

112 OCT/NOV 2019
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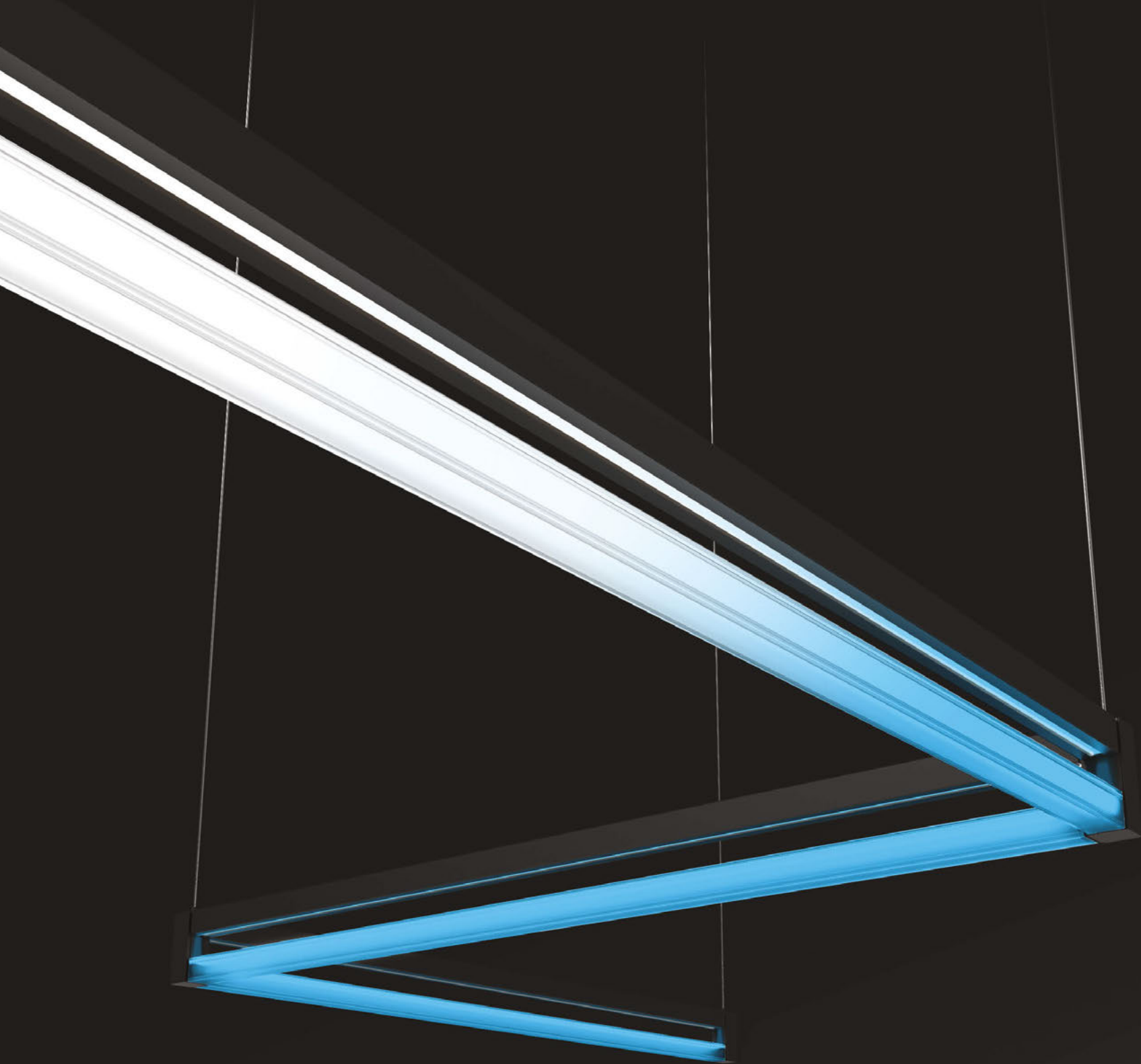
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LIGHTING IN ARCHITECTURE

Ambient Luminescence

Liska bring a serene glow to
The Retreat at Blue Lagoon

SCANDINAVIAN DESIGN FOCUS • ARC 20TH ANNIVERSARY • [D]ARC ROOM REVIEW
WOMEN IN LIGHTING AND DESIGN • LONDON DESIGN FESTIVAL • TLS REVIEWED



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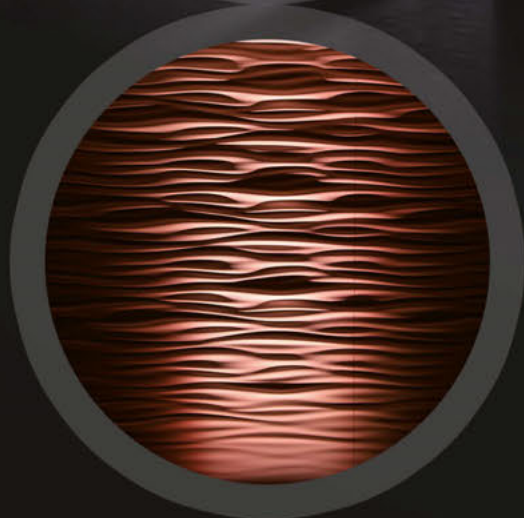
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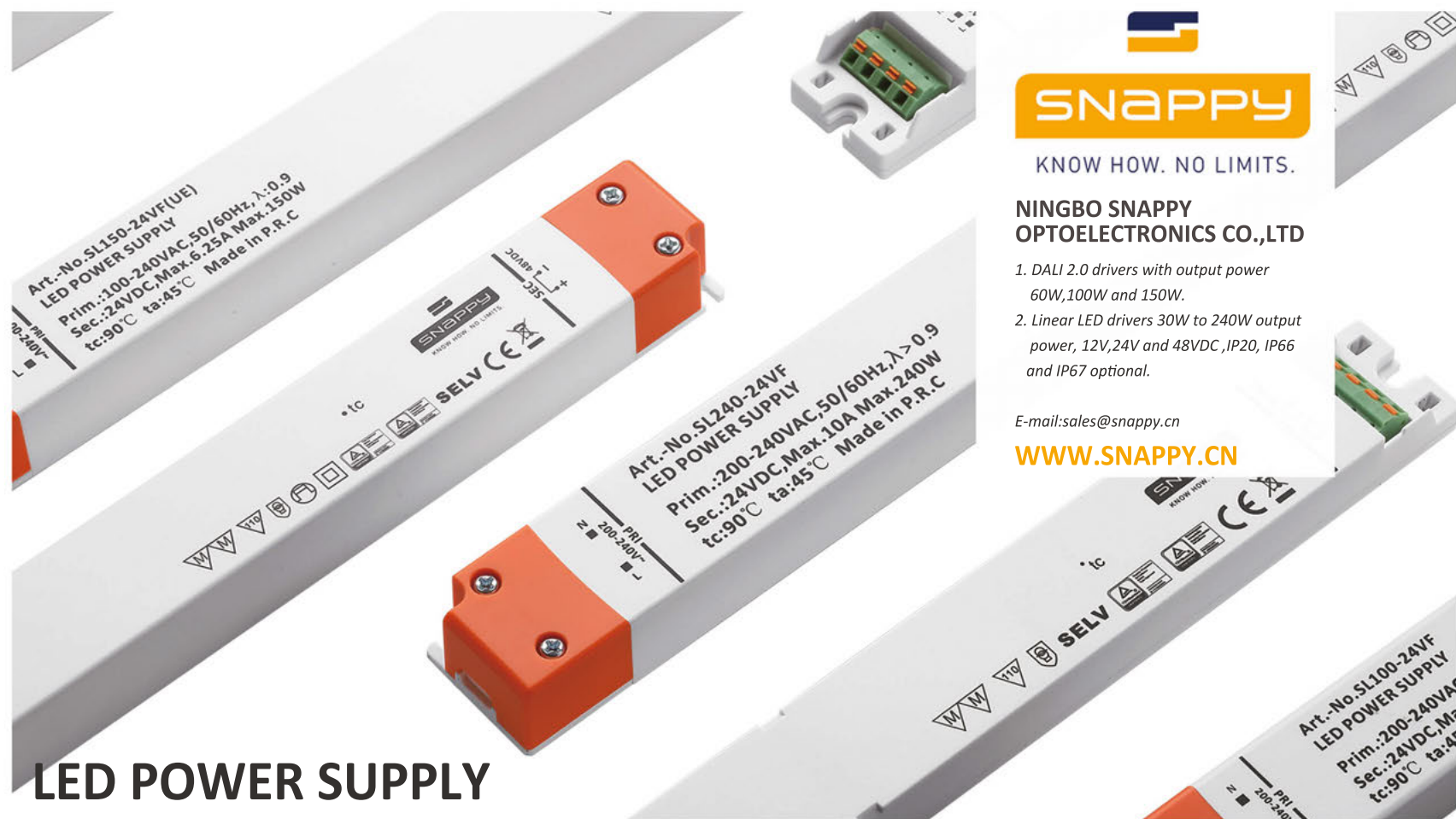
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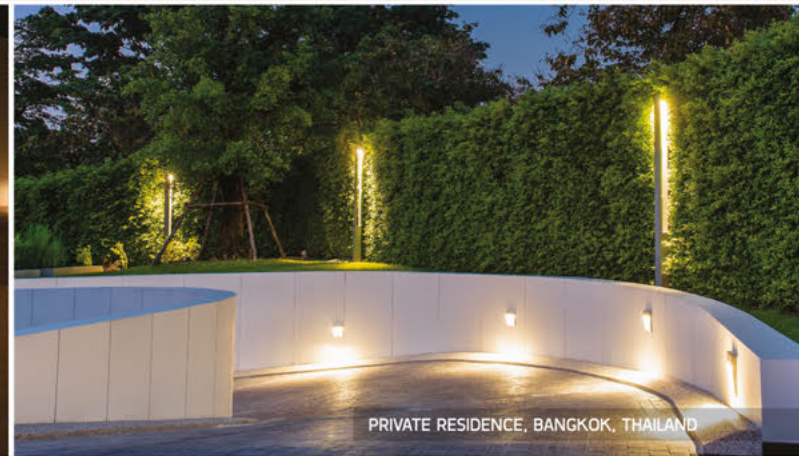
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■ ZOUK1



■ ZOUK2

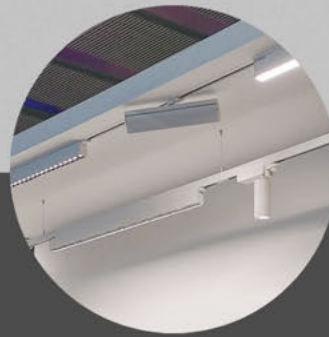
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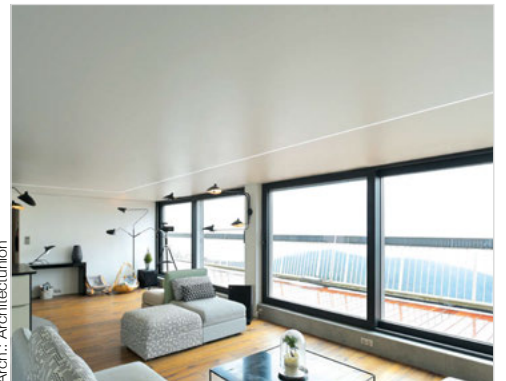
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Design: Insight - Inside



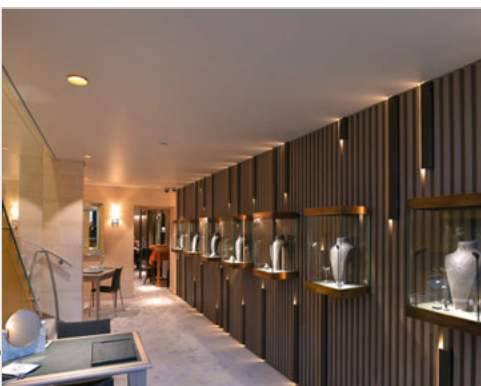
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Arch.: Architectureun



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Design: Arnaud Klein

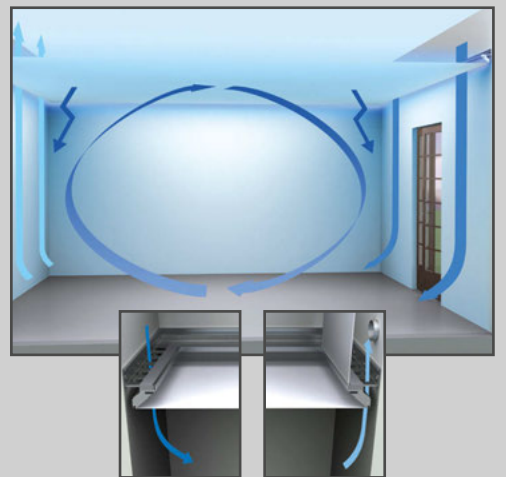


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Arch.: MHCS



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Design: Lighting Design International

Project: Four Seasons Astir Palace Hotel, Athens, Greece

Product: LD10238, LD151, LD56, LD51, LD38, LD42A, Custom LD47

Photography: Gavriil Papadiotis (www.gavriilux.com)



LightGraphix was specified by Lighting Design International to provide an extensive range of products for the Four Seasons Astir Palace Hotel in Athens, Greece. Light fittings supplied included high powered in-ground spotlights, miniature wall lights, exterior and interior linear wall grazers and custom designed surface mounted wall lights.

LightGraphix

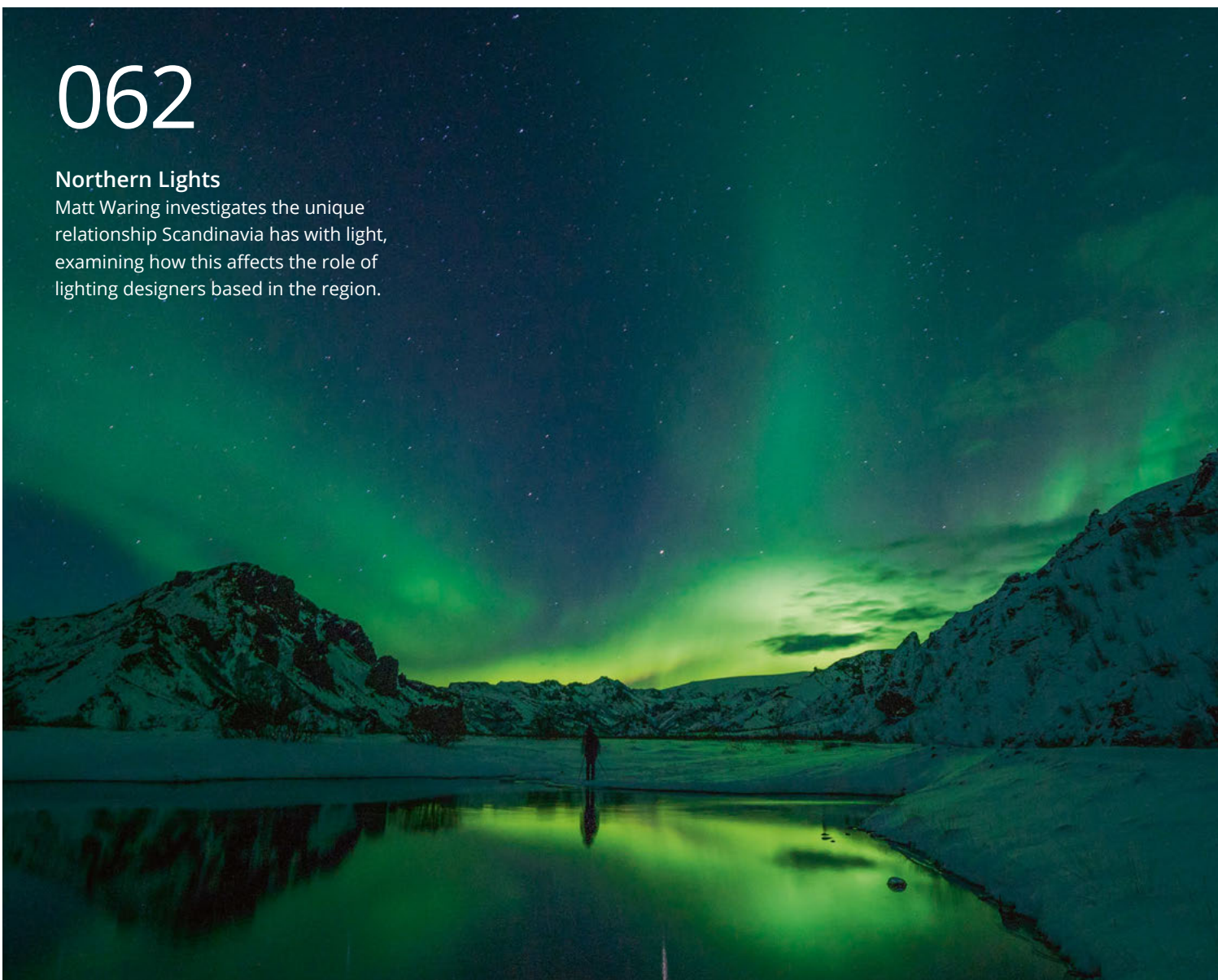
Creative Lighting Solutions

For more information visit www.lightgraphix.co.uk

062

Northern Lights

Matt Waring investigates the unique relationship Scandinavia has with light, examining how this affects the role of lighting designers based in the region.



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As we celebrate a landmark anniversary for **arc**, we take a look back through the archives to see how the magazine has changed since its formation way back in 1999.

054 Women in Lighting and Design

Sarah Cullen spoke with Kelly Roberts and Megan Carroll, key members of WILD, to discover more about the organisation that celebrates and supports women in the industry across North America.

118 [d]arc room Review

[d]arc room returned to London in September. Part of London Design Fair, it took over Hall 13 of the Old Truman Brewery. We cast our minds back to some of the highlights from this year's show.

136 London Design Festival Review

As ever, London Design Festival saw a vast array of impressive installations take over the city. **arc** was able to check out some of the best lighting installations that were on display.

144 International Lighting Design Family Tree

Light Collective is taking its Lighting Design Family Tree global. In association with Ligman, they'll explore the maze of connections that span across the international lighting design community.

PALO AREA



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082

Radisson Blu Scandinavia, Sweden

The newly renovated atrium space of the Radisson Blu Scandinavia in Gothenburg, Sweden, features a dramatic installation from Lighting Design Collective, connecting guests with the sky above.



Projects

OCT/NOV 2019

074 The Retreat at Blue Lagoon, Iceland

Icelandic lighting designers Liska channeled Richard Kelly in their scheme for The Retreat at Blue Lagoon, a newly opened resort at the geothermal spa.

090 Blixen, Denmark

The introduction of circadian lighting, designed by COWI, brings a feeling of warmth to the minimalist architecture of the new Blixen office building in Aarhus, Denmark.

098 Stockholm Citybanan City Station, Sweden

WSP has created the lighting design for the City Station of Stockholm's new Citybanan train line, showcasing its unique architecture, and the striking artworks on display.

108 Lights in Alingsås, Sweden

We're not the only ones celebrating our 20th anniversary this winter, as Sweden's popular light festival Lights in Alingsås has returned for its 20th year.



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Front cover: arc 20th anniversary special

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It was 20 years ago today... We started a little magazine called mondo*arc, and the rest, as they say...



Hello everyone!

I would like to start things off in my first editorial column by saying a huge thank you to Paul for the kind words last time around, and for passing on the responsibility of running this magazine to myself and Sarah. I'm already well aware of his standing within the lighting design community - at every show or event I've attended over the past three years, at least one person has asked "So how's Paul?" - so I know that I have some big shoes to fill! We've already got some really exciting things planned for the next few issues though, and we're well up for the challenge! But, as we head into the start of this new era, we typically find ourselves not looking forward, but back from whence we came, as this issue marks our 20th anniversary as a publication. I won't tell you how old I was 20 years ago, but it is surely a testament to the industry that we as a magazine have been going for so long. We've had a great time in the office digging through the archives to take a closer look through some of our back issues (some of the layouts: *chef's kiss*), to see which wonderful projects and designers we've featured over the years, many of which I'm delighted to say are still going strong! We've cherry picked some of our favourite covers from the past 20 years in a special retrospective feature that you can check out in this issue.

As a signpost to how far we've come as a magazine since our humble beginnings way back when, last month we hosted the third instalment of our **[d]arc room** event. This time held at the Old Truman Brewery as part of London Design Fair, we were thrilled by the turnout, with visitor numbers doubling compared to last year. Such numbers are a huge encouragement for us, so another big thank you to everyone who came.

We're also eagerly awaiting this year's **[d]arc awards**. Voting will open on October 22nd, so keep your eyes peeled for the all-important announcement and remember to cast your vote when the time comes. Make sure to mark 5th December in your diary too, as we'll once again be hosting our famous (or should that be infamous?!) **[d]arc night awards party!** We hope to see you there! ■

Matt Waring
Editor



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Versatile light for modern work

Jilly downlights for track

If office layouts repeatedly change, the new Jilly luminaires for track offer the perfect solution. Jilly intelligently combines the infrastructure of track with downlight technology. The flat housing and striking anti-dazzle louvre characterise the elegant design for standard-compliant work-

place lighting. Jilly combines the lighting technology of a highly efficient lens system with anti-dazzle louvres. Visual comfort and luminous efficacy thus both achieve a high level. This combination allows large luminaire spacing for economical lighting concepts. Jilly is simply mounted and opti-

mally aligned with the track adapter. The colour of the housing and anti-dazzle louvre can also be individually matched to the interior.

www.erco.com/jilly-t

Light is the fourth dimension of architecture

Headlines



[d]arc room delivers in new home

(UK) - [d]arc room exceeds expectations at Old Truman Brewery with 4,000 visitors. More information at www.arc-magazine.com



Ecoled rebrand to Phos, launch *The Power of Light*

(UK) - The LED manufacturer unveils rebrand at [d]arc room. Read more at www.arc-magazine.com

Brunel University take on ultra-thin lighting design challenge

(UK) - Brunel University London to collaborate with Lightly Technologies on lighting design challenge for 2nd year students.

Trilux appoints new CEO

(Germany) - Guillermo Fernandez de Peñaranda Bonet appointed as Trilux CEO.

Integral LED expands to UK base

(UK) - Integral LED has relocated its European logistics and warehouse operations to Aylesbury.

Jonathan Speirs Scholarship winners announced

(UK) - Apoorva Jalindre and Merethe Granhus are the recipients of this year's Jonathan Speirs Scholarship.

Roland Lorenz named as EVP and Head of ÅF Pöyry Management Consulting Division

(Sweden) - Roland Lorenz named successor to Martin à Porta, taking over on October 1st.

GDS appoints Business Development Manager

(UK) - Prince Sofunmade appointed as new London Business Development Manager.

Tridonic appoints new CEO

(Austria) - Hedwig Maes appointed new Chief Executive Officer of Tridonic.

Zumtobel's Photographic Competition launched

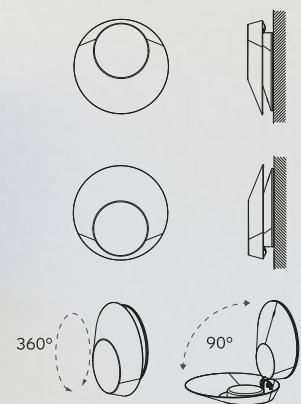
(UK) - 23rd edition of the Zumtobel Photographic Competition features theme *Own the Light*.

New CEO appointed at Nordeon Group

(Germany) - Ralf Knorrenschild assumes responsibility as CEO of Nordeon Group, succeeding Louis van Uden.

Visitor numbers grow at GILE 2019

(China) - More than 170,000 visitors from 133 countries attend Guangzhou International Lighting Exhibition.



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Moto-Flap's diversified light beam adjusts in the directions chosen according to the various project requirements. The formalighting app powered by CASAMBI, enables users to remotely open and angle Moto-Flap up to 90° and rotate it 360°, generating an infinite combination of lighting effects. The same

app controls the dimming and the full spectrum LED.

Moto-Flap is a lamp designed in a basic, circular and sculptural form, which resembles a misaligned truncated cone, that is filled with the most advanced technology by MOTOLUX.



Serpentine Pavilion London, UK

This year, Japanese architect Junya Ishigami became the nineteenth architect to design the Serpentine Pavilion, a temporary structure on the Serpentine Gallery's lawn in Kensington Gardens, London. The Pavilion acts as an opportunity for high profile international architects to create their first structure in the UK.

Ishigami is celebrated for his experimental structures that interpret traditional architectural conventions and reflect natural phenomena. His design for the Pavilion took inspiration from roofs, the most common architectural feature used around the world. The Pavilion was made by arranging slates to create a single canopy roof that appeared to emerge from the ground of the surrounding park. Within, the interior of the Pavilion was an enclosed, cave-like space, a refuge for contemplation. For Ishigami, the Pavilion articulated his 'free space' philosophy, in which he seeks harmony between man-made structures and those that already exist in nature.

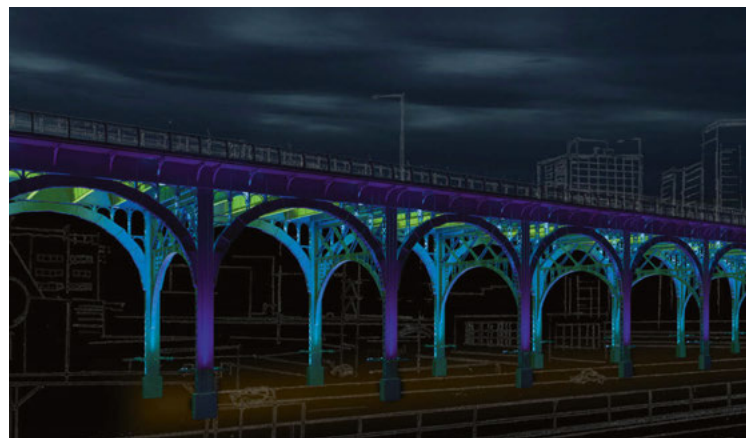
Speaking of his design, he said: "My design plays with our perspectives of the built environment against the backdrop of a natural landscape, emphasising a natural and organic feel as though it had grown out of the lawn, resembling a hill made out of rocks. This is an attempt to supplement traditional architecture with modern methodologies and concepts, to create in this place an expanse of scenery like never seen before."

Since 2013, AECOM, in collaboration with David Glover, have provided multidiscipline engineering and specialist lighting design services for the Pavilion. The lighting scheme this year was developed using acdc's Plaza fittings. Ishigami continued: "Working with Zumtobel is a pleasure because of their approach. For the Pavilion, Zumtobel's lights accentuate the different nuances of colours that each stone has to offer."

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www.aecom.com



Pic: Zumtobel



The Arches of Harlem USA

New York-based Focus Lighting has developed a plan to transform New York City's Riverside Drive Viaduct into a large-scale public light-art installation called The Arches of Harlem. A collection of lighting compositions will be designed and programmed for the viaduct by Focus Lighting and inspired by select works of historic artists and emerging local talent. The proposal expects there will be a new installation opening every three months.

"It is rare to find such architecture; these perfectly symmetrical, 50ft arches that repeat for half a mile," said Focus Lighting Principal Brett Andersen. "To have that go completely unlit and unutilised in the evening seems like a missed opportunity on many levels. Our vision for The Arches of Harlem will use light and art to breathe new life into the viaduct at night."

Currently, the structure serves as an elevated roadway used primarily by local traffic, and during the day, is a picturesque backdrop to the quickly developing strip of small businesses, bars and restaurants below.

Built in 1901, the Riverside Drive Viaduct was considered a feat of engineering technology and

a strong symbol of New York pride. Despite its important utilitarian role as a roadway, the viaduct's original design was sumptuously ornamented, creating a prime example of public works that married form and function. Now, millions drive past the structure each day as they commute to and from the city on the adjacent Hendry Hudson Parkway, and it has been featured in a myriad of films, books, television shows, and even music videos.

With each new lighting composition, The Arches of Harlem will celebrate a new artist from various eras and regions of the world, creating a continuous stream of conversation around the arts. "As designers with a deep appreciation for art, the magnitude of this opportunity is very clear," continued Andersen.

"The ultimate hope is that The Arches of Harlem can become a tool to educate others about the power of light, and how it alone can transform a structure like the Riverside Drive Viaduct - which, in the evening, becomes relatively mundane - into something incredibly beautiful and impactful.

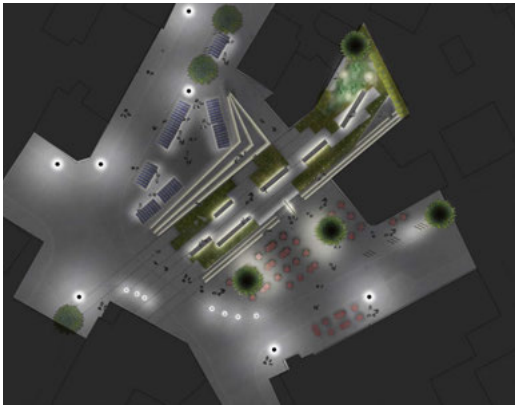
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Pics: Verkis Consulting Engineers/Basalt Architects

Oðinstorg Square Iceland

Oðinstorg translates to English literally as Odin's Square. Despite its name, this square has mostly been used as a parking lot. In late 2015, the city of Reykjavík launched a design competition to rehabilitate the square in order to fulfil its true purpose. Basalt Architects teamed up with Verkís Lighting to develop an innovative proposal that had a special emphasis on winter and darkness. Reykjavík is the northernmost capital in the world, and as such the winter/darkness approach, together with the integrative lighting scheme, proved critical in winning the design competition. The lighting strategy for the square was based on the elements composing the urban and landscape design, and it looked for every opportunity to integrate lighting into these elements. Minimising followed, along with the need to add new elements not relevant to the urban landscape design. The lighting scheme also needed to be coherent with the master lighting plan that is being developed by the city of Reykjavík. Street lights surrounding the square will therefore not be modified, but merely adjusted to fit the new conditions of the area. The main area will mainly be lit by the lighting details integrated into the urban elements, such as

steps, benches and handrails. Concrete bollards and seat elements have been custom-designed in coordination with the architects, and will provide discretely located light sources. Nevertheless, new minimalistic light poles will be added to fulfil minimum requirements of area light. The discrete poles are to be located near trees to reduce their relevance, while at the same time highlighting the greenery. The lighting installation is also prepared for future connectivity, and the luminaires prepared for digital controls. The lighting concept took in consideration of the lighting contribution resulting from possible events and temporary installations, and the scenery created by the surrounding buildings also proved an important part of the nightscape vision for this project. In 2018, the City of Reykjavík commissioned the awarded team to further develop a detailed design for the square. Construction works have already started, and completion is scheduled for November of this year.

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Rodney Square USA

The Rodney Square Conservancy (RSC) and community leaders in Wilmington, Delaware have broken ground to begin 'Rodney Square Works', a multi-phase renovation to the century-old Rodney Square.

Construction on the public square will see upgrades to the lighting and landscape, while fountains will be restored, irrigation systems improved and new overlooks created, alongside other updates and improvements.

The once-underutilised space will receive new life as a safer, more engaging place for visitors and the Wilmington community at large.

The Lighting Practice has been tasked with creating a lively ambience for the square after dark by working closely with the RSC, the City of Wilmington, the State of Delaware, and the design team led by OLIN and Tevebaugh Architecture.

Alfred Borden, Caitlin Bucari and John Conley of The Lighting Practice have sought to create moonlight effects through the trees, using pole-mounted adjustable luminaires. Integrated luminaires within handrails offer crisp stair illumination, while pole-mounted

luminaires provide a soft glow along the square's pathways, plantings and central lawn.

"Our design challenge was to enhance the night time attraction of the park in a way that respects its historical elegance," said Borden.

"We chose sources and methods that added a night time lustre, creating a visual magnet while providing comfortable illumination." All lighting sources will be fitted with warm 3000K LED.

Rodney Square was built in 1921 under the plans of Pierre S. du Pont to create a public space that unified the surrounding area.

Named after American Revolutionary leader Caesar Rodney, the square's design was influenced by the 'City Beautiful Movement' at the turn of the 20th century, and led by architects, landscape architects and civic reformers to bring more beauty into the urban landscape. A statue of Rodney, dedicated on July 4, 1923, still stands as the defining symbol of the square.

Phase one of the renovation project is expected to be completed in early 2020.

www.thelightingpractice.com



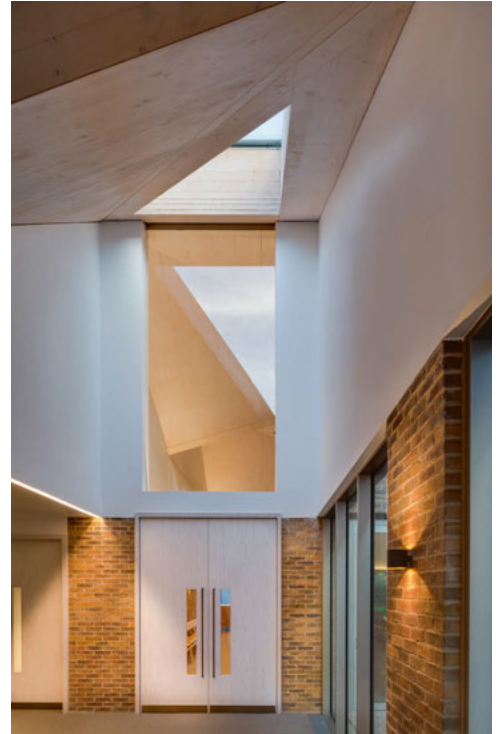
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International Presbyterian Church UK

When the International Presbyterian Church in Ealing, West London, outgrew its existing premises, the site was extended to accommodate its increasing needs. The new extension at the Drayton Green Church offers a space for worship, alongside administrative offices.

The new building wraps around the existing Grade II listed structure, expanding the available space while retaining links to the original chapel.

Appointed by the architects for the project, Piercy and Company, 18 Degrees was briefed to design the lighting for the key public spaces.

The designers approached the project holistically, responding to both the unique form of the building, as well as the liturgical nature of the space. As a place for community and central gathering, it was important for the lighting designers to work in harmony with the architecture to create a welcome space both in the day and after dark.

On entering the building, the entrance reduces in scale through a pleated roof form, guiding visitors to the main worship space. Within the whole building, lighting is delicately integrated into the architectural fabric, featuring only where required so the light fulfils both form and function.

The main worship space comprises a complex

folded roof structure, which sits over a large open area without additional structural columns. Daylight is abundant in the space through a number of window apertures, so the artificial lighting system augments this daylight in the drab days of winter and into the evening. Soft uplights around the perimeter of the space accentuate the triangulated geometry of the ceiling, while bouncing soft, diffused lighting back into the space.

The soft, glowing uplight is supplemented by downlighting integrated into the ceiling structure. This can be set to just illuminate the leader of worship or musicians, or the level can be increased to light the space when it is used for activities such as crafts or community events. For those sessions aimed at older people who may require a higher level of light, this adjustment to the lighting levels makes a significant difference.

All of the lighting is controlled via small zones, so that the building users can create a range of lighting emotions through the use of subtle and soft light. The controls are operated from a wall panel at the back of the space so it is easily accessed and engaged with by the users of the church.

www.18degs.com



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Pics: David Barbour



Aberdeen Music Hall UK

BDP began the creative adaptation of the Category A-listed Aberdeen Music Hall in 2013, with the ambition to repair, refurbish and conserve the listed building, while improving its operational facilities and making it more accessible, sustainable and appealing to the public.

Major structural alterations opened up the main entrance, improving circulation and wayfinding, while the building fabric was repaired, interior spaces were stripped and decorated, and the new basement was excavated to house toilet facilities. These changes safeguarded the future of the listed building and enabled events, performances and education activities that had been constrained by the limitations of the existing building.

The main music hall features concealed indirect linear lighting to highlight the building's impressive neo-classical ceilings and painted mural set above the organ. Access and structural restrictions meant that ambient lighting had to come from the sides of the building. This is provided by subtle wall-mounted gimbal head luminaires that respond to the architecture of the room. Integrated handrail lighting marks the edge of the mezzanine level, while recessed downlights provide ambient lighting under the mezzanine.

Three principal historic spaces – the Promenade, Crush Hall and Rondo – have their domed and vaulted ceilings illuminated by indirect linear lighting and adjustable direct lighting, delivered by purpose-built open

stainless-steel halo chandeliers that also act as a focal point to these grand, formal rooms. The bespoke chandeliers were made by Scottish manufacturers Mike Stoane Lighting.

The new café, bar, and basement toilets have contemporary lighting, using a combination of integrated linear and recessed downlights. This crisp white light transforms the formerly dingy, lifeless interiors, enhancing them with a play of light and shadow. For the first time, the lighting properly reveals the details of the building's fine, neoclassical architecture.

All light sources are LED, with scene setting in the key spaces, and either DALI or DMX dimming throughout, greatly reducing the energy required to light the building.

During the project, BDP encountered several unexpected surprises that caused changes and cost constraints. The lighting budget was cut various times, so the lighting subsequently had to be re-designed several times, with some desired details reluctantly omitted.

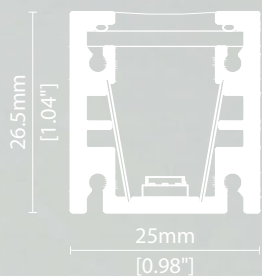
Jane Speirs, Chief Executive of clients Aberdeen Performing Arts, said: "What BDP has achieved within the cost constraints is so impressive, thanks to a great team of committed professionals who believed in the project and have always gone the extra mile."

www.bdp.com

NEW

MoMo Sauna

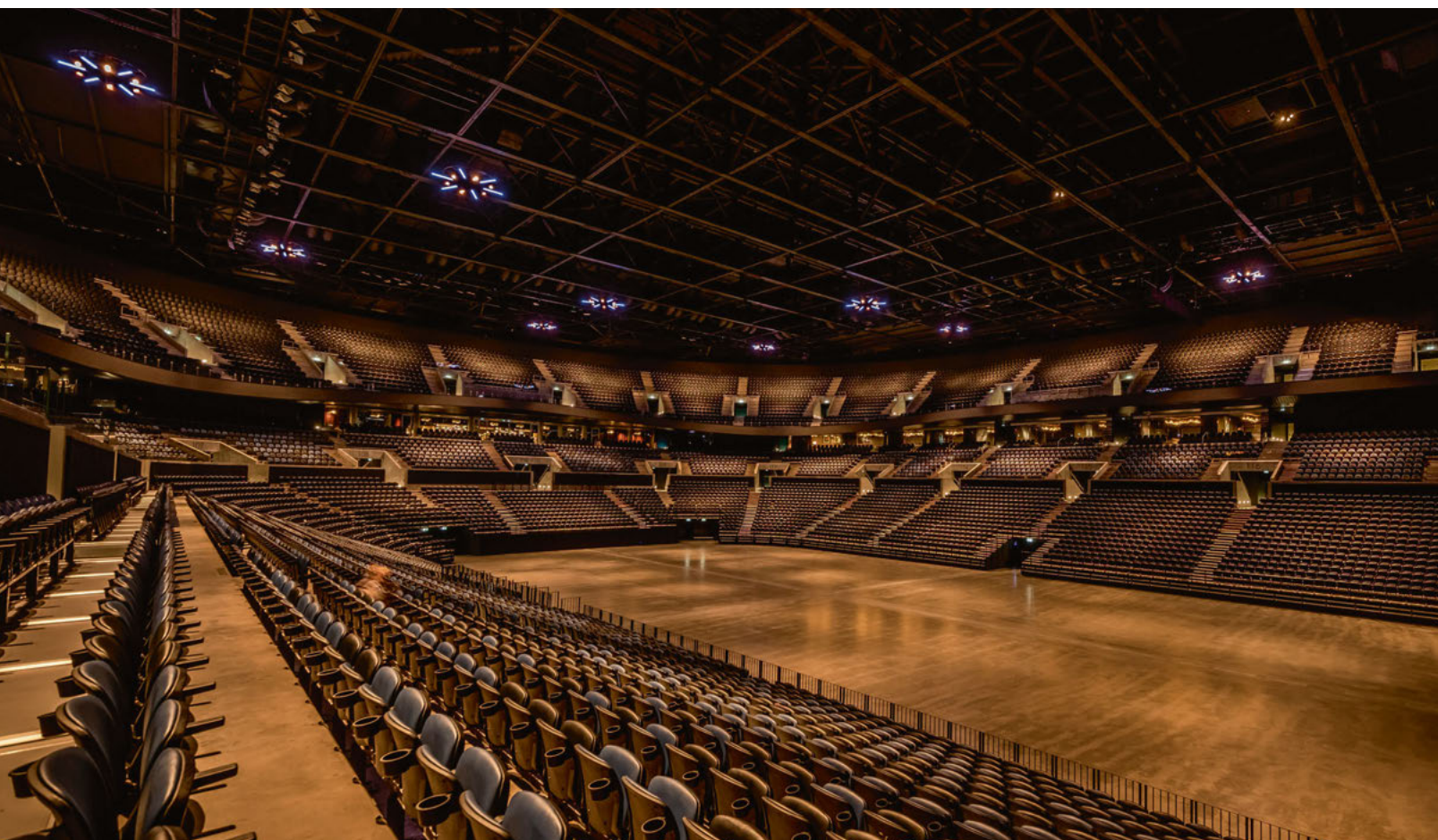
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1:1



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Royal Arena Denmark

A concert is a total experience of the sense. If executed right, it is a moment of magic that transcends the experience of the mundane. A complete experience of a concert is, however, not limited to the performance itself. It also includes the build of expectations on the way to the venue, the arrival, the electric silence before the show, the release of tension, the highlights of the performance, and the shared euphoria that lingers on the way home.

It was with this complete experience in mind that Fortheloveoflight and Taintec sought to develop a lighting element that could accompany the crowd from arrival to departure, making sure that the magic never dies along the way.

The Royal Arena is a new multi-functional arena for the city of Copenhagen. With a capacity of 16,000, the arena hosts a multitude of events, from concerts, to talks, to televised sporting events.

As a music venue, Royal Arena has faced a challenge familiar to many large venues; the need for flexibility and multi-functionality requires that the space can be stripped down to an empty room. As a result, the space lacked a recognisable identity.

The aim of the new walk-in light for the Royal Arena was to solve the lighting task of creating a more atmospheric walk-in experience, but also to introduce a clearly identifiable and recognisable element, that captures the DNA of the space, while strengthening its visual brand on social media.

The new lighting is anchored in the radial language of the arena's architecture. Meeting the physical limitations and the lighting requirements of the space, lighting

designers developed ten custom chandeliers. With a diameter of 2.5 metres, each chandelier takes its shape from the radially converging lines of the arena, creating a star. Furthermore, the chandeliers are distributed across the ceiling of the arena in a way that accentuates the radial construction of the roof.

Each star contains several light elements; a diffuse colour-adjustable element sets the atmosphere in the space with a soft light that brings the space together. A soft red light can set the scene for a night of intimate music, while more bold colours can hype up the crowd for an energetic night, or colour-match the arena to fit a specific production.

Alongside this, each star contains a directional lighting element that creates a warm and inviting focus, structuring the space. The directional spotlights are fitted with custom acrylic snoots that eliminate glare and create a warm glow, making the spots an integrated part of the stars' appearance.

The 140 fixtures contained in the ten chandeliers can be controlled from a remote panel that can be positioned anywhere in the arena. Lighting technicians also have the option of controlling the chandeliers from the main lighting desk, allowing complete integration with stage lighting.

With the new stars illuminating its ceiling, Royal Arena now has not just an atmospheric walk-in light, but also the ability to integrate the entire ceiling in concert productions, bringing a distinct visual identity that is easily recognised, without any words needed.

www.fortheloveoflight.dk

www.taintec.dk



Crispin Place Market UK



Inspired by the history behind the Huguenots silk weaving community and their influence in transforming Spitalfields into 'Weaver Town', Studio 29 has designed a lighting installation within Crispin Place Market, using silk moths as its inspiration.

The silk moths are suspended at high level, which is noticeable from around the market and side streets, drawing people into the marketplace during the evening.

The installation consists of 40 self-illuminated, colour changing 'silk moths', arranged at various heights to portray a large group of moths flying through the market. This creates an unusual and vibrant installation piece, which alters the atmosphere within Spitalfields.

In order to emphasise the installation and attract people from afar, the moths are designed to be large pieces, spanning 1.8-metres in length and 1.5-metres in width. Made from clear polycarbonate sheets to give a 'lightness' and resistance to heat, the moths have RGB LED tape recessed into their perimeter, which evenly highlights engraved patterns designed to celebrate the different types of silk produced by the Huguenots.

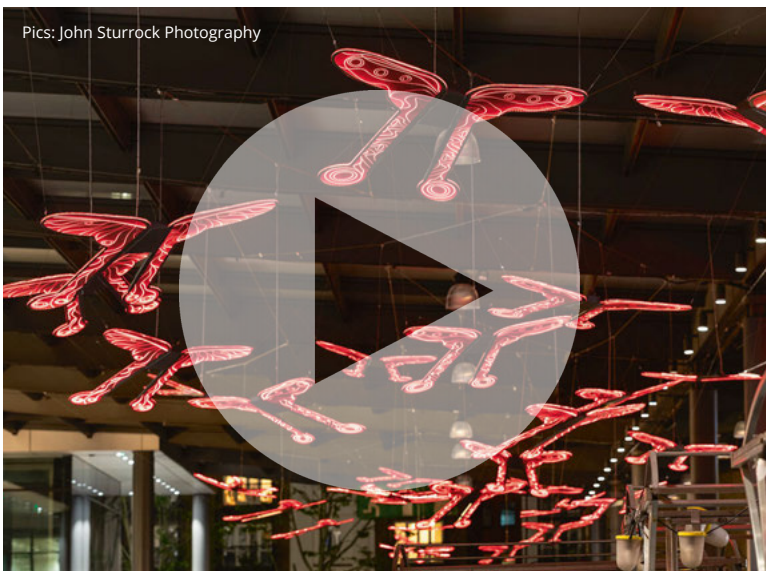
The suspension heights of the moths create an intimate and interactive space for the occupants, creating several layers of coloured lights, sequences and a play of brightness, depth and height.

By installing the LED months, the client – Bishop Square SARL – has seen a reduction in energy from the existing architectural fittings, as these are now switched off during the evening. The existing industrial festoon lighting to each of the market stalls has also been switched off, further reducing energy consumption.

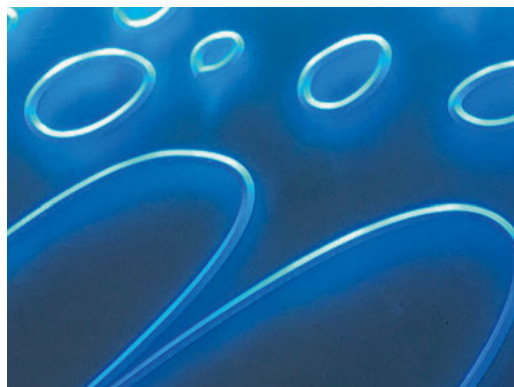
The moths form part of the architectural control system, and have been designed to only switch on at dusk and switch off at midnight, minimising energy usage while maximising the effectiveness in the market area.

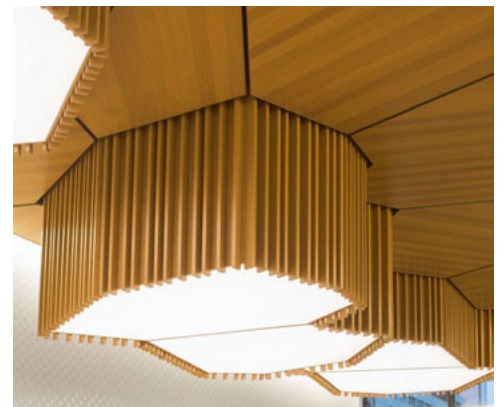
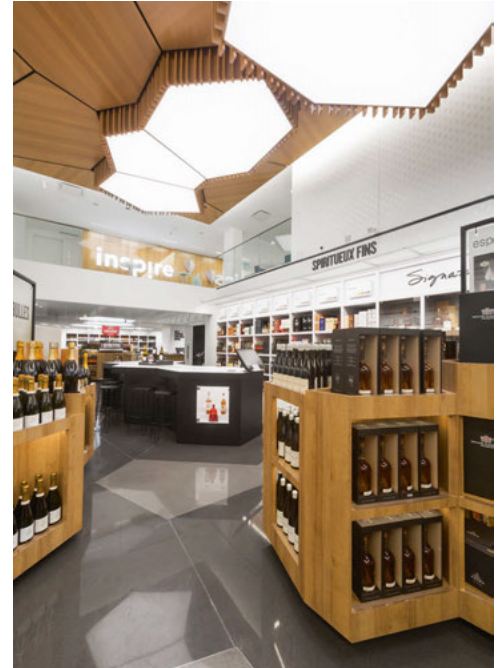
Each silk moth has the capability to change colour across the day to mimic a silk-worm's metamorphosis. Additional scenes have also been created for key dates, such as a rainbow distribution for Pride, and red for Remembrance Day to allow Spitalfields to mark these occasions and be a part of the community.

www.studio29lighting.com



Pics: John Sturrock Photography





SAQ de la Montagne Canada

In Quebec, the sale of wine and spirits is done through the Société des alcools du Québec (SAQ), which operates more than 400 points of sales throughout the province. Although there are design standards for the branches, on a few occasions, the state-owned enterprise creates flagship stores that allow for experimentation, to adapt its branding to the ever-changing customer tastes and global marketing trends.

The location of the SAQ de la Montagne branch is notable for two reasons: the shop is in the Golden Square Mile, historically one of the most prestigious neighbourhoods in Canada, and is part of the brand new Four Seasons Hotel in Montreal.

Canadian lighting designers CS Design had the opportunity to develop a unique lighting concept that distinguishes itself from typical commercial lighting approaches by creating a unique space, while simultaneously enhancing the brand image of the SAQ Selection/Signature Branch.

Working in collaboration with Blouin Tardif Architects, the lighting concept developed consists of irregular

geometries, inspired by the pentagonal structure of plant cells. The alternating arrangement of luminous objects also encourages visitors to circulate, to discover new products while appreciating the space. The use of light as a material, integrated into the architecture and interior design, results in the multiplication of light surfaces and a play of contrasts. With a ceiling defined by giant wooden luminous cells, the boutique also hosts a bright retro-lit table, serving as a presentation tool for employees during cocktail demos and other events.

Lighting from the likes of Vode, Cooledge and TLS helps to create a calm, evenly-lit environment throughout the space. In the Wine Cellar space, uniformly backlit ceilings establish a connection with the geometric pattern on the floor. Recalling skylights, the cells illuminate the space with a homogenous ambient lighting, featuring a cool white colour, intended to evoke daylight. The wine collections are lit by a warmer light, increasing the contrast between the display and the rest of the space.

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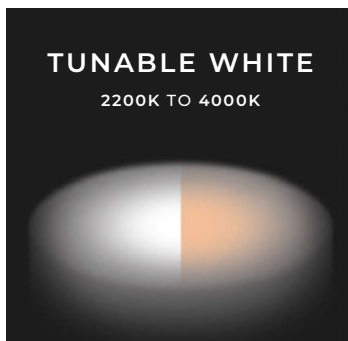
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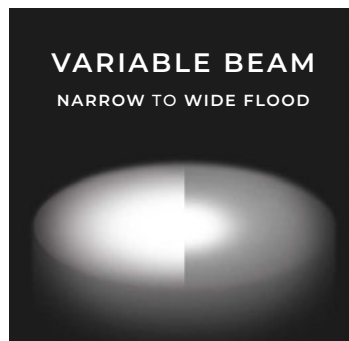
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Quadrant Arcade UK



AECOM Lighting Design, in collaboration with architect Barr Gazetas and client The Crown Estate, has transformed the Grade II listed Quadrant Arcade in Regent Street, London, into an elegant new retail destination for the West End. Regent Street's only arcade has been revitalised through arranging the right light in the right place, while maintaining and emphasising its unique historic character to create an outstanding retail space and public realm experience, day and night. The Grade II listed space had previously been obscured by a Regent Street column that had concealed its potential. The column was removed, and street facing shop fronts were redesigned using a continuous glazed curve within a bronze portal that conceals homogenous linear illumination, framing the new opening and creating a seamless entrance off Glasshouse Street. The Glasshouse Street entrance features a backlit glass screen with uplit columns as a focal point to attract attention and enhance the passage visually through the arcade. Contemporary lighting and clearly identified entrances create a welcoming presence, with clear night-time legibility, allowing the space to become a draw in its own right. Listed interiors have been rigorously restored, and essential historical architectural features highlighted, taking

care to consider how new lighting would be installed. Luminaire mounting and cable run placement are discreet, so that contemporary elements and visual clutter are minimised. Low-reflective glass in shop fronts provides a perfect display for retailers by limiting reflected glare from new lighting, which is also aided by careful focusing so that only the ornately detailed internal elevations are illuminated. Individual arches are depicted by light to pronounce their historical forms and link to ceiling details. General, ambient light is used holistically, and effects staged hierarchically to achieve variations in light patterning that create interest and promote increased use of the space. Strategic incorporation for design and placement of the main dynamic feature pendant was managed together with the artist so that effects appear more subtle than overwhelming. Combined with the intelligent control system, interaction between architectural ambient lighting and the theatrical feature pendant encourages the perception of a unique rhythm reflective of the West End. As daylight fades, light dynamism gradually brings vividness and vitality to the space. Each effect becomes a random display of light that makes each visitor experience unique.

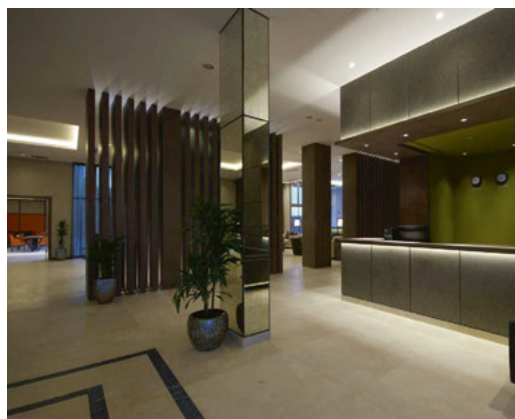
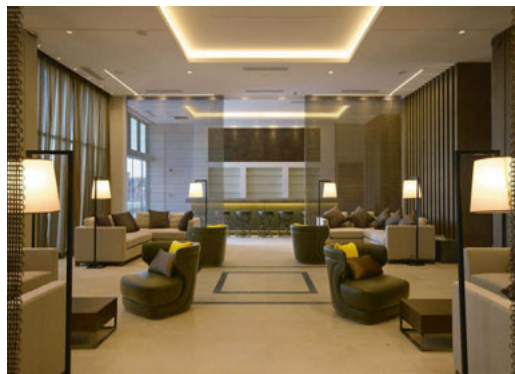
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Truly Lighting

Having taken part in the Residential Lighting Conference at [d]arc room, we take a closer look at some of the impressive residential and commercial projects from across London-based Truly Lighting's portfolio.



Al-Bustan Residences Al-Bustan, Saudi Arabia

The Al-Bustan Residences is a 72-room hotel in Saudi Arabia, located within the Al-Bustan Village compound, a luxurious gated neighbourhood where residents are surrounded by world-class services.

Truly Lighting worked closely with the wider project team to create a lighting scheme that complements the hotel's modern and sophisticated décor. The interior of the hotel references its location within the Middle East through subtle detailing, rather than bold statements. The lighting design underpins this and draws gentle attention to the theme.

Using a combination of feature pendants, intimate table and floor lamps, and recessed down and up lights, the design creates a subtle sense of luxury. Truly Lighting also used concealed linear lighting to deliver further illumination in an elegant and discreet way. By accentuating the sumptuous materials and patterns, the lighting ensures interest and warmth to the surroundings, creating an inviting atmosphere.

Maya London, UK

Maya is an all-day brasserie found in the vibrant centre of Knightsbridge. Offering a unique culinary experience, with a belief in warm hospitality and outstanding service, the interior reflects the venue's personality and atmosphere. Truly Lighting has underpinned this with a unique lighting scheme, starting with a visually striking illuminated ceiling, which is balanced by soft wall lighting, table lamps and uplighting behind the banquette seating. Wall lights and unplugged table lamps, both in gold colours, were carefully selected to enhance the décor while offering the ideal levels of lighting for these areas of the brasserie.

The use of extra warm white LEDs complements the sumptuous tones of gold and champagne, while mirroring the warm welcome offered by Maya. By using different layers of lighting, Truly Lighting has created a scheme that delivers lighting scenes to take diners seamlessly from breakfast to dinner.



Country House Hampshire, UK

In the heart of the picturesque county of Hampshire, the lighting design at this Grade II listed home is thoughtful and considerate of the classic interior and its natural architectural features. By using the floors, walls and ceilings to incorporate lighting, Truly Lighting has created different layers of illuminations. This helps to ensure the mood setting can vary as each day progresses and the needs of the space change from morning to night.

The leisure wing at the property is a stunning addition to this already spectacular property. Truly Lighting used the feature wall as a canvas to provide light for the space. Using a concealed LED in a ceiling slot to wash the wall, creating shadows and enhancing the texture of the wall, making the room feel vibrant and bringing the space to life.

The use of coloured lighting in the pool allowed Truly Lighting to play with the light settings and create a range of different options to suit the different uses of the pool, from a refreshing early morning swim to a wind-down dip at the end of the day.



Private Home London, UK

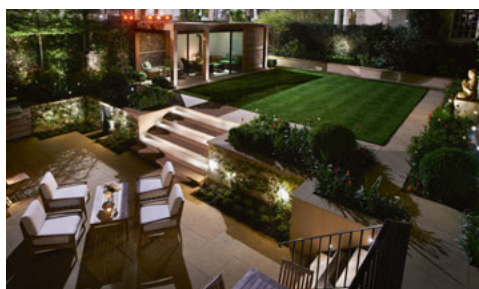
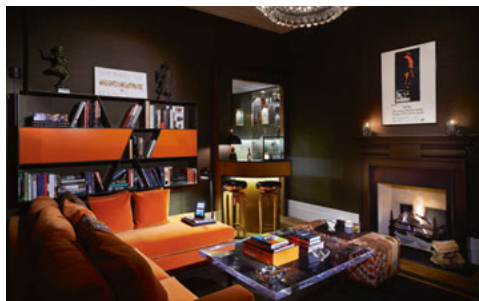
This stunning home, located in the heart of the historic 'Arts and Crafts' area of Holland Park, has been lit to enhance its beautiful architectural features. The addition of the impressive and luxurious double height basement spa to the residence has created the 'wow factor' and added a uniqueness to the property. The basement spa has taken on a completely different feel from the rest of the house, creating an area to escape to from the day-to-day routine. It is a place to relax and unwind, exercise or entertain.

Truly Lighting delivered a lighting scheme that enhances the interesting architectural form, complementing the style and providing a fitting ambience for the contemporary space. With clever technology and custom detailing, Truly Lighting was able to keep the lighting discreet, which has ensured a softer ambience, enhancing the experience while aiding relaxation.

Private Apartment London, UK

Located in London, this Grade II listed home was sympathetically lit to enhance the natural features of the historic interior. Truly Lighting used decorative pendants, table lamps and wall lights to help create a soft and tranquil atmosphere. Downlights and concealed lighting add further interest within the decorative joinery, creating a very warm and welcoming home.

To ensure the garden comes to life after dark, Truly Lighting has treated the outside space as an extension of the home. It is somewhere to dine, relax and entertain, whether in the day or once the sun has gone down. By lighting trees and plants, beautiful effects with shadows from the leaves create bespoke illusions across the garden.



Truly Lighting

Truly Lighting is a fully independent lighting consultancy, owned and operated by lighting designer Christina Nicolaides. Run from offices in London, in 2019 Truly Lighting celebrated ten successful years in business. From country estates to restaurants, private villas to heritage buildings, Truly Lighting has the experience, knowledge and creativity to transform even the most challenging of spaces.

www.trulylighting.com

James Cadisch



The newly rebranded Phos was officially unveiled at **[d]arc room**. Formerly Ecoled, the company announced its new brand with a special film entitled *The Power of Light*. arc spoke with James Cadisch, Development Director at Phos, about the film, the rebrand, and the next step for the company.

How did you get into lighting?

I slightly fell into lighting, as it seems most people do. Ten years ago I left the City for the bright lights of manufacturing and never looked back. What I didn't realise was how passionate I was going to become about the subject and how powerful a medium it is!

You unveiled the newly rebranded Phos at [d]arc room. What was the reason for the rebrand?

Ecoled formed in 2008 when LED lighting was still in its infancy. The company was initially aimed at capitalising on energy saving, as the name intimates. We repositioned our focus in 2013 on the architectural grade specification market. Our business capitalises on its strategic relationships and knowledge from the company's investors, where we have uniquely been able to draw upon a century of materials expertise in metals to create our own superior product lines in the UK. Having undergone a development in both product and core values, we decided a new, more apt brand name was necessary and launched, Phos.

Following the change, will we see a shift in direction or approach from the company?

Our new focus is to support our specification partners in challenging our target customers to rethink their decision making on the importance of their lighting, and the positive impact products such as ours can make to their homes or businesses.

Why "Phos"?

We place significant emphasis on the provenance of the materials we use to manufacture. These are the building blocks of our products. 'Phos' is a Greek word, which holds an important place in the building blocks of the language of the Western world. Phos means 'light' and represents our dedication to this magical medium in all its glory. Phos is an evolution of over a century of technical expertise, forward thinking creativity and precision engineering. This combined knowledge within the team has culminated in the rebranding of our architectural lighting company.

Alongside the new brand, you launched the film *The Power of Light*. How did this come about?

At the heart of our company is a passion for lighting and its significance in our world. Light is arguably the most influential force on how we perceive and connect with the world around us, but we felt that people often overlook the impact it has on us and the spaces we inhabit. The best way to try and articulate this message is through a film and after two years we finally got there!

What do you hope to achieve with the film?

We believe in *The Power of Light* and our ambition is to build a collective

consciousness, and admiration of its benefits to our lives. We hope this film will help elevate light in the architectural environment, so it is fully considered. This in turn should help raise the profile of lighting.

Will you be touring the film around? How can people view it?

We have had a positive response from the film so far and several trade/industry websites and portals are kindly hosting it online for us. Our aim is to also feature it at other trade shows and events throughout the year too. Alongside these, the film can be found on our website, under our *Power of Light* section. We are also releasing a series of exciting and informative content, told through some of the world's most respected and celebrated lighting designers, called Conversations with Light. Their passions and beliefs are aligned with our core values and focused around the emotion that light can bring, so that our community can feel its power.

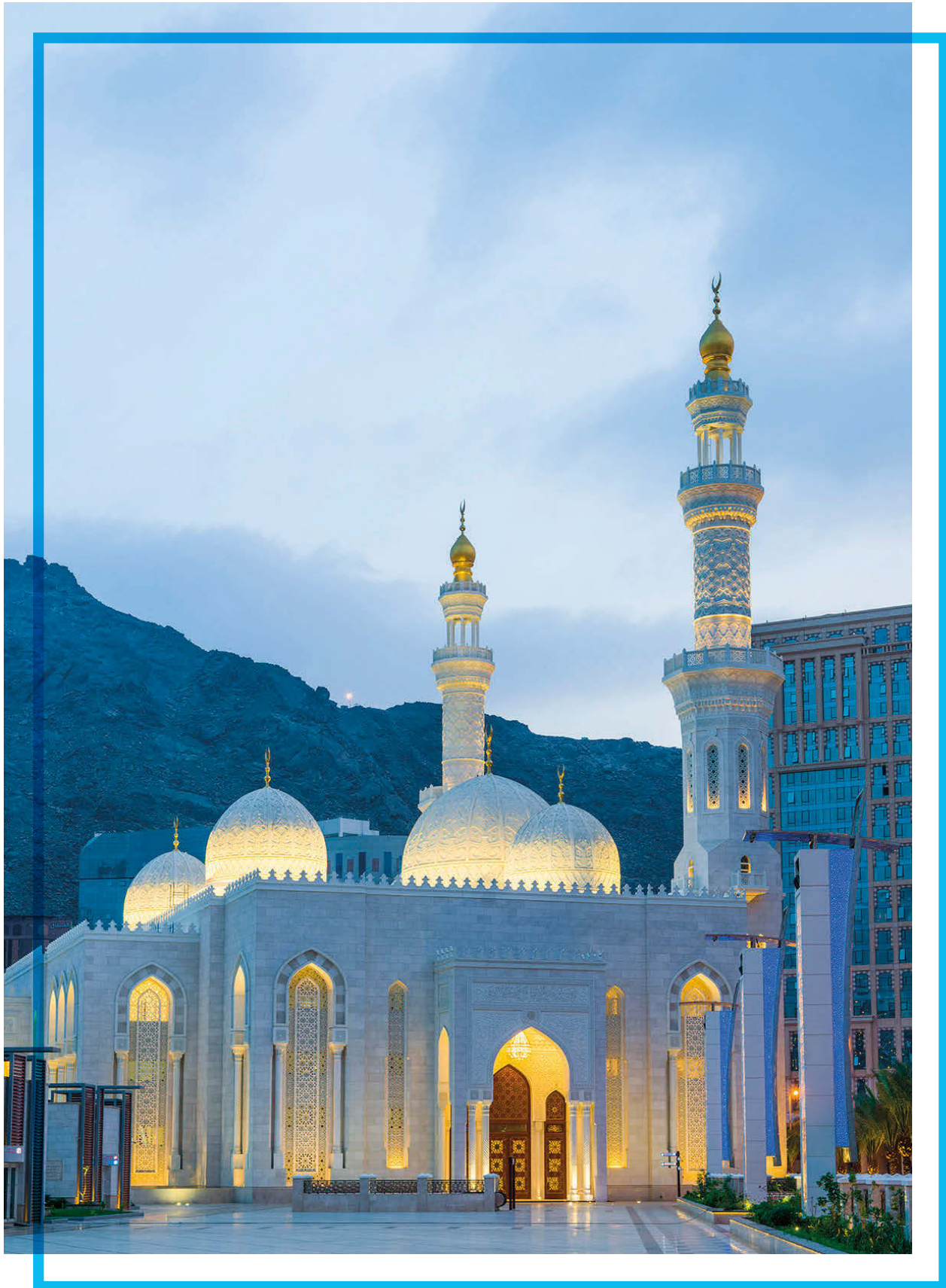
Do you have any new products to coincide with the rebrand?

The rebrand is a culmination of years of background work which the company has undertaken. To compliment the rebrand we are delighted to announce the latest edition to the Phos family; the highly versatile, modular patented projector range for indoor and outdoor, the Orba. Our design philosophy has always been to develop and engineer highly original products. Our new spot light range is not just another "Can on a stick", but a sphere. The range features a wide choice of installation options from track, recessed, pendant and drop tube. The high range of adjustability is achieved by a magnetic 'puck' and rail design that enables the lighting designer complete control when commissioning.

What do you think the future holds for the lighting industry?

I think it is an incredibly exciting time to be involved in the lighting industry. When I first started in the industry, LED technology was still very much evolving, and people didn't always understand the importance of light or using a design consultant such as a lighting designer. A decade on and the industry is looking very different. The technology is superlative, and consultants really do have a design palette of lights to choose from. Creative limitations are only in the eye of the designer. Consumers and end clients are becoming much more aware of how integral lighting is to the success of an architectural scheme and on the back of this more and more lighting design practices are appearing. We at Phos truly believe that lighting is finally becoming a key factor in the building industry and we feel proud to be part in elevating its importance and help advocate its power!

www.phos.co.uk

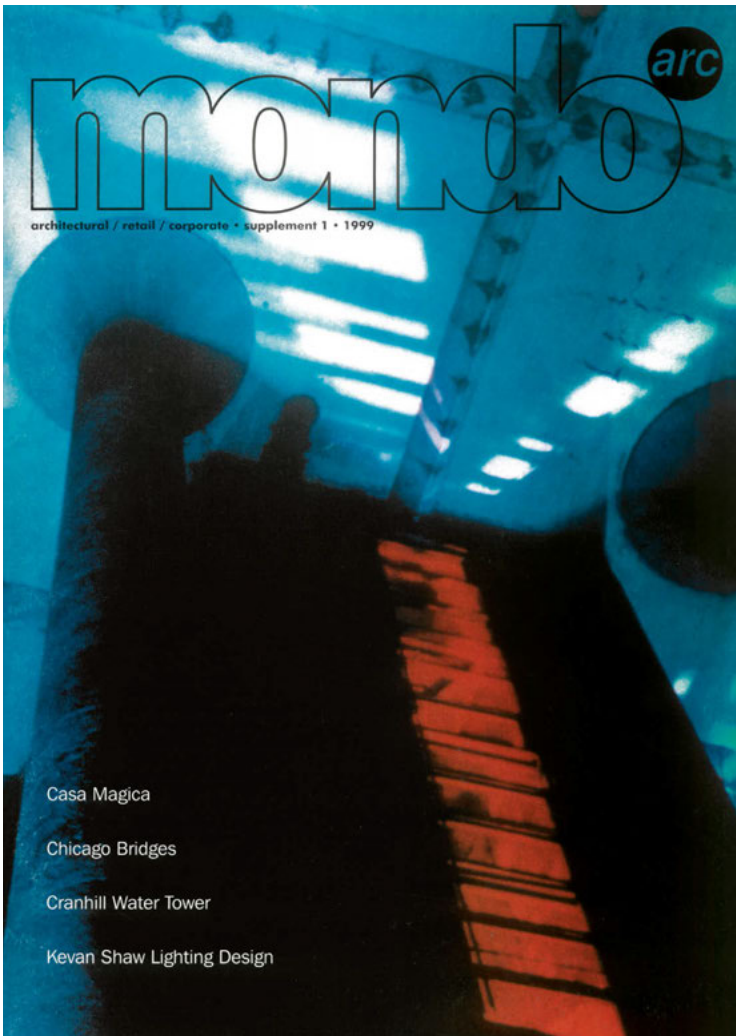


Al Azizia Mosque, Mecca, Saudi Arabia
Lighting Designer: UMayA Lighting
CO-CREATION PROJECT

20 Years Young

Back in the heady days of November 1999, the world was a very different place: we were facing a new Millenium, the first iPhone was still seven years away, and a small supplement called mondo*arc was launched...





“The past 20 years has seen a complete revolution in lighting technology. Focus on energy use for lighting, has been enshrined internationally in lighting regulation and sustainability tightly integrated to our design practice.

Over these tumultuous decades, arc has brought us knowledge but, more importantly, design focus through inspiration from unique and challenging lighting projects featured in the magazine, alongside articles by and about thought leaders in lighting design and light art. arc is a unique and special magazine that literally enlightens the profession of Lighting Design. Long may it continue!”

Kevan Shaw, Founder, KSLD

THEN

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Nov 1999

On the cover: Cranhill Water Tower, UK (Lighting Design: Northern Light)

Interviewed: Kevan Shaw Lighting Design, UK; Casa Magica, Germany

Featured: Chicago Bridges, USA (Lighting Design: Tracey Dear); Benetton Playlife, Italy; River of Light, UK; Der Neuer Zollhof, Germany (Lighting Design: Lichtspiel)

To quote the famous Beatles song, it was 20 years ago today that the first instalment of **mondo*arc** was published. Initially starting out as a supplement to **mondo*dr**, Mondiale Publishing’s magazine dedicated to technology in entertainment, it’s something of an understatement to say that we’ve gone through some pretty major changes since our humble beginnings. It’s been a long journey for the **arc** team, with an incredibly steep learning curve from the offset – our Managing Director Paul James has been with the magazine since issue one, and he admitted that back then, he didn’t know his Artemides from his Zumtobels (or ‘Zumbotel’, as he printed in 1999), while our only solid connection to the lighting design world came through Speirs + Major, thanks to their work in the entertainment sector. Since then, through the encouragement of key players in the profession such as Jonathan Speirs and Mark Major, we’ve thrived, going out on our own, establishing ourselves as the leading publication in the industry, and celebrating a number of landmarks along the way, culminating in our big rebrand to **arc** this time two years ago to mark issue 100 (although we still find ourselves being referred to as “mondo” from time to time). To celebrate our silver anniversary, the **arc** team has spent the last few weeks looking back through our archive of back issues, and it’s been hugely interesting – especially for those of us who are, comparatively speaking, relatively new to the industry – to see how lighting design has changed over the years. Obviously we all remember the big LED revolution, but the shifting trends in lighting design has been fascinating to see.

With this in mind we’ve cherry picked some of our favourite covers from the past 20 years, which you can see overleaf.

“Congratulations to arc on its 20th Anniversary! Only four years ago your team sought us out, and patiently presented a customised, flexible proposal to include us in your leading industry platform. We have never looked back and couldn’t be happier with the results. Thank you for letting us play! The magazine and your team deserve every success and we are honoured to be part of your 20th Anniversary issue. To the next 20!”

Sharon Maghnagi, formalighting

“Thank you very much arc for your valuable contribution to our Lighting Design Profession. The variety of topics, the well designed layout, the global perspective and the brilliant, high quality articles have been a great ‘lighting’ company the last five years. arc and darc magazine have been a continuous source of inspiration for me as a young designer and as a lighting design student some years ago. I wish you could all see my reaction when the post arrives at Urban Electric’s office :-)

Katia Kolovea, Urban Electric



#02 May 2000



#04 Apr 2001



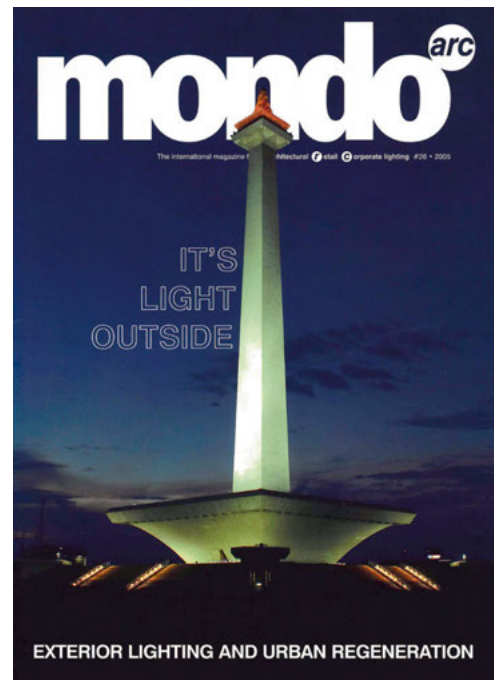
#07 Apr 2002



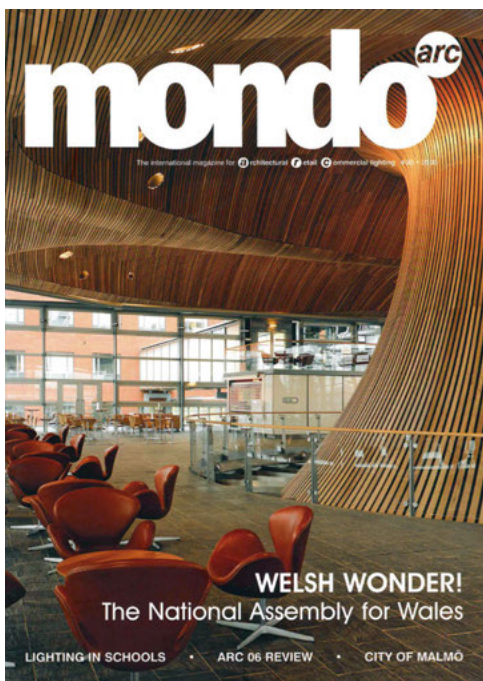
#15 Nov 2003



#21 Oct/Nov 2004



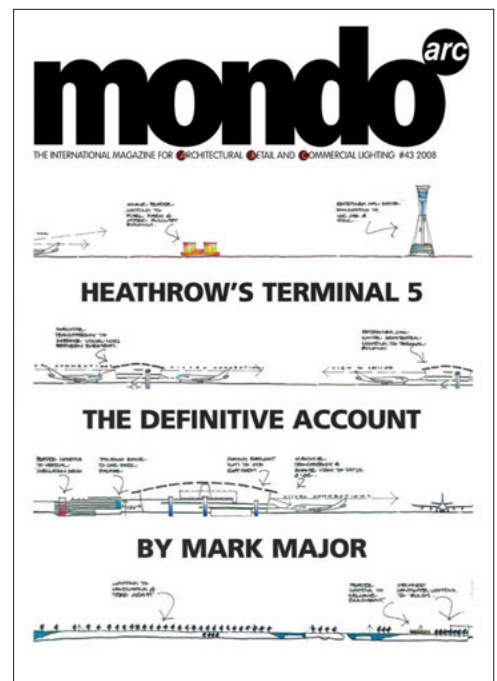
#26 Aug/Sep 2005



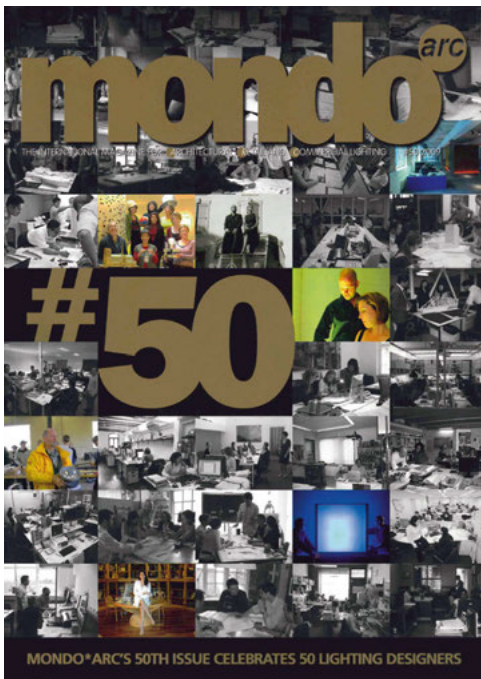
#30 Apr/May 2006



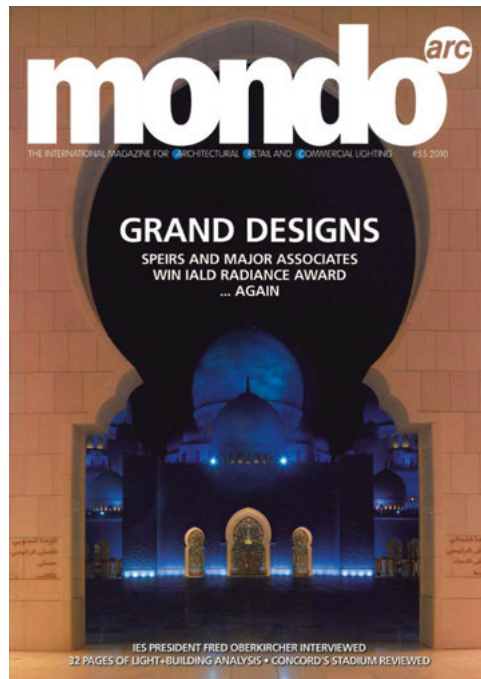
#38 Aug/Sep 2007



#43 Jun/Jul 2008



#50 Aug/Sep 2009



#55 Jun/Jul 2010



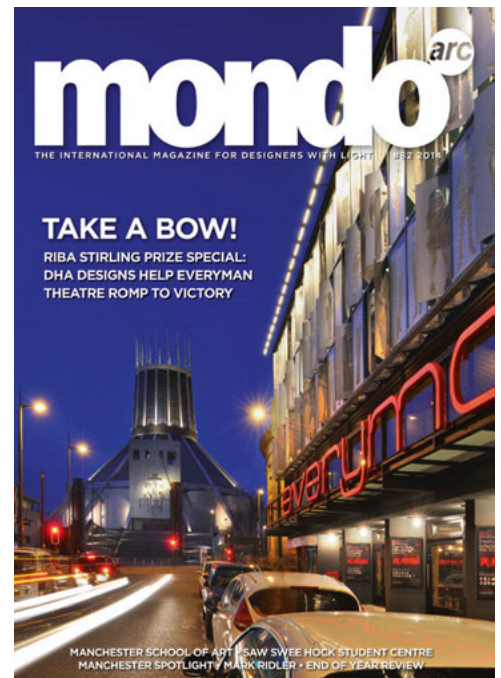
#62 Aug/Sep 2011



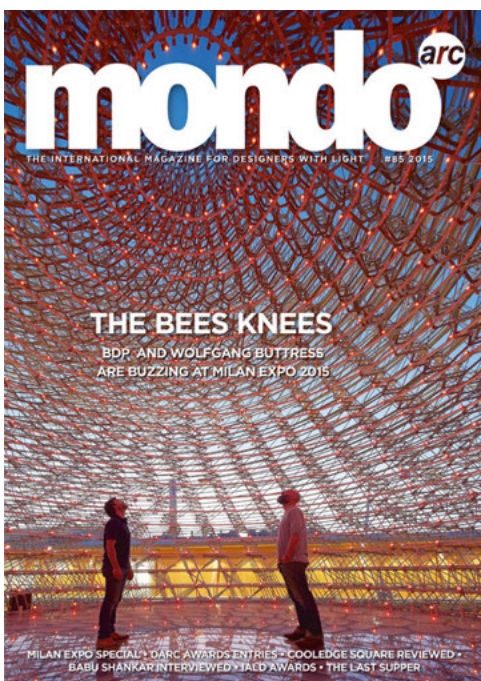
#69 Oct/Nov 2012



#73 Jun/Jul 2013



#82 Dec/Jan 2014/15



#85 Jun/Jul 2015



#90 Apr/May 2016



#100 Oct/Nov 2017

“Much has happened in the last twenty years in lighting design. During that time arc has always been at the forefront not only of covering what has happened - but also being a source of inspiration for what is to come. Paul James and his team have done an incredible job championing the emerging profession and helping to raise the standards. Happy Birthday!”

Mark Major, Principal, Speirs + Major

“arc is by now the only magazine that is published in a format that is generous to imagery and that is hand-delivered to your desk. The magazine is a truly unique way to share your projects and your vision on lighting design, to get lots of inspiration and to gain technical expertise. And with the addition of darc, its exhibition and the awards, arc has become an essential ecosystem for every lighting designer.

Rogier van der Heide

NOW

#107

Dec/Jan 2018/19

On the cover: Hintze Hall, Natural History Museum, UK (Lighting Design: DHA Designs)

Featured: [d]arc awards / architectural winners: Lava Tunnel, Iceland (Lighting Design: EFLA); Black Prince Road, UK (Lighting Design: Michael Grubb Studio); Agemar Headquarters, Greece (Lighting Design: Eleftheria Deko); Coralarium, Maldives (Lighting Design: Mushroom Lighting); Ambience, Australia (Lighting Design: Ambience)



Alongside producing our regular, bi-monthly magazine, the last few years have seen the team expand the brand in a number of new directions. First, we introduced **darc** magazine, our sister publication dedicated to decorative lighting, back in 2012. Now headed up by [d]arc media Managing Editor Helen Ankers, **darc** has continued to grow at a fast pace since its launch, and we look forward to the title celebrating landmarks of its own in the coming years.

The last five years has also seen the creation of [d]arc media, expanding our presence in the world of events. In 2015, we teamed up with Light Collective to launch the hugely popular [d]arc awards. Now a regular fixture in the lighting design calendar, the [d]arc awards has become a stand-out platform to celebrate the most awe-inspiring projects and innovative new products each year. We're just about to celebrate our fifth edition of the awards - voting is currently open, and our annual awards party, [d]arc night, will be held on 5th December, once again at MC Motors in London (you can preview some of this year's entries in our Spotlight section on page 36). Alongside the [d]arc awards, the [d]arc media team has, since 2017, partnered with Light Collective to host our own lighting specification exhibition, [d]arc room. A creative exhibition for specifiers and designers that brings together exhibitors, workshops and live talks, the show has, in just three years, grown to become the UK's leading lighting event.

A lot can happen in 20 years, but despite all of our successes, we couldn't have done any of it without our readers, so thank you for being a part of this journey with us. We're incredibly proud of our past, and we're all incredibly excited about the future, not just for us, but for the whole lighting community. Here's to the next 20 years! ■

“Dark Source owes a lot to the arc family for their mad decision to feature comics in a lighting magazine in 2013. I sometimes wonder if arc had not been such a massive support, would there even be a Dark Source? The courage of the magazine and its brilliant staff made it possible for Dark Source to exercise its vision and voice. We celebrate the 20th anniversary of the magazine with our friends at arc and thank you for the unique value you added to the world of lighting with your daring and visionary approach.”

Kerem Asfuroglu, Dark Source

“In our professional opinion, arc has always been the No. 1 architectural lighting magazine in the world - both in terms of project and product coverage and also its in-depth interviews. From a personal point of view, we have hosted the back page for as long as we can remember and have appreciated the opportunity to involve hundreds of amazing designers from around the world. arc has supported us in many of our mad ideas and we are particularly proud of the other collaborations that have evolved from our relationship with the magazine that have challenged the lighting norm - [d]arc room and the [d]arc awards. Thanks arc!”

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Announcement from Martin Valentine, LIGMAN Global Design Director:

LIGMAN are delighted to be supporting and working with Light Collective and arc on the exciting new International Lighting Designer Family Tree. This far-reaching global initiative will explore the backgrounds, education and career paths of the lighting design profession worldwide.

Read the full announcement found elsewhere in this magazine and please make it a date to come visit us at Light & Building 2020 on the LIGMAN Stand.

Come and put yourself on the 'map'!



The 'F' Word

“Women in Lighting and Design is a feminist organisation. We believe in the equality of the sexes and strive to promote and encourage this in the lighting industry.”

Assistant Editor Sarah Cullen spoke with Kelly Roberts and Megan Carroll, key members of WILD – Women in Lighting and Design – to discover more about the organisation that celebrates and supports professional women in the lighting industry across North America.



Previous Page Women in Lighting and Design gather at numerous lighting conferences and events across North America.
 This Page (From Left) Jill Rebik, Rachel Gibney, Megan Carroll, Rita Harrold, Natalia Lesniak, Kelly Roberts

During the mid-1990s, a pattern emerged as professional women across the lighting industry met at international lighting conferences and events, and realised their conversations centered on parallel journeys and roles as women in the industry. Megan Carroll, currently Senior Specification Sales Manager at New York Digital, participated in these early conversations. Working as an informal network, WILD, Women in Lighting and Design, was established as the place where women in the industry could come together to discuss gender matters and more. A decade later, Kelly Roberts, Studio Director of Wald Studio, joined in the discussion, taking a leadership role to shape WILD today into a better organised, mission driven group of professional women. “We knew that women had become a significant presence in the lighting industry,” reflected Carroll. “We enjoyed each other’s company, but lacked some of the same networking connections as our male colleagues. We knew we wanted to come together more purposefully, to learn from each other and to support each other – to network and share.” At the very beginning, when momentum started building, they would organise spontaneous gatherings in their homes or businesses where word of mouth started to spread. “Today, we utilise simple digital tools to send our message and to

connect women across the country and to promote our events,” explained Roberts. “Chapters [localised groups] are home grown and develop naturally as leaders come forward. Each chapter controls their own events, allowing growth within those communities at their own pace. A core group of volunteers from each chapter make up the ad-hoc national committee to help plan networking events at larger conferences.” “The group functions solely on a volunteer basis, as Carroll explained: “We operate independent of dues or sustained, annual financial support of sponsors. This has made for some interesting pot-lucks, like the ‘all hummus’ or ‘all sweets’ gatherings. Volunteers do it all.” “That said, recently sponsors have begun to approach us to offer their financial support. That gesture is very telling and appreciated.” Carroll and Roberts have observed that many of the sponsors that have approached them to offer financial backing were either owned by women or had female contacts at the company who wanted to support their community. “However, recently we have seen a growth in the number of men or male-owned businesses that are interested in supporting our chapters. This is encouraging as the message WILD tells, and growth we support in the lighting industry, is for everyone. When women succeed, we all succeed,” championed Roberts. Over time, as the meet-ups grew and developed, so did the name of the organisation. Different communities formed and other titles

WOMEN IN LIGHTING + DESIGN



Top (From Left) Natalia Lesniak, Jill Rebik, Shoshanna Segal, Caroline Rinker
 Above (From Left) Michelle Douglas, Amanda Arikol, Francesca Bastianini, Kelly Roberts
 Right IALD goes WILD at Enlighten Americas 2019 to celebrate the IALD's 50th anniversary.

like Ladies of Lighting were used, as the original name of Women in Lighting Design felt limited to the design community. However, even as new names were considered, Roberts and Carroll felt they couldn't abandon the charm of the WILD acronym. By adding the 'and' between 'Lighting' and 'Design', the organisation holds more weight: "The 'and' is more encompassing. It invites women from all parts of the lighting community to be a part of WILD. We also don't ask that any previously existing groups change their name. We act as a conduit for communication, and they are offered the chance to come under the WILD umbrella to join the network, and yet keep their local identity if they prefer," explained Carroll.

Gathering at some of the industry's top lighting conferences in North America, the women look to openly discuss multiple workplace issues and topics that affect both men and women. "Our events focus on topics such as professional growth, workplace sexism, financial health and parental planning, as well as supporting charitable causes," explained Roberts.

"These are not simply women's issues, but are issues that affect the entire community. WILD is open to anyone in lighting: manufacturer, rep, distributor, engineer, designer, human resources, etc. Everyone has something to offer the group and is welcome to attend. We are first and foremost a networking group, and that network was begun for and by women.

"Many issues are repeatedly explored at gatherings because they

haven't been resolved after just one discussion. Our perspective is limited and, while each country and even each region in the United States has its own culture and norms, it's very helpful to see which topics are recurring," continued Roberts.

"For example, when compared to many other developed nations across the globe, the United States is lacking in parental support. It is telling that one of our main topics of conversation continues to be how women (and men) can both work and raise children, or care for their parents, or take a leave of absence for a disability. Sharing our stories and being vocal about our needs reverberates in the industry and helps drive change."

Following suit with universal industry topics, the group also puts a spotlight on the financial world and the gender pay gap that is something most industries are currently dealing with.

"In New York we have annual financial seminars presented by financial planners or local lighting business owners to provide education and guidance. In an industry where many are looking to start their own business or learn investing techniques, this is an important topic with information that is typically not provided elsewhere," explained Carroll.

Tackling the gender pay gap was recently on the agenda at LEDucation 2019 in New York. "The gender pay gap is a very real and frustrating reality for many women. Pay transparency can lead to more equal wages, but the topic is frequently considered taboo," she added.



(From Left) Moderator: Kelly Roberts, Panelists: Susan Gochenour, Melissa Deutsch Stein, Maggie Spiegel host a financial seminar that are typically presented by financial planners or local lighting business owners to provide education and guidance.

Aside from helping and supporting those in the lighting world, the WILD teams are also passionate about giving back to the community. Such charitable acts include: donating products for women’s health and hygiene to shelters for abused women; hosting events to support young girls’ education in computer science or in the arts; and supporting charities that WILD members feel personally about. “We’ve also established yearly collaborations with some charities, specifically a breast cancer survivor group in New York called Paddle for the Cure. They offer a unique survivorship programme that uses recreational dragon boat paddling to manage side effects of treatment for breast cancer survivors and promotes a positive and healthy lifestyle,” explained Roberts. “WILD has helped build their yearly fundraiser – a bowling tournament – which has become a much-anticipated mixer event for the entire industry. Whichever charity we choose, we are always conscious of impacts on the local community and where we can do the most good. We are always women supporting women.”

Upon reflection, the WILD members have also found it a useful tool to look at the societal feminist shift that occurred in the United States during the 1970s and 80s, and how the lighting industry has changed and adapted to these changes over the years.

“As chapters become more established, their events grow around the needs in their communities,” reflected Carroll. “It’s actually quite interesting to witness the change in the lighting industry through a WILD lens, as new faces come into the field. The huge feminist growth that the United States saw in the 70s and 80s is largely taken for granted by the younger generations. In reality, that is what we are striving for – that the future would see more gender equality and that they could concentrate on fighting for other concerns. Our membership tends to be on the low side for emerging professionals, until their first negative experience in the field pops the bubble.” The current goal for the team behind WILD is to continue to control and encourage its rapid growth, whilst maintaining the local culture of each chapter. “Our single largest challenge is steering WILD locally and nationally as a group of volunteers without infrastructure, without financial support and while maintaining our independence,” explained Carroll.

“We love the spirit of collaboration and growth, but there is only so much we can accomplish right now – so it’s a matter of prioritising what we can do and what will make a difference, while staying true to our mission.

“Women across North America are randomly learning of WILD



Castelfranco Veneto, Italy

The Castle of Castelfranco Veneto, in the splendid Treviso territory, is a symbol of Giorgione's birth city. Linea Light Group designed the relamping of the castle lighting, restoring prestige and value to the fort.
Products: Archiline PRO, Vuelta

linealight.com





Top Left (From Left) Adrienne Shulman, Ann Schiffers, Maggie Spiegel, Ingrid Larson, Michael Peace at a financial seminar.
Top Right IALD goes WILD. Members and supporters gather to celebrate the IALD's anniversary and support their female colleagues in the industry.
Bottom Left Women from all across North America gather at WILD's financial seminars to gather practical information about running businesses and managing finances.

and approaching us to learn how to establish a chapter in their community. Women need a local network for local discussions in their immediate community for support and knowledge sharing.” To further their goals of building relationships and community, you can find the WILD team at two of the largest events in the States each the year; LEducation in New York, with the Designers Lighting Forum, and Lightfair International, next in Las Vegas. “We also collaborate on both an ad-hoc and more structured basis with the IALD, and the Illuminating Engineering Society of North America,” explained Roberts.

“The reality is that many women still struggle on a day-to-day basis with inequalities and harassment, and as long as that occurs, our Women in Lighting and Design network will be needed and will continue to grow,” she elaborated.

Moving forward, the team is working on expanding their network and facilitating new communications systems. An online networking platform is being developed that will encourage further conversations to carry on following events, the ability to delve deeper into certain topics, and expand on ideas that members can use to change their personal stories. It will also benefit those in more rural

situations, that do not have their own networking community, to become a part of the larger WILD network.

This also marks the beginning of a working relationship across the pond between Women in Lighting in the UK and WILD: “The Women In Lighting project is happy to announce the start of a collaborative partnership between WiL and the long established WILD in North America,” announced Sharon Stammers of Light Collective and Women in Lighting.

Carroll added: “We are thrilled to begin a relationship with Women in Lighting and to help encourage our members to be a part of that project. Women in Lighting’s goal to become a database of stories and experiences parallels the work that Women in Lighting and Design has promoted over the years. While our stories have traditionally been told locally, it is a unique opportunity to share them around the world.”

“Whether your women in lighting and design community is a few women or many, WILD has a place for you.” ■

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Northern Lights

The region of Scandinavia has a very unique relationship with light, due to its northern location and extended periods of darkness. But how does this affect the role of lighting designers based there? arc's Matt Waring investigates.

W

hether we are aware of it or not, each and every one of us is shaped according to our culture; our childhood upbringing, our social status, our race and religion – these factors make us who we are. This extends further to a whole host of outside elements too: our geographical location, our surrounding environment, even the climate

where we live – all of this has a huge impact on how we work and our perception of the world around us.

This is none more evident than in Scandinavia. The northern European region is perhaps best known in equal parts for its clean, minimalist design, echoing the sparse landscape, and the stunning natural phenomenon of the Aurora Borealis.

While tourists flock to the region to try and catch a glimpse of this radiant display of light, natural light can be hard to come by across Scandinavia. Its proximity to the North Pole means that the summer months consist of long days with plenty of sunlight, while in winter residents live almost entirely in darkness – in Northern Scandinavia, for example, summer means 56 days of continuous daylight, with 32 days of darkness in winter.





Chiara Carucci



Isabel Villar



Seren Dincel



Aleksandra Stratimirovic

All of this means that the region has a very distinct, unique relationship with light, and its own culture of light that designers have to take into account. While this process might be fairly straightforward for designers born and raised in Scandinavia, how do those from further afield, from different cultures with different climates and, as such, completely different attitudes and perceptions of light, adapt?

Chiara Carucci is a lighting designer at Tengbom. She first moved from Milan to Stockholm in 2015, and she explained the transition of moving from Italy to Sweden: “It was more than a culture shock, especially when I first saw the snow falling, in May!

“When I understood the very different role of architects in the design process, I realised how getting into this culture would have been a challenge. However, I was very curious about Scandinavia, because here there are municipalities such as Malmö that have a lighting designer on staff. Generally, everything is less hierarchical, and the most important thing is the community.”

Isabel Villar, a lighting designer at White Arkitekter, moved to Sweden from Chile thirteen years ago. Initially only intending to stay there for three months, the duration of the Daylight Design course at the KTH Royal Institute of Technology, this turned into a Master’s, and then a job opportunity, and now a place that she calls home. Because of this, she feels that her integration into Swedish culture was a much slower process, although she says that the differences are vast, particularly in the appreciation of light.

“There’s no comparison with Chile when it comes to the cultural awareness Swedes have on how lighting affects us as human beings,” she said. “The lack of daylight during wintertime and the excess of it during summertime is something unique for people living at this latitude, and cannot be compared to the natural lighting conditions people have further down south.

“Here, the sun is something people long for, in Chile it is something we often want to shield from.”

“I had so much sun in Italy, but I never appreciated it as much as I do now,” Carucci agreed. “I find myself doing the classic sun worship, closing my eyes and facing the sun, like a classic Swede.”

While Carucci and Villar have both embraced the Swedish culture and the local appreciation of light on a personal level since moving to the country, they both believe that, when it comes to lighting design, gaining an understanding of the context surrounding a project, whether that be in Scandinavia, or elsewhere, is essential.

“To respect and understand the context and the light culture of the place we are working in is crucial at the start of our projects, and we carry this information with us all along our design process,” explained Villar. “Understanding the local daylight conditions should be at the start of every project, as well as considering any cultural associations that light can have within the context, such as specific traditions or even light preferences when it comes to lighting qualities.

“That being said, every so often we are involved in international



astro

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Pic: Lasse Olsson

Left ÅF Lighting's design for Odengatan, one of Stockholm's most central neighbourhoods, features newly replaced smart lighting luminaires. While providing functional lighting, the levels never become overly bright.

“To respect and understand the context and the light culture of the place we are working in is crucial.”

Isabel Villar, White Arkitekter

projects where the client's wish is to bring the 'Scandinavian flair' into the project, especially when it comes to the design, materials, character of light and colour temperature.”

“In my opinion, it's all about the dialogue with locals,” continued Carucci. “Knowledge about lighting design and its applications, experience in the field and research are not enough. Curiosity, sensitivity and sensibility are fundamental: we should listen and create a concept together with the main stakeholders and, possibly, with the users of the space.

“This research and dialogue can be used to create the basis for understanding, to facilitate the achievement of common goals, and therefore a project tailored, not adapted, to the local context and culture.”

Such research forms the basis of a Master's thesis conducted by ÅF Lighting's Seren Dincel. Dincel relocated to Stockholm having previously worked for JVL Studio in Turkey, and her studies examine the possible connection and influence of Scandinavian culture, climate and way of living on lighting design.

“There is a cultural tendency for being reserved, calm and tranquil among individuals, not bringing something to the forefront as an achievement,” Dincel explained. “Prevalently known as 'lagom' in Swedish, which means the adequate amount of something, not too much and not too little, this has an impact on many things, from social behaviours to design approaches.

“I assume this reflects on the lighting design generally by not making bold or extravagant concepts, or using too bright or dramatic lighting schemes, instead keeping things functional and smooth.” During her relatively brief time in Sweden – she joined ÅF Lighting in late 2016 – Dincel says she has noticed how “city lights are mostly not so bright or colourful, and not all the historical, significant buildings or parks are illuminated, even though these spaces are exposed to longer periods of darkness every year”.

This idea of using relatively low levels of illumination is recurrent across Scandinavia, despite the prolonged periods of darkness. Both in terms of larger architectural lighting schemes, and in residential environments, there appears to be a warmer, altogether more subtle approach to lighting, compared to areas with more natural light.

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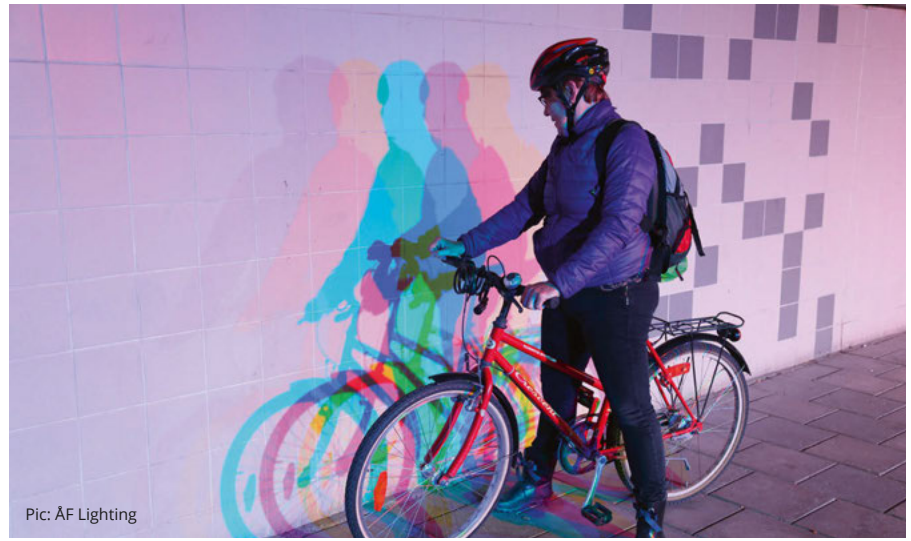
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Pic: Isabel Villar



Pic: ÅF Lighting



Pic: Robin Hayes



Pic: Isabel Villar

Above Left Julstjärna (Christmas stars) are a familiar sight in the windows of residences across Sweden.
Top Right Designed by ÅF Lighting, the *Story Wall* transformed a formerly dark pedestrian tunnel into a secure and fun environment.
Above Middle *Cellula*, designed by Aleksandra Stratimirovic for Alingsås Hospital, is one of several examples throughout her portfolio of lighting being used to aid wellbeing.
Above Right During the summer months, there is a greater appreciation for the sunlight across Scandinavia, with residents wanting to make the most of it while it is available.

“At home in Sweden, we use warm light, 2700K or even lower; we use candles, are very sensitive to glare, and when it gets dark, we dim the lights to very low levels,” explained Villar. “But if you go to places that are hot, take southern Europe as an example, the lights are much cooler, they are more intense as if when the sun goes down you should have the same level of light from electrical sources, and you very seldom see candles around.”
 Carucci agreed: “More or less explicitly, designers, as well as every other person, use light according to their culture.”

“At home, each evening my mother would come in and draw the translucent curtain in the living room when it got dark, and the roller shutter before going to bed, so light from the public sphere wouldn’t bother us and we would have privacy. “Here, nearly every window is not only beautifully decorated, but also features at least one charming lamp, usually hanging, or placed on the windowsill. They contribute to the cosiness of the Swedish flats, of course, but also make the neighbourhood look better and brighter after dark, especially in winter.”

While the local conditions mean that residents across Scandinavia interact with light in a different way, the lack of natural light has a very real impact on the approach of lighting designers, for a variety of reasons.

“It does have a huge impact, and this is something I identified soon after arriving in Sweden,” said Villar. “Because the lack of daylight impacts us so much, physiologically and psychologically, daylight availability and time should be taken into account when designing lighting strategies at this latitude.”

“We strive to run daylight simulations of sDA (Spatial Daylight Autonomy) at early stages of every project, to have a better understanding of how the building ‘breathes’ throughout the year, taking into consideration the different orientation of the rooms and the weather conditions specific to each site. This gives us valuable information to map areas that receive low levels of daylight and that might need ‘higher quality’ of electric light to compensate the lack of natural light, as well as areas with good daylight levels where electric lighting takes a secondary role during the day.”
 “It has increased my awareness and consideration about darkness, both in terms of preserving it and illuminating spaces for the needs of people,” added Dincel.

“However, from my point of view, the balance of using both light and darkness should be key. The conservation of darkness enables us to see natural elements like the night-sky, stars and Northern Lights in the northernmost parts.”

“My colleagues at ÅF Lighting have been working on a project for the new city centre in Kiruna, located in the northernmost part of Sweden, that involves the implementation of lighting control systems for enabling the visibility of the Northern Lights. Several aspects need to take place in order to experience this light phenomenon, however, and in the inner cities where there is too much light, the chances are even lower. The project is still ongoing, however the idea is to use a lighting control system that adjusts illumination levels based on the presence of the natural light phenomenon.”

Carucci added that, because of the prolonged



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“More or less explicitly, designers, as well as every other person, use light according to their culture.”

Chiara Carucci, Tengbom

Pic: Isabel Villar

periods of darkness, effective lighting design, particularly in public spaces, also becomes much more important in terms of safety, security and equality. “I think about it constantly when designing for public spaces,” she said. “Not only is it more complicated to set scenarios and define dimming levels during the night, it’s a matter of culture and background: Swedes know that it’s not only dark at night time. They are in fact used to living in utter darkness for substantial parts of the year. “The development of sustainable and safe environments is vital in most city planning projects today. Usually the goal is to create socially coherent, acceptable urban environments for inhabitants and visitors alike. But what happens to these qualities when darkness falls?

“In order for our urban environments to thrive, we are dependent on the correlation between architecture, urban planning and lighting. In a liveable city, 24/7, one simply cannot live without the other. In the municipality of Eskilstuna, through a frame agreement with Tengbom, through collaborative, multi-disciplinary processes, we are actually providing the right conditions for the development of urban sustainability, equality and economic

progress around the clock.”

“Reinforcing the sense of security outdoors has a tight connection with the continuity of social life, particularly in winter,” added Dincel. “One way to handle extensive winter darkness is through fun projects and lighting events that bring people together and encourage them to spend longer amounts of time outside, although it’s dark outside.” Dincel cited the *Story Wall* in Eskilstuna as a clear example of this. Previously a dark, unwelcoming pedestrian tunnel, ÅF Lighting installed coloured lights along the space – an uncommon occurrence in Sweden – to transform it into a secure, fun environment. Elsewhere, in Fröslunda, Carucci and city landscape architect Malin Christensson have collaborated with an urban anthropologist and sociologist, alongside teachers and 50 schoolchildren to define the real needs of the area. The project was initially based on creating lighting for a path from the centre of the area to the surrounding schools, but it soon became clear that the proposal needed much more than “fun lighting for the kids”. Carucci and Christensson hosted a series of workshops, with children painting jars, drawing lamps and mapping out their routes home, alongside two sessions with the local youth centres, to help define new goals

for the area. “The kids helped us drawing the lighting fixtures for the path, asked for new benches and a new picnic area and soon, their own vision will become reality,” Carucci said.

It has become widely established over the last few years that lighting, specifically natural lighting, has a beneficial, positive effect on our health and wellbeing. It’s one of the main talking points at trade shows and conferences, and we’ve discussed it at length in the pages of this very magazine. Because of the scarcity of natural daylight for large periods of the year, this becomes a particularly serious issue in Scandinavia. Research has shown that the general lack of daylight, and the lower levels of daylight when it is present, are not enough to effectively set our biological clocks, and due to this, people further up north have a higher chance of suffering from Seasonal Affective Disorder (SAD). In fact, recent studies have found that the number of young people in Scandinavia reporting that they suffer from depression, anxiety or other mental health disorders has risen in recent years, which is something that can be connected to SAD. This puts an added onus on lighting designers to create ‘healthy’ lighting schemes that do what they can to boost



Left Because of its long periods of sunlight in Summer, and prolonged darkness in Winter, Scandinavians have a unique relationship with light. **Above** Eskilstuna City Museum, featuring lighting design from Tengbom, perfectly demonstrates the Scandinavian approach of 'lagom', of not too much and not too little.

health and wellbeing.

"We spend more than 90% of our time indoors, a big part of the year with very little exposure to daylight, so our daily rhythm is mainly triggered by the electrical light that we're exposed to," explained Villar. "Every single person knows how it feels when the 'darker' period starts, and can see how it affects others too: the quality of sleep, the energy levels and even darkness anxiety. "We have seen an increased interest in the WELL certification, where higher levels of daylight need to be achieved and circadian light is a requirement in spaces where people stay for more than one hour. Even though there are some parameters that are difficult to implement, and have to be further developed, having the opportunity to discuss these matters with the project group and client is a big step forward.

"The key lies in first ensuring optimal daylight conditions and then complementing this by implementing a lighting strategy that can change in intensity and colour temperature to vary over time to meet our biological needs for light in specific locations."

"We're so used to judging design only on the surface and our acceptance is given by a double click, then it's over. On to the

next image," argued Carucci. "But lighting design is about more than what meets the eye. We can create aesthetics that have an impact on both cognitive and emotional levels. It's a matter of responsibility and health, in my opinion.

"At Tengbom, we aim to work closely – architects and lighting designers – to take informed decisions and responsibility in the design process, by considering the visual and non-visual aspects of design."

One designer who takes a particular focus on the role of lighting in health and wellbeing is Aleksandra Stratimirovic. A light artist who moved to Scandinavia from Belgrade almost 20 years ago, Stratimirovic has created a wealth of permanent and temporary installations for hospitals, schools, residential areas and different urban environments.

"For me, I find inspiration in the place, and I find inspiration around the place, and the people who are there, who I meet, who I imagine will be there. So in a way my work is linked to the culture and the local style somehow, but as I'm creating something else for the space, I try to balance those two," she said.

Through her work in hospitals, with installations such as *Berså* in Örebro and

Cellula in Alingsås, Stratimirovic has seen first-hand the role that lighting can play in health and wellbeing: "I think it is getting more and more obvious that light is important for wellbeing and for health, so I think in Scandinavia we have that approach, to integrate and include good lighting in hospitals, but also to bring something more than just functional lighting," she said. "Light is such a powerful medium to work with, and if you handle it in the right way, and with a specific aim, it can bring so much positivity to places such as hospitals. Hospitals are very sensitive places, people are there not to enjoy art, or to enjoy architecture, but usually for some not very pleasant reasons. Extra attention and care is very appreciated if you're in a delicate situation, therefore I believe that, besides all the medical care and attention from the healthcare side, implementing positive experiences through art is very important. Artworks that are specifically created for hospitals are made with the aim to give that extra experience."

While it doesn't always take the main focus in her artworks – if present, daylight becomes integrated in her work – Stratimirovic feels that there is an underlying appreciation for natural light



Pic: Erik Hagstrom

Left IALD's Chase The Dark 2019, led by Chiara Carucci and the Nordic chapter of the IALD, saw a team of young professionals and KTH students illuminate the Brunkeberg Tunnel in Stockholm. **Below Left** The 200 Year Pavilion, designed by White Arkitekter for the Stockholm Arkitektur Festival 2019, was intended to recreate the feeling of sitting under a tree and leaning up against its trunk. **Below Right** *Berså*, created by Aleksandra Stratimirovic for the Karlslundsgården nursing home in Örebro is a subtle, dynamic light artwork that evokes the surrounding nature, while inviting a sensory experience for residents.



Pic: Anders Bobert



Pic: Robin Hayes

in Scandinavia, because of the darkness. "Daylight is always a priority in my projects. When I compare where I grew up to where I live now, there is more of a balance between darkness and light," she said. "Those of us who live here are aware of light more than places where you have a more even distribution of daylight throughout the year, but I think in this part of the world we appreciate darkness also. "There is a respect of the darkness that is present, and because of this there is a more sensible approach to the lighting, with respect to the architecture, to the history - more awareness of balanced lighting in relation to surroundings, as well as attention towards the environment, and the effect of artificial lighting on nature." This idea of balance, of celebrating the darkness and the light, is something that Villar has noticed during her time in Sweden too. "When Spring kicks in, you get a bad conscience when you stay indoors for too long, you have to seize every minute and absorb as much light as possible," she said. "People's behaviour changes too: people talk to you at the bus stop, friends invite you for dinner, playgrounds are packed with kids. But after the long summer days, Swedes

long for the winter, for a time to be more reserved, to sit on the sofa and read a book under a soft, dimly lit environment, and to embrace the darkness." "Natural light is a fundamental determinant factor in people's lives," Dincel concurred. "People make plans for their spare time based on the weather and if it's a sunny day with a lot of daylight, you find everyone outside when they're enjoying their day. "I haven't thought about natural light this much before, because in Turkey there are many opportunities to enjoy daylight throughout the day. Now, after living in Sweden these past three years, I have adapted more or less to how Swedish people feel about light and darkness." "The different ways of relating to light are also evident in language, in my opinion," Carucci added. "Swedish language might not have a very wide vocabulary but, like English, the can translate directly 'shimmer', 'twinkle' and 'glisten' - there is no direct translation in Italian, we use 'sparkle' or 'shine' for everything, then describe how. "One of my favourite words is 'mångata', meaning 'moon road', which describes the moon's reflection on the water. It only exists in Hungarian besides Swedish. I believe that

northern populations have so many ways of describing light phenomena because they appreciate the variation of light conditions more." As the lighting design community continues to expand worldwide, it is becoming more and more commonplace for designers to relocate to new countries, with new ways of life, and potentially drastically different attitudes towards light. It's essential then, that designers always seek to integrate into their new surroundings and gain a full understanding of the local culture. This way, we can not only broaden our own minds and discover new ways of thinking ('lagom' for instance), but continue to create beautiful, authentic spaces, as Dincel concludes: "In the long run, it's about creating harmony and meaningful spaces for residents, by understanding natural and cultural attributes. "Every design needs to have a purpose, to bring quality in people's lives." ■ www.afconsult.com www.whitearkitekter.com www.tengbom.se www.strati.se

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■ PROJECT DETAILS

The Retreat at Blue Lagoon, Iceland

Client: The Blue Lagoon
Lighting Design: Liska, Iceland
Architect: Basalt Architects, Iceland
Interior Design: Basalt Architects, Iceland;
Design Group Italia, Italy
Experience Design: Design Group Italia, Italy
Engineering: EFLA, Iceland

Play of Brilliants

Icelandic lighting designers channeled Richard Kelly in their scheme for The Retreat at Blue Lagoon, a newly opened resort at the geothermal spa.





For many in the profession, American designer Richard Kelly is considered a pioneer of architectural lighting design, with his three tenets of lighting design – focal glow, ambient luminescence and the play of brilliants – remaining the core theoretical statements of lighting design.

These three concepts, intended to establish a hierarchy and sequence throughout a space, to evoke a relaxing atmosphere and to stimulate the body and spirit with the interplay of light and shadow, have been captured beautifully at the Retreat at Blue Lagoon, a new resort opened at the stunning Blue Lagoon geothermal spa in Iceland.

Designed by Basalt Architects, the Blue Lagoon was named one of the 25 wonders of the world by National Geographic in 2012, and since its opening it has promoted the benefits of geothermal seawater for health and wellbeing. Continuing this promotion, the Retreat features a subterranean spa carved into the volcanic earth, a terraced geothermal lagoon, a restaurant intended to reinvent Iceland’s culinary heritage, and 62 elegant guest suites, surrounded by the area’s stunning mineral-rich landscape, therefore bringing mind and body into harmony with nature through a journey of relaxation, rejuvenation and exploration.

Because of the beauty of the surrounding environment, a large emphasis was placed on the balance between the

natural and the artificial, the buildings and the nature, the indoors and outdoors. With architectural designs that include an abundance of full height windows to connect the interior and the exterior, and the integration of naturally formed lava walls throughout the site, the Retreat is firmly placed within its beautiful surroundings.

To preserve the enchantment and inspiration manifested by Iceland’s natural lighting and the night sky, the architectural lighting, designed by Icelandic studio Liska, was intended to create a relaxing and revitalising atmosphere, complementing the architecture and as such articulating the relationship between nature, human biology and architectural design.

Guðjón L. Sigurðsson of Liska has worked alongside Basalt on the Blue Lagoon since the very beginning. He explained: “Lighting was part of the design conversation from project initiation. Basalt Architects’ design emphasis was on the interaction of modern technology and nature.

“Views into the natural lava fields, the lagoon and the sky were crucial. The architecture is mainly comprised of full height windows, except at the spa and wine cellar, all other areas within the Retreat afford a distinctive view of the outside.”

The central idea of the lighting design was to introduce an elevated and intimate approach to hospitality. A holistic approach was employed, unique to the overarching architectural directive, to bring shape and clarity to the



nuanced spatial composition. This spatial composition is one that, intentionally or not, changed and developed as the project progressed, as Sigurðsson explained: “The Retreat sits deep in the lava, as envisioned by Basalt, to allow the lava formations to mark the perimeter of the lagoon, also forming interior walls of the Spa,” he said. “We were faced with unforeseen situations uncovered by digging into the lava, but the design followed suit. The wine cellar that sits deep underground wasn’t originally planned for, but only after a massive hole was unearthed while the lava was being dredged up, it was then decided to create a cellar surrounded by the natural lava walls.” When working on unpredictable grounds such as this, such improvisation may be expected, and while the lighting concept remained constant throughout, Sigurðsson revealed there was a great deal of making things up on the spot. “Even with a firm concept, the design was more or less accomplished on the fly,” he said. “Almost every aspect of the design was dependent on the lava formation, and how well we could nestle in the Retreat. Nature was given much emphasis. The lighting concept, and the

architectural directive, was to underscore the interaction between man-made elements and nature. We only wanted to illuminate the man-made architectural structures and interior elements, leaving the natural lava walls untouched.” However, at the base of the wine cellar, Liska installed iGuzzini’s LineaLuce fixtures at the perimeter of the walls to showcase the natural iridescent colour of the rocks.” Such interaction can be also be found in the Moss Restaurant, where interior design consultants Design Group Italia (DGI) designed a large-scale ornamental chandelier above the Chef’s table, comprising 106 individually controllable OLED panels, designed to resemble the multifaceted, columnar structure of volcanic rocks. Despite the improvisatory nature of some of the spaces, Sigurðsson explained that Liska had a “clear vision on the architectural lighting and overall choreography,” working alongside DGI throughout the project. This was particularly pertinent in the blend between architectural and decorative lighting fixtures. “It was vital for us to support and fulfil Basalt’s design directive while working our way through our design endeavours,” said Sigurðsson. “The overall

Previous Page The Retreat at Blue Lagoon is carved into the volcanic lava walls of its picturesque surroundings. **Far Left** Lighting designers at Liska worked alongside Basalt Architects to create an environment that would be relaxing and rejuvenating for visitors. The lighting aims to complement the architecture, articulating the relationship between nature and architectural design. **Top Right** Liska used custom iGuzzini SoleLuna fixtures in the guest rooms to create a biodynamically lit environment designed to stimulate wellbeing. **Above Right** iGuzzini’s Underscore fixtures provide an indirect, soft and diffused lighting throughout, revealing the essence of the materials used, and their delicate textures, while providing an emphasis on the architectural volume. **Above Left** The lighting concept, and the architectural directive, was to underscore the interaction between man-made elements and nature, meaning that for the most part, the natural lava walls were left untouched, while man-made architectural structures and interior elements were illuminated.



Left The wine cellar, only included after a large hole was unearthed while the lava was being dredged up, is the only space where the natural lava walls are illuminated, done so through iGuzzini's LineaLuce fixtures. The decision was made to showcase the natural iridescent colour of the rocks.

Above In the Moss Restaurant, Design Group Italia designed a large-scale ornamental chandelier above the Chef's table, comprised of 106 individually controllable OLED panels, designed to resemble the multifaceted, columnar structure of volcanic rocks.

lighting (architectural and decorative) was designed to fit our concept, envisioned in collaboration with DGI. The decorative fixtures were decided by DGI – we at Liska peer reviewed their selection for lighting quality and technical aspects. “We collaborated closely with DGI and Basalt on the decorative elements, their placement and integration within the space to attain a balanced choreography throughout the project.” Even with the various decorative and architectural elements, light levels throughout the Retreat are carefully controlled and balanced, taking into consideration the amount and availability of natural light. All lighting products specified allow for a superior level of comfort, meeting the functional requirements, while at the same time creating a mood and atmosphere for guests to relax and rejuvenate. This has been achieved through the use of indirect, soft and diffused lighting, which serves to reveal the essence of materials, and their delicate textures, while providing an emphasis on the architectural volume. Liska called on iGuzzini for the majority of the architectural fixtures, with the Italian manufacturer's Laser Blade providing general lighting at the foyer and restaurant areas, while its Underscore provides a gentle, integrated linear light in the corridors, restrooms and showers, as well as illuminating outdoor steps. Elsewhere, iGuzzini's Trick was used in window thresholds, and to provide a grazed lighting effect at the lagoon, alongside exterior pathway lighting, installed at the bottom of bollards to graze the motorway and highlight the lava walls that follow the motorway. Hierarchy is achieved through precise control of light and carefully choreographed light levels. By punctuating carefully controlled lighting, visual contrast was achieved wherever desired. Throughout the spa, lighting was carefully employed to avoid any direct light on guests. In the guest rooms, biodynamic lighting was employed through

the use of iGuzzini's SoleLuna fixtures, which were especially designed to meet the wellbeing aspect, while achieving all other functional aspects of lighting within the suites. “We conducted innumerable tests and mock-ups to assess the installation and the appearance, in addition to the lighting quality, visual comfort and controls possibility,” said Sigurðsson. “During one of these tests, the installation was finally settled after a circular luminaire was inserted behind a Clipso membrane. We wanted to achieve a sharp, illuminated edge around the fixture, as well as soft penumbra as perceived around the sun on a cloudy day, in addition to making the fixture completely disappear into the ceiling.” The fixture was also custom-designed to replicate the effect of the sun and the moon with a faint, diffused halo around it. Programmed to reproduce various phases of the day and night, along with the dark shadows that are perceived on the moon's surface. “The guests are afforded the flexibility to tune the light levels and colour temperature of the light, and are able to activate different lighting atmospheres from the keypad installed near the bedhead. A wake up call can also be set to gently and gradually wake up guests with light, not sound,” continued Sigurðsson. Creating lighting that is beneficial for health and wellbeing was paramount to Sigurðsson and Liska, and he explained that, in a previous project at the Blue Lagoon, he had done some research into this area to find the most beneficial lighting conditions. “One of the projects at the Blue Lagoon was the medical centre that I designed the lighting for. This centre is mainly for people with skin disease,” he said. “We conducted subjective assessment on the patients' preference for colour temperature and CRI. From this test we were able to deduce that more warmer colour temperatures were much relief to the patients’



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psychological wellbeing, as their skin appeared healthier, not pale or sickness stricken. We specified 2200K cold cathode fixtures back then. “Here at the Retreat, we have therefore specified fixtures with higher R9 values to allow for better rendering of skin tones. Most light fixtures are warm dim as well. The lighting is designed so that the guests are able to see their surrounds but are not directly illuminated.”

The role of lighting on health and wellbeing is well established, and is something that has been discussed in previous issues of arc. Nowhere is this more apparent than in countries such as Iceland, that feature long summer days with 24 hours of daylight, and the exact opposite in the winter. Such drastic weather conditions meant that special measures had to be taken in the lighting design.

“As many of us are aware of Iceland’s long summer days, we wanted to attain complete darkness in the guest rooms, blocking out any natural light permeating into the rooms, and no indicator lights from appliances that would disrupt guests’ sleep. While in the case of those who suffer from Seasonal Affective Disorder, they can have artificial daylight in the rooms when it is dark out during the long winter nights of Iceland.

“First and foremost though, visibility and visual comfort were important considerations, as on most projects. The balanced interplay between daylighting and electric lighting, between quantitative use of light and its distribution, its interspatial relationship and colour temperature of lighting were some of the major lighting

considerations at the Retreat.”

Although technology was used to facilitate the design intentions throughout the Retreat, the concept was to establish a seamless connection, and to integrate the elements of the design with nature, human biology and architecture, therefore creating sublime, experiential spaces where lighting and architecture are conceived as one and the same.

This, Sigurðsson feels, comes through the overall use of subtle and minimalistic lighting, while not compromising on functional aspects. “With architecturally concealed light fixtures, working with colour temperature of light as opposed to colours, and careful integration of natural and electric lighting to preserve the quality of light, with light underlining the architectural planes and interior elements, utilising concentrated cones of light to create drama while avoiding lighting up the ceiling planes, we were able to create a cozy and intimate ambiance.”

Richard Kelly’s three concepts have become a common mantra for lighting designers around the world, and for good reason. When effectively implemented, they can create beautiful, inspiring environments, and this is perfectly highlighted at the Retreat at Blue Lagoon, with its subtle yet moving lighting scheme that greatly contributes to the resort’s feeling of relaxation and rejuvenation, health and wellbeing. ■


www.liska.is

Left Throughout the Retreat, Liska used architecturally concealed light fixtures such as iGuzzini’s Underscore to underline the architectural planes and interior elements to create drama, while avoiding lighting up the ceiling planes, therefore creating a cozy and intimate ambiance.

Above The lighting throughout the Retreat has been designed so that guests are able to see their surrounds, but are not directly illuminated.

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PROJECT DETAILS

Radisson Blu Scandinavia, Gothenburg, Sweden
Client: AB Balder
Lighting Design: Lighting Design Collective, Spain
Interior Design: Studio Kin, Sweden



Touch The Sky

The newly renovated atrium space of the Radisson Blu Scandinavia in Gothenburg, Sweden, features a dramatic installation from Lighting Design Collective, connecting guests with the sky above.

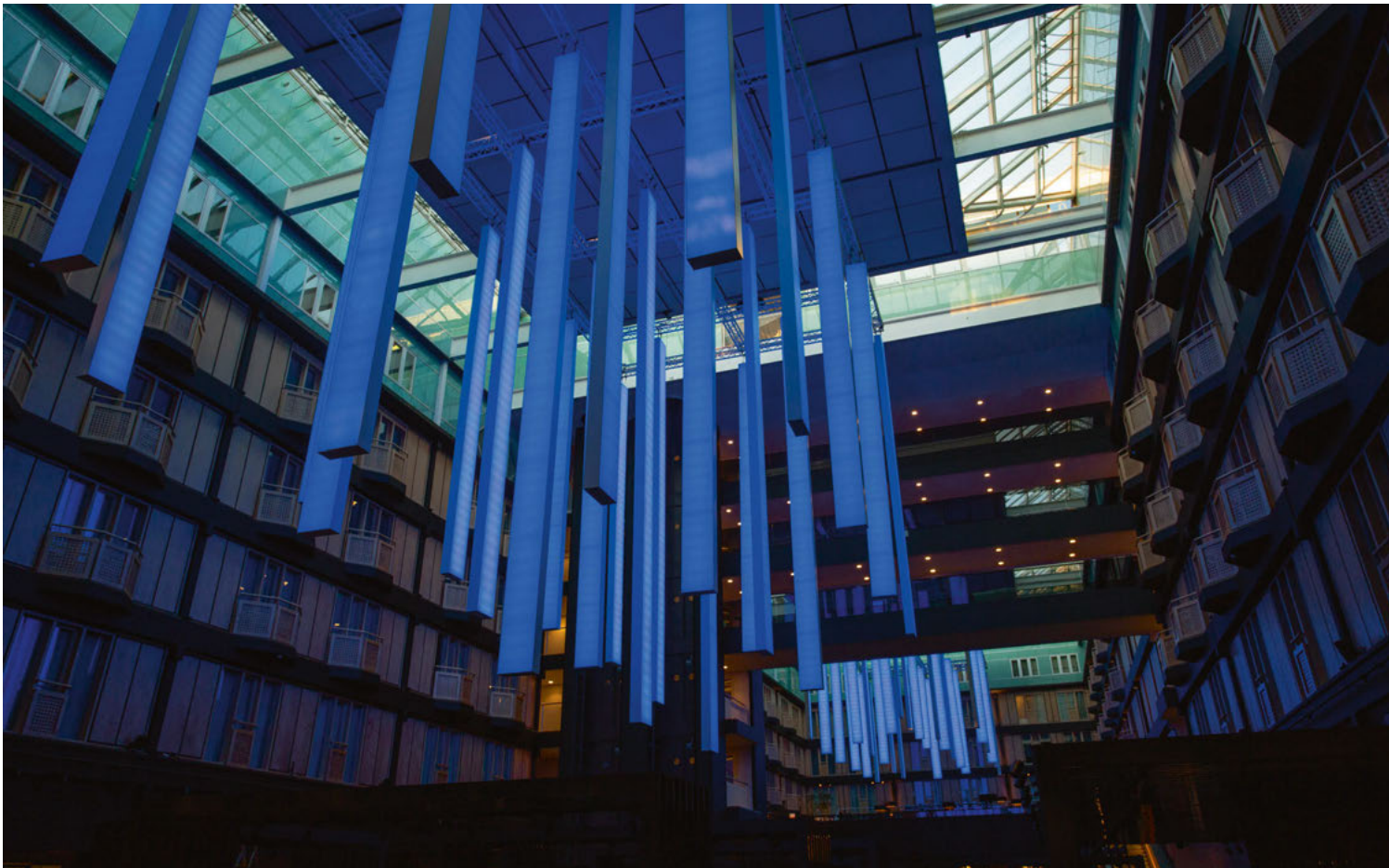
Situated in the centre of Gothenburg, Sweden, the Radisson Blu Scandinavia has undergone a dramatic interior renovation, dominated by a remarkable new lighting feature created by Lighting Design Collective (LDC).

The renovation centred around the heart of the hotel – a vast interior atrium overlooked by guest rooms and surrounded by perimeter skylights. The atrium features a bar and café, alongside multi-purpose areas and pre-function spaces.

The interior design, developed by Lundwall Architects, started with darkness as a base material, and the designers worked with LDC to craft a balanced atmosphere, revealing transparencies, integrating lighting into latticed furniture, highlighting textures and playing with reflections. Barbara Rodriguez, lighting designer at LDC, explained: “Our job was to dialogue with the existing design and find the right balance. Because the interior designers chose a lot of dark and reflective surfaces, this was very interesting for us because as lighting designers we usually try to find some darkness so that we can create some drama, and so there isn’t homogeneity. So we worked with them to try to reveal what was hidden.”

The atrium includes a series of canopies, intended to look like a collection of arches, that lower the height of the space in some areas to create a more intimate feel. Tracks fitted with Reggiani’s Yori projectors have been integrated into the canopies, providing gentle illumination to the spaces below. “Because it is a very big space, the canopies help to create open rooms within the space, and we integrated lighting into them,” added Rodriguez.

The dominant feature of the new renovation, though, is the huge suspended light structure that sits above these canopies. Designed to suit the large scale of the atrium, while functioning as a data-driven ambient communicator, the structure generates luminosity through light patterns, forming an abstract landscape with smooth movements linked to real-time meteorological data.



“The feature creates a focal point within the space that before was lost. It was like a little piece of sky.”

Barbara Rodriguez, Lighting Design Collective

Previous Page The vast central atrium of the Radisson Blu Scandinavia in Gothenburg, Sweden, features a number of break out areas, sheltered by canopies with integrated lighting systems.

Above The atrium space is dominated by a remarkable lighting installation, designed by Lighting Design Collective and controlled by Skandal Technologies' Poet software. The large central feature helps to connect guests to the sky above.

“The prime generator for the lighting concept was natural light,” explained Rodriguez. “We all live and are influenced through it. The relationship of its movement across the sky sets our body clocks. Flowers crane their heads on a daily cycle to maximise its life-giving benefits. Natural light is an ambient communicator giving us information about the weather, but importantly, also the time of day.”

The feature therefore was born out of a desire to lower the height of the atrium, and bring a sense of the outdoors into the vast, open space.

“It was born because first of all, it was very difficult to light all of this big space, because the ceiling is very far away,” she continued. “So sometimes we did have these canopies and some furniture to attach lighting to, but sometimes there was nothing at all. We thought we could design a feature that could have a double function – functional lighting, but also providing some brightness and flexibility to the space.

“Also, we wanted to create a symbol for the renovation, because it’s an existing hotel – I think the interior façade is from the 1980s, and it has a very strong geometry, which is not necessarily in fashion right now. It’s the central space that all of the rooms look into, and because a lot of activities take place there, we wanted to give it a new look.”

Although there is some connection to the outdoors through the perimeter skylights, Rodriguez also felt that having a large, central feature would connect guests to the sky further. “The atrium is a rectangle, and it has a skylight on the perimeter, and then an opaque ceiling,” she said.

“It’s connected to the outside, so you have views of the sky, which always makes your space feel dim, because the sky is always going to be brighter somehow. But, because it has this huge scale, we thought it would benefit from having a bright object.

“One of the reasons why we proposed to have this luminous surface in the atrium is because on a winter day at 4pm it will be a dim space with a connection to a dark sky, so the daylight in Scandinavia is one of the reasons that we proposed this.”

Furthering this connection to the sky, LDC wanted to make sure that


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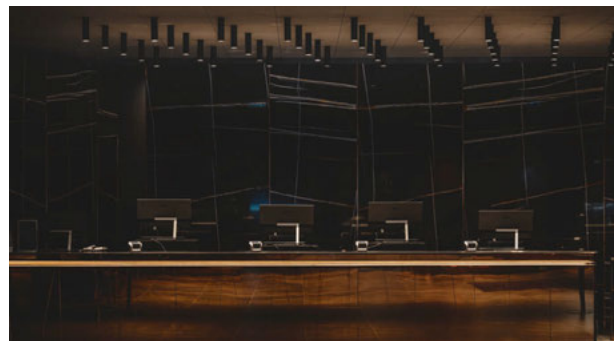
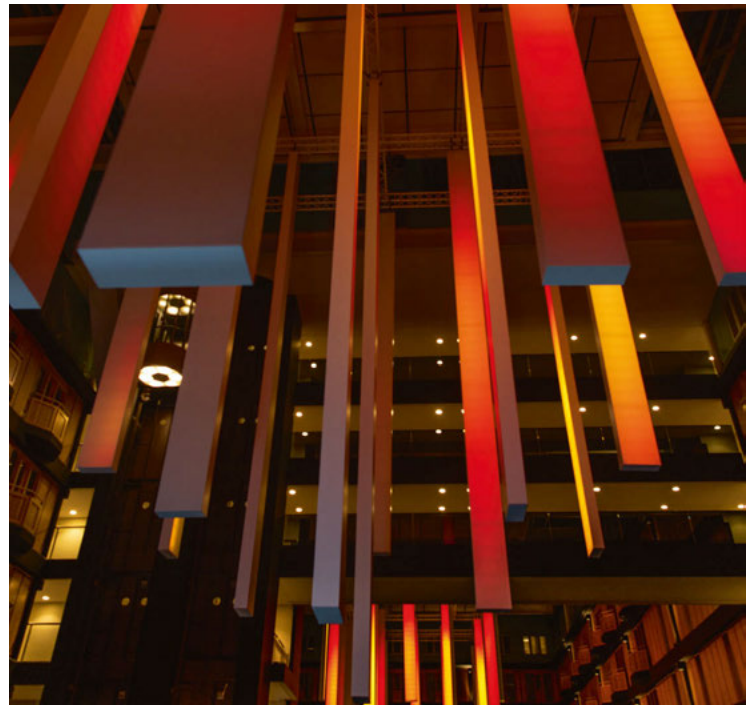
Pierpaolo Ferrari, 2018



"The architectural light brings balance, so all of this darkness and these surfaces are rendered, and have come to life through light."

Barbara Rodriguez, Lighting Design Collective





the feature worked well both in daylight and at night, while retaining a very simple design.

“We wanted it to have a very simple geometry, as opposed to the geometry of the existing façades, because it had all these angles and details, so we knew that whatever we designed there, it had to be very clean and minimal. It had to look almost like it was not designed,” said Rodriguez.

“It had to work with daylight and during the night, so we proposed to have these backlit textiles, because if the lighting is not on they just look like clean surfaces.

“In the beginning, it was way bigger, we had to reduce the size of it. Because the space is so big, I think we overdid it. But it’s nice to see that even if you cut it in half, because the ideas are so strong, it still works.”

The feature, controlled by Skandal Technologies’ Poet software, also acts as a digital infrastructure that opens a new revenue channel for the operators, making it easy to create, commission and execute immersive content within the space and renting these as ambient branding for the corporate customers.

In the end, the lighting integrates brand colours together with graphical elements and custom generative content, all brought together in an artfully curated whole, while the feature creates an additional layer of lighting in the space.

“The tables, canopies and the functional lighting for these are on ground level, and the feature piece is always above it, so they work on different levels,” Rodriguez added. “So it feels like it’s part

of a ceiling or an artificial sky, part of the ambient, and then the rest of the lighting is at your level.

The functional lighting and the light for the tables, is closer to you, and this feature is like a cloud.”

Lighting can have a great impact on the feeling of comfort, while promoting an identity and sense of excitement, creating lively spaces and inviting destinations. The lighting scheme for the Radisson Blu strived for these qualities in an attempt to drive guests’ engagement and sociability to help turn the space into a destination. By introducing a dynamic volume driven by data yet created by light, the hotel’s night time image symbolises its newly renovated and contemporary character, conceptually connecting the atrium with its environment, its happenings and its purpose. And, Rodriguez believes that the balance achieved through the architectural lighting at the ground level, and the vast structure overhead, helps to create a unified, cohesive scheme. “The architectural light brings balance, so all of this darkness and these surfaces are rendered, and have come to life through light, but it is also functional, so you don’t get lost in that maze,” she said.

“And the feature, I think it brings a lot of flexibility to the space, because if someone rents out the ballroom for an event, they can personalise it, so it makes people feel attached to it. And on the day to day, it’s spectacular. It creates a focal point within the space that before was lost. It was like a little piece of sky, and now they have something to look into every day.” ■

www.ldcol.com

Previous Page The architectural lighting creates a dialogue with the interior design, finding a balance between darkness and light.

Above Left The large central feature hovers above the different spaces in the atrium, becoming part of the ambient, as if it is an artificial sky.

Top Right Designed to suit the large scale of the atrium, while functioning as a data-driven ambient communicator, the structure generates luminosity through light patterns, forming an abstract landscape with smooth movements linked to real-time meteorological data.

Above Right Using darkness as a base material, LDC worked with interior designers Studio Kin to craft a balanced atmosphere, revealing transparencies, integrating lighting, highlighting textures into surfaces and playing with reflections.

■ LIGHTING SPECIFIED

Control Dept. System Integration
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InventDesign Digidot
LED Linear Hydra
Pharos Controls DVI to Art-net
Reggiani Yori
Reggiani Mood
Santa & Cole Cirio Simple
Santa & Cole M68
Skandal Technologies Custom
Light Boxes
Skandal Technologies Poet
Control System



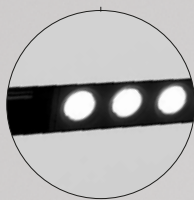
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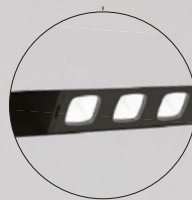
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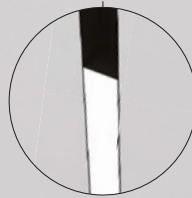
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Sunshine Indoors

The introduction of circadian lighting, designed by COWI, brings a feeling of warmth to the minimalist architecture of the new Blixen office building in Aarhus, Denmark.

While the focus on creating circadian or “Human Centric Lighting” in workspaces has become a fairly common trend in the lighting industry over the last few years, it is particularly pertinent in the Nordic region, where natural lighting can be at a premium.

In Aarhus, Denmark, the local municipality has recently opened Blixen, a new office building, that takes these considerations into action through a series of interesting, dynamic lighting configurations.

Jørgen Kjer, lighting designer at multidisciplinary consultancy group COWI worked with Arkitema Architects to develop new lighting solutions for the office space. He explained how he got involved with the project: “Around a year before commissioning, the Aarhus municipality contacted me to make sure that the lighting in their new building was sufficient.

“They were afraid that it would be getting too little light, not in terms of lux levels – that was predetermined in the scope of the tender – but in terms of there being enough well-lit meeting rooms and office spaces. They also had a number of areas that needed extra attention and special lighting.”

Following two workshop sessions with the municipality, Kjer was brought on board with a brief to upgrade the planned lighting to incorporate more circadian, human-centric fixtures in the office areas and meeting rooms. Alongside this, there was a desire to make the

meeting rooms appear brighter and more inviting, while adding individuality to each space, giving them a sense of variety. “The brief also asked us to look at areas that required special lighting; the main entrance, the reception area, the rooftop area, the vertical garden, a couple of atriums and the food court area,” added Kjer.

As COWI Lighting Design came on board once the project had already commenced, it caused some logistical difficulties when it came to placing fixtures, which in turn caused some tension on site.

“All fixtures for the office space and meeting rooms had fixed positions, and therefore couldn’t be moved,” explained Kjer. “Due to the short time before commissioning, we had to make some quick decisions regarding fly points and fixture positions, because we had to use the present scaffolding.

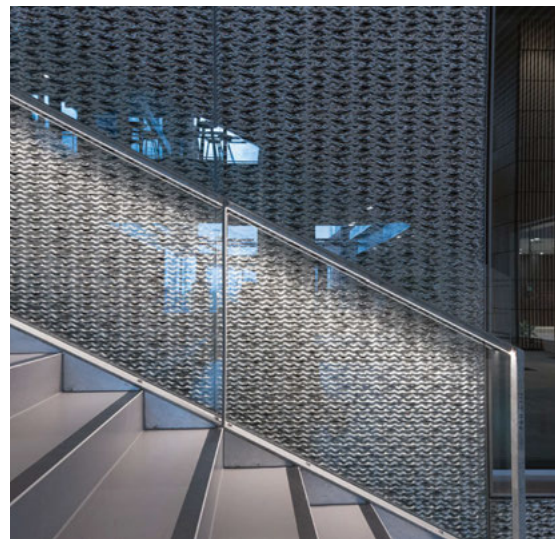
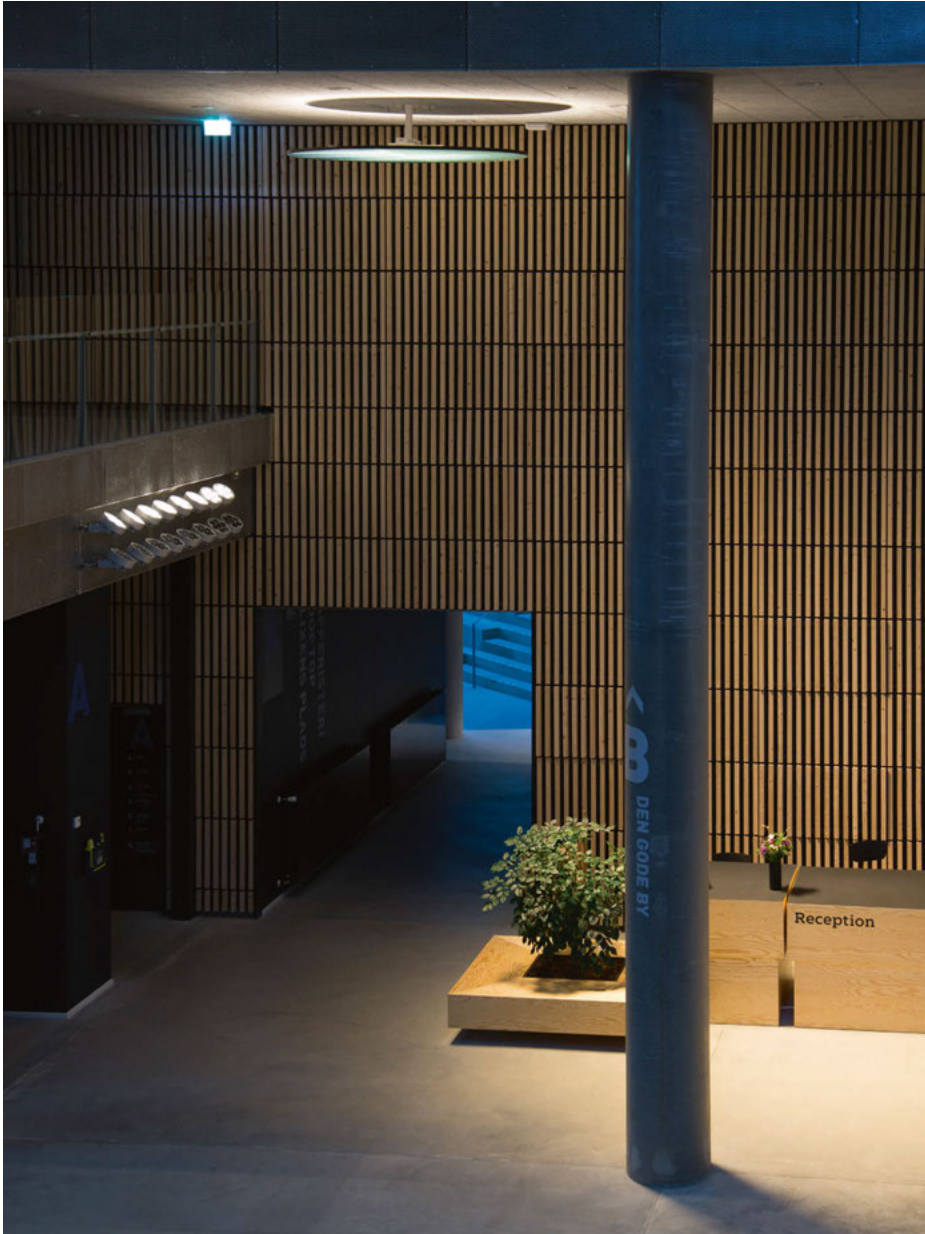
“It was a friendly fight with the contractors to place some extra wallwashers, alongside the special lighting. The contractor was, to begin with, quite negative, so during the first couple of months it was a bit of an uphill battle. I did some diplomacy work – everything from bringing cakes to meetings and showing my willingness to cooperate.

“After all this hard work, the contractor was ‘looking forward to seeing all my crazy ideas’, was helpful, and we had a good process for the rest of the project.”

One area in particular that Kjer cited as particularly challenging during the course of his work on the project was the main entrance. The building’s entrance features dramatic artwork on its ceiling, greeting those entering the building. The artwork

PROJECT DETAILS

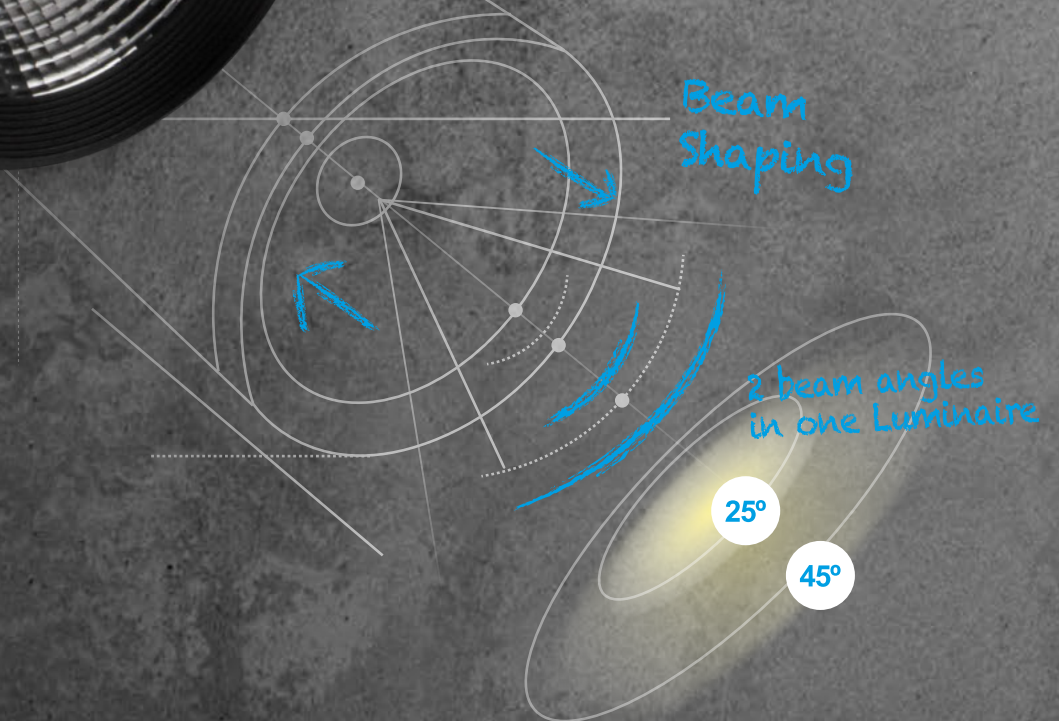
Blixen, Aarhus, Denmark
Client: Aarhus Municipality
Lighting Design: COWI, Denmark
Architect: Arkitema, Denmark



Previous Page The new Blixen office space, created for the municipality of Aarhus, Denmark, is dominated by a 23-metre vertical garden - one of the largest in Europe. COWI collaborated with Brother, Brother & Sons to develop an even, 1200 lux lighting scheme for the garden.
Above Right On entering the building, visitors are greeted by an artificial sun above the main reception space.
Above Left Recessed handrail lighting from KC Lighting adds to the subtle lighting scheme, intended to complement the minimalist architecture of the building.

is an interpretation of downtown Aarhus, corroded into a reflective metal surface. These graphics create very distinctive, beautiful reflections on the pavement, giving a lasting impression to visitors. However, lighting this artwork was a challenge for Kjer. “The task was to light up the metal artwork on the ceiling without creating any light spill through the windows, as there were office spaces just on the other side of the glass,” he said. “After a lot of thinking, cracked the nut and realised that the only way to go was to use profile fixtures and framing projectors recessed into the ground, because placing fixtures on the walls was a big no go from the architect. “However, the concrete construction on the ground was only 60cm deep. Because of this, we developed three inground boxes, each fitted with a Brother, Brother & Sons (BB&S) Force7 profile spot and a mirror system, which guided the light upwards to the ceiling above.” Due to the customised solutions, using profile spot technology, there is no ambient light or glare in the office spaces that are situated just on the other side of the façade windows. On entering the building, visitors are greeted with an impressive ‘artificial sun’ in the reception space. Situated on the ceiling of a large, double

height lobby, the large, mirrored disk fills the vast space with a warm, natural-feeling light - in keeping with one of the original parameters of trying to integrate natural lighting alongside artificial light. “Part of our initial workshop discussions looked at creating bright and welcoming spaces and areas,” Kjer continued. “I suggested a couple of possible solutions for the reception area, but quite quickly the client fell in love with the idea of ‘bringing the sun inside’. After the client had experienced another ‘indoor sun’ that I had made some years previously, it was decided to have the indoor sun in the welcome and reception area.” The reception area is lit from the ‘sun’ at 500 lux, according to Danish regulations. Illuminated by a secondary reflector and sixteen narrow beam fixtures from Projekleuchten and Delux Denmark, it follows a natural circadian rhythm that Kjer feels the staff are very satisfied to work under. This circadian lighting effect continues throughout the building, with the meeting rooms and office spaces now fitted with a more natural feeling lighting system, complemented in some cases with asymmetric wallwashers that add an interesting, dynamic flair. One of the main focal points in the new Blixen



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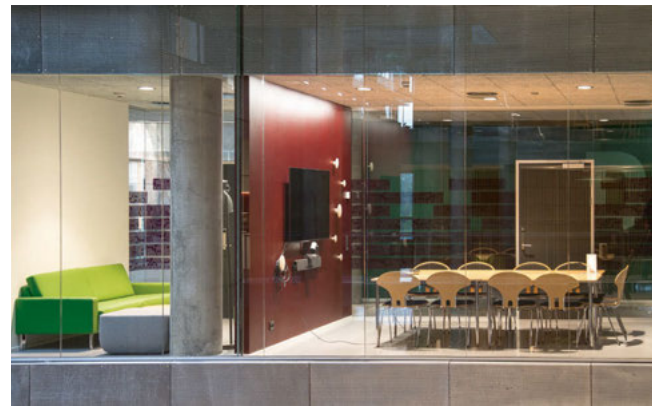
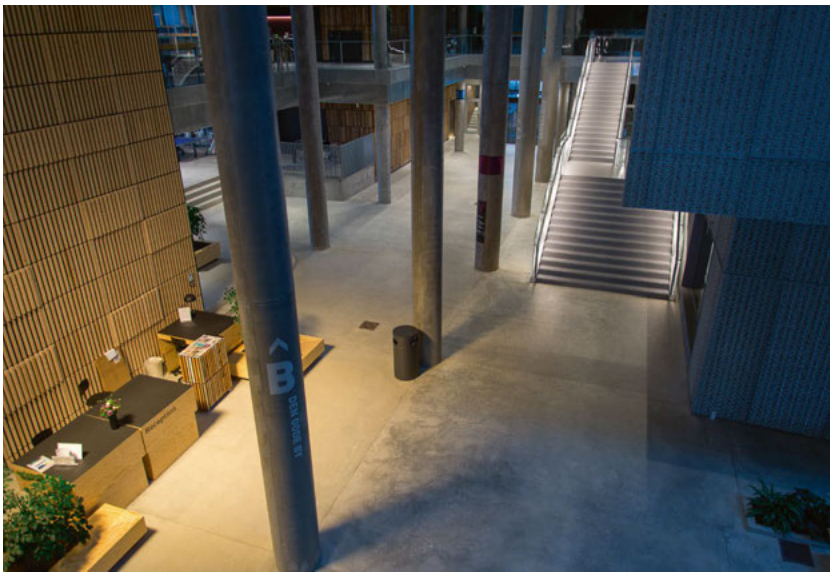


The building entrance features an interpretation of downtown Aarhus as part of a dramatic, reflective artwork. COWI worked with BB&S to create a bespoke lighting system to illuminate this artwork.





Left Large, open plan atriums fitted with skylights bring a welcome addition of natural light to the building, while the inclusion of plant life adds to the circadian ambience sought by the client.
Below Left The artificial sun in the reception space is illuminated at 500 lux - per Danish regulations - follows a natural circadian rhythm, creating a pleasant atmosphere for staff to work under.
Below A mixture of Rovasi's recessed spotlights and asymmetrical wallwashers in the office and meeting rooms add to a lighting scheme that is integrated into the very fabric of the building.



building is a vast, living vertical garden in one of the central atriums. The addition of living walls or vertical gardens is an emerging trend in office spaces, but such features come with their own special requirements. And at 23-metres in height - one of the largest vertical gardens in Europe - illuminating this vertical garden was another challenge for Kjer and the lighting designers. "[Lighting the vertical garden] started out before I came into the project," Kjer said. "The contractor and the architects had a couple of sales reps come up with some suggestions to get the illumination for the garden to the right lux level. Their only solution was to place fixtures on the balconies of each floor.

"When I heard about that, I suggested using some more powerful LED fixtures from the film industry, and to only illuminate it from one point with a very narrow beam, just like the sun. The architect got rid of all the fixtures, and I have been his best friend ever since!"

To ensure illumination was even from top to bottom, COWI used some fresnel-type fixtures on the top to get the distance, and then very narrow beam fixtures on the remainder of the wall. Through a close collaboration with BB&S, COWI developed a lighting set-up made specifically for illuminating the plants with 1200 lux evenly from

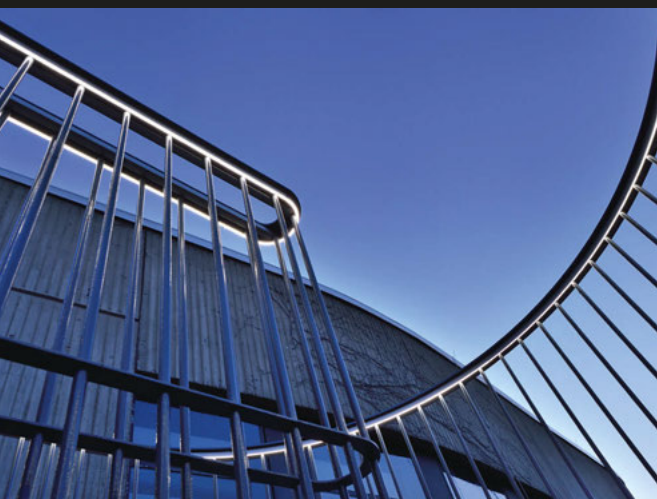
top to bottom. The setup consisted of 48 CBL Beamers, alongside four LEDheimer fixtures mounted on a customised rig. These fixtures have been configured to dynamically change colour temperature from 2700K to 6500K, thus following the natural lighting pattern throughout the day. "I have done a couple of vertical gardens before, and I know from plant experts and experience from other projects that 1200 vertical lux is sufficient for the plants that are used in this project," Kjer added. "However, the 1200 lux needed across twelve hours every day will only occur if there is a skylight. Without this, more artificial light is needed."

Throughout the Blixen building, COWI has created a natural feeling, subtle lighting design, with the majority coming from hidden or integrated fixtures, whether this is through recessed spotlights, integrated handrail lighting, or fixtures that blend into the fabric of the building. These decisions help to bring a clean, crisp feel that complements the sharp lines and minimalist aesthetic of the building's architecture. While such minimalist design can at times feel cold and impersonal, the focus on circadian light brings an added warmth to the space, creating a pleasant, comforting working environment. ■

www.cowi.com

■ LIGHTING SPECIFIED

BB&S CBL Beamlights
 BB&S Force-7 profile spot
 BB&S LEDheimer
 Delux Denmark bespoke narrow beam fixtures
 KC Lighting Handrail lights
 Projekleuchten bespoke reflectors
 Rovasi Lighting bespoke fixtures



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Going Underground

WSP has created the lighting design for the City Station of Stockholm's new Citybanan train line, showcasing its unique architecture, and the striking artworks on display.

PROJECT DETAILS

Citybanan City Station, Stockholm, Sweden

Client: Swedish Transport Administration

Lighting Design: WSP, Sweden

Architect: Ahlqvist and Almqvist Architects, Sweden;

Linkarkitektur, Sweden

Photography: Åke E:son Lindman



Stora
Mellarpåren



Previous Page WSP used Lumenpulse's Lumenbeam fixtures to illuminate the swirling ceiling feature inside the City Station. A shift in colour temperature was created to both highlight the structure itself, and to underline the movement it intends to evoke.

Above Right Throughout Stockholm, the train stations are all adorned with creative displays of artwork, and the City Station is no exception. WSP worked with the artists to effectively illuminate their artwork.

The recently completed Citybanan is a new commuter railway tunnel running beneath the city of Stockholm.

Running 7.4 kilometres in length, the Citybanan is a vital project for the long-term rail development in the city, and for the creation of an efficient public transport system that meets city requirements.

The system, used by Stockholm Commuter Rail, has greatly improved travel into and out of the city through its two stations; Odenplan and City Station. The City Station is located under Stockholm Central Station and the Metro lines passing through T-Centralen.

City Station, designed by Ahlqvist and Almqvist Architects, features lighting designed by WSP Sweden. The design parameters surrounding the lighting mainly consisted of creating a facility with robust, maintenance-friendly solutions, with lighting design that creates a good visual guidance, while creating interest and intrigue in the various rooms of the station, adding a feeling of character while improving the orientation around the station. Staffan Abrahamsson, one of the lighting designers at WSP that worked closely with the

architects from the initial concept stage, collaborating with them to create a cohesive lighting scheme that harmonises with the surrounding architecture.

A primary factor in this harmonised approach was the way in which lighting was seamlessly integrated into the fabric of the building – something that was discussed with the architects at the initial concept stage. “Most of the stations here in Stockholm are very old and very technical, they don’t hide the construction and the luminaires that well,” said Abrahamsson.

“In the early stages, there was a thought that this should have more of an approach of an airport than a train station. So we worked with different kinds of ceilings, and integrated the luminaires and so on to get a more exclusive feeling compared to other stations nearby.”

However, while there was an ambition to create something new and unique for the Citybanan, Abrahamsson said that, because of the regulations set by the Swedish Transport Administration, there were some limitations to what they could do when it came to lighting.

“We had a great deal of restrictions. First of all, all

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LED strip with 3 sided
illumination



the luminaires had to be at least IP65 rated, and when you're trying to find suitable luminaires, you don't have as many to look at when it has to be IP65.

"But it was a very technical project, and we had lots of discussions regarding maintenance, and about lux levels. There were precise restrictions regarding the lux levels in different areas. In the escalators, for example, the first and last steps had to be highlighted with a certain light level, and the colour temperature had to be 4000K in all areas." Such limitations meant that WSP had to rethink a number of lighting scenarios that were planned for the station. "From the beginning, there was an idea to have different colour temperatures to underline the movement from when you come down into the station," Abrahamsson explained. "It was meant to be a cooler light temperature at the surface, when you had more contact with natural light, and then a warmer light when you descend further down into the station. It was intended to create a visual effect, where visitors could psychologically find the cooler light temperature closer to the surface, but the client didn't want to have different areas with different colour temperatures at that point."

Despite these restrictions regarding colour temperature, there are areas where more flexibility was allowed, thanks to the inclusion of a series of art installations.

The appearance of artwork is a common occurrence in underground stations throughout Stockholm – since 1957 artists have played a key role in the design of new stations in the city, while older

stations have also been adorned with new statues, murals and installations over time.

The City Station is no exception, and WSP worked with several of the artists whose work is featured in the station. "There were some artworks that didn't have any special lighting – they consisted of other things like screens, or they just made patterns on the wall – but for others, we worked very closely with the artists from the beginning. We had discussions with each of them at an early stage, and we conducted tests, made 3D renderings and so on, working our way forward from there."

Alongside the many artworks on display, the station features a unique, swirling ceiling detail in the approach to the main escalators. The detail creates a sense of movement from above, accentuating the feeling of transportation as passengers enter and exit the station.

Again, WSP were involved with this from an early stage, and as Abrahamsson explained, they had some clear ideas in mind for the lighting design.

"The thought was to have a cooler light on one side, and a warmer light on the other, so that you get the shapes in the ceiling with a different colour temperature on either side.

"We wanted to highlight the structure, to underline the movement in the ceiling – so we worked with the designer of the ceiling to do this. We created a 3D model of the ceiling, and made some renderings so that we could figure out the positions of the luminaires."

Elsewhere, the lighting on the station platforms consisted of integrated Hoffmeister downlights in the ceiling, used in combination with Norka's

Above Right Although the lighting designers had a lot of rules and regulations to follow, they were still able to create moments of intrigue through their lighting, as shown by the feature on the escalators.

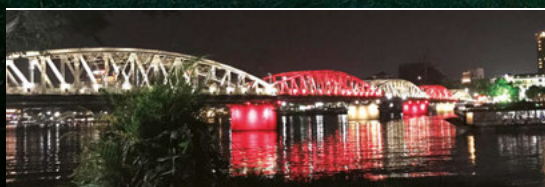
Above Left Throughout the station, WSP utilised a number of different lighting techniques, from recessed Hoffmeister downlights in the ceiling to Fagerhult wallwashers and backlit glass, illuminated through Norka's Luzern.

Next Page One of the essential design parameters, in terms of both lighting and architecture, was to create a location that felt more akin to an airport than a traditional underground rail station.

Architainment Art

“ light is the instrument to enrich and
valorise architecture “

graphics: Wilfredo Maria Ricci - © 2019 Studio Due



Truong Tien Bridge (Hue City, Vietnam)



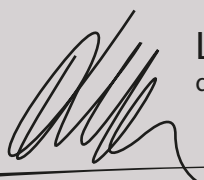
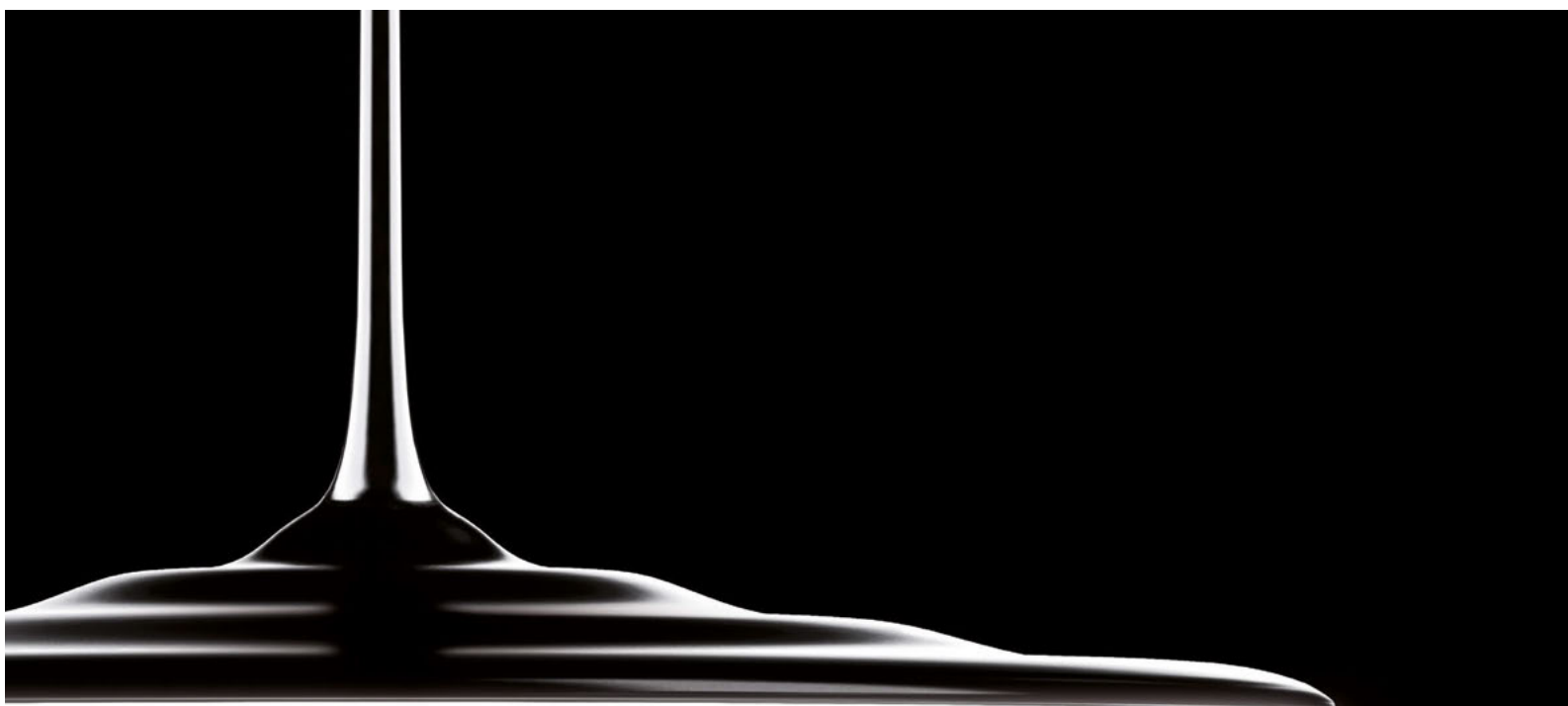
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linear Brunn luminaires among the platform edges, while the ceiling is also illuminated through Lumenpulse's Lumenfacade RGBW luminaires.

The lighting nearest to the platform is dynamic, with spotlights illuminating rock walls encased behind glass when no train is in, which serves to show and clarify the entire size of the room. When a train arrives at the station, these spotlights are dimmed down, and narrow-beamed downlights light up the floor area at the glass doors, alerting travellers to the presence of an incoming train.

"We tried to change the way of lighting the station in different areas," explained Abrahamsson. "In some areas we have normal, direct lighting with recessed luminaires in the ceiling, and in some cases we also have light tubes that illuminate the wall, while in other areas we have backlit glass.

"These were the three main components that we worked with, and we tried to change these as you move through the station to different areas. For example, the backlit glass was good to have at the end of a long corridor to visualise and highlight the end of the corridor, and the change of direction and so on, while the artworks also act as a guidance in this system of tunnels and escalators."

Completed in 2017, WSP's involvement in the Citybanan project began back in 2009, and Abrahamsson added that the length of the project

did, at times, complicate proceedings.

"When we started planning it in the beginning, we used very few LED luminaires – only some spotlights and downlights were LED, but even then, they were a very early type of LED luminaire.

"It was a very technical, complex project, and because it ran on for such a long time, we had to change our initial choices to LED luminaires at quite a late stage, so in some cases it was hard to make it work with our initial thoughts."

However, Abrahamsson concluded that despite the challenges that he encountered during the life of the project, he is very satisfied with the outcome. "I think the end result is good, and the client was pleased," he said.

"I think that what we were talking about initially, that it should have more of an airport feeling than that of a train station, I think that works really well."

Indeed, by being involved from such an early stage, WSP were able to create an interesting, striking lighting scheme that expertly blends into the unique architecture of the City Station, helping to create a pleasant, welcoming atmosphere for Stockholm's commuters. ■

www.wsp.com

Above Left Some of the installations in the station did not need special lighting considerations, instead interacting with the general lighting of the space.

Top Right Integrated downlights in the platform ceilings, used in combination with linear luminaires along the platform edges, provide the basis of the station's illumination.

Above Right The artworks, alongside creating points of visual interest, serve as a guidance for travellers amid the maze of tunnels and escalators. The *glassberrys* installation is integrated with accd's Plaza 10 fixtures, while additional lighting from Meyer helps to illuminate the artwork.

■ LIGHTING SPECIFIED

accd Plaza 10
 Erco Gecko
 Fagerhult Flair
 Fagerhult special made wallluminaries
 Hoffmeister Downlight 200
 Hoffmeister Complx 200
 Lumenpulse Lumenbeam
 Lumenpulse Lumenfacade RGBW
 Meyer Nightvision
 Meyer Superlight Nano 3
 Meyer Superlight Nano 4
 Meyer Superlight Compact LED
 Meyer Ecovision
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Light Celebrations

It is a year for celebrations, from the IALD's 50th anniversary to arc magazine's 20th, and the festivities continued in Sweden as the Lights in Alingsås festival also celebrated its 20th anniversary, along with the town's 400th.

This year's Lights in Alingsås festival welcomed participants from 27 different countries: ten workshop heads from seven countries, 45 student designers spanning across 23 countries and 25 electrical students from the local high school, Alströmergymnasiet. The event was again organised by Alingsås Energi, who took over the festival in 2017, and the route for this year's event took visitors out of the town centre and into the wilderness of the Nohaga park. This route has returned by popular demand from both residents and visitors alike, after first appearing in 2014. The theme for this year's installations was based around *Be The Light* – a chance for designers to interpret as they wish a message of how each of us can make the world a brighter place by being the light, whether on a small or large scale. “We had excellent feedback from this year's workshop heads. We've firmly convinced them that it's easy to make the world a little brighter through small, consistent efforts, and we hope that our *Be The Light* theme will spread that idea far and wide,” explained Event Manager at Alingsås Energi, Angelica Larsson.

“*Be The Light* was a concept developed by advertising agency Fent15 and is a manifestation of the Eleanor Roosevelt quote about how it is better to light a small candle than to curse the darkness,” added Creative Director Christer Andersson. “It's a powerful and evocative idea that we believe can spread and be very effective. Even if only a few percent of the 70,000 visitors make an effort to ‘Be The Light’, it could have a significant impact locally as well as globally.” As part of this year's anniversary celebrations, two lighting designers who helped launch the event back in 2000, Kai Piippo, Head Designer at ÅF Lighting, and Torbjörn Eliasson, Lighting Designer at White Arkitekter, returned to the Swedish town again to present a permanent *Jubilee* lighting installation in the heart of Alingsås. Along with the help of ÅF Lighting colleagues Seren Dincel and Helena Johansson, the team installed multiple fixtures along the river Lillå, which runs through the central town square.

The annual festival, with its many visitors, is close to the hearts of the two

Pics ÅF Lighting: Kai Piippo and Sarah Cullen
Workshops: Patrik Gunnar Helin
Installations: Robert Persson and Sarah Cullen

The permanent installation in the centre of Alingsås, created by ÅF Lighting and White Arkitekter, was a gift to the town from Alingsås Energi. The fixtures have mirrored edges allowing it to blend in seamlessly to its surrounding environment. The small lanterns strung across the river were completed by a group of primary school children as a part of the light festival.



designers and has helped them build their professional network and spread light culture in Sweden. The inspiration for the installation came from the site itself. It is a defined space without invasive light from buildings, shop windows or glaring street lights.

It was important that the installation was to make better use of the space, both aesthetically and for safety. The sides of the poles that the fixtures are mounted to have highly polished steel on each side that mirrors the nearby trees and water, allowing the whole installation to blend seamlessly into its surrounding environment. Sustainability was also high on the priority list, with sustainable materials used, along with a versatile design that allows future events and designers to take full advantage of adapting the installation to fit different celebrations.

“The site of the installation will change character during the year, with seasons, weather conditions and shifting temporary installations. It will be a popular and famous changeable Instagram-view for the citizens and visitors of Alingsås to enjoy for many years to come,” explained Eliasson.

“Lights in Alingsås has changed the Swedish lighting culture and spread the knowledge of good lighting around the world,” added Piippo. “We wanted to give the citizens of Alingsås something back. A place to be proud of, to visit and to tell the world about.”

As part of Lights in Alingsås this year, local primary school students were the first to utilise the flexibility of the structures by stringing across the river a selection of painted milk bottle lanterns, creating a magical effect of light reflections across the water.

Jan Olofzon, CEO of Alingsås Energi, remarked upon the impact the light festival has had over the years: “Lights in Alingsås has spread knowledge about light and lighting to many. The city has taken this into consideration and in many ways developed the event into its own. It’s the best month of the year for hotels, restaurants and cafés, with schools, associations and local companies creating their own

events during the five weeks. The people living in Alingsås have understood the importance of light for a safe and pleasant city.

“The lights have had a positive impact in Alingsås for many years. It is extra fun to use it for this year’s theme as a metaphor for everyone to contribute and make the world a little better – Be the Light!”

In order of appearance, the seven sites that featured this year were: *The Energy Hill* with workshop heads Vladan Paunovic of Denmark and Juha Hälikää of Finland; *The Eye* with Claire Tomara and Natalie Redford from Scotland; *The Grove* by Jackson Stigwood from Australia; *The Pond Köllera* with Erin Slaviero in the UAE; *The Castle Avenue* by Kapil Surlakar from India; *The Source* with Johanna Enger and Cecilia Cronelid from Sweden and finally *The Mother Tree* by Malin Wallin in Sweden.

During the event, we spoke with Vladan Paunovic, workshop head of site one and Creative Lead at Ramboll Architectural Lighting Design, about his experiences of being a lighting designer in Scandinavia. Originally from Bosnia and Herzegovina, the transition to a Scandinavian region highlighted both naturally and culturally influenced shifts in the approach to lighting.

“Denmark has a very distinguished lighting culture, which can also be found in neighbouring Nordic countries. People in the Nordics appreciate sensibly designed visual environments. Regardless of the type of installation (indoor, outdoor, public or private), 100% glare-free environments are always the ultimate demand,” he explained.

“Poul Henningsen [designer who collaborated with Louis Poulsen during the early to mid 1900s] was on the forefront of this preference when he designed his iconic PH lamps as response to the new/modern light source – the incandescent lamp.”

Along the light trail in Alingsås, a noticeable feature of the town was the small lamps in nearly every residential window. We asked Paunovic about this: “This is mainly a Swedish tradition, which occasionally can be seen in Denmark. What is common all over

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Scandinavia is the preference for pools of light around the room, rather than one luminaire centred in the room to illuminate everything evenly.”

Another notable bond with lighting the Scandinavians share is the love for warm candle light. “In Denmark it is hard to find a dining experience without candle light being a part of it, even if it’s July and the sun is still high in the sky. This is not only the case for fine dining; when a middle-class family enjoys a low-key dinner on a Tuesday evening, you will most likely find a candle or two lit somewhere in the dining room. The invisible bond between dining and candle light is one of the most sublime cultural elements here,” added Paunovic.

The lighting trail for Lights in Alingsås took visitors and residents out of the town and into the darkness of Nolhaga, a park close to the town centre that follows the river. The site installations could take advantage of the natural darkness that can be experienced in many areas of Scandinavia. Paunovic elaborated: “The landscapes and cityscapes are darker here than they are in more populated parts of Europe. This is a natural quality that we tend to preserve in our lighting projects. We are careful with what we illuminate and what stays intentionally dark when completing outdoor projects. We always go for the less is more concept.”

This respect for light is a sentiment that is also shared by Kai Piippo. “We talk about light as others talk about the weather,” he noted. “Every day we comment on the grey sky or the amazing sunsets we

experience the night before.

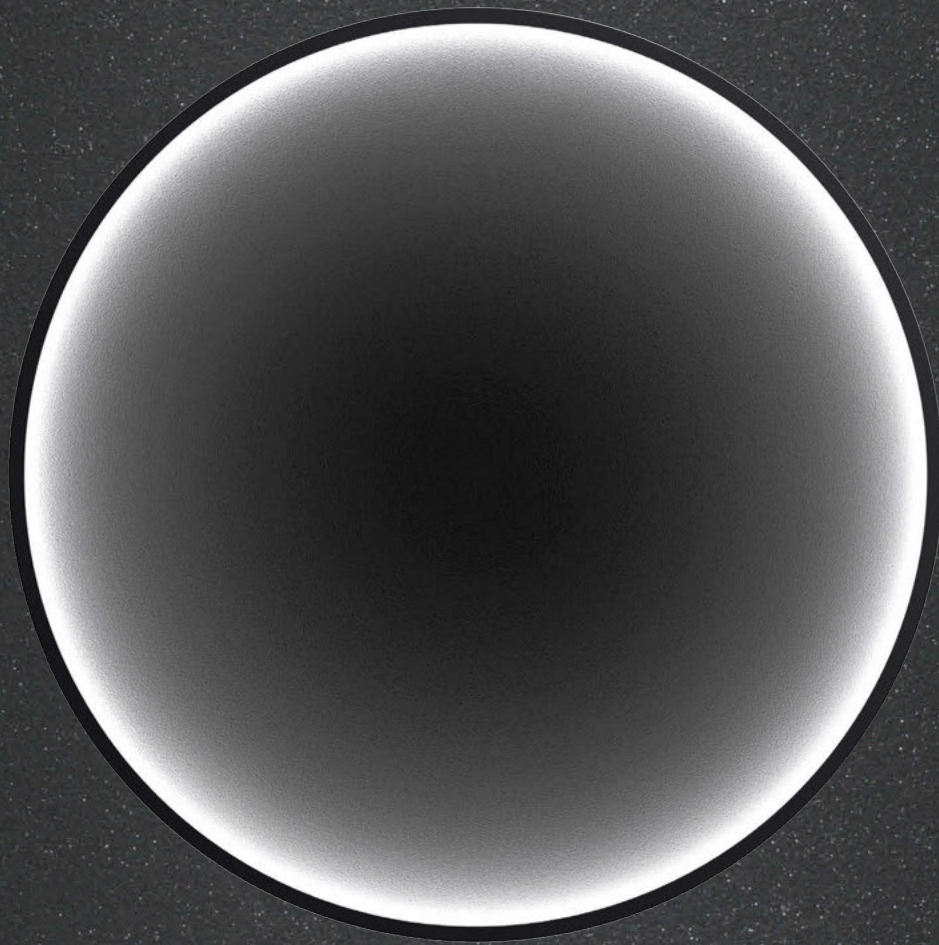
“We love light, especially the warm light. Nordic light is slow in movement with long sunsets, the blue hour and long shadows. During the summer we have long hours of sunlight, with sunlight even at midnight. During the winter we experience arctic light, which is a total lack of daylight. We refer to it like walking into a tunnel and coming out of it in six months’ time.”

Paunovic’s site one – *The Energy Hill* – is a celebration of sustainable living and a comment on the current climate crisis.

“You are in Sweden. Greta Thunberg is Swedish. The importance of sustainable living cannot be communicated too much. This installation is another cry for climate justice,” explained the site’s team. The light-loop takes visitors through four different energy sources; sun, wind, water and bio fuel. It is also a nod to Alingsås Energi and its incredible achievement of supplying 100% renewable energy to the entire town. Sponsors for this site included: Fergin, iGuzzini, Martin Professional, Meyer, Traxon, Osram, and Wireless Solution Sweden.

Site two – *The Eye* – is the first that takes visitors into the Nolhaga park. “When the eye receives light, it captures all events and experiences we encounter, and as it has been said before, is the mirror into our souls,” explained the team.

A central fountain is reminiscent of a stage with an audience waiting in anticipation for a performance. In the centre of the fountain is a mirrored sculpture, which reflected the soul of the surrounding area

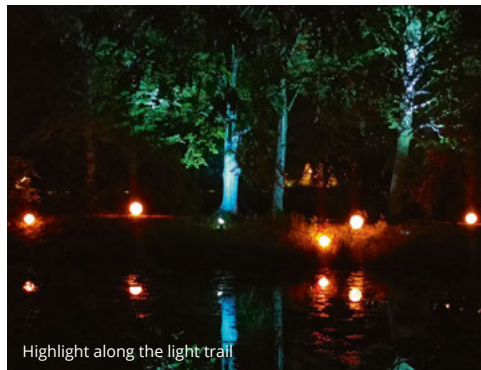
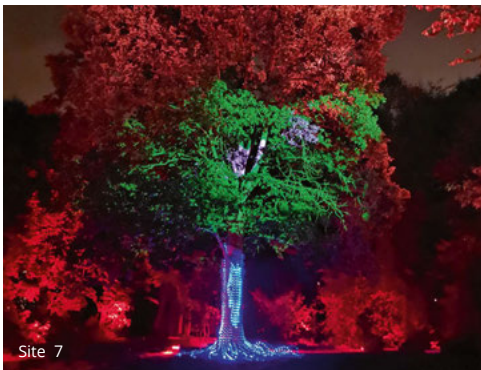
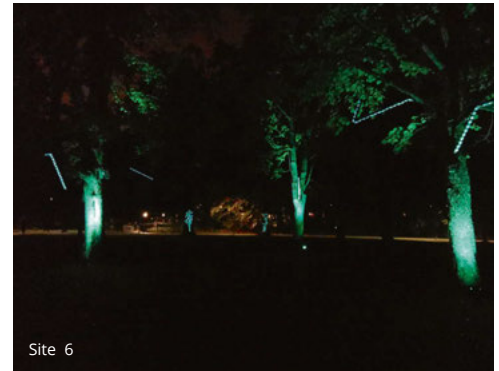


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 intra lighting



The Children's area took inspiration from squiggle drawings created by kids universally. Transformed into creature-lanterns and an interactive shadow canvas.

– acting like the eye of the site. This site was lit by Fergin, Lumenpulse, Meyer, Mike Stoane Lighting, Stockholm Lighting, We-ef and Wibre.

Site three, named *The Grove*, was headed by Jackson Stigwood. This area invited audiences to experiment with different perceptions of the space's depth through light; inviting you to enjoy the scenes from both inside and outside, creating different ambient atmospheres. "At the centre of the grove, individuals compose the unity community. We encourage you to commence an adventurous journey to explore the unknowns," explained the team. Fixtures from Cameo, Gantom, Fergin and Meyer were used to complete this installation.

Site four – *The Pond Köllera* – brought the trail up close and personal with the river's edge, with Erin Slaviero as the workshop leader. "In a world where many negative things surround us, positive energy is fragile and easily lost. This energy weaves and bends and appears unexpectedly from all directions," describes the site's team. "Our site is a reminder to take that energy that surrounds us and always reflect it on to others to make a positive change. A change that can carry and impact others no matter how many months and years beyond your time at Alingsås."

Fixtures were compiled from Cameo, EcoSense, Fergin, Meyer, Stockholm Lighting, Traxon, Osram, Uplight and We-ef.

The Castle Avenue – The Diurnal Rhythm titled site number five, headed by Kapil Surlakar. Taking audiences through a scene of sunlight, which transmits energy to create life, this installation depicts a time lapse experience of a day condensed into a two minute

sequence. Sponsors for this site came from Cameo, Fergin, Griven, Meyer, SGM and We-ef.

Site six, *The Source*, was headed by Johanna Enger and Cecilia Cronelid. This site is split into three sections, the source, which provides the energy; the connection is the meeting point where we experience and become a part of that energy; the environment is the point of contemplation, where we can see ourselves in the larger context both as a human and as part of the universal cycle – it is a place of clarity, reflection and enlightenment. Sponsors for this site included Griven, Fergin, Fox Belysning, Led Linear, Luxlight, Meyer, Traxon, Osram, Uplight, Wireless Solution, Sweden AB.

The final site was *The Mother Tree*. Led by Jim Farula, this team's site took inspiration from the Ancient Greek name *Gaia*, to be one with the universe and our planet. "We cannot deny our planet is a living organism, which we are affecting in an extremely adverse way," explained the team. "*Mother Tree* is a visualisation of this synergy, with light, feel the emotion, BE THE LIGHT!" Sponsors for this site were Colour Kinetics, Informationsteknik and Signify.

An added highlight to the light trail this year was located at Alingsås Energi's Pumphus and Momenti bridge, also known as *Site-Luke*.

The site, designed by Luke Farula, was made interactive with an app, supported by Signify, where residents or visitors could book a time slot then choose one of three different lighting scenes that ran for three minutes. ■

www.lightsinalingsas.se

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In Wonderland

Why do we sleep? Despite growing appreciation of the importance of sleep, the ultimate reason remains unknown. Sleep-like behaviours are observed in all life on earth. We spend nearly a third of our life asleep. Until the industrial revolution, we spent much longer time in bed since the social hours were largely defined by the length of the day. The advent of lighting influenced our cultural relationship with the night.

For a large part of modern science, sleep has been regarded as a functionless state. This view is now challenged with the growing understanding of how essential sleep is for our well-being, cognitive function and survival. However, we are still most vulnerable when we are asleep due to changes in heart rate, respiration, blood pressure, muscle control and awareness. Despite the efforts of today's 24/7 culture, sleep persists to be a core and mysterious human need for survival.



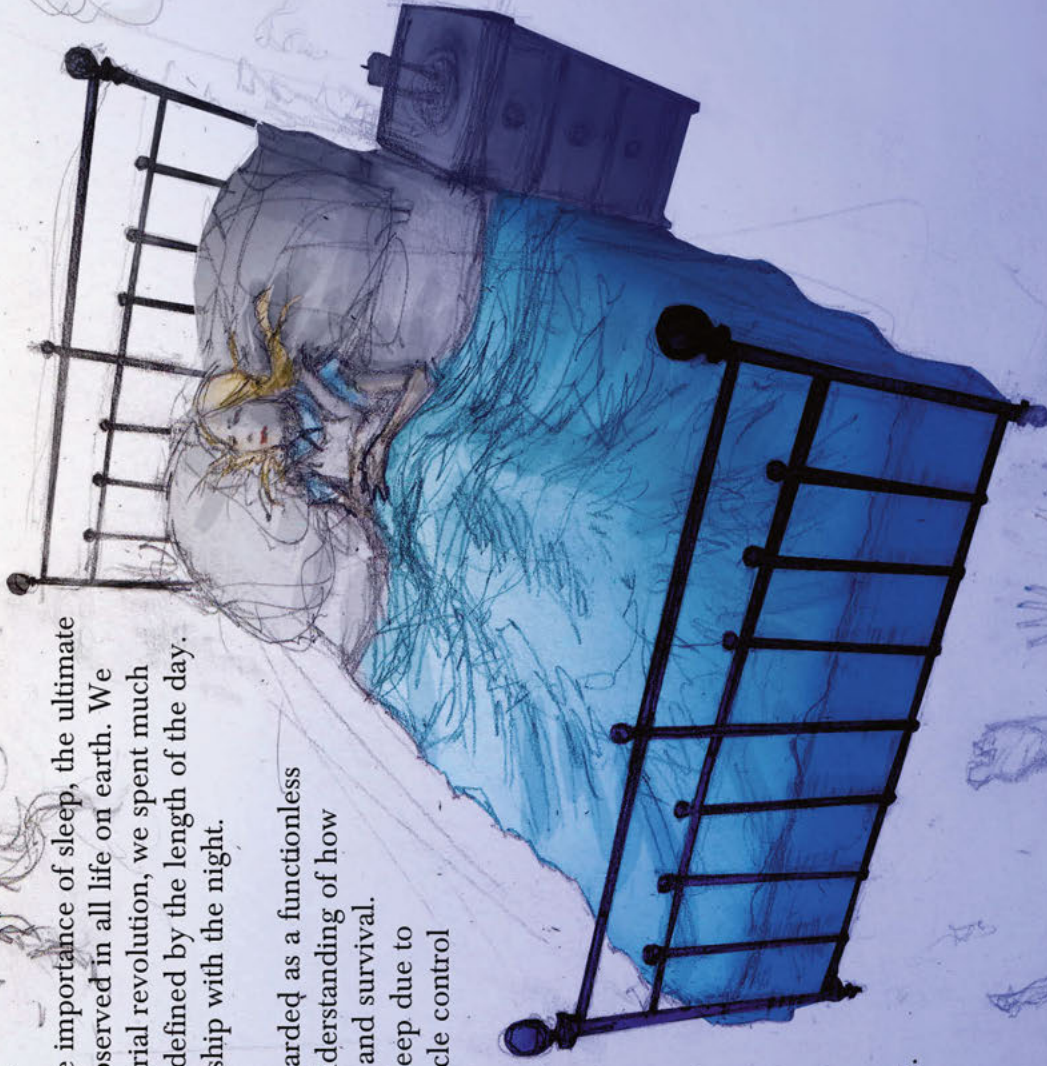
Stage 1

Light sleep: The transition from wakefulness into sleep. You can be easily awakened and might experience sudden dreaming. The experience of sudden muscle contractions, hypnic jerks and the sensation of falling happens here.



Stage 2

Sleep spindles: You become less aware of the outside world. If you are deprived of this stage your ability to remember the next day will be worse than usual. Breathing pattern and heart rate slows. Slight decrease in body temperature.





Stage 3+4

Deep sleep: Your heart-rate and blood pressure decline dramatically and there is no activity in skeletal muscles. It is difficult to wake up from this stage of sleep. Brain waves become slower. This is when the body repairs muscles and tissues, stimulates growth, boosts immune system and builds up energy for the next day. Night terrors, sleepwalking and sleep-talking also occur during this stage of sleep. Deep sleep happens less as we age.



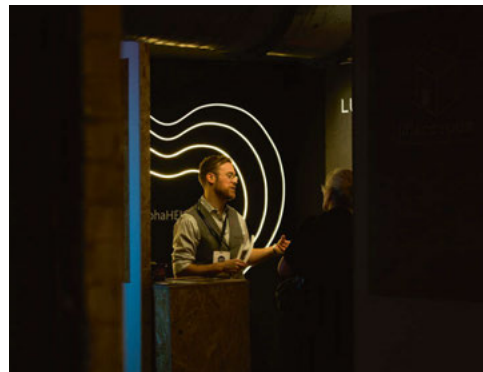
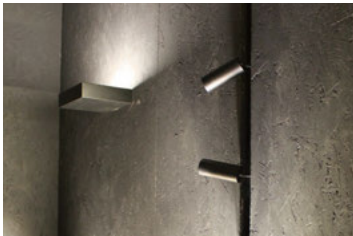
Stage 5

Rapid eye movement (REM) sleep: The eyes move around in a very distinctive and rhythmic way. The brain consumes more energy than it does during wakefulness. This stage plays a vital role in the brain's ability to learn and remember. To stop you acting out from your dreams, your body goes into a paralysed state, but your heart-rate, blood pressure and temperature increase, your breathing becomes irregular. The most vivid dreams happen during this stage.





Exhibition Pics: Gabriel Hutchinson, GoTo Live; Sarah Cullen



[d]arc days

This September, **[d]arc room** returned to London. In partnership with London Design Fair, the show took over Hall 13 of the Old Truman Brewery in Shoreditch, the heart of design in London, for a four-day celebration of all things lighting.

Taking place during London Design Festival, **[d]arc room** had its very own hall at the Old Truman Brewery, home to London Design Fair, where it continued with its unique exhibiting concept, as well as having educational workshops and live streaming presentations.

Organised by **[d]arc media**, the team behind **arc** and **darc** magazines and the **[d]arc awards**, in collaboration with creative consultants Light Collective, the exhibition showcased the most up-to-date solutions in lighting, making it a must attend event for anyone involved in lighting specification.

London Design Fair regularly attracts close to 30,000 visitors across four days of exciting and creative content, and 2019 was no different. More than half of the visitors were designers or architects, with retailers also making up a big part of the audience. **[d]arc room** brought a welcome additional contingent of lighting designers to the show, as well as educating non-lighting professionals about the benefits of lighting design.

Visitor numbers for **[d]arc room** exceeded all expectations, with official figures doubling from 2,000 in 2018 to 4,000 this time around.

Paul James, Director of **[d]arc room**, commented: "I was delighted with the way that **[d]arc room** was received this year, with its integration into London Design Fair. The show has gone from strength to strength since its inaugural event in 2017. Our substantial increase in both exhibitors and visitors proves to us that there is a need for a dedicated lighting design event at London Design Festival."

The lighting specification exhibition comprised of 75 lighting brands, alongside three days of workshops, and a unique live stream of lighting talks, curated by Light Collective.

James continued: "The mix of creative, small stands where no company dominates the event, together with strong educational content, in a great location really appealed to the designers and architects that attended this year's show. We will aim to develop the concept further as we move forward with **[d]arc room**."

Alongside a full schedule of talks and workshop sessions, Speirs + Major presented its virtual reality Third Age of Light - a VR experience through which the studio envisions the lighting of the future, predicting how our cityscapes will look in 2050.

Manufacturers on show this year included: Acclaim, AC Special Projects, ADO Lights, Airstream, Archilume, Aria, Arkoslight, Astro, Avivo, Axalight, Barthelme, Bert Frank, B Light, Blond, Buzzi Space, Cameron Design House, Casambi, CLS, Delta Light, Dyson, Edison and Mansfield, ENTTEC, ELR, EPS/Elumeros, ES-System, Feelux, Filix, Forge, formalighting, Fritz Fryer, Gap Lighting, GDS, IBL, Insta, Kreon, LED iBond, LED Ltd, LensVector, LightGraphix, Lightly Tech, Linea Light Group, Lite, Lucenti, Lumenpulse, Lumino, Luminus, Madrix, Megaman, Mesh, Mode Lighting, Nicolaudie, NJO, Nulty Bespoke, Original BTC, Orluna, Osram, Performance in Lighting, Pharos, Phos, ProLED, Pulsar, Radiant, Recolight, Reggiani, Sagitario, Seoul Semiconductor, SLV, Soraa, Specialty Lighting, Speclight, Targetti, Technilum, TLS, Traxon, Truelux Group, Tryka, UFO, unonovesette, Vexica, Vode, Whitegoods and Xicato.

The show is supported by CIBSE (Chartered Institution of Building Service Engineers), BIID (British Institute of Interior Design), IALD (International Association of Lighting Designers), ILP (Institute of Lighting Professionals), SLL (Society of Light & Lighting), and SBID (Society of British and International Interior Design). ■

www.darcroom.com

Lighting up the [d]arc

This year, **[d]arc room** featured 75 exhibitors across both architectural and decorative lighting brands. Here we take a look at some of the architectural products that were on display.



formalighting

Moto-Ola's curvaceous motorised light head rotates (350°) and tilts (90°) effortlessly to show-off a high performing LED light beam that illuminates with excellent visual comfort. Moto-Ola is compatible with LensVector's Dynamic Beam Shaping technology, which turns liquid crystal molecules into a series of modifiable micro-lenses, delivering precision beam changing and dramatic effects. Controlled by a Casambi powered app, Moto-Ola's beam angle can be adjusted in a continuum range from 10° to 50°, flowing fluidly through all the all points in between.

www.formalighting.com



Phos

Orba is a family of interior and exterior projector luminaires featuring a wide, modular choice of installation options. The high range of adjustability is achieved by an ingenious magnetic 'puck' and rail design that enables complete control. The ø70mm spherical body is also the patented heat-sink for the high-power Cree LED. Delivering up to 830 lumens, Orba features easily interchangeable optics of 10°-50° – all of which can accept a honeycomb anti-glare louvre for tighter beam control. Manufactured from aluminium, Orba is available in a range of finishes.

www.phos.co.uk



Radiant Lighting

Centura is a flexible, modular LED interior linear lighting system. An innovative design offers the flexibility to follow curved surfaces, encircle columns and domes, and make irregular shaped pendants, all whilst offering excellent lighting control and uniformity. It is available in uplight and downlight solutions, with aimable spotlights providing accent lighting on either side. Surface-mounted or suspended, and producing up to 5,000 lumens per metre, the Centura is ideal for a range of architectural, hospitality, leisure and retail lighting applications.

www.radiantlights.co.uk



Casambi

Evolution, a major release of firmware, increases the number of Casambi devices in a network to up to 200, delivering better performance, with extra features and high levels of security, among other benefits. Evolution can be enabled across most luminaires, drivers and lighting control devices across the Casambi ecosystem. The new optional software upgrade joins the company's existing Classic firmware, which continues to be supported.

www.casambi.com



Acclaim Lighting

Cylinder One HQ is a flexible downlight solution, with an output >12,000 lumens and total aperture of 150mm. It features an internal 100-277VAC power supply, onboard DMX+RDM driver, and each unit includes Acclaim's Aria wireless control technology as a standard feature. Cylinder One offers several quick-change reflectors, as well as various mounting configurations, including surface mount, NPS pendant mount, aircraft cable mount and wall mount configurations.

www.acclaimlighting.com



Megaman

Megaman's patented Dual Beam Technology (DBT) allows LEDs to have both a narrow and wide flood setting, catering for any lighting plan and changeable at a moment's notice. The technology is currently available as part of Megaman's extensive LED reflector lamp range as GU10 PAR16 Dimmable, AR111 GU10 and AR111 G53 Dimmable lamps as well as Megaman's 24W MARCO MIDI integrated LED white tracklight.

www.megamanuk.com



Lumenpulse

LITE Architectural Lighting showcased Lumenpulse's award-winning Lumenbeam inground luminaires at [d]arc room. Designed to solve a range of indoor and outdoor lighting challenges, the Lumenbeam family is rich in options, with a choice of outputs and optics; colour temperatures and colours; mounting options and accessories; and dimming control. Built with robust, high-quality materials, the Lumenbeam family delivers L70 LED lifetimes from 79,000 to 370,000 hours. A 3G rating, for use on bridges, is also available.

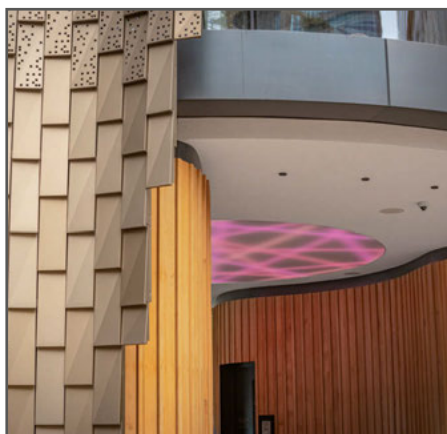
www.lumenpulse.com



LightGraphix

LightGraphix introduced its new LD155 in-ground adjustable uplight. Featuring a lockable 360° rotation and 25° tilt, this uplight incorporates a removable inner bezel so the product can be focused after installation, with adjustment and focusing done from the front. The LD155 features a retaining ring which locks the LED module into the desired position and the supplied tool allows both tilt and adjustment to be locked in one easy step. A range of interchangeable optics and light engines ensure the LD155 offers flexibility for lighting projects.

www.lightgraphix.co.uk



TLS International

TLS MediaPix is a low-resolution media system capable of individual pixel control for both colour and intensity, based on TLS International's award-winning Tension LED System. A substrate-free solution requiring only point-to-point anchoring creates modular, large-scale LED matrix with minimal effort. Integrated drivers and controllers require only two connections: an electrical and a network cable, while LED Boards are available in different horizontal pixel pitches and vertical pitches are customisable. The low number of components makes for easy installation, maintenance, and creates a 98% see-through media wall.

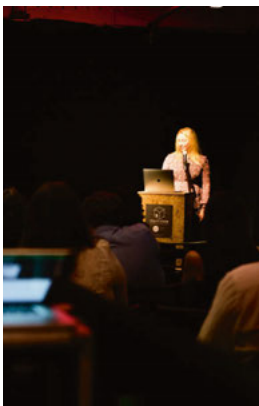
www.tls-led.com



Proled

Founded in 1988, Proled is not only active in the general lighting sector, but has specialised exclusively in LED technology since 2005. The company's passion and enthusiasm is LED, as it combines experience, accuracy, technological progress and constant quality control in accordance with the latest standards to offer innovative and high-quality products at an excellent price and quality level. From its product range, the new Opal Strips and Digital Strips in combination with profile and black cover were on show.

www.proled.com



Live Through This

The popular [d]arc room: live series of talks returned to the show this year. Once again curated by Light Collective, the talks were live streamed online during the show.

Sponsored by Delta Light, this year's series of [d]arc room: live talks featured 32 quick-fire, 15-minute presentations from leading lighting and design professionals from around the globe. Curated by Light Collective, each presentation was live streamed online, while visitors were also able to take a rest from the show with a coffee, courtesy of Delta Light, to take in the talks. Held across the first two days of the show, the [d]arc room: live lineup featured presentations from the likes of Paulina Vilalobos of DiaV, Clementine Fletcher-Smith of Speirs + Major, Lee Painter from BDP, Sacha Abizadeh of WSP, Magdalena Gomez from Elektra, Kael Gillam of Nulty, Kim Riley and Kenny Cliffe from Light 4 Cundall, James Poore of JPLD, Daria Helonek and Huajing Liu of Jason Bruges Studio and Lora Kaleva of BDP. Dark Source founder Kerem Asfuroglu and Odiri Ighamre of The Vessel UK hosted a presentation on

their Vessel project, as featured in **arc 110**, while Jule O'Reilly, Ariona Bilo and Marijn van de Geer of Sutton Vane Associates held a talk on the Language of Light. On the decorative side of things, **darc magazine's** Helen Ankers hosted a series of Q&A discussions with the likes of John Williams of Space Invader, Jo Littlefair from Goddard Littlefair, David Collins Studio's Siobhan Kelly and Maria Katsarou-Vafiadis of MKV Design. Delta Light also hosted a residential lighting micro conference on the third day of the show, featuring a group of leading architects and lighting designers, who each shared their knowledge and expertise on residential lighting, and discussed how best to light a home with a room by room approach. The full schedule of [d]arc room: live talks is available to view on the Light Collective Youtube channel. ■ www.lightcollective.net



DMX LIGHTING CONTROL SOLUTIONS



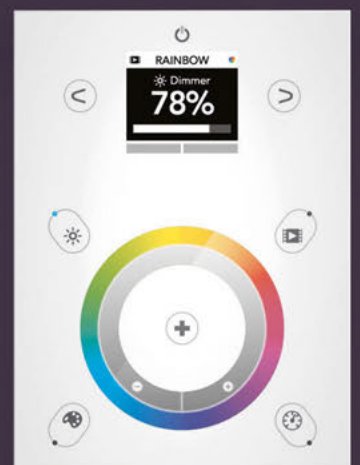
Swan Street Bridge, Melbourne, Australia - Illuminated by Coolon LED Lighting
Lighting Design: Relume Consulting - Architect: BKK Architects

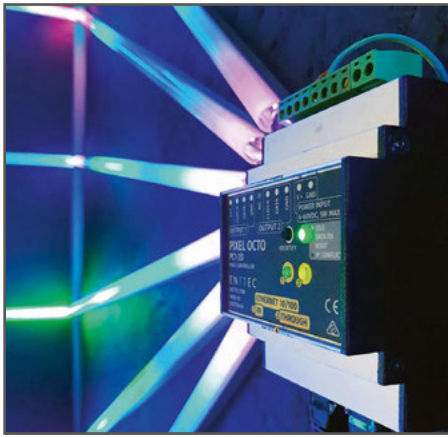
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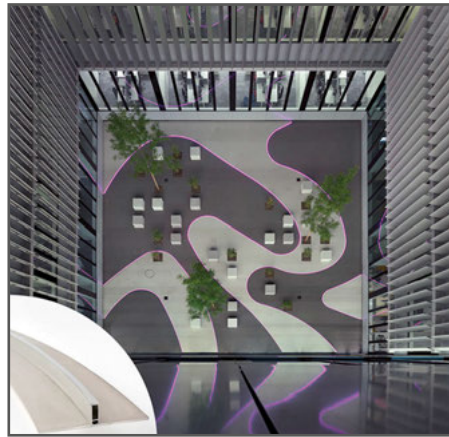




ENTTEC

An installer-friendly device, ENTTEC's Pixel Octo allows for the control of LED pixel strips through an intuitive web interface, or by receiving up to eight Universes of DMX. With the convenience of being DIN-rail mountable, the unit supports both three and four-wire LED pixel protocols, ensuring compatibility with a wide range of products. It's feature-packed too, including an onboard effects generator with standalone capability, so it can be up and running with shows in no time.

www.enttec.com



ADO Lights

ADO Lights works with architects and light planners to create design-oriented light fittings for projects. One of its star products is the LEDLuc spot, a magnetic spot that comes in two sizes, with different outputs and beam angles. The magnetic tilt and the exchangeable lenses make the LEDLuc well suited for the illumination of museums and retail stores. Furthermore, the LightLine features a smooth, uniform and adaptable light of line, durable enough for exterior spaces such as squares, pavements or façades.

www.ado-lights.com



Insta

At **[d]arc room**, Insta showcased the II 1060 in-ground light line. IP68-rated, with V4A stainless steel construction and IK10 approval, the fixture is available in 230V monochrome, with no additional power supplies, or 28V RGBW for multimedia light installations, while custom versions are also available. With hundreds of colour controllable segments, this luminaire suits various indoor and outdoor applications.

www.insta.de



Madrix

MADRIX 5 is the ultimate LED pixel mapping system. The award-winning control software made in Germany features powerful yet simple tools for professional lighting control in 2D or 3D. It supports all major communication standards and protocols for input and output.

www.madrix.com



Vexica

At **[d]arc room**, a number of new and exciting products and concepts were on show from Vexica, including a three-sided top view product. The Flexi-Line-T3 provides designers a multi direction light source, manufactured in the UK using robust and resistant PU resin components for durability and flexibility. This product is designed to bend with the contour of a structure or surface.

www.vexica.com



Pharos

The Pharos EDN 20 is a convenient and scalable solution, providing cost-effective Ethernet-distributed DMX ports for large control projects. The EDN 20 is a configurable networking node that is specifically designed to add physical DMX ports to Pharos Controllers. Extremely compact, it packs 20 DMX512 output ports in just a 1U 19-inch form factor. For very high-channel count installations, nodes can be daisy-chained to provide as many physical DMX universe outputs as you need. Due for release in February 2020.

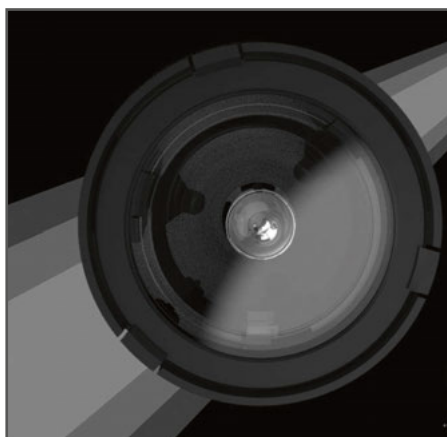
www.pharoscontrols.com



Orluna

Using bespoke LED technology, Orluna renders reds accurately, making all colours more vibrant, and whites truer, enhancing interior designers' creations by showing full colour within fabrics and materials. Orluna's Richer Reds technology gives an exceptionally high average colour rendering (CRI: 98) and the best red rendering available (R9: 99). As reds are important in accurate representation of many colours, including true whites, the Origin engine makes colours look as intended.

www.orlduna.com



Specialty Lighting Industries

Specialty Lighting, a New Jersey based luminaire manufacturer, marked its UK launch by showcasing two uniquely innovative ranges at [d]arc room. The INK Downlight demonstrated that advanced functionality can now be offered as standard, with wirelessly controlled integrated beam shaping, dimming and colour change. SNAP, meanwhile, is a contemporary take on track lighting with a range of 'snap-in' modules.

www.specialtylightingindustries.com



unonovesette

The Slash is designed for outdoor in-ground or surface mounted applications. It is available with four different optics including wall washing and wall grazing. The internal optical system is tiltable +/- 20° from the outside of the fixture, minimising light pollution and optimising the light effect. Glare control is further enhanced by the unique linear anti-glare louvre, which is especially designed for wall washing and grazing applications providing exceptional uniformity.

www.unonovesette.it



Targetti

Less than a year after the official launch, Targetti has made the 48V magnetic system OZ more versatile. Ideal for applications in exhibition, office, retail and hotel areas, the system now has a 90° electrical connection, which allows installations in all areas of the space. In addition, large adjustable modules and multiple light modules, five small and three large, also have become part of the world of OZ.

www.targetti.com



Seoul Semiconductor

Seoul Semiconductor presented its SunLike technology during [d]arc room, demonstrating the latest technology in LEDs that can reproduce sunlight indoors. Demonstrated on its stand alongside luminaires from ES-system.

www.seoulsemicon.com



Nicolaudie

Nicolaudie offers innovative and advanced lighting control solutions for architectural lighting applications, including residential, commercial, building façade, monuments and fountains. The solution is based on stand-alone DMX controllers, programming software and mobile apps. Nicolaudie presented its latest products for coloured, white and dynamic lighting control: new ESA Pro 2 software, and STICK-CW4 touch panel.

www.nicolaudie.com



Sagitario

The FLOOD LED 16 RGBW has an IP68 adjustable surface mounted spot, manufactured in stainless steel housing with anticorrosion and UV treatment, as well as a protective clear front glass. It features a 16-PowerLED module split in four channels and a choice of different optics. Thanks to its high luminosity and its underwater protection, it is suitable for outdoor applications where powerful lighting results are required. The four channels allow performing all kind of colour tones, including pure white, selectable between 2700K to 5000K.

www.sagitariolighting.com



ELR

The ELR Nest family tries to capture all the positives of Halogen lamps, but with the efficiency and capabilities of modern LED technology. An integrated Phase/0-10V/DALI driver means simple installation, while field replaceable convergent optics mean near perfect LOR and flexibility in site commissioning. Available with 95 CRI ProArt, WarmDim, tuneWHITE and any 100K CCT increment between 1800-6500K in a compact form factor, the Nest family gives the full range of controlled light for any setting.

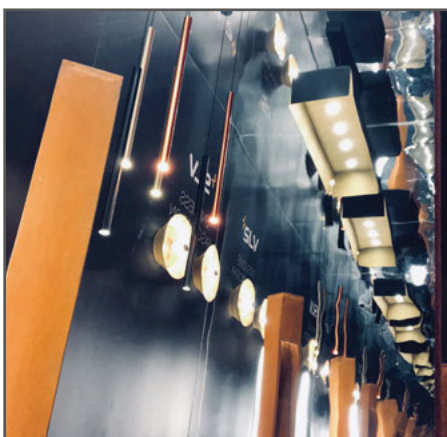
www.elr-group.com



Aria

Mesh Lighting showcased Aria's Trentacinque 35. With 360° distribution, configurable miniature spotlights and a multitude of colour finishes and options, from hidden to revealed, Trentacinque 35 creates concealed details or becomes the centrepiece of a breath-taking installation. The linear system has three different types of light: indirect, diffused uplight, direct diffused downlight, and accent lighting. Trentacinque linear profile is a cylindrical element that can create diffused uplight and/or diffused downlight.

www.aria.lighting



SLV

SLV UK exhibited at [d]arc room for the first time in 2019, to launch of The Big White 2020 and showcase some of its leading luminaires. SLV's stand demonstrated its endless fascination with light and luminaires over their 40-year history. The products on display included Bato, Avento, Helia, Rusty and H-pole.

www.slv.cloud



B Light

Light is a statement of reality, controlled, aware of the surroundings/circumstances. Merope is a driver-over luminaire with adjustable light source. Each space can be thoroughly enhanced: pillars and façades, plants and pathways, any element can be snatched from the shadow and can be transformed in the performer of pure planning creativity. The Merope family was recently used for the new Tide project in Greenwich, London.

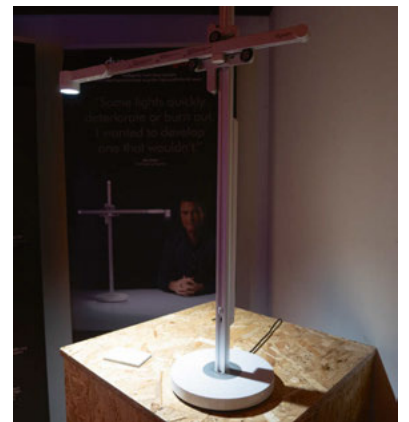
www.b-light.it



Astro Lighting

Simple in design, Astro Lighting's Enna collection performs the three key functions of reach, adjustability and glare-free illumination. Through the use of a fixed stem, Enna maintains an architectural freedom, but still enables full adjustability of the beam to illuminate the task in hand. The Enna collection features floor, desk and wall luminaires in a variety of finishes to suit any interior.

www.astrolighting.com





Hands On Discussions

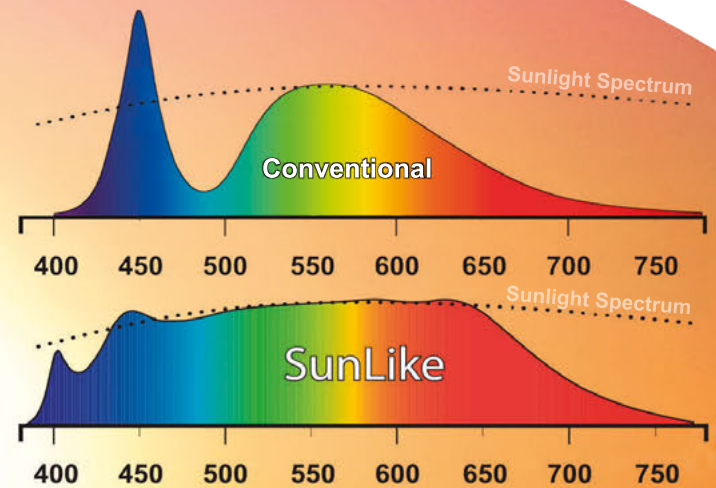
Alongside the series of [d]arc room: live talks, this year's educational content included a busy schedule of interactive sessions, panel discussions and presentations in the [d]arc room: workshops space.

Sponsored by Phos, the [d]arc room: workshop space was home to a series of interactive workshops, thought-provoking panel discussions and inspiring presentations addressing the latest lighting technology topics and design trends. Kicking things off, Phos, fresh off the announcement of its rebrand and the launch of its *The Power of Light* film, held a panel discussion centred on elevating the power of light in the architectural environment, featuring interior designer Daniel Hopwood, architect Jane Duncan, Jacinta Phelan of Ennismore and Elektra Lighting's Neil Knowles. Interactive sessions proved once again popular for visitors, with LensVector and Casambi's session on the evolution of lighting control, and David Gilbey and Amardeep M. Dugar's session on illuminating plant walls, both welcoming high attendances. One of the most popular sessions though, was the Women in Lighting discussion, entitled *Stepping Out of*

the Shadows. This discussion, hosted by Katia Kolovea of Urban Electric and Greta Smetoniute of Michael Grubb Studio, invited a variety of lighting designers from around the world to share their perspectives, each discussing their views on feminism and equality, and its importance in the lighting industry. Elsewhere, topics such as wellness in design, sustainability, acoustic lighting and bespoke lighting were all discussed in great detail, while Benz Roos of Speirs + Major presented *The Third Age of Lighting*: the studio's vision of what lighting will look like in the future. Finally, the ILP once more hosted one of its popular How To Be Brilliant presentations. This time around, Arfon Davies and Nicola Rigoni of Arup discussed the delicate balance of daylight and artificial lighting. The final day of the show featured a matinee of lighting films for visitors to enjoy, including Phos' *The Power of Light*, alongside Light Collective's *Perfect Light* films and *Neon*, a film by Lawrence Johnston. ■

Natural & Healthy Light

SunLike
Powered by 



- Improves the light experience for human health benefits
- Closely matches the spectrum of natural sunlight
- Harmonizes light output with natural circadian rhythms
- Minimizes negative effects of conventional LED light sources



SEOUL SEMICONDUCTOR

Visit seoulsemicon.com to learn more about SunLike Series LEDs.

info.europe@seoulsemicon.com





GDS

UK lighting and control manufacturer GDS showcased its architectural Alundra product family, alongside its lighting solution based services. The Alundra Zoom is a sleek design spotlight cast and milled from a single piece of aluminium. Engineered with a tool-less and adjustable beam angle, the Alundra Zoom provides 55° range. Fully customisable, the bespoke German glass optics ensure a smooth transition between near and far field and comes with DALI protocol as standard.

www.gds.uk.com



UFO Lighting

UFO introduced the new Sirius IP67 this year. The first high powered IP67 fibre optic light source is appropriate for architectural projects, and is available with a variety of options and controls including bluetooth and fibre optic. Having achieved IP67 rating and UL approval the unit is performing well on existing theme park installations, a new RGBW model will follow from its UK factory this year.

www.fibreopticlighting.com



Luminus

Smaller, warmer, and healthier were the focuses for Luminus at [d]arc room this year. Creating 4-5° beams is finally possible with Luminus' Pico COBs, which enable luminaire manufacturers to deliver more centre-beam-candle-power and shrink luminaire size. Luminus makes linear and spot 'dim-to-warm' lights simple and cost effective with LED module solutions that work with a standard dimmer and single channel driver.

www.luminus.com



Feelux

The magnetic Monorail track system features a super slim linear form with easy installation, offering a comprehensive long run track installation with a single power supply point. By installing Monorail 2 Pro in a row, spot free concepts can be continuously displayed. Various different extrusions such as Surface, Recessed, and Trimless are great solution for specific required installation conditions. Additional accessories and touch sensor dimming function on Monorail 2 Spot with 2200-6000K may bring a more special atmosphere in areas applied, such as in retail shops and hotels.

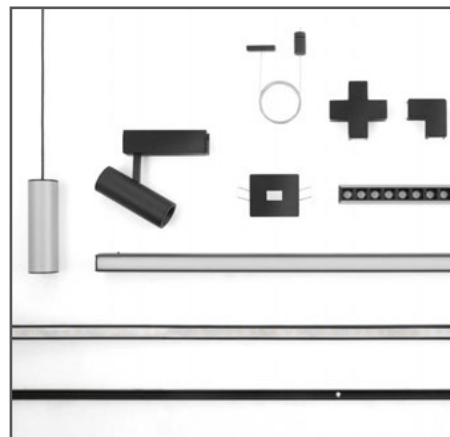
www.feelux.com



Traxon

Products showcased by A.C. Special Project at [d]arc room included the e:cue Sympholight's simple yet powerful lighting control system; the Allegro 2.0 linear batten available in various coloured and white LED configurations and lengths; and the Allegro Dot generation 2.0 intelligent LED media dot, which utilises Dynamood Technologies.

www.traxontechnologies.com



Linea Light Group

Linea Light Group returned to [d]arc room for a third year, with its range of lighting products, including the INK System. A versatile solution for any surface in any environment, the INK System revises the concept of the lighting fixture, disassembling and reassembling it, transforming light into a re-imagined feature so that users can express themselves in a completely new way.

www.linealight.com



Arkoslight

Arkoslight presented a wide range of luminaires for low voltage rail. A collection of luminaires for general, accent and longitudinal lighting that provide a complete solution for any architectural project. Rubén Saldaña, Arkoslight Product Director, has redesigned spotlights, spots and suspension luminaires to include them into the low-voltage track. Products such as Spin, iO, Top and Plus families grows up in order to follow the path that the lighting sector is taking. In addition, Line is added exclusively for low-voltage track.

www.arkoslight.com



Tryka

At this year's [d]arc room, Tryka LED focused on its Pixel Node offering as used so dynamically at Jaguar Land Rover in Birmingham. Other Tryka Pixel products shown included Pixel Bar, currently successfully installed at Light Box in Media City Salford and Box Park in Croydon, and about to be revealed adorning a high profile project in Algeria. Also displayed at [d]arc room were Pixel versions of Tryka Contineo and Boa Flexistrip.

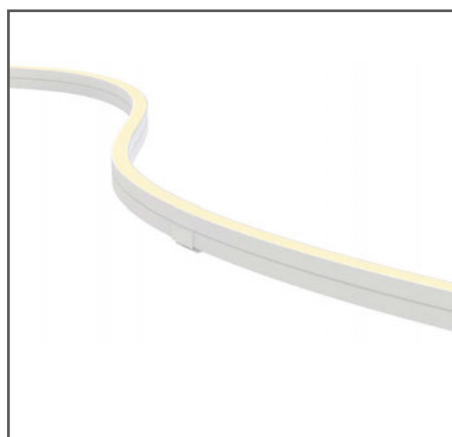
www.tryka.com



Performance in Lighting

At [d]arc room, Performance in Lighting presented Liquid, the first luminaire designed for the manufacturer by Walter de Silva. A distillation of pure technological essence, Liquid explores reflections on the nature of light with aesthetic values of the highest quality. Light is energy, wave, evanescence, while metal is static and durable over time. The waves of a drop crystallise into a lightweight, solid volume that expresses fluidity and dynamism at the same time.

www.performanceinlighting.com



Lumino

The new alphaHELIX from Lumino is an IP67, 11x18mm flexible linear profile featuring LUMINO EQ LEDs in 12W or 6W per metre power ratings. Made possible by the unique end cap design, the lit surface extends to the end of the luminaire to allow a continuous line-of-light effect. With the ability to be surface mounted or recessed, alphaHELIX is available for both interior and exterior applications and is specifiable in increments of 50mm up to a maximum six-metre reel.

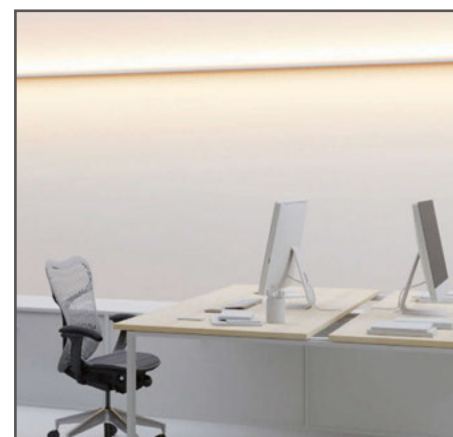
www.lumino.lighting



CLS

The Ruby Series offers many different possibilities for lighting designers. The fixtures are available in a pendant- surface-bracket and a track mount version. Designers can choose between White light, Tunable White light and RGBW or RGBA colour changing versions. 22, 30, 45, 60, and 110-Watt versions can be chosen. Control options are endless: Mains dim, Casambi Bluetooth dim, 1-10V, DMX512 and wireless DMX512. The fixtures offer an accessories holder as standard and beam angles can be changed quickly due to the easy interchangeable reflector.

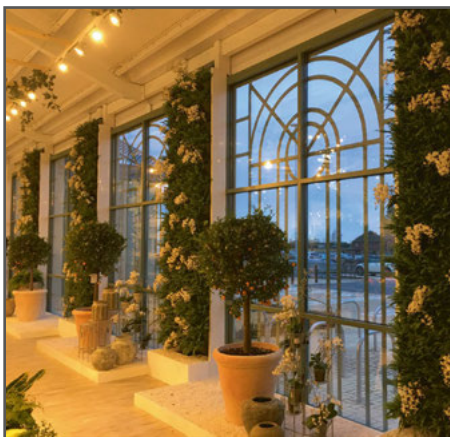
www.cls-led.com



Vode

The ZipThree from Vode, exhibited by Mesh Lighting is a micro profile in robust design - rectangular profile, 7mm thick and 96mm deep. The output can be set in three different steps with a max output of 9212 lm/m (up and down), 149 lm/W (SO). 80 or 90 CRI and tuneable white (2200K-6500K) available. Remote Power with Independent Channel Control, where the power supply may be located up to 22-metres away, whilst direct/indirect circuits may be independently controlled. Optional EdgeGlow for edge-lit detail makes this luminaire look like a floating line of light.

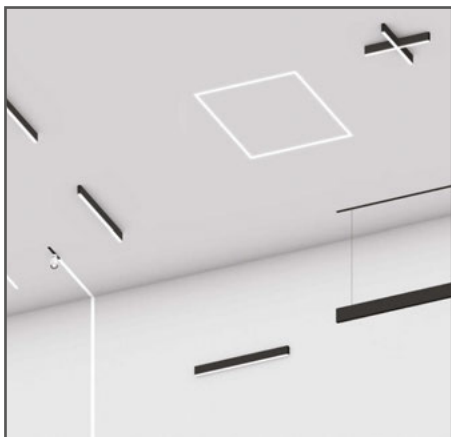
www.vode.com



AlphaLED & Xicato

Coinciding with a workshop on Optimum White LEDs, also held during [d]arc room, LITE presented the collaborative efforts of AlphaLED and Xicato, as they seek to find the optimum lighting of plant walls by testing white LED light sources of different Spectral Power Distributions. 'Optimum' lighting here means fluence and spectrum that is biologically effective to keep plant walls healthy and maintenance-free, as well as visually effective to provide them with the most natural appearance.

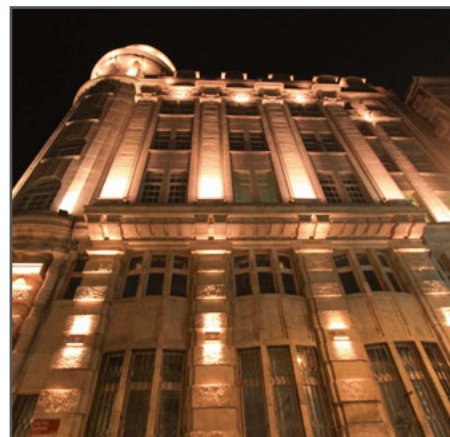
www.alphaled.co.uk
www.xicato.com



Reggiani

Traceline has contributed towards linear lighting design by using the latest technology to deliver a very flexible system. Traceline can be deep recessed, recessed, surface, pendant or deep pendant mounted with the ability also to insert Yori spotlights. Featuring built-in wireless controls and a variety of finishes and optical options: Opal, for soft and diffuse lighting; Microprismatic, for more visual comfort; Dark Performance or Dark GRID with UGR <15 and <19, to reduce glare; PMMA Lenses, for general illumination or grazing lighting.

www.reggiani.net



Axalight

The Axalight SkyLine linear luminaire is available in a vast array of bespoke options, from the highly efficient, beautiful warm 2000K Ember-White through to dynamic colour mixing models. Lens optics include 12°, 24°, 36° and 15x60° with lengths from 100 to 2000mm. SkyLine features Pre-Sure airtight and watertight enclosure validation. Control options include our Cloud-Drive wireless system, DMX/RDM, DALI or standalone with mains or SELV power supply.

www.axalight.com



EPS

EPS and Elumeros Lighting are based in the United Kingdom, with a global network of partners and distributors. EPS focusses primarily on indoor commercial, architectural and retail applications whereas Elumeros specialises in outdoor architectural illumination systems covering flood, graze, wash, image projection, media façade and moving head LED systems. Their portfolios are industry toolboxes designed from the ground up to furnish any project.

www.epslighting.com
www.elumeros.com



Soraa

Lighting professionals desire versatility and control when designing spaces. Even the smallest nuance can have great impact on the overall effect of a space. Soraa Aerial addresses these needs, boasting minimalistic, symmetrical and stylish product design details with precision and beautiful light quality. The luminaire portfolio features a unique, completely removable light module that can be switched out without disrupting existing construction, and features fully integrated toolless on-board dimming.

www.soraa.com



Delta Light

Shiftline M26 is the surface mounted variant of Splitline M20, where recessing is not possible. Overlapping profiles with spot modules, in different sizes, designs and lumen packages, can combine with linear LED lighting or pendant modules giving the customer a large variety of possibilities to create the preferred lighting scene. If something is overlooked in the lighting scene, then all modules can be easily switched thanks to their magnetic fixation.

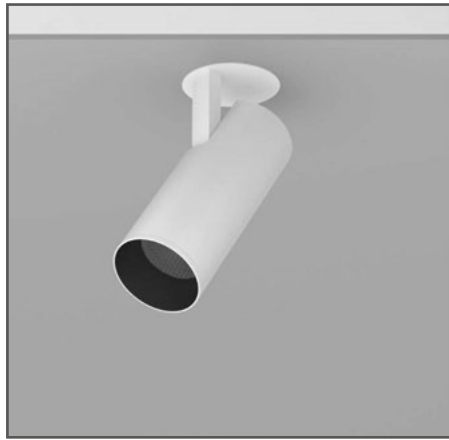
www.deltalight.com



Gap Lighting

Gap Lighting showcased a range of its innovative products, including Blanco, a series of architectural surface mount wall lights suitable for interior and exterior spaces. Manufactured with one piece of pure aluminium and finished in matte white or graphite grey, Blanco blends seamlessly with any space and lighting scheme. It has been engineered with tool-less adjustable levers, which allow artistic effects as well as optimum beam angles.

www.gaplighting.co.uk



IBL

IBL used [d]arc room to officially launch the Lightkit range. Lightkit was acquired by IBL in April of this year and features a family of fixtures designed specifically for the hospitality and high-end retail markets. Designed by designers for designers, the Lightkit family share the same interchangeable optics, ensuring both colour and precision are consistent across the entire range. The unique LGL (light gathering lens) offers LOR of up to 90%.

www.lightkit.co.uk



LED Limited

The XT5270s-II LED extrusion has been designed for wall mount, surface mount pendant and recessed installation. It is ideal for indoor commercial lighting such as office environments, retail shops, libraries, shopping centres, restaurants and many more projects, and can be used effectively for decorative lighting design. The aluminium extrusion is created using high quality materials which suit many applications.

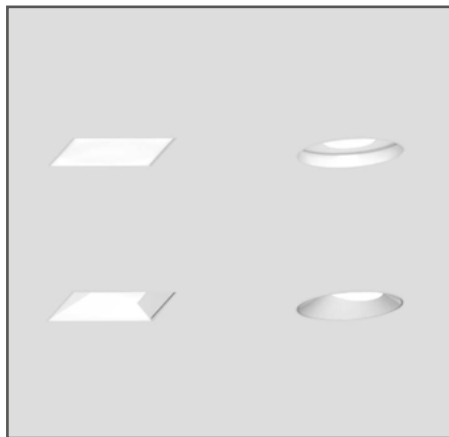
www.ledlimited.co.uk



Lightly Technologies

For [d]arc room, Lightly Technologies teamed up with Shane Holland Design Workshops to create Organza - an ultra-thin statement chandelier offering both decorative and functional levels of light. Organza consists of three concentric layers holding 23 perpendicular Hikari SQ ultra-thin light sources. A new range of Hikari SQ light source holders were also previewed for the first time. Maintaining the light-weight, minimalist design of Hikari SQ, these holders offer lighting designers even more ways to integrate Hikari SQ into their decorative and architectural lighting designs.

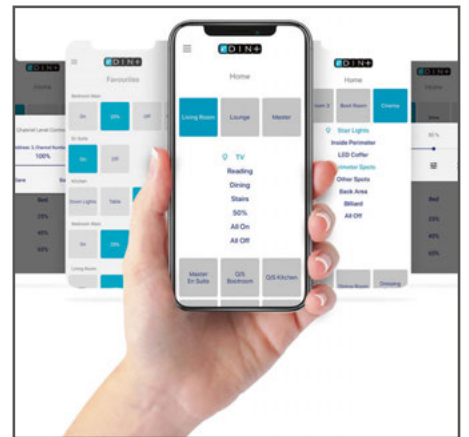
www.lightly.tech



Whitegoods

ProTools DLX is a coordinated range of Whitegoods downlights that offers performance characteristics and functions to meet a variety of budgets and lighting needs. With modular interchangeability throughout the entire range of products, ProTools DLX provides the ideal platform from which to build your lighting scheme. With this simple platform you are able to specify a product to cover any and all recessed downlighting applications. From a 110° general downlight, to a wall wash, zoom lens and narrow 8° optic.

www.whitegoods.com



Mode

The Mode Lighting Team demonstrated the flexibility of its lighting control systems, including the control of tuneable white fittings using both DALI and DMX based solutions. These highlight how colour tuning can be implemented in a number of ways to suit different applications and budgets. Updated apps for Android and iOS devices were also on show with Emergency Lighting Testing, Blind Control and Casambi integration.

www.modelighting.com

Thinking Outside The Box

Following on from its appearance at [d]arc room last month, David Morgan delves into the TLS portfolio, examining its flexible backlighting systems and light boxes.



ighting companies come in many forms and develop from a variety of starting points. In the case of TLS, its parent company Media Graph, a printing company, identified the need for a flexible backlighting system to work with the large-scale fabric printed graphics it produced for its retail and advertising customers.

From an early stage in its history, Media Graph – a 25-year-old company based in Montreal with more than 50 staff – had started to develop and market non-LED backlighting systems and extruded frame systems. The company founders David Sellam and Orit Toledano identified the need for more flexible systems to create light boxes in a range of sizes and spotted the potential in using LED light sources. The TLS system was first introduced in 2008 and has been continuously developed since then. In 2010, TLS was spun off as a separate company in order to develop other markets beyond retail and advertising display.

The core of the TLS business is its innovative, patented lighting system which is used to create light boxes in a wide variety of sizes. TLS stands for Tension Lighting Systems, which describes exactly how the system works. The key innovative design feature of the TLS system is the way the light engines are mounted into the light boxes onto tensioned stainless steel wires, which carry power and data to the LED boards. This wire suspension system can be used in conjunction with one of the TLS extruded housings, in other frame systems or fixed direct to the building surfaces. A neatly designed mechanism allows the wires to be easily tensioned after installation in the housing, while a series of anchor components support and fix the tensioners to the mounting structure and provide connections to the low voltage power source and dimming system.

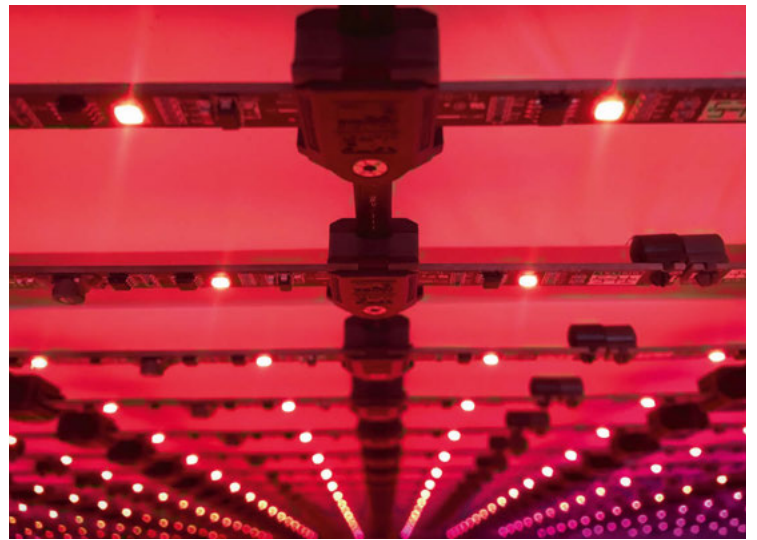
The LED light engine boards snap onto lockable holders mounted on the suspension wires with an ingenious series of cut-outs along the side of the boards, which ensure the correct polarity connections are made. Because the wire suspension system does not block light output in any direction, the TLS system can be used to create both single and double-sided light boxes.

Standard LED pitch on the light engine board is 60mm for the fixed white and RGBW light engines. For the digital control pixel system four spacings are available from 40mm up to 150mm. TLS offer two different light engine spacings on the suspension wires; premium configuration with boards spaced 60mm apart and standard configuration with boards spaced 120mm apart. The light engine boards are segmented and can be cut to length on site to fit any size of light box.

The standard distance from the light engines to the lit diffuser



David Morgan Associates, a London-based international design consultancy specialising in luminaire design and development and is also MD of Radiant Architectural Lighting.
Email: david@dmadesign.co.uk
Web: www.dmadesign.co.uk



surface to avoid any hot spots is 60mm but TLS also provide a snap-on wide beam lens that allows this distance to be reduced. TLS provide a neatly designed test kit to allows designers to experiment with light engine types and spacing to the diffuser surface before making a final specification.

Currently TLS offers four different types of backlight LED light engines and controllers that are integrated in their light boxes. Simple fixed white light in six colour temperatures; tuneable white light from 2700K to 6500K; RGBW to create more than 16 million colours with DMX control; and most recently a pixel digital system, Media Pix, with ArtNet control to create dynamic video-based displays.

The LEDs used on the TLS light engines are only run at up to 0.2 Watts each, although rated for higher power use. This ensures very long life and reduces the need for heat sinking within the system. TLS provide their own design of DMX controllers for the colour changing and digital systems. One particularly nice design feature is an indicator light system which helps to identify the source of any problems. The flexible cable system is not only suitable for flat displays, it also allows the system to be used on curved surfaces including columns to create evenly lit backlit architectural surfaces. Wrapping the TLS array around a column can create surface lighting and be installed without needing to fix into the column surface.

TLS aims to provide a complete turnkey light box system including installation where required. The range includes a variety of aluminium extruded frame types to create display light boxes, which are also used for architectural lighting.

The 100mm deep Lumicloud system is used to create large-scale illuminated ceilings or suspended light boxes. Sales of complete Lumicloud installations now make up around 80% of TLS sales. Rectangular and curved shapes can be produced with this system by forming the extruded sections. Lumicloud enclosures include a back reflector which increases downward light output and also prevents debris entering the light box.

It is understood that the installed cost and installation time of a Lumicloud ceiling is significantly lower than using separate lighting and stretch ceiling elements, which is a clear benefit. The Lumiline system is used to create narrower suspended light boxes or continuous lines of light is available in 125mm and 25mm deep sections.

A very wide variety of materials can be used as the front surface of TLS light boxes and ceiling luminaires, including the printed foils produced by Media Graph. It seems that TLS always try to incorporate innovative design details in its systems, and the company has created a very neat method to hold the stretch fabric diffuser to the extruded frame with a snap-in extruded polyurethane extrusion. This allows the diffuser to be easily replaced or upgraded. The polyurethane extrusion creates an IP65-rated seal to the extruded frames, ensuring that the light boxes can be used in exterior applications.

TLS may have started life in an unusual spot in the lighting world but has now grown into a company able to offer a range of innovative solutions for retail and architectural applications, while collecting design awards and high-profile brand customers along the way. ■

www.tls-led.com

LONDON DESIGN FESTIVAL REVIEW

A Design Capital

The arc team headed down to London to check out some of the latest lighting design installations that featured at London Design Festival this year. Here are some of our highlights.

Avalanche

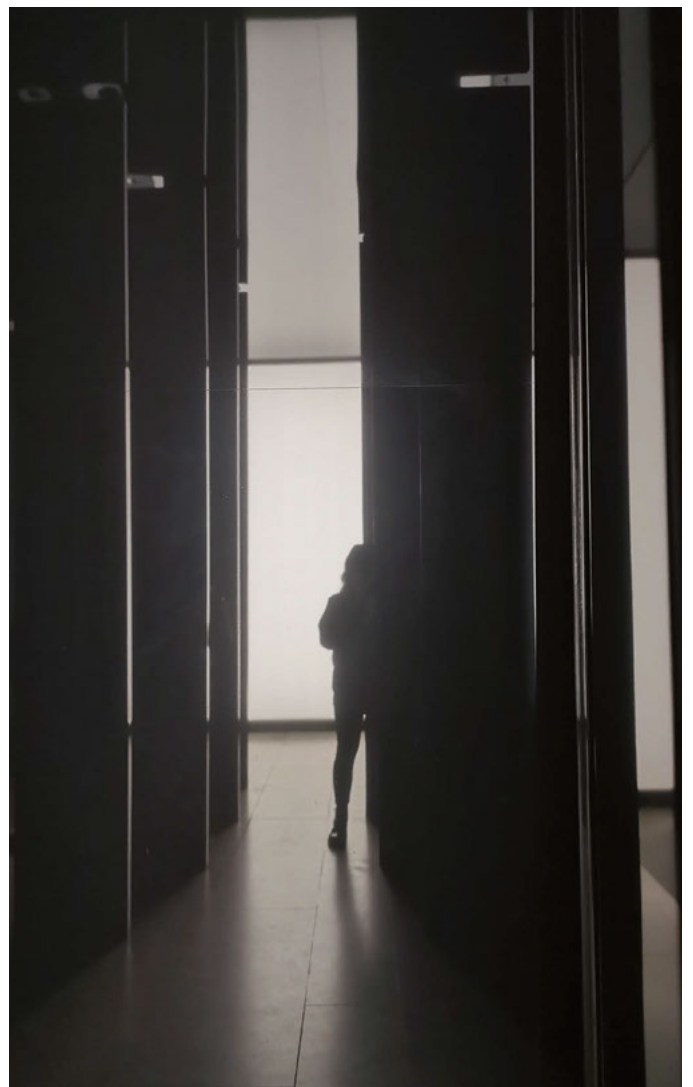
Matthew McCormick

Canadian designer Matthew McCormick fuelled thoughtful introspection on the effects of climate change through his experiential exhibit, *Avalanche*, conspicuously positioned on the landing of the V&A's British Gallery. Inherently out of place in the classically historic space, *Avalanche* was strategically situated to provoke profoundly personal reactions from each visitor that passed through: a designer's interpretation of a suspended moment in time where we are faced with a mindful revelation of our own mortality. On entering, small groups of visitors found a lowly lit, deceptively reflective space, bringing a sense of entrapment and confusion around the uncertain pathway. Grappling with the increasing darkness of the narrow, constricting corridor, visitors were urged to pause in a heightened sense of consciousness, as they toyed with the human instinct to find the safest route out.

"Inspiration for this project was found in the role that human factors make in our decision-making on uncertain backcountry terrain," says McCormick. "*Avalanche* can be seen as a poetic metaphor, meant to offer an opportunity for visitors to take pause between the darkness and the light – even for just a brief moment. We recognise that a critical mass is required to instigate societal change when it comes to the shifts in our environment – however this collective awareness has to start with the individual."

To achieve the amplified, reflective surface areas that evoked both compression and expansion from within, *Avalanche* employed Barrisol's versatile material, which was stretched and moulded into precision pieces and organic forms; the project was also supported by Osram and the High Commission of Canada in the UK.

www.matthewmccormick.ca



Sea Things Sam Jacob

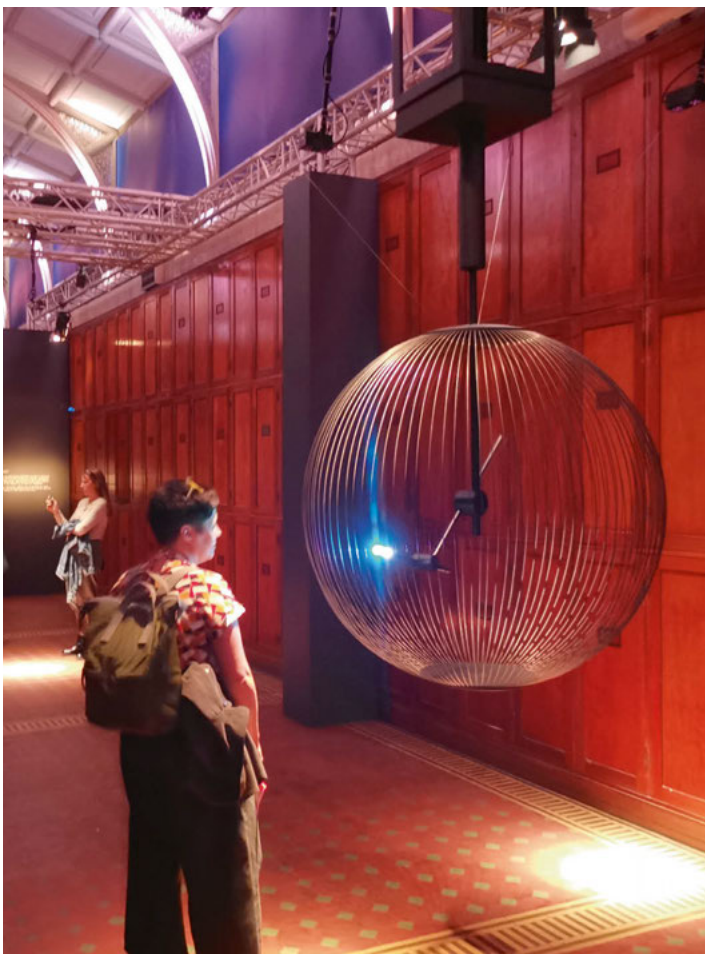
Sam Jacob designed a new installation within the grand entrance to the V&A to highlight the need to rethink the global plastics system; to consider its full lifetime journey; and to design future-use into every product. The installation for London Design Festival followed the recent announcement that Sam Jacob Studio has been selected to transform the Cromwell Road entrance to the V&A. Titled *Sea Things*, the concept took the form of a large-scale, two-way mirrored cube suspended above visitors. An animated motion graphic within, created alongside Rory Cahill, reflected an infinity that seemed both as wide as the ocean and as large as the challenges we face. The project aimed to evoke a powerful sense of emotion, so visitors came away feeling empowered with a better understanding of their role alongside technology and design to make the world a more sustainable place.

Upon entering the space, the installation – which is both a digital and physical manifestation of the global single-use plastics crisis – had an intention to immediately impact visitors.

In addition, Jacob took inspiration from the V&A's Ceramic Galleries and remade a selection of water vessels from the V&A's Collection. From recycling to experimental post plastic materials, the intervention emphasised issues of value – the design of water vessels in global culture and history, along with the value of plastic itself – whilst demonstrating the potentials and opportunities for the future.

Jacob said: "It's fantastic to be able to work on such an urgent issue and to be able to draw both on the knowledge of the V&A and the global intelligence of SAP. Working between research on the immediate future but with roots in culture and history of design is an inspiring place for a designer to operate."

www.samjacob.com

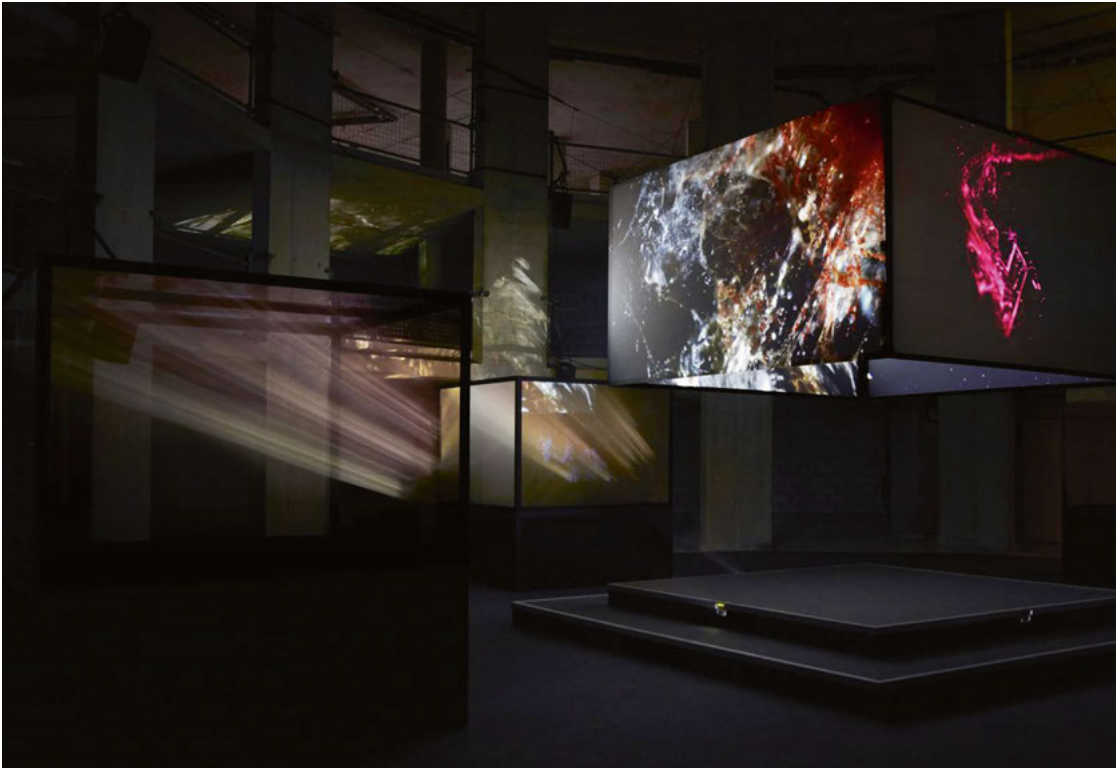


Affinity in Autonomy Sony Design

Translating innovation into perceptual experiences was the theme behind *Affinity in Autonomy*, an interactive robotic pendulum. The independence and free will of robotics was portrayed by the pendulum's random movements. Human presence could be detected and recognition was reflected in the kinetic motion. Exhibiting a rich, dynamic and autonomous behaviour, this conceptual piece engaged visitors seeking an emotional and physical response. The work endeavoured to portray emotion and sensitivity, illustrating the enriched relationship possibilities for a new tomorrow.

Affinity in Autonomy represented thoughts on the future of artificial intelligence and robotics: envisioning a world in which intelligence, technology and creative design are more integrated.

www.sonydesign.com



Void Gemfields

Designer Dan Tobin Smith and creative studio The Experience Machine presented *VOID*, a multi-sensory spatial installation at Collins Music Hall, Islington, as part of LDF. Visitors were part of an immersive experience, travelling through a series of large-scale projections that showcased the expanded space inside gemstones and mapped the blurring boundaries between nature and design. A selection of Mozambican rubies and Zambian emeralds from Gemfields' mines, which date back millions of years, were brought to life through photography of tiny microcosms magnified to become abstract, galaxy-like structures. Accompanied by other semi-precious gems created

in rare geological processes, these unique mineral formations were discovered, suspended and frozen in time.

The installation considered the concept of containment and scale, employing spatial design to explore the natural borders formed within these unique mineral formations. By translating moving images into a contained physical form and scoring the experience with harmonised layers of the human voice – by female electronic drone choir NYX – visitors were invited to enter within the portrait of a gemstone's natural inclusion.

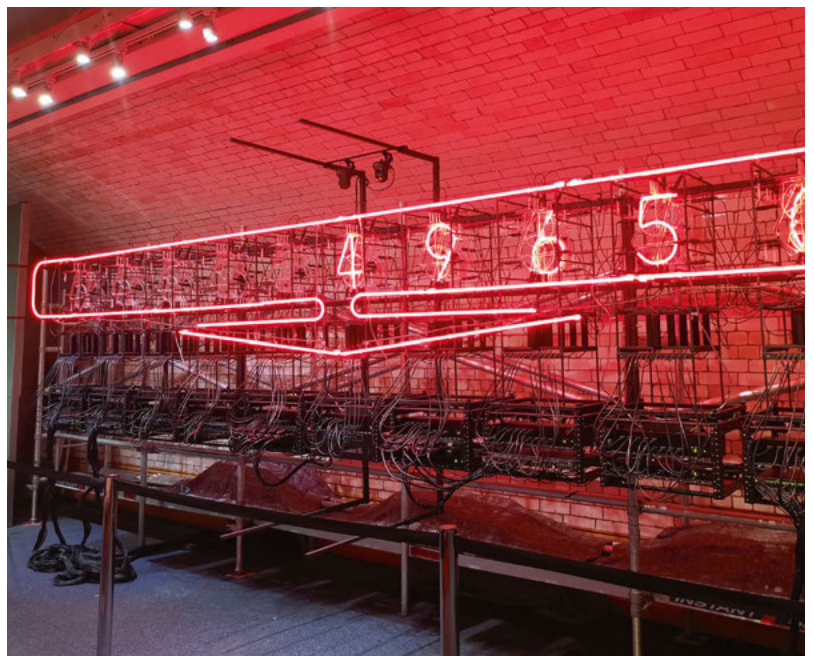
www.gemfields.com

This Much I'm Worth Rachel Ara

Part of Digital Design Weekend, *This Much I'm Worth* is a digital art piece that continually displays its sale value in Korean Won through a series of complex algorithms called 'the endorsers'.

The artwork's materials connect with the history of neon and its use in the sex trade. It is both a functional object and spectacle seeking to question values, worth and algorithmic bias.

www.2ra.com





Kaleidoscope Lee Broom

For London Design Festival 2019, Lee Broom unveiled a mesmerising lighting installation, *Kaleidoscopia*, which used lights and large-scale mirrors to form an infinitely shifting optical illusion.

Kaleidoscopia offered a sense of intrigue and escapism inspired by kaleidoscopic reflections. An intimate exhibition with maximum impact, *Kaleidoscopia* was created with only mirrors and seventeen of Lee Broom's acclaimed Orion lights, and yet the multiple reflections gave the appearance of a large, ethereal chandelier formed from over 200 lights. Orion Tube and Orion Globe lights are hung both horizontally and vertically to showcase the versatility of this product, which was designed to allow the end user to create bespoke constellations of light with infinite adaptations.

Broom commented: "I am always inspired by new and innovative ways in which I can present our products every year during London Design Festival. London has always been incredibly open to innovation and creativity, which is what makes LDF such an important platform for me to showcase my work."

www.leebroom.com

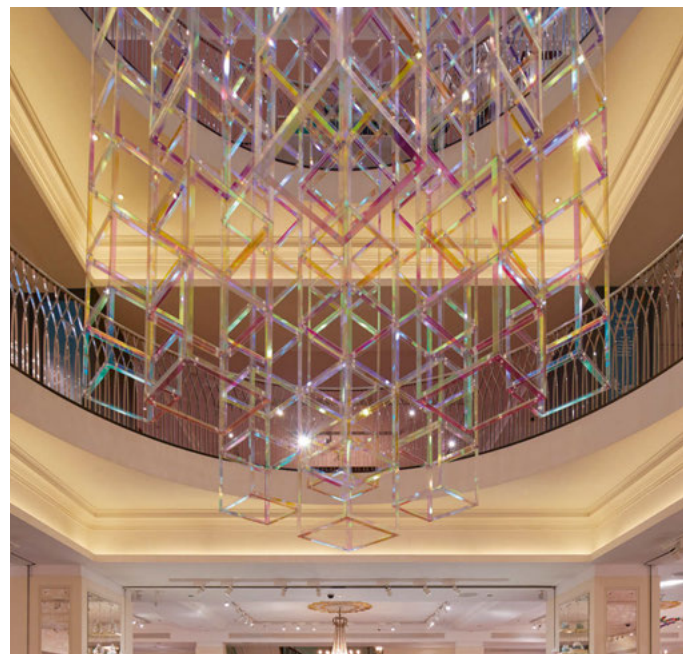
Iri-Descent Liz West

Iri-Descent by Liz West is a suspended arrangement of 150 skeleton-framework cubes located in the atrium of the historic Fortnum & Mason store in Piccadilly. Clad with highly reflective and luminous dichroic film in two differing colour-ways that mirror and shed light on its surrounds, the cubes appear to change colour as visitors move around the atrium and between the floors. There are two colour variations that systematically alternate throughout – warm and cool – offering a diverse range of hues.

The choice of material embodies West's interest in the relationship between colour and light and their ability to enhance the viewers' perception of the work. *Iri-Descent* forms part of an ongoing series of spatial light works based upon research into colour theory and light fields with an ambition to transform architectural spaces and public environments. West works across a variety of media, mixing luminous colour and radiant light in a provocation of sensory reactions. With *Iri-Descent*, she wants to encourage visitors to engage with the space in a new way, and to examine their own personal relationship to colour and light. West said: "I have spent a lot of time visiting, watching how people move around the store and thinking about what the space needs, as well as having insightful in-depth conversations with the historian and archivist at Fortnum's to inspire the work. I have also delighted in testing and playing with delicious materials to ignite the space and people's imaginations and perceptions."

Zia Zareem-Slade, Customer Experience Director at Fortnum & Mason said: "Fortnum & Mason is no mere shop, but is an immersive destination, sensorial experience, and place of wonder and joy. Throughout every floor there is a visual feast and an explosion of colour – and so with that in mind, we're delighted to have teamed up with Liz West to present *Iri-Descent*, a piece that creates curiosity, captures joy and plays with light and sparkle in such a beautiful way, we're excited to see in our atrium and to share it with our customers."

www.liz-west.com



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Legacy TM Lighting

TM Lighting worked with London Design Festival 2019 to illuminate *Legacy*, on display at V&A Museum from 14th – 22nd September. In May of 2019 Sir John Sorrell CBE, Chairman of London Design Festival, invited leaders of London’s cultural institutions to collaborate with some of Europe’s most exciting designers to create a ‘legacy’ piece of design – an object of personal or professional relevance that they would like to pass

on to a family member or the institution they lead. The pieces – ten in total – are all crafted using American red oak. Nine of these beautiful and thought-provoking collaborations were on show in the Sculpture Gallery of the V&A Museum, and one piece outside the Natural History Museum on Exhibition Road, for the duration of London Design Festival.

www.tmlighting.com

Sacred Geometry Rony Plesl

Czech designer Rony Plesl’s unique glass installation drew inspiration from the idea of *Sacred Geometry*, a universal language organising all visible and invisible reality according to basic geometrical principles. The three identical hexagonal glass tree trunks were an artistic expression of this system. Contrasting with these pure minimalist forms, a glowing forest made of uranium glass radiated a sublime green fluorescent light, evoking branches and flames. In this way, the installation paid tribute to the key components of glass making – fire and wood. The creation of the large glass pieces was possible thanks to a groundbreaking melted-glass technology developed by Czech company Bolety, which exclusively cooperates with Plesl. London Design Festival and the V&A hosted the international

premiere of this technology, which enabled casting of all 3D objects without any limitations on design or form, giving cast glass the same possibilities as bronze, for example.

This radiant installation, located in the Medieval and Renaissance galleries, reflected on the history of Czech glass, which is richly represented in the V&A’s collection, while adding a new chapter to the tradition.

Plesl is internationally acclaimed for his original glass sculptures and glassware. Since 2008, he has been the Head of the Department of Glass at the Academy of Arts, Architecture, and Design in Prague. The LDF project was supported by Bolety and Trish Duggan, The Czech Embassy in London, Czech Centre London, Techo and City of Prague.

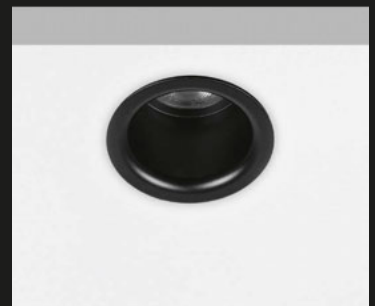
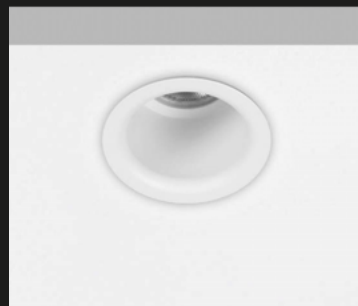
www.ronyplesl.com





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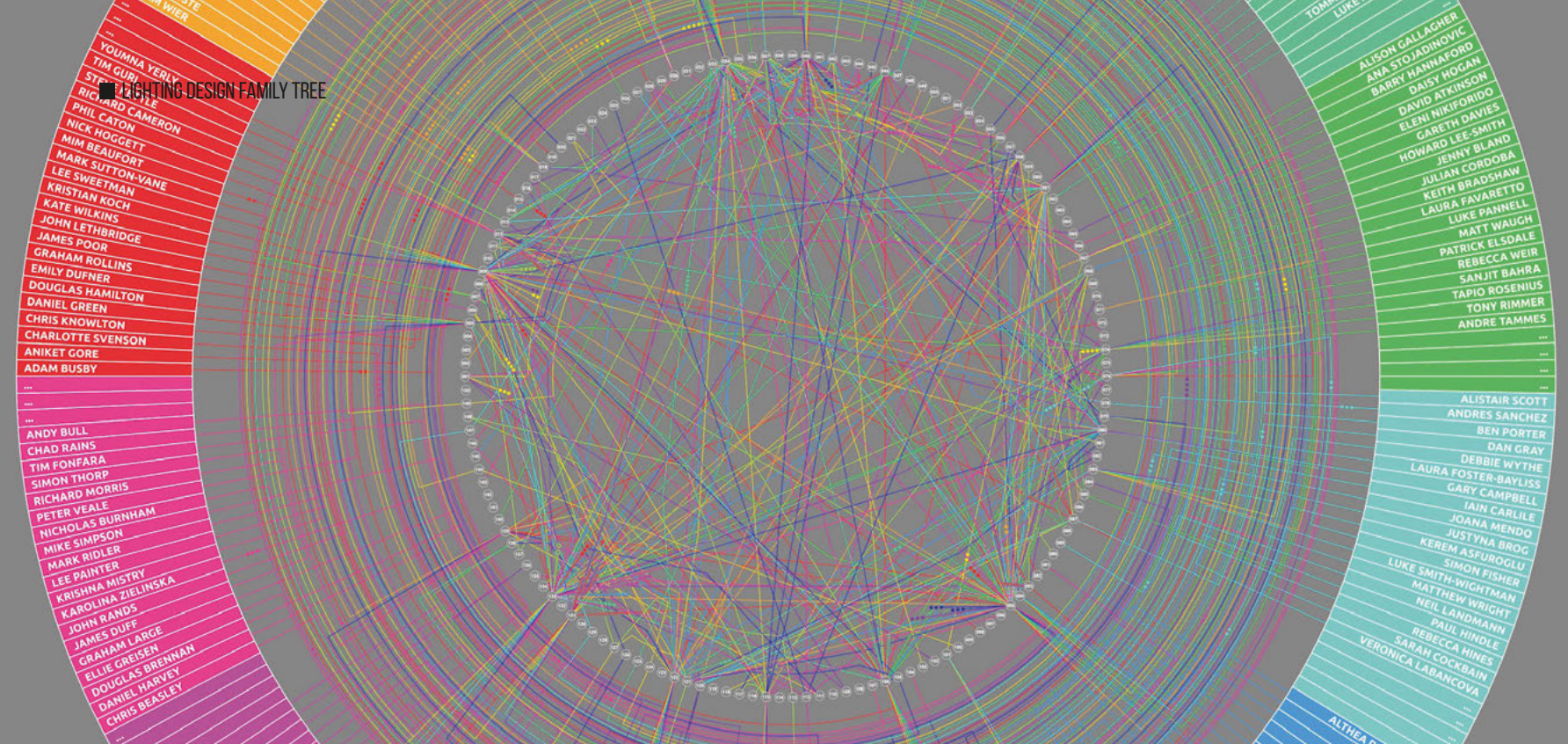
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Family Ties

Family Tree (*noun*) - A drawing or diagram that shows the relationship between the different members of a family, especially over a long period of time.

It's often said that the lighting industry is one big family. However, it's small enough that you get to meet many of your extended family members at events and you can easily move from one branch to another. Also, like many families, it is complicated and over time, the career paths of designers span many companies and also countries.

In 2011, Light Collective scribbled out our personal branch of the Lighting Designers Family Tree. We realised that we are the bastard love child of Andre Tammes and Miles Pinniger, two of the pioneers of the UK lighting industry, with a good chunk of foster care from LightMatters and BDP.

This spurred us on in 2014 to try and create a bigger family tree to include other designers in the UK and to demonstrate the entwined and complex mesh of entwined practices and people. UK designers shared their roots and journey with us and enabled us to create a colourful graphic (that nearly drove us mad in the making!).

In 2011, there were 82 designers featured from 47 companies. This expanded in 2014 to include 253 designers from 142 companies. We were able to see who worked overseas, who had worked for the most companies, that Daniel was the most popular name for lighting designers in UK, that 18% of company names started with the word Light and that there were 70% male designers and 30% female designers...

Now, time has passed and we have forgotten the challenge of mapping the ancestry of UK lighting designers, and we are ready for something bigger. With the help of Ligman, we are planning to create an International Lighting Design Family Tree. Yes - that's right... International. That could include a lot of people!

With the 50th Anniversary of the IALD, the Lighting Design profession has now been around for a significant amount of time.

The 2019 International Lighting Design Survey, published by **arc magazine**, is the biggest yet with almost 1600 lighting design practises featured. Over the last ten years new generations of designers have joined the profession from Masters Courses around the world and probably overtaken the previous routes via

engineering, product design, architecture, theatre and manufacturing. Light Collective want to build upon their previous work and analysis of the profession that started with the small scale exercise sketched in a notebook and grew to the UK Lighting Design Family Tree. The new family tree is going to be global, exploring the links, backgrounds, education and career paths of the lighting design profession. Where do we overlap? What common experiences do we share? What are the trends, history, scale, outliers, comparison and much more?

We are asking designers to provide their data to help us get it right. We would like you to use the link at the end of this article to share with us the companies you have worked with in your lighting design career. You need to currently be working as a lighting designer.

In the words of award-winning information designer Giorgia Lupi: "Data represents real life. It is a snapshot of the world in the same way that a picture catches a small moment in time. Dense and unconventional data visualisations promote slowness - a particularly poignant goal to set in our era of ever-shortening attention spans. If we can create visuals that encourage careful reading and personal engagement, people will find more and more real value in data and in what it represents."

We plan to use this data to create a physical version of the International Lighting Designers Family Tree on the Ligman stand at Light & Building in 2020. If you don't get round to adding your data online, you can visit and add yourself on to the wall. If you do add your data, come along and see what we have created.

The long term plan for the project is to continue to add designers on to the Family Tree as part of an online version that will grow digitally. It will then continue to develop and we will offer a second viewing at Light + Building 2022 with additional data added and comparisons made over the two years of the project. ■

Help us by sharing your information here:

<https://ld-family-tree.paperform.co>

www.lightcollective.net

STRUCTURES PLACES SPACES ART EVENT KIT

Cordarium, Maldives by Mushroom Lighting - 2018 Winner, Structures (Low Budget)



[d]arc awards,
MC Motors, London
5 December 2019

VOTING IS OPEN

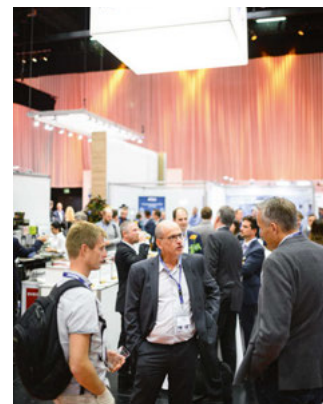
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www.darcawards.com

[d]arc awards

CELEBRATING THE BEST IN LIGHTING DESIGN





Trend Setters

Bregenz, Austria once again played host to the Trends in Lighting Forum & Show, an event that continued the discussion between designers and manufacturers.

The annual Trends in Lighting Forum & Show (TiL) returned to Bregenz, Austria for its third year this September. Held concurrently alongside LED Professional Symposium + Expo (LpS) and, for the first time the DALI Summit, the three events were carefully curated to bring together a unique blend of industry talent, including architects, planners, lighting designers, scientist and technologists. The events sought to bring a focus to the continuing relevance of interdependent technologies, human centric design and sustainability. Over the course of three days, delegates had the opportunity to interact with an extensive selection of prominent keynote speakers from the lighting design world, scientists and technologists.

Situated in the Bregenz Festspielhaus, the opera stage and theatre spaces were utilised for panel discussions, lectures and workshops spanning many disciplines and sectors of industry. This included keynote presentations from Mark Ridler, Lighting Director at BDP, who gave delegates an insight into his methodology in a presentation entitled *Lighting an Idea*, and Keith Bradshaw, Principal at Speirs + Major, who examined the role of effective lighting design in both daytime and night time scenarios. Alongside this, Mahdis Aliasgari and Barbara Rodriguez of Lighting Design Collective hosted a *Women in Lighting* panel discussion on lighting in the digital era, while visitors also saw presentations from the likes of TKLD, The Paranormal Unicorn, White Arkitekter, Studio de Schutter and Atelier LEK. Meanwhile, manufacturers such as Zumtobel, Signify, Casambi and

Luminus held presentations discussing their latest products and innovations.

Rogier van der Heide, curator for Trends in Lighting, hosted an interactive panel discussion, featuring representatives from Lighting Europe, Zumtobel, Nichia and the Good Light Group, inviting delegates to pose their own questions on the future of the lighting industry.

Across the three events, notable key trends in the lighting sector were highlighted, from the increasingly established principles of Human Centric Lighting to digitalisation and the significance of light controls and user-friendly human interfaces, as the consumer seeks to be able to integrate additional functions such as colour controls or light distribution.

The discussions over the three days culminated in affirming the urgency for a holistic approach from the realms of architecture, end users and technology providers in order to be able to further develop promising lighting solutions. The themes running through all these considerations, receiving intense discussion, were sustainability, eco-design and standardisation.

Capping off the event, delegates were once again invited to board a cruise across Lake Constance to Lindau for its annual awards ceremony. Approximately 300 guests attended the awards, which highlighted the best in scientific research, lighting solutions, designs, start-ups and innovative solutions, in a celebration of the complete spectrum of light. ■

www.forum-trends.lighting

STRUCTURES

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Hintze Hall, Natural History Museum, UK by DHA Designs - 2018 Winner, Places (High Budget)

[d]arc awards,
MC Motors, London
5 December 2019

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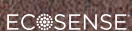
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Working from Home

Lighting design by Aurecon, combined with the products of Erco LED, have nurtured the homely work culture of Brisbane's 45-metre Timber Building

A sustainable construction method comes together with a modern office concept in Brisbane's 45-metre-high Timber Building on King Street. A wide variety of work situations can be found side by side in the comfortable and homely open space offices of the engineering, design and advisory company, Aurecon. Efficient office lighting with Erco LED lighting tools supports the open work culture. With nine office floors above a publicly accessible ground floor with cafés and restaurants, the Timber Building is the tallest wooden building ever to be constructed in Australia, and has been located in the centre of Brisbane since 2018. With its design, the architectural practice Bates Smart and Aurecon, responsible for structural and building services engineering, in addition to the ecologically sustainable design elements, have made a contribution to the topic of sustainability and the responsible use of resources. This includes the construction of prefabricated elements made of glulam (glued laminated timber) and CLT (cross-laminated timber) with a glass façade, significantly lowering the CO₂ footprint compared to equivalent steel and concrete constructions. The modern timber construction also has advantages on the inside: visible timber ceilings provide not just good acoustics but a comfortable spatial ambience. Stainless steel profiles below the ceiling function as cable trays and track systems. "The high-level design concept for our new office space was the idea of home," explained Phillip Saal, Senior Project Engineer at Aurecon who was also responsible for the lighting design of Aurecon's fit out. "Whilst in the office, and after work, our aim was for employees to feel healthier than when they arrived." With this principle intent of enhancing health and wellbeing, the home-like environment conceived by fit out architect Woods Bagot supports the company's employees and celebrates the building's progressive nature. The

zonal lighting with a warm white 3000K light colour plays an important role in this design concept. "The open design of Aurecon's Client Experience Floor, located on the first storey, for example, is intended to promote personal contact and exchange between our employees and clients," added Saal. Whether holding large meetings with the entire office, panel discussions, client workshops, training sessions or discussions in smaller groups; flexible Erco LED lighting tools support the various work situations within the open space office, subdividing the large office into individual work, meeting and break areas. Optec spotlights with Oval flood (17° x 63°) light distribution create glare-free general lighting. "Using the Optec luminaire also supports the concept of a room with variable uses because both their alignment and their light distribution can be modified to support different set-ups in just a few simple steps," said Saal. Optec spotlights with round luminaire heads, featuring a freely rotatable Spherolit lens with Oval flood beam, were installed both in the main corridor and in the more informal meeting areas and lounges. Optec spotlights with Spot (17°) light distribution accentuate the planting that borders and delimits individual zones. An important design element on the Client Experience Floor is the partially visible timber construction of the building, accented and highlighted with Compact wallwashers. With a light colour of 3000K, they emphasise the warm appeal of wood as a building material. Compact recessed luminaires installed along the main corridors and on the other Aurecon office floors ensure uniform illumination of the wall surfaces, thus creating good orientation in the space. Erco high-efficiency lighting technology features high visual comfort and enables above-average luminaire spacing, and thus in turn, a minimum number of luminaires. ■

www.erco.com

STRUCTURES PLACES SPACES ART EVENT KIT

Skalar, Germany by Christopher Bauder and WHITEvoid, Germany - 2018 Winner, Art (High Budget)

[d]arc awards,
MC Motors, London
5 December 2019

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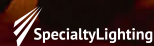
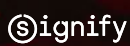
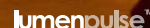
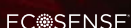
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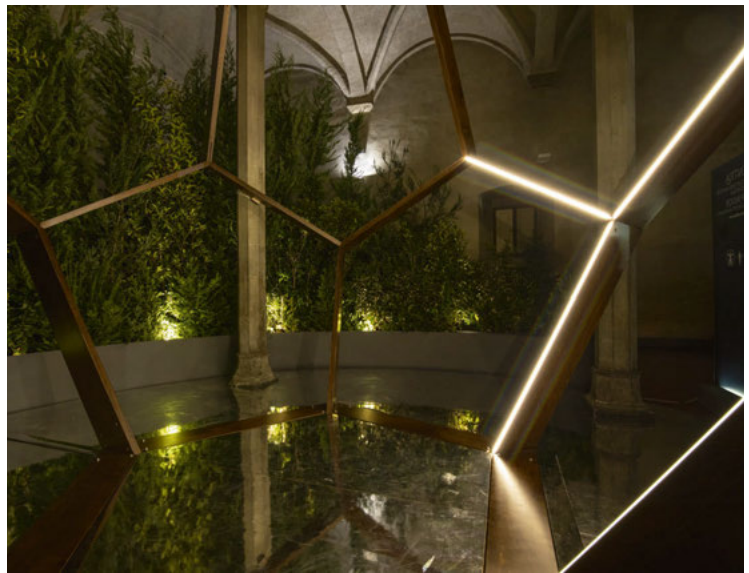
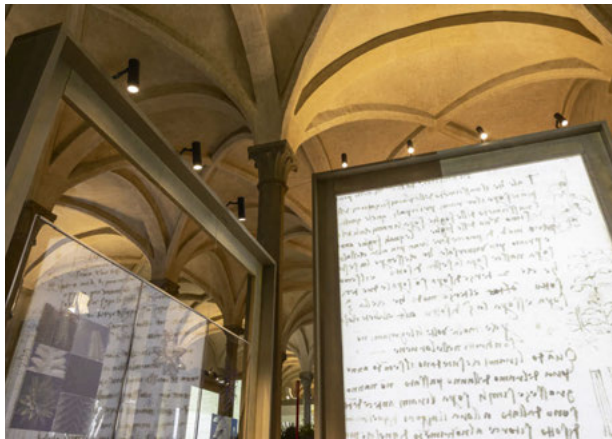


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Lighting Leonardo

Linea Light Group has been selected to light the La Botanica di Leonardo show at the Santa Maria Novella Museum of Florence.

As part of the commemoration surrounding the fifth centenary of Leonard Da Vinci's death, Linea Light Group has illuminated the La Botanica di Leonardo exhibition at the Santa Maria Novella Museum of Florence. The exhibition focuses on the musings of Da Vinci on the shapes and structures of plants and forests, highlighting the connection between art and nature in his scientific pursuits. The installation design was handled by the architectural firm Giucciardini & Magni in collaboration with Italian lighting designer Fulvio Baldeschi. In order to recreate a representation of a forest, Baldeschi opted for dynamic lighting to construct a sense of fecund movement and vitality. Static lighting, meanwhile, was used with narrow and targeted beams of light to emphasise the exhibit itself. Starting from the entrance, the visitor is welcomed by an imposing vertical garden, doubled in height through a mirrored platform. Lighting it

up from the base is Periskop, the spotlight with 180° adjustable aluminium bracket and powerLED source built into the body, also in aluminium. For the exhibit, the model with black finish and 30° optics was selected. The exhibit continues with various paths and display walls to create indirect lighting, as well as DALI-operated Navata spotlights, which were used on the top to achieve particular lighting effects through a play of different shades. The results are waves of light reminiscent of the dappled groves of forest-trees. On the flower vases located along the paths, extremely small adjustable eyelet spotlights were used, whilst the Tee spotlight and the Beret upright were used to exhibit the main showcase. Closing out the show is the most spectacular and symbolic element: the Dodecaedro, with Leonardo's Vitruvian Man illuminated entirely by strips set in the structure and the Periskop below. ■

www.linealight.com

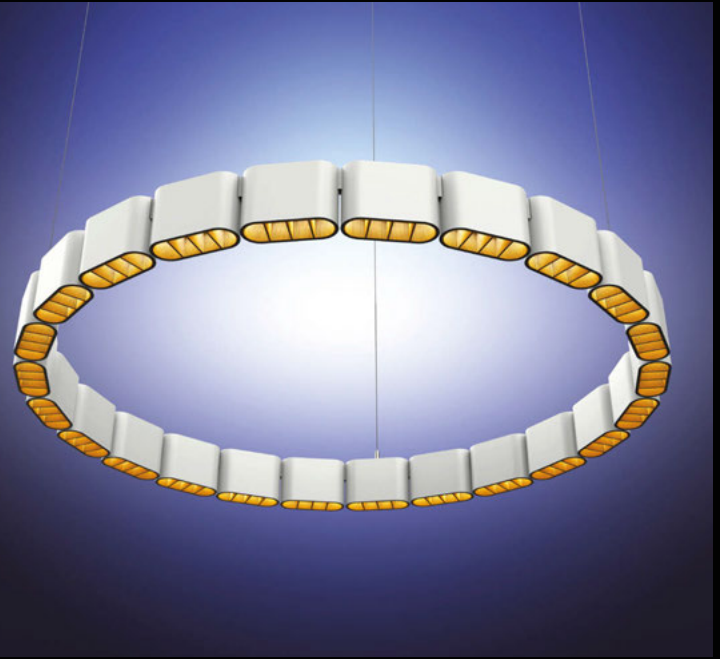


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Radical Refurbishment

Following a two-year renovation, the Naturalis Biodiversity Centre in Leiden, Netherlands, features lighting supplied by CLS.

At the end of August, the Naturalis Biodiversity Centre in Leiden, Netherlands, reopened its doors to visitors of all ages following a two-year renovation.

In order to accommodate the entire historical collection of 42 million objects, while providing more than 200 researchers with the most modern facilities, the centre was in need of a radical refurbishment, which also included the construction of a brand new museum.

The old museum, which opened in 1998, had a maximum capacity of 150,000 visitors a year. However, the number of visitors has grown enormously over the past few years – welcoming 410,000 in 2016 alone.

The Naturalis Museum comprises no less than 6,000sqm of exhibition space, divided into eight different halls, with names such as Earth, Death, Seduction, the Age of Dinosaurs, Ice Age, Life and LiveScience.

Lighting for the majority of the exhibition areas – six of the eight different halls – was supplied

by CLS. The Naturalis Museum is equipped with a combination of various CLS fixtures, which include the Jade Expo series, Jade Colour Flow, REVO Compact Track Colour Flow, Sapphire Zoom GII and the Focus Track series for the detailed lighting throughout the museum.

The Jade Expo fits perfectly in the Naturalis galleries; with the internal CLS soft diffusion filter it creates a soft, homogenous light beam to provide a smooth cut off on the edges.

The Focus Track series is a six-Watt fixture with a very precise and stepless zoom range from 13° to 65°. It provides a suitable and programmable lighting solution for the museum and its galleries. The Sapphire GII is equipped with a very advanced optical system, which ensures a uniform light beam. Because of the many colour temperatures available, the Sapphire is a very popular choice for lighting a range of objects in museums. ■

www.cls-led.com

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Aesthetic Impact

Acclaim Lighting has worked with Adimsa Monterrey on the illumination of the Torre Koi – the tallest structure in Mexico.

Located in the San Pedro Garza Garcia neighbourhood, the Koi Tower, home to the Banorte bank headquarters, was designed to make an impact at 918ft. The challenge for lighting designers was to create a lighting scheme that accentuated that same impact at night.

The Koi Tower, or ‘Torre Koi’ in Spanish, is a 69-storey mixed-use skyscraper in the Monterrey Metropolitan Area. Developed by Internacional de Inversiones (IDEI) and designed by HOK and V&FO architecture firms, the building houses 27 floors of office space, and 218 apartments and eighteen penthouses across the upper 37 levels. To ensure the structure made an impact not only in size but in aesthetic, the administrative council of the Koi Tower had the vision of illuminating the tallest part of the building to become a landmark of the city skyline. An important goal was that the tower could be seen from a long distance without disturbing the neighbouring buildings. After construction was complete, options of fixtures that could fit in the installed aluminium structure on the building and still provide a strong lighting design were limited. The lighting system still had to meet stringent criteria, which included performance quality, brightness, and direct view illumination, and easy installation and replacement, as well as to fit into the existing aluminium channel. Building owners and consultants worked with Acclaim Lighting to establish a solution. “When we were looking for a lighting solution that would be as stable and dependable as it was intense and beautiful, we knew we had a tall order,” said Edson Rivera, CEO and lead designer of Adimsa Monterrey.

After a thorough investigation, Acclaim’s Flex Tube Pixel fixture was determined to fulfil the needs of the building lighting design. The product provided a non-invasive aesthetic for the façade of the building, whilst still providing the required intensity.

Flex Tube Pixel is a flexible, direct view LED strip that features RGB

control of every 125mm section. The direct view LED strip delivers 85 lumens per foot, while only consuming 3.65W in temperatures ranging from -40° C to 50° C.

“Due to the elevation in which the fixtures were installed, Flex Tube Pixel’s IP68 rating for wet locations gave us the confidence we needed to prevent any water damage at those heights,” said Rivera.

Controlled with the Pixel Driver 400 from Acclaim Lighting, the customised system can create low pixel effects and animations using the Madrix Professional software. Pixel Driver 400 is a high power, pixel control driver which has many configuration options to suit the project and eight output ports to driver Flex Tube Pixel sections. Those eight ports can either operate in unison or be controlled individually for custom lighting schemes.

After the project was finished, the Koi Tower received Leadership in Energy & Environmental Design (LEED) Silver certification in May 2018 for its sustainability characteristics. The certification included the lighting design and natural ventilation for savings in electricity consumption and air conditioning without demeriting the internal comfort, as well as achieving a low maintenance cost.

Even more important, Juan Hernandez Juarez, the creative director for Adimsa who programmed the lighting for the Koi Tower, said:

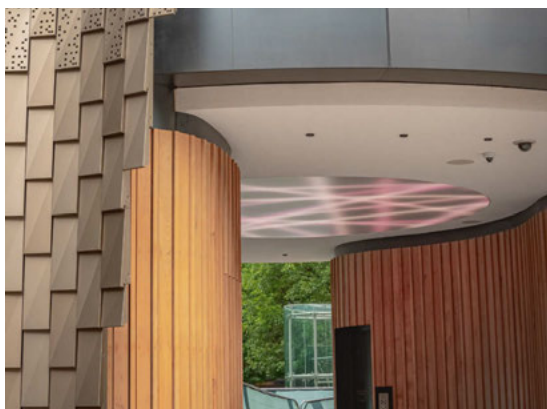
“The owners and residents of Torre Koi were very pleased with the results of the project. The lighting of the building instantly became the landmark we wanted it to be at night, and the results could be seen all around the metropolitan area with ease. The lighting system enables us the opportunity and flexibility to program several shows for each of the clients calendarised events to the delight of the community.” ■

www.acclaimlighting.com



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Light Weave

Featuring TLS International fixtures, light-based installation *Loom* brings a touch of playful interaction to 3 Broadgate.

Located at the archway of 3 Broadgate, *Loom* is a light-based artwork and innovative addition to the area. As the biggest pedestrian neighbourhood in London, Broadgate has numerous art installations, and the archway under 3 Broadgate, is the newest addition to the public realm art trail. Designed by Speirs + Major and lit by TLS International's TLS Digital for developer British Land, the installation features dynamic content that was created by artists Ronan Devlin and Michael Flückiger. The light feature comprises a circular five-metre diameter LED 'screen' – a fabric backlit by a TLS Digital LED array – which can display dynamic low-resolution graphical art. *Loom* is the first artwork to be displayed on the screen, and it was inspired by the Huguenot weavers who lived in the area in the eighteenth century. The TLS Digital artwork generates dynamic waves with unique amplitude, frequency and colour characteristics which, in imitation of thread, visually weave visitors' passage through the undercroft of 3 Broadgate. The LED array sits underneath the Viewing Gallery at Broadgate and is designed to draw people through the building's archway. It unfolds in response to individuals passing between Broadgate Circle and Finsbury Avenue Square. The artists' software monitors data from people-counting cameras installed in the undercroft, and

adds threads to the weave as people enter the space, removing them as they leave. The density of the moving weave thus reflects how busy the space is at any time. Running daily from 6am to midnight, *Loom* becomes increasingly more luminous as the day draws to an end and night falls. The installation is based on an RGB-pixel control system and LED array from TLS International, and represents the company's first major project in the UK. The stretched-fabric diffusing screen is powered below by a TLS Digital low-resolution matrix with 4,700 RGB pixels. It's a cost-effective solution to low-res matrices. The TLS Digital system comprises a series of narrow circuit boards, each containing a row of pixels, which are attached to a combined 24V DC power, control data and addressing suspension cable to form a substrate-free lattice arrangement. The installers attach one end to the supporting wall, tension it at the ends, and connect power and data at one end. The TLS's flexible tension cables allow the system to fit many organic and unusual shapes. It also features a magnetic auto-alignment system which makes large installations easier to install by automatically levelling columns. ■

www.tls-led.com

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Elemental Design

South of Moscow, a new shopping centre channels the four elements through light.

Kashirskaya Plaza is a shopping mall and entertainment centre that brings new life and development to the southern suburbs of Moscow. The building stands at 185,800-metres, and draws on the surrounding nature of the public parks by integrating the four elements into its design and architecture. The development has been overseen by Enka and JERDE, whilst lighting design was handled by Tochka Opory.

The centre has been divided into four separate atriums, each governed by one of the natural elements: earth, water, air, and fire. Tochka Opory's choice of luminaires support and represent the qualities of each of these elements. Intra Lighting's Pipes are widely used throughout the centre, with more than 4,000 of the L versions of the luminaire included.

Through the careful selection of luminaires, mounting types, light, and colour, the lighting designers at Tochka Opory were able to develop an individual elemental identity for each section. The idea was to maintain this individuality, but to keep the atriums united under the wider bracket of the universal elements.

Integrating these with the characteristics of Intra's Pipes, these were then assimilated with the various qualities of the elements. Air is represented through brightness and ease. Interaction is perceived through the fire and strength of fire. In the centre of this atrium,

the yellow, orange and red scheme symbolise the flame, where the Pipes are fixed directly above coloured light tubes. Perceived from below, the light composition appears as meteorites falling from the dark sky. On the other end of the spectrum, the water atrium is characterised by flow and adaptability. Connecting each of the atriums are glass arches and passages, which are then highlighted with RGB spotlights, meaning the ceiling is not lost to the darkness at nightfall.

Kashirskaya Plaza is a place where light plays a vital role in creating a bright and unique atmosphere. The City of Moscow has given the Plaza an award for the best-realised multifunctional development centre. The award gives special recognition to the interior lighting, and the way in which the development contributes to quality of life. It furthermore helps the city's active growth by utilising innovative technologies, also by incorporating modern architectural concepts. The project won two more notable recognitions, one for the best Russian lighting design in 2018, organised by Messe Frankfurt, and the Eurasian award Golden Photon in 2019.

Nonetheless, Kashirskaya Plaza continues to draw the attention of the public, who at the end of the day utilise the concepts as a place of comfort and leisure. ■

www.intra-lighting.com



Senior or Principal Lighting Designer

ITS, Manchester or Birmingham

About the Role

At WSP, you'll find yourself challenged in more fascinating and far-reaching ways than ever before. You'll explore new and inspiring opportunities to make the most of your expertise, broaden your professional horizons and create exciting new possibilities for people, organisations and society in general.

We are looking for a creative and technically knowledgeable Senior Architectural Lighting Designer with fully rounded lighting design experience and skills. The opportunity and role will lead into the development of a second hub base in Manchester, linking to our creative lighting business. Ideally the successful candidate would have international experience working both in the UK and overseas and be able to run projects from concept to completion with a passion for lighting design.

The Senior Lighting Designer is responsible for collaboration with the architect, interior designer, client and electrical engineer to create a complete lighting design complete with fixture selection and controls. Lighting design will primarily be limited to front of house spaces and building façade. This position involves attending design meetings, creating lighting designs for the clients, recommending and selecting fixtures, and preparing and presenting submittal packages to clients. Other responsibilities would involve working closely with the internal estimating, engineering and other departments.

A typical week would include:

- Working within a team environment to produce concept and detailed design packages, including AutoCAD plans and design details, specifications and schedules, build mock-ups, prepare sketch design proposals and liaise with architects, interior designers, and equipment suppliers.
- Attend design and site meetings.
- Supervise the work of lighting designers within the team and contribute creatively and technically to projects including research where appropriate.
- Produce accurate, efficient, creative and coordinated lighting design utilizing internal and external sources.
- Conduct ongoing analyses of fixture packages to identify

opportunities and provide suggestions for optimal product and pricing selections.

- Develop and mentor Assistant lighting designers.
- Provide excellent customer service, attending client meetings during all phases of the project life cycle and assisting in the selection and approval process while remaining budget-conscious.
- Create and submit thorough fixture submittal packages based on customer specifications utilizing internal resources.
- Act as a liaison between the client/architect and engineering departments.
- Building local client links to increase the architectural lighting portfolio.

We'd love to hear from you if you have:

- Professional independent lighting design experience
- A portfolio of work that demonstrates both creative and technical knowledge and skills associated to lighting design
- IT skills including Microsoft Office, AutoCAD, InDesign, Photoshop, AGI32, DIALux and 3D software
- Proficient with lighting calculations utilizing lighting modeling software.
- Knowledge of the architectural and engineering design process.
- Ability to multitask in a high volume, fast paced work environment with very tight deadlines.
- Extensive knowledge of product lines, pricing of lighting fixtures and lamps, and lighting control systems required.
- Excellent written and spoken English.

What if we can?

What if we can have work-life balance? What if we can be rewarded in ways that support our individual needs? What if we can be accepted for who we are? Here at WSP – we can!
WSP recognizes that work is only one part of our lives and making time for the other things in our life is important – be that our families, our friends or ourselves. So, if working from home, working part-time or having flexible start and finish time will help with this let us know as part of your application.

Be you, be happy – we strive to have a friendly and inclusive culture which respects and maximizes the contribution individuals can bring to WSP. We recognise the benefits that people with varying backgrounds and experiences can bring. Our VIBE (LGBT+ employee network) and PLEDGE (Promoting Leadership, Encouraging Diversity & Gender Equality) networks work with the business to help ensure we continue to promote the right environment to enable LGBT+ and female employees to reach their full potential, and to ensure we continue to promote equality, inclusivity and diversity for everyone.

Here at WSP we positively encourage applications from suitably qualified and eligible candidates regardless of sex, race, disability, age, sexual orientation, gender reassignment, religion or belief, marital status, pregnancy or maternity/paternity. We will interview all disabled applicants who meet the essential criteria.

In addition we support our people to achieve their personal health and well-being goals through our Thrive programme.

A little about us:

WSP is one of the world's leading engineering professional services firms providing technical consultancy to the built and natural environment. We believe that for societies to thrive, we must all hold ourselves accountable for tomorrow. For us, that means creating innovative solutions to the challenges the future will bring to the communities and environments where we live and work across the UK. We are locally dedicated and propelled by international brainpower. We are technical experts and strategic advisors, including engineers, technicians, scientists, architects, planners, surveyors and environmental specialists, as well as other design, programme and construction management professionals. Our experts design lasting solutions in the property & buildings, transportation & infrastructure, environment, industry, resources (including mining, and oil & gas) and power & energy sectors as well as project delivery and strategic consulting services. And safety and sustainability are embedded in everything that we do.

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Event Diary

Industry events where you'll find **arc** in the months ahead

LIGHT MIDDLE EAST

15-17 October

Dubai, UAE

www.lightme.net

CIBSE BUILD2PERFORM

26-27 November

London, UK

www.build2perform.co.uk

INTEGRATED SYSTEMS EUROPE

11-14 February 2020

Amsterdam, Netherlands

www.iseurope.org

PLDC

23-26 October

Rotterdam, Netherlands

www.pld-c.com

[D]ARC AWARDS

5 December

London, UK

www.darcawards.com

EUROSHOP

16-20 February 2020

Dusseldorf, Germany

www.euroshop-tradefair.com

HONG KONG INT'L LIGHTING FAIR

27-30 October

Hong Kong, China

www.hktdc.com/fair/hklightingfairae-en

ARCHITECT@WORK

29-30 January 2020

London, UK

www.architect-at-work.co.uk

LIGHT + BUILDING

8-13 March 2020

Frankfurt, Germany

www.light-building.messefrankfurt.com

LUX LIVE

13-14 November

London, UK

www.luxlive.com

SURFACE DESIGN SHOW

11-13 February 2020

London, UK

www surfacedesignshow.com

LEDUCATION

17-18 March 2020

New York, USA

www.leducation.org

ILLUMINOTRONICA

21-22 November

Bologna, Italy

www.illuminotronica.it

STRATEGIES IN LIGHT

11-13 February 2020

San Diego, USA

www.strategiesinlight.com

EUROLUCE

21-26 April 2020

Milan, Italy

www.salonemilano.it



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#12 Klaasen Lighting Design / Martin Klaasen

Curated by **LIGHT COLLECTIVE**

"Set yourself goals to achieve, otherwise you have no motivation to go anywhere."
Martin Klaasen

What:

Space travel; to see the light from Earth, the Moon and the Sun.

Where:

From Space.

How:

With Virgin Galactic, SpaceX or XCOR.

When:

Possibly as soon as 2020.

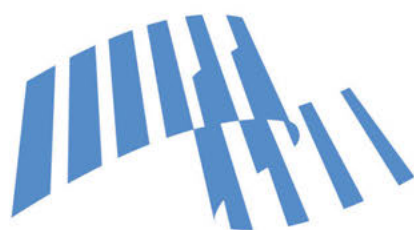
Why:

When I was young, I wanted to become an astronaut. It would be awesome, now that space travel is becoming a reality, to travel into space and experience weightlessness while watching the lights of our Earth, the Moon, the Sun and the stars.

Photo NASA (www.nasa.gov)



LINK



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