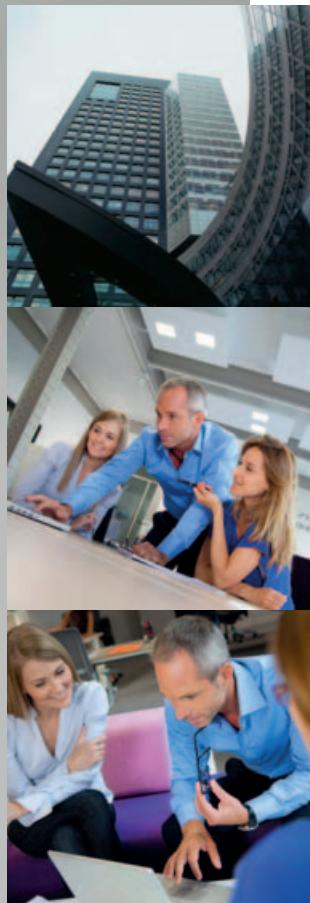




Where sound
meets light,
comfort is built



The acoustics & light solution for energy efficient architecture

Soundlight Comfort

PHILIPS

Ecophon
SAINT-GOBAIN

The challenge for energy efficient buildings



With concerns about climate change, stringent legislation and political pressure to meet sustainability targets, it has never been more important to design buildings that make the most efficient use of our precious resources. However, in some applications the energy efficiency of an environmentally responsible building, also further referred to as "green building" doesn't necessarily make it attractive or comfortable for the people who live or work in it. Sound, light and temperature all play a part in whether spaces have a positive, or negative, effect on happiness and well-being.



TABS and sound propagation

One way that architects can design a green building is to apply a Thermally Activated Buildings System (TABS). It helps to create an effective cooling system using the thermal mass of the building. The concrete then keeps the heat out during the day, maintaining a cool interior. But whilst TABS is a proven way to meet energy-efficiency regulations, it creates problems of its own in terms of sound propagation and acoustic comfort. The concrete needed for cooling reflects sound instead of absorbing it, acting as a sound mirror. Echoes, amplified sounds and even normal speech travel further, concentration is affected and it can be difficult to communicate without disturbing others. Constant exposure to amplified sounds also causes fatigue. Together they have a detrimental effect on employee well-being.

Lighting comfort

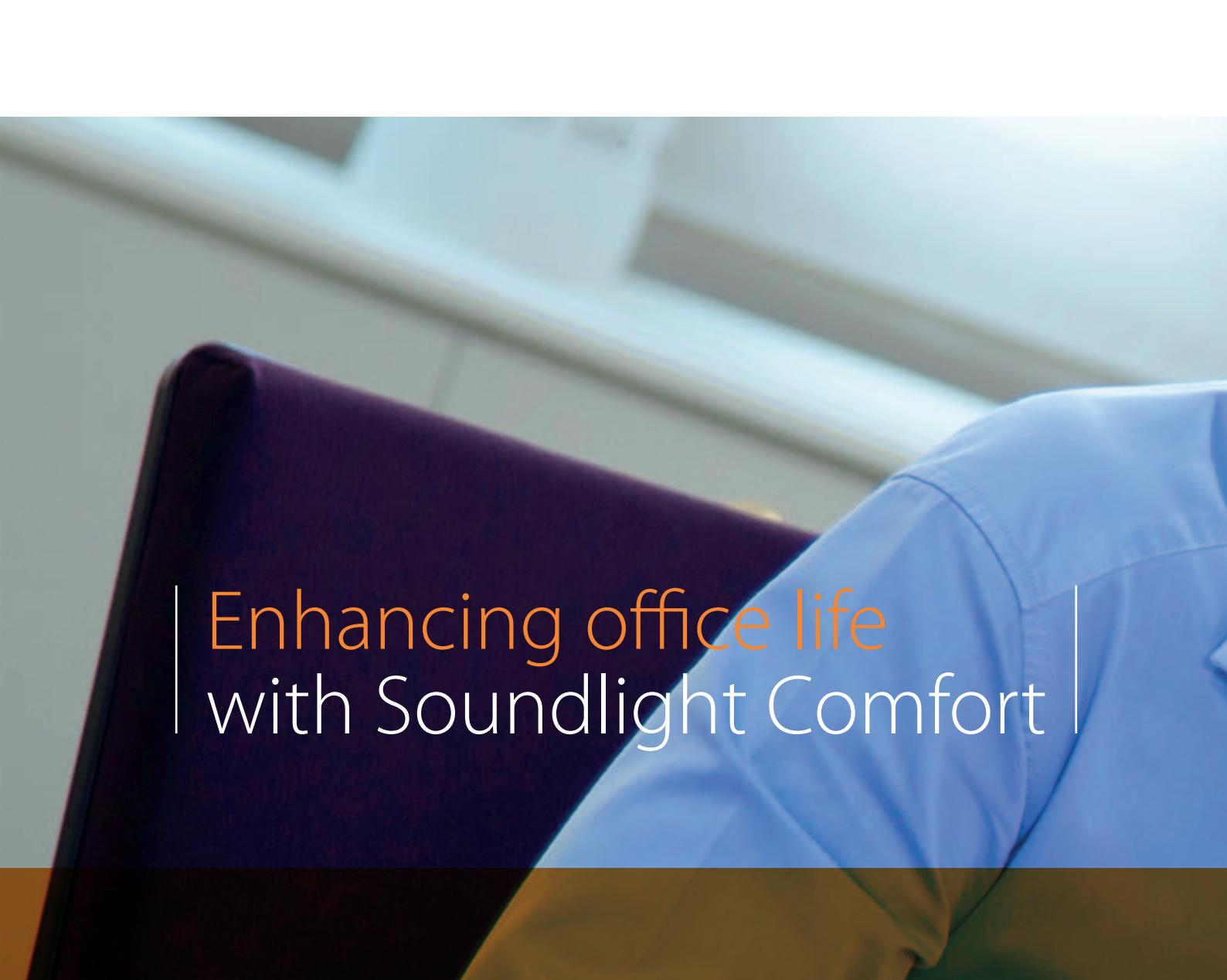
Energy efficient office environments also present a challenge in terms of lighting. With more emphasis on communications technology, workers need the right levels of light to meet their needs. Sacrificing light levels to save energy has a negative effect on well-being, causes fatigue and ultimately affects productivity. Glare caused by lighting reflected in computer screens also causes high levels of discomfort. To minimise the stresses and strains of office life, TABS environments must successfully address both acoustic and lighting comfort.

Practical problems

The common solution would be to install an overall, high performing acoustic ceiling. However, with thermally active surfaces the ceiling would shield the beneficial cooling effect of the concrete and would also be impractical for sprinkler systems. The water pipes within active surfaces also means that any connection points must be kept to a minimum.

Successfully design spaces

Now there's a way to build comfort within TABS architecture that enhance well-being. An innovative solution that combines the ultimate in acoustic comfort with office compliant, energy-efficient lighting.



Enhancing office life with Soundlight Comfort

Philips and Ecophon have worked closely together to help improve the interior environment in TABS buildings. Our shared aims and industry expertise have enabled us to perfect the balance between acoustics and light with an integrated solution that creates acoustical comfort with designed-in lighting.



All-in-one solution

Soundlight Comfort enhances office life by providing appropriate lighting at the same time as improving speech clarity and reducing sound propagation. It is an 'all-in-one' solution that supports concentration and communication, thereby improving performance and well-being. What's more, the beneficial effects are far greater than addressing visual and acoustical problems individually. Soundlight Comfort is easy to install and creates instant visual and acoustic comfort in one, stylish solution.

Attractive spaces

Designed to be used as free-hanging acoustic lighting islands, Soundlight Comfort creates attractive environments that are easy on the ear and the eye. The slim, lightweight panels are made from high density glass wool. With no profiles around the edge, the panels have a clean, minimalist look that will not detract from the interior design scheme. In addition they provide good quality lighting that complies with office norms.

Designed to be green

Soundlight Comfort is also easy on the environment. The sound absorbing panels are made from 70% recycled household glass and recycled glass wool. They are also fully recyclable at end of life. Philips integrated LEDs set new standards in watts consumed per square metre. And because they last up to three times longer than alternative light sources, they're also light on maintenance.



Bien-être
Performance
Érgonomie
Intégration de la technologie
Solutions existantes
Personnalisation
Innovation
Optimisation
Flexibilité

Building acoustic comfort

In modern buildings with open plan spaces and active surfaces, the challenge is to design an environment where concentration and communication can take place at the same time. Soundlight Comfort creates the sound absorption needed to support speech clarity over short distances, whilst reducing the total distance over which sound travels. By shortening the sound propagation in this way, different working groups are less likely to be disturbed by each other. Less vocal effort is needed, directional hearing increases and it's far easier to concentrate.

Thermal performance

Soundlight Comfort free-hanging units are a flexible and efficient way to create a good acoustic environment without affecting thermal performance or cooling. Simple to assemble and install, the panels allow for natural convection and radiation and are suitable for active or passive systems.

Room acoustic design

The benefits of Soundlight Comfort are further enhanced by employing good sound design principles like placing people in the right working groups to avoid unnecessary disruptions, whilst still allowing constructive eavesdropping for knowledge transfer and sharing ideas and having a clear code of acoustical etiquette with adequate provision of silent rooms.

Support communication and concentration

A good working environment should support people in both communication and concentration. Studies show that in good acoustic environments, people make more attempts at solving difficult tasks, they make more ergonomic postural changes, and increase their accuracy.



Building visual comfort

Lighting also has a profound effect on how we feel and plays a vital role in creating a healthy workplace. Inadequate lighting affects well-being and can also result in eye strain, visual discomfort, fatigue and poor staff performance - particularly in roles involving problem solving and concentration. It can also have a negative effect on employee mood and the relationships they have with work colleagues, thereby influencing job satisfaction.



Feel better, work better

Soundlight Comfort units are designed to light spaces that are a pleasure to work in. State-of-the-art LEDs are integrated into the sound absorption panels to enhance the atmosphere and productivity of workspace. With fixed colour temperatures of 4000K*, they provide high quality, fresh white light to keep staff energised and engaged. The optic design complies with all office norms and produces impressive visual comfort, glare control and colour consistency to create the most pleasing office ambience. A space where people feel better – and work better.

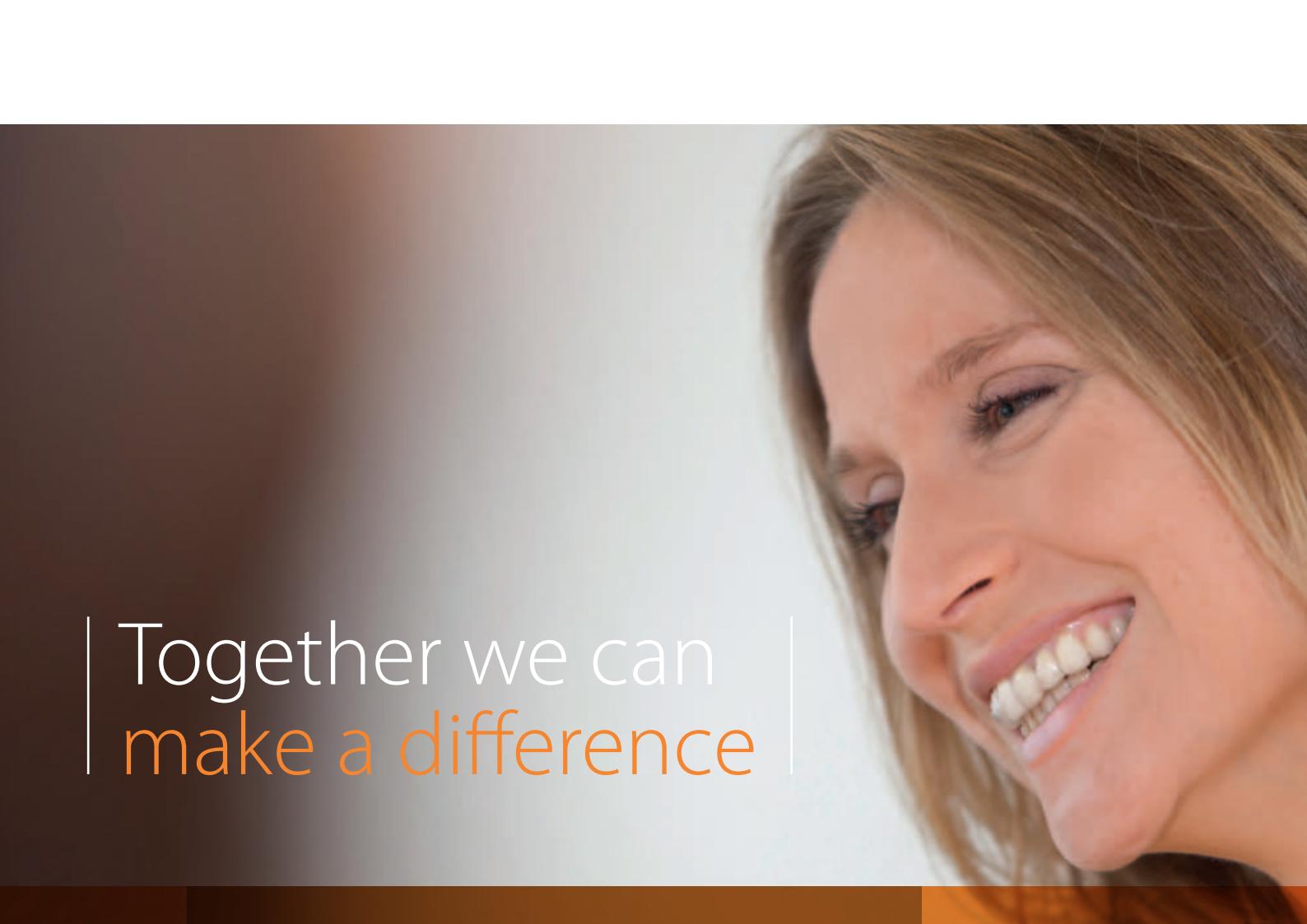
Maximum style, minimum clutter

Soundlight Comfort makes it easy to create stylish environments that contribute to the identity of a room. By integrating acoustics and lighting design into one solution it simplifies the fixtures and fittings that are needed to optimise room comfort. A solution that maximises ambience and minimises ceiling clutter.

Save energy

With low energy consumption, high efficiency and a long lifetime, SoundLight Comfort is a green building solution that saves on energy bills without compromising on lighting performance. As the LEDs are DALI-driven Soundlight Comfort also works beautifully with intelligent controls for tailored light settings, daylight linking and presence detection. A great way to save even more energy and show the credentials of your green building in the best possible light.

* 3000K available by the end of 2011



Together we can make a difference

Soundlight Comfort is the result of a close collaboration and partnership between Philips and Ecophon; two companies that put the environment and well-being at the heart of everything they do.

Enhancing lives with light

Philips has always set the pace in green building initiatives with lighting solutions that are innovative and energy efficient. Philips' solutions help companies to meet their own corporate sustainability goals as well as internationally recognised assessment methods and certifications, such as BRE Environmental Assessment Method (BREEAM) and Leadership in Energy & Environmental Design (LEED).

Philips' meaningful solutions enhance lives with light by creating people-centric spaces that uplift and inspire, engage and surprise. Spaces that are pleasant to work in, that stimulate productivity and promote a sense of well-being.

A sound effect on people

Ecophon has a proud history of creating innovative solutions that improve the working environment. In 1958 Ecophon produced the first sound absorbers from glass wool. Today Ecophon is a global supplier of acoustic systems that contribute to good room acoustics and healthy indoor spaces. Ecophon also helps to formulate national standards in room acoustics to promote the benefits of a better working environment.

Ecophon's promise of 'a sound effect on people' is reinforced by a passion for reducing the environmental impact and developing sustainable products. Ecophon is committed to decreasing energy use, waste and CO₂ and is careful to select products with low environmental impact.



To find out more about Soundlight Comfort and discover how it can make your green building more comfortable contact your local Philips or Ecophon representative. Alternatively, go to ecophon.co.uk or lighting.philips.co.uk

A woman with blonde hair, wearing a light blue striped shirt, is smiling and looking towards the camera. She is sitting on a pink beanbag chair, which is part of a modular sofa system. In the foreground, a man's face is partially visible, looking towards the right. Another person's arm and shoulder are visible on the right side of the frame.

| SoundLight Comfort | Technical data

System specifications

Soundlight Comfort

Soundlight Comfort is a range of free-hanging units with integrated LED luminaires. The system consists of a panel made of glass wool provided by Ecophon and LED luminaires provided by Philips. The system is suspended with adjustable wire-hangers. The panels are manufactured from high density glass wool with Ecophon

Akutex FT surface on the back and front of the panel. The edges are straight cut and painted. The luminaires are designed for general office lighting. The LED luminaires deliver high-quality functional lighting with an energy efficiency that matches or even outperforms traditional fluorescent systems.

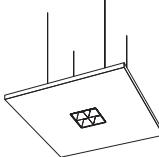
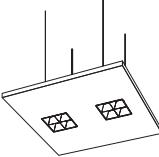
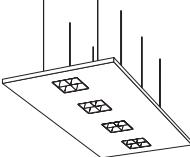
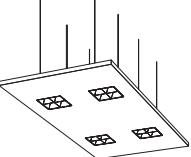
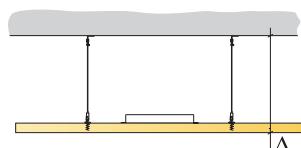
System range	SLCOMF UNIT S1C/LED9S	SLCOMF UNIT S2L/LED9S	SLCOMF UNIT R4L/LED9S	SLCOMF UNIT R4R/LED9S
Configuration	S1C = Square panel, 1 luminaire centred	S2L = Square panel, 2 luminaires in line	R4L = Rectangular panel, 4 luminaires in line	R4R = Rectangular panel, 4 luminaires in rectangle
				
System size	1200x1200 mm	1200x1200 mm	2400x1200 mm	2400x1200 mm
System thickness	80 mm	80 mm	80 mm	80 mm
System weight	7 kg	≈ 7.5 kg	≈ 15 kg	≈ 15 kg
Min. overall depth of system <i>*illustrated in figure 1</i>	≥ 150 mm	≥ 150 mm	≥ 150 mm	≥ 150 mm
# luminaires Duo (2 luminaires pre-connected)	–	1	2	2
# luminaires Single	1	–	–	–

Figure 1



Min. overall depth of system ≥ 150mm

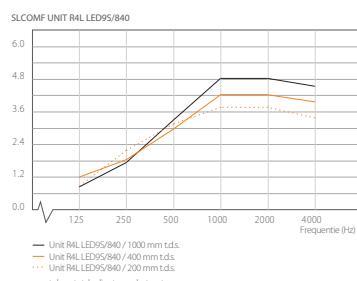
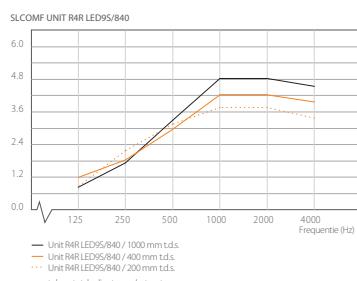
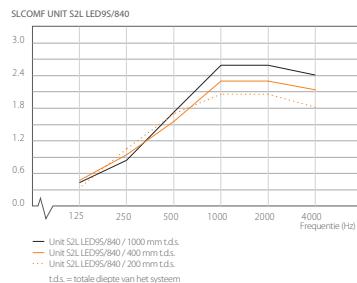
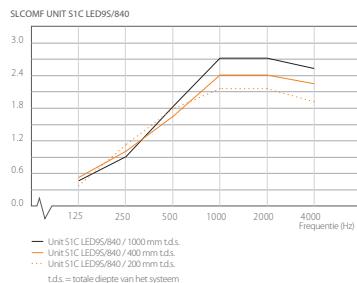
Acoustic specifications

Ceiling	No ceiling, exposed structure	Soundlight Comfort covering 30% of ceiling 41 panels 1200 x 1200 or 20 panels 1200 x 2400	Soundlight Comfort covering 60% ceiling 83 panels 1200 x 1200 or 41 panels 1200 x 2400
Reverberation time	3.0 seconds	0.9 seconds	0.6 seconds
Speech clarity	21%	54%	68%
Noise reduction in room	Ref	-5 dB	-6 dB

NB: The values in the table refer to an average of the mid frequencies 500 Hz and 1000 Hz. The volume of the room is height x width x length = 4m x 10m x 20m.

Depending on room type and the activity taking place in the room, some parameters will be more important than others.

 **Acoustic** Sound Absorption based on test results according to EN ISO 354.



Sound Insulation Not applicable

Sound Privacy Not applicable

 **Accessibility** The tiles are demountable.

 **Cleanability** Daily dusting and vacuum cleaning.
Weekly wet wiping.

 **Visual appearance** White Frost, nearest NCS colour sample S 0500-N, 85% light reflectance (of which more than 99% is diffuse reflection). Retro reflection coefficient 63 mcd*m-2lx-1. Gloss < 1.

 **Influence of climate** The tiles withstand a permanent ambient RH up to 95% at 30°C without sagging, warping or delaminating (ISO 4611). The units should however not be installed in areas/premises where the ambient relative humidity (RH) and the temperature exceed 70% and 30°C respectively.

 **Indoor Climate** Certified by the Indoor Climate Labelling, recommended by the Swedish Asthma and Allergy Association, and can be used in rooms classified as ISO class 6 according to ISO 14644-1.

 **Environmental influence** Granted the Nordic Swan eco-label. Fully recyclable.

 **Fire safety** The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182. See Functional demands, Fire safety.

Country	Standard	Class
Europe	EN 13501-1	A2-s1,d0

 **Mechanical properties** No additional loads should be placed on the unit.

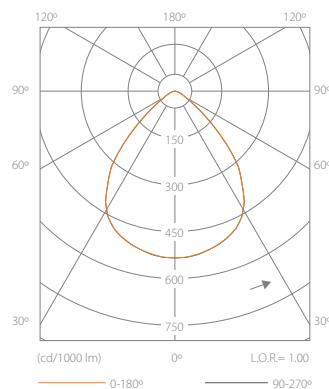
 **Installation** According to Installation guide available on web page.

Lighting specifications

Product benefits

- Operational cost savings
- Energy-efficient
- Compliant to office norms

Polar intensity diagram



Luminaire specification	Duo (2 luminaires pre-connected)	Single
Light source	Non-replaceable LED module	
Performance		
Power	4000K: 24W 3000K: 29W	4000K: 12W 3000K: 15W
Beam angle	85 °	
Luminous flux	2x900 = 1800 lm	900 lm
Correlated Colour Temperature	3000 / 4000 K	
Colour Rendering Index	80 Ra	
Maintenance of lumen output - L90	30,000 hours at 25°C	
Maintenance of lumen output - L70	50,000 hours at 25°C	
Operating temperature range	+10 < Ta < 40°C	
Electrical		
Driver	Built-in	
Mains voltage	230 or 240 V / 50 Hz	
Dimming	Compatible with DALI controllers	
Controls system input	DALI	
Physical		
Material	Housing: Alu / Optics: plastic	
Colour	White (WH)	
Connection	Cable with wieland connector GST 18, 5 poles	
Maintenance	Optical module sealed for life; no internal cleaning required	
Installation	In lay, no brackets needed	



Philips Lighting B.V.
lighting.philips.co.uk

Saint-Gobain Ecophon B.V.
www.ecophon.co.uk