LIGHTPOINT.

An ETAP publication | 2015-2

E2

LUMINAIRES WITH **HIGH PROTECTION RATING**

E2: top performance in a robust housing

BREEAM & LEED: scoring with sustainability

K1 introduces a new standard in emergency lighting

ETAP
EXCELLENT LIGHTING, SAVING ENERGY

Lighting as part of sustainability certification

BREEAM and LEED: scoring with sustain

Sustainability plays an increasingly important role in new construction and renovation projects. More and more businesses opt to make this sustainability factor both visible and measurable with a building certification, such as BREEAM and LEED. Lighting can play an important part in securing certification.

Sustainability in the construction industry is more than just a fad. More stringent regulations, rising energy costs and increasing social awareness ensure that – in addition to cost price – sustainability also hangs in the balance. Numerous methods exist to measure the sustainability of buildings: HQE in France, DGNB in Germany, Minergie in Switzerland... These labels are generally applied nationally, with the exception of BREEAM and LEED, which are both internationally oriented.

BREEAM

BREEAM factors in some 70 parameters within ten categories: Management, Healthcare, Energy, Transport, Water, Materials, Waste, Land use & Ecology, Pollution and Innovation. Each parameter imposes several sustainability requirements on the building, which results in one or more points. At the end of the journey, this results in a sustainability score of 'Pass' (one star) to 'Outstanding' (five stars). Both parameters and potential points may vary, depending on the nature of the project (new-build or renovation) and on the building (office, industrial, school, etc.).

The process runs as follows: the client registers with the Building Research Establishment (BRE) and appoints an official assessor, who collects the necessary evidence during the course of the build. After the design stage, this documentation leads to a provisional rating. After completion of the building, the assessor checks whether reality corresponds with the design. Only then will the final rating be assigned.

Countries, such as the Netherlands, Spain and Sweden have their own, national version of BREEAM with its own organisation. Building projects in these countries are registered and judged at the national level.

ability

LEED

LEED also uses a similar point-based system. The categories are nevertheless not the same (Location & Transport, Sustainable Sites, Water efficiency, Energy & Atmosphere, Materials, Processes, Quality of interior environment, Innovation and Regional priorities) and the eventual score is expressed as silver, gold and platinum. The major difference is nonetheless that the certification takes place without assessor. The client is to provide all evidence directly to the US Green Building Council.

Advantages

LEED or BREEAM certification does not come free of charge. According to independent studies the supplement can run up to 10% or more of the total cost price. On the other hand it has a number of distinct advantages. Firstly, you contribute to a sustainable environment. The requirements in terms of materials and technologies furthermore improve the wellbeing of a building's users. To businesses certification implies an improved sustainable image. In addition, it provides an objective criterion, for example, to compare several international corporate branches. On the other hand, lower energy use and higher market value are relevant to the owners of buildings. Lastly, the government increasingly provides financial incentives.

What about lighting?

BREEAM and LEED take into account all aspects of a construction project. Lighting is but one, albeit important component. Well-chosen lighting can earn BREEAM points in the Management, Healthcare, Energy, Materials, Pollution and Innovation categories. For LEED lighting represents added value in the Sustainable sites, Energy and Environment, Quality of interior environment, Innovation and Regional priority categories. In both cases light control systems can offer significant added value.

Opt for professional advice

Are you considering obtaining certification? ETAP will advise and assist you with the lighting component. We carried out a product analysis of our full lighting and light control range with the help of an external consultancy. It was established for each relevant category what the most suitable lighting solution is in order to efficiently earn points for BREEAM or LEED. For example, an E4 solution in an industrial application can contribute up to 13 points towards LEED certification. With the Excellum2 light control system you can score up to 12 points for BREEAM.

The correct documentation is of critical importance for a smooth procedure. Incorrect, irrelevant or needless information may lead to delays or even loss of points. ETAP has the expertise to provide the correct lighting information for all relevant categories in BREEAM and LEED.

Naturgas, Spain (left), Transavia, the Netherlands (middle), as well as MAF, Dubai (right) achieved LEED certification – also thanks to their energy-efficient ETAP lighting.

BREEAM®

BREEAM
Building Research Establishment Environmental Assessment Method

- °1990, United Kingdom
- 425,000 certified buildings in 2015
- Potential levels: Pass > Good > Very Good >Excellent > Outstanding
- Certification takes place through official assessor
- Distribution: primarily European

LEED
Leadership in Energy and Environmental Design

- °2000, United States
- 60,000 certified buildings in 2015
- Potential levels: Certified > Silver > Gold > Platinum
- Certification takes place through USGBC (US Green Building Council)
- Distribution: primarily USA and Middle East

[Further information at www.etaplighting.com]
downloads > brochures > BREEAM / LEED

Compact anti-panic and escape route lighting with LEDs

K1 introduces a new standard in emergency lighting

The new K1 put a permanent end to the era of fluorescent lamps in emergency lighting. With its compact and discreet design, its particularly efficient light distributions and its brand-new electronics this K1 for anti-panic and escape route lighting sets a new standard in terms of safety and sustainability.

generation fluo → *generation LED*

The K1 features a slim, yet robust plastic housing, which makes the series suitable for any type of building and even for light industry (IP42). The luminaires are available as stand-alone or centrally supplied luminaires.

Ingenious light distribution

The K1's intelligence can be found in the lens, among others: the version for anti-panic lighting creates a nearly square light distribution, which allow to illuminate large spaces particularly efficiently and without dark spots. Result: a single luminaire at a height of 3 metres is all it takes for a 130-m² space. The K1 for escape route lighting on the other hand, distributes the light lengthwise: with a single K1 the escape route can be illuminated over a distance of

Compact and discreet – the K1 is unobtrusive and can be easily integrated into any environment.

The lens is fully recessed into the appliance, thus barely disrupting the ceiling.

20 metres. In both cases this outstanding performance ensure that you satisfy legal requirements with an absolute minimum number of luminaires.

The K1 is also available in a version with enhanced luminous flux, fitted with two LEDs and an adjusted lens. Thanks to higher light output this version is suitable for emergency lighting in high spaces – up to 22 metres – or spaces with higher risk, where the law imposed higher lighting levels, such as dangerous workplaces.

Lastly, the K1 is also available as a signage luminaire; the lens sends the LED light to the pictogram plate and hence results in efficient illumination.

Installation in a snap

K1 luminaires are very easy to install. Notably due to the practical knockouts, which allow for surface-mounted wiring and lead power and data cables in and through the appliance. Just screw the mounting plate into the ceiling, connect the cables and click the fixture in place. The connection takes place automatically; it is impossible to install the housing incorrectly. Light source and batteries can be easily replaced without removing the mounting plate.

Monitoring safety efficiently

The new K1 luminaires are available with the EST+ self-test, or they can be connected to a central control system (ETAP Safety Manager or Excellum2).

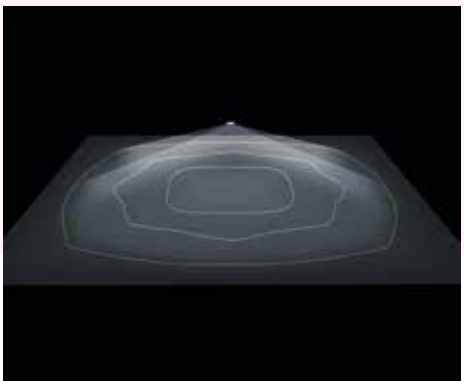
K1 anti-panic lighting

K1 escape route lighting

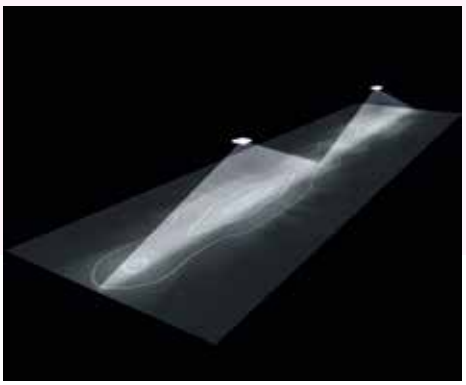
K1 with high luminous flux for high spaces

K1 signage (recognition distance: 15 m)

Anti-panic lighting. Thanks to its square light distribution one luminaire is all it takes to illuminate spaces up to 130 m².



Escape route lighting. For the lighting of escape routes, one luminaire every 20 metres, suffices.



[Further information at www.etaplighting.com]
Brochure: downloads > brochures > K1

High-protection factor luminaires

E2: top performance in a robust housing

Demanding environments require adjusted, robust lighting. With the E2 we offer a LED luminaire with high protection factor (IP66) for the chemical, pharmaceutical and food industries. The advanced DUAL•LENS-technology combines high efficiency and major flexibility in terms of light distribution.

The aluminium housing is dust- and heavy jet-proof (IP 66) and satisfies the IK07 test for impact-resistance.

LEDs offer quite a few benefits in production environments. For example, the low energy consumption is an important factor in spaces that are often operating 24/7. The long service life reduces time-consuming and labour-intensive lamp replacements to an absolute minimum, a major advantage in environments where replacement is not always easy.

Chemical-resistant

ETAP has left nothing to chance when it comes to the E2 series. The robust aluminium housing is resistant to numerous chemicals and the luminaire satisfies the IP66 classification (dust- and heavy jet-proof). The series also satisfies the IK07 test for impact-resistance and runs flawlessly in temperatures from -25 to +35°C (optional from -40 to +45°C). The LEDs, which are particularly sensitive to corrosion, among others – are safely housed in a sealed compartment; the glued housing prevents corrosion by aggressive substances (compliant with corrosion test EN 60068-2-60).

The glued housing prevents corrosion of the LEDs, which is essential in chemical environments.

Light distribution for any application

E2 uses advanced DUAL•LENS technology. As the name implies, the linear lens fulfils two functions with a unique surface structure. The structure on the outside of the lens reduces the luminance of the LEDs (UGR < 25), without compromising on efficiency (specific luminous flux to 117 lm/W). The inside structure on the other hand determines the light distribution. In practical terms you can choose from three different light distributions: wide-angle, medium wide-angle and asymmetric. As a result, you can choose the correct light distribution for every application, from open spaces to work surfaces and aisles.

Broad range

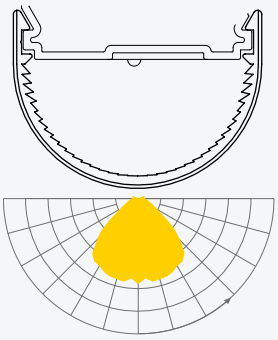
The luminaires are available in five different lengths and luminous fluxes, ranging from 0.6 m (3000 lumen) to 1.6 m (9000 lumen). Therefore you can provide every space and surface with the correct illuminance using a minimum of luminaires, thus limiting investment and installation expenses.

As an option you can also fit the E2 with a module for emergency lighting and/or daylight sensors. The luminaires are suitable for surface or suspended mounting and can be installed in a few easy steps thanks to the handy bracket system.

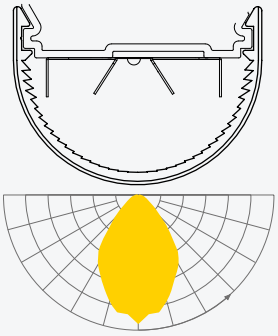
DUAL•LENS TECHNOLOGY

The E2 series – able to cope with the most demanding environments.

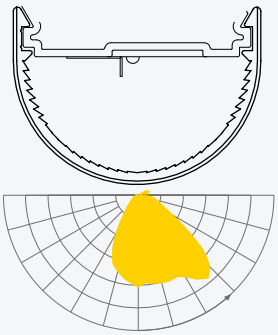
LIGHT DISTRIBUTION FOR EVERY APPLICATION – YOU GET TO CHOOSE FROM THREE OPTIONS:



Wide-angle



Medium wide-angle



Asymmetric

[Further information at www.etaplighting.com]
Brochure: downloads > brochures > E2

Rivoli hospital takes the plunge into the LED era

Saving 75% energy thanks to intelligent LED lighting

The Rivoli hospital, near Turin, is beaming once again after a complete makeover: the old fluorescent lighting was replaced by the latest generation LED lighting. "It not only resulted in a new look and another experience, but was also felt financially: the new luminaires use an impressive 75% less energy," according to Mr Luca Bonadonna, who managed the project. "Thanks to the high efficiency, low consumption, long service life and high maintenance factor, we will have recovered the installation cost in 1.2 years."

The Rivoli hospital's story is the same as that of many other Italian hospitals: obsolete lighting installations from 1980 or 1990, which offer little comfort and are highly inefficient to boot. On the other hand 24/7 use of lighting results in the savings potential being huge. The hospital in Rivoli is a member of a hospital group and was used as a trial project to assess what a switch to LEDs would look like in practice. Luca Bonadonna, electrical engineer specialised in new, energy-efficient technologies and energy manager within the organisation, supervised the project: "After an energy audit in the past year we have sought an innovative and energy-efficient LED alternative. The result exceeds all of our expectations."

High requirements

An extensive analysis and selection phase preceded the renovation. "Our goals were very ambitious: it had to be a technically high-quality LED solution, which excelled in both comfort and efficiency, within a clear-cut budgetary framework," explains Luca Bonadonna. The ETAP solution was able to convince across the board: the U7 luminaires with LED+LENSTM technology satisfy the requested photometric performance, meet the most stringent visual requirements (UGR < 16) and are categorised in the lowest photobiological safety class (GR 0). "It was a conscious choice based on not only the high technical qualities of the product but the eye-catching design as well. And not least because we could count on a thorough and professional support from ETAP during the preparation and the implementation of the project."

Major savings

The achieved savings are particularly convincing: annual energy consumption for lighting dropped from 390,000 to 94,000 kWh, which boils down to an energy saving of 75%. "A combination of factors lies at the basis of these savings: the luminaires themselves are particularly energy-efficient and are furthermore fitted with integrated daylight sensors. The latter ensure that the light is dimmed as much as possible during the day, which allows us to make major additional savings,"

The integrated daylight sensors ensure that the light is dimmed as much as possible during the day, which allows to make major additional savings.

according to Luca Bonadonna, "also the fact that we no longer have to replace defective fluorescent lamps makes a significant difference, both in terms of maintenance costs and comfort."

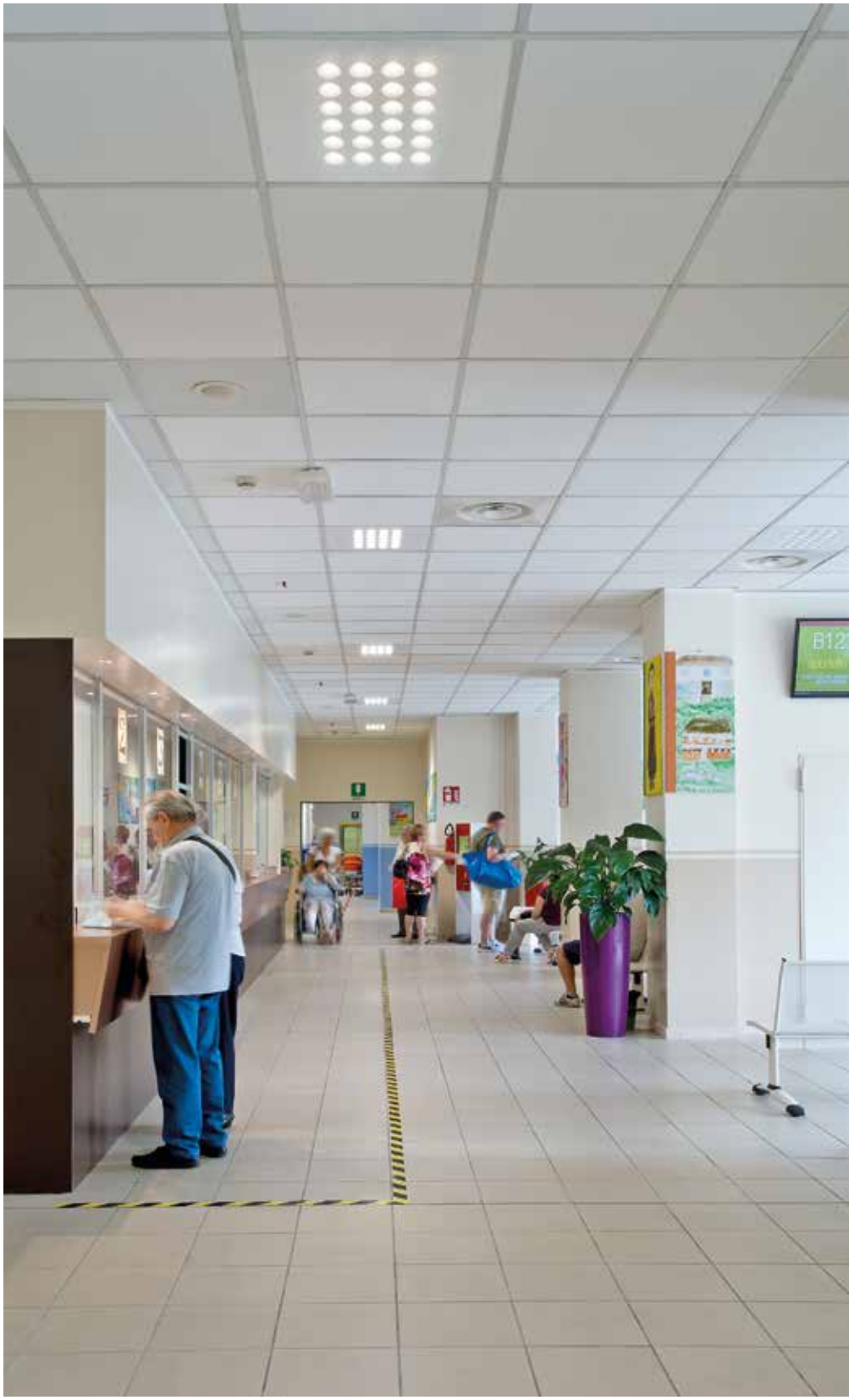
"The new LED lighting surpasses all of our expectations and is very positively received by both staff and patients."

Luca Bonadonna

Short cost recovery period

U7 luminaires excel with their high efficiency (110 lm/W) and low depreciation (97% Lamp Lumen Maintenance after 50,000 burning hours), which allows for the number of luminaires to be installed to be reduced to a minimum and still achieve the required luminous flux over time. "The arguments to opt for a high-quality LED solution were particularly convincing: the high efficiency combined with savings due to the daylight sensors resulted in a cost recovery period of barely 1.2 years. This left little space for doubt."

After this successful trial project in Rivoli it will shortly be the turn of the neighbouring hospitals.



LEDs are still in full development

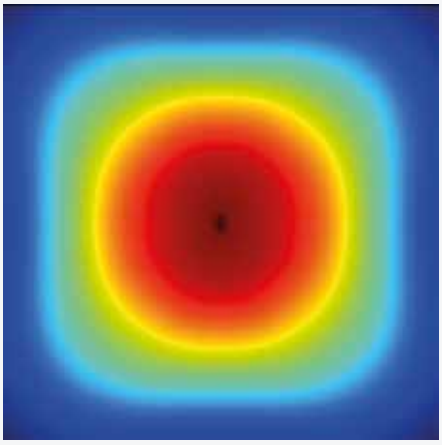
No time to stand still

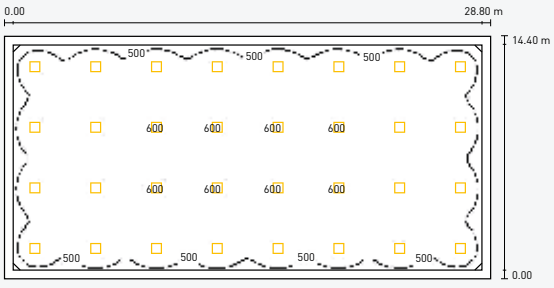
LED technology is still in full development and the efficiency of the new LEDs that hit the market keeps on improving. "In practical terms this means more light with less power," according to LED specialist Gert Huysmans. "Obviously we aim to share these improvements in efficiency with our customers. And regular updates are critical to do so." Recently we even introduced the latest generation LEDs in the U7/R7 series.


D4

NEW LENS TYPE FOR U7/R7

In the U7/R7 series, a new lens type will be available with extreme wide-angle, square light distribution. As a result, large spaces such as open-plan offices can be illuminated using fewer luminaires.


The new lens ensures extreme wide-angle light distribution.



The wide-angle lenses allow to illuminate a space measuring 14 x 29 metres with only 32 luminaires with a lighting level of 500 lux for installed power of 0.75 W/m²/100 lx.

ETAP keeps its finger on the pulse of developments in the area of LEDs. "We are regularly sitting at the table with the manufacturers to discuss their roadmap and prospects," Gert Huysmans explains. "For each efficiency increase of approx. 10% we typically feel the time is right for a luminaire update." In practical terms, the last major updates date back to 2014. That time has come once again.

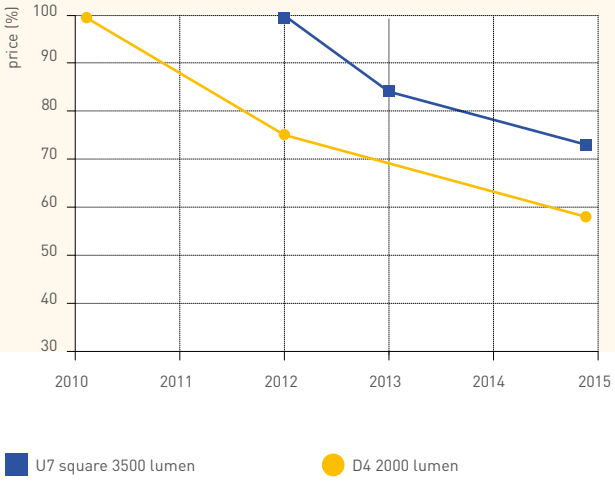
From 110 to 125 lm/W

The efficiency of LEDs is expressed in lumen per Watt. "Whilst we achieved a specific luminous flux of approximately 110 lm/W in luminaires with the previous generation LEDs, we are now going to 125-130 lm/W on average with the latest generation we are currently introducing," Gert Huysmans states. "This increased efficiency also has a positive impact on power consumption, in other words: less consumption for the same light output."

Dissipating heat more efficiently

This improved efficiency has another important consequence. "The efficiency and service life of LEDs highly depend on heat dissipation," Gert Huysmans explains. "Due to their higher efficiency, the luminaires are able to convert more power into light instead of heat. As a result the specifications for the drivers and materials we use for thermal insulation can also be lowered, which decreases the cost of the luminaires."

ETAP PRICE EVOLUTION - LED LUMINAIRES



Our LED+LENS™ luminaires are from now on provided with the newest generation of LEDs and therefore 10% more efficient.

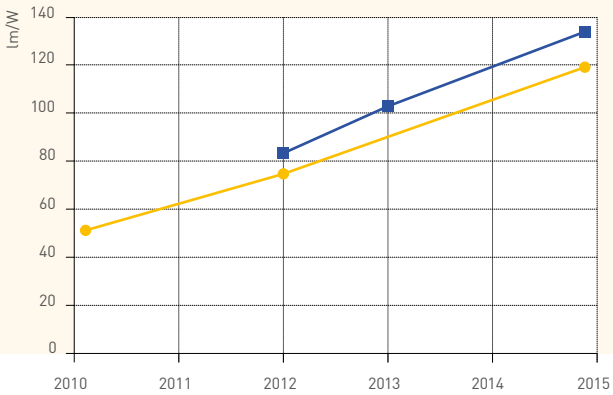
Is the end slowly in sight?

Yet is looks like we are slowly reaching the physical limits of what is possible. Gert Huysmans: "In the early days we saw that the generations succeeded each other a lot faster. However, we don't expect the evolution to come to a standstill right away. Presumably attention will increasingly be focused on light quality and colour rendition in coming years. Especially in the retail sector the demand is great for more dynamic and varied colours. New technology – such as chip-on-board – offers great potential."

New generation LEDs for D4 and U7/R7

In the LED+LENS™ luminaires – D4-downlights and U7/R7 – we switched to a new generation of LEDs, with a 10% gain in efficiency. Thanks to the simplification of thermal management and cost-effective drivers the price of the luminaires will also drop. Lastly, in our high-power LEDs we will switch to the single binning principle, which results in improved colour management of the LEDs. Since all high-power LEDs in a series come from 1 bin (3 SDCM), even for repeat orders.

EVOLUTION OF SPECIFIC LUMINOUS FLUX OF ETAP LED LUMINAIRES



[Further information at www.etaplighting.com]
downloads > brochures > U7/R7

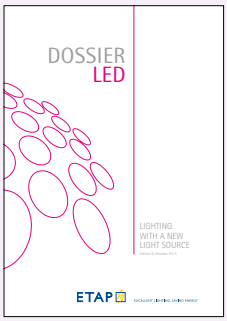
New publications

PRODUCT INFORMATION

Do you need technical product information on our new series? You will find everything in the supplement to our product catalogue. A product brochure is also available for each series, in which we fully explain the series.

SUSTAINABILITY REPORT

Every two years you can read which efforts ETAP has made in the area of corporate social responsibility. Sustainability impacts many levels: production processes, product development, personnel policy, environment, etc. We are happy to share our concrete objectives, actions and results with you.



LED DOSSIER

LED lighting – better established than ever – remains a complex matter. In our dossier's sixth edition, we provide an actual state of affairs, we share new insights and answer questions on LED technology.

BREEAM-LEED

Would you like further information about sustainability certification? Would you like to secure BREEAM or LEED certification for yourself?

We published two brochures in which you will find further information about these programmes and about the points you can earn with the help of ETAP lighting solutions.

You will find our publications on our website at www.etaplighting.com. Alternatively, request a paper copy from your ETAP advisor.

The LED diffusors fit in perfectly with the design of open and clean office spaces.

The perfect business card

The stylish showroom is illuminated by Flare-spots, a suspended Kardó light line and UM2 diffusors.

Food company Jermayo did not want to take any risks in the renovation of its office buildings. "Customers from home and abroad visit us on a daily basis. Our offices are therefore our business card and have to convey our corporate values of quality and innovation," according to business manager Johan Van De Velde.

Jermayo in Lier, Belgium, is a producer of sauces, salads and culinary dishes. The company grew from a small family business into an international concern with a turnover of 22 million euros. "It was therefore high time that our company premises followed this expansion. After the construction of a new production facility in 2007, we have invested 2 million euros in the renovation of our offices over the past 3 years."

Opting for quality and innovation

With its lighting, Jermayo put the cherry on the pie. Due to a prior successful collaboration they quickly ended up with ETAP. "The requirements were particularly high, both technically and architecturally. They resolutely opted for LED lighting throughout the building. A future-proof solution, which thanks to the energy savings and minimal maintenance in the longer term is also the right economic choice," states Johan Van De Velde.

Marc Bex of LABO architecten firm also looks back on the collaboration with satisfaction. "The solutions ETAP provided were fully in line with our design of open and clean office spaces. The rhythmicity of the LED diffusors in the ceiling, the continuous Kardó light lines and innovative, minimalistic K9 emergency lighting: lighting played an important part in the implementation of our vision."

Working comfortably in a bright lab, under U2 diffusors and a semi-floating Kardó light line.

The renovated Jermayo corporate buildings were completely fitted with LED lighting.

PROJECT DATA

CLIENT
Jermayo, Lier

ARCHITECT
LABO architecten, Diest

INSTALLER
Gijsels, Lier

LED LIGHTING:
- UM2 and U2 diffusors
- D3 downlights
- Flare spots
- R8 suspended luminaires
- Kardó light lines (suspended and recessed)

EMERGENCY LIGHTING:
- K9 signage
- K9-mini (anti-panic and escape route)

ETAP
EXCELLENT LIGHTING, SAVING ENERGY

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