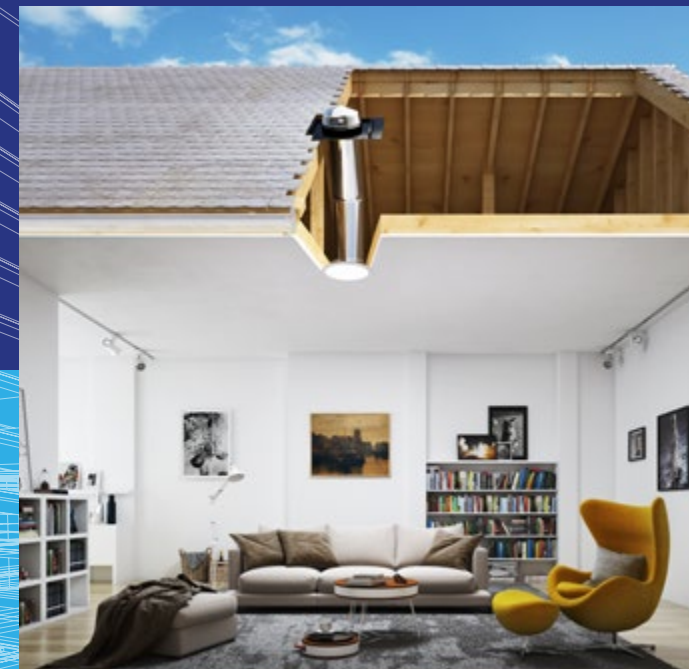


Established in

1974



## Monodraught Natural Lighting

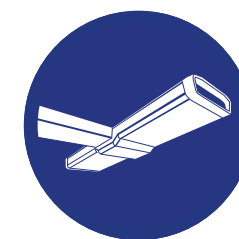
Delivering Healthy Natural Light Inside







Sainsbury's Dartmouth - SUNPIPE



## Contents

Why Choose Natural Lighting?	3	Modes of Operation	8
What is a SUNPIPE?	4	BRE Performance Test	9
How does a SUNPIPE Work?	4	SUNPIPE Projects	10
SUNPIPE Selection Criteria	4	What is a SUNCATCHER?	12
SUNPIPE Components	5	How Does SUNCATCHER Work?	12
Technical Performance	6	Modes of Operation	12
SUNPIPE LuxLoop	7	SUNCATCHER Projects	13

To order your SUNPIPE now visit our [online shop](#)

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Natural lighting systems from Monodraught can provide the below benefits:

**75% reduction** in lighting costs thereby also reducing carbon footprint

Improved health benefits for building users

**20% more light** than our leading competitors - as proven by BRE testing

Reduced heat-loss compared to traditional roof-lights

**10 year guarantee** - your product will still be performing as well in year 10 as it did in Year 1

---

# Natural Lighting

## Why Choose Natural Lighting?

The most compelling reason for using SUNPIPE systems is to introduce natural daylight to areas that don't have windows

Natural Daylight allows healthier, more productive, happier occupants and reduces carbon emissions

## Improve Health

Exposure to Natural Lighting is believed to have the following benefits by boosting the production of vitamins and hormones:

- **Maintains the Circadian Rhythm**
- **Reduces depression**
- **Alleviates pain**
- **Improves sleep pattern and mood**



## Education

In the Education sector, Natural Lighting is proven to:

- **Increase achievement rates**
- **Reduce fatigue**
- **Improve health and attendance**
- **Enhance general development**

Although most classrooms are now lit by natural means, the most common method for doing this is by using large vertical windows at the back of a classroom.

With the use of Monodraught's SUNPIPE, a classroom will provide 3 times more light, meet the daylight requirements, have a much lower internal temperature, and make a saving of 75% on daytime lighting costs.

## Health Care

Nurses commonly mention that fluorescent lighting on wards is tiring, so Natural Lighting can have a positive effect on both staff and patients.

- Typical payback period of 5-6 years
- Alleviates symptoms of Seasonal Affective Disorder (SAD)
- No maintenance - No Disruption



## Offices

Productivity in offices served by Natural Lighting shows a **20% increase in output** from office employees along with reduced absences because of sickness.

It is considered that Natural Lighting systems have a marked effect on the reduction of the incidence of Sick Building Syndrome (SBS) and provide a stress-free, soothing, and far healthier office ambience by eliminating the glare and conflict of electric lighting and computer screens.



Sainsbury's Durham - SUNPIPE

## Retail

Tests have been carried out in stores which are lit mainly by natural means.

The key finding of the study was that natural daylight was found to significantly correlate to higher sales.

An average non-daylit retail chain store monitored for this study had 40% higher sales with the addition of Natural Lighting.

### During the study, customers commented:

- “This store feels cleaner”
- “It feels more spacious, more open”
- “I specifically travel to this store because I prefer the way it feels”





## What is a SUNPIPE?

SUNPIPE is a Natural Lighting system that maximises the concept of renewable energy by channelling natural daylight from roofs to indoor environments.

SUNPIPES create healthier, cost-effective and more productive environments.

SUNPIPES are suited to almost any application and have been installed anywhere from residential buildings to the Olympic Handball Arena in London and Falcon Centre in Dubai. SUNPIPE are also designed for optimum efficiency and long working life, offering a **10 year guarantee**.



### 2. Choose Roof Type:

- Pitched
- Pitched Gallery
- Flat

#### Pitched



#### Pitched Gallery



#### Flat



## How does a SUNPIPE Work?

The SUNPIPE system collects daylight using a patented high impact acrylic Diamond Dome, passing it through a SUPER- SILVER mirror finished aluminium tube which reflects and directs the Natural Daylight to the diffuser. The diffuser distributes the natural daylight evenly in the room.

## SUNPIPE Selection Criteria

The process to choose the correct system for your building application is described below:

### 1. Choose Diamond Dome or Square SUNPIPE:

#### Diamond Dome

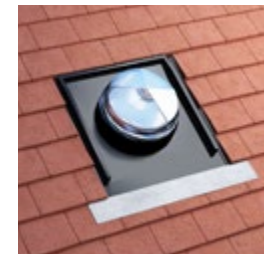


#### Square SUNPIPE



### 3. Choose Roof Finish:

#### Plain Tile Roof



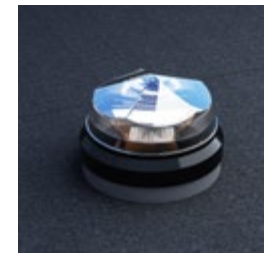
#### Slate Roof



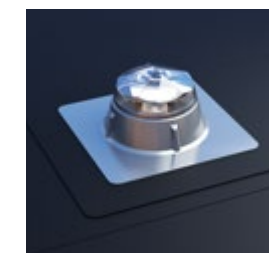
#### Bold Roll Roof



#### Flat Felt/Asphalt Membrane Roof



#### Flat EPDM Rubber Roof



### 4. Choose Additional/Optional Components (Please refer to page 6)

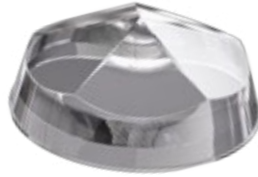
# SUNPIPE Components

## Above Roof Components

### Diamond Dome SUNPIPE

As standard we use high impact acrylic in our patented Diamond Domes. Acrylic has the highest light transmittance over other plastics and glass, meaning we can deliver more light into your space.

In addition, plastics like polycarbonate are susceptible to severe hazing and discolouration when exposed to UV radiation, causing a lower light transmittance over time and the domes to become unsightly.



### Gore® Vent Technology

GORE vent technology uses a waterproof membrane whilst still allowing the pipe to breathe. This ensures the pipe is completely sealed against dust and water ingress and ensures that there will be no condensation on the inside of the dome.



### ABS Flashing Plate

The ABS flashing plate is manufactured from 3.5 mm thick ABS, capped with PMA for a long lasting, durable finish. It is suitable for the majority of slate roofs.



### Code 4 Lead Flashing and ABS Collar

It will mould to suit any profiled/bold-roll tile, providing a completely watertight finish. Supplied with an ABS collar for diamond dome to fit on.



### Composite EPDM Flashing Plate

The Composite EPDM Flashing Plate is fully watertight and is designed to meet strict installation procedures for weathering into a flat rubber-cover roof.



**SUNPIPE's Diamond Dome has been independently tested and proven to transmit over 20% more light than our leading competitor in overcast conditions, when light transmittance is most important.**

### Sealing Gasket

Brushed nylon condensation sealing gasket.



### EcoShield (EPDM/Optional)

When combined with the double glazed microprism diffusers, the EcoShield effectively makes the SUNPIPE system a quadruple glazed system ensuring and extremely low U-value and sound transmission through the system.



### ABS Flashing Plate with Weathering Skirt and Foam

It is manufactured from 3.5 mm thick ABS, capped with PMA for a long lasting, durable finish. It is suitable for the majority of plain tile roofs. Supplied with code 4 lead flashing for suitable weathering.



### Galvanised Flashing Plate and ABS Collar

Manufactured from 0.8 mm galvanised mild steel which is corrosion resistant and suitable for felt, membrane and asphalt roof finishes. Supplied with an ABS collar for dome to fit on to.



## Below Roof Components

**The Pipe**  
SUPER-SILVER finish aluminium tube



### 610 mm Extension Pipe

The 610 mm extension pipe is manufactured from a silverised PVD coated mirror finished aluminium with a total reflection of 98%.



### 610 mm Plain End Pipe

The 610 mm plain end pipe is manufactured from a silverised PVD coated mirror finished aluminium.



### Slip Length

The 250 mm ceiling extension is manufactured from a silverised PVD coated mirror finished aluminium.

## Elbows



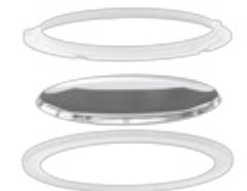
### 45° Adjustable Elbow

The 45° adjustable elbow is manufactured from a silverised PVD coated mirror finished aluminium.



### 30° Adjustable Elbow

The 30° adjustable elbow is manufactured from a silverised PVD coated mirror finished aluminium.



## Ceiling Diffusers

Choose from our range of ceiling diffusers the style that best suits your project.



## Diffuser Options



Orion White  
Satin Bezel



Elite White  
Satin Bezel



Contemporary  
White Satin Bezel



Orion Brushed  
Stainless Steel Bezel



Elite Brushed  
Stainless Steel Bezel



Contemporary Brushed  
Stainless Steel Bezel



Glass Brushed  
Stainless Steel Bezel

## Additional Components (Optional)



Motorised Light  
Shut-Off Damper

Intumescent Fire Collar

Security Bars

- 610 mm Extension Lengths and 30°-45° Adjustable Elbows.
- LED available in standard fixed white, Circadian (white colour tunable) and Circadian PLUS & RGB (white colour tunable with RGB) light engines.

## SUNPIPE Sizes & Maximum Light Output

Diameter [mm]	Full Summer Sun 75 klux	Overcast Summer 50 klux	Overcast Winter 25 klux	Area Lit (to a normal daylight level)
	Lux Value	Lux Value	Lux Value	
230	337	225	112	7.5 sq.m (approx 80 sq.ft)
300	607	404	202	14 sq.m (approx 150 sq.ft)
450	1452	968	484	22 sq.m (approx 230 sq.ft)
530	2052	1386	684	30 sq.m (approx 430 sq.ft)
750	4238	2825	1413	50 sq.m (approx 530 sq.ft)
1000	7675	5117	2558	60 sq.m (approx 650 sq.ft)

In addition to the standard range, 1.5 m diameter SUNPIPE systems can be produced to a special order

## Technical Performance

### U-Value

SUNPIPE's U-Value compares favourably alongside a double glazed roof-light.

**As the actual area of a SUNPIPE is only a small percentage of that of a typical roof-light, the contribution to heat loss from the building or heat gain is greatly reduced.**

The performance of SUNPIPE has also been assessed as part of a European Study of light-pipe performance, TC3-38. The introduction of the double glazed ceiling diffusers has further enhanced the U-value of SUNPIPE, lowering the figure to 1.66W/m<sup>2</sup>K for a typical application of 1.5 m length of SUNPIPE - This is further improved to a value of 1.38W/m<sup>2</sup>K when incorporating the EcoShield.

### Acoustics

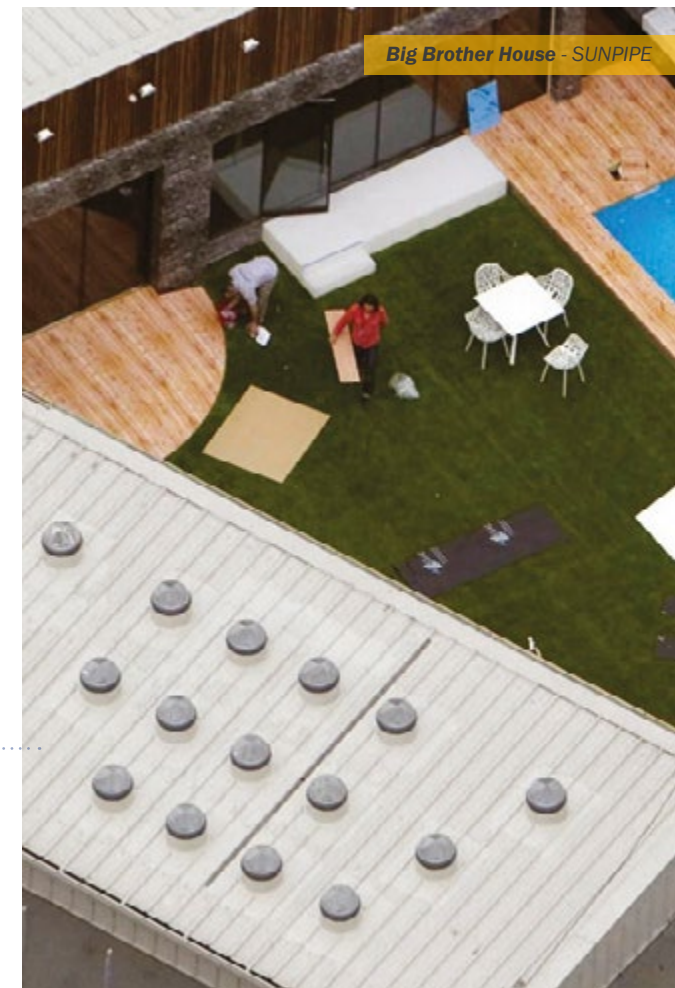
Multilayer Soundguard™ laminated glass can be incorporated into SUNPIPE ceramic ceiling diffusers, and provides a performance of RW 37 dB (Rtra 33 dB).

### Lengths & Bends

Smaller sizes have a recommended total maximum pipe length of 8 m. Larger sizes allow for longer lengths to be used.

There is a 12% reduction of light output for each 45° bend used and there is a 6% reduction in light transmission for every metre of SUNPIPE.

30° & 45° adjustable elbows can be used with all SUNPIPE applications to direct daylight to where it is required.



Big Brother House - SUNPIPE

### CE Marking

SUNPIPE is classified within the following:

- EU Directive: Construction Products Directive **89/106/EEC**
- EU Harmonized Standard: **EN 1873:2995**





# Sunpipe® LuxLoop

**Our latest product innovation is in hybrid lighting. The SUNPIPE LuxLoop has already been shortlisted for several lighting awards including the LUX Awards, Energy Awards and FX Design Awards**

## Low Energy Hybrid Lighting System

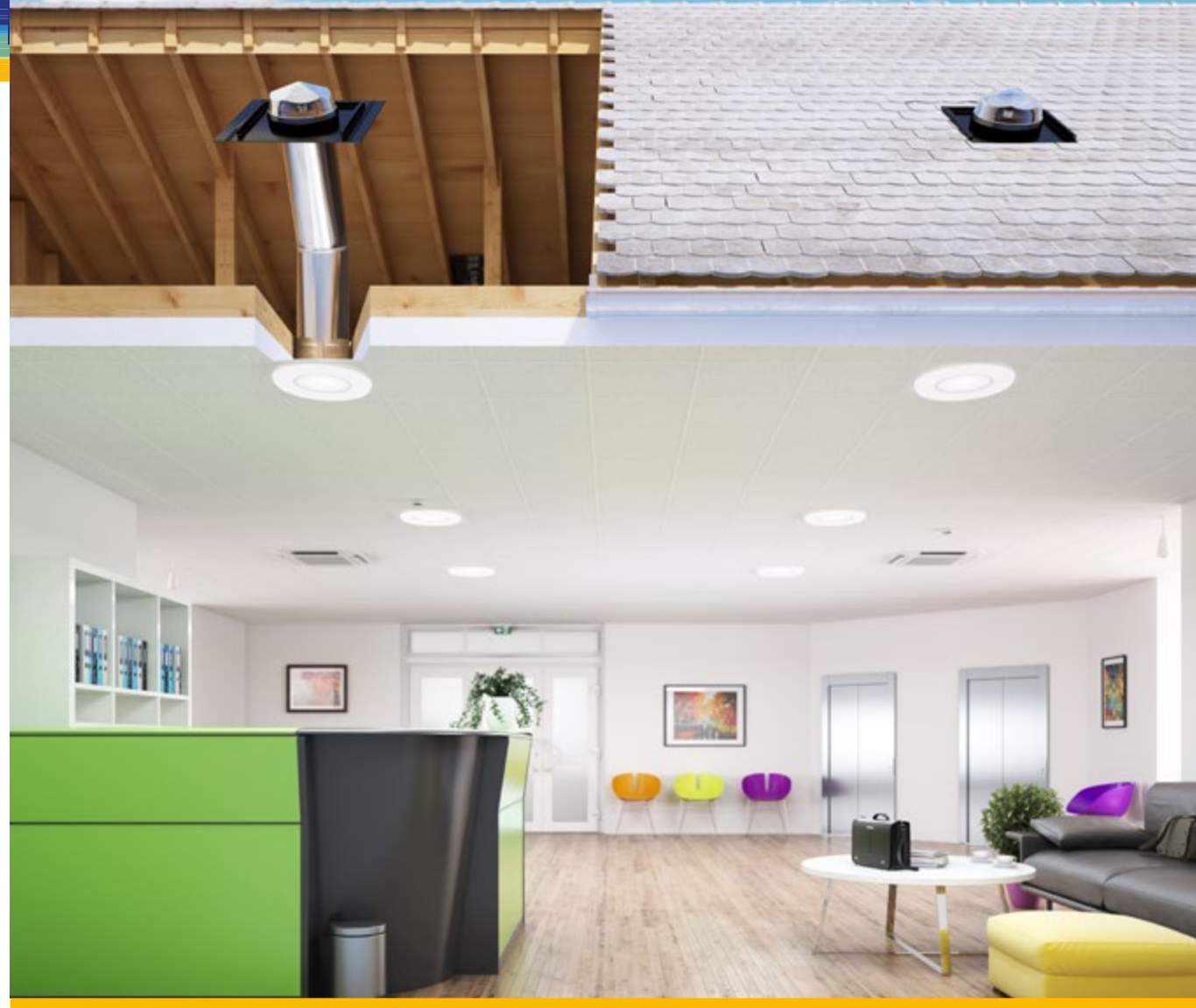
**SUNPIPE LuxLoop** combines the SUNPIPE natural daylight system with an incredibly efficient and intelligent LED solution.

Delivering the right light at the right time of the day: SUNPIPE directs healthy natural light from its patented Diamond Dome through the SUPER-SILVER® finish aluminium tube to the ceiling diffuser. In the evening or when the level of external light is insufficient to properly light the space, the system is complimented by its advanced LED by leading British manufacturer PhotonStar LED™, and intelligently managed by the Halcyon™ wireless control (optional).

The result is a complete and ultra-low energy lighting system, suitable for any location with guaranteed lighting performance.

## Features:

- Smart controls that match LED colour temperature with natural daylight. Available in standard, smart and circadian configurations.
- Combines natural daylight with a biologically optimised LED to maintain the circadian rhythm, enabling healthier and more productive spaces.
- Reduces CO<sub>2</sub> emissions, lighting energy-usage and maintenance costs: The integration with SUNPIPE increases the life of the LEDs and leads to fewer replacements. Additionally, SUNPIPE is proven and tested to maintain its performance over long periods of time.
- Quadruple glazed system that minimises heat loss-gain achieving high thermal performance. Glazing Details: Clear high impact acrylic Diamond Dome complete with optional acrylic EcoShield double glazed component.
- Goretex: Breathable, waterproof vent to alleviate condensation risk.
- High performance polycarbonate diffuser for uniform distribution and low glare. Meets both LG7 - Office Lighting and UGR19.
- Conversant with microwave sensors and emergency options.
- Works on its own controls or with existing lighting systems/controls.
- Luminaire delivers up to 4000 lumens. SUNPIPE delivers 4460 lumens in full summer sun.
- Design life of 20 years and a 5 years warranty.



## Ceiling Diffusers



### LuxLoop Suspended Ceiling Panel

Suitable for standard 595 mm x 595 mm suspended ceiling grids.

High performance polycarbonate diffuser for uniform distribution - UGR19.



### LuxLoop Surface Mount

Plasterboard and similar. Suitable for all surface mount applications including vertical and horizontal faces.

High performance polycarbonate diffuser for uniform distribution - UGR19.



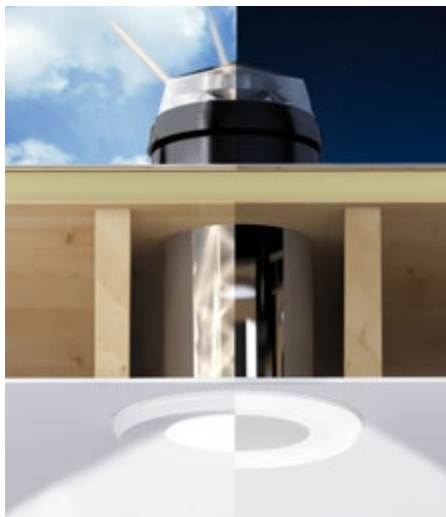
## Deliver the Right Light at the Right Time

### SUNPIPE LuxLoop Controls the Circadian Rhythm

Halcyon™ is the only intelligent wireless lighting system that has been optimised for your biology to deliver the right light at the right time of the day. Halcyon™ emulates changing daylight for health, wellbeing, productivity and improved sleep. The system also offers automated energy saving benefits through wireless lighting control.

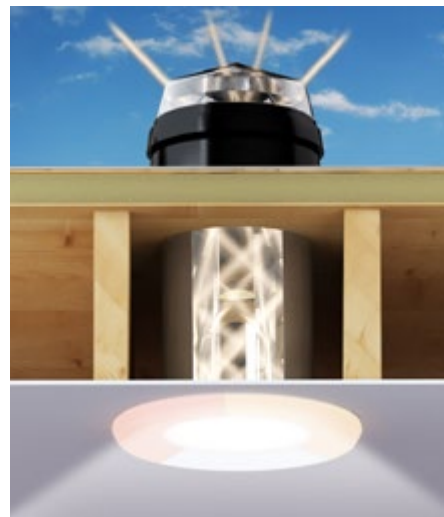


### Modes of Operation



#### Standard:

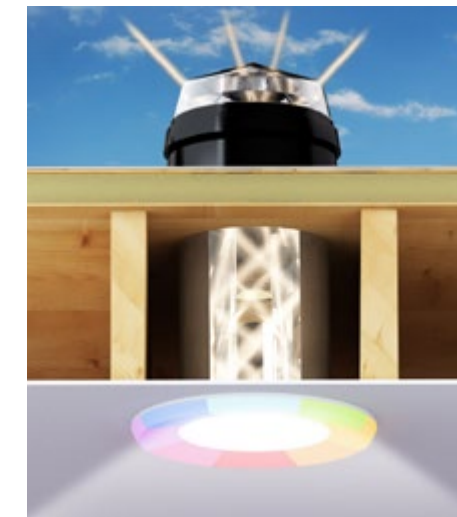
No controls. SUNPIPE LuxLoop operates on a standard ON/OFF switch (by others). Non-dimmable, fixed white 4000 k.



#### Smart:

SUNPIPE LuxLoop functions with a combination of 1-10V driver and Daylight Harvest sensor for fully automatic control. System operates as detailed below:

- When there is sufficient daylight, the LuxLoop will not turn on regardless of movement.
- When there is insufficient daylight, the lights will dim when it senses movement to maintain the specified lux level.
- It continuously monitors the level of daylight and dims the lights accordingly.
- The lights dim to a standby level if no movement is detected and daylight levels are insufficient.
- After a standby period has elapsed the lights will turn off automatically.
- The light is a fixed white 4000 k.
- 1 sensor per area to be served (normal sized office for 10 people), additional sensors may be required for large areas.



#### Circadian:

The SUNPIPE LuxLoop Circadian comes with the wireless control system which changes the colour of the LuxLoop as the colour of the natural daylight changes over the course of the day. It can also display a full RGB spectrum of colours and 1700 k - 7000 k white light. The systems can be controlled through a wireless network using any device which has an internet browser, enabling the users to set their own controls and scenes, have full control over individual luminaires or leave the system to run automatically.

- On Circadian Automatic setting (default) the colour of the luminaire matches the colour of natural daylight – helping the occupants to maintain a healthy Circadian Rhythm and promoting healthy bodily function.
- The system is fully customisable – preset scenes and schedules can be defined by the user.
- Areas and individual luminaires can be controlled together or independently.

For more details on Halcyon please visit [PhotonStar website](http://PhotonStar.com).

**The healthiest  
lighting available**

**Note: Other lighting control drivers are available on request.**



At Monodraught we pride ourselves on the quality of our engineering. Because of this, we design our systems very carefully in accordance with the message we want to convey:

- Performance
- Innovation
- Sustainability
- Reliability

In the tubular skylight industry clients are often presented with hypothetical theories asserting figures that claim superior performance.

The most prominent of these alleges that the **reflectance of the tube material is a direct representation of the lighting performance of the system, which is often displayed as the efficiency of the system.**

Further, light redirecting technology is often promoted without measurable data detailing how these technologies perform in a real world environment.

What Monodraught have attempted to quantify in our comparative testing is why **SUNPIPE should be your only logical choice of tubular skylight.**

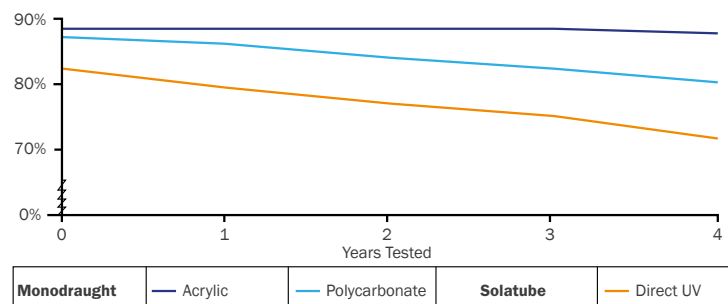
**If a polymer laminate is used in a tubular skylight without being properly shielded from UV light it will suffer a large drop in performance. However, if it is protected by polycarbonate, the polycarbonate material will also lose performance and discolour**

We subjected one of our SUNPIPE Natural Lighting systems to both a Light Transmittance Test and an Accelerated Ageing Test against Solatube to compare the systems.

SUNPIPE uses SUPER-SILVER mirror-finish aluminium for our tubing rather than a polymer laminate that can be found in other products. We avoid using polymer laminates because;

- Promised high performances quickly deteriorate over time
- They lead to further problems within the pipe, such as de-lamination
- They are susceptible to longer UV wavelengths that are particularly difficult to filter

## Conclusions



### Light Transmittance

Dome Material Samples were tested for Light Transmittance;

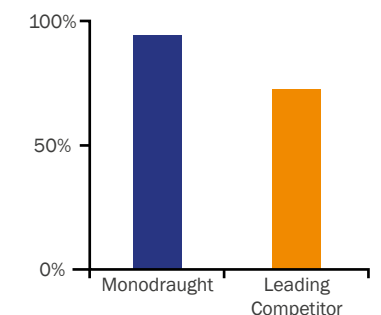
- Monodraught's Acrylic Dome Sample suffered almost no drop in light transmittance
- Solatube's Polycarbonate Dome Sample suffered a 10.1% drop in performance, and had the lowest initial transmittance measurement

### Full Dome Light Transmittance

The three domes from which the samples were taken were also tested, unmodified, for their light transmittance. This is to clarify what effect the light redirecting technology in each dome had on the total light transmittance.

- Monodraught's Acrylic diamond dome had the highest light transmittance, 90.2%
- Solatube's dome had the lowest, only 74.2%

It is therefore feasible that the light redirecting technology in the Solatube's dome construction actually has an adverse effect on light transmittance under the testing conditions (CIBSE simulated overcast sky).



**Specular Reflectance**

The specular reflectance of each of the pipes were tested, determining which would perform better for the longest time; Solatube polymer laminated film’s specular reflectance dropped dramatically when exposed to UV radiation

Monodraught’s SUPER-SILVER mirror-finish aluminium only experienced a very minor change in reflectance when exposed to direct UV light and negligible performance drop when covered by both Acrylic and Polycarbonate domes

Inner light pipe sample	Reflectance before ageing (%)	Reflectance after 1000 hours artificial ageing (%)	Reflectance after 2000 hours artificial ageing (%)	Reflectance after 3000 hours artificial ageing (%)	Reflectance after 4000 hours artificial ageing (%)	Performance Change
Monodraught sample 1 (aged behind Monodraught acrylic dome sample)	93.5%	93.2%	93.2%	93.4%	92.8%	-0.7%
Monodraught sample 2	93.6%	92.5%	91.4%	91.5%	90.8%	-2.8%
Monodraught sample 3 (aged behind Monodraught polycarbonate dome sample)	93.3%	93.5%	92.8%	93.0%	93.3%	0%
Monodraught sample 4	92.9%	92.2%	91.5%	91.0%	91.1%	-1.8%
Solatube sample 1 (aged behind Solatube polycarbonate dome sample)	98.4%	98.3%	97.9%	97.5%	97.6%	-0.8%
Solatube sample 2	98.7%	94.6%	87.6%	66.0%	16.0%	-82.7%
Solatube sample 3	98.8%	94.7%	86.3%	57.0%	13.9%	-84.9%
Solatube sample 4	98.8%	94.6%	86.9%	67.6%	21.0%	-77.8%

**Put simply, your SUNPIPE system will still be performing in Year 5 just as it was at the date of purchase!**

**SUNPIPE Projects**



**The Copper Box - Olympic Handball Arena**

London

Having used the SUNPIPE Natural Lighting systems on previous projects, Make Architects entered into discussions with Monodraught to investigate the possibilities of using SUNPIPE technology to meet the strict environmental criteria of sustainable energy on the project. Make Architects specified a system that could deliver a 4% daylight factor.

Working with ARUP Consultants, Monodraught presented a scheme that included eighty-eight 1500 mm diameter SUNPIPES positioned strategically around the field of play. The systems also needed to be adaptable, so light shut off dampers were included along with special acoustic laminated glass.

Due to the nature of the project and the amount of congestion expected near the Olympic site, the systems were manufactured off site and delivered in sections ready to be installed on site.



**Waitrose**

Altrincham

Monodraught worked in partnership with supermarket Waitrose to develop a retail lighting unit, featuring a SUNPIPE integrated into an artificial light fitting. The system, is designed to maximise the use of natural daylight, while controlling and balancing it with artificial light.

**Poole Hospital**

Dorset

The Sandbanks ward at Poole Hospital includes a greater number of single rooms to improve patient privacy. The refurbishment concentrated on bringing a brighter, more modern environment for people who have to undergo a hospital stay.







## Sainsbury's

### Gloucester Quays

Sainsbury's 50,000 sq. ft. Gloucester Quays eco-store extends the lead taken by the supermarket chain's Dartmouth store by installing Monodraught SUNPIPE Natural Lighting systems throughout the building. As electricity reduction is a high priority at Gloucester Quays, Sainsbury's has ensured maximum use of natural daylight by installing a total of 146, 750 mm SUNPIPES in the roof.



## The British School (Interior Design)

### Abu Dhabi

Originally the Architect wanted a series of free form rooflights, but such is the intense heat of the sun in the Middle East the Architect opted for a series of SUNPIPES arranged not in a uniform pattern but formed part of the interior design by providing quite a spectacle of Natural Light. One 1000 mm diameter SUNPIPE was installed to the central Library and this in itself forms a focal point of a flood of Natural Light to this area, which draws comment and praise from many visitors to this rather unique institution in the middle of Abu Dhabi.



## Sainsbury's

### Dartmouth

Sixty-four 750 mm diameter SUNPIPES provide Natural Lighting for the shop floor with a further sixteen 750 mm diameter units fitted in the offices, and five 300 mm diameter units in other areas of the store.

Sainsbury's aim was to be one of the first supermarkets to achieve a BREEAM 'Excellent' rating for its commitment to sustainable construction.



## New Brentwood Resource Centre

### Brentwood

The new centre is a modern, purpose built facility, which houses mental health outpatient, day care and therapy services for adult and older people in the Brentwood Locality. The completion of the resource centre has brought together a number of services which previously were operating in various buildings around the High Wood Hospital site.

Natural daylight was considered of prime importance on this new build development with the Natural Lighting systems utilised on the central corridors and to several of the treatment centres to increase the level of natural daylight over the level provided purely by the windows.



## Basildon Hospital (Retrofit)

### Basildon

Our SUNPIPE Natural Lighting systems were chosen to replace ageing roof lights which originally provided daylight to internal corridors.

As part of a ward refurbishment project, Monodraught SUNPIPES were fitted directly over the existing skylights, ensuring a smooth and easy installation with minimal disruption to the hospital's patients and staff.



# SUNCATCHER

## What is SUNCATCHER?

The Monodraught **SUNCATCHER** systems are a method of effectively **conveying Natural Lighting and Natural Ventilation from roof level**, down into the building below by combining the principles of the Monodraught **WINDCATCHER®** system with the **SUNPIPE** system.



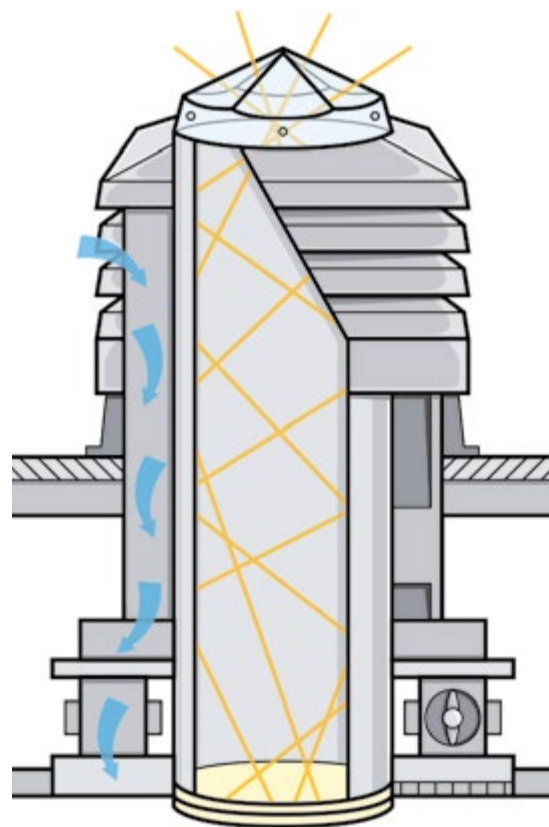
## How Does SUNCATCHER Work?

The WINDCATCHER is divided internally into four quadrants so that one or more face into the wind. Any prevailing wind pressure carries a continuous fresh air supply through weather protected louvres on the windward side of the system at roof level.

The wind movement is encapsulated by internal quadrants which turns the wind through 90° forcing the air down through internal ducts into the room below.

Warm stale air is expelled from the room by the passive stack ventilation principle of differential temperatures and the natural buoyancy of air movement. Manual or motorised dampers at the base of the system control the rate of ventilation.

The SUNPIPE collects daylight using a patented Diamond Dome, passing it through a SUPER-SILVER mirror-finished aluminium tube, finally distributing it evenly through use of a ceiling diffuser.



To learn more about how the SUNCATCHER system could benefit your project please contact our head office.

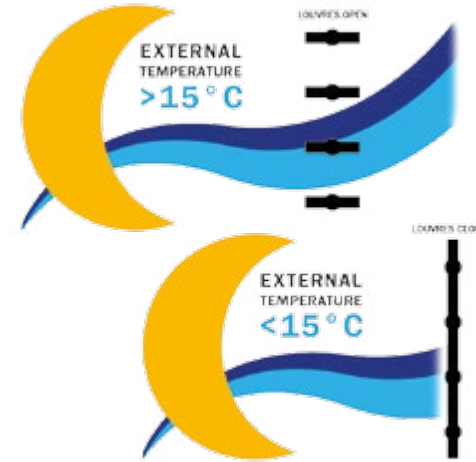
## Night Time and Mid-Season Operation

During mid-seasons, in the evenings, or at weekends, when the building is perhaps unoccupied, the SUNCATCHER system is not dependent on openable windows or vents in the side of the building, which allows the building to be fully secured.

With all external windows closed, the Monodraught SUNCATCHER will still continue to operate providing all the benefits of this Natural Ventilation.

**This is particularly important at night time where the system will cool the room ready for the next day, removing all heat from the fabric of the building.**

Volume control dampers at the base of the system at ceiling level will precisely control the amount of airflow through the system. If the internal temperature falls below 15°C the dampers will automatically close to prevent over-cooling.



BMW Offices, Oxford - SUNCATCHER



## Summer Operation

In the summer months, perimeter windows can be utilised to aid cross flow ventilation. With fresh air coming in through the windows on the windward side of the building, stale air will be exhausted through the passive stack element of the SUNCATCHER system.

Warm air will naturally rise to ceiling level but at the same time any prevailing wind on the SUNCATCHER system carries a supply of fresh air down into the room below, thereby slightly pressurising the building and increasing the outward flow of stale air.

## Winter Operation

To minimise ventilation heat loss, control is essential to ensure that the ventilation rate is continuously matched to meet occupant loading and to prevent excessive air change rates during unoccupied periods. Such control can most efficiently be achieved by ensuring that the building structure is airtight and by monitoring and maintaining carbon dioxide concentration in the 1000 ppm to 1500 ppm range.

At night time, demand for ventilation is greatly reduced and ventilation heat loss can largely be eliminated. Natural Ventilation may therefore be expected to provide reliable winter ventilation, at the full rate demanded by occupants, without resulting in excessive energy loss.

The SUNCATCHER system is controlled by manual or fully modulating dampers, linked to temperature or CO<sub>2</sub> sensors which in turn can be linked to a fully automatic control panel, our Monodraught iNvent 2 control system.



# SUNCATCHER Projects

## The Priory Neighbourhood Centre

### Hastings

This was a major refurbishment project funded by English Partnership in 2004, whereby the existing building was transformed into a state of the art community centre.

The refurbishment was undertaken with a view to using sustainable energy principles wherever possible. This included a sedum roof and the use of photovoltaic panels.

The consultants, PJR, contacted Monodraught to design a system that was in keeping to the philosophy of the building.

Two GRP 1200 SUNCATCHER systems with integral 650 mm diameter SUNPIPES were installed to provide Natural Lighting and Ventilation to the café and IT areas. These systems were ideal as they met with the design philosophy in one neat package.



## M&S

### Galashiels

The 9,000 sq ft Galashiels store features 12 SUNPIPE systems and three GRP 800 Square SUNCATCHERS among other 'eco-features' that significantly reduce its carbon footprint and improve its energy efficiency.

**M&S claims the store uses up to 25% less energy and emits up to 95% less carbon dioxide than an average Simply Food store.**

The Galashiels store has been a test bed for developing new initiatives that have since been rolled out in other Simply Food stores across the UK.



## Tesco Express

### Hinkley

The first Tesco convenience store to be built in their new environmental format. The use of Monodraught SUNCATCHER, WINDCATCHER, and SUNPIPE systems helped to create a comfortable environment for customers and staff alike.

## Blackberry Hill Hospital

### Bristol

A Combination of WINDCATCHER, SUNPIPE and SUNCATCHER systems were specified to provide the ward corridors, central hub, and main building with a supply of Natural Light and Ventilation.




## Primark


### East Ham


17 SUNCATCHER systems were installed at the Primark store in East Ham, mainly providing Natural Lighting and Ventilation to offices. A further 3 WINDCATCHER systems and 42 SUNPIPES also help to create a comfortable shopping experience, at little cost.





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