

LIGHTING EQUIPMENT NEWS

24 MAR 1988

MARCH 1988

PLASA members increase

The Professional Lighting and Sound Association (PLASA) has announced record high membership figures. 119 companies now belong to the Association, a 32% increase over last June when the number stood at 90.

PLASA say that much of this rapid growth is due to the success of its recent activities aimed at broadening its base to embrace all aspects and disciplines of the sound and lighting field. Not just equipment manufacturers, distributors and installation firms, who are the bedrock of PLASA, but to areas like theatre companies and lighting design consultancies.

With PLASA now one of the largest trade associations in the entertainments field, it is looking for an even higher profile in 1988. Fourteen member companies are exhibiting under the auspices of the BOTB at the Frankfurt Music Fair and early indications are that the Olympia Light and Sound Show in mid-September will be a sell-out.

For more details about PLASA contact secretary Tony Andrew, PLASA, 7 Highlight House, St Leonard's Road, Eastbourne, Sussex BN21 3UH, Tel: 0323 410335.

Demand for Spring show

Two thirds of interior designers and specifiers would be keen to attend a new spring exhibition concentrating specifically on contract and domestic furnishings, with lighting at the top of the agenda.

That's the result of an independent survey of 100 interior designers and specifiers carried out for Philbeach Events, organisers of the Home Interiors Exhibition, which examined the current attitudes towards exhibitions.

Eighty five percent of the sample attended exhibitions and 95% of those questioned most wanted to see lighting as part of any such exhibition. Philbeach Events are based at Earls Court, 01-385 1200.

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Security lighting attracts the tourists

Security floodlighting, designed and manufactured by Philips Lighting, appears to have turned the Thames Barrier into a major night-time attraction that has been added to the London skyline.

The Barrier, which was opened by Her Majesty the Queen in 1984, was built to remove the danger of flooding in London well into the next century.

Like the barrier itself, the lighting serves a practical purpose. Its prime function is security, and it provides the spin-off benefits of aiding inspection maintenance at night (if a deck mechanism failed, floodlighting angled to illuminate the moving parts would provide sufficient light to diagnose the trouble) and ensuring safe movement of employees on the structure.

The brief to Philips was therefore primarily to provide an energy-effective lighting installation which would provide adequate night-time security and safety, and would satisfy the Port of London's requirements for avoiding any possibility of dazzle and glare to shipping. Within this brief, Philips were requested to make the lighting as aesthetically pleasing as possible.

Two different low-energy light sources are used to provide a colour contrast on the piers which accentuates their hemispherical design feature. The flat surfaces, together with the floodgates and the surface of the water, are illuminated by the golden-white light of high-pressure sodium (SON/T) lamps in Philips SNF200 area



floodlights. The curved aluminium surfaces, the central piers and the floodgate machinery are contrasted in the pure white light of metal halide lamps (HPT/T) in HNF 003 and MNF 200 floodlight projectors. Glare is avoided by cross-lighting techniques combined with the tight optical control provided by the floodlights.

The Port of London Authority uses the lighting installation to provide guidance to shipping as well as its other functions. All pier lighting is individually switchable from a control tower, and is normally all in use at night. When a ship approaches, the lighting is turned off all piers except the two between which the vessel is to pass.

The Thames Barrier floodlighting installation therefore combines most of the primary functions of lighting in a single, energy-effective and easily maintained package. It provides security. It gives amenity lighting for inspection, maintenance and safe working. It provides guidance and orientation for the users of the river.

And it enhances and accentuates the beauty of this feat of civil engineering which is safeguarding the future of the capital.



In-store, light entertainment has reached an advanced stage at Cascade's latest shop in Carnaby Street, London. The low voltage lighting scheme installed by Classic Electrical Contractors offers 90 different programmes. As well as moving disco lighting effects there is a huge face with neon tubing hair.

Design aid

Finding a lighting solution for particularly complicated locations has often posed problems for architects and specifiers alike.

However, one of the UK's leading designers and manufacturers of decorative lighting, R & S Robertson, has come up with the hi-tech answer.

The company, based in Edinburgh, has recently introduced a new CAD System to assist in the creation of specially designed decorative lighting.

"Lighting and lighting effects have become increasingly more important in modern architectural considerations for building design," says Nigel Robertson, Managing Director of R & S Robertson.

"In the past, however, designing non-standard lighting fittings was particularly labour-intensive and time consuming, with calculations being carried out manually. Our new computer design system will allow us to offer a unique service, to provide an answer, quickly and efficiently. Design solutions can be produced within twenty-four hours of an enquiry being made."

Plans and elevations of an area can be fed into the computer memory and drawings of purpose-made lighting appropriate to the overall dimensions of the location are then produced to a specified scale.

"The installation of the new CAD system will enable specifiers to speed up the process of selecting suitable lighting for particular projects," comments Nigel Robertson.

"To answer the sophisticated lighting requirements of the modern environment, it is essential to have the back up systems to aid in design. We believe our computer graphics service will be invaluable to specifiers."

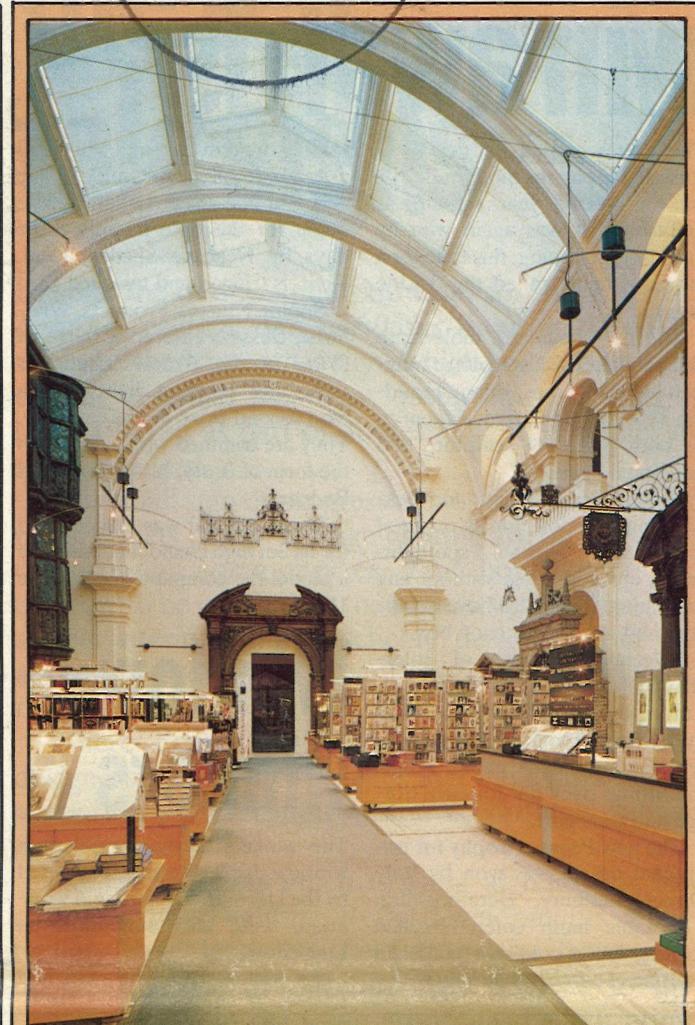
R & S Robertson can be contacted on 031 442 1700.

In Brief . . .

• HRH The Princess of Wales is to open the New Designers Exhibition, being held at the Business Design Centre on July 7th. Organised by the Design Council, the exhibition is to help newly-qualified designers in the field of interior design. Details from Radley Communications 01-404 5131.

• The Via Lattea overhead low voltage spot lighting system, from Thousand and One Lamps of London, won an 'Oscar' at the Paris Lighting Fair in January. The award follows a similar one at the Euroluce Fair in Milan, last year. Details from Thousand and One Lamps 01-698 7238.

• Rosco has added four new colours to their directional Silk group range of Supergel filters. The new colours are Magenta, Sky Blue, Blue Green and Amber. Details about these filters and others in the range from Francis Reid 01-633 9220.



Unusual lighting has been installed in the Victoria and Albert Museum, London. It had to be unobtrusive and Microlights evolved a suspension system that is unsupported from both ceiling and floor. Six free hanging units are rigged across a 10m span on stainless steel wires. Each holds eight 75W low voltage miniature tungsten halogen lights.

Course demand

Demand for the Institute of Lighting Engineers' Part One Course in Lighting Technology has been so high, an additional course has been arranged for 14 to 18 November

1988.

Other courses organised by the ILE are Lighting Technology Part Two (October), Lighting Technology Part Three (April) and Interior Lighting (July).

Details from the Institute on 0788 76492.

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NEWS

Low voltage and peacocks win awards

The Danes carried off the W G Russell Trophy for modern design for the second year running at Lightshow. It was again won by Frandsen Belysning, this time for a range of lights called the 3-Line series.

The floor standard, table lamp and pendant use low-voltage tungsten halogen lamps. Benny Frandsen says that he designed them to be both pieces of sculpture and functional lights.

Second prize went to Besa Lighting, London, for its range of low-voltage eyeball spotlights which are adjustable without any scratching. They also have a fully enclosed integral junction box.

Selectalight range of interchangeable lighting by Skandesco, Luton, gained third prize. As well as the ability to mix and match different components in the range, the fittings pack flat for easy storage and transport.

The new Pegasus trophy for traditional design was won by Italy Direct, Ledbury, Herefordshire. The table lamp entered, called Louise, has a cold-cast porcelain figurine of a 1920s style lady with a

trailing dress in grey and white and a peacock on her shoulder. The grey dome-shaped lampshade made for the base in only three days by Neptune Shades, Deal, Kent, is fringed and tasseled.

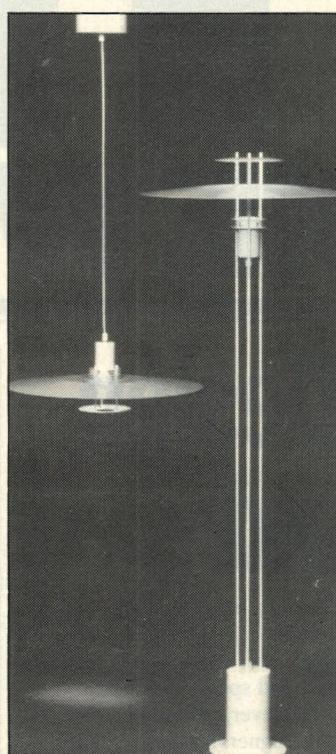
Sophie Nursery Products, Wadhurst, Sussex, entered a range of *Wind in the Willows* children's table and pendant lights which won second prize in this category. They are trimmed with soft toys in the form of Ratty, Mole, Toad and Badger.

Stuart Crystal was placed third for its 2m high chandelier based on a model the company made in the 1880s.

Window winners

The winners of the annual shop window display awards, organised by the Decorative Lighting Association, were also announced at Lightshow.

As well as receiving cash and



Range by Frandsen which won the W.G. Russell Trophy

prizes of more than £2000, all three winners reported that their window dressing efforts had acted as a stimulant to sales.

The trophy was claimed by Clover Home Furnishing Centre in Kirkstall, Leeds. While its security lighting display was in the window, the store topped the Allders Group lighting sales.

Second prize went to Luminaire, Aberdeen, for a display on the theme of a child's bedroom, while last year's winner, Lightcraft, Barnstaple, was placed third with an entry which "transformed" domestic lighting fittings into garden flowers.

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IMI

Vandal proof?

How vandal proof is a modern road lighting lantern? For main roads lanterns are normally at a height of eight metres or more, so vandalism is rarely encountered.

But for subsidiary roads, they are commonly mounted at 5 or 6 metres and can be a tempting target to a vandal.

So, how resistant are they? Urbis Lighting decided to find out and borrowed an air gun.

Air gun pellets were fired at close range at all the lower surfaces of one of their lantern bowls. There was absolutely no effect according to Urbis.

So confident are Urbis engineers of the vandal resistance of their lanterns that they are offering free replacement lanterns should vandals succeed where they failed.

Details from Urbis Lighting on 0256 54446.



Filters for crisper colours

A new approach to colour filters, based on thin film technology, has been developed by Balzers that offers significantly improved performance over existing types of filter, such as gels and coloured glass.

Dichrolight is a range of dichroic colour filters developed specifically for entertainment and decorative lighting applications. Unlike gels or coloured glass they generate pure colours from non-absorption techniques, allow extremely high light transmission and do not fade with regular use.

As a result they are suitable for virtually any type of optical or lighting equipment, and in many cases could be regarded as a permanent fixture.

Balzers anticipate an extensive range of applications for Dichrolight, including a number of new areas where conventional filters have so far been unsuitable, such as the sorting of items by colour or

in the printing industry.

Of the traditional end uses for colour filters the largest areas to benefit will be theatre and concert lighting, TV studios and discos, or any environment where powerful lighting is used in a close space, and in which a low heat build up is desirable.

Other typical applications will be in exhibitions, architecture, telecine equipment, domestic and display lighting. The high heat resistance means that filters can now be regarded as part of the internal mechanism of the light system, rather than an external accessory. In Europe and the US a number of well known lighting manufacturers are already employing this technology on a regular basis.

Further information about the Dichrolight filters from Peter Knight at Balzers High Vacuum 04427 2181.

Bolts shed new light on motorways

Quality first

"Up to quality and not down to price" was the message from the Electrical Contractors' Association President, Denzil Slumbers, when he addressed the ECA Annual Dinner.

Speaking to over 940 representatives from all areas of the industry, Mr Slumbers stressed that clients are increasingly demanding high quality and value for money, and the electrical contracting industry must be ready to move forward and play a leading role in the development of new technology and ideas if it is to maintain its market base.

He also warned that the whole structure of the industry and the Association may change in the coming years and it is therefore essential that plans be made for the future.

Hitech spotlights

The spotlights by Hitech on page 6 of *LEN* February issue are made to special order. Orbit spotlights are individually mounted.

On page 10 of the Electrex pull-out, the Hitech spotlights shown are for display cabinets.



a variety of motorway refurbishment projects in the past year — many on key sections of the M5 and M1.

Celtite Selfix, based at Alfreton, are having their resin bonded fixing bolts specified to anchor vital crash barriers and lighting columns.

John Burch, the company's International Technical Services Manager said: "The demand for our parapet post bolts this year has been fantastic. We have broken all previous sales records."

On the M25, between junctions 4 and 5 in north Worcestershire, Selfix M20 size bolts are being used to support lighting columns in a major improvement by Hereford-Worcester County Council.

Other Selfix bolts are in use at the M1/M25 interchange where the M24 size is holding up lighting columns, while in Staffordshire a M30 size is in use on other lighting columns there.

Mr Burch added, "The bolts and resins are designed and manufactured to ensure there is no failure in the base fixing itself and a lighting column can be replaced efficiently and at less cost to the highway authority." Details from John Birch at Celtite Selfix on 0773 604131.

NEWS

Glamox moves south

As part of their UK expansion programme Glamox Electric (UK) Ltd has opened a London office and showroom.

The Newcastle upon Tyne company has been very active in the north of England and Scotland since it was formed in 1968. In order to seek further growth in London and the south, Glamox decided to appoint a Southern Regional Manager, establish a new sales team and look for suitable offices.

Brendan Langan was appointed as Southern Regional Manager and a two-storey office building in Bushey Heath was chosen for the London base.

The ground floor houses a reception area, sales office, special projects design office, computer lighting design office, conference room and board room. Each office has a different type of ceiling to display Glamox's wide range of surface and recessed luminaires.

The first floor consists of three main offices, again with a variation of ceiling type — lay-in tile exposed 'T', concealed 'Z' bar and linear metal plank — to display the various types of Glamox recessed modular luminaires with options of low brightness, low luminance and TM6 deep wedge louvres.

The industrial lighting showroom has a display of industrial fluorescent luminaires including battens, weatherproof and watertight luminaires and IP 67 Zone 2 and Zone 1 Exe s luminaires. Also on display are low-bay and high-bay luminaires to IP 64 for mercury, metal halide and high pressure sodium lamps.

The special projects design office will soon have the facility of a CAD computer linked to Glamox's production plant which will enable the wide standard range of Glamox luminaires to be specially adapted to suit changing market demands, such as the move towards 500mm x 500mm module ceilings.

Visitors can see these 'live' offices rather than static showrooms. Demonstrations of the Glamox 'GOLD' lighting design computer are given and particular lighting designs can be done "on the spot".

Potential lighting users who want to discuss their own special requirements need only phone in advance to arrange a suitable time. Tel: 01-960 0046.

Glamox Electric (UK) Ltd's new office and showroom is at Glamox House, California Lane, Bushey Heath, Herts WD2 1EZ.

Lighting up Europe

You've got until the end of March to enter the European Lighting Awards.

These brand new Awards are sponsored and organised by the Brussels-based European Lighting Council. The focus, this year, is on "public lighting".

The Awards were featured in last month's LIF LINE and entry forms and details are available from the LIF at 207, Balham High Road, London SW17 7BQ. Tel: 01-675 5432.

Stanton's quality 'first'

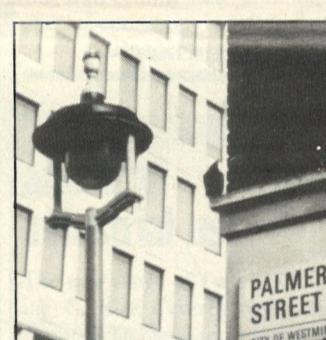
Stanton plc has become the first company to be awarded the British Standards Institute Quality Assurance Certificate BS5750 for concrete lighting columns.

The company's columns were first kite-marked in 1950. To gain the new certificate they had to comply with stringent production management procedures ranging from raw material purchasing, right through manufacturing to distribution. Details from Peter Woodall 0602 580403.

The byways of Westminster are being relit using the existing lanterns. The City of Westminster's unique Grey Wornum lanterns are being fitted with Sealsafe sealed beam optical units from Urbis Lighting.

The existing Grey Wornum lanterns have a poor optical performance and, because of their dated design, are difficult to seal. They attract dirt and insects which quickly make them unsightly if not cleaned at very frequent intervals.

However, the City Council have tolerated this in order to preserve their unique lanterns, which were designed especially for them by eminent architect, George Grey



Wornum, in the early 1950's.

Now they have been preserved whilst doubling the illumination level and reducing the need for expensive cleaning. Details from Urbis Lighting 0256 54446.

DIARY

MARCH

8

Beyond the garden gate. Address by chairman of CIBSE Lighting Division. Evening meeting at RSAC Club, Glasgow, arranged by CIBSE Scottish Region. Details from L S Martinez 041-334 6161.

9

Energy Management. Address by T Casey, managing director, Trend Control Systems Ltd. Evening meeting at the White Horse Hotel, Dorking, organised by The Institution of Electrical and Electronics Incorporated Engineers. Details from 01-836 3357.

15

15th Edition of the IEE Wiring Regulations. Address at the Fforest Hotel, Fforestfach, Swansea, organised by The Institution of Electrical and Electronics Incorporated Engineers. Details from 01-836 3357.

16

The Plymouth Electrical Show. The Novotel, Marsh Mills Roundabout, Plymouth, until 17th. Details from Technology Exhibitions 01-760 0009.

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Quality Assurance — BS 5750 in Practice. Lecture by P A Hibbard, Manager, Quality Assurance and Procurement Support, Air Products Ltd, J E Ware CEng, MIEE, FBIM, FIQA, Director, BSI Quality Assurance and I J York, MIQA, Quality Manager, Siemens Ltd. Evening meeting at the IEE Lecture Theatre, Savoy Place, London, organised by The Institution of Electrical and Electronics Incorporated Engineers 01-836 3357.

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Turner's treatment of light. Charles Marques memorial lecture arranged by the Institution of Lighting Engineers. Evening meeting at The Tate Gallery, London. Details from ILE 0788 76492. **Architect + Engineer.** Evening meeting at Bingham House, Cirencester, arranged by CIBSE South

West Region. Details from D Lowdon 0272 279419.

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Safety of lasers in entertainment and display. SIRA event, to be held in the meeting rooms at the Zoological Society of London, Regent's Park, London SW1. Details SIRA Ltd, South Hill, Chislehurst, Kent BR7 5EH, 01-467 2636.

Practical Aspects of Inspection and Testing. Evening address by R Taylor BSc, CEng, FIEE. Evening meeting at Ashby Building, Queens University of Belfast, Stranmillis Road, Belfast. Details from The Institution of Electrical and Electronics Incorporated Engineers 01-836 3357.

Hannover Industry Fair 1988. Hannover Showground until 27th.

vention Centre, Los Angeles until 15th. Details from The Illuminating Engineering Society of North America National Expositions Co Inc, 15 West 39 Street, New York 10018. Telephone 212/391-9111.

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Electrical Installation and Electronics in a Modern Ship. Evening address at Austin & Pickersgill Shipyard, Southwick, Sunderland. Details from The Institution of Electrical and Electronics Incorporated Engineers 01-836 3357.

Hannover Industry Fair 1988. Hannover Showground until 27th.

APRIL

13

Leeds Electrical Show. The Sports Centre, University of Leeds until 14th. Details from Technology Exhibitions 01-760 0009.

Lighting World International. Architectural lighting exhibition and conference, Los Angeles Con-

25

Lighting Technology Part Three. Course organised by The Institution of Lighting Engineers. Details from ILE 0788 76492.

27

The Newcastle-upon-Tyne Electrical Show. The Gosforth Park Hotel, High Gosforth Park until 28th. Details from Technology Exhibitions 01-760 0009.

COMMENT

Spotting the tell-tale signs



The multi-storey car park serving Gateshead's new Metro Centre in Tyne and Wear, is lit by corrosion-resistant fluorescent luminaires, with emergency and amenity lighting from Crompton Lighting. Installed in the four internal covered levels are 900 Crompton Tufflite luminaires. The totally enclosed units are fitted with 65W lamps, protected by acrylic diffusers and secured by specially designed stainless steel latches. Emergency lighting is provided by ICEL approved, Crompton Convertex conversion modules. Column mounted luminaires from the Crompton Plaza amenity range provide lighting for the open rooftop parking area. The four-arm, post-top lanterns are fitted with single 100W gls lamps, enclosed by high impact resistant, clear polycarbonate acorn globes. Details from Crompton Parkinson 0604 30201.

Performance with style

Despite the disappointing turn out for the *Contract lighting, ceilings and partitions* show at the BDC recently, there are other signs which bode well for the coming months. Not least, low-voltage lighting is being offered as part of domestic lighting ranges by some retailers.

This small sign of progress means that the unusual, novel effects of low-voltage lighting are on the verge of becoming commonplace. True homeowners are unlikely to be gripped by the same fever that has possessed interior lighting scheme designers, but the appreciation of the quality of good light is certain to rise.

Where does this leave specifiers and lighting designers? With luck, it means that their work will be accordingly appreciated — and accordingly subject to greater scrutiny.

Architecture has much to gain, at relatively low cost, from good lighting. Retail developments in particular, have lead this field from the front. The imaginative use of differing light sources to distinguish stores in the same group has been a prime example of the value, rather than cost, of lighting. (For example, the British Shoe Corporation uses different lighting in its Dolcis and Saxone operations).

Greater scrutiny has revealed some horrors: without naming names, a large west London retail centre has a wonderful night-time atrium lighting scheme. By day, especially from the upper floors all you can see are wedges of cable, control gear and luminaire.

As lighting moves up on the agenda, so professionals in lighting must be sure that faith placed in their abilities is well-placed (despite lack of faith in shows at the BDC!).

LIGHTING EQUIPMENT NEWS

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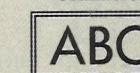
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NEWS

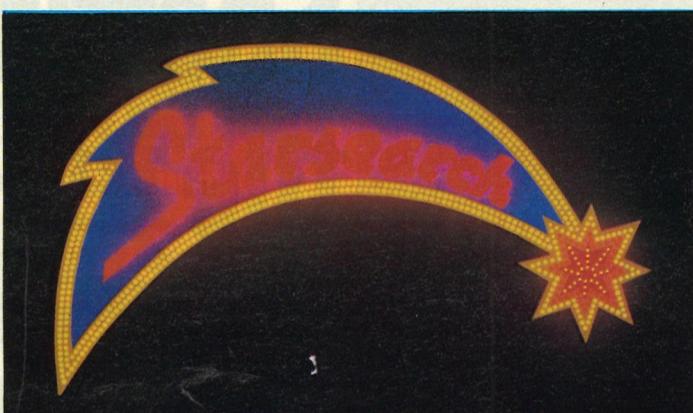
Versatile signs will go anywhere

An illuminated sign system which houses tiny light emitting diodes (LEDs) in individual, recessed reflector dishes is available from Opto Sign Ltd.

Side light, which is normally scattered, is reflected back to the viewer to give sharper, brighter signs clearly visible even in sunlight.

The manufacturing process offers flexibility for the design of moving, graphic images as well as text, depending on reflector position. LED colour and on/off switching sequence. These effects are further enhanced by graphic designs applied to the supporting aluminium panels with paint or adhesive film.

The system has several advantages over tungsten lamps or cold cathode tubes. Solid state LEDs, originally designed for aerospace



Television reaches for the stars with an Opto sign giving chasing starburst and flashing effects.

applications, are exceptionally robust and reliable with an average life of ten years without visible deterioration.

Opto signs are non-corrosive,

and repair and maintenance are minimal, usually an occasional wipe or hose down. As a safe and economic, low voltage light source an Opto sign emits no heat and

may be installed in more locations than traditional systems.

Since the LEDs are shockproof and recessed, the signs offer improved resistance to vandalism.

With a profile only 20mm thick, signs are slim and lightweight, allowing double sided versions and making installation and maintenance cheaper and easier, with reduced wear and tear on supporting surfaces.

Panels are bolted together to make large signs. Small signs are portable and plug into 13A sockets, allowing use in shops, mobile demonstrations, exhibitions and on vehicles. They can be battery powered. All wiring and PCB programmers are housed within the signs.

By using, fully integrated, computer aided design techniques, Opto Sign provides a rapid in-



Boots — an on-going signage programme.

house design and production service from original concept through to artwork with computer generated graphics. This is translated directly into punched reflector holes in aluminium sheets.

The panels are then decorated with paint or adhesive film, LEDs are inserted and connectors are soldered together behind the panels. PCB programmers to control movement of the display are then attached.

All wiring and LEDs are coated with special adhesive insulator which anchors the connections and protects against short circuit. After

pre-testing, the signs are delivered and if necessary installed by Opto Sign's approved contractors.

Already a number of well known companies are using Opto signs, including Tesco, MFI, Mitsubishi, Grand Metropolitan, Truman Breweries, Viners, and Dow Chemical. Boots are in the middle of a signage programme for their in-shop photo laboratories.

Off-the-shelf, standard signs are also available by mail order for small retailers such as newsagents and off licences who want a flashing, phased sequence sign within their budget.

More information is obtainable from Opto Sign Ltd, 43 Brunel, Road, London W3 7XR.



Students doing a lighting project at the Bartlett School of Architecture.

New chance to learn about lighting

A new lighting course is being run by the Bartlett School of Architecture and Planning at University College London, which offers a number of postgraduate MSc courses concerned with architecture, building and the environment. Two are particularly relevant to people who want to study the environment in and around buildings.

The new course concentrates on light and lighting and is receiving considerable interest from architects, engineers and designers.

It aims to cover most aspects of light and lighting but with an emphasis on design. Students are given a sound technological/scientific foundation in the subject, in addition to an insight into the human requirements concerned with a lit environment.

The course considers interior and exterior electric lighting as well as daylighting. Other topics which have an important bearing on lighting are included in the syllabus, for example, vision, psychophysics, colour and luminaire design.

The second of the courses has a much broader composition in that it considers all the major aspects of

environmental design. In addition to the basic principles as related to human response and energy use, these include the thermal environment, acoustics and lighting, where the fundamentals of lighting design are considered including daylighting.

Both courses use a combination of lectures, project work and visits and are supported by a suite of well-equipped laboratories and computer facilities.

They attract a wide range of people, from the UK and overseas.

Entry qualifications are those required by the University of London, normally at least a second class honours degree in an appropriate subject or its equivalent.

In some cases candidates who have a pass degree, an HND or an HNC qualification and have professional experience for a number of years can be considered, but it may be necessary for these candidates to pass a qualifying examination.

Further information may be obtained from either David Loe or Edward Rowlands, The Bartlett School of Architecture and Planning, Wates House, 22 Gordon Street, London WC1H 0QB, telephone 01-387 7050.

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

NEW PRODUCTS

Small wonder from Wotan

The world's smallest metal halide lamps are being launched by Wotan. The HQI-T lamps have some unique features, including a single ended G12 base, compact dimensions, high efficiency and universal burning position.

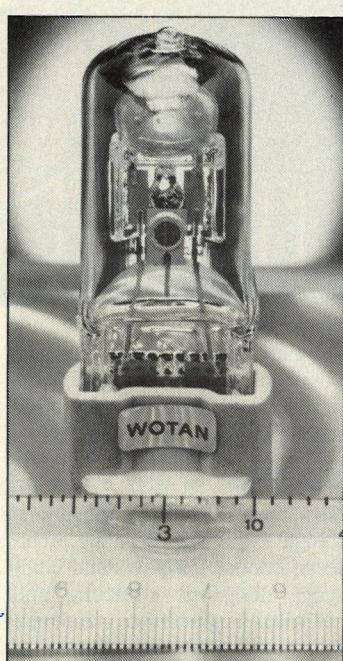
They will bring point source metal-halide technology to display and small recessed luminaires.

The HQI-T lamps will be available in three wattages. The 150W is available now, the 75W is launched this month, and the 35W version will be ready in September.

High luminous fluxes of 2,400, 5,200 and 12,000 lumens have been achieved, giving luminous efficacies of 62, 69 and 80 lm/W respectively.

All the lamps have identical dimensions, 84mm long with a 25mm average diameter, and have a long service life of 6,000 hours.

Reader Service No. 151

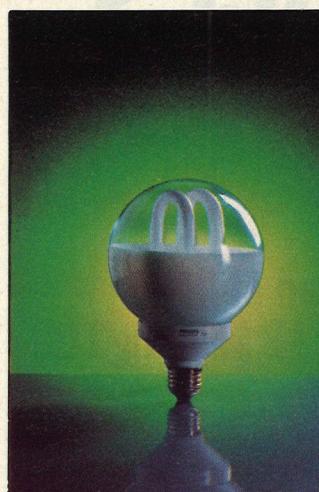


Growing benefits

Philips launched a new lamp for the Horticulture trade at last month's 1988 Dutch Horticultural Show.

The lamp is the SL*R and has been developed after scientific cooperation with the University of Wageningen.

Although many horticulturalists realise the benefits of photoperiodic lighting, conventional lamps consume a great deal of energy, are fragile and have to be replaced regularly. The SL*R, an 18W lamp, is robust and produces the same amount of light as an incandescent lamp for 88% less energy and has an average life five times longer.



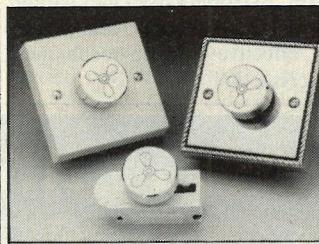
Philips claim that the benefits for cut flowers and flowering pot plants include less elongation, earlier flowering, shorter culture time and more uniform plant development.

Reader Service No. 156

Solar powered lighting

A range of solar powered lighting has been introduced by Chronar Ltd.

Walklite is a compact fitting designed to provide soft light for a pathway or step, or to highlight a garden border. It is available in



Fan speed controllers

D F P Electronics has added a selection of fan speed controllers to their range of dimmer controls.

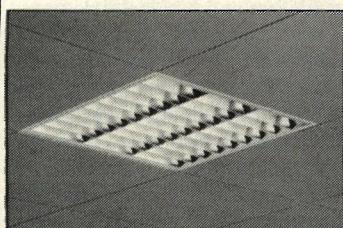
The units are available in a variety of plate styles, plastic, metal or coloured.

An extra switched terminal, for shutter operation, is fitted.

Reader Service No. 158



as well as those for the humid conditions found in kitchens and swimming pools, and for areas which contain corrosive substances, including chemical factories and abattoires.



There is also a style for areas which need to be hygienically maintained and require high pressure jetting. Details from Europhon 0256 850977.

Reader Service No. 154

either a 150mm wide incandescent (CH-6T), or 305mm wide fluorescent (CH-12F) version.

Both feature a built-in rechargeable battery powered from a solar panel mounted in the top face of the fitting. They can provide up to five hours' light per night, or, if not used for several days, as much as nine hours, states Chronar.

Walklite is supplied with a 610mm mounting pole and is completely self-contained, requiring no wiring or installation.

Retail prices including VAT start at around £40.

Complementing the Walklite range is Patiolite, designed to provide higher light output by using a fluorescent tube powered from a 0.9m by 305mm solar panel fitted to the 2.4m mounting pole supplied. This unit is suitable for patios, driveways, and barbecue areas, or as a security light. It retails at about £200 including VAT.

Patiolite and Walklite can be manually operated or fitted with a photocell for automatic operation.

Reader Service No. 157

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

Reader Service No. 155

Switch is safe from moisture

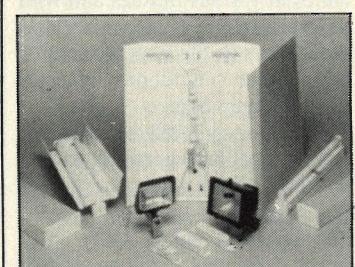
Redditch Plastic Products has launched a new 5 amp pull cord switch, to match their existing ceiling rose.

The switch is manufactured in high gloss thermoset material and is available in white, red, blue, beige, yellow and dark brown.

The deep switch housing allows for ample cable space and, with its own unit design terminals, there is no direct access through the top to any live parts. So the possibility of moisture coming into contacts with live parts is eliminated.

The two piece unit simply screws together, is fitted with silver contacts and earth terminal and has a 1.5 metre nylon pull cord.

Reader Service No. 152

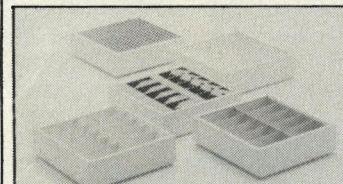


Ceiling luminaires for new style fluorescents

Siemens has developed a range of ceiling luminaires especially for the new Wotan Dulux fluorescent lamps.

They make use of the Dulux S and Dulux L lamps, which have a high luminous efficacy with lower power consumption.

The luminaires are square and



have reflectors that include prismatic sheets, plastic or profile steel louvres and a choice of matt anodised to highly-polished aluminium parabolic louvres.

Reader Service No. 155

Lighting strikes the market

Lightning Electrical Distributors (Industrial) has launched its own range of lighting.

Fluorescent batten fittings reflectors, diffusers, control gear and lay-in fluorescent modules are included. There are also open and closed floodlights.

The products are being distributed to wholesalers nationwide under the brand name Lightning.

The company's three aims in putting together this range are stated as quality, user-friendly products, at the right place and complimentary to the established brands they already distribute.

Reader Service No. 153

LIF LINE

Light Relief

The last few years have seen several very successful appeals for help — help for famine-ridden countries overseas such as Ethiopia, but also at home in response to catastrophes such as the Herald of Free Enterprise disaster and the King's Cross fire. These appeals are incredibly successful, raising millions of pounds in a matter of days. It demonstrates something about the British character that we can respond so generously when cries for help reach us in our homes through the medium of TV and radio.

But what of the whimpering calls for help much nearer to home, from our own folk; why do they go unheard? The case in point is our own benevolent association the EEIBA.

For more than 80 years the EEIBA has been helping the sick and the unfortunate in our industries. Richard Szalma is a good example. Aged 25, he is the son of an employee of a British cable manufacturer. A victim of Wilson's disease, Richard was admitted to the Royal Hospital and Home for Incurables when he was 19, confined to a wheelchair and unable to speak. He was said to be incurable and was expected to remain a patient at the Royal for life. However, he is a remarkable young man and was already fighting back when he came to the attention of the EEIBA.

In 1982 the Association provided him with an electric typewriter to help him communicate with those about him. Now, after 23 operations and through his own dogged determination and the devotion and support of the staff at the Royal, Richard has recovered to the extent that he is involved in "O" levels and computer studies, is learning to live independently and is even taking driving lessons! (Assessment at a Mobility Centre has proven that Richard is capable of driving.) His mobility allowance will provide for hire purchase repayments for a suitable vehicle. EEIBA is providing the hire purchase deposit and paying for the necessary modifications to the controls.

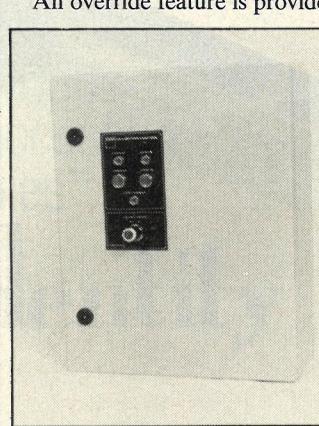
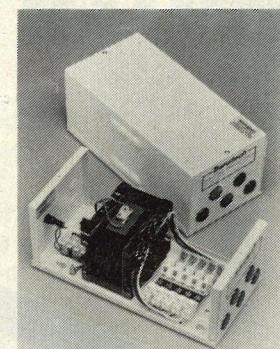
The EEIBA also care for the elderly who served the industries during their working lives. It provides immediate and, if necessary, continuing assistance to some 700 beneficiaries around the country. It also accommodates 88 people in its own residential homes and a further 20 in its sheltered flats. More of the elderly are supported in residential establishments operated by other agencies.

Over the years the nature of the EEIBA's work has altered in line with changes in society. Calls for assistance continue to rise and it now provides for all categories of employees. As a result, it is faced with new demands on its resources and it desperately needs our help.

If their report has tugged at your heart strings, make a note to ask your secretary to call the EEIBA on 01-673 0131 or write to them at 8 Station Parade, Balham High Road, London SW12 9BH, to find out how you might help.

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to allow staff to switch on lighting early before the daylight has declined to the normal switch-on level.

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Reader Service No. 159

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Lighting enhances outdoor life

Outdoor lighting is starting to follow the lead of indoor accent lighting, says Ken Last, chairman of LB Lighting Ltd.

With the expanding market for outdoor lighting and the increasing awareness of our visual environment it is not surprising to find greater emphasis being placed on the aesthetic appearance of night-time amenity areas. The pedestrianisation of some of our high street shopping areas is a classic example.

Away went functional columns and lantern designs intended to light for traffic, and in their place more decorative and imaginative lighting schemes have been introduced to light the environment for

the benefit of people rather than their machines.

Low level lighting equipment has developed from the humble beginnings of bollard units and now can be obtained in a wide variety of styles and finishes, as well as materials. By mounting shorter units on brick or concrete plinths and pedestals, an even greater choice is at the designer's disposal and is being used to great advantage around leisure centres and industrial high-tech complexes. By adding Bricklites within structures and walls, alternative and effective lighting techniques are created.

Other spaces have also received the benefit of the architect's and planner's imagination. Recreational parks, monuments, car parks and the boom in leisure activities building and high tech industrial areas have also received their share of landscaping and



Amenity lighting mounted on brick pedestals.

Just as there is an increased awareness of the advantage of such techniques as wall washing and accent lighting of objects, or specific areas, in the domestic and commercial scenes, so the same parameters can be applied to outdoor amenities.

In the past, this was achieved with limited results in what was generally classed as flood lighting. This conjures up thoughts of heavy duty industrial type luminaires,

some high powered and in clusters, possibly designed without the necessity to blend into the landscape or structures.

Expertise

Now, there is a need for the project design teams incorporating architects, interior designers and landscape designers, structural and electrical engineers to recognise the specific skills and expertise of luminaire manufacturers. The upsurge of interest now experienced in design is causing luminaire manufacturers to offer a more specific design and technical service, with the ability to offer products to blend into landscaping and external structures.

While designers have created styles to harmonise with the requirements of a project, the manufacturer has had to supply the engineering solution to produce the final product. It has been his lot to achieve an acceptable compromise between the decorative and functional parameters, two ingredients which are not always readily compatible, because of the need to ensure good weatherproofing techniques and sufficient robustness to withstand vandalism and accidental damage.

Sometimes the desired effect can be achieved by adapting standard lanterns, for example an opal sphere, and adding a decorative element such as a hoop, cradle or cowl. Supporting brackets can likewise be used to change the appearance of standard components.

The requirement for non-corrosive materials means that aluminium and aluminium alloys are obvious choices. Now that these are available in polished brass and silver, weather resistant finishes, there is a greater divergence from the traditional, heavy looking, industrial type products.

Economics is a natural consideration, tempered with sometimes opposing principles of functional illumination and effect. The introduction of many new light sources in the past few years, such as compact fluorescent lamps in linear and square shapes, low wattage double and single ended metal halide sources, low voltage tungsten halogen, plus the variety of high pressure sodium elliptical and tubular lamps, provide plenty of scope for the designer not only to style a luminaire but also to

paint the environment with a variety of colour tints.

Lighting is an important influence in the lives of many people, not only those involved in lighting professionally, but members of the general public who are intrigued by its creative possibilities. When applied to the huge divergence of amenity requirements, it provides an outlet for ingenuity, panache and flair. Compared with "knowing the subject" the ability to interpret clients' requirements is sadly restricted to only a few. Lighting engineering is one thing, "luminaire panache" is another and it is this one area which is so important when considering such a visually obvious subject as amenity lighting.

Parks and gardens which are open to the public during the hours of darkness have been the beneficiaries of some thoughtful lighting schemes. The "light washing" of trees, plants, and statues on a grand scale is being minimised to provide localised pools and patterns of light, emphasising specific elements of interest within the overall scene.

Solar powered

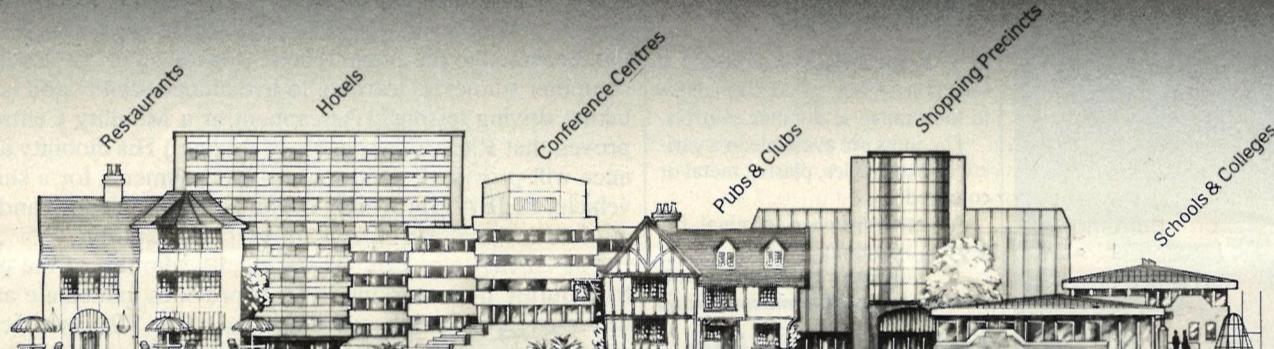
Such techniques are also finding favour within buildings, particularly in atria and open-plan offices where shrubs and trees are being illuminated and greatly improving the visual environment.

There is a large upsurge in the use of plants and shrubs around housing estates and leisure buildings. Luminaires located in the planted zones not only highlight the landscape architect's efforts and create an interesting visual scene, but are thereby positioned where they are far less prone to damage.

The use of matching luminaires designed for external use, combining bollards, wall and canopy luminaires in various finishes and with different light sources, readily lend themselves to the new concept of harmonious outdoor amenity lighting equipment.

Solar energy is still in its infancy, but external luminaires for amenity functions are a prime target for this power source. Recent developments in the USA show novel combined luminaires with inbuilt solar panels. Obviously more viable in sunnier climes, but they are starting to appear in Britain as well.

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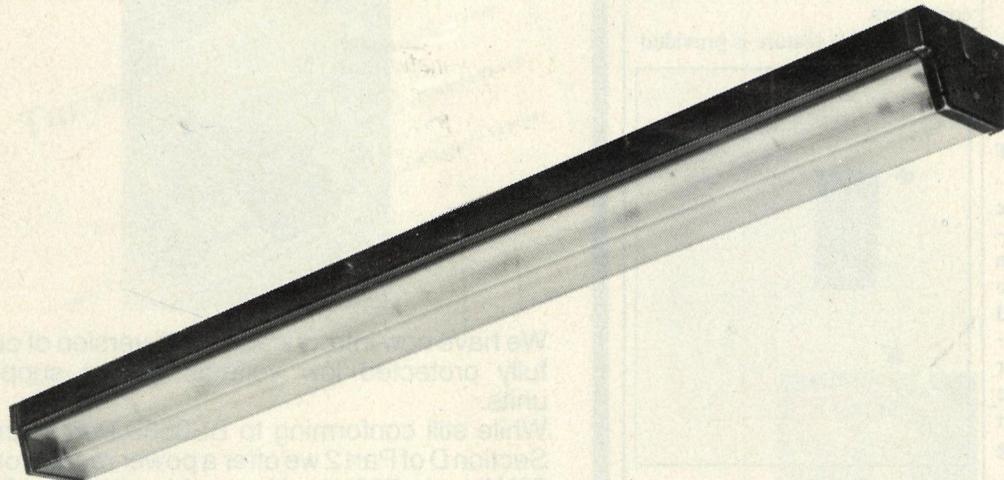
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Monitor

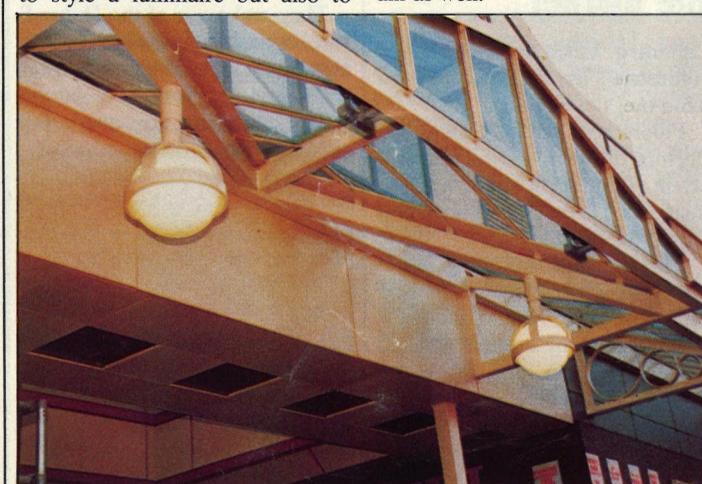


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A standard opal sphere adapted

Looking behind the pulpit

Following the January feature on church lighting, we look at the illumination detail of church lighting, and how the guidelines should be applied.

What makes for good and bad church lighting are good and bad lighting designers. Even though the designer intends to produce a good scheme he or she may not always succeed. It may be because insufficient thought has been given, or lack of knowledge and limited ability or simply that the designer has not been careful enough.

What is good church lighting and what is bad you may ask; clearly what is good is that which meets all objectives and the bad meet none. The majority of church lighting falls between the two extremes.

The CIBSE code gives suggested minimum illuminance values as follows:

Body of Church: 150 lux
Pulpit lectern and Choir: 300 lux
Chancel, Altar: 150 lux

This only indicates a quantity of light to meet the needs of the clergy to lead the service of worship and the congregation to take part, and does little to emphasise and draw attention to areas of particular regard, to reveal the architectural merits, or conceal the architectural de-merits of the building.

To produce a lighting solution it is therefore necessary to have a design intent based upon a thorough knowledge of the use and the architecture of the building which can best be gained by a visit.

Churches are now frequently multi-purpose and used for musical and theatrical performances, social events, as well as a variety of other uses, in addition to that main purpose of worship.

The lighting system must therefore be capable of adaption to the various requirements by means of selective switching or dimming of the light source.

The foregoing are essentially the functional requirements, but the lighting should also enhance the aesthetic appeal of the building, this can be best experienced with time spent in contemplation at several normal viewing positions.

Carvings, statues, screens and columns should all be noted and their lighting requirements form part of the lighting design intent.

It is necessary to put one's thoughts on paper preferably by sketches.

To indicate the general flow of light, bearing in mind the avoidance of glare, which should be from the congregation towards the altar, preferably with one side being stronger than the other to give some modelling.

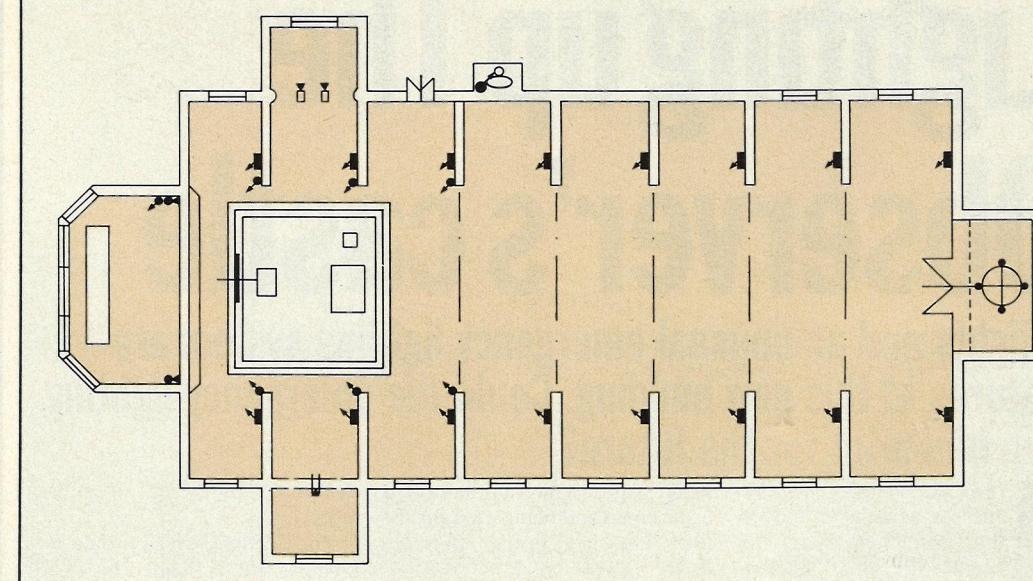
To note the general areas and special features to be highlighted such as the choir and chancel, altar, statues etc.

Features to be shown in silhouette by lighting the background. Generally these should be those where the beauty is in the outline rather than in the texture e.g. wrought iron screen, triforium arches, suspended plain cross. Features which require strong modelling eg, a statue by the use of a single spotlight acutely angled onto the subject to create a dramatic effect.

In dealing with the aesthetic effects of church lighting one must remember that shade is as important as the bright areas, as with music the quiet passages complement the louder. Notice should also be taken of the predominant colours in the fabric of the building with a view to deciding the most suitable light source.

We are now moving towards the more practical aspect of design. A conscious decision must be made whether to use a concealed system or to use luminaires which are visible, in which case they must not pollute the space and obscure the view and be in harmony with the furnishings.

The functional lighting calcula-



tions may be based on illuminance but the aesthetic lighting should be based upon luminance since it is the relative luminosity and colours of the various surfaces which will achieve the design intent.

Alternatively, experimental work on site can sometimes be carried out, this is frequently less

time consuming and accurate than calculating, since there are considerable problems in estimating the flux transfer from one surface to another.

Finally, when the luminaires are in position and operative the scheme should be fine tuned by aiming and adjusting the lumi-

naires to ensure that the design intent is achieved.

This article was supplied by Engineering, Design & Procurement Ltd, and formed part of the January feature on Church lighting, held over to this issue owing to limited space, EDP can be reached on 061-456 0404.

ACEC ELECTRIC LTD are going places

ACEC's parent Company, National Industri A/S of Norway has recently become part of ASEA Brown Boverie, now one of the largest electrical Groups in the world and Europe's major electrical manufacturer.

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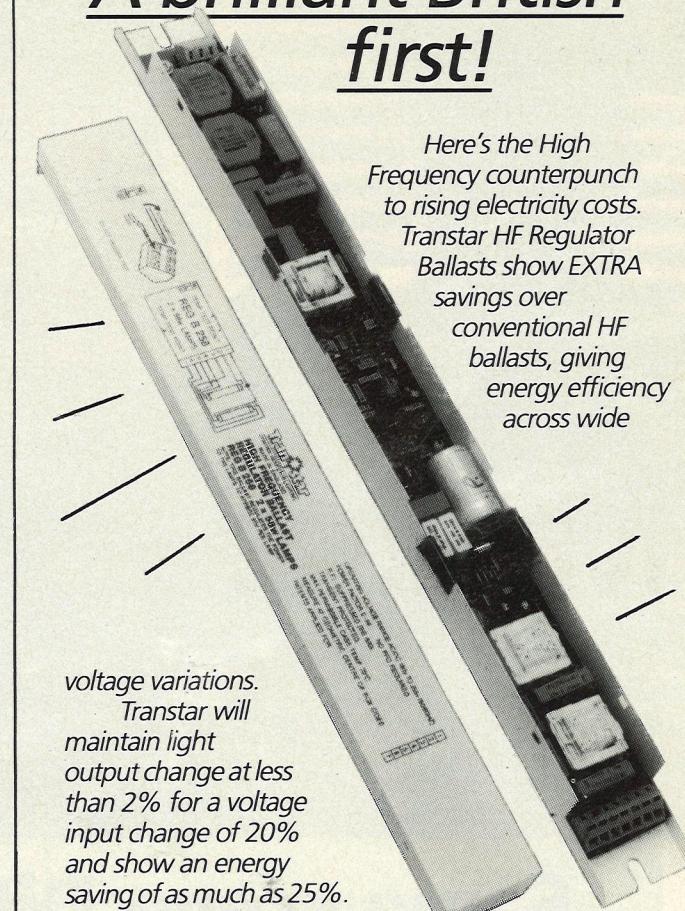
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Reader Service No. 9

Page 7

Lighting up The Observer's castle

Uplights and an unusual emergency lighting system are features of this new building. Could the emergency lighting be a blueprint for the future?

A few weeks ago *The Observer* newspaper moved into new premises on the south side of Chelsea Bridge, London. The striking building it now occupies was a speculative office development by Flaxyards plc, built by Flaxyards Construction Ltd. Architects and structural engineers were Peter Argyrou Associates.

On crossing the bridge, the first glimpse of the building gives the impression of a low rise marble castle. This is due to the cladding material of reconstituted crystal-

lised glass, specially imported from Japan and being used for the first time in Europe. Between these "marble columns" there is black glass curtain walling.

At night the building is floodlit by 150W mercury floodlights from the Bega range by Concord, which are fully recessed in the ground, one at the foot of each "marble column". They have asymmetric reflectors to throw beams of light up the columns which flare outwards at the base. Rumour has it that these vertical shafts of light are being used as landmarks by

aircraft approaching Heathrow airport!

The building, which is on a rectangular site, is divided by a central, glass covered atrium. Each half of the building additionally has its own atrium.

The Observer occupies half of the site, giving it a gross area of 5853m² on three floors.

Being reluctant to pay for so much fresh air, the management negotiated as part of the contract that a bridge be built across the atrium in their part of the building at first floor level. This bridge is



Photography by David Partner

Floodlighting of the grey and white marble effect.

now occupied by the news desk. Below the bridge, at ground floor level, is the advertising department.

No attempt has been made to landscape the atrium; it is purely functional in the sense of providing daylight and a certain amount of office space. Indeed the main air conditioning ducts for the building run up through the atrium fully exposed, one in each corner.

A scenic lift with glass panels at one end of the atrium provides one of the necessary lifts in the building and also forms an architectural feature.

Artificial lighting for the news desk is by 250W SON-DL area floodlights from Thorn, mounted at second floor level in the atrium. They provide 500 lux on the news desk and are fitted with anti-glare baffles.

Reception

Main entrance to *The Observer*'s premises is on the south side of the building. On entering, visitors are met by an all-white, clinical decor enlivened by the lighting scheme of small, recessed, sparkling lights.

The reception desk on the left of the door, and the perimeter of the whole area, is lit by miniature fully recessed, low voltage tungsten halogen downlights by Reggiani solidus Prima. A wide beam spread is given through the slots in the white cover plates; the angle of the 50W dichroic lamps is also adjustable. These luminaires are connected in appropriately sized groups to transformers above the ceiling.

A cornice around the edge of a dropped-ceiling area conceals fluorescent batten fittings.

Fully recessed Marlin downlights using 26W PLC compact fluorescent lamps light the central area, with the same type of fitting surface mounted at the back of the area where it opens into corridors.

Behind the reception desk a run of mirror fronted cupboards conceals lighting control equipment and other building services. The mirrors also add sparkle and movement to the austere interior.

Offices

The 450 staff at the head office of this computerised newspaper are accommodated in open plan offices lit by uplights — except for the news desk in the atrium, of course.

Bowl shaped reflectors on the Thorn DUSD floor standing uplights house 250W SON-DL lamps. Average illuminance on the working plane is designed to be 500 lux, but staff can move the uplights about as they wish, so in some areas the illuminance appears to be patchy.

Staff can have desk lights if they wish and may choose their own. About seven or eight desk lights of various styles were noticed when walking around the offices.

Two of the staff were asked if they liked the lighting and both said "Yes," one adding that it was better than in the previous building.

At the perimeter of the office areas, lighting is supplemented by miniature 20W low voltage tungsten halogen fittings set in egg-



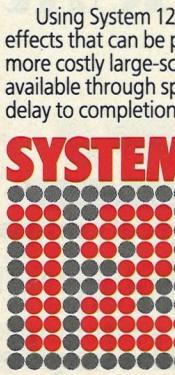
Same scene. Different settings.

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For the designer System 12 offers the opportunity to create by a hand held programmer up to 128 different scenes or lighting sequences. System 12 can control two or more areas totally independently of each other.

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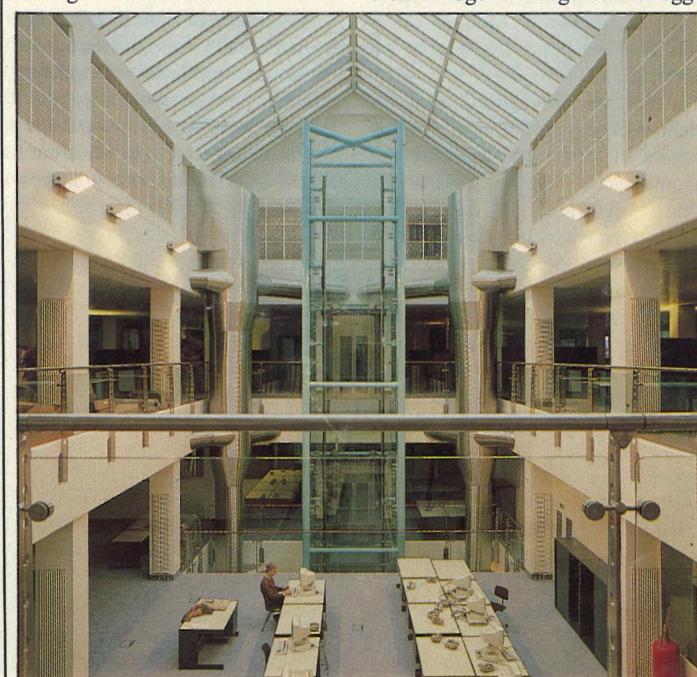


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Using System 12 is simple. But the range of lighting effects that can be programmed into the system rival much more costly large-scale installations. And System 12 is readily available through specialised distributors so there's no big delay to completion. The cost is surprisingly modest too!

Check it out. It means that the benefits of scene-setting are now available for almost any of your smaller applications. It's a whole new scene! For literature and distributors contact:

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Atrium with news desk and scenic lift.



Open plan office area lit by high pressure sodium uplights.

crate louvre panels of cast plaster. These fittings by Centec Lighting add interest and a little sparkle to the large interiors.

Ceilings, sprinkler plates, fire bells, radiator columns, walls and uplights are colour co-ordinated to white RAL9010. Carpets, which were provided by the developer, are a different colour on each floor, viz. muted shades of grey, blue and pale turquoise, with pink on the staircases. Trials were done with these colours and SON-DL lamps before the final lamp choice was made. The bases of the 203 uplights are being colour matched to the carpet colours.

An energy management system using mains borne signals and a microprocessor controls all the lighting.

The system, by ECS, includes the use of a decoder in the base of each uplight to determine the mode of response of the luminaire from the following options: time switched; time switching plus photo-cell control for lights near windows and flood-lights in the atrium, and timed switching plus photo-cell control for cleaning and another for security patrols.

This gives a very unobtrusive emergency lighting system that provides well over the minimum required lux level. It complies with section 20 of the Building Regulations and has been approved by the Building Control Department of Wandsworth Borough Council.

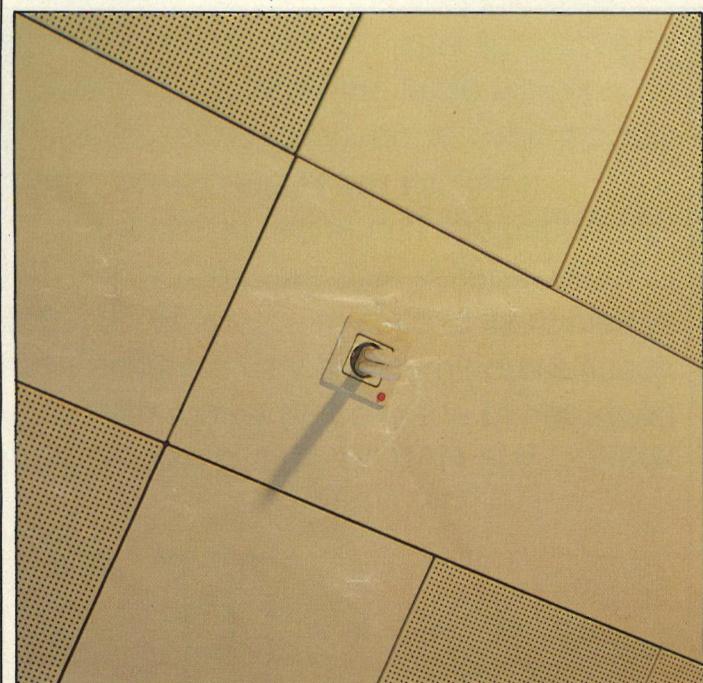
The whole of the open plan offices had to be treated as an escape route. No internally illuminated exit signs are used, however, Emergency lighting fittings are strategically placed to illuminate printed exit signs.

On leaving the building, one of the last views before turning onto Chelsea Bridge is of the chandelier in *The Observer's* portico. It is a geometric design of stainless steel tubes and SL compact fluorescent lamps in a plastic polyhedron lantern.

More information can be obtained from D C Engineering Services, 28 Clarence Street, Southend-on-Sea, Essex SS1 1BD

Unusual emergency

The building has very unusual emergency lighting facilities which are described by David Charles, principal of D C Engineering Services as "subtle."



Emergency lighting fitting.



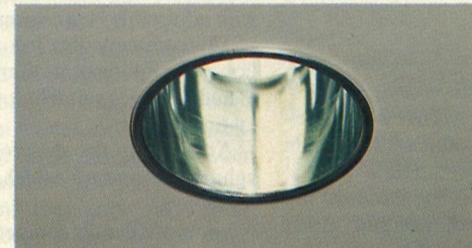
Reception area, lit by sparkling lights — and sunshine!

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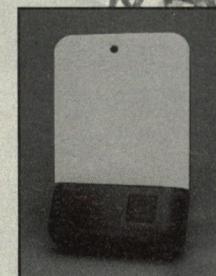


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Reader Service No. 11

STEINEL

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Steinel's new 'Sensor' SL10 is a quality p.i.r. automatic wall lamp which is activated when a minute temperature change is detected within its sphere of reference. Equally suitable for either domestic or industrial installations, they are weather and tamperproof.

The SL10 provides illumination for six minutes when triggered and can also be wired to switch auxiliary lights or alarms, internally or externally. Burglars and petty thieves don't like lights and a p.i.r. lamp system that is ever watchful and never sleeps greatly improves security.

Finally, the 'in use only when required' aspect gives substantial energy savings. Easy to install and fully guaranteed for 12 months, the SL10 cost £51.95 each or three for £148.00 excluding VAT and delivery.

For further details contact your local stockist or Steinel (UK) Limited direct.

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Reader Service No. 12

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Filling the Watford lighting gap

Continuing our look at new showrooms, we visit Marlin Lighting and Courtney Pope.

For some time now Marlin has been increasing and consolidating emphasis on selling through professional specifiers. Lower-tech products have been removed from the range, and more breadth and depth has been added to the higher tech groups. New product groups have been introduced, particularly in the field of low-energy display and high accent lighting, as well as exterior lighting.

The new centre at Watford pro-

vides specifiers with show and demonstration facilities, technical support and a lighting scheme design service covering the entire range.

Fast service

A prime purpose of the showroom network is to make available many of the products that are small quantity sellers, and yet need to be made accessible quickly and locally. The wide range of stock held is intended to allow Marlin to

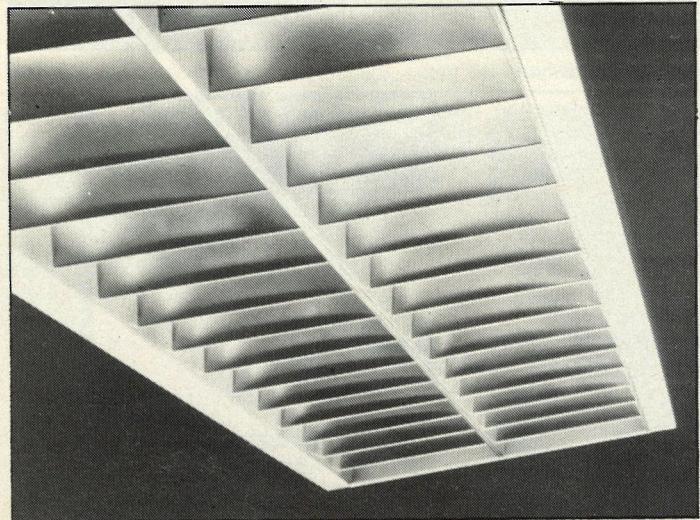
service orders placed through wholesalers faster than its competitors.

Watford is seen as a key and fast growing catchment area which warrants the level of investment required to build first class facilities for both specifier and wholesaler. The company plans to update all its existing Lighting Centres during 1988.

Contact Ann Goodwin at Watford Lighting Centre, 0923-50200, for further information.



Marlin's lighting centre at Watford.



Courtney Pope's Wide-Light fluorescent fitting with low glare louvres.

Courtney Pope reorganises

A programme of expansion and refurbishment costing £1.5 million has been undertaken by Courtney Pope Lighting Ltd over the last three years. It is scheduled for completion this month.

Manufacturing has been centralised in Manchester where both factory space and warehousing space have been expanded. Computers have been introduced to improve design, manufacture and stock control. At the same

time, new systems have been introduced by the company to tighten up delivery procedures.

A new lighting showroom at the company's north London headquarters is part of this expansion. The company's lighting output is 50% standard products and 50% specials, both of which are represented in the display. Examples of illuminated signs by the Courtney Pope Sign Co and story boards about the service provided by the

Lighting Maintenance Co are also on display.

A wide choice of lighting for the retail trade is featured. There are tubular lighting systems and lighting track.

A new low voltage track has just been added to the range, called Allom Track 25. The miniature spotlights that are used with it have built-in reflectors and use M32 tungsten halogen lamps. Small plastic adaptors attach the spotlights to the track, which can be joined into patterns.

Track 12 has been uprated so that it now accepts up to seven low voltage spotlights.

Shop counter lights

Another new product is a linear low voltage system for lighting shop counters and showcases. It fits inside the front edge of the counter. A cooling system with small fan assembly is available as an optional extra.

New on the market also is a metal halide point source spotlight with adjustable beam spread.

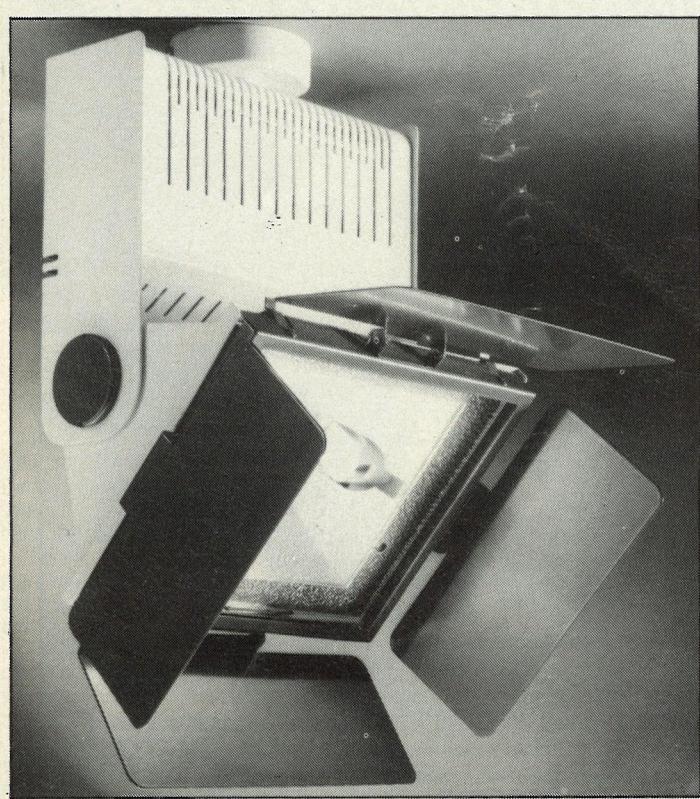
The company also has a selection of fluorescent luminaires, including types suitable for hospital lighting.

Adjacent to the showroom is a lighting laboratory which is BSI registered.

For more details contact Courtney Pope Lighting Ltd on 01-800 1270.

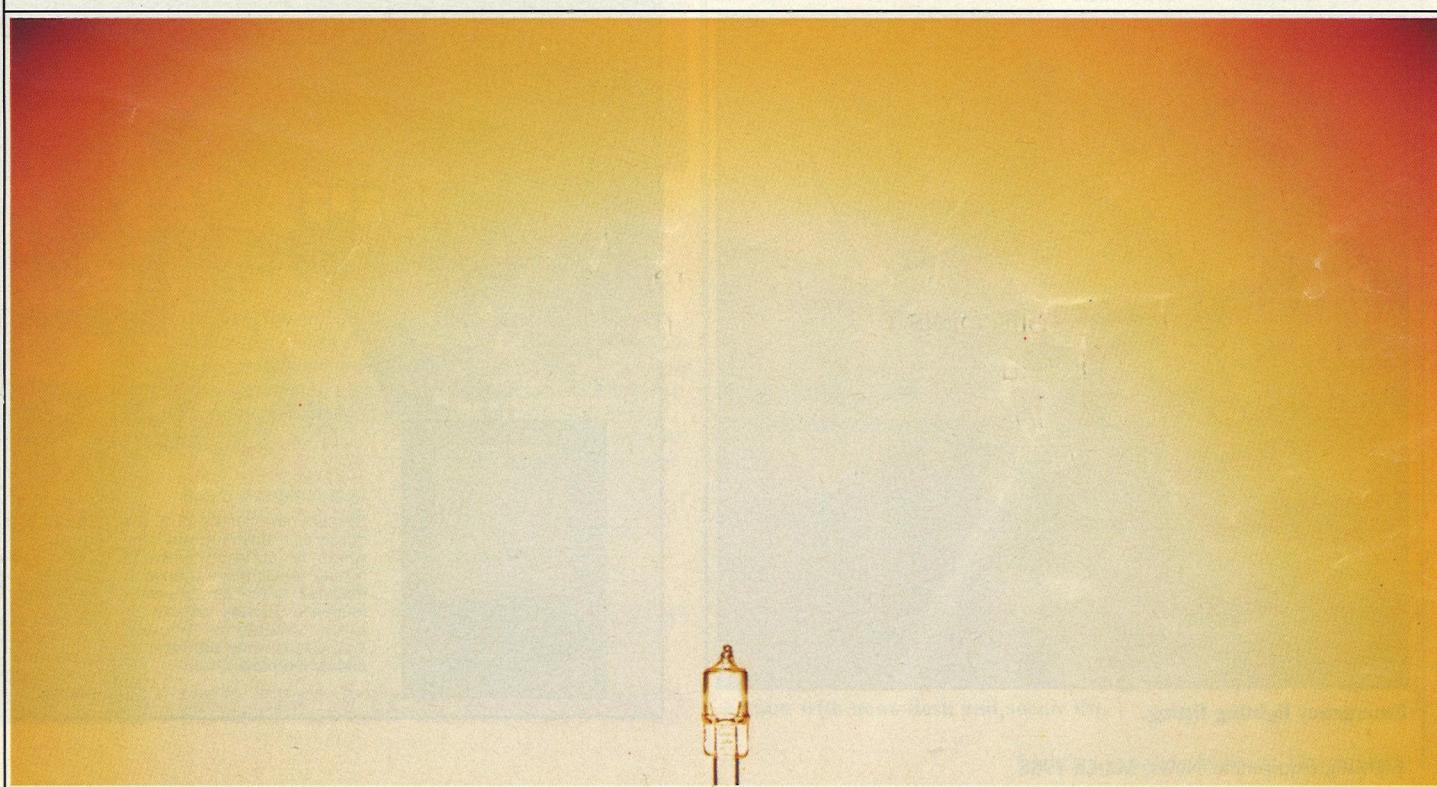


Courtney Pope's showroom, with its full range of luminaires.



Displaymaster, a new metal halide luminaire by Courtney Pope.

HARDLY LAMP, JUST LIGHT:



Low-down on lighting down under

A report on the Australian Illuminating Engineering Society's convention which took as its theme, *Lighting's contribution to the quality of life.*

The 33rd Australian IES convention took a decisive step towards architectural lighting. The conference was held at the Melbourne Expo-Centre from 17 to 19 November 1987 and distinctly gave architectural aspects priority over lighting engineering.

Seven out of 19 papers dealt with aspects of lighting design and handled mainly the problems Brian Crossman, Australia, referred to in his Dr Albert Dresler Memorial lecture, that is: "Basic principles of illumination have not really changed over the years. They have become refined in their application through research and development. It is therefore not necessary to be continually confronted with drastic new concepts in applications merely to signify advancement. An educated application of the equipment that is available today would provide good illumination for years to come."

Visual effects

The same was emphasised in the official opening and welcome by the Australian IES president Warren Julian and Neil Wills, the IES president from Victoria, as well as in the opening paper by Robin Aldworth, UK, "Lighting Design — Flair before Figures."

Aldworth established: the use of the latest equipment in lighting installation which complies with current specifications does not necessarily guarantee the user's satisfaction. He questioned whether a single parameter — the illuminance on the working plane or the loading of watts per m² — covers the whole complex of lighting design. Aldworth reported consequently about the importance of the visual effects in a design process as included in Waldrum's "Designed Appearance

Method" and in the latest edition of the CIBSE *Interior Lighting Code* — The Need for Change"

From these guidelines Aldworth derived the means to create innovative, efficient and effective lighting installations; but not by simply applying recent developments of computer graphics showing how the room will look when lit in different ways.

Aldworth pointed out that graphic systems only give a poor impression of the lighting but never an accurate representation of what the eye really sees.

There is certainly no reason for lighting designers to claim not to have the right means their disposal; due to recent developments in light sources and the fitting design the tools are quite complete.

Consequently what nowadays

Architectural aspects were given priority over lighting engineering

becomes the essential part in lighting design is the designer's intuitive feeling for flair, as Aldworth put it. "Flair must come first to set the design philosophy; other design decisions should follow."

Richard Le Vere, USA, spoke on "The Contribution of Lighting to the Quality of Life"

In his paper Le Vere discussed productivity, safety, security and aesthetics as the important contribution of lighting to the quality of life. The influence of light on the first three factors is obvious. However, the contribution of light on aesthetics is much more difficult to define. But the proof was given by Le Vere in a series of examples where the feeling of comfort and joy in a built environment was evoked by enhanced lighting.

Bill Carlton, UK, had as his subject "Applied Lighting Design — The Need for Change"

Carlton definitely predicts a change in lighting design due to the wide application of modern personal computers and the increasing application of the simple process of visual task analysis in the design process, i.e.

1. Which are the actual working planes?
2. Exactly how much light is needed there?
3. From which direction should the light come?
4. What is the quality of light acceptable to the different places in the room?

Carlton is convinced that this analysis is successful.

In future, the "average lumen method" will be subordinated in favour of lighting predictions which are more appropriate, more effective in terms of meeting the real visual needs and being more cost effective.

Carlton concluded that it will be possible to provide people with lighting that makes things easier to see and thereby produces a feeling of better comfort without increasing the amount of energy for lighting.

Harald Hofmann, Germany spoke on "An Approach to Architectural Lighting"

Hofmann traced the history of modern architectural lighting. It all began in the 1940s with the design activities of the American architect Richard Kelly.

Kelly established general rules for lighting design and distinguished, between ambient brightness, focal brightness and focal glow.

Kelly became a pioneer in modern lighting by adopting design schemes from theatre lighting and by using reflector systems in all variations from spotlighting

to wallwashing.

Today, lighting design is influenced by an increasing demand for structures. Designs and forms are manifold. It ranges from linear tube systems to complex structures.

Lighting structures can perform as purely indirect, combined direct and indirect and indirect lighting thus creating new dimensions to lighting design.

Modern concepts ranging from integrated lighting and light struc-

Flair must come first to set the design philosophy; other design decisions should follow

tures to sophisticated combinations of daylight and artificial light were presented by Hofmann in a series of examples of typical architecture.

"Specification of Lighting Quality — Techniques for Architects" was the theme of Peter Woods, Singapore.

The different aspects of new design principles and approaches to architectural lighting were topped by Woods' paper on the quality of lighting.

Woods recalled the tradition of lighting education based on his research and found out that graduates of Schools of Architecture in 1987 have similar knowledge and skills levels in lighting as their counterparts 20 years ago.

Courses in lighting at universities have been developed in the following areas:

1. Computer applications for predicting illuminance levels
2. Design strategies for energy saving
3. Design schemes other than general lighting
4. Improvements in lamp and luminaire design

Woods complained about the disparate education systems and communication between architects and engineers and noticed distinctly different educational traditions between the two groups.

His intentions and proposals turn against the traditional position of both professions.

Architects think they know a lot about human delight and comfort and little about equipment performance whereas the engineers think they know little about human delight and comfort but a lot about equipment and its performance."

'LIGHTING'S CONTRIBUTION TO THE QUALITY OF LIFE'



TO THE QUALITY OF LIFE

33rd I.E.S. NATIONAL CONVENTION and LIGHTING EXPO '87

MELBOURNE
17-19 NOVEMBER 1987
Victorian Expo Pavilion
Royal Melbourne Showgrounds



THE ADVANCEMENT OF THE ART & SCIENCE OF ILLUMINATION

Woods concluded that the traditional approach to lighting education for architects and engineers does not contribute to an improved quality in the visual environment.

Lighting design in those working areas should include:

1. High quality interior design of the office.
2. Right quantity and quality of light for good visibility.
3. Best visual conditions with a minimum of energy consumption.

Results of Thibault's investigations on an appropriate lighting scheme show that a combination of direct and indirect lighting renders most satisfying results.

J A Lynes, UK, together with B G Champness, M Hayland, VHC Crisp, F de Roemer and K Oliver

People are friendlier under Warm White lamps

carried out a series of complex investigations about "Effects of Light Sources on Aspects of Social Behaviour."

Lynes and his colleagues did research on pupil diameters of test persons under various lamps of different spectral composition. They expected results on which spectral composition of lamp is best in surroundings of social interaction as for example teaching spaces, interview rooms, court rooms, committee rooms, hotels and halls of residence.

The main experiments were carried out with Warm-White and Deluxe Natural fluorescent lamps, with all other parameters especially the illumination levels being the same.

The results show that most test persons perceive themselves and others more favourably under Warm-White compared to Deluxe Natural, behaving also in a more friendly manner.

In the same experiment Lynes proved that the pupils of his test persons were generally wider with Warm-White compared to Deluxe Natural" lamps.

Lynes concluded that the choice of lamps can influence the way people feel about others and about themselves and that this is interdependent with the size of the pupil. Astonishing indeed that the best lamps for meeting and chatting are not those that might be preferred for colour rendering.

The final paper was presented by B F Nicholson, Australia, who explained the design objectives and techniques for the "Lighting of the New Brisbane Airport."

This article was written by Harald Hofmann of Erco Lighting.

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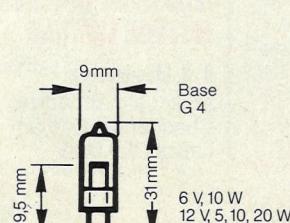
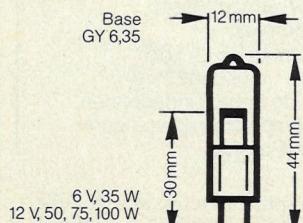
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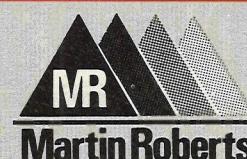
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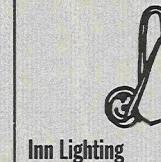
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For further information please contact: Director of Centre, Mr. A. H. Fuad, Dept. IOEE, Polytechnic of the South Bank, Borough Road, London. SE1 0AA. Tel: 01-928 8989 Ext. 2112.

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EQUATION LIGHTING DESIGN is a consultancy practice based in West London.

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Reader Service No. 17

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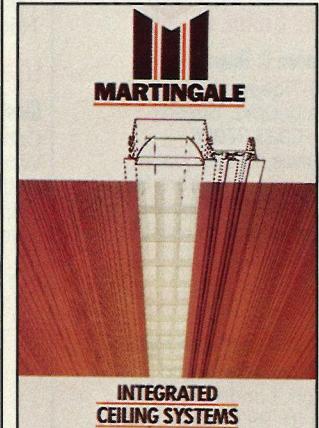
Apply Box No. 1441, Lighting Equipment News, Maclean Hunter Limited, Maclean Hunter House, Chalk Lane, Cockfosters Road, Barnet, Herts. EN4 0BU.

CATALOGUE DIRECTORY



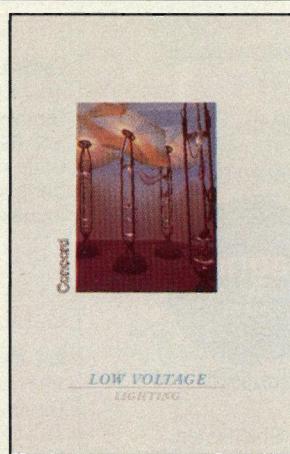
Boone Systems Ltd: lighting products. A range of fluorescent luminaires for the home, fitted kitchen, bedroom, units for offices, shops and other commercial interiors.

Boone Systems Ltd: circle 251



Martingale Technical Systems Ltd: A new brochure illustrating the range of integrated ceiling systems, including design services, integrated power cabling systems, lighting and air conditioning. Intended for shops, offices and general commercial interiors.

Martingale Technical Systems Ltd: circle 252



Concord Lighting Ltd: Concord manufactures an extensive range of commercial lighting products. This new catalogue gives details of low voltage systems including technical information. A separate catalogue gives details of the new "Tiller" collection.



Foerdergemeinschaft Gutes Licht: The German equivalent of our own Lighting Industry Federation has produced a series of booklets on lighting techniques. Illustrated is the pamphlet for industrial sites. It includes lighting design advice.

FGL: circle 256

Catalogue Directory

From March 1988, Lighting Equipment News will offer a new service to its readers, Catalogue Directory.

You will now be able to promote your current catalogue through the pages of Lighting Equipment News. The catalogues will be displayed in the format above, with a brief description of the content.

Readers will then be able to keep up with the profusion of catalogues currently aimed at the lighting specifier.

Companies wishing to distribute their catalogues to specifiers more

effectively, and thereby justify the horrendous production costs, will have a market place created specifically for this purpose.

The cost of one catalogue, in full colour, will be £1.20 per insertion, for a minimum of six insertions.

If you have a catalogue, either already printed or in production, which is targeted at lighting specifiers, then Lighting Equipment News can help you reach them effectively. Over 13,000 lighting specifiers request LEN every month.

For full details, contact Joanne Barker on 01-441-6644, Ext. 1154.



Reader Service No. 18

WHERE
IS
RONALD DURY?

COPY DATE
FOR THE APRIL
ISSUE IS
MARCH 18th

Maintaining the status quo

As lamps grow old, so their light output grows weaker. *W J Walker* argues that rather than over-design your installations to compensate, why not plan your maintenance to maximise the lighting efficiency?

The deterioration of fluorescent and high intensity discharge (HID) lamps — the type most commonly used throughout industry and commerce — represents a light loss of between three and four per cent for every thousand hours of operation. This is equal to a deterioration of between twenty and thirty per cent by the end of their rated life.

Operating lamps to failure is likely to result in inadequate levels of lighting — unless the installation has been over designed to compensate for their losses. This is a very expensive option in terms of electricity usage.

Accidents

From a health and safety point of view, human problems allied to poor lighting, resulting in accidents and absenteeism, do not only afflict manufacturing industry, but also manifest themselves in offices and other locations.

It is now widely recognised that levels and quality of lighting in offices has considerable bearing on employee ill-health, in the form of eye-strain and headaches or just

Access to lighting fixtures is often difficult and dangerous, and will involve the use of specialised equipment such as tower-ladders?

sheer frustration among those required to carry out detailed work.

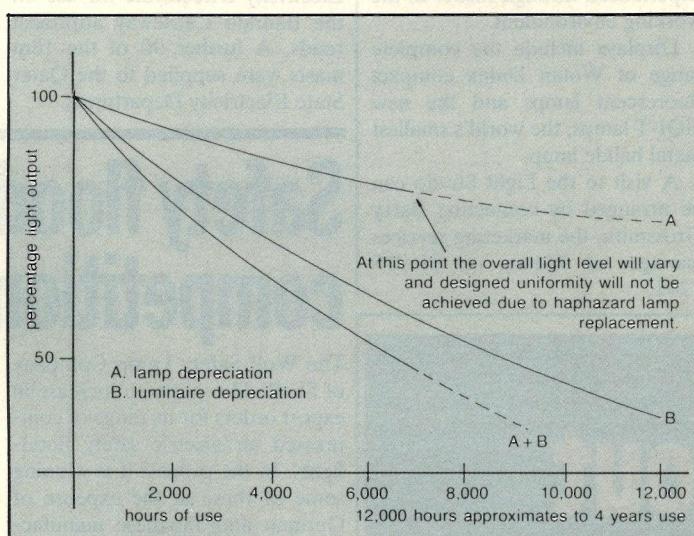
Health considerations apart, there is also an aesthetic argument for planned relamping. There are, at least, a dozen varieties of fluorescent lamps on the market all of which could be termed white, but which look markedly different when seen side by side in the same luminaire, giving a neglected appearance.

Not least important is the financial aspect. Lamp replacement can be carried out in two ways. First on an *ad hoc* basis when lamps fail. Second, planned relamping in bulk — known as group relamping — when the lamps have reached the end of their useful life, say 7,500 hours for a fluorescent lamp.

Advantages

There are a number of practical, and financial, advantages in having this operation carried out on an annual contract basis by a recognised lighting maintenance management company.

Most things come cheaper by the dozen, and lamps are no exception. Bulk purchase, especially on a nationwide scale, is reflected in price advantages to the



Percentage fall-off in light output

client. However, the significant financial benefit of planned relamping can be seen when the cost of energy used is taken into account.

Effectively, a purchaser of a lamp is buying a light source which is useless until he buys electricity — a fairly expensive commodity. With all lamps becoming less efficient from the day they are first switched on, they become progressively more costly light sources.

To the end of its life, a lamp uses the same amount of electricity (in certain cases, even more) although it is providing a steadily

much greater when changing a group of lamps, as part of a planned lighting schedule, than for *ad hoc* replacement.

Even in non-industrial applications, luminaires can be difficult to get at roof lights in swimming pools and sports halls, for example. Present-day interior design trends frequently dictate that in places like reception areas and shopping malls, lighting fixtures are hidden or inaccessible. Installed behind diffusers in ornamental suspended ceilings, with time taken in removing ceiling panels, access is a relevant cost factor.

It is reasonable to assume that all these difficulties are going to be overcome more quickly, and more cheaply, by service teams trained to do just that.

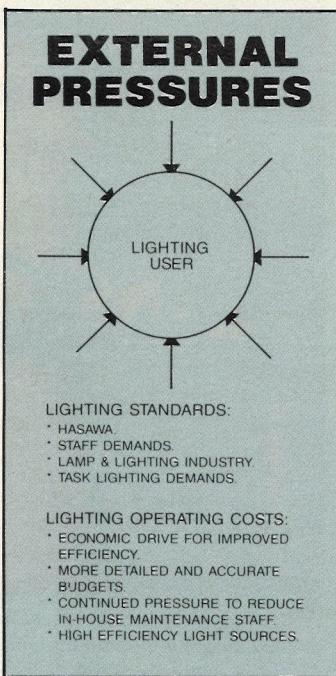
Reliability

Using a services company to undertake planned bulk relamping can also relieve the client of the cost of ordering and storing lamps. In a large organisation the latter can take up valuable space. There is also the question of product reliability; a specialist will pursue any problem in this direction until there is a satisfactory outcome on behalf of his client.

Disposing of old lamps can prove to be a question of logistics, and a health hazard when large quantities are involved. The lighting management company can take care of this problem. Apart from regulations ensuring the safety of operators, especially working at heights, the wide ranging Health and Safety at Work Act, 1974, requires special precautions when handling glass objects — such as lamps — which constitute a hazard in the event of a breakage. Public access to areas where relamping is taking place must be clearly cordoned off.

Although the employment of a lighting management company does not absolve a client of statutory obligations, it does mean that the former's detailed knowledge of legal requirements will ensure inadvertent breaches of the regulations do not occur.

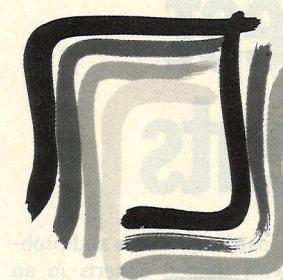
W J Walker is sales director of Parkersell (Lighting & Electrical Services Ltd). Parkersell can be reached on 0962 66141.



deteriorating standard of lighting. This can represent as much as a 50% decrease in the return on the investment in lighting — namely, electricity bills.

A major cost in virtually all relamping is the labour charge. Arguably, trained and experienced specialist operators will do the job more efficiently than unskilled personnel. Access to lighting fixtures is often difficult and dangerous, and will involve the use of specialised equipment, such as tower-ladders and demountable scaffolding. Bringing these on site, assembling, dismantling and removing them have labour costs bearing no relation to the time taken to replace a lamp.

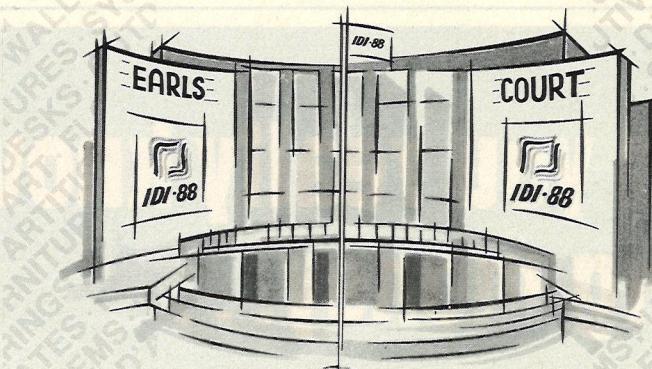
Notably, such costs are not



IDI-88

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Studio to throw light on latest developments

A Light Studio designed to demonstrate and display the latest developments in lamp technology has been opened by Wotan at their headquarters in Wimbledon Park, London SW19. The application, correct usage, control, quality and characteristics of tungsten halogen, compact fluorescent, metal halide and other discharge sources are demonstrated alongside specialised lamps.

The Studio is intended to be a demonstration centre where specifiers and luminaire designers can

discuss particular needs and problems with trained experts in an environment where they can see the light source in action, and where the lighting trade in general can be updated.

Creative demonstration techniques include a motorised colour comparator which shows the effects of various light sources on different materials and colours; thermometers to explain the benefits of dichroic reflectors over metal reflectors when illuminating heat sensitive objects; and a 'mix-

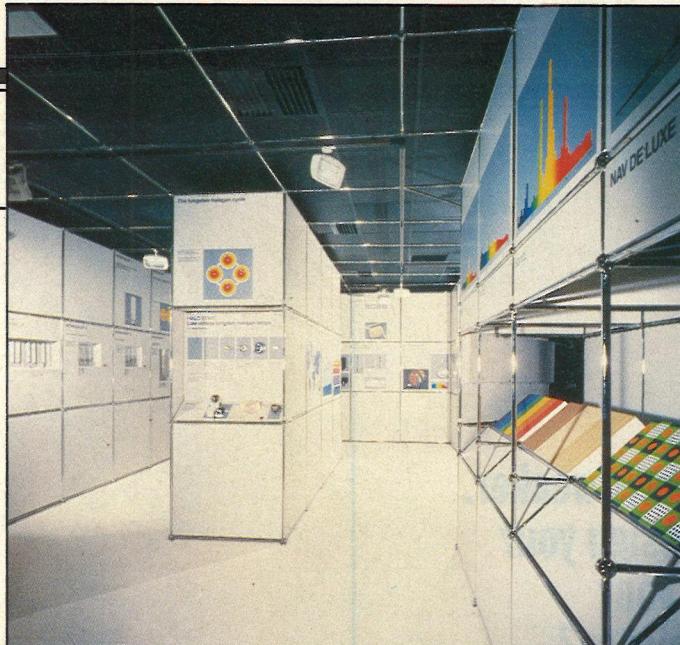
ing panel' where the strides made in developing warmer colour temperatures for fluorescent tubes are shown by offering the range of Maxilux phosphors from which a variety of colour temperatures can be created.

The difference between standard and high frequency ballasts is shown on a demonstration panel where the Quicktronic de Luxe high frequency ballast provides instant start. Its flicker-free oper-

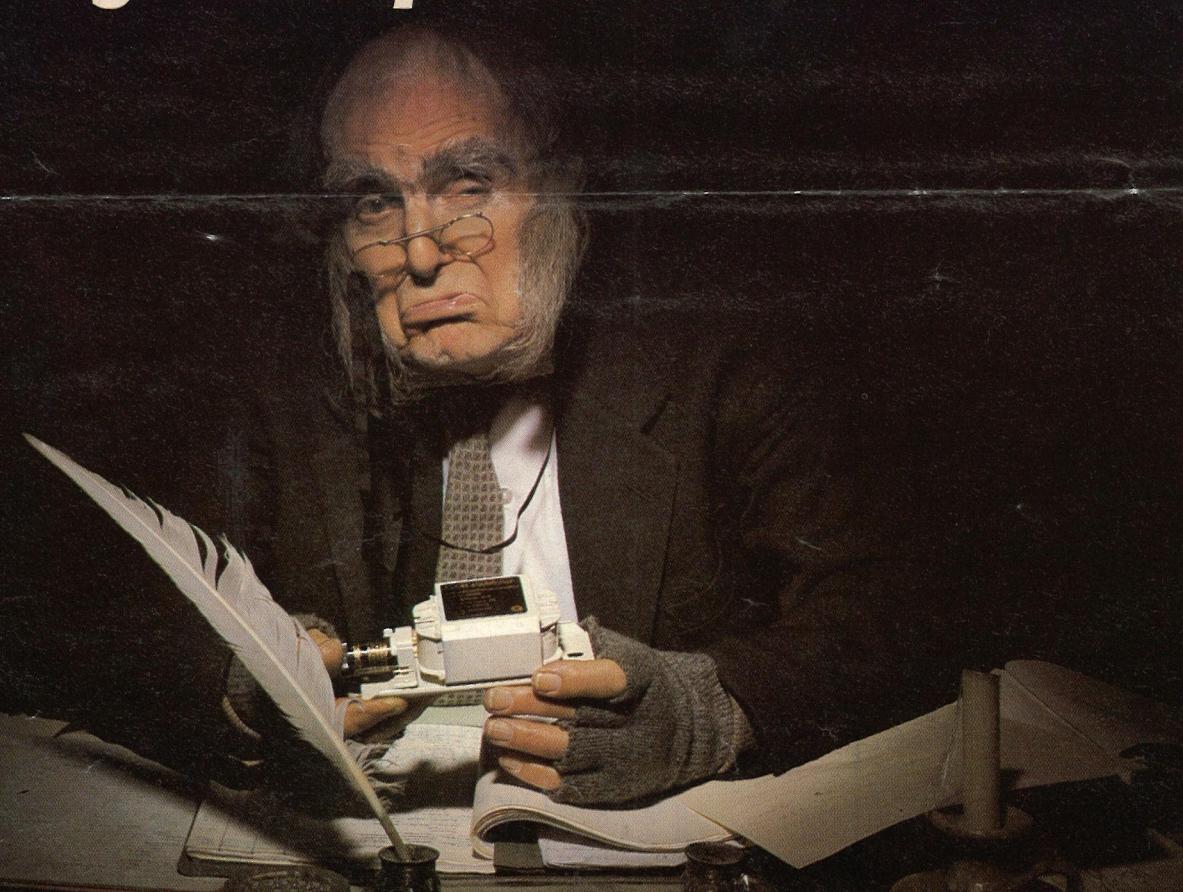
ation overcomes discomfort often experienced through flicker in the working environment.

Displays include the complete range of Wotan Dulux compact fluorescent lamps and the new HQI-T lamps, the world's smallest metal halide lamp.

A visit to the Light Studio can be arranged by contacting Barry Grossmith, the marketing services manager of Wotan, on 01-947 1261.



When you really know about saving money...



...and you are looking at your lighting system

...you would not be dazzled by claims of savings for just one aspect of your total running cost calculation.

You would not, for instance, specify a new technology fluorescent ballast simply because it saved energy, when on closer examination you note that it costs more, requires more frequent lamp changes and has a shorter life than conventional types.

If, however, you discovered a ballast that, for a modest additional outlay, gave you not only outstanding energy savings, but doubled your lamp life and lasted 3 times longer than ordinary types. Then what would you do?

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Reader Service No. 16

Abacus corners Gulf contract

Abacus Municipal of Sutton-in-Ashfield has won a second major order to supply lighting masts for the Bahrain Causeway, the biggest civil engineering project in the world to date.

Last year Abacus was awarded a contract worth more than £1½ million to supply 55 of its 35m raising and lowering masts to the Bahrain Electricity Directorate for use on the Bahrain Causeway approach roads. A further 90 of the 18m masts were supplied to the Qatar State Electricity Department.

The company has been asked to supply 14 more 35m masts for the road intersection between the causeway and Manana.

Engineers for the massive Saudi-Danish project chose the Abacus masts because of the design, which eases both installation and maintenance, and because of the competitive price. The masts are also suited to a maritime atmosphere, as there are no working parts to corrode.

For further information contact Chris Yates, 0623 511111.

Safety floodlight fights competition

The Wolf Safety Lamp Company of Sheffield reports an increase in export orders for its range of compressed air/electric safety floodlights. In the process it is winning some of these at the expense of German and Japanese manufacturers.

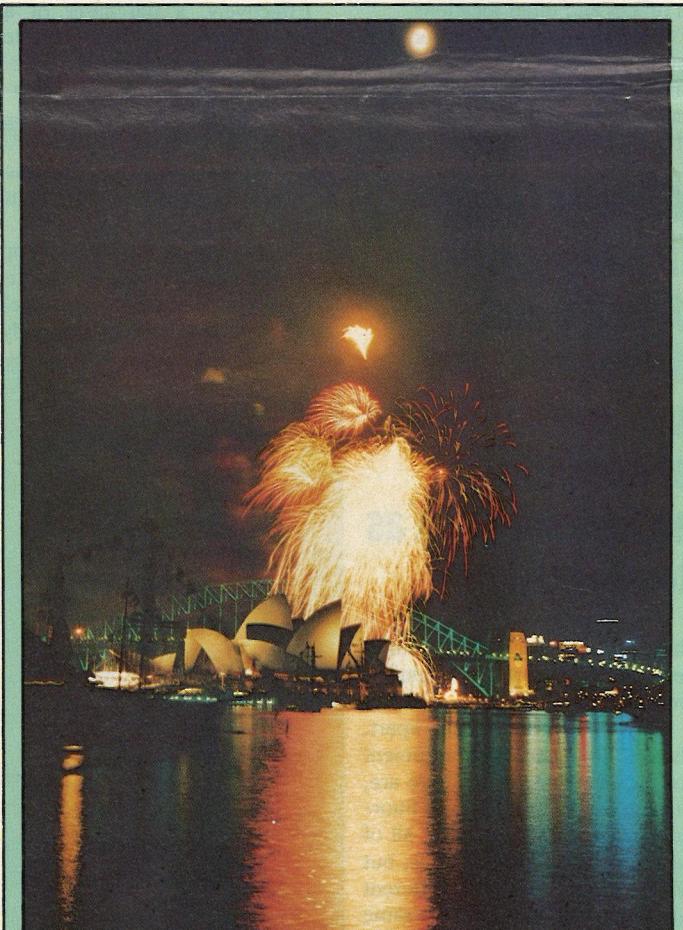
Supplies for the company's Air-turbo and Turbolite products have been sent to Korea, Malaysia and Indonesia for use in providing safe lighting in offshore exploration for

oil and gas.

The 250W Turbolite Type 45, certified for use in zones 1 and 2 hazardous areas, is claimed to be the most powerful light of its kind in the world. It will give up to 250 000 candelas at 10 metres.

This lamp has been included as part of the standard rescue equipment in New South Wales coal mines, Australia.

For more details, contact Wolf on 0742 551051.



Australia celebrates its bicentennial with a spectacular fireworks display and new floodlighting for the Sydney Opera House. Eight 1kW compact source iodide floodlights by Thorn are mounted on two 12.5m poles. The new mounting height, above eye level, has reduced glare to sightseers. An advantage of these floodlights is the option of five lens types to give different light distributions. The overlapping "sails" of the opera house aid the modelling achieved by the lighting. In addition, a 50% saving in energy has been made.

IN YOUR NEXT ISSUE

The April issue of *Lighting Equipment News* will highlight some of the latest retail lighting installations. Shops and department stores have become very adventurous with their lighting and are in the forefront of modern lighting practice now. We will take a look at some recent installations in different types of shop.

Emergency lighting will also be under scrutiny. The new code of practice is due to be published by the British Standards Institution at any time and the March issue will bring you up-to-date with developments in this field.

There will be more news about high pressure sodium lamps.