

# SOLISCAPE

**Ben van Berkel**  
**UNSTUDIO**

X

 **DELTALIGHT®**

"As what we design today is normally built in three to five years' time, we're used to working with the future in mind. However, the future is changing faster than ever before. To ensure we don't contribute to a waste of materials and investment that is no longer sustainable or appropriate in today's world, we develop strategies that not only anticipate the future, but possible changes to that future as well."

UNStudio

Future - Proofing the Future  
Big Data / Network Responsive / Neurosensitive /  
Human Health / Smart Building / Cognitive Systems  
Internet of Things / Automation of Everything  
BLOCK CHAIN / Automated Architecture /  
Robotics / Hybridization / Super Buildings  
Sensorial Responsive / Intuitive Control  
Digital Revolution / Humane environment  
THE UNPREDICTABLE... The Age of  
Automation / New Normal  
Future - Proofing the Future / Self  
learning / Big Data / Network Responsive  
Neurosensitive / HUMAN Health / Smart  
Building / Cognitive Systems / Internet of  
Things / Automation of Everything / Block  
Chain / Automated Architecture / Robotics  
Hybridization / Super Buildings  
Sensorial Responsive / Intuitive Control  
Digital Revolution / Humane environment  
The UNPREDICTABLE...  
The Age of Automation / New Normal

THE WAY WE WORK, LIVE AND  
RELAX IS CHANGING. THIS NEW  
**HYBRID** WORLD IS CAUSING  
ARCHITECTS AND DESIGNERS  
TO RETHINK HOW WE DESIGN OUR  
CITIES AND BUILDINGS,  
SO THAT WE CAN CREATE PLACES  
THAT ENCOURAGE HEALTH AND  
WELLBEING. LIGHTING IS A VERY  
CRUCIAL ELEMENT IN HELPING  
US TO CREATE SUCH PLACES.

• Ben Van Berkel





In a world that is in a state of constant evolution, where cutting-edge technology brings new ways of interacting and experiencing, we know that the physical need for buildings to live and work in will remain. Rather than staying static, buildings are more and more becoming a reflection of what humans crave in their daily lives and a response to many new economic, environmental and social movements. Office buildings have throughout the years gone through many transformations. From the large private offices to the private, enclosed workstations to the recent opening up of the office, encouraging collaborative work. Headquarters have dematerialized over time, now being split between the office, the home and third places.

Only happy employees are efficient employees. The right lighting is crucial in that process, as light affects almost all vital processes in the human body, and also has an impact on people's performance, health, safety and sense of well-being. Quality characteristics of light, as well as options to adapt lighting conditions to the environment and personal needs, are of decisive importance.

*"We believe that human health and wellbeing form the impetus for a new era of design, and that the incorporation of new and emerging technologies in the built environment plays a central role in this. It is not the hardware or the software itself that interests me, but how it can be applied within architecture and urban design to improve our daily lives."*

**Ben van Berkel**





Ben van Berkel  
UNSTUDIO



 DELTALIGHT®

**UNStudio** and **Delta Light**  
have joined forces to endeavour to improve  
the wellbeing of people in our rapidly  
changing work environments, where  
human health and the war on talent have  
become a primary focus for employers.  
Together we are developing Soliscape,  
an extremely versatile and flexible system,  
specifically designed to create  
user-centric environments.



TOOLBOX



ADAPTIVE  
DESIGN



SENSORIAL  
RESPONSIVE



HUMANIZING  
SPACES



COMPREHENSIVE



SUSTAINABLE







unsx.

FROM  
ARCHITECTURE  
TO PRODUCT  
DESIGN AND FROM  
RESEARCH TO  
INNOVATION;  
WE ALWAYS AIM  
TO FIND NEW WAYS  
TO DESIGN FOR A  
BETTER REALITY,  
WITH THE **USER**  
CONSTANTLY AT  
THE **CENTER** OF  
EVERYTHING WE  
CONCEIVE.

In consultation with Delta Light, Soliscape has been developed by UNSx, UNStudio's in-house multidisciplinary team.

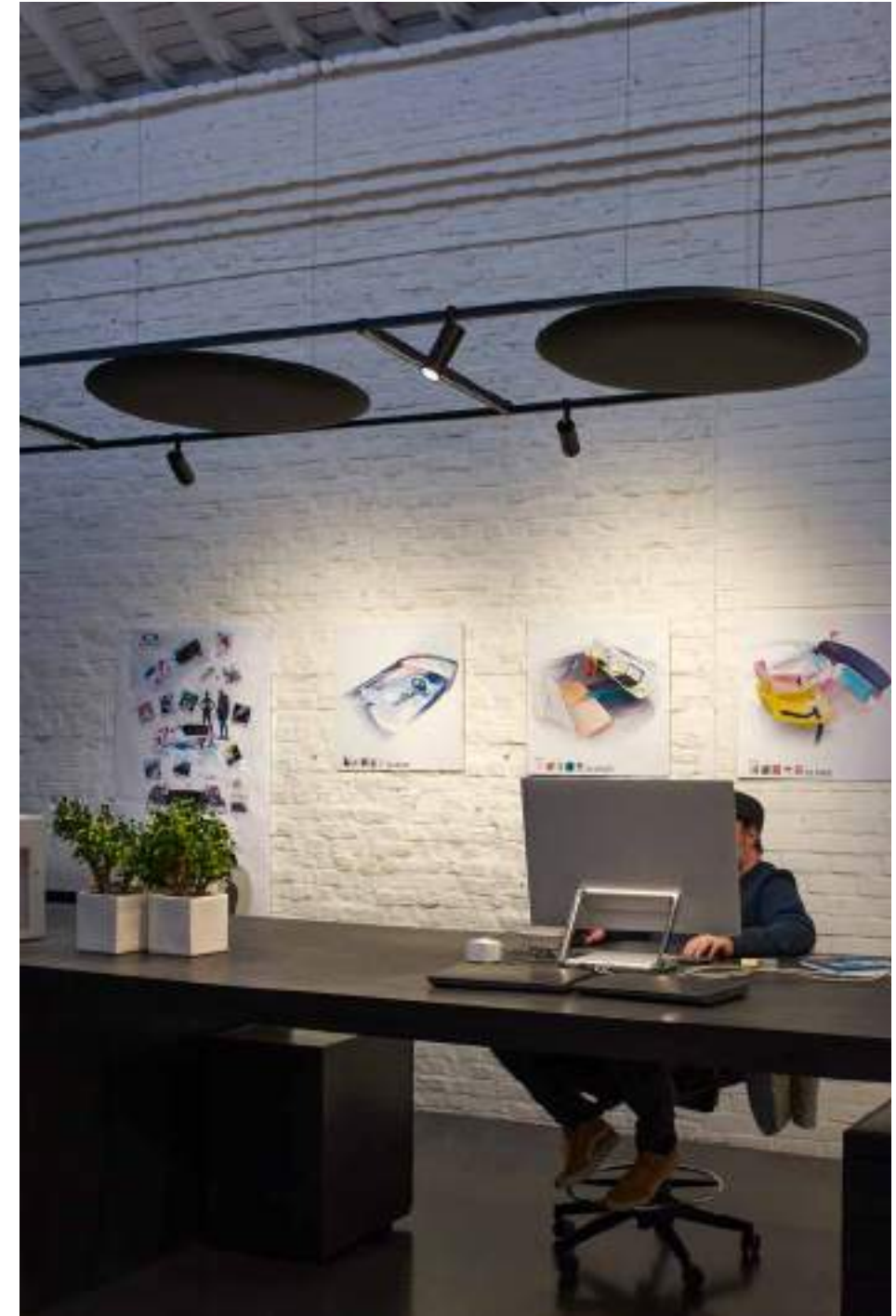
UNSx used an iterative design thinking process that alternated between divergent and convergent design steps. The key aims were to humanize spaces and make them more adaptable. The heart of the process therefore involved research to identify the user-centric problems the system should solve, and the resulting functions and services it could offer. Various insights were uncovered concerning the use of light in space with respect to the needs of the end users, the designers and the facility managers. These insights were then turned into workable solutions.

*"The co-creative nature of the process enabled us to draw on the best expertise from both companies and to bring this know-how into the final system design. The process involved different facets of the system, from the design of the product to the technology required to create the adaptive experience, and the design of the services connected to the Soliscape system."*

**Filippo Lodi, Head of Innovation at UNStudio**







CREAX







ALL OF US AS DESIGNERS ALWAYS WANT  
TO CHANGE HOW THE DESIGN LOOKS  
LIKE. IN THE END WE WANT TO ADAPT IT  
TO THE SPACES THAT WE DESIGN.  
SO IT BECAME PART OF THE DESIGN  
PROCESS TO DEVELOP **A TOOLBOX.**

# SOLISCAPE TOOLS

## PROFILE

### Finish

Black / White

### Dimensions

19mm x 23mm

### Corners

Ø 600mm / 900mm  
90° / 180° connection

## SOLI-FORM

### Finish

Black / Black-Matt Gold / White-Black / White

### Light effect

Down: 10,2W up to 21,6W – 1670lm up to 3540lm  
Down-Up: 13,6W up to 28,2W – 2230lm up to 4720lm

### Colour Temperature

3000K / Melanopic Light Technology (MLT)

### Control

MDL / DALI Dim / Q Dim

## SOLI-SHHH

### Dimensions

Ø600mm / 900mm

### Finish

Light Grey / Dark Grey  
(other colours upon request)

### Sound Absorption

Class A (ISO 354:2003 / EN ISO 11654)

### Tilttable

to your preference

## SOLI-52 / SOLI-66

### Finish

Black / White / Gold Coloured

### Power

10,3W – 1280lm / 20,5W – 2500lm

### Beam angle

18° / 20° / 30° / 45°

### Colour Temperature

2700K / 3000K / Soft Dim / Natural Light Technology (NLT)

### Control

MDL / DALI Dim / Q Dim

### Accessories

Honeycomb / Softening Lens / Linear Spread Lens / Spread Lens / Glass SBL

## SOLI-LINE

### Finish

Black / White

### Light effect

Down / Up

### Power

11,8W up to 23,5W  
1250lm up to 2500lm

### Colour Temperature

3000K

### Control

MDL / DALI Dim / Q Dim

## SOLI-SENSE

### Finish

Black / White

### Functionalities

Presence detection  
Light Intensity  
Temperature analysis  
Humidity analysis  
Air quality analysis  
Voice Control

### Control

DALI Dim / Q Dim





## SOLI-SHHH

For additional optimization of room acoustics, Soliscape enables you to combine user focused lighting with Soli-Shhh panels. The sound-absorbing panels can easily be added or removed, positioned flat or tilted, guaranteeing noise reduction to office spaces and meetings rooms in the most aesthetical way.

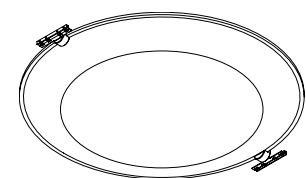
These sound-absorbing panels are created to solve the problem of indoor reverberation to guarantee the best acoustic comfort and wellbeing.

Absorbing the noises in the field of typical speech frequencies (between 500 Hz and 2000 Hz)

These sound absorbing panels can be applied to facilitate for specific functionalities, from acoustic to decorative and illuminous atmospheric scenes.

Soli-Shhh panels can be used as an add-on to the Soliscape toolbox or as a separate sound absorbing element, be it with or without additional spot modules mounted around the circle.

[new.deltalight.com/soliscape/sensor-and-sound/#sound](https://new.deltalight.com/soliscape/sensor-and-sound/#sound)



## PROFILE

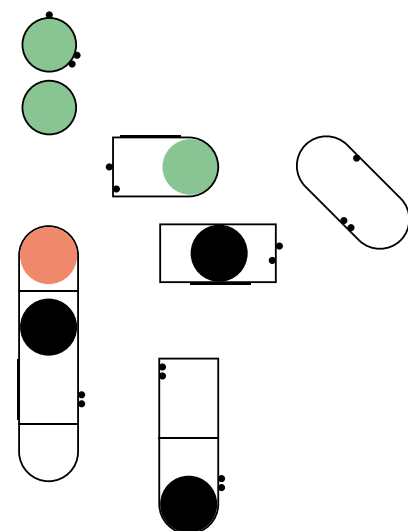
The slender Soliscape profile is the structural base to customize your Soliscape configurations. With dimensions reduced to 19mm x 23mm, it is minimalism at its purest, allowing you to create unique “graphical” configurations. In contrast to common track or profile suspensions, all modules are plugged in from above, maintaining a smooth appearance from below.

The linear elements can be combined with the signature Soliscape curved or 90° corners, upgrading its surroundings with dynamism and attitude.

[new.deltalight.com/soliscape/modules/#profile](https://new.deltalight.com/soliscape/modules/#profile)



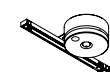
## SHAPE YOUR SOLISCAPE



## SOLI-SENSE

The Soli-Sense module is key in the user-centric approach of Soliscape, as it captures relevant data from its surroundings that serve to interact with the modules of the system or – by extension – with the complete Building Management System. Detecting presence, adapting the light intensity based on incoming daylight, adjusting the HVAC system according to the temperature, humidity and air quality in the room to obtain an optimal user environment are some examples. By integrating all modules in our Smart Q environment, Soliscape becomes the basis that interacts with all smart systems in its surroundings.

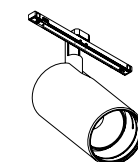
[new.deltalight.com/soliscape/sensor-and-sound/](https://new.deltalight.com/soliscape/sensor-and-sound/)



## SOLI-52 / SOLI-66

The Soliscape spot modules enable you to illuminate any part of the room where Soliscape is applied. The hybrid optics guarantee a precise beam, as the lens controls and shapes the light that is reflected from the high-quality reflector. The spot modules have a colour rendering of CRI ≥ 90, or come in a CRI ≥ 95 version with Delta Light's unique Natural Light Technology (NLT), state of the art LEDs with a spectrum that very closely matches that of the sun. That includes a broader spectrum, which is preferable for the human eye and brings out the vibrant colours, and an enhanced cyan energy, boosting the human activity. As so, helping to control the circadian rhythm to further stimulate the human well-being. The Soliscape spot modules makes its connection on the top of the profile, keeping a very clean and refined appearance without compromising on flexibility and performance.

[new.deltalight.com/soliscape/modules/#spot](https://new.deltalight.com/soliscape/modules/#spot)



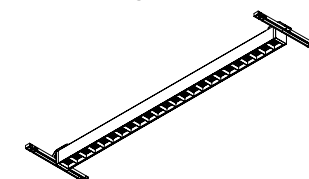
## SOLI-FORM

The core strength of the Soli-Form is a combination of Delta Light's Melanopic Light Technology (MLT) with high efficient louvre optics. The reflector is designed to perfectly embrace every individual LED module in a way to boost the efficiency of the complete luminaire, while maintaining a high level of visual comfort, as every LED dot is shielded from being looked into.

The Soli-Form profile breaths refinement in all its aspects. Its slender dimensions of 28 by 28mm weld in seamlessly with the slim dimensions of the Soliscape. The human aspect is the central topic for Soli-Form. It offers LEDs that help control the circadian rhythm via a unique spectrum meant to stimulate activity. The high quality LEDs provide a very natural white colour with a higher amount of energy in the cyan region, helping you to be active during the day and encourage sleep at night.

Despite its minimalistic design, Soli-Form does not compromise on performance. With a delivered lumen package downwards of up to 3045lm per meter, Soli-Form is perfect for illuminating task areas like office desks or reception counters. Within the same dimensions one can also opt for a down-up version, enhancing the sense of space and creating a uniform glow on both vertical as horizontal surfaces, which leads to a reduced contrast and relaxes the eye.

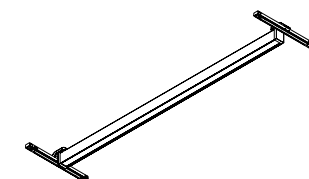
The Soli-Form profiles can be positioned alongside the structure or across, connecting both sides.



## SOLI-LINE

Apart from task lighting and focused accent lighting, Soliscape offers linear solutions for general lighting as well. In line with the complete set-up, the design is minimalist and straightforward. Installed in line with the profile or connecting two opposite profiles, these straight lines are finished of with a sandblasted optic to diffuse the light around the room, both as down- or uplight.

[new.deltalight.com/soliscape/modules/#linear](https://new.deltalight.com/soliscape/modules/#linear)







SOLISCAPE IS A  
SYSTEM THAT GOES  
BEYOND SMART  
TECHNOLOGY.  
IT IS A RESPONSIVE  
SYSTEM.



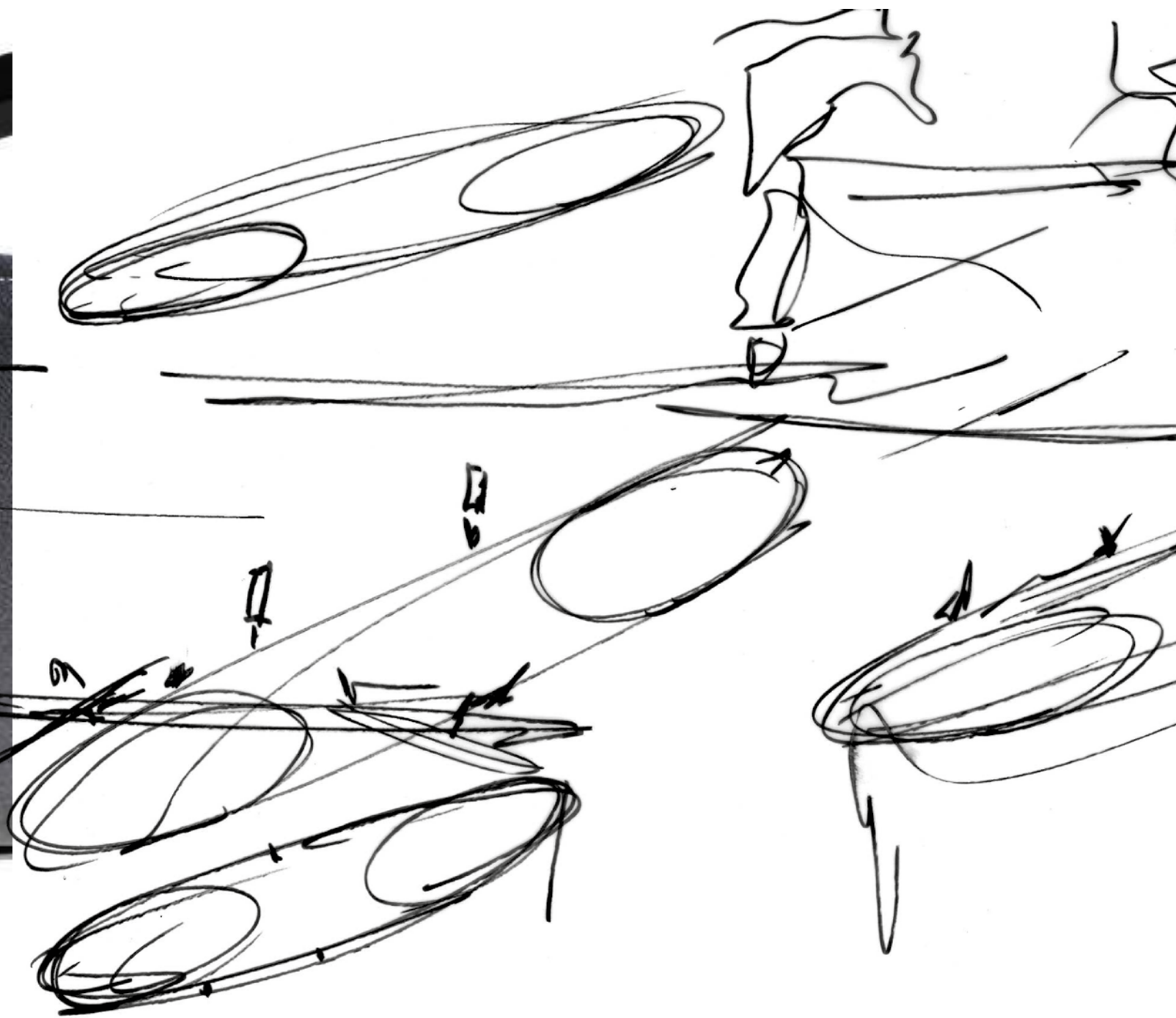
# RESPONSIVE SENSORIAL

With Soliscape **UNStudio** and **Delta Light** aim to create sensor-based environments that respond, learn and adjust to people's daily activities, taking smart buildings towards responsive architecture through a system that allows people intuitive control and personalisation of space. Soliscape offers different sensing options enabling the creation of user-centric spaces: light in service to wellbeing.

*"Looking at lighting as just a basic necessity is an outdated approach. Work environments in particular require extra attention, where user-centric lighting has proven to considerably boost productivity and wellbeing. With Soliscape we even take it to the next level, not just by adding acoustic elements, but even more so by using behavioural parameters to further upgrade comfort."*

**Peter Ameloot**





*"The beauty of the Soliscape design is that you can integrate it with other functions, like acoustics and new technology."*

**Ben van Berkel**





Photo: Els Zweerink

# BEN VAN BERKEL

## **How do you see the new normal of combining working from home and in the office, in the context of a creative design process?**

It became clear to us very quickly what the pros and cons of this hybrid working situation are with respect to the creative design process, and it's something we have been aware of for quite some time. Namely, that while solitary work enables better concentration, innovation occurs through knowledge exchange and this works better in group situations. Digital communication tools are great for meetings etc., but for truly spontaneous brainstorming, people need to be together in a group situation. This was also clearly evidenced in our collaboration with Delta Light.

## **UNStudio has several large scale office projects in its portfolio. How do you see the future of offices changing in the coming years?**

In terms of the different spaces required, collaboration, group work and breakout spaces will continue to be extremely important, but there will also be a renewed understanding of the need for spaces that enable concentration and individual work. With more people working remotely, offices will also have to cater for an increase in digital communication within teams, and provide more dedicated spaces for this. Also, with the possibility that hybrid work scenarios will be the new normal, flexi desk use will become more common. But offices will also become 'smarter'. Not only through sensor gathered data relating to energy and space use, but also in terms of providing healthy, personalised environments. Air quality, light, acoustics etc., will become extremely important environmental factors in the design of future offices.

## **Do you expect any remarkable changes in the integration of lighting in future offices?**

Yes. There is a growing understanding of how important light is to our health and sleeping patterns, and while daylight is essential, it is usually not sufficient inside buildings, especially in the darker winter months. I expect lighting – like office buildings in general - to become much smarter, much more personalised, versatile and flexible. In the future I expect to see more lighting systems like Soliscape that are digitally enhanced, activity, behavior and sensor-based; that are responsive and connected to other automated processes and building management systems. I also expect greater attention to be paid to the quality and colour of lighting, in order to help to control the circadian rhythm and influence the productivity and wellbeing of the people working in the building. That said, I don't believe that these new lighting systems will be limited to offices. I think they will become commonplace in a variety of different spaces.

## **What are the key priorities for UNStudio in the coming 3 to 5 years?**

We have been very focused on designing for health for a number of years now and the recent pandemic has demonstrated how important that focus really is. But health is not limited to physical factors alone, it also encompasses psychological and social wellbeing. So community building on both a building and a city level is always a facet of our designs and will continue to be so. Sustainability and circularity – the health of the planet – is also a priority, but so are challenging issues such as housing shortages and densification. An added fascination I have is how we can incorporate new and emerging technologies to find the best solutions for all of these challenges. It is not the hardware or the software itself that interests me, but how it can be applied within architecture and urban design to improve our daily lives; how we can use the digital to improve the analogue.

## **Which projects in your pipeline are you particularly looking forward to and why?**

All of them, for different reasons. We are working on a number of large-scale projects which I think are really going to be spectacular, but also on a number of cultural projects that I am very excited to see completed. It is also going to be fascinating to see how the Brainport Smart District in Helmond develops, especially as that is a project that both UNStudio and UNSense are involved with. We are also developing a number of very interesting products. But even so, I always say that the project I am most excited about is my next one, because that really is the case. I'm always most excited to see what's coming next.



## How Our Workplaces will Look, Post-Corona

How will Covid-19 transform our modern working life, and what does this mean for the future of offices? In 2020, many of us saw our societies shift to a digital world practically overnight. For decades, our lives have been increasingly moving into the online realm, but the global pandemic has dramatically accelerated the transition towards a digital economy. Post-corona, society will continue on this path.

For the adult population, our work lives have been one of the most-affected sectors. Remote working is currently the norm in most white-collar industries, and many predict that the future of work will be a combination of remote setups and office-based time.

Many companies have also already announced their backing of a change in work patterns, with Twitter one of the first companies to proclaim that it would never expect staff to come back to the office full time. Such declarations may have been sparked by the sudden move to widespread home working, but they are not temporary. Even after vaccine programmes started to be rolled out, Unilever, one of the UK's largest companies, also announced that its workers would never be expected to return to their office desks full-time. In fact, only about one in 10 companies in the US expect all employees to return to their pre-pandemic work arrangements, according to a new survey by the National Association for Business Economics. Meanwhile in the UK, it is predicted that the amount of people regularly working from home will double from 18% pre-pandemic to 37% post-pandemic.

While this shift to hybrid working lives is seemingly abrupt, it was in fact a long time coming.

For decades, experts were questioning the benefits of the classic cubicle-style office space, and many companies have experimented with alternative working environments and patterns to try to create healthier and happier workplaces. From open office layouts to breakout spaces, hot-desking, co-working venues and shorter work weeks, the way we work was slowly changing.

While many wonder whether the pandemic marks the death of large corporate offices, we believe it actually presents an opportunity to reimagine these spaces and make our workplaces more dynamic than ever.

We are now heading into a new era of design, one heavily focused on the health and wellbeing of people and our planet. Looking specifically at workplaces, this will see a transition from designing for efficiency to a more holistic approach where inclusion, equity, resilience, sustainability - and most importantly health - are key drivers in the design.

How could this look in practice?

### Technology Will Be Core

"The post-COVID era will be shaped more definitively by technology than any other force in the global theatre today," the World Economic Forum states.

For decades, our societies were already becoming more digitised, with advancements in cloud computing, artificial intelligence, 5G and big data propelling us further along the technological track in recent years. But while the digital revolution has already permeated most facets of our lives, the same cannot be said for within the built environment; the industry is still yet to extensively adopt the use of technology and data as a way to positively impact how we design and build.

It was for this reason that in 2018 we launched our sister arch tech company UNSense. Its mission is to explore how we can use technology as a design tool to improve quality of life in cities, creating places that are sustainable, humane and healthy.

UNSense's current project, 100 Homes, which is part of the Brainport Smart District in the Netherlands, aims to result in the 'smartest neighbourhood in the world'. It will effectively be a 'living lab', where new systems, processes and services are tested and residents play an active role in the development of their own community.

On another level, our UNSx unit, UNStudio's in-house innovation think tank and experience lab, is also exploring how to apply technology to make renovating existing buildings a more sustainable process.

Through an EU-funded project called BIM-SPEED, our team is part of a consortium of companies researching how through building information modelling (BIM), in which a digital representation of a building is created, it could be possible to determine the smartest and most efficient ways to renovate existing structures.

With most of the existing building stock in the EU having reached the age for renovation, finding ways to update them in more sustainable ways is of crucial importance, particularly as the construction industry is one of the biggest contributors to carbon emissions in the world.

### Tailored for Wellbeing

In 2015, the University of Twente and CBRE conducted an extensive study into the relationship between people's working environments and their health, wellbeing and ability to perform. Among their findings, they discovered that seemingly simple design features such as access to plant life and optimal lighting can significantly boost cognition, performance and spirits.

In relation to light alone, the study found that more than 70% of people felt more energised and happier as a result of good lighting in their office. When measured in terms of productivity, this translated to a 12% improvement in work performance.

Knowing the impact that environmental factors including light, sound, scent, air quality and temperature have on our health and wellbeing, offices of the future will incorporate smart technology that adjusts to the user's ever-changing needs and activities.

One such example is Soliscape (sound and light-scape), a highly flexible lighting solution that is the result of a new collaboration between UNStudio and Delta Light. This innovative lighting and acoustic system uses sensors to determine the optimum conditions for the wellbeing of those using the space, thus digitally enhancing the interior environment to suit their needs.

Due to its adaptable configuration possibilities, the system can also be used in hotels, hospitality, retail and public spaces, and customised to best

# THE FUTURE OF OFFICES.

a manifesto by UNStudio







suit the daily needs and programming of each location.

This focus on wellbeing was also one of the main drivers behind our design for the new HQ campus for Czech software development company JetBrains, located in St Petersburg.

For this project, we applied a holistic approach to the design based on our years of research into optimal work environments and the positive impact these can have on the health, wellbeing, creativity and therefore, productivity.

As such, the central design element of the new JetBrains campus will be a grand atrium where all of the senses will be engaged. A striking element of this steeped indoor courtyard is the biophilic design, in which we have filled the space with nature and light, bringing the outside in.

Here in the heart of the campus, community will be fostered, communication encouraged, knowledge exchanged and creativity bolstered.

#### Mixed-Use Buildings

Aside from technological advancements, the flexibility of buildings will also be crucial for them to be able to withstand such global shocks as a pandemic. For office buildings to remain relevant and usable, they need to be multifunctional.

With many predicting that the future of office work will be a hybrid model, buildings that only serve a singular purpose as a place of work are fast becoming outdated.

Around the world, we have numerous constructions currently underway for mixed-use buildings that feature combinations of work, housing, culture, retail, hotel and education spaces, and that are flexible enough to be adapted to suit the changing needs of their users over time.

A prime example of this is the new Booking.com Headquarters in central Amsterdam, which is one of the largest urban projects in Western Europe. We designed the campus to be a lively environment where people can meet, inspire, live, work and play. The aim is to create a positive experience for all users: from

the city's residents who will use the public space and retail facilities, to the tenants who will live in the residential building and the young Booking.com workforce.

FOUR Frankfurt is another key exemplar. Located on the site of a former Deutsche Bank building, which had remained unused for 45 years, this major development will see a 'City for All' created in the heart of Frankfurt. The new vibrant urban quarter will bring together a healthy mix of work, living, relaxation and recreation, with large public spaces and incorporated subsidised housing.

At least 3,000 people are expected to work in the new neighbourhood, while about 1,000 people will live there. Apart from apartments and offices, the complex will also include catering, retail, hotels, local shops, a children's playground and adventure areas.

#### Redefined Cities

The potential permanent uptake of hybrid working models could also have a profound impact on how our cities function. This presents new opportunities to reimagine how our cities are designed.

According to the McKinsey Global Institute, more than 20% of the workforce could work remotely three to five days a week as effectively as they could if working from an office.

"If remote work took hold at that level, that would mean three to four times as many people working from home than before the pandemic and would have a profound impact on urban economies, transportation, and consumer spending, among other things," its researchers said.

On an urban scale, such a change in work patterns can allow for central business districts to be transformed to accommodate more housing and cultural sites, and residential areas to be adapted to include more places to work. It could also allow for ideas such as the '15-Minute City' to really take hold. Developed by Professor Carlos Moreno at the Sorbonne in Paris, the concept, also known as the 'polycentric city', means a city of little villages. Within it, everything a person needs should be located within a 15-minute walk or cycle from your home, which would in theory reduce the density of city centres.

A hub-and-spoke model for offices is also emerging, with some large companies looking to spread their workforce across more locations. This approach would see them keep their HQ in urban centres, but have smaller hubs, likely in the form of co-working spaces, situated in the suburbs or in nearby cities to enable employees to work closer to home.

If the volume of office commutes is also cut down as a result of new working models and lifestyles, it also gives urban planners a prime opportunity to make our cities greener. With people travelling shorter distances and spending more time in their local area, some streets could be transformed into gardens and infrastructure for bikes and priority for pedestrians increased over cars.

With the transformation of our work lives, our cities and the buildings within them will also change, but for the better, with our physical and mental health, along with the health of the planet, being the driving force behind the current revolution in architecture and design.












BOTH THE UNSTUDIO AND  
DELTA LIGHT TEAMS COLLABORATED ON  
THE DESIGN DETAILS, SUCH AS PLACING  
THE MODULE CONNECTION ON THE TOP  
OF THE PROFILE TO MAINTAIN A SMOOTH  
APPEARANCE FROM BELOW, THE WAY  
THE ACOUSTIC PANELS CAN MOVE,  
OR KEEPING IT **ADAPTIVE** TO POSITION  
THE DIFFERENT MODULES ON  
EITHER SIDE OF THE PROFILE.

**William De Boer**  
Associate / Product designer, UNStudio



# LIGHTSCAPES SOUNDSCAPES



The intention of Soliscape is to create flexible lightscares that are responsive to the user's ever-changing needs and activities, where design is no longer imposed by the designers, but guided by the user, resulting in responsive and adaptive design. The Soliscape system combines miniaturisation and personalisation, in a unique design language.



Soliscap combines individual functions into one all-encompassing system, offering a more **affordable and efficient** tool to work with. Aside from the affordability of the single component, affordability is created through the **scalability** of the system, where products couple with services.

Soliscap has basic framing elements, but allows for a variety of complementary circular materials to expand its look and feel. More than 60% of the material in the acoustic panels comes from recycled PET bottles, however different materials can be used within the system to facilitate specific functionalities, from acoustic to decorative to atmospheric. Furthermore, controlled and **smart** lighting contributes to the overall energy efficiency of the building.

# SOUNDSCAPES LIGHTSCAPES









# OPEN OFFICE.



## Scenario 1

Late night, only 2 persons left in the office.

### Lighting

Uplight and downlight on both desks to full power.

### Integrated sensing & control:

Presence detection sensing detects activity and provides illumination to meet the defined lux levels.

Daylight sensing guarantees that the required lux levels are reached on the active desks.

Soliscap connects with the HVAC system to provide zonal heating / cooling and ventilation.

### Product configuration 4 Soliscap compositions of

4 x 3m linear Soliscap profile

2 x 600mm diameter round curves

3 x Soli-Shhh panels

2 x Soli-Form Down-Up profiles positioned perpendicular to the profile

# CASES

We are presenting 4 cases with Soliscap configurations, demonstrating the versatile, adaptive and responsive nature of the system.

*“The ability of Soliscap to connect with other automated processes of a building can really make an important difference, both for the user and the owner. If the surrounding systems allow to connect, Soliscap can make that happen.”*

**Peter Ameloot**

Managing Director, Delta Light





**Scenario 2**

Early morning, dawn-dark outside, with 2 people sitting at the same desk.

**Lighting**

Soli-Form uplight above the desks, Soli-Form downlight only where the seats are taken. The Melanopic Light Technology (MLT) helps control the circadian rhythm via a unique spectrum meant to stimulate activity.

**Integrated sensing & control:**

Presence detection sensing detects activity and provides downlight illumination only where people are active. At the same time uplight is provided to create a pleasant and comfortable work environment.

Daylight sensing guarantees that the required lux levels are reached on the active desks.

Soliscap connects with the HVAC system to provide zonal heating / cooling and ventilation.



**Scenario 3**

Sunny mid-day, all seats are taken.

**Lighting**

Uplight and downlight are dimmed to reach 500lux on each desk, close to or away from the windows.

**Integrated sensing & control:**

Presence detection sensing detects activity and provides illumination to meet the defined lux levels.

Daylight sensing guarantees that the required lux levels are reached on the active desks.

Window blinds are automatically lowered where sunlight is detected.

Soliscap connects with the HVAC system to provide zonal heating / cooling and ventilation, based on data captured by air quality, humidity & temperature sensors.



**Scenario 4**

End of day, all seats are taken.

**Lighting**

Uplight and downlight above all desks to full power.

**Integrated sensing & control:**

Presence detection sensing detects activity and provides illumination to meet the defined lux levels.

Daylight sensing guarantees that the required lux levels are reached on the active desks.

Soliscap connects with the HVAC system to provide zonal heating / cooling and ventilation, based on data captured by air quality, humidity & temperature sensors.



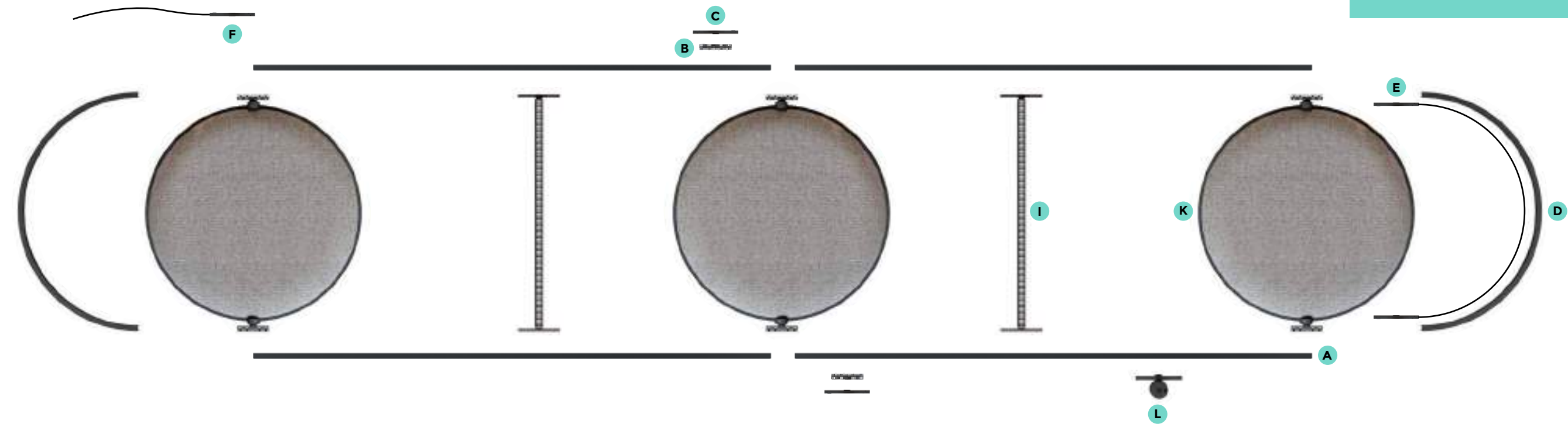
OPEN  
OFFICE.

**Product configuration**

**4 Soliscape compositions of**

- 4 x 3m linear Soliscape profile
- 2 x 600mm diameter round curves
- 3 x Soli-Shhh panels
- 2 x Soli-Form Down-Up profiles positioned perpendicular to the profile

A	27111 0030 B	SOLI - PROFILE 3m B	4
B	27111 0620 B	SOLI - CORNER 180° B	2
C	27011 9910	SPL14 - CONNECTOR 48V - 180°	2
D	27111 0720 B	SOLI - CORNER SET R 60 B	2
E	27111 9940	SOLI - CONNECTOR R 60	1
F	27111 9960 B	SOLI - SUPPLY SET 48V B	1
I	27145 832Q B-B	SOLI - FORM 60 DOWN-UP 2 CIRCUIT 83067 Q-DIM B-B	2
K	27110 0020 B	SOLI - SHHH 60 DARK GREY B	3
L	27110 0080 B	SOLI - SENSE Q-SENSOR HUB B	1
	27111 0530 B	SOLI - CABLE SUSPENSION SINGLE 3,0m B	6
	300 89 48 100	LED POWER SUPPLY 48V-DC / 100W DIN	1
	21032 0150	Q-CONTROL 40-1	1
	21032 0160	Q-GATEWAY	1
	21032 0170	Q-PUSH BUTTON INTERFACE	2



# DIRECTOR'S OFFICE.

## Product configuration 1 Soliscape composition of

2 x 3m + 2 x 2m linear Soliscape profile

2 x 600mm diameter round curves

2 x Soli-Shhh panels

3 x Soli-Form down-up profiles  
positioned perpendicular to the profile

6 x Soli-52 module 20°, NLT



### Scenario 1

Director alone at his desk, dusk early evening

#### Lighting

NLT Soli-52 aimed at the art and shelves at 50% of the power, with spotlight on the desk at 50% of the power. Natural Light Technology (NLT) enhances the vibrant colours of the paintings and boosts the circadian rhythm. The Soli-Form modules only provide general ambiance with uplight at 100% of power. Spotlights above the lounge area off.

#### Integrated sensing & control:

Daylight sensing in combination with presence detection guarantees that the required lux levels are reached on the active desks. This can be overruled by activating a programmed evening work scenario.

Soft Dim is activated to provide a warmer light.

The wireless music system is activated via Soliscape and connected voice control.

Presence detection sensing will automatically detect when the director leaves the offices, and switch to a nighttime scenario.

Soliscape connects with the HVAC system to provide ideal heating / cooling and ventilation.



### Scenario 2

Director at his desk in conversation with 2 colleagues, morning.

#### Lighting

Spotlights on art and shelves are at 30%. Uplight with the Soli-Form profiles on at switched OFF. Spotlights on desk on at 100% of the power. Spotlights above the lounge area off.

#### Integrated sensing & control:

Daylight sensing in combination with presence detection guarantees that the required lux levels are reached on the active desks.

Soliscape connects with the HVAC system to provide ideal heating / cooling and ventilation



### Scenario 3

Director and 2 clients in an informal talk in the seating area, late afternoon / evening.

#### Lighting

Spotlights on art and shelves on at 100%. Soli-Form uplight on at 100%. Spotlights on desk off. Spotlights above the Lounge area on at 100%.

#### Integrated sensing & control:

Window screens are automatically lowered as sensing detects too much incoming sunlight.

Presence detection recognizes activity and adapts lighting scenario as required.

Soliscape connects with the HVAC system to provide ideal heating / cooling and ventilation.



DIRECTOR'S  
OFFICE.

Product configuration  
1 Solicafe composition of

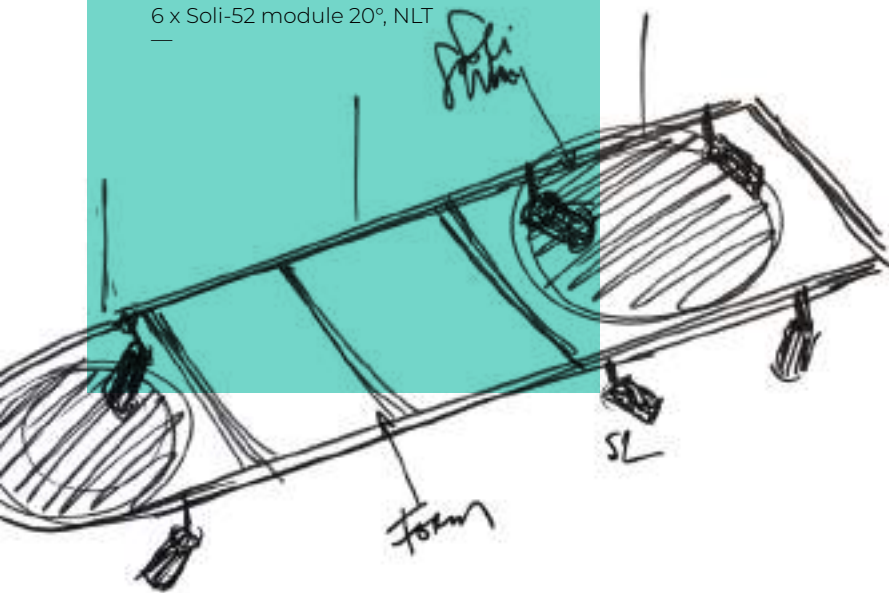
2 x 3m + 2 x 2m linear Soliscape profile

2 x 600mm diameter round curves

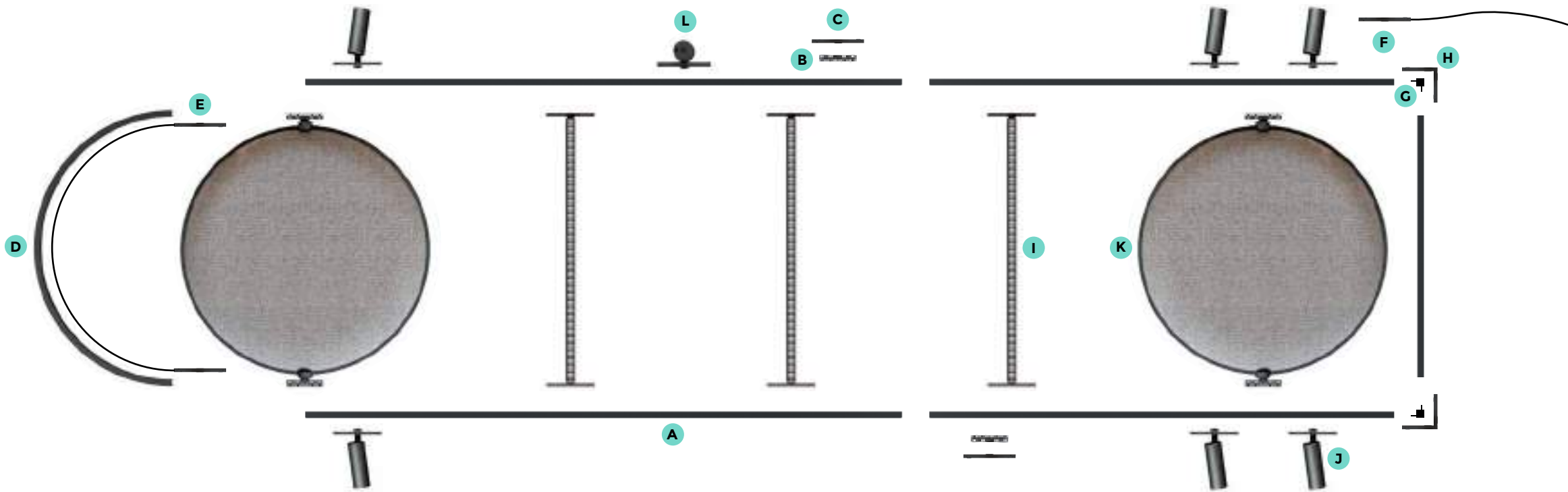
2 x Soli-Shhh panels

3 x Soli-Form down-up profiles  
positioned perpendicular to the profile

6 x Soli-52 module 20°, NLT



A	27111 0020 W	SOLI - PROFILE 2m W	2
	27111 0030 W	SOLI - PROFILE 3m W	2
B	27111 0620 W	SOLI - CORNER 180° W	2
C	27011 9910	SPL14 - CONNECTOR 48V - 180°	2
D	27111 0720 W	SOLI - CORNER SET R 60 W	1
E	27111 9940	SOLI - CONNECTOR R 60	1
F	27111 9960 W	SOLI - SUPPLY SET 48V W	1
G	27111 0640 W	SOLI - CORNER SET 90° W	2
H	27011 9920	SPL14 - CONNECTOR 48V - 90°	2
I	27145 832Q W-W	SOLI - FORM 60 DOWN-UP 2 CIRCUIT 83067 Q-DIM W-W	3
J	27119 732Q W	SOLI - 52 NLT 983020 Q-DIM W	6
K	27110 0010 W	SOLI - SHHH 60 LIGHT GREY W	2
L	27110 0080 W	SOLI - SENSE Q-SENSOR HUB W	1
	19810 0100 B	SPY 52 TUBE B	6
	27111 0530 W	SOLI - CABLE SUSPENSION SINGLE 3,0m W	6
	300 89 48 240	LED POWER SUPPLY 48V-DC / 240W DIN	1
	21032 0150	Q-CONTROL 40-1	1
	21032 0160	Q-GATEWAY	1
	21032 0170	Q-PUSH BUTTON INTERFACE	1



# MEETING ROOM.

## Product configuration 1 Soliscape composition of

2 x 3m linear Soliscape profile

2 x 600mm diameter round curves

2 x Soli-Shhh panels

1 x Soli-52 module 20°

2 x Soli-Form down-up profiles positioned alongside the profile



### Scenario 2

3 team members going through a presentation on the monitor

#### Lighting

No uplight, Soli-Form profiles dimmed to 20%, sufficient to take notes on the desk.

#### Integrated sensing & control:

Soliscape is connected to the calendar of the meeting room. The system can prepare the room to meet the pre-set ideal temperature and conditions.

—  
Via voice-control the Soliscape lighting switches to a programmed presentation mode.

—  
Presence detection sensing will switch off the lighting when the room is empty.



### Scenario 1

3 team members are in a conference call.

#### Lighting

The Soli-Form profiles provide full power uplight. The Soli-Form downlight is dimmed at 50% to show the faces of the people in the room.

#### Integrated sensing & control:

Soliscape is connected to the calendar of the meeting room. The system can prepare the room to meet the pre-set ideal temperature and conditions.

—  
Via voice-control the Soliscape lighting switches to a programmed conference call setting.

—  
Presence detection sensing will switch off the lighting when the room is empty.



### Scenario 3

1 person explaining at the whiteboard to 2 people at the table.

#### Lighting

Soli-Form uplight dimmed to 50%, Soli-Form downlight dimmed to 50%. Soli-52 spotlight illuminating the whiteboard.

#### Integrated sensing & control:

Soliscape is connected to the calendar of the meeting room. The system can prepare the room to meet the pre-set ideal temperature and conditions.

—  
Via voice-control the Soliscape lighting switches to a programmed whiteboard mode.

—  
Presence detection sensing will switch off the lighting when the room is empty.

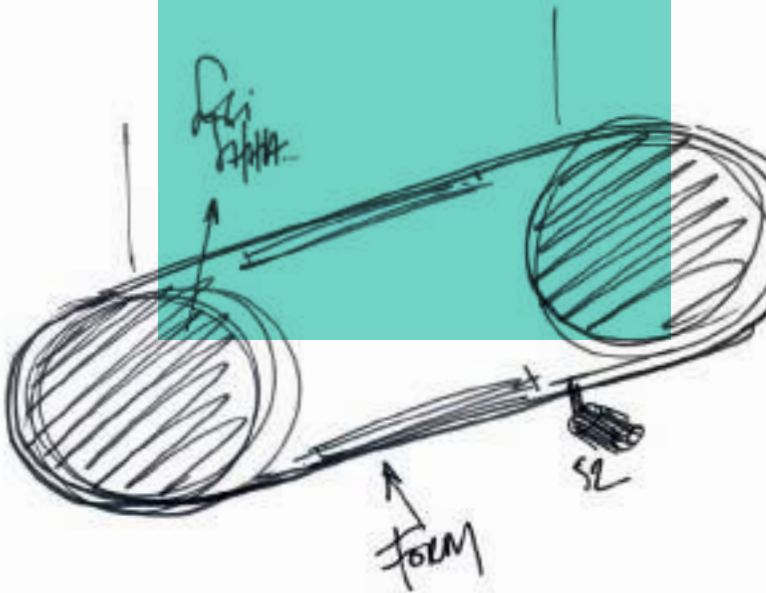




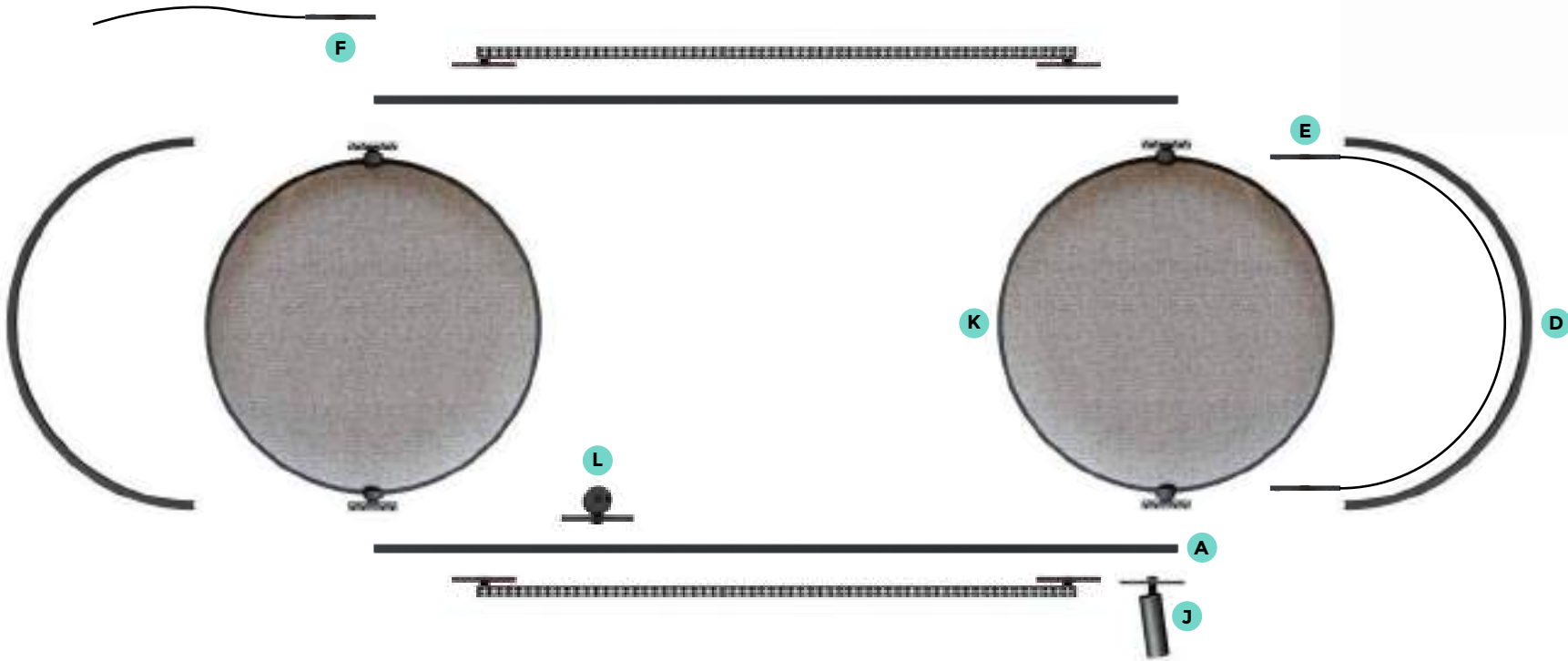
MEETING  
ROOM.

Product configuration  
1 Solicape composition of

- 2 x 3m linear Soliscape profile
- 2 x 600mm diameter round curves
- 2 x Soli-Shhh panels
- 1 x Soli-52 module 20°
- 2 x Soli-Form down-up profiles positioned alongside the profile



<b>A</b>	27111 0030 B	SOLI - PROFILE 3m B	2
<b>D</b>	27111 0720 B	SOLI - CORNER SET R 60 B	2
<b>E</b>	27111 9940	SOLI - CONNECTOR R 60	1
<b>F</b>	27111 9960 B	SOLI - SUPPLY SET 48V B	1
<b>I</b>	27148 832Q B-B	SOLI - FORM 110 DOWN-UP 2 CIRCUIT 83067 Q-DIM B-B	2
<b>J</b>	27118 932Q B	SOLI - 52 93020 Q-DIM B	1
<b>K</b>	27110 0020 B	SOLI - SHHH 60 DARK GREY B	2
<b>L</b>	27110 0080 B	SOLI - SENSE Q-SENSOR HUB B	1
	19810 0100 B	SPY 52 TUBE B	1
	27111 0530 B	SOLI - CABLE SUSPENSION SINGLE 3,0m B	4
	300 89 48 100	LED POWER SUPPLY 48V-DC / 100W DIN	1
	21032 0150	Q-CONTROL 40-1	1
	21032 0160	Q-GATEWAY	1
	21032 0170	Q-PUSH BUTTON INTERFACE	1



# LOBBY.

**Product configuration**  
**5 Soliscape compositions of**

- 4 x circular Soliscape with each 4 x Soli-52 20°
- 1 x Soliscape configuration with 2 x 900mm diameter round curves
- 4 x Soli-Shhh panels
- 4 x Soli-52 45° + Honeycomb



**Lighting**

Spotlighting dimmed or at full power according to activity tracking in the room

**Integrated sensing & control:**

Daylight sensing

Light is dimmed or at full power based on activity tracking in the lounge area or at the reception desk.

Soliscape connects with the HVAC system to provide ideal heating / cooling and ventilation.

Multimedia and sound adapted based on hour of the day and activity in the room

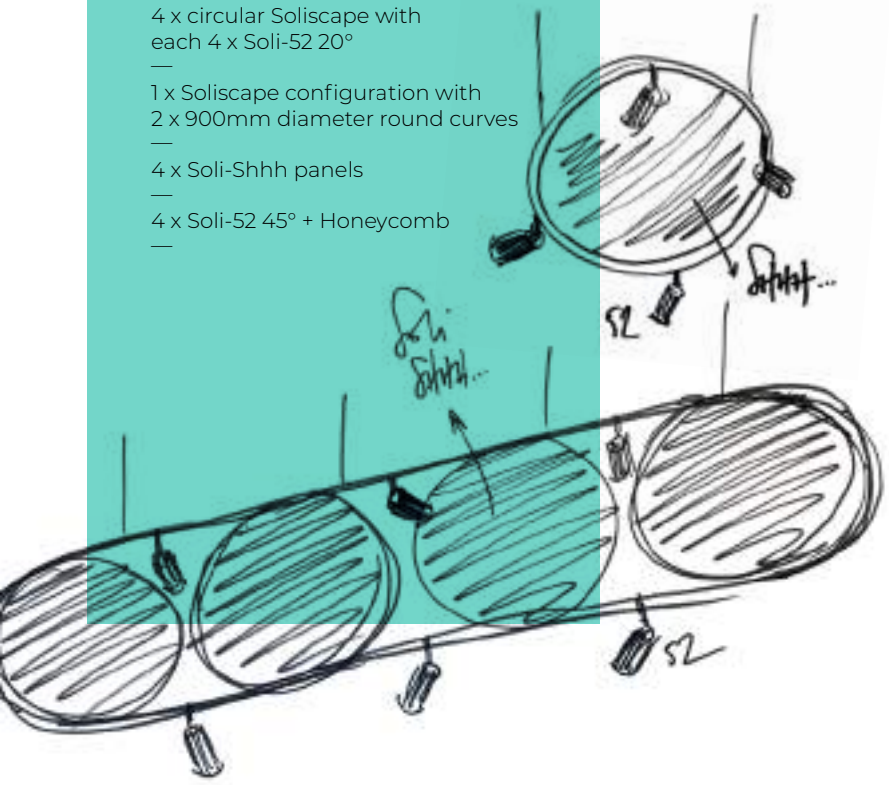




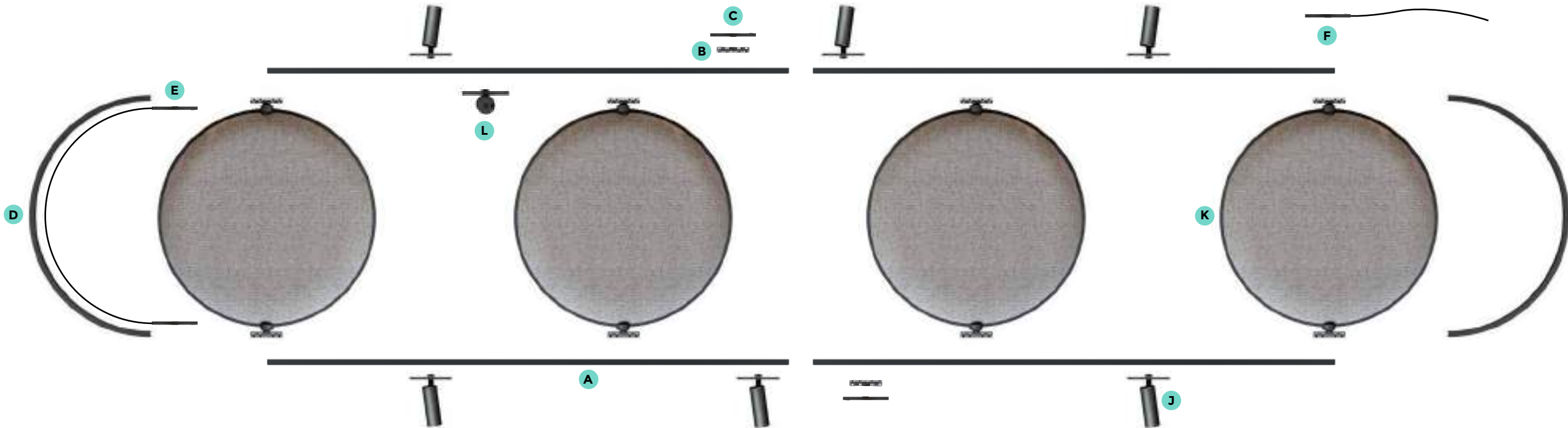
LOBBY.

Product configuration  
5 Soliscape compositions of

- 4 x circular Soliscape with each 4 x Soli-52 20°
- 1 x Soliscape configuration with 2 x 900mm diameter round curves
- 4 x Soli-Shhh panels
- 4 x Soli-52 45° + Honeycomb



A	27111 0030 W	SOLI - PROFILE 3m W	4
B	27111 0620 W	SOLI - CORNER 180° W	2
C	27011 9910	SPLI4 - CONNECTOR 48V - 180°	2
D	27111 0730 W	SOLI - CORNER SET R 90 W	2
E	27111 9950	SOLI - CONNECTOR R 90	2
F	27111 9960 W	SOLI - SUPPLY SET 48V W	1
J	27118 933Q W	SOLI - 52 93045 Q-DIM W	6
K	27110 0030 W	SOLI - SHHH 90 LIGHT GREY W	4
L	27110 0080 W	SOLI - SENSE Q-SENSOR HUB W	1
	19810 0100 B	SPY 52 TUBE B	6
	19810 0010 B	HONEYCOMB 42 SINGLE USE B	6
	27111 0530 W	SOLI - CABLE SUSPENSION SINGLE 3,0m W	8
	300 89 48 240	LED POWER SUPPLY 48V-DC / 240W DIN	1
	21032 0150	Q-CONTROL 40-1	1
	21032 0160	Q-GATEWAY	1
	21032 0170	Q-PUSH BUTTON INTERFACE	1
M	27175 0005 W	SOLI - SHHH PLUS 90/4 LIGHT GREY DIM5 W	1
N	27182 7320 W	SOLI - 52 SHHH NLT 983020 W	4
	19810 0100 B	SPY 52 TUBE B	4



WITH MOST OF OUR TIME SPLIT  
BETWEEN OUR OFFICE AND OUR  
HOMES, WE AS DESIGNERS NEED TO  
CREATE HEALTHY, **SUSTAINABLE**  
AND HUMANCENTERED SPACES  
FOR OUR BUILDINGS.  
BUILDINGS THAT PEOPLE  
WANT TO WORK IN.

• Ben Van Berkel



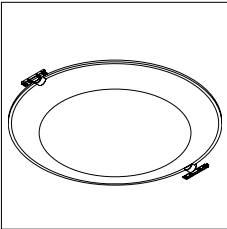


RANGE

1

PROFILE CONSTRUCTION

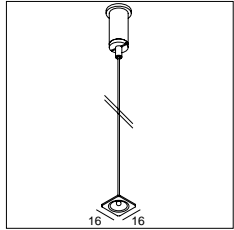
<b>SOLI - PROFILE 2m</b> 27111 0020 ◇	<b>SOLI - CORNER 180°</b> 27111 0620 ◇	<b>SOLI - CORNER SET 90°</b> 27111 0640 ◇	<b>SOLI - CORNER SET R 60</b> 27111 0720 ◇	<b>SOLI - CORNER SET R 90</b> 27111 0730 ◇
◇ B / W	◇ B / W	◇ B / W	◇ B / W	◇ B / W
10 / m	0,1	0,1	0,4	0,5
<b>SOLI - PROFILE 3m</b> 27111 0030 ◇	<b>REQUIREMENTS</b> PROFILE CONNECTION	<b>REQUIREMENTS</b> PROFILE CONNECTION	<b>OPTIONS</b> PROFILE CONNECTION	<b>OPTIONS</b> PROFILE CONNECTION
◇ B / W				
48V-DC (2 CONDUCTORS) 2 CONDUCTORS FOR INDIVIDUAL DIMMING/DATA 1,5 / m IP20				



<b>SOLI-SHHH 60</b>
light grey 27110 0010 ◇
dark grey 27110 0020 ◇
◇ B / W
0,9
<b>SOLI-SHHH 90</b>
light grey 27110 0030 ◇
dark grey 27110 0040 ◇
◇ B / W
1,6

2

PROFILE FIXATION



<b>SOLI - CABLE SUSPENSION SINGLE 3</b>
27111 0530 ◇
L 3m
◇ B / W
0,1

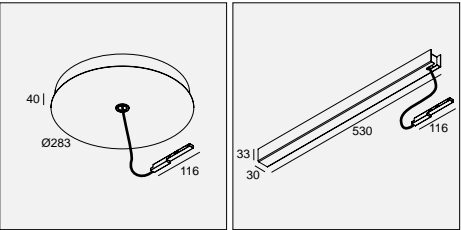
**OPTIONS**  
SUSPENSION ST  
▶ 15225 0340 B / W

3

PROFILE CONNECTION

<b>SOLI - SUPPLY 48V</b> 27111 9960 ◇	<b>SPL14 - CONNECTOR 48V-180°</b> 27011 9910	<b>SPL14 - CONNECTOR 48V-90°</b> 27011 9920	<b>SOLI - CONNECTOR R 60</b> 27111 9940	<b>SOLI - CONNECTOR R 90</b> 27111 9950
◇ B / W	48V-DC MAX. 200W SUPPLY / MAX.50m ◇ 0,1 IP20	48V-DC MAX. 200W SUPPLY / MAX.50m ◇ 0,1 IP20	48V-DC MAX. 200W INCL.CABLE BLACK 2x 1,5mm² + 2x 0,34mm² ◇ 0,1 IP20	48V-DC MAX. 200W INCL.CABLE BLACK 2x 1,5mm² + 2x 0,34mm² ◇ 0,1 IP20
48V-DC MAX. 200W SUPPLY / MAX.50m INCL.CABLE 3,5m 2x 1,5mm² + 2x 0,34mm² BLACK FOR B, GREY FOR W ◇ 0,1 IP20				

**OPTIONS**  
CONNECTION ST  
▶ 15225 0360 B / W



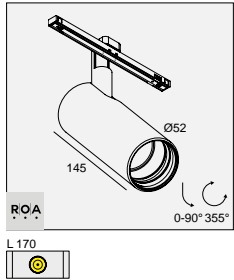
<b>SOLI-POWERBOX R</b> 48V / 200W	<b>SOLI-POWERBOX L</b> 48V / 200W
27110 0090 ◇	27110 0100 ◇
◇ B / W	◇ B / W
120-240V / 50-60Hz	120-240V / 50-60Hz
INCL. CABLE 3,5m BLACK FOR BLACK BOX GREY FOR WHITE BOX ◇ 0,8 IP20	INCL. CABLE 3,5m BLACK FOR BLACK BOX GREY FOR WHITE BOX ◇ 0,8 IP20

4

MODULES



SOLI 52

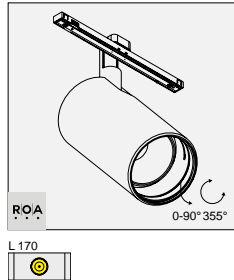


	3000K / CRI>90		2700K / CRI>90		3000-1800K / CRI>90	
	LED 10,3W / 1281lm / 48V-DC		LED 10,3W / 1224lm / 48V-DC		LED 9W / 945lm / 48V-DC	
	20°	45°	20°	45°	20°	45°
	27112 9320 ◇	27112 9330 ◇	27112 9220 ◇	27112 9230 ◇	27114 9020 ◇	27114 9030 ◇
MDL	27115 9325 ◇	27115 9335 ◇	27115 9225 ◇	27115 9235 ◇	27117 9025 ◇	27117 9035 ◇
DALI DIM	27115 9325 ◇	27115 9335 ◇	27115 9225 ◇	27115 9235 ◇	27117 9025 ◇	27117 9035 ◇
Q DIM	27118 932Q ◇	27118 933Q ◇	27118 922Q ◇	27118 923Q ◇	27120 902Q ◇	27120 903Q ◇
◇ B / GC / W						
◇ 0,4 IP20						

NLT - NATURAL LIGHT TECHNOLOGY

	3000K / CRI>98 (NLT)		2700K / CRI>98 (NLT)	
	LED 10,7W / 1040lm / 48V-DC		LED 10,7W / 967lm / 48V-DC	
	20°	45°	20°	45°
	27113 7320 ◇	27113 7330 ◇	27113 7220 ◇	27113 7230 ◇
MDL	27116 7325 ◇	27116 7335 ◇	27116 7225 ◇	27116 7235 ◇
DALI DIM	27116 7325 ◇	27116 7335 ◇	27116 7225 ◇	27116 7235 ◇
Q DIM	27119 732Q ◇	27119 733Q ◇	27119 722Q ◇	27119 723Q ◇
◇ B / GC / W				
◇ 0,4 IP20				

SOLI 66

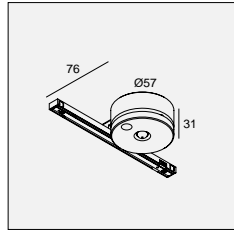


	3000K / CRI>90			2700K / CRI>90		
	LED 20,5W / 2499lm / 48V-DC			LED 20,5W / 2432lm / 48V-DC		
	18°	30°	45°	18°	30°	45°
	27121 9310 ◇	27121 9320 ◇	27121 9330 ◇	27121 9210 ◇	27121 9220 ◇	27121 9230 ◇
MDL	27123 9315 ◇	27123 9325 ◇	27123 9335 ◇	27123 9215 ◇	27123 9225 ◇	27123 9235 ◇
DALI DIM	27123 9315 ◇	27123 9325 ◇	27123 9335 ◇	27123 9215 ◇	27123 9225 ◇	27123 9235 ◇
Q DIM	27125 931Q ◇	27125 932Q ◇	27125 933Q ◇	27125 921Q ◇	27125 922Q ◇	27125 923Q ◇
◇ B / W						
◇ 0,5 IP20						

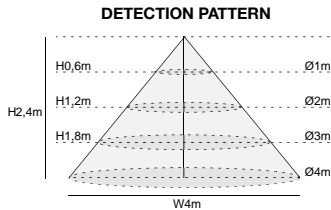
NLT - NATURAL LIGHT TECHNOLOGY

	3000K / CRI>95 (NLT)			2700K / CRI>95 (NLT)		
	LED 21,1W / 2068lm / 48V-DC			LED 21,1W / 1925lm / 48V-DC		
	18°	30°	45°	18°	30°	45°
	27122 7310 ◇	27122 7320 ◇	27122 7330 ◇	27122 7210 ◇	27122 7220 ◇	27122 7230 ◇
MDL	27124 7315 ◇	27124 7325 ◇	27124 7335 ◇	27124 7215 ◇	27124 7225 ◇	27124 7235 ◇
DALI DIM	27124 7315 ◇	27124 7325 ◇	27124 7335 ◇	27124 7215 ◇	27124 7225 ◇	27124 7235 ◇
Q DIM	27126 731Q ◇	27126 732Q ◇	27126 733Q ◇	27126 721Q ◇	27126 722Q ◇	27126 723Q ◇
◇ B / W						
◇ 0,5 IP20						

SOLI-SENSE



	DALI PRESENCE & DAYLIGHT SENSOR	WIRELESS PRESENCE & DAYLIGHT SENSOR	WIRELESS SENSOR HUB *	Q SENSOR HUB *
	27110 0055 ◇	27110 0060 ◇	27110 0070 ◇	27110 0080 ◇
◇ B / W				
◇ 0,2 IP20				



- \* PRESENCE & DAYLIGHT
- \* TEMPERATURE & HUMIDITY
- \* AIR QUALITY

REQUIREMENTS

SPY 52 TUBE ◇ ► 19810 0100 B / FBR / FG / GC / W  
SPY 66 TUBE ◇ ► 24611 0100 B / FBR / FG / GC / W  
LED POWER SUPPLY

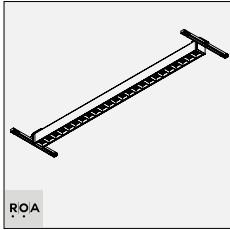
OPTIONS

DIMMABLE MODULATOR (ONLY FOR MDL)

ACCESSORIES

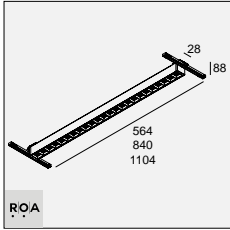
HONEYCOMB / LENS / GLASS 42 or 57

SOLI-FORM DOWN



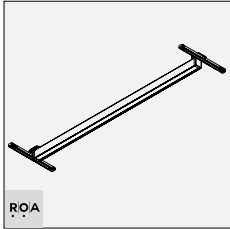
	3000K / CRI>80		
	L564 / 0,5 *	L840 / 0,7 **	L1104 / 0,9
	LED CLUSTER 10,2W / 1673lm / 48V-DC	LED CLUSTER 15,3W / 2509lm / 48V-DC	LED CLUSTER 21,6W / 3542lm / 48V-DC
	67°	67°	67°
MDL	27127 8320 ◇	27128 8320 ◇	27129 8320 ◇
DALI DIM	27130 8325 ◇	27131 8325 ◇	27132 8325 ◇
Q DIM	27133 832Q ◇	27134 832Q ◇	27135 832Q ◇
◇ B-B / B-MMAT / W-W / W-B			
◇ IP20 UCR <19			

SOLI-FORM DOWN/UP



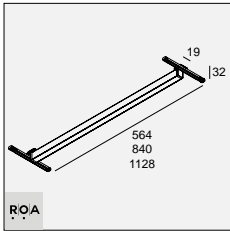
	3000K / CRI>80		
	L564 / 0,5 *	L840 / 0,7 **	L1104 / 0,9
	LED CLUSTER UP 6,8W / 1115lm / 48V-DC LED CLUSTER DOWN 6,8W / 1115lm / 48V-DC	LED CLUSTER UP 10,2W / 1673lm / 48V-DC LED CLUSTER DOWN 10,2W / 1673lm / 48V-DC	LED CLUSTER UP 14,4W / 2405lm / 48V-DC LED CLUSTER DOWN 14,4W / 2405lm / 48V-DC
	67°	67°	67°
MDL	1 circuit 27136 8320 ◇	27137 8320 ◇	27138 8320 ◇
DALI DIM	1 circuit 27139 8325 ◇	27141 8325 ◇	-
	2 circuits 27140 8325 ◇	27142 8325 ◇	27143 8325 ◇
Q DIM	1 circuit 27144 832Q ◇	27146 832Q ◇	-
	2 circuits 27145 832Q ◇	27147 832Q ◇	27148 832Q ◇
◇ B-B / B-MMAT / W-W / W-B			
◇ IP20 UCR <19			

SOLI-LINE DOWN



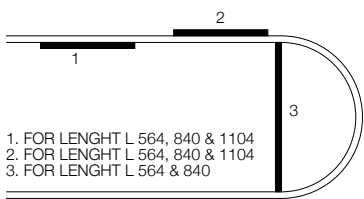
	3000K / CRI>90		
	L564 / 0,4 *	L840 / 0,5 **	L1128 / 0,6
	LED CLUSTER 11,8W / 1247lm / 48V-DC	LED CLUSTER 18,2W / 1929lm / 48V-DC	LED CLUSTER 23,5W / 2494lm / 48V-DC
	67°	67°	67°
MDL	27149 9300 ◇	27150 9300 ◇	27151 9300 ◇
DALI DIM	27152 9305 ◇	27153 9305 ◇	27154 9305 ◇
Q DIM	27155 930Q ◇	27156 930Q ◇	27157 930Q ◇
◇ B / W			
◇ IP20			

SOLI-LINE UP



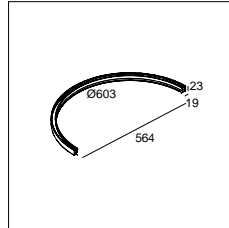
	3000K / CRI>90		
	L564 / 0,4 *	L840 / 0,5 **	L1128 / 0,6
	LED CLUSTER 11,8W / 1247lm / 48V-DC	LED CLUSTER 18,2W / 1929lm / 48V-DC	LED CLUSTER 23,5W / 2494lm / 48V-DC
	67°	67°	67°
MDL	27158 9300 ◇	27159 9300 ◇	27160 9300 ◇
DALI DIM	27161 9305 ◇	27162 9305 ◇	27163 9305 ◇
Q DIM	27164 930Q ◇	27165 930Q ◇	27166 930Q ◇
◇ B / W			
◇ IP20			

POSITION FOR SOLI-FORM/LINE



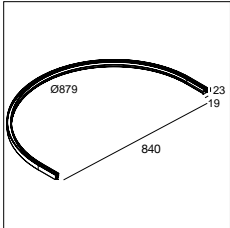
1. FOR LENGHT L 564, 840 & 1104
2. FOR LENGHT L 564, 840 & 1104
3. FOR LENGHT L 564 & 840

\* can be used  
in combination with



SOLI - CORNER SET R 60  
27111 0720 ◇

\*\* can be used  
in combination with



SOLI - CORNER SET R 90  
27111 0730 ◇

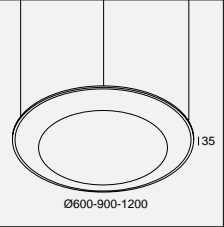
REQUIREMENTS

LED POWER SUPPLY

OPTIONS

DIMMABLE MODULATOR (ONLY FOR MDL)

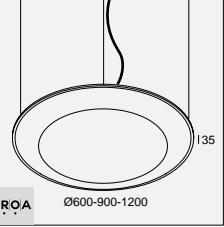
SOLI-SHHH C



Ø600 <span>2,0</span>		Ø900 <span>3,0</span>		Ø1200 <span>4,0</span>	
LIGHT GREY	DARK GREY	LIGHT GREY	DARK GREY	LIGHT GREY	DARK GREY
27167 0000 ◇	27168 0000 ◇	27169 0000 ◇	27170 0000 ◇	27171 0000 ◇	27172 0000 ◇
◇ B / W					
INCL. 3 x CABLE SUSP. SINGLE AUTO. 3m					

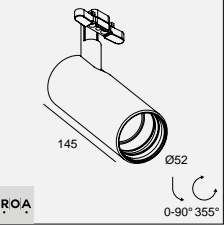


SOLI-SHHH PLUS



Ø600 <span>2,3</span>		Ø900 <span>3,3</span>		Ø1200 <span>4,3</span>			
FOR 4 x SOLI 52-SHHH		FOR 4 x SOLI 52-SHHH		FOR 4 x SOLI 52-SHHH		FOR 8 x SOLI 52-SHHH	
LIGHT GREY	DARK GREY	LIGHT GREY	DARK GREY	LIGHT GREY	DARK GREY	LIGHT GREY	DARK GREY
DALI DIM							
27173 0005 ◇	27174 0005 ◇	27175 0005 ◇	27176 0005 ◇	27177 0005 ◇	27178 0005 ◇	27179 0005 ◇	27180 0005 ◇
◇ B / W							
INCL. POWER SUPPLY 110-240V / 50-60Hz							
INCL. 3 x CABLE SUSP. SINGLE AUTO. 3m							
INCL. 1 x CABLE 4 x 0,75mm²							
□ <span>0,7</span> IP20							

SOLI 52-SHHH



3000K / CRI>90		2700K / CRI>90		3000-1800K / CRI>90	
LED 10,3W / 1281lm / 600mA		LED 10,3W / 1224lm / 600mA		LED 9W / 945lm / 250mA	
20°	45°	20°	45°	20°	45°
27181 9320 ◇	27181 9330 ◇	27181 9220 ◇	27181 9230 ◇	27183 9020 ◇	27183 9030 ◇
◇ B / GC / W					
▮ <span>0,4</span> IP20					

NLT - NATURAL LIGHT TECHNOLOGY

3000K / CRI>98 (NLT)		2700K / CRI>98 (NLT)	
LED 10,7W / 1040lm / 600mA		LED 10,7W / 967lm / 600mA	
20°	45°	20°	45°
27182 7320 ◇	27182 7330 ◇	27182 7220 ◇	27182 7230 ◇
◇ B / GC / W			
▮ <span>0,4</span> IP20			

**REQUIREMENTS**  
SOLI 52-SHHH in combination with SOLI-SHHH PLUS  
SPY 52 TUBE ◇ ► **19610 0100** B / FBR / FG / GC / W

**OPTIONS**  
SUSPENSION ST ► **15225 0340** B / W  
CONNECTION ST ► **15225 0360** B / W  
CABLE BASE R ◇ ► **203 99 55** ANO / B / W

**ACCESSORIES**  
HONEYCOMB / LENS / GLASS 42



# CTRL DELTA WIRELESS CONTROL

Delta Light introduces **CTRL DELTA**, enabling you to control and manage a selection of LED luminaires via mobile devices (Apple or Android). In essence, all dimmable luminaires can be wireless controlled, as long as the required components are either integrated or installed externally. Throughout this Lighting Bible®, the symbols below show if wireless control is possible with the luminaire in question.

CTRL DELTA IN

CTRL DELTA INSIDE

WIRELESS CONTROL IS STANDARD AND THE LUMINAIRE HAS THE REQUIRED COMPONENT INTEGRATED.

CTRL DELTA R

CTRL DELTA READY

LUMINAIRE CAN BE WIRELESS CONTROLLED, BUT REQUIRES AN EXTERNAL COMPONENT. IN ORDER TO ENSURE THE BEST INTERACTION, THIS COMPONENT NEEDS TO BE INSTALLED NEARBY THE LUMINAIRE. INSTALLATION OPTIONS NEED TO BE CHECKED ACCORDING TO THE NATURE OF THE LUMINAIRE AND THE INSTALLATION POSSIBILITIES.

**Easy to install.** You don't need any new wiring, switches, devices or networks. Plug in the lighting fixture and pair it with your smartphone or tablet. No other configurations needed.

**Easy to use.** You can control your lights with an intuitive and visual user interface on your smartphone or tablet.

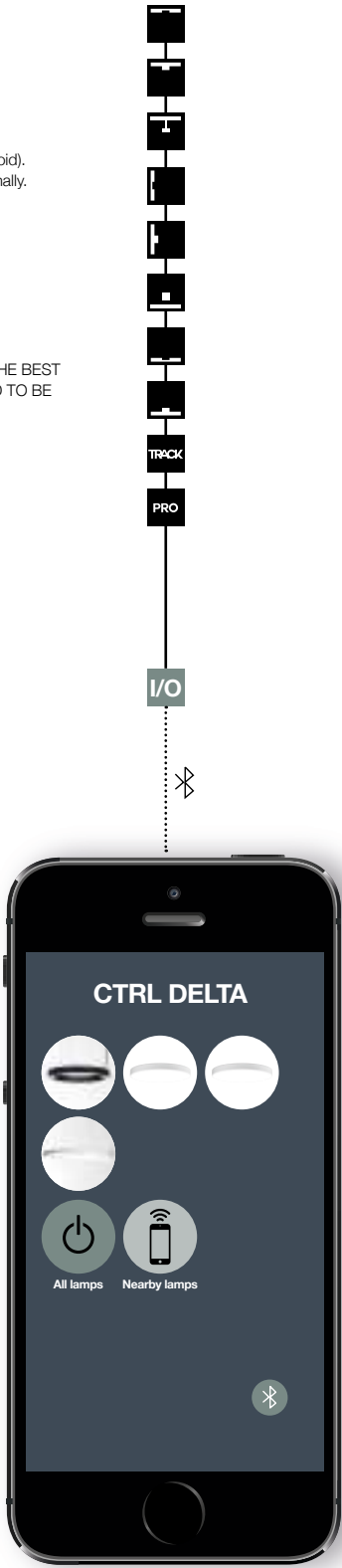
**Easy to enjoy.** With a tap on your smartphone you can set the ambience. With the Casambi App you can control your luminaires individual or in groups.

- How to in 5 easy steps**
1. Order your desired CTRL DELTA unit (not standard included with luminaire)
  2. Install the CTRL DELTA unit
  3. Download the Casambi App in the App or Play Store.
  4. Find your CTRL DELTA unit in the Casambi app, using Bluetooth.
  5. Take a picture of your room and place the light controls upon the related pictures.  
Now you can visually manage your luminaires directly through the picture.

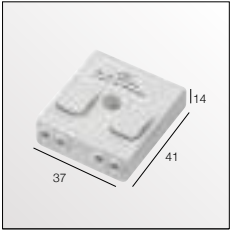
For more information and technical info please go to [www.deltalight.com/CTRLDELTA](http://www.deltalight.com/CTRLDELTA)

CTRL DELTA IDENTITY KIT	
RF TECHNOLOGY	
GATEWAY	OPTIONAL*
MOBILE PLATFORM	 
APPLE HOME	COMPATIBLE PENDING
WALL SWITCH	WIRELESS SWITCH PUSH BUTTON INTERFACE
NODES PER NETWORK	128 (IN & OUT)
iBEACON PROXIMITY	YES
AVAILABLE HARDWARE	1-10V DALI FE DIMMING 4 CHANNEL FLEX INTERFACE

\* For external communication only



## WIRELESS CONTROL DIM5 + DALI GATEWAY



### WIRELESS CONTROL DIM5 + DALI GATEWAY

21032 0065

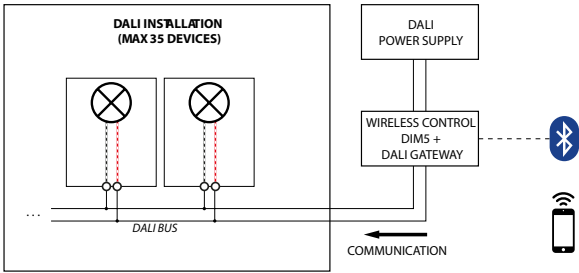
DUAL MODE  
WIRELESS CONTROL MODE:  
BROADCAST 1 ADDRESS:  
DALI or DT8 TW or DT8 RGB\*  
(MAX. 35 DALI DEVICES)  
DALI POWER SUPPLY REQUIRED

DALI GATEWAY MODE:  
1 ADDRESS/CTRL DELTA  
DEVICE

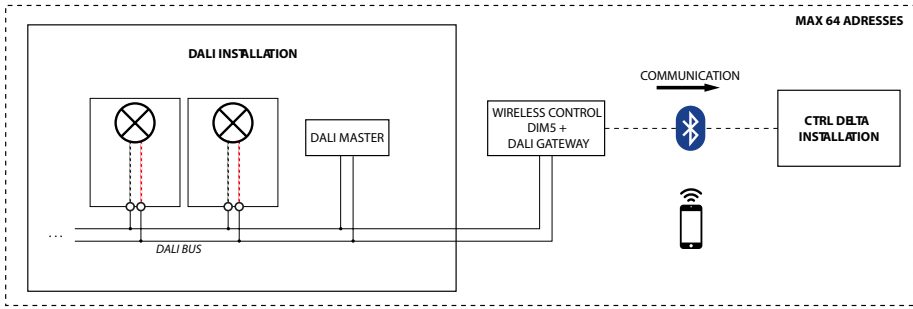
MAX DALI BUS CURRENT: 250mA  
VOLTAGE RANGE: 9,5-22,5V-DC

IP20  
\*selection to be made in app

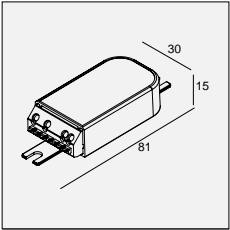
### WIRELESS CONTROL MODE



### DALI GATE- WAY MODE



## DALI POWER SUPPLY



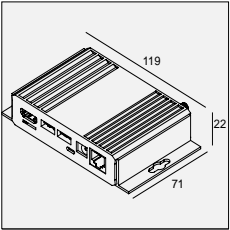
### DALI POWER SUPPLY

21032 0075

DALI OUTPUT CURRENT:  
70mA  
DALI VOLTAGE RANGE:  
13,6-18,4V-DC  
220-240V / 50-60Hz

IP20

## CTRL DELTA GATEWAY

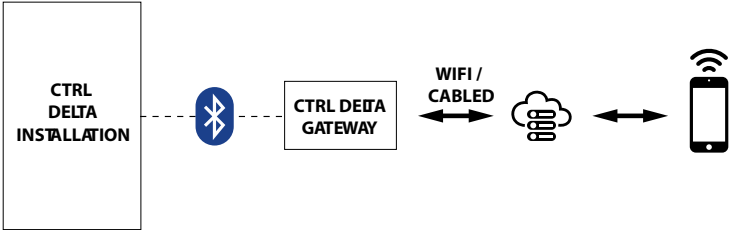


### CTRL DELTA GATEWAY

21032 0090

CASAMBI APP  
PRE-INSTALLED  
220-240V / 50-60Hz

IP20



## CTRL DELTA TRANSMITTER



### WIRELESS SWITCH

300 90 312 ◇

◇ B / W

BATTERY POWERED  
5 YEAR LIFETIME  
4 FUNCTIONS

IP20



### WIRELESS PUSH BUTTON INTERFACE

300 90 009

BATTERY POWERED  
5 YEAR LIFETIME  
4 FUNCTIONS EXTERNAL  
PUSH BUTTON  
TYPE OF FUNCTION  
SET BY CTRL DELTA

IP20



### WIRELESS PUSH BUTTON INTERFACE 24V-DC

21032 0020

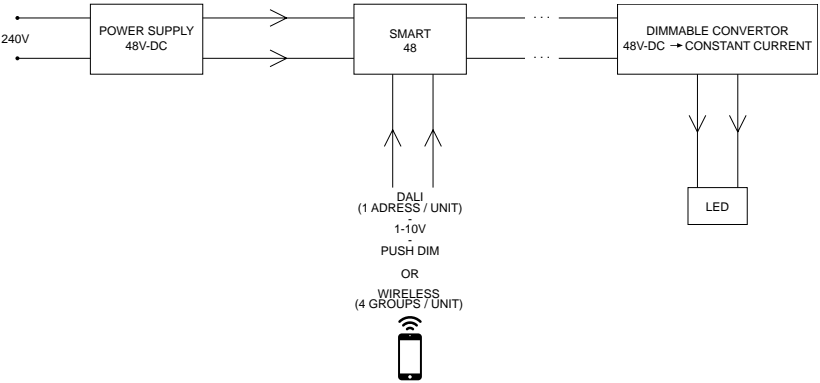
24V-DC

4 FUNCTIONS EXTERNAL  
PUSH BUTTON  
TYPE OF FUNCTION  
SET BY CTRL DELTA

IP20



# SMART 48



PATENT

**SMART 48:** Dimming 48V luminaires or profiles by 2 wires! It collects the power from the 48V power supply and combines it with a DALI, 1-10V or Touch Dim input and sends it to the 48V converter in the luminaire. With the Dimmable Modulator 48V-DC DIM9, dimming can be done by only using 2 wires for both power and dimming. Or dimming can be done wireless, by choosing for the Wireless Dimmable Modulator 48V-DC.

PATENTED

## DIMMABLE MODULATOR

PATENT

<b>SMART 48 MODULATOR DIM9</b>	<b>SMART 48 MODULATOR WD</b>
<b>300 90 011</b>	<b>300 90 012</b>
1-10V / DALI / PUSH DIM	WIRELESS DIM

48V-DC

MODULATED 48V-DC + DIM (MAX.200W)

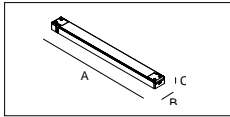
0,1 IP20

# LED POWER SUPPLY

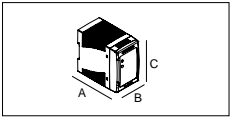
## 48V-DC

DIM	CLASS / IP	POWER / 48V-DC	ART NUMBER	VOLTAGE	POWER FACTOR	A X B X C	TYPE
NON DIMMABLE	IP20	100W	21012 0230	120-240V / 50-60Hz	$\lambda > 0,95$	298 x 30 x 17	3
		100W	300 89 48 100	110-240V / 50-60Hz	$\lambda > 0,93$	100 x 55 x 90	4
		200W	21012 0240	120-240V / 50-60Hz	$\lambda > 0,95$	332 x 30 x 22	3
		240W	300 89 48 240	100-240V / 50-60Hz	$\lambda > 0,93$	114 x 63 x 125	4

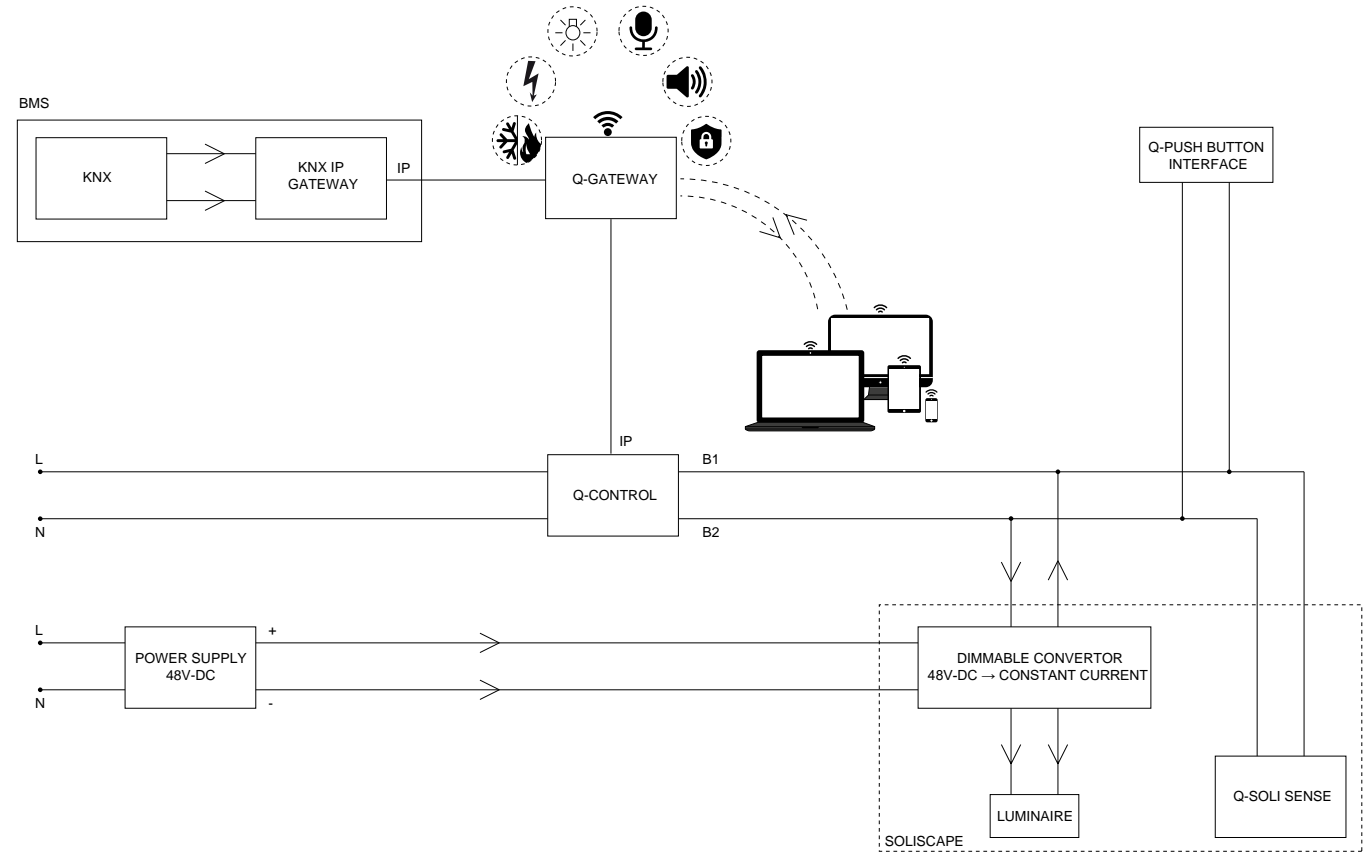
### TYPE 3



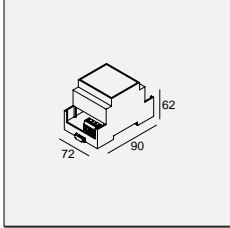
### TYPE 4



# DELTA Q

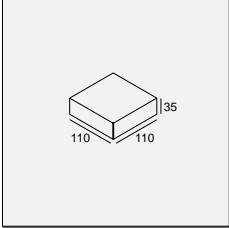


## Q CONTROL



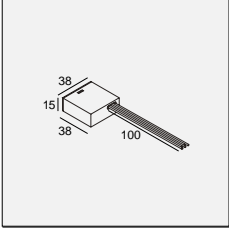
**Q CONTROL 40-1**  
**21032 0150**  
CONTROL OF 40 MODULES  
USB + ETHERNET  
92 SCENES  
100 CLOCK TIMES  
ASTRONOMIC CLOCK  
INCL. 8 GB SD-CARD  
220-240V / 50-60Hz  
0,1 IP20

## Q GATEWAY



**Q GATEWAY**  
**21032 0160**  
CONNECTION TO Q-BUS, KNX,  
SONOS, ALEXA, ...  
0,1 IP20







## Q PUSH BUTTON INTERFACE



**Q PUSH BUTTON INTERFACE**  
**21032 0170**  
4 FUNCTIONS EXTERNAL  
PUSH BUTTON  
0,1 IP20



LED SPECIFICATIONS

			2700K	3000K	4000K	TYPICAL VALUES		LIFETIME		RISK GROUP	SDCM	EMERGENCY
CRI	LED	POWER	LUMINOUS FLUX @ 70°	LUMINOUS FLUX @ 70°	LUMINOUS FLUX @ 70°	FORW. CUR.	FORW. VOLT.	L <sub>xx</sub>	HOURS			BLF %
CRI > 98	 [K]	10,7W	967lm - 91lm/W	1040lm - 97lm/W	1137lm - 106lm/W	600mA	17,8V*	L <sub>70</sub>	>50000h	RG1	2	100 %
CRI > 95	 [L]	21,1W	1925lm - 91lm/W	2068lm - 98lm/W	2193lm - 104lm/W	600mA	35,2V*	L <sub>70</sub>	>50000h	RG1	2	48 %
CRI > 90	 [R]	20,5W	2432lm - 119lm/W	2499lm - 122lm/W	2771lm - 131lm/W	600mA	34,2V*	L <sub>70</sub>	>50000h	RG1	1	50%
CRI > 90	 [U]	10,3W	1224lm - 119lm/W	1281lm - 125lm/W	1355lm - 132lm/W	600mA	17,1V*	L <sub>70</sub> L <sub>80</sub>	>50000h >51400h	RG1	1	100 %
			 3000-1800K									
CRI 90	 [X]	9W	945lm - 105lm/W	NOT AVAILABLE	NOT AVAILABLE	250mA	33,8V*	L <sub>90</sub>	>56000h	RG1	2	-
CRI 90		11,8W	1327lm - 112lm/W	NOT AVAILABLE	NOT AVAILABLE	350mA	33,8V*	L <sub>90</sub>	>56000h	RG1	2	-

\* +/- 8%

All the technical parameters for LED-apply to the entire module. In view of the complex manufacturing process for light emitting diodes (LED), the typical values given in this **Lighting Bible®** are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values. For most accurate info, please consult: [www.deltalight.com/ledspecs.pdf](http://www.deltalight.com/ledspecs.pdf)

All lumen values in this catalogue are related to the Led units. For more info on the lumen values of the products please visit our website [www.deltalight.com](http://www.deltalight.com)

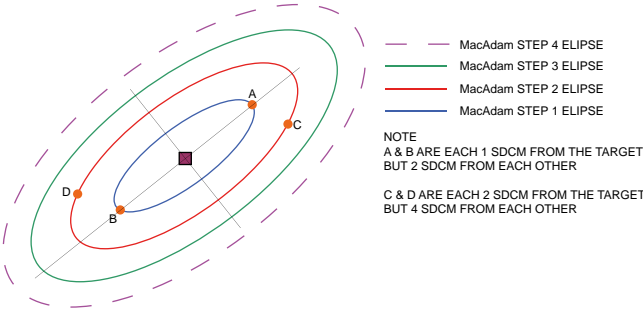
At Delta Light®, we follow the evolution in LED at close range. What appears to be similar quality at first sight, can be totally different when looking at some of the underlying characteristics. These characteristics, like binning, risk factor, thermal management, degradation in luminous flux are part of the DNA of the Light Emitting Diode. These aspects determine the lifespan and the quality of the LED. For this matter, Delta Light® assures it only selects qualitative LEDs from qualitative manufacturers. High quality design cannot be made without high quality components.

COLOUR BINNING

No 2 LEDs are the same. When LEDs are produced, they vary in light output and in colour temperature, even when they are produced in the same batch. These differences may be small, but they do influence the quality of the LED. That is why manufacturers sort the LEDs, according to these performances, in different 'bins'. By reducing the number of bins to choose from, quality increases as performances are closer to each other.

MACADAM STEP

The differences in colour temperature between LEDs can be measured by looking at the MacAdam ellipses in Standard Deviation of Colour Matching (SDCM), according to the CIE 1931 Standard. This system looks at the ability of the human eye to perceive colour differences and ranks it on a scale from 0 to 10. Within 1 MacAdam ellipse a colour difference is not noticeable to the human eye under any condition. From 1 to 3 ellipses it is very difficult for the human eye to notice any difference in colour, meaning that up to 3 MacAdam ellipses all LEDs are very homogeneous when it comes to colour temperature.



RISK FACTOR

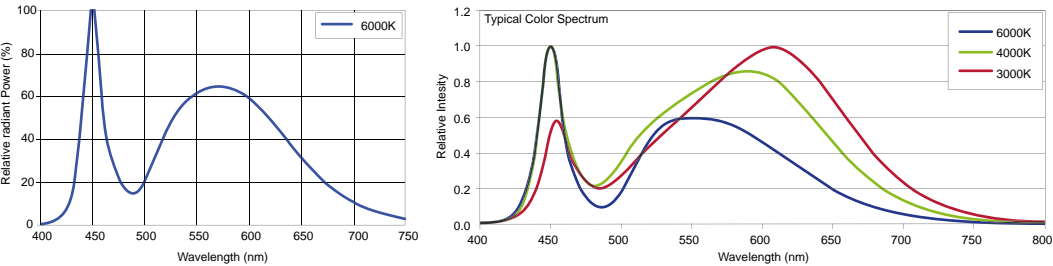
The European standard for photo biological safety EN 62471 describes a measuring method to determine whether a lamp or luminaire carries a risk of eye and skin damage. LED light contains almost no light from the ultraviolet or infrared spectrum, and therefore is not dangerous to the skin. It does however provide a high peak in the blue spectrum which, when looking into a bright light source (for a long period of time), may result in irreversible damage to the retina, the so-called the Blue Light Hazard.

Whether the risk is real, depends on several factors: luminance of the LED, colour temperature, but also light distribution and distance to the luminaire play an important role. When a LED is placed in a luminaire, it is located behind a lens, reflector or diffuser, thus levelling off the luminance.

To allow users to estimate the risk, the standard EN 62471 determines that lamps and luminaries must be divided into four risk groups:

- Risk group 0 ("exempt" group): this means that there is no danger, even with unlimited viewing of the light source.
- Risk group 1: The risk is limited, no more than 10.000 seconds of viewing is allowed (just under 3 hours).
- Risk group 2: up to 100 seconds of viewing is allowed.
- Risk group 3: up to 0.25 seconds of viewing is allowed. This is shorter than the natural aversion reflex of the eye.

For light sources of risk group 3, protective measures are always needed. For the other groups, it depends on the application. If the light sources belong in group 2 or 3, then this must be indicated.

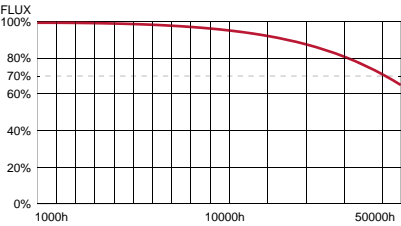


LED LIFESPAN LM-80 – TM-21

Conventional light sources mostly burn out before a serious loss of light output is noticeable. As the lifetime of LEDs exceeds the lifetime of conventional light sources, light output degrades over time before burning out. This degradation in luminous flux can be measured according to the L value and the operating period of time:

- L value shows the percentage of luminous flux regarding the initial luminous flux over a period of time.
- The operating period of time, expressed in hours.

Example: L<sub>70</sub> 60.000h means that after 60.000 hours the luminous flux will be at least 70% of the original luminous flux.



SOFT DIM

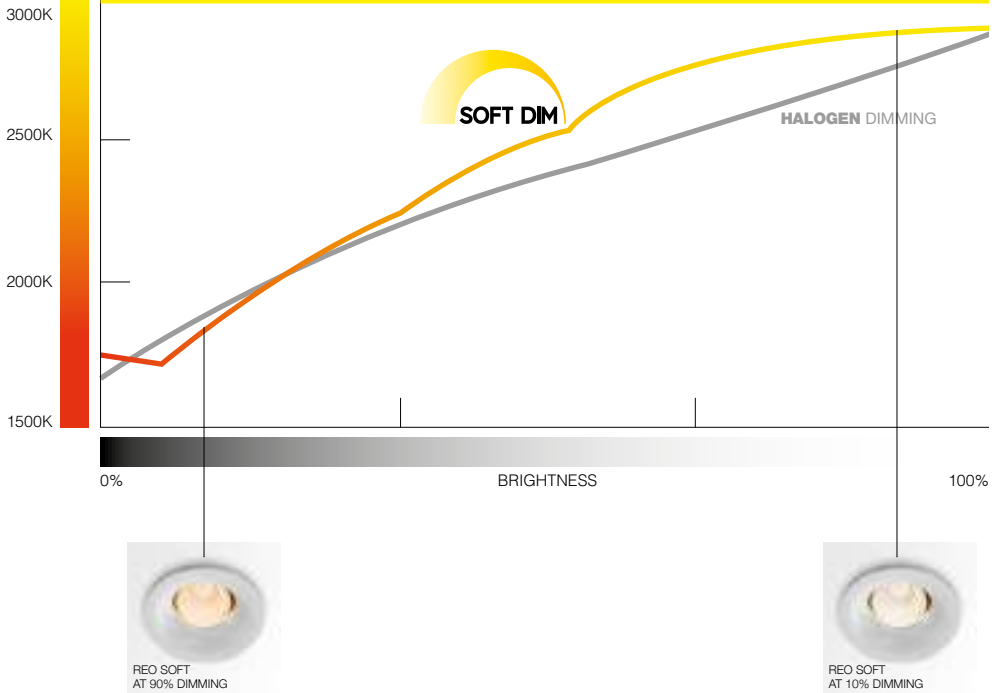
Soft Dim LED technology replicates the dimming behaviour of a conventional lamp where the colour temperature increases in warmth as it's dimmed. This is achieved through the use of specially selected LEDs of different colour temperatures and power types from premium chip manufacturers. Consistency is ensured without complexity with the use of specific and precise LED selection. The LED's selected have colour tolerances that are tighter than 3 SDCM ensuring module-to-module accuracy.

The Soft Dim technology is incorporated in familiar Delta Light product families such as the Reo, Haloscan, iMax, Deep Ringo, Carree, Spy family, Tweeter and Minigrid. Also available in some of Delta Light's 48V Solutions such as Superloop MDL & Magnetic Profiles Splitline / Shiftline M.



REO SOFT  
2700-1800K  
CRI > 90 / 760lm (9,5W)  
REFLECTOR 40°

LED DIMMING

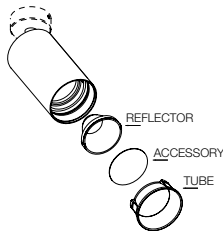


REQUIREMENTS / OPTIONS  
INSTALLATION

TUBE

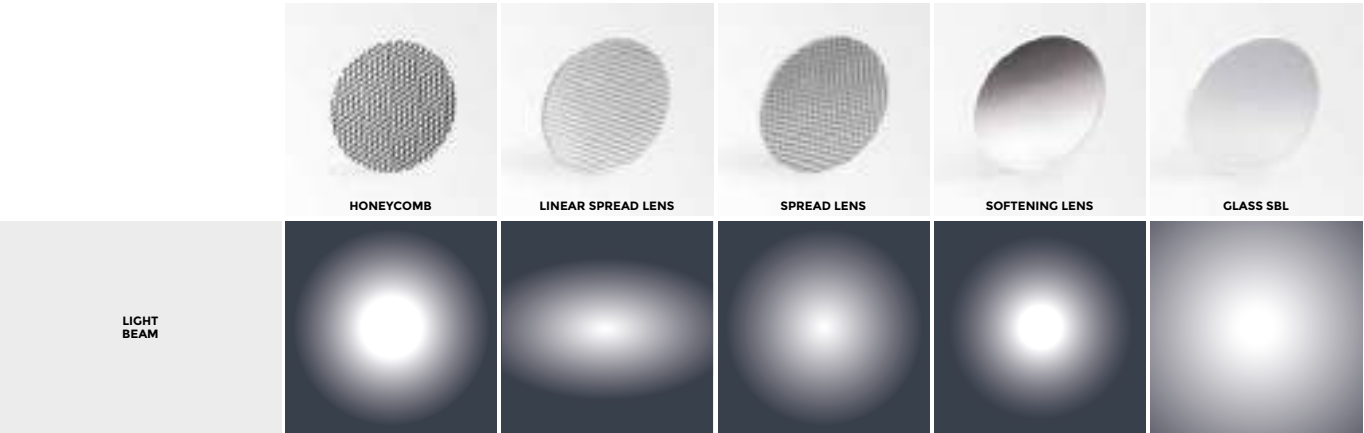


TUBE	REFERENCE	COLOUR	TYPE
SPY 52 TUBE	19810 0100	B / FBR / FG / GC / W	6
SPY 66 TUBE	24611 0100	B / FBR / FG / GC / W	6



ACCESSORIES

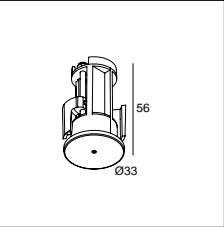
Find out for which products these accessories can be used,  
by adding its reference number without color to our website URL.  
For example: [www.deltalight.com/2010301](http://www.deltalight.com/2010301)



HONEYCOMB / LENS / GLASS							
Ø	NAME	ACCESSORY	HONEYCOMB	LINEAR SPREAD LENS	SPREAD LENS	SOFTENING LENS	GLASS SBL
Ø42	SPY 52	-	19810 0010 B (single use)* 19810 0060 B (double use)*	19810 0020	19810 0030	19810 0040	19810 0050
Ø57	SPY 66	-	24611 0150 B (single use)* 24611 0210 B (double use)*	24611 0170	24611 0200	24611 0190	24611 0160

\*Single use: only HONEYCOMB      \*Double use: HONEYCOMB in combination with LENS/GLASS (to be ordered separately)

SUSPENSION / CONNECTION ST

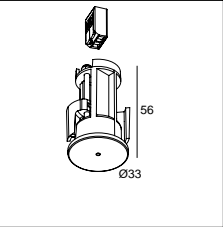


SUSPENSION ST

27 x 60 max. 25

15225 0340 ◇  
◇ B / W

INCL.  
1 x AUTOMATIC ADJUSTMENT  
0,2

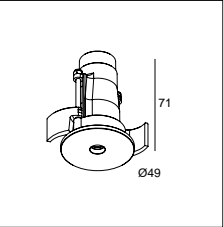


SUSPENSION + CONNECTION ST

27 x 60 max. 25

15225 0350 ◇  
◇ B / W

ONLY CONNECTION  
INCL.  
1 x CONNECTOR max. 2x 1,5 mm²  
1 x AUTOMATIC ADJUSTMENT  
0,2



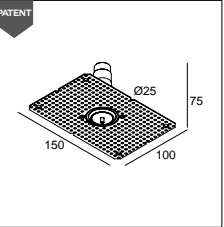
CONNECTION ST

43 x 80 max. 25

15225 0360 ◇  
◇ B / W

16A / 250V  
INCL.  
1 x CONNECTOR max. 5x 1,5 mm²  
0,2

SUSPENSION / CONNECTION TRIMLESS

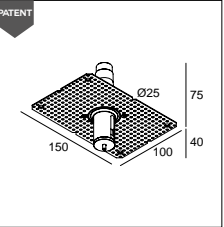


SUSPENSION TRIMLESS O.F.A.

62 x 80 9 or 12  
102 x 80 (CONCRETE)

328 10 01  
INCL.

1 x AUTOMATIC ADJUSTMENT  
0,2

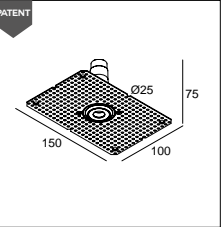


SUSPENSION + CONNECTION TRIMLESS O.F.A.

62 x 80 9 or 12  
102 x 80 (CONCRETE)

328 10 02  
4A / 250V

INCL.  
1 x CONNECTOR max. 3x 2,5 mm²  
1 x AUTOMATIC ADJUSTMENT  
0,2



CONNECTION TRIMLESS O.F.A.

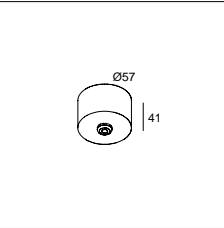
62 x 80 9 or 12  
102 x 80 (CONCRETE)

328 10 03  
4A / 250V

INCL.  
1 x CONNECTOR max. 3x 2,5 mm²  
0,2



CABLE BASE



CABLE BASE R

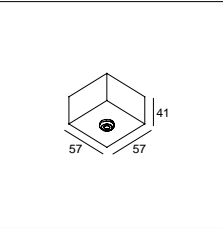
203 99 55 ◇  
◇ ANO / B / W

0,1

OPTIONS  
COVERSET R 62-90-100



CABLE BASE



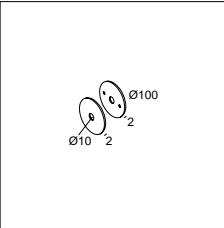
CABLE BASE S

203 99 56 ◇  
◇ ANO / B / W

0,1

OPTIONS  
COVERSET S 62-90-100

COVERSET



COVERSET R 100

204 00 100 ◇

COVERSET R 90

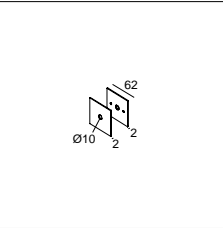
204 00 90 ◇

COVERSET R 62

204 00 62 ◇  
◇ ANO / B / W

0,1

COVERSET



COVERSET S 90

204 90 90 ◇

COVERSET S 80

204 80 80 ◇

COVERSET S 62

204 62 62 ◇  
◇ ANO / B / W

0,1

LEGENDA

◇	COLOUR	SOFT DIM	SOFT DIM
B	BLACK RAL 9005	CTRL DELTA	CTRL DELTA
GC	GOLD COLOURED	SMART 48	SMART 48
W	WHITE RAL 9003	TUNABLE WHITE	TUNABLE WHITE
◇	FIXTURE CLASS 1	SBL	SANDBLASTED
◇	FIXTURE CLASS 2	95	DIMENSIONS IN MM
◇	FIXTURE CLASS 3	TOL.DIN	TOLERANCE ACCORDING TO DIN-SPECIFICATIONS
CE	NORM 01.97. LV 73 / 23 / EEC	DIN EN12020-2	TOLERANCES EXTRUSION
0,5	NET WEIGHT KG	DIN 17.611	TOLERANCES ANODISATION
IP	PROTECTION LEVEL	DIN 55.928	TOLERANCES COATING





**Ben van Berkel**  
**UNSTUDIO**



 **DELTA LIGHT®**

**UNStudio** first met **Delta Light** at the Dutch Design Week in Eindhoven and were highly impressed with their presentation and products. It was felt that Delta Light's products would both aesthetically and functionally be a great fit for UNStudio's projects, but also that - with the innovative character and knowledge of both of our companies - we could join forces to create relevant, new future-proof products and solutions.

*"The working process with Delta Light was quite out of the box. We didn't have a clear image of what the product should look like in the very beginning. And I like that, so that everyone is very open to what we want to achieve and what the ambitions are. The steps to this are the most important. We got the best specialists from both teams together to make sure we would find the optimum design in the end, and that it could do what we wanted. It was great."*

**Ben Van Berkel**



