

LIGHTING

EQUIPMENT NEWS

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- 9 JAN 1988 JANUARY 1988

Ken Grange to judge design awards

Kenneth Grange CBE, industrial designer, has accepted an invitation to chair the international jury for the 1989 International Interior Design Award Scheme.

The overall winner of the 1989 award will receive a cash prize of £10 000 for the best interior design completed between 1 January 1988 and 1 January 1989. The biennial award scheme is sponsored by Interior Design International, organised by AGB Exhibitions Ltd.

The winner of the previous contest was Emilio Ambasz, who made extensive use of lighting techniques (see *LEN* April '87).

A founder partner of Pentagram Design, Kenneth Grange is currently president of the Chartered Society of Designers. He is also a Royal Designer for Industry, and serves as Master of the Faculty of Royal Designers for Industry on the Council of the Royal Society of Arts.

For further information, contact Audrey Reading 01-868 4499.

Economy becomes standard practice at Philips

Philips Lighting has announced that it is making its high-frequency fluorescent lighting part of its standard range.

High-frequency operation of fluorescent lamps improves the efficiency, and therefore reduces the power consumption, of lighting installations. Philips is also offering lighting with regulated high-frequency ballasts, which means that the lamps may be dimmed. Dimming range is presently from 100% to 25%, though there is the promise of improvements to come.

Mike Goodwin, managing director, is keen to stress that customers want light, not technology. The aim is to provide applications-led solutions to customers' lighting needs.

"It is a lighting business," he says. "The peculiarity is that selling lamps is a components business, with a high replacement turnover; in fact, people want light, not fittings."

Mr Goodwin stresses that the

high-frequency fittings are in the spirit of the Lighting Management Service, designed to provide light in a flexible format.

John Ruck, manager of the marketing department, makes clear that the regulated high-frequency ballasts will open new avenues for lighting scheme designers. By using a photocell set to respond to, for example, 500 lux, the system can be set to dim the lamps gradually as daylight increases, and to raise the lighting again as darkness falls. In particular, the photocell can be arranged so that as the lamp becomes dimmer through age, the output of the luminaire can be raised to compensate. Lighting design lumens would therefore be set by the photocell system rather than by "over-designing" installations to compensate for lumen depreciation and maintenance factor.

For further information, contact Philips Lighting, telephone 01-689 2166.

Low-cost Lyons goniophotometer reaches market

A demountable, portable, low-cost goniophotometer, designed and developed by lighting expert Stanley Lyons FCIBSE, is making in-house photometry a reality for many lighting manufacturers.

Measuring the optical performance of lighting equipment normally involves major investment in a large and costly photometer, which needs to operate in dark-room conditions and takes up valuable floor space.

The Lyons goniophotometer, which is said to cost much less than a conventional goniophotometer, meets the practical needs of lighting equipment manufacturers who wish to produce their own non-certified technical data on lighting products without major invest-

ment. Primarily used for development and experimental work in the design of reflectors and refractors, Lyons' goniophotometer enables users to generate polar curves of light intensity from luminaires and samples. So compact is the unit that it can be stowed away in a cupboard when not in use. Dark-room conditions are not necessary for its efficient operation, and only a minimum floor space is required to set it up.

Belvoir Lighting Consultancy of Nottingham, marketing the goniophotometer, has retained its inventor, Stanley Lyons, in an advisory capacity.

Further information is available from: Eric G Chapman 0949 50660.



GEC has recently supplied a new road lighting installation for the Humber Bridge. The bridge spans the River Humber linking the two parts of the County of Humberside, and has the longest single span of any bridge in the world. The bridge was originally lit with 400W HPS lamps, but the advent of the Osram SONP-T Plus lamp and the GEC Z8611 lantern has enabled the bridge to be re-lit at a reduced running cost with 250W lamps. The Z8611 lanterns are of the type used on the Severn Bridge, with fitted photo-electric cells, fog override, and with lamp steadies to counter bridge vibration. The Osram 250W SONP-T Plus lamps give 20% more light than standard lamps. 198 lanterns have been used to light the bridge and approaches and their cost should be repaid by savings made in the next three years. Details from GEC Street Lighting 01-904 4321.

In Brief . . .

● **Strand Lighting** has produced number five of its series of Strandlight newspapers. For details, call Richard Harris, Strandlight editor, 01-560 3171.

● **Menvier Swain Group**, one of the larger suppliers of emergency lighting, has acquired 54% of Electro Powerpacs Corporation in the USA. The aim is to provide a marketing base for Menvier products in the USA. Details from Roger Fletcher 0295 56363.

● **Hannover exhibitions:** G R Barbour Exhibition Travel is offering to make low-cost travel arrangements for visitors to Hannover for the various trade fairs. Details from 0543 263842.

● **Importers:** The commission of the European Community has announced that EFTA countries have ratified H M Customs & Excise's single administrative document and the common transit procedure. Details from 01-382 5468.

● **Architects** are said to be losing their share of fees when compared with other consultants, according to RIBA. Details from RIBA.

● **Construction Industry Training Board** is taking the lead with a number of new training grants. For details, contact 01-489 1662.

● **Heating & Ventilating Contractors' Association** has warned against competition between quality assurance certification companies, saying it may lead to differing qa standards. Details HVCA 01-727 9268.

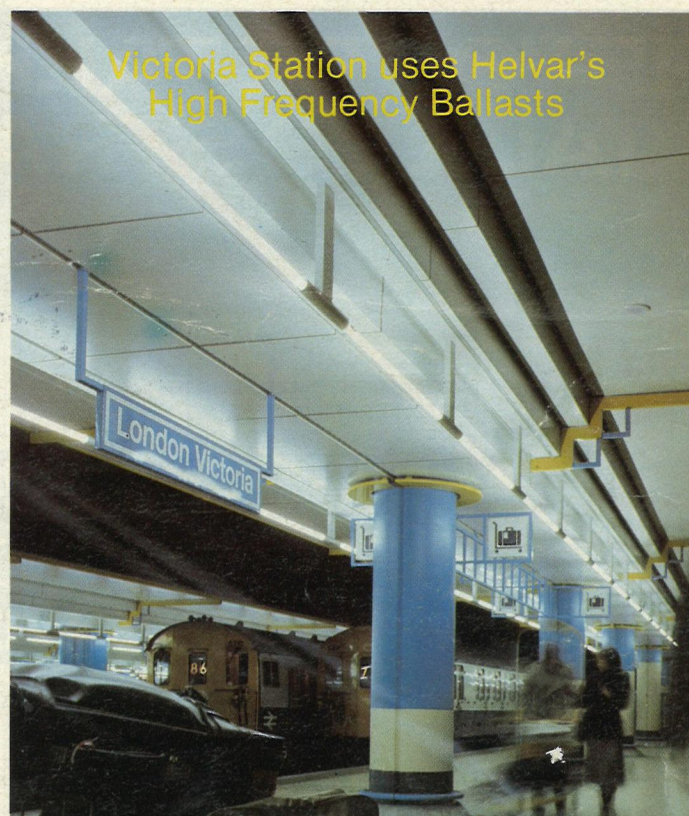
● **Health & Safety Commission** has published its annual report. It covers nuclear safety, major hazards and incident investigation, among others. Details from H&SE, 01-229 3456.

Showbiz marketing moves to Manchester

Lee Colortran International, the film, TV and theatre lighting equipment manufacturer, is moving its sales and marketing functions to its operations centre at Eccles, Manchester, from 1 January.

The move is designed to improve service levels to customers by shortening the organisation's lines of communications. Lee Colortran's and Lee Filters' product distribution is already carried out from the Eccles site, and the company promises availability of Lee Filters' products anywhere in the world within 24 hours.

From January 1, all sales enquiries, quotations, administration and marketing support will be based at Eccles. For details, contact Steve Hall 01-968 7000.



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HELVAR

ENERGY-SAVING LIGHTING CONTROL SYSTEMS

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NEWS

Marlin extend computer service for specifiers

Marlin Lighting has added outdoor lighting software to its computer-aided lighting design service.

The program has been developed to prepare lighting schemes for field and track sports, such as football, hockey, tennis and athletics. It is also able to handle general exterior floodlighting of building façades, security and amenity lighting situations.

The company is able to handle design of asymmetric plan, the

effects of building shading, and to determine accurate CIE glare ratings in sports lighting installations. It can take account, says Marlin, of lighting pointing directly towards camera positions. Output is available as a set of calculated values, or three dimensional graphic presentations.

The service is offered free of charge to lighting specifiers. For further details, contact Kristina Griffith at Marlin Lighting, 01-894 5522.

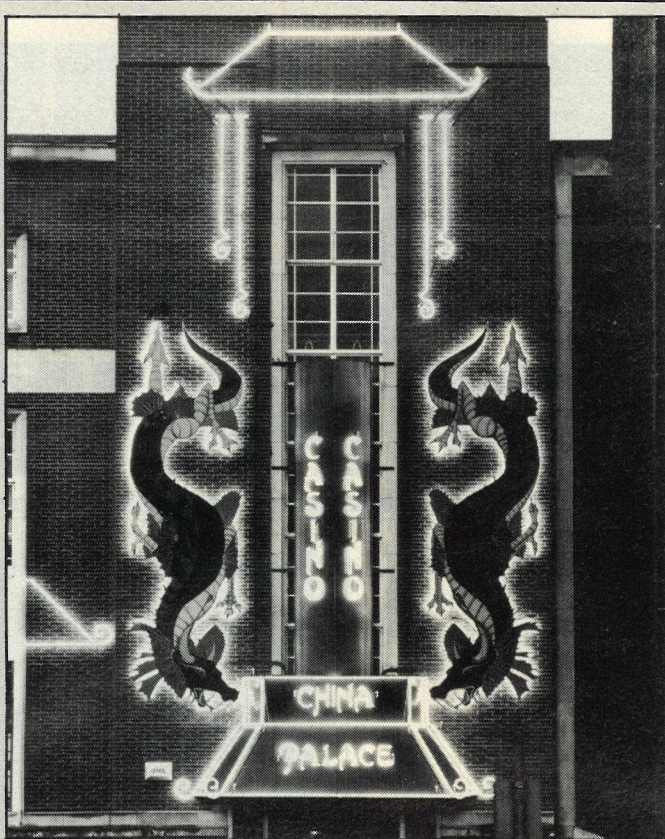
President performs for Powerlite

Jim Scott, president of the Electrical Wholesalers Federation, has opened new premises for Powerlite Electrical Products.

Powerlite produces, among others, high-pressure sodium fit-

tings, tungsten-halogen floodlights and complete "Contractor Packs", containing an entire floodlight installation kit.

The new premises represent a six-fold increase in area.



Birmingham is adding a series of neon murals to its 'bright lights' zone, part of the city's Chinatown district. The neon signs were designed and built by Sign Specialists of Hockley. The two above are Paramount Goldwyn's 10m high neon cocktail glass, and two neon dragons standing guard at the entrance to the new China Palace Casino. Sign Specialists can be reached on 021-554 9301.

USA Lighting event goes to LA

Lighting World International, the largest architectural lighting exhibition and conference in the United States, has chosen Los Angeles for its 1988 show scheduled for April 13, 14 and 15. The USA lighting community will return to the Los Angeles Convention Center for its second West Coast event.

Decisions on topics and speakers for the educational portion of the show are in the final stages. In response to requests from those who attended the 1987 show in New York, some topics will be presented in two concurrent sessions to allow for different levels of technical complexity.

As in the past, the programme will include topics of both aesthetic and technical interest, with the majority of presentations structured to be of educational value to all members of the lighting community.

The *Preview of Products* session, introduced last year as a way for manufacturers to present their newest equipment, will be repeated.

Other sessions on the prelimi-

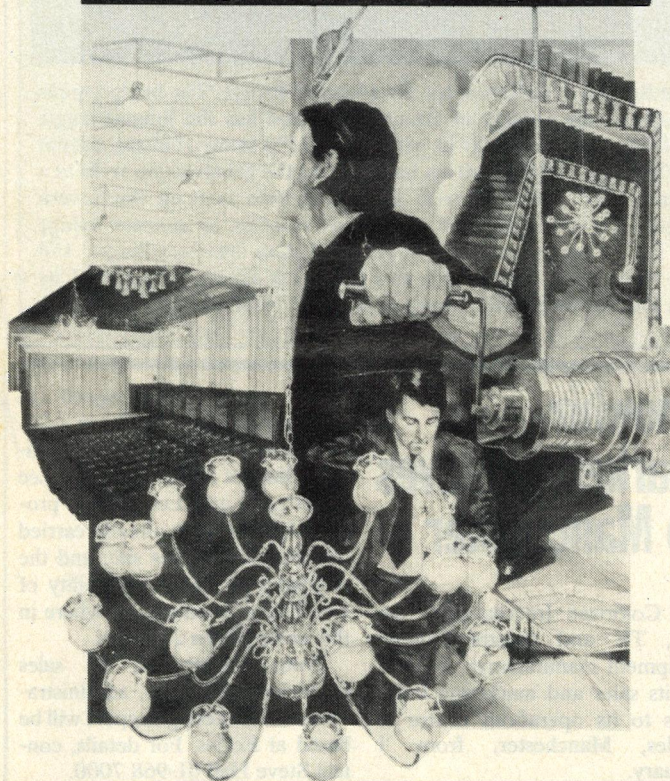
nary programme include sports lighting, motion picture industry lighting, daylighting in museums, an update on energy codes, post-occupancy evaluation, roadway and aviation lighting, award-winning design and an historical look at fixture design.

The organisers report that Lighting World's growth will continue in 1988. As many as 100 new exhibitors are expected to take booths, and six months before the show, over half of the 10 220m² available has already been sold. The show has reserved nearly twice the space occupied in 1986.

The Los Angeles event, the sixth Lighting World International, is sponsored by the Illuminating Engineering Society of North America, the International Association of Lighting Designers and the Southern California Section of the Illuminating Engineering Society.

The show is produced and managed by National Expositions Co., Inc., 15 West 39 Street, New York, NY 10018, telex 135401 dimcomm, telefacsimile (212) 819-0755.

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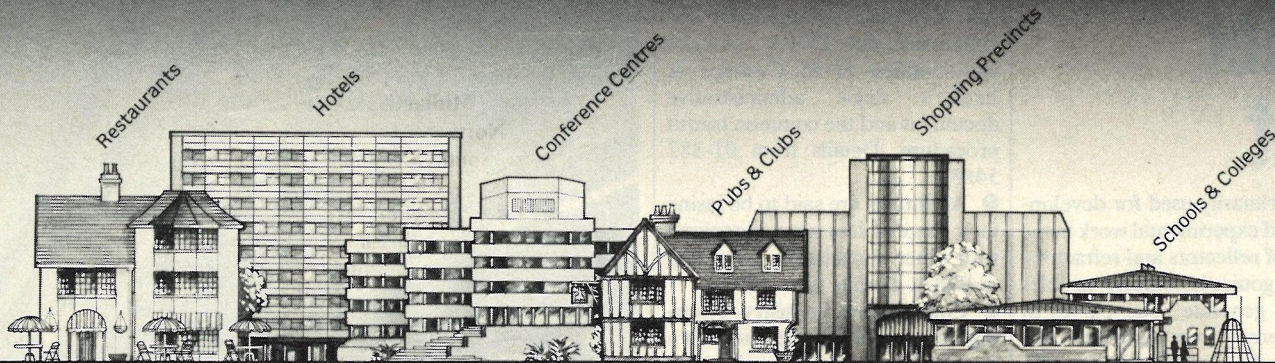


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Osram goes to houseware show

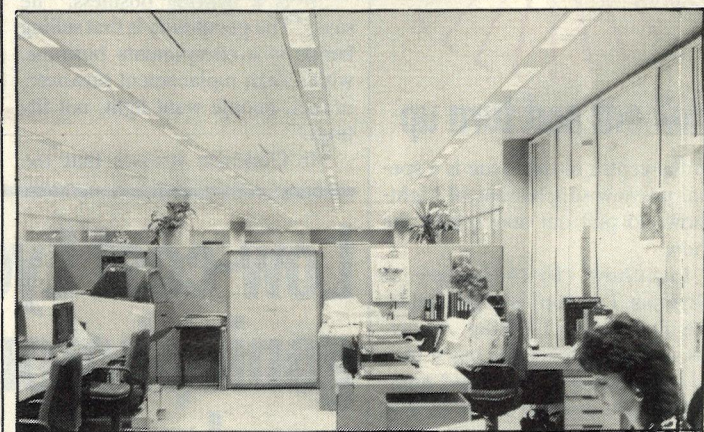
Exciting Lighting will be an appropriate theme for Osram's stand at the 1988 Spring Hardware & Housewares Show.

The company's first attendance at this annual event is the culmination of a major promotional campaign "Exciting Lighting" undertaken by Osram over the last six months. Directed at both retailers and consumers, the aim of the campaign is to highlight the importance of good lighting and illustrate how this can be achieved by the correct choice and use of lamps and fittings.

The stand will feature Osram's

new style packaging for its domestic light bulb range, which is designed to provide a distinctive market identity and aid customer selection. The "new look" packaging incorporates a range of colour-coded cartons in orange, blue, green and mauve, cut-out boxes for specialist bulbs and blister packs for twin candles, coloured bulbs, reflectors etc. In addition, "Exciting Lighting" consumer and retailer brochures, produced to coincide with the campaign, will be available.

The show is from 7-11 February at the NEC.



Moorlite sheds some light on British oil

Britoil's new headquarters in Glasgow is claimed to be one of the first in a new breed of hi-tech buildings, whose audio and data communications have been planned from the start. This will ensure maximum efficiency and flexibility in order to accommodate new technology as it is introduced, with minimal disruption to existing systems.

Moorlite Electrical Ltd was contracted to supply lighting throughout the offices to the value of £650 000.

A specially designed arrangement of 8475 low brightness lumi-

nares ensures high task illumination with efficient use of energy. The luminaires include Broad-spread fittings with wedge shaped louvres for controlling glare in all directions. This facility is particularly useful for offices with VDUs.

Covering some 45 000m², this seven-storey office block is stated to be one of the most prestigious in Glasgow. Moorlite will also be responsible for the lighting in phase 2 of the project, to the value of £140 000, later this year.

Consulting engineers for the project were Blyth & Blyth of Edinburgh.

Colour group discusses colour in road lighting

The Colour Group of Great Britain and the London & South East Region of the Institution of Lighting Engineers met in November 1987 to discuss the importance of colour in road lighting. Speakers were Miss M B Halstead (Thorn Lighting), Mr C J Chadwick (Department of Transport) and Dr P R Boyce (Electricity Council).

Chairman Nigel Pollard introduced Miss Halstead first. The meeting was held at the Royal Institution, London.

Her talk began with a series of slides to highlight how colour in the outdoor environment results from both natural and man-made objects. These include wildlife, architecture, advertising signs, window displays, outdoor sports lighting and motorway lighting. It was shown that the reaction of the human eye to different luminances, changes as vision moves from the photopic (cone) region, to the scotopic (rod) region so the peak sensitivity of the eye moves approximately 50nm from the yellow/green area of the spectrum to the blue/green area. Consequently, for equal luminances of 0.5 cd/m² provided by SOX and MBF/U lamps, as measured by a meter adjusted to the photopic sensitivity curve, these would appear as 0.3 cd/m² and 0.6 cd/m² respectively to the human eye. Food for thought!

The basis of the CIE chromaticity chart was then explained and how the chromaticity co-ordinates and colour rendering index are used for specifying colours for lamps and signals. The paper concluded with a reminder that with the development of new phosphors for mercury lamps and increasing the pressure of SON lamps, many more of these types of lamps are being specified for interior use.

The second speaker, Mr Chadwick, dealt with the importance of colour in road traffic signs and how this is used to communicate information, warnings and instructions to drivers. Most of our present day signs originated as a result of a report produced by Sir Walter Warboys in 1963 and to a lesser

extent one produced for motorways by Anderson the previous year. Prior to that time virtually all signs were black and white. A traffic sign needs to be designed so that it is conspicuous, legible and comprehensible during both day and night time conditions. Throughout Europe these criteria are met by use of specific sign shapes, supplemented by colour, to differentiate between the different categories of traffic sign. In directional signing systems colour is also used to identify the status of the road to aid route guidance viz: blue — motorway; green — primary route; and yellow for diversions.

More recently we have become aware of the brown tourist signs and black lorry route signs. In rural areas retro-reflective materials are being increasingly used, while on motorways, matrix flip-over signs with yellow lettering on a black background are being introduced.

The final speaker, Dr Boyce, outlined the objectives of security lighting which principally should deter criminals in the first instance and to detect intruders should the deterrent fail. The importance of the colour rendering properties of the light source in meeting these objectives is a matter of controversy and so an experiment requiring observers to detect and recognise intruders moving across a generally open area, but with limited areas of concealment, was carried out. The results of a number of tests using different types of lantern and angles of approach, showed that for both detectors and recognition, there was no discernible difference in results for either low pressure or high pressure sodium. However, it was felt that for checking passes or recognising uniforms (on a military establishment for example) colour recognition would be important.

A lively question time followed and included a postal question from Mr J Grundy of South Africa and the summing up was admirably handled by Professor Fletcher, the chairman of the Colour Group.



Rochdale Depot of Greater Manchester Buses Ltd in Lancashire has been refurbished with energy saving luminaires from Simplex Lighting Limited. GM Property Services is monitoring this project. Over five hundred luminaires were supplied, including Lobay Plus fittings with HID sodium lamps, IP65 ACF3 fluorescents, fluorescent bulkhead fittings, and single and twin lamp Versaline 5 and Trimpak fluorescent luminaires. The Lobay Plus luminaires are installed in the main garage area at 7 metres. In the vehicle washing and cleaning areas, ACF3 totally enclosed luminaires are used, as they are designed to withstand spray and damp conditions to IP65. Versaline 5 fluorescent luminaires were fitted in the workshop and adjoining offices, whilst Trimpak luminaires with electronic starters were installed in the administration office block opposite the garage. The main contractor on the refurbishment project was John Lawlor Ltd of Manchester, and the electrical contractor was Robinson & Lawlor of Nelson, Lancashire. For information contact Simplex on 021-557 2828.

European market seminars on the way

Beama is organising three seminars on the European internal markets.

The seminars are set for January, February and March this year. The theme is "European and national developments in quality and standards — opportunity or threat?" The seminars will be held at the Selfridge Hotel, Orchard Street, London W1.

Speakers will include Lord Cockfield, vice-president of the

Commission of the European Communities; Kenneth Clarke MP, Minister of Trade and Industry; and representatives of CEN-LEC, CEN, NACCB, BSI and Beama.

Fee for the three days including papers and lunch, is £360 plus VAT. There are only 100 places. Information from Barbara Cannon, Beama Ltd, 8 Leicester Street, London WC2H 7BN, 01-437 0678.

Platform wins technical award

The Econ Ackliff VM 7500 platform mounted on the Bedford Rascal, won the technical innovation award in the plant section at the recent Institution of Lighting Engineers Exhibition, Lightex 87.

"The concept of such a small vehicle providing a demountable

7.5 metre one-man platform allows increased versatility to Lighting Authority user departments", said Mr Phil Allan, director of Econ's Access Division, manufacturers of the platform.

For further information please contact: Phil Allan 0858 63253.

COMMENT

Seeing an old story

Eindhoven in the Netherlands is not owned by Philips; but the minds of its lighting engineers might well be.

Energy-saving technology is an old story, but it is only when you see it as a matter of course that incandescent lamps and T12 tubes start to look silly. In Eindhoven, there are plenty of gls lamps, but precious few of these when lighting quality is less important. Compact fluorescents, in particular the SL, are used for carparks, porches, thresholds and walkways as naturally as the daylight they replace. In shops and offices, every fluorescent tube is 26mm, and a good number of these are running at high frequency (checked using the acid test — waggling fingers in front of the eyes, trying not to feel self-conscious).

In restaurants and bars, however, compact fluorescents hardly have a look in. The Dutch have appreciated that when it comes to ambience, compact fluorescents are not the answer. And incandescent lamps, in surprising numbers and low wattages (40W seems to be a favourite), gobble up the energy. Not that gobbling up the energy is so important if you are so frugal with it outside.

It might be reasonable to guess that Eindhoven is an exception. The local lighting company has more than a mite to do with the town's attitude to lighting, no doubt. Nevertheless, there are two conclusions to be drawn.

First, consumer acceptance in the UK of compact fluorescents is slow. However you might like to think that you know the logic and champion the cause of energy-saving technology, in the end the consumer pays your client, and your client pays you.

Second, combining light sources provides a better lit environment for both the client (and the bank balance) and the consumer.

Look around you. What do you think?

DIARY

JANUARY

5

Emergency lighting. Evening meeting arranged by CIBSE South Wales Region. Details from H J Doolan, 0222 569241.

10

Lightshow '88 at Olympia, London, until 14th. Details from Decorative Lighting Association 058 84658.

11

External lighting and floodlighting. Evening meeting at Drumkeen Hotel, Belfast, arranged by CIBSE Northern Ireland Region. Details from J Patton, Beattie, Flanagan & Partners, Belfast.

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Modern light sources. An afternoon seminar at Lightshow arranged by the Institution of Lighting Engineers and the DLA. Details from DLA, 058 84658.

Retailing and new technology. Afternoon seminar at the Chartered Institution of Building Services Engineers, London. Arranged by CIBSE Electrical Services Group. Details from CIBSE 01-675 5211.

14

The Illusion of colour. Evening lecture by Miss Margaret Halstead at the Gonville Hotel, Cambridge, arranged by the Institution of Electrical and Electronics Incorporated Engineers. Details from 01-836 3357.

Paris International Lighting Exhibition until 18th. Details from French Trade Exhibitions 01-225 5566.

19

Design for offices '88. Offices exhibition at the Business Design Centre, Islington, London. Aimed at interior designers, architects and buyers. Includes lighting, office systems, textiles... Seminar programme to run alongside exhibition. Details from Barbara Garratt 01-651 0591.

Energy management systems.

Evening meeting at Trinity Maritime Centre, Newcastle upon Tyne, arranged by CIBSE North East Region. Details from MJ Calvert, 0642 766266.

20

CAD draughting and modelling. Evening meeting at the Old Royal, Birmingham, arranged by CIBSE West Midlands Region. Details from A Singleton, 021-706 5511.

21

Human visual system. Evening meeting at the Swallow Hotel, Newcastle upon Tyne arranged jointly by IEEIE and ILE. Details from 01-836 3357.

Impact of information technology on building services design. Afternoon seminar on The Electronic Office to be held at The Chartered Institution of Building Services Engineers, London. Details from CIBSE 01-675 5211.

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Lamp control seminar and exhibition. Two half-day seminars with supporting exhibition at CIBSE, London. Details from CIBSE 01-765 5211.

FEBRUARY

9

Retail profitability. Conference to be held at Royal Lancaster Hotel, London. Exhibition alongside conference. Details from RMDP, 61-63 Ship Street, Brighton, Sussex BN1 1AE, 0273 722687.

Contract Lighting, Ceilings and Partitions Exhibition. Business Design Centre, London, until 11th. Details from AGB Exhibitions Ltd 01-868 4499.

10

Electrical Services in Education. Half-day seminar at CIBSE, London, arranged by Electrical Services Group. Details from CIBSE 01-675 5211.

Urban lighting design. Seminar at The Royal Institution, London, arranged jointly by ILE and Urban Design Group. Details from Barry Ramsay 0920 870567.

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Lighting and the ageing eye. Trotter Paterson memorial lecture. Details CIBSE, 222 Balham High Road, London SW12 9BS.

LIGHTING EQUIPMENT NEWS

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NEWS

Inner shell show ready to roll

Philips, Dexon and Formwood, among others, have signed up for stand space at the Contract Lighting, Ceilings and Partitions Exhibition. It will take place at the Business Design Centre in Islington, North London, on 9, 10 and 11 February.

The exhibition is devoted to products and services of special interest to designers, specifiers and all those involved in the lighting, ceilings and partitioning fields. Other companies include Designed Architectural Lighting, R Hamilton, ADD Louvre Sales, Ecophon, L & D Partitions, and Silvertown Lighting.

Visitors will include architects, interior designers, lighting design consultants, retailers, window display managers, builders, shopfit-

ters, premises managers, quantity surveyors, planners, lighting, ceiling and partitioning contractors.

Lighting design is now recognised as one of the major factors in determining the most efficient use of buildings. A one-day lighting conference will be held at the exhibition on Wednesday 10 February, when specifiers, manufacturers, architects and other interested parties will be able to exchange ideas.

The panel will be chaired by Janet Turner, design director at Concord Lighting, and include, among others, Mike Simpson of Philips Lighting, Andre Tammes of Lighting Design Partnership, and Rodney Cooper of BDP Design.

Details 01-868 4499.



Exclusive designer garments are being shown at a new boutique in Yorkshire under a lighting scheme which uses the recently launched Sylvania Tru-Aim Professional low-voltage tungsten halogen lamps. They were chosen by Habillier Haute Couture in Heaton, Bradford, because of their longer life, cool beam, reduced energy consumption and good colour rendering. The scheme uses Reggiani fittings. Tru-Aim professional lamps have a front lens that both controls the beam and seals the lamp; the axial filament arrangement provides improved light distribution.

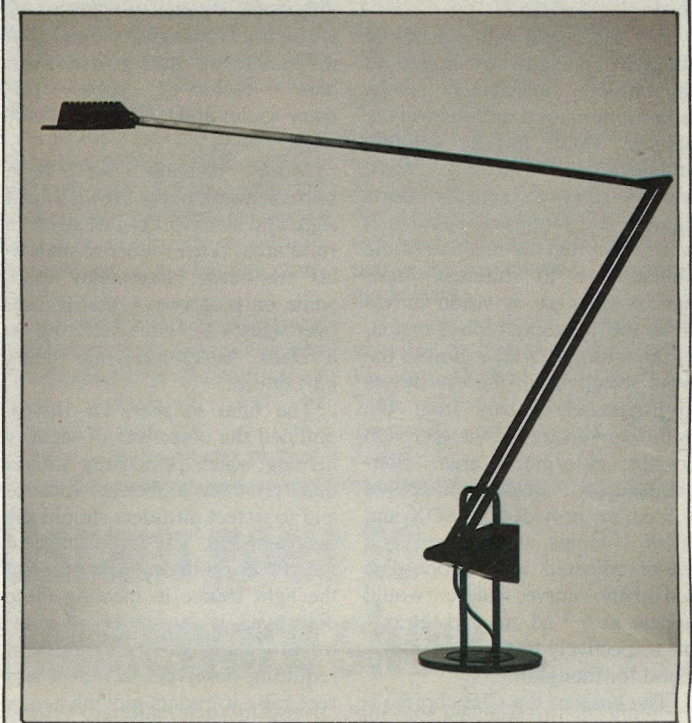
Northern show notches up success

The second Northern Interior Design Exhibition held at the G-Mex Centre in Manchester in November, confirmed last year's success.

A total of 5580 visitors registered at the show, a slight increase over last year. The show attracted a high percentage of specifiers and buyers, including a large number of visitors from important archi-

tectural and interior design practices. Exhibitors reported brisk business.

Already 47 percent of the available stand space has been booked or reserved by companies wanting prime sites at the third Northern Interior Design Exhibition, to be held at G-Mex from 15 to 17 November 1988. Details from Claire Finch, 01-868 4499.



Thousand & One Lamps has chalked up a victory in the Stuttgart Design Contest. Its lamp, Flamigo Table (the floor version is seen here) won a prize in the contest, and was also picked for a Guten Industrieform prize. The product will be displayed in the Museum of Design in Dusseldorf from February to May 1988 and will then form part of a touring design show.

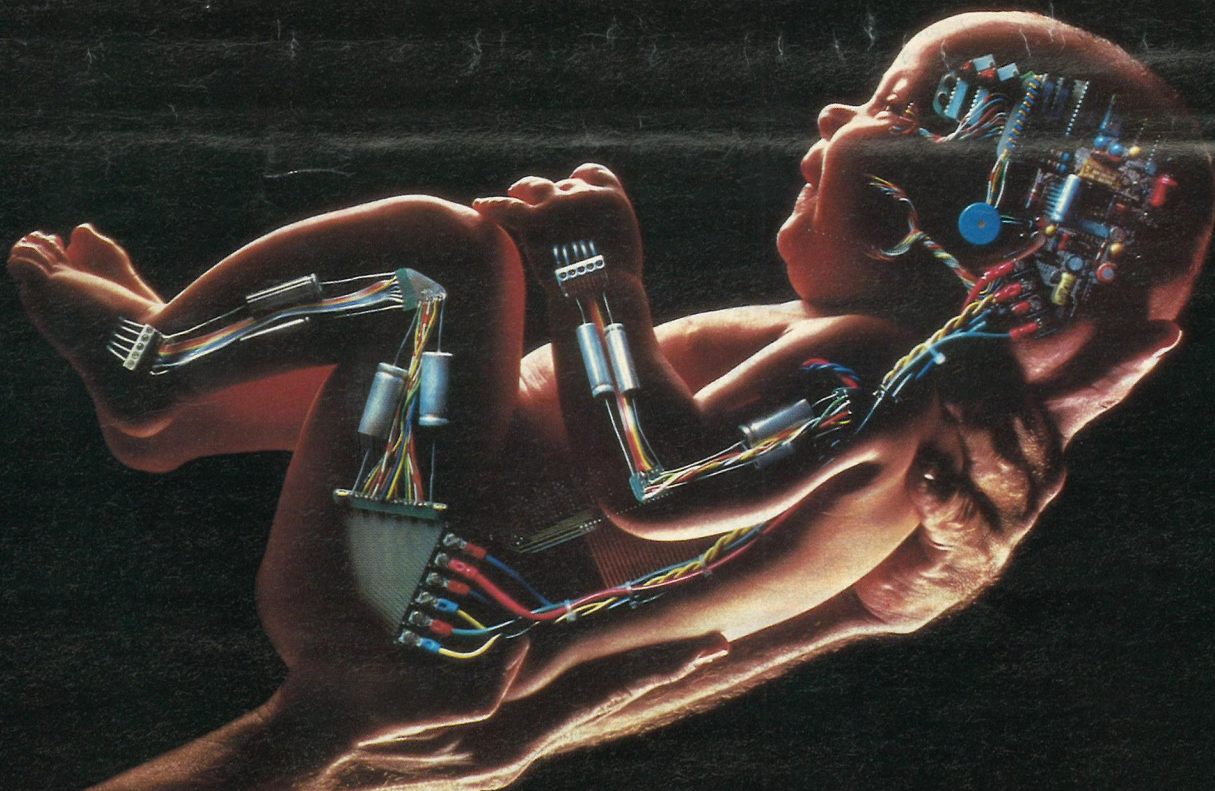
New company formation expected to be a leading light

Nafa Light Limited is the name of a new company with exclusive UK and Eire rights for the sale of the Nafa range of fluorescent tubes and spotlights.

The claimed true colour spectrum light output is said to ensure

that products are displayed with original brightness. Low UV output also ensures that products remain fresh for much longer periods than with normal lighting equipment. Further details from Nafa, 0772 626823.

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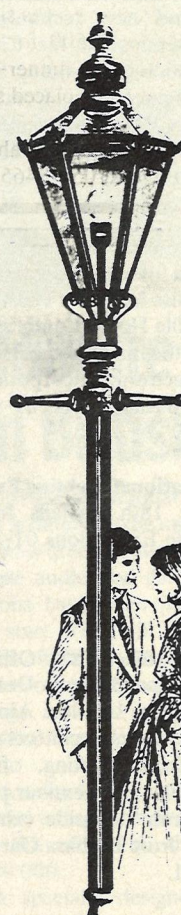
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NEWS

Thorn Lighting invests £6 million in distribution

As part of a major investment programme to strengthen customer service, Thorn Lighting is spending £6m on a new distribution centre. The 11 900m² centre and office facility, to be built at Normanton near Wakefield, will service Thorn Lighting's customers in the northern half of the UK.

Commenting on the announcement, Joe Maley, distribution director of Thorn Lighting said: "We are reshaping our distribution system in the UK. Up to now we have been operating out of 12 locations at various points around the UK following the old road

network. "We shall now make full use of the modern motorway system by reducing these to just two distribution centres, one in Wakefield and one at our existing Romford operation."

"This will enable us to manage stock more efficiently, as well as invest in modern methods and systems. The investment is just one step in our major programme to give customers the best service in the industry."

IDC Ltd of Stratford-Upon-Avon is to construct the complex. Work is scheduled to start on site on 2nd November.

Lab-Craft wins national training award

Lab-Craft Ltd has been selected from more than 1200 entries for one of the 60 prestigious National Training Awards, launched by the MSC this year.

Backed by the CBI, TUC and Channel 4's Business Programme, the Awards aim to give public recognition to companies with exceptionally effective training schemes. Lab-Craft supplies emergency and other lighting.

Mr A A Luscombe FCIS, FCMA, chairman of Lab-Craft Ltd, commented on the Award,

"In this company everyone has won a prize — recognition for the training staff, higher skill attainment for the shop floor employees, and 20 per cent increased productivity to help ensure our future expansion."

As a winner, Lab-Craft will be entitled to display the Award publicly within its office, and feature the Award's logo on all company stationery, promotional literature and in any advertising. For information please contact Mr C B Luscombe 04023 49320.

Lighting design awards become annual

The Student Design Awards sponsored by the Decorative Lighting Association will become an annual event.

Many of the prizewinning works and flatwork from the 1987 competition will be on display in January at Lightshow '88. The Decorative Lighting Association, which organised the contest, has indications that manufacturers will be looking seriously at turning some of the ideas into commercial realities.

Following the 1987 event, runner-up Mark Budden has been working with Cresswell Shades developing ideas on shades and exhibition stand design.

The 1987 competition attracted more than 300 student entries and prize-money for next year is similarly attractive — £1500 for the winner, £750 for the runner-up, and £350 for the third-placed student.

Further details from Graham Samuel at the DLA, 058-84658.



LightGraphix, the architectural lighting specialist, has just played a major role in the impressive decor at Gateshead's new multi cinema complex, the Metro Centre.

The cinema complex at Gateshead's Metro Centre was opened on October 16, and features several of LightGraphix's lighting systems. Floor tubing and carpet edging have been incorporated along the gangways of all ten cinemas in the centre. These are created from the company's Light Tube System — a series of miniature low-voltage lamps.

AMC Entertainment (UK) Ltd, were reasonable for the specification, and Building Design Partnership acted as consultant architects. Millard Ochs, Director of Operations at AMC, said: "LightGraphix have provided us with a great deal of support whilst fitting the lighting system. The lights look excellent, and we are likely to use the company for forthcoming cinema complexes." For details call Light Graphix 0322-22389.

Specialist bulbs continue to grow

Keeler of Barnsley, maker of specialised individual specification bulbs, reports that business is growing. This is attributed to rationalisation of product ranges by the volume producers.

Colin Graham, general manager, comments: "Specialist applications, particularly in medicine and industry, have always meant the production of lamps to provide perfect illumination from a minimal source. During the last 12 months we have monitored a steady increase in demand from these applications, particularly as the larger manufacturers are increasingly unable to cope with smaller one-off customer requirements."

Current applications include marine signalling and display systems for jet aircraft. Bulb envelopes are available vacuum, gas or halogen-filled in a variety of glass types. Information from Colin Graham, 0226 282606.

Dubai to host Gulf building show

The Gulf Building & Construction Exhibition will be held at the Dubai International Trade Centre (UAE) from 9-13 October 1988.

Although billions of dollars have already been spent on the development of infrastructure, the Arab Gulf states still constitute the third largest market in the world for building contractors and suppliers of related equipment, components and services. They have ambitious development plans and there are still very good opportunities for local and foreign suppliers of equipment ranging from heavy earth-moving plant and cranes to light-weight fixtures, fittings and components.

For further information, please contact: Gulf Building & Construction Exhibition, International Conferences & Exhibitions Ltd, 29 Dering Street, London W1R 9AA, 01-499 7774.

People in brief . . .

● **Ted Bulley** and **Derek Brooker** have been appointed as managers of the Lighting Maintenance Company, which specialises in the provision of lighting maintenance and associated technical services. Details on 01-800 1270.

● **John Spiers** has been appointed managing director of ECS Energy Conservation Systems Ltd, the lighting controls company within Whitcroft Lighting Division. Mr Spiers was previously employed by Multitone Electronics, spending the last 9 years as the group managing director. Details from Nick Booker 0625 524677.

● **Gordon Gaddes**, director general of BEAMA, has been elected deputy president of CENELEC, representing the EEC countries. CENELEC is the European Committee for Electrotechnical Standardisation in Western Europe and is representative of all EEC and EFTA countries.

● **Jeff Booker** and **Richard Day**, both design engineers, have recently joined the Technical Department at Erco Lighting. **Frank Hess** joins as sales office manager, and **Tony Ginman**, formerly of Concord, has been appointed regional sales manager in the south east. Four internal promotions complete the changes: **Ken Taylor** becomes northern sales manager, **Steven Sutcliffe**, regional sales manager of the east midlands, **Geff Wild** becomes regional sales engineer for the south east, and **Fiona Dawe** has been appointed to liaise with local manufacturers.

● **Peter Rodd** becomes deputy chairman and design director of MD Lighting, in order to give more time to the expanding design and product development programme. **Neville Holmes** is appointed managing director of MD Lighting. Neville was previously managing director of Mooulinex UK Ltd. **Roger Ayres** who joined MD Lighting last year as materials manager, has been promoted to the position of production director. MD Lighting, acquired by Whitcroft plc in June 1986, specialises in the design, manufacture and supply of modern domestic lighting products to major retail stores groups. Details from Nick Booker 0625 524677.

LIF LINE

Creation

In any industry there are those who react to events and there are those who help to create them.

The lighting Industry Federation is decidedly among the latter, to the benefit of its member companies. If you manufacture lighting products in the UK, but are not sure about the value of trade associations, invest the next few minutes in considering some of the advantage of membership of the Federation.

Knowing your competition. Membership of LIF gives you the opportunity: To gain more by promoting together with other members than you can independently, where the neutrality and authority of the LIF can be used to great effect; To play a role in formulating LIF policies and thereby ensure that they are compatible with and complementary to your own interests.

Knowing your market. By participating in the LIF's statistics collection service you are able to obtain: A bench-mark against which you can measure your own performance; Market size of selected product sectors — without that knowledge a company cannot know its share and decide whether or not it is worthwhile or possible to increase it; With this information you can answer the questions "Where are we now?" "Where are we going?"

Expanding the market. Just one example - security lighting. The LIF is seeking to expand the market for this product sector by pressing the Department of the Environment to release funds from the Urban Aid Programme specifically for security lighting in the inner cities.

Talking to government — your biggest customer and potentially your biggest headache. LIF is the principal contact point for the lighting industry; government departments come to the LIF — they are reluctant to go direct to individual companies. Discussions with colleagues on an industry response allow a more effective argument to be developed and agreement on subsequent procedures etc, maintains harmony and stability in the industry.

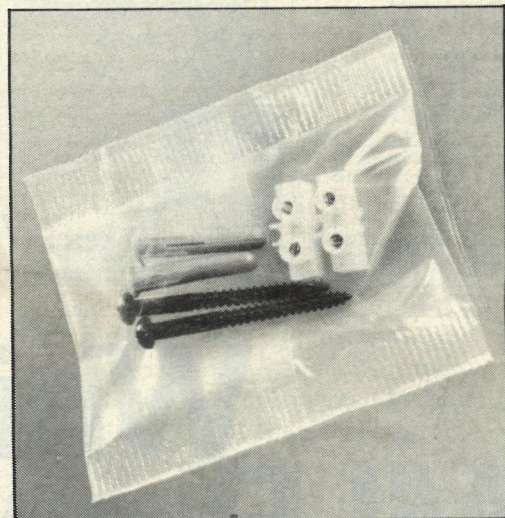
Through membership of LIF you can: Participate in a constructive dialogue with Government in a number of areas eg: pressurising the Government departments (PSA, DHSS etc.) to refurbish their lighting and to specify conformity with British Standards; pressurising the Consumer Safety Unit for restraints on unsafe imports which have resulted in additional powers for local trading standards officers; pressing for the whole of the M25 to be lit, rather than only one third of it; working with DTI/EEC Commission to justify imposing levies on Eastern Block imports of GLS lamps.

Training your staff — leading to independent assessment. LIF runs training courses on basic lighting techniques, leading to an objective assessment of staff. By placing staff on these, rather than on your own in-house courses, you know how your staff are rated against your competitors. You get an independent appraisal upon which to act.

Protecting yourself against unwelcome developments. Membership of LIF enables companies to take action along with other to protect themselves from potentially damaging developments in the market place.

... and there's more, much more. This is only part of the story. Interested? Right, now ring Ernest Magog, director of the LIF, on 01-675 5432 and you too could begin to enjoy the advantages of LIF membership.

MILLAR LIGHT: The Federation has a commitment to the "new blood" in our industry and gives its wholehearted support to the Light-mongers' Millar Award 1988, entries for which must close very soon. A 2000-word essay on any lighting-related topic could win young (16-30) readers one of the first three prizes of £250, £150 and £100. Full details from CIBSE (01-675 5211).



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Woodway Engineering, which specialises in automotive lighting, has unveiled a new roof lighting system for police and other emergency services vehicles. Called System 2000, it has been designed to replace light bars strapped onto car roofs. It can be wired into the car's standard power system, without special fixings. Woodway can be reached on 0203 617242.

NEW PRODUCTS

More news arrives from Italy

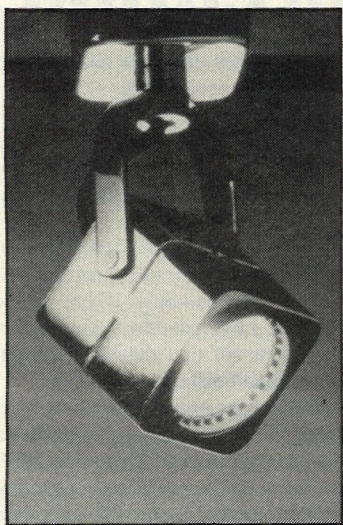
New to Reggiani at Euro luce 1987 was a spotlight for use with a low voltage halogen lamp with either a dichroic or aluminium reflector.

This fitting, the result of intensive in depth engineering, is produced by means of a specialised assembly system which enables it to be used in conjunction with other models derived from the same components in order to achieve a unified overall design effect.

Models are available for wall track or ceiling mounting with either a remote or incorporated transformer and in white, polished brass, black and graphite grey finishes.

Also announced at Euro luce was an adjustable recessed low voltage halogen fitting of 20-50W with either a dichroic or aluminium reflector.

The most important feature of this fitting of highly specialised design to suit the international market lies in its range of adjustment.



The fitting allows the beam of light to move through nearly 90 degrees and can therefore illuminate the entire wall at which it is directed. With wide beam lamps it is even possible to illuminate the same surface in which the fitting is recessed.

Reader Service No. 171

Zodion comes in kits for extra applications

Zodion photo-electric lighting controls by FKI-Cableform Ltd are available in new kit form.

Although designed to switch street lights, widespread applications are now possible, including

use with security lighting, loading bay, passage and stairway lighting, and domestic exterior lighting.

Four kits are available, with varying capabilities and on/off lighting switch levels. Each kit comprises a photocell control unit, NEMA socket, base holder and wall mounted bracket.

All kits are display boxed for point-of-sale use.

Reader Service No. 182

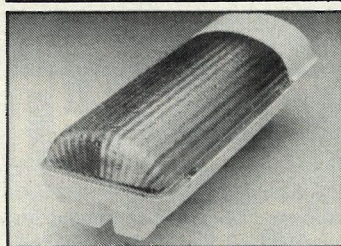
Abacus introduces new range of amenity luminaires

Abacus Municipal Ltd has introduced its AM range of amenity luminaires.

For general purpose applications there is a series of standard, interchangeable luminaires consisting of a co-ordinated range of bollards, and post-top and wall mounted lanterns. They are all highly adaptable for lighting footpaths, parks, gardens, forecourts, pedestrian precincts and car parks, and for security applications.

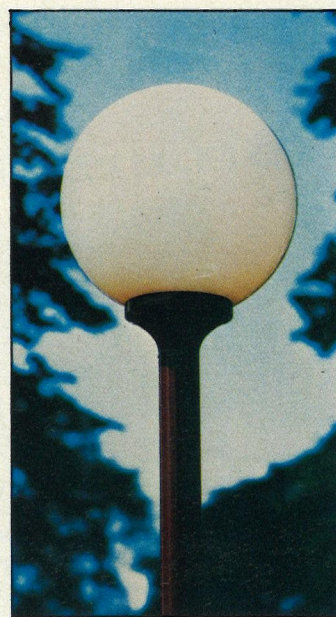
Known as the AM100 and AM200 series, they are designed and extensively tested to optimise aesthetics, effective lighting and resistance to vandalism.

Both AM100 and AM200 series are suitable for either high pressure discharge or compact fluorescent lamps. AM100 bollards



Weatherproof lights introduced

The special projects division of Invertec has introduced a range of low-voltage, weatherproof lumi-



nares for use in specialised areas where mains power may not be suitable. The WP range is designed for areas where an inspection or safety light is required and provides a wide flood of light. To compliment this, the WPL range, using the latest generation of high efficiency 11W fluorescent lamps, is now available. Moulded not of polycarbonate they offer a high light output and are suited to harsh environments, such as work boats, or areas where vandalism may be a problem.

Reader Service No. 161

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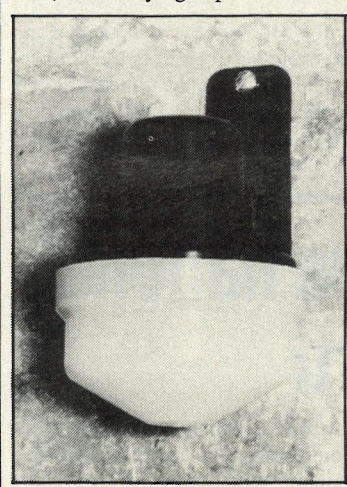
Reader Service No. 166

Lighting controls in new format

FKI's range of Zodion Photo Electric Lighting Controls is now available in new industrial kit form, designed to meet the needs of electrical wholesalers and electrical contractors.

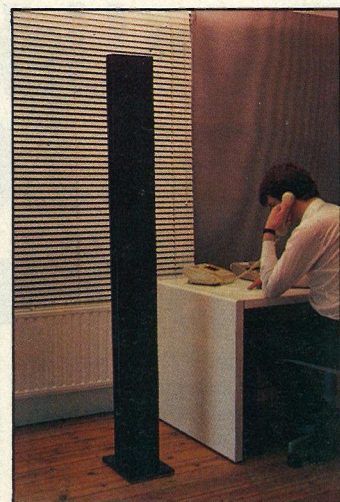
Used in connection with street lighting for nearly 20 years, Zodion controls are designed to switch lights on and off automatically at dusk and dawn. Widespread applications are possible, including use with security lighting, loading bay, passage and stairway lighting and domestic exterior lighting.

Four industrial kits are available, with varying capabilities and



on/off lighting switch levels. Each kit comprises a photocell control unit, NEMA socket, base holder and wall mounted bracket, and comes complete with full two year guarantee. All kits are display boxed for point of sale use.

Reader Service No. 154



Matching the family

Mini and Mono D & DK fittings are a family of downlights from Futimis designed to coordinate with the Pylos range of Metal Halide luminaires.

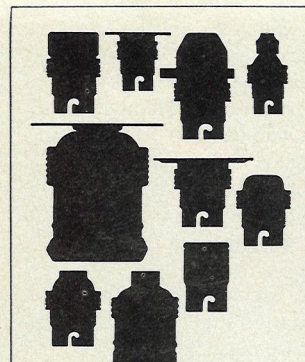
Each fittings is available with or without integral transformer and include external fusing and LED indicator features.

D variants have symmetrical housings: DK45 angled housings to target light into specific areas.

The Pylos L is a floorstanding luminaire available from Futimis in metal halide or linear tungsten variants.

The mast has a thickness of 60mm and a width of 210mm, within which all the required gears are housed. Screen- and wall-mounted fittings are available to match. The fittings are available as standard in white, black or grey. Other finishes are available to order.

Reader Service No. 160



Reeves lampholders light the way.

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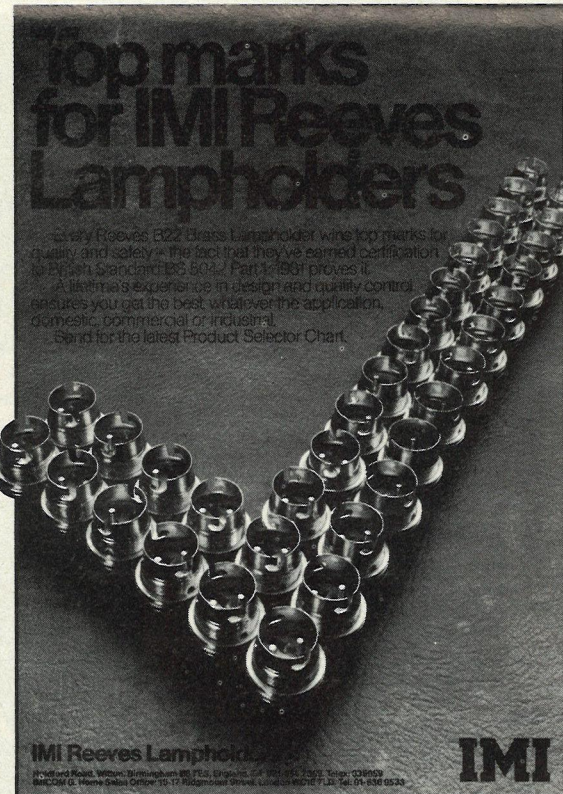
But these days we don't get much call for candles. Better things, to quote the current phrase, are electric. And Reeves have been making electric lampholders since long before candles went out. They come—craftsmen-made in the finest grade brass—in the widest range of domestic and industrial styles and sizes. To British Standard Specifications. With special features like the Reeves Patent Pummel for improved support. With chromium plating if you wish. With earthing screws and, battery-type fixing plates. For special anti-vibration applications. In push bar types for standard and table lamps (Edison screw and bayonet entry). In the 'Goliath' range of large holders for industrial, commercial and display applications.

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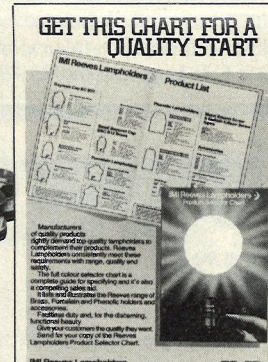
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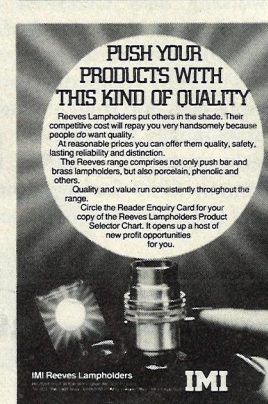
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SEE US IN THE GALLERY ON STAND NO. 20 AT THE LIGHT SHOW.

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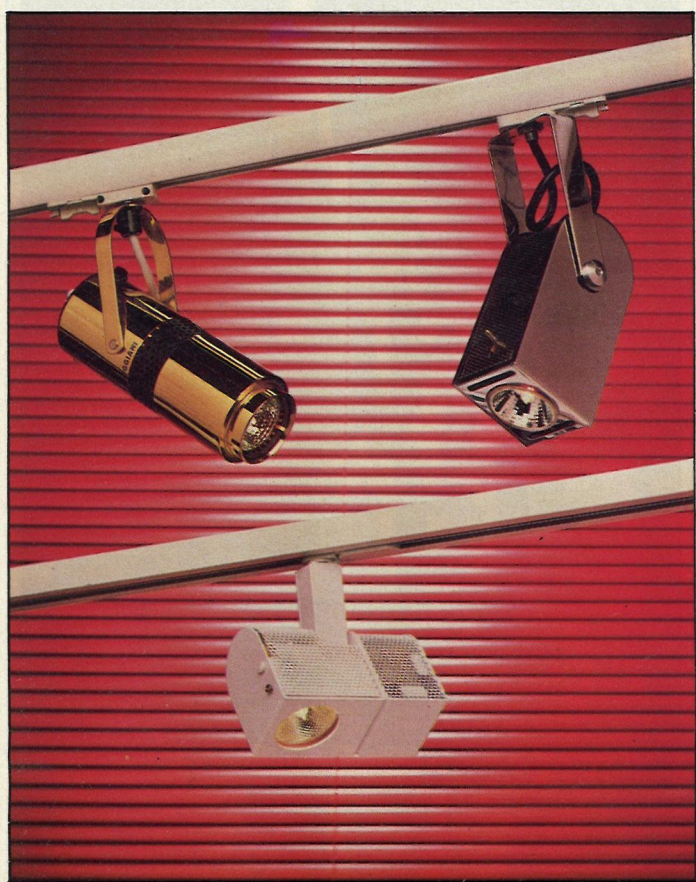
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Lighting Equipment News, January 1988

NEW PRODUCTS



Three dichroic spots with integral transformers

Three transformer-incorporated spotlights for use with mains-voltage track are now available from Light Years, commercial project planners and suppliers of specialist luminaires.

All use the multi-faceted dichroic reflector halogen lamp, which emits a cool white beam with uniform light output. It gives a low heat and low infra-red radiation, qualities necessary for accurate colour rendition and for lighting perishable items.

The Generation fitting is a low-voltage spotlight (it can be adapted for use with a ceiling plate), which has an adaptor enabling use with Concord track. It incorporates a thermal cutout device, and an optional borosilicate safety glass is available on request. The fitting is 130mm long, 82mm wide and

100mm high. It is available in white, black, chrome and brass.

The 3738 is 230mm long with a diameter off 70mm. It comes in polished brass, graphite, white and black, and can take either 20W or 50W lamp.

The RIB offers easy lamp replacement with its built-in lamp ejector. Available in white, black, chrome and brass, it is 160mm long, 160mm high and incorporates a 50VA toroidal or electronic transformer, protected by an anti-surge fuse on the primary side.

Reader Service No. 156

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

Bergo lights

Bergo Division of Expanded Metal Company has added a range of fluorescent and mercury lighting fittings to its other designs.

The fluorescent lanterns feature die-cast LM6M aluminium bodies, moulded bowls and stainless-steel external hinges and catches. All have twin-lamp operation with integral independent HPF switch start control gear, individually fused, and plug and socket mains supply connection.

The mercury version offers a twin-lamp self-contained lighting



unit designed to provide efficient overhead illumination of large traffic signs. The reflector design enables signs up to 3.6m square to be illuminated to BS873 requirements using a projecting arm only 900mm long.

Reader Service No. 162

Security lighting launched by Smiths

Smiths Industries Environmental Controls Company has launched its Sensor Security range.

The Smiths Sensor Security range provides automatic exterior security lighting for domestic or commercial premises. Lights are

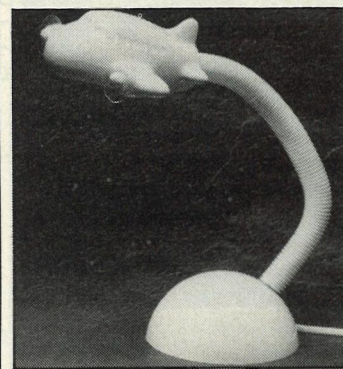
automatically switched on when the body heat of a nearby person is sensed by an integral passive infra-red detector. The control can be adjusted so that lights stay on for any period from a few seconds to several minutes, and prevents illumination during daylight hours. Automatic lighting both deters intruders and welcomes guests.

Reader Service No. 163

Join the jumbo jet set

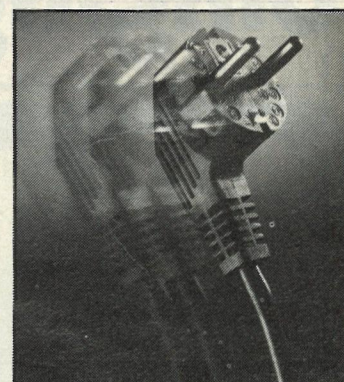
Sales are taking off with the 747 Jumbo Jet table light, says Green Tree Lighting Company of York.

A novelty light with a special appeal to children, this lamp comes in black, white or sky blue. A 25W bulb casts a useful light



from the undercarriage and illuminates the cabin windows for fun as well.

Reader Service No. 170



Cordsets for correct electrics

Cordsets to the various European electrical standards are available from Rendar.

Using detachable cordsets mean the correct plug may be used when the destination country is known. There are eight different types available, in 10A or 6A/250V for Europe, and 7A/125V for north America.

Reader Service No. 159

The latest in lighting technology

World Light Show
Installation technology

Good design, cost-effectiveness and safety are the key considerations when planning and installing modern lighting systems. These issues will be dealt with in detail at the World Market for Electronics and Electrical Engineering. At the World Light Show leading manufacturers will present the world's largest array of lighting technology - lights, lamps and innovative lighting systems. This unique presentation is complemented by a display of Electrical installation technology for buildings which provides a comprehensive overview of the latest developments and products in installation technology.

20th - 27th April, 1988

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Reader Service No. 7

Page 7

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No 1 For Trade Fair Travel

Reader Service No. 6

Singing lighting's praises



Westminster Abbey

Not all church lighting consists of the high-profile lighting for the vaulted roof: these panels at Westminster Abbey have been relit with Neodymlite fluorescent tubes rated at 18 and 36W. The cloister paintings depict the life of the abbey.

Lighting in places of worship has provided some of the most beautiful and elegant architecture in the UK with the perfect setting for religion. We take a pictorial look at some recent work.



Salisbury Cathedral

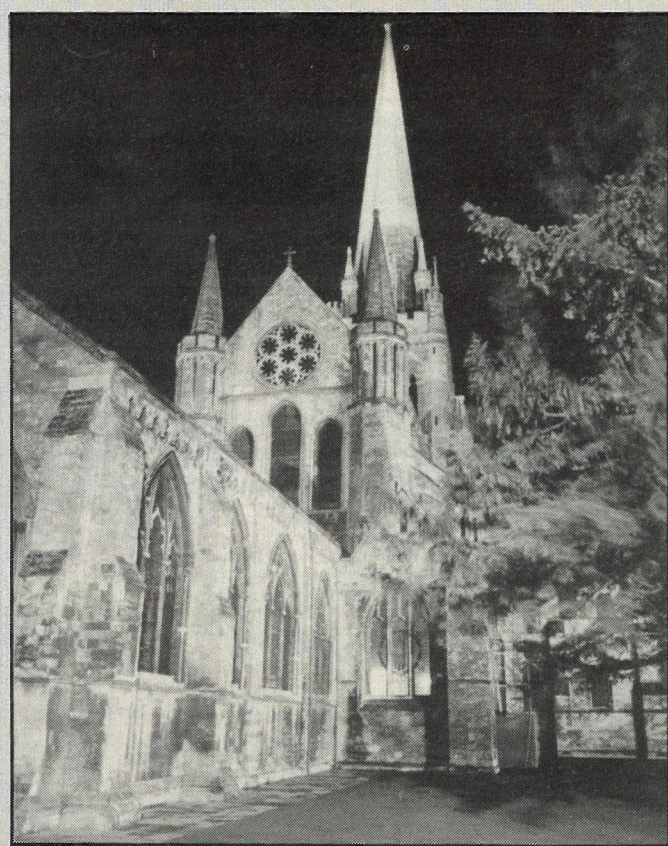
Salisbury Cathedral, which won first prize in the LIF's 1987 National Lighting Awards, uses the cold white directional light of metal halide floodlights, the warm diffuse light of Colour 83 fluorescent triphosor lamps, and almost liquid quality of PAR56 spotlights, to create an almost infinite variety of lighting effects.

The entire installation of 13 separate circuits is controlled by an electronic system which permits six lighting 'scenarios' to be selected by pushbutton. In addition, a portable control console can be plugged in at two positions in the nave, since all fluorescent and tungsten circuits have light output regulation, an endless range of effects can be achieved from the console controls.

The lighting is pure theatre, and was first used in December 1983 to 'cue' the congregation through the beautiful christmas service of Nine Lessons and Carols.

Luminaires are installed so as to be inconspicuous or invisible; it is the lighting effect that is being considered. The effect lighting of the complex interiors of such large buildings is a highly-skilled matter, involving detailed studies of light flow and colour.

Salisbury was completed in 1258. The Master Architect would surely approve of the magnificent new interior lighting.



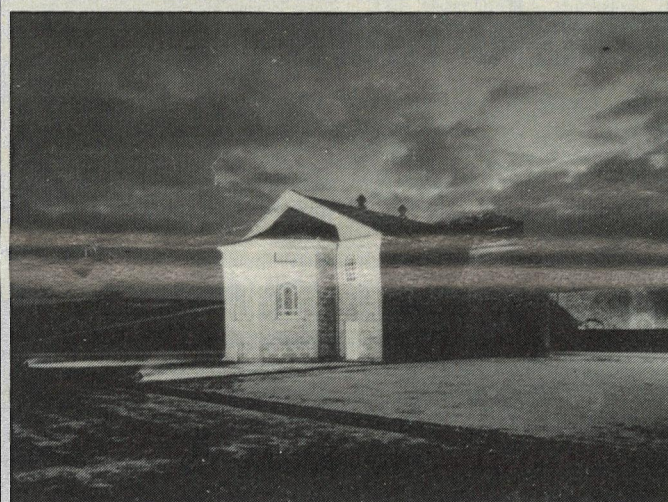
Chichester Cathedral

The ancient architecture of the famous Chichester Cathedral can now be seen in an unusual mix of 'warm' and 'white' light.

The exterior of the building has been lit using 250W deluxe high pressure sodium lamps, which serve to enhance the natural colour of the brickwork and emphasise architectural detail.

Creating impact on the skyline by depicting the steeple with CSI floodlights, ensures the cathedral forms a dominant aspect within the landscape.

In addition to aesthetic appeal, the electrical loading has been reduced by over 50% from 18kW down to less than 9kW.



Fort George Chapel

The Chapel at Fort George, an 18th century artillery fort, demonstrates an outstanding example of lighting used to excellent visual effect.

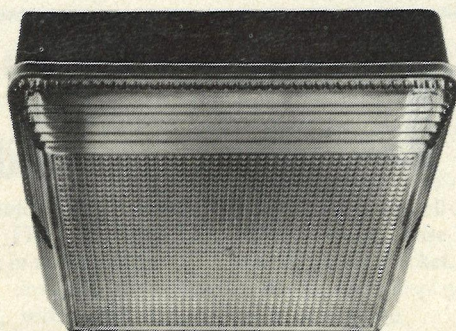
Careful siting of the floodlights illuminating the 1763 chapel has ensured maximum modelling because, even when one is standing behind a floodlight, there is another to the side producing some shadowing. The floods highlight to great effect the front of the polygonal chancel, the western tower with battlements and both rounded stair wings.



St Philips, Sydney

The magnificent St. Philips Church, Sydney, Australia, has received the high pressure sodium treatment from Thorn Lighting. An atmosphere of warmth and welcome is created with the lighting scheme, which also serves to emphasise the strong lines of the wood structured ceiling.

MINI-MAX 65 • MINI-MAX 65



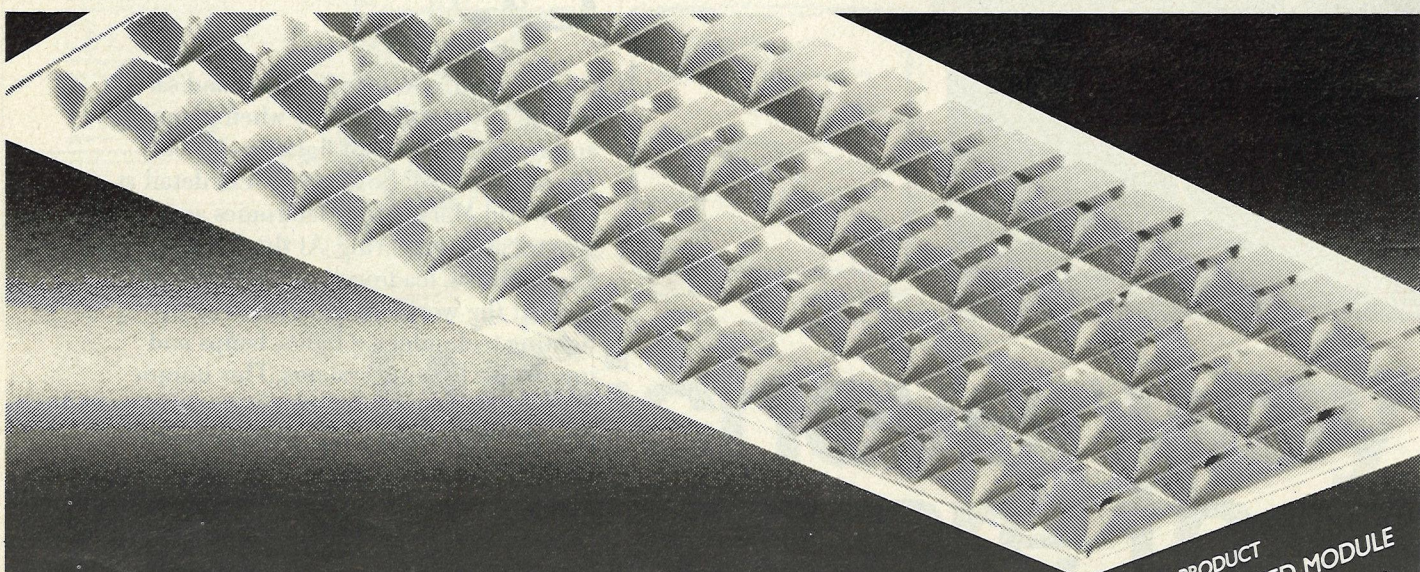
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Reader Service No. 9

Page 8

10 REASONS WHY STC DISTRIBUTORS LEAD BRITAIN'S BRIGHTEST TEAM.



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Checking the domestic scene

Micromark Lighting aims to become one of the largest players in the domestic lighting market. Don Jennings talks about the prospects.

The domestic lighting market is worth around £350 million, yet it has no major brand names and those which exist are poorly marketed. "Most suppliers hold little or no stock, preferring instead to build to order, and as for support for retailers — it just doesn't exist."

Over the past two years, following an intensive period of market research, Micromark has gently put together a range of domestic lighting. This includes ceramic table lamps, spotlights, downlights and eyeballs, decorative and traditional pendants and wall lights, children's pendants and table lamps, wall brackets, outdoor lanterns and garden lights. It is supplemented by a range of light bulbs, electrical accessories, Christmas lights and hand torches.

The products are designed and built to BSI Standards. Each item is factory-tested, and are batch-tested when they are received at the warehouse complex.

Don Jennings, Micromark's head of promotions, explains: "For retailers, we publish a full-colour catalogue, which is unique in being fully priced, with quantity discounts shown, and what's more, we intend to update it and mail the update to all our retail customers every month."

But co-ordination of packaging and merchandise are not the only parts of the marketing programme. Jennings firmly believes that the lighting market is an area where retailers can dramatically increase their sales and profit levels by approaching it in a businesslike manner. "What we're looking for is high margins at competitive price points. In order to achieve this, all of us, retailers, suppliers and distributors alike," says Jennings, "must get our act together in terms of merchandising, advertising, computerised stock control and stock holdings."

Micromark, because of its relationship with electrical distributor, BDC, took a long, hard look at the retail lighting market before deciding to go into it. Their analysis led them to believe that lighting in the UK was a classic "gap in the market" opportunity.

Jennings comments: "Although the UK domestic lighting marketplace is variously estimated to be worth somewhere between £350 million and £500 million, the figures show that the average spend on lighting per household in the UK is less than one-fifth the amount that is spent per household in the USA or in Europe." He believes that the major reason for the differential in per capita spend is the UK's lack of marketing. According to Jennings, "The fact that there are no accurate sales figures in a major market area is amazing; but even more amazing is the fact that in a market this large, there are virtually no major brand names. I doubt if one UK consumer in ten thousand could tell you the name of a single lighting company."

And the reason? "The few companies who use brand names are barely visible. They don't advertise, they don't publicize. As a mat-

ter of fact, most of them don't even hold stock, preferring to wait for an order before they assemble the fitting. As an industry, we do very little to persuade the customer to improve lighting."

The research results decided that a company with an aggressive marketing-led approach to the lighting business could not only be successful, but could be instrumental in helping the total market grow... paying dividends not only for themselves but for the entire trade, retailers, manufacturers and suppliers alike.

Jennings, an American who has lived and worked in the UK since 1982, has had more than 20 years of experience in lighting, both in the US and the UK, which places him in an excellent position to determine just what his company has to do to achieve success.

"The first thing we did", says Jennings, "was to build a solid line of products. Following an intensive period of market research, we put together a range of domestic lighting. This includes ceramic table lamps, spotlights, downlights and eyeballs, decorative and traditional pendants and wall lights, children's pendants and table lamps, wall brackets, bulkheads, outdoor lanterns and garden lights, all designed and built to British Standards. This was supplemented by several ancillary ranges... light bulbs, electrical accessories, Christmas lights and hand torches."

Product line

But while the product line was growing, he was working even harder on the marketing programme. "The first job, of course," says Jennings, "was to sell our line to retailers. This included such things as pricing the fittings properly, designing packaging, creating a catalogue, and finally, promoting the range."

But there was an even more important marketing job to do. The study of the market showed that the most glaring omission was the almost total lack of support for retailers... backing them with national advertising and publicity, providing sales promotion and merchandising aids, and finally, helping with sales training and support for local promotion efforts."

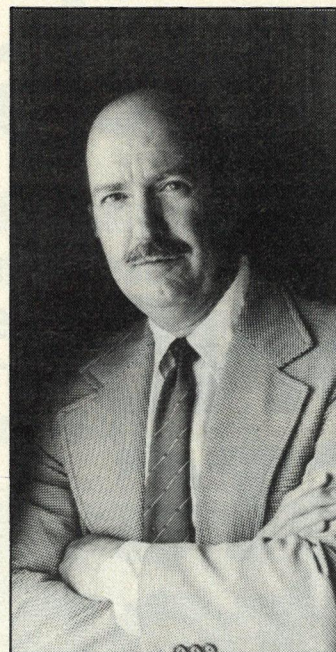
"We felt that if we really wanted to grow, we could only do it by helping our retailers to grow, and that meant that we had to devote time, effort and money to supporting them."

"If we followed our competitors, our packing would be the cheapest thing possible: a brown cardboard box sealed with brown plastic tape. But we know, because it's been proved time and again with other products, that if the product is dressed up in a full-colour carton, with sales features highlighted and presented with clear installation instructions, it becomes much easier to sell. So, we've tried to do this wherever possible, using our specially designed motif as a background."

"Another area where we feel we've taken an extra step is catalogues. Most of our competitors

have colour literature, but I'll guarantee that Micromark is the only lighting company that revises and updates its catalogue on a monthly basis... complete with prices. And we've got some new ideas for improving and making the catalogue more useful that we'll be introducing next January at Lightshow."

Jennings thinks that the next 5 to 10 years will see a strong degree of rationalization within the industry, with smaller manufacturers and



Don Jennings, Micromark's managing director and leading light.

suppliers either merging together or disappearing altogether. For those that remain, he foresees growth of 30% to 40% over the next three years.

It seems to be the accepted wis-

dom that the lighting market is so fragmented, with so many independently owned outlets, that any attempt to introduce an overall marketing-led, branded-products approach faces an almost insurmountable obstacle. Jennings says that to some extent this attitude still prevails, but that forward-thinking retailers will see that the approach makes sense. "It's actually nothing more than common sense, but it's having the courage to put the philosophy into action that makes the difference."

In the future

What does he see in the future for the lighting retailer? "Rapid growth," says Jennings. "The sales potential is enormous. For example the new housing market is growing so fast that there's a shortage of bricks in many parts of the country. Every one of those new homes has to have some lighting, even if it's only £15-£25 worth. So there's a start."

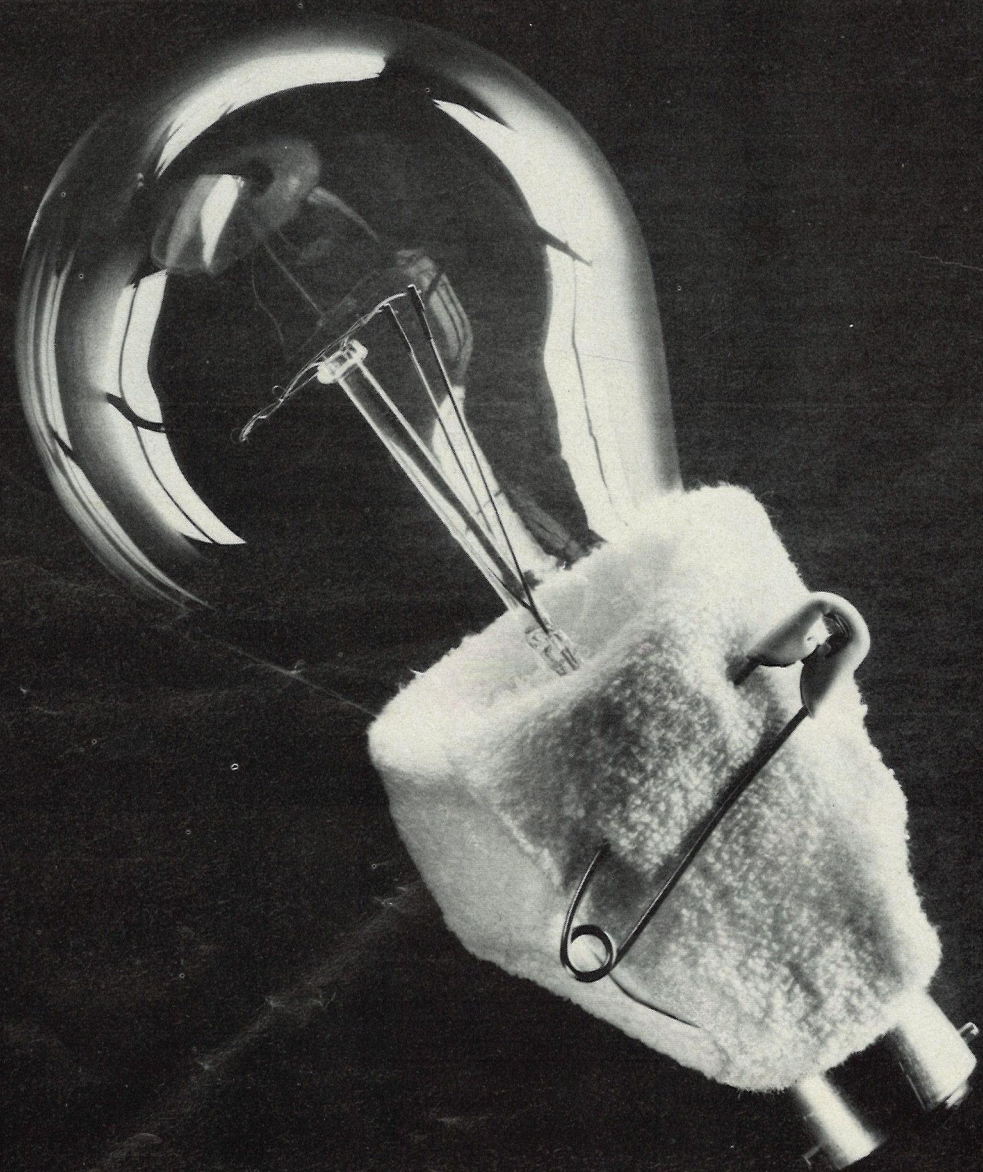
But this is just a drop in the ocean. Studies in the US by the American Home Lighting Institute have proven that good lighting helps sell homes. The work showed that by spending an extra \$100 on

the lighting in a model home, the builder could ask, and get, another \$500 on the sale price. If UK builders would realise, this and increase the amount they spend on lighting, even by another £20 to £25 per home, total lighting sales would increase 5% to 10% virtually overnight. "Yet how many lighting retailers have ever made a sales call on a builder? Most of them just sit in the shop, waiting for the business to come to them."

As an industry, we must start to tell the story of good lighting... not just during Home Lighting Fortnight, but all year round. And it doesn't have to be a great expensive industry-wide campaign. If every lighting manufacturer ran only one ad a year in a consumer publication, it would have a tremendous cumulative effect on the industry. When one lighting retailer puts a well-designed ad in his local Yellow Pages, it helps all lighting retailers. If every retailer advertised consistently in his local newspaper, think of the impact this would have on the market. The awareness of good lighting would increase enormously."

Micromark Lighting is a division of the BDC group of companies.

New energy-saving Opus bulbs need changing six times less often.



Doing it with daylight

Lighting's least favourite technique, daylighting, always threatens to take away the *raison d'être* of the artificial light installation. Daylight can never provide the versatility of artificial systems or can it?

The sun is often blamed for the excesses of many poorly designed buildings: heat gain, glare, shadows, thermoclines... But natural light is abundant in most places, and provides light in such quantities that it is hard to resist making more effective use of such a bountiful supply. In the US, admittedly, in the sunnier states, a new device is

| Approximate area coverage (Light reflection capacity of walls, floors and ceilings fair to good.) | | |
|--|-------------------|------------------|
| Ceiling Height | High Light Levels | Low Light Levels |
| 8 to 12 ft. | 300 sq. ft. | 1000 sq. ft. |
| 12 to 15 ft. | 400 sq. ft. | 1300 sq. ft. |
| 16 to 32 ft. | 500 sq. ft. | 1600 sq. ft. |

being used in supermarkets as an improved skylight, which is making significant inroads into the use of daylighting as part of an overall lighting scheme.

The device is based on a modified skylight, with reflective moving optics, and a diffusion system to spread the light once it has been channelled into the building. See

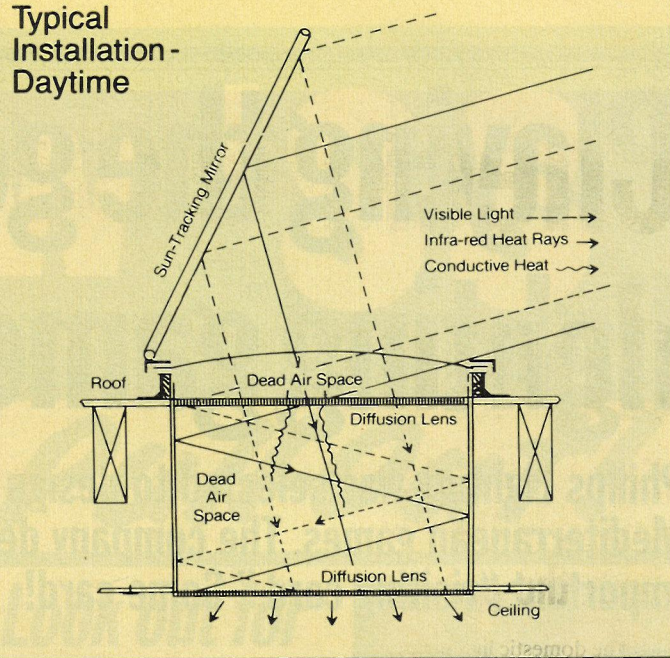
DAYLIGHTING

diagrams for construction detail. The device is called So-Luminaire. It is distributed in the UK by Lectrac Ltd, based in the West Midlands.

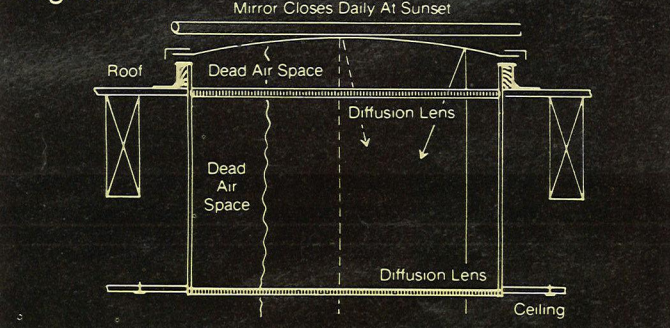
In most one-storey commercial and industrial buildings, sun tracking solar daylighting systems can reduce the cost of daytime lighting by up to 90% when compared to artificial lighting, producing equal levels of illumination. Savings vary in relation to electric power costs and annual sunshine.

Savings achievable are readily calculated from climatic data, electric power rates, building plans, building specifications and light-level requirements for both original construction and retrofitting. Daylighting is used primarily in commercial and industrial buildings in which medium to high levels of illumination are required. They can be mounted on flat, sloping or shallow pitched roofs. Buildings must be equipped with artificial lighting backup systems to provide desired light levels on dark, cloudy days and at night. Buildings must be equipped with artificial lighting backup systems to provide desired light levels on dark, cloudy days and at night.

Typical Installation-Daytime



Typical Installation-Nighttime



These systems are suitable for residential use, but energy savings are not as dramatic as they are in commercial and industrial applications. However, the diffused, natural sunlight supplied in residential installations and in such facilities as art and photographic studios, architects' offices and specialty shops is aesthetically pleasing.

Functions

So-Luminaire uses the sun's rays twice to provide high levels of even, natural sunlight to the interiors of buildings on sunny and bright, cloudy days throughout the year. In doing this, it uses only one fraction of the electric power consumed by fluorescent lights in producing equivalent light levels.

So-Luminaire systems are claimed to: virtually eliminate artificial lighting costs on sunny and bright, cloudy days; reduce the cost of heating in cold weather; reduce the cost of cooling in hot weather; minimize the replacement costs of tubes, ballasts and lamps in artificial lighting systems.

Each So-Luminaire is made up of a sun-tracking mirror and a conductive-heat-barrier roof lens assembly. In buildings with attic space, a reflective, light duct, constructed on the job with reflective materials, conducts direct and reflected sunlight from the roof lens to a ceiling lens. Light ducts are often used with crop ceilings, although in many cases they are necessary.

Average coverage

In any given installation, the number of So-Luminaire units required to make up a system depends upon room sizes ceiling heights, desired light levels, distances between the roof and ceilings, the colours and textures of walls and ceilings and room contents, just as the same factors govern artificial lighting systems. Where walls and ceilings are light in colour and smooth in texture, and the desired illumination at work levels is within the range generally specified for commercial and industrial operations, the following coverage table applies.

Quality of light

Natural, diffused sunlight is far superior to the light produced by artificial lights in eye comfort, object definition, accurate colour perception, and aesthetic value. This has great importance in the

display of merchandise (including food), in the visual arts, in interior design, and in the ease and accuracy with which delicate tasks can be performed. In applications where the admission of ultraviolet into a building is undesirable, an ultraviolet-stabilized polycarbonate roof lens is available on special order.

During the day the So-Luminaire collects and reflects the sun's visible light into the building throughout the day. The sun's radiant heat also enters the building and heats the surfaces it strikes causing them to become heat batteries which warm contiguous surfaces and the air at and near floor level. Ceiling-mounted artificial lights heat air and surfaces near ceiling level. The heated air remains at ceiling level unless circulated mechanically.

Sunlight is twice as efficient as fluorescent light. In producing equal quantities of heat, So-Luminaire produce 120 lumens of light vs. 60 lumens for fluorescent lights. As a result, the heat load on a building's cooling system (and on such appliances as refrigerated food cases in supermarkets) is reduced by half, and important power savings result.

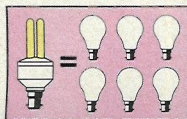
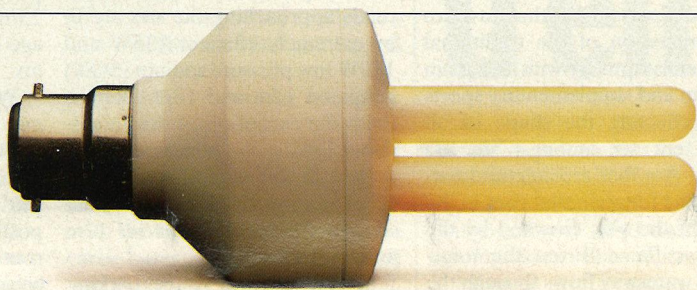
At night, radiant heat loss from the building is prevented by the mirror which automatically closes down over the roof lens at sunset. The mirror reflects radiant heat back into the building and the loss of heat through conduction is minimized by dead air spaces built into the system. The closed mirror also eliminates the loss of artificial light by reflecting it back into the building.

Artificial lighting

Artificial lighting must be provided at night and on dark, cloudy days. However, because So-Luminaire Systems transmit considerable sky light on moderately dark days which are not sufficiently dark to cause the mirror to close, and in the early morning and late evening when the sun is at the horizon, not all the artificial lights need be used. Desired light levels can be maintained by turning on the required number of artificial lights or a light-sensing system can be installed to do this automatically.

Further information is available from Lectrac Ltd, 2251 Coventry Road, Sheldon, Birmingham, West Midlands B26 3NX, 021-742 0622.

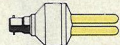
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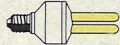
Changing light bulbs can seem like a full-time job. Even in smaller premises it's an expensive waste of manhours for people with far better things to do.

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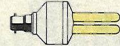
Take the OPUS EL, for example:



6000-hours service life The new OSRAM OPUS lasts six times longer than ordinary light bulbs. So costly maintenance is reduced to a minimum.



80% less power consumed OPUS offers major savings on energy bills: it only uses a fraction of the electricity for the same output of light.



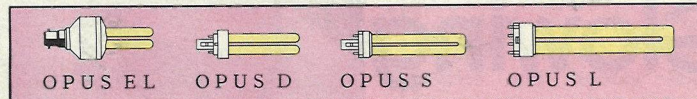
Direct replacement The OPUS EL plugs conveniently straight into existing sockets - no need for expensive conversions.



New technology The integral electronic control gear gives an instant flicker-free start. And keeps the lamp lightweight.

This remarkable new range is one of the simplest ways that every company can immediately cut its overheads.

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TECHNOLOGY'S LEADING LIGHT

Playing the good lighting game

Philips Lighting was selected to design the lighting for the Mediterranean games. The company describes it as an important "visiting card." Some card!

The 10th Mediterranean Games were opened in Latakia, Syria in September this year. Sound, lighting and telecommunication equipment have been provided by Philips under a contract worth US\$ 6 million.

A new sports city complex, which includes a covered stadium for 45 000 spectators, five other halls designed for a variety of sporting and socio-cultural events (one of them capable of accommodating 7000 spectators), and a swimming pool complex, tennis courts and yacht club, has been built on a coastal site about 10km north of Latakia city.

Some 5000 competitors from 17 countries bordering the Mediterranean participated in the games which were held between September 11 and 25.

Lighting installations played a key role in the success of the games because the main events were held in the evening when temperatures were amenable and maximum television audiences could be expected throughout the region.

Public address, paging and

| Switching step and function | Number of luminaires | | Illuminance | |
|-----------------------------|----------------------|-------|-------------|--------|
| | Masts | Roofs | Eh lux | Ev lux |
| 1 CTV, athletics | 4 x 78 | 105 | 1500 | 1250 |
| 2 CTV, football | 4 x 66 | 47 | 1600 | 1150 |
| 3 Competition, athletics | 4 x 24 | 14 | 450 | |
| 4 Competition, football | 4 x 18 | — | 470 | |
| 5 Training, athletics | 4 x 18 | 14 | 325 | |
| 6 Training, football | 4 x 12 | — | 300 | |
| 7 Training, track | 4 x 12 | 14 | 275 | |
| Emergency, CTV total arena | 4 x 48 | 60 | | |
| Emergency, CTV football | 4 x 36 | 30 | | |

Different switching arrangements and illuminances, main stadium.

| Switching step and function | Luminaire type and number | | Illuminance | |
|-----------------------------|---------------------------|----------------------------|----------------------|-----------|
| | 2kW HNF200 wide | metal-halide HNF200 narrow | t-h QVF412 1.5kW lux | Eh lux |
| 1 Total arena, CTV | 34 | 30 | | 2200 1750 |
| 2 Handball, CTV | 30 | 14 | | 1600 1200 |
| 3 Handball, competition | 16 | — | | 600 — |
| 4 Handball, training | 8 | — | | 275 — |
| 5 Basketball, CTV | 16 | 10 | | 1450 1100 |
| 6 Basketball, competition | 8 | 4 | | 625 — |
| 7 Basketball, training | 8 | — | | 380 — |
| 8 Volleyball, CTV | 10 | 10 | | 1500 1200 |
| 9 Volleyball, competition | 4 | 4 | | 560 — |
| 10 Volleyball, training | 4 | — | | 220 — |
| 11 Boxing, CTV | | 8 | | 5000 2000 |
| 12 Social/cultural | | | 16 | |

Switching steps for main sports hall and illuminances achieved.

intercom systems were crucial to audience awareness and communication between officials and competitors.

The scope of Philips' lighting installations includes sports lighting and high mast lighting of the main sports stadium to the exacting demands of colour television. Philips also provided lighting in the sports halls, the swimming pool and exterior and interior lighting.

Credits

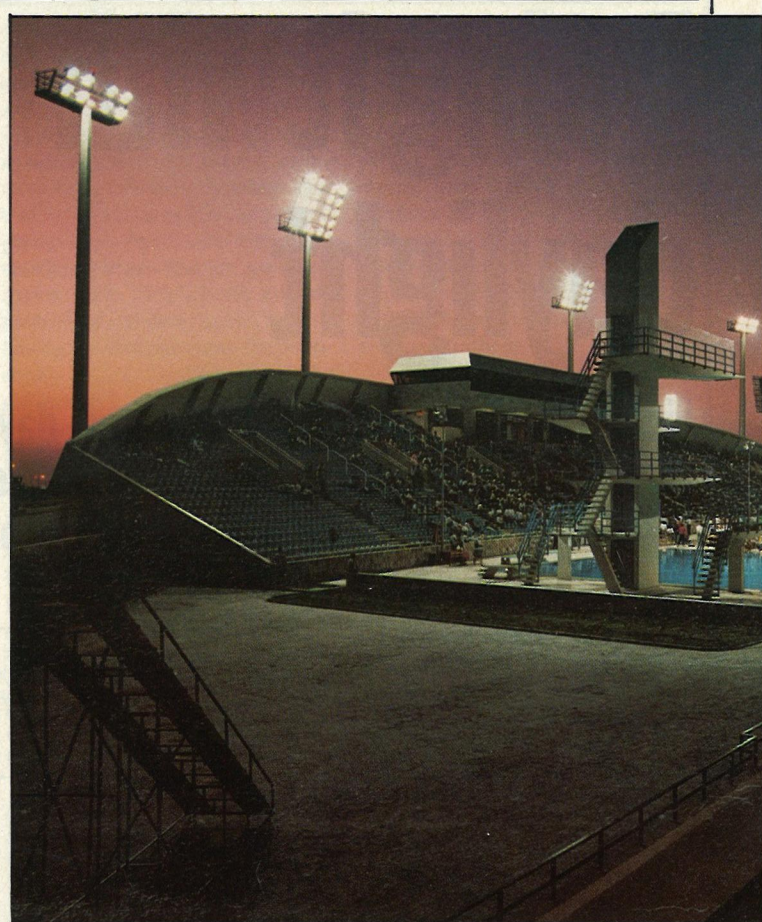
The project has been carried out by Philips' International Projects Department.

Lighting design was provided by the Lighting Design and Engineering Centre in Eindhoven. Specialist lighting engineering services were provided by Project Centre Light and acoustic services were supplied by Audio Communications Division in Breda, the Netherlands. Philips Telecommunications and Data Systems undertook the provision of the telecommunication equipment.

In addition to lighting and low voltage systems for the Latakia complex, Philips also provided a new lighting installation and electro-acoustic installations for a newly built 15 000-seat stadium in Aleppo which was the venue for football and other events associated with the Games.

First Impressions

The Polish architect Wojciech Zablocki has conceived the design for the Sports City that invokes the impression of the traditional Arab encampment with the main stadium and supplementary sports halls reflecting the shape of an Arab tent set amongst steeped greens. Another architectural feature is the fountain that rises in the heart of the site, crowned by the Olympic flame. From the fountain, a waterway flows through the



The main surface lighting of the swimming pool is provided by 2kW metal halide floodlights.

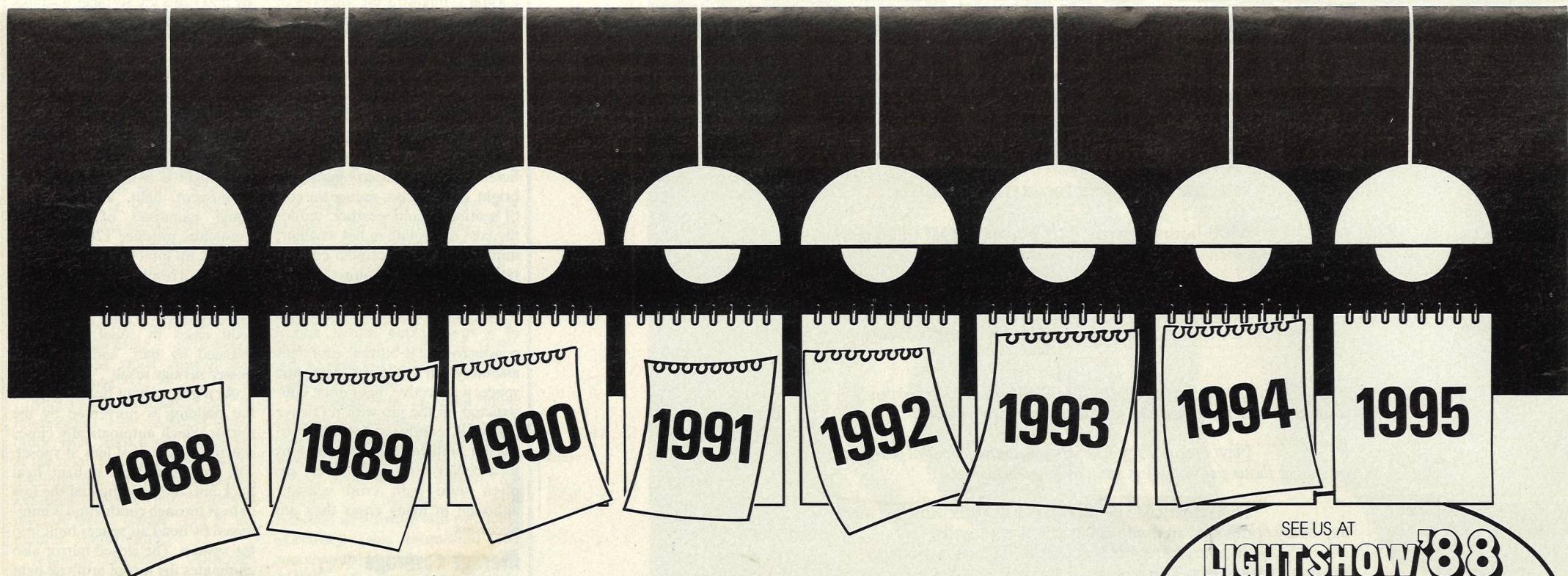
site in a curving course to the sea.

Exterior lighting is designed to assist safe and speedy arrival on site with different types of road and pedestrian walkways lit by different light sources. The major roads approaching the site are lit by extremely efficient 135W and 180W low pressure sodium (SOX) lamps on 12m and 10m columns (with the exception of the roundabout linking the nearby expressway with the site access roads which is lit by 400W high-pressure sodium (SON-T) lamps on 12m masts).

There are two visitor parking

areas; one nearest the heliport is lit by 135W low pressure sodium luminaires on 12m masts while the other has a high-mast floodlighting installation using 1000W high pressure sodium floodlights on 25m masts. In both cases the average initial illuminance is about 20 lux.

Within the Sports City complex, and away from the main public roadways, relatively subdued lighting is provided by 80W high pressure mercury HPL-N lamps in post-top luminaires. A pedestrian route which traverses the site in a broad arc, passing the main faci-



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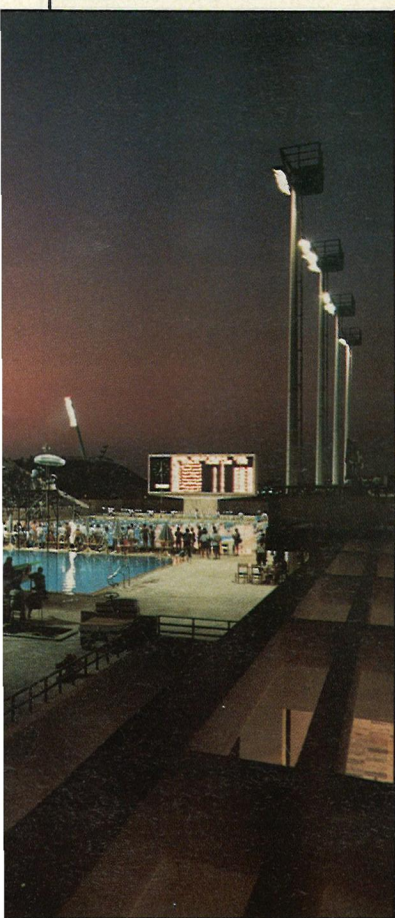
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Lighting permits colour tv coverage, with 11 lighting steps

ties and finally crossing the perimeter road by a pedestrian bridge and running out along the pier, is marked out by contrasting high-pressure sodium post-top luminaires using 70W SON lamps on 3m posts.

The front of the main stadium was floodlit with metal halide lamps. For the main structure however, high-pressure sodium lighting was used to form a contrast on soffits and other overhanging structures.

Lighting — in step

With regard to the lighting of the main stadium, an installation with seven different combinations of vertical and horizontal illuminances to suit the colour television (CTV) requirement and the nature of the activity in progress has been provided. This 'step' approach has been followed in each of the sports facilities where each main activity can be lit (a) for full CTV coverage, (b) at a competition level and (c) at a level for training.

The stadium includes an international-standard football field, covered with grass, surrounded by an Olympic-standard athletics track. The main stand accommodates 14 000 spectators and occupies six levels with changing rooms and various meeting and administration rooms and treatment rooms for competitors; a VIP level; and press and commentary areas.

The demands of colour television dictate the nature of the stadium lighting which makes use of four corner towers plus floodlighting from the roof of the stand. Each corner tower is equipped with 78 Philips HNF 206 narrow beam 2000W metal halide floodlights arranged in 13 horizontal rows with six floodlights per row. The HNF 206 floodlight has a rotational symmetrical light distribution.

Another 105 floodlights are mounted against the catwalk under the roof of the main stand. These are HNF 002 type of floodlights and are equipped with 2000W metal halide lamps and have an asymmetrical light distribution. The towers on the stand side have an average floodlight height of 60m while those on the opposite side are 45m above playing level.

This arrangement achieves maximum illumination levels of 1500 lux in the horizontal plane and 1250 lux in the vertical plane viewed from the main stand.

By selectively switching the floodlights, seven completely different lighting patterns are

achieved; two for full CTV coverage of athletics and football, where the vertical lighting component is particularly significant; two for competitive athletics and football and three for training.

Further, two emergency switching arrangements are provided whereby about two-thirds of the floodlights can be powered from on-site generators in the event of a mains supply failure, thereby enabling colour television coverage to continue.

For emergency and anti-panic purposes, each lighting tower also carries six 1500W Philips QVF 412 medium-beam tungsten halogen floodlights which will maintain a minimum of lighting on the open stands.

General lighting of the spectator area of the main stand is provided by nine 2 x 400W Philips HNF 001 wide-beam metal halide floodlights together with nine 1500W Philips QVF 410 medium-beam tungsten-halogen floodlights for emergency/anti-panic purposes.

Computer-aided lighting design

Four of the five halls have lighting installations for full CTV coverage. The main hall is equipped with an 11-step lighting installation with metal halide lighting providing CTV capability for the different requirements of sports such as handball, basketball, volleyball and boxing. With all luminaires in operation, a horizontal illuminance of 2700 lux and vertical illuminance of 1700 lux are achieved. Lower levels of lighting are available for training and competitions where CTV coverage

is not required. A separate system with tungsten-halogen lighting has also been commissioned for social/cultural events as well as stand lighting.

Main lighting positions are on two longitudinal catwalks located 24m and 12m either side of the centreline and make use of 34 wide-beam and 30 narrow-beam Philips HNF 002 equipped with 2000W metal halide floodlights. Each floodlight is fitted with metal louvres to reduce glare. The client's CTV advisors called for a symmetrical lighting arrangement for this hall. The final configuration of the luminaires was determined with the aid of computer plots to achieve the appropriate illuminances.

The switching patterns are designed so that the luminaires used for lower lighting levels in each sport are also included in the higher levels for the same sport, this means that switching between CTV, competition and training lighting can be carried out without loss of lighting between steps.

Halls 3 and 4 were each designed to accommodate 750 people. In both cases, a common approach was adopted and full CTV standard lighting was installed together with lighting for social and cultural events.

General lighting in each hall is provided by 24 Philips HNF 001 wide-beam 2 x 400W metal-halide floodlights mounted under the roof structure. For training purposes, one lamp in each luminaire is switched on, providing an average horizontal illuminance of 270 lux, while both lamps are switched on for competition events, to give 550 lux.



Seven different combinations of illuminances

Lighting for colour television is arranged according to a separate system comprising 12 wide beam and six narrow beam Philips HNF 002 2000W metal halide floodlights providing a maximum illuminance (for basketball) of 2000 lux in the horizontal plane and 1200 lux in the vertical plane. Lower levels are obtained by switching for volleyball and other events.

In addition a basic lighting system for cultural shows, dances etc. maintains an average horizontal illuminance of 115 lux through the use of 12 Philips QVF 411 wide-beam tungsten halogen luminaires.

Swimming pool complex

Special attention has been paid to public address systems for the main swimming pool and diving pool. Four 400W amplifiers and one 100W amplifier provide main public address systems through 36 ceiling loudspeakers and 24 loud-speaker horns mounted on the main stand.

Six of the masts provide lighting for swimming events, with 56 floodlights providing a maximum illuminance of 1100 lux in the horizontal plane and 1000 lux in the vertical for CTV coverage. These step down to 400 lux and 225 lux in the horizontal plane for competition and training respectively. A reduced 'emergency CTV' configuration makes use of 32 of the floodlights to achieve horizontal and vertical illuminances of the order 600 lux.

For diving, the separately-switched lighting installation makes use of the other two masts supplemented by illumination from two masts at the end of the main swimming pool.

For full CTV coverage, 20 floodlights achieve an average vertical illuminance of 1000-1300 lux and horizontal illuminance of 950 lux; emergency provision still

achieves 1000-1300 in the vertical plane and 700 in the horizontal.

Telecommunications with minimal maintenance

Philips Telecommunications and Data Systems offered a Sopho TBX-1000 exchange to handle the city's sports activities. This relatively low cost system accommodates up to 60 trunk lines and 400 extension lines. The reason behind the choice was the system's inherent reliability. An identical system has already proved itself over the last three years in the Riyadh International Stadium, Saudi Arabia.

Syrian technicians have meanwhile been trained to carry out routine servicing and maintenance. Three operating consoles will perform control and managing functions. A communications management system comprises a toll ticketing device that will register all costs, and print out the length of call together with the identity of the caller and the called.

A Wide Variety of Examples

Philips have established a record in sports events. Recent projects have been the Sarajevo and 1988

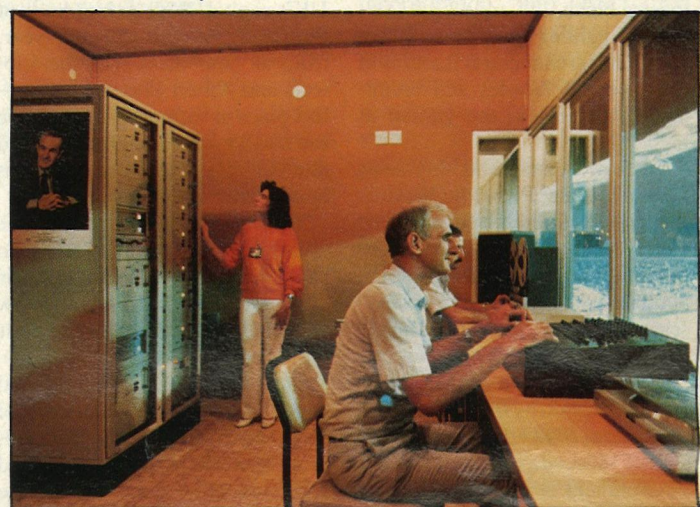
Calgary Olympic Winter Games. The 1979 Mediterranean Games in Split, Yugoslavia was an award winning project. The Ski-jump in Sarajevo won Philips an Olympic Medal of Merit from the Olympic Organising Committee.

Summer Olympic, Pan American, Asian and World Soccer Games have also been supplied with extensive Philips Light, and/or sound or telecommunications systems. Also important is the major involvement for the forthcoming 1988 summer Olympic Games in Seoul, Korea.

Lasting impressions

The Philips involvement with the Mediterranean Games is considered to be an important "visiting card" for the company. The visual, audio and communication systems have certainly contributed to the lasting impressions shared not only by spectators and television viewers but also by the athletes and the officials of the Games.

Information for this article was supplied by Philips. December 1987's front cover also shows the main stadium, Latakia.



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Lighting V&A's landscape

Landscaping and gardening at the Victoria & Albert Museum's new Pirelli Garden took eight months and cost more than £1½ million. Lighting Design Partnership reports on the lighting.

The Pirelli Garden at the V & A Museum is a formal re-landscaping of the central courtyard, the axial design of which reveals the striking north and south elevations of the quadrangle, creating a view through from the museum entrance hall on Brompton Road to the grand and richly decorated portico façade of the lecture theatre block.

The lighting accentuates the significant architectural features of these central façades and illuminates the trees in the garden at night.

The Museums and Galleries Group of the Property Services Agency commissioned Cecil Denny Highton & Partners to co-ordinate and supervise the design and construction of the new landscape within the inner quadrangle of the Victoria & Albert Museum.

The brief for the garden, which was established by the PSA in close discussion with the Victoria & Albert Museum, was to provide an environment in which there was a balance between hard and soft landscape, with ample space for the display of sculpture, the demonstration of relevant crafts, and to provide a venue for special events such as recitals, concerts and presentations. A further consideration was that the new landscape should be easy to maintain.

Douglas Childs, Principal Landscape Architect in PSA, was supported by a design team which included specialists drawn from both the public and the private sectors.

Co-ordination

The co-ordination of the project by Cecil Denny Highton & Partners presented a number of unique difficulties with the site located at the very centre of one of London's most popular museums.

The garden has always been a green oasis in the middle of the museum. PSA redesigned the courtyard to create a new, symmetrical garden on different levels with attractive York stone paving, evergreen Incense Cedars, deciduous Alders and shrubs. An amphitheatre on the north side encircles a large fountain pool.

Work started in August 1986 with the creation of a protected route through the eastern galleries of the museum, in places within inches of priceless artefacts. Through this route the contractor was to remove some 1 000 tonnes of rubble, concrete and topsoil, and then bring in all the materials including 360 tonnes of York

stone, the fountain and all the irrigation equipment. The 28 trees that now grace the garden, being less flexible, were brought in from the north entrance creating further problems of protection.

Lord Thorneycroft, chairman of Pirelli UK plc, the sponsor of the project, commented: "The Pirelli Garden will be an oasis of peace and quiet right in the centre of the UK's capital. With its hundreds of thousands of visitors each year, from all over the world, the Victoria and Albert Museum is a perfect place to support in any way we can and we are particularly pleased that Sir Roy Strong gave us this opportunity to help."

The primary light sources utilised are low voltage tungsten halogen projectors chosen for their excellent colour rendition, narrow controlled beam spreads and their dimming capabilities.

On the windows of the north and south elevations, weatherproof 12V 50W PAR 36 luminaires illuminate the deep reveals, and emphasise the mouldings of the decorative terracotta panels and columns. To avoid damaging the delicate fabric of the building with conventional fixings for the spotlights, special compression brackets were designed for each mounting position to secure the luminaires without drilling the brickwork.

The bays of the central balcony are lit in an identical fashion with 12V 50W PAR 36 luminaires mounted on the plinth of each column to 'graze' light vertically upward. Lighting equipment is concealed on the barrel vault cornice; low-voltage spotlights highlighting the circular mosaics at the rear of the balcony, and fluorescent luminaires with dimmable control gear illuminating the glazed ceramic soffits of the three barrel vaults.

Very narrow beam 12V 100W and 12V 240W tungsten-halogen projectors are mounted at roof level, and focused on the decorated pediment, the sculptures mounted on the parapet, and other friezes and architectural features on both the north and south façades.

The new landscaping is revealed at night by a series of fully recessed 300 PAR 56 well lights, softly illuminating the inner and outer circles of trees.

In order to create a flexible scheme which accommodates various garden functions, the lighting installation is linked to a micro-processor-controlled central dimming system that allows a number of lighting modes to be pre-

programmed. This is connected to a time-clock and photocell unit, which triggers changes in the flood-lighting according to daylight conditions or the time of day.

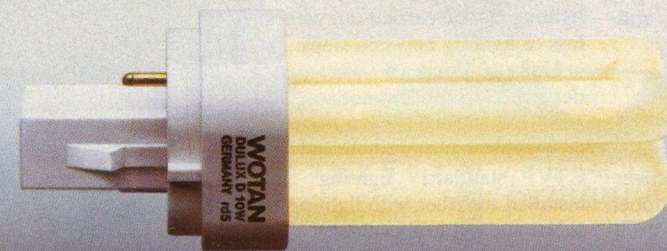
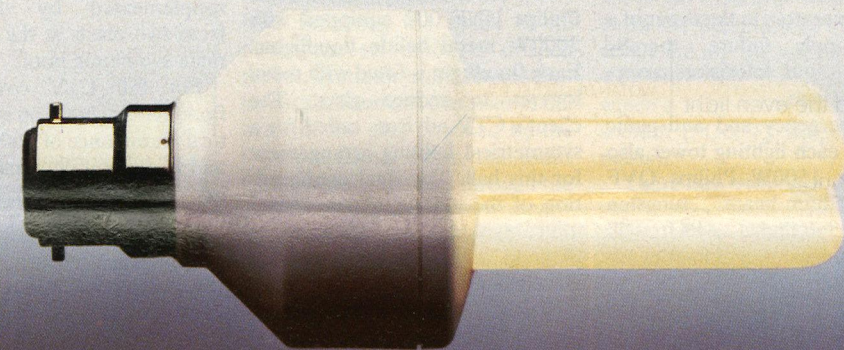
The equipment is based on the Electrosonic Sceneset memory controlled dimming system, and consists of two equipment racks housing a total of 18 plug-in dimmer modules.



Night shot of the Pirelli Garden at the V & A Museum, London.

A RAY OF LIGHT ON ENERGY COSTS:

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211

Landscape architects:
Museums & Galleries Group
Property Services Agency
Architects: Cecil Denny Highton & Partners and Museums and Galleries Group Property Services Agency
Lighting consultants: Lighting Design Partnership
Main contractor: CJ Sims Ltd
Electrical contractor: TA

Boxall Ltd
Lighting equipment suppliers:
PAR 36 luminaires: Light Projects Ltd (01-231 8282)
Tungsten-halogen projectors: LDMS Ltd (Franz Sill) (0268 755511)
Direct burial luminaires: Kim Lighting
Control system: Electrosonic Ltd (01-855 1101)

Mains signalling for lighting control

Lighting controls no longer languish as a bolt-on goodie for the building owner, but figure as an important part of the energy management system. However, mains signalling has the refurbishment advantage.

Mains signalling is the most flexible and inexpensively reconfigurable lighting control approach for new and existing buildings. Mains signalling systems eliminate the need for separate, dedicated wiring so that control schemes can be developed, extended and altered to suit the changing needs of a building,

without the high cost of rewiring.

The basic structure of a system is that of a central control signal injection unit that sends the necessary coded messages, via a building's mains supply, to be acted upon by a series of remote receivers. For the purposes of lighting control, the receivers may be mounted on walls and ceilings or fitted inside the luminaire hous-

ings. These can respond to control messages by performing on/off switching of a single fitting or whole groups of luminaires, depending on the control requirement.

This approach allows new receivers to be fitted as the control system develops and as the internal layout of the building changes with new tenants, new work pat-

terns, etc. It is also desirable to be able to change the function of the receivers so that the system can be reprogrammed inexpensively. In addition, to satisfy the need for local override of the central lighting control pattern, the system should be able to incorporate manual switching.

The generation of control signals will be in response to external stimulus, such as ambient light level sensors and work timetables. As control messages are transmitted over a common 'bus' (the mains wiring), each receiver must have an individual address. This allows the controller to operate receivers by sending address codes before each control message, ensuring that only the required receivers respond to that message.

The use of mains signalling is not new but, until recently, there have been no industry standards set. To overcome this, UK mains signalling manufacturers have formed the BIMSA (BEAMA Interactive and Mains System Association) and drafted BS6839 Part 1: Mains Signalling Systems. It is vital that standards are set to ensure that systems are compatible with each other, with sensitive



Blue Circle's high-tech uplit office, Aldermaston, is mains-controlled.

equipment connected to the supply, such as computers and delicate instrumentation, and do not interfere with the mains supply itself.

There are a number of alternative methods of sending control signals over mains supply cables. These include (a) ripple control — where an audio frequency control signal is superimposed on the 50Hz mains supply waveform; (b) deformation of the 50Hz waveform — a method in which digital, on-off information is encoded on the mains supply; and (c) VLF (very low frequency) signalling. This latter method is used by the majority of commercial mains signalling manufacturers.

ECS Conservation Systems Ltd, a specialist in energy-effective lighting control, looked at all of the available methods before finally selecting the VLF system as the basis for future development. The result is its own R&D work is a system utilising a 'common-mode' approach. This induces the control messages into the line and neutral cables simultaneously and this is arranged so that no voltage can be detected between the two lines. Similarly, in three-phase systems, no control signal is apparent between line/line cables.

It is estimated that there are over 400 UK lighting control installations now using mains signalling, the majority of which use common-mode mains signalling. The common-mode system has been developed and patented by ECS Energy Conservation Systems Ltd. is used mainly for dedicated lighting control applications. Its commercial system, called ECS7000, won the company a Queen's Award For Technology in 1986.

Figure 1 shows a range of configurations for the ECS common-mode mains signalling system.

Equipment connected to the supply can not detect the control signal voltage, thus eliminating the possibility of interference. The control signal is also detectable on the supply side of the injection point, so that expensive filters are not required.

The ECS system enables a controlled area to be divided and subdivided into control zones, with a hierarchical system of multiple injectors, each feeding a separate sub-circuit, without the possibility of cross-interference. Multi-tenanted buildings can make good use of this fact, with each area using its own controller and injector without difficulty.

One way of ensuring flexibility once receivers have been installed is to use replaceable decoding modules. With the ECS7000

system, each receiver unit accepts decoding plug-in units that reconfigure the function of a receiver easily and with perfect safety. This means that reconfiguration of existing receivers incurs no additional wiring costs, just the replacement of the module.

Various options allow for off-only switching, on/off control and will respond to up to 16 different control channels. This offers a high degree of optimisation of the lighting scheme to take into account ambient lighting, various time patterns throughout the building, architectural and other requirements.

Such a system is also ideal for incorporation into BMS/EMS systems to give integrated control, making use of existing lighting equipment. In particular, common-mode mains signalling systems are an ideal adjunct to uplighting schemes, giving equal flexibility for altering internal layouts, from open-plan to sectionalised floor plans.

This approach provides an excellent lighting 'core' to new building projects, where the space is to be let to unknown tenants who will perform their own internal design and fitting-out. The flexibility of mains signalling means that virtually any lighting requirement can be met by inserting the appropriate plug-in decoder unit and programming the controller to send the necessary time and solar-related signals.

Such a system is readily accepted by occupants because ultimate control of the lighting in their area is their responsibility, by way of local override controls — pull cords, wall switches or infrared remote switches.

Even with this degree of user autonomy, the potential energy savings are considerable, since the system will still switch lights off automatically when they are not required. In a typical building this eliminates a large amount of wasted lighting energy. The cost benefits of installing mains signalling lighting controls are, invariably, quite significant. Energy efficient lighting control schemes have given a return on investment from one to three years, purely on the energy savings.

However, there are additional benefits in terms of reduced installation costs and building flexibility. It is difficult to quantify the cost savings but they are substantial, when related to future changes in the working space and the inevitable need for reconfiguration of the lighting scheme.

Information for this article was supplied by ECS Energy Conservation Systems, 01-751 6154.

WOTAN DULUX®

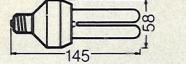
The energy-saving WOTAN DULUX® EL.

With the E27 or B22d base the WOTAN DULUX® EL fits all normal lampholders.

It has a similar warm appearance and the even light distribution of conventional incandescent lamps, but uses only 20% of the power and lasts six times as long.

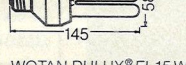
The integral electronic ballast of WOTAN DULUX® EL ensures instant flicker-free start, and radio interference is fully suppressed.

WOTAN DULUX® EL 7 W



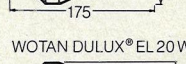
7 W = 400 Lumen = 40 W

WOTAN DULUX® EL 11 W



11 W = 600 Lumen = 60 W

WOTAN DULUX® EL 15 W



15 W = 900 Lumen = 75 W

WOTAN DULUX® EL 20 W



20 W = 1200 Lumen = 100 W

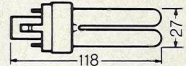
The energy-saving WOTAN DULUX® D.

The WOTAN DULUX® D combines the economy of a fluorescent lamp with the convenient size of an incandescent lamp.

Yet it is one third the width of incandescents, has five times the lamp life and uses 80% less power.

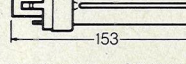
It also generates less heat and is ideal for downlighters. It is single based with an integral starter.

WOTAN DULUX® D 10 W



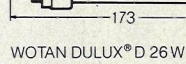
10 W = 600 Lumen = 60 W

WOTAN DULUX® D 13 W



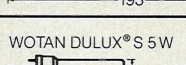
13 W = 900 Lumen = 75 W

WOTAN DULUX® D 18 W



18 W = 1200 Lumen = 100 W

WOTAN DULUX® D 26 W



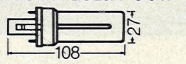
26 W = 1800 Lumen = 2 x 75 W

The energy-saving WOTAN DULUX® S.

This uses 80% less power than an equivalent incandescent lamp, and has an average life of 5000 hours.

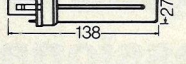
The WOTAN DULUX® S single based lamp with integral starter is easily installed because suitable ballasts are readily available.

WOTAN DULUX® S 5 W



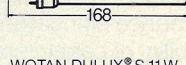
5 W = 250 Lumen = 25 W

WOTAN DULUX® S 7 W



7 W = 400 Lumen = 40 W

WOTAN DULUX® S 9 W



9 W = 600 Lumen = 60 W

WOTAN DULUX® S 11 W



11 W = 900 Lumen = 75 W

The compact fluorescent WOTAN DULUX® L.

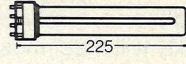
The same lumen package as conventional fluorescent lamps of equal wattage, but approximately two thirds shorter in length — that is the WOTAN DULUX® L.

This compactness gives architects, lighting designers and planners more space to design with light.

WOTAN DULUX® L is available in three colour appearances: 21 MAXILUX® White; 31 MAXILUX® Warm White and 41 MAXILUX® INTERNA with very good colour rendering.

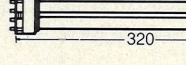
With a single 4-pin base, the WOTAN DULUX® L is suitable for conventional as well as electronic HF ballasts.

WOTAN DULUX® L 18 W



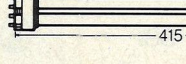
18 W = 1200 Lumen

WOTAN DULUX® L 24 W



24 W = 1800 Lumen

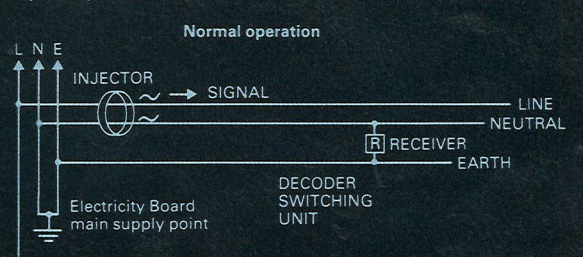
WOTAN DULUX® L 36 W



36 W = 2900 Lumen

WOTAN

Operating Principles



Schematic of mains signals injection system.

Renaming the lamp types

Lamp type classification is poised for a revamp, as the International Electrotechnical Commission proposes a new system. Here is an outline of the suggested abbreviations.

Lamps by catalogue names, lamps by numbers — what a confusion — how can I assess the suitability of replacements? What do all the numbers mean?

At long last there is (save the pun) light at the end of the tunnel. International Electrotechnical Commission (IEC) 34 have been working on a workable lamps classification for some time and the German delegation have now made a worthwhile proposal (in English) which is logical, understandable and metric.

Gone are the numbers of eighths of an inch in the diameter (a Par has 38/8 inches = 4 3/4 inches diameter, a T8 tube is 8/8 = 1 inch diameter) and in come the millimeters (the T8 tube becomes T26). This is prefixed by the type

| A. Classification of lighting products, 7 groups of light emitting systems | |
|--|------|
| 1. Incandescent | = I |
| 2. Incandescent, Quartz | = IQ |
| 3. High pressure Mercury | = HM |
| 4. High pressure Iodide | = HI |
| 5. High pressure Sodium | = HS |
| 6. Low pressure Mercury | = LM |
| 7. Low pressure Sodium | = LS |

B. Nomenclature for Glass Bulbs, similar to the draft IEC 34A (Sec) 236

| | |
|-----------------------------------|-------|
| 1. A lamp (All use) | = A |
| 2. Candle-lamp | = C |
| 3. Conical form | = CO |
| 4. Drop form | = D |
| 5. Elliptical form | = E |
| 6. Elliptical Reflector | = ER |
| 7. Globe-lamp | = G |
| 8. Line-lamp | = L |
| 9. Mushroom-lamp | = M |
| 10. Parabolic Aluminium Reflector | = PAR |
| 11. Reflector lamp | = R |
| 12. Tubular lamp | = T |
| 13. Tubular Compact lamp | = TC |

This listing should be suited to the actual sales program of lamps manufacturers.

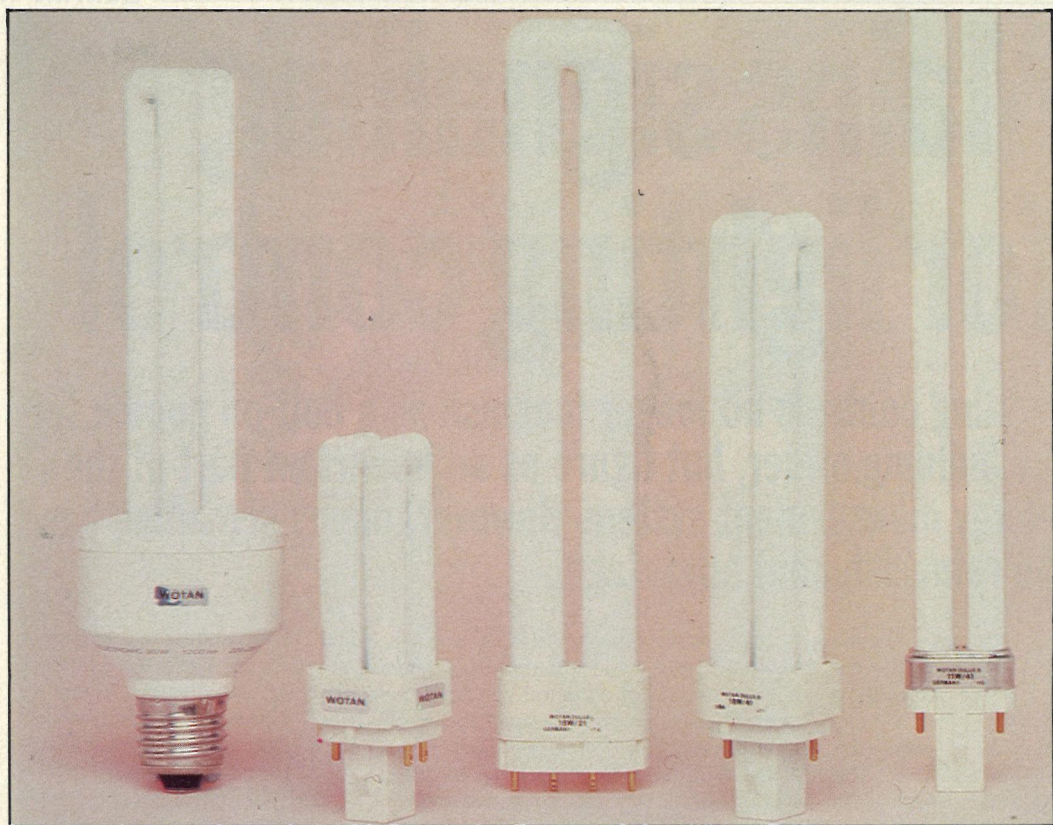
of lamps and its form (E = elliptical, T = tubular). These facts with the lamp base and of course its voltage and wattage, completely describe the lamp.

This concise description, coupled with the fact that all alphabetical symbols refer to English, should make this classification a joy to use.

Information for this article was supplied in the first place by Erco Lighting 01-408 0320.

D-lamps: the new phrase for compact fluorescents?

Tungsten-halogen lamps: what do we call these?



C. A further characteristic for the lamp designation could be the special construction as follows:

| | |
|-----|--|
| CB | = Cool Beam |
| CG | = Crown Golden |
| CS | = Crown Silver |
| D | = Double tube compact lamp |
| DD | = Thorn Double-D compact lamp |
| DE | = Double Ended |
| E | = Exchange, use for direct replacement for mercury lamps by sodium |
| g | = Gold |
| L | = Long compact lamp |
| R | = T-lamp, Ringformed |
| RG | = Ringform Golden |
| RE | = Reflector coated T-lamp |
| RS | = Ringform Silver |
| s | = Silver |
| SB | = Self Ballasted |
| SBR | = Self Ballasted Ringform |
| TE | = Temperatureproof (i.e. oven) |
| U | = T-lamp, U-formed |
| Us | = U-form, T-lamp, Shortened |

This listing should be suited to the actual sales program of lamps manufacturers.

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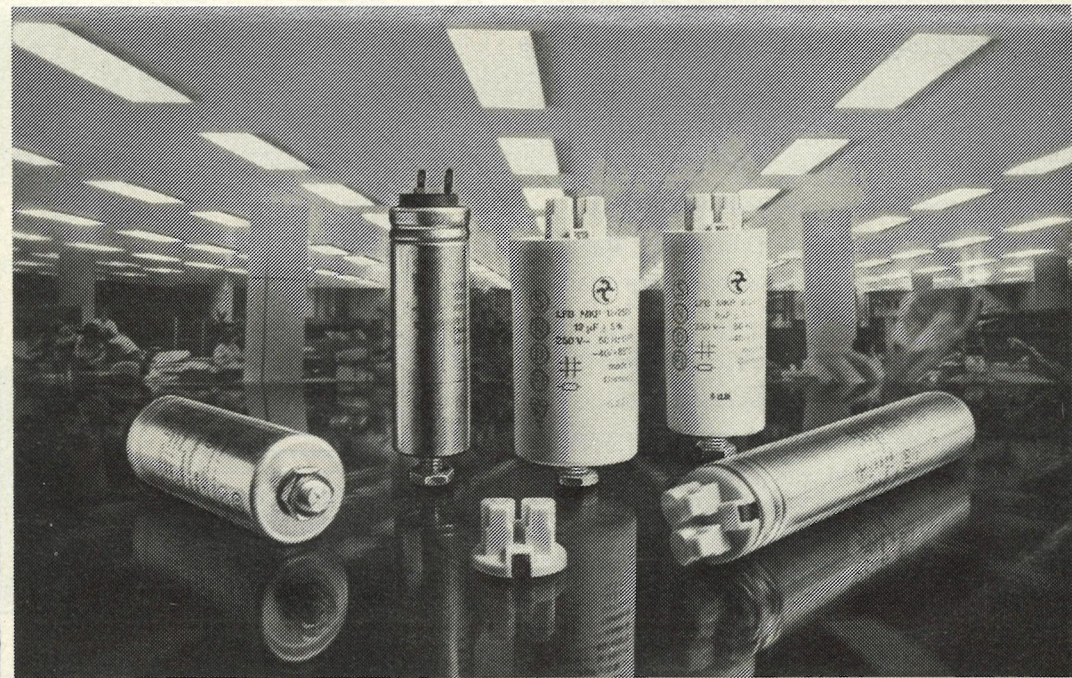
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Page 16



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Reader Service No. 16

Being best by being basic

Incandescent lamps, including the tungsten-halogen variety, work on a satisfyingly basic principal. Heat a piece of metal to white heat, and use the light to raise the darkness. Tungsten is the metal commonly chosen, since it has a high melting point and has little tendency to evaporate at high temperatures.

The diagram illustrates a standardised tungsten lamp. The filament is usually coiled or a coiled coil. Inside the lamp is a fuse, to protect the external circuits, since a short (rather than open) circuit is a common result of lamp failure.

The glass envelope (bulb) comes in three basic finishes: clear, acid etched, or internally coated. The range has been extended by Satin-type lamps (electrostatically coated lamps). The gas filling is usually at about 1 atmosphere, or just lower. A typical gas filling is 90% argon, 10% nitrogen.

The PAR lamps fall into the incandescent lamps category. The principal differences are that the interior of the bulb is silvered (in fact it is usually vacuum-deposited aluminium), and the bulb shape is altered to form a section of a parabola, with the filament at its focus. This gives considerably better beam control, and the principle is applied to a series of lamp wattages. PAR lamps are described by numbers, eg PAR 38. The number refers to eighths of an inch diameter of the lens face; PAR 38 is therefore 4½ inches.

Sealed beam lamps are made along similar lines, though the construction process varies slightly. The aim is to provide a lamp type with greater accuracy in placing the filament at the focus of the reflector.

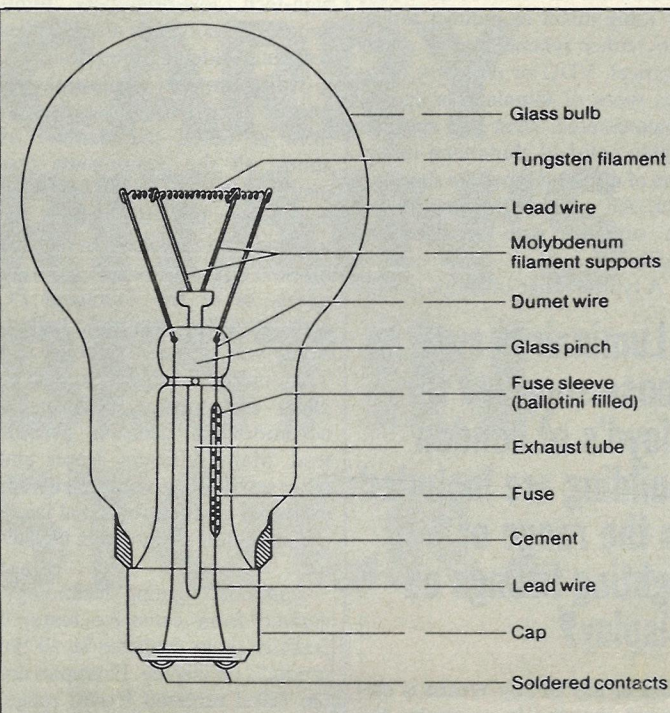
Crown-silvered lamps are essentially standard gls lamps with the foremost hemisphere silvered on the inside. With a suitable reflector, these lamps can perform similar tasks to the PAR or sealed beam types.

Ordinary coiled coil general lighting service lamps have an efficacy of about 13 lumens per watt, though this varies depending on the type and the wattage rating. About 75% of the energy supplied to the lamp is used up as heat (infra-red) instead of producing visible light; about 20% is lost through convection and ultra-violet radiation. Therefore about 5% of the energy in comes out as visible light. Higher power lamps are able to improve on this figure, lower power lamps are worse.

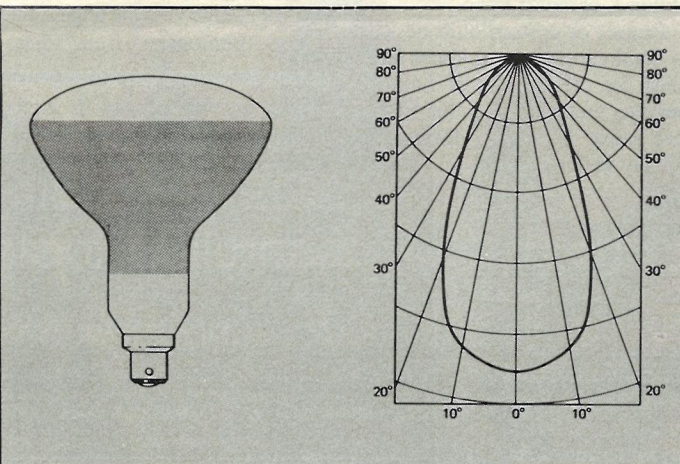
The incandescent lamp, in its general lighting service guise, has taken battering over the past decade from new light sources. Nevertheless, there is life in the old dog yet.

General lighting service incandescent filament lamps
240 — design life 3000h
Lumens

| Rating (watts) | Initial | Lighting design | Class | Bulb finish | Cap |
|----------------|---------|-----------------|-------------|--------------------|-------------|
| 40 | 375 | 355 | | | |
| 60 | 630 | 595 | Coiled coil | Internally frosted | B22/25 x 26 |
| 100 | 1220 | 1160 | | | |
| 150 | 1960 | 1860 | | | |

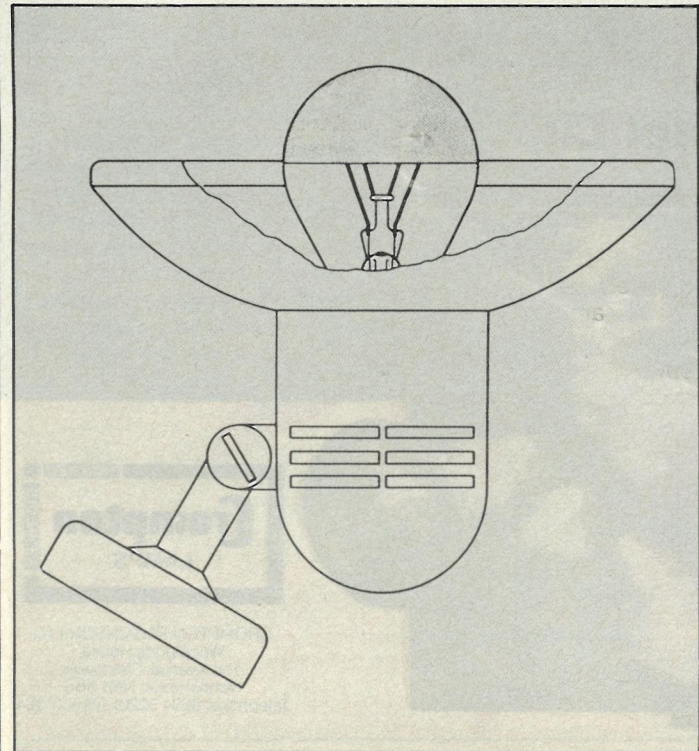


A standardised general lighting service lamp, construction detail.



PAR lamps and a typical polar curve, showing the directional nature of the light output.

Crown silvered lamps are best used with a reflector, providing good beam control.



Lamp type and lumen output for incandescent filament lamps.

General lighting service incandescent filament lamps
240V — design life 1000h
Lumens

| Rating (watts) | Initial | Lighting design | Class | Bulb finish | Cap |
|----------------|---------|-----------------|-------------|--------------------|-------------|
| 40 | 420 | 400 | | | |
| 60 | 710 | 675 | Coiled coil | Internally frosted | B22/25 x 26 |
| 100 | 1360 | 1290 | | | |
| 150 | 2180 | 2070 | | | |
| 40 | 340 | 320 | | | |
| 60 | 610 | 575 | Single coil | Internally frosted | B22/25 x 26 |
| 100 | 1230 | 1160 | | | |
| 150 | 2060 | 1950 | | | |
| 200 | 2880 | 2730 | | | E27/27 |
| 300 | 4550 | 4300 | Single coil | | E40/45 |
| 500 | 8200 | 7700 | | | |

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Electrosonic have set the standards in sophisticated 'scene set' architectural lighting control. Now, we offer a choice of two systems to meet every lighting requirement.

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Now, Electrosonic have brought the benefit of scene-setting into the smaller retail and leisure installation. System 12 provides 128 scene memory control on 12 dimmer channels. All these features packaged in a compact wall-mounted unit which is readily available for quick delivery and installation from your local stockist.

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Attracting lighting applications

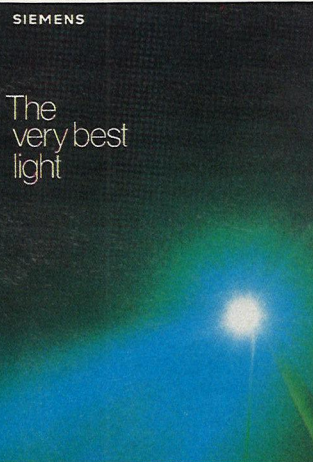
Lighting manufacturers are moving away from static showrooms, towards lighting applications centres, where new fittings and new combinations of fittings can be shown to best advantage. The aim is to attract specifiers to try the lighting at first hand.

Siemens at Sunbury centre

Siemens, the German giant, has a relatively small lighting presence in the UK. As a start, it has opened its lighting application centre at Sunbury. The room is fitted

with ceilings of several different heights, and has coloured curtains, blinds and a perspective mirror.

The aim is to set up a Siemens lighting installation and then allow the specifier to check to see if



Siemens: Sunbury presence

reality matches the conception.

A representative range of Siemens' interior luminaires using fluorescent lamps are built into the ceiling of a special demonstration room. These working units are complemented by a series of display panels showing aspects of electronic control, VDU and daylight, Wotan lamps and daylight systems.

The luminaires are operated by an infra-red 'Infrafern' remote control system that enables each light source to be switched remotely from any position in the room.

Standard luminaires on show include type BS900 office lighting system which is the latest state-of-the-art regarding both design and performance. Architects appreciate the numerous layout patterns possible with these surface- and flush-mounted luminaires. Star, triangular, square, pentagonal and composite patterns are pos-

sible with the aid of a range of shaped connection pieces. As well as standard luminaires the new modular range type CS300, available as for example 3 x 3 cells (2-11W) or 5 x 5 cells (3-36W) etc suitable for compact (Dulux) lamps, is also on show at the LAC with a darklight reflector.

Special environments, particularly those involving prolonged use of visual displays, require controlled angles of light which prevent glare and reflections.

Lighting designers are required to offer direct and indirect lighting designs for different environments. In particular the ever-increasing use of visual display units — VDUs — requires cut-off angles of 60 degrees — this is known as 'darklight' or even better 50 degrees — this is known as 'VDU light'. Both of these alternatives are on show at the LAC; by using direct or indirect reflectors, either symmetrical or asymmetrical, VDU or darklight, various types of illumination can be demonstrated. Matt and specular highly polished aluminium reflectors of different types are shown in situ. All recessed luminaires can be supplied with air handling facilities.

A typical range of lamps as sup-

Luminaires such as those supplied for Lloyd's of London building are included in the range of lighting fittings on display

plied in the UK by Wotan is displayed showing in particular the new long-life high-efficiency Dulux-L compact lamp.

Project or custom-built designs of luminaires such as those supplied for the Lloyd's of London building are included in the extensive range of lighting fittings on display at the LAC.

To demonstrate the different starting systems, standard switched start can be compared to electronic switched start and the new electronic control gear (ECG) that operates at a higher efficiency from a 30kHz solid-state control unit. A 'Sikrypt' dimming display for fluorescent lamps is on display.

The LAC is part of the facilities

Zumtobel, based in Hayes

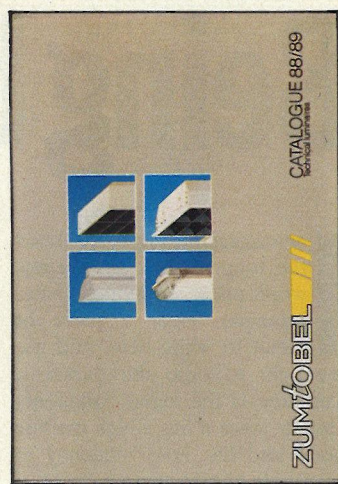
Zumtobel Aktiengesellschaft, to give them the full treatment, is an Austrian company with a turnover of £100 million; like Siemens, it has a small UK presence.

The new demonstration centre aims to change that. Zumtobel products were formerly sold in the UK under the Visolite brand name by BBI Lighting, and latterly Concord Lighting has acted as agent. The products, therefore may be familiar although the name might be new.

The Austrian parent company is one of the few which has a post-anodising plant, which produces the specular finish for low-brightness louvres. The products range from ballasts (all varieties) to high-tech low-brightness luminaires. The company also supplies computer-aided lighting design.

The Zumtobel philosophy is one of product quality derived from in house manufacture of almost all the components that make up a luminaire. Zumtobel ballasts are used throughout the world, and are available in regular, low loss or super low loss configuration, or as the Zumtobel PC high frequency electronic ballast. All louvres are made in-house and with sophisticated post-anodising plant; a consistent high-quality non-iridescent finish is guaranteed. Many diffusers, lenses and other small plastic components are produced on the substantial injection moulding plant within the factory.

Zumtobel lighting technology, derived from extensive research facilities, is in evidence in all the products on display. Examples are the Mirel recessed louvre range, which features Bivergence reflector profiles for accurate luminance control at high viewing angles, and variable photometry from adjust-



Zumtobel: Austrian invasion

able lamp positions to give wide, narrow or asymmetric distributions. The Mirel range has five different louvre options to suit all needs and is matched by the Mirel surface range of louvre products.

Technology however is combined with style and Zumtobel designers attend to overall appearance as well as minor detail, such as minimal flange widths and hidden louvre retention devices. Many Zumtobel products such as the Scopelite vanity luminaire, the TOP11 task light, the PRO system wall-washer and the ID uplight range are original in appearance, yet photometric performance is claimed to be exceptional.

Zumtobel Lighting Limited has two senior project engineers servicing the specification trade in the south east, and showroom warehouse facilities at Hayes. Also at Hayes there is a facility which enables lighting application computer predictions on a sophisticated software package, which is available for sale.

Zumtobel Lighting Limited is concentrating initially on the technical lighting market in the south east and will expand to other regions in the future.

For more information on Zumtobel contact Grant Daniels, 01-573 3556.

offered by the Energy & Automation Group of Siemens Ltd. In this group an installation products & systems division has been active for many years particularly in interior lighting.

The lighting application information offered by Siemens' lighting specialists includes product information with comprehensive technical data, light distribution curves, utilisation and glare limitation patterns. Computer programs are available to assist lighting

designers working on major projects. These show light distribution curves for a specific interior design.

The latest ideas and equipment available in the important area of daylight systems is also covered at the LAC with a range of prism glass units and information on louvered systems for daylight reflection.

For further information, telephone Siemens 0932 785691.

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A graduate, or high calibre HNC/HND, probably at least 25 and almost certainly with additional business or professional qualifications, you'll be noted for a strong personality, and organised approach and the ability to motivate others at all levels.

This is a challenging, demanding but highly satisfying post with considerable further career opportunities and an excellent salary and benefits package including a company car.

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Rod Smith, Personnel Manager
Thorn Lighting, 284 Southbury Road
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Telephone: 01-363 5353, ext 2101 or 2925.

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Architectural Dimming and Control Systems — London

Expansion plans by Strand Lighting Limited — World leaders in lighting for entertainment — have created an opportunity for a Sales Engineer to sell Strands Environ range of dimming and control systems in the London area.

Applicants should ideally have experience in the lighting industry and in dealing with architects, consulting engineers, designers and electrical contractors. The successful candidate will be self-motivating, possess drive and enthusiasm and good communication skills.

Remuneration will include an attractive salary package according to age and experience, car and benefits associated with a major company. The position will report to Strand Lighting's new European Headquarters in West London.

Please write with full CV to:
Mr R G Whittet
Strand Lighting Ltd
Grant Way (off Syon Lane)
Isleworth, Middlesex TW7 5QD


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Annual Tender 1988/89

Supply of Street Lighting Electrical Equipment

Applications are invited for the supply of Street Lighting Electrical Equipment (including discharge lamps, lanterns, bowls, capacitors and photo-electric cells) during the twelve month period commencing 1st April 1988.

Successful 1987 suppliers will be sent documents automatically but all others should make written applications, quoting Ref. No. 9043 and enclosing an A4 size, self addressed envelope, stamped to the value of £0.40p to the Technical Services Secretary, Sidcup Place, Sidcup, Kent DA14 6BT by not later than 15th January 1988.

It is anticipated that the tender documents will be sent out by the end of January 1988.

LIGHTING SALES

Experienced internal and external sales personnel required for progressive lighting distributor.

Reply in first instance with your career history to:

Box No 1440

Lighting Equipment News
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We offer a competitive salary together with a quarterly bonus and other benefits which include a company car, 5 weeks holiday, pension scheme etc.

Telephone for an application form or write, with details of relevant experience to:

Mrs. S. Folkard, Personnel Department

Marlin Lighting Limited
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Hitech

L I G H T I N G

To support our ambitious programmes for both standard and special lighting products we are expanding our Design and Technical Department and wish to recruit the following staff:

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Applicants for these positions must be experienced, self motivated and innovative. Salaries will be commensurate with the importance we place on the design and technical functions. Please apply in writing giving comprehensive details of age, qualifications and experience to Colin Moore-Fay, Technical Controller.

Hitech Lighting plc

Tower House, Lea Valley Trading Estate,
Edmonton, London N18 3HR



Designed Architectural Lighting, a progressive company require a detail draughtsperson to join an experienced team in the development of a wide range of architectural luminaires.

The successful applicant must be able to produce accurate working drawings from an initial design brief and liaise with suppliers during the development of a product.

A attractive salary commensurate with the appointment is offered.

Contact: **C. Short**
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Please contact: **Alan Maxwell**
Technical Manager, RADA Lighting Ltd
Hollies Way, High Street, Potters Bar
Herts EN6 5BH Tel: 0707 43401

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Apply with full CV etc to Box No 1439

Lighting Equipment News

Maclean Hunter Ltd

Maclean Hunter House

Chalk Lane, Cockfosters Road

Barnet, Herts EN4 0BU

Drawing Office Manager-elect

Are you a luminaire designer with the flair and experience to lead our drawing office team with imagination and authority?

Able to contribute effectively to client meetings, and produce practical solutions in conjunction with our production department?

If you are, please contact us now.

We are a leading manufacturer of commercial lighting and a specialist in purpose-made luminaires and lighting systems.

We require a first class designer to join us now and work toward managing our drawing office shortly. You must have experience in luminaire design, at least an HNC in mechanical engineering and be familiar with sheet metal fabrication and CNC machining.

Please send your CV to:

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Work will be varied and the ability to interpret specifications and produce lighting layouts is an essential part of this interesting position.

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Anyone who feels they meet all the above criteria, and who is based close to one of the major Northern cities, ie Birmingham, Leeds, Manchester etc, should contact:

MAGGIE TURNER, Personnel Officer, Linolite Limited, Tetbury Hill, Malmesbury, Wilts SN16 9JX. Telephone (0666) 822001 Ext 305.



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I have a young, rapidly expanding company which manufactures and imports high quality decorative furniture, lighting and accessories. I am an innovator. This company has an expanding and unique range of products with tremendous potential for development both in UK and export markets. I am now seeking a **Sales and Marketing Director** to join a young team of Managing and Financial Directors, who, together, will be responsible for the continuing expansion of the company, and to share in the rewards so created.

The person I seek will have the following attributes:

- Experience in the interior design, lighting or related industries.
- Be hard working and capable of managing and motivating our existing sales team.
- Be an enthusiastic sales person with a good knowledge of UK and export markets.
- Have existing contacts with major buyers and specifiers.
- Be able to show a solid grounding in marketing techniques.
- Be capable of managing all aspects of the company's sales and promotional activities.
- Have experience of both UK and overseas fairs and exhibitions.

Terms of employment and remuneration will be by negotiation, but it is envisaged that the successful candidate will, having become an accepted member of the team, participate substantially in the equity of the company. Our objectives are continued expansion to provide both increasing rewards and a longer term capital appreciation.

All replies will be treated in the strictest confidence.

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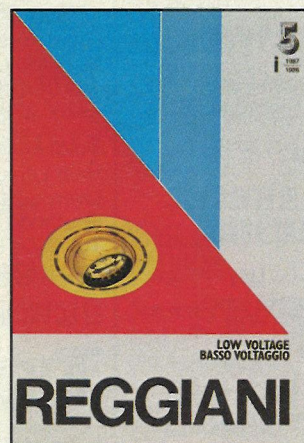
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CATALOGUE DIRECTORY



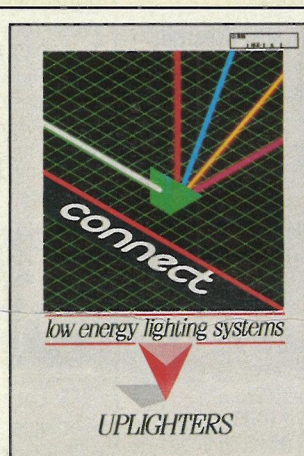
REGGIANI
A new brochure describing the low-voltage range in colour. Gives details of the entire range of low-voltage fittings, from ceiling fittings (recessed and surface), to free-standing floor spots. Includes technical and electrical information for lighting designers.
Reggiani: circle 255



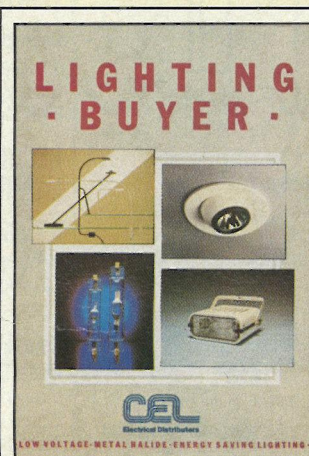
Boone Systems Ltd: lighting products. A range of fluorescent luminaires for the home, fitted kitchen, bedroom; units for offices, shops and other commercial interiors.
Boone Systems Ltd: circle 251



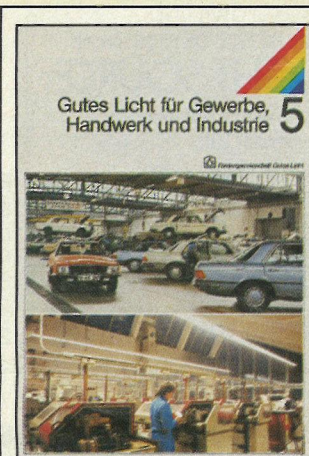
Martingale Technical Systems Ltd: A new brochure illustrating the range of integrated ceiling systems, including design services, integrated power cabling systems, lighting and air conditioning. Intended for shops, offices and general commercial interiors.
Martingale Technical Systems Ltd: circle 252



Connect Lighting Systems Ltd: A catalogue of Connect's low-energy uplighting systems. Gives details of lamp types, construction and final appearance on site. Light sources include compact fluorescent and metal halides.
Connect Lighting Systems Ltd: circle 253



CEL Electrical Distributors: CEL distributes a range of lighting products from other manufacturers, and this catalogue details the principal makes. It also gives information on the installation of each type of luminaire, and how they look when installed.
CEL Electrical Distributors: circle 254



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 Equipments 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 £120 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, Ex. 1154.

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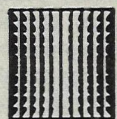
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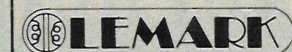
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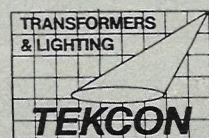
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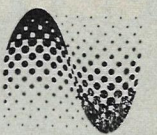
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National Lighting Conference 1988

Brochures are available for the CIBSE 1988 National Lighting Conference, returning to the popular Robinson College, Cambridge, from 27-30 March.

The event begins on Sunday afternoon with a pre-conference international session to be followed by a buffet supper and a lighthearted talk by Dr Arthur Tarrant.

The conference will be formally opened by Michael Frye, CIBSE Lighting Division Chairman, on the morning of Monday 28 March. The first two days will concentrate on mainstream lighting including: computer aids to lighting design; an exhibition of new developments; a poster session; light sources and luminance developments in metal halide; human

response to lighting and lighting for the theatre, roads, airfields, shopping and safety.

On Wednesday 30 March there will be a whole day dedicated to daylighting with sessions on case studies; museums and galleries; day light availability; theory and recent developments, plus an international poster session.

There will be special events each evening, the Lighting Division Chairmen's reception on Monday, a Victorian evening at Girton College on Tuesday and a lighting dinner Wednesday.

For further details or brochures contact the Member Services Department at CIBSE, Delta House, 222 Balham High Road, London SW12 9BS. Telephone 01 675 5211.



INSET: Before refurbishment at the internal reception area at CCA Micro Rentals in West London. MAIN PICTURE: After the refurb was completed. Low-voltage lighting has transformed the job. Contact Abucon, London.

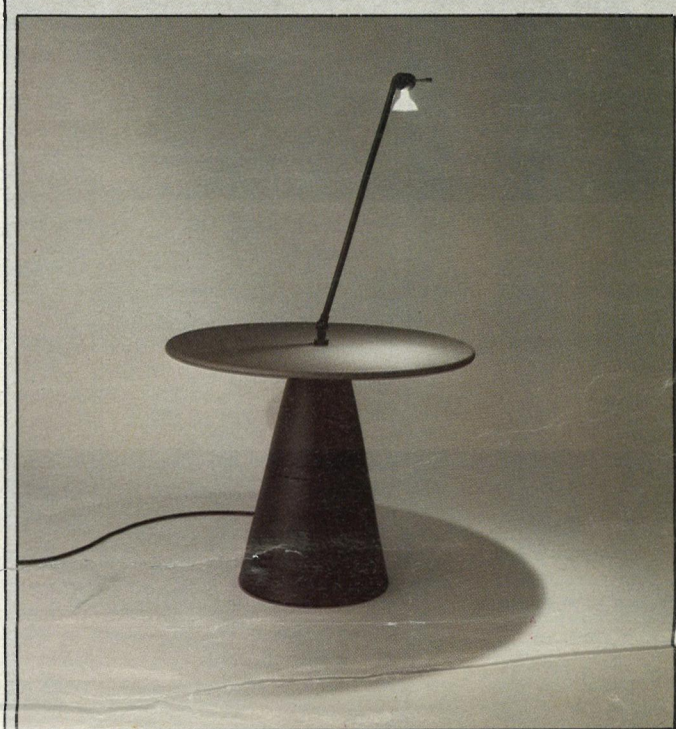
Federation issues high-frequency guidance

The Lighting Industry Federation has issued guidance notes on the benefits of high-frequency lighting.

The advantages listed include: instant start, absence of flicker, energy savings. The notes are published under the title "Guidance notes on high frequency ballasts for tubular fluorescent lamps." It is aimed at specifiers, and has the following headings: applications, new luminaires/retrofit, lamp compatibility and performance, quality and reliability, installation and, maintenance, which includes a section of radio frequency interference and electromagnetic interference.

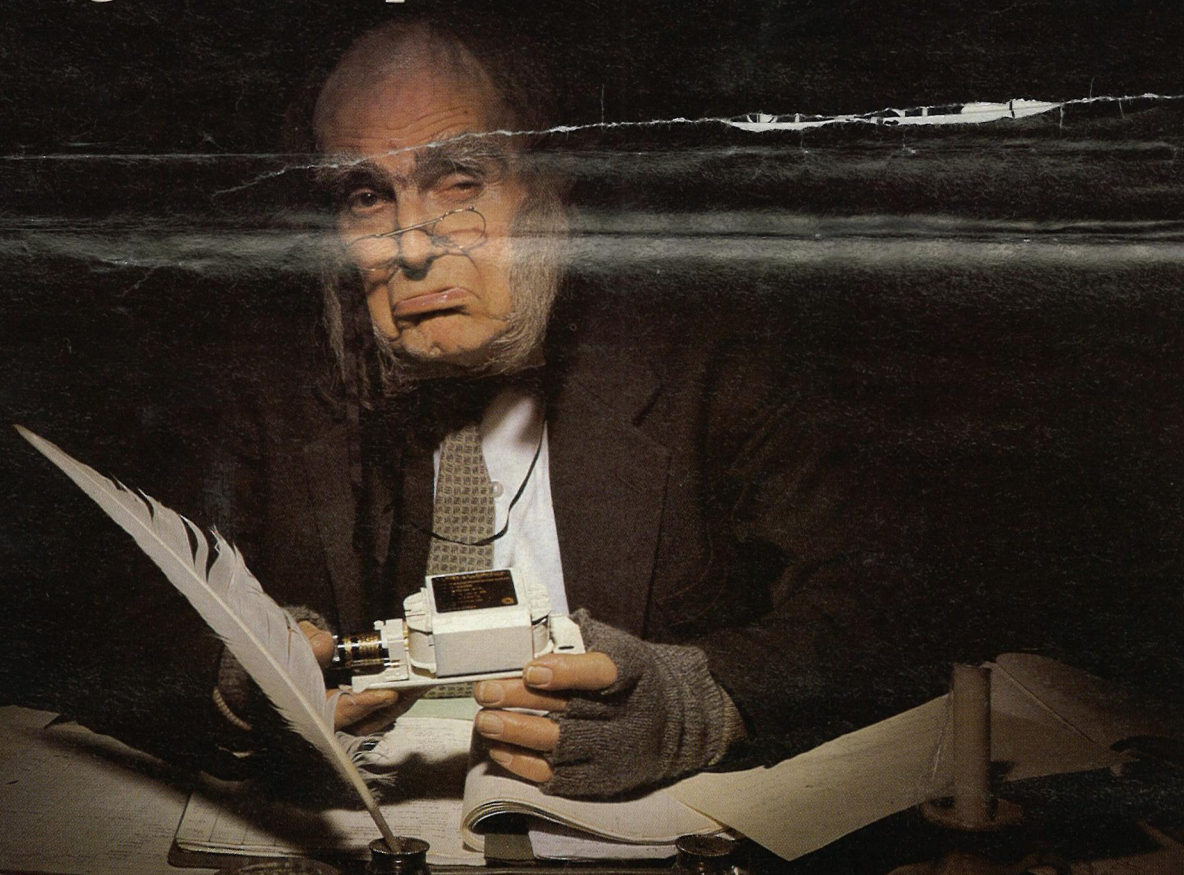
LIF says it is confident that reference to the notes will ensure that any problems that could arise through incorrect installation use of incompatible equipment or poor-quality ballasts will be avoided.

Further details and copies (price £7.50), from LIF, 207 Balham High Road, London SW17 7BQ, 01-675 5432.



Terence Woodgate, designer of furniture (among others), has plumped for Marlin's Modupoint range of low-voltage lighting as part of a range of tables. The 240V/12V transformers are housed in the table bases. The Modupoint luminaires are plug-in-plug-out (if that makes sense), and so the lighting can be swapped if desired. Further details from Marlin Lighting 01-894 5522 or Terence Woodgate 021-241 2677.

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Challenge from Hackney inspires CIBSE

Dr Rod Hackney, president of the Royal Institute of British Architects, challenged the building industry to tap the resource of human endeavour among the unemployed when he presented the 1987 Bernard Hodges Celebrity Lecture entitled *The Inner Cities* to members of the Chartered Institution of Building Services Engineers London and South East Region.

Dr Hackney urges professionals to use their skills in wider spheres by working in partnership with the people who will be living in the homes of the future.

The RIBA president sees ordinary people as a resource of far greater value than North Sea Oil or British coal and that making them part of the solution rather than part of the problem in inner cities brings extremely profitable results for all those involved.

Dr Hackney's radical speech inspired many members of the audience with its fervour and enthusiasm. He cited several examples of successful 'self-build' schemes and provided informative and entertaining answers to the many questions from the floor.

His challenge to politicians, financial institutions and the building industry is to involve inner city communities in a partnership of enterprise and endeavour, communities which, according to Dr Hackney, are waiting to be given the call and the message that they must play their part.

IN YOUR NEXT ISSUE

The February issue of *Lighting Equipment News* will include a supplement on the lighting companies exhibiting at Electrex.

Similar in format to the *Light-show* edition in this issue of *LEN*, we shall be looking at the stories breaking at the show, the sensible specifier's guide to making the visit worthwhile, and an exhibition plan picking out the lighting companies.

The features in the February issue of *LEN* will look at building types, lighting techniques and light sources. We will consider the way hotels are put together, their lighting

needs and special demands. Quite separately, we shall examine the lighting techniques of signage. Architectural signage is becoming increasingly important (witness the Docklands Light Railway controversy), and lighting has a major role to play.

We will look at tungsten-halogen lamp technology as part of a regular review of lamps and light sources. Forthcoming lighting technology pages will consider mercury-tungsten, tubular fluorescent and mercury fluorescent lamps, among others.



LIGHT SHOW '88

LIGHTING
EQUIPMENT NEWS

Exhibition Pull-Out!



Ceramics keep up with the times

A number of companies are showing new ceramic ranges in current fashion trends.

English Country Pottery, a new-comer to Lightshow, has wall mounted uplights with an elegant crackle finish and using linear tungsten halogen lamps. Matching table lamp bases are available.

Camargue, very modern and stylish bases, are also being shown on stand 8. English Country Pottery says these show the way fashion will move in the next few years.

Cresswell Shades, on stand 137, is displaying a ceramic wall uplight called Olympia. The white version can be painted to match interior design schemes. It uses a 60W GLS lamp. Two other uplights for wall mounting are called Plaza and Lemnos.

Isis and Rameses are new furnishing table lamps from Cresswell in a two tone effect in magnolia, grey and apricot; their coolie

shades are made from matching cottonette.

Lakeland Lighting designs and makes all its own lamp bases. On stand 15 it is exhibiting a collection that includes marbled and ragged finishes.

Coloroll's ceramics division, launched in May, aims to become the brand leader in ceramic table lamps. Its display on stand 10 divides into four main groups.

In the Light 'N' Shade range the three bases are called wig, round and vase. They are in either floral, single, coloured or mottled designs. Coloroll co-ordinated lighting uses four of the company's most popular fabrics for the lampshades.

The third group is children's table lamps with designs that include Animal Crackers and Care Bears.

Lastly, the Classic collection of 22 models is based on traditional shapes and floral designs.

London Trend Lighting is introducing a series of co-ordinating pottery bases and lampshades. Exclusive broderie Anglaise products will also be among the shades on stand 52.

Lightshow displays all new trends

There is no doubt that Lightshow '88 holds more variety than any previous show, says the exhibition organiser, John Tengwall. 'We feel that every new trend on the UK lighting scene will be represented.'

Advance information from exhibitors bears this out. And in addition to a wide variety of products and a 5% increase in overall stand space, there are 21 newcomers to add interest, including companies from overseas.

The exhibition takes place in the National Hall at Olympia, London, from Sunday 10 to Thursday 14 January. It is open each day from 10am to 6pm.

There are plenty of unusual designs, models using energy saving light sources, and novelty or fun lights — not to mention disco lighting — as well as the varied modern and traditional ranges that are the 'bread and butter' lines of decorative lighting.

This year there are more lights designed specially for children, with increasingly imaginative themes.

For those looking for lighting with an oriental air, as well as table lamps with Chinese vase bases, several companies are showing brass lamp bases from the Far East.

Six light source manufacturers have taken stands this year, so visitors will be able to discuss with them direct any questions they have about new light sources, such as miniature low-voltage tungsten halogen and compact fluorescent.

For more comprehensive information, a series of short talks called *Modern light sources* has been arranged for the Wednesday afternoon at 2.15pm in the Club Room at Olympia. All visitors are welcome, but should obtain tickets in advance from either the organisers' office at the exhibition or the reception desk.

To help visitors to find the lights on their 'shopping lists', there is a produce guide on the back page of this special Lightshow pull-out and a large plan on the centre pages. Take it with you to make it easier to find your way around!

Look out for the musical jesters!

Micromark's latest range is a set of children's pendants called Musical Jesters. They have removable musical dolls which move their heads in time to music. They can be seen on stand 69, along with other new items.

Bedroom Bits & Bobs caters for children with its matching lighting and giftware. American football, Centurions, Action Force and Brinkworth Bear are some of the designs featured on the lights at stand 66.

Harlequin, a newly formed company at stand 116a, is showing an appealing range of table lamps decorated with clowns and exotic Arabian type dolls.



Lamps by Bedroom Bits & Bobs.

Ollie Owl and Willie Whale are being featured on stand 10a by Illusion Designs, whose lighting also includes lightning flashes and rock 'n' roll for teenagers.

Pottery night lights by Van Hill Pottery, stand 119, have themes such as Eric the Engine, a French café, a musical pop group, and The Sophisticated Shell.

Piggery Pottery's night lights are in the form of space ships and fruit houses. Look for them at stand 4.

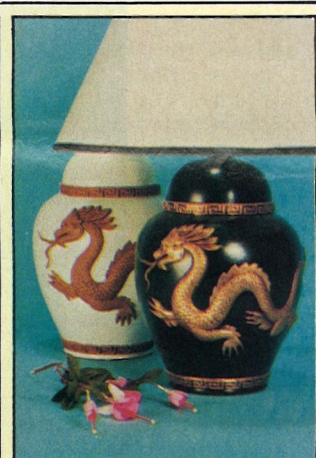
Co-ordinated lampshades, bedside lights and clocks for children by Brampton can be found on stand 60.

News notes . . .

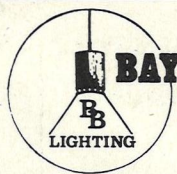
● A new approach to rise-and-fall pendants is being shown by David Hunt Lighting on stand 181. The ingenious lift-lock system uses a lever arm locking device to give definite adjustment to pendants.

● For lampholders, form an orderly queue! Marketing manager of IMI Reeves, John Wood, says he can hardly spare the few lampholders earmarked for the firm's stand, No. 20. It is so difficult to keep up with demand that he decided to send the lampholders out rather than keep them for display.

● A new bulkhead in the Spectrum range uses a 2D lamp to give emergency lighting. See it on stand 85, BELL.



Two exotic table lamp bases decorated with golden dragons and a Greek key design, part of the display of table lamps by Lewylite on stand 104.



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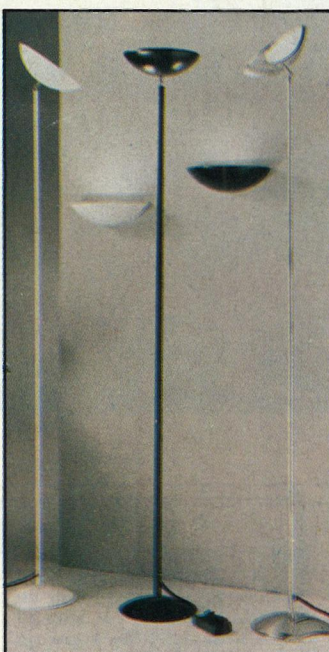
Fittings use latest light sources

A range of low-voltage tungsten halogen downlights in different styles and finishes is being launched at Lightshow by Eterna Lighting on stand 89. There are ultra-slim versions for display cabinets. All have plug and socket connections.

Gallo is a series of low-voltage table lamps from Firstlight Products, stand 84. The curved stem supports a small semi-circular reflector and the lights are available in white, black or golden coloured finishes.

Tilta, a mains-voltage tungsten halogen floor light with dimmer, is being introduced by Firstlight. The saucer shaped head can be swivelled in any direction and there is a matching wall light.

Carlsen Lighting has a policy of exploiting all the new types of efficient light sources and on stand



170 there will be improved downlights using compact fluorescent and low-voltage halogen lamps.

A new approach to the use of metal halide lamps in uplights is also promised by Carlsen.

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Stand 72-74

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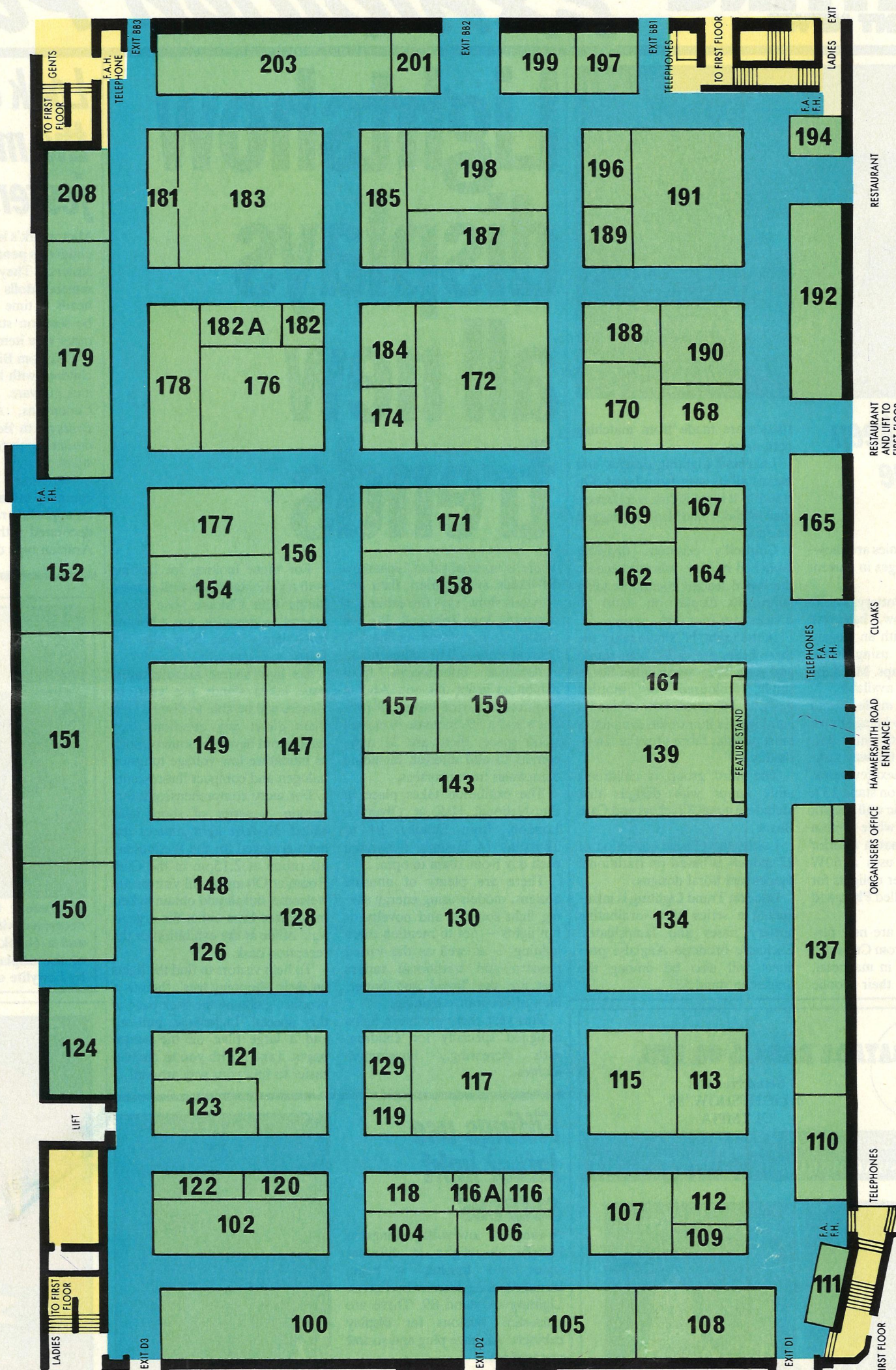
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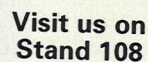
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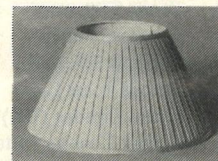
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Quick Product Guide

| Stand No. | Company | Products Traditional Modern |
|-----------|----------------------------------|----------------------------------|
| 24 | Aidee Home & Export Co Ltd | Decorated ceramic lighting |
| 148 | Aimbry Lighting Ltd | |
| 143 | Anglian Lamps (Overseas) Ltd | |
| 109 | Autumn Shades Ltd | |
| 51 | Avon Lighting Ltd | |
| 201 | B C Metalcrafts Ltd | |
| 32 | Bananaz | Fun lighting |
| 77 | Base & Shade Co Ltd | Indoor and outdoor lighting |
| 108 | Bayada Bros & Co Ltd | Wide range |
| 134 | L M Beasley & Co Ltd | Lampshades |
| 66 | Bedroom Bits & Bobs | Children's lighting |
| 55 | Belgravia Arts Ltd | |
| 79 | Besa Lighting Ltd | Also garden lighting |
| 178 | Bito/Regency Chandeliers | Pendants/chandeliers |
| 189 | E W Blockley Ltd | |
| 60 | Brampton | Children's lighting |
| 85 | British Electric Lamps Ltd | Light sources. Outdoor bulkheads |
| 28 | British Trimmings Ltd | Shade trimmings and fabrics |
| 72 | C A Lighting/Cameo Shades | |
| 57 | Candela Traditional Lighting Ltd | Outdoor lighting |
| 7 | Candlelight | Table lamps |
| 194 | L J Cannell & Co Ltd | |
| 170 | Carlsen Lighting | Using new light sources |
| 29 | Chambers International Ltd | table lamps |
| 172 | R J Chelsom & Co Ltd | |
| 81 | The Chinese Collection | Chinese lamp bases |
| 34 | Collingwood VLM Ltd | Lighting components |
| 10 | Coloroll Ceramics | Table lamps inc. children's |
| 62 | Colourcover Ltd | Raincoats for light bulbs |
| 159 | Contessa Furnishings Ltd | |
| 111 | Copper Lamp Co Ltd | Lanterns |
| 171 | County Shades Ltd | |
| 137 | Cresswell Shades | Table lamps |
| 6 | Crompton Parkinson Ltd | Light sources. Outdoor lighting |
| 156 | Danish Lighting Group | |
| 9 | Martin Dannel & Co Ltd | Materials for lampshades |
| 117 | Dar Lighting Ltd | |
| 147 | Daveen Mfg Co Ltd | Table lamps |
| 22 | Delta Access. & Dom. Switch. Ltd | Luminaire connector. Curly cable |
| 54 | Denby Tableware | Stoneware lighting |
| 23 | Denmead Pottery | Custom made lighting |
| 190 | Drimmer UK Ltd | French designs |
| 46 | Elstead Forge Ltd | |
| 151 | Emess Lighting (UK) Ltd | Also outdoor lighting |
| 8 | English Country Pottery | Hand painted bases |
| 89 | Eterna Lighting Ltd | |
| 48 | Fantasia Ceiling Fans | Fans/lights. Water cascades |
| 150 | Fantastic Lighting Ltd | |
| 84 | Firstlight Products Ltd | |
| 167 | Fitzgerald Lighting Ltd | Fluorescent luminaires |
| 107 | Flairlite Lampshades Ltd | Lampshades |
| 158 | Focus Lighting Ltd | Wide range |
| 38 | Yvonne Fowler Pottery | Children's lights |
| 106 | Frandsen Belysning Aps | |
| 203 | Franklite Ltd | |
| 47 | Gilway Interior Design | Danish designs |
| 58 | Golden Peacock | Lighting from New Delhi |
| 83 | The Green Tree Lighting Co | |

New exhibitors marked

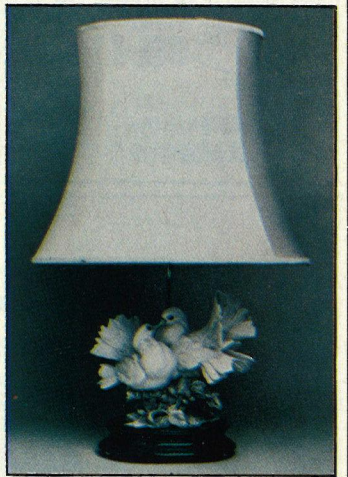
| Stand No. | Company | Products Traditional Modern |
|-----------|----------------------------------|----------------------------------|
| 116 | Griffin Lighting | |
| 176 | Hadrian Lighting & Home Decor | |
| 30 | J G Harding Ltd | Lampshades |
| 116a | Harlequin Lighting Ltd | Children's and novelty lighting |
| 42 | Thomas Haywood & Sons Ltd | |
| 184 | Home Automation Ltd | Lighting controls |
| 177 | Hopson Bridgers Ltd | |
| 113 | B Horrocks & Horrocks Shades Ltd | |
| 181 | David Hunt Lighting Ltd | |
| 10a | Illusion Designs | Novelty lighting |
| 20 | IMI Reeves | Lampshades |
| 105 | Impex Glassware Ltd | Crystal and other ranges |
| 174 | Import Development Ltd | Chinese lamp bases |
| 59 | Infax Lighting Ltd | Indoor and outdoor shop lighting |
| 63 | Italy Direct Ltd | Table lamps |
| 192 | Jackson & King Ltd | |
| 161 | Jeremy & Co Lampshades Ltd | |
| 25 | Jivelight Ltd | Disco lighting effects |
| 82 | KVT Agency | Austrian crystal components |
| 169 | L & M Lighting Ltd | |
| 15 | Lakeland Lighting Co Ltd | Table lamps |
| 1 | Lampshade Designs Ltd | Lampshades |
| 104 | Lewylite | Table lamps |
| 56 | Lighting Equipment News | All types of lighting |
| | Lighting Magazine | Decorative lighting |
| 49 | Lighting Today | Integrated lighting design |
| 182 | Lindner/ERL | |
| 11 | Linolite Ltd | Wide range |
| 52 | London Trend Lighting Co Ltd | |
| 110 | D & S Loxton Ltd | Inc. stained glass |
| 152 | Lumex (GB) Ltd | |
| 43 | M D C International Ltd | Lampshade materials |
| 115 | Maclamp Co Ltd | Domestic spotlights |
| 37 | Maestro Lite Ltd | Detachable ceiling rose |
| 36 | Peter Martin Lighting | Lampshades |
| 149 | Massive UK Ltd | |
| 69 | Micromark Lighting | |
| 168 | J H Miller & Sons Ltd | |
| 182a | Miranda Lite Ltd | |
| 120 | W Moorcroft Ltd | Pottery table lamps |
| 86 | Neptune Shades | Lampshades |
| 2 | Noma Lites Ltd | Christmas lights |
| 3 | Noral Ltd | Outdoor lanterns |
| 165 | Omega Lighting Ltd | Also light sources |
| 185 | Opal Lighting | |
| 41 | Osram-GEC Ltd | Light sources |
| 64 | P M Lighting | |
| 17 | Panlima Lighting | |
| 14 | Paola of London | |
| 124 | The Paper Lantern Mfg Co | |
| 76 | Park Rose Ltd | |
| 121 | Philippalia/Chinoiserie Ltd | Capiz shell/Chinese |
| 4 | Piggery Pottery | Pottery inc. night lights |
| 179 | Poole Lighting Ltd | |
| 197 | C & H Powell (Meopham) Ltd | |
| 162 | J N Preedy Ltd | Oriental porcelain |
| 21 | R V Lamps Ltd | |
| 65 | Rapid Leuchten GmbH | |
| 187 | Carlos Remes Lighting Ltd | |
| 61 | Renker Ltd | Lampshade materials |
| 196 | RoChamp | Table lamps |
| 90 | Rock Electrical Accessories Ltd | Klik connector system |
| 92 | Clive Rowland Ltd | |
| 183 | Russell Electrics Ltd | |
| 100 | C Sandberg & Son Ltd | |
| 67 | Saville E S Ltd | |
| 123 | Scan' Decor Ltd | and energy saving |
| 188 | Seamimex SA | |
| 130 | Searchlight Electric Ltd | wide range |
| 126 | J Segal (Electrical) Co Ltd | |
| 80 | Stephen Selby Pictures Ltd | Pictures |
| 199 | Skandesco plc | |
| 208 | Solbacken UK Ltd | inc. outdoor lighting |
| 50 | Sophie Nursery Products | Nursery lights |
| 128 | Speights Ltd | |
| 44 | Squire Lighting Ltd | inc. alabaster |
| 134 | Starlite (Chandeliers) Ltd | Crystal |
| 91 | The Straits Trading Co Ltd | inc. oriental |
| 164 | Stuart Crystal Lighting Ltd | Crystal |
| 102 | Studio 17 Lighting Ltd | |
| 118 | Stylelight | |
| 198 | Bernard Szeps Lighting Ltd | inc. outdoor lighting |
| 78 | Také Ltd | Japanese lighting |
| 16 | Tally Ho Lighting Co | |
| 112 | Tramar Ltd | |
| 2 | Tridonic Ltd | Lighting components |
| 75 | Tungsum Lighting Ltd | Light sources |
| 73 | Vale Royal Porcelain Ltd | Lamp bases |
| 119 | Van Hill Pottery | Night lights |
| 154 | Vectase Ltd | |
| 88 | Vitrea (Merchants) Ltd | Czech crystal |
| 139 | D M Walker Lighting Ltd | |
| 129 | Wickshades Lighting Ltd | Lampshades |
| 122 | Windsor Lighting Ltd | |
| 157 | Wotan Lamps Ltd | Light sources |
| 33 | Yew Tree Mfg | |

Hat trick for Hadrian

Hadrian Lighting has new products at the exhibition, a new name and a new London showroom. Part of Espagna International Ltd, the company has been established for 15 years in the north of England.

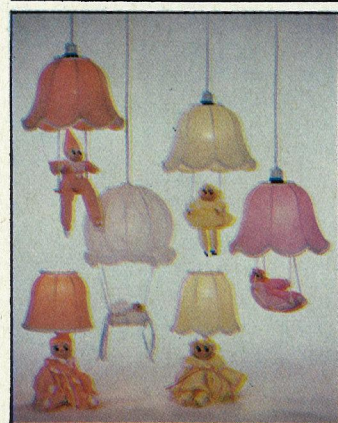
It is launching a range of brass-finished ceiling and wall lights with panel style glass shades, and a collection of fully lined fabric shades. Its collection of Italian table lamps with Armani figurines on the bases has been extended again, as has the range of Spanish porcelain figurine lamps.

Acomb gold-plated chandeliers and wall lights with a rope-and-



tassel trim are a recent addition to Hadrian's range.

Crystal and alabaster lamp bases will also be seen by visitors to stand 176.



Sophie's success in Japan

Denise O'Neill, of Sophie Nursery Products, will be showing her pendants and bedside lamps decorated with soft toys such as soldiers, rabbits and pandas.

Mrs. O'Neill has recently succeeded in developing an export trade with Japan and reports that lamps trimmed with clowns are a particular attraction in the Land of the Rising Sun.

This year, her stand, number 50, will also have wall lights in the shape of kites, balloons and hearts.

This Lightshow pull-out is published with *Lighting Equipment News* January 1988.

LIGHTSHOW DIARY

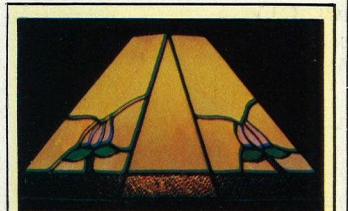
Sunday 10 January: Presentation of National Home Lighting Fortnight shop display awards. Winners will receive their trophies at the feature stand following the judging, at about 3pm.

Monday 11 January: 11.30am official opening by Mr Christopher Gill, MP for Ludlow and South Shropshire.

Monday 11 January: 1.30pm, Apex Room, presentation of Russell Award and Pegasus Trophy for lighting design.

Wednesday 13 January: 2.15pm *Modern light sources*. Talk arranged jointly by the Decorative Lighting Association and the Institution of Lighting Engineers. Admission free but by ticket only, obtainable from the exhibition reception desk or organisers' office.

Throughout the exhibition there will be a display of work by the finalists in the 1987 Student Lighting Design Competition in the Apex Room.



Stained glass lampshade from D & S Loxton stand 110.

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