CRITERIA

Standard reference BRE test report No 212921: transmittance efficiency (T) should not be less than 0.35 mean measurement in overcast sky conditions or 0.45 in simulated direct sunlight at a solar altitude of 58.1 degrees (solar azimuth 180 degrees from north) as certified by the Building Research Establishment for a reference tube length of 2.7m.

For additional information visit www.solatube.co.uk



Solatube® 330 DS (shown in typical metal roof situation)



As part of its drive to reduce CO² emissions at its UK retail sites, BP has introduced a number of new initiatives. A key project is optimising the use of daylight to reduce energy consumption for lighting its retail and back office operations. At a new flagship facility on the A303 near Andover, Hampshire, BP specified 31 Solatube® 290 DS Daylighting Systems to be installed throughout the building along with DALI interactive luminaries to provide a seamless lighting solution for the 24-hour service station.



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