# LIGHT FOR PRESENTATION AND RETAIL



Light for presentation and retail

Shopping is increasingly becoming a leisure activity for which special settings are created. Shopping centres and shops are being transformed into adventure spaces designed to entertain visitors and convey messages. Light is used in order to arouse emotions and create brand identities. When used intelligently, light has the potential to stimulate the propensity to buy and to boost sales. Light creates added value – especially if the lighting concept and lighting control can be identified and handled as a single unit. Lighting effects and coloured light give people cause to pause for a moment. Lively lighting scenarios with an abundance of ever-changing sequences banish monotonous lighting. Four trends are set to shape the design of lighting solutions for presentation and retail over the next few years: centre-stage settings, authenticity, naturalness and sustainability. Zumtobel makes it possible to implement solutions that respond to these trends in a people-friendly, energy-efficient manner.

# Applications

udi Forum, Beijing / CN















References

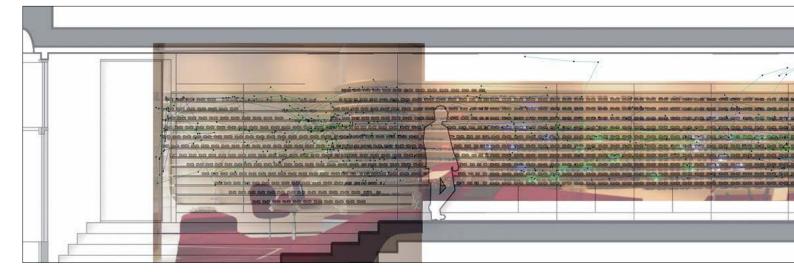
AFG Shopping Center, St. Gallen, CH / Apple flagship store McShark, Vienna, AT / Audi Forum, Beijing, CN / Audi Terminal, Neckarsulm, DE / Bata Shoes, Brno, CZ / Billa, Vienna, AT / BMW, Frankfurt am Main, DE / Bose, Milan, IT / C1000 Supermarket, Rotterdam, NL / Coop, Brescia, IT / Delhaize AD, Diksmuide, BE / Despar, Bagnaria Arsa, IT / Diesel Headquarters, Breganze, IT / Dolce & Gabbana, Agira, IT / Douglas Cosmetics, New York, US / Edeka, Cologne, DE / Eurospar, Götzis, AT / Faces Store, Dubai, AE / Ferrari Atelier, Maranello, IT / Ferrari Maserati, Sydney, AU / G-Star, Amsterdam, NL / Globus, Pardubice, CZ / Hugo Boss flagship store, New York, US / ICA Food, Stockholm, SE / Interspar, Zagreb, HR / Issey Miyake, Paris, FR / Kiko Cosmetics, Bergamo, IT / L'Eclaireur, Paris, FR / L'Oreal, Helsinki, FL / Levis, Paris, FR / Lindt Confiserie de Luxe, Salzburg, AT / Loewe, Amsterdam, NL / Macro, Glasgow, GB / Marche, Toronto, CA / Maybach, Sindelfingen, DE / Media Markt, Rotterdam, BE / Meister Juwelier, Zurich, CH / Mercedes Showroom, Beijing, CN / Metro C+C, Aalborg, DK / Nespresso, Brussels, BE / Nike Zenit, St. Petersburg, RU / OBI, Berlin, DE / Optica Universitaria, Barcelona, ES / Paul Smith flagship store, Milan, IT / Porsche, Abu Dhabi, AE / Porsche Design Store, Berlin, DE / Real, Moscow, RU / Rolls Royce, IAA Frankfurt, DE / Saturn, Utrecht, NL / Scarpe & Scarpe, Bolzano, IT / Spar Market Engertstrasse, Vienna, AT / Swarovski, Paris, FR / Swarovski, Perth, AU / Systembolaget, Stockholm, SE / T-Mobile, New York, US / T-Mobile, Vienna, AT / The Body Shop, Zurich, CH / Tienda Ducati, Valencia, ES / Tommy Hilfiger, Paris, FR / UŠĆE Shopping Center, Belgrade, RS / Vassilopolous, Athens, GR / Volkswagen, Emden, DE / Wega Supermercati, Monselice, IT

Hugo Boss flagship store, New York / US Architecture: Matteo Thun & Partners, Milan / IT Lighting solution: VIVO spotlight, LED wallwasher custom solution, Tunable White LED batten luminaires, LED lighting points in RGB colours, DMX lighting control system



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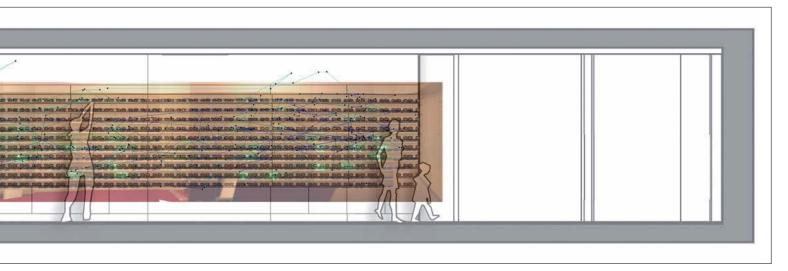
## **Studies** Findings of applications research



Perception and a feeling of wellbeing have a considerable impact on customer behaviour. Setting merchandise centre-stage, and the architecture are key factors when it comes to promoting sales. People pick up 80 % of the information they perceive visually. Light shapes spaces, makes it easier to find one's way around and imparts information about sizes, surfaces, materials and colours. Not only that – light can also transform a retail space into a world of experience. Which particular lighting solutions achieve the requisite attractiveness and grab the required attention? What measures are needed to really alter the customer's awareness?

### Interpretation of results of eye-tracking experiments

Trace shows movement of test subject's gaze



If we look at previous applications research, it leaves many questions unanswered. Although sensory perception has been extensively analysed and interior design and positioning of merchandise have been investigated at length, this knowledge has not been translated into design rules for lighting and no evidence has been provided. Zumtobel has grasped the nettle and is working in cooperation with scientists. An international research project involving independent project partners has been set up; this project will be accomplished in two stages. What light do customers prefer? An online questionnaire that uses visualisations to survey the fundamental effects of various lighting factors was devised in cooperation with Stockholm University (KTH) in order to investigate individual lighting factors such as light colour, light distribution and lighting intensity. A large sample of different subjects were surveyed in order to ensure a meaningful result; for instance, which colour temperature improved customers' sense of wellbeing the most? The results will be compared with those from the second partial study. This will establish whether, and to what extent, there is any direct relationship between preferences, attention levels and buying interest.

**How does light alter perception?** Experts from HAW Hamburg and Felsch Lighting Design use innovative eye-tracking to investigate the concerted effect of all lighting factors involved in a dynamic lighting solution. Modern measuring instruments are used to capture the subjects' eye movements. This gives an indication of the effects of various lighting concepts. Using light to selectively direct people's gaze is based on knowledge of how human perception works. The human eye has a 180° horizontal field of view and a 150° vertical field of view. However, normal visual acuity is confined to a narrow angle of 1 to 2°. As a result, we always first notice products that are on a shelf at eye level, for instance. So in what ways can light direct a customer's gaze?

Find out more about the latest research and study findings at www.zumtobel.com/shop.





Hochschule für Angewandte Wissenschaften Hamburg Hamburg University of Applied Sciences

### Trends

Light in presentation and retail



### 1 Centre-stage settings

Modern retail spaces are like a stage. Products and brands are on show, people and architecture also play a crucial role. We regard presentation and retailing nowadays as a creative process that consciously sets the stage and has an impact on people's decision to enter a store, their buying behaviour and the length of time spent in a store.

### 2 Authenticity

Being "genuine and honest" is crucial in many aspects of contemporary life, and this applies no less to the presentation of goods and brands. The term "authenticity" here denotes perceptible congruity between content and intent. A product and the way in which it is presented must marry up. The customer appreciates the fact that actual benefits and appearance match each other.



### **3 Naturalness**

People are increasingly in search of a familiar atmosphere; this is part of a movement that seeks to escape industrialisation. Individuals value an environment that is consistent with their cultural values and conveys emotions. There is demand for as much naturalness as possible, which can be reflected in important aspects such as regional provenance or quality.

### **4** Sustainability

A fast growing trend: sustainability in environmental, economic and social terms is becoming ever more important. The possible ways in which resources can be used sparingly in retail and presentation areas are equally multifarious. Interior design, choice of materials and energy concepts – all these offer huge potential when it comes to creating a sustainable, long-term basis for wellbeing and room ambiances.

Introduction

"The revolutionary development of LEDs has given fresh impetus to the idea of lighting as a design element. Adjustable brightness and light colour, teamed with the versatile optical characteristics of LED light sources, now allow innovative technical lighting solutions."



Stefan Hofmann Lighting designer | Lichtwerke



**Inspiring, representing and giving an experience** Creativity in lighting design is becoming more and more important. It is used to lead customers into retail spaces and extend the time they spend there. Selectively used light colours, lighting accents and dynamic lighting solutions grab attention and transform shopping into an inspiring experience. High-contrast luminance levels and light distribution are exploited to single out prestigious items from run-of-the-mill products. In principle, lighting solutions that utilise several components are rated as more attractive than simply increasing ambient lighting levels across the board.



Swarovski, Paris / FR Architecture: Studioforma , Zurich / CH Lighting solution: 2LIGHT C Mini downlight system, VIVO spotlight, TEMPURA LED spotlight, ONLITE, RESCLITE and ONLITE ARTSIGN emergency lighting, LUXMATE EMOTION lighting management system





- Shop windows and façades are used as a stage, to entertain passers-by and get messages across
- Wide-area lighting deep inside a room has considerable powers of attraction and entices passers-by in
- · LED technologies offer new ways for setting the lighting stage

Shop windows communicate with passers-by. They attract us, arouse our interest, invite us in and make us inclined to buy. First impressions count, and lighting plays a decisive role. The new flexibility of modern luminaires makes them absolutely perfect for staging dramas of light that awaken consumer needs. They make it possible to consciously respond to the condition and value of products, and communicate feelings and moods. Besides offering high illuminance and versatile lighting technology, LEDs also have economic benefits. Dimmable LED luminaires, with extremely good colour rendition and colour stability, that produce a wide range of white tones are new arrivals on the dynamic lighting solution scene. Variable light temperatures produce subtle luminous stimuli of the kind that are characteristic of different times of day or seasons, for example. Intelligent lighting designs also take daylight into account. This means that lighting scenarios in shop windows can be set according to outdoor brightness: around midday, strong accent lighting ensures good contrast, while wide-area lighting beckons people into the depth of the room on overcast days and at dawn and dusk.

#### **Recommended products**

IYON | LED spotlight system

CIRCLE Control | Lighting management system





women

#### G-Brand, Deinze / BE

Architecture: D.106 Architectuur, Ghent / BE Lighting solution: SUPERSYSTEM lighting system, SOLINA-D high-bay luminaire, LINARIA continuous-row system, LIVIANO spotlight, SCUBA moisture-proof diffuser luminaire, ONLITE PURESIGN and ONLITE RESCLITE emergency lighting

### **Centre-stage settings** Communicating brands

- Façade is used as a brand ambassador
- Light evokes emotions
- Architecture is structured, design features are highlighted

External impact has an important influence on whether or not passersby decide to enter a retail area. A wide variety of objectives can be achieved by using façade lighting. Apart from "bright, brash and bold", there is a whole raft of other options – the main challenge is to do justice to one's brand positioning. Simply illuminating a façade in colours that match a company's corporate design, for instance, communicates a long-distance message indicating the location and size of a sales area. Besides conventional neon signs, modern illuminated surfaces also ensure high recognition values. Individually controlled pixels or segments transform a façade into an oversized screen. Where a cityscape is characterised by distinctive or historic building architecture, using shop windows for presentation is often the only way of standing out from neighbouring stores. White light that emphasises the idiosyncrasies of architecture, rather than altering it, is the right choice in such situations. Small LED lighting points close to a façade draw people's attention, reduce light pollution and also use resources sparingly. The actual façade lighting concentrates on emphasising architectural structure and staging individual architectural elements. The purpose of emotional façade lighting scenarios is to permanently imprint themselves onto the passer-by's consciousness. Coloured light changes the look of architecture, creates new structures and artistic elements. These are remembered and may even bring about a re-encounter.



#### **Recommended products**

HILIO | LED light line

DMX Butler XT | Lighting management system





Spar Market, Fussach / AT Architecture: Dipl. Ing. Anton Fink, Dornbirn / AT Lighting solution: LED cove lighting custom solution, TECTON continuous-row lighting sys-tem, MIREL FEW louvre luminaire, VIVO spotlight, ONLITE ECOSIGN and ONLITE COMSIGN emergency lighting, SCUBA moisture-proof diffuser luminaire, PERLUCE moisture-proof diffuser luminaire, ZE batten luminaire



"Tommy Hilfiger's dramatic lighting concept is intimately interwoven with the shop concept. Carefully staged lighting makes customers feel cosy and relaxed. Although we want light that is as inconspicuous as possible, lighting nevertheless has to be a prominent component of our shop fittings. The lighting concept which we developed in close cooperation with Zumtobel achieves this through an uncluttered ceiling look, but still offers the necessary flexibility that we rate really highly at Tommy Hilfiger."



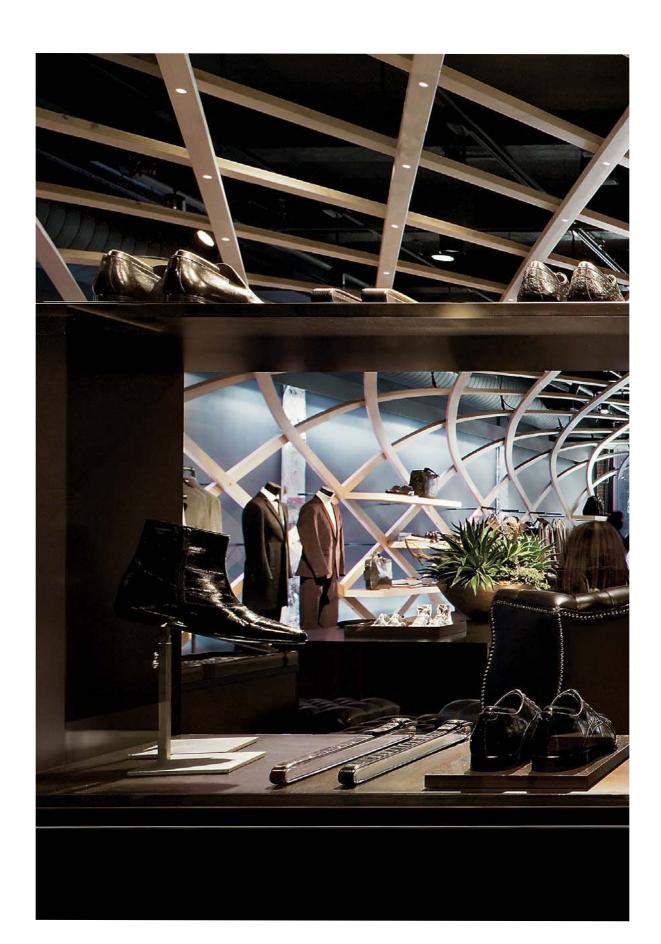
**Sacha Romain** Store Development Manager Tommy Hilfiger



**Revealing, modelling and presenting** Presenting merchandise effectively demands lighting that ensures that perceived quality is always high. Authentic lighting underscores the nature and quality of the goods on display. Credibility, originality and genuineness are values that are held in great esteem by the new generation. In terms of lighting, this means that goods must not be shown in a false light; their condition must be shown as naturally as possible thanks to a high colour rendition index, and by providing a well-balanced mix of diffuse and directional light to ensure natural shadow detail.



Tommy Hilfiger, Paris / FR Architecture: Tommy Hilfiger, Amsterdam / NL Lighting solution: VIVO SL spotlight, VIVO M spotlight, CARDAN SPIRIT modular lighting system, 2LIGHT Mini downlight, 3-phase track custom solution





- Optical systems with high luminous efficiency that direct light precisely provide high-intensity, pinpoint accent lighting, even over relatively long distances
- Precise accent lighting accentuates the texture details of objects and materials
- Excellent colour rendition quality enhances brilliance and authenticity

Accent lighting has special strengths when used to present products. The interplay of light and shadow emphasises shapes and structures. The contrast between general lighting and accent lighting creates highlights. The true capabilities of accent lighting are only revealed if illuminance levels are significantly higher than those of general lighting. High-power LED spotlights are efficient replacements for 20 to 70 W HID lamps in such applications. Used with a suitable spot optic, these new LED units offer excellent colour rendition quality and flag up the high status of an object at the point of sale. Details and outlines can be sharply picked out, and Zumtobel's replaceable optics are available with a wide range of radiation angles. Patented optical systems that include efficient lighting chambers with highly reflective surfaces, accurately shaped lenses and reflector optics provide the means of producing tightly focused LED light with perfect glare control. Not only that, Zumtobel makes sure that the colour temperature remains constant over the luminaire's entire service life.

### **Recommended products**

DISCUS LED | Spotlight system



EMOTION | Lighting management system



Hugo Boss flagship store, New York / US Architecture: Matteo Thun & Partners, Milan / IT Lighting solution: VIVO spotlight, LED wallwasher custom solution, Tunable White LED batten luminaires, LED lighting points in RGB colours, DMX lighting control

### Authenticity Directing the gaze

- Illumination of peripheral areas and vertical surfaces has a longrange effect and makes it easier for people to find the products they want
- Every shelf and back wall design, all advertising messages and branding must be illuminated at just the right angle which may be different in each case
- Zumtobel attaches great importance to flexibility and therefore offers LED downlights and LED spotlights with several options to ensure precise light distribution

Like the proverbial "light at the end of the tunnel", properly illuminated shelving guides the flow of customers into the depths of the room. Without brightly accented peripheral areas and highly contrasting shelf surfaces, visitors would miss visual leads and would therefore lose their sense of overview. Interior designers recommend high-contrast, but uniform lighting for large floor areas where there are far-away posters carrying advertising messages. Where there are rows of shelves in supermarkets, uniform vertical illumination must make sure that the entire range of goods is within the customer's field of vision. Over short distances, the irradiation angle and alignment of the luminaire determine how efficiently and how deep light falls into the shelf niches. The smaller the product, the smaller the beam spread should be. Dairy products, fashion accessories and mobile phones are prime examples of this. Zumtobel has developed innovative LED solutions from scratch to do precisely this job. The impact of precise, efficient beams of light from these LEDs becomes even more marked the more general lighting is switched down in order to save energy. New multimedia screens also place exacting requirements on their surroundings. Contrasts must be coordinated with special care in these situations. LEDs are the only light sources that, without being fitted with special filters and protective devices, do not emit damaging IR and UV radiation. This makes it possible to shorten the distance between luminaire and object even further, reduce stray light and cut energy consumption.



#### Tommy Hilfiger, Paris / FR

Architecture: Tommy Hilfiger, Amsterdam / NL Lighting solution: VIVO SL spotlight, VIVO M spotlight, CARDAN SPIRIT modular lighting system, 2LIGHT Mini downlight, 3-phase track custom solution



Delhaize AD, Diksmuide / BE Architecture: AIC, Ghent / BE Lighting solution: TECTON continuous-row lighting system, VIVO spotlight, SOLINA high-bay luminaire, ONLITE ECOSIGN emergency lighting

#### **Recommended products**

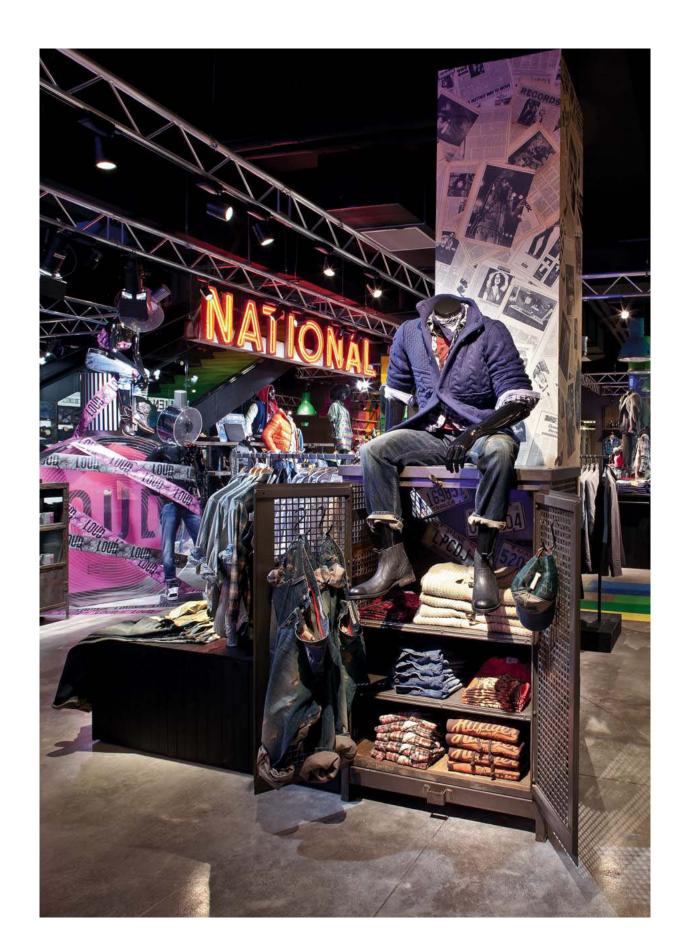
CARDAN LED | Modular lighting system



DIMLITE | Lighting management system







### Authenticity Using lighting to shrink distances

- The shorter the distance between lighting and goods illuminated, the more detailed and accurate the presentation of smaller objects becomes
- A combination of short and long lighting distances produces a balanced, energy-efficient overall solution
- Unobtrusive, miniaturised lighting systems focus people's attention on the goods displayed

Thanks to LEDs, close-up lighting takes on a whole new dimension: IR- and UV-free light can be accurately focused and expenditure on energy drops. In addition, LEDs open up new ways of developing a consistent lighting concept for various distances for both large and small lighting tasks. Nowadays, various lighting elements can be controlled and combined straightforwardly in order to create exciting scenarios quickly and simply. Tunable White luminaires which allow continuously variable colour temperature adjustment to suit particular situations provide perfect general lighting for this purpose. LED systems which, as well as coping with short distances, can also handle ceilings that are 3 m high, allow finely graduated accent lighting. The actual luminaires are compact and relatively inconspicuous so as not to disrupt the overall look in retail spaces and shop windows. It is also possible to save energy for lighting goods on display. More precise highlighting and clearer differentiation can be obtained by lighting products on the actual shelf rather than from the ceiling. Lighting peaks produce fascinating reflections and specific details can be emphasised easily. In this case, the less obvious the lighting technology is, the greater the attention paid to the product.



Architecture: Designculture AG, Zurich / CH Lighting solution: ARCOS spotlight system, SUPERSYSTEM lighting system/3-phase spotlight unit, 3-phase tracks



New LED shelf systems are characterised by extremely compact, excellent lighting technology. Their modular design also means that various types of modules can be combined on one shelf, and they can even be dimmed separately to produce a rich variety of lighting scenarios.

### **Recommended products**

SUPERSYSTEM | Lighting system

MICROTOOLS | Lighting system





L'Eclaireur, Paris / FR Architecture: SAQ, artwork: Arne Quinze, Brussels / B Lighting solution: SUPERSYSTEM lighting system/H tracks fitted with 2.5 W lighting modules, SUPERSYSTEM lighting system/quadruple downlight units





Rolls Royce IAA, Frankfurt / DE Architecture: Puchner + Schuhm, Munich / DE Lighting solution: LUMINOUS CEILING (Tunable White) custom solution, LUXMATE EMOTION lighting management system

### **Recommended products**

CIELOS | Modular luminous ceiling

EMOTION | Lighting management







- Diffuse light lends highly reflective, mirror-finish objects sleek lines
- Brilliant pinpoint light sharpens details and suggests movement
- An interplay of diffuse and directional light presents objects in a tangible, unadulterated way

Not a simple lighting task, but one that is absolutely achieveable: sophisticated lighting can also set prestigious objects such as cars centre stage and bring them to life. Fascinating effects can be applied to contours, design, lines, colour, and even the depth of paintwork. Dynamism, emotionality and image are presented to the onlooker as an overall visual experience. This gets close to an ideal image – the car driving through natural landscapes. Inside, however, every detail is shown accurately without distortion. The succession of sunlight and cloud is suggested by a combination of diffuse and directional light. Light colours are deliberately used to emphasise both surfaces and materials. Localised pools of light underline the excellent quality of the bodywork. Precisely gauged focal lighting points suggest movement.

Ferrari Maserati, Sydney / AU Architecture: Fortebis, Rome / IT Lighting solution: SLOTLIGHT II light lines, TECTON Tetris continuousrow lighting system, CARDAN 1000 modular lighting system



"The human eye has evolved to detect even the most subtle nuances of light and colour. But it can only do this if materials, fabrics and, above all, groceries are lit correctly and naturally. The fad for dressing products up over elaborately is a thing of the past – customers now prefer goods to be presented naturally."



**Prof. Dr.-Ing. Roland Greule** Hamburg University of Applied Sciences



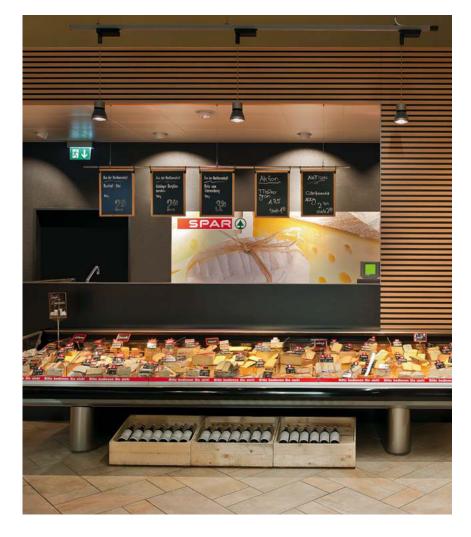
**Natural, purposeful and flexible** Health awareness has become an issue that garners plenty of attention. Customers insist on wholesomeness as well as quality and convenience. The aim is to meet all needs. There is a need for lighting concepts that reflect this naturalness. Customers find light that has excellent colour rendition qualities, similar to those of natural daylight, convincing. Natural materials are also increasingly being used to design retail and presentation areas. Appropriate colour temperatures show off the textures and surfaces of such materials to maximum effect. The growing popularity of organic foods is particularly striking. Here, flexible lighting concepts have to provide light that caters for the rich diversity of natural products. Naturalness is, however, not merely confined to just the quality of the light; naturalness is also made visibly evident through the shape and design of the lighting solution.

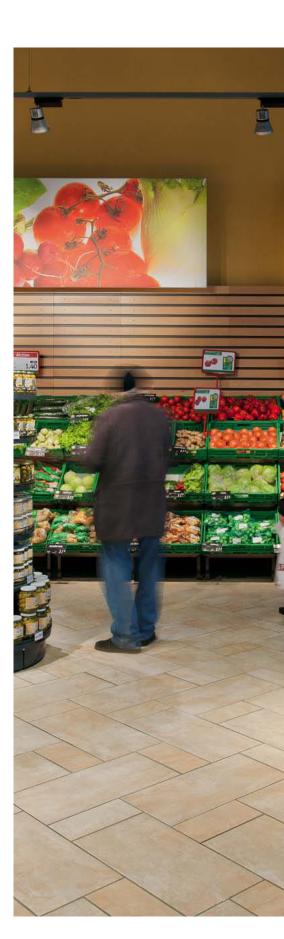


Bloemenateljee Wim De Ruyver, Kalken / BE Architecture: Tarch Architectenbureau Bvba, Verendree / BE Lighting solution: SLOTLIGHT II light lines, SUPERSYSTEM lighting system/H tracks fitted with 3 x 2.5 W lighting modules, PANOS Q 190 HIT 35 W downlight system, LUXMATE Dimlite lighting management system

### **Naturalness** Emphasising freshness

Spar Market, Wetzikon / CH Architecture: Rudolph Architekten, Zurich / CH Lighting solution: TECTON LED continuous-row lighting system, SL 1000 LED spotlight, CAREENA LED surface-mounted luminaire, SL 1000 semi-recessed LED down-light, ONLITE RESCLITE LED emergency lighting, PANOS INFINITY LED downlight, TUBILUX LED tubular luminaire, VIVO LED-R pendant luminaire







- Light for fresh produce is gentle on products and also boosts sales
- LED luminaires are displacing metal halide lamps because they deliver identical lighting quality but emit less IR and UV radiation
- A high colour rendition index, appropriate illuminance and the right colour temperature or light colour are decisive factors

More than any other section, the fruit and vegetable section shapes the image of a grocery store. In many supermarkets, the effect of fresh salads and colourful fruits is used to grab the attention of customers and stimulate their appetite. Counters are another eye-catcher for fresh produce. This is where merchandise is presented, where communication and image-building take place. A friendly atmosphere is just as important as reflection-free lighting in display cabinets. The meat and cold meat counter is the most closely scrutinised section of a supermarket. Here, all the artistry which proper lighting demands must be combined with the ability to calibrate light colours sensitively. Light must still appear white in order not to unlawfully mislead customers. Bread and pastries look especially crusty where light takes on the warm yellow tone of baked goods and thus multiplies its effect. Cheese and pastries both respond badly to excessive temperatures and IR radiation, and so must be protected from the effects of dehydration by appropriate lighting technology. Efficient fluorescent lamps with the right colour temperature and high-quality HIT lamps with suitable reflectors and filters get this job done. Modern LED luminaires are even capable of precisely matching their variable colour spectrum to suit the particular goods in question. Zumtobel's "Tunable Food" LED concept paves the way for using a single luminaire to selectively complement the particular colourfulness of specific product categories such as fruit, bread, meat, fish or bakery products. Different spectral distributions selectively cater for the colourfulness, materiality and surfaces of specific product categories, thus enhancing the way in which quality is perceived.

**Recommended products** 

VIVO LED-R | Spotlight system



VIVO LED Tunable Food | Spotlight system



# Naturalness

Choosing the right colour temperature

- Choosing the colour temperature that matches a material makes
  its surface look natural
- Adjusting the colour temperature to suit a particular time of day or season is especially effective in emotional and biological terms
- Contrasting colour temperatures create an atmosphere and focal points of interest

Tunable White luminaires bring dynamic white light to retail areas. With colour temperatures over the entire range from 2700 to 6500 K and excellent colour rendition, these LED luminaires are actually capable of tracking human biorhythms or responding to specific application situations and objects. Seasonal products and changing merchandising concepts are part of everyday life in shops and product presentation. Precise colour settings make it possible to produce extremely subtle nuances without having to swap lamps or luminaires. LED light is virtually IR- and UV-free and is therefore gentle on delicate products. Contrasts are also a distinctive feature of natural lighting. A skilfully composed interplay of light and shadow pushes goods to the fore-ground, captivates customers and guides them unerringly through retail spaces.

#### **Recommended products**

ARCOS LED Tunable White Spotlight system



CIRCLE Tune Lighting management system

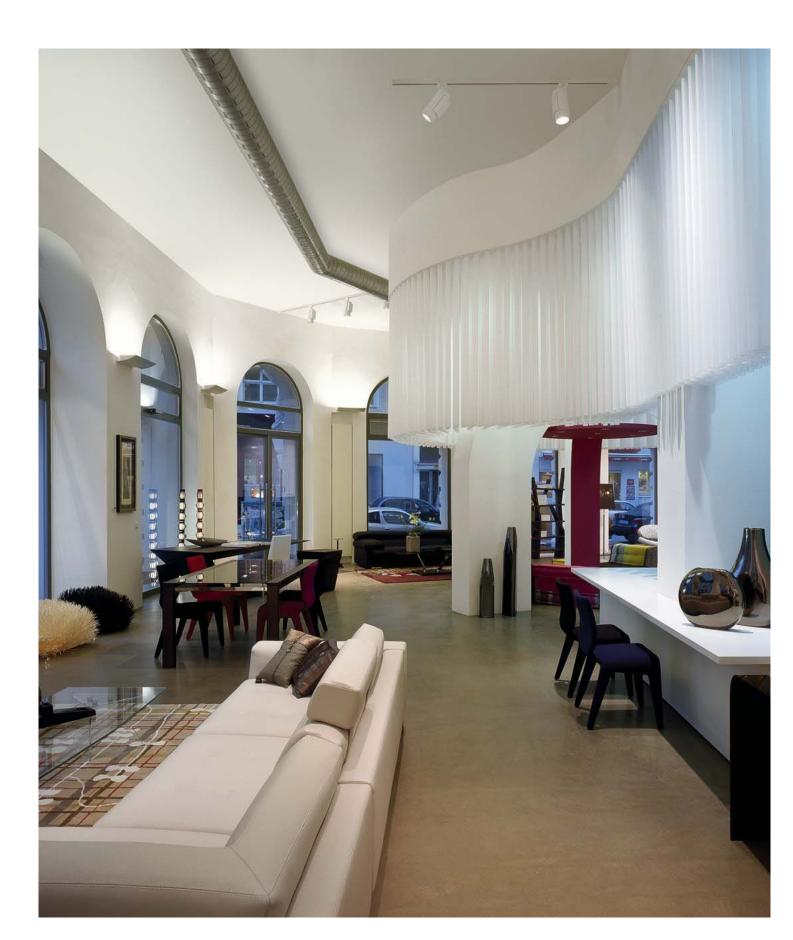




#### Roche Bobois, Vienna / AT

Architecture: Kurt Lichtblau und Konrad Spindler Architekten, Vienna / AT

Lighting solution: MICROS LED downlight system, CARDAN SPIRIT modular lighting system, PANOS A downlight system, ARCOS spotlight system, 3-phase tracks



### Naturalness Gentle lighting

- A wide range of products respond badly to thermal and infrared radiation
- LED is the only light source that delivers virtually UV- and IR-free light
- LED luminaires do not need any filters or protective devices and are therefore more efficient than conventional luminaires

Colours fade, cosmetic products deteriorate, bakery products dry out, and chocolate and confectionery begin to melt. UV and IR radiation are some of the less welcome aspects of conventional lighting. Luminaires and spotlights are fitted with filters and protective devices in order to block such radiation. Yet this protection is obtained at the expense of efficiency. With LEDs, things are completely different right from the outset. LED light is almost free from IR and UV radiation. LEDs deliver gentle lighting, even without additional filters and protective measures. Even when a LED luminaire is positioned really close to a product, LED light is many times gentler than conventional lighting. The risk of colours fading or fragile materials being damaged is significantly reduced. These characteristics of LED light are especially appreciated in cosmetics shops and food supermarkets, and are becoming increasingly important in fashion stores where top-quality fabrics have to be protected against fading.

#### **Recommended products**

DISCUS LED | Spotlight system



VIVO LED | Spotlight system





#### The Body Shop, Emmen / CH Architecture: Killer Ladenbau AG, Turgi / CH Lighting solution: DISCUS LED E1 spotlight

Architecture: Killer Ladenbau AG, Turgi / CH Lighting solution: DISCUS LED E1 spotlight system, PANOS INFINITY LED downlight system INFINITY



Lindt Confiserie de Luxe, Salzburg / AT Architecture: Josef Ecker GmbH, Vienna / AT Lighting solution: VIVO LED spotlight, VIVO spotlight, ZX2 flexible lighting system "I find a lighting solution acceptable only if it meets all the necessary requirements that make for an appealing retail space: the very best light for our customers, and the highest possible energy savings for greater climate and environmental protection."



Gerald Geiger Director of Central Construction/Energy/Technology Division SPAR Austria



Sustainability is more than just a trend. More and more consumers are taking the manner in which companies discharge their duty to think and act sustainably into account when judging quality. Companies are also highlighting sustainability as part of their public image and the way in which they position themselves. Shops and supermarkets are being redesigned and materials and processes alike are being purposely sustainability tested. For Zumtobel the need to make sure that its own business activities, products and manufacturing use resources sparingly and are energy efficient is therefore self-evident. In the case of luminaires, it is during use that there is the greatest scope for saving energy. The sustainability of a lighting solution starts with the efficiency of the luminaires and light sources. The biggest savings can be made by using intelligent lighting control systems. An optimised lighting concept that directs light onto merchandise in a targeted manner and scatters less light into the room makes a valuable contribution in this respect. Sustainability is increasingly becoming the engine that drives refurbishment projects that focus on energy saving and quality. Energy efficiency is a crucial plus point in favour of professional lighting.



L'Eclaireur, Paris / FR Architecture: SAQ; artwork: Arne Quinze, Brussels / B Lighting solution: SUPERSYSTEM lighting system/H tracks fitted with 2.5 W lighting modules, SUPERSYSTEM lighting system/ quadruple downlight units

# Sustainability Improved efficiency

- Linear LED luminaires are an efficient alternative to fluorescent lamps for shelf lighting
- Vertical illuminance determines the attractiveness of products on shelves
- Lamp, light distribution and luminous efficiency are the three keys to boosting the efficiency of a luminaire

Where products are positioned vertically on shelving to the left and right of an aisle, the job of good shelf lighting is to guide customers into the aisle, present products perfectly and underpin product value consistently, from the lowest shelf to the highest shelf. There must also be accenting options regardless whether the lighting system is suspended

from the ceiling or built into shelving. The most efficient approach is to position continuous-row systems along the centre of an aisle, parallel to the rows of shelving. High-efficiency reflectors and optimised lens optics direct light precisely onto merchandise using as little energy as possible in the case of fluorescent lamps and continuous-row LED luminaires respectively. A system can be made even more sustainable if the lighting design takes into account all technological options and perfectly matches the number of luminaires and their arrangement to the application in question, without overlooking the installation, maintenance and service life of the lighting solution. Intelligent continuousrow systems also offer the possibility of lighting control and integrating audio systems and emergency lighting. Once again, LEDs, with their compact size, open up enticing design possibilities and, above all, the promise of affordable, maintenance-free, efficient systems.



#### Spar Market, Murau / AT

Architecture: Veider Röthl Kaltenbrunner, Leoben / AT Lighting solution: TECTON LED continuous-row lighting system, SL 1000 LED spotlight, SL 1000 semi-recessed LED downlight, CAREENA LED surface-mounted luminaire, CRAYON LED downlight, ONLITE RESCLITE LED emergency lighting, PANOS INFINITY LED downlight, TUBILUX LED tubular luminaire, 2LIGHT Mini LED downlight system, HEDERA LED media luminaire

# **Recommended products**

TECTON LED | Cont.-row lighting system



LITENET | Lighting management system





# Sustainability Reduced energy consumption

- Zumtobel uses the latest technologies and optical systems to tap into considerable potential energy savings
- LED luminaires are an efficient way of replacing conventional general lighting that uses downlights
- Dimmable LED systems with simple presence detectors effectively cut energy consumption in changing rooms and adjoining rooms

Intelligent control systems have the most positive impact on energy consumption. Savings can be as much as 70 %, depending on the particular application. Strategies range, depending on the application area and shop architecture in question, from daylight-based control or manually dimmable lighting solutions through to the straightforward integration of presence detectors or timer switches. The lighting control capability and improved efficiency of LED technology provide scope for further potential energy savings - especially in the case of general lighting using downlights. Zumtobel provides LED alternatives that, on average, are 50 % more efficient than conventional solutions using energy-saving lamps. This efficiency can be paired with other benefits of LEDs: luminaire service life is not affected by frequent switching on and off. The limitations of conventional energy-saving lamps quickly become apparent, especially in changing rooms and adjoining rooms. Zumtobel LED luminaires boast a service life of 50,000 hours or more, sufficient to make relamping unnecessary in practice in a retail context. The little heat emitted by LEDs also guards against unwanted increases in temperature, thus reducing expenditure on air conditioning. Conventional light sources or LEDs? Comparing overall energy, maintenance and investment costs proves that LED solutions have the clear edge where general lighting is concerned. For accent light-





#### Levis, Paris / FR

Architecture: Levis Europe, Brussels / BE Lighting solution: LIVIANO spotlight, SL 1000 LED spotlight, CAREENA surface-mounted LED luminaire, PANOS INFINITY LED downlight system, SUPERSYSTEM lighting system/3-phase spotlight unit, 3-phase tracks, LUXMATE EMOTION lighting management system

#### Parfümerie Douglas, Frankenthal / DE

Shop fitting: UniversalProjekt, Hardheim / DE Lighting solution: CAREENA LED recessed luminaire, SL 1000 semi-recessed LED downlight, SCONFINE SFERA LED pendant luminaire, ONLITE ARTSIGN LED emergency lighting, LUXMATE EMOTION lighting management system



ing, LEDs are equivalent to HIT in terms of efficiency but, thanks to their dimmability, provide new ways of staging merchandise. Zumtobel offers an attractive LED range that includes dimmable and therefore energy-efficient systems for such applications. Ceiling-mounted luminaires with good colour rendition produce visible, wide-area, soft light. LED spotlights with flood optics ensure accented, uniform lowglare light. There are even suitable LED solutions for backlit coves.

# **Recommended products**

PANOS INFINITY | Downlight system

CIRIA | Lighting management system



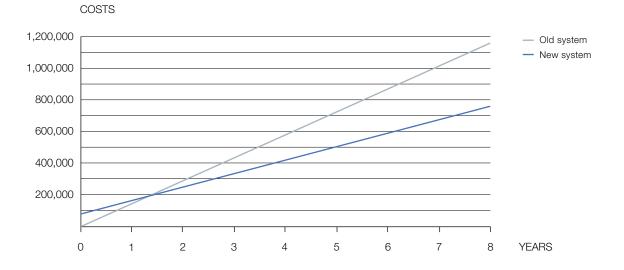




# Old system

Lamp(s) fitted	ZX T26 2/58 W low-loss ballast
Installed load	174.2 W
Energy consumption	145 kWh/m²a

# Graph showing total cost of lighting solution throughout its service life\*



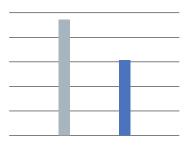
\* Underlying conditions: 10 years, 14 cents/kWh, 5000 hours, 1300 off, Maintenance factor = 0.8; stated costs are in EUR



# New system

	ZX T16
Lamp(s) fitted	1/80 W electronic ballast
Illuminance	765 lx
Installed load	111.8 W
Energy consumption	86 kWh/m²a

# Total cost of lighting solution\*\*



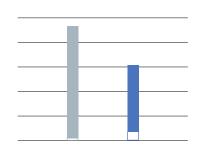
# 1,135,235 767,595

Old systemNew system

## Advantages

- Higher luminous efficiency
- Good to very good colour rendition: Ra > 80
- Long service life
- No flickering or shimmering

# Investment costs vs. operating costs



1,128,893 754,875

- Operating cost | old system: 1,123,693
- Investment cost | old system: 5,200
- Operating cost | new system: 677,612
- Investment cost | new system: 77,263

\*\* Quoted costs relate to cost of entire lighting solution throughout its service life (absolute figures); quoted costs are in EUR

# Lighting management

Lighting control for presentation and retail

Intelligent lighting control builds a bridge between application concept and luminaire. A solution is incomplete without lighting management. Lighting management adjusts light to suit various merchandise and different activities and also helps cut energy consumption.

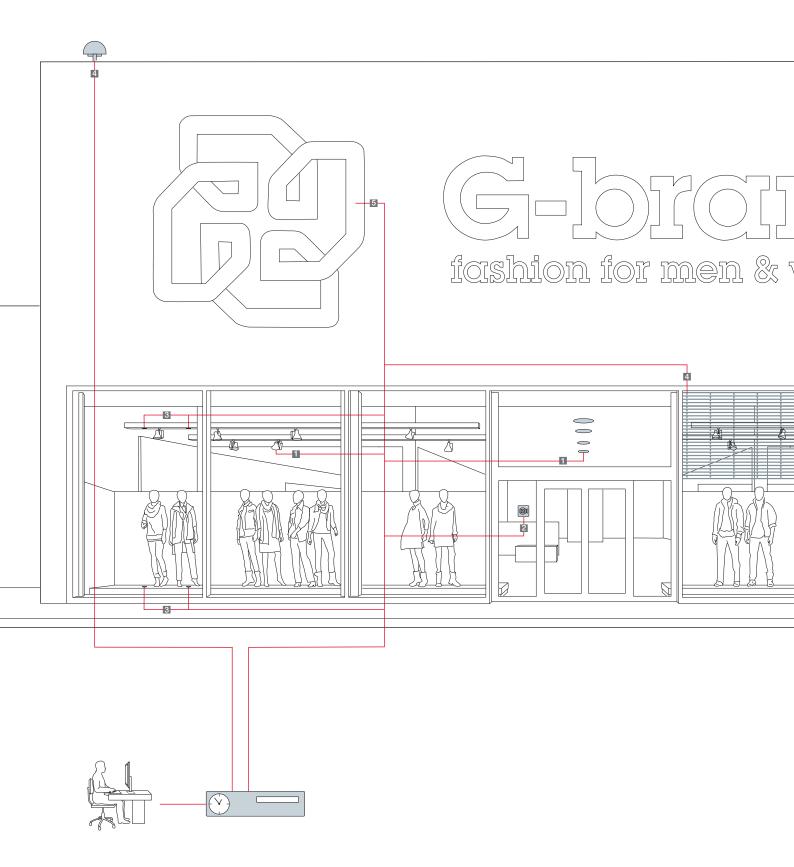
**Dimming** Dimmable luminaires are taking over in retail spaces and showrooms as people become more conscious of the need to reduce energy consumption. This awareness is also speeding up the unstoppable march of LEDs because every LED luminaire is dimmable. This means that lumen packages can be manually adjusted to suit the circumstances in question. This also provides economic benefits.

☑ Choosing the right colour temperature White light is really sensitive. Even minute changes are perceptible to the human eye and can therefore be exploited effectively. The right colour temperature shows materials off to greater effect, for instance. Ambient lighting that produces subtle changes over the course of the day fosters a pleasant room ambience. A CIRCLE TUNE control point can be used to adjust the colour temperature at the push of a button.

Creating an atmosphere Every activity makes its own demands on lighting. The kinds of lighting needed in retail areas range from working light in checkout areas through to mellow colour changes in lounge areas. Intuitive control encourages users to set up custom lighting scenes. The EMOTION touch panel coordinates a comprehensive set of lighting control functions for several rooms.

☑ Incorporating daylight Exploiting daylight means using the refreshing, beneficial effect of this natural light source productively. A smooth transition from daylight to artificial lighting is especially welcoming in entrance areas and also saves energy. The LITENET lighting management system manages and controls entire buildings.

**I** Setting a façade centre stage Creative lighting uses façades to reinforce brand awareness and convey messages in the evening and at night. Staging such sceneries pays in that it catches the attention of passers-by and increases their willingness to visit the store during opening hours. The Butler XT DMX control system provides plenty of scope for freedom of expression and is simple to operate.



# **Emergency lighting**

Inconspicuous day to day, dependable in emergencies

**Emergency lighting for presentation and retail** Emergency lighting is not optional: Eemergency lighting in retail areas and exhibition spaces accessible to the public has to comply with a large number of specifications and standards. Zumtobel can help here by making sure that design considerations are not overlooked. Zumtobel provides emergency luminaires that blend in unobtrusively with the general lighting. We can also supply photometrically optimised, highly efficient LED emergency luminaires that brighten up escape routes when danger threatens. These luminaires ensure safety and help people find their bearings quickly. Lighting and emergency lighting that work in concert as a team bring economic benefits as well as design advantages.

Vineyard estate Hainzl-Jauk, Frauental / AT Architecture: Planungsbüro Leo Bernhard, Hengsberg / AT, Planungsbüro Johann Pfeiffer, Weiz / AT Lighting solution: ONDARIA circular luminaire, LIVIANO spotlight, SYSTEMLED LED lighting channel system, CRAYON LED downlight, SCUBA moisture-proof diffuser luminaire, 2LIGHT downlight system, LUXMATE BASIC lighting management system, ONLITE RESCLITE and ONLITE ARTSIGN emergency lighting

**High-tech and design** The extensive range of available ONLITE LED escape sign luminaires made of high-quality materials and featuring topnotch design means that they blend into the architecture exceptionally well and inconspicuously. Excellent LED lighting technology ensures uniform illumination of pictographs and hence an upmarket look as well as optimal orientation in an emergency. This luminaire product range is rounded out by a comprehensive choice of power supply systems.



**ONLITE central CPS** Emergency lighting systems with central power supply



ONLITE PURESIGN LED escape sign luminaire Designed by EOOS



**ONLITE ARTSIGN** LED escape sign luminaire Designed by Matteo Thun





# ONLITE RESCLITE – maximum safety with an inconspicuous design

RESCLITE LED emergency luminaires blend seamlessly into modern architecture thanks to their compact size and discreet design. Three different lens types offer maximum performance for every application. This means that a smaller number of luminaires is enough to ensure perfect viewing conditions even in an emergency and to far exceed the requirements laid down by the standards. And the best thing about it: it is absolutely independent from general lighting and lighting management systems. The very low installed load of LED luminaires together with the reduced number of lighting points needed make it possible to use very small power supply systems. This saves additional costs and the scaled-down battery packs save the environment.



RESCLITE escape LED emergency luminaire for escape route lighting according to EN 1838. Maximum luminaire spacing: up to 23 m > 1 lux



**RESCLITE anti-panic** LED emergency luminaire for anti-panic lighting according to EN 1838. Maximum room illumination: up to 170 m<sup>2</sup> > 0.5 lux



RESCLITE spot LED emergency luminaire for display lighting according to EN 1838. Maximum display lighting: Ø up to 3 m > 5 lux

# Global partnerships

Closely meshed network

Zumtobel is a global company with 50 branches and commercial agencies in more than 70 countries. We remain close to our customers even outside well-established markets in Europe and the USA. We have sales offices and representative offices in emerging markets such as Russia, Turkey, Middle East, India, China and Southeast Asia. We cooperate very closely as an international team. This saves time and speeds up processes. Continuity of supply around the globe is guaranteed by 13 production facilities; we deliver the right quantity at the agreed time. Short transport routes consume fewer resources and reduce costs. We employ systematic planning to meet the challenges of international rollouts. No matter whether a project involves installing lighting equipment in large numbers of shops, big stores or upscale outlets – with Zumtobel you have an experienced partner at your side.

G-Star, the international jeans brand headquartered in Amsterdam, is an example of a firm that operates a large number of stores. The brand was first launched 20 years ago; G-Star has set up 5,860 sales outlets worldwide since then. 170 of these outlets are single-brand speciality shops. They are located in 70 countries, including major cities such as New York, London, Paris, Tokyo, Sydney, Sao Paulo, Singapore and Cape Town.

AFG Shopping Center, St. Gallen / CH



**Grand** Over 6,000 m<sup>2</sup> of contiguous sales floor space illuminated by Zumtobel.

#### T-Mobile, Vienna / AT



**Fast** 1,400 shops were fitted out in one year, up to 12 new store openings were staged every week.

Swarovski, Paris / FR



**Imaginative** Zumtobel customers cause a stir worldwide with creative concepts for flagship and anchor stores.

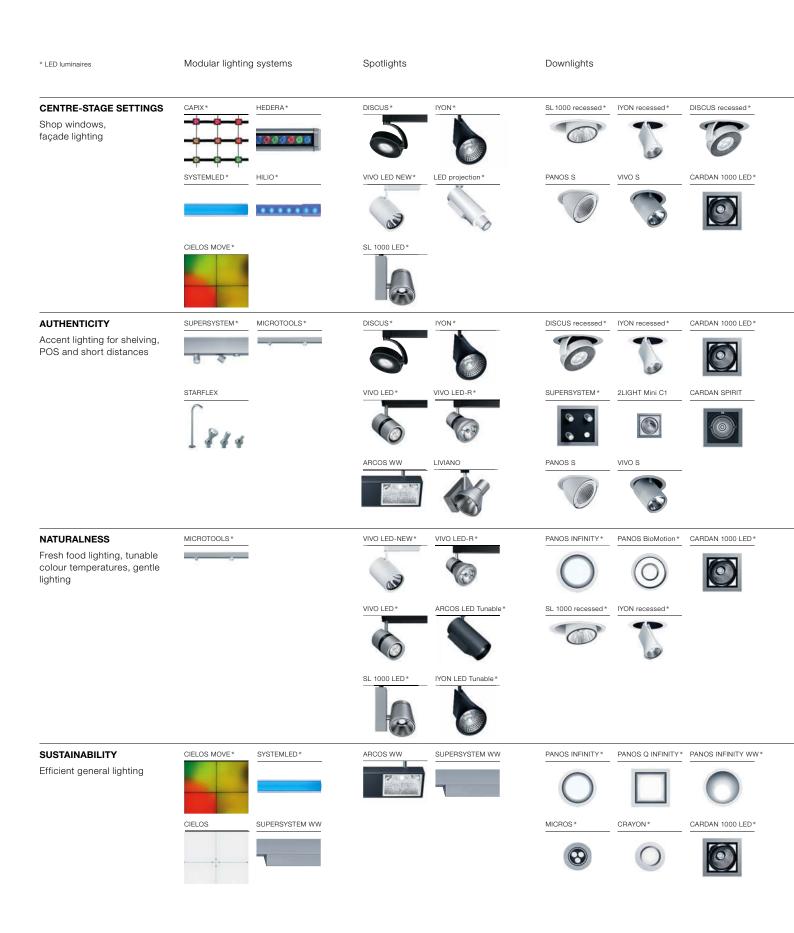
#### Tommy Hilfiger, Paris / FR

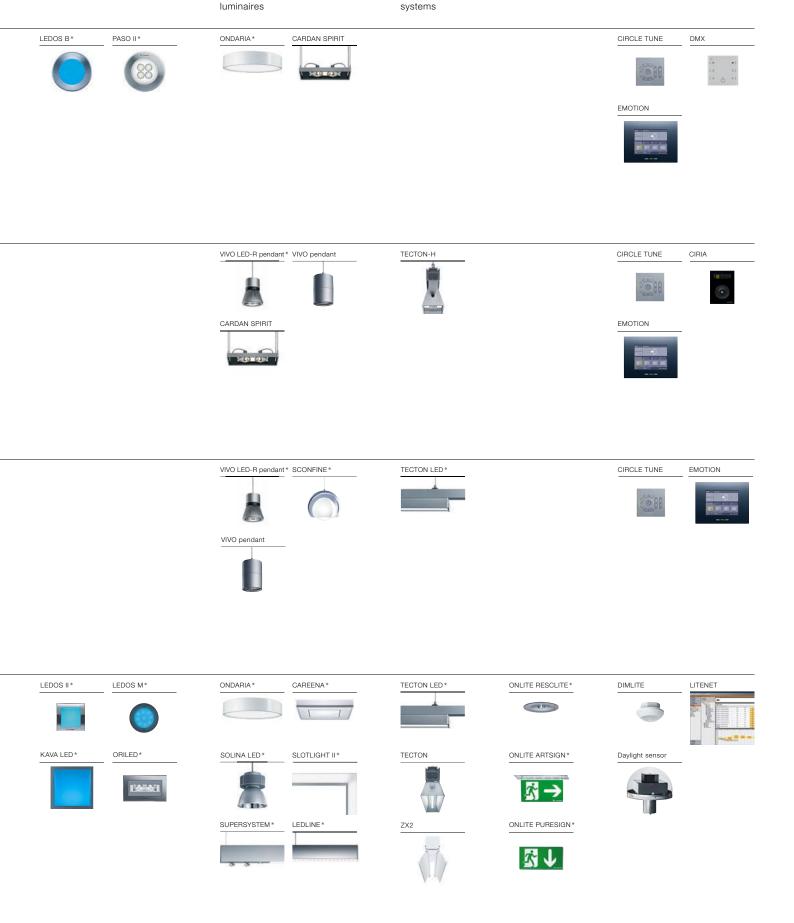


**Global** Concurrent shipments to all continents make Zumtobel stand out as a globally dependable partner.

ARGENTINA / AUSTRALIA / AUSTRIA / BAHRAIN / BELARUS / BELGIUM / BRAZIL / BULGARIA / CANADA / CHINA / CROATIA / CYPRUS / CZECH REPUBLIC / DENMARK / EGYPT / ESTONIA / FINLAND / FRANCE / GEORGIA / GERMANY / GHANA / GREECE / HONG KONG / HUNGARY / ICELAND / INDIA / INDONESIA / IRELAND / ISLAMIC REPUBLIC OF IRAN / ISRAEL / ITALY / JAPAN / JORDAN / KAZAKHSTAN / KUWAIT / LATVIA / LEBANON / LITHUANIA / LUXEMBURG / MACAU / MALTA / MEXICO / MAURITIUS / REPUBLIC OF MOLDAWIA / MONTENEGRO / MOROCCO / NETHER-LANDS / NORWAY / OMAN / PHILIPPINES / POLAND / PORTUGAL / QUATAR / ROMANIA / RUSSIA / SERBIA / SAUDI ARABIA / SINGAPORE / SLOVAKIA / SLOVENIA / REPUBLIC OF SOUTH KOREA / SPAIN / SYRIA / SWEDEN / SWITZERLAND / TAIWAN / THAILAND / TURKEY / UKRAINE / UNITED KINGDOM / URUGUAY / UNITED ARAB EMIRATES / PERU / UNITED STATES / VENEZUELA / VIETNAM / NEW ZEALAND **Zumtobel has a presence in 5 continents and more than 70 countries** 

# Lighting solutions for presentation and retail





Continuous-row

Emergency lighting

Lighting management

Surface-mounted and pendant

Wall and floor lights

# Humanergy Balance

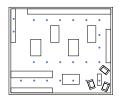
Human aspects + energy efficiency

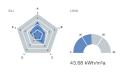
# Balanced lighting solutions Retail area

A balanced lighting solution is characterised by a richly varied, highcontrast atmosphere and the use of energy-efficient technologies (LEDs for instance). General lighting with adjustable colour temperatures produces a natural room ambience whereas targeted accent lighting directs people's attention onto the goods displayed.



#### Basic





- VIVO QT 1/100 W
- Switched

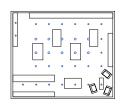
#### Lighting quality

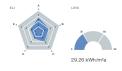
 Brilliant accent lighting with very good colour rendition

#### **Energy efficiency**

- Low luminous efficiency and short maintenance intervals
- Dimmable luminaires offer additional potential energy savings

## Standard





- VIVO HIT 1/35 W
- VIVO HIT 1/70 W
- Switched

#### Lighting quality

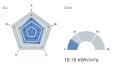
- Very good colour rendition
- High colour constancy throughout entire service life
- Pleasant contrasts thanks to a variety of beam patterns

#### Energy efficiency

- Very high luminous efficiency
- Relatively short maintenance intervals

# Optimal





- IYON LED 1/32 W Stable White
- PANOS INFINITY Tunable White
- Lighting scenes (LX EMOTION)

#### Lighting quality

- LED accent lighting for ideal presentation of goods with very high colour rendition
- Ambient lighting with dynamic colour temperature models itself on nature
- Coherent lighting solution comprising various lighting components, focuses light on selected products

#### Energy efficiency

- High luminous flux levels thanks to high-power LED modules
- Good energy efficiency thanks to perfect matching of housing, optics and LED technology
- Maintenance-free operation for presentation and retail applications
- Daylight-based lighting control stages merchandise and also cuts energy consumption

#### **Underlying conditions:**

Retail space 10 m x 12 m, 8 hours, 250 days/year



ELI Ergonomic Lighting Indicator

Lighting quality assessed on the basis of five criteria: A Visual performance B Vista C Visual comfort D Vitality E Empowerment



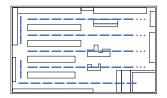
LENI Lighting Energy Numeric Indicator

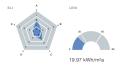
Energy consumption in kWh per annum and per square metre, based on EN 15193.

# Balanced lighting solutions Supermarket

In supermarkets, balanced lighting solutions + cannot fail to impress because they efficiently illuminate vertical shelf surfaces and circulation areas and also stage products attractively. Extremely flexible LED technologies make it possible to optimise lighting quality to suit the goods in question while cutting energy consumption at the same time.

## Basic





- TECTON 2/58 W T26 VVG
- PROTON QT 12 1/90 W
- Switched

## Lighting quality

 Halogen luminaires produce brilliant accent lighting

## Energy efficiency

• Low luminous efficiency and short maintenance intervals

# Standard



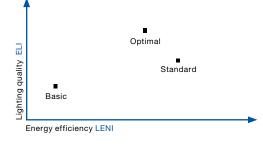
- TECTON shop reflector 1/80 W T16 electronic ballast
- TECTON wallwasher 1/49 W
- VIVO HIT 1/70 W
- PANOS T-CL 2/26 W
- Switched

## Lighting quality

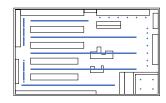
- Very good colour rendition
- Optimised light distribution ensures light is uniformly distributed over vertical shelf surfaces

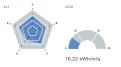
# Energy efficiency

- Improved luminous efficiency
- Higher light output ratio
- Concept featuring various lighting zones reduces energy requirement



## Optimal





- TECTON LED 63 W
- VIVO LED-R
- VIVO Tunable FoodPANOS INFINITY
- PANOS INFINITY
  RESCLITE ANTIPANIC
- Dimmed (DIMLITE)

## Lighting quality

- Accent lighting with optimal colour rendition and variable colour temperature
- Clean, modern look with end-to-end LED continuous-row system
- Optimised light distribution ensures light is uniformly distributed over vertical shelf surfaces

## Energy efficiency

- LED with high luminous flux levels, long service life, compact design
- Dimmable lighting system reduces energy consumption outside opening hours

#### Underlying conditions:

Supermarket 23 m x 13.6 m, 8 hours, 250 days/year



ELI Ergonomic Lighting Indicator

Lighting quality assessed on the basis of five criteria: A Visual performance B Vista C Visual comfort D Vitality E Empowerment

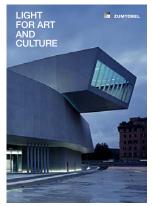


LENI Lighting Energy Numeric Indicator

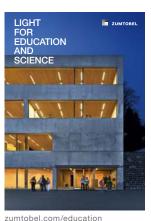
Energy consumption in kWh per annum and per square metre, based on EN 15193.



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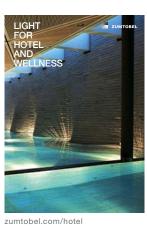
LIGHT FOR PRESENTATION AND RETAIL

LIGHT

FOR INDUSTRY

GINEERING

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# Zumtobel is the internationally leading supplier of integral lighting solutions for professional interior and exterior 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



#### Top quality - with a five-year guarantee.

As a globally leading luminaire manufacturer, Zumtobel provides a five-year guarantee for its complete product range.

zumtobel.com/guarantee

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 wellbeing 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 philosopy "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. 04 797 323-EN 02/11 © 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. For the sake of the environment: Luxo Light is chlorine-free paper from sustainably managed forests and certified sources.









Track 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

Facade, media and outdoor luminaires

Lighting management system

Emergency lighting



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Projekt: Magasin ISSEY MIYAKE, Paris / FR; Architecture: Architecture & Associés, Paris / FR; Lighting design: Agence 300 000 km/s, Montreuil / FR



# LIGHT FOR PRESENTATION AND RETAIL



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