

# LIGHTING EQUIPMENT NEWS

DECEMBER 1992

## LA entries shortlisted

A total of 165 entries has been received for the Lighting Awards covering the five categories: commercial, industrial, civic, exterior and leisure. The panel of assessors - comprising John Baker, John Frost, Gerry Worthington, Brian Matthews, John Cathcart and Charles Stuart - has now shortlisted thirty entries for site visits, and these schemes will be presented to the judges representing the sponsors at a meeting in late January for their final decision.

The seventeen sponsors of the new award scheme, which replaces the former EMILAS and National Lighting awards, include the Lighting Association, CIBSE, ECA, ILE, IEE, RIBA, GEI and Energy Efficiency Office.

According to an LIF spokesman, in many categories shortlisted schemes are so closely matched that it will be hard to name an outright winner and special awards may well be made within certain categories.

## Pan-European courses planned

A working group led by the IEEIE, which is looking into the feasibility of establishing Pan-European courses for incorporated engineers in electronic and electrical engineering, has reported to the EC under the ERASMUS programme.

The report acknowledges the important work already done by the EC on the mutual recognition of qualifications and professional titles. It goes on to emphasise the need for further investigation in a more practically oriented engineering qualification within a European framework and studies the feature of courses including entry requirements, period of study and final employment of incorporated engineers. Work is also being done to compare different education systems, which have evolved from different social, cultural and industrial backgrounds.

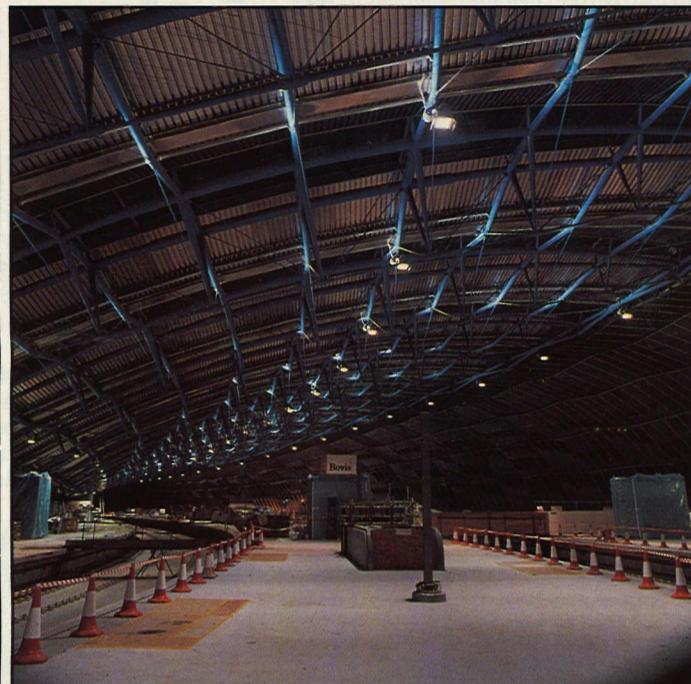
## Two into one

Two old established companies in the lighting industry - Cryselco (founded 1895) and Poselco (established in the 1930s) - are coming together in a new grouping.

While both companies will retain their separate identities and operate from their existing sites they will derive benefits from sharing overheads and ensuring that products are not duplicated between the two companies.

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## Astar is bom

**E**urostar is the name given to the high speed rail service that will connect London and Paris and London and Brussels through the Channel Tunnel from 1994. Trains will travel at speeds of up to 300 kph in mainland Europe and up to 160-200 kph in the UK. They will also maintain a speed of 160 kph through the Channel Tunnel, thus giving a journey time of 3 hours, for instance, for the London-Paris route, a distance of some 500 km.

In preparation for this service a new station, Waterloo International is now under construction; the building, designed by Nicholas Grimshaw and Partners, should be completed in May 1993. It will offer airport quality facilities, including parking, lounges, immigration and catering, and is designed to cope with up to 15 million passengers a year.

The terminal comprises five elements. A basement car park forms a heavily reinforced concrete box which acts as a raft spanning the underground lines beneath. This is topped by a two storey viaduct supporting the platforms. Designed to carry the 800 tonne trains, the viaduct is some 200m long. It houses two floors of passenger accommodation

including arrival and departure areas. Elements of the existing station, including brick vaulted basements, have been renovated to accommodate back-up operations including catering for the trains.

An important objective in designing the terminal was to give it a distinctive identity as the 'Gateway to Europe'. This is provided by the structure at platform level: a steel and glazed locomotive shed spanning five platforms which extends the length of the 400 m trains.

Zumtobel lighting has been specified throughout the building - a total of more than 2700 luminaires, many of them purpose designed. Lighting the engine shed alone required 245 special luminaires each formed out of up to four cast aluminium sections.

The luminaires, which weigh anything up to 45 kg each, use 150W - 1000W metal halide lamps. The reflectors, made from laser cut aluminium, incorporate light baffles to achieve the beam angles required for the different roof heights and platforms. The lamp housing is kept separate from the gear housing, but both balance from a single point fixing with the lamp housing maintained horizontal to the platforms.

## Environmental lighting awards

Urbis has announced its Environmental Lighting Award Scheme for the best external lighting installation.

The aims of the award are to advance the design, technology and management of external lighting, and it is sponsored by the Institution of Lighting Engineers, the Institution of Mechanical Engineers and British Astronomical Association in conjunction with Architecture Today.

Designers of lighting schemes are invited to submit projects which demonstrate the most interesting and effective innovation to reduce light pollution, which at

the same time increases energy effectiveness and public safety.

Entries must be received by 16 April 1993, and there will be three classes of award: road lighting, town centres and out of town retail stores. A panel of independent experts will act as judges.

The overall prize is a weekend for two in Budapest, one of the first European capitals to have a decorative lighting installation (from 1938). A Minolta luxmeter will be awarded to the winners of the other two categories.

The winners will be announced in June 1993 and the schemes will be exhibited at the ILE exhibition in September.

## Save a bottle

Improving street lighting in major British cities produces a definite improvement in community safety, members of parliament, local councillors, police and industrialists heard at a recent House of Commons seminar. The briefing was initiated by the 100-strong all-party British Parliamentary Lighting Group of MPs which is campaigning to get public priority for

better street lighting.

And carrying out improvements creates a 'halo effect'. As those in authority are seen to have a better understanding of the problems of residents, mutual confidence grows and the public is prepared to give the police far more support and information in coping with the problem areas.

It would have been better if the seminar had been timed to take place before the Autumn Statement, said Dr Ian Twinn MP, as the government needed few excuses to avoid spending money.

However, he would like to

make a suggestion. In his own constituency, they had used some of the funds raised by collecting glass for recycling on a lighting project. It should be possible to set out to relight an area and then have a drive to raise funds by community action in partnership with the local council.

Money raised by, for instance, glass, paper and tin collection should be earmarked for such initiatives and not be allowed to disappear into the general kitty.

As such a campaign would undoubtedly need a slogan, could he suggest 'Save a bottle and get lit up'?

## News in brief...

● **IDI 93**, to be held from 6-10 June 1993, will take over the Earls Court 2 exhibition hall in London. Each product sector within the show will be clearly defined by means of its own graphic identity and the use of colour.

● **Targetti** has set up a new UK subsidiary Targetti Sankey UK which is now operating from Romford, Essex (tel 0708 443870).

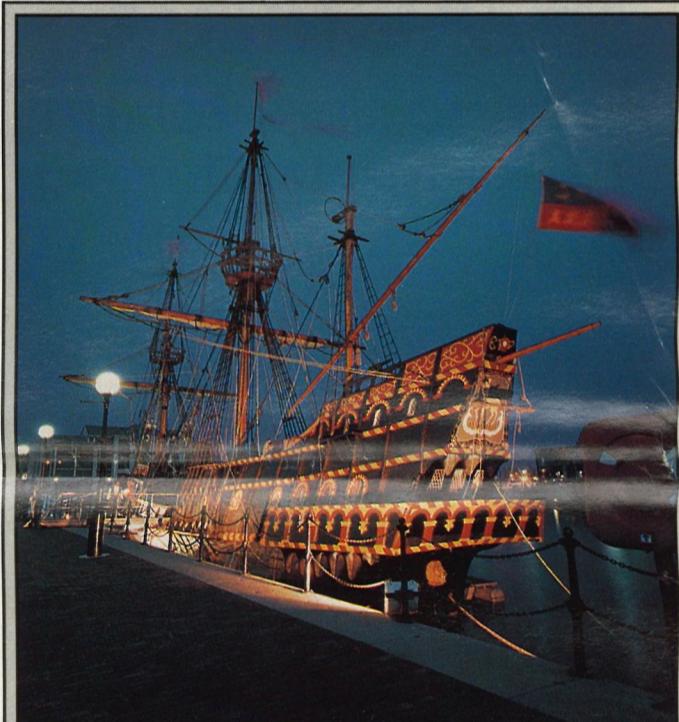
● **Ideal Concepts** has moved to larger factory and office premises in Leighton Buzzard, Bedfordshire (tel 0525 853221).

● **Myddleton Hall** has opened up a new showroom dedicated to lighting by French company Lucien Gau at its north London offices (tel 071-226 3443).

● **Seca Lighting (UK)** is the new UK agent of Narva BEL, manufacturers of fluorescent lamps and starters (tel 081-669 1745).

● **Urbi** is the first UK manufacturer to offer a long term guarantee on the IP rating of its lanterns. The IP66 rating of Sealsafe optics in the ZX range of lanterns is now guaranteed for 10 years.

● **Elektra** of Germany has appointed Hafele as its exclusive UK distributor for the UK and Ireland. The company manufactures low voltage lighting for furniture.



The Golden Hind - the ship from which Sir Francis Drake commanded the English defence against the Spanish armada in 1588 - now has a floodlighting scheme using IP 65 rated high pressure sodium floodlights, designed by Thorn Lighting.

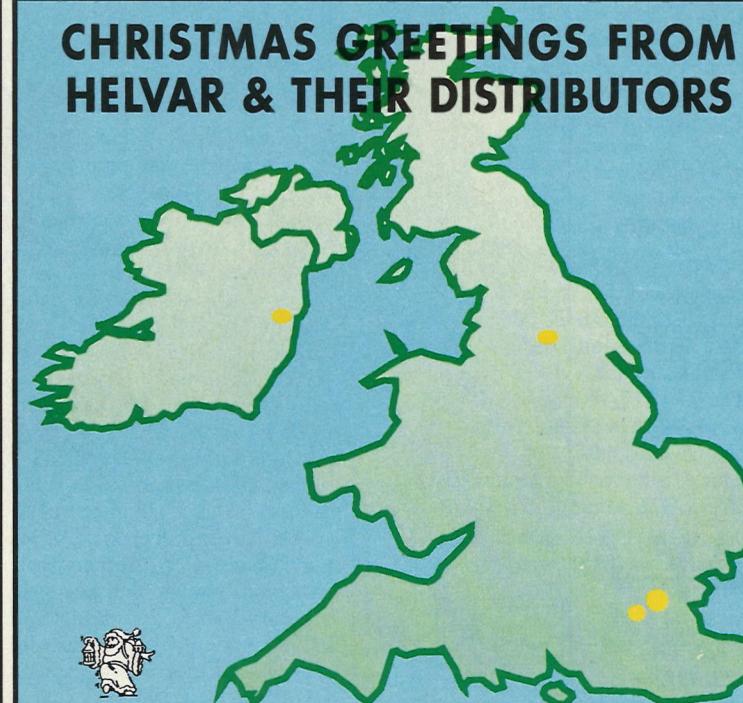
Apart from being a major tourist attraction the ship, which is now berthed in the docklands area of Salford, is used for conferences and Elizabethan style banquets.

## Chelsom lights hotel

A lighting contract worth over £360 000 to supply and install lighting for the newly refurbished Regent London Hotel in Marylebone has been won by Chelsom.

In the hotel, due to open in December 1992, over 90% of the fittings are specials which use metal finishes to complement the interior decor. One public room alone uses five, forty-light brass and crystal chandeliers each 2m in diameter and 2.5m high.

## CHRISTMAS GREETINGS FROM HELVAR & THEIR DISTRIBUTORS



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QUALITY ALWAYS SHINES THROUGH

Reader Service No. 1

# NEWS

## Lighting gives ecumenical welcome

The UK's first city centre ecumenical place of worship, the Church of Christ the Cornerstone in Milton Keynes, has a lighting scheme planned by architects PDD in conjunction with Crompton Lighting.

As the building is also a centre for concerts, exhibitions and drama, the lighting had to combine a welcoming atmosphere with functionality.

The circular plan of the main worship area naturally gave rise to a domed roof, which has been lit by Crompton fluorescent lighting behind a collar at the base of the dome. Similar units are used to light the cupola.

For the gallery beneath the dome, first-floor balcony and ground floor areas Raak Multiple Choice 13W recessed compact fluorescent downlights are

used. These are fitted with gold coloured reflectors to create a warm welcoming effect.

On the balcony ceiling are 11 track-mounted Turbo Flash spotlights with 150W metal halide lamps, for highlighting the dais and baptistry area.

The stylised cross on the wall behind the dais has been lit by four 70W metal halide eyeball spotlights.

## New standards

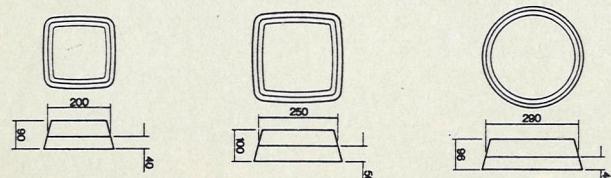
A revised British Standard on colour and diffusion filter material for theatre, television and similar entertainment purposes has been published. BS 3944: Part 1: 1992 deals with specification for flammability and dimensional stability of sheet filter material used with sources of illumination.

A new British Standard BS 7535: 1992, has been published entitled *Guide to the use of electrical apparatus complying with BS 5501 or BS 6941 in the presence of combustible dusts*.

Copies of these standards can be ordered from BSI Sales, Linford Wood, Milton Keynes MK14 6LE (tel 0908 220022).

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Reader Service No. 3

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## DIARY

### DECEMBER

15

**Lighting basics 3: lighting design calculations.** One-day seminar in Newcastle upon Tyne held by Mid Career College. Details from 0223 880016.

**Electromagnetic compatibility: EC directive.** One-day seminar in Manchester arranged by IEE. Details from 0438 313311.

### JANUARY

11

**Lamp developments.** Evening meeting in Belfast organised by CIBSE Northern Ireland region. Details from Jim Patton, 0232 732121.

13

**Module 1: lighting design.** Three-day course in London held by the Institute of Environmental Engineering, South Bank University, 071-928 8968.

19

**Six lighting projects: the human perception.** Evening meeting in London arranged by CIBSE Lighting Division. Details from 081-675 5211.

20

**Sick building syndrome.** Evening meeting in Manchester held by CIBSE North West region. Details from Roy Williams, 061-439 6599.

21

**Interior lighting design.** Two-day course in London arranged by the Institute of Environmental Engineering, South Bank University, 071-928 8968.

**Amenity lighting and risk assessment.** One-day conference at Prestwich organised by the Northern region of the Institution of Lighting Engineers. Details from P Edwards, 061-705 5824.

**16th Edition for street lighting.** Evening meeting in Durham held by the North Eastern region of ILE. Details from D Plummer, 0670 361081.

## CIBSE

The Chartered Institution of Building Services Engineers

## Computers in lighting

The setting up of a specialist panel within the Lighting Division's technical committee to maintain an overview of the role of computers in lighting, virtually coincided with Ron Simon's Chairman's address to the Lighting Division on 20 October.

During a presentation covering a fascinating range of specialist interest lighting topics, he was able to bridge past and present experiences, and link them to the future.

In the fifties, electric calculators were available, but as they had little or no memory they were not very helpful for the repetitive calculations involved in lighting, though they were much used for colour analysis. Publication of a photometric catalogue with eight tables of utilisation factors was regarded as a great achievement. Nowadays, these could be produced in as little time as it takes to print them, and with no errors!

Generally, the fact that laboratory staff are relieved of the drudgery of doing repetitious calculations is to be welcomed. However, one does often hear of the disadvantages recited by the older generation. The most important of these is that the users of computer programs often have no feeling for whether the answer produced is sensible or not, with the result that 'rubbish' can be produced without an eyebrow being raised.

It is certainly true that a lot of people are using computer programs without understanding the 'number crunching' they entail. But perhaps that's not so terrible as some of the older generation think! We all use equipment effectively without understanding fully how it works. This is all right so long as we can recognise when it malfunctions or produces suspect answers.

It is important, therefore, that the user has sufficient knowledge to spot this. The danger in an organisation where there is total reliance on computer programs written by outside programmers is that there may be no-one inside the organisation capable of critically examining the data being produced. Also, calculation needs are constantly changing and programs have to be updated to keep pace with needs. It is thus desirable to have available a programmer who is an expert on lighting calculations - a rare beast, but one who should be cultivated as providing the most efficient way of producing programs and keeping them up to date.

There are instances of misuse of computers: one was reported at the CIBSE National Lighting Conference this year in connection with the lighting of an airport in Japan. The airport building was 1.6km long and about 100m wide. The client insisted on having a print-out of illuminances on a grid of one-metre spacing, but this was quite unnecessary as the lighting scheme repeated itself at regular spacings.

One has seen similar requests with regard to tunnel lighting, though it is hard to justify such unreasonable requests. It may simply be that the client wishes to cover himself in case something turns out to be unsatisfactory.

Computers are now being used to produce realistic images of installations, called visualisations. Usually, detailed calculation of the direct and reflected light on each of the surfaces of the room and furniture is carried out, enabling shadows and gradations of light to be portrayed with some accuracy. Also, the spectrum of the light sources can be split into bands, so that colour can be accurately rendered, ostensibly, at any rate. One limitation is the monitor screen or the printing process that is used to produce the final image.

With present equipment it is necessary to compress the brightness to portray the image; in other words, the calculated image has to be deliberately distorted. We should not be appalled at this; after all, we do it in photography, and accept it. The difference is that in photography we usually have some idea what the image *should* look like and if there is distortion we instantly notice it. If we are using visualisation as a design tool, this is no longer true, and a gloomy installation, for instance, can be made to look bright and welcoming simply by turning up the gain on the monitor. No doubt this problem can be solved.

Perhaps the more pressing problem at the moment is the vast amount of work entailed in getting all the geometric data into the computer. Closely following on the heels is the problem of measuring the reflection characteristics of materials and getting them into a form suitable for the visualisation program to manipulate.

However, it is not the purpose of this column to spread gloom on this subject, and we must all welcome the appliance of the best CIBSE Lighting Division brains to the problems via the computers in lighting panel.

The panel has identified a wide range of activity with the following areas to be addressed:

- reviewing of algorithms geared towards computing;
- recommendations for presentation of results;
- recommendations for standard forms of input/output;
- recommendations re contents for program manuals to assist users in QA procedures;
- production of an agreed set of validation examples, with or without base lines and tolerances;
- computing in the design process;
- relevance of computers to all new CIBSE lighting technical memoranda.

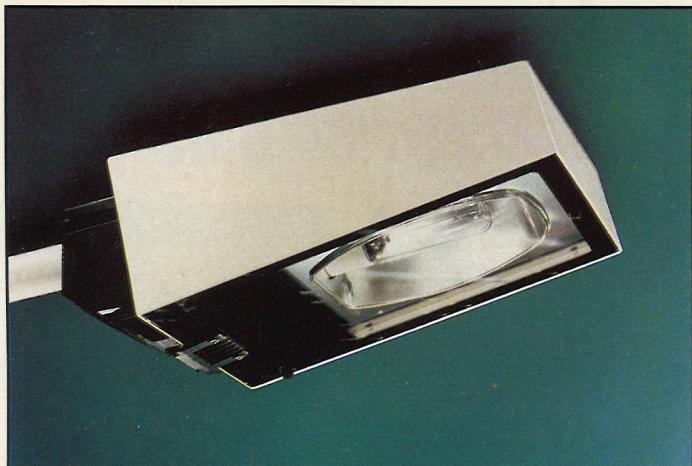
The panel members clearly have their hands full! I wish them well.

Ron Simons,

Chairman, CIBSE Lighting Division.

Lighting Equipment News, December 1992

# NEW PRODUCTS



## No light pollution

An amenity road lantern from Abacus has a flat, flush fitting glass to reduce glare and prevent spill light above the horizontal plane.

Tubular high pressure sodium lamps from 70W to 400W are used and the luminaire has integral control gear.

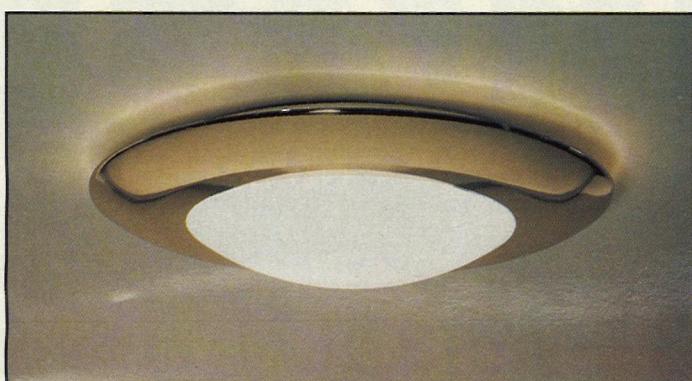
The lanterns may be installed

either as side entry or post top models. Recommended mounting height is from 5m-8m.

The aluminium powder coated housing is finished beige.

Applications include airports, station platforms, roads in residential areas, car parks and footpaths.

Reader Service No 151



## Shallow luminaire uses compact lamps

Helio is an elegant but functional circular luminaire from Beta Lighting for use in modern or traditional interiors. Although surface mounted, it is only 121mm deep.

Reader Service No 152

There is one version for use with a 38W 2D compact fluorescent lamp and another that accepts three 24W PL type lamps. Both can be supplied with emergency lighting facilities on request.

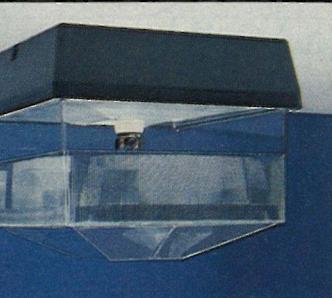
Standard finishes for the metal work are white, chromium plated or gold colour.

Applications include corridors and stairwells.

Reader Service No 152

## Car park lights give high performance

Veelite has available a luminaire for multi-storey and underground car parks. It is designed for areas where high light levels are required together with low glare and good light uniformity.

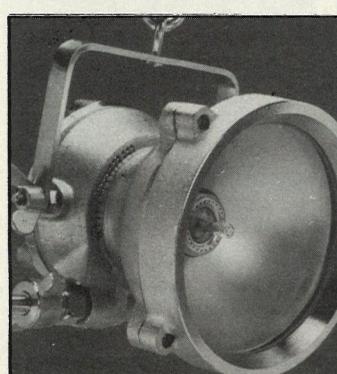


## Improved light for zones 1 and 2

Turbolite, the compressed air floodlight by Wolf Safety Lamp Company, for use in zone 1 and 2 hazardous areas, has been improved.

The magnets are now embedded in the rotor for increased reliability and smoother operation. An improved bi-pin lampholder is also used for the 250W tungsten halogen lamp.

Reader Service No 153



Reader Service No 154

## Spotlight can be focused

A low voltage, focusable spotlight designed for environments with frequently changing displays has been introduced by Connect Lighting.

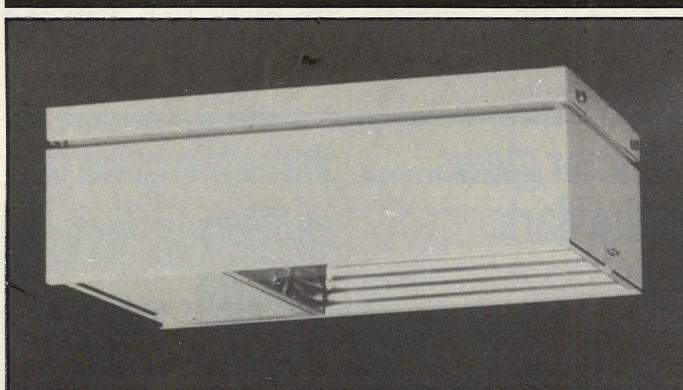
It uses a tungsten halogen capsule lamp up to 75W. The position of the metal reflector can be adjusted by rotating the front of the housing, enabling the user to vary the beam width from narrow to flood distribution.

The spotlight has an integral transformer and can be installed



on either an individual mounting plate or on the lighting track of a variety of manufacturers.

Reader Service No 155



## Industrial fitting accepts mixed light sources

A luminaire from Glamox Electric for low to medium height industrial bays allows specifiers to mix light sources, such as high pressure sodium and metal halide, to give better colour rendering.

There are two versions, both 205mm deep and 600mm long; the single unit is 280mm wide,

while the double version is 565mm wide. The double version allows mixing of light sources.

Mounting is either direct onto the ceiling or by wire suspension. If required, the GDS luminaire is available with a pre-stressed glass diffuser. Other options include power factor correction and emergency lighting.

The luminaire housing is made from electro-galvanised steel with a stove enamelled epoxy paint finish, making it suitable also for outdoor use.

Reader Service No 156

## Luminaire is triple sealed

Moorlite's Pasteur luminaire for industrial clean rooms has a double gasketed neoprene seal between diffuser and housing that gives it an ingress protection rating of IP65.

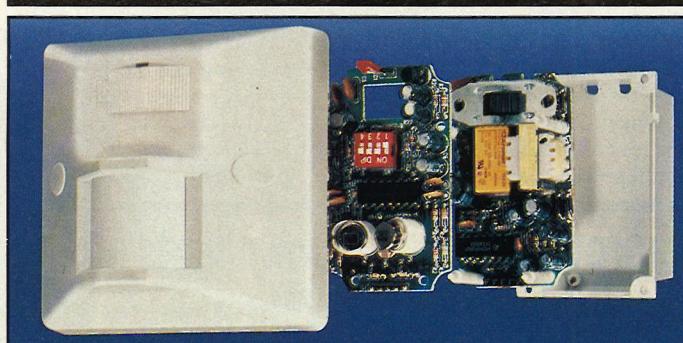
The luminaire is designed for recessing and a further gasket seals the perimeter of the fitting to the ceiling opening. Models are available for a variety of flu-



rescent lamps.

The prismatic controller is a twin, laminated sheet of polycarbonate which is secured to the steel housing with an extruded aluminium frame.

Reader Service No 157



## Automatic control of lights from a wall switch

Indoor lighting controllers designed to be installed in place of conventional wall switches have been introduced by Blantyre Energy Services. They are intended primarily for commercial buildings.

Lights are switched on automatically in response to occupancy of an area. The passive infra-red detection system gives 180° beam coverage over a 170m² area. In addition, the controllers are sensitive to ambient light and switch lighting off at a predetermined level. Adjustments to the programme can be made at the time of installation.

There are two models: Economatic 1500 controls electrical loads between 200W and 1500W, while Economatic 200 handles capacities from 40W-200W. They can be used with fluorescent and incandescent lighting, and are stated to be compatible with electronic ballasts and dimmers.

An override switch permits lights to be turned off manually if, for example, a video or slides are to be shown. External dimensions conform to normal switch plate size and internal components, which is a sealed unit, fits into a standard wall box. The units are guaranteed for one year.

Reader Service No 158

# COMMENT

## The year in question

We reach the end of another year – and 1992 has been a particularly tough period for the lighting industry. But the news is not all gloomy, the sector has shown a greater degree of resilience than other sectors dependent on the building industry, and was for many months kept afloat by retrofit work. The problem has basically been the prolonged nature of the recession.

When things first started to get tough, some companies indulged in price cutting and margins were severely trimmed. There is now a growing sense that this has been going on too long and it is high time to get some sense back into the market. Companies with this approach got out of the volume market and went for value added, concentrating on the quality of the product and the services they could offer. Recently there has been some evidence that companies which adopted this strategy are doing rather better than average.

The UK market appears to be getting closer to the European model in the sense that value for money, rather than straight cost is increasingly being seen as the major criterion. By contrast the high profile, high cost end of the market is on the whole doing rather badly. The big, glamorous projects just aren't around at present.

But there is definitely more scope in the middle sector of the market. Here, an increasing emphasis on lighting design and the lighting for tasks rather than just buildings is becoming apparent, and recent European legislation has reinforced this trend. For instance, the display screen regulations, which come into force on 1 January have given a boost to the office lighting sector.

Although faced with a weak domestic market, UK manufacturers are in many ways well equipped to face the challenge of the single market. Over the past couple of years, the UK market has become far less protected than most other European markets. German companies have gone quality products that now need greater cost consciousness, and the fact that Germany came late to recession means companies have not yet had to develop the killer skills of their successful English counterparts. The French have been operating in a very protected market until now and appear to be losing direction in the run up to 1993.

Not the least of the survival skills needed at present is the British sense of humour. Hidden among the pages of *The Economist* of 7 November was this nugget.

"British drug laws hamper British firms trying to sell in Europe, said a horticultural lighting supplier. Dutch competitors it complained, get more business because they are allowed to give free cannabis plants with their lights."

Now here's scope for a lighting industry Christmas challenge! I leave it to you to top this suggestion, and will award a bottle of champagne to the reader who comes up with the most original and amusing 'incentive' for any other lighting industry sector or product. Suggestions, please, to reach the LEN offices by 11 January.

# LIGHTING EQUIPMENT NEWS

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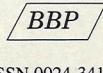
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# LIF LINE

## The environmental solution

Environmental awareness has prompted authorities to formulate environmental policies, introduce regulations and promote action programmes. The objectives are to reduce waste and energy consumption and to improve performance and quality of products and processes.

In the past, the lighting industry has shown responsibility in the field of the environment by making a serious study of the effects of its products on the environment. The results of this study are published in the European Lighting Council brochure *Gas Discharge Lamps and the Environment* (1989), which describes the environmental effects of energy saving gas discharge lamps. The European Lighting Council intends to continue this policy.

Therefore, an exchange of information concerning environmental issues has been established between industry and the independent lighting organisations throughout Europe. Organisations such as the Lighting Industry Federation, SVEI and FME have an active consultative role with central and local government authorities and other interested groups.

Technical improvements in the design and manufacture of lamps have reinforced the view that gas discharge lamps are an environmentally friendly source of lighting. These energy efficient products make a positive contribution to environmental issues by effectively reducing electricity demand for lighting.

Modern society needs light for both its economic and social well-being in terms of productivity, health and safety. Over the past century, electric lighting technology has been developed by the industry to produce lamps of increasing efficiency and quality.

Gas discharge lamps today – fluorescent, sodium, metal halide – supply over 70% of all artificial light. The main advantages of these lamps to the user are a long life and relatively low energy consumption.

A comparison of the luminous efficacies of artificial light sources illustrates that gas discharge lamps are by far the most energy effective light sources available (efficiencies of over 160 lumens/watt are typical for low pressure sodium lamps, compared with 12 lumens/watt for GLS lamps). Advances in technology have led to a progressive improvement in the efficiency of each lamp type since its introduction, and lamp research has also resulted in the regular introduction of new lamp types to meet lighting application needs. Carbon filament lamps were first marketed in 1880, the GLS lamp in 1906, low pressure sodium in 1932, double ended fluorescents in 1938, tungsten halogen in 1958, metal halides in 1964 and compact fluorescents in 1980.

Lamps are manufactured in Europe to an extremely high standard. Manufacturers employ significant technical resources to ensure that the content and the manufacturing process for these lamps meet all relevant environmental requirements. In contrast to incandescent lamps, however, fluorescent lamps contain a small amount of mercury necessary to produce the light. Increasingly sophisticated production techniques have led to a reduction in the quantity of mercury of more than 50% over the past years without impairing lamp performance.

Because cadmium has long since been eliminated from phosphors, the mercury used in the discharge is the only substance which could be regarded as environmentally significant. At this point in time, it is not possible to eliminate mercury entirely because it is the only element that fulfils a combination of essential physical functions within the gas discharge. As yet it has no substitute. The extent to which the environment is affected by the disposal of gas discharge lamps can be gauged by the approach called the integral environment effect, (IEE). In such studies, all phases in the life-cycle of a product, the raw-material phase, the manufacturing and usage phase, and the disposal phase are systematically listed.

From several studies it can be concluded that the environmental effects of light sources are mainly determined by the energy consumed during the service period of the lamps and the environmental effects of energy production associated with it.

The emissions from fossil fuel fired power stations are the major pollutants, due to the many trace elements which are mobilised in the process – one of which is mercury.

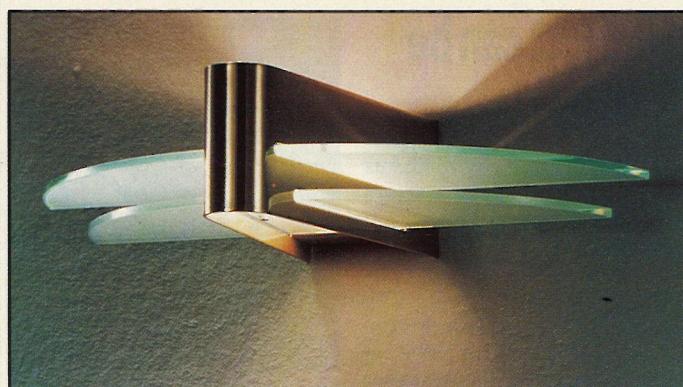
This is particularly the situation in the majority of European countries which are heavily dependent on fossil fuel. This means that gas discharge lamps (with their high luminous efficacy) contribute to energy conservation and potentially reduce the emission from power stations. Besides, less than 2% of the mercury consumed in Western Europe is used for the production of lamps.

Even when these lamps are eventually dumped at waste disposal sites it can be estimated that the environmentally relevant elements that they contribute to the waste is very small, usually much less than one fifth of 1%.

The way to dispose of used lamps depends largely on the lamp type concerned. Local authority regulations as well as manufacturers' instructions must, therefore, be observed.

So discharge lamps are part of the environmental solution. They require less energy than other types of lamps and, therefore, can reduce the amount of waste emission caused by the conversion of fossil fuel to electricity.

## NEW PRODUCTS



### Glass and metal for wall light

Ocean is the name of a modern wall light available through Into Lighting Design. It has two,

semi-circular, horizontal glass panels that diffuse light from a 300W tungsten halogen lamp.

The luminaire is 340mm wide and 200mm deep. There is a matching floor standing light that is 1.83m high.

Reader Service No 159

### Dimmer glows in the dark

Superswitch's Eclipse dimmer features a larger control knob than usual on rotary dimmers, making it particularly suitable for use by people who have difficulty in operating standard dimmers and switches. Total electrical loading is 400W.

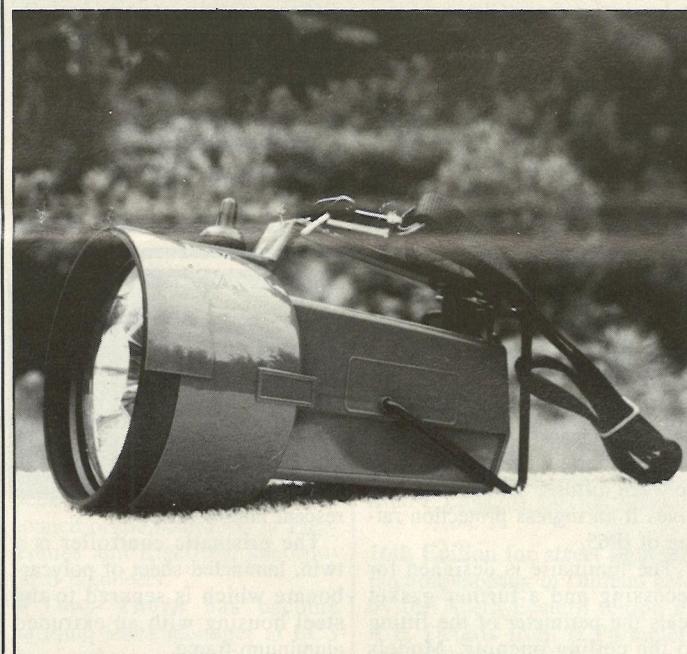
Two versions are being introduced. One has a backlit ring around the knob to aid location in the dark. Reader Service No 161

### Versatile control system

A sophisticated microprocessor-based lighting control system, Mercury 2000, is available from Hamilton Litestat.

It offers up to 512 channels and scene-sets to meet a full range of commercial lighting control requirements. The system can be operated in a variety of ways, including the use of an IBM PC or a DMX512 lighting console.

Reader Service No 160



### Rechargeable torch helps police

Nitech's rechargeable torch, the 900H Sabre, has been designed to meet the needs of the Ministry of Defence, police and emergency services. It produces a 400 000 candlepower beam for up to 70

minutes on one charge.

Recharging can be from either the mains or a low voltage vehicle supply. The torch weighs just under 1kg.

Reader Service No 162

### Improved Pop Packs

Thorn has improved its Pop Pack fluorescent range. A two-position twin lampholder system allows the lamps to be positioned either close together to give a strong downward light distribution suitable for industrial areas, or to be more widely spaced for offices to give good light uniformity and permit wider spacing between luminaires.

In addition, the cover plates now clip into position instead of having turnbuckles. Terminal blocks have been enlarged to four-way and the luminaire body height has been reduced.

Reader Service No 163

For more information on any of the products listed, circle the enquiry number on the free reader reply service card.

### Downlights are compact

Glamox Electric has launched a range of compact fluorescent downlights, one of which requires less than 100mm of space above the ceiling for lamp and control gear. On the GCN18, the PL lamp is mounted horizontally to make the 176mm diameter downlight as shallow as possible.

A twin lamp luminaire is also available.

All versions have a polycarbonate reflector with options of silver or gold metallised finish. Decorative rings are available in a selection of colours to "float" below the luminaires.

If required, versions are available with dimming or emergency lighting facilities.

The whole GC range is approved for use on ships.

Reader Service No 164

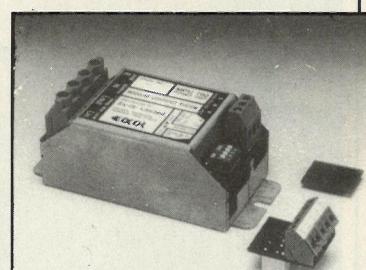
## Lighting control interfaces with BMS

By using Ex-Or's 700 series lighting control system in conjunction with any heating, ventilating and air conditioning type building management system (BMS), a full BMS is provided from one central computer.

The 700 series uses ultrasonic and microwave presence detectors to automatically turn lights off in unoccupied areas.

In its basic form it offers low cost, flexible and fully automatic lighting control with conventional switching, making it well suited for retrofit applications.

For refurbishment and new build applications, two plug-in modules are available.



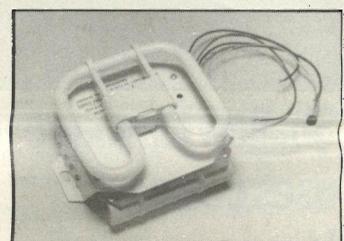
One allows the use of handheld remote control units permitting users to determine their own lighting comfort levels. The second plug-in BMS module allows the system to interface with any building management system.

Reader Service No 165

### Explosion-proof floodlights

Prompted by calls for increased safety in electrical equipment for Zone 1 areas, ABB Control has launched a range of explosion-proof floodlights.

The PX series uses a three-chamber configuration with separate enclosures for lamp, control gear and terminal box. This ensures that high temperatures generated by the lamp do not



tray accepts either a 28W, 21W or 16W 2D lamp and will shortly be available for a 38W lamp. The unit is simple to fit and has an electronic ballast.

Reader Service No 166

### 2D emergency gear tray

Bradley Lomas Electrolok has launched a 2D emergency luminaire gear tray to enable lighting manufacturers to co-ordinate their mains lighting fittings with emergency lighting.

Because of its compact size, this self-contained, maintained, three-hour emergency lighting facility will fit into a wide range of decorative luminaires. The gear

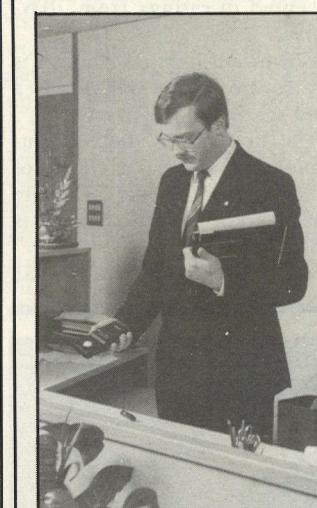


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Reader Service No. 4

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MINOLTA - MEASURING UP TO YOUR STANDARDS

Reader Service No. 5  
Lighting Equipment News, December 1992

**LEN** takes a look at the range of tubular lighting systems on the market and considers the design advantages they offer.

# It's easier by tube

**S**ince tubular lighting systems came onto the market over a decade ago they have been used for an ever increasing range of applications. They can now be seen in places ranging from remote restaurants on top of Swiss mountains to deep down in London underground stations.

As their popularity increased, manufacturers added more components and options to the systems to give lighting designers greater scope, until now, it is impossible to review every system in an article of this length.

The degree of sophistication an installation achieves depends on both the designer's creativity and the choice of system – and budget.

Because of wide variations between systems, it is important to check that the preferred system includes all the components required for a particular scheme. Most offer low voltage and mains voltage tungsten fittings as well as fluorescent. Many also have fluorescent uplighting modules.

#### Design advantages

Tubular linear systems can follow unusual or awkward contours of a building, providing even illumination all the way. They can create a focal point, for example over a reception desk in a foyer, or be used to 'subdivide' large rooms into smaller areas and indicate circulation routes between them.

A dramatic, illuminated architectural feature, such as a large geometrical shape, can also be created.

A tubular system can be used to advantage in an area with varying ceiling heights, where it can be suspended on wires at an even height. On the other hand, it can be installed above staircases, so that the lighting follows the slope of the stairs.

Finished in a bright colour, a linear lighting system will brighten up a drab area such as a railway station platform or exit.

Extra facilities, such as dimming, emergency lighting, signage, public address equipment and through wiring for other services can be included in the more comprehensive systems.

#### Neon development

Coloured neon lighting has been incorporated into one of Concord's tubular systems. Neon 120 has lengths of neon tubing in a choice of six colours recessed into the sides of the tubular extrusion.

In addition, specially shaped,

plug-in neon pictograms, or directional indicators can be supplied. These can also be colour coded to lead people through a department store or public building.

This system consists of four modules: with neon lighting only, neon plus direct fluorescent lighting, neon with indirect fluorescent lighting, and neon plus lighting track.

Neon 120 is for indoor use only, but Concord and other companies such as LB Lighting and Electrak, have tubular lighting systems designed for use outdoors.

#### Options outlined

Some companies have a number of different systems. Concord has as many as nine, while Kotzolt, Ideal Concept, Erco and Artemide each offer several.

Linear modules on the market come in a choice of profiles in addition to the cylindrical shape.

Flat, bar-shaped modules are available from Thorn, Kotzolt and Concord, while LDMS has a version that is predominantly intended for uplighting. Hendal's bar shaped elements have solid timber sides and ends, with plywood covers on the undersides finished to match the Spanish sycamore.

Triangular profiles are available from companies such as Acorn, Artemide and Ideal Concept. LDMS also has a system with a semi-circular profile, with the curved surface downwards.

Guzzini claims to have one of the slimmest profiles on the market; its XO system is only 58mm wide.

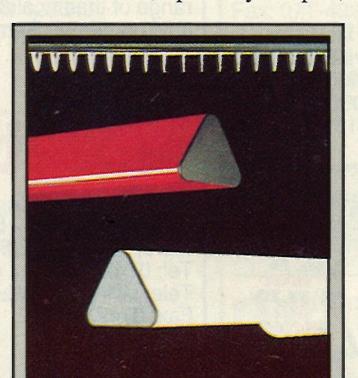
Among the cylindrical modules there are various diameters and lighting designers may wish to choose a system with a diameter that is in scale with other elements of the interior.

In some systems the linear fluorescent elements can be rotated to direct light sideways to highlight displays or give a wall washing effect. Among these are the Ambit system by Concord, and Erco's Midipol.

Other systems use fluorescent modules designed to give an asymmetric light distribution, for example those from Philips and Siemens. Guzzini can add asymmetric fluorescent modules to the sides of its XO system.

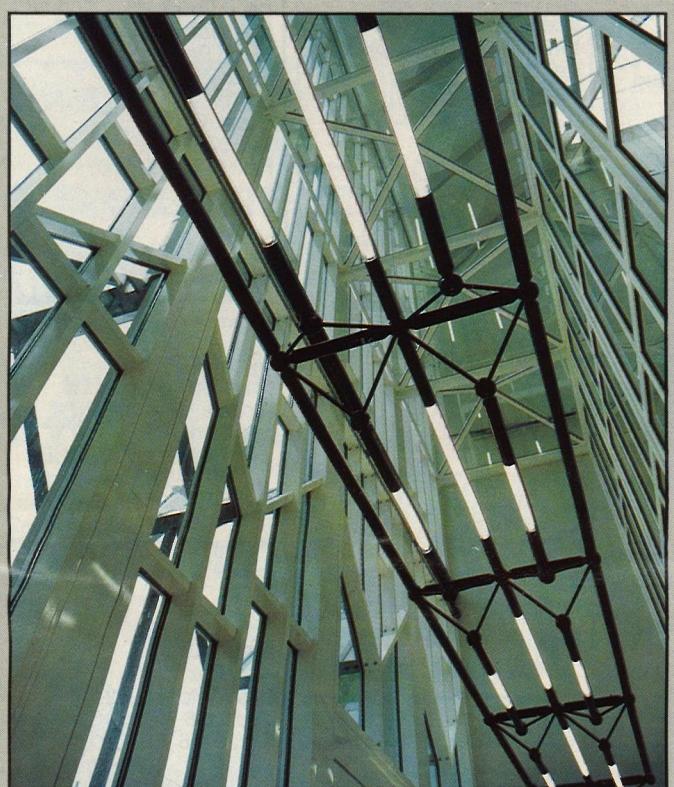
#### Couplers

Among the most important components of a system are the couplers, because these determine the variety of patterns and shapes the system can form.

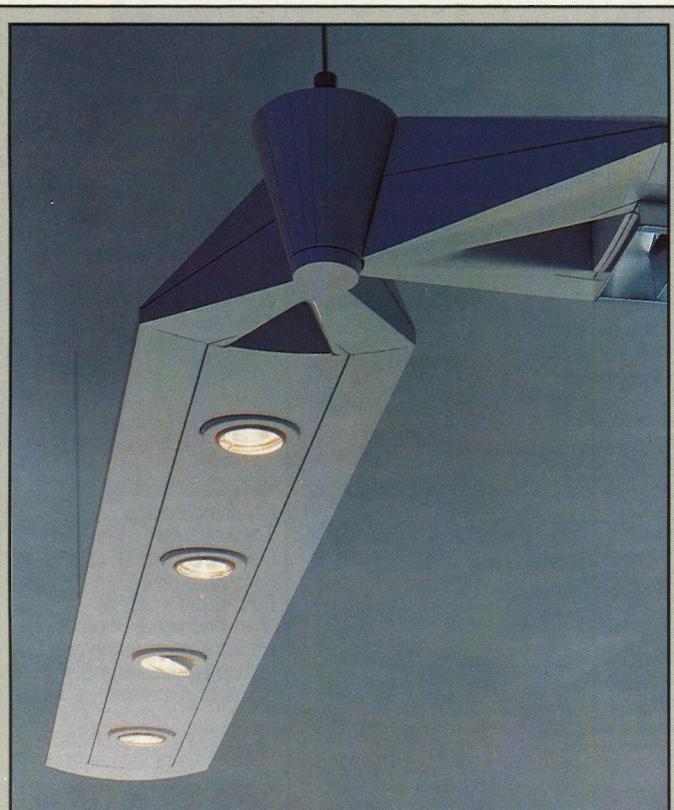


When architects, Percy Thomas Partnership designed the staircases and walkways for the Esso headquarters at Leatherhead, they needed a light fitting that could be totally integrated into the handrails, maintaining the style and following the contours of the stairs to illuminate the walkways at floor level.

Manufacturer LDMS supplied an adapted form of its BPS 65 tube lighting with 30W fluorescent lamps for the installation. Curved tube without lamps was used where lighting was not required, to maintain a consistent line and ensure the lighting merged completely with the design of the handrails and balustrades.



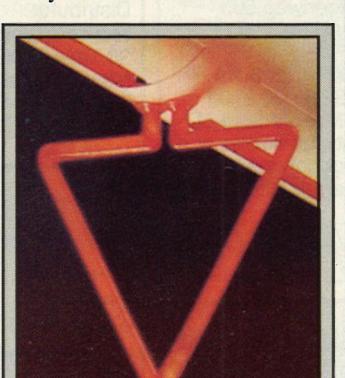
Tube lighting is used to reinforce the architectural features of this office building for AOK – a health insurance company – in Herford, Germany. The lighting is the LR 8000 system from Kotzolt Lighting.



The Sinova modular lighting system from Siemens uses a shallow structural aluminium profile which takes single or twin lamp fluorescent luminaires and can house a wide range of built-in modules.

A specially designed coupler increases the flexibility of the system and permits up to six fittings to meet at a junction or to butt up against the wall.

An example of a tubular lighting system where the modular elements are triangular in cross section. This is one of several shapes in Acorn's Ferral Line range made in Italy.



Taking it a stage further. Concord's Neon 120 linear system permits the use of specially designed neon shapes which act as pictograms or directional symbols in a light guidance system.

uplights. Kotzolt's matching range includes desk lights.

Buchanan Lighting handles the Lamp SA system made in Spain. This consists of modules that house the lamp control gear and also form the couplers between rods that hold the system rigid and runs of bare fluorescent lamps. If required, perforated metal diffusers can be supplied for the lamps.

For more information about any of the products mentioned, circle the enquiry number on the Reader Reply Card:

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| Hendal        | ..... | No 209 |
| Ideal Concept | ..... | No 210 |
| Kotzolt       | ..... | No 211 |
| LB Lighting   | ..... | No 212 |
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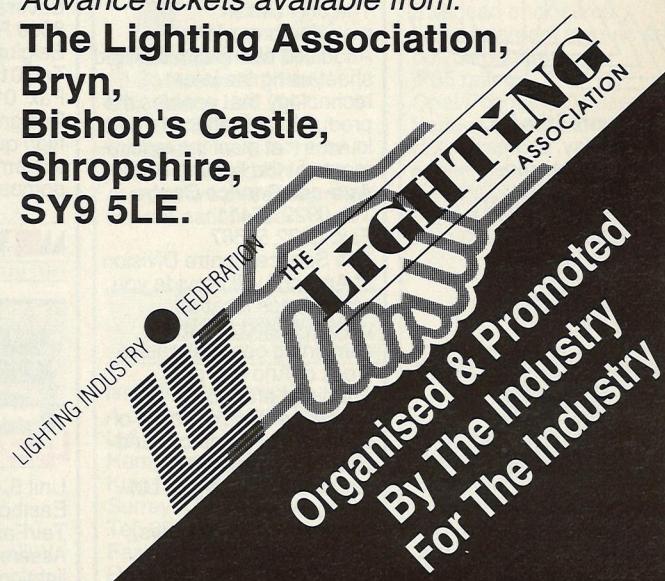
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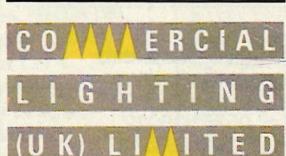
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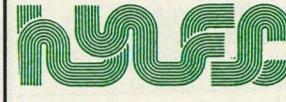


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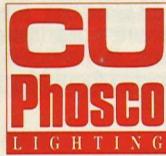


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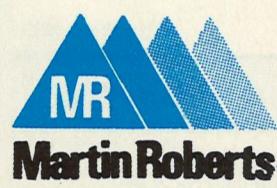


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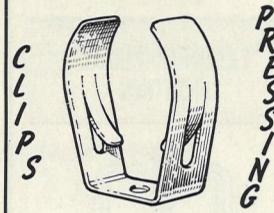
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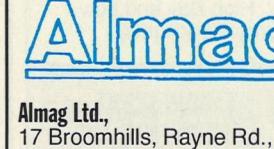
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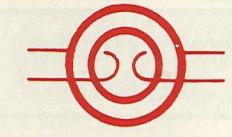
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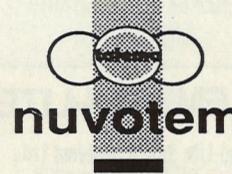
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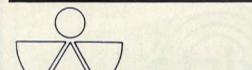
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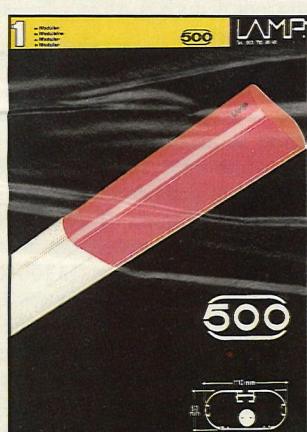
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# CATALOGUE DIRECTORY

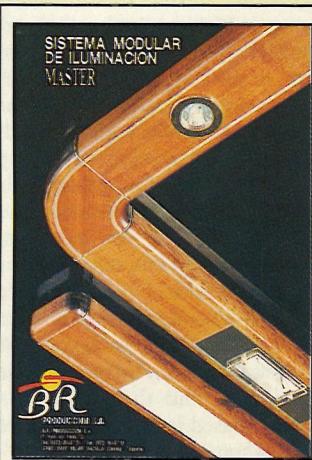
# CLASSIFIED



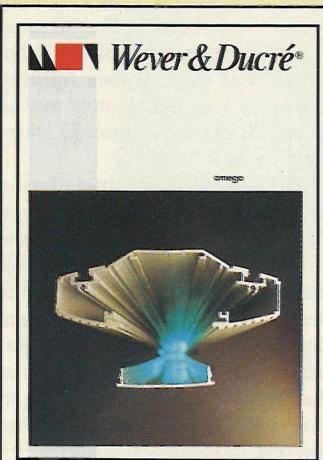
Series 500 is one of the new designs from LAMP modular lighting systems programme, one of the most comprehensive in Europe. In this issue of LEN, a pamphlet of the LAMP programme is included. This is only a small selection, and a full catalogue, including our continuous line systems, recessed systems, asymmetric reflectors, halogen and dichroic spots, is available: circle 90



LB Lighting Limited are renown for their engineering of purpose made luminaires and have in their latest catalogue illustrations of a wide variety of specialist manufactured units, in addition to standard product ranges. Project photographs include churches, swimming pools, offices, shopping centres, stations, operating theatres and banking halls: circle 91



This is the ultimate linear system made from solid wood, which is available in many wood finishes to match existing or new interiors. The system incorporates fluorescent, low voltage and dummy modules and is ideal for Receptions, Banking Halls, Boardrooms, Quality Offices, etc: circle 92



Wever & Ducré, a dynamic specialist manufacturer with over 8 years experience successfully marketing to discerning customers worldwide, offers an exclusive and comprehensive range of infinitely superior state of the art luminaires for commercial and retail applications. Products are made to perfection with only top quality traditional materials considered in a range of finishes: circle 93

## NATIONAL LIGHTING

## REGIONAL SALES MANAGER - NORTH REGIONAL SALES MANAGER - SOUTH

As part of our planned expansion programme we require two experienced sales professionals.

We are a specialist Nationwide Lamp and Lighting Distributor. Applicants must have a thorough knowledge of the user, retail and electrical contractor markets, and are likely to come from a Lighting Distributor or Electrical Wholesaling background.

Candidates will be able to provide evidence of strong negotiating skills and a track record of achievement. You will be highly motivated, have good management and organisational skills, with strongly established connections and the necessary commitment to make a positive contribution to the continuing success of the company. New business development and the achievement of sales targets will be your main priority.

You will be reporting to the Sales Director. You will have the presence and credibility to effectively deal with all levels of customers.

Excellent terms will be offered to the successful candidates. Expansion plans will leave opportunities for advancement in a progressive company.

Please write with full C.V. to: John Hartley  
Sales Director  
The National Lighting Company Limited  
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BCP Lighting offer a range of traditional cast iron, steel cored, columns from 2.2m to 11.5m in height to take from 1 to 4 lanterns plus a matching range of wall brackets in 14 styles. These are complimented by 10 designs of traditional lanterns, both painted and bronze finish, to take lamps up to 250W. A computer aided roadway illumination plot service for each design is available: circle 94

## LIGHTING CATALOGUE

**CATALOGUE DIRECTORY**  
Every year companies spend huge amounts of time developing catalogues and one of the biggest problems they face is publicising and distributing them to specifiers. If you have a catalogue, printed or in production which is targeted at lighting specifiers then this section can help you.  
Contact: Alastair Moyes on 081-975 9759: circle 95

## HILCLARE P.L.C. SALES REPRESENTATIVE

A leading manufacturer of commercial lighting are seeking a sales representative calling on electrical contractors, consulting engineers, and architects. This post offers a good basic salary + commission, company car and the usual benefits. The person required must be capable of working on their own initiative and cover all regions of the UK.

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**Technical Sales Consultant** - Northern Home Counties Negotiable basic salary (dependent on experience) (£20/22K) Open ended commission structure O.T.E. 1st year £30K + GTi/Sri choice vehicle + all expenses + petrol card + p.p.p. + pension scheme. Calling on interior designers, architects, electrical contractors, local authorities promoting full range of fluorescent lighting systems, with steady progression to line management.

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Specialists in Lighting Sales Recruitment - For these and other posts we are handling please call, Simon Neil at Morgan Grant Consultants on 0734 753535 or send your CV to: Orion House, 4 Danehill, Lower Earley, Reading, RG6 4UT.

## MORGAN GRANT

## SALES AGENTS REQUIRED

Wever & Ducré, a leading manufacturer of infinitely superior lighting products for commercial and retail applications, are looking for top professionals in the Specifier and Wholesale Distributor markets.

Excellent commissions enabling high potential earnings

Please write in strict confidence with full C.V. to:  
Wever & Ducré, Beversesteenweg 565, 8800 Roeselere, Belgium

**SEE PAGE 11  
FOR FURTHER CLASSIFIED**

# Selling the idea of lighting

The European Lighting Awards were recently presented in Munich. *Lighting Equipment News* takes a look at the best in recent European lighting installations.

**G**ood lighting enables people to perform efficiently and to feel comfortable and relaxed. That is the message promoted by the European Lighting Council, so a contest which highlights skill and creativity in the lighting field has formed an important part of the Council's public activities since 1988. Given the wide range of lighting applications each contest, which is run every two years, takes a particular theme. In the first year the theme

was public lighting; and when the award was repeated in 1990 it was lighting at work.

Design and benefit are keynotes, so both the designer and the owner of the lighting installation are invited to participate together and both considerations are equally important in judging entries.

The third European Lighting Contest, organised in 1992, took as its theme lighting for selling. Lighting schemes completed between 1 January 1990 and 30 April 1992 were eligible to partic-

ipate and a total of 33 entries was received from 12 countries.

The judges on this occasion were: Jean Balladur (chairman) (France), David Loe, Prof Bartenbach (Austria), Dr Bonicelli (Italy), Tommy Goven (Sweden), and Gerard Stoer (the Netherlands). Dr Ramaer acted as secretary to the panel.

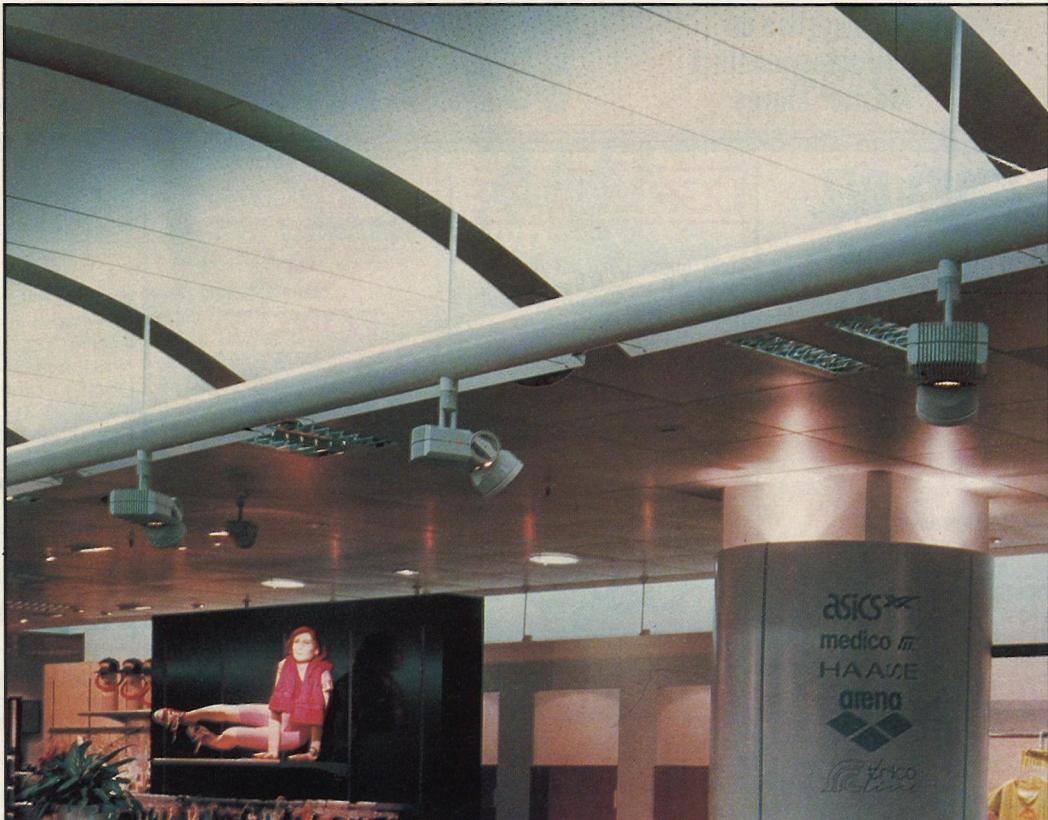
The jury was able to decide between the first and second prize winners. However, three contestants gained equal marks and were each awarded a third prize. In addition, two further schemes were commended and a final scheme for a banking hall, although not entirely meeting the sales theme of the contest, was awarded a special prize for merit.

## Ambience

Creating a successful ambience is the key to successful trading, and light is a powerful medium for creating atmosphere and influencing the mood of people. The buyer is looking for an environment that is in harmony with both the quality and the price of the goods. Put more simply, lighting for a cash-and-carry shop does not suit a luxury boutique and the reverse is also true. The seller is more interested in the economics of investment and operation.

Overall winner of the contest was the Oberpollinger sports and toy department store, Munich, part of the Karstadt chain. Behind a traditional facade in the city's historic centre the store conceals a completely modern interior of over 7500 sq m where the emphasis is on quality.

A canvas covered archway over the main circulation route carries rows of halogen spots for display lighting, and is itself indirectly lit



Interior of the Oberpollinger Store, Munich, showing the canvas archway and display lighting.

by metal halide lamps. Halogen accent lighting is provided in the escalator and cash desk areas to make these clearly visible from a distance. Ambient lighting is generally indirect, provided by uplighters mounted along the walls and on columns.

The overall design concept is that general lighting is provided by metal halide and high pressure sodium lamps, backed-up by halogen spotlights for display lighting. Individual solutions mark the special requirements set by different types of goods and display layouts, and in certain areas such as the store's restaurant where a certain amount of decorative lighting is used to create

an atmosphere of relaxation. The total lighting load of the installation is 292 kW.

The jury considered this installation produced an excellent shopping environment and was a creative solution executed to the highest standards of lighting engineering. As such it was a worthy European winner.

## Runner up

The second prize winner, the Marien Pharmacy in Eichstaett, Germany showed a lighting solution for another historic building but on a very different scale.

Here, the need was to create an identity for the shop and provide for modern working conditions in

of car interiors, and colour rendering must be excellent.

In addition to the customary problems, the Mazda car centre in Espoo, Finland – a further third prize winner – presented problems because of the building in which it was housed. The floor here is finished in granite and much of the front wall is glass. This means there are practically no reflecting surfaces to aid light distribution, so only direct lighting can be used. Finally, the very high illuminance levels required must not disturb work in adjacent office spaces.

The design solution uses a lattice-beam grid system, fitted with a large number of metal halide spotlights. Lamps with a cool white light source of 4200K are used to display the cars, providing a minimum of 1500 lux. By contrast, the circulation areas receive warm white (3200K) light from metal halide lamps in pendant luminaires at the much lower level of 100 lux, so that attention is not diverted from the cars. To avoid the predominantly dark surfaces creating a tunnel effect, wall washers are used together with cool white metal halide lamps. Office areas are lit using 18W fluorescent lamps. The total installed load here is 35kW.

This scheme is a well designed and implemented solution to an extremely difficult lighting problem, and one which takes account of energy considerations.

## Chic comfort

The Laura Bakens ladies fashion shop in Helmond, the Netherlands, was also awarded a third prize in the contest. The shop formula is for quality fashion for the elegant woman in line with leading fashion trends. The shop

decor underlines this concept: it is chic and stylish, but relaxed and comfortable rather than intimidating. Lighting had to underline this sense of exclusivity and create a festive atmosphere. Display windows are brilliantly lit using high pressure sodium in adjustable spotlights, and the same light source is used in the entrance area to the shop.

The new lighting installation uses mainly low voltage halogen downlighters, and those above the entrance and dispensing desk are purpose designed. The base of the desk is lit by a row of fluorescent lamps set into the fitting. Metal halide uplights accent the doors at the rear of the premises leading to the office and laboratory. The lighting load is 32.3 W/sq m.

The jury admired the way the solution to this lighting problem enhanced the building interior while giving excellent conditions for both staff and customers.

Car showroom lighting presents particular difficulties. A high illuminance level is required on car bodies to provide a high degree of modelling and create sparkle, but reflected glare must be avoided. Equally, enough light should be available to allow easy inspection



Another modern interior in a historic building – the Marien pharmacy.



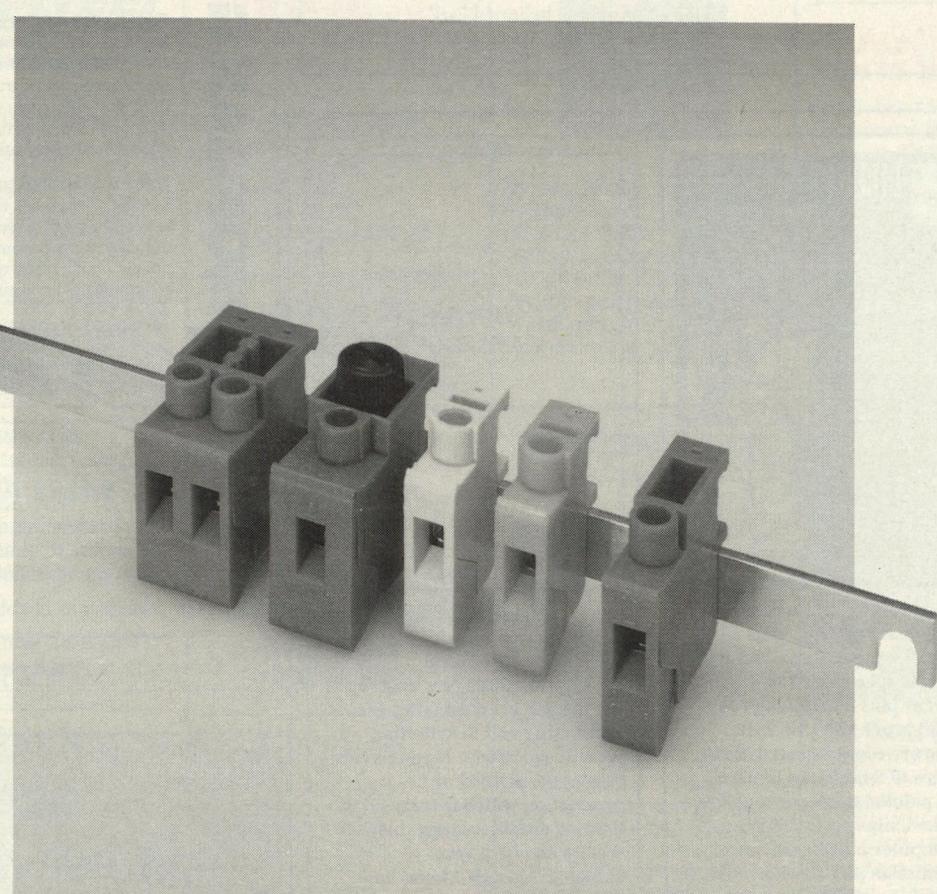
Casino supermarket – quality lighting with neon for fun.

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columns and by two Venetian crystal chandeliers.

Casino is one of the major supermarket chains in France. The company is very conscious of the importance of lighting in creating comfortable shopping conditions and this formed a major part of the brief for the new branch in Annecy, a town in the French Alps.

General lighting is provided by warm white fluorescent lamps in surface-mounted luminaires, arranged in continuous rows above the shopping lanes. In the wine department the general lighting level has been kept lower to create the intimacy of a wine cellar, and this effect is heightened by the use of a dropped ceiling finished in black with inset compact fluorescent downlighters. All specialist sections within the shop are signed in brilliant neon.

In the bakery colour rendering must be good. Here, adjustable spotlights fitted with high pressure sodium lamps are used to emphasise the fresh, crisp appearance of the bread. Direct lighting on the delicatessen section is provided by fluorescent lamps in asymmetrical luminaires. Finally, in the checkout area downlighters with high pressure sodium lamps provide the high illuminance levels required for security purposes. At the same time the warm white colour of the light helps aid relaxation in an area where customers may have to queue. The total installed lighting load is under 20kW.

The high standard of lighting in this supermarket and the originality of the individual solutions make it another third prizewinner.

#### Banking dome

Although not strictly speaking a *retail building*, the jury also saw fit to award a special prize to the renovation of the banking hall of the Royal Bank of Scotland in Edinburgh for the originality and neatness of the design solution and the high standard of technical realisation.

The head offices of this bank occupy a late eighteenth century building in the centre of Edinburgh. The heart of the building, which is little changed since 1860, comprises a magnificent banking hall crowned by a dome 18 m in diameter, which is pierced by 120 tiny, star-shaped windows.

In 1989 it was decided to restore the building, reinstating the original colour scheme of bright blue and gold leaf and installing new lighting. Such an installation had to enhance the decor and improve working conditions for staff and customers. The most important requirement was that it should be unobtrusive so that it would not spoil the ceiling space.

The dome was subsequently lit from below using pairs of rectangular floodlights fitted with 1500W linear metal halide lamps. These floodlights are placed in the four corners of the hall and hidden from view by decorative mouldings. The choice of a linear lamp and its careful aiming ensures an even dispersion of light over the curvature of the dome without causing glare or creating hot spots at low level. The excellent colour rendering of the metal halide lamps emphasises the brilliancy of the restored colour scheme and the indirect nature of the lighting provides comfortable working conditions within the banking hall itself.

Runners up in the contest were an office furniture centre in Brussels and a shopping development in France. The Office Pavilion Etao Buro is a leading office furniture retailer in Belgium. Its premises are located close to the Heyzel Trade Centre.



Laura Bakens shop (above) uses warm white lighting for comfort; while the Mazda car showrooms use white light for a high-tech feel.



In addition to providing showrooms, the centre is also used as an office, so the lighting has to provide comfortable working conditions as well. Ambient lighting of the sales area is provided by fluorescent lamps in built-in luminaires. Local and accent lighting is provided by high pressure sodium, metal halide and low-voltage halogen lamps in a large number of adjustable, ceiling mounted downlighters.

The lighting in the manager's office and conference areas can be programmed, switched and dimmed by infrared remote control. Finally in the display windows, microchip-controlled moving spotlights provide accent lighting to attract the passer by.

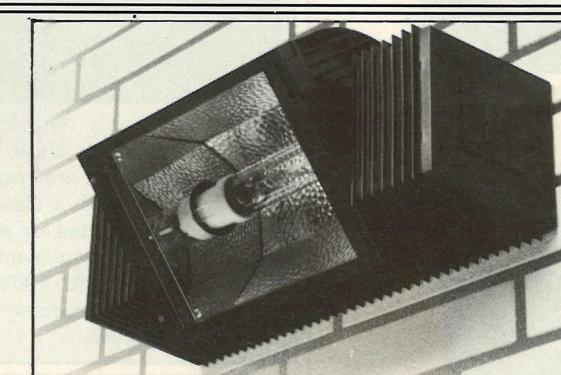
The second commended scheme, the Belle Epine shopping centre in Thiais, a southern suburb of Paris, was originally built some twenty years ago during the energy crisis. Severe restrictions were imposed on lighting at that time with the result that after dark the main shopping mall was lit only by spill light from the shop windows and signs giving an illu-

minance level of 10-20 lux.

When in 1987 the decision was taken to extend and renovate the centre, a key element was a lighting scheme for the mall. This was to create a quality ambience while not interfering with the commercial interests of the individual shop units - the shop windows had to remain the chief visual attraction. Moreover, to reduce heat load on the air-conditioning system the installed power should not exceed 30 W/m<sup>2</sup>.

#### Efficiency

To meet these requirements the installation uses compact fluorescent lamps in ceiling mounted downlighters for general lighting. Lines of low voltage halogen spotlights over the balustrades of the upper galleries add sparkle and concealed halogen floodlights above the main shopping mall accentuate a series of decorative arches along the sides. The warm white lamp colour in the mall provides an inviting atmosphere and contrasts with the bright shop window lighting, keeping this as the focus of attention.



9 Grundy Street, Liverpool L5

**Veelite**

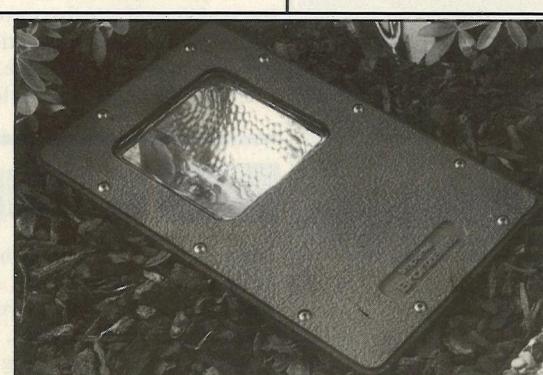
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Reader Service No. 8

## CLASSIFIED 081-975 9759

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Young, dynamic Spanish company manufacturing high quality lighting fixtures for residential and commercial uses wants to establish a UK distribution network. We are looking for professional people as:

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Our products are grouped in three lines: Designer, Neoclassic and Traditional and consider table-, wall-, ceiling-, floor lamps and portrait spotlights. Materials are solid brass, aluminium, African woods, iron and mouth-blown opal glass. Our programme in the upper-medium price range adds up 160 references and three finishings.

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### RON DURY AD

Ronald Dury of Manlight Lighting was chosen by Services Consultants David Witt Associates to supply the uplighters for their recent B.E.T.A. award winning Dare Estates project in Reading.

Tel: 0732 451744

Reader Service No. 96

**SEE PAGE 9 FOR FURTHER CLASSIFIED**

### ETERNA LIGHTING LTD

#### SALES & MARKETING DIRECTOR

We are the manufacturing subsidiary of a Public Company Company and require a Sales & Marketing Director to spearhead the growth of our business. In addition to manufacturing utility lighting products for the retail and electrical wholesale markets, we are also market leaders in the supply of lighting to the furniture and have substantial business supplying components to other lighting manufacturers.

This appointment is to complete a part of the small team managing the development of the business. He will require to be a capable salesman and administrator, with sufficient relevant experience to be able to assume responsibility for planning our future marketing strategy.

Salary package around £27.5k includes incentives, Company car, pension and health scheme etc.

CV's to:  
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## MANAGING DIRECTOR

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You will need in depth technical knowledge pertaining to the Lighting Industry, in order to successfully realise specific customer "new product" requirements. You will also need to have first-class contacts with OEMs, end users (ie specific retailers) and major specifiers. Knowledge of a second European language will also be an advantage. Finally, you must possess high business acumen and have the proven ability to direct and manage a growing business profitably.

Our client is part of a major plc.

*Send your CV in the strictest confidence, or telephone for further information to Dominic Grudzien:-*



**James Knight**

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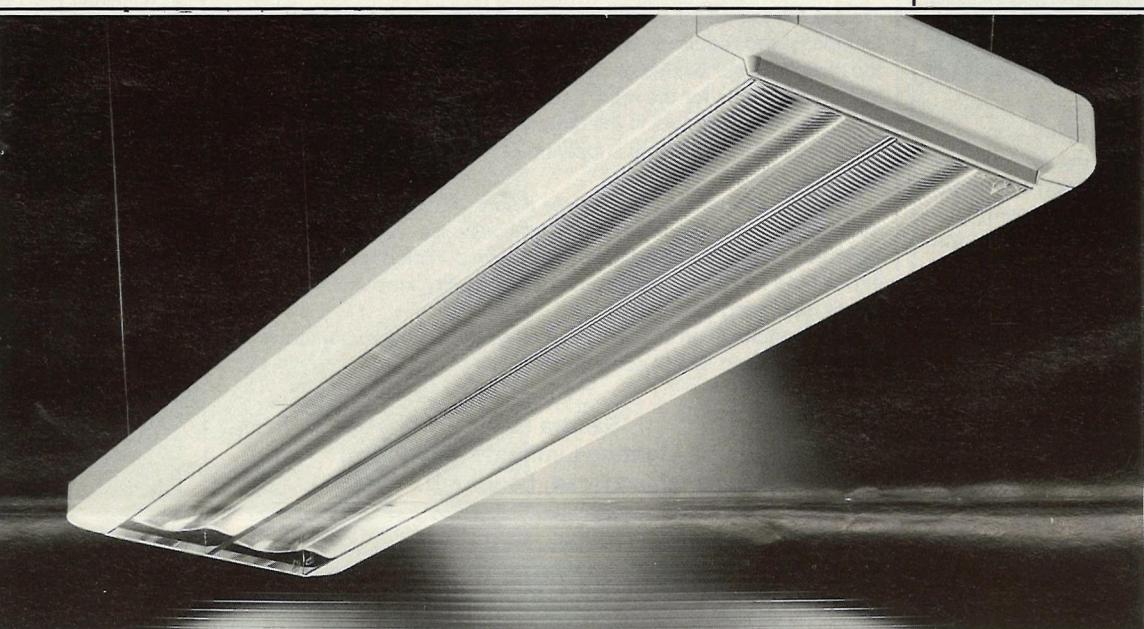


**DELTA**

Reader Service No. 9

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As suppliers we are committed to a high standard of quality. This is achieved by using the latest in modern manufacturing methods and lighting technology and can be witnessed in the design and development of the LIP Surface and Recessed luminaires: **A totally new concept** for fluorescent lighting that will ensure a place within the market well into the next century.

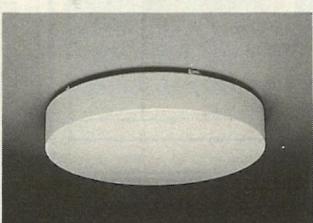
With our commitment you can increase your range by including our products without having to capitalize on expensive design, development and tooling costs.

Catalogue and data sheets of full product range available to lighting manufacturers and OEM'S.

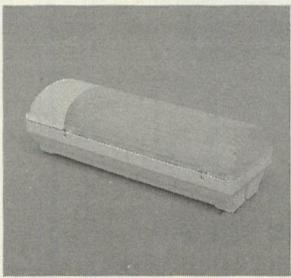
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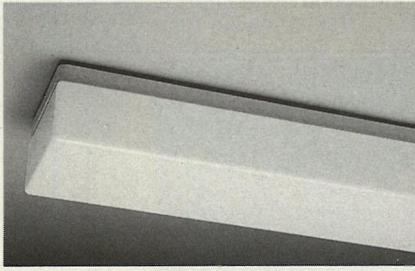
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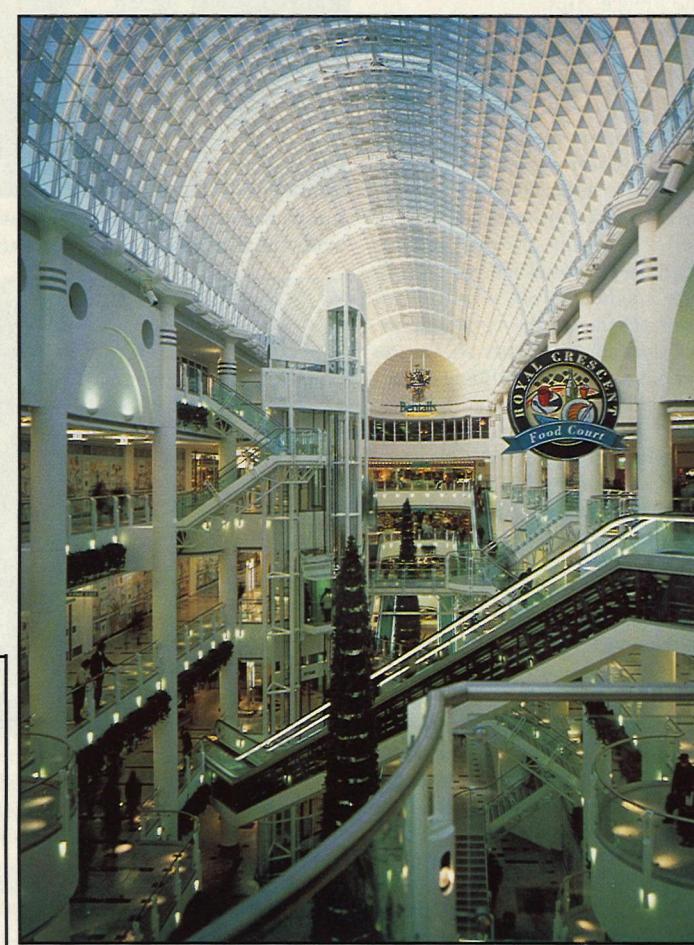
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best British exterior lighting scheme, while the British Pavilion at the Seville exhibition carried off the European prize.



What is probably the UK's first floodlit hoarding is now on show at London's Hyde Park Corner. The PSA's building management team are covering up unsightly work going on at Apsley House with a classical vista. But now the facade has become an attraction by night as well as by day with a floodlighting installation from Philips Lighting. Seven SNF 100 floods equipped with 100W SON-T lamps bathe the hoarding in light, while six narrow beam downlights pick out the black advertising panels.

## Whole-life EMC

ERA Technology's eighth annual conference and exhibition on electromagnetic compatibility will focus on the problem of designing and manufacturing products that will maintain compatibility throughout their service life.

EMC 93 will be held on

18 February at the Heathrow Penta Hotel, London. It will cover new techniques and technology and discuss factors to be considered in managing each aspect of the whole-life EMC process.

Information is available from Laura Christie at ERA Technology on 0372 374151.

## IN YOUR NEXT ISSUE

European Lightshow, to be held at Earls Court 2 in February 1993, will for the first time cover the whole range of decorative, commercial and technical lighting available in the UK.

To mark this move to give the British market a single comprehensive lighting exhibition – over 140 companies will be present – the January issue of *LEN* will include a comprehensive preview.