



Light Guide for Fashion and Retail



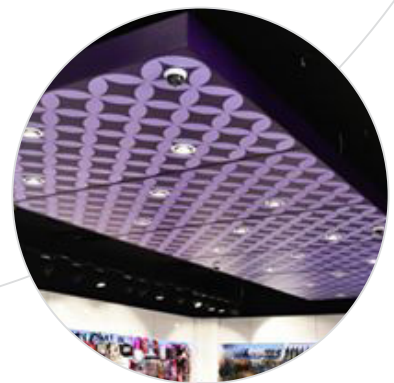


Lighting influences desires, purchases and how the shopping experience is remembered.

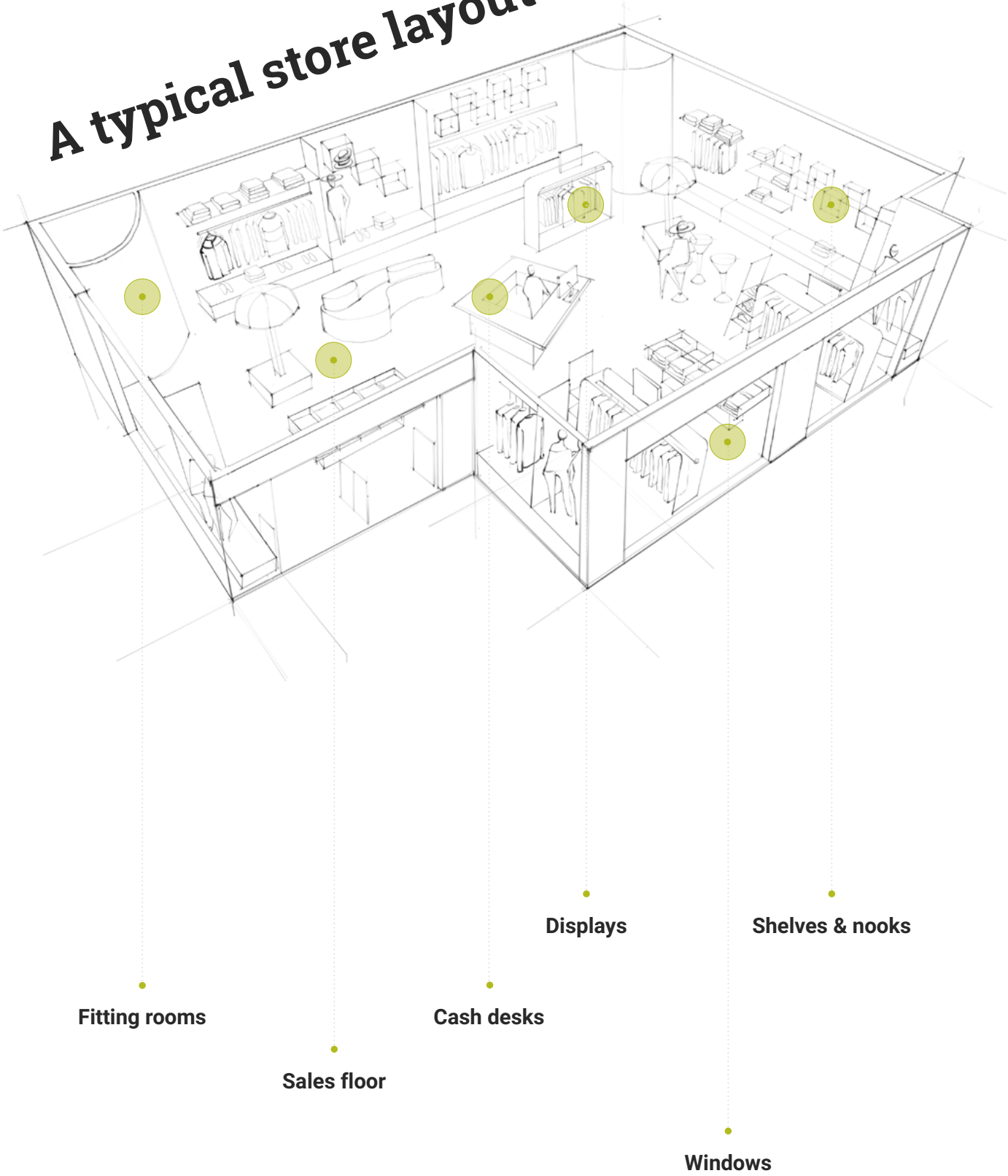
Light is powerful. More powerful than any of us think. In the retail sector light is a decisive factor in helping customers browse, choose, buy and afterwards, remember fondly the shopping experience. They may not be able to explain what it was that enchanted them, but we know: it's the light. Because in retail, the way you showcase items, the visual part of the experience is one of the most important factors that decide a sale.

Lighting is also crucial in creating your brand identity, it's a marketing tool in itself. Each brand aims for a unique customer experience for a defined target segment and this experience is defined through a proprietary light concept, complementing the furniture or layout design.

Prepare to make your offer naturally remarkable and memorable by using smart LED lighting technology.



A typical store layout





ILLUMINANCE FOR HIGH-STREET STORES VERSUS HIGH-END STORES

The type of store, merchandise and price level - all decide the type and quantity of illuminance. Higher ambient lighting creates alertness and energy, thus is more suitable for high-street stores with low-to-medium priced merchandise. Higher illuminance helps consumers decide quickly and move on.

Lower ambient light levels sprinkled with accent lighting (narrow beams) create contrast and interest and a desire to linger. This type of illumination is more suited to high-end stores where customers like to feel pampered.

The science of retail lighting:

Special color temperatures for clothing

Vibrant, rich, saturated colors – it's what you want your merchandise to express.

Greentek developed a range of special color temperature luminaires, each suitable for a particular merchandise type or store brand:



FAS

FAS has a very high color rendering index CRI 95, thus it is suitable for white or black clothing.

FAS special temperature color has no UV spectrum emissions. This means that merchandise preserves its colors far longer than under a traditional luminaire.



ART

ART enhances colors and textures, while staying true to the original shades, form and concept, with excellent color rendering. It is the result of years of research in the field of art lighting.

ART special color comes in one option with CRI 98:
ART 30 at 3000 K



AGI

Taking a step further than the traditional color rendering index (CRI) – which is by definition limited to 8 colors, Greentek developed AGI, a type of color that comes much closer to how people perceive colors. GAI is a measure of hue saturation or chroma – therefore it is a better indicator of how the human eye perceives the world. The beautiful thing about AGI light is that it is suitable to a much wider range of colors, thus you can use it for colorful merchandise.

AGI light (CRI 93, GAI >80) comes in 3 options:

Class A 3000 K

Outstanding warm hue color point

Class A 3500 K

Outstanding all-purpose color point

Class A 4500 K

Outstanding cooler hues color point

Where to start?



Even though customers perceive a store brand and a shopping trip as a single experience, store lighting is structured around four types of illumination, each suitable for particular roles:

- **General & Wall washing lighting**

General lighting is meant to help staff perform various tasks and provide a satisfactory level of visual comfort for shoppers. It's not meant to illuminate merchandise. This light should be diffuse and uniform, avoiding glare. Use recessed fixtures with various beam angles to achieve the desired effect.

Wall washing helps create a sense of space, vertically delimitating rooms or store areas - kids, women, new arrivals and so on.

- **Task lighting**

Task lighting is meant to support specific tasks – such as completing a sale or attracting customers. When designing for tasks take into account the contrast level with the surrounding space. The most frequent task-areas within a store are the entrance, the cash desks and the dressing rooms.

- **Accent lighting**

Accent is what sells. It's about how you illuminate specific merchandise to show it at its best. Accent lighting should create the type of contrast required to draw attention to special points of interest.

- **Decorative lighting**

Finally, you have decorative or architectural lighting meant to enhance the space as a design element. You can use pendants, chandeliers, or table and floor lamps.

COLOR FADING

Did you know that LED luminaires emit zero ultra-violet radiations? UV light is especially damaging to colors, through a process called photodegradation. All dyes have light absorbing color bodies called chromophores. UV rays break their chemical bonds, interfering with their ability to absorb and reflect light – a phenomenon called “bleaching”.

Having UV-free LED luminaires is quite an advantage especially if you sell shoes, where typically just one of the shoes is on display. With a traditional luminaire, shoes displayed degrade quickly, thus you have to sacrifice a pair, perhaps every 4 to 6 weeks. For stores selling tens or hundreds of pairs, being able to sell the pair on display is quite an increase in revenue.

Shop front and windows

Attract attention, mesmerize and guide shoppers inside.

Did you ever had that impulse that you just have to enter a particular store? Or, that you can't be bothered to enter and you just pass by?

Perfect window lighting, showcasing the items, it's what gets your attention first. Second, it's the entrance lighting that attracts your eyes further inside and draws you in.

Then, lights have to create the depth necessary to create a feeling of beautiful abundance. On top of this, lighting can become your brand signature, visible from a distance in crowded retail areas.

Illuminating windows is done with accent lighting: directional luminaires which can be adjusted in several directions, irrespective of the window dressing concept.

The key principle here is that the window should be uniformly lit from all directions, aiming for a 500-lux vertical illuminance, measured to the display.

The color rendering index should be very high, thus able to render the right color through the glass window. We recommend special color FAS (CRI 90) or ART (CRI 98).



RAYLAN:

This luminaire combines modern minimalist design with the finest components and the latest technology in contemporary profile lighting.



TULIP L:

Tulip is a track mounted, adjustable accent lighting luminaire. It narrowly focuses the beam on certain displays that you want to stand out.



AMYAS:

Amyas provides the perfect combination of efficiency, light comfort and design, without compromising performance. It can also be mounted to walls.



RIGAN:

Fits perfectly in modern spaces with a wide range of goods.

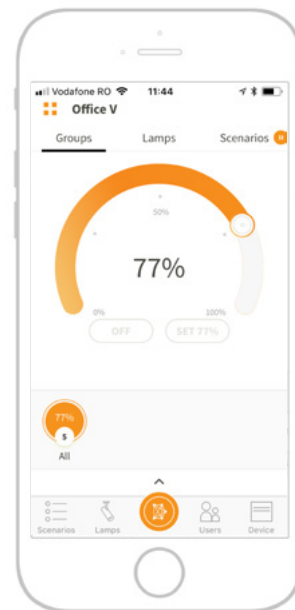


Dara Lighting is the easiest way to control your lights and reduce energy bills. The solution is highly flexible, suitable for any type of business – from office spaces, manufacturing, industrial and logistic applications all the way to the largest of retailers.

With just a few taps you can control luminaires one by one or as a group. For example you can set up a group for the office space and another one for a meeting room or a kitchenette and dim up or down lights in each of these spaces.

You can also create scenarios depending on the day of the week, time of the day or other relevant events. Set the lights at a higher dim level for the office space and a lower dim level for the corridors and save all these settings in a scenario. Or set all lights to dim down once office hours or retail open hours are over.

Share your network with other users and let them adjust the lighting. **Dara Lighting** has several levels of users (network owner, administrator or simple user), each with their own corresponding lights.



Dara Lighting has mesh capabilities, thus the functionality is dependable, redundant and resilient over hundreds of square meters. Due to its dual control – both BLE (Bluetooth Low Energy) for DALI communication and Wi-Fi – a user can individually control an unlimited number of luminaires.

With this solution any business has the power to tailor its lighting preferences and, at the same time, greatly reduce its energy expenses by making sure light is present only when needed.



Sales floor area

What the eye is attracted to, the heart desires.

Lighting can have a positive influence on how shoppers feel inside of a store. Excellent color rendering and special light spectrums improve perceived quality significantly.

Good color rendering, spectral distribution, beam angle and particular color temperatures are a must-have for modern retail. All these factors contribute to showing merchandise at its best, true to their real colors and textures.

The high contrast between ambient light and directional light determines the perceptual depth of the space and creates a hierarchy of importance – which areas shoppers should devote attention to first. In this way, they can leisurely browse, instead of feeling overwhelmed by a crowded, everything-important set-up.

All things considered, shoppers are naturally attracted to the brightest areas in a store. Thus, depending on your architectural design – you should employ:



RACK LIGHTING & ISLAND LIGHTING

Illuminating racks is about achieving two objectives: fully illuminate merchandise and accurately reproduce colors and textures.

Track lighting systems are ideal as luminaires can be easily mounted, replaced or changed depending on needs. Here, accent lighting (at a contrast of 15:1 to 30:1 compared to general lighting) is recommended with very high rendering index and special color temperatures.

You can use warm color temperatures for leather or warm-colored goods and a cooler temperature for suits or black clothing – giving off an impression of luxury. If you also sell accessories and jewelry – these need to be strongly illuminated with luminaires of around 4500K or even 5000K.



TULIP S: Tulip is a track mounted, adjustable accent lighting luminaire. It narrowly focuses the beam on certain displays that you want to stand out.



POLAR: Polar has an adaptable angle mechanism, allowing for very precise beam direction. Perfect fit for modern spaces with a wide range of goods needing custom lights.



SOLA: Sleek pendant luminaire, available in various width sizes. Can be used as a single, discreet downlight or as groups of 2 or 3 luminaires.



SHELF, NOOKS OR COUNTER LIGHTING

The most common way to illuminate these areas are with linear LED luminaires, close to the merchandise but hidden from direct view. Illuminance levels should be 3-5 times higher than general illuminance to create contrast.

Backlighting can also be employed, especially for lower shelves which usually go unnoticed.



Canopy Lighting

Both these luminaires come in natural white or cool white color temperatures. Choose according to the type of merchandise displayed.



Counter Lighting



LIGHT REFLECTANCE IMPACT ON CHOOSING LUMINAIRES

When choosing the type of luminaire and the illuminance level it is important to consider the Light Reflectance Value of various wall or furniture materials. Very reflective materials enhance the general level of illuminance. In addition to enhanced lighting, using diffuse materials helps reduce shadows from racks and shelving.

Material	Reflectance Value
Diffuse - uniform surface brightness	
Limestone	35-60%
White paint	75-90%
White glass	70-80%
Spread – diffuse reflection	
Brushed aluminum	55-60%
Etched aluminum	70-82%
Satin chrome	50-55%
Specular – directional control of brightness at specific angles	
Chrome	60-65%
Metal coated plastic	75-95%
Polished aluminum	70%
Stainless steel	55-65%



Fitting rooms

The tipping point that seals a deal.

Fitting rooms, while undoubtedly the tipping point for the purchase decision, are notoriously tricky places to illuminate. They are narrow, lit from above and all the walls are actually mirrors, prone to glare and reflections, making every imperfection extremely obvious.

Your aim here is to use the most flattering light possible, making customers feel at ease. Also, be sure the match the type of light to merchandise. Evening wear requires an intimate feel, while daywear requires a brighter, natural ambience.

The color of the merchandise should look the same, both on the sales floor and in the fitting cabin. Be sure to use luminaires with similar CCT and CRI values.

Use recessed directional spotlights or ceiling mounted downlights that can be adjusted to shine on the person, not on the mirrors, to avoid glare.



SOLA:

Sleek pendant luminaire, available in various width sizes. Can be used as a single, discreet downlight or as groups of 2 or 3 luminaires.



ZETT:

Recessed directional spotlight, powerful yet glare-free. Comes in several special color temperatures.



EMPIRE:

Provides the perfect combination of efficiency, light comfort and design, without compromising on lighting performance. COB technology makes this line much more suitable for accent lighting.



ARTUS N: Clean, elegant luminaire creates a professional and welcoming atmosphere over the info desk.



AMYAS TRK: If you opt for a track installation, our elegant Amyas down lights can also be mounted on the same system.



JUDE: Recessed directional spotlight with one, two or three modules in a row. Provides good illuminance levels, with focused beams on specific task locations.

Counter and cashier desks

While waiting at the counter means business is good, customers do not like to wait. You should use light as a visual distraction, pointing it towards small products sitting near the counter, to stimulate impulse purchases.

Also, the counter itself should be well lit to help cashiers avoid errors. Luminaires should be glare-minimizing, with an UGR < 19, similar to office-recommended values.

You can use luminaires which help the cash desk area stand out within a large sales floor, helping customers orientate easily.

References





www.greentek.eu

Greentek Portfolio



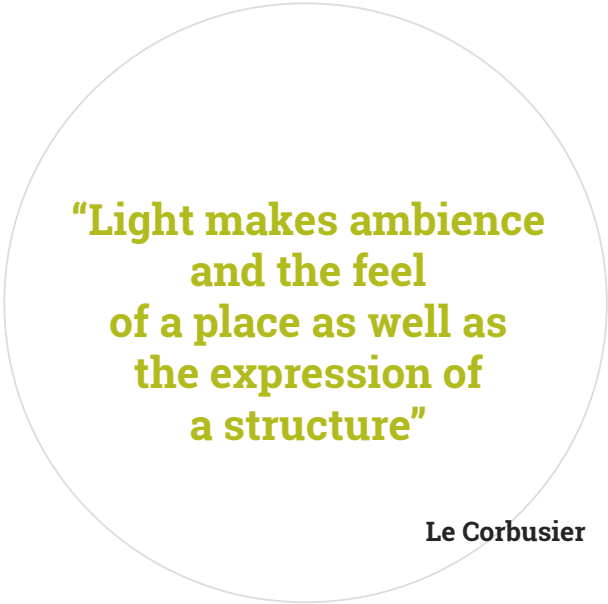
Bespoke services for an amazing customer experience

Greentek doesn't just sell luminaires. We believe that a luminaire is just a small part of the impact illuminance might have on a business. Thus, we developed end-to-end services from design to implementation and commissioning.

For fashion retail, we specialized in light design and light concept design that complement your brand. These are typically the two areas that bear the greatest weight in the project result quality. We have an experienced in-house team of light designers and light concept developers. For complex market applications, we can help you develop custom-made luminaires to match your retail design.

Also, based on your layout plan, we design how the light is shone, how and what and where special temperature luminaires should be placed for optimum display. All this is done taking into account thermal, optical, electrical and regulatory challenges experienced in each market application. Basically, we create the lighting element of your brand, how it is expressed in terms of lighting and corresponding atmosphere. Once a brand-specific concept has been implemented, it can be multiplied for local or global rollout, based on design guidelines.

We'd be glad to help your business become naturally remarkable!



**“Light makes ambience
and the feel
of a place as well as
the expression of
a structure”**

Le Corbusier

Why Greentek?

TRUST: We have 8+ years' experience developing innovative led lighting solutions.

SPECIAL COLORS: Greentek is a pioneer in developing special tonal effects for retail and DIY industries, proven to enhance purchase intent.

FLEXIBILITY AND CUSTOMISATION: For us, business is personal. Greentek can develop or adjust luminaires according to your needs in order to create savings and value.

INCREDIBLE CUSTOMER CARE: We are in the business of customer care and we happen to create led luminaires. We take a 360° client view from technical consultancy, Intelligent Light Solutions, Project Management and site survey, to on-site implementation, product development and lab testing.

LIGHT CONCEPT & DESIGN: Our lighting experts analyze your lighting infrastructure and provide you with the best plan to implement it, based on the latest industry requirements and trends.

MADE IN EU: In order to keep high quality, Greentek luminaires are designed and manufactured in the European Union using European components.

DIVERSITY: We cover all ranges of ceiling mounted and light distribution systems, special colors and other niche products.

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