

INTELLIGENT LIGHTING CHALLENGES

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Artificial lighting is one of the wonders of the modern age, that has brought untold benefits to mankind and without which most of us could simply not lead our current lifestyles. It is also remarkably good value for money in most developed countries, and for those living in less well developed ones, the opportunities now offered by low power LEDs, will hopefully soon bring similar benefits to those currently having to still rely on candles and keosen lamps, to light their homes.

Over the last hundred years or so, the lighting industry has done wonders to raise the efficiency and overall quality of both light sources and luminaires and with the software design tools now available there is no excuse for poor, wasteful design solutions. However, it is a businnes, and to exist needs to make money and sell more, and more lighting products. The profession has written many good technical standards, but some would also say that it is still too close to the industry and that many lighting levels are still set to high, and if the wider world joins the US led growth in legisative actions, then they could go higher still - “to be on the safe side”. Hopefully, if the latter is the case, then we can guide the lawyers towards light quality, rather than just the light quantity.



An addition to this mix within the last twenty years or so, has been added that of the independant lighting designer. These, usually from a knowledge base in architecure or theatre lighting, while independant of the lighting equipment manufacturers, are however obviously guided by their clients who may or may not be interested in energy conservation issues when it comes to the attractive façade lighting of their €1 billion resort hotel.



It is here that we find that LIGHT, apart from its basic function as an aid to vision is in reality much, much more. Amongst other things it can be a very good and cheap form of advertising, whether it is that €1 billion hotel overlooking the sea, a single brightly lit bar-restaurant in a small village or a whole city nightscape with an image known

worldwide. In such a world, its overall installation and runnings costs may well be very small when compared to its perceived benefits and monetary returns.

Since the IAU and CIE first took notice of the problems of artificial sky glow in 1980 with their joint Publication “Guidelines for minimising urban sky glow near astronomical observatories”, much has happened, particularly following the proactive lead taken by the International Dark Sky Association (IDA) which was formed in 1988. There are now two further CIE publications:

- No. 126:1997 “*Guidelines for Minimising Sky Glow*”
- No. 150: 2003 “*Guide to the limitation of the Effects of Obtrusive Light from Outdoor lighting installations*”

and a vast library of material from the IDA, as well as a number of national publications in such countries as Australia, Germany, Italy, The Netherlands, Spain, the US and the UK.

However, while the CIE publications have both found almost universal acceptance as “Guides”, it is interesting to note that when the limiting values for obtrusive light from Pub. 150 were put into a European “Standard” for lighting exterior work areas, one of the EU Counties most positive towards Dark Skies, voted against it, giving the reason that limits on obtrusive light are not consistent with task lighting standards. The said country also has a large lighting industry.

We have also had problems in the UK (England) where a start had been made to bring artificial lighting into environmental law as a possible statutory nuisance when it interferes with someone’s use of their property or is prejudicial to someone’s health. Unfortunately, as with our aforementioned European partner, a few people, in other government departments this time, seem to be convinced that minimising bad lighting means no lighting. We have therefore been left with a number of exemptions that are unintelligent. Thankfully the UK(Wales) legislation is looking better in that the exemptions are only allowed if they can prove “best lighting practise” has been used.

This usefully returns us to the subject of this session which is mostly about “best practice” and how if we all work together, and that is the key – Clients - Designers- Industry- Governments and Law writers, we can hopefully move forward and start to claim back the night sky for our future generations to learn from, take inspiration from and enjoy.....without having to switch-off all the lights.

