LIGHTPOINT.

An ETAP publication | 2009-1

K7: new standard for LED based emergency lighting

KL: clear signage in large spaces

LEDs: facts & figures

www.etaplighting.com: your renovated source of information

ETAP
EXCELLENT LIGHTING, SAVING ENERGY

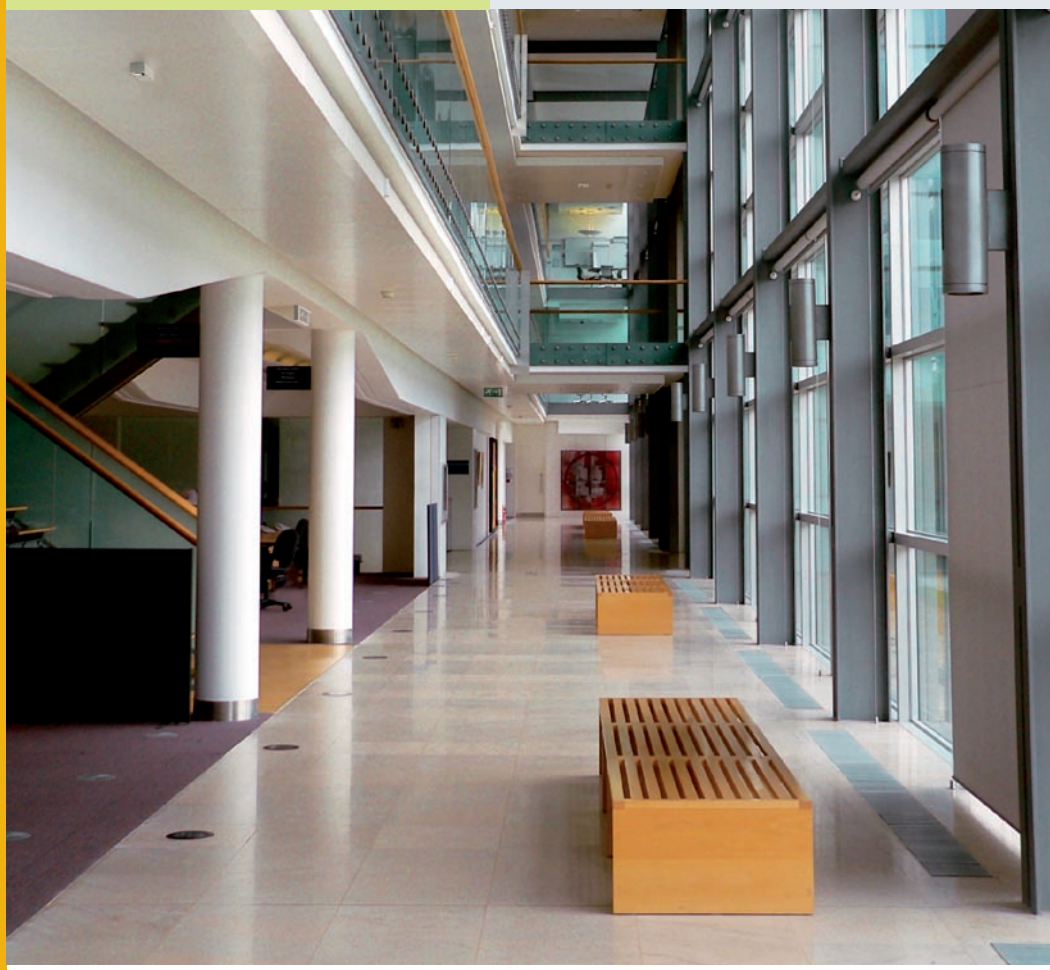
K7: new standard for LED based emergency lighting

ETAP's K7 provides your buildings with safe, reliable, durable and photometrically ingenious emergency lighting in a uniform style.
With K7, you fully exploit the major advantages of LEDs. This range covers luminaires for anti-panic and escape route lighting and signage.

Save maintenance and energy costs

Due to the high quality LEDs and the refined mechanical and thermal design, the LED light source of the K7 has an expected useful service life of ten years. This means the light source will rarely if ever need to be replaced.

Replacing the self-contained fluorescent luminaires with K7 LED luminaires allows you to reduce your energy usage by 70 %. For a system with a central power supply, this is 55 %.
Thus, the higher initial investment cost as compared to fluorescent lamps is amortized already after two years.



K7 signage and lighting for a uniform style in your project

The wide-angle lens for anti-panic lighting allows you to cut back on the number of luminaires

fewer luminaires with the escape route and light spot modules

Invest less for more safety

K7 lighting luminaires permit large spacing distances. The anti-panic lighting with wide-angle lens, mounted at 2.8m, lights a 118 m² floor surface with an illuminance of 0.5 lux. For escape route lighting, a reflector allows the luminaires to be spaced 13.5m apart with a mounting height of 2.8m. Detailed spacing tables can be found at our website.

Better recognisable signage

Clearly visible signage is indispensable in emergencies. A light guide and a dot matrix enables the K7 to distribute the light uniformly across the entire pictogram, resulting in increased recognisability and safety.

The signage luminaires can be fitted with an escape route module, thereby reducing the number of luminaires needed for illumination of the escape route to a minimum.
And the light spot module allows you to effortlessly obtain an illuminance of 5 lux on the floor below the luminaire. This is sufficient to distinguish level differences and crossings or to read the instructions on a fire extinguisher.

Anticipate future expansions

As your installation expands, the investment in a control system becomes increasingly relevant. With K7, this is possible without replacing the lighting luminaires: a separately available plug-in component allows you to simply integrate the luminaire into the ETAP Safety Manager (ESM) communication network.

Uniform style and technology throughout the company

K7 offers a suitable solution for all emergency lighting applications: escape route lighting, anti-panic lighting and signage. The luminaires are available as self-contained units or for use with a central power supply. Standalone with self-test, or linked up to the ESM central control system (wired or wireless). With a full range of mounting accessories for surface, recessed, suspended or wall mounting.

[MORE INFO: www.etaplighting.com]
brochure: downloads > documentation > brochures > "K7"
product data: products > emergency lighting > "K7"

Dot matrix and light guide for homogeneous illumination

KL: clear signage in large spaces

In large spaces, escape route signage must be clearly visible from afar and from all sides: examples include large halls, long corridors and intersections at airports, stations, exhibition halls, shopping malls, warehouses, etc. For this particular application, ETAP has extended its range with three large signage LED luminaires.

LEDs and environmentally friendly batteries

The KL luminaires optimally exploit the inherent qualities of the latest generation of LEDs, such as long lifespan and minimum risk of failure caused by light source defects. Moreover, LED luminaires consume less energy, which is an important consideration in maintained signage. Like all ETAP LED luminaires, the KL luminaires are powered by environmentally friendly NiMH batteries in emergency situations.

Increased safety

The refined photometrics result in an extremely uniform illumination of the pictograms. This makes the pictogram easily recognisable in emergency situations, in turn making it easier for occupants to locate the exit.

Range

In addition to ceiling mounting, a special accessory allows the luminaires to be used for wall mounting, end wall suspension or suspension by rods. The KL luminaires are available for application with a central power supply or for self-contained use and for connection to the ETAP Safety Manager (ESM).

[MORE INFO www.etaplighting.com]
product data: products > emergency lighting > "KL"

	Application	Dimensions: WxHxD (mm)	Recognition range as per EN 1838 (m)
KL7	Single- and double-sided signage	420 x 210 x 94	38 meter
KL8	Single- and double-sided signage	640 x 330 x 94	62 meter
KL9	Signage for crossings on the escape route	250 x 280 x 250	50 meter

Now with 5 year guarantee on emergency lighting

ETAP extends the guarantee period for emergency lighting products by one year to 5 years. For you, this means an extra year of security, and additional proof of the high quality of our products and service.

Guarantee backed up by quality

On May 1, 2009, the guarantee period for all newly delivered ETAP emergency lighting products will be brought from 4 to 5 years. The applicable terms will remain unchanged.

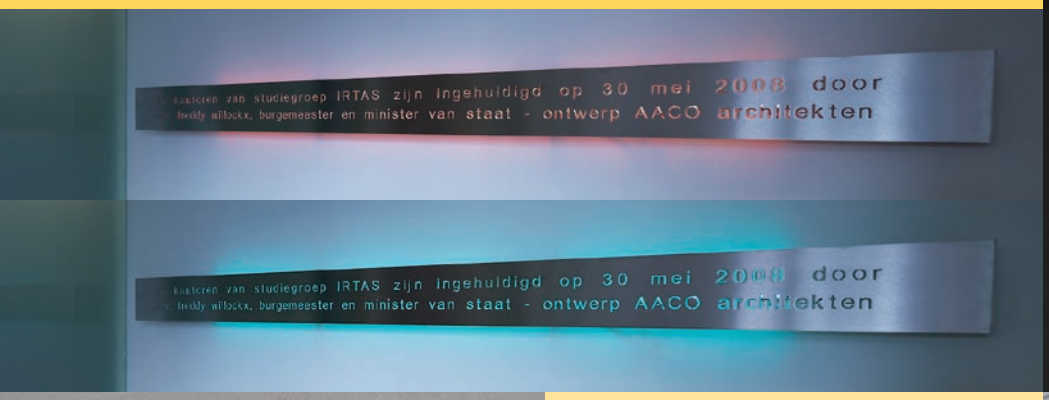
We can extend our guarantee as a result of our constant efforts to increase the reliability of the electronics used in our products. In the past years we have launched a programme to make our designs even more robust through intensive collaboration with component vendors of e.g. LEDs and batteries. Also in house we continue to invest heavily in test and measurement facilities for the extensive testing of products in the design phase and during production.

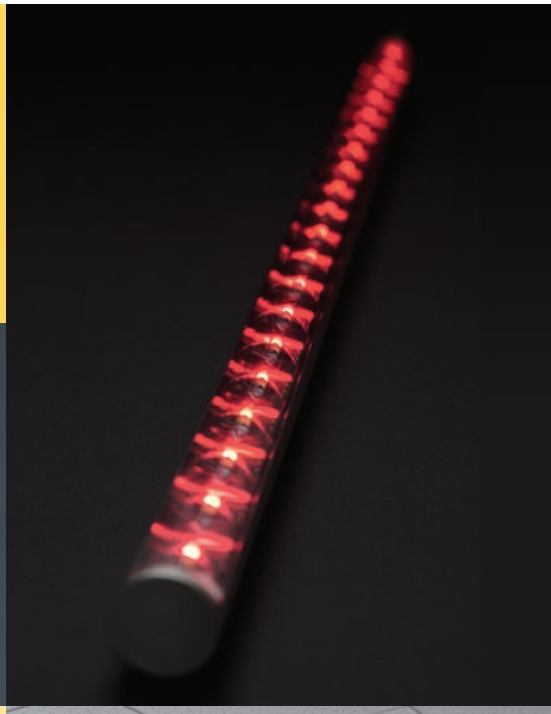
In the unlikely event that something goes wrong...

We also endeavour to constantly improve our service during and after the guarantee period. The professional team at our repair centre guarantees you swift replacement of any defective products. This quick ETAP replacement service, on top of the 5-year guarantee, is the ultimate guarantee for a perfectly operating emergency lighting system.

LED luminaires: energy-efficient accents make the difference

IRTAS, a design office for infrastructure, spatial planning and topography, was looking for an original eye-catcher for the entrance hall of their new building. And they found one, thanks to the capabilities of LED technology. A narrow RGB LED strip with integrated control system creates a subtle, varying colour pattern on the stainless steel nameplate. With their long life-time, compact dimensions and low energy consumption, LEDs are ideally suited for this type of applications.





The buildings of **Fontijne Grotnes**, a Dutch designer and manufacturer of specialised machinery, have received a thorough renovation. ETAP did both the general lighting and the accent lighting.

Milky-way LED spotlights add an extra accent to the paintings on the walls. These orientable spotlights use up to 25 % less energy than conventional halogen spots.

LED spotlights are also used in the cloakroom and toilets as an energy-efficient alternative. Here, Croon Elektrotechniek installed the DIPP9, a fixed LED spotlight with minimal mounting depth.

E1: because LEDs love the cold

The industrial luminaire with high protection degree E1, fitted with LEDs, finally provides you with an energy-efficient lighting system for cooling and freezing areas. Unlike fluorescent lamps, LEDs are insensitive to the cold.

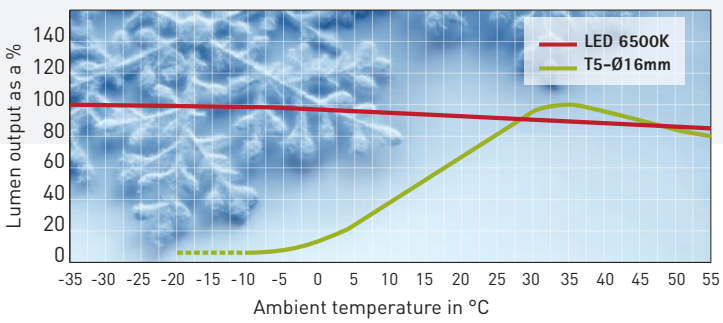
E1 with LEDs has a very narrow-angle reflector.

Fluorescent lamps attain their maximum luminous flux at ambient temperatures of 25 to 35°C. The luminous flux rapidly decreases at higher and especially lower temperatures. The lamp also takes longer to reach its optimal service temperature and luminous flux. This may take up to 20 minutes or more at temperatures of -20°C and lower. Even then the luminous flux will be 20% lower than the maximum luminous flux at 'normal' ambient temperatures. To provide a proper and energy-efficient solution for use in these conditions, ETAP has developed the E1 with LEDs, an industrial luminaire that is equipped with LED lamps.

Instant maximum efficiency

LEDs like to keep it cool: they function optimally when they have sufficient cooling, which is hardly a problem in cooling and freezing areas. This E1 luminaire is equipped with 48 LEDs of 1.2W. Because we limit the current, the LEDs retain their high efficiency and have a lifespan of approximately 50,000 hours. The luminaire has a power consumption of 64W and produces a luminous flux of 4300 lumen. A LED does not require warming up, so the luminous flux is available immediately after powering up, which cannot be said of fluorescent lamps at low temperatures.

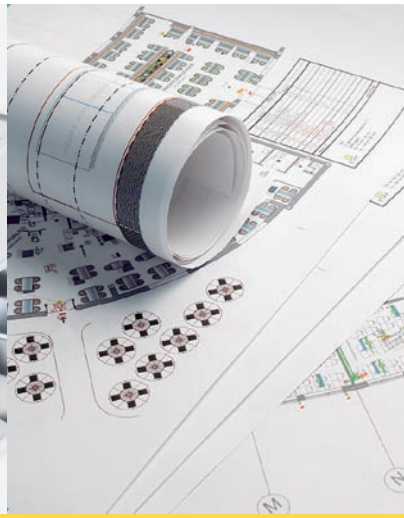
E1 with LEDs has a very narrow-angle reflector, which makes it eminently suitable for the lighting of cooling and freezing stores with high shelves. The luminaire has protection class IP65, so that moisture is not a problem.



Excellent lighting, saving energy

ETAP aims to produce luminaires that combine minimum energy usage with maximum lighting comfort. Our strategy to minimise energy usage is built around the four steps illustrated opposite. We constantly endeavour to improve our performance in this area.
That is why we are proud to present two new developments: the standardisation of HRSilver™ in our reflector luminaires and the possibility of using DALI in combination with ELM, the light control system from EXCELLUM.

Step 1: energy friendly luminaires



Step 2: ingenious lighting designs

HRSilver™

A new generation of relector aluminium

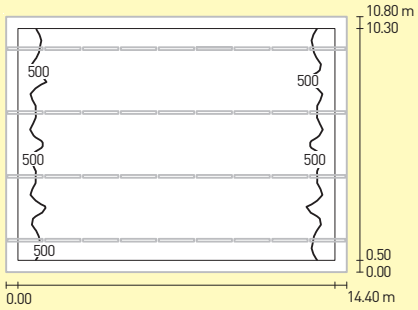
Energy-efficient luminaires are a first important step towards saving energy. In 1997 ETAP was the first to standardise HRA (High Reflection Aluminium) in its luminaires. We now take this development another step further: in the course of 2009 our reflector luminaires will be equipped with HRSilver™ aluminium.

Higher efficiencies, lower consumption

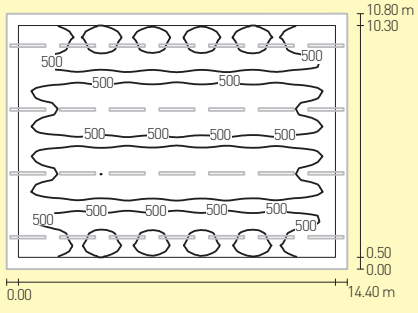
HRSilver™ aluminium has an extremely high reflection factor (98 %). As a result, HRSilver™ reflector luminaires have a considerably higher efficiency, allowing you to save more energy. Higher efficiencies, in combination with ingenious light distributions, in fact translate in fewer luminaires and/or lower lamp powers. Luminaires don't come more economical than that.

[MORE INFO: www.etaplighting.com]
brochure: downloads > documentation > brochures > "HRSilver™" & "Excellent lighting, saving energy"

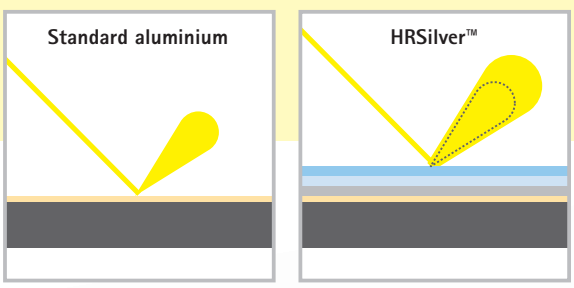
Example: Open-plan office with lighting strips



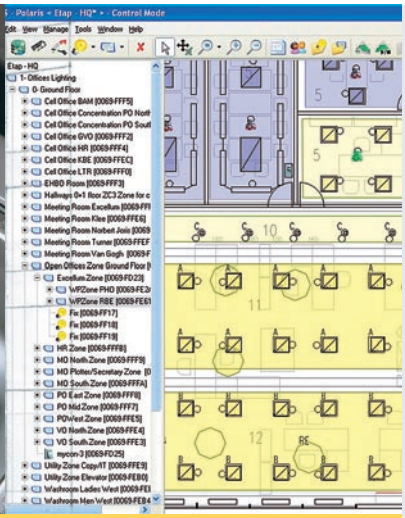
reflectors with standard aluminium
lighting level: 500 lux
36 luminaires, 1x35W



reflectors with HRSilver™ aluminium
lighting level: 500 lux
28 luminaires, 1x35W
saving: 22%



2 reflection strengthening layers
purest silver
bonding layer
base material



Step 3: light control per luminaire or per room

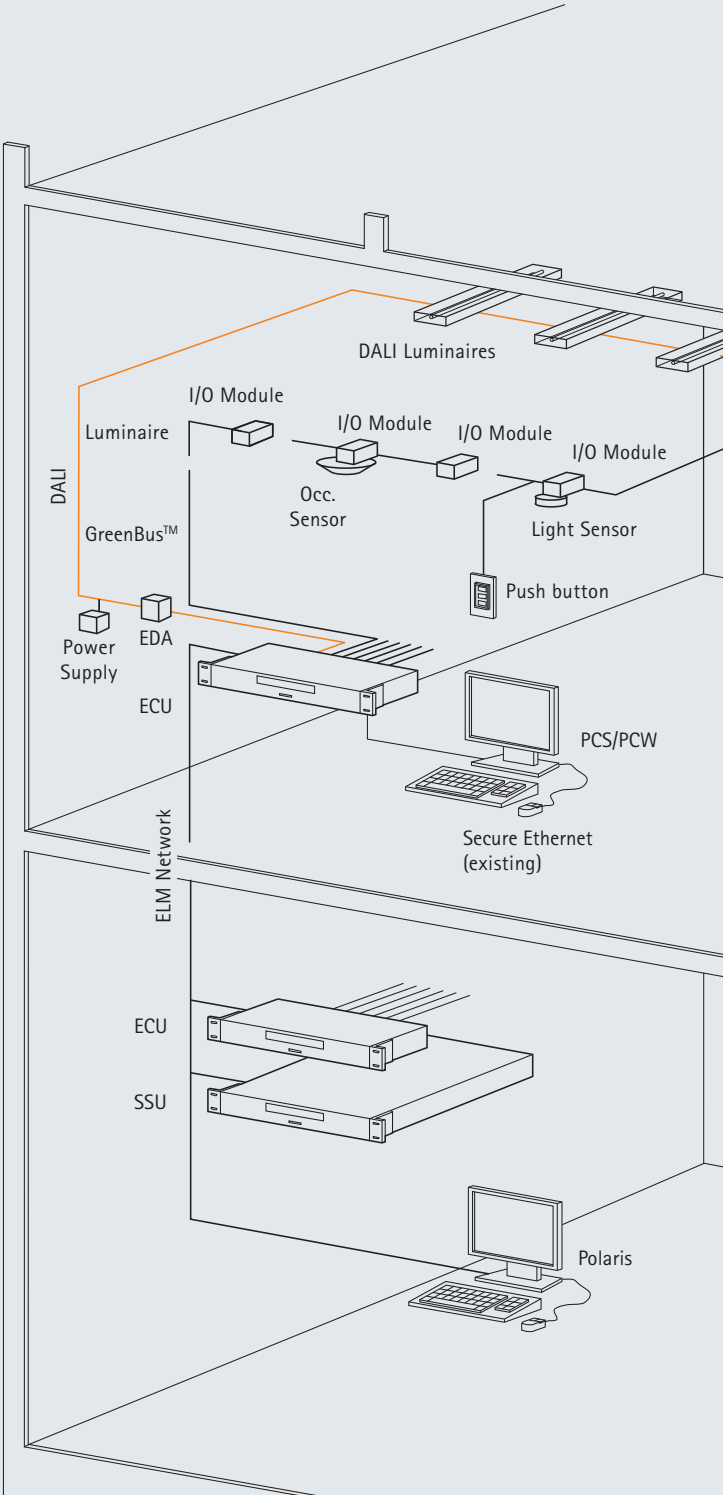
Step 4: light control at building level

ELM now also with DALI

The Energy & Light Manager (ELM) of EXCELLUM is a unique addressable light control system, designed from four core objectives: extraordinary energy savings, optimum lighting quality, simplicity in design, installation and use, and a short payback time.
ELM is the only light control system that simultaneously applies six different strategies for energy management to achieve maximum energy savings in a building.

It is now also possible to control luminaires with DALI ballast (Digital Addressable Lighting Interface) via ELM. This further facilitates installation, in combination with all the benefits of ELM.

[MORE INFO: www.etaplighting.com]
brochure: downloads > documentation > brochures > "ELM"



EXCELLENT LIGHTING
SAVING ENERGY

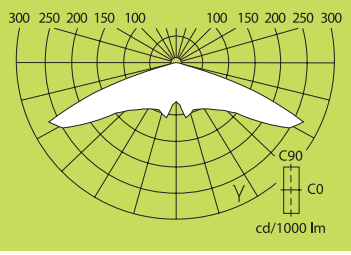
LEDs: facts & figures

First generation of indicator LEDs

Guide

K9

LEDs were those minuscule lamps that were originally used for indication purposes. However, technological progress made them also suitable for lighting. What is the performance of today's LEDs, and how do you design an efficient LED lighting system?



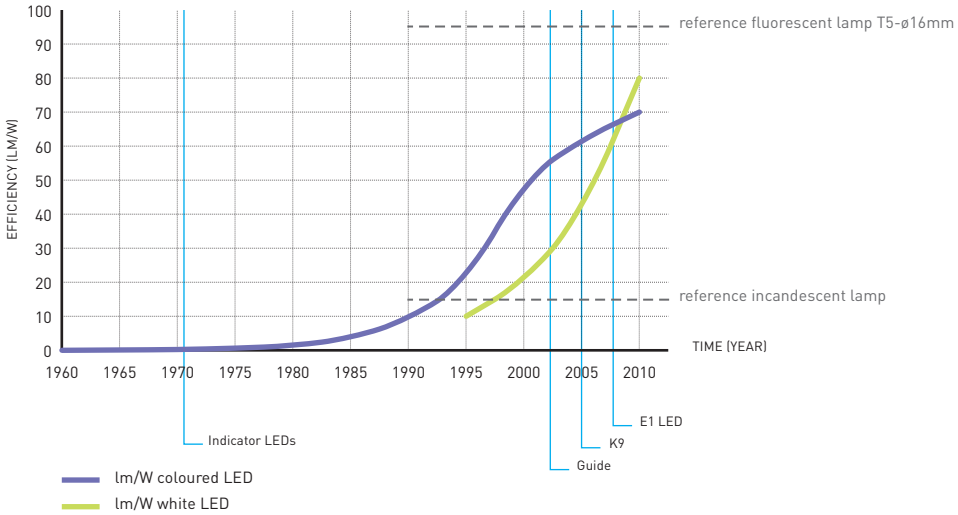
Colour of LED light

The semiconductor materials used for LEDs convert electrical energy into electromagnetic radiation in the visible spectrum, i.e. light.
The colour of the light differs according to the materials from which the LED is constructed. White LEDs use phosphor powders to convert the (mainly blue) radiation into white light. The choice of the phosphor determines the colour temperature of the light. Warm white LEDs have a colour temperature of around 2500 K, cold white LEDs a temperature of over 6500 K.

Light power

Under lab conditions, today's high power LEDs achieve light outputs of up to 100 lumen per watt. This does, however, require a tight control of the internal temperature (junction temperature). Today, 50 to 80 lumen per watt is already quite excellent. In lighting luminaires, the power of a single LED (up to 5W) is still many times lower than that of other light sources. Today's commercial LEDs produce a total luminous flux of maximum 200 to 300 lumen. That is why multiple LEDs are needed per light point.

LED evolution: lm/W (use in lighting luminaires)



E1 with LED

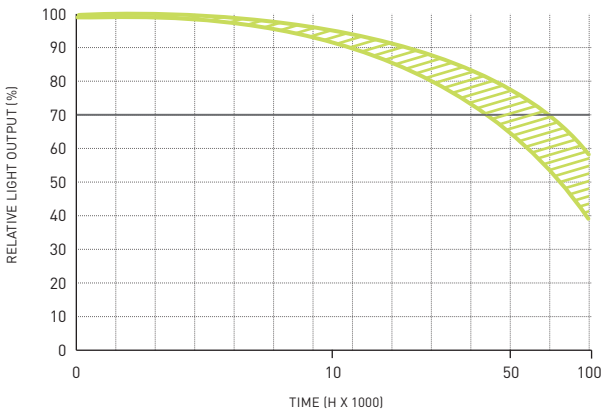
Light distribution

Most LEDs have a wide light distribution and emit light at an angle of 120°. Narrow intensity distributions (15°, 35°) are also available. Secondary optics (lenses, diffusers, reflectors) can be used to obtain specific light distributions. An appropriate light distribution is important to minimise the number of LEDs and therefore also the number of luminaires and energy usage in any given application.

Lifespan

LEDs last up to 100,000 hours in ideal conditions, but their lifespan is greatly influenced by the internal temperature. A total of 50,000 hours can be realistically expected in 'normal' conditions, provided proper electrical control and heat dissipation are present. The light output of LEDs does, however, decrease in time, up to -30% at the end of its lifespan, it is assumed.

LED lifespan



Design of LED luminaires: a challenge

Designers of LED luminaires thus face multiple challenges. They have to select the proper LEDs for the relevant application. Power, light output, colour temperature and half-value angles are all important parameters. Design and integration of optics ensures the required light distribution. The heat management of the LED luminaire will determine its performance. The LED luminaire should also have an aesthetically pleasing appearance. Quite a challenge, but that's how we like it at ETAP.

[MORE INFO: www.etaplighting.com]
white paper about LEDs in emergency lighting: downloads > documentation > brochures > "LED lifetime in practice"

Architectural project in the heart of the city

The new mediatheque of Bourg-lès-Valance is part of a large-scale urban development project launched by the municipality. With this project, it seeks to develop and redesign part of the centre, in the vicinity of the Town Hall.

The mediatheque is a design of Ludovic Viguet and Enri Chabal from Chabal Architectes, a leading architects firm. The engineering design was entrusted to Olivier Berger from Meylan-based design office CET. The entire project was supervised by Bruno Gallot from the municipal department of Heritage & Energy.

Chabal Architectes

GREENLIGHT

The building, with a net surface area of 1500 m², was deliberately kept low to preserve the view of the Ardèche's mountain ridges. Inside, a central section ensures that all rooms around the atrium are interconnected. The busiest rooms (reading café, exhibition and animation rooms) are oriented to the south, thereby highlighting the urban aspect and reinforcing the link between the mediatheque and the district. The rooms housing books, DVDs, etc. and the reading rooms are oriented to the north and open out to the garden.

The project

First of all, the lighting solution had to offer proper lighting that combines visual comfort with lower energy usage. In addition, the system had to be maintenance friendly, while at the same time blending in with the minimalist architecture.
The design of the luminaires was carefully taken into consideration from the outset of the project, so they could be perfectly integrated into the different ceiling types.

The solution

An illuminance of 500 lux is required in the reading rooms, 400 lux in the reading café and the exhibition and animation areas, and 300 lux in the public entrance, the entrance hall with information desk and the central section.
In order to obtain this result and to simultaneously reduce power consumption, the city opted for ETAP reflector luminaires. The use of UT18 and U1 luminaires together with D1 and D3 type downlights allowed the installed power to be reduced considerably.

The result

Compared with the classic solution of the tender description, the mediatheque now saves 33 % on energy usage and maintenance costs. What is more, this cost saving does not go at the expense of the result. On the contrary, the 500 lux illuminance is maintained, resulting in improved working conditions and safety, even though the power amounts to only 2,68 W/m²/100 lux. The quality of the reflectors of the ETAP luminaires substantially adds to the visual comfort, which constitutes a very important factor in this type of building.

The lighting in this building fully complies with the latest requirements, and has been awarded the GreenLight label.

EXCELLENT LIGHTING
SAVING ENERGY

PROJECT DATA

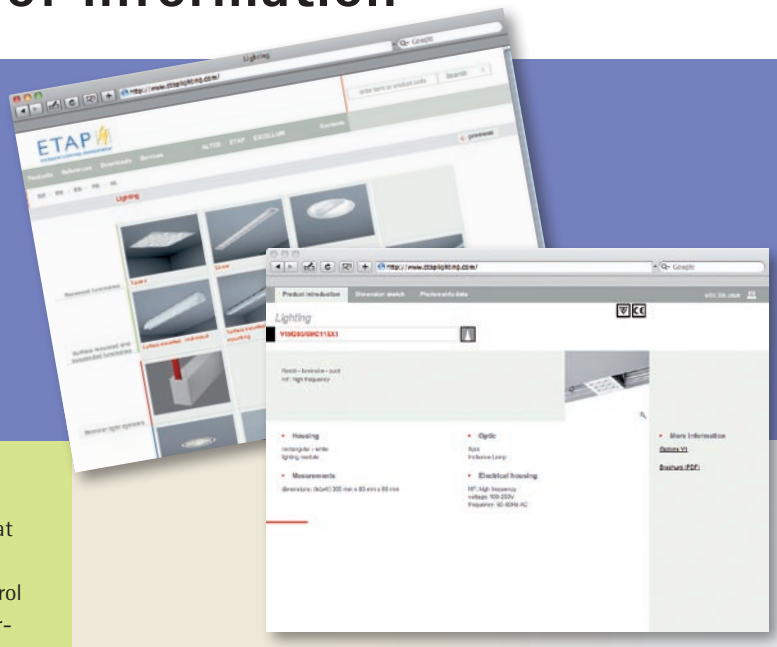
36 x UT18 and U1 recessed luminaires
48 x D12 downlights
234 x D3 downlights, square
3 x FA5 wall luminaires
13 x K1 emergency lighting for lighting
20 x K5 emergency lighting for signage

power: 2,68 W/m²/100 lux
saving: 33 %

Chabal Architectes

www.etaplighting.com: your renovated source of information

Detailed, accurate and easy-to-find information: that was the main objective when we set out to renovate our website. The result, packed in a beautiful design, can be viewed at www.etaplighting.com.



On the homepage you will find the latest ETAP news. The buttons at the top will take you to the various product groups: ETAP lighting and emergency lighting, ALTER Softlight and EXCELLUM light control systems. The website also contains a large amount of product information, interesting downloads and an overview of cool references.

The right product information in no time

Via the range overview you can click through to the product data sheets, which contain various tab pages with very detailed information:

- technical features (housing, dimensions, optics, lamp type ... electrical equipment, etc.);
- dimension sketches;
- photometric data (efficiencies, luminous intensities, classifications, UGR (Unified Glaring Rate), luminances).

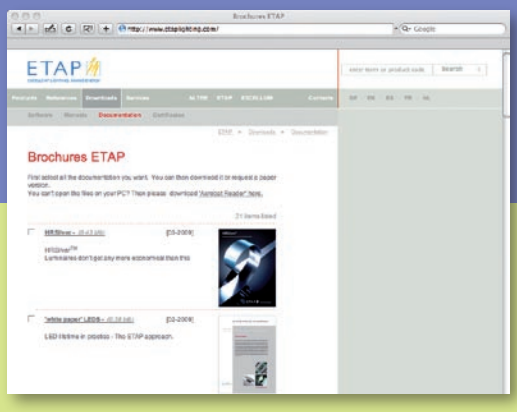
You can also download photometric files for your light calculations. In addition, there are various links to specifications, options and accessories, manuals, brochures, etc.

New catalogues

A new edition of our Emergency Lighting catalogue was released in early 2009. It contains all essential information such as detailed dimension sketches, spacing tables, code overviews, etc. But because ETAP continues to innovate, you can already download a supplement to the catalogue on our website. This supplement includes the latest luminaires, which we already presented to you in this Lightpoint. These two catalogues provide you with a complete and detailed overview of all our emergency lighting products and their technical specifications.

We have also updated the LDI catalogue, which contains our decorative LED luminaires. All information relating to luminaires, drivers, etc. has been bundled per series, to make ordering even easier.

You can also download this catalogue from our renovated website www.etaplighting.com in the section 'downloads'.



Viewing online is good, downloading even better

Software, manuals, documentation and certificates are available online. You need an image of a luminaire? No more scanning – just download the image with a single mouse click. In our ETAP Lighting catalogue, a 'web ref.' number is mentioned alongside the images, meaning that they are now also available in digital format.
Or perhaps you need a recent brochure? All our printed documentation is now also available in PDF on our website. You can also subscribe to our newsletter and/or mailings to keep up to date on the latest news.

ETAP is nearby

If you have any further questions, please do not hesitate to contact ETAP. All data and the route description can be found at www.etaplighting.com. Be sure to add it to your bookmarks!

New DIALux plug-in

Our new products can also be found in the updated version of our DIALux plug-in, which you can download from our website (downloads > software: DIALux).
Alternatively, you can use our online plug-in. For each product, you will find the DIALux ULD file in the tab "photometric data". Click and drag this file to add the product to your project.

DECATHLON: Enjoying sport with the environment in mind

DECATHLON is a multinational specialized in designing, creating and distributing sports articles.

Ever since it was founded in France in 1976, the company's philosophy of giving as many people as possible access to the pleasure of sports has been the point of reference for the in excess of 40,000 employees and the well over 400 shops spread across more than 15 countries. There is no denying that, in Spain, with its 66 shops and 5 logistics depots, which give employment to well over 10,000 people, the expansion of Decathlon shows no signs of abating.

In its new Spanish shops in San Antonio de Benagéber, Calatayud and Huelva, ETAP has joined forces with Decathlon to provide a new lighting solution which combines aesthetics with energy efficiency.

In the 8,300 m² shop of San Antonio, Valencia, for instance, ETAP supplied 754 E320/258HFW luminaries with ELS (ETAP lighting control system) sensor which regulate the levels of artificial light in function of the natural light, as well as 182 asymmetrical E360/158HFW.

By winning the GreenLight Award – an award the EU confers on companies implementing energy-saving measures in their buildings - for these 3 new centres, DECATHLON Spain has become a fully-fledged Partner of the GreenLight programme.

BEFORE		THE ETAP SOLUTION		
Lighting in the retail area 1x58W	Perimeter lighting 2x58W	Lighting in the retail area 2x58W	Perimeter lighting 1x58W	
				Calculation of consumption
2,034	182	754	182	Number of luminaires
111.87kW	19.47kW	80.68kW	10.01kW	Consumption in kW
131.34kW		90.69kW		Total
40.66kW				SAVING MADE
31%				in %

ETAP
EXCELLENT LIGHTING, SAVING ENERGY

ETAP Lighting, U.K. Branch
Unit 6 – Windsor Business Centre – Vansittart Estate – Windsor
Berkshire SL4 1SE
Tel. + 44 (0) 1753 829970
Fax + 44 (0) 1753 859208
enquiries@etaplighting.com
www.etaplighting.com

ETAP Export Department
Antwerpsesteenweg 130
B-2390 Malle - BELGIUM
Tel. +32 (0)3 310 02 11
Fax +32 (0)3 311 61 42
export@etaplighting.com
www.etaplighting.com