

THE ORIGINAL

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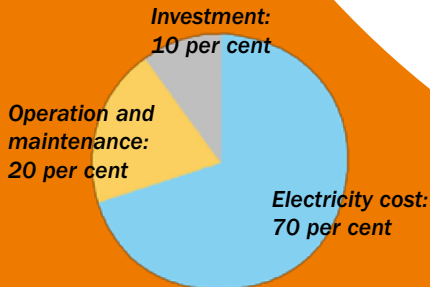
Aura is based on an idea that is today more relevant than ever. To make lights that can be considered more as fixed installations than consumables must be good for the environment and our customers’ economy. We call this *eco lighting economics* but it is really just common sense. Who wants to change and throw away 12 billion lights every year, globally, for no reason what so ever?

However, it is not easy to make lights of this quality. For the last 28 years we have continuously worked on enhancing our quality and production facilities to ensure that when you buy an Aura Long Life product you get the best light than can be produced.

The last years have been fantastic for Aura; continuous steady growth, a vastly extended range of Long life products which now contains over 700 products and establishment of subsidiaries across the world.

This year we have set up offices in Spain, Denmark and Singapore. New distributor agreements have been settled for Greece, Bulgaria and the USA. We have expanded our sales force to 70 people across Europe. All this, to ensure that we are able to serve and respond to you, dear customer, and your specific light needs.

We are proud to have invented Long Life Light and to produce only the best light products. As we are the original, we have decided to include this in our company logo. Our latest product range of TCS and TCD are a great success. We intend to keep launching new and exiting Long Life products because we care about the generations to come. The best way we can do so is through providing light products that are both more economical for you and also a way to a more sustainable society



There are strong economic reasons for replacing an older lighting system with a new one with more modern technology. The cost of electricity for an older system constitutes a full 70 per cent of the total cost of lighting,

seen over a twenty year period. With a modern lighting system, the electricity costs can often be reduced by 70-80 per cent. As a rule, the investment in new lighting repays itself in 2-7 years. Read more on page 6!



Aura Long Life lighting up hospitals throughout the region

Sundsvall Hospital, with its 250,000 m² of floor space, is the county hospital in Västernorrland County, north Sweden, and has been in operation since 1975. Roine Backlund is unit manager of the electrical department at Landstingsfastigheter, a service unit within the county council. Previously, light sources were purchased from several wholesalers, including Aura. Then, in March 2006, an agreement for all light sources was entered with Aura. Roine was involved in the negotiations together with unit managers from the hospitals in the cities Sollefteå, Härnösand and Örnsköldsvik. The competition was tough, and many electrical wholesalers submitted tenders, hoping to offer the lowest price. And price was the determining factor, tipping the balance in favour of Aura.

Which Aura products do you use?

– Long Life fluorescent lamps; Supreme and Ultimate. We decided on Long Life a year ago. We also use increasing

numbers of compact fluorescent lamps. There are some 50,000 fluorescent lamps at Sundsvall Hospital alone, and if we include the health centres and dental clinics in the region, which we also serve, then we're talking about 70,000–80,000 fluorescent lamps. Add to this the hospitals in Sollefteå, Härnösand and Örnsköldsvik, and that number is doubled.

How much do you save by using Long Life?

– During the total lifetime we save nearly € 400,000. There are also several other factors that come into play. In places such as operating theatres, for example, the lighting must always work. It's so important for the light to work at all times that if a fluorescent lamp fails, the staff on call can be asked to come in. Naturally, such out-of-hours replacements are very expensive. Every postponement that can be made represents a valuable financial saving. Then there are fewer of us working, and retired employees are seldom replaced. Twenty years ago, replacing fluorescent lamps was a fulltime job. That's not the case anymore. Reducing costs it also important to our customer, the county council.

– To set a good example by thinking of the environment is also very important.

The Janitor Box

– yet another way to save energy

At the Light+Building fair in Frankfurt Aura launched its new Janitor Box. The idea behind it is obviously to save energy, both locally and globally. In the lighting industry the focus has been on filament light bulbs, and these of course are very inefficient. One way of obtaining more from a lighting installation is to replace it with low energy lamps, which only use 1/5 of the energy to achieve the same amount of light.

THE ORIGINAL has been talking to Lennart Abramsson, Product Manager at Aura. He is very satisfied with this product that makes it easier for customers to save energy.

Lennart, can you tell us a bit about the Janitor Box?

– Its predecessor was a service box for Long Life bulbs only. Because it was greatly appreciated by the people who changed the bulbs, such as technicians and caretakers, we wanted to produce a box for low energy lamps as well.

– The new box is light and easy to carry around. You just take out a new lamp and put the old burnt out lamp in its place. One of its major benefits is that you can easily see

the number of new as well as used bulbs. You can put both ordinary filament bulbs and fluorescent lamps in it, and so have all your lamps and bulbs together.



To make transport as smooth as possible, the handle comes folded in on delivery.

What happens when you have to recycle the box?

– Because the box is made of paper, it is easy to take to the recycling point. It is also easy for the recycler, as the box is easy to open and sort.

What lamps are in the boxes?

– At the moment the boxes come in two versions: one with 11 Watt and one with 15 Watt lamps, both with E27 Edison screws. They replace 60 Watt and 75 Watt filament bulbs, respectively. Each box contains low energy lamps of energy class A, in other words, the highest class. The boxes can of course also be used in the home.

For more information on the Janitor Box, please contact your Aura sales representative.

**Now it's easy
to make a
good choice!**



Aura has a symbol for Long Life. The figure in the symbol shows how many times longer the product lasts compared to standard light sources. If you select light sources with the Aura symbol, you maximise service life and minimise impacts on the environment.



It was as long ago as 1987 that Aura first made contact with Helsinki City Transport. Initially some fluorescent lamps were trialled on a small scale at the Hakaniemi metro station. Since the results were satisfactory, this was continued on a larger scale.

Helsinki City Transport has used Aura products for 20 years

The traffic in Helsinki, Finland, is an important environmental factor. The Metro and trams emit no emissions and the buses have converted to low emission diesel and natural gas. Helsinki City Transport has three bus depots, three tram depots, a metro depot and 17 metro stations. In total, in its properties and metro tunnels, there are between 20,000 and 30,000 fluorescent lamps. Aura Long Life is used for lighting in all of them.

Bengt Österholm, you're an electrician with Helsinki City Transport, why did you choose Aura Long Life?

– It had a lot to do with their long service life. Not having to replace the lamps as often meant that we could save a lot of money that would otherwise have been spent on service and maintenance.

How much do you save by using Long Life?

– It's difficult to say, but approximately the annual cost of labour for two people, which for us comes to around € 70,000. Money that we would rather spend on other maintenance work!
– Due to the traffic, the replacements are made in the tunnels at night, and this of course results in an increase in personnel costs. We try to carry out a lot of the replacement work in summer, as we then have younger employees on summer vacation work on site. This has the advantage that their wages don't cost as much.

Are you going to continue using Aura as a supplier?

– Yes. We have been using Aura for many years and we are very satisfied. Aura meets all of our expectations, in that we have considerably lower costs and we have effective lighting. Everything works well, so there is no reason to go for anything else. Many other suppliers have shown interest in selling us their fluorescent lamps, but so far no one has been able to match these products.

Fewer fluorescent lamp changes clearly result in a healthier environment. Did this also affect your choice?

– Yes, of course, this also affects it. By law, old fluorescent lamps have to be recycled, and it is the company itself that must take them to the recycling points.



Revise your lighting system

– benefit both your company and the environment

McKinsey, the management consulting firm, works with companies, governments and organisations from around the world. In 2007, they compiled the “A cost curve for greenhouse gas reduction” report, which is a global study of both the impact and the cost of different ways to reduce CO₂-emissions. They claim that the modernisation of lighting systems is one of the most effective ways, both when it comes to reducing CO₂-emissions and the company’s energy costs.

Replace fittings and control systems

90 per cent of the environmental impact of lighting comes from energy consumption. If all companies were to change to modern fittings, light sources and control systems, we could save 4.2 TWh in Europe. This is the equivalent to a reduction in total CO₂-emissions by 1.8 million tonnes (which, in turn, is the equivalent to 12,500 return flights between Stockholm and New York). This is because a 10-15 year old lighting system uses three times as much energy as a new system. Up to 80 per cent of energy can be saved by replacing a 30 year old system! Investing in new lighting is therefore one of the most profitable ways of reducing both CO₂-emissions and your costs.

Today, there are fittings with better reflectors making it possible to direct the light better and making sure the light does not stay in the fitting. New control and regulation equipment means that light can be made available when and where it is needed and, in that way, fewer fittings/m² are required. Newer light sources also have a higher degree of efficiency, which means that they consume less energy in order to produce the same amount of light. A further benefit for the environment is that 90 per cent of all old fittings and light sources are collected and recycled by the manufacturers. Since the new lighting lasts longer, even fewer lamp replacements are required and, as a result, even less environmentally dangerous waste will be produced in the future.

Choose energy-saving light sources

Low-energy lamps use considerably less energy than incandescent lamps. For example, if 1,000 normal 40W incandescent lamps are replaced with 7W low-energy lamps, over 300,000 kWh and over 67,500 Euros will be saved in reduced electricity and replacement costs per year. Since low-energy lamps have a lifetime that is 15 times longer, they do not need to be replaced as often either.

By choosing modern T5 fluorescent lamps, up to 25 per cent can be saved on energy consumption compared to the equivalent standard fluorescent lamps in the T8 format.

Use Long Life light sources

By choosing Long Life light sources, only a third as many light sources need to be manufactured, transported and recycled. This means huge benefits for the environment when it comes to raw material, packaging and CO₂-emissions as a result of transportation. If 1,000 standard fluorescent lamps are replaced with 1,000 Long Life fluorescent lamps, CO₂-emissions will be reduced by a full 660 kg.

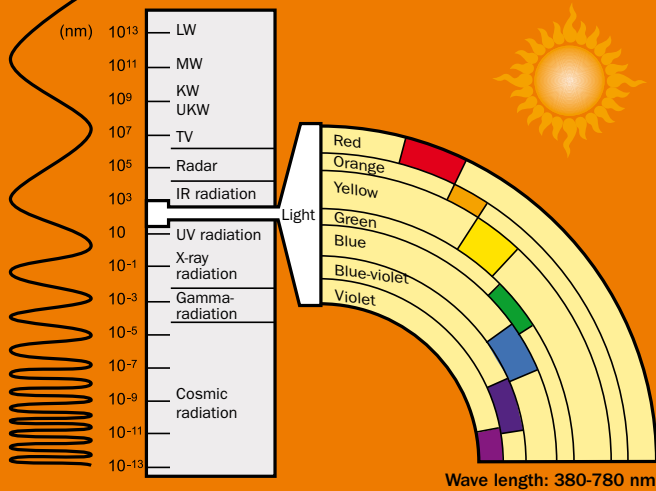
Source: McKinseys report “A cost curve for greenhouse gas reduction” Belysningsbranschen, main organisation for Sweden’s manufacturers and importers of light sources, light fittings, emergency lighting and ballasts.

lighting school

the range of colour of light

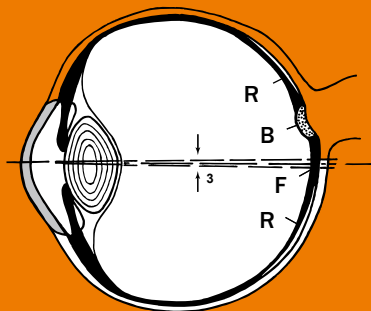
What is light? How do we perceive colours? And how can we imitate natural light? In this chapter of *Lighting School*, we tell you about the wonderful interplay between the sun and the eye, and about full colour: "The range of colour of light"

1. Light is defined as electromagnetic radiation, but it is only a part of all of the radiation that is around us and which is visible to the human eye. Visible light embraces the entire colour range, from red through yellow, green and blue, to purple.

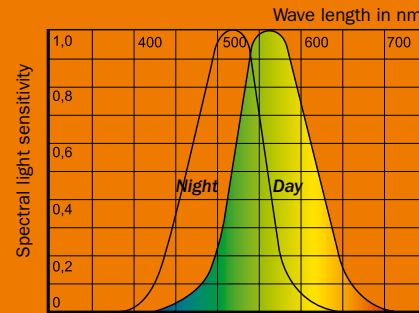


2. Radiation from the sun is received by the eye. After a chemical process, the eye communicates the new information to the brain. It is this knowledge gathered by the brain that makes us understand what we see.

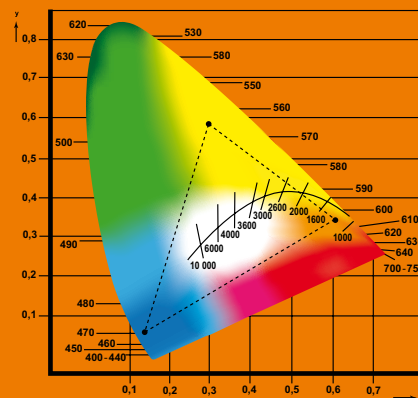
F = Fovea Centralis
R = Retina
B = The blind spot



3. Around the inside of the eyeball there are 130 million rods that allow us to see black and white. In the yellow spot, right at the back of the eye, whatever we are looking at becomes focused. The retina's seven million cones mean that we can see colours. Because the cones need light, our perception of colour deteriorates when it gets dark. The darker it is, the more black and white our impression. This is where the saying "at night all cats are grey" comes from.



4. As long ago as 1807, Thomas Young presented his theory on how the eye reacts to colours, and the results of modern day research confirm that his theory is correct. Three nerve fibre systems convey reactions to three colours: first the eye reacts to greenish yellow light, and then to red and blue.



Sustainability Leadership Challenge 2008



There is increasing interest in sustainable development, and more and more people can see the importance and value of this. On 9 May The Natural Step organised the "Sustainability Leadership Challenge" seminar in Stockholm, with Aura involved as one of the organisers. The forum was global in character, with around 150 international decision makers present. What the participants had in common is that they are all working on sustainability. A number of them had also attended the 2007 seminar, and they returned to tell us about what has been happening since then. Many of the participants were looking for future cooperation, in order to thereby become stronger and be able to implement wide-ranging change. Carl XVI Gustaf, the king of Sweden, was one of those who attended!

Martin Malmros, CEO of Aura Light International, talked about sustainable lighting and the importance of ecological solutions also being sound economically if they are to have a big impact.

There are five ways of adapting lighting to a sustainable society:

- Choose light sources that are energy-efficient in terms of their lumen/watt ratio
- Increase lifetimes so that light sources stop being a consumable and become part of the installation
- Reduce the amount of light at times that it is not needed
- Overhaul the energy source for the lighting
- Replace components and material with ones suitable for a sustainable society

Aura produces light sources with a lifetime at least three times that of the standard products on the market. We are also working on reducing energy consumption and investing in solutions that control the amount of energy used. In addition, Aura is working on creating new solutions and material to provide sustainable lighting in the future.

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