



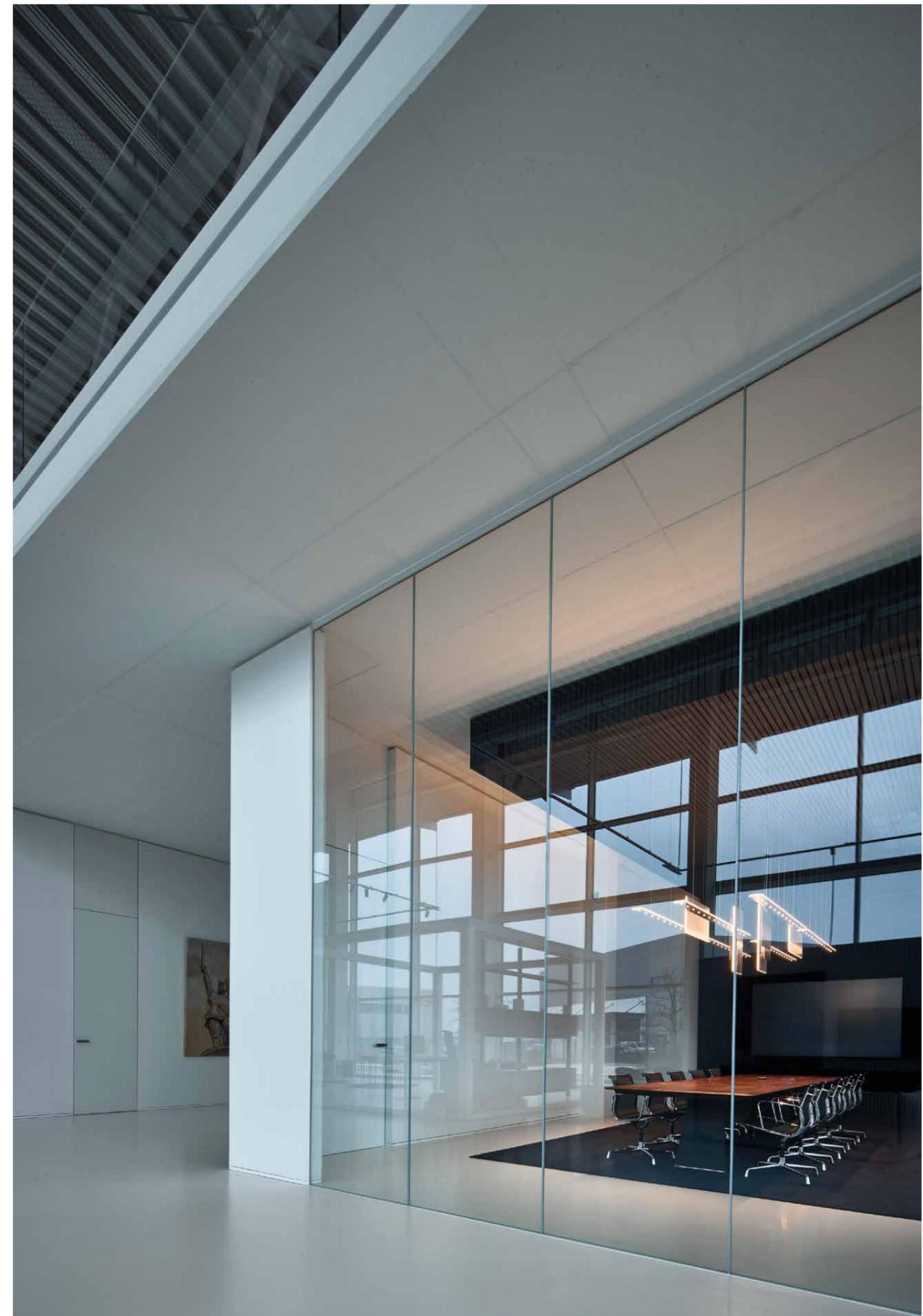
printed light



ambright

At Ambright, our patented light-printing technology has revolutionised lighting design.

Our printed light approach frees LEDs from their rigid position on a printed circuit board and allows them to be placed individually on a wide variety of surfaces using automated processes and connected electronically. The result is unique luminaires: our SparkShapes – customised to the specific requirements of light and space. But our technology can do even more: Whether as an installation for backlighting fine stone surfaces or in the form of illuminated shelving Ambright’s light objects blend harmoniously into any environment or become a design element in their own right.



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We are delighted to have received a number of international design awards.



SparkShape



**luminaires
as unique
as your
signature**



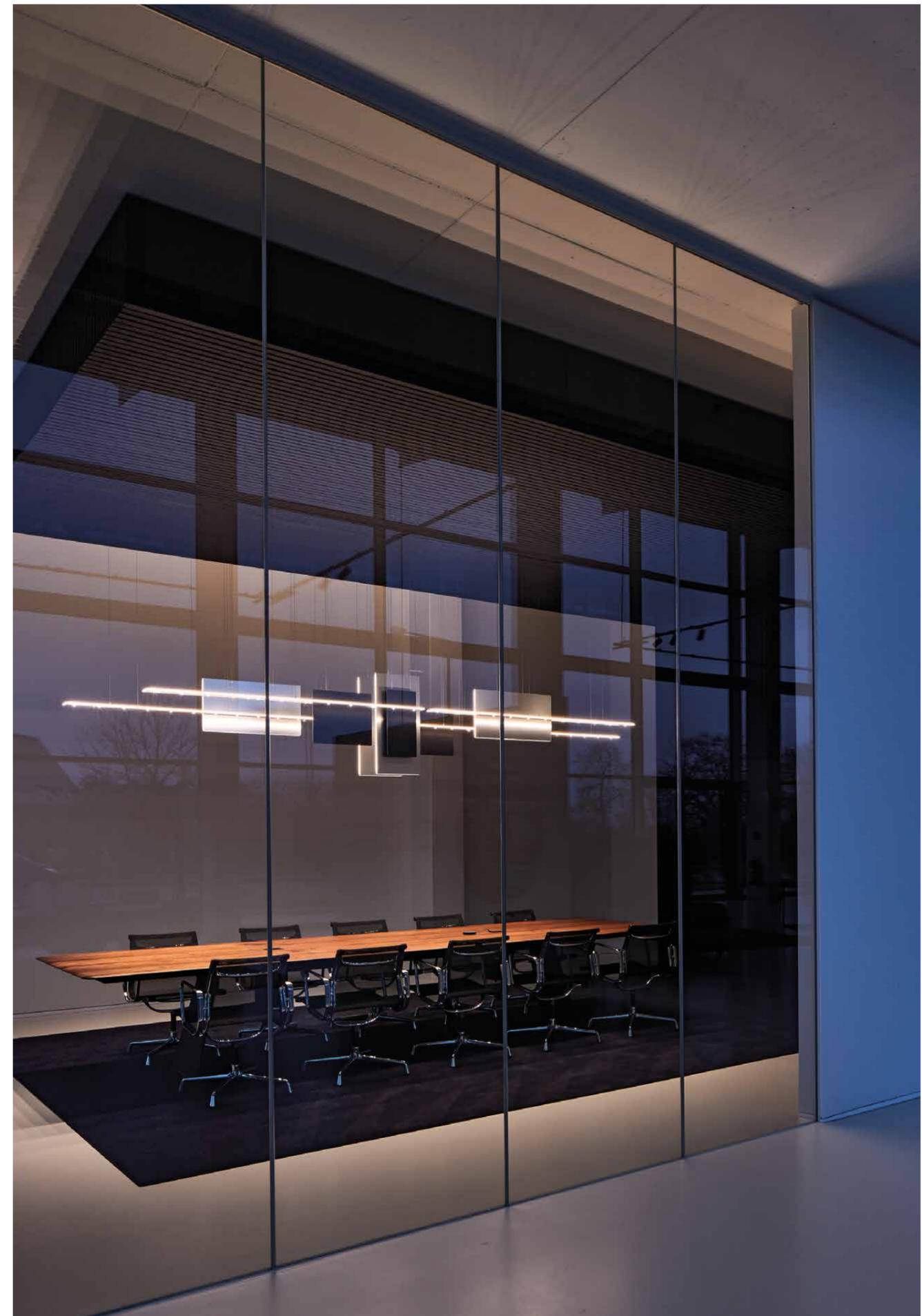


Yomei

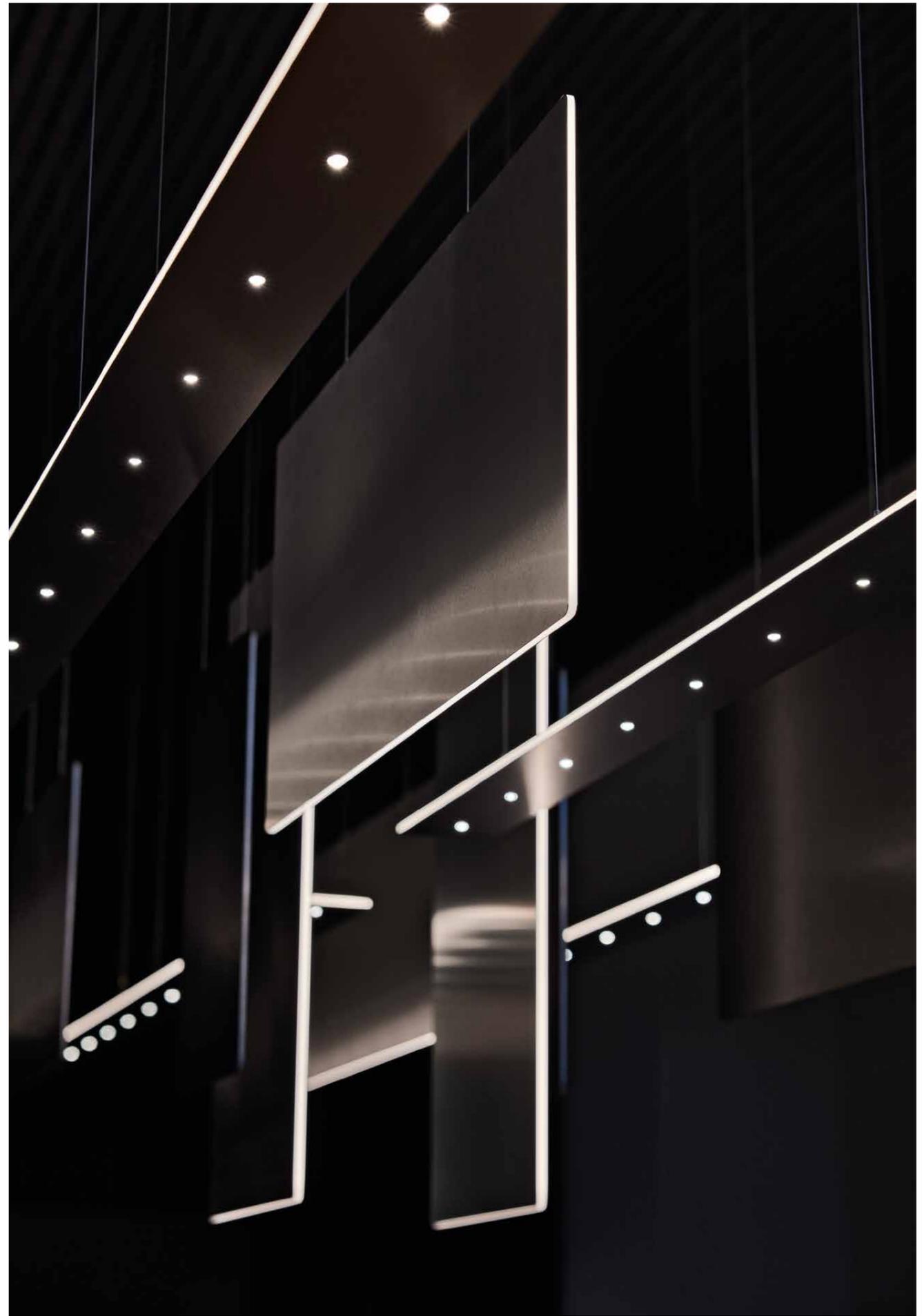
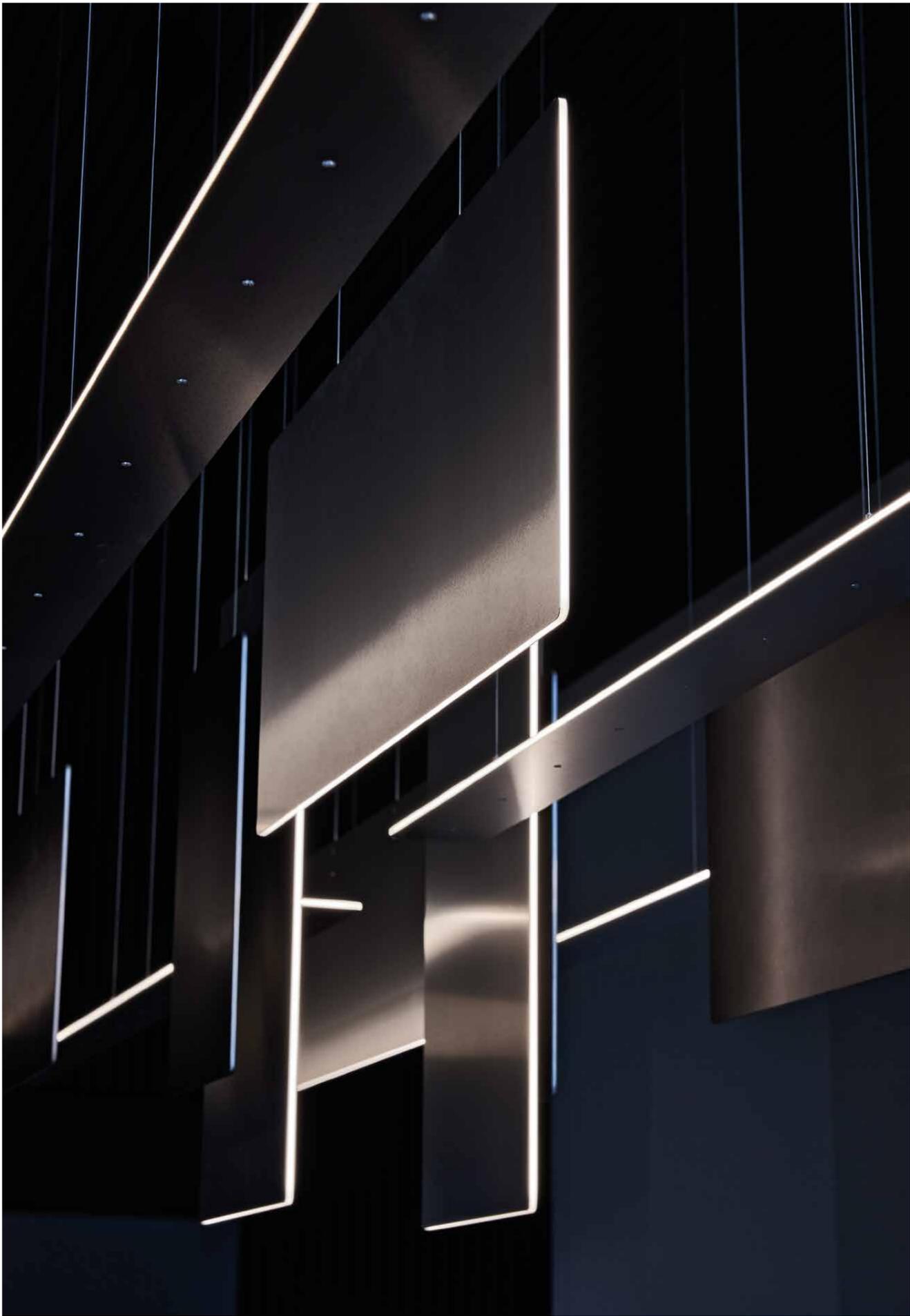
The combination of Ambright's light-printing technology and the design artistry of Detmold-based furniture manufacturer Yomei has resulted in luxurious minimalism.

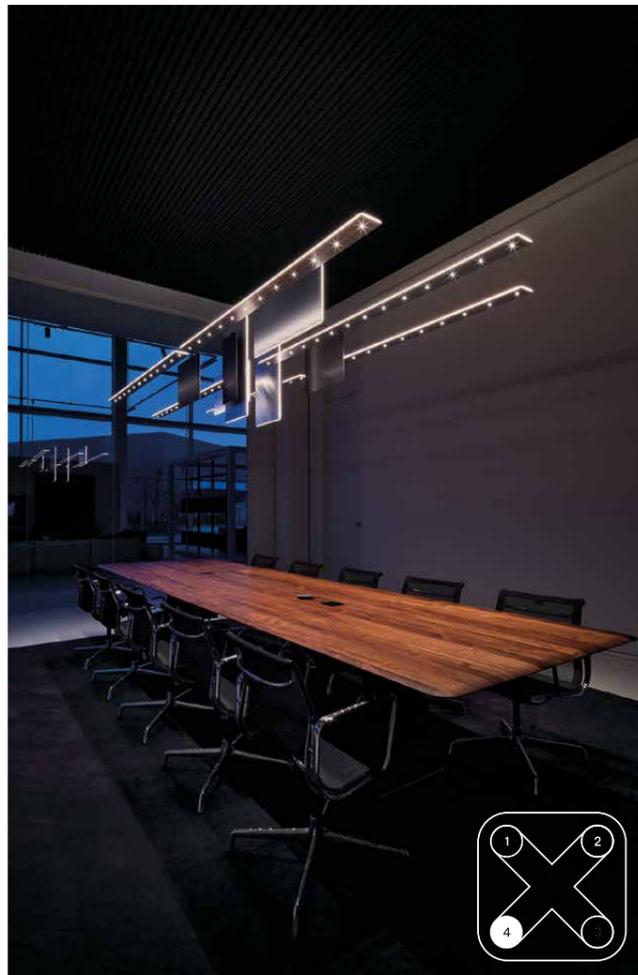
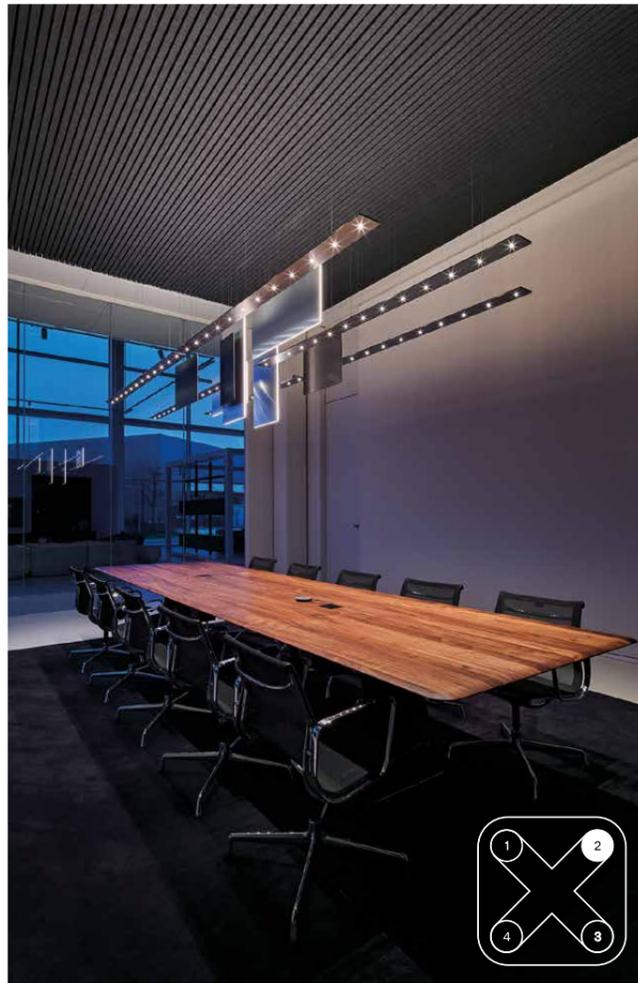
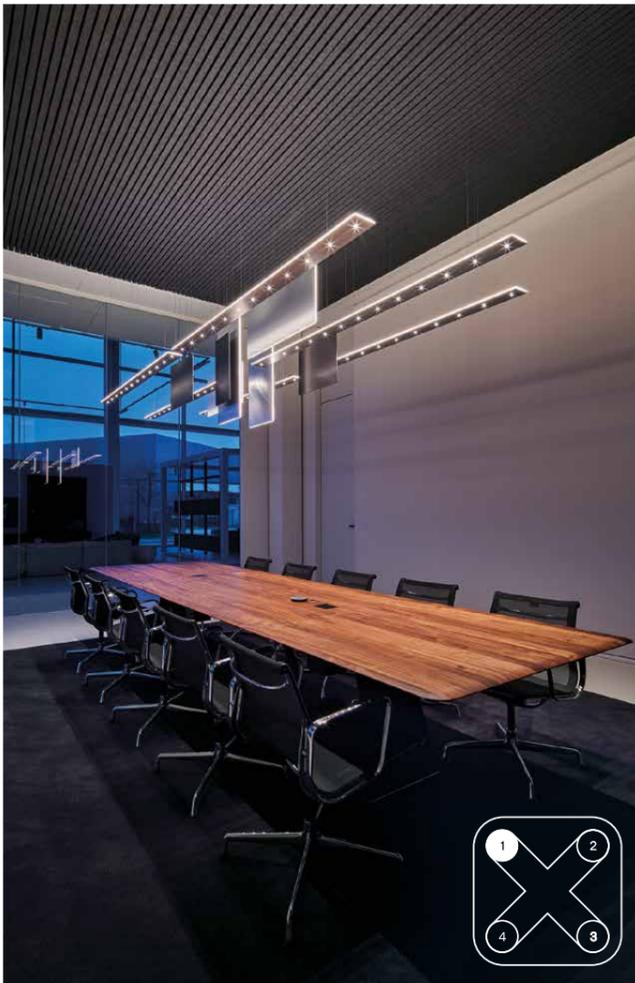
Yomei was looking for the right light for its conference room located at the centre of its puristic showroom – a complex architecture with clear lines, generous room heights and an elegant anthracite colour. The concept with Ambright was compelling, echoing the linearity of the space and creating a seemingly floating composition that radiates simplicity and conciseness.

Despite minimalism, a maximum of individuality is achieved through additional materials, which – matched to our SparkShapes – are covered with the finest leather from the Yomei collection.









The three lighting components of SparkShape are unique on the luminaire market: Delicate downlights with excellent glare control, intense uplights and an elegant illuminated edge provide additional individuality in lighting moods – all of which can be controlled separately and wirelessly via CASAMBI.

The homogeneous illuminated edge is the hallmark of our luminaires: This striking highlight rounds off your lighting experience in every respect and emphasises the individual design.



smow

Combining individual solutions with a keen sense for high quality aesthetics is the core service of smow, a modern and digitally present home and contract furnishing company.





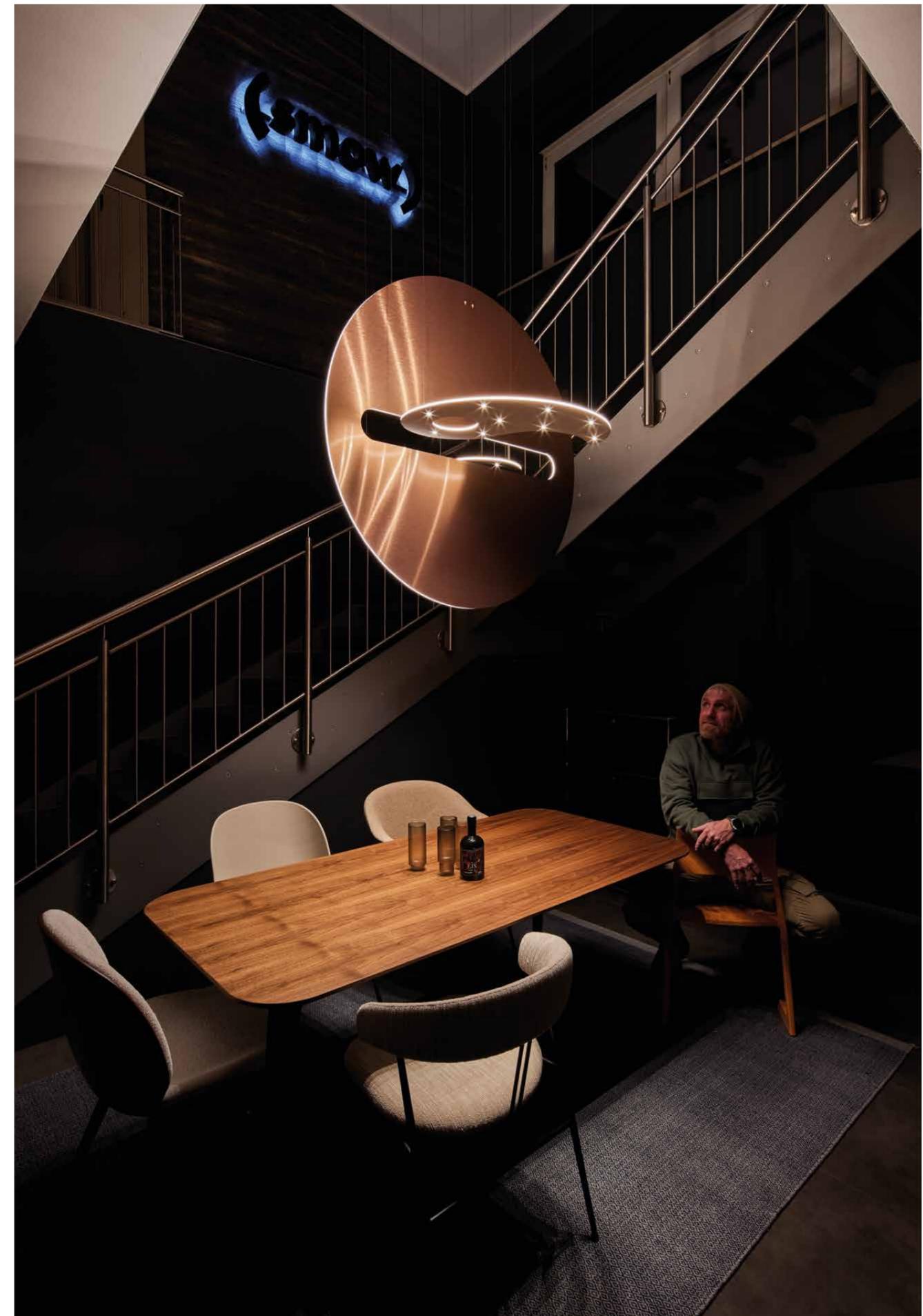
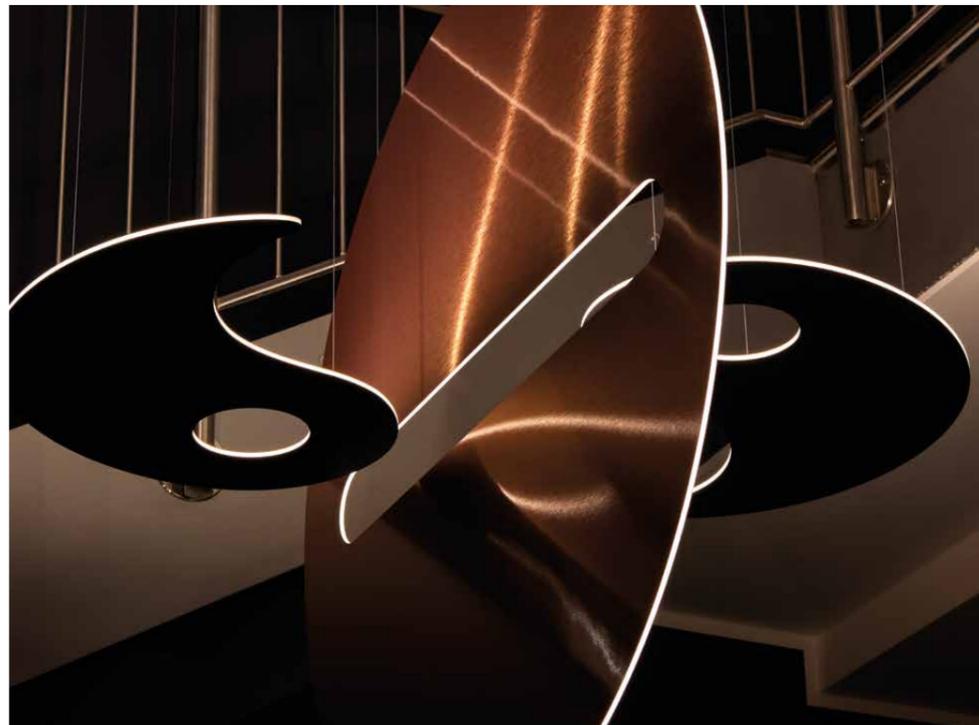


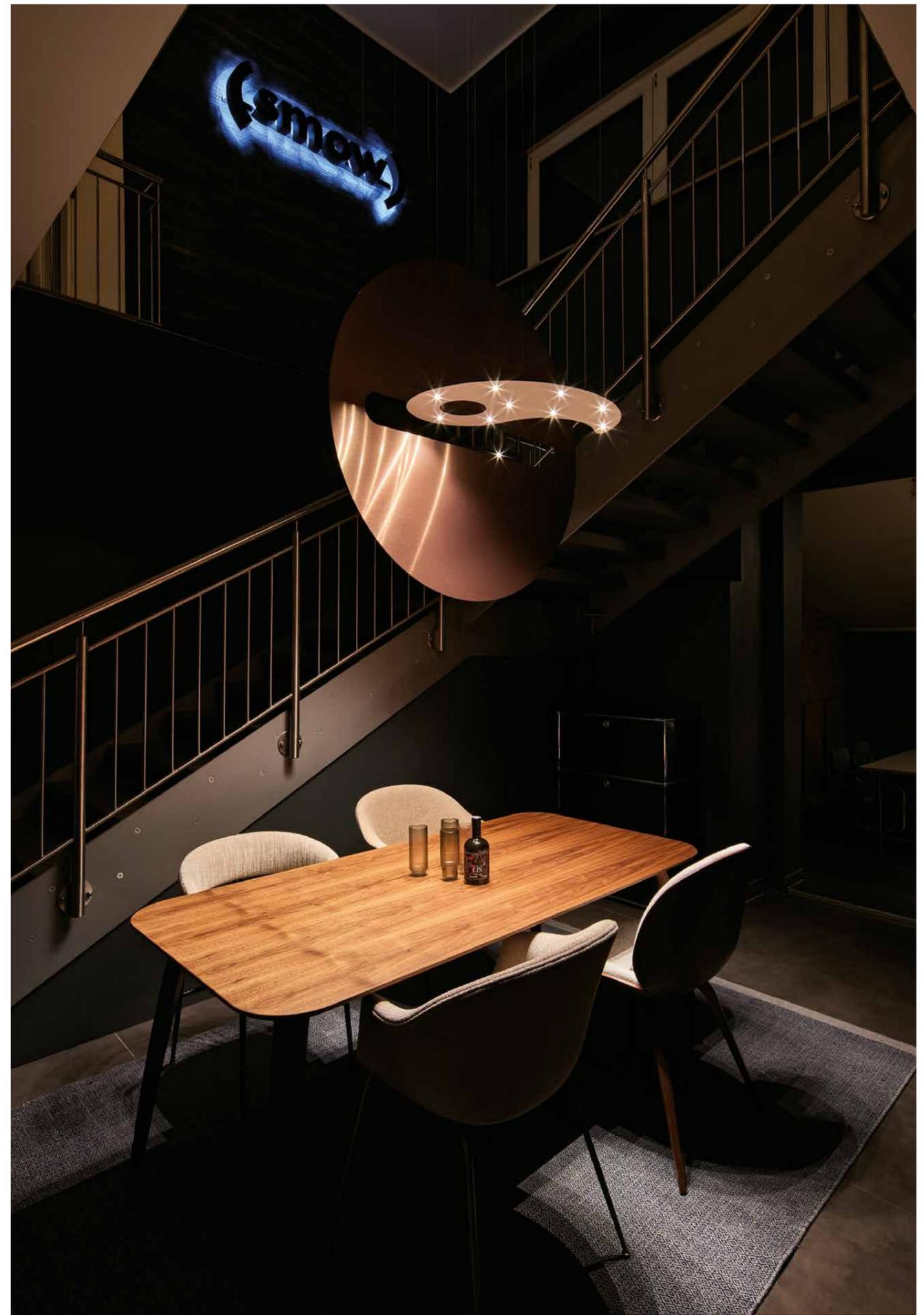


Inspired by our motto “luminaires as unique as your signature”, Christian Prüller, managing director of smow Munich, designed his own SparkShapes for his exhibition.

People are unique – so why not the products that surround us every day? The result is unique luminaires that interact perfectly with the interior design – a wonderful example of a creative workplace. “Our SparkShape thought bubble is in direct dialogue with room-filling pop art”, says Christian Prüller.

smow is clearly the ideal partner for our high-quality unique luminaires, made in Munich and made by Ambright.



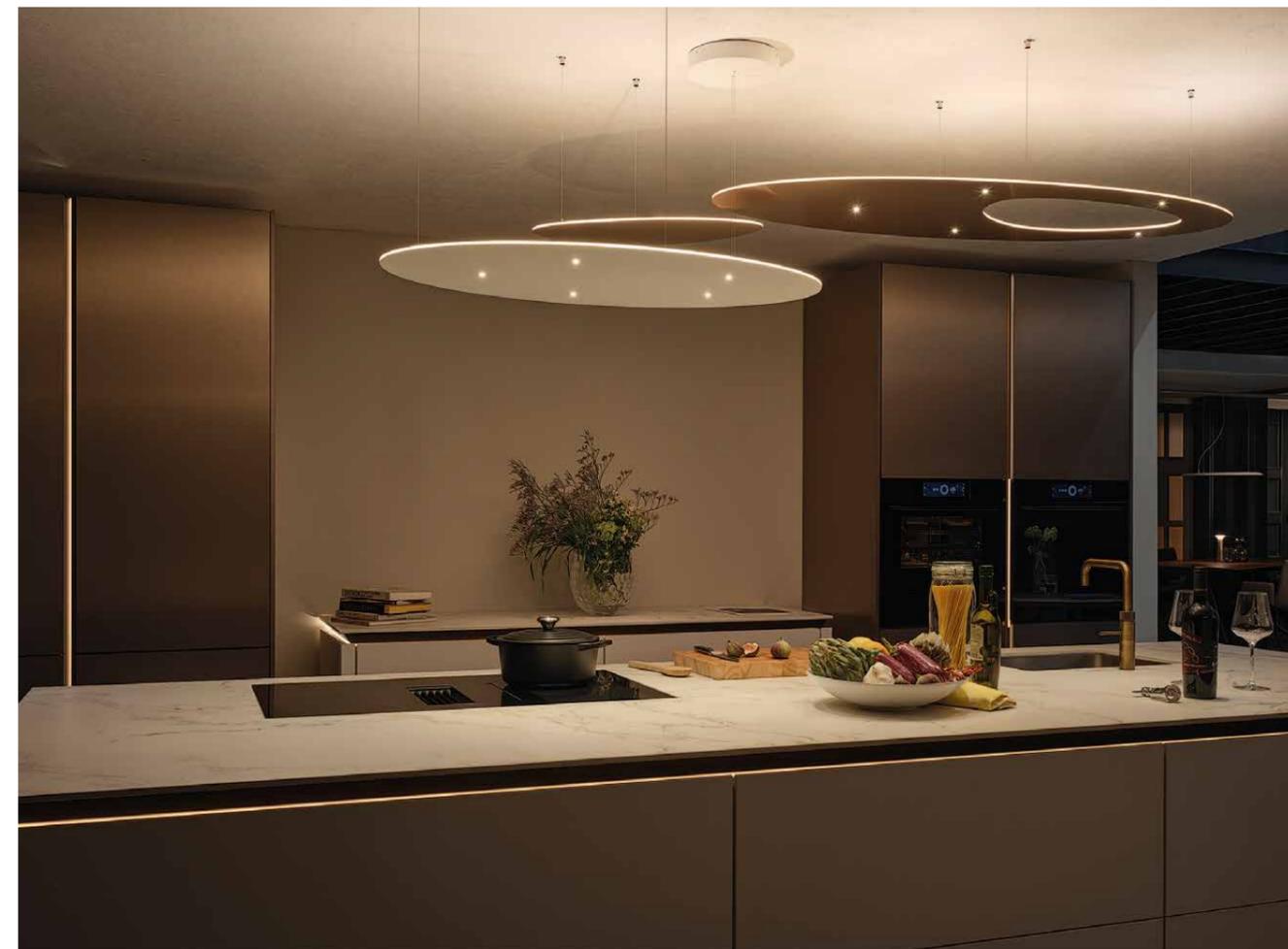
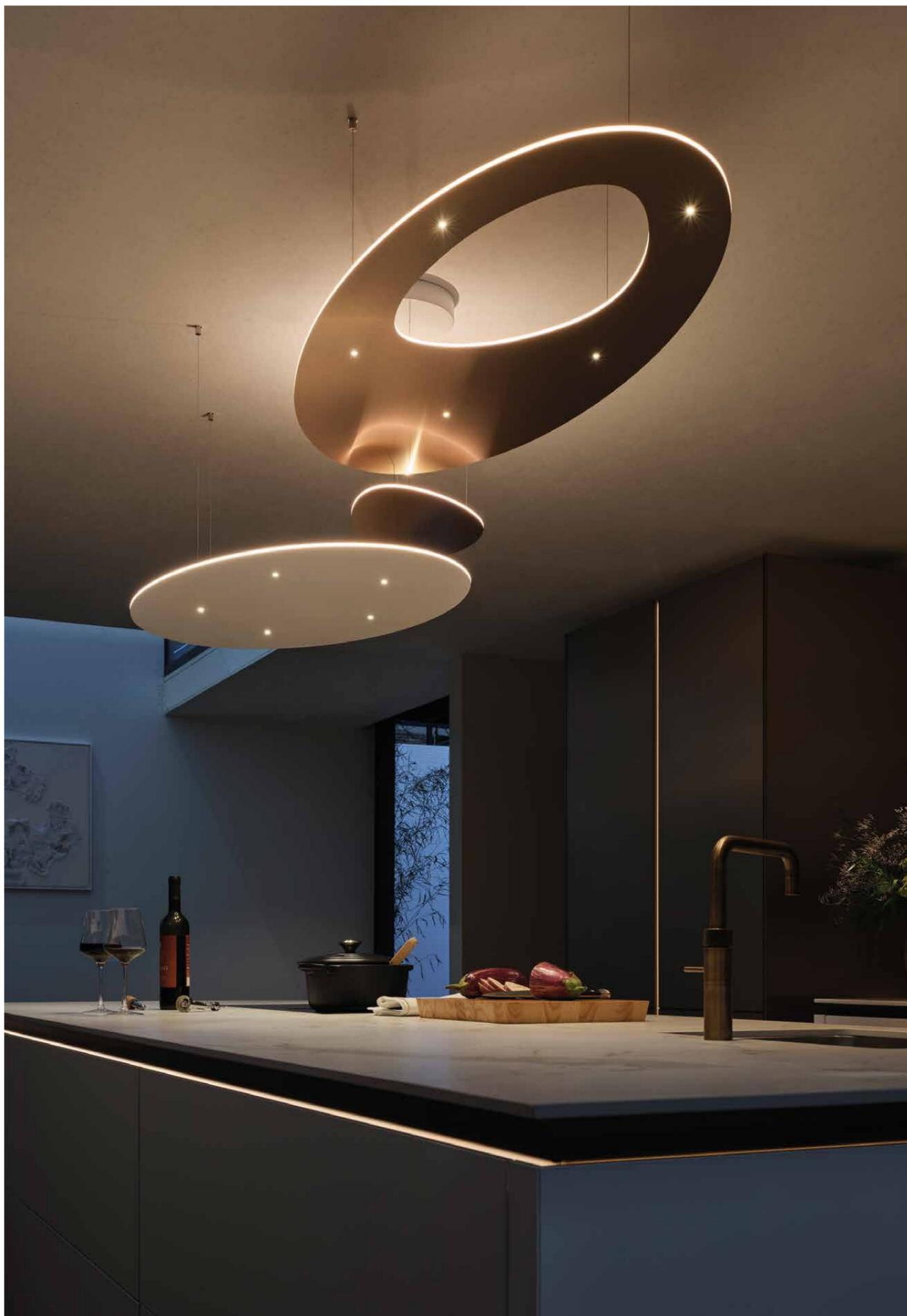


kitchen



Anything is possible when individually designed luminaires turn the kitchen into a perfectly illuminated living space – tailored to the spatial conditions, free in form, material, and light intensity.

Filigree downlights with excellent glare control, intense uplights and the striking light of the illuminated edge: SparkShapes enhance any elegantly illuminated three-course meal for the senses.





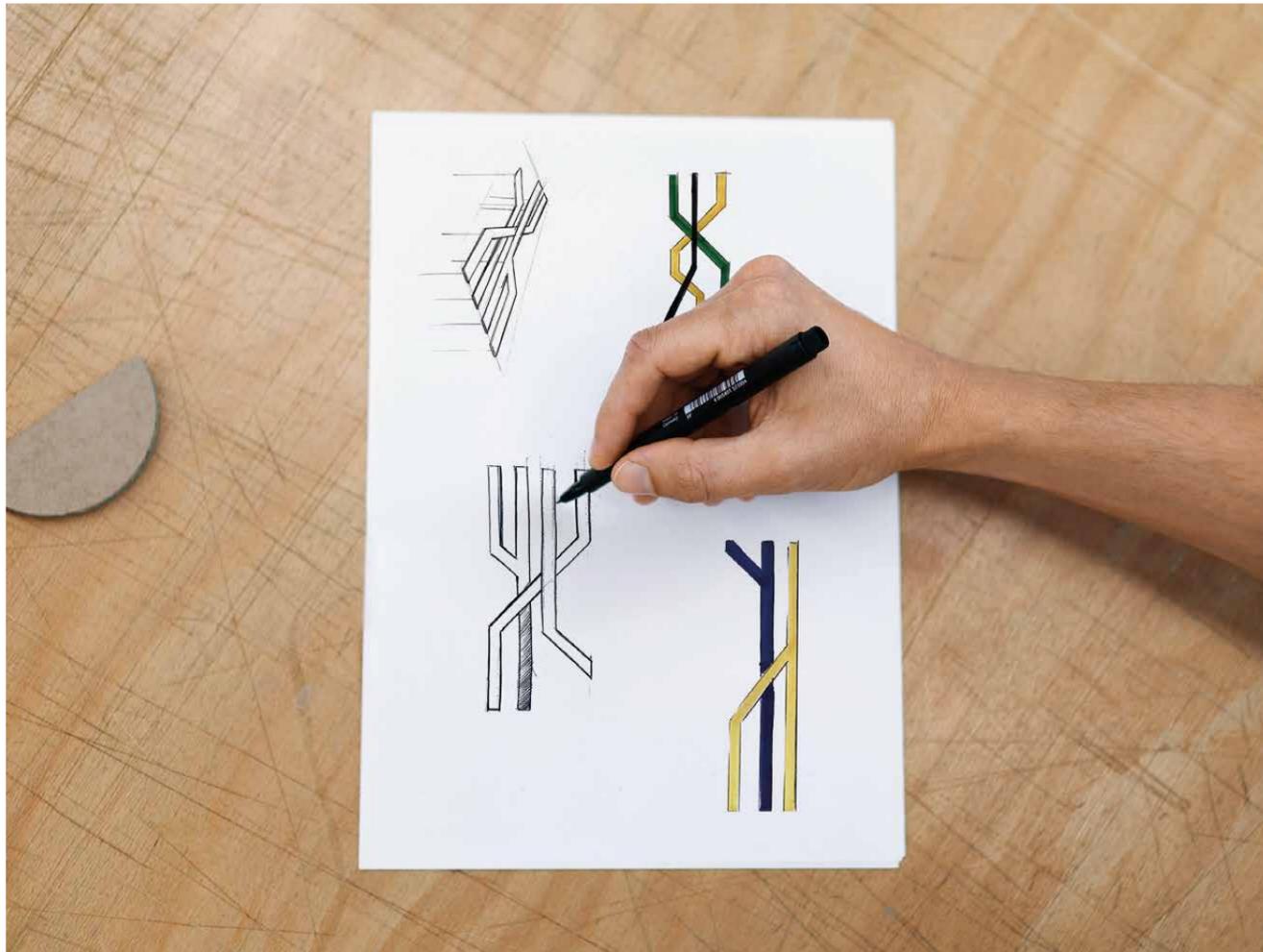


create your own highlight



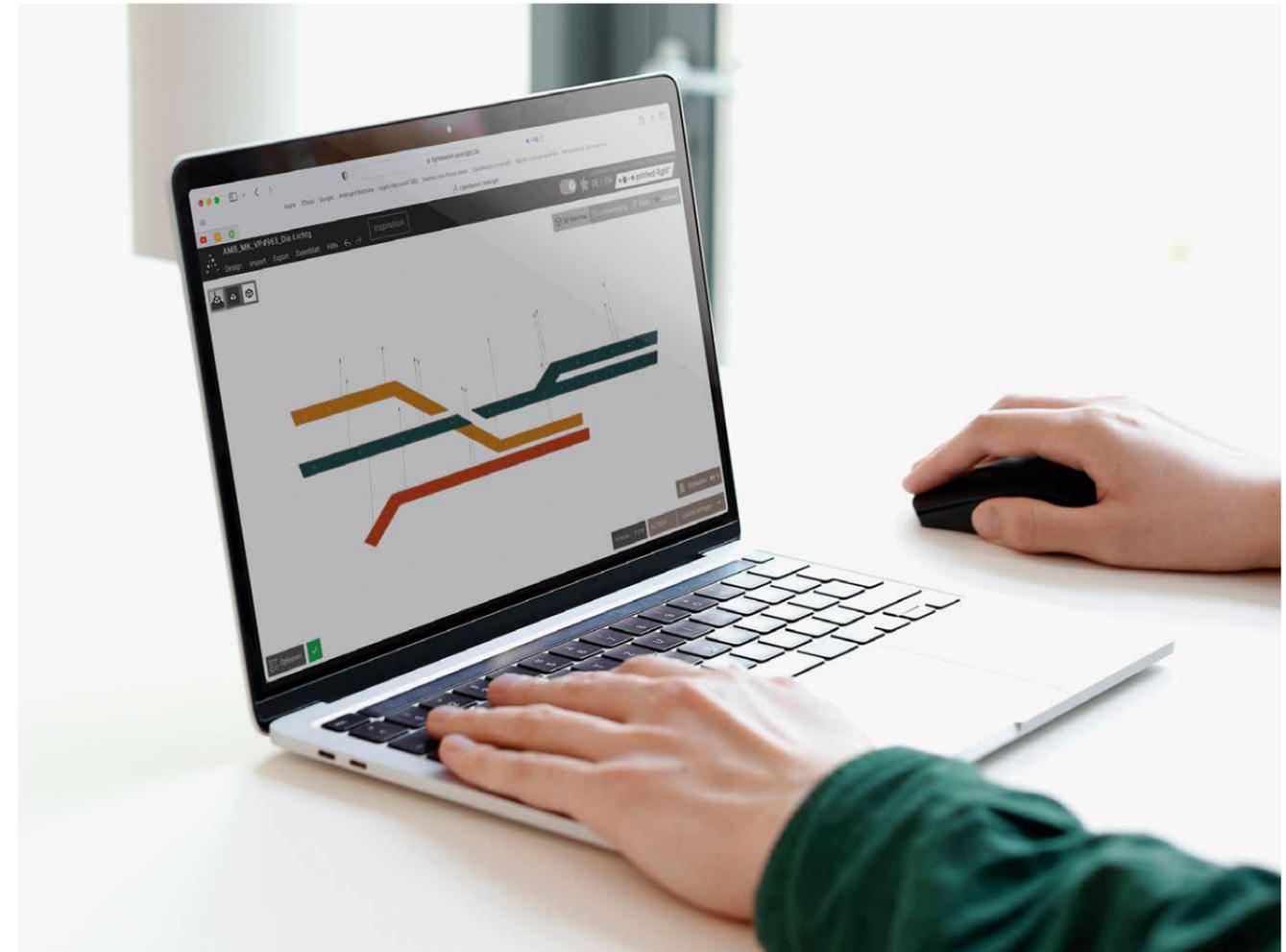
1. sketch

Now you can easily design your own light online! Start by drawing your shape by hand or in your CAD programme. Then import your geometry and add light sources or get inspired by creative designs from our shape library. Try it out at: <https://lightsketch.ambright.de/>



2. shape

LightSketch is the first design tool for the lighting market that digitally guides the design process. Whether sculptural or subtle, geometric, or organic, as a repeating pattern or freely distributed: Any two-dimensional shape and arrangement of light sources is possible. You design and receive all the information about your design in real time, such as dimensions, light distribution, lumens, colour rendering, performance, and price.



3. print

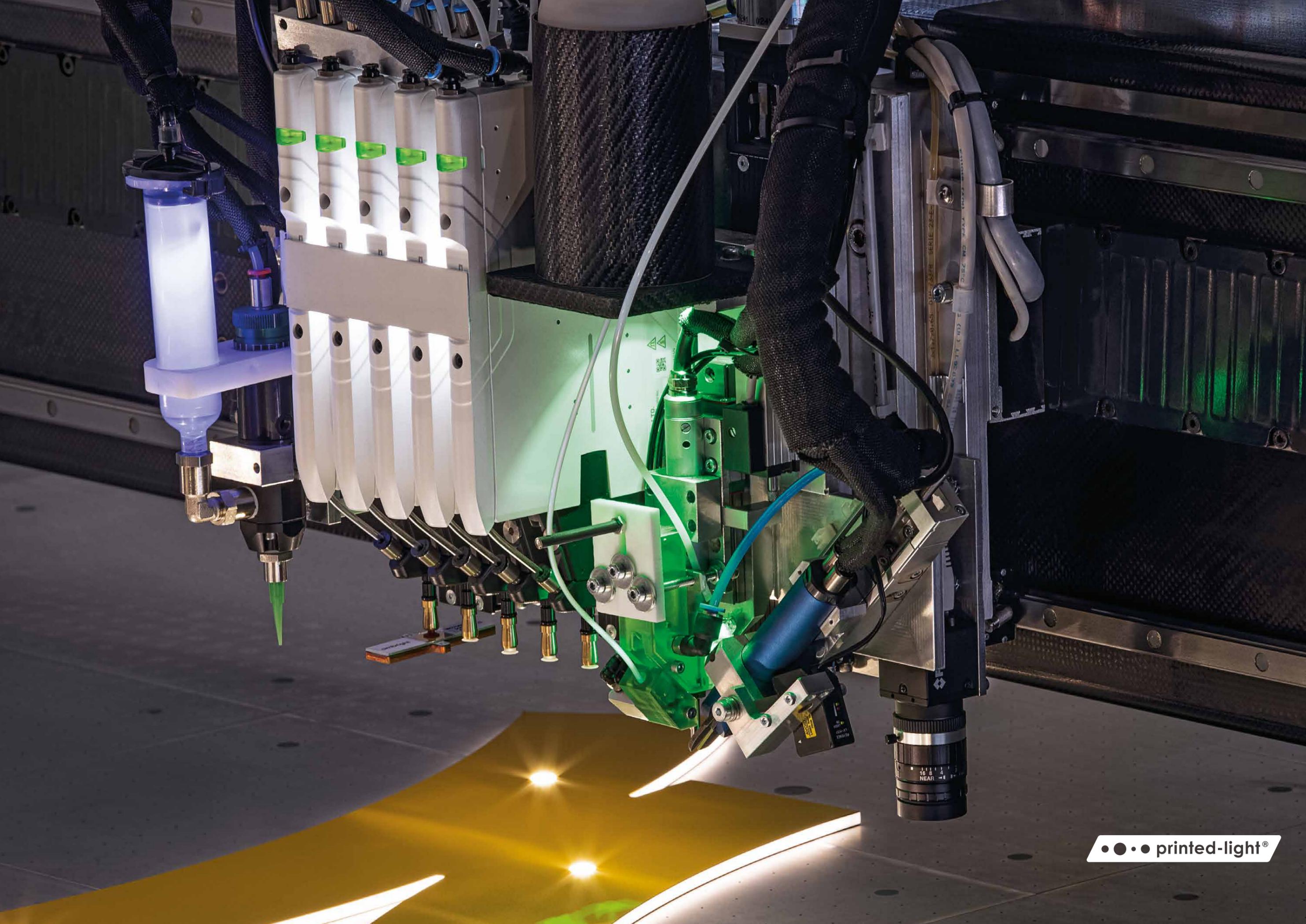
Gutenberg invented book printing – we invented light printing!

Fascination happens when creativity meets technology. With our printed light technology, we have developed the lighting tool for the digital age. We combine innovative forms of light design and customised series production in a single process. The result? A radically new way of seeing light: Unique. Digital. Scalable.

Now you can turn your LightSketch designs into reality: luminaires tailored to your specific lighting and space requirements – your SparkShape.

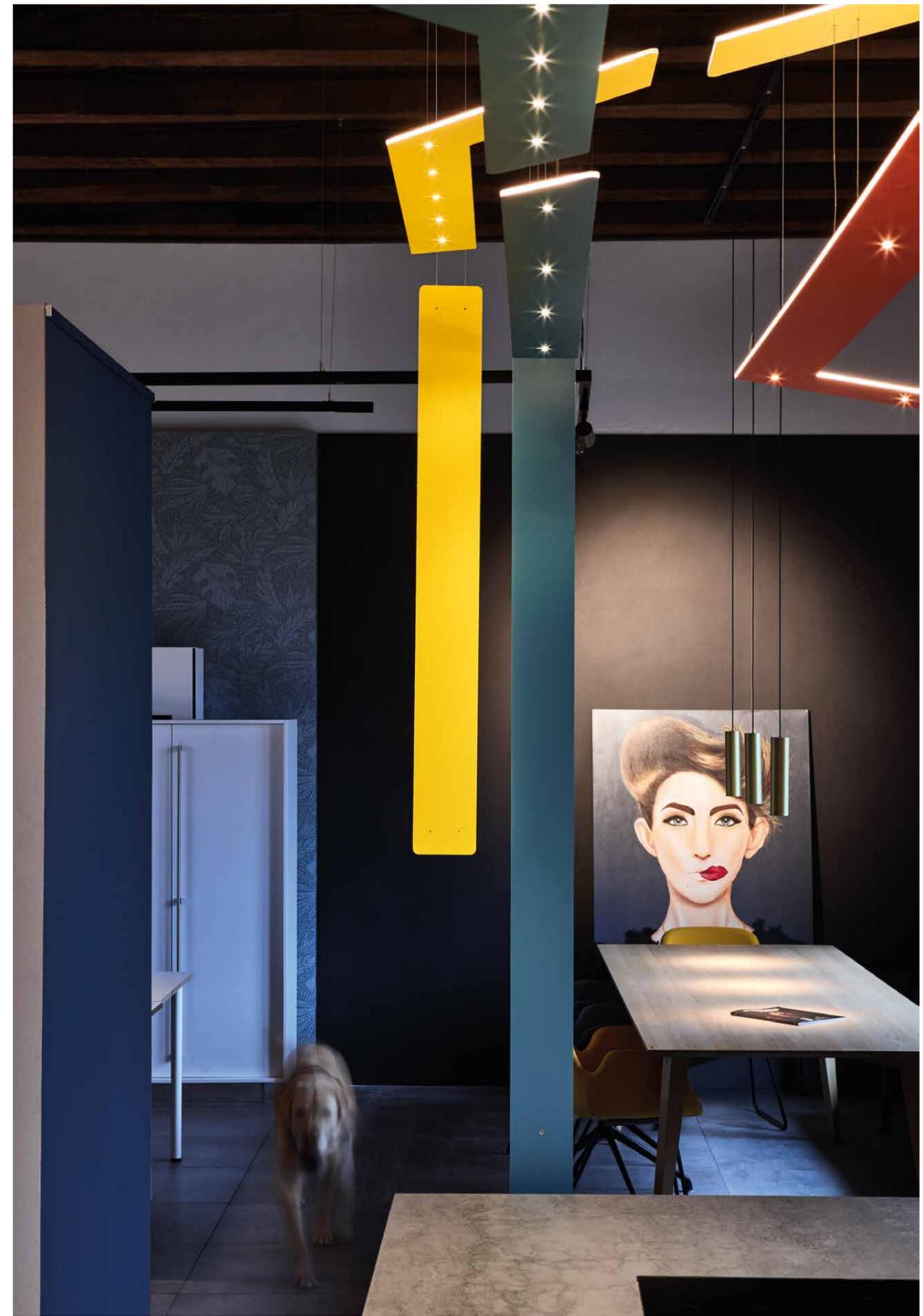


CANDELA 3015 production line at the head office in Munich.



4. shine

SparkShapes in the form of an illuminated track plan creatively set the scene for the modern exhibition rooms in a disused station building.







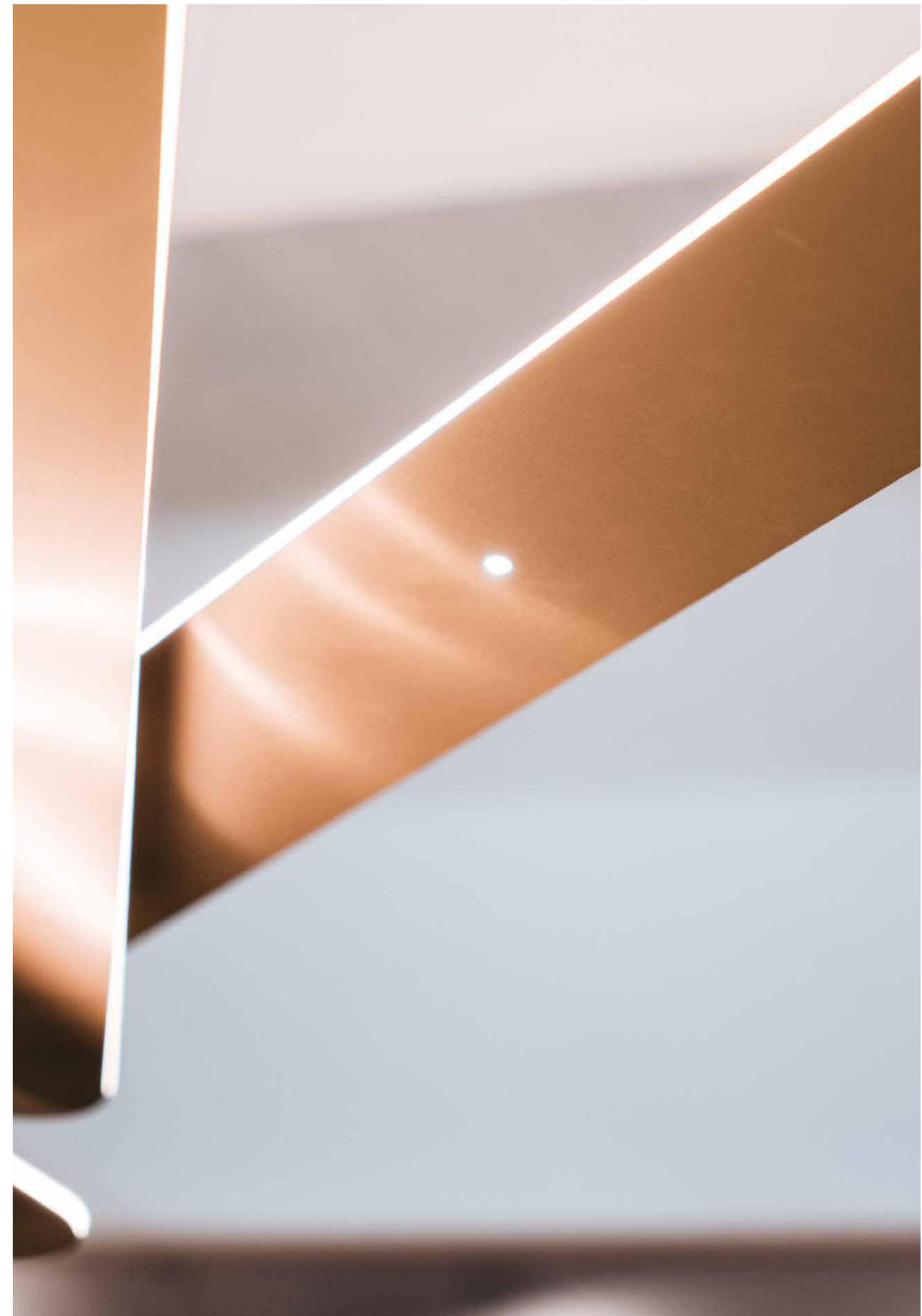


the look inside

SparkShape

SparkShapes consist of one or more freely configurable light layers that can be connected vertically, horizontally, or diagonally in a modular system. The necessary active components such as LEDs, drivers, mounting points, and optics are first embedded in a specially developed composite material.

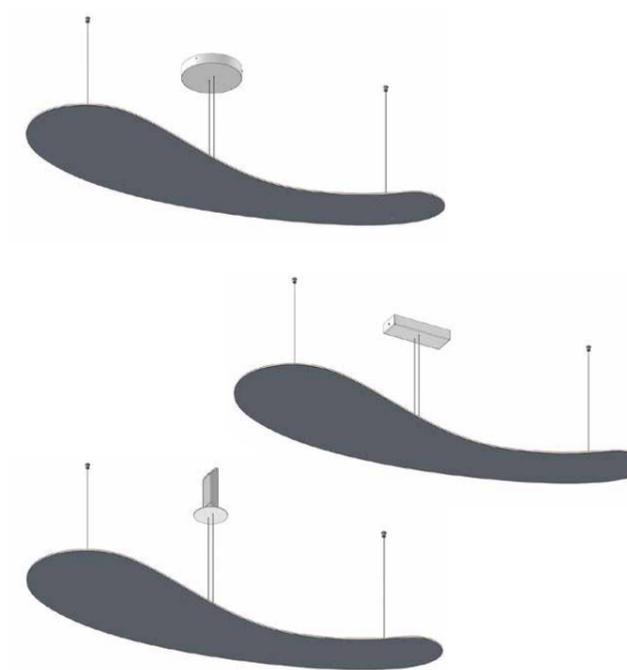
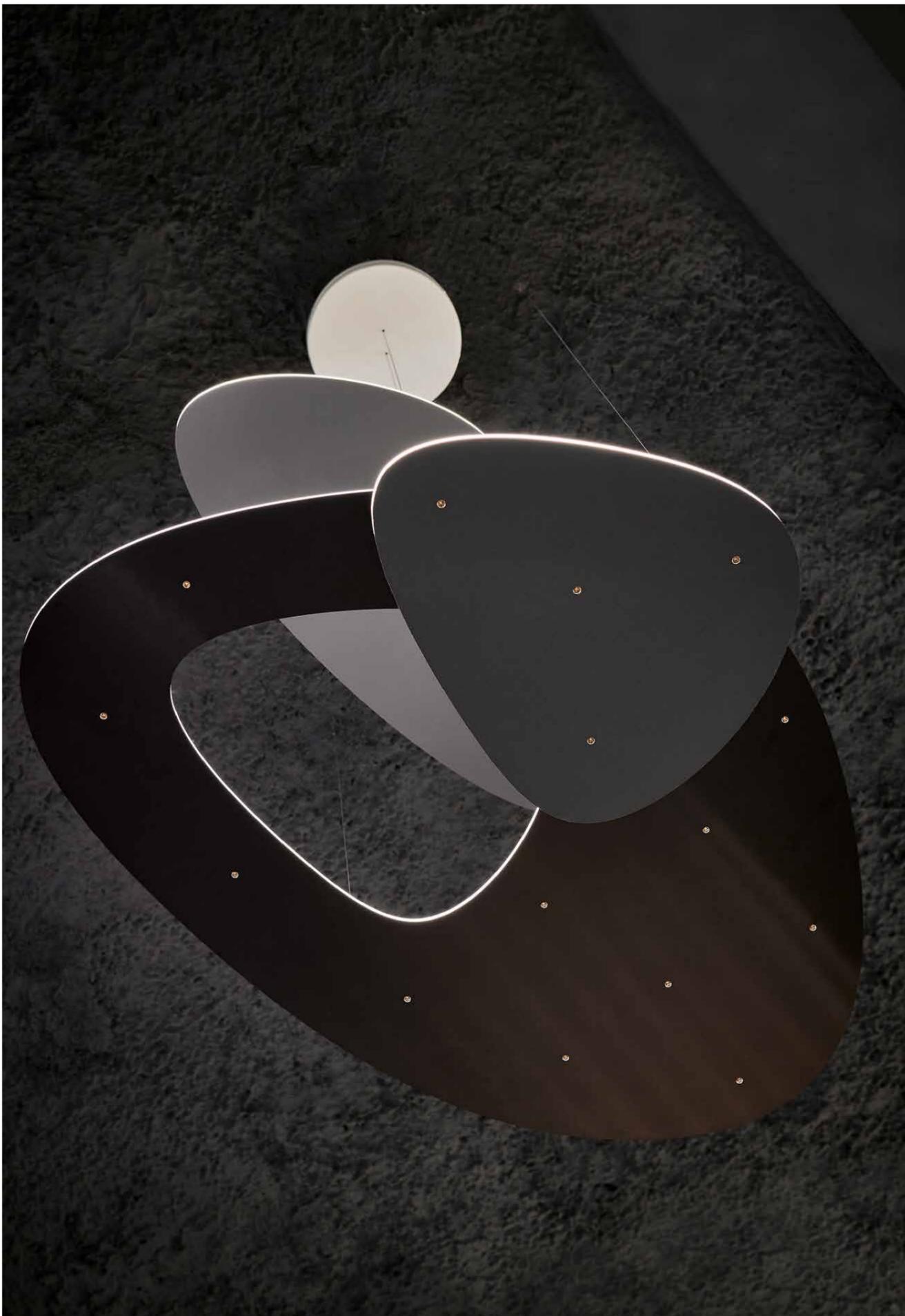
- 📐 Individual shape
- ☀️ Uniformly radiating light edge
- ⬇️ 6 mm of simple elegance
- 🔗 Three separate lighting components
- 🔗 Free positioning of light sources
- 👁️ Anti-glare high performance optics
- ☒ Flicker-free dimming via CASAMBI
- ⊘ Design area up to 290 × 120 cm



The core, which is only five millimetres thick, is made of high-quality acrylic glass and contains virtually everything required for the technical function of a luminaire. Once these components are in place, a high-frequency process is used to connect them by adding copper. These electrically conductive connections lead from one component to the next and form the conductive paths as in a printed circuit board, but on a much larger scale.

Once the components have been connected, an individual shape is milled out of the carrier material and coated with two wafer-thin layers of aluminium, 0.5 millimetres thick, which act as thermal conductors. In this way, we have developed a manufacturing process that allows us to respond individually to the shape and lighting design of a luminaire.





Mounting options

Your SparkShape can be mounted to a suspended ceiling for the ultimate minimalist look, as the power supply to the luminaire is external. Alternatively, we offer two canopy shapes and sizes for mounting to a bare ceiling with a pre-defined power outlet.

Free position of power supply

You can even freely select the position of the connection point.

Individual shaping

On an area of up to 250 × 125 cm², you can create your own SparkShape: your unique luminaire. The luminaire body is 6 mm thick and, depending on the angle of view and shape, has a reduced and uniquely elegant effect.

Light components and effect

Each SparkShape has three lighting components that allow you to create a lighting atmosphere as individual as the luminaire itself: delicate downlights with very good glare control, intense uplights and the unmistakable edge light, which gives your luminaire the perfect finishing touch.

Light quality and CRI

The SparkShape luminaire's LEDs are available in three colour temperatures: 2700 K, 3000 K and 4000 K. The colour rendering, with a CRI of up to 98, meets your requirements for a unique quality of light.

Dimming via CASAMBI

Thanks to the standard integration of the innovative CASAMBI lighting control system, you can individually switch, dim, and integrate each lighting component of your SparkShape luminaire into scenes, and control them conveniently via the app or a wide range of compatible control devices.

Uplights

Indirect component, single uplight, upper half-space

CCT	Power	Luminous power	CRI
2700 K	5,8 W	640 lm	97
3000 K	5,7 W	680 lm	96
4000 K	5,8 W	795 lm	92

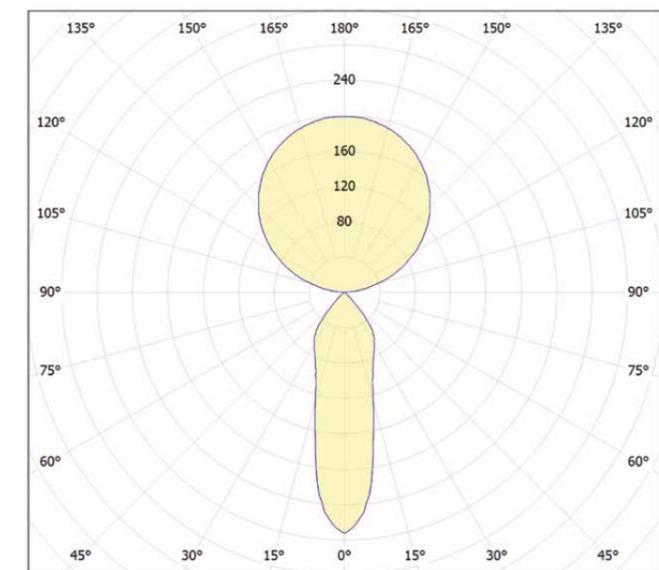
Downlights

Direct component, single downlight, lower half-space

CCT	Power	Luminous power	CRI
2700 K	2,1 W	152 lm	97.9
3000 K	2,1 W	168 lm	98.1
4000 K	2,1 W	185 lm	95

Illuminated edge

CCT	Power	Luminous power	CRI
2700 K	4,1 W/m	110 lm/m	93
3000 K	4,1 W/m	120 lm/m	93
4000 K	4,1 W/m	135 lm/m	93



master series



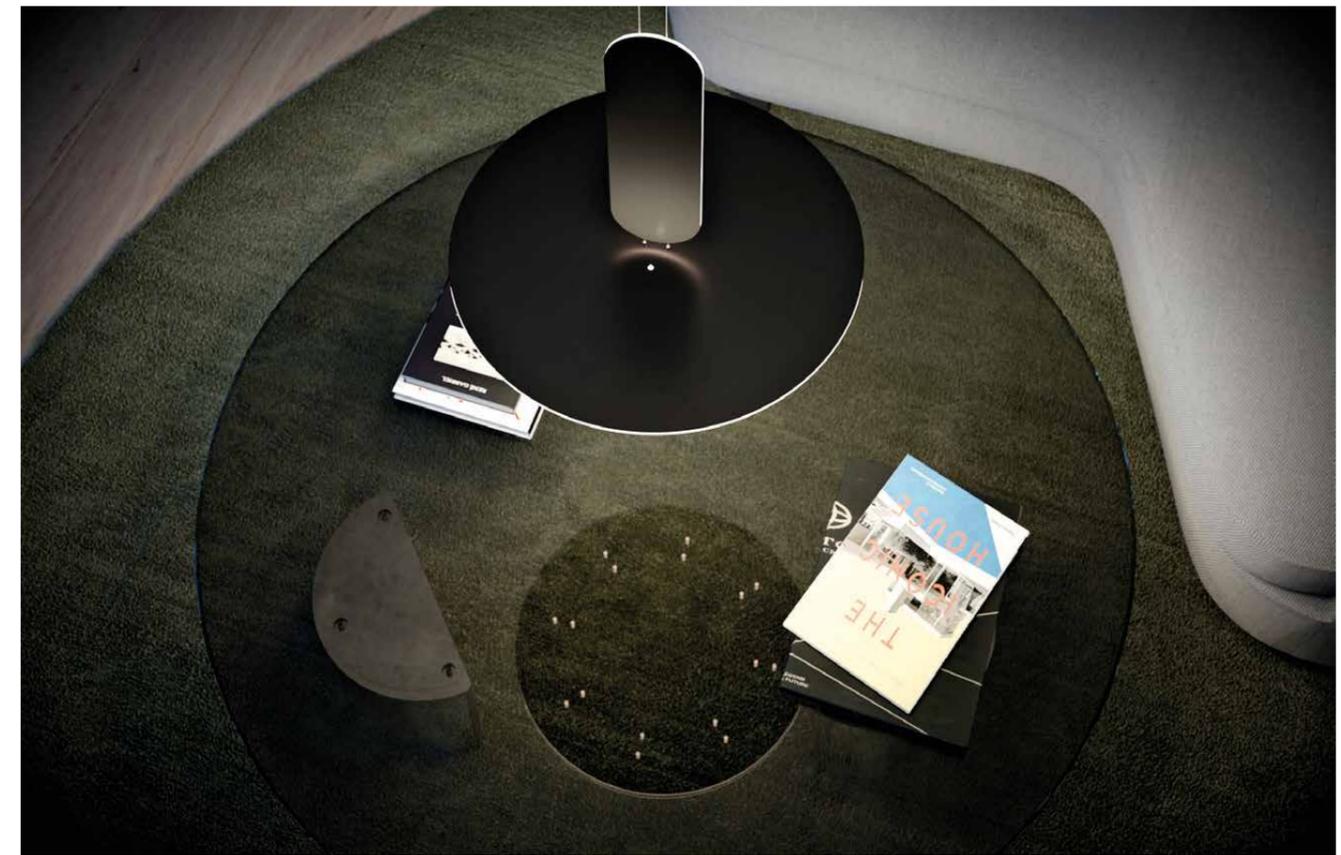
With printed light, we at Ambright provide the technological basis for innovation and individual design in the lighting market. In the end, however, it is the designers who use their creativity to conjure up extraordinary product worlds. In order to visualise technology and design as a perfect symbiosis, we have now come up with the idea of a MasterSeries: unique luminaires co-created with selected designers.





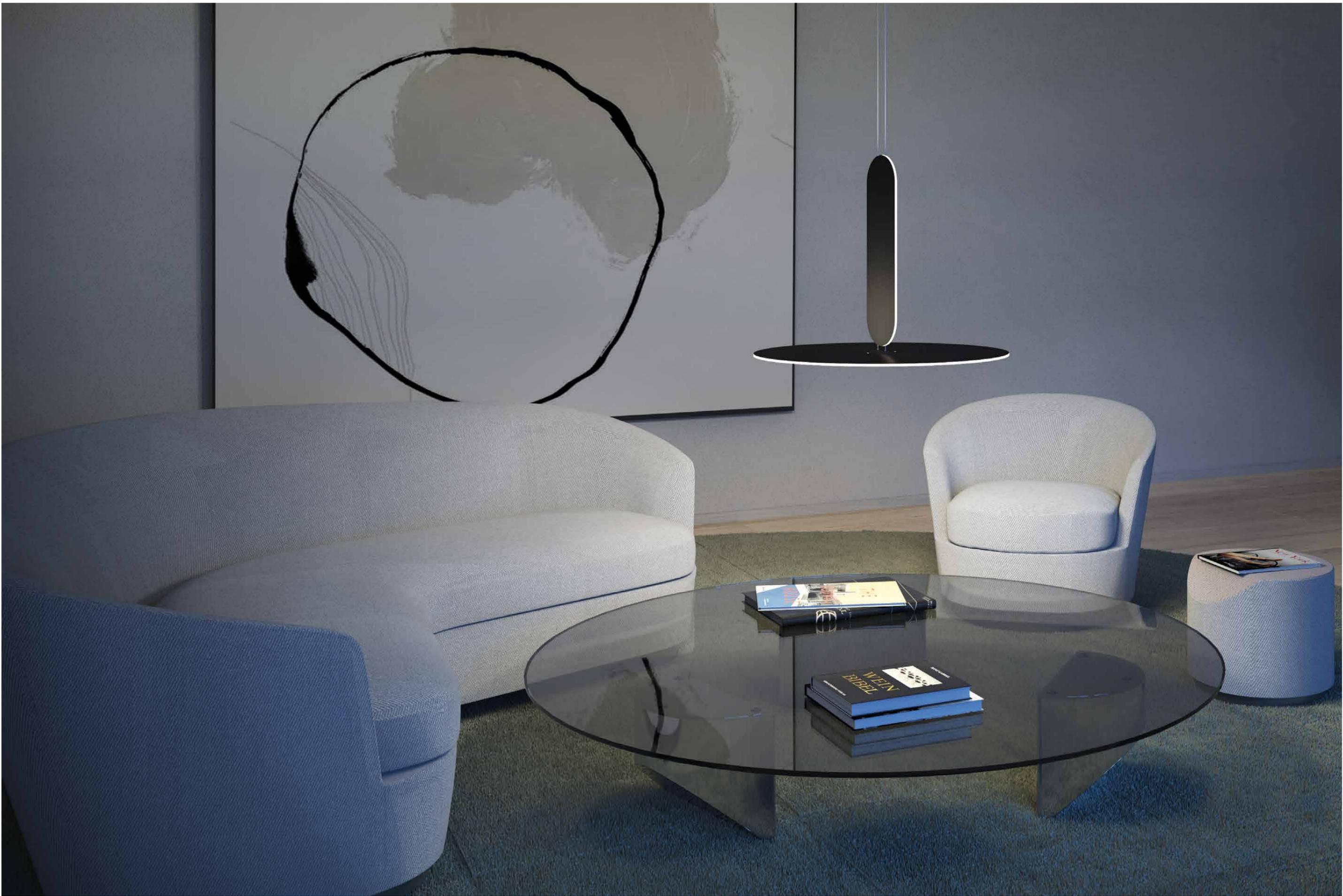
Simon Busse kicks off the MasterSeries with his PARIS luminaire, which explores the field of tension between minimalist design, technical precision, and homeliness in a completely new way.

The internationally acclaimed industrial designer from Stuttgart advises companies on design management and has taught at the Hochschule für Gestaltung in Schwäbisch Gmünd.



The range is available in three sizes and two colours.

PARIS is not only a masterpiece of light, but also an iconic homage to the majestic shape of the Eiffel Tower. It also consciously takes the archetype of the traditional pendant luminaire and brings it into the technological present. Thanks to Ambright's typical 6 mm flat light layers, PARIS is minimalist, contemporary and charming at the same time – like a modern sculpture that transforms spaces into a realm of light and shadow ...





Sizes and variants

SparkShape MasterSeries N° 01 PARIS S

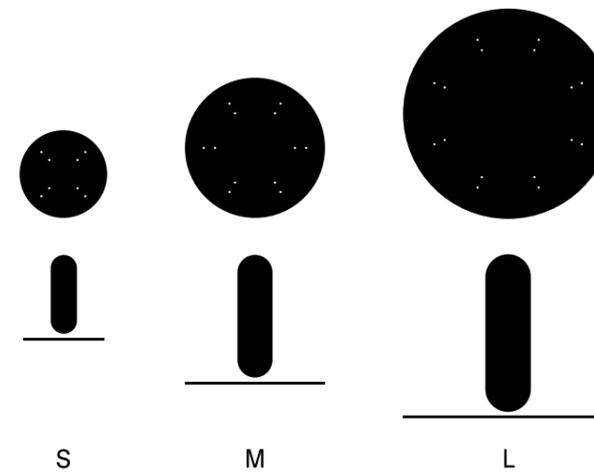
ø 250 mm / height 263 mm
 luminous power from 2,010 lm
 power consumption 35 W

SparkShape MasterSeries N° 01 PARIS M

ø 400 mm, height 366 mm
 luminous power from 3,300 lm
 power consumption 55 W

SparkShape MasterSeries N° 01 PARIS L

ø 600 mm, height 472 mm
 luminous power from 3,700 lm
 power consumption 70 W



For further technical details, please refer to the website at:
www.sparkshape.de/masterseries-paris



Finishes and colours



The highest quality addition to our variety of surfaces expands the anodized range with a matt, velvety-looking one haptics that avoid fingerprints and at the same time exudes special value.

Anodised aluminium finish with soft-touch effect in the colour versions:

champagne



gentle dark





Spark Shelf

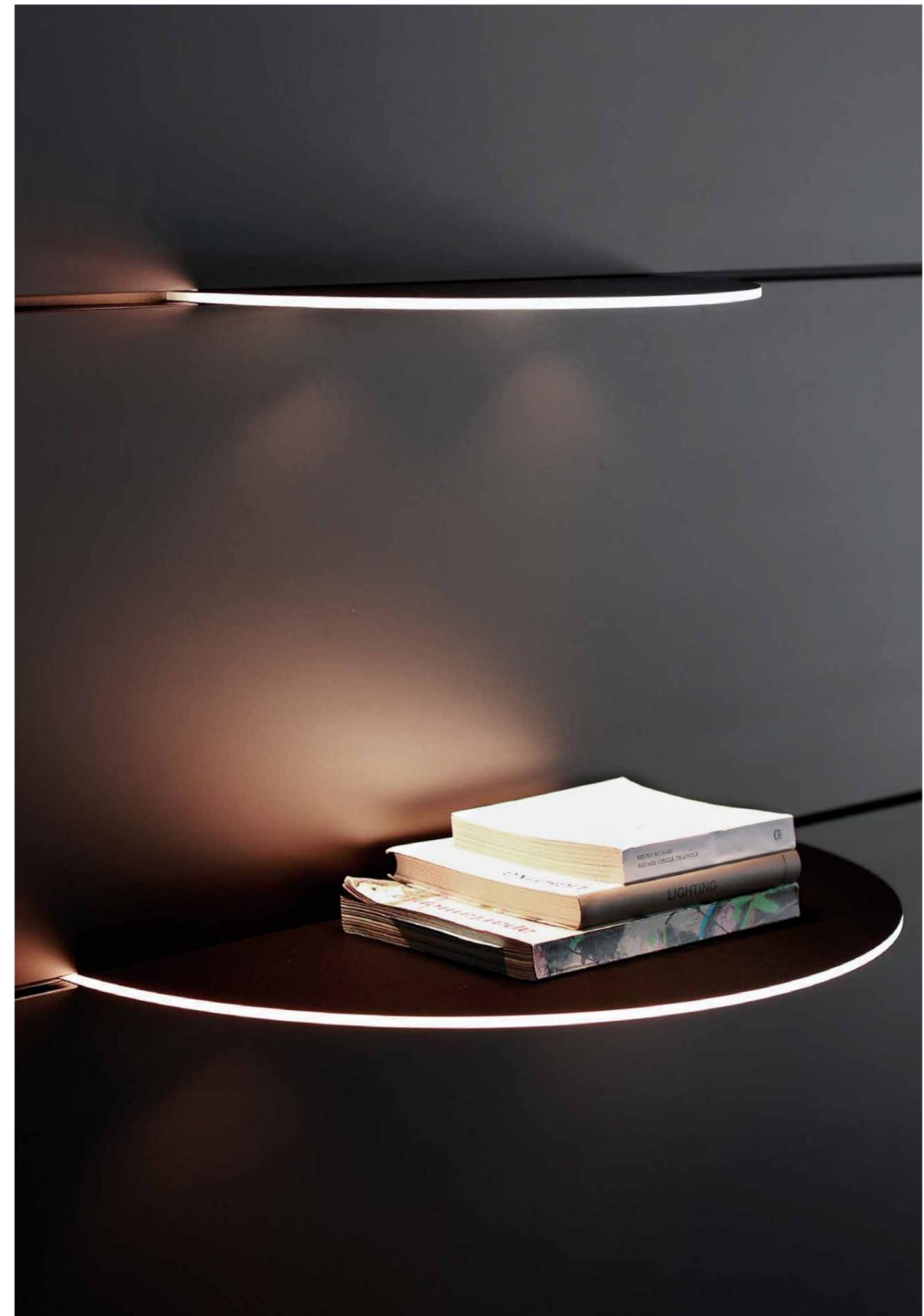


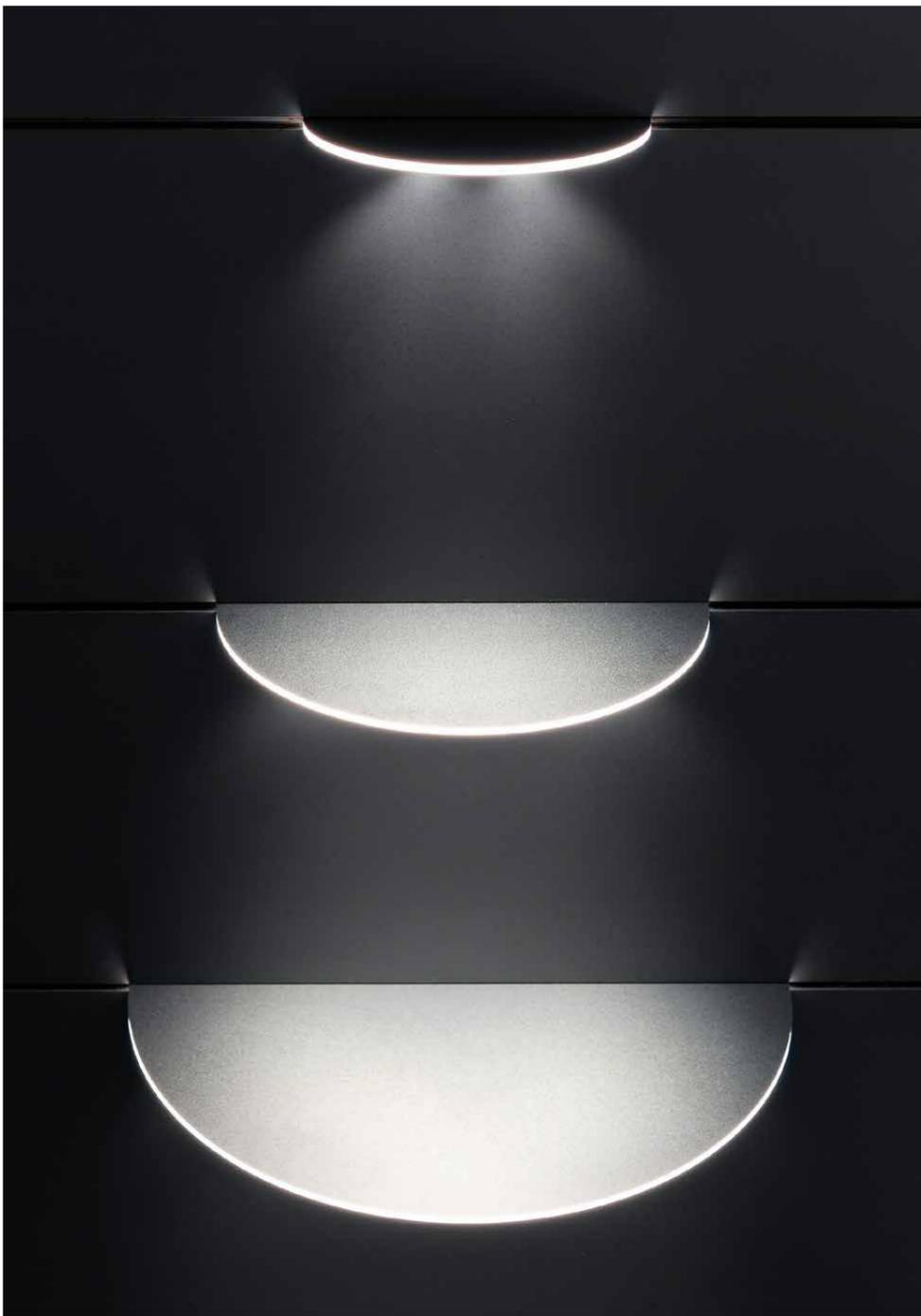
half shelf half luminaire

SparkShelf

With their elegant, luminous appearance, our SparkShelves are sure to catch the eye, showcasing your products or giving your display the finishing touch with the delicate light edge. The integrated, freely positionable light sources on the underside also ensure the perfect presentation of the items below the shelf.

- 📏 Individual shape
- ☀️ Uniform light edge
- ⬇️ 6 mm flat shelf
- ⦿ Integrated and freely positionable light sources on the underside
- 🎨 3 light colours to choose from (2700 K, 3000 K, 4000 K)
- 🔌 Flexible plug-in incl. power supply
- 📦 20 kg surface load





The SparkShelves are simply hooked into the Invisible 6 P/L profile and automatically supplied with power via this profile.

Thanks to the patented illuminated edge, the SparkShelves literally seem to float in space, creating inspiring product displays. In addition, special optics provide accentuated yet uniform lighting for the objects below.



The SparkShelves power supply is fully recessed into the track, where it is invisible to the naked eye.



colour up your light



Finishes as varied as your ideas.





Large selection of colour finishes



Anodised shades for special elegance



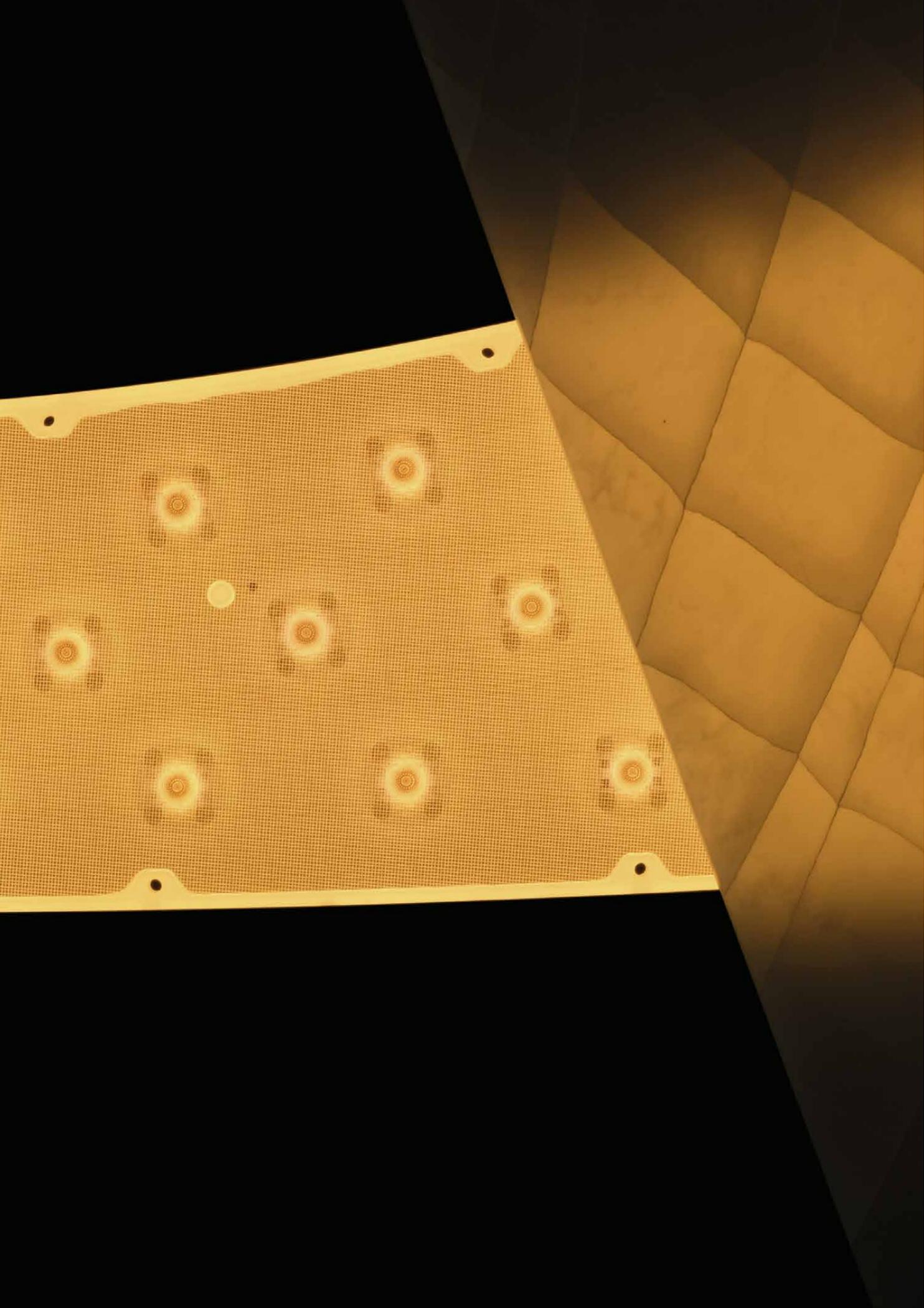
Different surface finishes

SparkShapes and SparkShelves can be manufactured in a variety of finishes and colours to suit your requirements. Colour samples of the standard finishes are available on request. The highest quality is always guaranteed: The materials and finishes used are CE, IMO and REACH certified. For more information, see: www.sparkshape.de/en/produkt



Area light

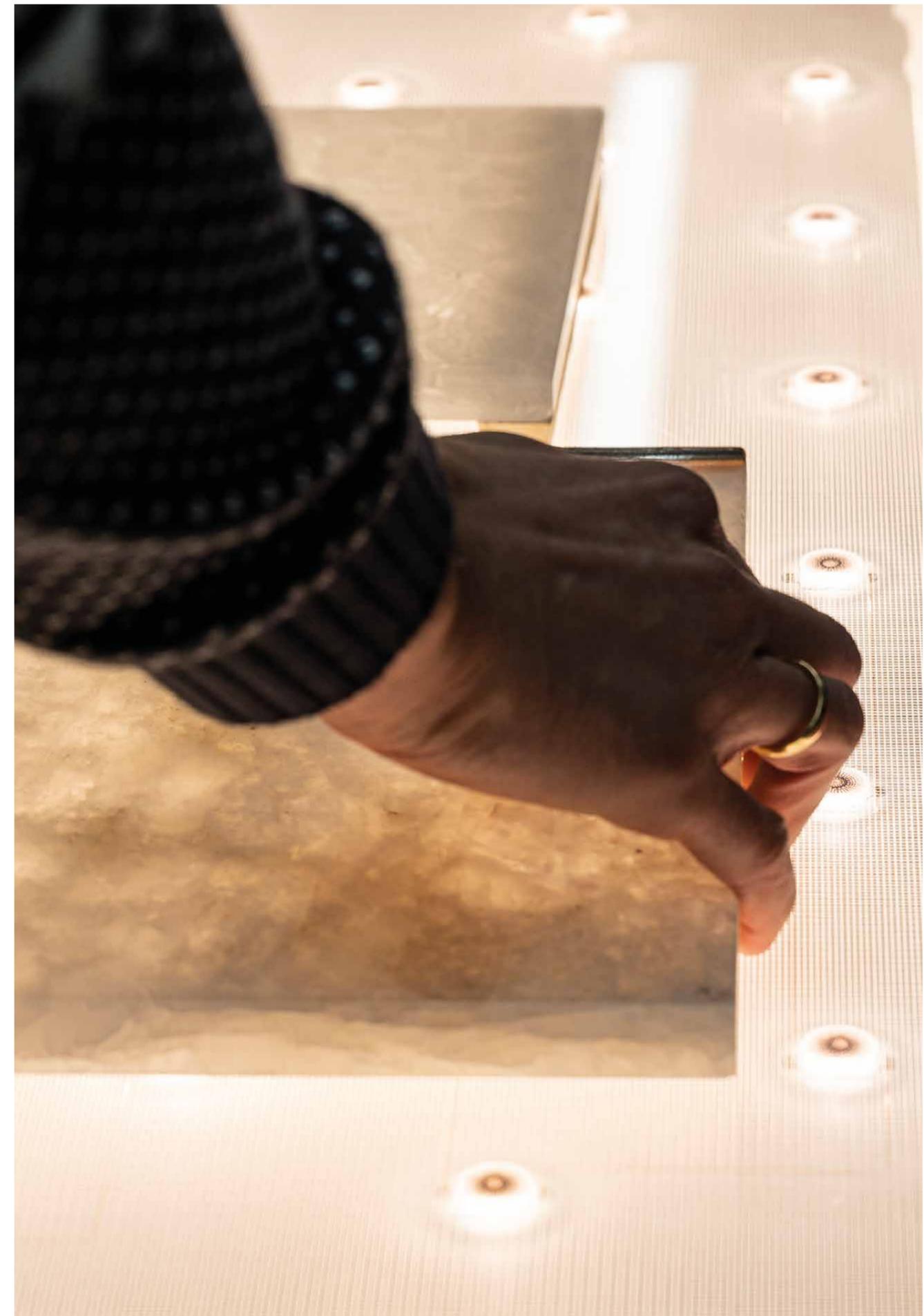
dot injection



Area light

Ambright's area light is a unique lighting solution for a homogeneous, large area lighting installation. Its main application is the backlighting of translucent surfaces. A particular advantage is the customisable outer contour, which allows free-form shapes as well as classic geometric shapes.

- 📐 Free forms possible
- ☀️ Homogeneous light distribution on translucent surfaces
- ↕️ Small installation space with optimum homogeneity
- ↔️ No luminance differences towards the centre
- 🔆 Free positioning of light sources
- ☀️ 100 % of the effective light emission area of the panel
- ☒ Dimmable
- 🔗 RGBW or pure white with various colour temperatures



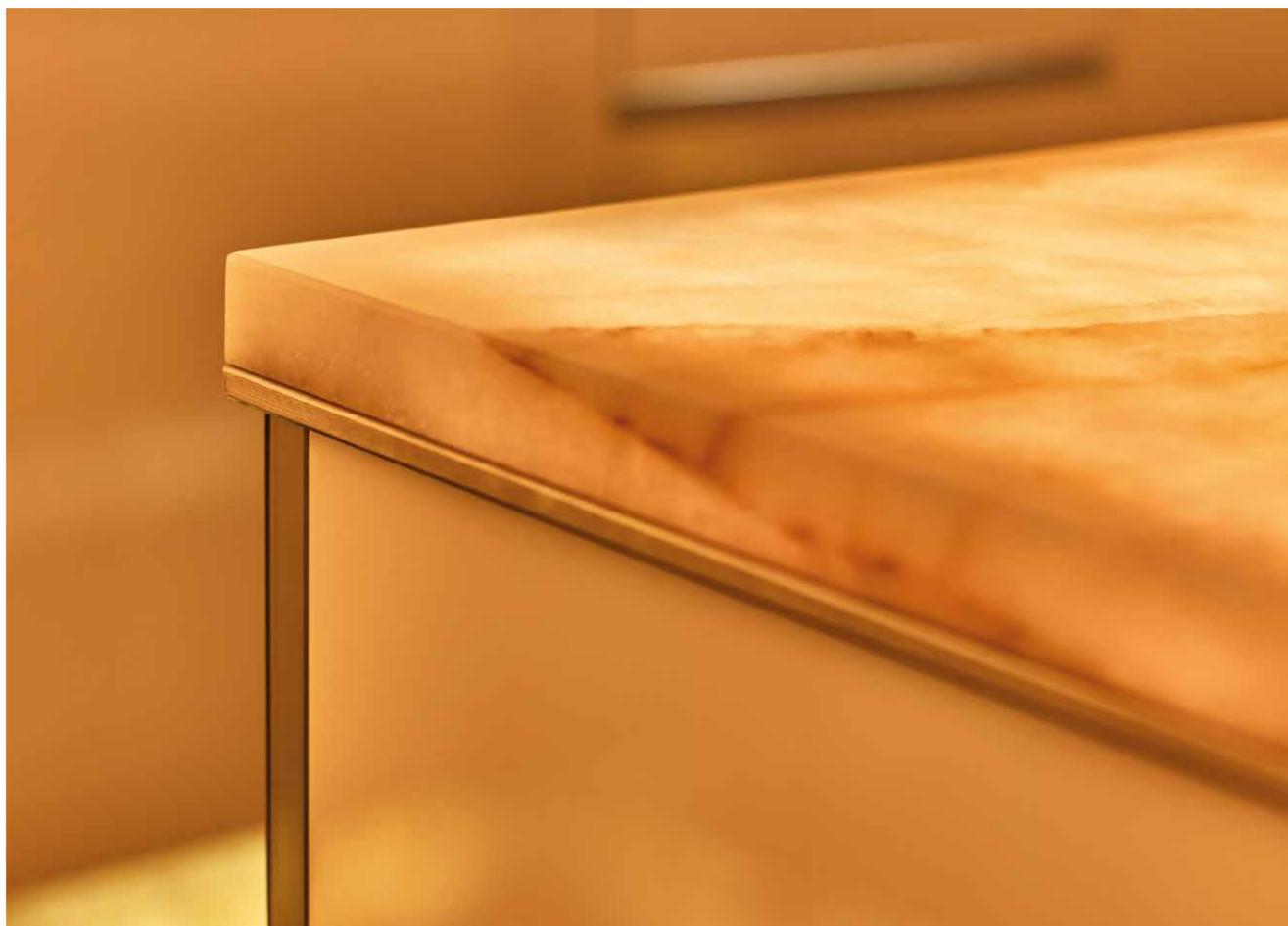




Accentuating the aesthetic expression of spatial elements with elegant lighting is now part of the standard repertoire of sophisticated interior design.

Counters, wall panelling, mouldings, columns, or ceilings – they all gain a whole new level of attention and elegance when lit, not to mention the functional benefits of lighting.

However, traditional approaches to planar backlighting often have their limitations, especially when it comes to customisation. Conventional light boxes, which have to be adapted due to their depth, use a deep cavity on the backside filled with LEDs to generate light. This approach is cost-effective, but results in a loss of space. Conventional edge lighting also has its limitations, especially with free forms: The light can only be distributed evenly in parallel, rectangular shapes. In addition, the ratio of available edge to light-emitting surface is often unfavourable, especially in the case of openings or cut-outs.

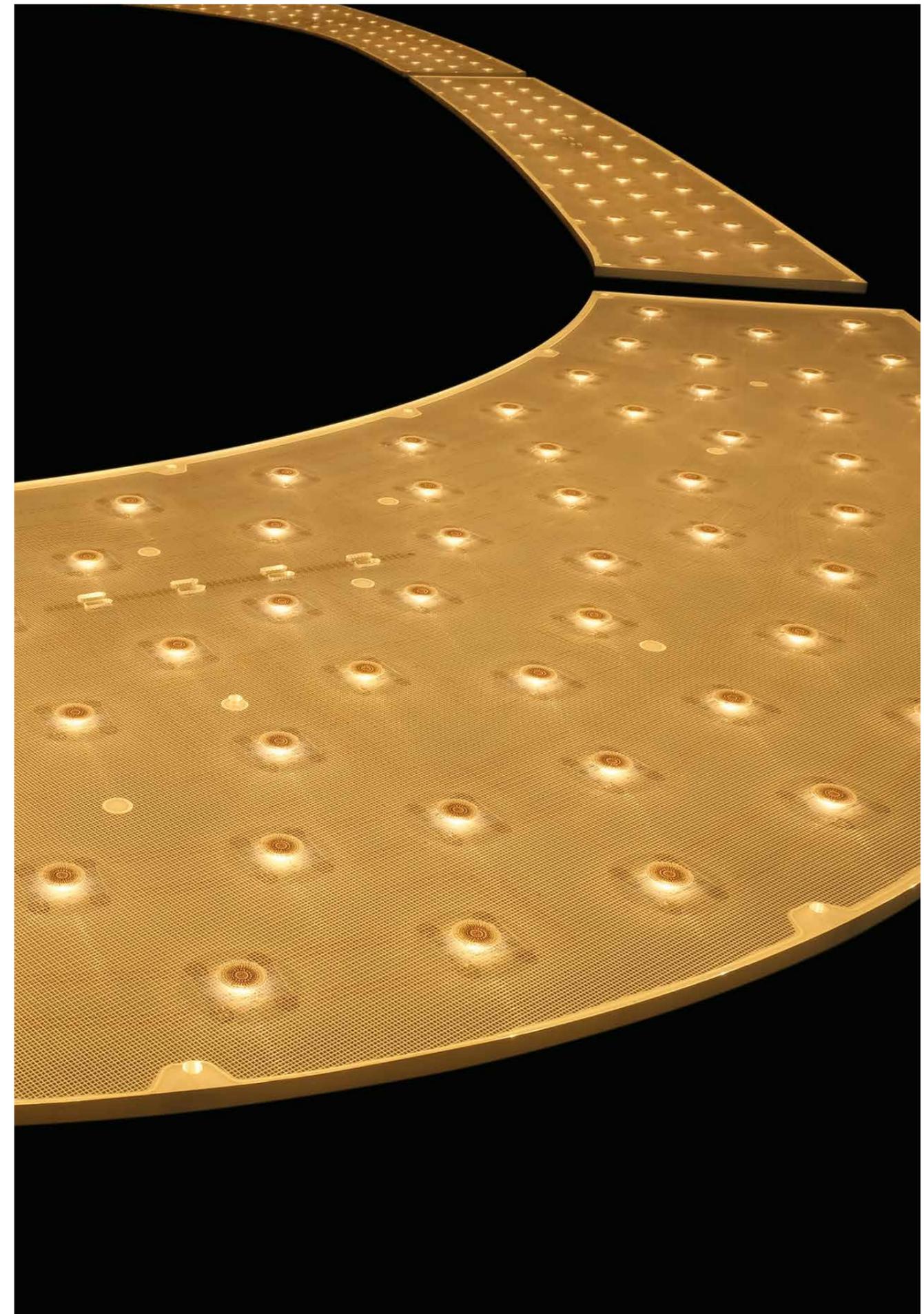


In response to these challenges, we have developed a revolutionary solution for free-form area lighting that combines the best of both established methods: our patented printed light technology.

While other solutions only inject light from the edge, printed light allows us to distribute the LEDs individually across the material. Through total reflection, the light is scattered over the entire surface and emitted uniformly.

The desired visible material – a translucent stone, for example – is then placed on top. The result is a completely homogeneous illumination that shines with flawless perfection. The lighting technology of area light allows the integration of functional elements such as loudspeakers, sprinklers, or other devices. This makes our technology the ultimate choice not only for high quality area lighting, but also for innovative multi-purpose solutions.

Experience a whole new level of adaptability, homogeneity, and outstanding performance.



about us



We are Ambright.
We are fascinated by light in all its forms.
We accompany your project from the initial idea
through to implementation.

Printed light

The Munich-based company Ambright has developed a light printing technology that enables architects, designers, and planners to create individual lighting solutions and have them produced immediately. The company's founder and managing director Dr.-Ing. Florian Ilchmann tells us how it all works.

STYLE PARK 2022

Anna Moldenhauer: Dr. Ilchmann, you came up with the idea for Ambright 13 years ago and have since worked very hard to bring it to market maturity. How did the concept come about?

Dr. Florian Ilchmann: Back then, I was studying electrical engineering at the Technical University of Munich, and then I got the chance to do a doctorate in the field of medical electronics. It was through the doctorate that I came into contact with Siemens. At that time, there was a need for an optimal solution for illuminating a computer tomograph and I was confident I could develop one. I founded Ambright in order to be able to approach Siemens in China with my idea, albeit still with no employees and no premises of our own. I was able to build a sample for the presentation simply relying on the technical possibilities available to me through my research – and it was enough to convince Siemens. The product then went into mass production, and to this day we are still a technology supplier to Siemens Healthineers for such things as lighting technology for mammography devices, X-ray equipment, and fluoroscopy. This knowledge helps us enormously because lighting and lighting systems for medical equipment have to meet particularly stringent requirements. For Ambright, it proved to be a very good training ground for which I am hugely thankful.

With your team, you have developed a globally unique process that prints lighting units automatically with extreme precision. The result, among other things, is the individual “SparkShapes” luminaires. How did these come about?

Dr. Florian Ilchmann: The term “printed light” came about over the years because we developed an additive platform technology for medical devices and then transferred it to other applications. The process we developed makes it possible to use electrical connectivity as a connecting bracket. Electronic components are normally integrated on circuit boards, with the drawback in this instance that the boards are basically designed to have a

high component density and be as small as possible. We therefore developed our own technology for applications that require you to make something as big as possible but with only low-to-medium component density. This formed the basis for “printing light”. After the first few years working with a laboratory system, last year we succeeded in launching the first large mass-produced system “Candela. I am really proud of our team.

How exactly does the process work?

Dr. Florian Ilchmann: In detail, the process works like this: First, we position the normal electronic components that you would otherwise put on circuit boards. When these components are fixed in place, they are connected electronically through the additive application of copper in a high-frequency process. These

Dr.-Ing. Florian Ilchmann



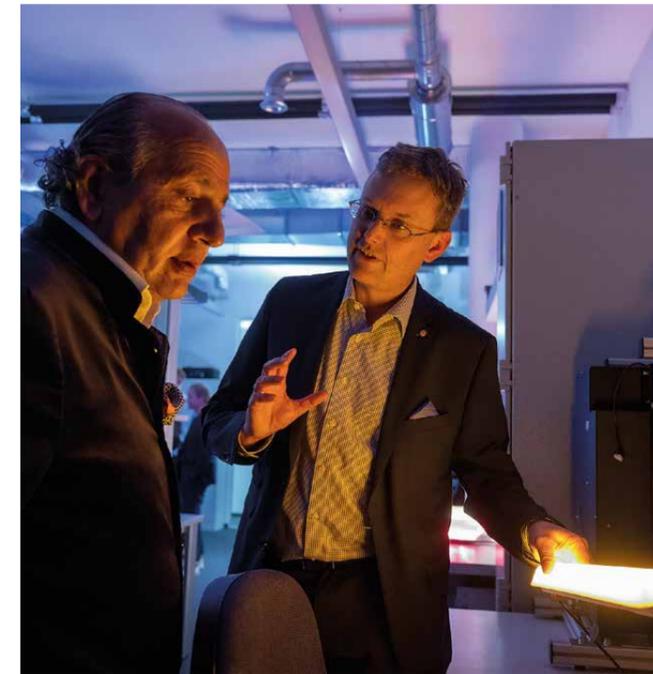
copper conductor tracks practically run from one component to the next, forming the conductor paths – just like on a circuit board, only much larger in spatial terms. This way, we can build up large-format electrical circuits and connect a whole range of active components electrically. With potential implementation on various materials such as plastics, metals, paper, or film, we can develop bespoke luminaires, among other things. We therefore embed the active components such as LEDs, drives, or suspension points and optics within a specially developed composite material – in other words, everything that is needed for a luminaire to function in technical terms. After the components have been connected, an individual shape is milled out of the substrate material. This gives us a manufacturing process with which we can tackle the shape, but also the lighting design of a luminaire, on an individual basis because users can specify in each case where the light sources are to be located. The number and position of down and uplights can also be determined as required. In this way, we can produce individual one-off pieces in a single process, where not only the shape of the luminaire but also the amount of light or the position of the feed bears the customer's signature.

What other opportunities do the “SparkShapes” offer?

Dr. Florian Ilchmann: Our approach is very early-stage, because we want to encourage designers to make plans that include our product. The existing offerings from established lighting manufacturers come from a catalog. Our product is more digital and agile and can be designed as required: The technology means you can produce virtually any shape in any size. We want to elevate the design profession and offer our customers a lighting tool with which they can utilize this freedom. Their own signature should be reflected in the luminaire. Basically, with “SparkShapes” we can produce a catalog item according to specific ideas and place it in different dimensions and orientations – we can even use it to create multi-layered, spatial sculptures.

How does the configuration work?

Dr. Florian Ilchmann: In order to underpin designing with SparkShapes, we created a dedicated software tool called “LightSketch”, with which customers can draw for themselves. It is thus possible to import a draft design from a CAD or graphics program into our digital tool, to position the light sources as preferred, and to then deduce the technical data for the luminaire immediately – how many lumens, how much lux and at what distance, and what would it cost to produce the design. What is the effect if I want a different color temperature or surface? The data set changes in real time depending what you input – complete with feasibility check. After finalization of the specs, users receive a data package that is on a par with that of a traditional lighting manufacturer: 14 pages of information complete with inspirational images and 3D views. We want it to be fun to design a luminaire without the need to request a new lighting calculation for every change in parameters. The high degree of digitization is an important step and is unique in the industry in its diversity. It is not a configurator that only ever offers finite possible combinations – in terms of design, LightSketch offers unlimited opportunities.



Dr.-Ing. Florian Ilchmann im Gespräch mit Hadi Teherani

The material the luminaires are made from has a defined thickness throughout. Does that have an impact on creative freedom?

Dr. Florian Ilchmann: Mathematically speaking, there is infinite variety in terms of shape. In reality, though, there are framework conditions for production, which we already take into account in LightSketch, such as a maximum size of 2.5 × 1.25 m² per luminaire. There are currently 23 different surfaces available. The thickness of the material is just six millimeters, and all the active components are integrated into it, including the drive or the optics for glare control.

What materials do you use to build the “SparkShapes”?

Dr. Florian Ilchmann: We work with two 0.5-millimeter-thick aluminum layers that serve as thermal conductors. Added to these is a core made of high-quality acrylic glass. These are the only materials, aside from the electronics, that the luminaire is made of, with a choice offered between anodized aluminum and a color coating.

Human Centric Lighting (HCL) is currently not a focus for you. Would it be possible to integrate this function at a later date if required?

Dr. Florian Ilchmann: We currently offer three different light colors for “SparkShapes”: 2700, 3000, and 4000 Kelvin. Our customers can choose which of these best suits their project. But we're working on an HCL variation right now. The CRI color rendering index is 98, which is an excellent value. For us, that's almost the most important figure, because good light is something you can feel. We believe flicker-free dimmability is also very important. The three light components of a SparkShape can each be controlled wirelessly using Casambi.

With such enormous creative freedom in the product, how are you still able to integrate recognition value for your company?

Dr. Florian Ilchmann: That's a very important point: We achieve recognition value not only with the consistently slender construction but also with our light edge – the third light component of a SparkShape. Regardless of the individual shape, it forms a recurring element, so the luminaire is thus recognizable as one made by Ambright regardless of its geometry. We were inspired here by discussions with architects who wanted an elegant finish for the edges. We therefore developed a refined element which underscores the visual impression that the luminaire is simply hovering in the air.

Ambright and the Lindner Group have formed a strategic partnership. How is this reflected in the product?

Dr. Florian Ilchmann: Our DNA is the inventiveness of engineering. We were therefore looking for a strategic partner for our increased work in the architectural sphere. I approached the Lindner family directly and was able to convince them that the topic of "printing light" has huge potential in architecture. Not only for lights, but also for other applications, since we can also use the system to create shelves or acoustic elements, for example, which we can shape and equip with light according to the customer's wishes. Our platform technology can likewise be

applied to ceiling-based heating and cooling systems. In other words, there are a great many potential applications. The Lindner Group has a huge amount of knowledge about how to successfully implement general planning for interior design – we can only marvel at all the amazing things the company has achieved. We're able to learn a lot from that and this close partnership helps us better understand the market.

What are the next steps for Ambright?

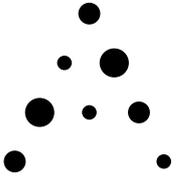
Dr. Florian Ilchmann: In 2018, we had a small stand at Light + Building in order to find out from the market directly whether there was any interest in individual luminaires. The feedback was very positive, but at that point we were not yet able to manufacture the product. The strategic partnership with Lindner, however, has enabled us to realize a mass production line, which went into operation at the end of last year. We are currently supplying a lot to the discerning super-yacht segment, where individuality is highly prized. Next, we will introduce the "Spark-Shapes" at ARCHITECT@WORK in Munich. On top of this, we will also be exhibiting at the Light & Building Autumn Edition in October, and – something we're really delighted about – we have recently been nominated as one of the three finalists for the German Innovation Award 2022.

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