

# LIGHTING

## EQUIPMENT NEWS

1 JUN 1988

MAY 1988

### In brief . . .

● **Bernard Szeps Lighting Ltd** has an in-store display stand for its outdoor lighting range. It is in three self-assembly parts and Bernard Szeps will prepare it with exhibits to retailers' specification. Details from 0582 597345.

● **Bradley & Lomas** has acquired Electronic Power Services Ltd, Leeds, which makes a range of inverter, uninterruptible power supplies and rectifier systems. Bradley & Lomas has just opened a new factory in Chesterfield, Derbyshire, for its emergency lighting equipment. Details from 0246 260789.

● **Abacus Municipal Ltd** has been awarded a contract to supply lighting masts for Lahore Airport, the third largest airport in Pakistan. Extensive modernisation work involves building a new runway and Abacus is supplying 20m raising-and-lowering masts for apron floodlighting.

● **Hawthorn Leslie Group** has purchased the electrical distribution division of W M Shakeshaft Ltd. The division, which has branches in Manchester, Preston and Ellesmere Port, will trade under the name Shakeshaft Electrical Wholesale Ltd. More information from 0932 858322.

● **Anglepoise Lighting Ltd** has recently been awarded recognition for its quality assurance procedures under BBS5750.

● **Proteus Switchgear** occupies an additional factory this month in Redditch. Consumer units, enclosing, circuit breakers, HRC fuse carriers and adaptable boxes are being made there. Further details from 0527 23430.

● **Fleet Engineering Ltd** has been authorised to provide lighting and other building control systems based on Siemens programmable logic controllers, incorporating state-of-the-art security, monitoring, interlocking facilities and colour monitor graphics.

● **The Base and Shade Co. Ltd** has acquired from Crossland Lighting plc the entire assets of Panlima Lighting Ltd. Panlima's manufacturing activities have been transferred to the Base and Shade Co's factory in Bournemouth. Simon Levell, former managing director of Panlima, has joined the Base and Shade Co. as sales director.

● In our April issue, Pat Sansom's name was incorrect in the contents list on page 1. We regret any inconvenience this may have caused him.

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## Lighting the Armada

1588 marked a watershed in English history, and to celebrate the four hundredth anniversary of the defeat of the Spanish fleet, the Armada Exhibition opened its doors at the National Maritime Museum, Greenwich, on 20 April.

The exhibition includes 16 tableaux, portraying Elizabethan life, which feature some of the finest artefacts of that period drawn from throughout Europe. Lighting forms an integral part of each tableau. The difficulty was to achieve maximum effect in displaying while minimising potential damage to exhibits. Many artefacts and paintings are so sensitive that the maximum permitted lighting level to prevent permanent damage was only 150 lux, and

low voltage lighting chosen.

Exhibition designer, Andy Murray of Madam Tussauds, consultant lighting advisers to the exhibition, chose Microlights to give the image of scaled-down theatre lighting together with the required flexibility. Fittings utilised the existing light track. The use of theatre-type lighting allowed the use of colour gels in front of lights to produce special effects. Additionally, by using gobos, moving effects such as clouds and ripples on water were produced.

Over 450 fittings were supplied to the Armada Exhibition, including over 150 Microprofiles, 18 Microfresnels, and 270 Microfloods. Further details from Microlights, tel: 0672 55611.



Lighting was chosen to prevent damage to exhibits.

### You are invited . .

Photometric data for computers is the subject of the new technical memorandum No.14 from The Chartered Institution of Building Services Engineers.

It will be launched at a meeting on Wednesday 6 July at 5pm at the Building Services Engineering Centre, CIBSE, headquarters, 222 Balham High Road, London SW12 9BS. Anyone interested is invited to attend.

An increasing range of lighting programs can be run on a growing variety of computers, but data available from manufacturers is rarely in the correct format.

The CIBSE Standard File Format addresses this problem for basic photometric data on indoor luminaires, road lanterns and floodlights. There is a separate format for derived data for interior scheme calculations.

Using the format ensures rapid electronic data transfer independent of programming language.



Low voltage lighting adds sparkle to the atrium of The Treaty Shopping Centre at Hounslow, Middlesex. The outdoor atmosphere is emphasised by the multiple amenity lanterns on columns.

### Goodbye Mike Goodwin

Mike Goodwin, head of Philips Lighting in the United Kingdom, has been promoted and is moving to the USA. His new job title will be executive vice-president of Philips Lighting Company, North America. He will be based in New Jersey.

Heading the UK operation of Philips from 1 July will be Hein Vanderschoot, who comes to Britain from Canada where he is vice-president and general manager of Philips Lighting.

### Emess continues to expand

The Emess group of companies continues to go from strength to strength. Emess plc has just announced a profit after tax in 1987 of £6.3M compared with £2.8M in 1986.

During 1987 Emess acquired Tenby Electrical Accessories with operations in the UK and Singapore, and also a 25% holding in the German lighting manufacturer Brillantleuchten AG. These two companies have now embarked on a series of joint developments.

Since the beginning of this year, Emess has acquired the Alsy Corporation, a USA supplier of domestic luminaires. It has also launched a new company, Quest Lighting, to serve the wholesale markets.

In the group's UK domestic lighting companies, mechanisation has been increased and the number of operating sites reduced. New investment and rationalisation is expected to improve profits and efficiency at Poole Lighting, Emess Lighting (UK) and Sandygate Pottery.

In the commercial lighting division, Marlin made considerable progress. Emphasis will continue to be placed on new commercial lighting products.

### Thorn to bid for Holophane

Thorn EMI plc has announced its intention of purchasing the French group Holophane and the minority of about 13% held by the public in its subsidiary, Europhane.

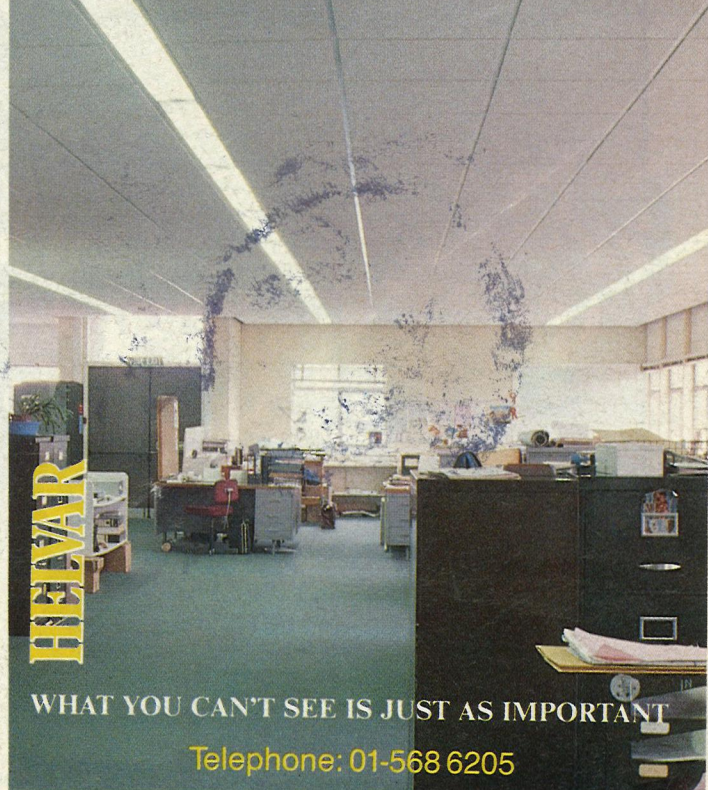
Principal shareholders are in favour of the proposed offer and the necessary applications will be filed with the French Treasury and the Paris Bourse.

Europhane is a major light fittings manufacturer ranking second in the French market, while Holophane is a successful supplier of

pressed glass products to the automobile industry. Consolidated turnover for the company in 1987 was FF 710 million. Thorn Lighting already operates in France through Thorn Eclairage SA, has subsidiaries in 11 other countries and manufactures in nine countries.

The offer was stated by Thorn EMI chief executive, Colin Southgate, to be in line with Thorn EMI's strategic commitment to international growth and to strengthening their core lighting business. 'Europhane, in particular, with its exciting and complementary lighting products would substantially add to Thorn Lighting's established position in Europe and further strengthen our move towards the single market in 1992' he stressed.

### Congratulations to South Western Electricity Board on their EMILAS award



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Reader Service No. 1



# NEWS

## Residents back better street lighting

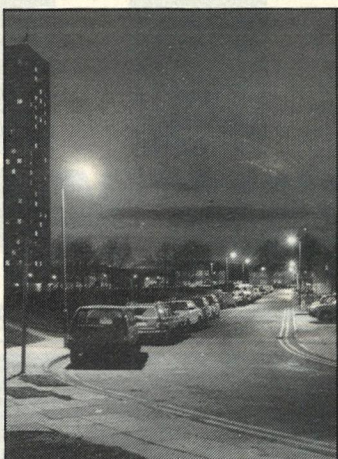
The effects of improved residential street lighting on crime and the residents' sense of well-being are being investigated by Middlesex Polytechnic's Centre for Criminology and Police Studies. The survey, sponsored by Thorn Lighting, is centred on Edmonton Green, London, and examines residents' reactions to the upgrading of their local street lighting.

Responses to date have proved positive. The major benefits expressed by residents are: a greater feeling of security, brighter lighting of the roads and paths, the ability to distinguish colours, and being able to view parked vehicles

directly from their homes.

The survey studies the relighting of a residential area comprising a 200m road, a 30m footpath leading under a railway line and a 50m stretch of side road leading to a main road. Originally the roads were lit with 35W low pressure sodium lanterns and the footpath by post top 80W mercury lanterns. These were replaced by 100W and 150W high pressure sodium lanterns respectively.

The previous lighting was gloomy, giving less than 1 lux illuminance, and did not even meet the minimum maintained lighting levels detailed in the draft

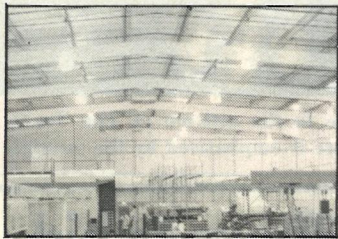


British Standard code of practice on residential lighting, BS 5489: Part 3.

The Edmonton Green project illustrates how lighting lanterns, mounted on existing columns, can greatly improve the lit environment of a residential area. The ideal design solution is to adopt a completely new installation, including the positioning of lighting columns, but economic constraints often make this difficult to achieve. The project recognises this practical limitation. A full analysis of the results will be published shortly. Further details from Thorn: 01-366 1165.

## Factory lighting for efficiency

Plysu has just opened three new factory units in Newport Pagnell and Milton Keynes, equipped with Primalume reflectors. Plysu, blow moulders of plastic containers, were looking for increased lighting efficiency coupled with improved visual ambience in the workplace. So, Holophane designed the Primalume luminaire by redeveloping their original open glass prismatic



reflector for use with high efficiency discharge lamps.

Primalume is a parabolic borosilicate glass reflector which controls and redirects 60-70% of the light from bare lamps and redirects it downwards between 0°

and 60° elevation angles.

The uplight, which would previously have been wasted, significantly enhances visibility in the workplace because it is reflected from the ceiling and vertical surfaces. This leads to increased illuminance and an apparent reduction in brightness of the actual lighting fixture.

The factory at Newport Pagnell needed a minimum average illuminance level in excess of 500 lux on the work plane, so Plysu chose Primalume for use with 400w SON/T lamps.

## Fuse unit safety warning

An incident has been reported concerning safety on a 13 amp fuse unit involving the isolation of the fuse carrier locking screw.

The fuse units concerned are those manufactured by Dorman Smith Britmac Ltd, (catalogue

number 13FU). This type is commonly associated with fused spur units and carries a 13 amp fuse to BS 1362.

Only units manufactured after January 1984 and with a locking screw are potentially affected. In certain circumstances, it is possible for this locking screw to become live during insertion or removal of the fuse carrier, although perfectly safe in service.

Although only one incident has been reported, the company requests users of these units to contact them at the address below. Replacement nylon lockings screws and instructions will be provided. Current production items are fitted with nylon screws.

For further details please contact: Dorman Smith Britmac Ltd, Shelley Road, Preston. Tel: 0772 50711.

## People in Brief

● **Geoffrey Ohlson** has been appointed marketing manager of Tenby Electrical Accessories, as part of its expansion programme. Previously Mr Ohlson was with MK Electric.

● **Brian Parkes** has joined Chel-som Ltd as its agent for Scotland. He will also be responsible for export sales. He joined the company from R and S Robertson, where he was export sales manager.

● **BESA** has appointed a new director, Ray Harris. He succeeds Jim Ray who has now retired.

● **Tom McNamara** deputy managing director of SAFT (UK) Ltd, and well known in the battery industry, died on 6 April.

● **Bob Wilson**, managing director of Bradley and Lomas, a Paragon Group Company, has been appointed chairman of the Emergency Lighting Equipment Section of the Association of Manufacturers Allied to the Electrical and Electronic Industry (AMEA), which is federated in BEAMA.

● **Keith Holland** has been appointed marketing manager at Electrak International. He will be responsible for all marketing of the company's power distribution systems as well as UK sales.



Car parks, service areas and loading bays at the new Marks and Spencer and Tesco stores in Brookfield Farm near Cheshunt come equipped with Holophane luminaires.

The growing trend for bulk shopping, away from town centres, reflects the increasing mobility of the population, so adequate car-parking is crucial. The two 8 800 m<sup>2</sup> superstores have parking space for 1900 cars. Late night shopping, especially in winter, generates the requirement for minimum average lighting levels of 10 lux in the main car park, with higher levels on covered walkways.

The car park uses 274 clear sphere Caribe luminaires, with 70W high pressure sodium lamps, grouped on poles in twos and fours.

The luminaires contain a prismatic refractor, producing either square or asymmetrical light distribution, and minimising energy consumption and maintenance costs. The loading bays are equipped with Prismapackette luminaires and in the service areas the wall-mounted Module 600 luminaires are used. Further details from Holophane on 0908 649292.



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Gray Camplung's range of Meyer lighting units contains powerful, purpose-made lamps for even the most stringent of working conditions in almost every aspect of industry - shipyards and docks, railways, waterworks, foundries, factories, machine shops, construction sites, power stations, chemical plants, garages, oil rigs etc. The range includes multi-purpose string lamps, magnetic clamp lamps, construction site lighting, portable lamps and spots, Halogen floodlights and low-voltage spots. Every lamp is weatherproof, dustproof, splashproof, rugged, and practically indestructible. All Meyer lamps supplied by Gray Camplung are electrically safe and officially recommended by the various trade authorities. If you have a lighting requirement, give me a ring today.

Your faithfully,

*W.A. Boyd*

W.A. Boyd  
Sales Director

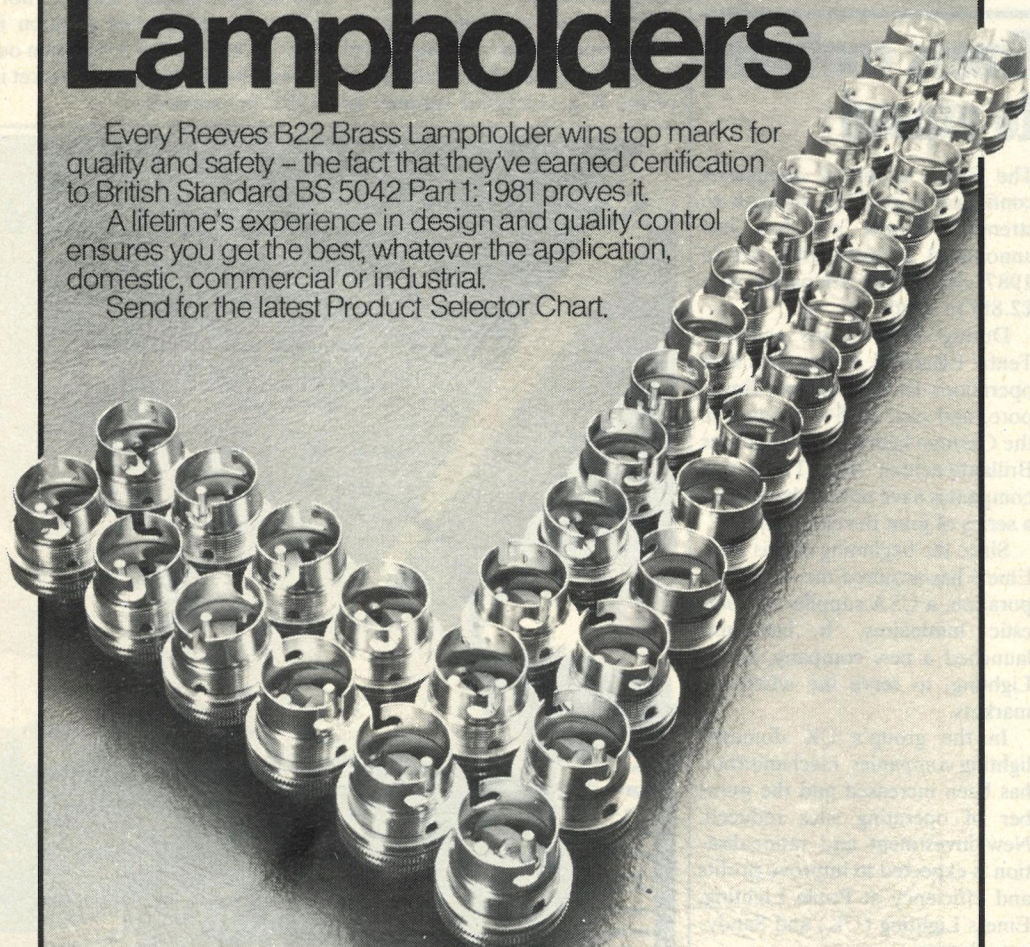
P.S. The attached photo shows the UNI 20 incandescent lamp. It can be used free-standing, wall-mounted or suspended indoors or outdoors. Heavy duty hard rubber base clear polycarbonate dome strain-relief mechanism for cable. 200w.  
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# NEW PRODUCTS

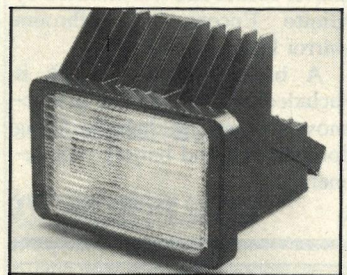
## Floodlights for indoor or outdoor use

Focus is a range of floodlight projectors made in Italy for indoor or outdoor use and available in the UK from Lampways.

There is a choice of light sources: 70W or 150W metal halide, 70W high pressure sodium, or 500W linear tungsten halogen. Gear can be either remotely mounted or integral.

Housings are made of diecast aluminium finished either black or white. The lens is tempered toughened glass.

The units are ingress protection rated IP55 so can be used outdoors as well as for indoor retail display.



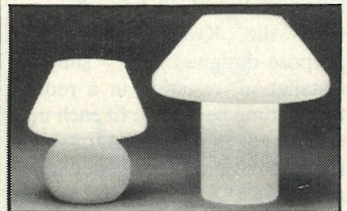
An optional photo-electric cell is available for automatic switching.

Reader Service No. 177

## Choice of white glass table lamps

A range of one-piece, white glass table lamps from The Green Tree Lighting Company is designed to blend with the clean uncluttered lines of modern decor.

The simple form of the lights is subtly enhanced by the frosted finish on the base and a single line around the top of the lamp.



The range includes two sizes of the round based table lamp, which accepts lamps up to 40W, and a larger model with a cylindrical base which uses lamps up to 60W.

Reader Service No. 167

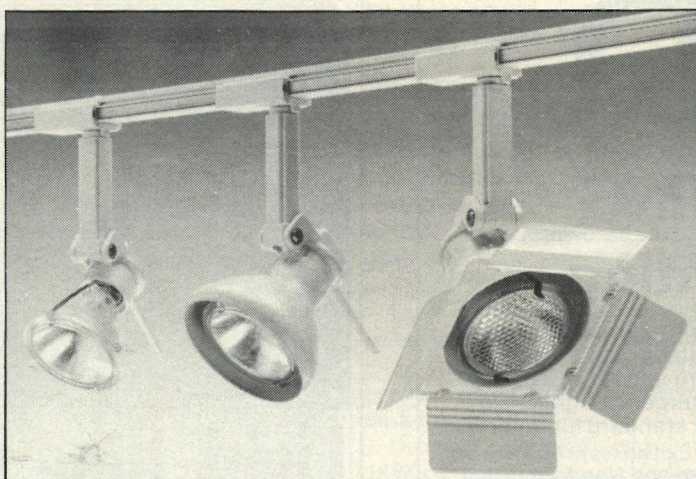
## Transformer for low voltage lighting

RAM Electronics has an electronic transformer for use with low voltage lighting.

It offers significant reductions in size, weight and operating temperature compared with conventional transformers, so giving advantages where space is restricted. A 15% energy saving is also claimed.

A 50VA unit measures 53 x 46 x 30mm and weighs 115g. Short term overload and short circuit protection are included.

Reader Service No. 176



## Tiller controls the light

Tiller is a miniature low voltage spotlight from Concord. It gets its name from the tiny arm provided on each fitting for ease of adjustment without the need to touch any hot parts or the bare lamp.

Versions are available for miniature track and individual mounting. There is also a model with integral transformer for use on mains supply.

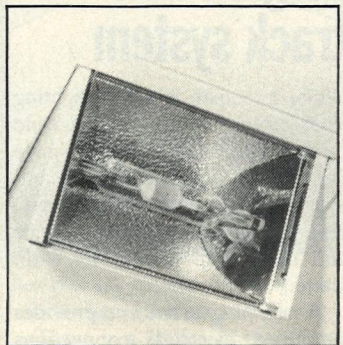
The spotlights are pressure diecast in zinc and powder coated

white. Lamp retaining clips protect against accidental dislodgement and eliminate vibration of the lamp pins.

Each fitting is supplied with a 50W sealed dichroic lamp to give either spot (13°) or flood (28°) beam spread.

Barn doors are also available and a push-fit cowl can be used to eliminate back light and rim scatter.

Reader Service No. 163



## Metal halide luminaires

A range of metal halide lighting fittings for commercial display work has been introduced by Program Lighting.

These downlights are available in 70W, 150W and 250W ratings. One model is adjustable.

Reader Service No. 175

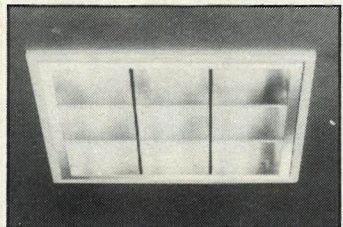
## Low brightness fluorescent modules

Beta Lighting has launched a low energy, high light output range of commercial luminaires.

The fittings use either three 11W, or three 18W PL type compact fluorescent lamps. The units fit standard 300mm or larger, ceiling modules and can be either recessed or surface mounted.

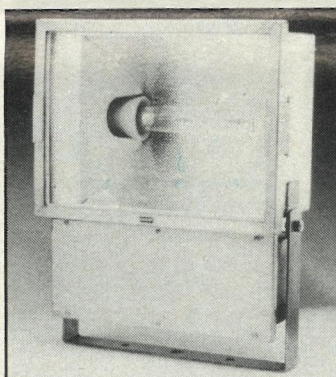
Low brightness louvres are finished either silver or gold colour.

Emergency lighting facilities can be incorporated if required.



The CFM range is suitable for applications such as corridors, offices, reception and lobby areas.

Reader Service No. 152



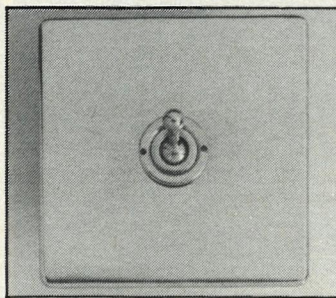
## Zone 2 floodlight

2000 Series, stainless steel, zone 2 floodlight (EXN) has been launched by Chalmit.

The 2000 Series offers many new design features and is claimed to be the only Zone 2 floodlight certified to the most recent and stringent British Standard for type 'N' equipment.

It uses tubular high pressure sodium lamps up to 600W and has integral control gear. There are two quick release fasteners for easy relamping and maintenance.

Ingress protection rating is IP67. Reader Service No. 155



## Dolly switches make a comeback

Wandsworth Electrical has introduced a range of light switches known as the Palace range.

Returning to the vogue of three decades ago, the range consists of flat metal plates in either brass or a silver or bronze finish with a matching dolly toggle and locking ring. Fixing screws are not visible. There are one, two, three and four-gang plates.

The Palace range is particularly suitable for buildings of character where a Victorian style accessory

blends with the rest of the decor.

This range sees the evolution to the original switches made in 1904 by Wandsworth, which were dolly type with a decorative fluted domed cover.

Reader Service No. 165

## Suspended uplights for VDU offices

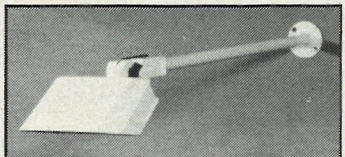
The Ares luminaire from Prima Lighting, designed for offices with VDUs, is suspended from the ceiling, with reflectors directing light upwards.

Available in white or ivory, Ares takes two fluorescent tubes of either 36W or 58W rating. The reflector is highly polished aluminium.

Reader Service No. 160

## Lighting for signs and facades

Powerlite Electrical products' Signlites are designed for the illumination of advertising hoardings, facades and signs outside pubs, hotels, or other commercial buildings.



Signlites are available in tungsten halogen, high pressure sodium and metal halide versions, mounted on extension arms.

Powermaster consists of a 500W open-fronted tungsten halogen floodlight.

Powerson Signlite uses a 70W-high pressure sodium lamps which can provide all-night floodlight, every night, for less than £20 per annum.

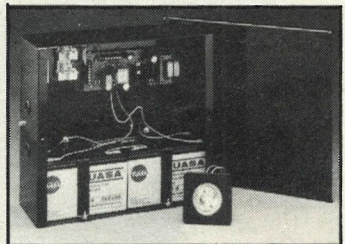
Powerwhite Signlite is a 100W metal halide floodlight.

Reader Service No. 158

## Emergency pack powers low voltage lights

Mattalex has extended to 12 variants its range of emergency lighting packs for low voltage tungsten halogen downlights.

The top-of-the-range pack will power a 12V 50W miniature tung-



sten halogen lamp off sealed lead acid batteries for three hours.

The simplest and most inexpensive form powers a 20W lamp for one hour.

Reader Service No. 162

## Fire retardant diffuser panels

A range of fire retardant luminous panels has been developed by Hepworth PVC Sheet.

The product called Novolux, offers a range of styles together with the option of custom-designed panels.

The material is stated to achieve Class 1 surface spread of flame (tested to BS 476: Part 7).

Applications include suspended ceilings, or luminous panels in a variety of buildings.

Reader Service No. 156

# COMMENT

## On the increasing pace of change

The increasing importance of building services has been one of the most outstanding developments in the construction industry over the past twenty to twenty-five years. During this period, services have become notable for their increasing complexity and, more particularly, that of their controls. Parallel to this development has been the increasing proportion such services assume in the initial capital cost of a building — sophistication of this order does not come cheap.

Lighting is one of the services which has been most affected in this way. As 1960s and even 1970s office blocks begin to show their age the retrofit market is seen to be ever more important. The EMILAS awards demonstrate clearly that the pace of change is such that relamping a building only fifteen years old may produce energy savings of 25% or even 30%, and payback periods of two years are fairly common. The current situation recently led the immediate past President of LIF, Mike Lippold, to estimate a saving of over £400 million on the UK energy bill if all lighting installations over five years old were replaced by today's more energy-efficient systems.

The situation is rapidly approaching one of planned obsolescence, a concept for long common with elements of construction, but much more recent in the services field. Such-and-such a lamp is popular because it can be used as a direct replacement for a previously popular type, utilising the same luminaire. Clips in, clip out solutions minimise disruption and permit the obsolete element only to be replaced, thus minimising the cost of change. Finally, controls are over-provided or built into energy management systems to permit flexibility for future change.

However, in this ongoing search for technological sophistication it should never be forgotten that the driving force should be to improve the lighting environment to provide a safer, more pleasant working environment for people.

## LIGHTING EQUIPMENT NEWS

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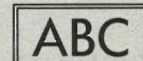
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# FITZGERALD

## LIGHTING



### Emergency Lighting

Fitzgerald Lighting manufacture a comprehensive range of self contained emergency lighting, suitable for almost any application. These products range from vandal resistant bulkheads, to very attractive glass emergency lights. Conversion kits can also be supplied for standard luminaires.

**BHNM3/BHM3** – A vandal resistant bulkhead manufactured with an aluminum base, and polycarbonate diffuser. Available with 8 watt lamps in Maintained or Non Maintained versions.

**CGKNM3** – Attractive Glass emergency luminaires. Ideal for Pubs, Hotels etc, in Maintained and Non Maintained versions.

**BHNMK3** – An inexpensive circular Non Maintained bulkhead with Krypton Lamp.

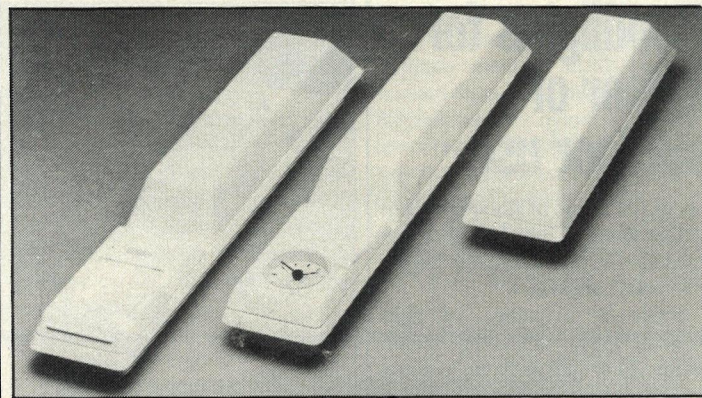
**EXM3** – Exit boxes in Maintained, Sustained and Non Maintained units. Standard fascia reads 'EXIT', but other signs available.

**BHVPNM3** – Non Maintained and Maintained bulkheads, suitable for indoor and outdoor use, with information and directional signs available.

**Conversion Kits** – These can be supplied in almost all of our products on request.

Fitzgerald Lighting Limited, Normandy Way, Bodmin, Cornwall PL31 1HH. Telephone 0208 5611, Facsimile 0208 4893

## NEW PRODUCTS



### Light, time and power

Lumiance has extended its Giotto range with five more products, using 11W PL type compact fluorescent lamps. All can be either surface mounted or recessed and some have a choice of switching method.

Giotto Linea is a bulkhead with IP65 ingress protection rating for interior and exterior applications. It can be used in the home for showers, for example.

Giotto Forte is splashproof to IP44 rating and incorporates

a 13A socket covered by a spring loaded, click-fit flap. It can be used, for instance, for power tools in the garden.

A shaver model incorporates a shaver socket and it is matched by Giotto Encore for bathroom mirror lighting.

A battery operated clock is included in Giotto Time. It is removable from the lighting fitting for resetting and battery replacement.

Reader Service No. 171

### Elegant new track system

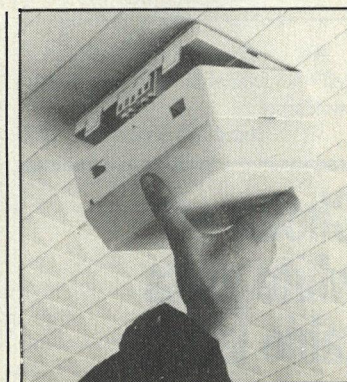
White Lytespan is a new lighting track from Concord with a wide range of accessories. It is a single circuit track with a low profile and improved electrical connector system. Track, pvc conductor strips and other components are satin white.

A new plug-in live end provides simplified electrical connections with a polarity selector.

The track can be assembled into any rectangular grid using L, T, X and flexible couplers. It can be surface mounted or, where the surface is uneven, mounted on a floating suspension. Pendant stems and wire suspensions extend the variations.

Other accessories include flexible conduit, an appliance adaptor and a display hook.

Reader Service No. 170



### Quickly installed emergency luminaire

As its name suggests, Menvier's latest emergency lighting innovation, the Kwiklite range, is purpose-designed to simplify installation, resulting in a reduction in time needed to fit each unit compared with installation time for conventional emergency luminaires.

Kwiklite is available in four models: 4W and 8W versions, in either maintained or non-maintained operating mode.

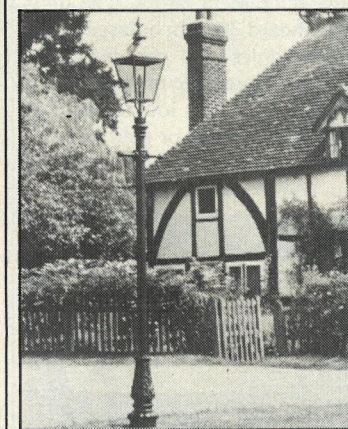
Each consists of two separate units, a lightweight base plate and a plug-in luminaire assembly which houses the sealed nickel cadmium battery cells. These cells are designed to provide a minimum of 3 hours' emergency illumination.

To install Kwiklite, the base plate is first fixed to the ceiling and then connected to the mains. The luminaire assembly is then plugged into the base plate, ensuring that the lugs, which hold the assembly firmly in place, are located securely.

Kwiklite's plug-in concept also reduces time and cost when modifying or upgrading the emergency lighting system following a change in use of the area or building. Luminaire assemblies of differing outputs or operating modes are simply interchanged or replaced, without the need for re-connecting.

The diffuser is made of opal prismatic polycarbonate.

Reader Service No. 166



### Security and courtesy for the home

Latest option offered with its Victorian style street lighting by The English Street Furniture Company is an infra-red security device.

Niteguard can be incorporated in any of the company's lanterns or added as a bulkhead fitment. It detects approaching people or cars and switches on the light for anything between 10 seconds and 15 minutes, or if required, until daylight. A photo-electric cell overrides the sensor in daylight.

As well as acting as a deterrent to vandals and intruders, it provides a courtesy light.

Reader Service No. 169

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

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most discreet, most flexible  
lighting system around today,  
specify White Lytespan.

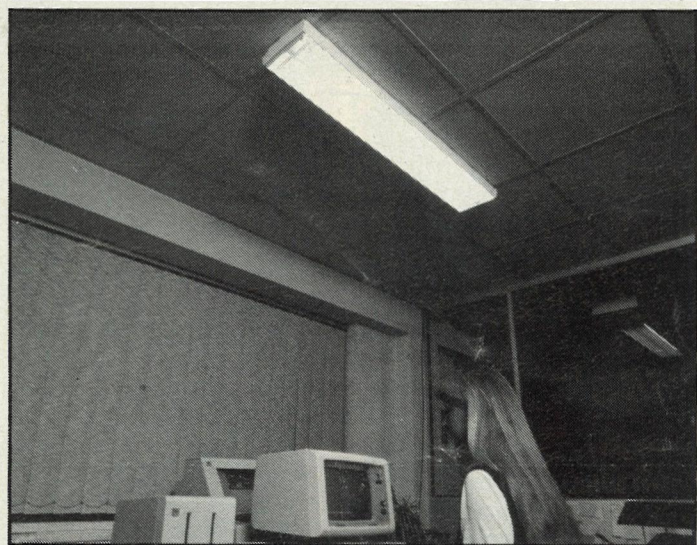
### THE TECHNOLOGY OF LIGHTING

White  
LYTESPAN

Concord House, 241 City Road, London EC1V 1JD. Telephone: 01-253 1200. Telex: 263084. Fax: 01-251 2588.



# NEW PRODUCTS



## Slim fluorescent lights

A range of slim, surface mounted fluorescent luminaires from Sylva has been designed to provide high performance, low glare lighting at an affordable price.

The louvres are clipped into position along the full length of the housing. There is a choice of three

types: polished aluminium, white with cross blades, and an egg crate version.

The Syl-Louvre range includes single, twin and four-lamp models. It is designed for quick installation.

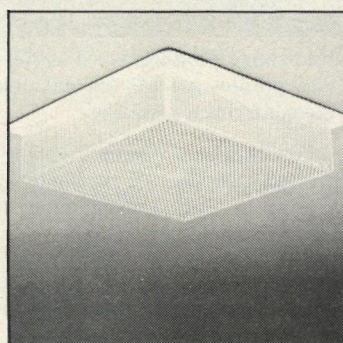
Reader Service No. 174

## Matching emergency lighting

Menvier's Squalite is available in both sustained emergency lighting mode and as a matching mains operated luminaire, enabling emergency lighting to blend in unobtrusively with lighting schemes.

It also has a bezel so that the luminaire can be semi-recessed if required. This gives it a more decorative appearance.

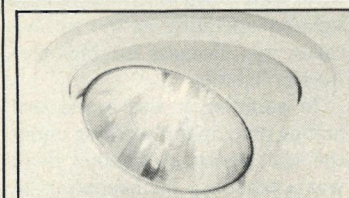
A 28W 2D compact fluorescent lamp is used for normal illumination. The emergency version also



has two 4W fluorescent lamps and uses nickel cadmium batteries.

There is a choice of clear prismatic or opal polycarbonate diffuser. All models have a hinged gear tray.

Reader Service No. 178



## Eye-ball fitting for White SON

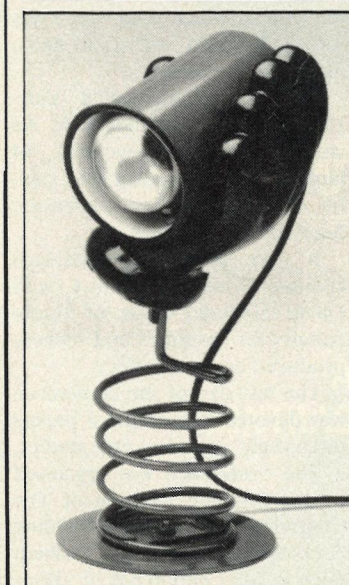
Centec has launched an adjustable eye-ball fitting to take Philips' new white SON high pressure sodium lamp.

Using the multi-faceted, curved reflector and variable focusing of the lamp a choice of medium beam widths is available.

A smooth reflector gives tighter beam widths.

This WSR luminaire, with the 50W White SON lamp, is designed for display lighting in shops.

Reader Service No. 151



## Handy light on a spring

An amusing light designed primarily for teenagers has been introduced by The Green Tree Lighting Company.

A plastic hand holding a cylindrically shaped spotlight is mounted on a large spring. It stands about 240mm high and comes in two colourways: a black hand holding a red spotlight with red spring, or a white hand with black spotlight and spring. A 40W reflector spotlight is used.

Green Tree expects it to sell well for birthday and special occasion presents.

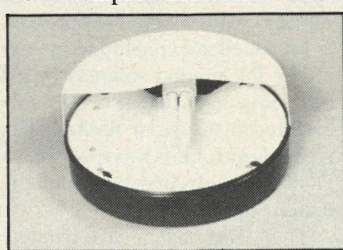
Reader Service No. 181

## Selection of amenity lighting

Decorline range of luminaires from Powerlite Electrical products consists of ceiling or wall-mounted lights for use in pubs, hotels, hospitals, schools, factories and public buildings.

There are a number of energy saving models as well as standard GLS versions. Some models incorporate a photocell for automatic dusk-to-dawn switching.

Decorline PDR109 uses an 18W compact fluorescent Dulux



lamp, while the PDR112 uses a 26W Dulux lamp.

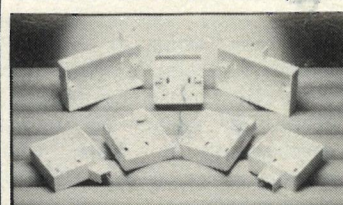
The range includes models manufactured in polycarbonate for vandal-resistance. Square or round housings are available in a variety of sizes and there is a choice of opal, prismatic, or crystalline diffusers.

Reader Service No. 161

## Adaptors for mini trunking

Centaur has a comprehensive range of surface-mounted box adaptors for trunking. They suit three sizes of mini trunking: 16 x 10mm, 16 x 16mm and 16 x 25mm. Centre, left hand, right hand, and both centre and side fixings are available.

Centaur mini trunking is produced to BS4678: Part 4, in a



range of five sizes up to 50 x 25mm and is suitable for electrical services and to enclose micro bore central heating pipes. Standard colours are white, beige and brown.

Recently introduced, is an adhesive backed mini trunking CMT1 (16 x 16mm) for faster and clean installation, reducing the number of fixing screws.

Adaptors and trunking are stated to fit close to and harmonise with architraves and skirting for an unobtrusive appearance.

Reader Service No. 159

## Touch plant to light

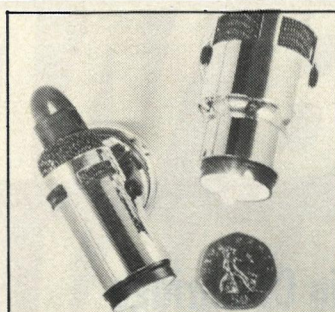
Living Lanterns specialises in supplying table lamps that are switched by touching a plant growing at the base of the lamp. Dimmer control is included and is operated simply by holding a leaf or flower until the light dims or brightens to the required level.

The table lamps are normally supplied without plants, but they can be provided by arrangement.

Reader Service No. 180

## Electronic transformer

Eurotronic has an electronic transformer suitable for use with low voltage tungsten halogen lighting. Rated at 50VA, it weighs only



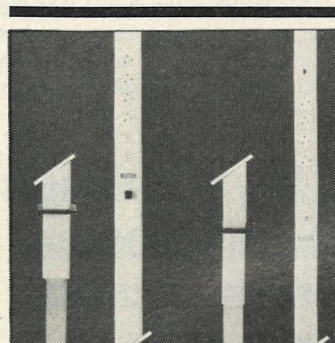
## Low voltage tungsten halogen is now spotlights

Christopher Wray's Electra low voltage tungsten halogen range comprises eight different mini spotlights and one micro spot.

Three of the spotlights have remotely mounted transformers. The range offers beam spreads from 14°-34°.

Electra spotlights are suitable for shop windows, bars and restaurants. Clusters may be mounted on poles or suspended from the ceiling. They can also be used in the home.

Reader Service No. 164



## Service poles offer flexibility

Ceiling-to-floor power distribution poles, which cut out "spaghetti" wiring and improve freedom of movement and safety in offices, have been launched by Electrak International.

Electrak service poles are in two formats, BIS100 and BIS200. Both are for use in open-plan offices and in office refurbishment, as they offer a sophisticated and adaptable means of distributing power, telecommunications and data from a central source.

BIS100 consists of a satin-finished aluminium casing and is pre-wired with four three-pin or Electrak sockets.

BIS200 service poles are in a white aluminium casing, although a wide choice of other colours is available depending on the quantity ordered. Unlike BIS100, the BIS200 is an empty pole which can be pre-wired to the customer's own specification.

It has an accessible back allowing for easy on-site installation and the possibility of adding to the pole's capacity as and when required.

BIS200 is available with any combination of three-pin or Electrak sockets, with or without MCB, blank outlet plates with back boxes, telecom outlets with back box, and data facilities.

Both poles have fixed feet and adjustable 600mm fixing brackets, so they can be moved to any location and suitably adjusted for ceiling height.

Reader Service No. 154

120g. An improved performance is claimed for it — 5% loss against 20% with a conventional transformer — and it can be dimmed.

The unit is enclosed in a transparent housing designed to take up minimum space in the base of a spotlight. Reader Service No. 172

# LIF LINE

## Completion of the internal market by 1992

The Lighting Industry Federation has a long-established commitment to international harmonisation of Standards to facilitate trade. The lighting industry has made significant progress in this respect in recent years and is now in the vanguard of this harmonisation process — indeed it is well ahead of some other sectors in the electrical industry which, in turn, has a substantial lead over the non-electrical industries, many of which are still to begin the process of harmonisation. This activity by the Federation has involved a substantial commitment of resources and because of the innovative nature of the industry has to be sustained to ensure that non-technical barriers to trade do not re-emerge.

Of particular note is the long commitment to work on IEC standards for lighting which are the essential precursor to European Standards (ENs). Many new IEC standards, including those for electronic ballasts and ignitors, are expected to be published in 1988. The Federation's close involvement in all stages of the development of these technical standards ensures that LIF Members receive advance warning of the changes being made and so can respond to the needs of regulatory bodies, users, specifiers and contractors. They are thus able to continue to compete effectively in markets at home and overseas.

For the lighting industry there are two international bodies concerned with certification — the IEC (through the IEC System for Conformity Testing to Standards for Safety of Electrical Equipment - IECCEE) and CENELEC (the European Committee for Electrotechnical Standardisation). Whilst the IECCEE is a worldwide scheme and so embraces EEC member countries, CENELEC operates only within Europe, including the Scandinavian countries, plus Austria and Switzerland.

Whilst the harmonisation of Standards has been the principal activity of CENELEC, it has been concerned with developing the mutual recognition of test reports through the CENELEC Certification Agreement (CCA).

To enable British lighting manufacturers, wherever possible, to penetrate technical barriers to trade, the LIF has, in addition to participating fully in IEC and CENELEC standardisation work, encouraged the BSI to participate in the CENELEC Certification Agreement and the IECCEE CB System.

So far, the IECCEE and CCA have essentially been agreements on the acceptance of test reports; agreement on procedures to check conformity of production and quality control still has to be reached. The CCA Working Group has started work on these subjects and the publication of the ISO 9000 series of Standards will give impetus to this work. All LIF members are becoming familiar with the requirements of ISO 9000 (BS5750) and so in the European context can be considered to be in an advantageous position vis-a-vis their continental competitors. ISO 9000 will of course also be adopted in due course in the IECCEE.

It should also be noted that the CCA operates essentially in the areas of electrical consumer goods, including lighting, although efforts are being made to expand its coverage. Thus the UK lighting industry is again in an advantageous position insofar as the operation of international certification agreements is concerned.

## For a perfectly lit sales environment



*Shelflites*

Developed to meet the unique lighting requirements of supermarket goods, Shelflites provide high levels of even illumination over the full spread of displayed product.

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Shelflites, a new concept in lighting for supermarket goods — designed and developed by Lighting Equipment Service and Supply. For full details contact: Del Bennett, Lighting Equipment Service and Supply, 14/15 Grand Parade, Harringay, London N4 1LA Tel: 01-800 8049 Fax: 01-809 4619

*less Shelflites*

Shelflites installed at a Tesco Superstore.

Reader Service No. 6



# Cambridge talkabout

**People in all facets of lighting gathered in Cambridge recently to discuss the latest techniques, research and ideas on lighting. We summarise aspects that most concern our readers.**

**R**obinson College, Cambridge, was full to capacity for the 1988 National Lighting Conference held from 27-30 March. Almost 300 people, including a fair number of overseas delegates, heard the 36 papers and took part in discussions.

Among the topics were shopping centres, emergency lighting, lamps, theatre lighting, controls, lighting for airfields, new computer programs for lighting design, and daylight.

For the first time there was a session on lighting products introduced since the previous conference two years ago.

Speaking on shopping centres, Derek Phillips, of Derek Phillips Associates, said that no less than 69 were under construction. A visit to a shopping centre should be a pleasure, he believed, and lighting should contribute to the indefinable element of "delight".

The problem for the lighting designer was that the shops should predominate in the overall environment. He also felt strongly that daylight should be incorporated.

He took the audience through the principal areas of shopping centres giving tips on the lighting treatment, such as using light to emphasise the entrance, avoiding making the ceilings of shopping malls too bright, and not relying on downward lighting at roof level in an atrium.

Fountains, he suggested, could sometimes be switched off and covered with a platform for promotional events or used as a bandstand, to create a change of atmosphere.

Two papers on emergency lighting reflected the current broader thinking on this subject.

Gerry Webber presented a paper on photoluminescent markings on escape routes. He reported on studies at the Building Research Station in which adults had moved along a corridor and stairway under various emergency lighting conditions.

## Emergency paint

One set of conditions involved photoluminescent paint on skirting boards in a corridor, on staircase risers and as a painted wall string on a staircase.

The findings showed that the mean speeds of people's movement were similar on the route marked by photoluminescent material to those on the route lit by emergency luminaires to 0.2 lux (the British Standard recommended minimum).

Photoluminescent markings were found to be acceptable and it was felt they were potentially useful.

Interim design guidance given included that photoluminescent strips at skirting board height should be at least 80mm wide and that similar strips at the same height should be positioned on doors.

To distinguish exit doors from internal doors it was suggested the door frames be outlined with photoluminescent material and an exit sign be included.

Door handles and panic bolts could also be marked and important switches highlighted by marking localised panels.

Exit signs of the photoluminescent type were already

commercially available and could be used at both eye level and near the floor. Additional direction arrows could be provided at the intersection of corridors, for example, placed close to or even on the floor. Arrows on self-adhesive discs were available.

Better results were obtained when the photoluminescent material was excited by fluorescent lamps rather than by tungsten lamps. The speaker felt there was a need for a direct study of the legibility of photoluminescent exit signs.

Mr Webber concluded that the use of photoluminescent materials warranted serious consideration and that new British Standards might be required on design guid-

## Why not exit signs that either become brighter in smoke or flash?

ance, performance specification and product testing.

Michael Ouellette, from the National Research Council of Canada, spoke about work to assess the readability of exit signs in different levels of smoke density and ambient lighting.

Among the points he made was that ambient illumination in smoke created a luminous veil similar to the effect of car headlights in fog, and this reduced the contrast of letters and background on exit signs.

Smoke density also reduced the visibility of internally illuminated

exit signs, he said.

Three different designs of signs that were tested differed greatly in threshold illuminance at the rear of the signs, but all were similar in terms of threshold luminance. Based on these findings, Mr Ouellette made a number of recommendations.

He felt that building codes should consider visibility of exit signs specifically in smoke; that limitations on maximum sign luminance should be reconsidered, and that such signs should be specified in terms of their luminance.

He recommended that the coloured filter should not be removed during photometry, as required in BS 2560, and that room lighting along all lines of sight to exit signs should be reduced when smoke was present.

Mr Ouellette concluded by saying he felt a good solution would be to have signs that either became brighter in smoke or flashed. The technology for this was available; it could be controlled by a building management system.

These two papers gave rise to a lively discussion. Dr Peter Boyce challenged the idea of reducing lighting levels in smoke conditions. "You need to see if you are stepping into a hole," he said.

Mr Ouellette replied that he was referring only to any luminaires that were causing a problem.

Bob Anderson asked about the life of photoluminescent markings. It was reported that some had a two year guarantee and one company quoted a life in excess of 20 years.

Potential problems were raised, such as maintenance staff painting over the markings.

## Innovative products

Interesting and innovative lighting products introduced since the previous conference were reviewed in a session called *Lighting Communiqué 88*, which was presented in the style of television's *Nine O'Clock News*.

Karl Pike, Lighting Industry Federation, acting as the programme presenter, introduced the three speakers. Brian Morgan, Whitecroft, spoke on recent developments in lamps, with demonstrations of some of their characteristics.

This was followed by an "illustrated tour" of luminaires for commercial, industrial, outdoor and leisure applications by Barbara Trigg, *Lighting Equipment News*.



**Innovative products, such as this office upright by Rolfe King which incorporates a cable management system, were reviewed in one of the conference sessions.**

Iain Maclean, Thorn Lighting, showed examples of outstanding lighting installations using some of the latest equipment.

The session was rounded off with a video of designs for new luminaires by British product designers, to illustrate the talent available in Britain and which the speakers felt was often overlooked.

## Computing aids

Joe Lynes of the Hull School of Architecture, put forward a computer-based optimisation technique for designing interior lighting schemes — not the type with rows of evenly spaced, identical luminaires, but where several independent lighting systems are combined to produce a harmonious visual environment in keeping with today's approach to lighting design.

It involved specifying target values for various aspects of quality and quantity and weighting them in order of importance in any particular interior lighting scheme.

Mr Lynes felt that, by using this method, computers could make a beneficial contribution to lighting design. He asked that the CIBSE interior lighting code committee consider this new technique.

Anthony Slater, Building Research Station, also spoke on non-uniform lighting design, but from a different point of view. He described a study in which computer-calculated lighting distributions had been compared with actual measurements.

If non-uniform lighting installations were to become accepted design practice, it was important to be able to predict the lighting distribution at least as accurately as for uniform installations.

The study used a medium-sized simulated office with a variety of luminaires, including uplights. Predictions were generated by a suite of computer programs on a desk top computer.

Results showed that for a wide range of ceiling mounted luminaires in uniform or non-uniform arrays it was possible to predict illuminance distributions on a horizontal working plane to within  $\pm 10\%$  of measured values at the majority of points in the room. This was likely to be sufficiently accurate for most purposes.

Predictions for uplights, however, were less successful and possible reasons for this were currently being investigated.

## Headaches

Dr Arnold Wilkins, MRC Applied Psychology Unit, told the conference about an investigation into the incidence of headaches and eye-strain among people working under fluorescent lighting in offices.

The study indicated that headaches and eyestrain were reduced by at least a half when fluorescent lighting operating at the normal 50Hz was changed for high frequency lighting.

In addition, it was found that among participants working under the low frequency lighting there was a tendency for headaches to decrease as the amount of natural light increased.

Luminaires were individually switchable and those taking part had switched on the low frequency lighting for less hours than the high frequency lighting.

## Theatre lighting

Los Angeles, opera, David Hockney and dramatic lighting all came together in a paper by Richard Pilbrow, of Theatre Projects, which was read by David Taylor.

It described a production of *Tristan and Isolde* staged in Los Angeles, for which both setting and lighting had been designed by British artist David Hockney.

Lighting from the world of rock and roll had been used which was fully automated and could move alongside the actors.

The equipment, called Vari-Lite, was made in the USA. As well as linear movement of lanterns it gave control over pan, tilt, choice of 60 colours, intensity, focus and beam width.

It gave particularly saturated colours, which combined with David Hockney's use of bright colours for costumes and scenery produced dramatic effects.

The last day of the conference was devoted to a series of papers on daylight, including case studies.

The conference was organised by the Lighting Division of The Chartered Institution of Building Services Engineers, 222 Balham High Road, London SW12 9BS.

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*Take it from me, when it comes to big, complicated jobs, with my mate Kev and STC Distributors, you've never had it so good!* **”**

**TEAM UP**



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**AND FOLLOW THE BIG  
CONTRACTORS TO STC DISTRIBUTORS.**



# EMILAS highlights energy savings

**Businesses can boost profits considerably by using energy efficiently — winning schemes halved lighting costs.**

**T**he UK energy bill could be reduced by £400 million a year if all lighting installations over five years old were updated with the most energy-efficient equipment available, according to Mike Lippold, President of the Lighting Industry Federation.

Speaking at the twelfth annual presentation of the Energy Management in Lighting Awards Scheme, Mr Lippold cited the Property Services Agency as one of the worst energy wasters in the UK. The PSA continued to use some 4.5 million incandescent lamps each year in government buildings and still invited tenders for fluorescent lamps with bayonet caps for fitting that could be up to 15 years old. Here alone, he estimated, was a potential saving of some £15 million per annum.

By contrast, savings produced in the prize-winning award schemes averaged over 50% — and savings of 25-30% could easily be achieved in retrofit schemes. Trophies were presented to the winning companies by Peter Morrison, Minister of State for Energy, at a ceremony in London on 26 April. Total entries for the 1987 Awards numbered 186; of these 52 entries came under the industrial award section; 72 schemes were in commercial developments; and 62 installations of various types were for new buildings.

EMILAS is sponsored by the LIF to promote awareness of the savings that can be achieved by replacing ageing, inefficient lighting schemes with modern installations. Co-sponsors include the department of Energy, the Electricity council, the CBI and TUC, and the trade associations and professional institutions within the lighting industry.

## Industrial

One feature of this section was the number of entries received which comprised aircraft hangars or buildings for the assembly and servicing of aircraft. In fact, the class winner was a British Airways aircraft hangar at Heathrow (Technical block D).

The hangar, a building of almost 8,000 square metres in area, was refurbished using a blended scheme of 400W SON Plus and 400W metal halide lamps. This gave an improvement in illuminance of 138% while decreasing the installed lighting load from 231.2kW to 82 kW. High bay luminaires with wire guards were used, some 87 luminaires replacing the former installation of 3,000 × 60W cold cathode lamps in 750 linear reflectors. Controls including photocells and time switches are computerised.

The assessors described this scheme as "having all the hallmarks of an EMILAS winner" — as the new installation gave a substantial reduction in the electrical load, a big increase in lighting levels, good effective controls, and a full complement of user benefits. With all these advantages in mind, we hope to take a closer look at the project in the June issue of *Lighting Equipment News*.

## Commercial

Winner of the commercial section was the refurbishment of the main Hall of the Royal Museum in Edinburgh featured on page 9, where light has been used to make a feature of the cast iron structure of the building.

In the words of the assessors, "this refurbished lighting scheme is a remarkable tribute to the planning and design of all associated with it, conclusive proof that the effective use of energy for lighting can go hand in hand with the use of lighting as a unique element in interior design".

## New schemes

The PHH Centre in Swindon was the winner of the new lighting schemes section. The offices, comprising three floors, each approximately 3,600 square metres in area, are equipped with visual display units so low glare is essential to avoid reflection in the screens. The installation uses a total of 900 × 30W HF fluorescent lamps in recessed 1200 x 300mm ceiling modules. Colour 84 triphosphor fluorescent lamps are used to combine good colour rendering

with high luminous efficiency, and mirror controllers with faceted cross-blades minimise glare. The scheme provides an illuminance of 500 lux, but is designed to be variable to take account of a wide range of tasks and the availability of daylight. About half the luminaires, situated near the core of the building or on its perimeter, can be dimmed by photocells. Light sensors automatically reduce output as daylight increases, giving savings of up to 60%. In addition, the controls are linked to an energy management system using common mode mains signalling to give automatic operation and permit flexible zoning to allow for any future partition changes. The scheme uses Philips equipment and controls by ECS Ltd.

## Boosting profits

Presenting the awards, Peter Morrison praised the role of LIF in encouraging the use of energy efficient lighting schemes but wondered why more businesses showed little interest in this way of increasing profits.

"Lighting controls are now bringing greater energy efficiency and savings to thousands of organisations throughout the country", stressed the Minister. "Getting costs down is vital to competitiveness. If you are in business, every pound you spend unnecessarily on light comes straight off the bottom line. If you are a manager in the public sector, saving energy lets you offer more or better services for the same expenditure."

As a parting shot Mr Morrison promised to take a look at purchasing policy in the government estate to see what energy savings could be made.



British Airways hangar at Heathrow — the industrial winner.



An office block won the new schemes section—the PHH Centre, Swindon.

# LIGHT WITHOUT FLASH AND FLICKER

## The winners

### Industrial section

**Winner:** British Airways Property Branch, Heathrow  
**Highly commended:** British Aerospace PLC, Filton  
 Leyland DAF Ltd., Glasgow  
 SP Tyres UK Ltd., Birmingham  
 RB Tennent Ltd., Glasgow

### Commercial section

**Winner:** National Museums of Scotland, Edinburgh  
**Highly commended:** The University of Birmingham  
 London Borough of Enfield (for Aylwood Lowe School)  
 Gilbert Rice Limited, Coventry  
 South Western Electricity Board, Taunton

### New lighting schemes section

**Winner:** PHH Europe PLC, Swindon  
**Highly commended:** British Airports Services Ltd., Gatwick  
 Ipswich Co-operative Society Ltd., Leiston, Suffolk  
 William Morrison Supermarkets PLC, Bradford  
 Refuge Assurance PLC, Wilmslow

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# Highlighting low costs at the Royal Museum, Edinburgh

Lighting an historic building for effect need not be an expensive exercise, as the 1987 EMILAS commercial award winner demonstrates.

The main hall of the Royal Museum of Scotland, built over the period 1861-85, forms the centre space of the museum building. The massive sandstone facade, designed in Venetian Renaissance style, contrasts sharply with an airy interior characterised by the use of slender cast iron columns and large areas of glazed roofing supported on slender semi-circular timber ribs. The overall effect of the space has been described as that of a "huge, elegant birdcage", and clearly owes much to Joseph Paxton's Crystal Palace.

Repairs carried out in the 1950s led to many of the cast iron columns being replaced in steel and, more recently, the main hall has been furnished with fountains, pools and comfortable seating, making it an area for relaxation. This, together with the installation of a permanent exhibition of Asian sculpture, has now made the hall an interesting public concourse.

## Restoration

Restoration work of the main hall was completed in mid-1987 at a cost of £2 million. The contract was originally to have been largely for external building works, embracing the renovation of high level masonry and the renewal of the roofs to the main halls and adjacent galleries. This was expanded in scale to require the replacement of the massive truss ends of the main hall, the struc-

tural timber beams above the vaulted ceiling of the north aisle, and the renewal of the vaulted plaster ceiling in this aisle when considerable amounts of hidden dry rot were uncovered during building operations.

At this point, the installation of a new lighting scheme was introduced into the contract, together

with redecoration, new carpets and electrical rewiring. Completion of this contract marked the end of the first phase in the restoration of the fabric of the Royal Museum, due to be completed in 1992. The second phase of the work, estimated to cost a further £2.4 million, is now under-way.



Planting and statuary make for a relaxing environment.



The main hall after renovation, showing the Victorian structure clearly.

The original lighting installation for the 3165 square metre main hall combined 120 x 70W fluorescent tubes with 52 x 150W PAR 38 lamps. The new lighting scheme has produced an improvement in illuminance of 340%: the original lighting level of 25 lux has been increased to an average of 110 lux. At the same time, the installed lighting load has decreased by nearly 20% to 16.8kW.

Now, 29 x 150W metal halide lamps housed in compact quarter sphere uplights at upper balcony level provide pools of white light which emphasise the detail in the timber, glass and iron roof. The

Thorn Arcstream lamp was chosen for its good colour rendering and small size.

## Special fittings

At a level just below the first floor gallery, 40 purpose-designed low voltage luminaires clipped to the columns direct light up and down the column shafts. The fitting comprises an upper lamp with a directed narrow beam which highlights the structure, combined with a wide beam lamp to give more general downwards illumination. Both are housed in a cylinder some 460mm in length and 115mm

in diameter. The fitting was designed by the museum's chief designer, Hector Fernandez, in collaboration with Thorn engineers.

Finally, 144 low voltage spots installed on standard track concealed between joists on the soffits of balconies provide localised display illumination.

The use of light colours and reflective finishes, with installed photocells and time switches, ensures the efficient use of available daylight. In short, the lighting, subtly emphasises the light, airy nature of the space and its enclosing structure.



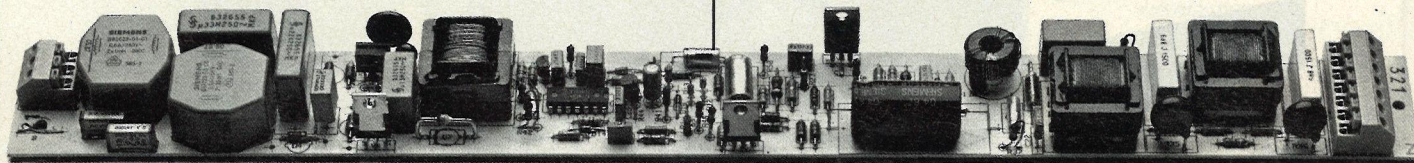
Before renovation — drab colours and ad hoc lighting do little to create a sense of atmosphere.

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# Floodlighting Britain's heritage

Some of the pitfalls and technical considerations of floodlighting buildings are discussed by Reg Wilson.

**A**rchitectural floodlighting, both inside and outside a building, has become something of an art form. Externally, the lighting scheme designer has to take into account the colour and texture of the masonry, the form and modelling of architectural features, the avoidance of ugly silhouettes in the sight lines from the most-used viewing positions, and glare control, as well as acceptably low maintenance and running costs.

Many of these considerations also apply to interior floodlighting where in addition, the designer has to remember that floodlights themselves are not necessarily things of great architectural merit and are therefore best kept out of sight.

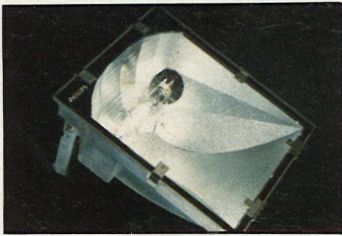
He also needs to remember that the best effects are usually obtained if the natural flow of sunlight into the building is simulated. These considerations are demonstrated in the first permanent floodlighting installation of one of London's most famous landmarks — the Royal Albert Hall.

Previously, the Hall had been floodlit only once in its 115-year life; for three months in 1981, using a temporary tungsten halogen installation.

The job was complicated by the fact that the building is oval, not the easiest of shapes to light. It also has the famous frieze depicting The Triumph of Arts and Letters around the outer wall, about 25m above the ground — a feature obviously calling for special attention.

To make matters even more interesting, this magnificent piece of Victoriana does not stand in splendid isolation. Its close neighbours are a large hotel and two rows of private houses, whose occupants would not be overjoyed by spill light from a carelessly designed installation.

Floodlighting engineers use specific discharge lamps to enhance the natural colour of masonry. The Hall's red brick and yellow terracotta stonework clearly indicated the use of high pressure sodium.



A metal halide floodlight projector by Philips.

The frieze is illuminated by three Philips narrow beam floodlights mounted on their sides above the north, east and west entrances. Each uses two 400W tubular SON lamps and is fitted with anti-glare louvres. The resultant narrow vertical beams are angled to model the relief lettering.

The exterior of the building itself is lit with two types of floodlight using single 400W and 250W SON/T lamps. Total installed load is only just over 18kW, giving a running cost of less than £1 an hour — a small price to pay for highlighting such a major part of Britain's heritage.

## Leominster

The unusually wide interior of the 12th century Priory and Parish Church of St. Peter and St. Paul at Leominster has a new energy saving lighting installation that not only significantly raises lighting levels, but does so in a way that is carefully planned to enhance the natural beauty of the building.

The lighting scheme was developed by Philips Lighting Design and Engineering Centre (LiDEC), which has been responsible for many other church exterior and interior lighting installations, including Salisbury and Liverpool Anglican Cathedrals.

At Leominster, LiDEC provided downlighting from high-mounted high pressure sodium floodlight projectors on the north and south walls. North projectors have 150W lamps and south projectors 400W lamps, the brighter light from the south and the golden-white SON light simulating the flow and appearance of natural daylight.

Average illuminance of 250-lux hidden on the window sills, and a

300 lux is supplemented at the east end by a single 400W floodlight which is only used when an orchestra plays in that part of the church.

Floodlights along the top of the south wall of the south aisle wash light down the walls. Spill and reflected light ensures that players can see their music scores as well as being seen themselves in the general light flowing from the north side of the aisle.

The beautiful nave ceiling is uplit by 100W SON projectors



Floodlighting of the Royal Albert Hall in Kensington, London.

feature is made of the north and south walls by floodlights sited at the west end.

The two alternative positions for the altar, as well as the lectern and pulpit, are highlighted by 300W PAR56 lamps, which create

colour contrast as well as sparkle.

Throughout the installation switching has been carefully arranged to enable a variety of lighting effects to be achieved, appropriate to the functions held in the church.

Electrical contractors for the project were Show Strand Electrical.

Mr R E Wilson is manager, Lighting Design and Engineering Centre, Philips Lighting.

# Lumiance



Interior floodlighting of historic Leominster Priory.





# Mercury is rising

**Richard Forster reviews mercury lamps, including an improved version which has recently been introduced onto the market.**

**H**igh pressure mercury lamps were the first to replace the filament lamp and did so in those situations where the benefits were most apparent and the disadvantages could be minimised.

Efficiency and long life could be measured as real gains for industrial lighting and street lighting. Both these applications were not too concerned with the colour quality of the light emitted, did not require instant start or restart, and could accommodate the bulky nature of the luminaire.

Since then, high pressure sodium lamps have appeared on the scene and have largely replaced mercury lamps for industrial and road lighting. Aided and abetted by the significance of energy costs in today's

economic decisions, SON lamps are frequently chosen, in spite of being more costly and needing more expensive ignitor control gear.

There has been another change, perhaps less obvious, but still fundamental to lighting equipment selection. Buildings have changed, not just in architectural style but in scale and location.

Shops have become more like large industrial warehouses, high streets have become enclosed malls and piazzas. Shoppers are more mobile and car parking facilities, either open or covered, are an essential feature of new developments. Offices too can be contained in these industrial-type structures.

This latter change has created a

dilemma for lighting scheme designers. Firstly, the scale of these buildings is too large for fluorescent fittings to be sensibly considered.

The restricted lumen package and bulk of multi-tube luminaires makes lighting of this type over-dominant. The answer is to consider high pressure discharge lamps, but this raises the conflict between the function of the space and the conventional style of the structure. It is not uncommon to see industrial lighting applied to a retail sales area.

There are new requirements which the old light sources cannot satisfactorily meet. Long life and efficiency are still important but now colour is a critical component. Colour rendering and colour



W H Smith's Do It All store at Ashford, Kent, lit by Super Deluxe mercury lamps.

appearance both have a significant effect where people and merchandise are concerned. The new market need is for white light.

There are several ways of meeting this requirement. With sodium

lamps the higher the pressure the whiter the light. Unfortunately this is coupled with a marked fall in efficacy and a spectrum which is deficient in the yellow/green band. Metal halide lamps can combine high efficacy and good colour rendering. Also, with the range of metal additives it is possible to offer various colour appearances rather like tri-phosphor fluorescent tubes.

However, both high pressure sodium and metal halide lamps are complex in design and difficult to manufacture with the degree of consistency desirable where colour is important. Hence, such lamps are relatively expensive and require more sophisticated control gear.

The alternative is the low-tech approach — to improve the colour qualities of mercury lamps while accepting their limitations in efficacy.

The line spectra cannot be changed easily without major changes in operating pressure, so the solution is in the phosphor coating. The latest range of deluxe mercury simply has a different phosphor coating to improve the colour qualities without reducing the light output.

These Super Deluxe lamps have a colour temperature around 3300K so are between White and Warm White fluorescent tubes. Tungsten halogen lamps, either mains voltage or low voltage, operate at about 3000K so it is possible to design a scheme which combines different light sources without creating a rainbow effect.

Super Deluxe lamps have a general colour rendering index of R<sub>a</sub>55 — not as high as metal halide or SON Deluxe lamps, but on a par with Warm White, White, and Cool White fluorescent tubes.

These gains in colour performance have been achieved with no loss in light output; for the higher ratings there is an increase of

5-6%. It is, therefore, possible to consider relamping existing installations with Super Deluxe lamps without sacrificing illuminance.

As the basic arc tube design is unchanged, the electrical characteristics are the same as for the standard mercury lamp. The physical sizes of the lamps are also the same. Super Deluxe lamps can be used in the existing range of luminaires and control gear.

Because the lamp is internally unchanged there is no reduction in lamp life. The simple circuit means less premature replacements and with all mercury lamps lumen depreciation usually determines effective lamp life rather than physical failures.

These new lamps are available in a wide range of wattages from 50W to 400W. The range has not been extended to 700W and 1000W as demand for these ratings is declining.

The table shows a simple cost comparison between Mercury Super Deluxe and SON Deluxe. It has been necessary to make some assumptions, but the intention is to demonstrate that the differences in overall costs could well be less than many imagine. One point worth stressing for any discharge lamp installation is maintenance.

For most layouts using discharge lamps the illuminance at any point is mostly from the nearest light source with only a small contribution from neighbouring lamps. This may seem obvious but it is in marked contrast to tubular fluorescent lighting. Add the fact that many fluorescent fittings are multi-lamp and concern about fluorescent lamp failures diminishes. One discharge lamp however represents several fluorescent tubes in one place, hence the need to be able to replace a lamp as soon as it fails.

Earlier it was stated that Super Deluxe lamps can operate from standard mercury control gear, but it is possible to improve the circuitry.

Mercury lamps can be run on a circuit incorporating a rectifier bridge so the lamp is in a dc mode. This eliminates flicker.

All discharge lamps, including fluorescent tubes, flicker when operated on conventional 50Hz supplies, but at a level which causes little concern to the majority of people in most situations. Research continues, but it is worth remembering that a solution does exist for those installations likely to be more sensitive to this.

The title of this article has been borrowed from the meteorologists: meaning a warmer, brighter and sunnier outlook from an established high pressure system. The latest mercury lamps certainly fit this description.

Richard Forster is marketing manager for discharge lamps at Thorn Lighting Ltd.

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Cost comparison	Mercury Super Deluxe	SON Deluxe
Initial lamp lumens	24 000 (400W)	20 000 (250W)
No. of lamps for equal lumens	20	24
Cost of fittings c/w lamps (recessed commercial type)	£4133	£5092
Electrical load	8.6kW	5.6kW
Electricity costs per annum (3000 hours @ 4p/kWh)	£1032	£672
Replacement lamps in first 3 years	5% (say 1)	35% (say 8)
Spot lamp replacement costs (labour 7 per lamp)	£32	£354
Total costs for first 3 years <sup>1</sup>	£7261	£7462
Light output after 3 years <sup>2</sup>	76% of initial	83% of initial
Cost of group lamp change (labour £3 per lamp)	£567	£967

<sup>1</sup> Installation costs have been omitted, as assumed to be similar with less wiring points balanced by higher circuit load.

<sup>2</sup> Lamp output only, no allowance for depreciation due to luminaires or room surfaces.

Simple cost comparison between Mercury Super Deluxe and SON Deluxe lamps.



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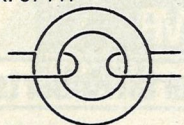
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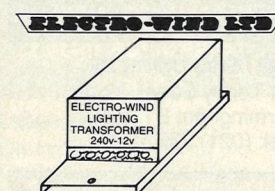
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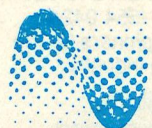
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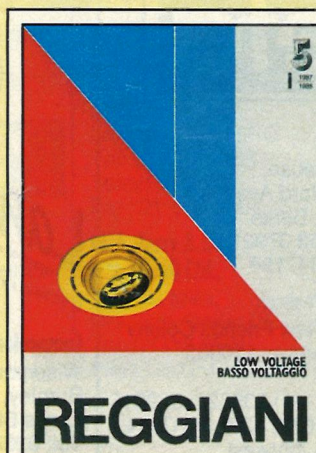
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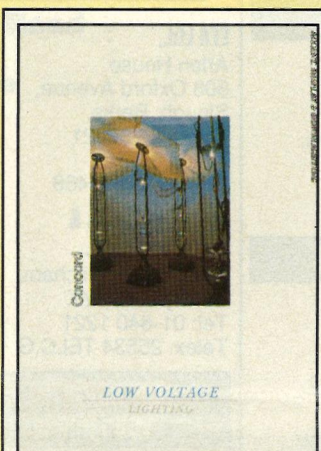
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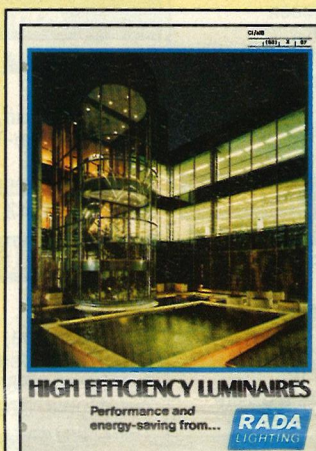
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## Senior Engineer

Philips, the world's leading lightmaker is seeking an experienced Engineer to lead a small team engaged in the comprehensive testing of innovative new products.

Working in close liaison with the Laboratory Manager, and capable of taking control in his absence, you will be involved in the total concept and should be familiar with thermal, optical, mechanical and vibration techniques as well as general electrical and electronic testing. Computer operated main frame, mini/micro systems are extensively used and a knowledge of FORTRAN/PASCAL or basic languages/instrumentation control and data logging is highly desirable.

The laboratory is recognised by the British Standards Institute for photometric testing and is presently seeking NAMAS accreditation from the National Physical Laboratories.

Ideally you will hold a broad based qualification and have wide ranging experience of lighting technology. However an Engineer with a science/engineering degree, who has spent at least three years within a directly related environment would be equally acceptable.

Salary and benefits package will reflect the importance of this senior role, and there is ample scope for career development within our progressive organisation.

If you're qualified to take on a senior role testing market leading lighting products - Please write to Mrs P.A. Hayden, Personnel Manager, Philips Lighting, City House, 420-430 London Road, Croydon CR9 3QR, or telephone her secretary on 01-689 2166 ext 2606 for an application form.



Lighting

PHILIPS

### SALES REPRESENTATIVES

South East England

Hamilton Litestat has become one of the leaders in the field of high quality wiring accessories, lighting control and specialist lighting products.

Restructuring the existing salesforce has created the need for two representatives to service the following areas: (1) London north of the Thames including Herts, Bucks, Berks and Oxon; (2) London south of the Thames including Sussex, Surrey, Kent and Hants.

The successful candidates will inherit an established territory and will be expected to both maintain the existing client base and to maximise future potential.

Applicants should ideally be aged 25-40, resident in one of the above geographical areas and possess an electrical background, preferably with electrical accessory and/or lighting experience.

Salary will be negotiable. Benefits include Company bonus scheme, car, pension scheme and incidental expenses.

Please write with cv to:

Administration Manager  
R Hamilton & Co Ltd  
Unit C, Quarry Industrial Estate  
Mere, Wiltshire BA12 6LA

### SALES ENGINEERS

#### EMERGENCY LIGHTING AND FIRE DETECTION

MAYLECTRO LTD is currently enjoying unprecedented growth in the U.K. To build upon this position we are seeking to recruit further Sales Executives in the Midlands.

Applicants must be self-motivating, and be experienced in dealing with Architects, Consultants and Specifiers, as well as Electrical Wholesalers. Experience of the emergency lighting market will be an advantage.

The successful candidates will receive an excellent salary and commission package, plus benefits commensurate with the seniority of this position.

Please apply with C.V. to:

Mr J S Bundy  
Managing Director  
Maylectro Ltd.  
Unit 3, Gillmans Industrial Estate  
Natts Lane, Billingshurst  
West Sussex, RH14 9EZ

### SALES REPRESENTATIVE

A busy and energetic company supplying commercial and domestic lighting requires sales representative for London and Home Counties.

Preference will be given to applicants with experience and existing contacts. A good salary, bonus scheme, four weeks annual holiday and company car is provided.

Please send CV to: **Infax Limited**  
Unit 13, Worcester Road Industrial Estate  
Chipping Norton, Oxon OX7 5XP  
or Telephone: 0608 44114

**AGENTS**  
required to cover Scotland and South East England by well established manufacturer to sell traditional, quality lampshades to retail outlets.

Please reply with full details to:  
**Box 1446**  
Lighting Equipment News  
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Chalk Lane  
Cockfosters Road,  
Barnet, Herts EN4 0BU

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27 MAY 1988**

### LIGHTING DESIGNERS

Fast expanding lighting design practice require ambitious, dedicated designers to join an established team.

The job offers the opportunity to run a wide range of prestigious lighting projects and to see through detailed design work from start to finish.

The successful candidates will have a combination of design flair and an eye for detail as well as the ability to communicate with people at all levels in the lighting business.

Direct experience in lighting design would be beneficial, but an electrical engineering or architectural background would also be useful.

We offer competitive salaries and excellent prospects.

Please apply in writing with C.V. to:  
**Sally Storey, Chairman**  
Lighting Design Limited  
Unit 15, Park House  
140 Battersea Park Road  
London SW11 4NB



### AGENTS REQUIRED IN MOST AREAS

Write enclosing CV and current agencies to:

**S. Bailey**  
Ringway Lighting Ltd  
Hanworth Road Industrial Area  
Hanworth Road, Sunbury-on-Thames, TW16 5DA



Electrak International Ltd require two experienced **Sales Executives** in the following areas:

1. London / Home Counties
2. South West / West Midlands / North West (ideally based in West Midlands)

A self starter, the successful candidate must be able to fit quickly into a highly motivated sales environment with prime objectives being to gain new and maintain existing specifications for the Company's range of small power distribution systems and comprehensive range of hi-tec tubular lighting systems.

A substantial remuneration package, quality car and the usual benefits associated with a successful company make this an outstanding opportunity for the right person.

Please reply in confidence with cv to:

**Geoff McCann, Commercial Director**  
ELECTRAK INTERNATIONAL LTD  
Suite 407 BWBC, 45 Curlew Street, London SE1 2ND

A leading European manufacturer of interior and exterior light fittings is seeking a

### SALES-MARKETING MANAGER

Duties will include:

- (a) Research and draw up a comprehensive marketing plan
- (b) Implement the plan and initiate sales
- (c) Set up and manage the necessary structures

It is intended that this person will be capable of heading up operations in the UK for the company.

**Outline Profile:** Sales Manager/Engineer; age 30-40; 10 years' experience in lighting industry.

**Base:** South East. Conditions will reflect the importance of this post. Reply in confidence to:

**Box No. 1444, Lighting Equipment News**  
Maclean Hunter Ltd, Maclean Hunter House  
Chalk Lane, Cockfosters Road, Barnet, Herts EN4 0BU

## NEW PRODUCTS

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# The light answer for chocolates

S'il Vous Plait, a chain of shops selling Belgian chocolates, set a problem for Light Years when they approached them to design a pilot lighting scheme for their Tunbridge Wells branch.

The initial requirement was for a level of 600 lux across the shop for a bright and fresh retail area, supported by accent and pinpoint lighting to highlight the chocolate displays around the shop and the sales counter. The lighting was to be discreet and harmonise with the interior which was designed in the style of traditional chocolate shops in Belgium. Glass and marble surfaces and shelving combined with grass green, buttermilk and gold finishing to create a warm welcoming atmosphere with chic presentation.

The dangers inherent in the brief were twofold: the possible

loss of contrast between the centre shop area and the wall displays with such a high lux level; and the effects of exceeding the critical temperature for the display of the chocolates.

The problem of loss of contrast in the lighting of the centre shop areas and the displays was overcome by using different colour temperatures. Fluorescent modules were specified to give cool bright light to the centre shop and low voltage tungsten halogen lamps in discreet high design spot fittings on track to highlight the window display, counter and entrance areas. Compact square recessed downlighters adjustable to 30° were used to light the display cabinets around the walls pushing light through the glass shelves and giving sparkle to the display.



Traditional styling with modern lighting at S'il vous plait.

Dichroic reflectors were incorporated into the accent lighting fittings and help to keep the chocolates within the temperature range (18 — 20°C) needed to display

them in perfect condition. Low temperatures are essential as chocolates are sensitive to heat and humidity. If too warm, they lack lustre and become unsaleable.

## Major student design exhibition

A national event for student designers is to be organised by the Design Council. Five hundred graduates will have the opportunity of exhibiting their work under one roof at the Business Design Centre from 7-10 July.

Heads of departments and course tutors can jointly submit the work of up to six of their top students in each of eight categories in interior design and related industries including lighting design. The exhibition, called The New Designers, will be sponsored to the tune of £250,000 over the next three years by Gordon Russell plc. Further information from The Design Council, 28 Haymarket, London SW1.

## UK falling behind

The 1992 completion of a free internal market, the imposition of the Economic Community's public purchasing policy and privatisation of the UK's electricity supply industry would all have an extensive effect on the UK's electricity supply industry, according to the Deputy Chairman of the Electricity Council.

Speaking at a recent BEAMA seminar, David Jeffries stressed that manufacturers and the industry had to cooperate to ensure that British products complied with harmonised standards and were able to compete in international markets.

"Urgent action is required unless the UK is prepared to take a back seat in Europe", concluded Mr Jeffries.



Veteran Formula Ford driver John Booth and Hawker Siddeley company, Crompton Lighting, are together again for the 1988 Esso Formula Ford Championship. John Booth and his Van Diemen RF88 car will appear at all Silverstone rounds of the Championship, sporting the Crompton colours. The car is prepared and maintained by John Village. Further details from : 0604 30201.

## RADA: ALL THE BETTER TO SEE YOU WITH.

### PARALUX: THE COMFORTABLE WAY TO ELIMINATE GLARE.

Today, there's no excuse for enduring glare. A computer room should be as comfortable as a living room (if a little busier)

With Paralux, Rada have created the ultimate VDU luminaire. Deep louvres and internal reflectors have been designed, appropriately enough, by computer, to provide minimum glare and maximum working comfort.

What else would you want from a VDU luminaire? Subtle looks, for a start. Paralux louvres are available in satin or polished low iridescence aluminium. Whichever you choose, it works beautifully with either exposed or concealed ceiling systems, including metal tile as standard.

Paralux VDU luminaires: yet one more illuminating way Rada resolves your lighting problems.



**RADA**  
LIGHTING

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## IN YOUR NEXT ISSUE

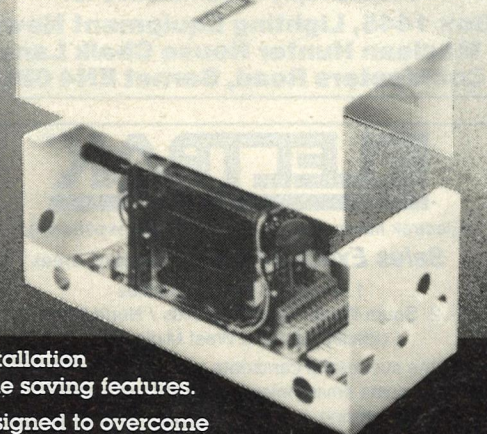
Airport lighting is featured in the June issue of *Lighting Equipment News*, and a number of exciting new projects including new terminal buildings, and hangars and similar service buildings will be covered in our survey.

Compact fluorescent lamps will be considered both in terms of the

ever increasing range of lamps available and the economic advantages of choosing a lighting installation of this type. Our final feature will look at new developments in the field of lighting controls for use both in domestic installations, and in commerce and industry.

## INTRODUCING LAMPSAVA

A UNIQUE RANGE OF LAMP SAVING LIGHTING TRANSFORMERS



- ▼ Installation time saving features.
- ▼ Designed to overcome costly lamp replacements due to cascade failure.
- ▼ Use of the latest Polyswitch P.T.C. device technology.

### EASY INSTALLATION

The LAMPSAVA transformers are designed with the installer in mind. The transformer unit detaches from the base plate to give clean, clear access for installation.

On the "Cased" units the base is pierced with sufficient cable entries to enable high density mounting.

For full range of models available and specification sheet please contact:-

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