



Shopping is increasingly turning into a deliberately staged leisure-time activity. Shopping centres and shops are transforming into adventure spaces that are designed to entertain visitors and get messages across. Light is used to evoke emotions and to create brand identities. Intelligently designed light can trigger impulses to buy and alter shopping behaviour. Light adds value, especially if the lighting concept and lighting control system can be handled as a single identifiable entity. Lighting scenarios that are geared towards specific target groups are becoming increasingly important in presentation and retail applications. Authenticity, customisation, the miniaturisation of luminaires and high-precision accent lighting are all crucial factors in the design of such lighting solutions. Energy savings and lighting management are decisive in achieving economic success through sustainability. Zumtobel makes it possible to implement solutions that meet both customers' needs and corporate requirements – thanks to the company's responsible actions, energy-efficient luminaires and totally flexible lighting solutions.

Zumtobel. The Light.

Applications



















AMAG / Apple / Armani / Audi / Autohaus Stegelmann / Baccarat / Basel Trade Fair Bershka / BMW Mini / Bon Accord Shopping Centre / Boutique Wellendorf / Bödeker Shoe Store / C&C Pfeiffer / Cantina Antinori / Casio / Coop / Daimler / Deichmann Delhaize / Diesel / Edeka / Eurospar / Faces / Ferrari / Fressnapf / Globus / Hervis Hödlmayr Classic Car Center / Ikea / Juwelier Kern / Katakeet / Kenzo / KiKo Krombacher Brewery / L'Occitane / Ladurée / Levis / Lidl / Loewe / Louis Vuitton Madura / Maienhalde Winery / Maison Ullens / Manzenreiter / Marché Franprix Maximarkt / Mazda / McLaren Showroom / Metro Group / Mondrean Fashion / Nordsee Oberrauch Zitt / Patek Philippe / Porsche / Porsche Design / Prada / Renault / Rewe Seat / Skinfit / Spar / Swarovski / T-Design / Tanagra / Tengelmann / The Kooples Toyota / Toys R Us / Uniqlo / Volkswagen / Volvo / Wal-Mart / Zara

Spar flagship store, Budapest / HU

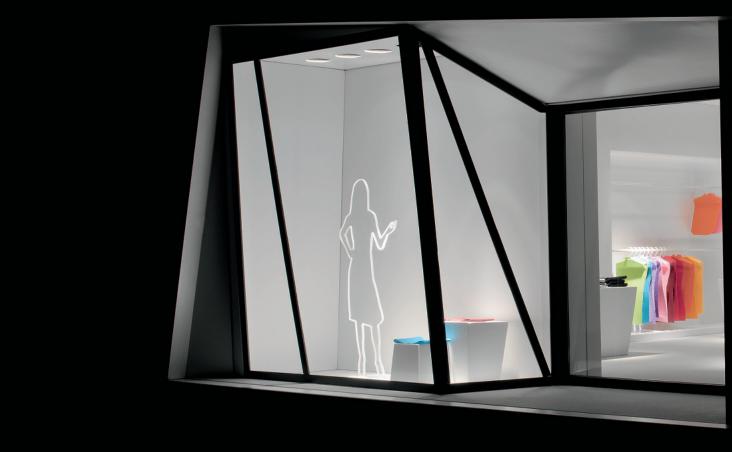
Architects: LAB5 Architects, Budapest / HU

Lighting solution
CARDAN tunableFood LED ceiling-recessed luminaires
ONDARIA circular LED luminaires
TECTON LED continuous-row lighting system
VIVO L tunableFood/stableWhite LED spotlights



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Limbic® Lighting Study on target group-adequate lighting



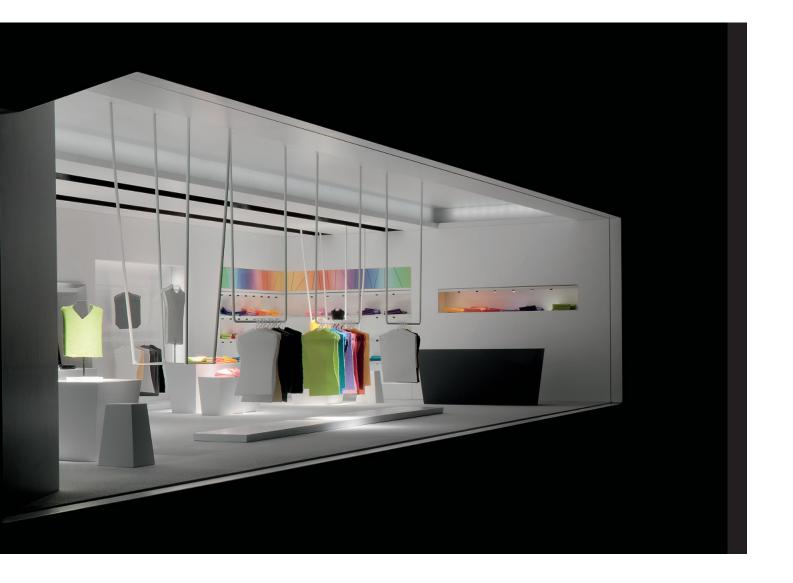
People make more than 95% of all their decisions without consciously thinking. It is only recently that investigations have been carried out to find out how consumers at a POS respond to light and which particular lighting solutions most affect the way they feel. The Limbic[®] Lighting study shows that different target groups have markedly different lighting preferences.



Gruppe Nymphenburg is an internationally leading expert in neuromarketing, and has supported branded companies and trading companies in the areas of brand positioning through to POS implementation for over 40 years.







In cooperation with Gruppe Nymphenburg, Zumtobel has managed, for the first time ever, to provide evidence of people's emotional responses to various lighting scenarios in retail settings. The study was based on target group segmentation in accordance with the neuropsychological Limbic[®] model which focuses on the complex, emotional personality structures of consumers. According to this model there are three major emotion systems – Balance, Dominance, Stimulance – from which it is possible to derive seven consumer groups: Disciplinarians, Traditionalists, Harmonisers, Bon vivants, Hedonists, Adventurers and Performers.

Limbic[®] Lighting study design

Based on realistic 3D visualisations of a fashion store, 20 different lighting scenarios were tested in total. The changes made affected six lighting parameters: light colour, light quantity, light distribution, beam pattern, contrasts in brightness and light colour. The physical reactions of all the test subjects were measured and analysed. This made it possible to determine the emotional reactions of the subjects to each lighting scene that was tested. By categorising the identified light preferences into the 3 emotion systems, Zumtobel has been able to develop both product and light concepts which optimally present the goods in a target group-specific way and increase the customers' sense of wellbeing.

Limbic[®] Lighting

Target group segmentation

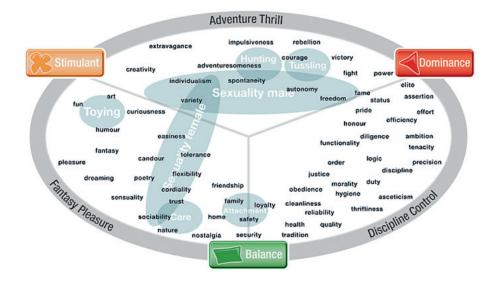
Emotions are what really drive human behaviour.

1 Balance

Individuals who seek harmony and relaxation (Harmonisers, Traditionalists and Bon vivants)

The largest target group consists of relatively calm, harmony-seeking family-minded persons. These individuals respond particularly positively to moderate accent lighting.





Limbic[®] map: The three emotion systems and the human motivation and value space. © Gruppe Nymphenburg

2 Dominance

Critical persons (Performers, Disciplinarians)

Members of this essentially sceptical target group are easily unsatisfied and will turn away from any situation that does not meet their expectations. Critical individuals prefer balanced light distribution with a high proportion of diffuse light and uniformly illuminated peripheral areas. They are also susceptible to discreetly mood-enhancing lighting effects.

3 Stimulance

Unconventional persons (Hedonists, Adventurers)

Those looking for fun, variety or adventure like to be inspired by high-contrast scenarios with low horizontal general lighting levels.





Limbic® Lighting target group-specific findings

Various target groups respond differently to various lighting implementations. In presentation and retail applications in particular, the effectiveness of lighting and the buying motives of the addressed customer group are very closely linked. Building on the scientific Limbic[®] Lighting study, Zumtobel has devised three basic concepts – these are characterised by fundamental lighting design differences and a clearly differentiated vista for each respective target group. Once these findings are understood, it is possible to optimise lighting in order to enhance the customers' sense of well-being and extend the amount of time they spend in a store. This in turn boosts sales.

1 Balance

Light for persons who seek harmony and relaxation (Harmonisers, Traditionalists and Bon vivants)

- Soft lighting scene with low contrast, consisting of a mix of accent lighting, cove lighting and vertical lighting
- Moderate accent lighting using spots with medium-wide beam angles
- Illumination of peripheral areas using floods with vertical asymmetrical light distribution, supplemented by spots as required
- Integrated dimmed accent lighting on shelves and in recesses
- Average horizontal illuminance of approx. 800 lx
- Warm white colour temperature of 3000 K



2 Dominance

Light for critical persons (Performers, Disciplinarians)

- Uniform, diffuse lighting scene which is perceived as bright; produced by wide-angle accent luminaires, downlights, floodlights and cove lighting
- Accent lighting using spots with medium to wide beam angles
- Uniform illumination of peripheral areas using floods with asymmetrical light distribution
- Uniform illumination of shelves and recesses
- Relatively high horizontal illuminance of approx. 1200 lx
- Intermediate colour temperature between 3500 K and 4000 K

3 Stimulance

Light for unconventional persons (Hedonists, Adventurers)

- High-contrast lighting scenes with rather strong accents and a large vertical light component, combination of narrow-beam accent luminaires and decorative luminaires for general lighting
- Accent lighting using spots with narrow and medium-wide beam angles
- Peripheral areas are emphasised by asymmetrical vertical lighting and spots
- Integrated accent lighting for shelves and recesses
- Comparatively very low horizontal illuminance of approx. 500 lx
- Intermediate colour temperature of about 4000 K

Limbic[®] Lighting

Gerry Weber field study

As continuation of the laboratory study, Zumtobel analysed the empirical results once again in a field study. In cooperation with the fashion company Gerry Weber, the field study tested whether a target group-specific retail lighting solution has a demonstrably positive impact on the customers' buying behaviour and therefore on the sales figures. For this purpose, the target group of the Gerry Weber brand was analysed in a first step, using the "Limbic® Types" developed in the laboratory study.

Study design

The retail space in Herford, Germany, was the basis of a twomonth field test. Zumtobel LED spotlighting was used, the so-called "Harmoniser", which appealed to the Gerry Weber target group – moderate accent lighting and warm, light colours.

Tests were carried out implicitly and explicitly:

- Observation of general shopping behaviour both before and after installation of the new light design.
- Implicit testing of test subjects with the "Limbic® Emotional Assessment" (LEA) method designed by Gruppe Nymphenburg.
- Explicit interviewing of test subjects regarding the sense of wellbeing in the shop.
- Revenue comparison with a reference branch in the same test period.

Findings

Testing the customers' reactions has proved that target groupadequate lighting designs demonstrably make test subjects more positive.

LEA tests revealed:

- Higher activation potential of purchasing incentives with customers.
- Customers reacted in an emotionally more positive way to the newly installed Limbic[®] Lighting Concept in comparison to the original lighting design.
- The tests revealed greater interest in the retail space and products as well as less stress for the test subject, even with a lower number of visitors and shorter stays.

The interviews revealed:

• Customers confirmed a greater sense of wellbeing in the shop thanks to the new Limbic® Lighting Concept.









Conclusion

The adjustment of the lighting situation according to target group-typical light preferences achieved an average **sales increase of 10** % as well as a similar increase in transaction values compared to the reference space in the same time period.

"For us as an international fashion brand it was impressive to see – on the basis of unique, scientific research – to what extent light really has an effect at the POS. Our collaboration with Zumtobel was extremely rewarding for us, as we were finally able to understand and implement the importance of our target group's lighting preferences even better."





Porsche Design, Düsseldorf / DE

Architects: plajer & franz studio, Berlin / DE

Lighting solution

DISCUS evolution LED spotlights
DISCUS evolution E2 semi-recessed LED spotlights
TALEX CHAIN LED cove lighting

Target group-adequate lighting

Light is an effective marketing tool. It has the ability to address target groups and differentiate brands.

Shop design is a crucial tool for sustainably entrenching brand messages against the backdrop of major brands which have increasingly global presences. Architects and designers who are capable of interacting strongly with a brand and engaging with the target group are a vital prerequisite for devising successful design concepts and developing a brand-specific design in agreement with all stakeholders. Retail areas are transforming into experiential spaces In the field of lighting, the Limbic® Lighting study provides the first-ever solid evidence for developing a target group-specific lighting solution. By changing intensity, contrast, colour, colour temperature, direction and uniformity of light, it responds to current trends and emotional needs. A perfect lighting solution stimulates the target group. Prolonged time spent in the shop will increase sales prospects. Once a target group-specific concept has been successfully implemented, it can be multiplied for local or global brand rollout on the basis of design guidelines.

Diesel flagship store, Vienna / AT

Architects: Infracom Projektbau, Griffen / AT

Lighting solution

CARDAN SPIRIT R1 ceiling-recessed luminaires MICROS-C D68 LED downlights PANOS M-V downlights PANOS infinity LED downlights VIVO L LED spotlights









Variable illuminance levels

A lighting approach with a focus on accent lighting allows the use of significantly different lighting characteristics for modelling objects perfectly, while also reducing illuminance levels and hence energy consumption.

The first step in achieving an efficient lighting solution is dimmable, atmospheric lighting. In order to achieve this, Zumtobel offers a product portfolio ranging from wide-angle LED downlights and innovative vertical floodlights through to cove lighting. Accent lighting really comes into its own when illuminance levels are higher than those used for general lighting. With their low installed loads, high-performance LED spotlights are suitable replacements for 20 to 70 W HID lamps. With suitable spot optics and extremely good colour rendering qualities, these new LED spotlights also underscore the premium value of items at the point of sale. Accent lighting must be precisely matched to suit the relevant merchandise - light colour and lighting quality are decisive. New, application-specific colour temperatures have been developed in order to emphasise the texture of materials and accentuate brilliance. Thanks to various replaceable optics, Zumtobel's product ranges offer a wide choice of beam angles from spot to wide flood - for energy-efficient lighting solutions in a consistent design. Zumtobel includes all the information needed to obtain environmental certification in its Environmental Product Declarations (EPDs).

Levi's®, Brussels / BE

Architects: Levi Strauss, Brussels / BE

Lighting solution

PANOS infinity Q140 LED downlights SCONFINE SFERA 500 pendant luminaires Modular SUPERSYSTEM LED lighting system VIVO M LED spotlights VIVO M HIT spotlights VIVO SL LED recessed spotlights









Flexible, varied and lively centre-stage settings

Modular, universal lighting solutions make differentiation and zoning simpler.

The trend is towards flexible store concepts that can be deployed worldwide with just a few simple adaptations. The sheer variety of goods on sale, different ceiling heights and the interior design atmosphere and zones in a flagship store or a department store all make different demands on a lighting concept. Flexible, easily expandable lighting solutions are the order of the day: modular recessed luminaires and spotlights as well as track and channel systems emphasise distinctive features, divide up retail floor space and allow easier spatial demarcation of different areas. Universal systems combine consistent, across-the-board design with the option of adapting lighting to suit the specific lighting preferences associated with a brand architecture, even within a single space. This versatility allows costeffective adaptation and customisation and this in turn inspires those whose job it is to design commercial business premises. Innovative luminaire ranges such as INTRO provide a modular lighting tool for universal design, intuitive customisation and an integrated lighting solution.

L'Occitane en Provence, Paris / FR

Architects: L'Occitane Retail Architect Team, Paris / FR

Lighting solutionIYON LED spotlights
PANOS infinity LED downlights

Recommended products





IYON M LED

INTRO M E1





Conveying authenticity

Excellent colour rendering and special light spectrums improve perceived quality significantly.

Goods cannot be presented effectively unless visual conditions are good, and only authentic light reveals the true character and quality of merchandise. Good colour rendering, special spectral distributions and particular light colours are must-have features for lighting solutions in retail settings. Modern LED technology has opened up completely new possibilities in this respect: it offers significantly greater technical capabilities and huge flexibility of use. Zumtobel's range of LED luminaires provides solutions for every application area. These latest-generation luminaires enshrine values such as credibility, originality and honesty. As far as lighting is concerned, this means not showing goods in a false light but showcasing their qualities as naturally as possible thanks to excellent colour rendering and by using a balanced combination of diffuse and directional light to ensure natural shadow detail. Zumtobel achieves this by deploying TGRfashion - a technology which, especially in fashion settings, is synonymous with super brilliant, gleaming light. With colour rendering of $R_a > 90$ in all colour spectrums, TrueGamutRendering fashion provides for a lively colour effect, with white and coloured items of clothing being shown to optimal advantage.

Katakeet store, Dubai / AE

Architects: Inhouse Chalhoub Group, Dubai / AE

Lighting solution

CARDAN R1 ceiling-recessed LED luminaires IYON LED spotlights MICROS LED downlights PANOS infinity LED downlights Modular SUPERSYSTEM LED lighting system









Maison Ullens, Paris / FR

Architects: OMA, Rotterdam / NL

Lighting solution

CARDAN ceiling-recessed LED luminaires Modular MICROTOOLS LED lighting system PANOS infinity LED downlights Modular SUPERSYSTEM LED lighting system VIVO XS LED spotlights

Emphasising peripheral areas

A stronger emphasis on vertical surfaces shows off walls, shelves and displays to greater effect.

The illumination of peripheral areas and vertical surfaces attracts attention, while also achieving excellent long-distance effects and providing for orientation. The Limbic® Lighting study shows that lighting like this must combine a high degree of uniformity and high intensities with sharp outlines in order to achieve positive effects. This applies to the shelves of an entire goods assortment as well as to advertising messages or visual merchandising areas. Efficient, homogeneous illumination of vertical surfaces producing as few shadows as possible requires optimal luminaire positioning and the right angle of incidence. The solution offered by Zumtobel follows a new technological approach: liteCarve® reflector technology (patent pending) allows extremely precise, well-balanced rectangular light distribution, right up to the outermost peripheries. This new kind of freeform reflector directs light from the LED point light source 100 % indirectly in a targeted manner. Efficient LED spotlights provide selective contrast for additional accent lighting for specific areas such as retail islands. Products on shelves are perfectly staged by seemingly invisible light produced by miniaturised luminaires.

Oberrauch Zitt, Bolzano / IT

Architects: Walter Angonese, Caldaro / IT

Lighting solution

ARCOS LED spotlights
ARCOS HIT spotlights
IYON LED spotlights
ONDARIA circular luminaires
ONLITE LOCAL supply and monitoring modules
ONLITE PURESIGN escape sign luminaires
ONLITE RESCLITE LED emergency luminaires
Modular SUPERSYSTEM H LED lighting system
TECTON TETRIS continuous-row lighting system
VIVO HIT spotlights







Maison Ullens, Paris / FR

Architects: OMA, Rotterdam / NL

Lighting solution

CARDAN ceiling-recessed LED luminaires Modular MICROTOOLS LED lighting system PANOS infinity LED downlights Modular SUPERSYSTEM LED lighting system VIVO XS LED spotlights

Minimising the visibility of luminaires

Unobtrusively small lighting systems and integrated lighting systems focus attention on the merchandise.

To achieve effective lighting scenarios, store design architects are increasingly relying on miniaturised luminaires and lighting which is seemingly invisible because it is built-in. Drastically reduced luminaire dimensions and LED technology allow lighting which is harmonious and efficient when viewed from close up or far away: virtually IRand UV-free light can be focused accurately. The shorter the distance between the lighting and the goods, the more precisely relatively small items can be presented, thus consuming correspondingly less power. Direct in-shelf lighting can also provide clear differentiation. Streaks of light produce fascinating reflections and emphasise specific details. Another benefit: exciting scenarios can be implemented quickly and easily by simply grouping and controlling lighting components. Miniaturisation also makes uplighting possible. In this case, the less conspicuous the lighting technology is, the greater the scope for showing off the goods on display. New LED shelf systems pack excellent lighting technology into an extremely compact space. Their modular construction also means that various types of modules can be combined on one shelf and they can even be dimmed independently to produce a rich variety of lighting scenes.

Colonys, Lucerne / CH

Architects: Retailpartners AG, Wetzikon / CH

Lighting solution

Modular MICROTOOLS LED lighting system











Bershka, Frankfurt / DE

Architects: Castel Veciana Arquitectura, Barcelona / ES

Lighting solution
CARDAN ceiling-recessed LED luminaires
IYON LED spotlights
PANOS infinity LED downlights

Using ceilings as an element of design

In retail situations, large ceiling areas are increasingly being seen as usable surfaces that open up rooms in terms of height and strengthen brand identity.

Ceilings are extremely large, visible architectural surfaces in retail spaces which have hitherto mostly been used to install functional luminaires and building services. The current trend in retail applications is to "break through" these ceilings, and hence customers' expectations, thereby getting their attention with surprising features and splitting up spaces into smaller units. This is done using colours, surfaces and structures in the same way as mirrors are used to open up a room in terms of height and create an impression of expanse. Some companies use this newly acquired surface to obtain brand differentiation. Really striking ceiling solutions are mostly used in flagship stores. Breaking ceilings up at several levels is another possible eye-catching ceiling design strategy; in terms of lighting, this is primarily achieved through pools of light. Besides an extremely versatile product portfolio that offers plenty of customisation options, Zumtobel also supplies customerspecific special solutions based on standard product platforms.

Oberrauch Zitt, Bolzano / IT

Architects: Walter Angonese, Caldaro / IT

Lighting solution

ARCOS LED spotlights
ARCOS HIT spotlights
IYON LED spotlights
ONDARIA circular luminaires
ONLITE LOCAL supply and monitoring modules
ONLITE PURESIGN escape sign luminaires
ONLITE RESCLITE LED emergency luminaires
Modular SUPERSYSTEM H LED lighting system
TECTON TETRIS continuous-row lighting system
VIVO HIT spotlights

Recommended products





IYON M-SL LED

VIVO-SL LED





Gentle illumination

The light produced by modern LED luminaires is virtually free from any harmful IR or UV radiation.

A wide range of products respond badly to thermal and infrared radiation: cosmetic products deteriorate, textiles fade, bakery goods dry out, chocolate and confectionery melt. UV and IR radiation are some of the less desirable aspects of conventional lighting. In the past, luminaires were fitted with filters and protective devices in order to shield goods from such radiation. But this protection came at the expense of efficiency. The starting point with LED luminaires is totally different: the light they produce is virtually free from any IR or UV radiation. They do not require any accessories to provide gentle illumination – even when the LED luminaire is placed very close to the product for maximum effect. This significantly reduces the risk of colours fading or sensitive materials being damaged. These properties of LED lighting are particularly appreciated by shops that sell cosmetic products and pharmaceuticals and by grocery stores and are becoming more and more important in fashion stores that need to protect premium textiles against fading. it is possible, for instance, to illuminate goods longer with the same illuminance level or to select a higher illuminance level for a given duration.

Maison Ladurée, Paris / FR

Architects: Mercure Engineering & Consulting, Boulogne-Billancourt / FR

Lighting solution

LUXMATE EMOTION lighting management system Modular SUPERSYSTEM LED lighting system













AMAG, Winterthur / CH

Architects: P&B Partner Architekten AG, Winterthur / CH

Lighting solution

CARDAN R1 ceiling-recessed LED luminaires CLEAN clean-room luminaires LIGHT FIELDS microprism luminaires TECTON continuous-row lighting system

Strengthening brand individuality

Lighting scenarios bring out the character of a brand. They make it possible to experience an individual brand image.

In showrooms, light is an important design element that rounds out a presentation concept, colours and materials. A lighting solution is therefore ideally conceptually wedded to a brand's corporate identity guidelines. Because light triggers emotions and underscores an individual brand image which has been built up by verbal communication. Setting a vehicle and a brand centre stage in a manner which has public appeal attracts the attention of the general public – not just customers' attention. This enables car dealerships to become what they really ought to be: experiential spaces that get messages across. This is only possible if potential customers consciously perceive individual presentation highlights. A lighting scene that makes potential customers feel at ease and allows them to concentrate clearly and take on board advice and a sales pitch is extremely helpful in this respect.

BMW MINI flagship store, Frankfurt / DE

Architects: geiseler gergull architekten. GmbH, Frankfurt / DE

Lighting solution

CARDAN E1 ceiling-recessed LED luminaires IYON LED spotlights PERLUCE moisture-proof diffuser luminaires SLOTLIGHT II light lines







Garage Zénith SA, Sion / CH

Architects: Fortebis Group, Rome / IT

Lighting solution
CARDAN 1000 R1 ceiling-recessed luminaires
MICROS downlight system
LED luminous ceiling (special solution)
SLOTLIGHT II light lines
TECTON TETRIS continuous-row lighting system

Stunning presentation

Adding value to objects by modelling them perfectly. A car essentially expresses itself through its dynamism.

An interplay of diffuse and directional light presents vehicles in a tangible, unadulterated way: diffuse light lends clear lines to reflective car bodies. Brilliant pinpoint light, on the other hand, sharpens details and suggests vehicle movement. Artificial lighting scenes redolent of trips through natural landscapes nurture dreams. Excellent colour rendering enhances the natural appearance of car finishes and materials. Visibly accentuated body contours, identifiably special paint finishes and the ability to check out the interior fittings of a vehicle help establish customer trust and make the decision to buy easier.

McLaren showroom, Vienna / AT

Architects: Reisinger & Reisinger, Vienna / AT

Lighting solution
2LIGHT Mini LED downlight
PANOS infinity LED downlights
Modular SUPERSYSTEM LED lighting system
VIVO L HIT spotlights









BMW MINI flagship store, Frankfurt / DE

Architects: geiseler gergull architekten. GmbH, Frankfurt / DE

Lighting solution

CARDAN E1 ceiling-recessed LED luminaires IYON LED spotlights
PERLUCE moisture-proof diffuser luminaires
SLOTLIGHT II light lines

Creating a feel-good ambience

An invitingly lit lounge or waiting area fosters positive feelings and makes waiting times feel shorter.

But even short waiting times can be a turnoff for impatient customers or people who are on a tight schedule. However, if a real atmosphere of well-being can be created in a lounge or in a waiting area, waiting times will generally feel shorter. Besides agreeable amenities and adequate ways of passing the time, lighting plays a crucial role: good light not only improves people's general sense of well-being, it also encourages reading and makes people more communicative. All these factors reinforce positive emotions – even when customers have to wait. This way, lounges and waiting areas can ensure that subsequent advice or sales talks get off to a good start. When customers are waiting to collect their vehicles, their experience can be made much more pleasant.

Ferrari s.p.a., Maranello / IT

Architects: Fortebìs Group, Rome / IT

Lighting solution

TECTON LED continuous-row lighting system LUXMATE daylight lighting management system









Autohaus Stegelmann, Lemgo / DE

Architects: nb+b Neumann-Berking und Bendorf, Wolfsburg / DE

Lighting solution

CARDAN E1 ceiling-recessed LED luminaires LINARIA LED light lines LINCOR LED louvre luminaires MICROS LED downlights
PANOS infinity LED downlights
RESCLITE LED emergency luminaires
SCUBA moisture-proof diffuser LED luminaires
SLOTLIGHT II LED light lines
TECTON LED continuous-row lighting system
VIVO L LED spotlights

Integrating daylight

Daylight-based lighting control systems ensure optimal contrast engineering with significant energy savings.

A combination of sensibly used daylight and efficient LED technology reduces both energy consumption and CO_2 emissions. This is innovation teamed with great awareness of energy efficiency which also focusses on photometric benefits: lighting scenes can be individually adjusted for both day and night. During business hours, it is the lighting's task to entice passers-by looking into the showroom from outside to enter the car dealership and take a close-up look at the vehicles on show. High illuminance levels are needed to make sure that individual car models can be viewed under perfect conditions, even if there is plenty of daylight. In the evening, a lighting control system makes it possible to reduce illuminance levels, set vehicles centre stage and provide an attractive vista during hours of darkness. Apart from the option of using individual lighting scenes, it is also possible to save energy by controlling lighting sensibly over the course of a day.

Volkswagen Aröd, Göteborg / SE

Architects: Krook & Tjäder, Göteborg / SE

Lighting solution

CARDAN E1 ceiling-recessed LED luminaires ELEEA louvre luminaires MICROS LED downlights PANOS infinity LED downlights PERLUCE moisture-proof diffuser luminaires SCUBA moisture-proof diffuser luminaire SLOTLIGHT II light lines









Seat Deutschland GmbH, Berlin / DE

Architects: pbr Planungsbüro Rohling, Magdeburg / DE

Lighting solution

CARDAN E2 ceiling-recessed LED luminaires ELEEA LRO louvre luminaires HELISSA wall and ceiling-mounted luminaires PANOS infinity LED downlights PERLUCE moisture-proof diffuser luminaires SCUBA moisture-proof diffuser luminaire

Cutting operating costs

Durable LED luminaires reduce the amount of money spent on maintenance: the higher the ceiling, the greater the saving.

Sustainability is a business approach that stresses the importance of thinking and acting responsibly and brings economic benefits in its wake. This is why modern brands insist on energy-efficient, innovative LED lighting technology. Besides ambitious innovation, big potential savings are not only expected, they are actually achieved – and make themselves felt when it comes to power consumption and maintenance costs. Using modern LED lighting solutions, illuminating even showrooms with high ceilings with high lumen packages of up to 4600 lm is no problem whatsoever, thus doing away with the need for 70 W HIT luminaires. This has advantages in all areas: premium LED luminaires boast good lighting quality and a longer than average service life which reduces operating costs, thanks to lower maintenance costs and efficient energy use.

Jacobs Automobile, Geilenkirchen / DE

Architects: Audi AG, Ingolstadt / DE

Lighting solution

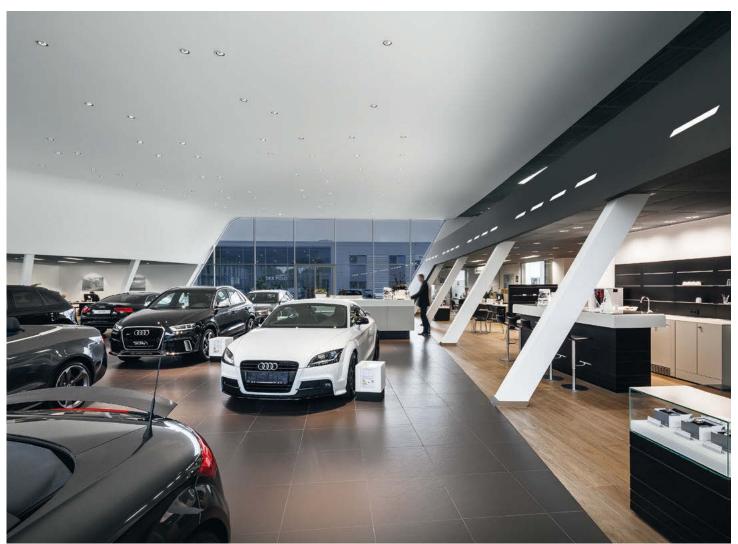
CARDAN R1 ceiling-recessed LED luminaires CREDOS E150 LED downlights LIGHT FIELDS E microprism luminaires PANOS infinity E200 LED downlights TECTON TETRIS continuous-row lighting system





PANOS infinity E200









Supermarket Margherita Conad, Bologna / IT

Lighting solution

CARDAN R1 ceiling-recessed LED luminaires PANOS infinity LED downlights TECTON LED continuous-row lighting system VIVO L LED spotlights

Saving energy

Uniform consistency is provided by targeted, efficient vertical shelf lighting.

Simple standard shelving still takes up a large proportion of retail floor space because this is where most merchandise is sold. Vertical illumination of the entire shelf front which is as uniform and bright as possible is more important than actual light intensity on the floor. Nevertheless, it must also be possible to set accents and pick out specific shelf units as required. Luminaires in supermarkets are not totally glare-free, otherwise the store would appear too dark and, in the worst case, appear to be shut when seen from outside. Linear continuous-row systems which convey a "value for money" message are a standard feature of every supermarket. They always run parallel to the shelving because this saves luminaires and hence power. Double asymmetrical light distribution has a pull effect and avoids monotony. Floors, which often get dirty in bad weather, are deliberately excluded from high illuminance levels. Efficient luminaires pay for themselves very quickly because the surface areas that are to be illuminated are huge, the number of luminaires needed is large and opening hours are quite long. Energy-saving, durable LED lighting solutions meet all the requirements placed on a conventional solution, but also avoid labour-intensive replacement of fluorescent lamps.

Maximarkt, Anif / AT

Architects: ATP Innsbruck Planungs GmbH, Innsbruck / AT

Lighting solution

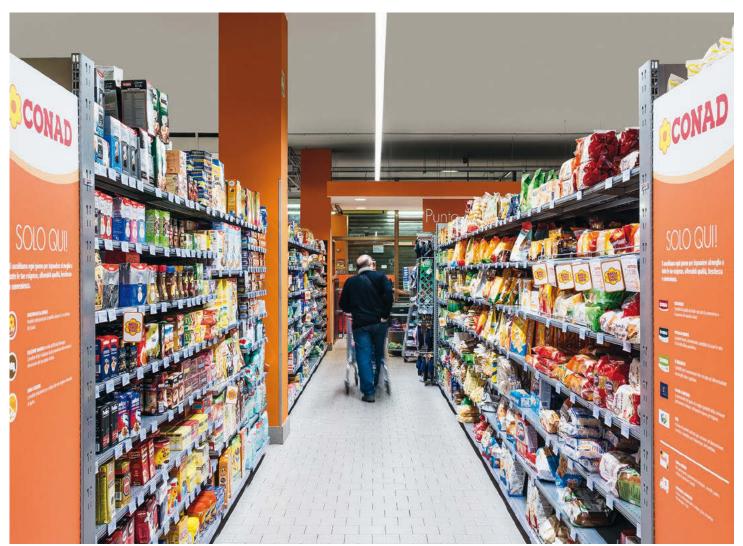
ARCOS LED spotlights
CARDAN E1 ceiling-recessed LED luminaires
DIAMO LED downlights
LUXMATE lighting management system
ONDARIA circular luminaires
PANOS infinity LED downlights
TECTON LED continuous-row lighting system
VIVO L LED spotlights

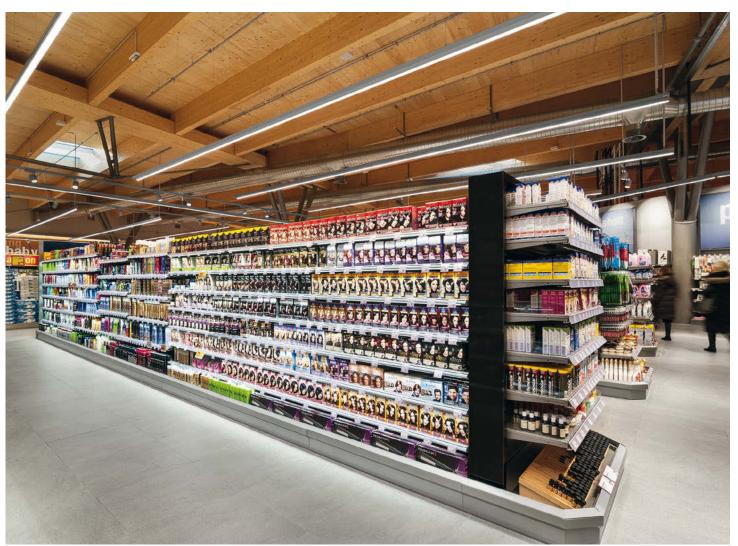
Recommended products

TECTON LED



LITECOM





Spar flagship store, Budapest / HU

Architects: LAB5 Architects, Budapest / HU

Lighting solution

CARDAN tunableFood ceiling-recessed LED luminaires ONDARIA circular LED luminaires TECTON LED continuous-row lighting system VIVO L tunableFood/stableWhite LED spotlights

Emphasising freshness

Special light spectrums improve perceived quality, are gentle on merchandise and present freshness and naturalness to optimum effect.

Fresh produce such as fruit and vegetables, pastries, meat and cold meats are the flagship sections in any supermarket. Light has to accomplish several things in order to convey a message of unadulterated "freshness" and boost sales: the right colour temperature lends produce a natural, fresh appearance. Good colour rendering (R_a > 90) highlights the premium quality of produce, especially vividly coloured fruit and vegetables. Cold cuts and meat require finely tuned, gentle light with an illuminance level of no more than 1000 lx. Efficient LED luminaires produce less heat and have a smaller cooling load; this means that bread and fish or fruit and vegetables remain fresher for a longer period of time. Above all, modern spotlights deliver varied, lively lighting scenes and the right light in the right place. Care must be taken to choose the right spotlight and align it correctly in order to prevent glare or false light colours. The rule for achieving a perfect interplay of light and shadow for display cabinets, in particular, is lots of light in the display cabinet, little light in front of it.

Konditorei Hotz, Dübendorf / CH

Architects: Architekturbüro Seeger, Dübendorf / CH

Lighting solution

CARDAN R1 ceiling-recessed LED luminaires CREDOS LED downlights SLOTLIGHT II light lines









Fressbox, Graz / AT

Architects: Büro Freiflug, Graz / AT

Lighting solution
FD 1000 E 200 ceiling-recessed LED luminaires
IYON LED spotlights
MICROS LED downlights
XPO LED shelf lighting

Attracting attention

Deliberately setting the latest offers and seasonal items centre stage makes them more appealing. Lighting and the way in which merchandise is positioned all send out messages.

It is possible to attract attention in a targeted manner and draw customers in by using more light, different light colours or different types of luminaires. Flexible luminaire systems are ideal for prominently showcasing attractive offers or reacting to seasonal assortment changes in a targeted manner. Centres of light are distributed throughout the space to make highlights clearly recognisable, even from afar: For instance, colour temperatures of 5000 K accentuate cosmetic products and white goods whereas built-in shelf lighting uses high illuminance levels to underscore premium quality. Other possible ways of obtaining differentiation include particularly good colour rendering (Ra 90) or using narrow-beam spots in selected areas. In contrast, special sales outlets which actively impart information and convey messages or create a mood are illuminated uniformly and extensively. Thanks to these lighting differences, walls of rooms, banners in main corridors, price labels behind meat counters and posters for fruit and vegetables all make it easier to find one's way around a supermarket. In the case of images, vertical brightness and high Ra values are just as important as precise direction of light for preventing reflections. Colour, light and shadow or sparkling points of light can also convey a brand's values and aspirations.

Hervis, Krems / AT

Architects: Schoblocher Bau Consulting GmbH, Weyregg am Attersee / AT

Lighting solution

METRUM LED continuous-row lighting system





METRUM LED





Lighting management

zumtobel.com/litecom

LITECOM focuses the light on the user



The new LITECOM lighting management system offers unlimited flexibility in terms of operation, function and system size. Each luminaire and each blind is designed to provide maximum visual comfort, offers unrestricted empowerment – and uses all options for energy efficiency at the same time. The innovative app concept facilitates exact adjustment to the needs of the respective building and its users. The desired functions can be added in the form of apps at any time. Basic functions of the lighting system and building services are already covered by the Basic app. Operation is effected through any type of momentary-action switch and control unit, by means of smartphones, tablets or PCs.





The new generation of lighting management:

- The LITECOM app concept opens up a new dimension of flexibility for lighting management systems. The range of functions offered extends from daylight via show lighting up to emergency lighting.
- Designed as an open system, LITECOM enables the programming of your own apps, addressing of field bus systems such as KNX, or integration of lighting and blinds control into a building management system via BACnet or OPC.
- Thanks to LITECOM wizards, no prior knowledge is required for commissioning the system in just a few steps.
- Mobile interaction has already been included in the standard version. All Webenabled devices are able to communicate with LITECOM.
- The multi-language user interface combines personal design options with intuitive operation based on scientific findings and user analyses.
- LITECOM can be adjusted to customer-specific needs, thanks to individually
 extendable functions and project sizes (up to 250 actuators for LITECOM, up to
 100 000 actuators for LITECOM infinity.

Emergency lighting and emergency lighting systems

ONLITE offers safety as a one-stop solution

Functional emergency lighting is more than just a must required under the law. The quality of luminaires and of an emergency power supply system reflects an operator's responsibility towards a building, the people who use it and towards the environment. Emergency and escape sign luminaires in the ONLITE product range cannot fail to impress on account of their unobtrusive design and their ability to blend into the interior. Zumtobel also attaches great importance to technical quality criteria such as maximum energy efficiency and convenient maintenance when it comes to emergency lighting. Based on many years of experience with LED, ONLITE incorporates state-of-the-art, extremely durable LED technology. The built-in Maintenance function ensures constant luminous flux for more than 50 000 hours.

All luminaires have been tested under ENEC and conform with the EN 1838 standard. Two concepts, with separate or central battery supply, are available to ensure secure power supply in the event of an emergency.



eBox central emergency supply system

- Maximum functionality with low space requirement, perfectly matched to Zumtobel LED emergency and escape sign luminaires.
- Using standard DALI mains-powered luminaires (mains voltage 230 V AC/DC) is also possible
- Flexible use owing to clearly laid-out system and modular plug-in technology as well as sub-distribution cabinet in IP20
- Easy handling from installation via operation through to
 maintenance







RESCLITE emergency luminaires

- The compact size makes the luminaires almost invisible, the high-grade aluminium cover blends harmoniously into the ceiling
- Unique optics allow for wide spacing, thus reducing investment costs: RESCLITE escape for escape routes, RESCLITE antipanic for meeting rooms.
- Extremely easy design and installation





COMSIGN 150 escape sign luminaires

- More new products have been added to this successful luminaire range: its transparent acrylic glass is now even lighter. Its delicate design is now topped off by a mounting part for recessed or surface mounting

 Developed by the renowned EOOS design studio

- if Design Award and Good Design Award for COMSIGN
 Blends perfectly into the interior for instance, the recessed COMSIGN model installed flush with the ceiling appears to hover above the room.





PURESIGN 150 escape sign luminaires

- Design meets the highest technical lighting, ergonomic and aesthetic requirements

- aestrictic requirements

 Developed by the renowned EOOS design studio

 if Design Award and Good Design Award for PURESIGN

 Escape sign luminaires with ERI spots provide emergency lighting in corridors and stairwells
- Only 4.5 W installed load

International rollout

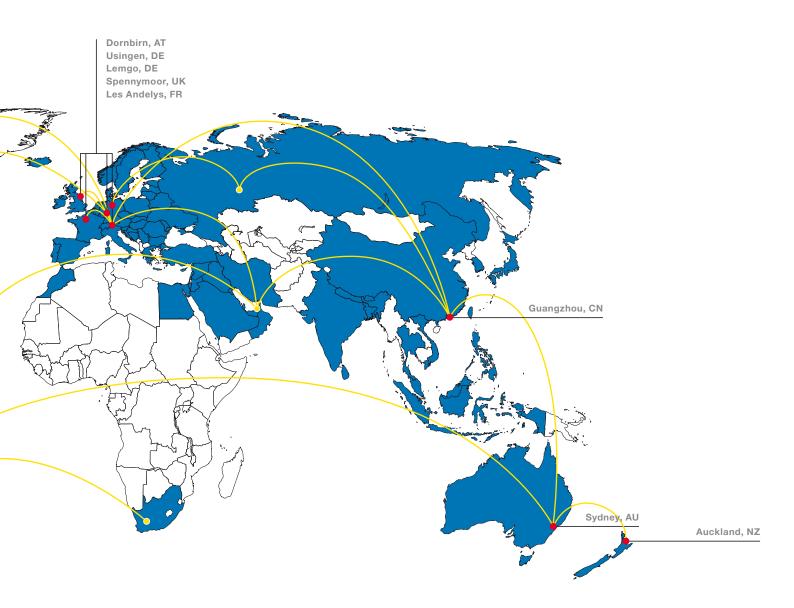
A global network with close ties

In the case of international brands, products, shop interior fitting and lighting are all underpinned by a single distinctive concept. Only an experienced partner like Zumtobel can ensure that there are no hitches in a global rollout.

As a global player, Zumtobel has 100 company-owned business units and commercial agencies in more than 70 countries. We always seek to be close to the customer even when customers are based in less industrially developed nations. Zumtobel is not just at home in Europe and the USA, it also has sales offices and representative offices in emerging markets such as Russia, Turkey, the Middle East, India, China and Southeast Asia. Zumtobel is capable of deploying a lighting solution all over the world, regardless whether this involves installing lighting equipment in large numbers of shops or extensive or complicated shop projects. There is always only one single point of contact: a central Key Account Team takes care of worldwide procurement and project organisation. This takes place in close contact with local organisations, so that particular country-specific features and circumstances can be taken into account at all times. In this way, we can save time and accelerate processes.

Continuity of supply around the globe is guaranteed by 9 production facilities; we deliver the right quantity at the agreed time. Short transport routes consume fewer resources and reduce costs.





Sales locations

• Zumtobel/Thorn production facilities

Customer management

Full service all over the world

With Zumtobel, closeness to the customer is writ large in many ways. Zumtobel's first advantage is worldwide on-site customer care. Through a partnership with Zumtobel, customers who operate on an international scale can make sure that every one of their locations reaps the benefit of Zumtobel's entire range of products and services. End-to-end support throughout all the phases of a project is another plus. This ensures that a comprehensive service package is available, from design and delivery right through to maintenance.



Concept and design

Zumtobel works out an appropriate lighting solution that is finely tuned to cater for the customer's needs and the target groups that it wishes to address. Technology and lighting quality meet at the highest level.



Delivery management

Experienced Zumtobel specialists take care of international rollouts. All logistics are managed from a central location – with just-in-time deliveries to any location in the world.



Installation and commissioning (NOW!)

Manufacturer-trained electrical installers with extensive product knowledge guarantee fast, professional installation. Systems are commissioned by expert employees.



All inclusive: guarantee and maintenance

With Zumtobel, everything is available on request from a single supplier. Reliable maintenance and an extended guarantee for the installed lighting installation ensure that the lighting solution remains fully functional and its value is maintained.



Financing

A lighting solution that is in line with the budget often involves financing. Zumtobel can offer a tailor-made solution at all levels.

Never again buy another luminaire!

In the context of NOW! we offer you light as a service. You will get the best light to perform your tasks, without having to buy any luminaires or worry about their operation. Your benefits compared to traditional luminaire purchase at a glance:

Immediate profit

Cost savings are higher than the NOW! instalments.

.

NOW!

No investment

Fixed, monthly NOW! instalment covers all costs.

abla

X

Purchase

No risl

All-inclusive guarantee and maintenance services.

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X

No expenditure on upgrading

Turnkey project is completed by a team of experts.

 \square

X

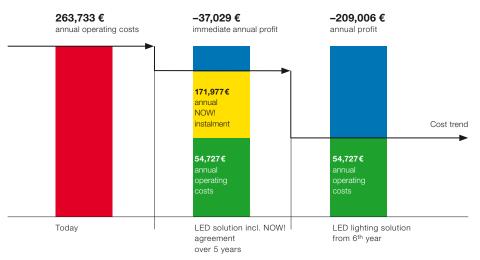
Practical example: NOW! in a supermarket



Old lighting system 263,733 € operating costs/year 3.128 luminaires. 70 W and 150 W HIT spotlight

3,128 luminaires, 70 W and 150 W HIT spotlights $496\,\mathrm{kW}$ total installed load

New lighting solution 54,727 € operating costs / year 3,128 luminaires, 36 W HIT spotlights 113 kW total installed load





zumtobel.com/office



zumtobel.com/culture



zumtobel.com/education



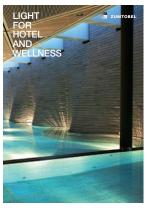
zumtobel.com/healthcare



zumtobel.com/shop



zumtobel.com/industry



zumtobel.com/hotel



zumtobel.com/facade

Zumtobel, a company of the Zumtobel Group, is an internationally leading supplier of integral lighting solutions for professional indoor and outdoor building lighting applications.

- Offices and Communication
- Education and Science
- Presentation and Retail
- Hotel and Wellness
- Art and Culture
- Health and Care
- Industry and Engineering
- Façades and Architecture

We provide unique customer benefits by integrating technology, design, emotion and energy efficiency. Under the Humanergy Balance concept, we combine the best possible ergonomic lighting quality for an individual's well-being with the responsible use of energy resources. The company's own sales organisations in twenty countries, as well as commercial agencies in fifty other countries, form an international network of experts and design partners providing professional lighting consulting, design assistance and comprehensive services.

Lighting and sustainability

In line with our corporate philosophy "We want to use light to create worlds of experience, make work easier and improve communications and safety while remaining fully aware of our responsibility to the environment", Zumtobel offers energy-efficient high-quality products, while at the same time making sure that our production processes based on the considerate use of resources are environmentally compatible.

zumtobel.com/sustainability

Order no. 04797323-EN 07/15 © Zumtobel Lighting GmbH Technical data was correct at time of going to press. We reserve the right to make technical changes without notice. Please contact your local sales office for further information.



Top quality – with a five-year guarantee.

As a globally leading luminaire manufacturer, Zumtobel provides a five year manufacturer's guarantee on all Zumtobel branded products in accordance with the terms of guarantee at zumtobel.com/guarantee.





ZUMTOBEL



Tracks and spots

Modular lighting systems



Downlights



Recessed luminaires



Surface-mounted and pendant luminaires



Free-standing and wall-mounted luminaires



Continuous-row systems and individual batten luminaires



High-bay luminaires and floodlight reflector systems



Luminaires with extra protection



Façade, media and outdoor luminaires



Lighting management systems



Emergency lighting



Medical supply systems

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