

PORTFOLIO

INFORMATIONEN UND REFERENZEN
ZUR PROFESSIONELLEN LICHTGESTALTUNG

I.

DIE BEDEUTUNG
GUTER LICHTPLANUNG

DIE BEDEUTUNG GUTER LICHTPLANUNG



Licht bedeutet Sehen.

Der Mensch nimmt seine Umgebung in erster Linie visuell wahr. Das Auge ist sein wichtigstes Sinnesorgan.

Licht und Schatten, sowie Farbkontraste lassen den Raum in seiner Form und Tiefe erkennen und bestimmen die Atmosphäre im Raum. So wird der Mensch in seinen ureigenen Instinkten und Emotionen angesprochen.

In Sekundenbruchteilen entscheidet der Nutzer unterbewusst, ob er sich in seiner Umgebung wohl fühlt oder nicht.

DIE BEDEUTUNG GUTER LICHTPLANUNG



Die Lichtplanung ist die Schwester der Architektur.

Beleuchtung bedeutet daher mehr als nur Energieeffizienz oder die Einhaltung von Normen.

Vielmehr geht es darum, einen Raum „ins rechte Licht“ zu rücken, seine Funktionen zu unterstützen und den Blick des Betrachters zu lenken.

Die Beleuchtung hat sich nach der Architektur zu richten, und stellt keinen Selbstzweck dar. Sie muss das Wesentliche des Raumes sichtbar machen anstatt sich selbst zu inszenieren und sich als zusätzliche Informationsebene dem Betrachter aufzuzwingen.

Erst wenn der Mensch seine Umgebung intuitiv versteht, sich sofort orientieren kann und die Beleuchtung nicht als Störquelle empfindet, wird er den Raum unterbewusst als logisch, ruhig und angenehm empfinden.

DIE BEDEUTUNG GUTER LICHTPLANUNG



Findet der Nutzer hingegen eine schlechte Lichtgestaltung vor, so wird er sie in der Regel nicht als solche erkennen.

Vielmehr wird er sein entstehendes Unbehagen auf den gesamten Raum projizieren, welcher ihm plötzlich als unangenehm "laut", chaotisch und wenig einladend erscheint.

Zugabteil:
Unnötige Reflexionen stören den Raumeindruck und wirken unangenehm

DIE BEDEUTUNG GUTER LICHTPLANUNG



Eine gute Lichtgestaltung ist also nicht nur auf Energieeffizienz und die Einhaltung von Normen ausgelegt, sondern ist darüber hinaus auf die individuellen Besonderheiten der Architektur, den Schutz der Natur, sowie auf die Wahrnehmung des Menschen abgestimmt.

Die Planung durch einen professionellen Lichtdesigner macht somit den Unterschied zwischen einer „magischen“ Beleuchtungslösung gegenüber einer häufig anzutreffenden Standardlösung.

Brückenhandlauf:
Idealbeleuchtung, Bild retuschiert

DIE BEDEUTUNG GUTER LICHTPLANUNG

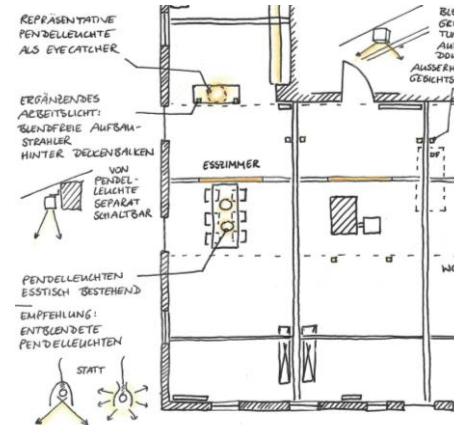
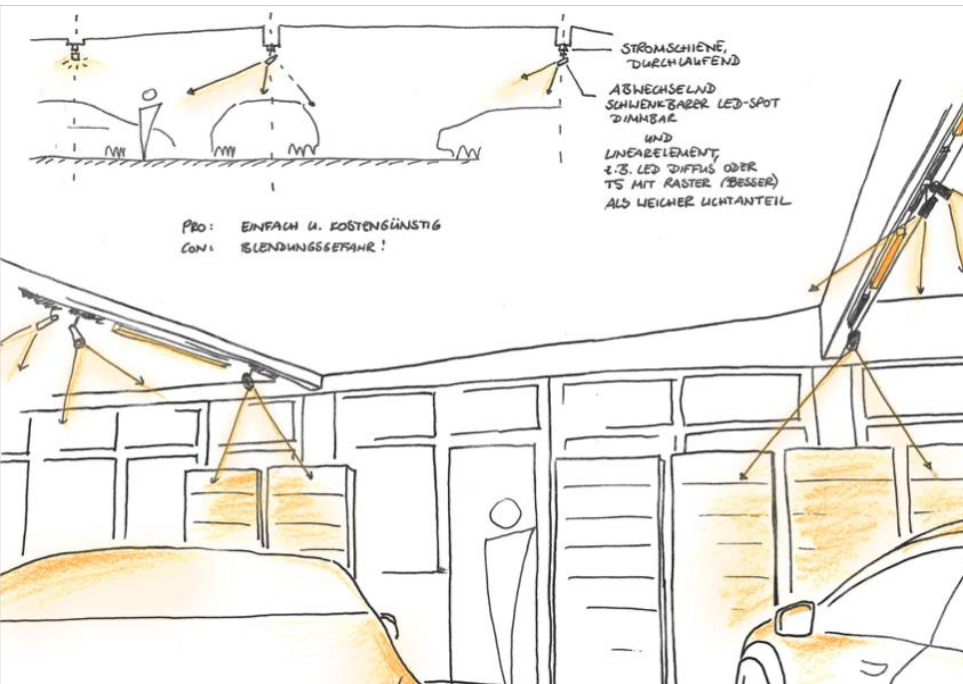


Brückenhandlauf:
Originalbild

II.

**REFERENZEN
NANO LICHTPLANUNG**

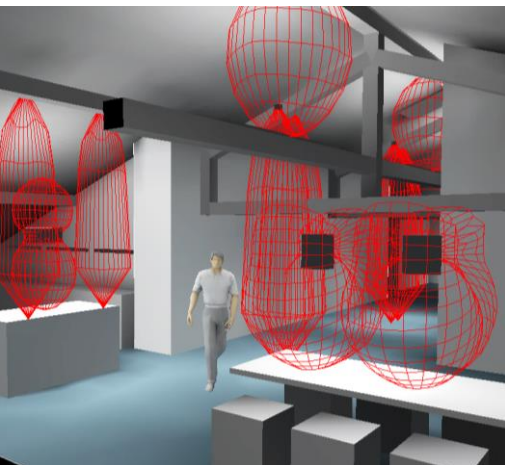
REFERENZEN NANO LICHTPLANUNG



Lichtplanung und Lichtberatung

Im gewerblichen und privaten Bereich

- Entwicklung von individuellen Beleuchtungskonzepten
- Erstellung von Lichtberechnungen
- Unterbreitung von Produktvorschlägen und Durchführung von Bemusterungen
- Zusammenstellung aller benötigten Angaben, Erstellung von Konstruktionskizzen
- Entwicklung von individuellen Sonderlösungen





NANO LICHTPLANUNG
DIANA MEYER

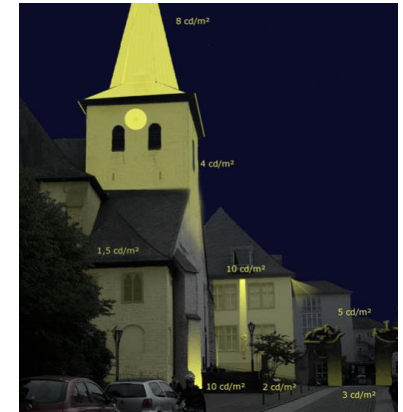
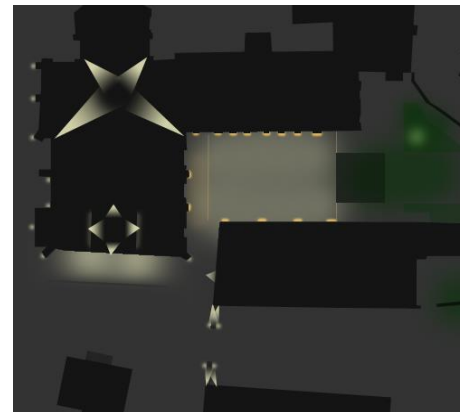


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REFERENZEN NANO LICHTPLANUNG



Beleuchtung Klosteranlage

Ort:

Klosterhof Wedinghausen,
Arnsberg

Design-Konzept:

- Inszenierung des ursprünglichen Kreuzganges
- **Blendfreie Beleuchtung** der denkmalgeschützten Statuen, Fassaden und Außenanlagen
- Vermittlung von Sicherheit und Orientierung durch gezielte Verteilung der Helligkeiten

Fotos:

Boris Golz

Schemata:

Diana Meyer

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Kirchenbeleuchtung

Stadtkirche Nynäshamn, Schweden

Event:

„Lights in Nynäshamn“
in Nynäshamn, Schweden

Design-Konzept:

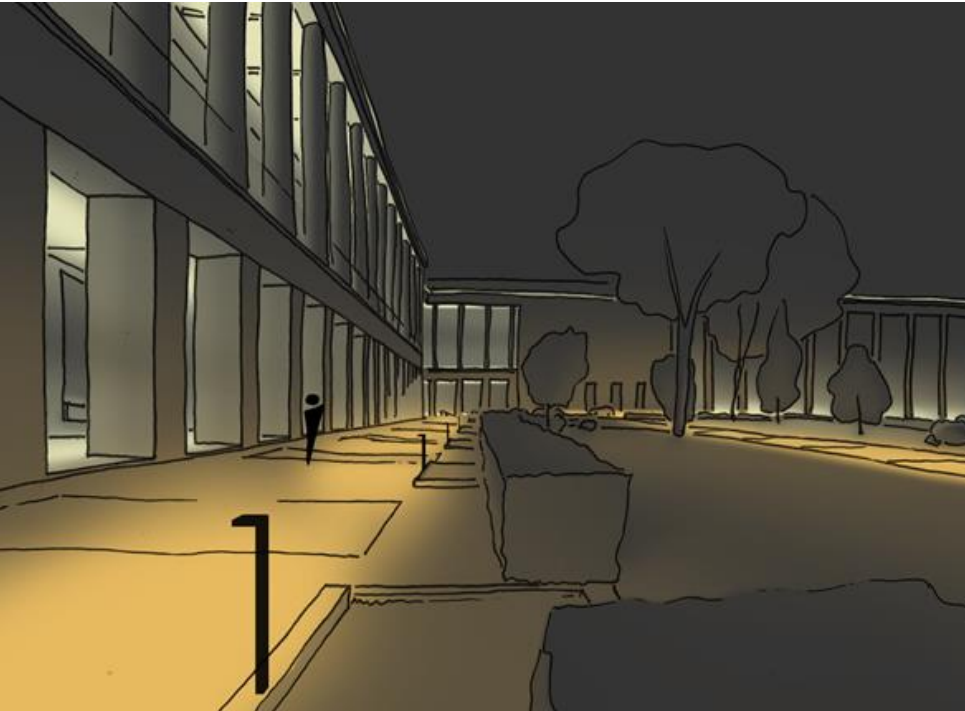
- Inszenierung der Fernwirkung der Kirche als weithin sichtbarer Orientierungspunkt
- Charakterisierung des ehemaligen Leuchtturms
- Installation mit **nur 14 Leuchten**

Fotos:

Andika Pradana

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REFERENZEN NANO LICHTPLANUNG



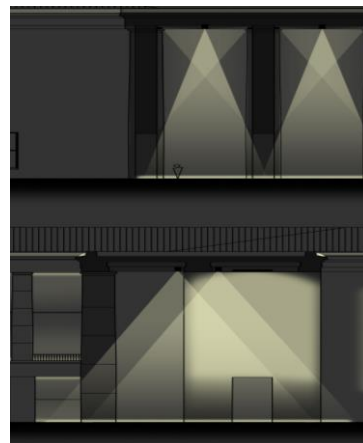
Licht-Masterplan für Rom, Italien
Wettbewerbsbeitrag ist bis ins
Finale gekommen

Inhalt: Lichtdesign-Konzept für das
Museumsviertel der Stadt Rom

Konzeptidee:

- Nutzerorientierte Beleuchtung
- Smarte Lichtsteuerung zur
Energieeinsparung
- **Schutz der historischen
Bausubstanz**
- Hohe visuelle Qualität durch
konsequente Entblendung

Team: Nano Lichtplanung +
Tatiana Bibikova



NANO LICHTPLANUNG
DIANA MEYER

IRE FORTITER QUO NEMO ANTE IIT

to boldly go where no one went before

INTRODUCTION - HUMAN PERCEPTION

Vision is the most developed sense of humans, providing 80% of the information we use to navigate our environment. This, combined with understanding space to create a visual field, is why lighting plays a crucial role. Being very sensitive to contrast, humans will look for light. The human eye perceives light in a visual field. This means that we are able to perceive a space also with very low levels of light - provided that there are no disturbances - but this means that bright and dark areas can impact our perception considerably.

Besides these disturbances, bright light sources, also our understanding of the space will be hindered, as we unconsciously associate bright areas with importance. However, the brightness in space is not distributed according to the meaning of elements, it becomes difficult to orientate in the

PAST - PRESENT - FUTURE

But how was the lighting design of the past? Design the magnitude and immense size of the building, without architectural lighting did hardly exist, light sources of that time were rather candles, lamps and torches. In the past, there were street lights, but they indicated a certain importance and exclusivity of the location. At that time, lighting, however, did not exist. Rather, people would be coming from dark into light, entering themselves from darkness in their personal field of light.



GENERAL CONCEPT

The given program place is an area with basically two types of buildings. On the one hand, there are monumental buildings with their own architectural character. These are of construction, their structure and the used materials, such as limestone and marble, refer to specific forms of the past. Here, for distinction, they are called "historical buildings" from now on. They differ dramatically from the "modern buildings" which were built more recently. These are areas still in progress using current building techniques and specific materials such as glass, concrete and steel. While the character of its facade elements and qualities of its surfaces are important attributes for the first group, the second one focuses more on function

SPATIUM RECREATIO

The park and lake area are recreational districts of providing and enjoying nature. The lighting in this area is most subtle, allowing an undisturbed view by creating a very high visual quality. Thus, the main illumination is given by the natural light of the sun, which exclusively illuminates the surfaces, without creating glare. Additionally, lighting is used to highlight the buildings, creating indirect reflections in the water surfaces. Specifically, higher areas include meeting points, benches or seats. Providing a shading effect of about 80% they create a protected space of light that does not impact on the surrounding area. Furthermore, both types of luminaires have a warm white color temperature and excellent color-rendering qualities.

Respecting the needs of the environment's natural inhabitants, the lighting is turned off until it senses the presence of the people. As soon as this happens, the door luminaires will slowly dim up before the user reaches them, and will fade again as soon as the person has departed further enough. Special focus is given to the prominent fountain area which can be seen both from close range and from the distance. Integrated into the stream running and east shielded towards any pedestrians, it can be illuminated in a way that illuminates the vertical surface behind the waterfall, creating a well-blended glow of light.

The bridge that leads over the water is provided with a band of light, illuminating the floor evenly.



MODERN URBAN LANDSCAPES: LIGHT AS A MEANS OF LINKING TOGETHER PAST, PRESENT AND FUTURE
INTERNATIONAL IDEAS CONTEST

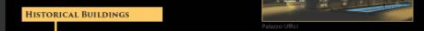


AEDIFICII VETUS

Reexamining ancient Roman architecture, the so-called "historical buildings" are characterized by the typical ancient Roman structures, such as a solid masonry on one and two stories of pilasters. Depending on the function of their areas, the best lighting design approach can be applied: the "simple" principle or the "color" principle.

While the main focus of a color is clearly the floor as the primary surface, a ceiling through the pillars of a temple enhance the experience of the building behind. In this case, the vertical surface is predominant.

Like most of the historical buildings, also the Palazzo Uffici is an example for the benefit windows, the columns instead of the floor of the main entrance. In order to illuminate the void in between without cutting the columns is half by light cones. The vertical surfaces will not be directly illuminated at all, instead, a continuous pendant profile provides an even floor and ceiling illumination, without causing glare. This way, the reflections of these surfaces can illuminate the columns and the bandwall evenly, allowing them to be perceived as uniform elements.



HISTORICAL BUILDINGS

SPATIUM RECREATIO

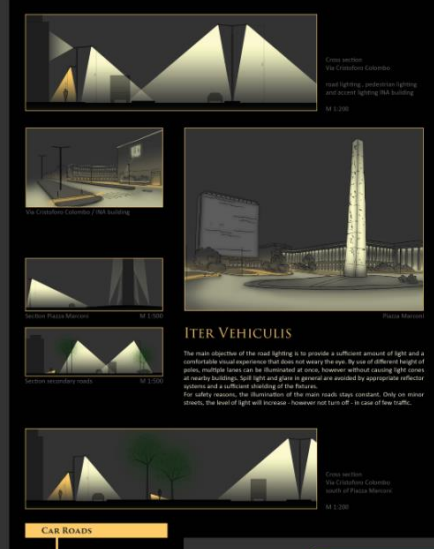
The park and lake area are recreational districts of providing and enjoying nature. The lighting in this area is most subtle, allowing an undisturbed view by creating a very high visual quality. Thus, the main illumination is given by the natural light of the sun, which exclusively illuminates the surfaces, without creating glare. Additionally, lighting is used to highlight the buildings, creating indirect reflections in the water surfaces. Specifically, higher areas include meeting points, benches or seats. Providing a shading effect of about 80% they create a protected space of light that does not impact on the surrounding area. Furthermore, both types of luminaires have a warm white color temperature and excellent color-rendering qualities.

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CAR ROADS

The main objective of the road lighting is to provide a sufficient amount of light and a comfortable visual experience that does not weary the eye. By use of different height of poles, multiple lines can be illuminated at once, however without causing light cones at nearby buildings. Soil lights and glass in general are avoided by appropriate reflector systems and a well-thought shading of the fixtures.

For safety reasons, the illumination of the main roads stays constant. Only on minor streets, the level of light will increase - however not turn off - in case of low traffic.



ITER PEDESTRES

To enable a better orientation, pedestrians will receive their own lighting from human fixtures and with a warmer color temperature that the natural white street lighting. For an easier distinction. Furthermore, the purpose is to support and encourage the walking routes for pedestrians. By a local residents searching for the shortest way between two points or tourists trying to find the most attractive way to their dining, they will find suitable ways, also apart from the highly frequented main streets.

While the pedestrian ways close to the main streets will be highlighted by fixtures attached to the road lighting poles, secondary and smaller streets will be illuminated by small-scale fixtures, suited to the arch area, avoiding unnecessary light pollution and uplight light. In any case, the luminaires are implemented in a communication system which slowly turns on the light as it detects presence, and thus limits a personal level of light for its users. Depending on the amount of users close to the main streets, the intensity of light increases.

Next to pedestrian ways within buildings - which belong to the "color" principle of historical buildings, also bridges and overpasses are an exception, as their illumination derives from the handrails.



PEDESTRIAN WAYS

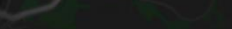
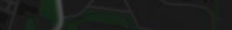
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MODERN BUILDINGS

Unlike the historical buildings, the appearance of modern buildings' facades mainly follows functional criteria. Large glass facades reveal the building's inside instead of focusing on the structural shell itself. Accordingly, the illumination of these buildings will come from inside. Utilizing the existing interior lighting systems close to the facade and energy efficiency & the night, a suitable area close to facade which reflects the character of the facade of the lighting. At the same time, it also

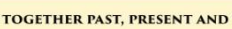
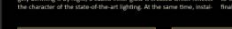
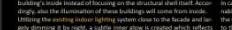
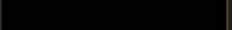
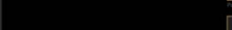
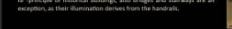
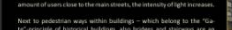
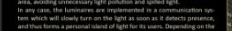
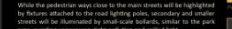
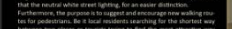


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INTERNATIONAL IDEAS CONTEST



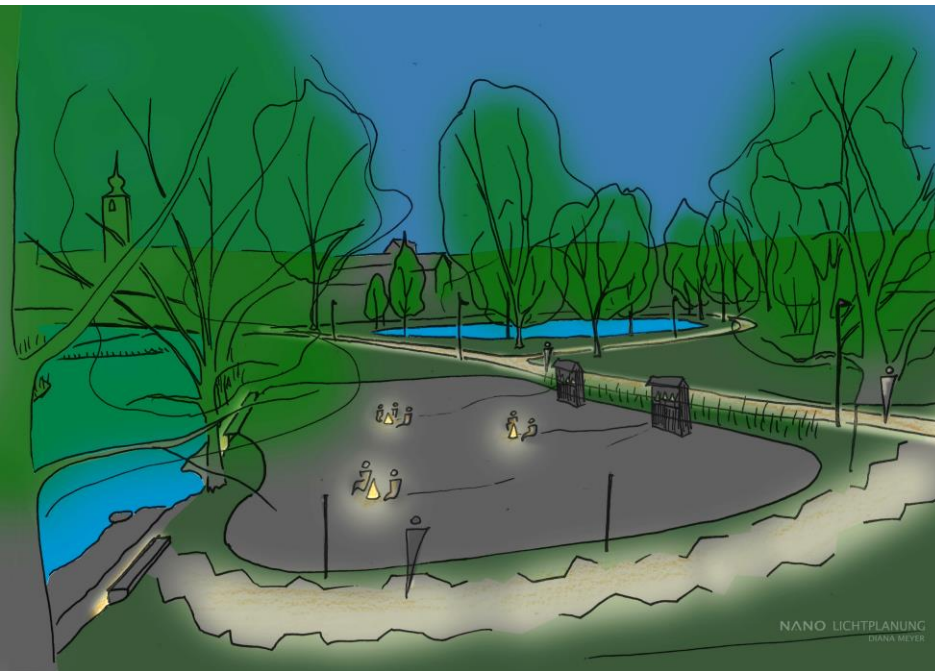
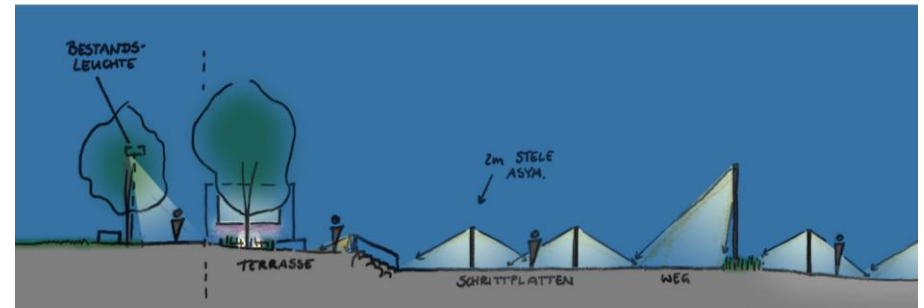
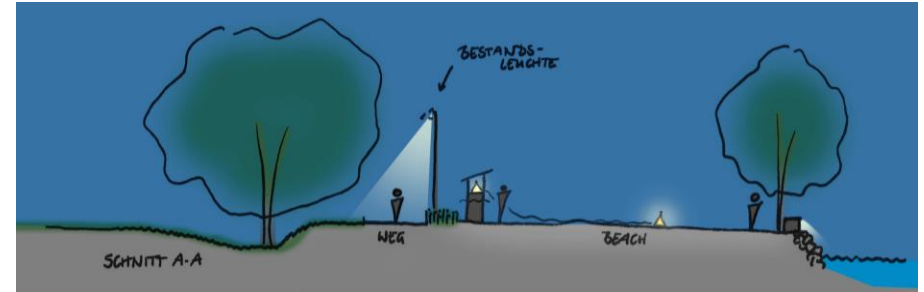
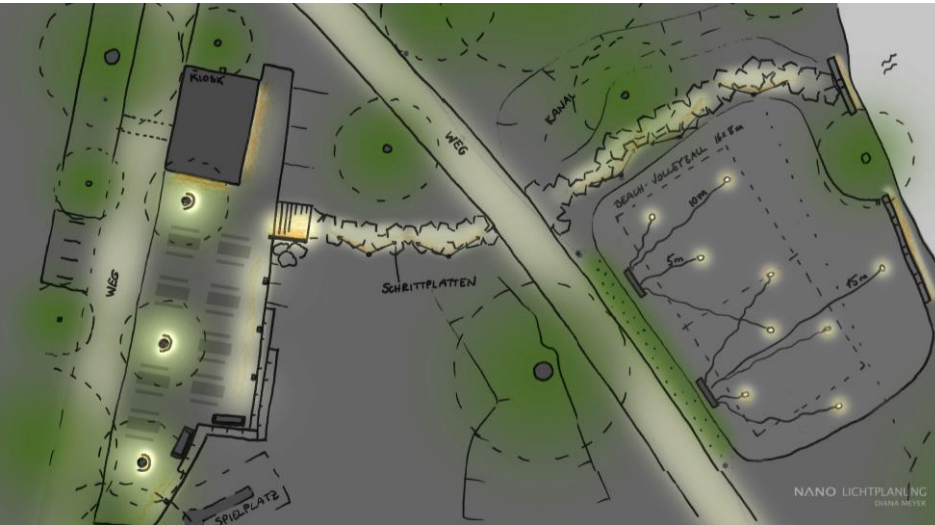
HISTORICAL BUILDINGS II

For still not treating the historical substance, the floor illumination is done by downlights that are attached to the side of the ceiling beams. This way, they disappear from view when seen from the street. The "simple" principle, also these fixtures have their beams angled entirely inside to the floor dimensions and thus avoid a cutting through the pattern by light cones. Instead, also here the reflections from the floor avoid an even brightening of the vertical surfaces, without causing glare. In this special case, the wall elements are directly illuminated, in order to allow an easy orientation and a good for distance appearance. However, the level of light does not reach below head height, for not disturbing privacy by.



MODERN URBAN LANDSCAPES: LIGHT AS A MEANS OF LINKING TOGETHER PAST, PRESENT AND FUTURE
INTERNATIONAL IDEAS CONTEST

REFERENZEN NANO LICHTPLANUNG



Stadtpark Crailsheim Beleuchtungskonzept „Stadtstrand“

Design-Konzept:

- Gleichmäßige, blendfreie Wegebeleuchtung
- Dezente Lichtakzente zur Inszenierung der Aufenthaltsbereiche
- Insektenfreundliches Licht zum [Schutz der Flora und Fauna](#)

Skizzen:

Nano Lichtplanung

NANO LICHTPLANUNG
DIANA MEYER

REFERENZEN NANO LICHTPLANUNG



Bahnhofstraße Crailsheim
Beleuchtungsplanung einschließl.
Ausschreibung (Montage 2023)

Konzept: Blendfreie Beleuchtung trotz reiner Wandmontage (= Vorgabe der Deutschen Bahn)

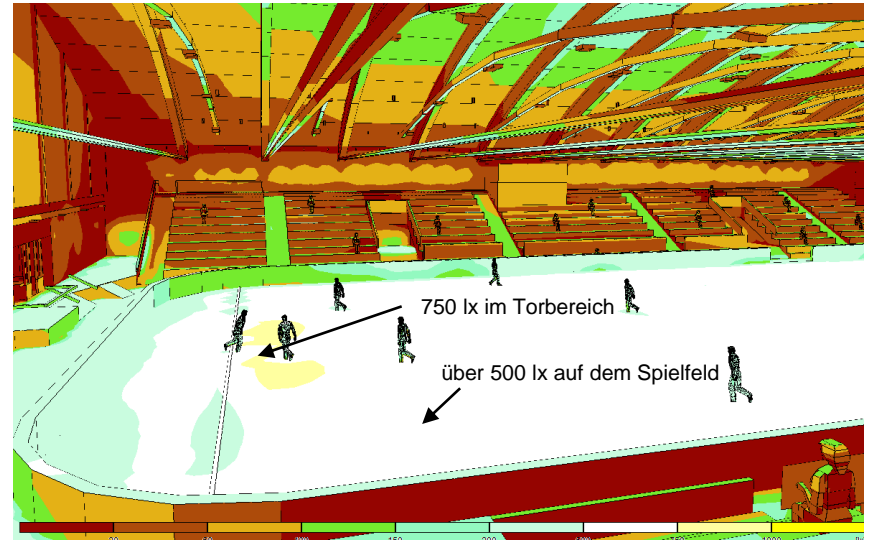
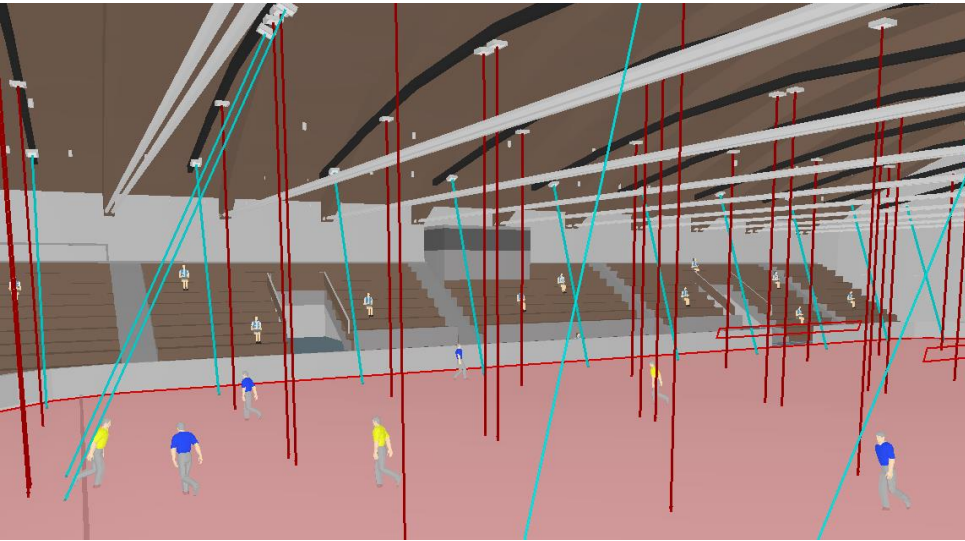
Sonderlösung mit asymmetrischer Lichtverteilung:

- gleichmäßige Ausleuchtung der Straßen und Gehwege
- keine störenden Lichtkegel an den Wänden
- RGB-Farbsteuerung via App

Foto Bemusterung
und Visualisierung: Nano Lichtplanung

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DIANA MEYER

REFERENZEN NANO LICHTPLANUNG



Raiffeisen-Arena Waldkraiburg Energetische Sanierung / Neuplanung

Design-Konzept:

- Gleichmäßige, blendfreie Wettkampfbeleuchtung
- Smarte Lichtsteuerung
- **84% Energieeinsparung**
- Dezente und elegante Publikumsbeleuchtung
- ausdrucksstarker Eingangsbereich

Screenshots Lichtberechnung/ Foto nächste Seite:

Nano Lichtplanung

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DIANA MEYER

REFERENZEN NANO LICHTPLANUNG



84% Energieeinsparung
jährlich 54.000 € Stromkosten gespart
= Amortisation nach 2 Jahren
+ staatliche Förderung

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aufgrund eines Beschlusses
des Deutschen Bundestages

III.

INFORMATIONEN ZU NANO LICHTPLANUNG

Profil Diana Meyer

- 2015 Gründung Nano Lichtplanung
- 2011–2015 Projektleiterin
im Ingenieurbüro Conceptlicht GmbH
- 2009–2011 Studium Architectural Lighting Design
Technische Universität Stockholm, Schweden
- 2005–2009 Studium Innenarchitektur
FH Rosenheim



Vorträge/ Veröffentlichungen

- 2020 Licht-Expertin für den SWR im Verbrauchermagazin „Marktcheck“
Thema: Beleuchtung in den eigenen vier Wänden, Ausstrahlung 01/2020
- 2017 Vortrag „Die Wirkung des Lichts auf den Menschen“
für den Festabend des Rotary Club Traunstein im Wellnesshotel Gut Ising
- 2014 Vortrag anlässlich des 40. Jubiläums der FH Rosenheim – Fakultät Innenarchitektur
- 2013 Vortrag „Daylight in Prisons“
Poster Presentation auf der internationalen Licht-Fachkonferenz PLDC in Kopenhagen, Dänemark
- 2010 Veröffentlichung in der Zeitschrift „Licht“:
„Beleuchtungskonzept für den Klosterhof Wedinghausen“, Ausgabe 04/2010
- 2010 Dozentin an der Technischen Universität Stockholm, Schweden
Themen: Photometrie, Wahrnehmung, Tageslichtplanung

Projekte Nano Lichtplanung

Öffentliche, gewerbliche und private Beleuchtungsprojekte im Innen- und Außenbereich (Auswahl):

- **Arztpraxen**
z.B. Arztpraxis Eidenhardt, Arnstorf
z.B. Zahnarztpraxis Stemper, Crailsheim
- **Bürobeleuchtung**
z.B. Lichtplanung Büro Heite, Bad Tölz
z.B. Bürobereiche Autohaus Wüst & Weigand, Weißenburg
- **Shopbeleuchtung / Showrooms**
z.B. Café Manicula, Traunstein
z.B. Mercedes-Showroom, Autohaus Wüst & Weigand, Weißenburg
- **öffentliche Beleuchtung im Innen- oder Außenraum (Neubau bzw. energetische Sanierung):**
z.B. Arbeitsgericht Crailsheim (energet. Sanierung)
z.B. Bahnunterführungen Bahnhofstraße Crailsheim (Neuinstallation)
z.B. Stadtpark Crailsheim (energet. Sanierung, insektenfreundliche Beleuchtung)
z.B. Festsaal der Stadt Mühldorf am Inn (energet. Sanierung, Förderung)
z.B. Eissporthalle Waldkraiburg (energet. Sanierung und Förderung)
- **Teilnahme an öffentlichen Wettbewerben**
z.B. Lichtdesign-Masterplan für das Museums-Viertel der Stadt Rom, Italien
z.B. Wettbewerb Altstadtbeleuchtung für die Stadt Nienburg/ Weser
- **Planung und Beratung für die Stadtbau Würzburg GmbH**
insektenfreundliche Außenbeleuchtung der Wohnquartiere in Bestand und Neubau
- **Planung und Beratung für Wohnhäuser (Neubau bzw. Sanierung)**
z.B. in Aschaffenburg, Crailsheim, Feuchtwangen, Grabenstätt, Künzelsau, Reutlingen, Rothenburg, Schwäbisch Gmünd, Schwäbisch Hall, Traunstein, ...



Weitere Projekterfahrung

als angestellte Projektleiterin in der Lichtplanung (Auswahl):

- **Paulaner Hauptverwaltung in München**
Bankettsaal, Empfangsraum, Probeschankraum, Innenhof, Büros
- **Flughafen BER Berlin**
VIP-Bereich, sakrale Räumlichkeiten „Raum der Stille“
- **Hotel „Soho Bund“ in Shanghai, China**
Hotelkomplex mit Empfangshalle, Lobby, Fassadenbeleuchtung, Park
- **Kulturpalast Dresden (denkmalgeschützt)**
Konzertsaal, Kabarettsaal, Foyers, Seminarräume, Außenbeleuchtung



Kontakt

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NANO LICHTPLANUNG
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