

ADO



®

by TTC Timmler Technology

Reference Projects





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# TTC BRANDS

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ADO Lights



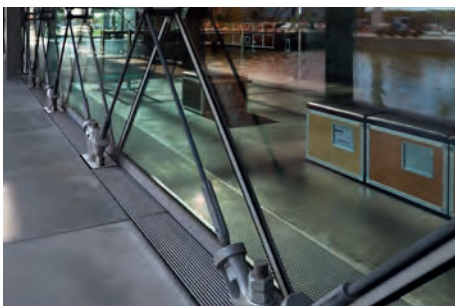
GraviVent® – Silent Gravity Cooling



Design Oriented Gratings



Drainage Systems





TTC Timmler Technology

# ABOUT TTC

## Designing innovative and sustainable solutions for new buildings and redevelopment together with architects and planners

Developing object specific solutions together with architects and specialist planners already during the planning phase is the strength of TTC Timmler Technology.

TTC provides smart building technology for contemporary living and working environments: LED light design, innovative air-conditioning systems, design-oriented façade elements and grating systems for interior and exterior areas.

With our extensive know-how we can balance modern design, energy efficiency, and economic efficiency. We design customized complete solutions in accordance with technical specification, either made from standard components or made to your individual requirements.



## Green and economical

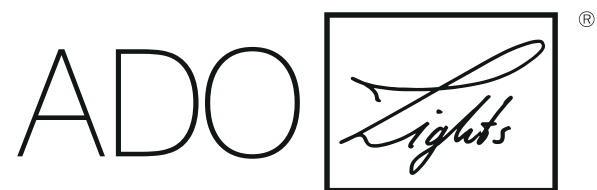
People and environment are at the heart of all our endeavours. We develop natural air conditioning systems to go easy on resources and to save costs.

## Multi-functionality Our know-how for your planning

Multi-functionality is a special strength of TTC building technology. Below a few examples:

- LED Light Design – TTC lighting elements can be combined with channels and gratings as well as maintenance platforms, using striking illuminations to show your architecture in the best light. TTC light design offers a variety of options: From façade illumination with SpaceLights, high brightness LEDs, LED light lines and light tiles to wall washers – with our large choice of materials and individual design we can provide a customized solution for your project.
- TTC GraviVent® and GraviWall can be used to provide a consistent climate within a building. Energy-efficient, making use of natural gravit .
- TTC Chilled Beams ensure comfortable, silent ventilation in a wide variety of working environments. In consultation with architects and planners they can be individually fitted into the ceiling design.
- TTC Floorunits with a variety of functions such as heating, cooling, ventilation combine design with functionality and energy efficiency without disturbing the look of, for example, room height glass façades.
- Homogeneous grating systems create seamless transitions from the interior to the exterior on glass façades. TTC Floorunits provide heating, cooling and ventilation for interior areas and complement the TTC façade draining systems for exterior areas.

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ADO LIGHTS  
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by TTC Timmler Technology

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# THE IDEA

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LED. To the point. Spot. In line. Lines. Light in the dark. Church. Consumer paradise. Museums. Inside. Outside. Living. Working. Field of vision. Pioneering. Unobtrusive. Signal. Orientation. Security. Concentration. Comfort. Coolness. Ambience. Efficient. Flexible. Robust. Gentle. B2B. Private. Experience. Excellence. ADO Lights.

The Idea:

ADO Lights stands for success – and democracy. Because ADO Lights is the sum of years of experience. However, sharing knowledge is the credo of the 21st century.

Initially, our engineers developed individual LED solutions in the in-house light laboratory. These were used to illuminate architectural showpieces. Or exceptional works of art. The results were so convincing that the next idea was born: Making the existing know-how available to as many users as possible. This resulted in a portfolio comprising a variety of very different luminaires. All of them are based on state-of-the-art, proven technology. But one of the best features is that they are available in series.

This portfolio is an offer to builders, light planners and private aesthetes. Luminaires from ADO Lights can be used to provide effective illumination for any building structure. Including interior spaces, entrance areas, alcoves, glass display cabinets, work spaces or quiet zones. We can provide answers to any question. And the appropriate product.

Made in Germany





# LED-PRODUCTS



LED-SpaceLight  
LIGHT PERFECTLY STAGED

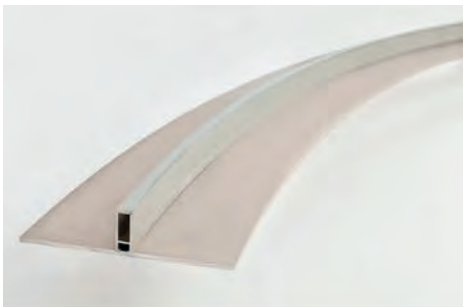


LED-DrainLight  
WON'T LEAVE YOU OUT IN THE RAIN

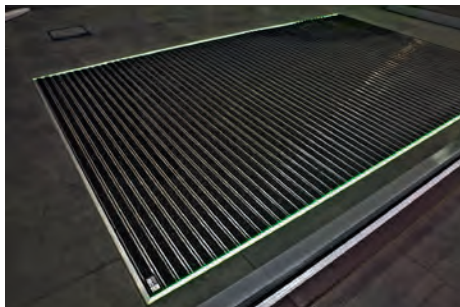


LED-SpaceLight  
→ Façade Luminaire  
Surface Luminaire

LED-DrainLight  
→ Drainage + Light  
Façade + Ambient illumination  
Recessed



LED-LightLine  
EYECATCHER



LED-Entrance Illumination  
ENTRANCE AREAS IN THE RIGHT LIGHT



LED-LightLine  
→ Recessed or Surface-mounted  
PoE

LED-Entrance Illumination  
→ Door mats + Light  
Recessed



LED-HL  
FOCUS ON FAÇADES



LED-Recessed Floor Spotlights  
FOCUS ON FAÇADES

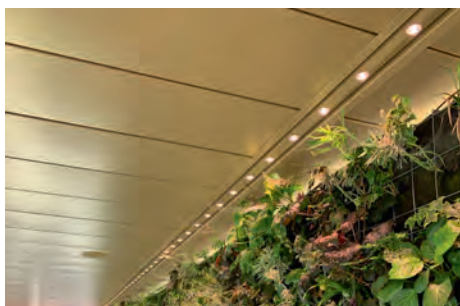


LED-HL  
→ Wallwasher  
Recessed

LED-Recessed Floor Spotlights  
→ Wallwasher  
Recessed



LED-WallWasher  
FULL POWER



LED-Hayat  
MINIMALISM WITH A LOT OF EFFECT



LED-WallWasher  
→ Wallwasher

LED-Hayat  
→ Pendant, Recessed or  
Surface-mounted  
Façade illumination  
Plant growth promoting

Completely deconstructable



Outdoor luminaires



Indoor luminaires



# LED-PRODUCTS

## LED-Luc

→ MiniSpot | Spotlight | Magnetic



LED-Luc  
DIRECTED LIGHT



LED-Around  
STANDING OR HOVERING ART



## LED-Around

→ Free-standing, Pendant or  
Wall-mounted | HCL/TW

## LED-Linargo

→ Pendant, Recessed or  
Surface-mounted  
PoE | HCL/TW



LED-Linargo  
ULTRA SIMPLE LUMINAIRE



LED-Linargo BL  
LIGHT + ACOUSTIC BAFFLE



## LED-Linargo BL

→ Acoustic Luminaire | Pendant or  
Surface-mounted | PoE | HCL/TW

## LED-Voute

→ Indirect room lighting



LED-Voute  
PLEASANT ATMOSPHERE



LED-FaMe 12 indirect  
HOMOGENEOUS INDIRECT ILLUMINATION



## LED-FaMe 12

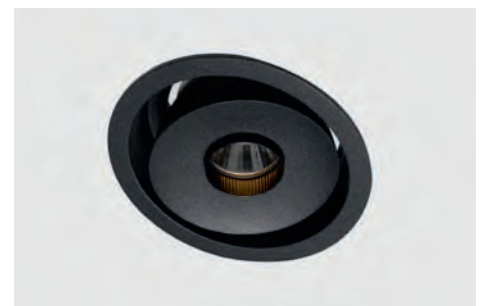
→ Indirect room lighting  
Surface-mounted | HCL/TW

## LED-TrackLights

→ Spotlight



LED-TrackLights  
ON THE RIGHT TRACK



LED-DownLights  
ALL SHAPES + SIZES



## LED-DownLights

→ Spotlight | Recessed | Trimless  
Wallwasher | PoE | HCL/TW

Completely deconstructable

Outdoor luminaires

Indoor luminaires

# PROJECTS + PRODUCTS

	Indoor	Outdoor	SpaceLight	DrainLight	WallWasher	Ground Spot	LightLine	HL	Voute	Hayat [Green]	Linargo	Bafl	Around	Luc	Down-/Tracklight	ConLight	FaMe12	Door Mats
12–13		•	•															
14–18		•	•				•											
19–27		•	•		•		•											•
28–31		•		•	•													
32–33		•		•			•											
34–35		•		•		•	•											
36–37		•					•											
38–43		•		•			•		•									
44–47		•		•		•	•											
48–57		•		•		•	•											
58–61	•	•		•		•	•						•		•			
62–65		•		•		•	•											
66–69		•				•	•											
70–73		•					•											
74–77		•				•	•											
78–79		•					•											
80–81		•					•											
82–87	•	•			•						•			•				
88–89		•					•											
90–91		•					•	•								•		
92–93		•					•									•		
94–105	•	•					•		•		•					•		
106–111	•	•					•									•		



# PROJECTS + PRODUCTS

	Indoor	Outdoor	SpaceLight	DrainLight	WallWasher	Ground Spot	LightLine	HL	Voute	Hayat [Green]	Linargo	Baffl	Around	Luc	Down-/Tracklight	ConLight	FaMe12	Door Mats
112–117 Clara + Robert   Düsseldorf (D)	•	•			•	•	•				•		•					
118–119 Grand Hôtel   Stockholm (S)	•				•	•												
120–121 Forty Four   Düsseldorf (D)	•										•							
122–123 Electrical Guild   Düsseldorf (D)	•								•		•			•				
124–127 Textile Academy   Mönchengladbach (D)	•	•					•				•	•						
128–129 Jury Courtroom, District Court   Wuppertal (D)	•										•	•						
130–133 Grand Nancy Thermal   Nancy (F)	•										•	•						
134–141 Hanomag Business Lofts   Hanover (D)	•						•				•			•				
142–147 SOP Architects   Düsseldorf (D)	•										•			•	•			
148–149 One Cologne   Cologne (D)	•	•			•				•		•							
150–153 Basement Car Park   Düsseldorf (D)	•								•		•							
154–155 Messe Frankfurt, Hall 12   Frankfurt am Main (D)	•																•	
156–159 BMW Hans Brandenburg   Hilden (D)	•												•					
160–161 Birdhall State Nat. Hist. Museum   Braunschweig (D)	•													•				
162–167 Central Slovak Museum   Banská Bystica (SK)	•													•				
168–175 Richard Wagner Museum   Bayreuth (D)	•													•				
176–179 MuCem   Marseille (F)	•													•				
180–183 Hohenschwangau Castle (D)	•													•				
184–189 Palace Church   Rastatt (D)	•													•				
190–191 Sheik Rashid Auditorium   Dubai (UAE)	•						•							•				
192–193 Borussia Museum   Mönchengladbach (D)	•													•				
194–195 Cathay Pacific Lounge   Hong Kong Airport (HK)	•													•				
196–197 Chanel   Singapore Airport (SGP)	•													•				





ARCHITECT | BUILDING PLANNER

Hadi Teherani AG, Hamburg | Bähr Ingenieure, Cologne



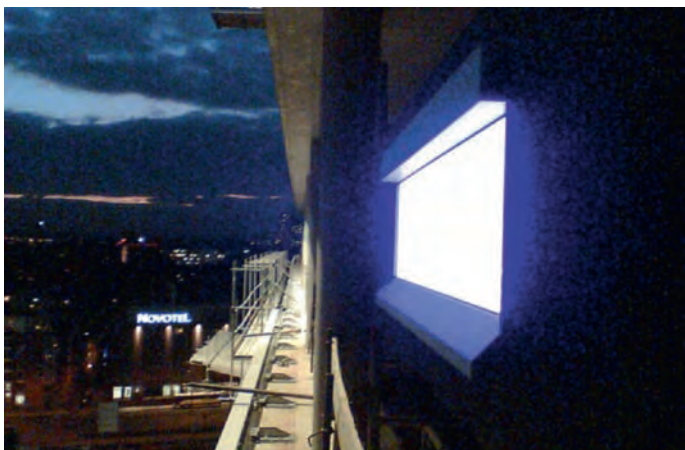
## Light elements | Products

This façade lighting with LED technology and corner points was custom designed by TTC Timmler Technology for the »Central Crane House«. The lighting matches the dimensions between axes as specified by the architects.

The triggerable LEDs permit ~ 16 million different colours and segments with a length of 7 metres can also be triggered as individual sequences. This allows light effects to be created such as accent lighting. These are particularly useful for the CI of companies or events (exhibitions, Christmas, New Year).

- 230 running metres with 6 interior/exterior metres  
Lights in two dimensions between axes of 1.35 m and 1.2 m, width 300 mm
- Material: Natural anodized aluminium, glass
- Protection class: IP65
- Control gear: 3-channel LED driver; on the inside in the false floor close to the façade
- Luminaire: SMD LED  
Power: ~10 W/per running metre  
Transformers: 230 V AC/24 V DC  
Central control unit: DMX 512

© Photos: Bernd Haugrund/ardoku



ARCHITECT | ENGINEER

Peter Mucha, Buildings Department HHU Düsseldorf | Markus Metternich, KMG Ingenieurgesellschaft, Cologne/Berlin

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## On the art of illumination

Heinrich Heine University Düsseldorf is a past master at combining art and architecture. A large-format painting by Roy Lichtenstein has adorned the foyer of the Faculty of Medicine since the 1970s. The frieze extends across all four walls of the square hall, which measures 28 x 28 meters, integrating or bypassing windows and corners. A sculptural U-shaped staircase leads specifically to this foyer. Indirect lighting has now been installed on the steel structure such as to subtly trace its contours. To this end, an LED light line system was installed over a length of 36.5 meters – an elegant solution, designed and realized by the specialists at ADO Lights. An aluminum profile that also includes the cable duct serves as the backing for the light line. Thanks to opaque encapsulation conforming to protection class IP68, there is no danger of dust particles or moisture damaging this custom-made installation. It is functional, robust and nonetheless highly aesthetic. Indeed, the light is emitted downwards and underscores the special quality of the staircase – entirely without dark areas at the joins.

In contrast to this project, for the Chemical-Medical Institute at the uni ADO Lights developed a light sculpture that illuminates the stairwell. Its shape is based on that of the high-grade, curved stair handrail. Installed on the concrete substructure a slender black steel casing then serves to hold the light sculpture based on high-performance LED modules. A cover made of satin-finished PMMA plastic ensures homogeneous, diffused lighting. On each story the circle of light has a length of 19.5 meters and an intensity of 85,000 lumens.

Looking up at the sculpture creates a trompe-l'œil effect, as the illumination is repeated on each of the eight stories. The substructure is barely visible, making the sculpture with its white frame appear to hover. The brightness can be regulated: It is dimmed by 50 percent after lectures have finished, and can be reduced down to 20 percent in the later hours of the evening.





LED LIGHT SCULPTURE

Technical specification

Products

CHEMICAL-MEDICAL INSTITUTE

- Light sculpture with LED high power modules for an existing concrete construction
- 156 metres in total over eight floors on each floor 19.5 metres with approx. 85 000 lm
- Light colour 4000 K
- Constant current operated, DALI controlled
- Steel casing powder-coated black RAL 9016, covered with satinized PMMA
- Free-floating appearance due to the black mounting construction between concrete ring and white casing of the lighting sculpture





LED-LIGHTLINE

Illumination of the staircase | Technical Specification

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Products

FACULTY OF MEDICINE | ROY LICHTENSTEIN HALL

- 36.5 metres LED-LightLine type LLF 12.30, curved and straight design alongside the exact contour of the handrail in the entrance area
- Light colour 4000 K
- Aluminium casing natural anodized, opaque moulded, protection class IP68, cable channel included
- homogeneous, indirect illumination of the staircase steel construction without dark sections at joints





LED-LIGHTLINE

Illumination of the staircase

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© Photo: Peter von Ploggs



ARCHITECTS | LANDSCAPE ARCHITECT | LIGHTING DESIGN

sop architekten, Düsseldorf | pink architektur, Düsseldorf | WKM Landschaftsarchitekten, Düsseldorf | a:g Licht, Cologne

## Living in court

In the middle of Düsseldorf's old town sits the former district and regional court, a listed building from the Wilhelmine era. After the revitalization of the building, you can find now an exclusive residential estate – an ensemble of old and new buildings, under the roofs of which many uses are combined: in addition to condominiums, you can also find a hotel and serviced apartments, plus a diverse range of catering, art and culture.

The stairs to the main entrance equipped with slot channels made of stainless steel offer a just as clean reception as the entrance mats fitted with black burnished angle frames and sideward LED-LightLines. The recessed floor lights in the stairwell of the hotel/apartment area are also burnished.

The highlight inside the inner courtyard is an oval basin, subtly illuminated with a curved light line in combination with drainage channels and cover grids made of stainless steel. Gutters and gratings have the same look on the passages and façades, terraces and balconies. In addition, slotted channels ensure optimal surface drainage.

## Products

- Outside stairs and entrance area of hotel/apartments: curved TTC slot channels made of stainless steel; in the main entrance reinforced door mats with black burnished angle frames, attached LED light lines on the side with black burnished stainless steel housings, glass covering with passepartout printing; inspection boxes in the matwell bases
- Staircase hotel/apartments: recessed floor luminaires in the staircase
- Inner courtyard: TTC drainage channels and grid coverings made of stainless steel on the passages, entrances, terraces; stainless steel slots for surface drainage, paveable inspection boxes with mud trap
- TTC DrainLight [LED + channels + grids] curved TTC drainage channels with grid coverings made of stainless steel and integrated light lines bordering the oval water basin



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## ENTRANCE AREA HOTEL/APARTMENTS

Door mats with LED-LightLines

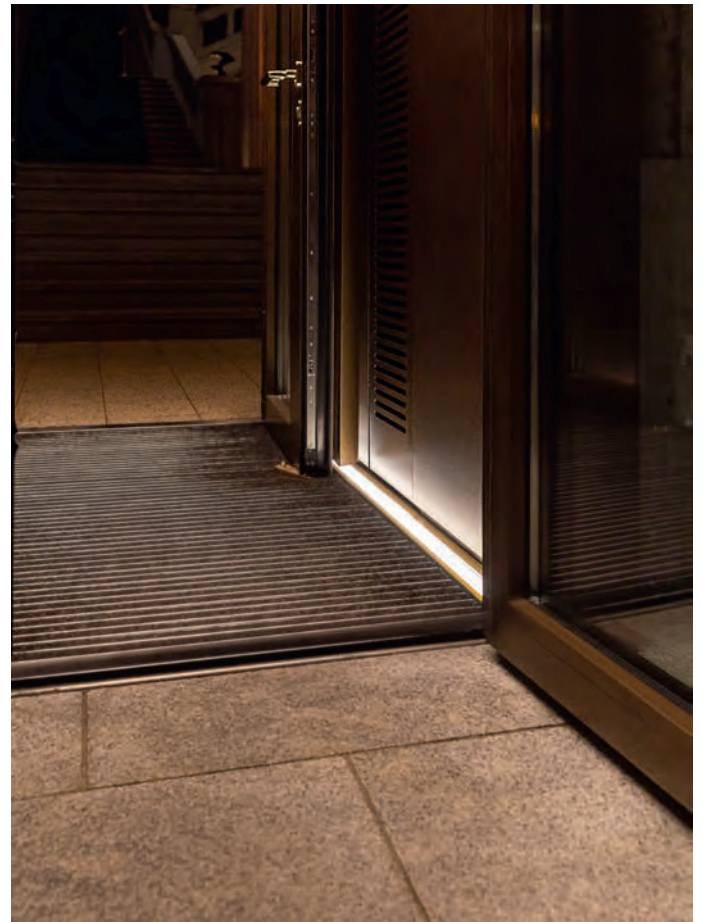
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### Door mats

- ADO entrance mats type Public LSM 22/5  
2 units 2,200 x 2,165 mm, 1 unit 1,705 x 1,550 mm,  
height 22 mm, profile distance 5 mm
- Coarse-fibre rib anthracite, rollable, reinforced version,  
load carrying capacity of 3,800 kg/100 cm<sup>2</sup>
- At the front angle frames made of stainless steel,  
black burnished surface according to the housings  
of the attached LED-LightLines on the side
- Including connection to the light lines with inspection  
boxes in the matwell bases for the power supply units  
of the built-in lights and including black EPDM underlay  
in the matwell bases

### LED-LightLines

- 3,000 K, asymmetric light spread by microprism optics,  
glare-free, IP rating IP65 including ballast,  
connectivity options at the front side of the mat frame  
profile, housing made of black burnished stainless steel
- 2 units recessed floor luminaires type LF-2200-WW-a  
2000–2200 x 80 x 80 mm (LxWxH), equipped with  
40W LEDs, VSG security glass covering with black  
passepartout printing
- 2 units recessed floor luminaires type LF-1705-WW-a  
1705 x 80 x 80 mm (LxWxH), equipped with 30W LEDs,  
VSG security glass covering with brass-coloured  
passepartout printing
- 2 units recessed floor luminaires type LF-1000-WW-a  
800–1000 x 80 x 80 mm (LxWxH), equipped with  
20W LEDs, VSG security glass covering with auburn  
passepartout printing





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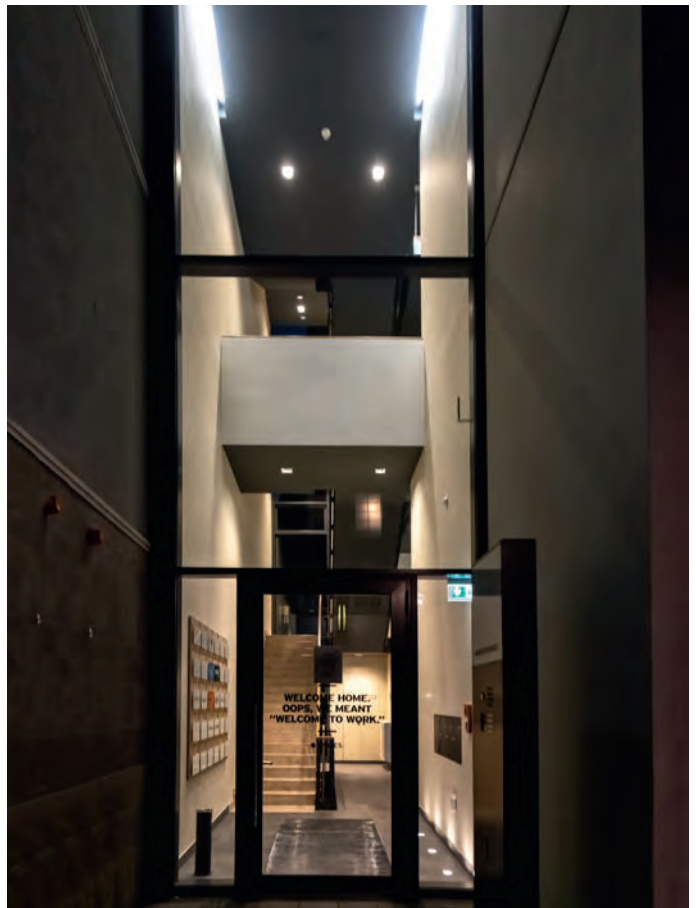
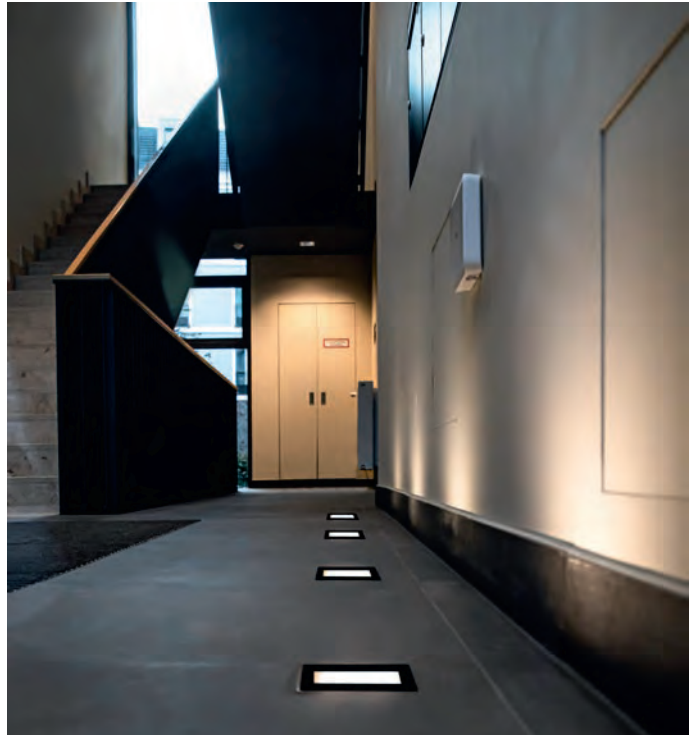
## STAIRCASE HOTEL/APARTMENTS

Recessed floor luminaires

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### Recessed floor spotlights

- Recessed floor luminaires type LF-100-WW asymmetric, 65 units, 100 x 100 x 100 mm (LxWxH), equipped with high-power LEDs 9W, 94lm/W, 3000 K, asymmetric light spread by microprism optic, glare-free, IP rating IP65, protection class II, housing made of black burnished stainless steel, VSG security glass covering, including ballast
- Recessed floor luminaires type LF-100-WW symmetric, 8 units, 100 x 100 x 100 mm (LxWxH), equipped with high-power LEDs 9W, 94lm/W, 3000 K, symmetric light spread by microprism optic, glare-free, IP rating IP65, protection class II, housing made of black burnished stainless steel, VSG security glass covering, including ballast

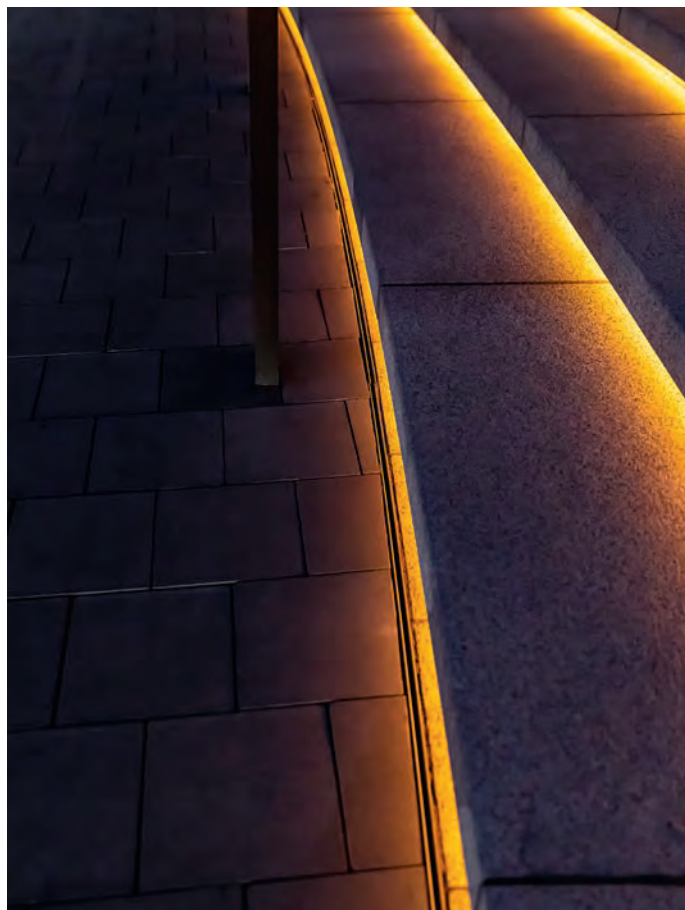


OUTSIDE STAIRS MAIN ENTRANCE

TTC stainless steel slot channels

Curved stainless steel slot channels

- TTC slot channels SR 15/1,  
stainless steel 1.5 mm, curved version,  
6 pieces each approx. 2500 mm,  
channel width 153 mm, slit distance 10 mm,  
slit height 100 mm, total height 240 mm including  
front sides





INNER COURTYARD + PASSAGES

Façade and surface drainage

Façade channels + grid covers

- 131 metres, TTC façade channels FR/U rigid, stainless steel 1.5 mm, closed version, channel width 195 mm, channel height 120 mm, mounted front walls, lateral welded drain nozzle DN50, grid cover with one-sided overhang 35 mm
- TTC façade channels FR/U rigid, stainless steel 1.5 mm, closed version, 4 units 5750 mm long, 2 units 1460 mm long, channel width 145 mm, channel height 150 mm, mounted front walls, lateral welded drain nozzle DN50, including grid locking with one-sided overhang 35 mm for connection to façade
- Approx. 157 metres TTC linear gratings KSM-V, stainless steel, longitudinal profile, profile width 3.4 mm, profile distance 7 mm





INNER COURTYARD + PASSAGES

Surface drainage

## Curved stainless steel slot channels

→ TTC slot channels SR 15/1,  
stainless steel 1.5 mm, straight version,  
2 units 4500 mm long, 2 pieces each  
approx. 2250 mm, channel width 150 mm,  
slit distance 10 mm, slit height 100 mm,  
total height 240 mm including front sides



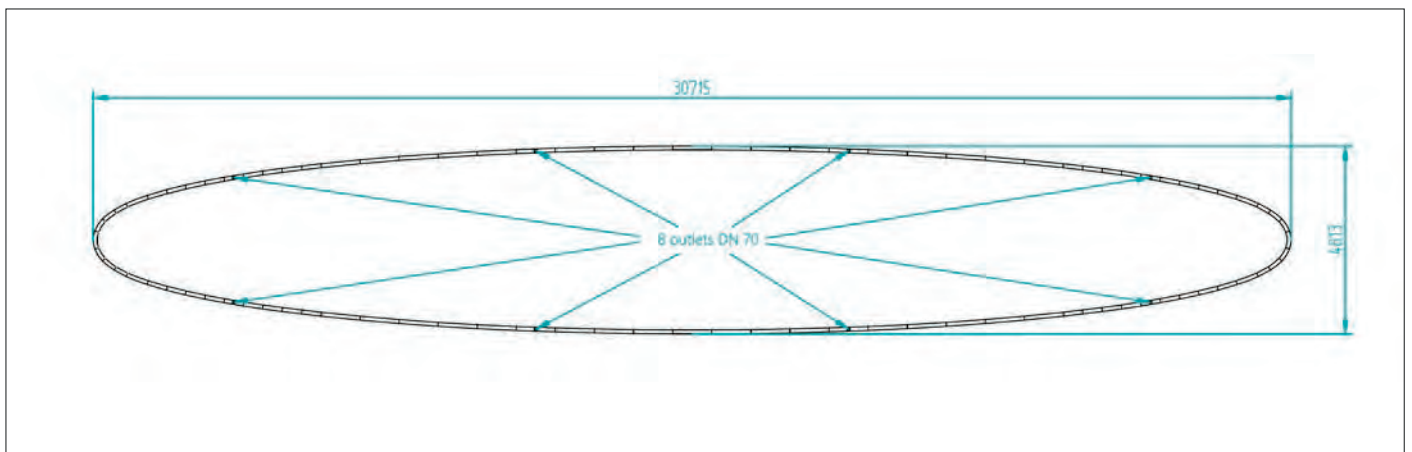
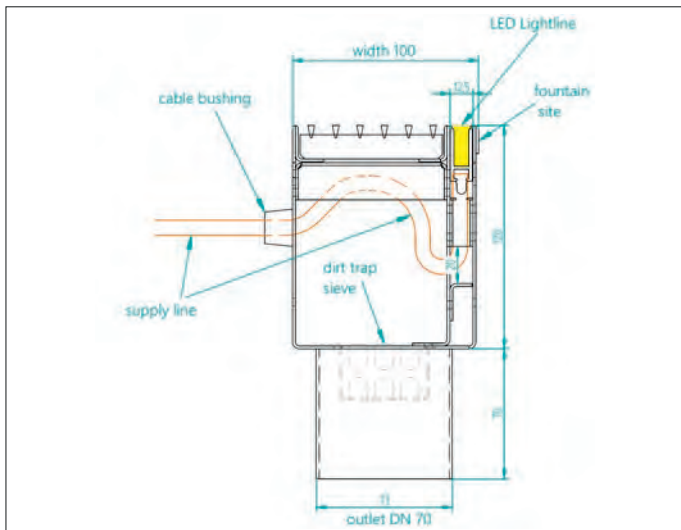


## WATER BASIN

Drainage channels + grid covers

## TTC-DrainLight | channels + grids + light

- TTC drainage channels FR/U rigid, stainless steel 1.5 mm, closed version, channel width 100 mm, channel height 120 mm, with partition plates for receiving the LED-LightLines, support bracket and cable routing; including 8 units drain nozzles DN70, welded in channels
- Straight version with dual-sided polygonal cutting, approx. 56 metres with 38 units each 1002 mm long and 36 units each 501 mm long
- Curved version with 5 different radii, approx. 7.7 metres with 4 units each 1920 mm long
- Approx. 63.7 metres TTC linear gratings KSM-V, stainless steel, curved and straight version, longitudinal profile, profile width 3.4 mm, profile distance 7 mm





WATER BASIN  
LED-LightLines

## TTC-DrainLight | LED-LightLines

- LED-LightLines LLF 12.30 with TTC drainage channels, stainless steel, 12 mm wide, LED white, 3000 K, 24VDC, 19W/m, opaque shed, IP68
- Straight version  
approx. 56 metres with 28 units each 2005 mm long
- Curved version  
approx. 7.25 metres with 4 units each 1814 mm long





CLIENT | LANDSCAPE ARCHITECT

ARAG, Düsseldorf | +grün GmbH, Dipl.-Ing. Sebastian M. Fürst, Düsseldorf

## Showing things in a good (yellow) light

The headquarters of the ARAG Insurance Group tower up almost 125 meters above northern Düsseldorf, thus constituting an iconic city landmark. Designed by Lord Norman Foster and Düsseldorf-based architects RKW+ (Rhode Kellermann Wawrowsky), this building's architecture has been much discussed since it opened in 2001, and not only in the region. Its size was not the only reason; other talking points were the shape of its footprint, which is elliptic, and its eye-catching double glazing.

Now Düsseldorf's largest office block is even more striking. When the continuous façade drainage guttering and the linear

grating on top of it were both replaced as part of its forecourt refurbishments the opportunity arose for integrating dramatic lighting. As with the guttering and the grating, the lighting was supplied by TTC Technology/ADO Lights. The LED-Wall-Washer outdoor lighting is integrated into the façade guttering over a length of 38 meters. The lights shine upwards, thus dramatically accentuating the building's entrance area – meaning that the porch is elegantly illuminated from below – in the exact colors of the company's corporate design, with the warm yellow hues creating an inviting atmosphere and providing visitors with a clear point of reference.



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DRAINLIGHT – FAÇADE CHANNELS WITH LED-WALLWASHERS

Technical specification »LE -WallWasher«

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## Products

### LED WALLWASHER

- 38 metres LED-WallWashers I »PowerLight RGB« fixed in TC façade channels
- Adjustable inclination angles
- Power supply AC 100–240V, 30W/m
- Protection rating IP65
- Optional: DMX512 controllable with individual control capabilities of colours, gradients and dimming





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DRAINLIGHT – FAÇADE CHANNELS WITH LED-WALLWASHERS

Technical specification » façade channels«

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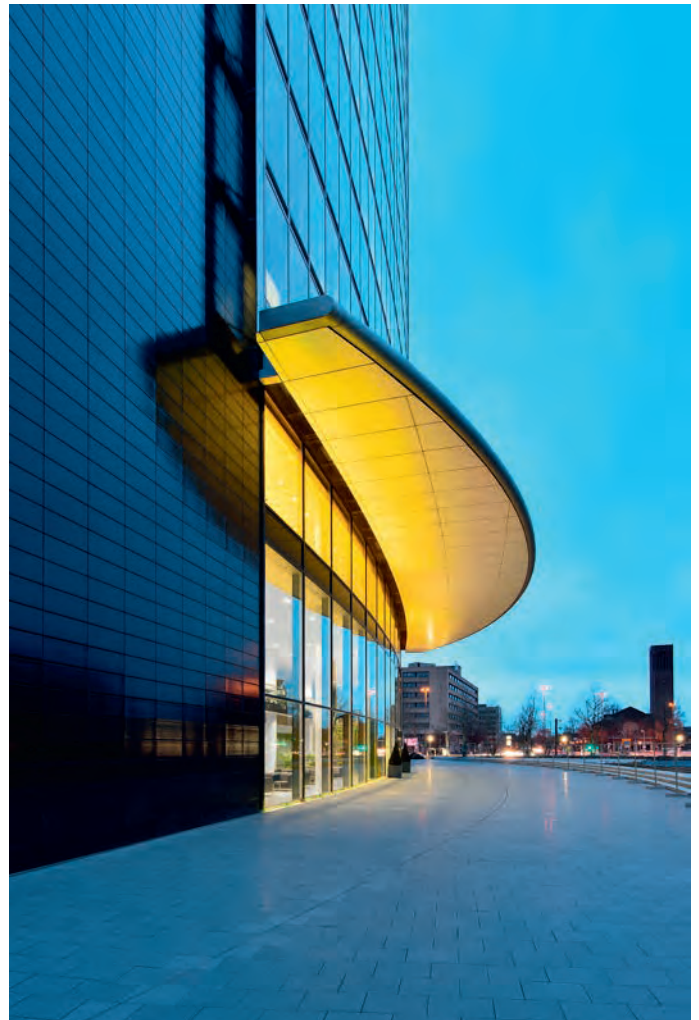
## Products

### FAÇADE/SLOT CHANNELS

- 92 metres of façade channels type FR10/K made of stainless steel 1.4301, closed version, Height 250 mm, incl. channel connectors, mounting of LED WallWashers
- 66 metres of slot channels type SR15/1 made of stainless steel 1.4301, slot distance 12 mm
- 9 units installation/drainage boxes made of stainless steel

### LINEAR GRATINGS

- 92 metres of linear gratings type KSM-V 3.4 made of stainless steel 1.4301  
10 mm bar distance, longitudinal, slot width 150 mm, thereof 38 metres with TTC façade channels type FR10/K and LED-WallWashers »PowerLight«





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DRAINLIGHT – FAÇADE CHANNELS WITH LED-WALLWASHERS

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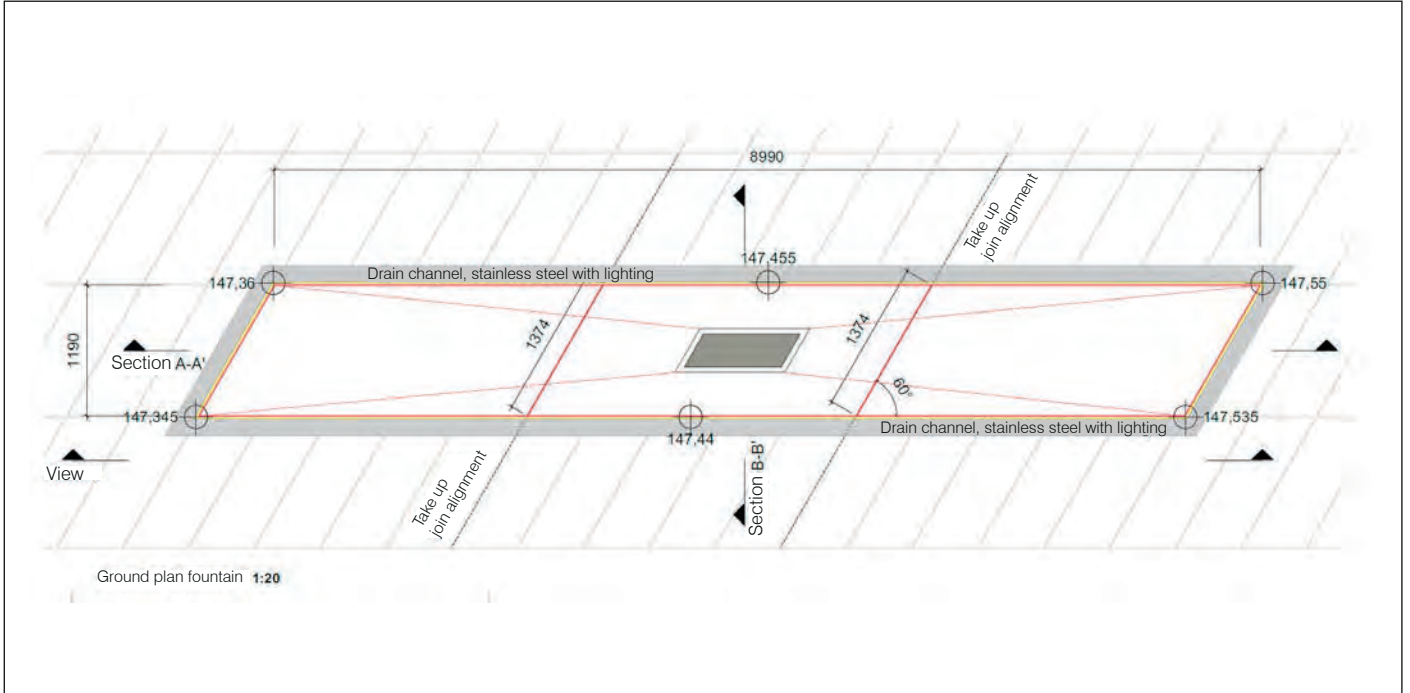
© Photo: B+E Fotografi

# WATER BASIN

Wiesbaden | Germany

LANDSCAPE ARCHITECT

Bierbaum.Aichele.landschaftsarchitekten, Frankfurt am Main





# WATER BASIN

Wiesbaden | Germany

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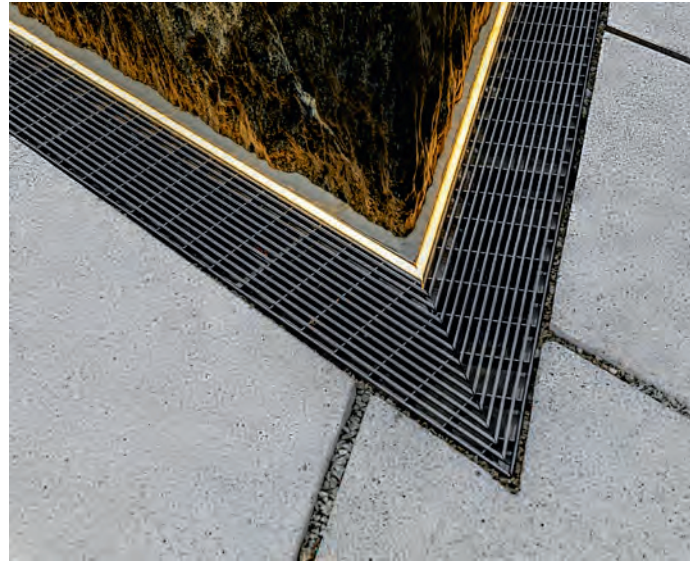
## WATER BASIN

Technical specifications

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### Products

- 21.2 lfm Drainlight incl. mitred corners
- TTC drainage channels FR10/K, stainless steel, 1.4301, 1.5 mm wall thickness, with drain nozzle DN 100
- TTC linear gratings KSM-V, stainless steel, filigree longi udinal profile, profile width 3.4 mm, profile distance 7 mm, bar distance 50 mm
- LED-LightLine AL LLF 12.30, incl. power supply unit, aluminium profile 12 mm wide, equipped with SMD-LED, 3,000 K, 24 VDC, 19 W/m, dimmable, IP68, opaque moulded for homogeneous light emission without dark zones at the joints, supply cable with plug connection IP67
- 2 revision cases RK 400/400, stainless steel, for 2 power supplies, 1.5 mm wall thickness, incl. pavaible/fillable insert, 400 x 400 x 300 mm [LxWxH]





# WASSER-LICHT-SPIEL [PLAY OF WATER AND LIGHT] Zwickau | Germany

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## ARCHITECT

Architektur Concept Pfaffhausen + Staudte, Zwickau

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## Eye-catcher for refreshment

For the 900th anniversary of the city, the city of Zwickau has given a highlight in the old town with the support of sponsors and the »Protection Monument« program.

A play of water and light winds its way through the main market, suggesting the shape of the city logo. It combines stainless steel drainage channels, covered with linear gratings type KSM-V, with integrated LED-LightLines and nine illuminated water fountains in the form of drain boxes with water nozzles and LED spotlights.

While in the evening the coloured light is the eye-catcher for passers-by, the fountains are also used for a little cooling on hot days.





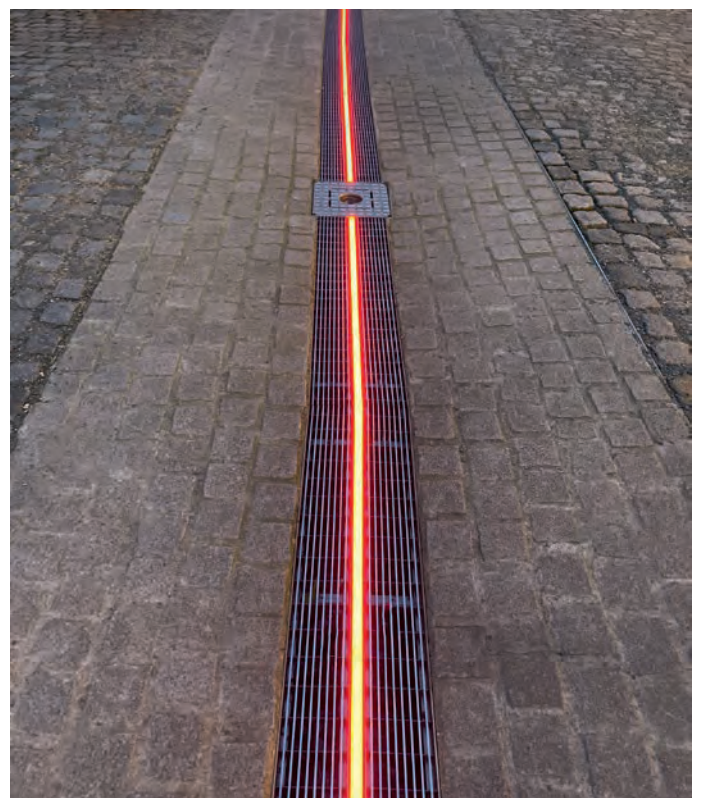
# WASSER-LICHT-SPIEL [PLAY OF WATER AND LIGHT] Zwickau | Germany

## PRODUCTS

Technical specificatio

### Channel + grating + light = DrainLight

- 45 meters DrainLight
- Drainage channels made of stainless steel covered with gratings type KSM-V, which can be driven over with trucks D400, polygonal passway, 250 x 250 mm [W x H]
- LED-LightLine VA, 20 mm width, equipped with LED RGB-W, 3000 K, 24 VDC, 19 W/m
- Drain boxes, approx. all 4 meters, with milled covering plates made of stainless steel for integration of water nozzles with LED-RGB-spotlights
- Collectively controllable by using a DMX interface





# EXPO 2020

## ALIF – THE MOBILITY PAVILION

### Dubai



ARCHITECT | LIGHTING DESIGNS

Foster + Partners, London | Delta Lighting Design, London/Dubai | David Atkinson Lighting Design, London

### Signposting mobility

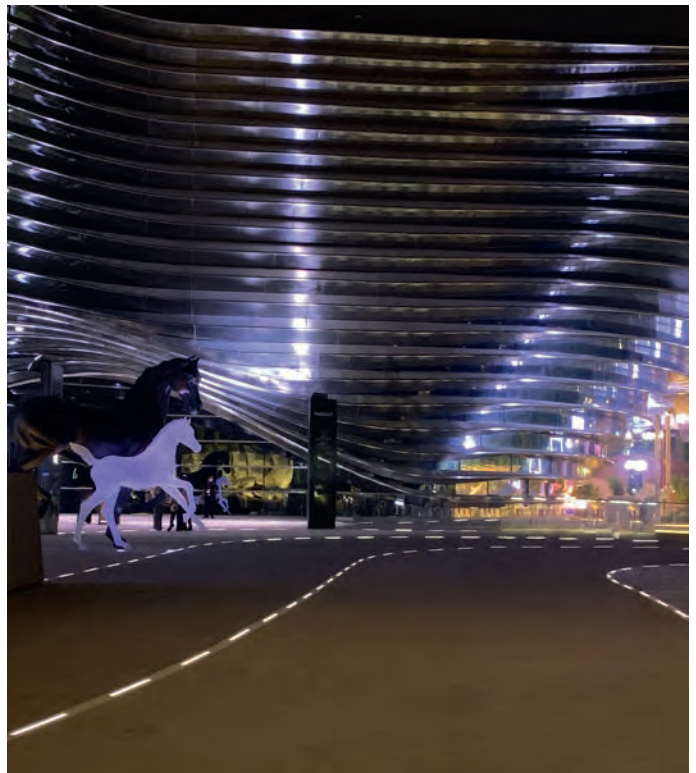
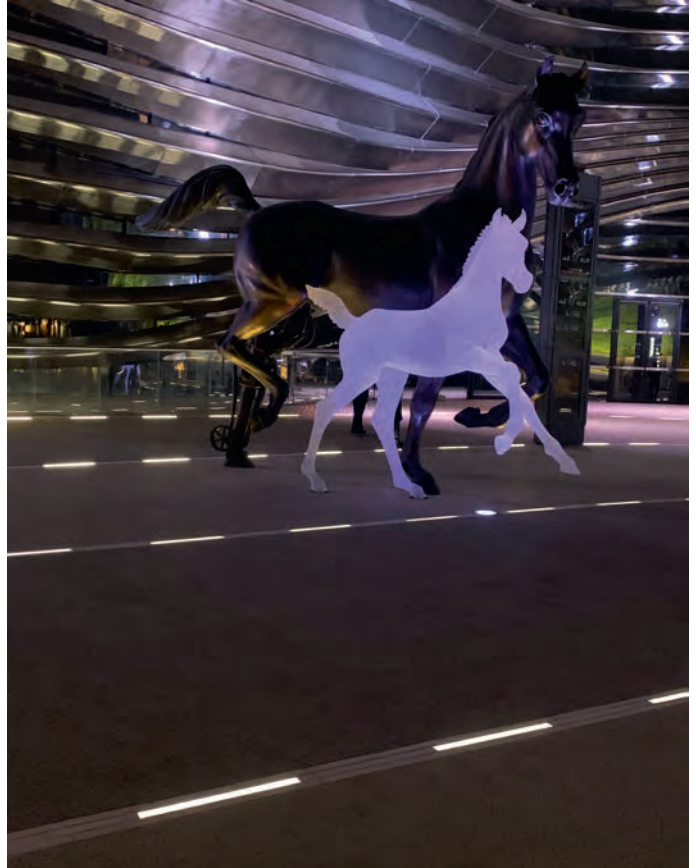
For Expo 2020 in Dubai, three pavilions have been built to address the big issues to shape better the future: sustainability, opportunity and mobility.

»Alif – the Mobility Pavilion«, designed by Foster + Partners, will showcase the latest mobility concepts on more than 12,000 sqm of total space and 4,000 sqm of exhibition area, explaining how information, ideas and goods can be exchanged faster than ever.

In keeping with the theme, Delta Lighting Design developed a lighting concept that underlines the outer form of the pavilion and creates a permanent liveliness in the evening by reflecting the light on the stainless steel cladding. In addition, the lighting design functions as a signpost that guides visitors in a kind of circular route around the building.

A total of 870 LED LightLines LLF40.30, each 620 mm long, were laid in the floor around the pavilion. The light lines can be walked on and rolled over –an essential factor for a public square with busy public traffic.

→ LED LightLine LLF40.30, 40 mm wide, mounting profile 44.70, 5700 K, 24 V/DC, 19 W/m, IP68



© Photos: TTC Timmler Technology

# EXPO 2020 WORKERS' MONUMENT

Dubai

ARCHITECT | LIGHTING DESIGN

Asif Khan, London | David Atkinson Lighting Design, London

## A bright form of recognition

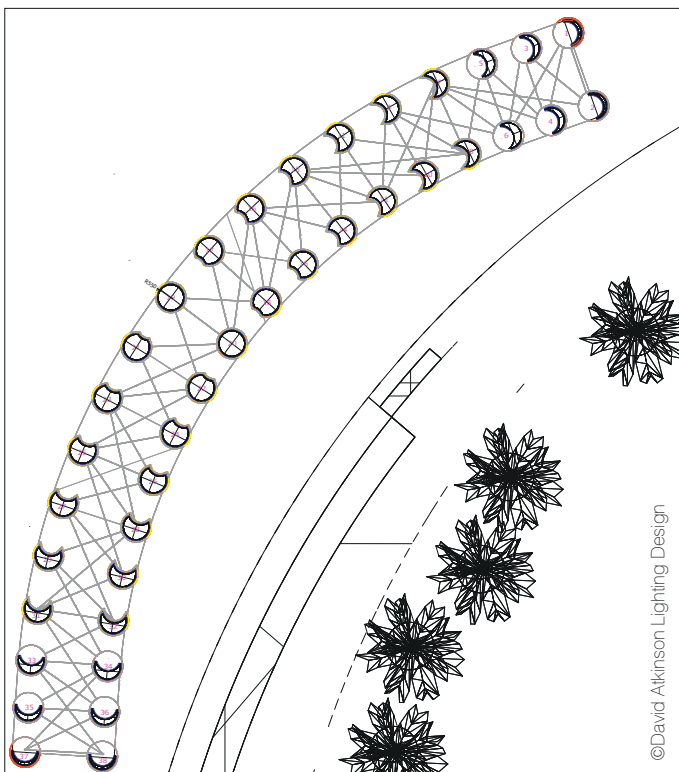
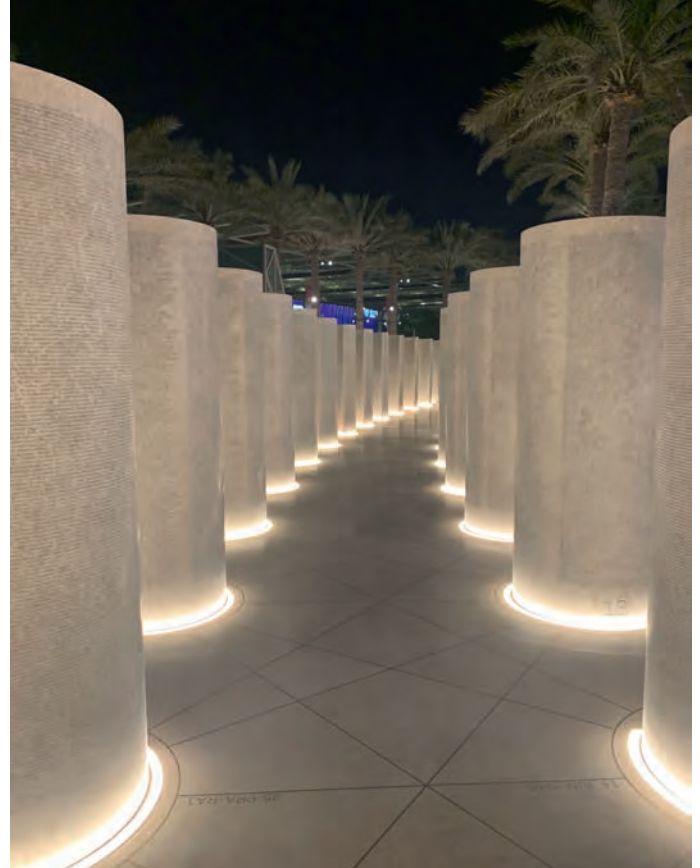
In honour of the workers involved in the construction of Expo 2020 in Dubai, their names – 200,000 in total – have been mortalised on 38 cylindrical columns.

In two rows, 19 columns each symbolise the phases of the lunar cycle from new moon to full moon. This is made particularly clear by the illumination of the stone monuments during eclipse.

Since this is a kind of walk-in sculpture, the task was to create lighting that brightly illuminates the columns without blinding passers-by. The ideal playing field for the curved version of the ADO Light light lines, which were equipped with extra strong LED modules for this purpose.

The luminaires were made for each column as an individual, closed unit, which could then be effortlessly lifted over the individual columns and connected. The distance between the light lines and the stone was specified with a minimum tolerance of 10 mm.

→ LED LightLine LLF40.30, custom-made to match the column shapes, equipped with high-power LED modules, white, 2700 K, 24 V/DC, 30 W/m





ARCHITECT

Chapman Taylor, Paris

## Oasis in the heart of the city

Cour Bareuzai is situated in the heart of Dijon. It is an ensemble of carefully renovated courtyards and mansions from the 17th and 18th centuries, in which Chapman Taylor created 2,300 square metres of spaces for retail, catering and offices.

The architects also brought a little greenery into the city centre with their ideas. From a turbulent street you enter a quiet courtyard through a passage designed with LED-Hayat illuminated plant walls. The luminaires are equipped with lamps that support growth.

An LED-Voute in combination with an LED-LightLine illuminates passers-by their way to the next courtyard. Light lines integrated into the floor can also be found and elegantly the combine the contrast between the old building and modern architecture.

LED-DrainLight with wall washers integrated into façade drainage channels, which let shine the walls of the mansions in the courtyard, creates an additional atmosphere

## Products

- LED-Voute
- LED-LightLine type LLF 12.30 with inspection boxes
- LED-Hayat with plant luminaires for the green wall
- TTC-DrainLight [wallwasher + channels + gratings]



VOUTE

Technical specification

LED-Voute

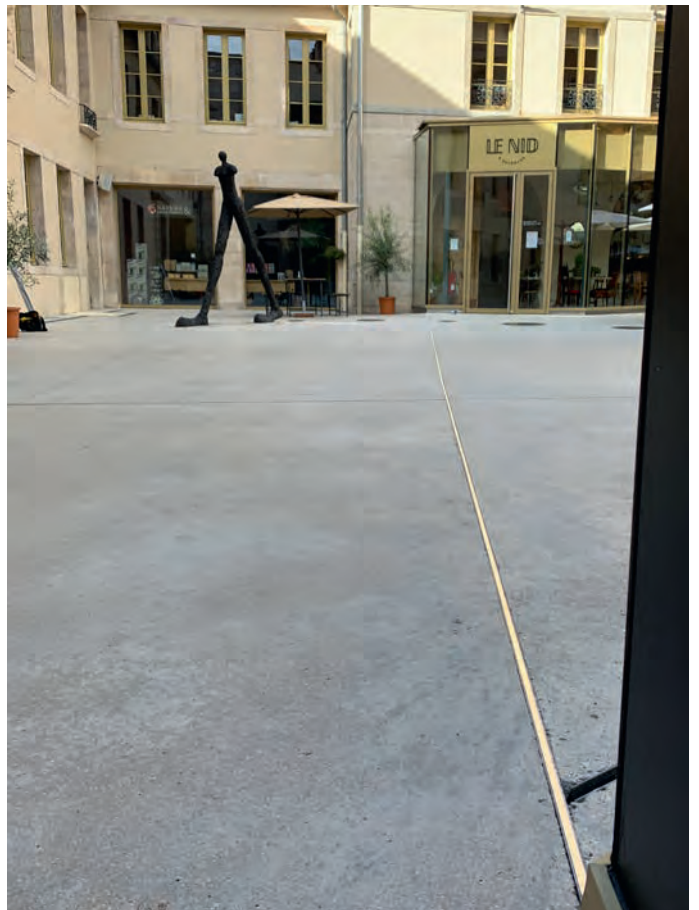
- 53.7 metres, square aluminium profile, 18 mm width
- SMD-LEDs, 3000 Kelvin, 24 V/DC, 19.2W/m
- Opaque cover with linear lenses, 10° light beam angle
- IP68, connection cable with plug IP67
- Mounting clamps for adjustable fixing





PROJECT OVERVIEW + LED-LIGHTLINE

Layout plan + pictures





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## LED-LIGHTLINES + INSPECTION BOXES

Technical specification

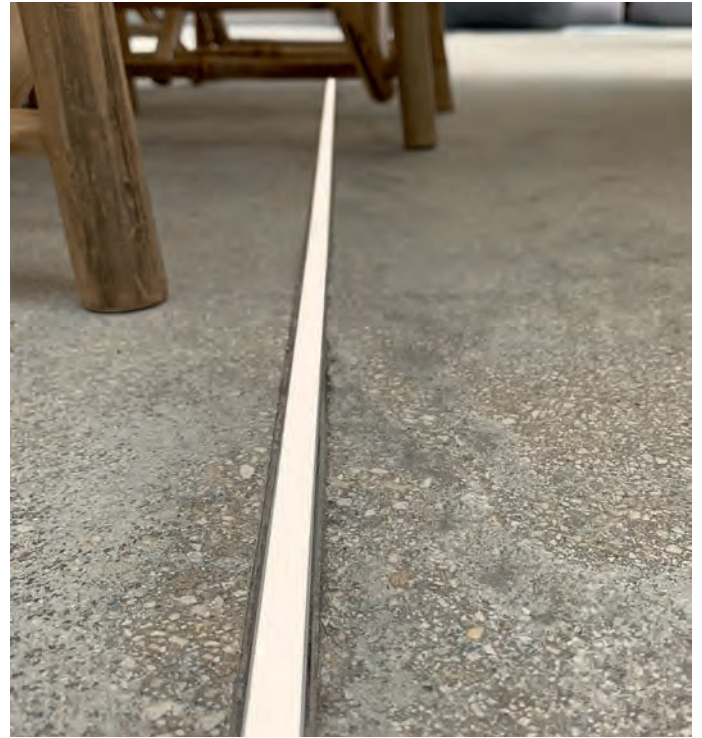
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### LED-LightLine

- 47.6 metres LED-LightLines type LLF 12.30, linear version
- Aluminium profile, 12x30 mm
- SMD-LEDs, 3,000 Kelvin, 24 V/DC, 19.2W/m
- Completely sealed with high-quality, opaque PU-seal for diffuse light emission, perfect light homogeneity even on connecting edges
- IP68, connecting cable with plug IP67
- With no mounting profile

### Inspection boxes

- Type RK 400/400, 400 x 400 mm (LxB), each for 2 LED drivers
- Stainless steel housing AISI304, 1.5 mm
- Cover filled with paving





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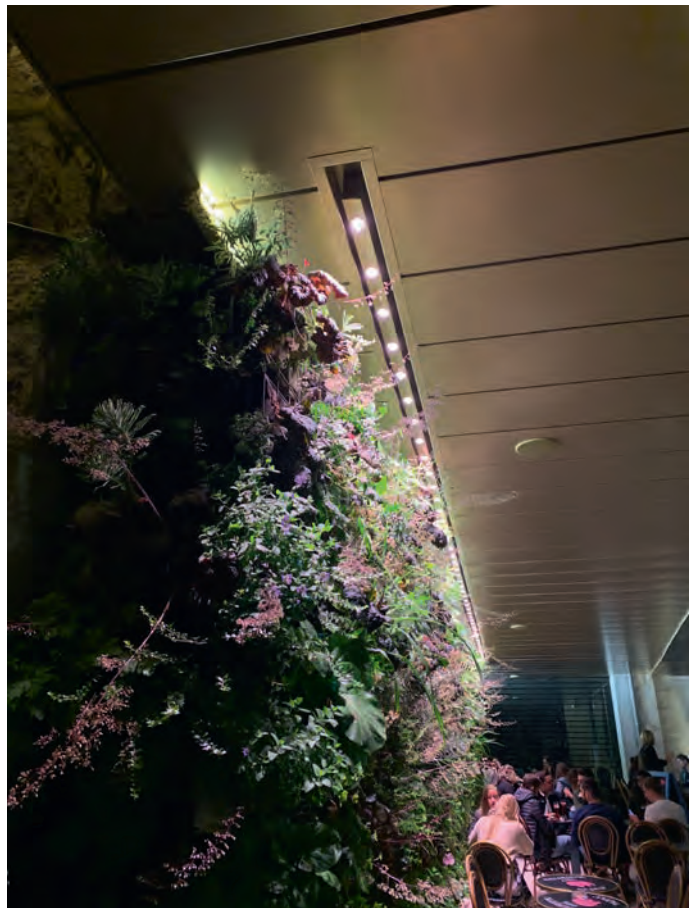
## LED-HAYAT | PLANT LUMINAIRE

Technical specifications

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### LED-Hayat

- 4 units ceiling-mounted LED-Hayat type 60LEAF, supporting natural growing of plants
- 2368x60x60 mm [LxBxH], aluminium profile, powdercoated according to RAL
- COB-LEDs Horticulture Leaf Gen., rose-white 2700 Kelvin, lense/reflector 30° light beam angle, CC 500mA, 93 lm/W, CRI > 85
- IP54, external driver





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## TTC DRAINLIGHT

Technical specifications

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### TTC DrainLight [LED + channel+ grating]

- TTC stainless steel façade channels with grating cover and integrated wallwashers above the wall surfaces
- 27.95 metres stainless steel drainage type AISI304
- LED-WallWasher, 7 units 600 mm, 3 units 1200 mm, elliptic light beam angle 10°/60°, 3000 Kelvin, dimmable, PWM-/DALI controllable, IP 65
- 27.95 metres stainless steel linear gratings type KSM-V, 3.4 mm bar width, 15 mm bar spacing





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## LANDSCAPE ARCHITECT

Förder Landschaftsarchitekten, Essen

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## Right down the line

Even in broad daylight this building catches the eye: The three-story wooden cuboid structure belonging to the LVR Museum in Bonn is surrounded by a glass façade. Modern architecture with a feel to it that is both straightforward and yet decidedly bold. And it boasts another highlight – in the truest sense of the word. A sunken stainless steel slit drainage gutter runs along the outdoor terrace with a line of light integrated into it over a distance of 23 meters. Here, shape and function complement each other perfectly – firstly, because this allows for discreet, high quality drainage and secondly because of the LED lighting: the opaque grouting lights up the greened area outside the restaurant facilities over their entire length.

The slit drainage gutter with its integrated line of light is a product by TTC Technology/ADO Lights. And there is more to it than mere aesthetic effect. The technology on which the line

of light is based is part of the museum's modernized lighting concept. Over a period of three years the old halogen lamps have been gradually replaced by energy-efficient LEDs. Thanks to the durability of LED lamps this means that over a period of 20 years the museum will now be able to save more than 7,000 metric tons of CO<sub>2</sub>. This is why the Federal Environment Ministry has awarded the decision-makers at the museum a certificate for »Climate protection projects in social, cultural and public facilities«.

The line of light also uses LEDs to brighten the greenery marking the boundary of the outdoor terrace. Over its entire length and reaching into every corner. This soft light is another plus point, contributing to the museum's special atmosphere and making it a pleasure to behold, even after nightfall.



© Photo: Peter von Pigage



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SLOT DRAINAGE CHANNELS + LED-LIGHTLINE

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© Photos: Peter von Pigage



SLOT DRAINAGE CHANNELS + LED-LIGHTLINE





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SLOT DRAINAGE CHANNELS + LED-LIGHTLINE

Technical specification

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Slot Channel + LED-LightLine | Products

- 23 metres slot channels with LED Light line type LLF 12.30
- Stainless steel 1.4301, plate 1.5 mm, channel height 200 mm
- Channel case with one-sided asymmetric rising slot inlet, inlet slot 15 mm
- 2 inspection boxes for slot channels made of stainless steel with outlet DN100 incl. mud trap, with inspection opening (paveable inspection box)
- LED-LightLine integrated on slot inlet, 120 mm wide, opaque casting without twilight zones, light colour white 3000 K, 24 VDC, 19 W/m, protection class IP68, dimmable, incl. converter and fine protection device against overvoltage
- 1 inspection box for power supplies, 400 x 400 x 300 mm, made of stainless steel for storing the power supplies fine protection incl. inspection opening (paveable inspection box)







CLIENT | ARCHITECT | LIGHTING DESIGN

die developer, Düsseldorf | Daniel Libeskind, New York/Zurich | Lichtvision, Berlin/Munich

## Aesthetical down to the smallest detail

The Kö-Bogen in Düsseldorf: With its curved shapes this complex of buildings constitutes an urban planning highlight. Star architect Daniel Libeskind has combined white natural stone and glass. However, apart from smooth fronts there are also diagonal cuts on two sides of the façade into which hanging gardens have been integrated. A bold idea requiring sophisticated implementation. On such an exceptional building every detail counts. Everything has to be just right, from the concept to the quality of the materials. This is where TTC Timmler and ADO Lights make their contribution – with high quality products that fit in perfectly.

This includes unobtrusive slotted drains made from stainless steel to accentuate building outlines with their integrated illumination. Homogeneous grating design to drain the façades all around the Kö-Bogen underlines the aesthetically pleasing overall impression. In the entrance areas the bar spacing was

chosen in such a way as to be kind even to stiletto heels. Furthermore, the intelligently finished surfaces of the linear gratings on the doors provide an anti-slip effect. In combination with the embedded doormats this prevents as much dust and other particles as possible from being walked in to the building. The green inner courtyards are a real highlight: Instead of a comprehensive illumination the atmospheric lighting provides well aimed accent lighting. This is achieved through light lines on the planters – an effect that can also be found in the outdoor area around the intake structures. The trees in the inner courtyards are also put in an atmospheric limelight. This is done using spotlights because their low thermal output does not affect the plants.

The Kö-Bogen won the prestigious MIPIM award. Even from afar the observer can see why but also when he takes a closer look.





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TASK

Slotted channels, partly with LED lighting

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Slotted channels | Products

Slotted drainage channels

- 190 m slotted drainage channels fully made of stainless steel
- Straight and curved versions according to façades
- Drainage slots 10 mm, 200 mm height, asymmetric version

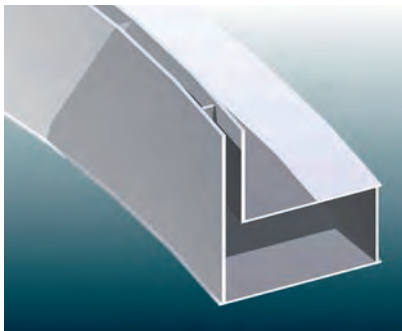
Slotted channels | Products

Slotted channels with LED

- 42 lfm slotted drainage channels with LED-LightLines
- Structural elements intake structures
- Light colour: warm white | 3000 K
- IP68 sealed | 19 W/m | converter 24 V dimmable

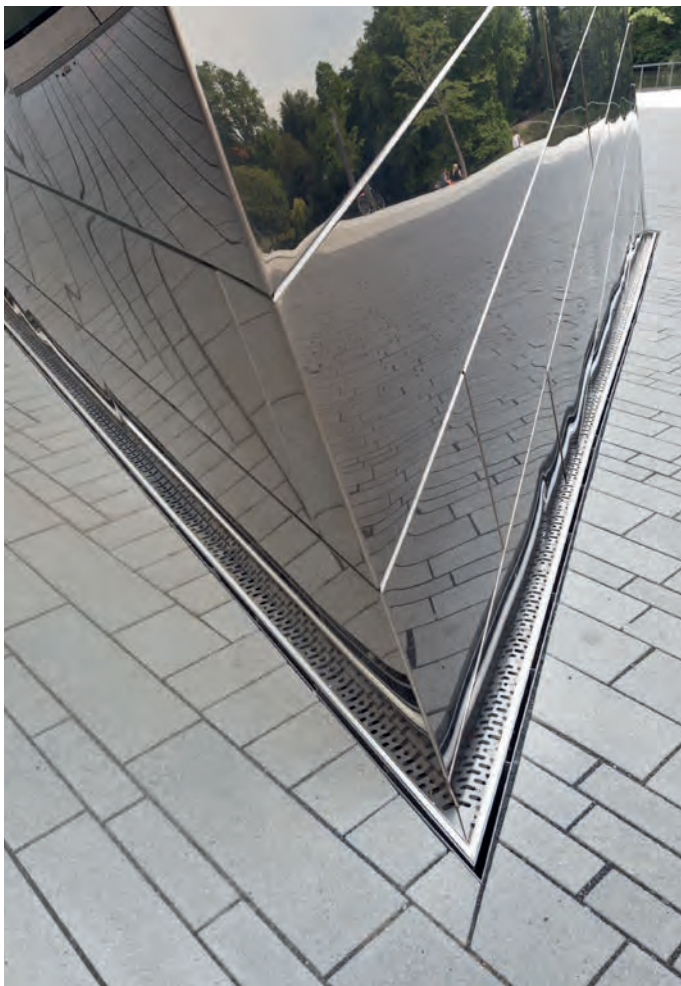


FAÇADE CHANNELS + HOMOGENEOUS GRATINGS  
Façades + intake structures



On the left:  
Slotted drainage  
channels fully made of  
stainless steel

On the right:  
Detail LED-LightLine





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TASK

Façade drainage on buildings, entrance areas + courtyards

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Façade channels | Products

Exterior areas | Public areas

- 220 m façade channels made of stainless steel with lateral drainage and discharge nozzle in entrance areas
- Linear grids made of stainless steel, fully welded
- Bar spacing: 10 mm; 5 mm in entrance areas [can be walked on with stiletto heels]
- Bar spacing consistent on channel edges, for homogeneous junctions on façade and entrance areas

Façade channels | Products

Courtyards | Office area

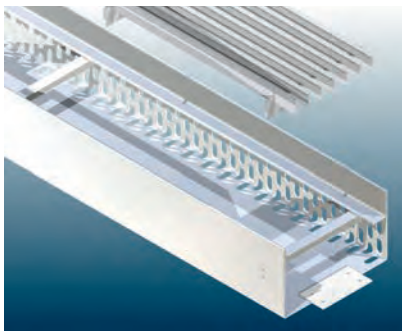
- 200 m façade channels made of stainless steel with lateral drainage
- Linear grids made of aluminium anodized and fully welded
- Bar spacing 10 mm
- Bar spacing consistent on channel edges, for homogeneous junctions on façade and entrance areas



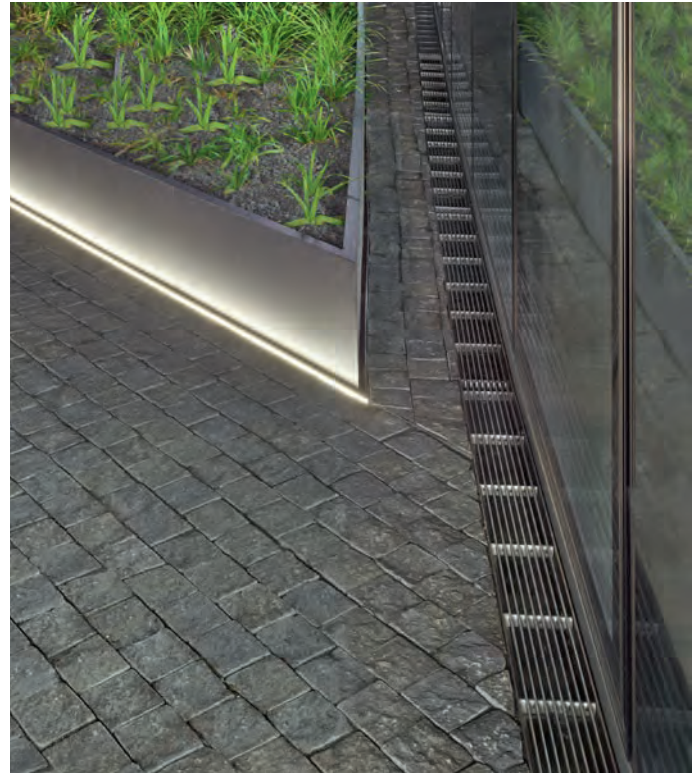


FAÇADE CHANNELS + HOMOGENEOUS GRATINGS

Entrance areas + courtyards



On the left:  
Façade channel FR-10K  
fully made of stainless  
steel





TASK

Entrance areas interior/exterior

Mats | Products

Door mats + absorption tubs for entrance areas

- 220 m<sup>2</sup> high-quality door mats, B1
- Bar spacing 5 mm [can be walked on with stiletto heels]
- Colour anthracite, skid resistance R10
- Soil and water absorption tubs made of stainless steel with subconstruction for wider span length
- Visible frame edge, layer profile, cuts, dips or bevels in coordination with architects/client

Grids | Products

Grids for entrances | Breuninger + car parks

- Similar optic as façade grids
- 40 m<sup>2</sup> linear gratings in stainless steel, fully sealed
- Bar spacing 5 mm [can be walked on with stiletto heels]
- One of three bars with minimal jogs for skid resistance R10
- Soil and water absorption tubs made of stainless steel with subconstruction for wider span length
- Visible frame edge, layer profile, cuts, dips or bevels in coordination with architects/client

Grids for entrances | Remaining areas

- 15 m<sup>2</sup> linear grids made of stainless steel KSM-V2.8
- Bar spacing 7 mm



On the left:  
Detail door mats with  
minimal jugs





HOMOGENEOUS GRATINGS + DOOR MATS  
Entrance areas interior/exterior





TASK

Drainlight – LED-LightLine with slotted channels

Task

Accentuated, partial illumination on the edges of the intake structures plus light effects in the two courtyards.

Solution

Intake structures serve the ventilation requirements of a building, hence they are practical – but at the same time very visible. 42 m of LED-LightLines in warm-white, integrated in the slotted channels, make the two intake structures of the trendy Kö-Bogen look like luminous objects.

In the courtyards, which do not have illumination in the traditional sense, approximately 100 m of LED-LightLines trace the contours of the planters with a warm-white light. This results in an exceptionally harmonic bond between high tech and nature. This masterful manoeuvre is part of the overall concept: Since the bridge linking the two parts of the building is indirectly illuminated using LED-LightLines. In addition, twelve LED spotlights are used to strikingly highlight trees in planters. The result is an unusual ambience and its light mood also serves as an eye-catcher for people working in the adjacent offices.

Products

LED-LightLine for slot channels | Planters in courtyards

- Due to reflection at the planters sufficient as escape lighting
- 95 m | Straight and curved versions
- Light colour: warm white | 3000 K
- IP68 sealed | 19 W/m | Converter 24 V dimmable

LED-LightLine LLF 12.30 | Bridge linking between buildings

- 53 m for indirect lighting of the bridge linking between the buildings
- Light colour: warm white | 3000 K
- IP65 | 19 W/lm | Converter 24 V dimmable

LED-Ground-level spots | Illumination of trees

- 8 units | 150 x 150 mm
- Light colour: warm white | 3000 K
- IP65 | 12 W
- Glare-free light spread | Light beam angle 45° directional



© Photo: Bernd Haugrund/artaboku



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DRAINLIGHT – LED-LIGHTLINE + SLOTTED CHANNELS  
Intake structures + planters

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# RÖMERKANAL INFORMATION CENTRE

Rheinbach | Germany



ARCHITECT | ENGINEERING

Beysse Architekten, Bonn | Kuepper, Bad Neuenahr-Ahrweiler

## Watercourse then and now

The ancient Roman Canal is best Roman engineering, laid out over 95 kilometres as a pure downpipe to supply the inhabitants of former Colonia Agrippina, present-day Cologne, with fresh water from the Eifel. The Roman Canal hiking trail now runs along the partially restored building from around 80–90 AD.

The information centre is located in the heart of Rheinbach, halfway between Nettersheim and Cologne. TTC stainless steel façade channels with grating covers have been installed to ensure that the water runs properly here. LED-LightLines on the façade put the building in the right light and continue the old Roman Canal in the exhibition.

LED downlights and light rails with LED-Spots with different beam angles ensure good lighting for the exhibition rooms and exhibits relating to the topic »How the water learned to walk«.

## Products

- TTC façade drainage channels and covering with filigree linear gratings both made of stainless steel
- LED-Built-in-LightLines indoors and outdoors
- LED-Ground-level spot
- LED-Around pendant circular luminaire
- LED-SpotLights type »Saturn« on power rails
- LED-DownLights type »FullMoon 2«

As a supporter of the project »The Roman Canal – competitive for the future«, TTC/ADO Lights sponsored the city of Rheinbach with the light lines in the outside area as well as the drainage channels and covering gratings.



# RÖMERKANAL INFORMATION CENTRE

Rheinbach | Germany



## EXHIBITION ROOMS

LED-Spots + LED-DownLights

### LED-Spots | LED-DownLights

- 78 units LED-Spots type Saturn  
aluminium, white powder-coated, 110 x 136 mm [ø x L],  
3000 Kelvin, 33 W, max. 4000 lm, integrated adapter for  
3-phase-track
  - \_ 39 units, light beam angle 20°
  - \_ 14 units, light beam angle 30°
  - \_ 25 units, light beam angle 45°
- 17 units power-rails in 3 lengths [1.5/3/4 metres],  
DALI, for ceiling mounting
- 2 units power-rails each with a length of 4 metres, DALI,  
for pendant mounting
- 34 units LED-DownLights type FullMoon 2  
aluminium, white powder-coated, 83 x 84 mm [ø x D],  
equipped with a reflector, 3000 Kelvin, 14 W,  
1500 lm, DALI dimmable





# RÖMERKANAL INFORMATION CENTRE

Rheinbach | Germany



## EXHIBITION ROOMS

LED-LightLines | LED-Ground-level spots | LED-Around

### LED-LightLines

- 19.8 metres LED-Built-in-LightLines type LLF 12.30 straight version, LED white, 3000 Kelvin, 19 W/m, 24 VDC, DALI extern, dimmable, IP68, incl. aluminium mounting profile 15 x 45 m
  - \_ 2 units 9.3 metres indoor
  - \_ 1 unit 1.2 metres Roman Canal exhibit

### LED-Ground-level spot

- 3 units LED-Ground-level spots type LF150 150 x 150 x 120 mm [L x W x H], stainless steel housing, covered with VSG safety glass, homogeneous and glare-free light emission, asymmetric light beam angle, 3000 Kelvin, 16 W, 24 VDC, protection class III, IP67, can be driven over up to 1,5 T wheel load, incl. stainless steel housing for in-ground installation

### LED-Around

- 3 units LED-Around circular pendant luminaire ø 610 mm, white powder-coated, cable suspension, prism diffuser 120° light beam angle, light extraction direkt/indirect (60/40), 3000 Kelvin, 45W, DALI dimmable





# RÖMERKANAL INFORMATION CENTRE

Rheinbach | Germany

## OUTDOOR AREA

LED Light lines | TTC Façade channels + TTC Covering gratings

### LED-LightLines

- 16.3 metres LED-Built-in-LightLines type LLF 12.30 straight version with 3 mitres, LED white, 3000 Kelvin, 19 W/m, 24 VDC, DALI extern, dimmable, IP68, incl. aluminium mounting profile 15 x 45 mm

### TTC Façade channels + TTC Gratings

- 19.65 metres façade drainage channels type FR10/K made of stainless steel 1.4301
- 19.85 metres TTC grating covers type KSM-V 3.4-7 made of stainless steel 1.4301, bar distance 7 mm
  - \_ 2 units 3.5 metres Glass cube
  - \_ 1 unit 12.85 metres Concrete cube with 1 mitre





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PLANNER | CLIENT

5b Bau- und Projektmanagement, Bonn | Kath. Kirchengemeinde St. Marien, Bonn

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## Guiding light

After some years ago the parish centre was rebuilt, the redesign of the churchyard followed last year. The small square between church and new building should not only be a place of encounter but also serves as pedestrian link to the Godesberg city centre.

The task was to equip courtyard and façades with a drainage on the one hand and to illuminate the public place on the other. Thus the façade drainage channels of the parish centre were fitted with in-ground luminaires which –placed at the façades posts – invitingly illuminate the purist building.

The contour illumination by LED-LightLines integrated in the slotted drainage channels resp. the pavement edgings points the way to pedestrians crossing the churchyard in the dark..

## Products

- Façade of the parish centre:  
TTC façade drainage channels and grating covers both made of stainless steel and integrated in-ground luminaires at the façade posts
- Churchyard:  
TTC slotted drainage channels made of stainless steel with integrated LED-LightLines and TTC slotted drainage channels made of stainless steel for surface drainage
- Contour illumination to light up the path:  
Steel band edging the pavement with integrated LED light line
- TTC Drainlight [LED + drainage + grating]





PARISH CENTRE  
Façade drainage



### Façade

- TTC Drainlight [LED + façade drainage channel + grating]
- TTC façade channels and grating covers both in stainless steel and in-ground luminaires at façade posts
- 30 metres façade channels type FR10/U
- 30 metres of stainless steel gratings type KSM-V
- 7 units integrated in-ground luminaires type LF 130, 3000 Kelvin, 24 VDC, IP 67





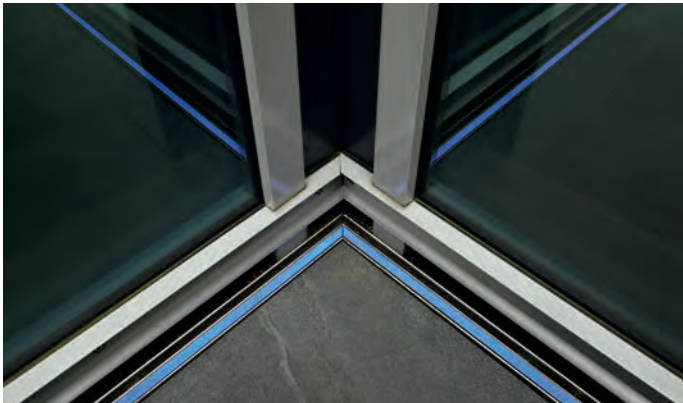
CHURCHYARD + PATH

Surface/Façade drainage + contour illumination



Churchyard + path

- TTC-DrainLight [LED + slotted drainage channel]
- 17 metres slotted channels in stainless steel with integrated LED-LightLine type LLF 12.30, LED rgb+w, 19 W/m, 24 VDC with 4-channel dimmer, DALI-controllable, IP 67
- 43 metres steel band for pavement edging with integrated LED-LightLine type LLF 12.30, LED rgb+w, 19 W/m, 24 VDC with 4-channel dimmer, DALI-controllable, IP 67





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CHURCHYARD

.....

### Surface drainage

→ Approx. 110 metres slotted channels type SR 15/1 made of stainless steel





# MUSEU DA MOEDA

Luanda | Angola



ARCHITECT | LIGHTING DESIGN

Costa Lopes, Lissabon/Luanda/London | eclipz Rogério Oliveira, Lissabon

## More light, more shine

The striking light lines are clearly visible, even from a distance. They seem to highlight the roof of the newly built Museu da Moeda in Luanda as if by chance. The installation on the subterranean building, whose surface presents itself as a newly created square in the Angolan capital, is based on a design by the Costa Lopes firm of architects. This challenge could be met thanks to advice and customized solutions from ADO Lights by TTC Timmler Technology.

Costa Lopes is headquartered in Luanda with another office in Lisbon. The Angolan capital is a busy metropolis and one of Africa's boom towns. These two architects also planned the university hospital and the congress tower in Luanda as well as the green shoreline along the picturesque bay with its many palm trees, lawn and rest areas. The Museu da Moeda enjoys a prominent position in close proximity to the National Bank. A

location with symbolic significance because the museum exhibits different currencies and means of payment used in this country through the centuries – salt, ivory, shells, gold, but also historical coins and banknotes. The lavishly designed seaside promenade is just a few metres from the museum. The planners included the topology of this location when designing the building: Viewed from the sea you have direct access to the square. On the opposite side you can reach the sloping terrain behind it via steps.

The asymmetric sun sails on the square, which rest on one column each, are striking elements on the square. These supporting parts as well as the underside of the shade-giving structure are covered in metal. In the evening and during the night the eye of the observer is guided by LED-LightLines embedded in the ground. There are three light lines of different



© Photo: Fabrice Foullet, Paris

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## LIGHT LINES + LIGHT TILES

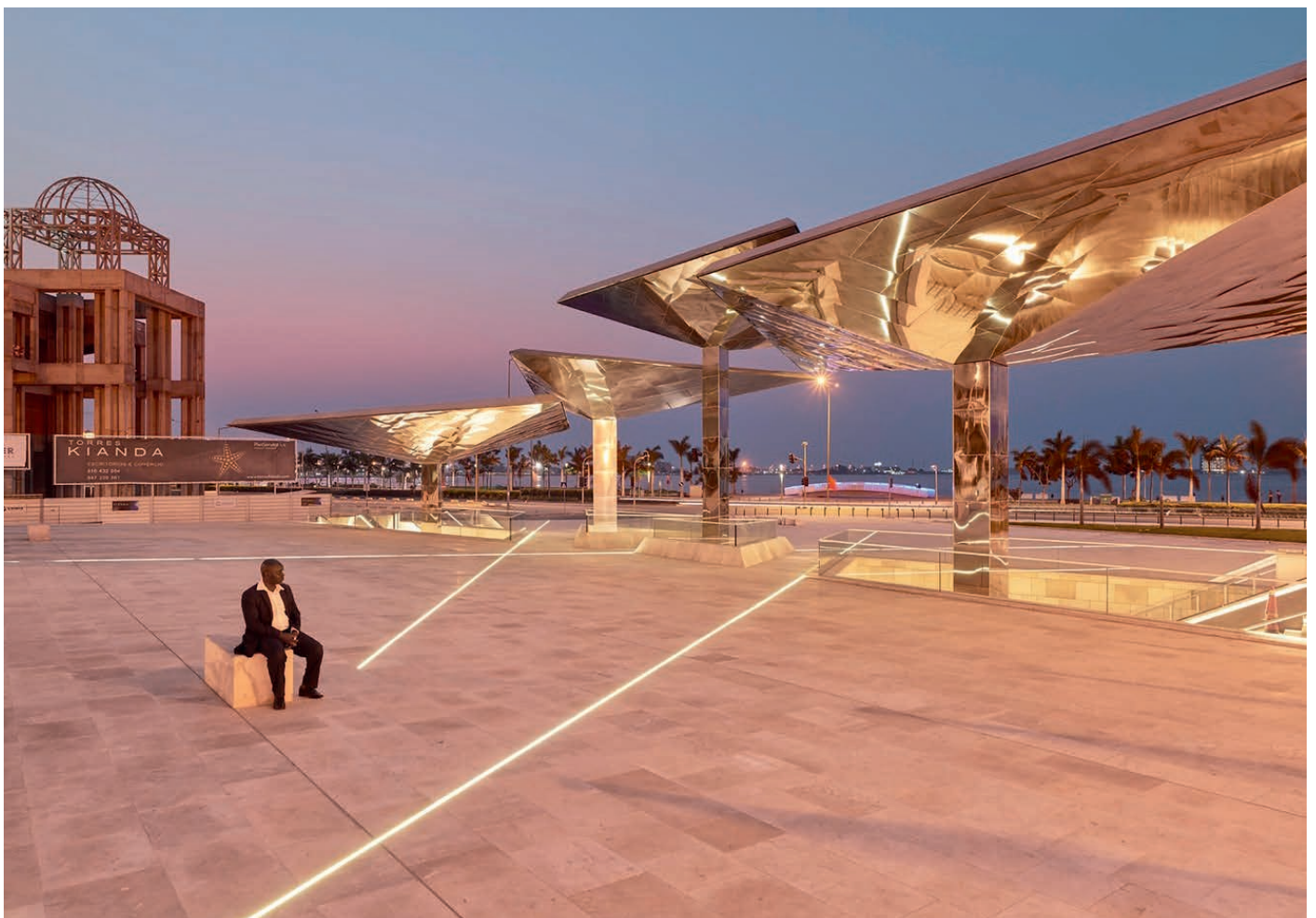
Guidance + Accent Lighting

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lengths, measuring 45.8, 55.4, and 60.8 metres respectively. The point where they cross each other marks the entrance to the museum. Where they illuminate, their light reflects in the linings of the sun sails.

Due to the high humidity, exceeding 80 per cent almost all year round, and the proximity to the sea a V4A stainless steel profile measuring 20 x 20 millimetres was chosen for the light line holder. The 120 millimetres high mounting profile with integrated cable duct is made of the same material. This allowed a flush finish with the paving. The designer chose 4.100 Kelvin for the light colour, an expressive and bright light. Nine elevated plant tubs are illuminated slightly softer but equally atmospheric. Each tub contains a tree as a three dimensional element – illuminated from below using a light tile, whose holder is again made from V4A stainless steel.

With this masterful manoeuvre, building a museum and a square at the same time, the Costa Lopes team of architects scored a double success: In a town that has a lively creative scene but still not enough exhibition space they have created both, a cultural centre as well as a new venue for people to interact. Both cannot be missed. Not least thanks to the light technology »Made in Germany«. By ADO Lights to be precise.



© Photo: Fabrice Foullet, Paris



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LIGHT LINES FOR OUTDOOR AREA

Guidance + Accent Lighting

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© Photo: Fabrice Foullet, Paris

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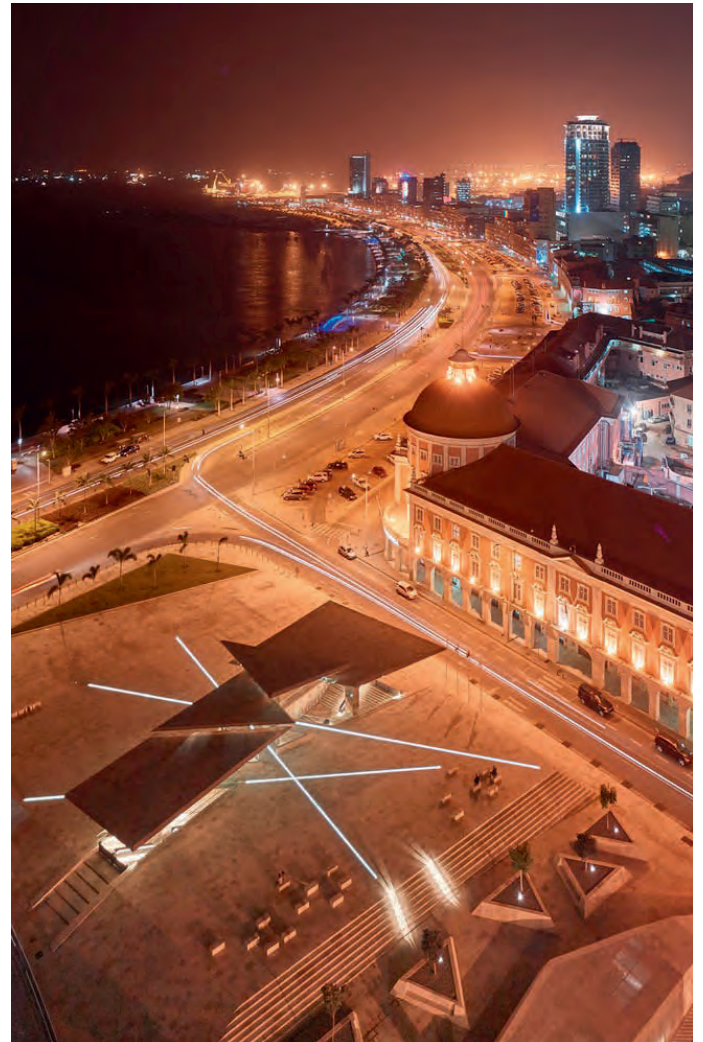
## LIGHT LINES + LIGHT TILES

Technical specification

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### Light elements | Products

- 162 m LED-LightLines  
Profile made of stainless steel V4A [1.4571], 20 x 20 mm, equipped with LED, light colour 4100 K, 19W/m; incl. installation profile made of V4A with integrated cable management; height 120 mm for neat connection to paving  
3 sections: 45.8 m, 55.4 m, 60.8 m
- 9 LED-LightTiles LF150-WW  
Installation housing made of stainless steel V4A [1.4571], equipped with white LED, light colour 3000 K, 12W





# ILLUMINATED BENCHES STATION FORECOURT SOUTH

Nantes (F)

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## LIGHTING DESIGN

Atelier Coup d'Éclat, Paris

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### Light Interface

France is known for its »grands projets«. One of these is the construction of a completely new Nantes district between the railway station and the banks of the Loire.

As part of this major project, the railway station was also extensively renovated. It forms the interface between the old suburbs in the north and now opens up on the south side with a spacious, completely redesigned forecourt to the new district, which aims to bring the city closer to the river.

Following the already opened greened northern forecourt, a high quality of stay was thus also required in the southern part, because the square wants to be more than just a place of passage. The round and straight benches at the large beds with native trees are part of this concept.

They are fitted with continuous straight or curved light lines underneath the seating areas. In the dark, these bathe the square in pleasantly warm light, which is intended to give travellers, citizens and guest of the surrounding restaurants and hotels a feeling of safety.





# ILLUMINATED BENCHES STATION FORECOURT SOUTH Nantes (F)

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STATION FORECOURT SOUTH

Pictures

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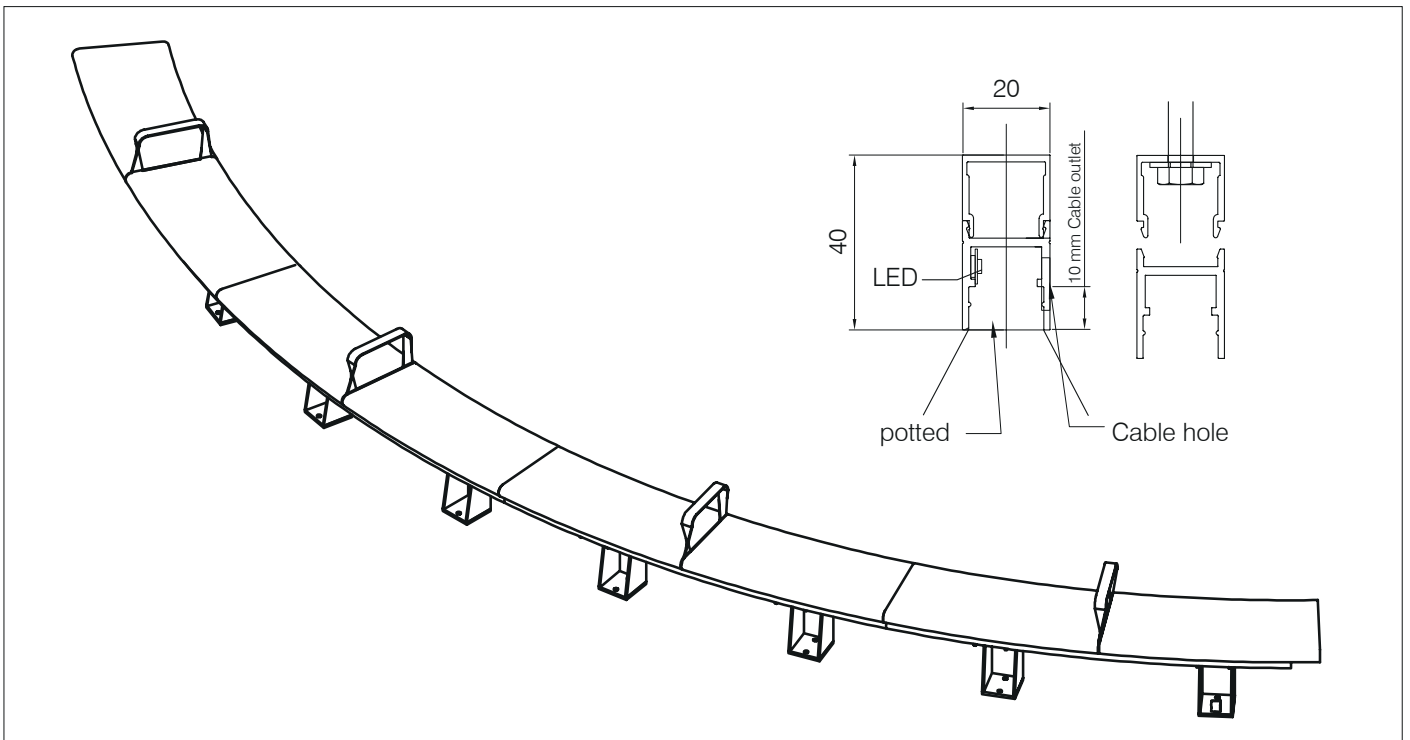


# ILLUMINATED BENCHES STATION FORECOURT SOUTH

Nantes (F)

LIGHT LINES

Pictures + technical drawings



# ILLUMINATED BENCHES STATION FORECOURT SOUTH

Nantes (F)

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## PAVABLE INSPECTION BOXES

Technical specifications + drawing

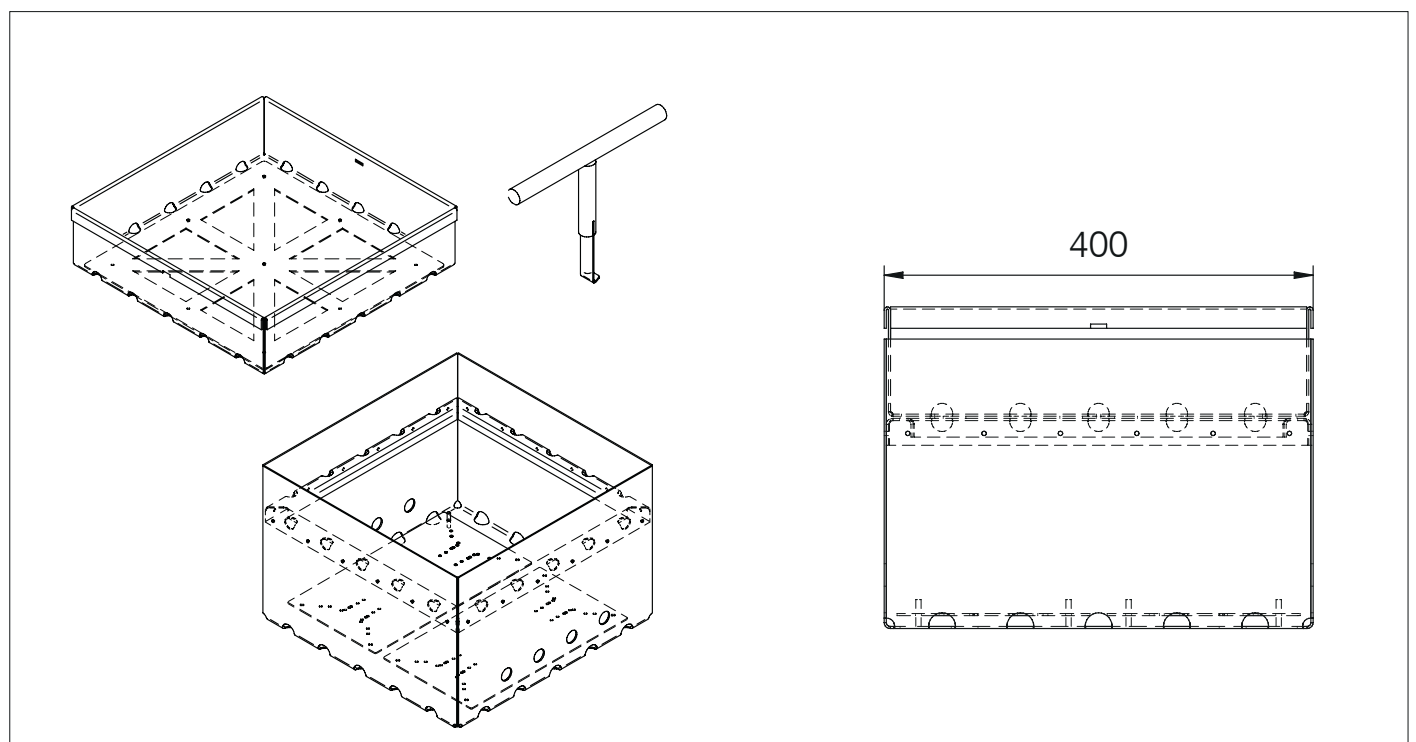
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### Light lines straight + curved versions

- approx. 21 metres LED Light Line LLF20.40, straight version for 7 benches, each 3040 mm long, in parts
- approx. 64 metres LED Light Line LLF20.40, curved version for 4 round benches, each 7517 mm long, in parts
- Aluminium profile, 2 x 40 mm [WxH], equipped with LED modules, white, 2200 K, dimmable, perfect light homogeneity without dark spots at the transitions

### Inspection boxes

- 2 inspection boxes made of sheet metal 2 mm 1.4301, with drilled holes in the base and all-around in the bend, pavable cover









# DANISH JEWISH MUSEUM Copenhagen

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## ARCHITECTS

Daniel Libeskind, New York | Bertelsen & Scheving Arkitekter, Copenhagen

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## Light welcome

The Danish Jewish Museum in Copenhagen is located in the historic old building of the former Royal Library on Slotsholmen, an island in the centre of Copenhagen. The museum, designed by Daniel Libeskind, was opened in 2004. Historically preserved on the outside, the interior – similar to the Jewish Museum in Berlin – is a kind of a labyrinth.

In 2022, a modern entrance area was added to the exterior of the building, so that visitors can now enter the museum through the so-called »Library Garden«.

In order to not destroy the sculptural character of the entrance building, the lighting was unceremoniously sunk into the ground. Eight LED light lines were flush-mounted to match the architecture and supplemented with recessed floor spotlights for accentuation.







## LED-GROUND LEVEL SPOTS

Picture, technical drawing + product information

### LED-Ground Level Spots

- 2 LED-Ground Level Spots  
150 x 150 x 120 mm [LxWxH], stainless steel housing for flush recessed mounting, I 67, LED White, 3000 K, asymmetric mikroprismatic optic for glare-free light output, DALI dimmable
- 1 LED-Ground Level Spot HL-15 VA  
150 x 150 x 120 mm [LxWxH], stainless steel housing for flush recessed mounting, I 67, LED White, 3000 K, 15° light beam angle, adjustable beam direction, DALI dimmable



take notice of DIN 34 / Schutzvermerk nach DIN 34 beachten

150/500  
150  
PASSEPARTOUT  
BLACK

150/500  
120  
55  
65  
HOUSING  
BLACK

Schutzvermerk ISO 9606				Maßstab: 1:2		Gewicht: 8g	
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Oberflächensymbole ISO 1302 (in 4-8 Stufen)				Datum: 07.04.2020		Name: S.Zöll	
Allgemeintoleranzen ISO 2768 mK				gepr.:		S.Zöll	
Tolerierung ISO 8015				pepr.:		S.Zöll	
Zust.				ADO		Typ: Halbzeug	
Änderung				Datum		Name	
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MHK-GROUP  
HQ GERMANY  
Dreieich | Germany

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ARCHITECT

Albert Speer + Partner, Frankfurt am Main

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© Photos: Peter von Pigage



ILLUMINATION/ACCENT LIGHTING PLANTING BEDS

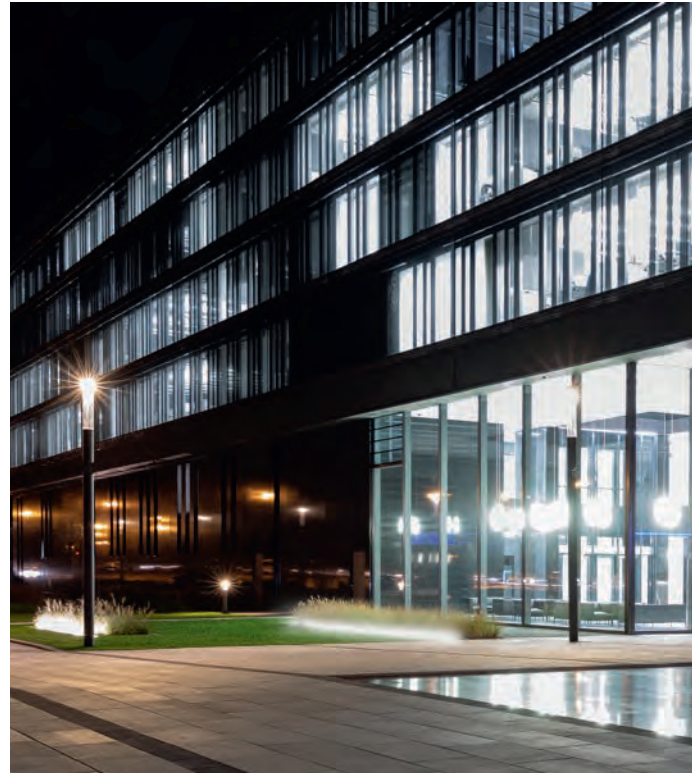
Technical specification

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Products

LED-LIGHTLINE

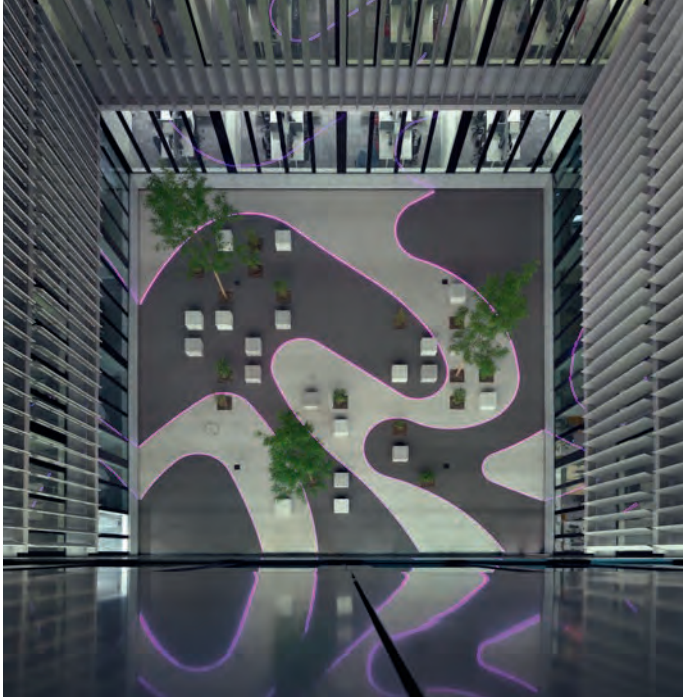
- 118.55 m LED-LightLines type LLF 12.30, made of aluminium natural anodised, 12 mm width, LED white 3000 K, 24 VDC, 38 W/m, clear moulded, IP68, straight version, connection line with plug connection IP67, incl. recessed profile made of aluminium 40 x 15 mm, total height 45 mm
- 17 power supply units 24 VDC, IP67, for max. 7 m of LED Light lines incl. overvoltage protection type 2 DEHN-cord 2-pole, with connection line IP65
- 6 revision boxes RK 400/400 made of stainless steel, 1.5 mm sheet thickness, for the placement of the LED power supply units, insert for paving





CLIENT | LIGHTING DESIGN

Mark-E AG, Enervie Gruppe, Hagen | LichtKunstLicht, Bonn/Berlin



© Photos: Bernd Haugrund/artdoku ab. leit/below), Peter von Pigage (ab. right)



ACCENT LIGHTING

Light line curved version

LED-LightLine | Eye-catcher + signpost

Luminous lines when darkness falls. Sometimes an eye-catcher. At other times showing the way. They accentuate entrance areas or emphasize architectural contours. Light lines can be integrated in façades and floor spaces – they are always an optical highlight.

Features

- For public spaces, façades, entrance areas
- Straight or curved versions
- Safe to walk or drive in for vehicles with air-filled tire
- Implementation in variable applications from user-friendly small applications to building automatism systems
- Perfect homogeneous lighting
- Light colours monochrome, optional standard: multicolor













# LIBRARY

Gersdorff Barracks

Euskirchen | Germany



ARCHITECT | LIGHTING DESIGN

nbp architekten, Roetgen | ZWP Ingenieur-AG, Cologne

## Well equipped

The Generalmajor Freiherr von Gersdorff Barracks in Euskirchen are home to both the Centre for Cyber Security and the Centre for Software Competence of the German Bundeswehr. Due to the increasing importance of the topic of IT, the location was generously expanded with foresight and so, in addition to various lecture room and accomodation buildings, a new library with a large reading room for preparation for the courses was also built.

The curtain slats in the upper part of the new building serve as sun protection, offer views in and out, but they can also be illuminated by wallwashers in different colours, so that the façade becomes a real eye-catcher in the dark.

Inside the library, the focus of the lighting is on good lighting conditions to ensure a high quality of stay during prolonged and concentrated reading and working. The luminaires should therefore be inviting and above all glare-free – an ideal application for the LED-Linargo, which was installed here as a recessed and pendant luminaire. On the one hand, shelves are optimally illuminated from top to bottom; in reading areas, they serve as pleasant ambient lighting.

Perfect illumination of a geological model hanging in the entrance area respectively above the staircase is provided by the fully swivelling LED Luc Minispots, placed on a rail.



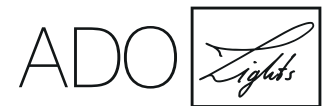
© Photo: Peter von Pigage

# LIBRARY

Gersdorff Barracks

Euskirchen | Germany

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## FAÇADE

Wallwasher

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### WallWasher

- 158 units WallWashers type 1000.24 RGB+W3000K
- 1000 x 44 x 97 mm [L x W x H]  
aluminium profile black powder-coated,  
cover PMMA clear
- RGB + White 3000 K, beam angle elliptical 10°/60°,  
30 W/m, 24 VDC, IP66, protection class III, DMX512,  
including power supply





# LIBRARY

Gersdorff Barracks

Euskirchen | Germany



GROUND FLOOR + UPPER FLOOR

LED-Linargo + LED-Luc

## LED-Linargo 3000 | Recessed luminaire

- 85 metre recessed luminaire LED-Linargo 3000
- 3000 x 60 x 27 mm [L x W x H], aluminium housing powder-coated according to RAL, PMMA cover, including butt connector for strip arrangement
- 4000 K, 143 metre, 31 W, CRI > 85, narrow colour tolerance MacAdam Step 3, DALI dimmable, UGR < 19, L65 < 1500 cd/m<sup>2</sup> according to EN 12464-1:2011, IP40, including power supply

## LED-Luc 60-1 | Spot

- 8 units LED-Luc Spots 60-1 installed in combination with LED-Linargo recessed luminaire
- Aluminium housing powder-coated according to RAL, magnetic ball joint, fully swivelling and rotatable
- 4000 K, 30° reflector, max. 9 W, CC 250 mA, DALI dimmable, including power supply



© Photos: Peter von Pigage

# LIBRARY

Gersdorff Barracks

Euskirchen | Germany



GROUND + UPPER FLOOR

LED-Linargo pendant luminaire

## LED-Linargo 3000 | Pendant luminaire

- 39 units pendant luminaires LED-Linargo
- 6 different special lengths from 1972 to 6902 mm, 80 x 38 mm [W x H], aluminium housing powder-coated according to RAL, PMMA cover, including wire suspension and transparent supply cable
- 4000 K, beam angle 120°, 167 lm/W, max. 31 W direct/35 W indirect, CRI > 80, DALI dimmable, IP40





ARCHITECT | LIGHTING DESIGN

Eberhard von Angerer, Munich | HL Lichttechnik, Ruhpolding

## Illuminated façade

The task in Steinhöring was to illuminate the façade of the elaborately renovated church out of the soil, so as to complete the lighting of the square and the paths.

The focus here was on illumination that is as glare-free as possible für pedestrians, which was achieved through the very narrow and targeted radiation characteristics of the luminaire.



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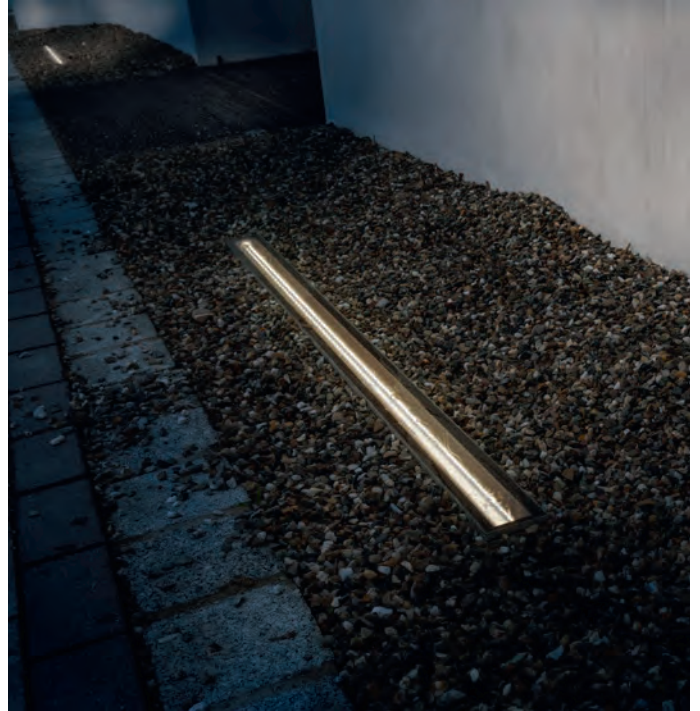
## GROUND RECESSED LUMINAIRES

Technical specification

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### Products

→ 2 units LED Ground recessed luminaires type HL-10VA, length 1500 mm, 3000 K, 20 W/m, approx. 1600 lm/m, 24 VDC, IP rating IP65, dimmable, light spread via linear lense 10°, tilt-adjustable light unit in stainless steel housing V4A, cover made of acrylic glass XT, unbreakable





ARCHITECT | LIGHTING DESIGN

Allmann Sattler Wappner, Munich | Schmidt König, Munich

## Illumination of canopy soffit and contour lighting of window reveals

One task was to illuminate the roof of the canopy without mirroring the LED lenses in the shop windows. As the mounting of the luminaires was only possible on the outer edge, this was achieved by using narrow-beam 10° linear lenses.

On the other hand, on the first floor of the glass façade, there was a contour lighting with clear-cast LED surface-mounted luminaires.



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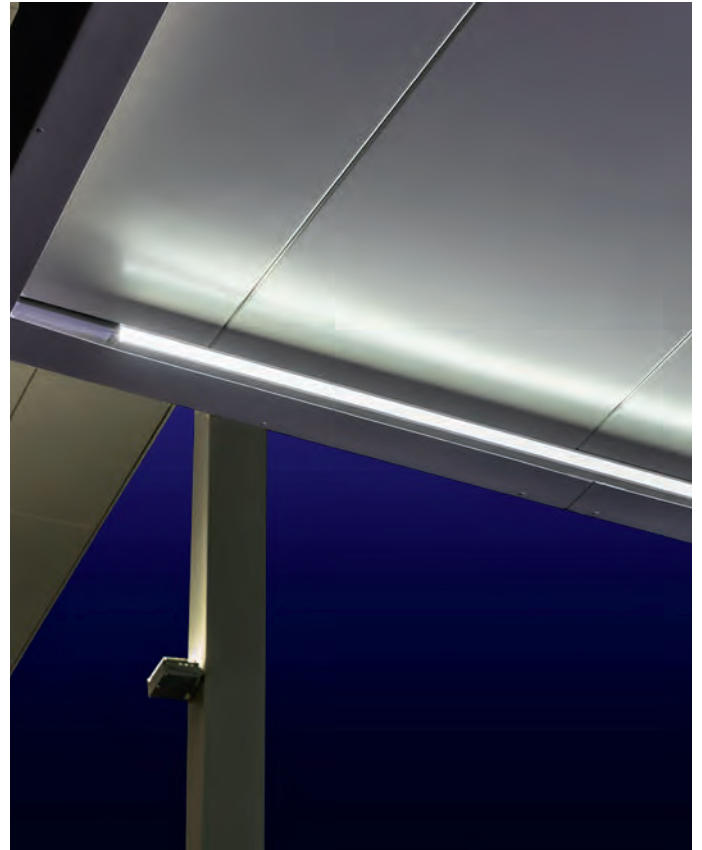
## LIGHT LINES

Technical specification

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## Products

- 58 metres [40 units per 1450 mm] type LED-HL-10AL, housing made of aluminium in ceiling colour according to RAL 9010, equipped with 4000 K, 19 W/m, up to 1800 lm/m, light spread via linear lense 10°, integrated through-wiring with plug connection, mounting with magnetic holder
- 32 meters LED surface-mounted luminaire type LLF 18.23, 4000 K, 28 W/m, approx. 3000 lm/m, clear casted in aluminium profile, mounting with clips, integrated through-wiring with plug connection





CLIENT

APOprojekt GmbH, Stuttgart | SvR Lichttechnik GmbH, Hamburg

## Lighthouse in a business park

For an existing building in a Stuttgart business park, the task was to guide a filigree light line as a visual highlight from the horizontal to the vertical. In this way, both the building with its striking tower and the path from the street via the staircase to the main entrance are staged in a structured way.

The light lines embedded in the façade pilaster strip are taken up again at a second entrance, but here without the horizontal path.



LED-LIGHTLINE + LED-SPOTLIGHTS

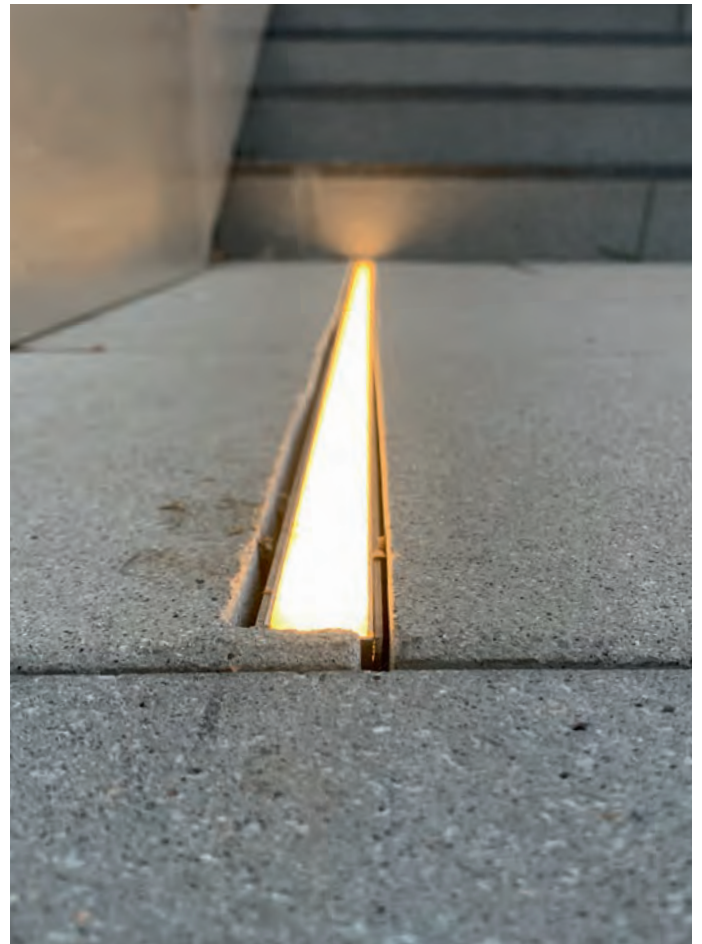
Guidance, façade illumination + entrance lighting

LED-LightLines

- Approx. 85 cm surface-mounted LED-LightLines type LLF 20.40, 20 x 40 mm [WxH], installed in façade pilaster strip, natural anodised aluminium U-profile, opaque moulded, homogeneous light spread without dark spots at divisions, LED white 3000 K, 9,6W/m, IP68, dimmable
- Approx. 45 cm LED Light line type LLF 20.25, 20 x 25 mm [WxH], recessed in floor, natural anodised aluminium U-profile, opaque moulded, homogeneous light spread without dark spots at divisions, LED white 3000 K, 9,6W/m, IP68, dimmable, mounting profile made of stainless steel with asymmetrical base plate for use in paved areas

Surface-mounted LED Luminaires

- 13 units surface-mounted LED luminaires type Canvas 2, black housing, gold-coloured reflector, LED white 3000 K, 15W





ARCHITECT | LIGHTING DESIGN

Hadi Teherani Architects, Hamburg | a:g Licht, Cologne

## Light, that connects

Central and highly visible even in the dark: Anyone stepping out of Freiburg's main railway station looks at the newly designed Volksbank area - and sees a building complex whose façade is effectively underlined by accentuated lighting design. This lighting concept is continued in the interiors. The building complex comprises 43,000 sqm of gross floor area; space enough for the cooperative financial services provider Volksbank Freiburg, foundations of the Archdiocese of Freiburg, St. Ursula's Grammar School and the Courtyard by Marriott hotel, among others.

The lamella structure of the façades abstractly reflects the idea of trees and thus takes up the theme of the Black Forest. The anodised aluminium profiles are invisibly anchored to the exterior structure. Extra profiles were drawn to integrate ADO Lights light lines in the pilaster strips. The vertical effect described above is complemented by horizontal light lines in the entrance area of the hotel.

On the façade alone, almost 1000 linear metres of these dimmable light strips illuminate the building complex.

In an intelligent way, the light lines are also used again and again in the interior: in the Volksbank counter hall, they decorate the ceiling as a luminous barcode, and in the area of the ATMs they ensure uniform illumination of the terminals through vertical arrangement. In the staircase of the hotel, sculptural hints of tree trunks are subtly staged.

In the interior design, it was possible to limit the number of colours and materials despite completely different concepts of use. This kind of harmony is also reflected in the permanently installed interior lighting, limited to a few products, also from ADO Lights. The uniform illuminance and quality is ensured by the LED Gallery: elegant yet unobtrusive downlights installed in the ceilings as strips of three, six or twelve. LED Aurora spotlights provide even more light at selected points.

Users can experience the LED Linargo in different versions. This rectangular luminaire is suitable for different scenarios and purposes because it can be recessed into the ceiling, as in the auditorium of the grammar school, or spreads just in the right amount of brightness as a discreet, glare-free pendant



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## FAÇADE + EXTERIOR AREA

Lightlines

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luminaire, for example above the reception desk and counters. In a curved version as a wreath, it was realised as a modern concept of a halo for the chapel of the grammar school.

What light and the right amount of creativity can achieve together is demonstrated once again in Freiburg by the collaboration between a:g Licht, Hadi Teherani Architects and ADO Lights – as was the case, incidentally, with the spectacular-looking crane buildings in Cologne.

At th Volksbank's request, the architect has carefully interpreted the company's logo in a contemporary way. The new shape is more stylised, also with light lines. Thus, not only the vertically installed lights on the outer wall, but also the 4.25x3.5 metre logo give the Volksbank building ensemble an unmistakable, innovative look that can be seen from afar.

## LED LightLine LLF 12.30

### FAÇADE

- 770 m LED LightLine LLF 12.30, vertically installed and invisibly anchored in the façade pilaster strips and the Volksbank signet
- Aluminium profile natural anodised, 3500 K, 1720 lm/m, 14.4 W/m, opaque cast

### HOTEL | CANOPY PLINTH LIGHTING

- Approx. 215 m LED LightLine LLF 12.30, see picture page 2
- Aluminium profile natural anodised, 3500 K, 1720 lm/m, 14.4 W/m, opaque cast





# VOLKSBANK AREA

Volksbank Building

Freiburg im Breisgau | Germany

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VOLKSBANK

Lightlines + Downlights

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## LED LightLine LLF 18.23

BARCODE CEILING

→ 363 m LED LightLine LLF 18.23, aluminium profile natural anodised, 4000 K, 1720 lm/m, 14.4 W/m, diffuse cover

## Downlights LED Gallery

GROUND FLOOR + 1ST FLOOR

→ See page 7



© Photos: Jochen Stüber

# VOLKSBANK AREA

## Volksbank Building

### Freiburg im Breisgau | Germany

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VOLKSBANK  
Lightlines + Downlights

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### LED LightLine LLF 18.23

#### COUNTER HALL + 1ST FLOOR

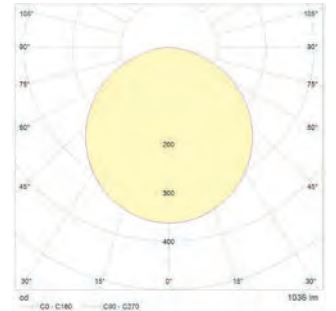
- 44 m LED LightLine LLF 18.23, aluminium profile natural anodised, 4000 K, 1720 lm/m, 14.4 W/m, diffuse cover
- Vertical installation in the ATM area
- Horizontal/vertical installation in front of the conference rooms



### Downlights LED Gallery

#### COUNTER HALL + 1ST FLOOR

- See page 7



LED LightLine LLF 18.23





# VOLKSBANK AREA

Volksbank Building

Freiburg im Breisgau | Germany



VOLKSBANK | WALL ILLUMINATION

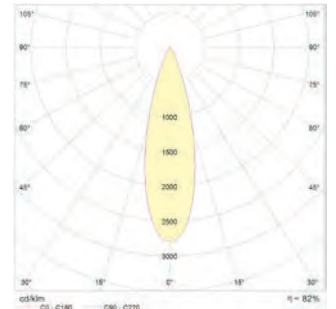
Tracklights »Aurora«

## Tracklights LED Aurora

PICTURE GALLERIES + OBJECT ILLUMINATION

→ Wall illumination

→ 14 units tracklights LED Aurora,  
aluminium housing powder-coated black,  
12°, 4000 K, 5.5 W, 630 lm



LED Aurora 28°



© Photos: Volksbank Freiburg/Photographer: Britt Schilling (below), Peter von Pigage (above)

# VOLKSBANK AREA

## Volksbank Building

Freiburg im Breisgau | Germany

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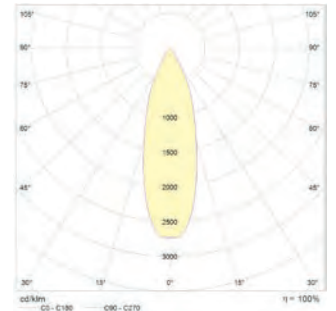
VOLKSBANK | BASIC LIGHTING

Downlights »Gallery«

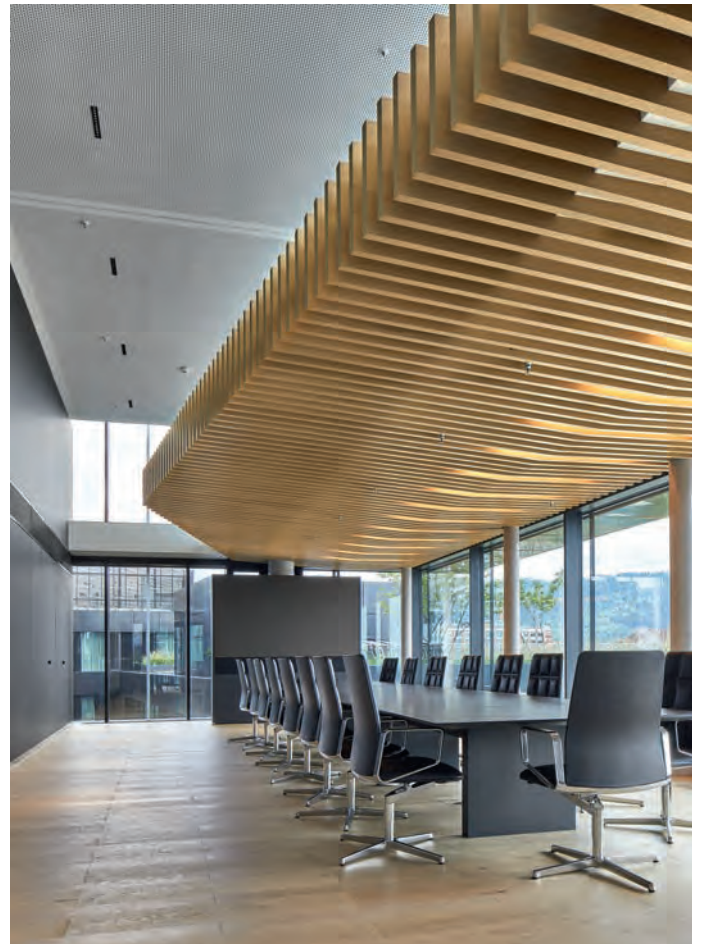
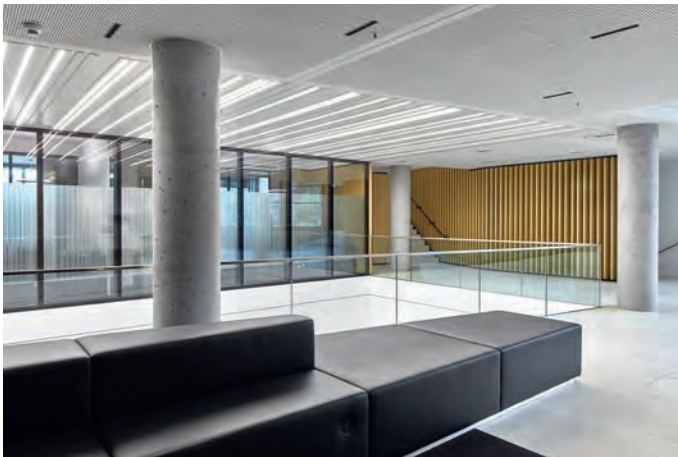
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### Downlights LED Gallery

- Basic lighting on all floors
- 394 units downlights LED Gallery 3/6/12/15, aluminium housing powder-coated black, 12°/15°/30°, 3000/4000 K, 7–23 W, 500–1700 lm



LED Gallery 30°



© Photos: Jochen Stüber (below), Peter von Pigage (above)



# VOLKSBANK AREA

Volksbank Building

Freiburg im Breisgau | Germany



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## ENTRANCE + COUNTER HALL

Linargo pendant luminaire | Standard and Special design

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## LED-Linargo 1650/1850 | Pendant luminaire COUNTER HALL

- 20 units pendant luminaires LED Linargo 1650 + 1800, aluminium housing powder-coated black, microprismatic/satinised cover, 4000 K, 3900 lm/m, max. 30.2 W/m

## LED Linargo 3000–7000 | Special design RECEPTION DESK

- 1 pendant luminaire LED Linargo 6750 + 3000, 3-pieced L-shape, aluminium housing powder-coated black, satinised cover, 4000 K, 3900 lm/m, max. 30.2 W/m
- 1 pendant luminaire LED Linargo 7000 + 5250, 4-pieced L-shape, aluminium housing powder-coated black, satinised cover, 4000 K, 3900 lm/m, max. 30.2 W direct/20 W indirect
- Matching the architecture





© Photo: TTC TimmerTechnology



# VOLKSBANK-AREAL

## Courtyard by Marriott Hotel

Freiburg im Breisgau | Germany

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COURTYARD BY MARRIOTT HOTEL  
LightLine + Linargo recessed luminaire

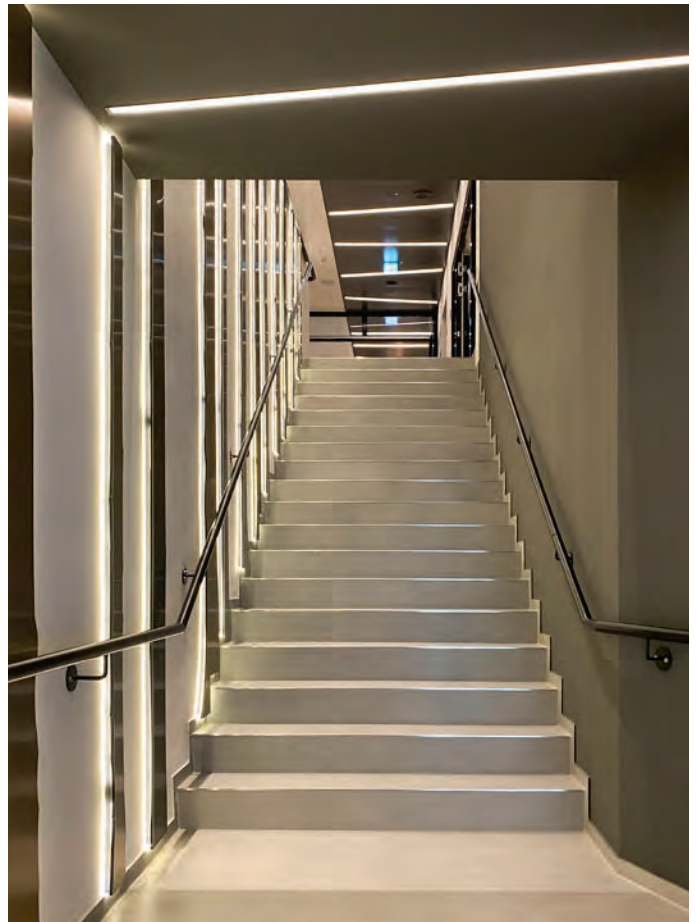
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### LED LightLine LLF 18.23

- 40 m LED LightLine LLF 18.23, aluminium profile natural anodised, 4000 K, 1720 lm/m, 14.4 W/m, diffuse cover
- Vertical installation in the staircase

### LED Linargo 1650 | Recessed luminaire CEILING + FRONT SIDE

- 18 units recessed luminaires LED Linargo 1650, aluminium housing powder-coated black, filigree trim, satinised cover, 4000 K, 3900 lm/m, max. 30.2 W/m
- Horizontal installation in the ceiling + front side



# VOLKSBANK-AREAL

## Courtyard by Marriott Hotel

Freiburg im Breisgau | Germany

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### COURTYARD BY MARRIOTT HOTEL

Linargo surface mounted luminaire + tracklights »Aurora«

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### LED Linargo 1650 | Surface mounted luminaire

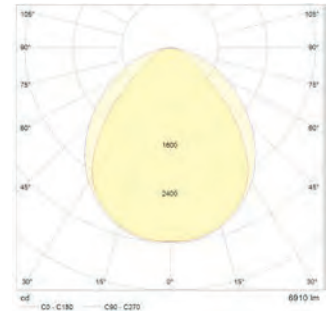
#### CEILING INSTALLATION

- 18 units surface mounted luminaires LED Linargo 1650, aluminium housing powder-coated black, satinised cover, 4000 K, 3900 lm/m, max. 30.2 W/m
- Horizontal installation in the ceiling lamellas



### Tracklights LED Aurora

- 17 units tracklights LED Aurora, aluminium housing powder-coated black, 33°, 4000 K, 5.5 W, 630 lm



LED Linargo





# VOLKSBANK AREA

St. Ursula Grammar School

Freiburg im Breisgau | Germany



ST. URSULA GRAMMAR SCHOOL | ASSEMBLY HALL

Linargo + Lightline/Voute + Downlights »Gallery«

## LED Linargo surface mounted luminaire + Special design

- 84 m/78 units surface mounted luminaire LED-Linargo in lengths from 1200 to 6505 mm, aluminium housing powder-coated black, satinised cover, 3000 K, 3900 lm/m, 30 W/m
- Matching the architecture

## LED LightLine/Voute LLF 18.23

- 45 m LED LightLine LLF 18.23, aluminium profile natural anodised, 3000 K, 1720 lm/m, 14.4 W/m, diffuse cover



## LED Downlights Gallery 15

- 40 units downlights LED Gallery 15, aluminium housing powder-coated black, 15°, 3000 K, 20 W, 1700 lm



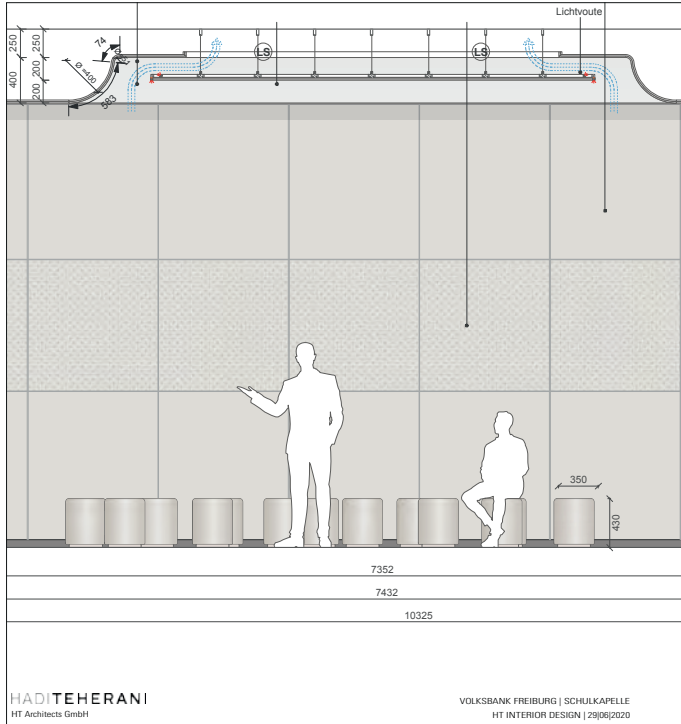
# VOLKSBANK AREA

## St. Ursula Grammar School

### Freiburg im Breisgau | Germany

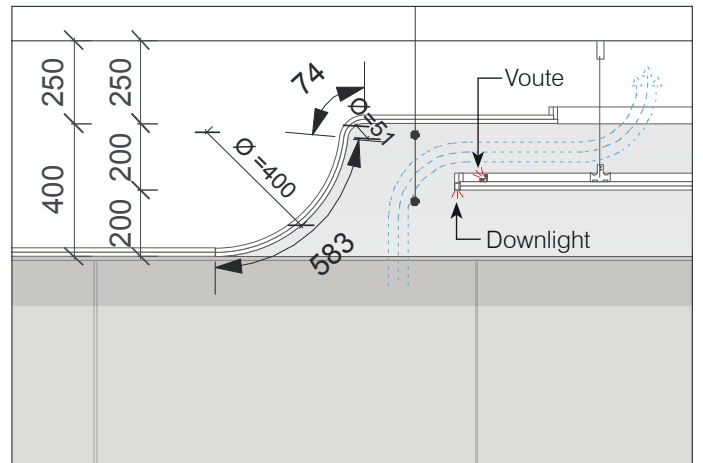


ST. URSULA GRAMMAR SCHOOL | SCHOOL CHAPEL  
 Linargo special design recessed luminaire round



### LED Linargo round | Special design

- 1 recessed luminaire LED Linargo direct radiant and 1 LED Voute LightLine LLF 18.23 (as on page 10)
- round 12.3 m,  $\varnothing$  3.9 m, aluminium housing powder-coated white, satinised cover, 3000 K, 3900 lm/m, 30.2 W/m





ARCHITECT  
Structurelab, Düsseldorf

## An elegant eyecatcher

During the day, the monolithic, shiny black building appears restrained among the partly colourful, partly exalted buildings in Düsseldorf's trendy Medienhafen. But at night, light and colour suddenly come into play.

The stairwell, for example, is not only bathed into light by the light lines attached to the flights of stairs, but even resembles light art when viewed from the outside. The night-time façade lighting of the glass cube also comes from inside. For this purpose, the convector shafts behind the glass façade were covered with homogeneous TTC linear gratings, which correspond to the covers of the external façade gutters over all floors, and were also combined with LED ConLights. The luminaire inserts, mounted flush between the linear gratings at each of the façade joints, are each equipped with three LEDs in RGB and covered with glass so that they can be walked on.





NIGHT LIGHTING ON FAÇADE AXES

LED Floor Luminaires, LED-ConLight + homogeneous TTC Linear gratings for convector shaft covering

LED Floor Lighting | Ground floor

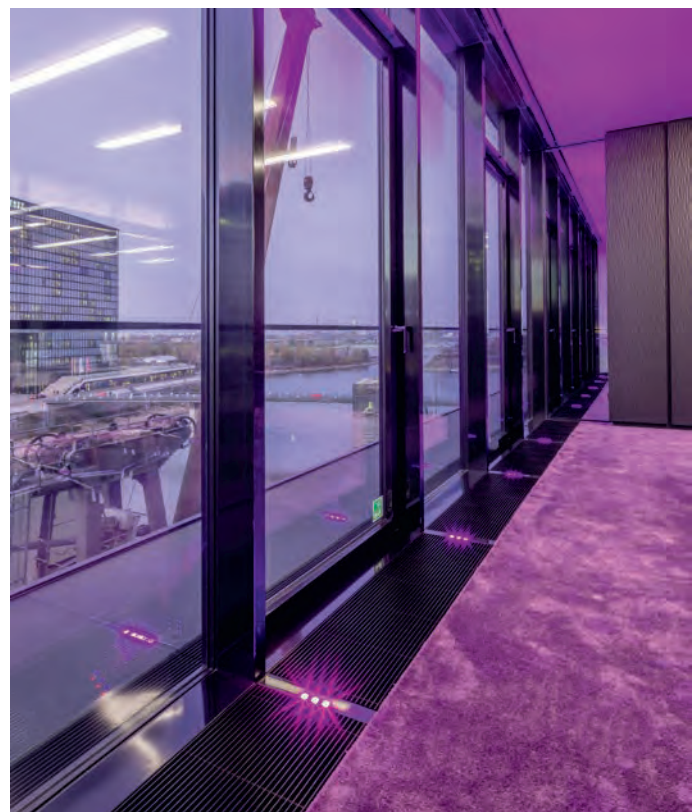
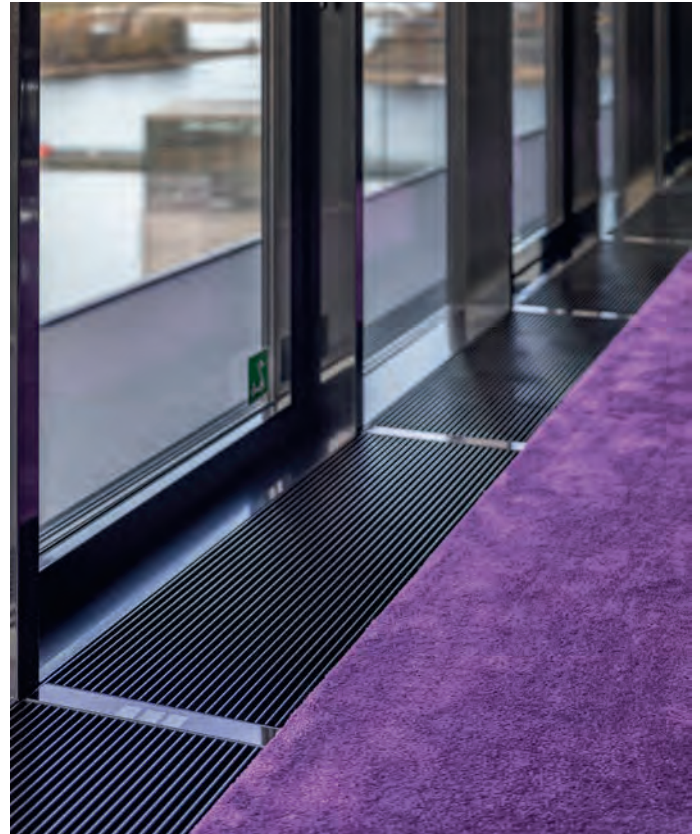
NIGHT LIGHTING

- 14 units LED floor luminaire type LF15.6-RGB, 150 x 60 x 120 mm [LxWxH], cover with VSG safety glass with black passepartout print, 3 x RGB 3in1 each, 350 mA, 11 W, IP67, can be rolled over by car up to 1.5 t, DALI dimmable, incl. stainless steel floor recessed housing and external power supply

LED-ConLight + TTC Linear gratings

NIGHT LIGHTING + CONVECTOR COVER

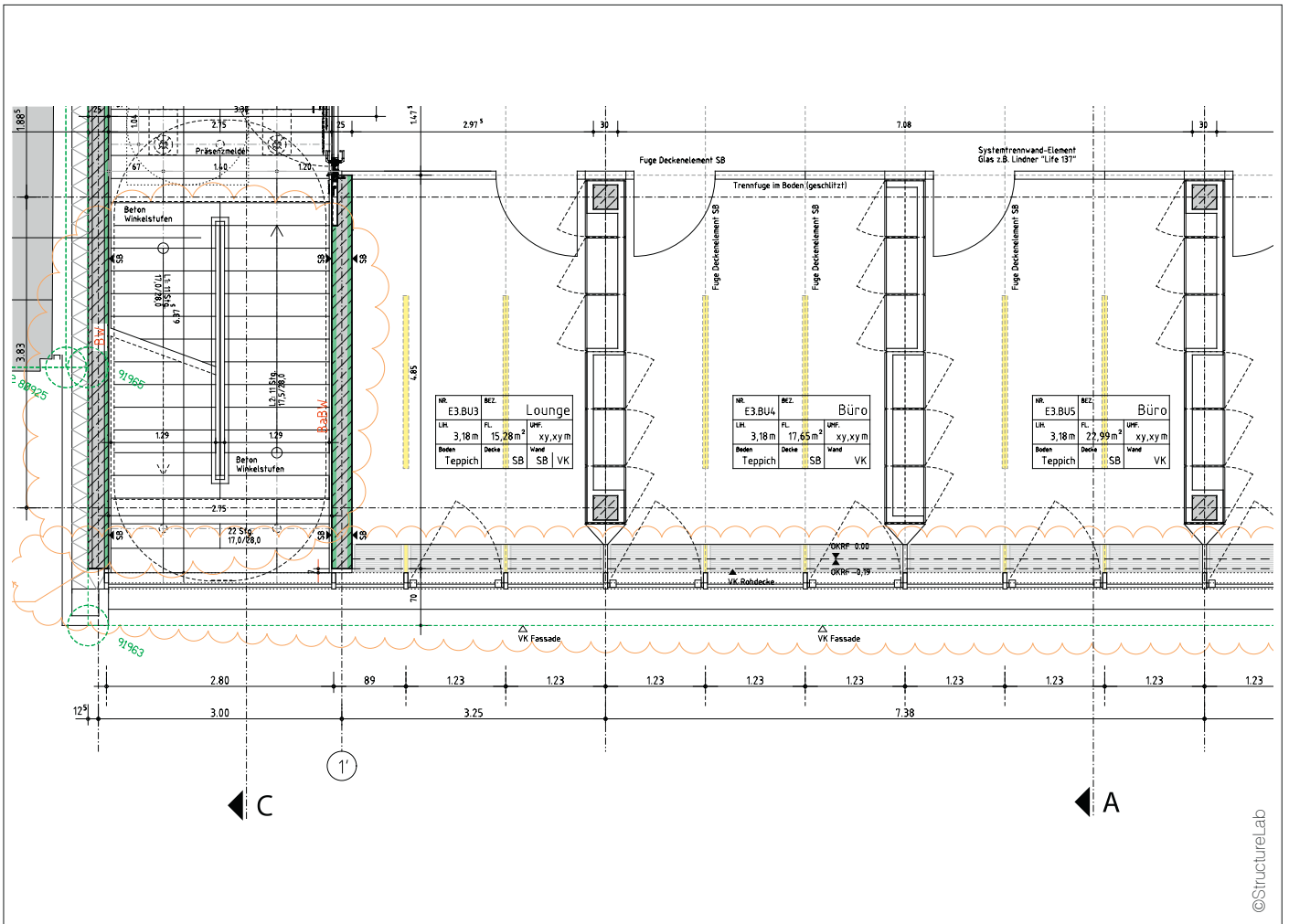
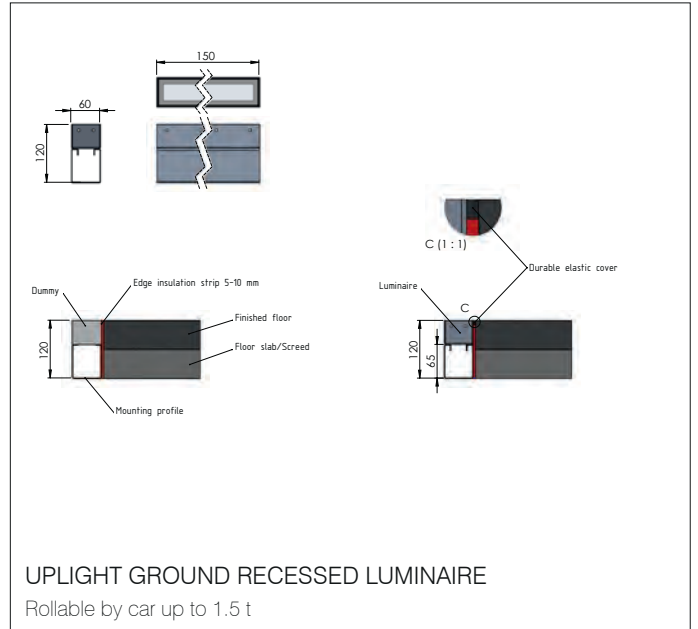
- 121 units LED ConLight, light inserts for convector shafts, 342 x 50 x 18/37 mm [LxWxH], 8 mm toughened safety glass with black passepartout print and edge trim on long side to convector grille; 3 x RGB 3in1 each, 350 mA, 11 W, IP65
- 190 metres TTC linear grilles type KSF18.3.77 made of aluminium with RAL9005 silk-gloss powder-coating, flange profile 18/3 mm, 10 mm profile spacing = 77 % free air passage, profiles welded without rattling on combs, total height 37 mm, constant profile spacing also to frame edge, aluminium angles continuously mounted on on-site chamfered convector shafts with mounting for LED-ConLights on façade joints





UPLIGHT GROUND RECESSED LUMINAIRE

Pictures + technical drawings

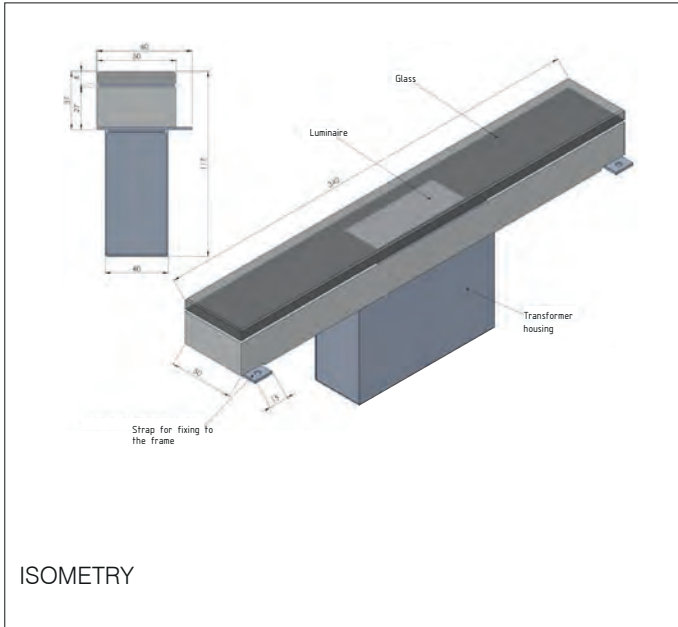


© Photo: Peter von Pigage

©StructureLab

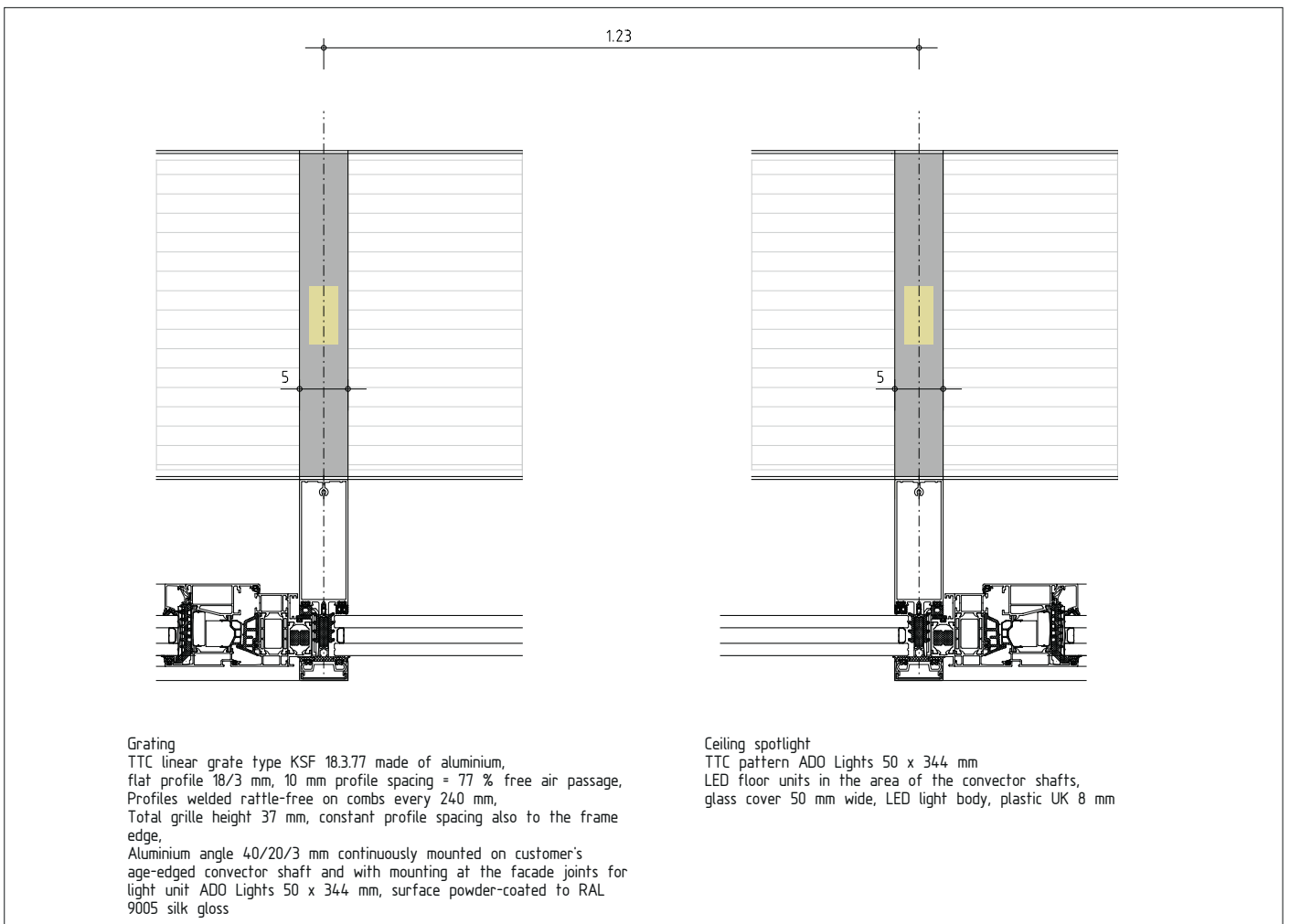
CONLIGHT

Pictures + technical drawings



CONLIGHT

Walk-on floor spotlight for installation in combination with TTC grids





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## LIGHTING STAIRCASE + HANDRAILS ROOF TERRACE

LED LightLines

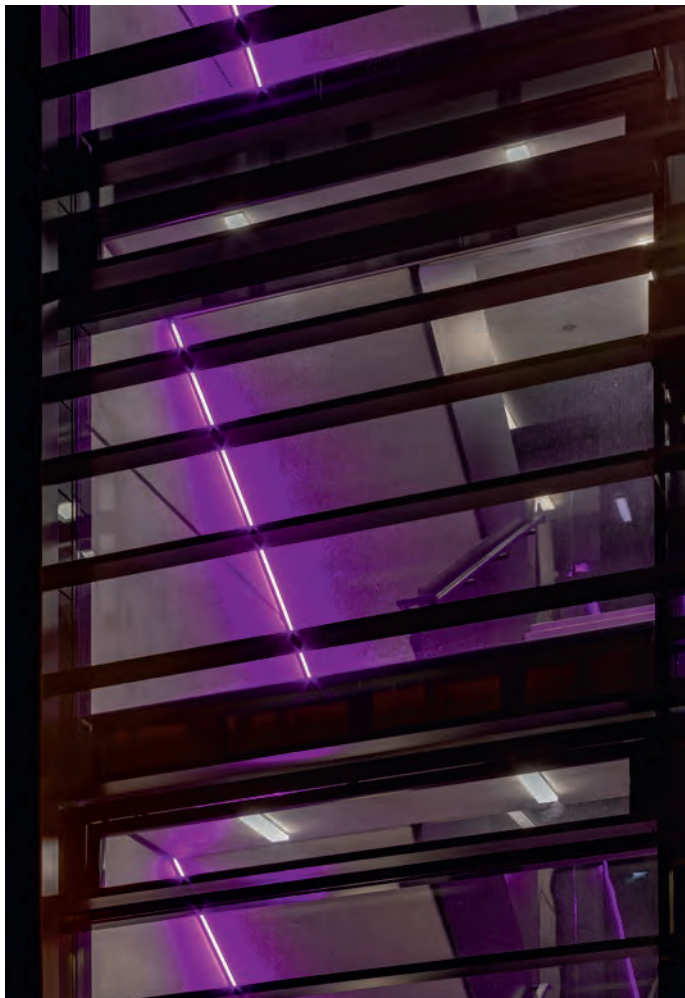
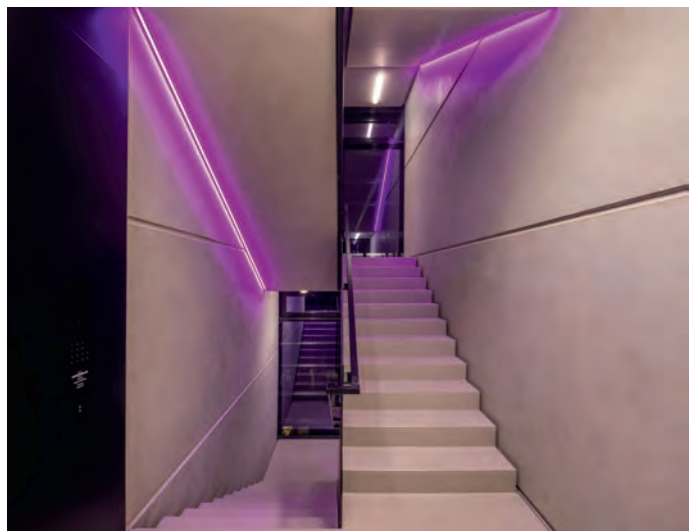
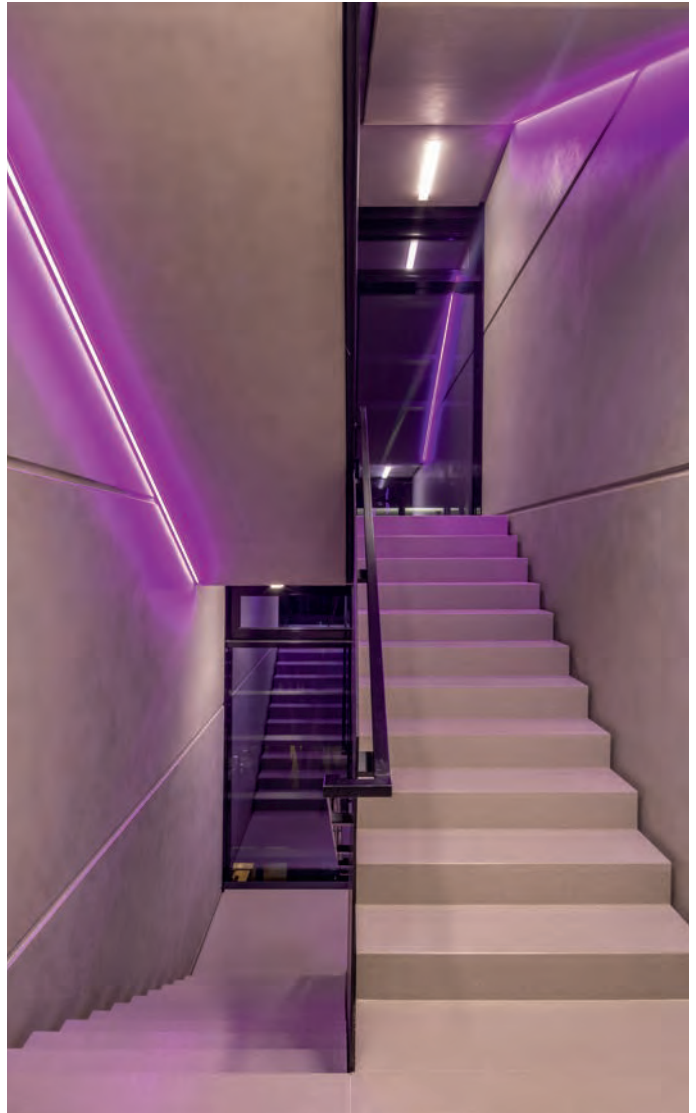
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### Staircase

→ 47 metres LED surface mounted light line type LLF 40.20, 40 x 20 mm [WxH], in lengths of 3,600 mm, natural anodised aluminium, opaque moulded, PMMA cover, LED RGB+W, 4000 K, 19W/m, 24 VDC, IP44, DALI dimmable, incl. magnetic mounting + power supplies

### Handrails roof terrace

→ 12 metres LED surface mounted light line type LLF 40.20, aluminium profile 20 mm wide, natural anodised, in various [max. 2,005 mm], total height 53 mm, opaque moulded, SMD LED white 4,000 K, 19W/m, 24 VDC, IP67, incl. magnetic mounting



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## DRAINAGE + COOLING

TTC Façade/Slotted channels, homogeneous TTC Linear gratings + GraviVent® – silent gravity cooling

.....

## Façade drainage

### FAÇADE

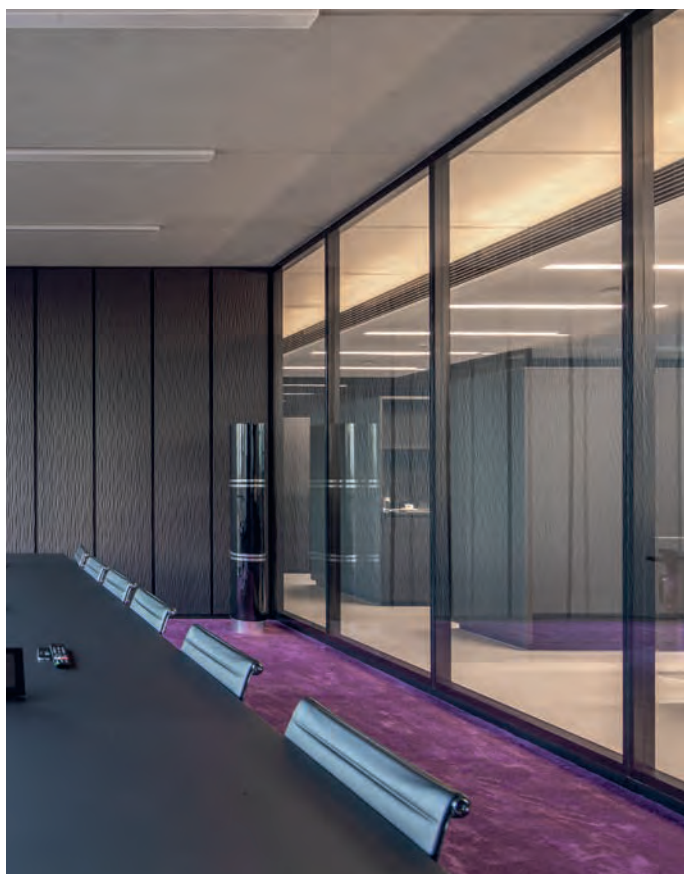
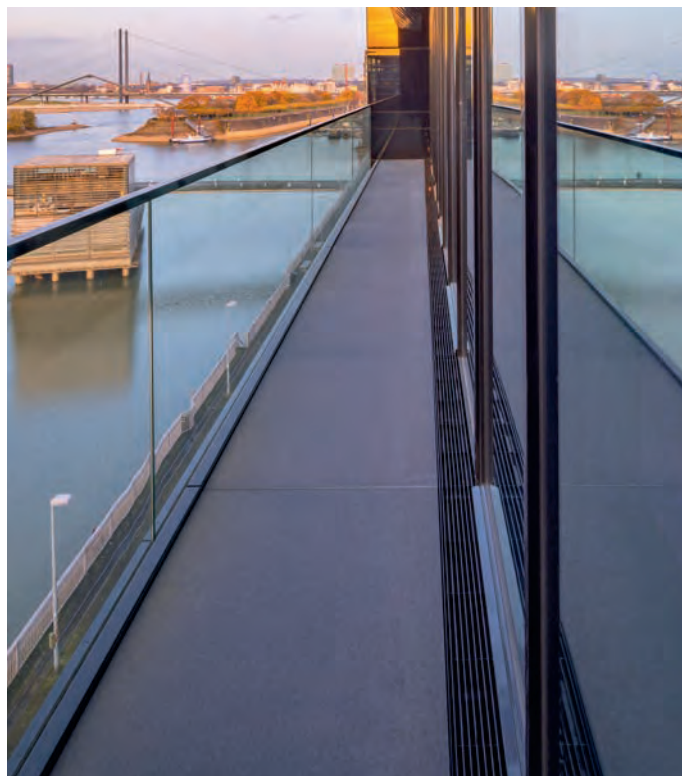
- 21 metres TTC façade channels type FR10/K, trafficable up to 10 Kn wheel load, channel height 125 mm, width 100/90 mm, length 1215/1230 mm, with drain socket DN70
- 19 metres TTC linear gratings type KSF18.3.77 (see p. 3) surface black burnished, height 40 mm
- 2.5 metres TTC slotted channels type SR15/1, black steel, trafficable, with drain socket DN70, slot height 80 mm, slot spacing 11 mm, channel height 120 mm

### BALCONIES

- 105 metres TTC linear gratings type KSF (see p. 3), 5 units, 20910 x 100 mm in 17 pieces 1230 mm each, bar run in longitudinal direction, aluminium angles welded on both sides

## TTC GraviVent® – silent gravity cooling

- 5 units TTC GraviVent® type ISHK-W 20.51.2L/R2  
Cooling case: 1.35 m active fall duct height, flow/return temperature 12/16 °C, room temperature 26 °C, cooling capacity 1000 W





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CLIENT | ARCHITECT

die developer, Düsseldorf | sop slapa oberholz pszczulny architekten, Düsseldorf

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## Sophisticated and efficient

With its brick walls, a part of the former barracks seems to emerge from a new building. Its metallic outer skin, with its small, irregularly arranged windows reminds one of a piano keyboard. And this impression does not spring from nowhere: this ensemble in the Derendorf district of Düsseldorf is called »Clara & Robert«. This name pays tribute to Robert and Clara Schumann: After all, from 1850 the composer, supported by his wife, was the municipal director of music in Düsseldorf.

This striking ensemble was planned and realised by the architectural office of sop slapa oberholz pszczulny architekten. The impact is emphasized by a clear light concept: The interior and the exterior lighting of the two closely interlinked buildings, which together with the adjacent new building cover an area of approximately 19,000 square metres, stems from a single source. ADO Lights, a TTC Timmler brand, has equipped the buildings.





TASK

Façade illumination

»Robert«

On »Robert«, light lines integrated in the façade, guide the viewer's eye to the entrance area of the so called Saarhaus of the former Ulan Barracks. Wallwashers, whose angles can be individually chosen, illuminate the old walls from below. LED-DrainLight was selected for this:

The stainless steel housing has a glass cover to ensure that neither dirt nor withered leaves can affect the radiant power of the illuminants. From a practical point of view: When – someday – the long-lasting illuminants need to be replaced this can be done in just a few simple steps. Internal metal channels ensure that condensed water and rainwater can drain away easily.

The Wallwashers and the light lines emphasize the historical part of the ensemble. This sparingly ornamental effect is continued in the interior lighting. It is a silent aesthetics that corresponds with the reliable public perception of the anchor tenant – auditing firm Warth & Klein Grant Thornton. The firm has merged its various locations, which had been scattered

throughout the town, in the »Robert« part of the building and now occupies 7,400 square metres.





TASK

Illumination for conference and meeting rooms

The newly created offices were equipped with the LED-Around. As a pendant luminaire it lights conference and meeting rooms, offering both, a slim minimalist aluminium profile and a high-quality finish. Switched off, the illuminant appears transparent and thus has a light and airy appearance. Microprisms embedded in the glass may be visible as tiny dots. Switched on, LED-Around provides a pleasant, homogeneous light, 40 per cent being emitted upwards and 60 per cent being emitted downwards. The luminaire is infinitely dimmable, a big advantage, for example, when using a beamer for presentations.



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TASK

Workplace illumination

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The workplaces were equipped with the LED-Around as a freestanding luminaire. This does not only ensure the mandatory 500 lux per desk. Thanks to their intelligent but primarily energy efficient overall concept the sensor equipped luminaires automatically react to any increase or decrease in daylight. Each luminaire is equipped with a presence detector: It detects whether or not a person is at his/her workplace and switches the luminaire on or off accordingly. »Swarm circuitry« ensures a pleasant ambience. It can be used to combine sev-

eral luminaires in a network. This means that workers from this group, who are present, have full light on their desks, while other unoccupied desks in this group are illuminated with just ten per cent of the possible light output. Hence, no one needs to work in an otherwise dark office. Even when the last employee leaves the office, the freestanding luminaire provides 10 per cent of its light output for another 15 minutes before it finally turns of .





TASK

Basic illumination

»Clara«

In the »Clara« part of the building, ADO Lights has contributed flush fitted wall luminaires as well as the lighting in the foyer. LED-Linargo was used as both a recessed and a pendant luminaire. Special features: a filigree profile, a high-quality finish, a totally homogeneous light. Efficiency was once again paid attention to. The operation of the recessed lights can be programmed to emit less lumens at night or to provide emergency lighting in case of a power failure. As a pendant luminaire LED-Linargo emits indirect illumination upwards and direct but still glare-free illumination downwards. During the hours of darkness the luminaire can be switched to indirect illumination. For example, if illumination of the building is desired – simply because exceptional architecture should also be visible at night.



FAÇADE AND INTERIOR ILLUMINATION

Products

Clara + Robert | Products

»ROBERT« SAARHAUS | FAÇADE ILLUMINATION

- 46 m LED-LightLines 3000K integrated in the façade
- 14 LED-WallWashers, each 1250 x 650 x 150 mm with stainless steel installation box and glass covering; angle individually adjustable to the illuminated object

»ROBERT« SAARHAUS | OFFICE ILLUMINATION

- 28 LED-Around pendant luminaires for meeting rooms, length 1200 mm and 2400 mm, width 200 mm each, very filigree profile [20/20 mm], black anodised
- 100 LED-Around standing luminaires for workplaces, dimmable, mainly with presence detector, very filigree profiles, white powder-coated

»CLARA« FOYER 1 + 2, GLASSBOX | BASIC ILLUMINATION

- 57 LED-Linargo pendant + recessed luminaires, tot. 100 m
- Pendant luminaires with top lighting part, each 3126 x 30 x 70 mm, top lighting partly switched for emergency lighting, separately switchable, at night for effect lighting
- Recessed luminaire 2846 mm each, partly featuring emergency lighting function





LIGHTING DESIGN  
ÅF Lighting, Stockholm

## Functional and staged

The Grand Hôtel has been Stockholm's first address since 1874. A venerable house in which the Winter Garden, built in 1909, hosts large elegant events such as the gala dinner and the Noble Price festivities.

But time has not stood still here either, and ÅF Lighting lighting designers have implemented a concept that combines architectural, event and functional lighting.

For the architectural lighting of the columns, arches, windows and balustrades, glare-free ground-level spots, equipped with nano-LEDs were embedded flush in the floor.

## Products

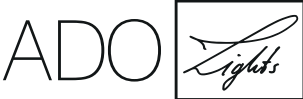
- 40 units ground-level spots type 1 | 376 x 98 mm
- 15 units ground-level spots type 1 | 709 x 98 mm
- 1 unit ground-level spots type 2 | 2235 x 98 mm
- 1 unit ground-level spots type 2 | 1615 x 98 mm
- 1 unit ground-level spots type 2 | 1460 x 98 mm
- 1 unit ground-level spots type 2 | 14 435 x 98 mm
- Stainless steel housing AISI304, internal adjustable bracket for attaching the nano-LEDs; removable cover made of toughened safety glass 8 mm, stainless steel frame 10/10/2 mm, 10 mm mat print black; adjustable feet for exact, flush fit





# GRAND HÔTEL

Stockholm | Sweden



WINTER GARDEN | BANQUET HALL  
Ground-level spots for architectural lighting



© Photos: Åke E:son Lindman



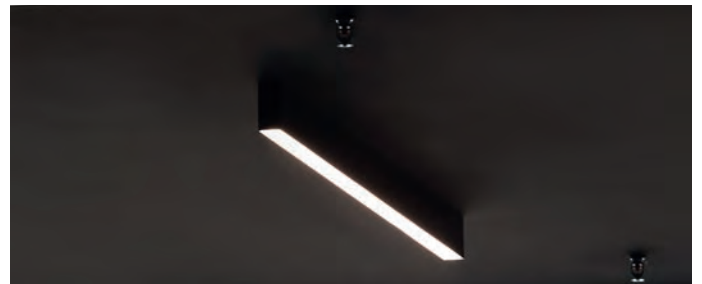


ARCHITECT | CLIENT

slapa oberholz pszczulny | sop architekten, Düsseldorf | die developer, Projektentwicklung Düsseldorf

## Products

- LED-Linargo 15, 16 units surface-mounted luminaires, 5 units pendant luminaires, aluminium housing powder-coated according to RAL, opaque cover with satin PMMA for homogeneous light spread, LED white 4000 K, light beam angle 120°, approx. 45 W, IP40, dimmable with DALI interface, 1550 x 38 x 80 mm [L x W x H]
- 8 units LED-DownLights, recessed luminaire, aluminium housing black, 24° aluminium reflector adjustable up to 20°, LED white 4000 K, 9 W, dimmable with DALI interface, 105 x 83 mm [ø x H]
- LED-Linargo 24 recessed luminaire, aluminium housing natural anodised, opaque cover with satin PMMA for homogeneous light spread, LED white 4000 K, light beam angle 120°, approx. 70 W, IP40, dimmable with DALI interface, 2414 x 60 mm [L x W]





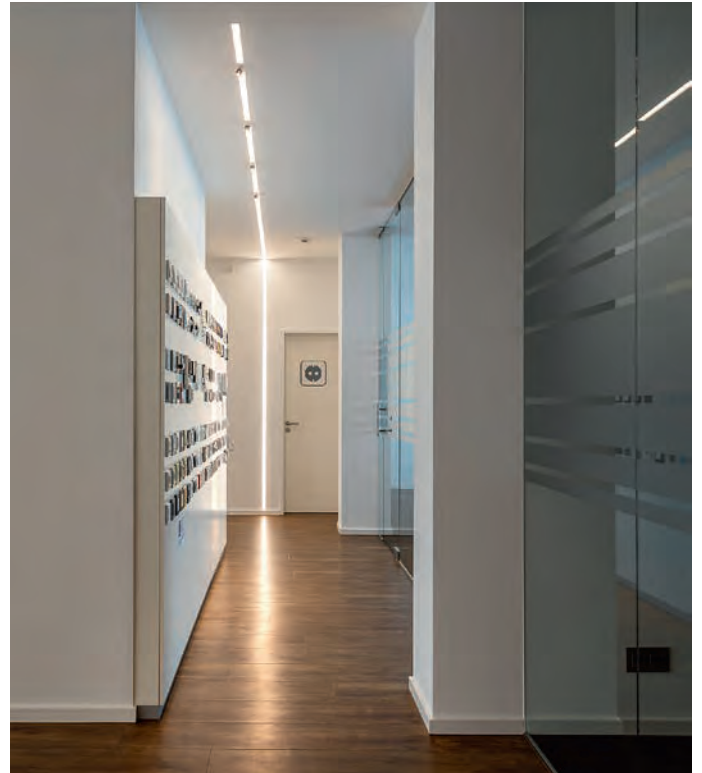


CLIENT

Georg Eickholt Elektro GmbH

Products

- LED-Linargo recessed luminaire, Aluminium housing white powder-coated, opaque cover with satinised PMMA for homogeneous light spread, LED white 3000 K, 30 W/m, dimmable with DALI interface,  
1 x total length 5370 mm  
1 x total length 2860 mm  
1 x total length 2690 mm
- 22.46 m LED-Voute with light line type LLF 18.12 aluminium profile natural anodised with opaque cover, LED RGBW (white 3000 K), 19.2 W/m, DALI dimmable, partial length 2,000 plus fitting piece
- 4 units LED-Luc, 1–3 W, 3000 K, 25° lenses, DALI dimmable, incl. power supply unit for multiple spots





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ARCHITECT

slapa oberholz pszczulny | architekten, Düsseldorf

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### Glare-free illumination of the staircase

Glare-free illumination of the staircase in front of the academie without mast luminaires. Integration of ADO Lights in-floor installed LED-LightLines type LLF 12.30 in every second stone step.

### Pendant Baffle Luminaire in acoustic panels suspended below the ceiling

Illumination of the working plane of the foyer with 300 lx through integration of ADO Lights pendant baffle luminaires type LED-Linargo BL-300 after every third of acoustic panel suspended below the ceiling.



PRODUCTS | LED-LIGHTLINE

Technical specification

Products

- 16.5 m of LED-LightLines type LLF 12.30, 12 mm wide, LED white 3000 K, 24VDC, 19 W, opaque sealed, IP68, straight version, connection cable 1 m with plug connector IP67, mounting housing made of aluminium, total height 45 mm, in single lengths 15 units with each 1100 mm
- Incl. 3 LED power supplies MW HLG150, 24VDC, 150 W, IP67, for max. 7 m of LED-LightLines, 3 LED overvoltage protectors IP65, type DCOR L 2P 275 SO IP, connection cable IP65





PICTURES

Acoustic baffles suspended below the ceiling in combination with pendant baffle luminair



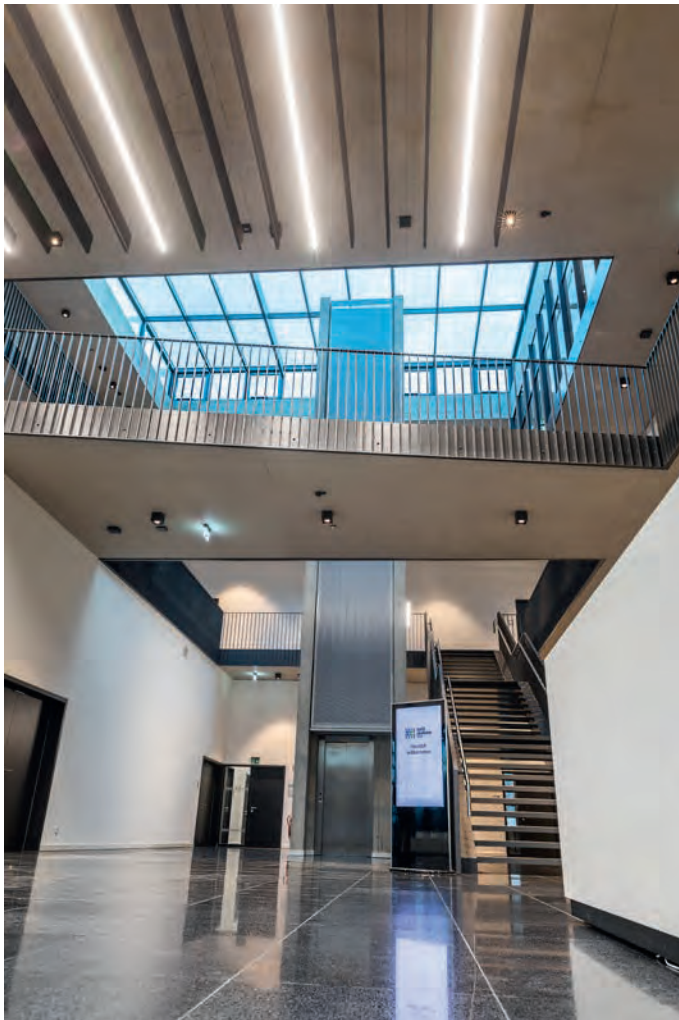
© Photos: Peter von Pigage

PRODUCTS | BAFFLE LUMINAIRE

Technical specification

Products

- 51 m, LED-Linargo BL-300 pendant luminaire, height 300 mm, made of aluminium powder-coated according to RAL, LED white 4000 K, light beam angle 120°, max. 31 W/m, 148 lm/W, narrow colour tolerance MacAdam Step3, integrated power supply, dimmable DALI, opaque cover made of satinised PMMA for homogeneous light emission, IP rating IP40, stainless steel cable suspension 1.3–3.5 m and supply line 2–5 m transparent
- Dimension: 42 x 300 mm (B x H)  
Length: regular length 1970 mm plus fitting length for continuous rowing according to the individual lengths of the acoustic panels





# JURY COURTROOM

## Landgericht [District Court]

### Wuppertal | Germany

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ARCHITECT | ELECTRICAL DESIGN

Dipl.-Ing. Martin Hebgen, Duisburg | Ing. Hans Quel, Wuppertal

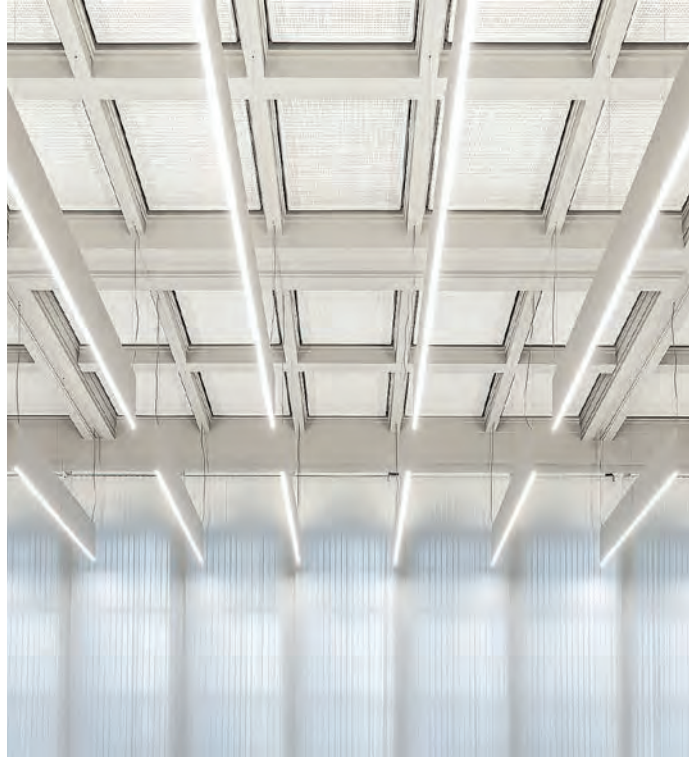
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### Silence in court

The largest courtroom of the Wuppertal District Court is the jury courtroom: no old splendour, but a relic of the post-war period before the current renovation, as the part of the building in which the courtroom is located were severely damaged by bomb hits during Second World War.

The renovation of the much-used courtroom took into account the fact that modern media technology is increasingly used in trials, which means that audio recordings and video conferences must be clearly perceptible throughout the room.

In addition, the richly profiled coffered ceiling from the 1950s was to be preserved. This is the ideal location for the ADO Lights pendant baffle luminaires, which take up the structure of the ceiling, thereby ensuring better acoustics and, equipped with seperately switchable and dimmable LED Linargo pendant luminaires, provide direct and indirect lighting. Depending on the time of day, the brightness of the basic lighting can be optimally regulated.



© Photos: Peter von Pigage





# GRAND NANCY THERMAL

Nancy



ARCHITECT  
Anne Démians, Paris

## Light and Water

Nancy may not be particularly large, but the city is truly an experience with its numerous Art Nouveau buildings and spacious squares.

One of these buildings is the thermal baths, which architect Louis Lanternier began building in the 1910s, but which remained unfinished due to Lanternier's death and the onset of the First World War.

The complex is now a listed building. In recent years, it has been extensively restored and completed with modern elements in a »hybridised« way. All the original components are kept in white, all the new ones in black.

Consequently, black Linargo baffle luminaires now hang in the entrances, which bring light into the entrances areas and at the same time benefit the acoustics

In addition, the filigree pendant luminaire variant of the LED Linargo was chosen as the basic lighting for the thermal spa's boutique.



© Photos: M. O. da Silva Pinto

# GRAND NANCY THERMAL

## Nancy

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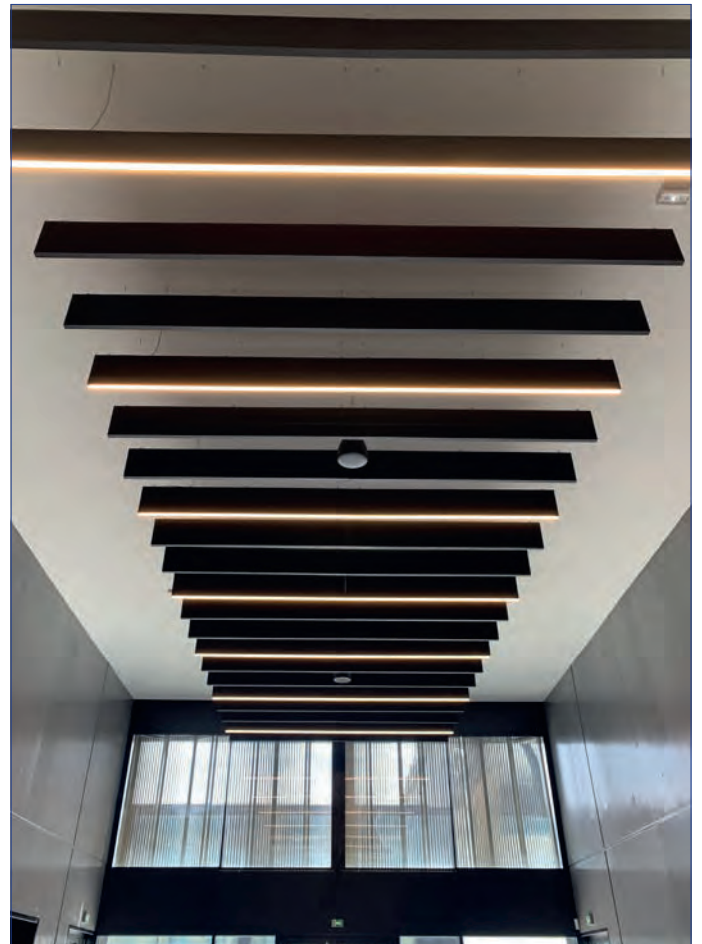
### ENTRANCE AREAS

Pictures + product information

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### LED-Linargo BL

- 36 LED-Linargo BL-300, 4000 x 40 x 300 mm [LxWxH], filigree pendant luminaire with attached acoustic baffle, custom colour »dark diamond«, stainless steel cable suspension
- IP40, LED White, 3000 K, 13 W/m, 102 lm/W, 120° light beam angle, micro prismatic cover, UGR > 19, CRI > 85, DALI dimmable





# GRAND NANCY THERMAL

## Nancy

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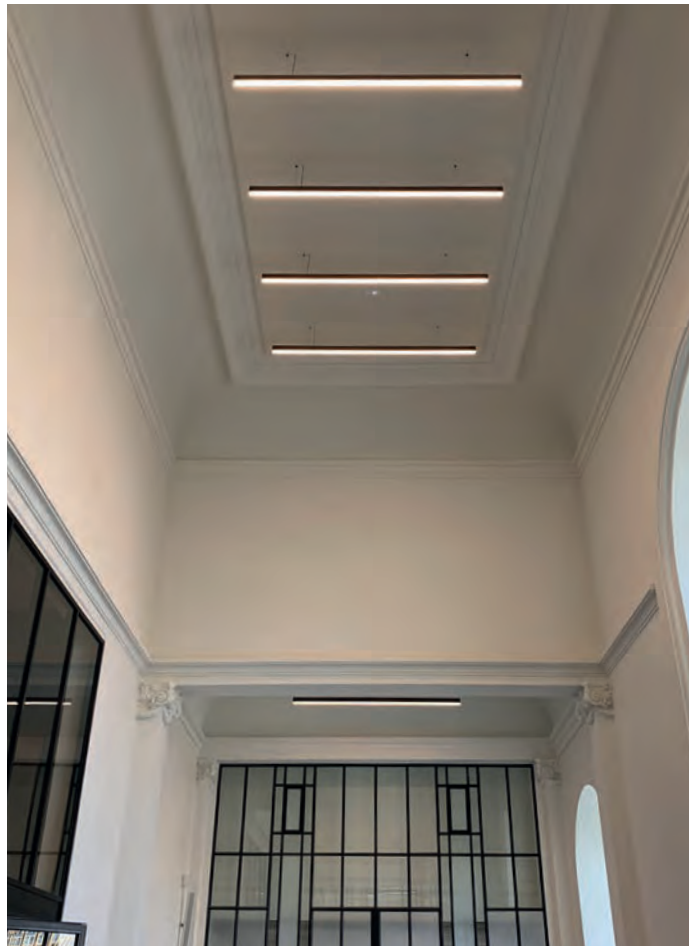
### BOUTIQUE ILLUMINATION

Pictures + Product information

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#### LED-Linargo pendant luminaire

- 28 LED-Linargo BL-300, 4000 x 40 x 300 mm [LxWxH], filigree pendant luminaire with stainless steel cable suspension, custom colour »dark diamond«
- IP40, LED White, 3000 K, 13 W/m, 102 lm/W, 120° light beam angle, micro prismatic cover, UGR > 19, CRI > 85, DALI dimmable









© Photo: Herring Staudt







### LIGHTING DESIGN

Studio DL, Hanover

## Dynamically illuminated

Hanomag – the Hannoversche Maschinenbau AG – is not only known to Hanoverians. The company's former administration building, built in the 1920s, was recently extensively renovated and converted into business lofts.

The historic building was deliberately complemented with modern elements, which are consistently made of anthracite-coloured metal throughout the building.

Part of the lighting concept is the dynamic LED-Linargo as a continuous pendant luminaire, which follows the path through the building and emits both direct and indirect light. The beautiful cross vaults are thus optimally staged, but at the same time posed a challenge, because in some cases there were only suspension points every four metres. In the entrance area of the complex, the LED Luc spotlights integrated on the LED-Linargo set additional accents.

In the same look as the suspended LED-Linargo with grey-coated aluminium profile, there are LED-LightLines again as vertical, straight wall luminaires in the stairway on the newly installed metal staircase.



# HANOMAG BUSINESS LOFTS

Hanover



CROSS VAULT

LED-Linargo | straight + curved





LED-LINARGO | PENDANT LUMINAIRES

Pictures + product informations

### LED-Linargo | straight + curved

- Pendant luminaire LED-Linargo direct/indirect, 38 x 80 mm [WxH], aluminium DB703 coated, satin PMMA cover, LED White, 4000 K, light beam angle 120°, max. 31 W/m direct, 24 W/m indirect, CRI > 80, 163 lm/W, seperately switch-/dimmmable, DALI
- Continous strip arrangement in partial lengths of max. 4,7 m
- 137 running metres straight version  
35 running metres cirved version

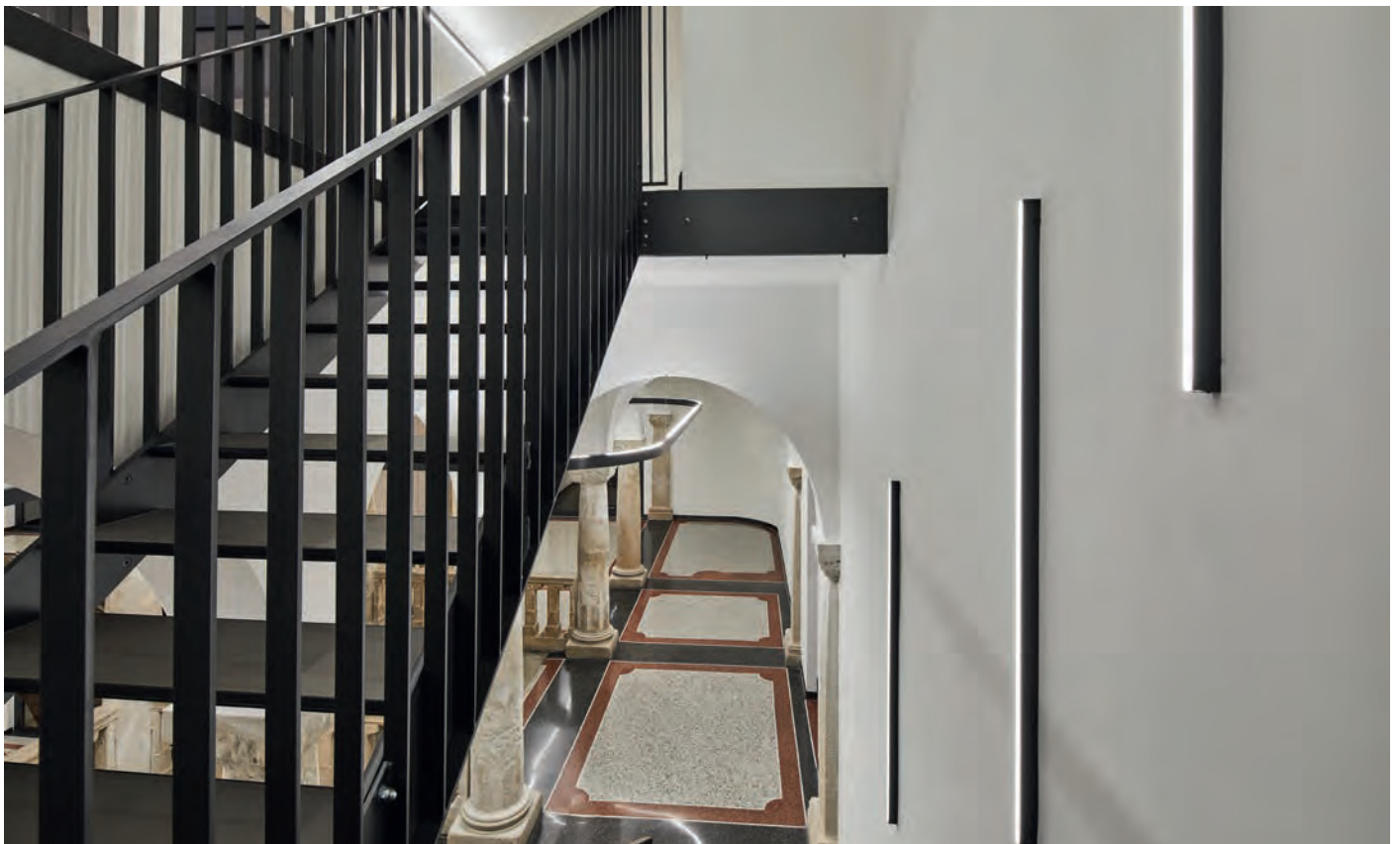
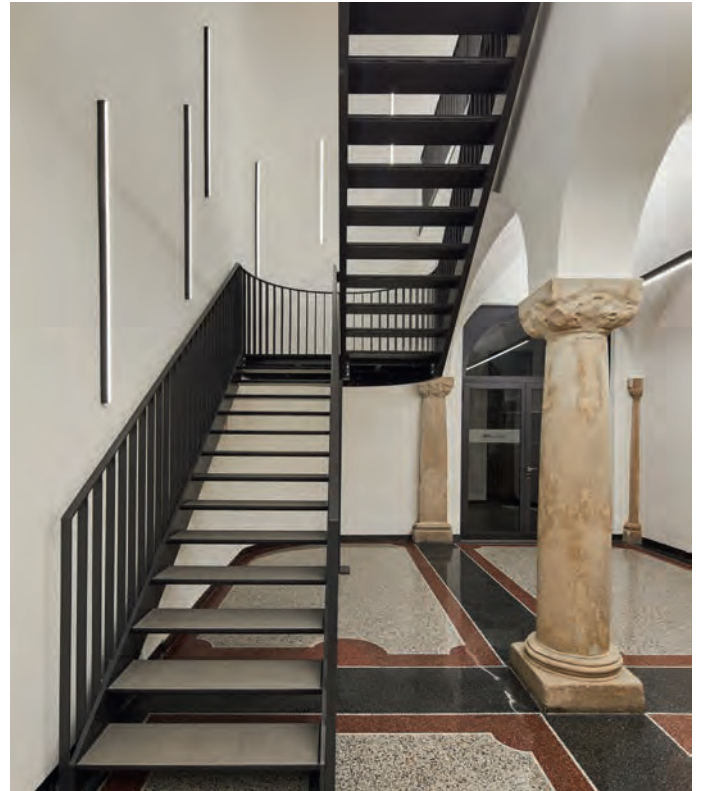


LED-LIGHTLINE | WALL LUMINAIRES

Pictures + product informations

### LED-LightLine as wall luminaire

→ 6 units LED-LightLine LLF 20.40, straight version, 1500 x 20 x 40 mm [LxWxH], aluminium DB703 coated, satin PMMA cover, LED White, 4000 K, 14,4 W/m, dimmable, DALI





LED-LUC | INTEGRATED IN LED-LINARGO

Pictures + product informations

### LED-Luc | flexible spo

→ 6 units LED-Luc 60-1 spots, integrated in LED-Linargo, fully rotatable/tilting spot with ball joint, aluminium housing powder-coated according to RAL, LED white, 4000 K, max. 9 W, cc 250 mA, reflector 30°, can be dimmed/switched seperately, including DALI power supply unit



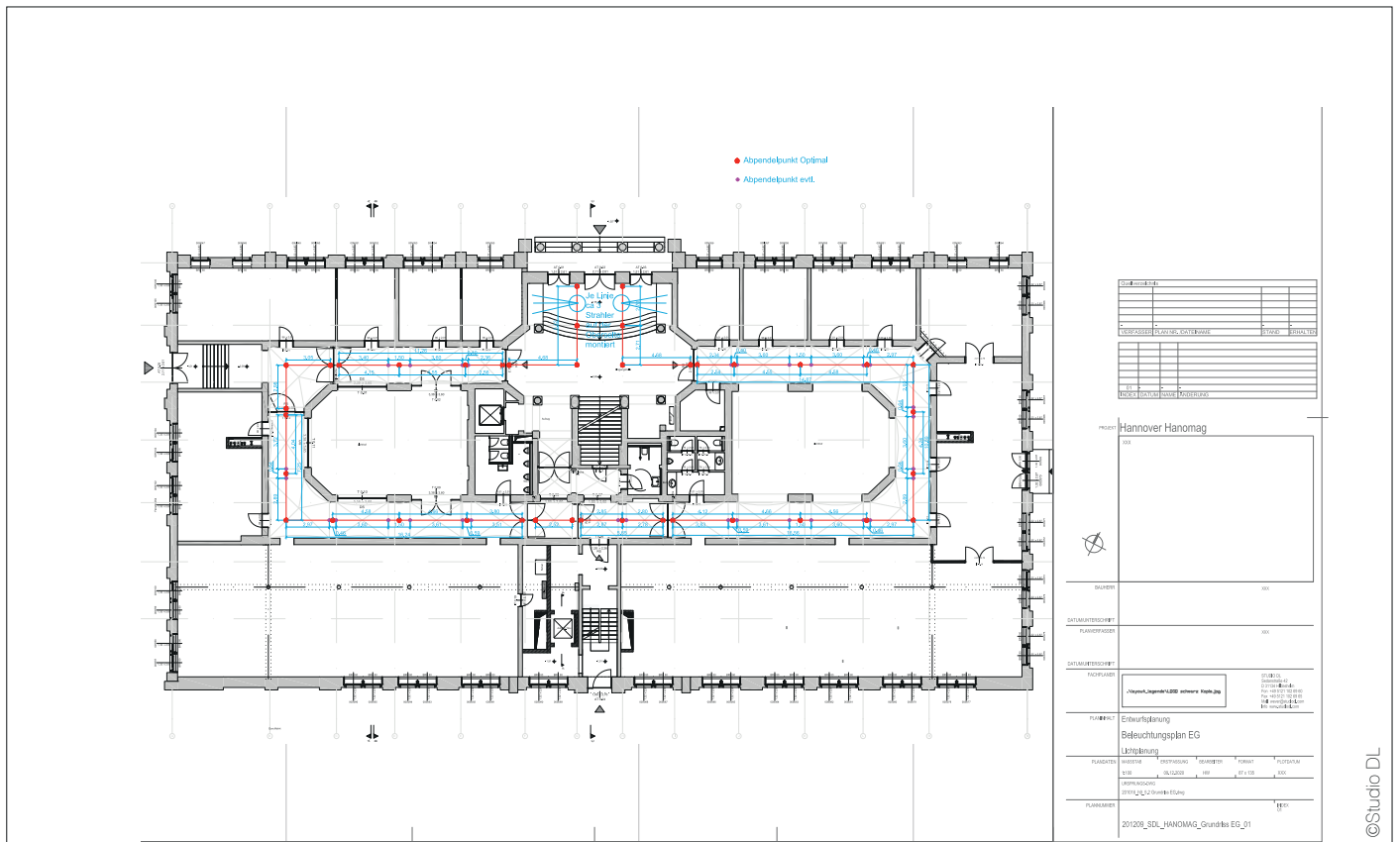
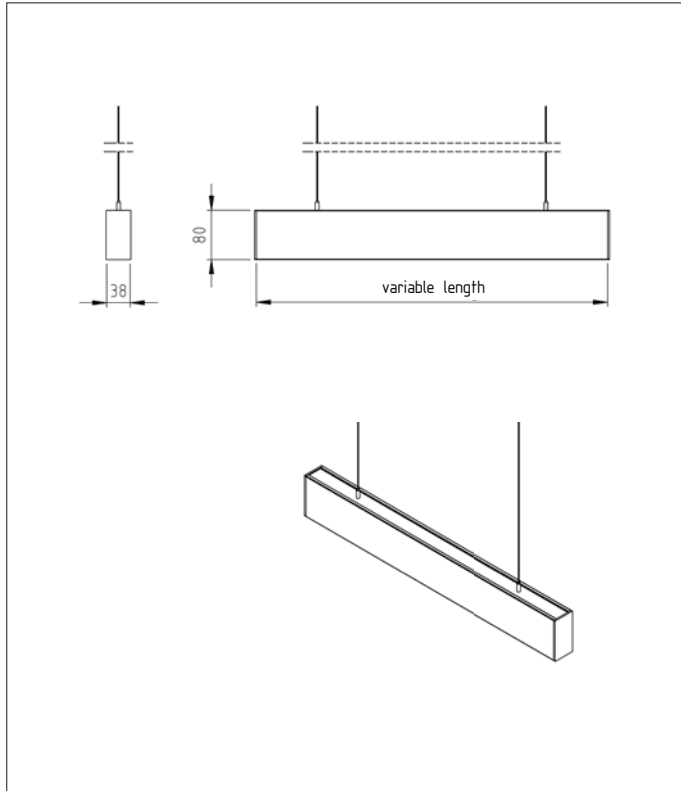
# HANOMAG BUSINESS LOFTS

## Hanover



### TECHNICAL DRAWINGS

LED-Linargo + ground floor pla



© Photo: Peter von Pigage

PROJEKT	Hannover Hanomag
BAUWEISE	EG
STADIUM/SCHRIEBT	PLANNING
PROJEKTLEITER	
STADIUM/SCHRIEBT	
PROJEKTLEITER	
PROJEKT	Erweiterung Beleuchtungsplan EG
PROJEKTLEITER	201209_SDL_HANOMAG_Grundris EG_01

©Studio DL



ARCHITECTURAL OFFICE

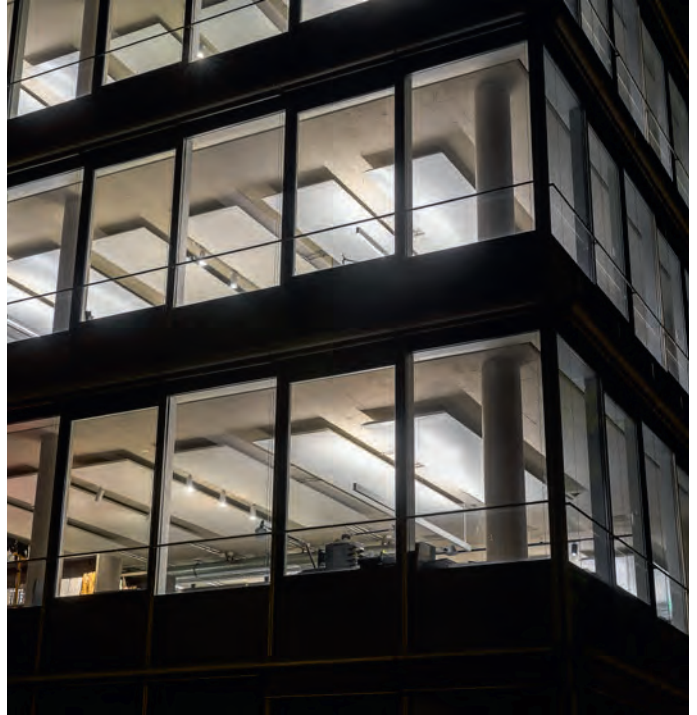
slapa oberholz pszczulny | sop architekten, Düsseldorf

A house for many ideas

With their new location, slapa oberholz pszczulny | sop architekten created more space for creativity. The building which the architecture firm from Düsseldorf uses for itself, has spacious rooms, lounge areas for employees, think tanks for concentrated work, a model making with its own workshop and an inviting garden.

From the entrance to the meeting rooms, the minimalist, functional track lights type LED-Eris were installed in black and white.

In addition, the filigree LED-Linargo is used at the worktables, namely in the full width of the desks with lengths of 1.69 and 3.37 meters. On the one hand, it provides basic lighting, but can be flexibly adapted to the respective situation by the separate switching of direct and indirect light.



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PRODUCTS

Pendant luminaires + spots

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Products

- LED-Linargo 16, pendant luminaire 1690 mm
- LED-Linargo 33, pendant luminaire 3370 mm
- LED-Eris, track lights
- LED-Luc 60-1, magnetic spot





PICTURES LED-LINARGO

Direct/indirect separate switch- and dimmable



LED-LINARGO

Technical specifications

LED-Linargo

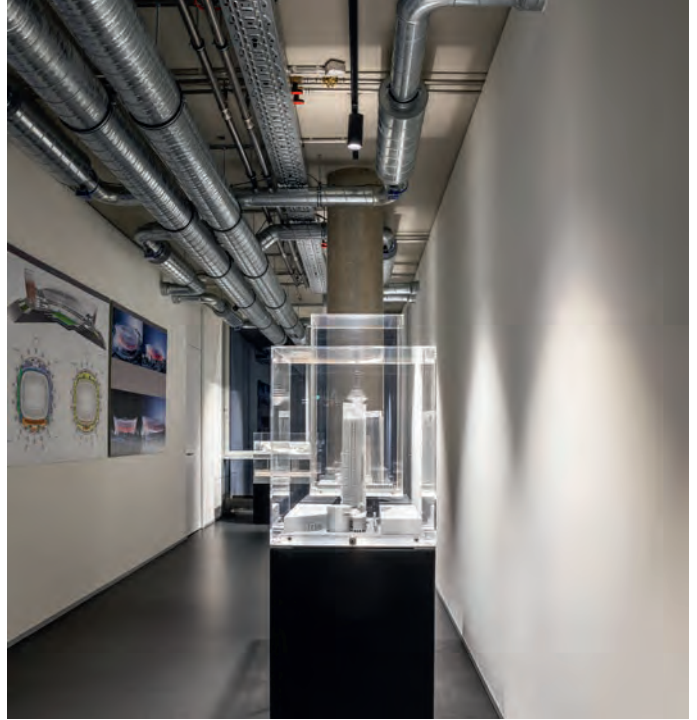
- 18 units pendant luminaires LED-Linargo »16«  
1690 x 38 x 80 mm (L x W x H)
- 20 units pendant luminaires LED-Linargo »33«  
3370 x 38 x 80 mm (L x W x H)
- Direct/indirect separate switchable, direct part dimmable,  
CRI > 85, 143 lm/W, 4000 K, IP rating IP40;  
1690: direct 51 W, indirect 34 W  
3370: direct 102 W, indirect 85 W
- Housing made of aluminium, powder-coated white  
according to RAL9016 semi-matt; opal diffusor made  
of satinised PMMA for homogenous light spread





PICTURES LED-ERIS

Track lights



© Photos: Peter von Pigage



TRACK LIGHTS + LED-LUC

Technical specifications

LED-Eris

- 133 units track lights LED-Eris, black, housing made of aluminium, powder-coated, 36°, 18.5 W, 2200 lm/840
- 53 units track lights LED-Eris, white, housing made of aluminium, powder-coated, 36°, 18.5 W, 2200 lm/840

LED-Luc

- 6 units spots LED-Luc 60-1, housing made of aluminium black anodised, 30°, 9 W, 2700 K, CRI > 90





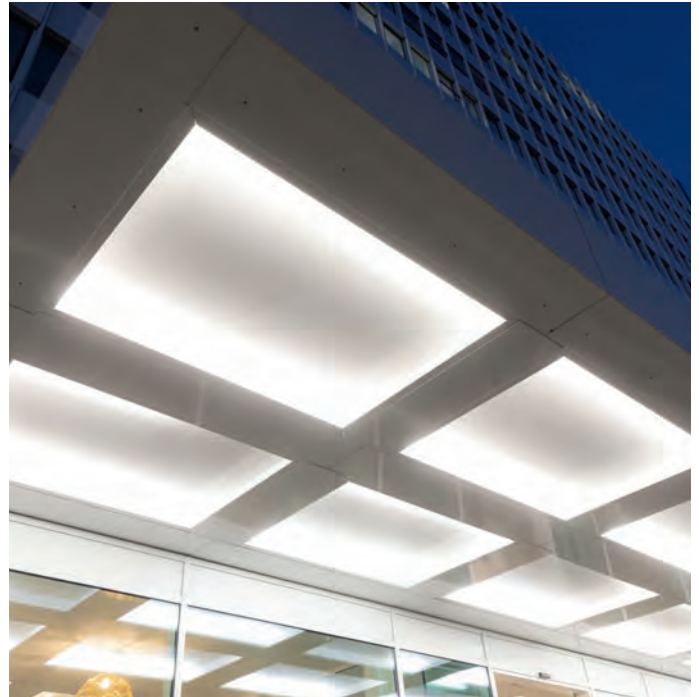
ARCHITECT | INTERIOR ARCHITECT | CLIENT

HPP Architekten, Düsseldorf | JOI-Design, Hamburg | development partner, Düsseldorf

## Follow the light

The One Cologne building is one of the few high-rise buildings in Cologne and thus definitely a landmark in the cityscape. To create a friendly reception, a luminous ceiling made of LED-Around surface luminaires was installed in the cantilevered canopy, distributing the light glare-free over the entire entrance area via microprisms.

Another accent was set with an LED-LightLines that traces the contour of the lift shaft and at the same time illuminates the relief-like wall cladding.





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## LED-AROUND + LED-LIGHTLINE

Entrance area and accent lighting

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### Canopy

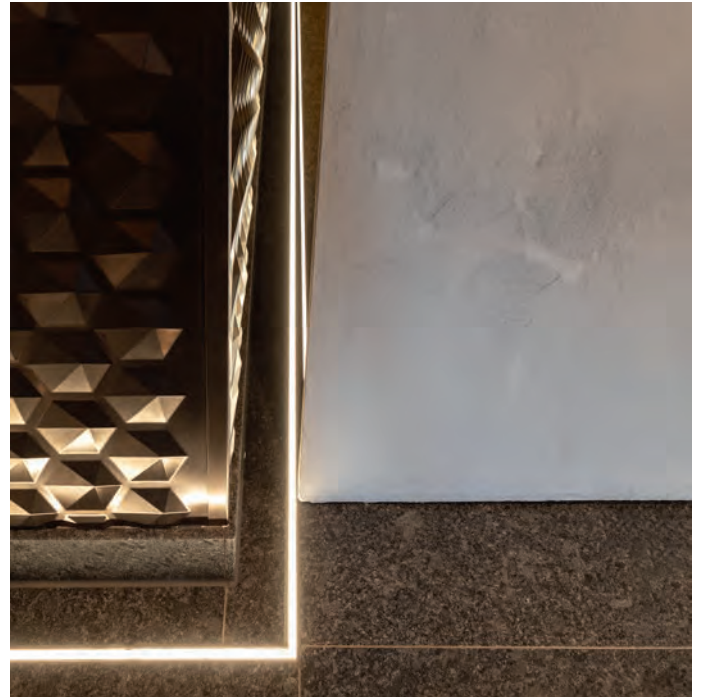
→ Approx. 66 m LED-Around, surface area luminaire built into canopy, glare-free light distribution due to PMMA microprismatic optics, LED white 4000 K, 19W/rm, IP44, aluminium mounting profile with internal cable routing, visible aluminium parts powder-coated to RAL 9016 matt

### Lift

→ Approx. 27 m recessed LED-LightLines type LLF 12.30, 12 x 30 mm [W x H], in various lengths [2 units each 5840 mm, 4 units each 3730 mm], recessed in floor, aluminium U-profile, opaque moulded, homogeneous light spread without dark spots at divisions, LED white 2,700/3,000/4,000 K, 19W/rm, IP68

### Counter

→ Approx. 3.5 m surface-mounted LED-LightLines type LLF 7.17, 7 x 17 x 1720 mm [W x H x L], aluminium U-profile, PMMA opaque moulded, LED white 3000 K, 14W/rm





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INTERIOR ARCHITECT | ELECTRICAL INSTALLATION

Vision Interior GmbH, Gregor M. Meulendik, Düsseldorf | Elektro Bömelburg GmbH, Meerbusch

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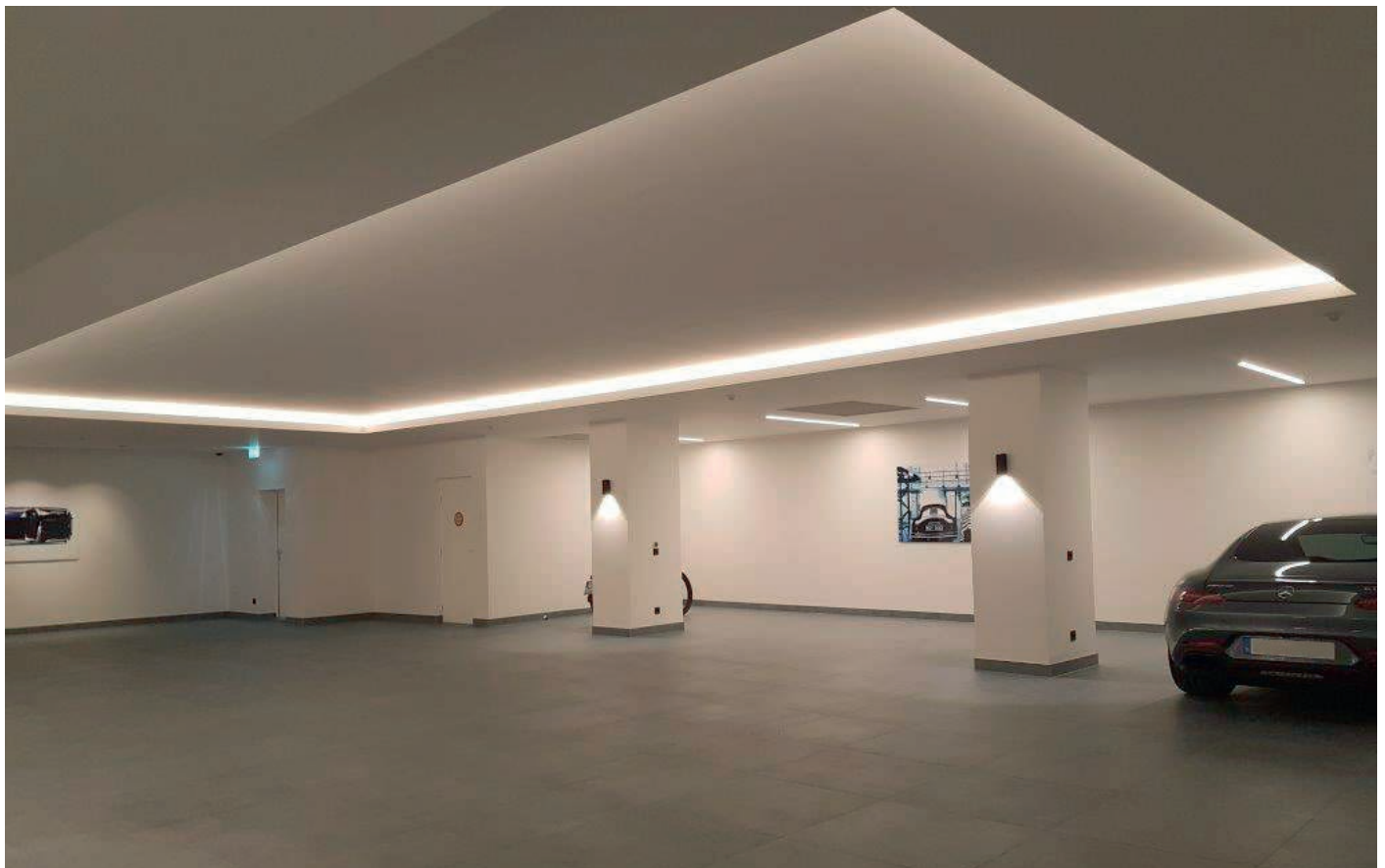
## Lux for luxury

Collectors enjoy being surrounded by the objects of their desire. Yet it is difficult to put a full-size car in a display case, and for ten cars this is simply out of the question. Consequently, a private collector in Düsseldorf has opted for a different solution. On the second underground story of an otherwise public carpark he has ensured there is a separate area available exclusively to him for his luxury vehicles. An area measuring 600 square meters has been completely refitted, with a new floor, ceiling and walls. A new, highly refined lighting concept completes the look and the lifestyle.

It is now so bright in the garage that the car owner could even read a book while sitting in his car. And that is thanks to the

LED luminaire Linargo. It generates an extremely pleasant lighting atmosphere over a length of 50 meters as a recessed element in the ceiling and along the ramp – and additionally as coved lighting on the edges of the suspended ceiling. Linargo by ADO Lights proves that even a parking garage can have something of the quality of a living room.

As a sophisticated side effect, the cars are subtly staged. This is a result of, among other things, wall perforations that feature color accents and spotlights. They also enable unusual perspectives on luxury goods, which remain invisible to outsiders, hidden behind a roller shutter.



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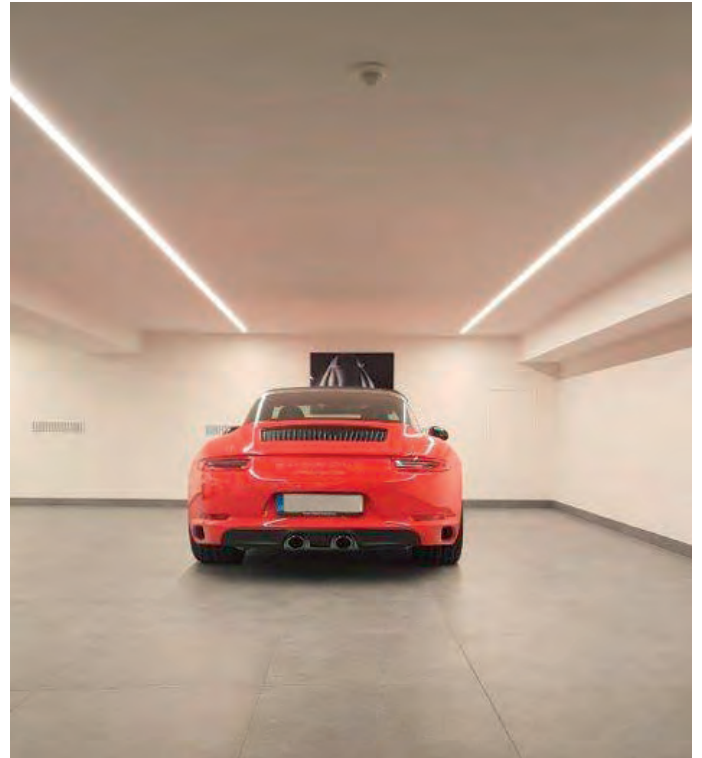
## LED-LINARGO

Technical specification

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### Light elements | Products

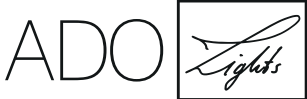
- 50 metres LED-Linargo implemented as recessed profile in ceilings and walls;  
Light colour 3000 K, 16.6 W, 143 lm/W,  
dimmable with Dali interface,  
housing aluminium black anodised
- 35 metres implemented in cove lighting;  
Light colour 3000 K, 33 W, 143 lm/W,  
dimmable with Dali interface,  
housing aluminium anodised





# BASEMENT CAR PARK

Düsseldorf | Germany



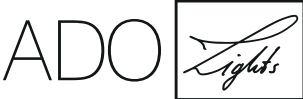
LED-LINARGO + COVE LIGHTING  
Illumination of parking lots



© Photos: TTC Timmler Technology

# BASEMENT CAR PARK

Düsseldorf | Germany



LED-LINARGO + VOUTE  
Illumination of approach area and parking lots



© Photos: TTC Timmler Technology



# MESSE FRANKFURT

Hall 12

Frankfurt am Main | Germany

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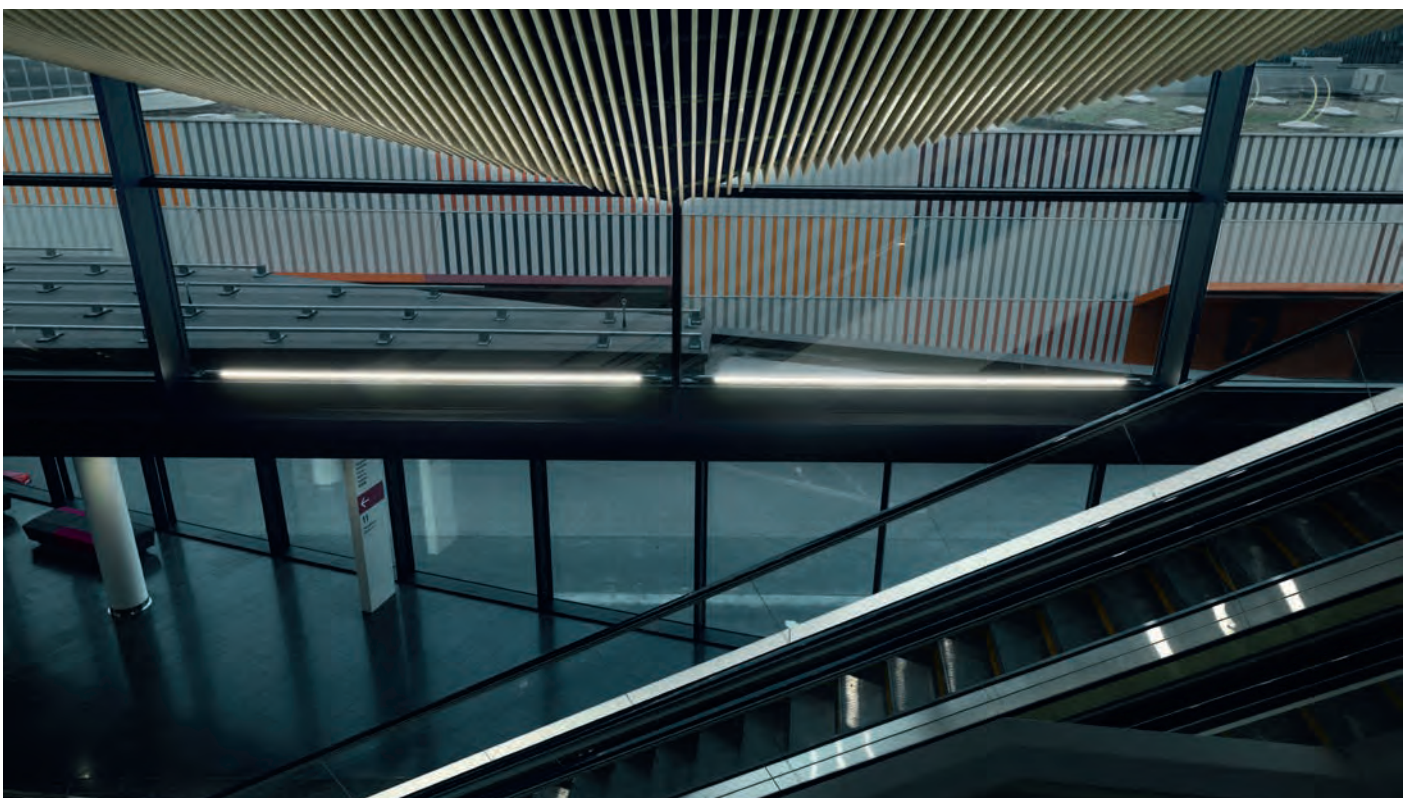
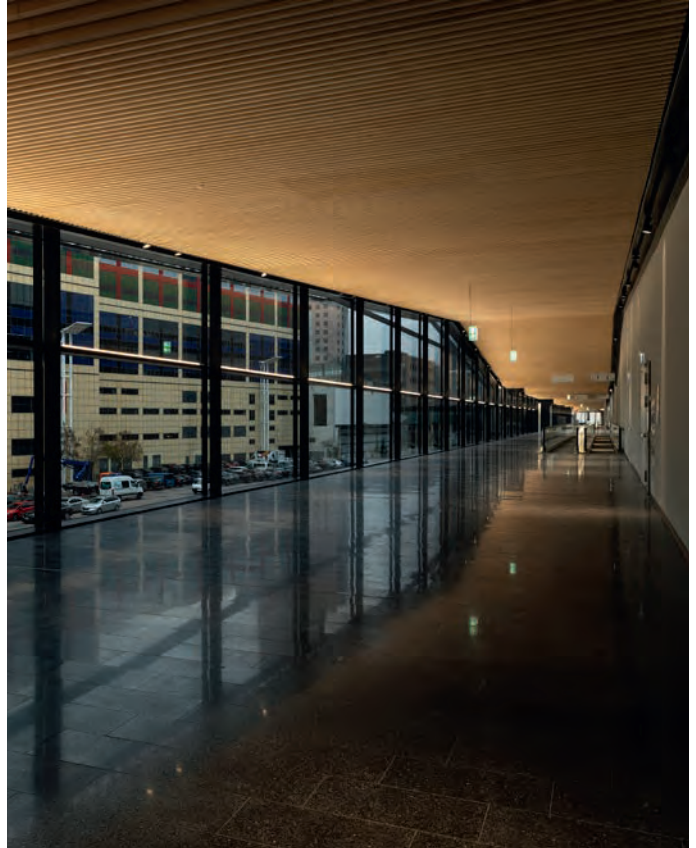
ARCHITECT | LIGHTING DESIGN

kadawittfeldarchitektur, Aachen | Kardoff Ingenieure, Berlin

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## Integrated illumination installed on the inside of the façade

Ceiling illumination with asymmetric light distribution without distracting stray light – installed on the inside of the façade.



© Photos: Peter von Pigage



# MESSE FRANKFURT

Hall 12

Frankfurt am Main | Germany

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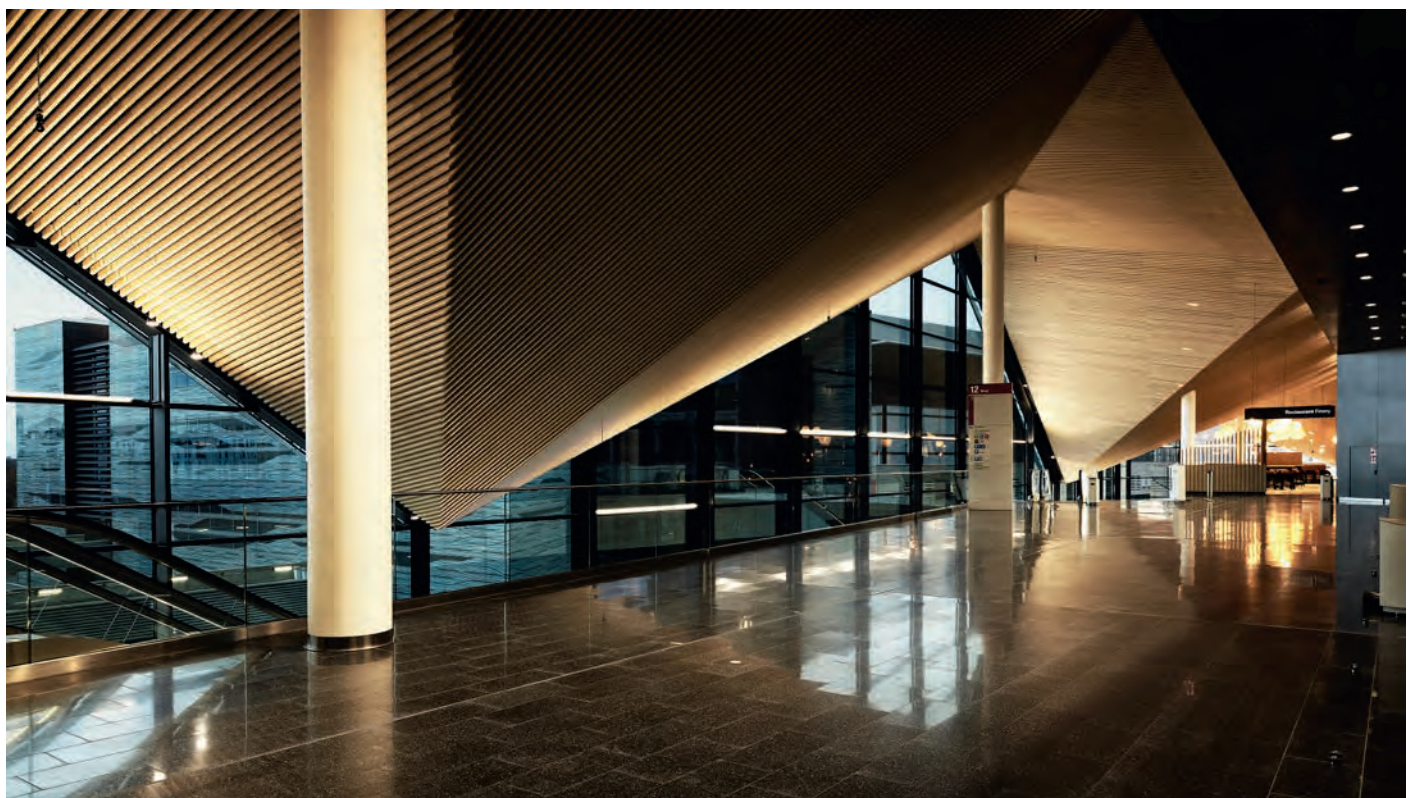
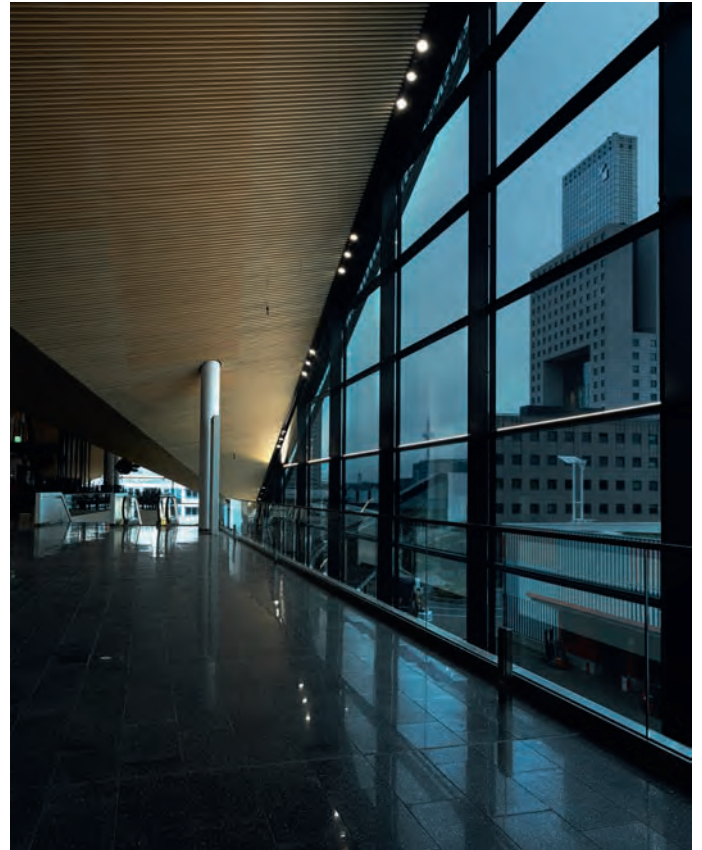
## PRODUCTS

Technical specification

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### Products

- 380 m, LED surface-mounted/recessed luminaire FaMe12 indirect, housing made of aluminium equipped with Samsung LEDs 4000 K, approx. 110 W, 12 460 lm, with clear PMMA cover, dimmable DALI, EVG integrated 230V, on front sides plug/connector for feed-through wiring resp. stringing together, housing according to RAL
- Dimension 100 x 30 mm (W x H), Length 4800 mm incl. plug-connector, LED 4200 mm, 2 units length 2400 mm





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ARCHITECT | LIGHTING DESIGN

Gardenier.Architekten, Düsseldorf | Planquadrat Michael Wegener, Korschenbroich

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## True enlightenment

»To show something in a good light« is a common saying. For the Hans Brandenburg BMW branch in Hilden this applies in the truest sense of the term. Indeed, not only are high-grade automobiles optimally presented here, but the building's interior lighting is also characterized by intelligent aesthetics.

The showroom, the advisers' workstations and the conference rooms are fitted with pendant luminaires by ADO Lights, a TTC Technology GmbH brand. The entire furnishing concept is based on a sophisticated and at the same time uniform formal vocabulary; the LED Around model was used in numerous variations. In addition to luminaires in standard sizes, there are several impressive customized solutions. For example, a square strip light spans the spacious reception area. A circular pendant luminaire was produced for the conference room to match its round table, and in the largest conference room an

extra-long luminaire ensures there is plenty of light at each and every seat.

LED Around's characteristic feature is its slender, highly restrained frame, making the luminaire a real eye-catcher despite its almost minimalist design. Its homogeneous light radiates upwards and downwards. For the premises of the Hans Brandenburg dealership, the planners at BMW Munich, Corporate Identity department opted for a warmer light color of 3000 K at the workstations, whereas for the showroom they chose a light color of 4000 K. The intensity of the light can also be dimmed as required. The luminaire is transparent when switched off. For LED Around never takes center stage while always cutting a fine figure. This quality also shows the luminaire itself in a good light.



LED-AROUND CUSTUM-MADE SQUARE + »1200«

Showroom

### Light elements | Products

- 26 LED-Around pendant luminaire 1200 mm, light colour 3000 K, 90W, Dali dimmable
- 1 LED-Around pendant luminaire 2400 mm, light colour 3000 K, 180 W [2 x 90 W], Dali dimmable
- 2 LED-Around pendant luminaire 3600 mm, light colour 3000 K, 270W [3 x 90W], Dali dimmable
- 2 LED-Around pendant luminaire custom made round  $\varnothing$  610 mm, light colour 3000 K, 50W, Dali dimmable
- 1 LED-Around pendant luminaire custom-made square, 2600 x 2600 mm, consisting of 4 LED-Around 2400 mm, light colour 3000 K, 180W [2 x 90W], Dali dimmable, with connectors as a fixed uni





LED-AROUND »1200« + »2400«  
Reception areas + Workstations



LED-AROUND | CUSTOM-MADE ROUND + »3600«  
Meeting rooms





# BIRD HALL STATE NATURAL HISTORY MUSEUM Braunschweig | Germany



## EXHIBITION DESIGN

Waidmann/Post, Braunschweig

### Light and air

With over 62000 specimens, the State Natural History Museum Braunschweig has the largest collection of birds in Lower Saxony. Only a small part of the specimens is represented in the newly refurbished and expanded bird hall, but it is very impressive. Upon entering, visitors are greeted by a staged flight of birds that hovers over their heads on the ceiling, which is partially open in a free form. The opening in the ceiling and offset, vertically backlit walls create a light, dynamic atmosphere that evokes a feeling of freedom and flight. A light animation that simulates cloud draughts, the position of the sun and twilight intensifies the effect and makes the birds appear to float.

The magnetic LED-Luc minispots are used for targeted illumination of the exhibits on the ceiling and in the showcases. Some of the spots were placed in round, also black anodised recessed ceiling installation housings.



© Photo: Anja Basilus

# BIRD HALL STATE NATURAL HISTORY MUSEUM

Braunschweig | Germany

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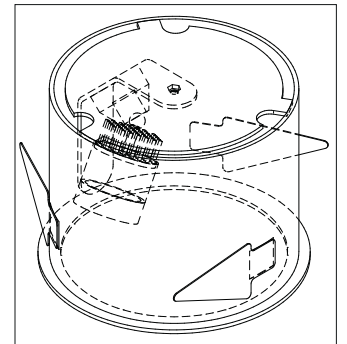
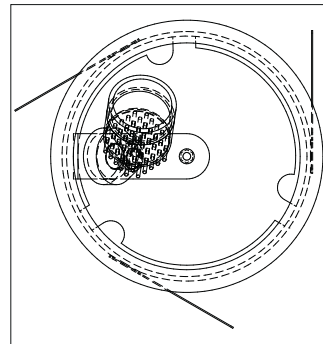
## LED-LUC MINISPOTS + CEILING HOUSINGS

Illumination of exhibits

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### LED-Luc

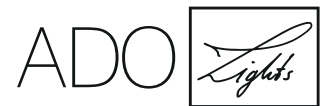
- 116 units LED-Luc magnetic minispots
- 36 units round ceiling housings, black anodised, with integrated, rotatable holder for individual attachment of the magnetic minispots
- 1–3 W, 4000 K, with 10°/25°/50° lenses with honeycomb mesh and tapered thread
- 16 units ballasts, dimmable, including power supply unit for one or more spots





# CENTRAL SLOVAK MUSEUM THURZO HOUSE

Banská Bystrica/Slovakia



CLIENT + SHOWCASE DESIGN

Domo Glass, Banská Bystrica

## The Minispot for all details

The Central Slovak Museum – actually Stredoslovenské múzeum – is housed in three different locations in Banská Bystrica. One of them is the Thurzo House, one of the oldest surviving buildings from the 15th century, named after its former owner, the mining entrepreneur Johann Thurzo. Exhibits from precisely this period, when Banská Bystrica was an important European copper town, as well as archaeological finds and baroque art are displayed here.

An ideal location for the magnetic LED Luc Minispot. Placed in showcases, each exhibit receives the best possible illumination thanks to the fully swivelling ball joint. The cabling is elegantly concealed in the metal linkage.



© Photos: TTC Tirmier Technology (below), Peter von Pigage (above)



# CENTRAL SLOVAK MUSEUM THURZO HOUSE

Banská Bystrica/Slovakia

## LED LUC MINISPOTS

Illumination of exhibits in showcases





# CENTRAL SLOVAK MUSEUM THURZO HOUSE

Banská Bystrica/Slovakia



## LED LUC MINISPOTS | SPECIFICATION

Illumination of exhibits in showcases

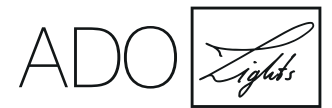
### LED Luc

- 155 units LED Luc magnetic minispots, white powder-coated, 4000 K, 25° lenses 1–3 watt, CRI > 90, 88 lm/W at 350 mA
- 10 units LED Luc magnetic minispots, white powder-coated, 4000 K, 50° lenses 1–3 watt, CRI > 90, 88 lm/W at 350 mA
- 97 units LED Luc magnetic minispots, black powder-coated, 4000 K, 25° lenses 1–3 watt, CRI > 90, 88 lm/W at 350 mA



# CENTRAL SLOVAK MUSEUM THURZO HOUSE

Banská Bystrica/Slovakia



## LED LUC MINISPOTS

Illumination of exhibits in glass cubes



© Photos: TTC Timmier Technology



# CENTRAL SLOVAK MUSEUM THURZO HOUSE

Banská Bystrica/Slovakia



## LED LUC MINISPOTS

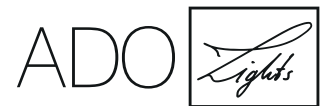
Illumination of exhibits in showcases





# CENTRAL SLOVAK MUSEUM THURZO HOUSE

Banská Bystrica/Slovakia



## LED LUC MINISPOTS | TECHNICAL DRAWING

Illumination of exhibits in showcases











ARCHITECT | LIGHTING DESIGN

Staab Architekten, Berlin | LichtKunstLicht, Berlin/Bonn

## Perfectly staged

»Kinder, schafft Neues« (»Children, create new things«), this saying by Richard Wagner has been handed down to posterity. This request – and a lot more – because the re-opened Richard Wagner Museum in Bayreuth presents itself in a modern look and with many exhibits not previously accessible to the public. They trace the history of the Bayreuth Festival. The planners selected products from ADO Lights by TTC Timmler Technology to display the historical exhibits in the right light.

The venue is the museum's extension – an elongated low building constructed from steel and glass. It was designed by the renowned Berlin museum architect Volker Staab. While temporary exhibitions are staged on the ground floor, the visitor submerges into the performance history of the Bayreuth Festival in the basement. This is the first time that this valuable

collection can be seen in this diversity. Costumes seem to float in ceiling high display cases, stage set models are stacked. Black-and-white photos unfurl their very own magic and precious items such as the Parsifal Glockenspiel from the twenties of the last century and the Valkyrie hero rocking horse are also amongst the props on display.

Most of the rooms are immersed in dramatic black – an equivalent of the dark theatre space – so that the artefacts can be fully appreciated. The planners from LichtKunstLicht had 219 minispots of the manufacturer ADO Lights installed to illuminate the exhibits. The LED-Luc spot is only thumb-sized and constitutes the brilliant core of a round ceiling-recessed housing. The spots are magnetic and can be individually directed thanks to an adjustable internal tongue. The lenses are



© Photo: Peter von Pigage

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## INTERIOR LIGHTING

LED-Luc

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interchangeable (50°, 25° and 10°) to be able to adapt the illumination to the specifications of the light planer. Whether to a specific point or wide-area illumination, the options are unlimited. Honey comb louvres ensure glare-protection and conical fittings provide glare-protection and direct the light. The colour of the steel luminaire housings was also adapted to the setting: Where walls and ceilings are black, the luminaire housing is of the same colour, in white display cases the housing matches the corresponding colour shade.

A perfect production. Richard Wagner would enjoy it.





ILLUMINATION

LED-Luc black with in-ceiling housing



ILLUMINATION | LED-LUC WITH IN-CEILING HOUSING

Products

## Lighting elements | Products

- 219 LED-Luc magnetic minispots with ceiling-recessed housing, thereof 159 black and 60 white
- 1–3 watt, colour temperature 3000 K
- 80 units each changeable lenses with 50°, 25°, 10° for the adjustment of lighting by the light planner
- 132 units of threads with anti-glare honey-comb mesh, as well as 87 tapered threads for glare and light control
- Ceiling-recessed housing with inset tongue adjustable in the center for individual mounting of the magnetic minispots, thus lighting can be adjusted extremely flexibl on placement of the artifacts





ILLUMINATION OF SHOWCASES

LED-Luc white with in-ceiling housing



ILLUMINATION  
LED-Luc black with in-ceiling housing



© Photos: Peter von Pigage



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ARCHITECT | LIGHTING DESIGN/CLIENT

R. Ricciotti et R. Carta architects, F-Bandol | Licht Kunst Licht AG, Bonn

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## Exhibits well-lighted

In 2013 Marseille was Cultural Capital of Europe. For this occasion the MuCEM, Musée des civilisations de l'Europe et de la Méditerranée – designed and built by R. Ricciotti et R. Carta architectes – opened in a beautiful location directly by the sea.

For the Cabinet de Curiosités and the showcases Ouvrant à la Française TTC delivered 23 black luminaire housing each with 2 black LED-Luc. The flexible, magnetic minispot – developed in cooperation with Licht Kunst Licht – allows optimum illumination even smaller exhibits.

## Products

→ 46 LED-Luc | black | 2 units per housing

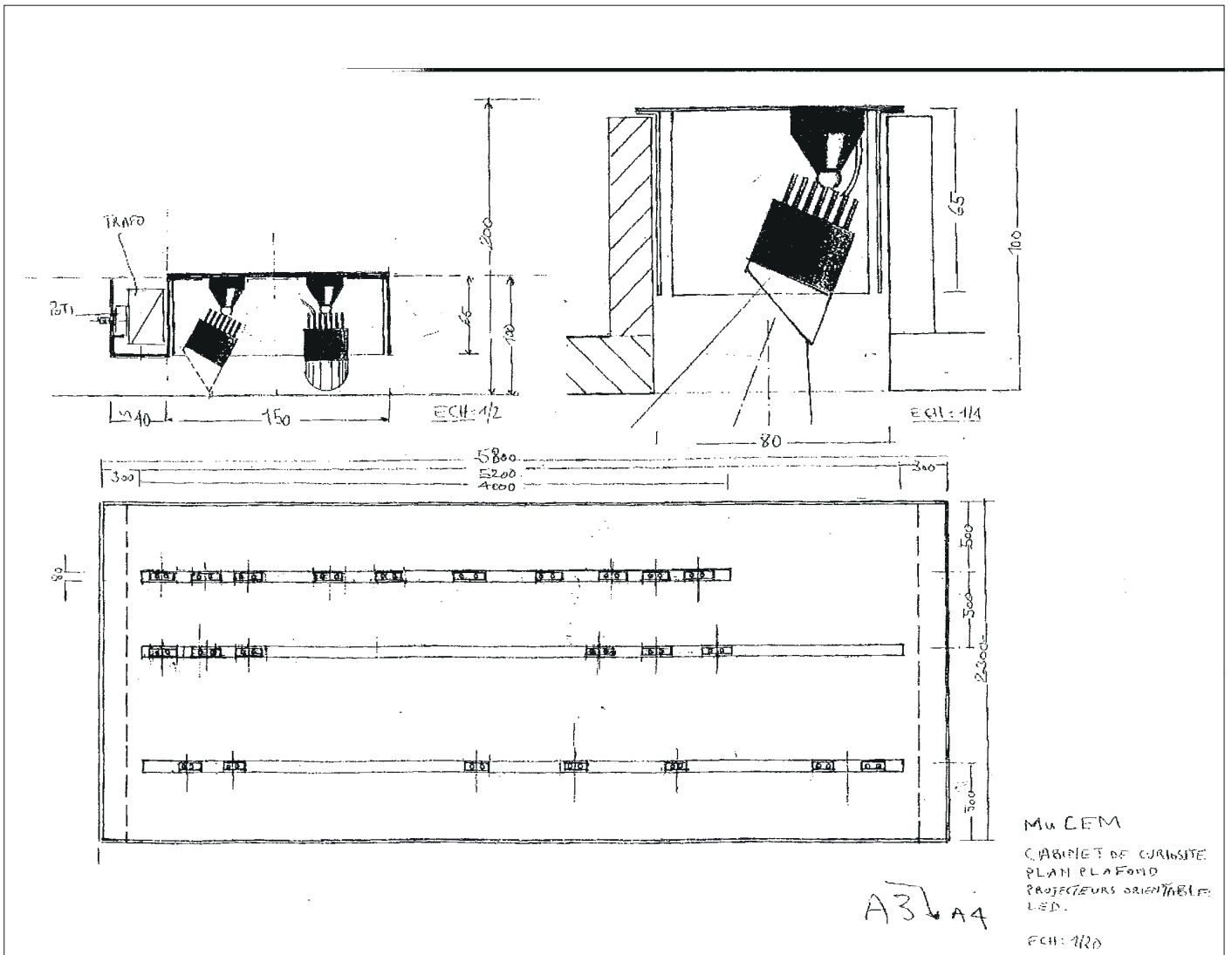
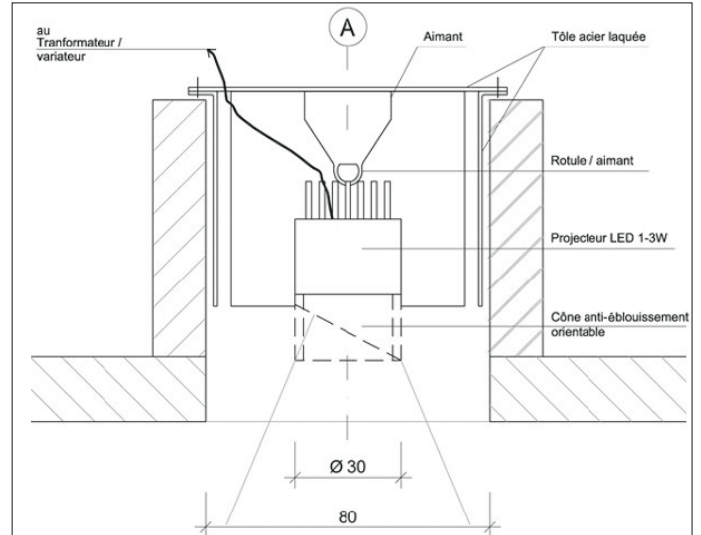
→ 23 housings | black | 200 x 80 x 60 mm



©Photo: R. RICCIOTTI et R. CARTA architectes/MUCEM 2013 | ©Scenography: Studio Adeline Rispal  
Façade illumination: Yann Kersalé, Atelier AK, Paris | ©Photographer: Verena Eidel, Berlin

PLANNING AND COMPLETION

Technical drawing and freehand sketch Luc Bernard/Licht Kunst Licht



© Photo: Peter von Pigage



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EXHIBITION AREA

Cabinet de Curiosités | Vitrines Ouvrant à la Français

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## Illumination

The miniature spots are magnetically mounted in the luminaire housings and can be easily and quickly arranged if the exhibits are to be re-arranged again. The luminaire housings can also be moved in the light rail.

The LED-Lucs are equipped with 30° lenses. This allows a homogeneous illumination of the room as well the point illumination of the exhibits.

## LED-Luc

- Flexible, magnetic minispot
- LEDs: 1–3 W
- Light colour: warm white | 3000 K
- Lens type: 30°
- Dimmable



EXHIBITION AREA

Cabinet de Curiosités | Vitrines Ouvrant à la Français





# HOHENSCHWANGAU CASTLE

Germany

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ARCHITECT | LIGHTING DESIGN

Wittelsbacher Ausgleichsfond, München | Licht Kunst Licht AG, Bonn

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## 2 in 1

Since around 1830 Hohenschwangau Castle has served the royal family of Maximilian II., and later on his son Ludwig II., as a summer and hunting residence.

TTC designed a homogeneous lighting concept using LED-Luc spotlights, which were integrated into the visitor barriers, to illuminate the permanent historic wall paintings exhibition in the heroes' hall.

The castle guides are absolutely delighted with the new lighting situation as it enables visitors to see a lot more details on the wall paintings.

## Products

- LED-Luc warm white
- Visitor barriers



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## EXHIBITION AREA

LED-Luc installed in a column | LED-Luc installed in visitor barriers

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### Exhibition area

The main task was to create a lighting concept for the historic wall paintings that is both regular and gentle.

Thus the small and very flexible LED-Luc spotlight was chosen because it emits light without harmful UV radiation and it could be elegantly installed in the visitor barriers. A LED-Luc stele was put up to illuminate a historic armchair.

More than 30 linear metres were installed using 180 spotlights in the light colour warm white and with 1 W power each. This project has been executed and installed by TTC.

### LED-Luc

- Approx. 32 metres
- 180 units LED-Luc | 1 W each
- Lens type: 50° centrally aligned
- Light colour: warm white | 3000 K
- 1 transformator + 2 cable distributions per barrier element

© Photos: Wittelsbacher Ausgleichsfond, Munich | Photographer: Peter von Pigage





EXHIBITION AREA

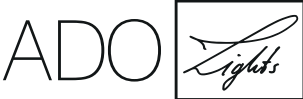
LED-Luc installed in visitor barriers





# HOHENSCHWANGAU CASTLE

Germany



EXHIBITION AREA  
LED-Luc installed in visitor barriers



© Photos: Wittelsbacher Ausgleichsfond, Munich | Photographer: Peter von Pigage



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CLIENT | LIGHTING DESIGN

Vermögen und Bau, Staatl. Schlösser und Gärten, Baden-Württemberg | Anette Hartung, Cologne

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## A Legend in a New Light

The restoration of the Schlosskirche (palace church) of Residenzschloss Rastatt (Rastatt's Residential Palace), which underwent renovation of both its exterior and interior in three phases, took around two decades. Today, its elaborate ceiling fresco glistens in a new light. The elegant illumination concept is based upon products of ADO Lights by TTC Timmler Technology, which render important details in the sacred space superbly visible.

The Rastatt Palace is the oldest baroque residence on the Upper Rhine - an impressive edifice whose archetype was France's Château de Versailles. The palace was built between the years 1697 and 1702 at the behest of Margraf (marquis) Ludwig Wilhelm of Baden-Baden. His deeply religious wife is to be thanked for the construction of the palace church. Markgräfin (marquise) Franziska Sibylla Augusta desired it to be »exceptionally beautiful«. The ceiling fresco is particularly spectacular. It portrays the discovery of the True Cross, putatively in the year 326 by Helena, the mother of Constantine, the first Christian Roman Emperor. Worth noting is that anyone who compares the images of the Markgräfin and the portrayal

of Helena will quickly observe that the patroness of the church had herself immortalized in the fresco: The artist, Johann Hiebel, saw to it that Helena bears the facial features of the German noblewoman.

The fact that this detail – as well as the dramatic depiction of the True Cross's discovery – can be discerned is due to leading-edge illumination. A total of 224 »LED Luc spots« were mounted on the columns' abacus slabs. The thumb-sized fixtures and all the required cabling are encapsulated in flat custom-manufactured steel housings. The inconspicuous solution complied with the client's intent that the viewers of the painting not be distracted by technical details. The overall technical design concept includes other products from ADO Lights: 20 LED spotlights for punctilinear illumination, as well as two wall luminaires, each containing seven »LED Luc spots«. All the equipment was custom-fabricated to achieve a discreet appearance, yet with a forceful effect produced by the radiant power of the lighting elements.

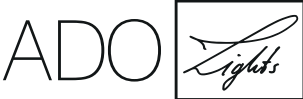
The result is a legend seen in a new light.





# PALACE CHURCH

Rastatt | Germany



PALACE CHURCH  
Exterior and interior views



© Photos: Peter von Pigage



# PALACE CHURCH

Rastatt | Germany

LED-LUC, LED RADIANT BEAMS + WALL LUMINAIRES  
Illumination of the ceiling fresco





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## LED-LUC, LED RADIANT BEAMS + WALL LUMINAIRES

Illumination of the ceiling fresco

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### Lighting elements | Products

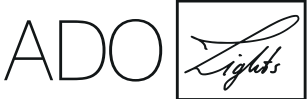
- Approx. 50 metres custom-made luminaire housings made of steel, sharp-edged compound, powder-coating white, for the insertion of LED-Luc minispots, cable distribution and power supply units; Positioning on top of the columns for indirect illumination of the ceiling-fresco
- 224 units LED-Luc  
light colour 4000 K, each 3 W, dimmable in vector groups
- 20 units LED radiant beams  
custom-made, integrated in luminaire housings for spotlighting objects
- 2 units wall luminaires  
custom-made, linear luminaire housing, RAL coated, each fitted with 7 units LED-Luc, light colour 4000 K, each 3 W, dimmable





# PALACE CHURCH

Rastatt | Germany



LED-LUC, LED RADIANT BEAMS + WALL LUMINAIRES  
Illumination of the ceiling fresco



© Photos: Peter von Pigage

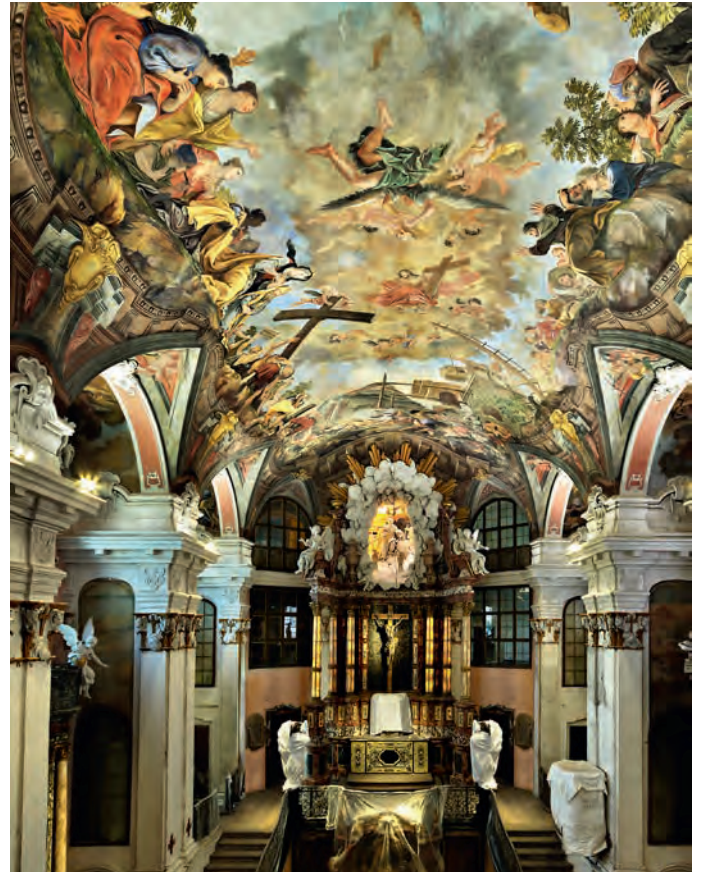


# PALACE CHURCH

Rastatt | Germany

LED-LUC, LED RADIANT BEAMS + WALL LUMINAIRES

Illumination of the ceiling fresco





# SHEIKH RASHID AUDITORIUM

Dubai | United Arab Emirates



ARCHITECT/LIGHTING DESIGN | DISTRIBUTION PARTNER

Arcline Interiors, Dubai | Eros Group, Dubai

## East meets west

The Sheikh Rashid Auditorium is an imposing building of the Indian High School in Dubai. When redesigning the event room with its 1800 seats, several ADO Lights luminaires were combined to a new design language.

26 circular light elements were used, each comprising one LED-Luc with a centre diameter of 60 millimetres, 6 LED-Luc miniature spots, framed by 3.9 metres of curved LED-Light-Line. Wood (MDF) was used as the carrier material and the wiring as well as the power supplies were also supplied by ADO Lights.

The modern and at the same time oriental looking ornamentation was realised by a local partner, the Eros Group. This

renowned company, focussed on the United Arab Emirates and the Middle East, is a trading partner of leading brands. This applies, in particular, to entertainment electronics and for its growing involvement in the field of lighting technology the Eros Group now cooperated with ADO Lights for the first time.

But this is more than just a successful collaboration. The result of this cooperation is attractively styled and meets the demands of this spacious room that regularly hosts theatre performances and other cultural events. The light elements on the side walls of the auditorium appear decorative, like oversized brooches. Above all, they can be infinitely dimmed – to suit the occasion or the light intensity desired in the course of the performance.



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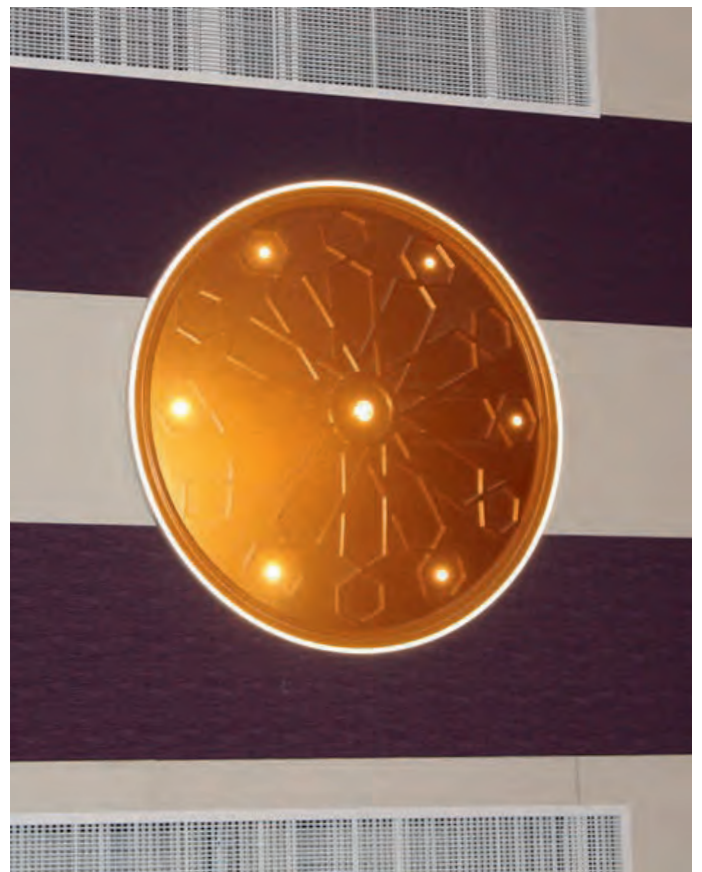
## INTERIOR LIGHTING

LED-Luc | LED-Luc 60 | LED-LightLine circular

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### Illumination | Products

- 26 Mural light elements
- Each composed of:
  - 6 LED-Luc, 2700 K
  - 1 LED-Luc 60, 2700 K
  - 3.9 m LED-LightLine LLF 12.30, 2700 K curved/circular
- Incl. power supplies and wiring
- All dimmable





# BORUSSIA-MUSEUM FOHLENWELT

Mönchengladbach | Germany



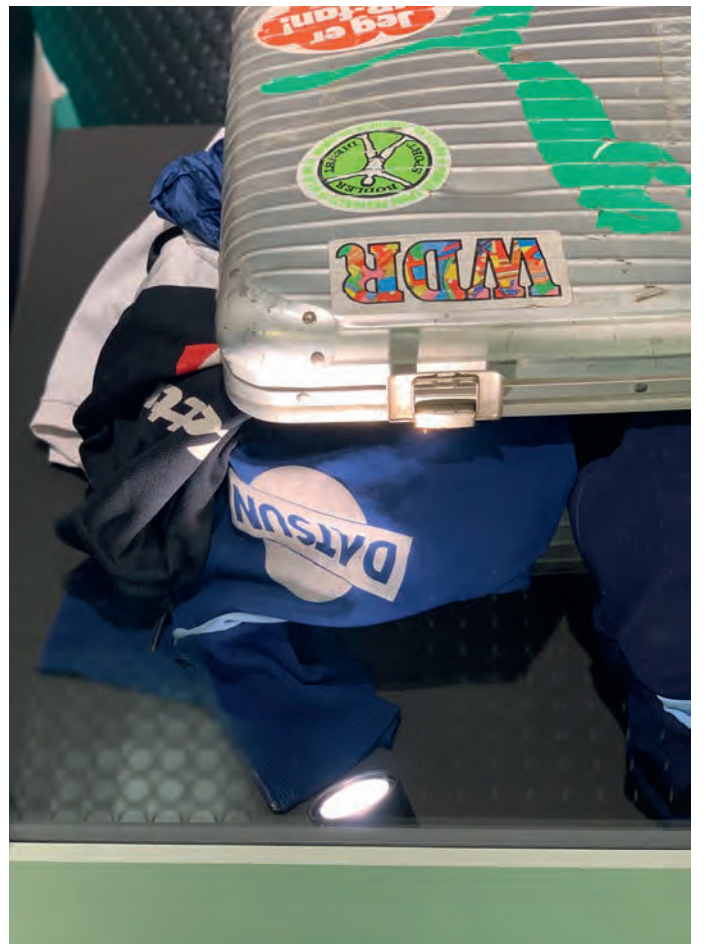
ARCHITECT | LIGHTING DESIGN

SOP Architekten, Düsseldorf | Uli Jetz, Stuttgart

## Spot on for pennants, jerseys and cups

Both the fans and the initiators at the Bökelberg needed a lot of patience before the Borussia Club Museum could be opened. The idea was born more than 20 years ago, but the FohlenWelt archive only found an adequate setting with the new construction of the »Borussia-8-Grad« building.

Spot on – to illuminate the exhibits in the showcases, ADO Lights supplied the flexible magnetic LED-Luc 60 and LED-Luc MiniSpots to put the history of the club in the right light.



© Photos: TTC Timmler Technology (below), Peter von Pigage (above)

# BORUSSIA-MUSEUM FOHLENWELT

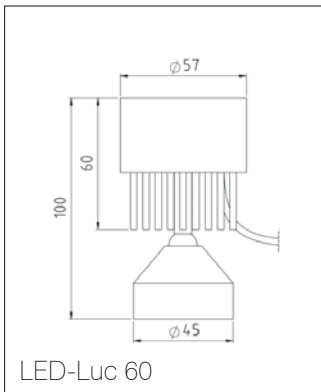
Mönchengladbach | Germany

## LED-LUC 60 + MINISPOTS

Illumination of exhibits

### LED-Luc

- 63 units LED-Luc 60 magnetic spots, black powder-coated, 3000 K, 25° lenses
- 3 units LED-Luc magnetic minispots, black powder-coated, 2600 K, 10° lenses
- 2 units LED-Luc magnetic minispots, black powder-coated, 3500 K, 10° lenses





# CATHAY PACIFIC

1st Class Lounge

Hong Kong Airport



ARCHITECT | LIGHTING DESIGN

Foster + Partners, London/Hong Kong | Isometrix, London/Hong Kong

## Makes waiting worthwhile

Cathay Pacific's 1st Class Lounge at Hong Kong International Airport offers a pleasant break from the hustle and bustle of the airport. Noble furnishings, dividing pillars and ceiling linings in dark wood exude tranquillity. Travellers can retreat there for talks, work undisturbed or await the departure of their flight in a stylish atmosphere. The light planning is based on elegant pendant lights above each table combined with a discreet background lighting, integrated into the ceiling. This background lighting comes from ADO Lights, a TTC Timmler Technology company. A total of 50 LED-Luc minispots with 10° lenses and 85 LED-Luc minispots with 25° lenses were installed. The dimmable, thumb-sized luminaires have a magnetic fixing

and are individually adjustable thanks to their spherical heads. In addition, they were equipped with glare-free attachments.

Hong Kong International Airport is one of the most important airports in Asia. It was designed by star architect Sir Norman Foster. This airport is home base and aviation hub for Cathay Pacific Airways Ltd. This airline is known for providing very luxurious lounges. The 1st Class Lounge is located in Terminal 2, where you can also find the so called Sky City – with office complexes, hotels, shops, access to the exhibition grounds and the airport's underground station.



© Photo: TTC Timmler Technology

#### LED-LUC MINISPOTS

Mounting into the ceiling

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#### Lighting elements | Products

- 50 LED-Luc minispots black with 10° lenses, light colour 2600 K, anti-glare attachment
- 85 LED-Luc minispots black with 25° lenses, light colour 2600 K, anti-glare attachment
- 135 mounting kits for each LED-Luc minispots
- 37 mounting converter 250–1,000 mA, Poti dimmable, for operation with 1–9 LED-Luc minispots
- 55 daisy-chain cable for connecting up to 4 LED-Luc minispots, length 0.45 m
- 37 connecting cables, length 2 m





LED-LUC MINISPOTS

Variable illumination for promoting sales

C'est chic – eye catcher on the spot

Chanel has developed a new lighting concept for its stores at international airports. Whereas the background of the wall-side presentation was given a homogeneous basic illumination, in the foreground variable and clean spotlighting was to highlight certain prominent products.

Here, the magnetic LED-Luc minispots are deployed, which stage individual products for sales promotion purposes. The extremely flexible spotlights can be simply repositioned should the display design change, so the light beam is always directed on the respective products as a real eye catcher »on the spot«.



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## LED-LUC MINISPOTS

Products

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### Lighting elements | Products

- LED-Luc magnetic minispots, 28 x 50 mm
- Aluminium casing, black anodised
- Lighting colour 2700 K, warm white
- 10° lens with narrow beam
- Output 1–3 W
- CRI >90
- Operating voltage 48V DC
- With honeycomb mesh to screw-on





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# IMPRINT

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## GRAPHIC DESIGN

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## REGISTERED TRADEMARKS

ADO Lights® | LED-Luc® | GraviVent®

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by TTC Timmler Technology

