

LIGHTING EQUIPMENT NEWS

SEPTEMBER 1993

THE ONLY PUBLICATION DEVOTED TO ALL ASPECTS OF LIGHTING

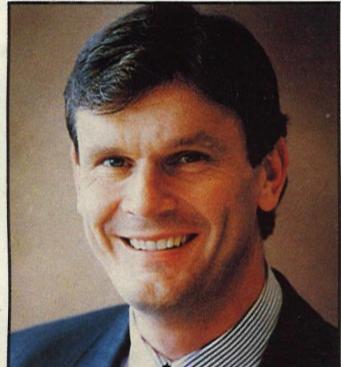
All change at the top



Mike Goodwin, previously managing director of Philips Lighting UK, has been appointed as Executive Vice President Sales and Marketing at Sylvania Lighting International (SLI). Mike left Philips after 32 years at the company, looking for one last major challenge in his career. He felt that Philips could not offer him that opportunity at the time.

At SLI, Mike's responsibilities will include sales, marketing, distribution and all luminaire activities. "We are delighted that Mike Goodwin is joining the senior management team," said SLI's President and CEO Norman Scoular. "His knowledge and experience of

the international lighting market will further strengthen the strong management team of Sylvania Lighting International and sustain the significant progress we have made once acquiring the business earlier this year.



Mike is succeeded at Philips by Peter Maskell, who has been with the company for 15 years, where his most recent role was general manager of OEM operations.



Borne on the mains

Mains signalling equipment from Emlux has been selected to control illumination as part of the Edinburgh Lighting Vision, a long term project encompassing a comprehensive lighting strategy for the whole of Edinburgh. The Lighting Design Partnership (LDP), responsible for lighting a number of famous monuments on central Calton Hill, required a method of switching the lighting without using cabling.

LDP selected products from Emlux's Switchlink range of mains signalling equipment which gave them the ability to control separate lighting installations from a central point. Two Switchlink receiver units were used to switch the floodlighting of the National Monument and Nelson's Monument from a transmitter sited in the Royal Observatory.

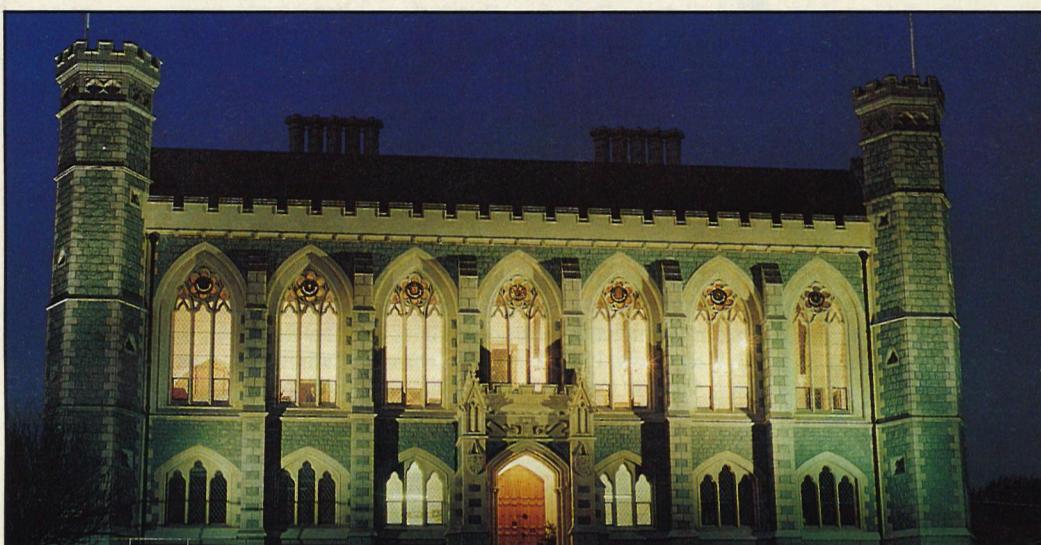
"Mains signalling equipment was the right answer for this particular installation and Emlux was most helpful in providing technical support. We would certainly consider using mains signalling equipment again in the future," said LDP's Graham Phoenix.

Switchlink systems range from two basic components, a simple transmitter and receiver, to systems that integrate with energy management systems. All Switchlink products are designed to comply with BS6839 on mains signalling equipment and CEN-ELEC Standard EN50065-1.

Reader Service No 150

INSIDE THIS ISSUE

News	1, 3, 23, 24
Letters	3
Diary	2
New Products	4, 5
Case Studies	6
Retail Lighting	7, 8, 9, 10
Heritage Lighting	11, 12, 13
Discharge Lamps	14
Where to Buy Directory	19, 20, 21, 22
Catalogue Directory	22
Classified Advertising	23



Floodlighting winners

The floodlighting of Victoria College, which can be seen from any quarter of St Helier, was named recently as the outright winner of the Thorn Ecliathi Jersey Award, a new annual competition for owners and lighting designers of floodlit buildings on Jersey. The awards promote excellence in

Support for Alpa's admin order

Following discussions with its principal bankers and major creditors, Alpa Lighting has been granted an administration order. This will enable the company to carry out a restructuring plan, which is said to have become necessary as a result of changes in the building and refurbishment markets.

Alpa reports that it has received a great deal of support from customers and creditors and it hopes that its next objective, to reduce the overheads of the company with the minimum of disruption and cost, will result in full settlement of outstanding accounts and a return to the previous management.

"I am pleased that we have been able to maintain all the facets of our business on which we have built our reputation for technical expertise," said Alpa chairman Roger Stone. "During the administration period our efforts will be more focused, whilst all aspects of our business, particularly the quality and reliability of the project work that we have carried out in the past, will continue positively in every respect," he continued.

The appointed administrators are P G Mills and P J Yeldon of Smith and Williamson.

floodlighting design and practice and entries can be expressions of national, civic or corporate pride in buildings of historic, architectural or municipal interest or significance.

Efficient

The famous public school is floodlit with 12 Thorn metal halide projectors aimed in such a way as to allow a flow of light across the facia and left side of the building to create depth and interest. The lighting complements the colour of the stonework and is said to be over five times more efficient than a household lamp.

In addition to the top award, three highly commended entries were announced. Midland Bank was commended for showing

what commercial buildings can achieve with an effective lighting scheme. The restraint and style exercised by the designer with Hubbel metal halide floodlights is described as being entirely in keeping with its surroundings in the banking area of St Helier.

The use of Thorn golden high pressure sodium floodlights on the exterior of St Brelades Church illustrates the ability of lighting to highlight the key aspects of an historic building, while the entrance trees are picked out with whiter de lux sodium units.

The third commended entry was St Lawrence Church, where the classical features of the building are floodlit with golden white light from Phosco wide angle high pressure sodium floodlights.

Support for planetarium

Thorn Lighting has provided the finance for a teacher placement at its plant in Spennymoor, County Durham.

Tim Randal, the curriculum support teacher of Durham County Council visited the company's technology centre to produce a curriculum package for 'The Sky on the Move' planetarium project.

The aims of this initiative are to enhance the teaching of the science of lighting and the causes, concerns and methods of avoiding light pollution.

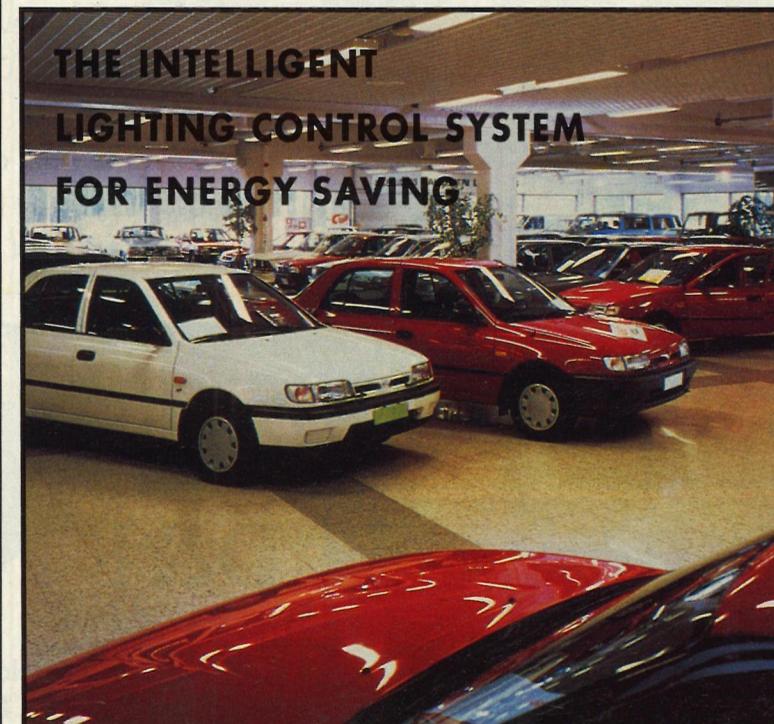
The Sky on the Move is a joint curriculum project supported by the education department of Durham County Council and Durham Business and Education Executive.

Action on counterfeit lamps

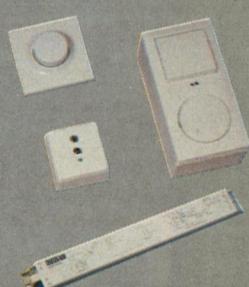
GE Lighting Ltd has begun legal proceedings against HPA Associates Ltd, LGW Electrical Distributors Ltd and EWS Ltd claiming injunctions and damages for infringement of GE's patent and registered design for the low energy 2D lamp.

Calogeru Di Gesu, GE Lighting product manager for the 2D range, said that warnings in the press had been ignored by importers of counterfeit lamps manufactured in the Far East.

All genuine lamps are marked with the 2D logo. No licences have been granted to permit the manufacture of 2D lamps in the Far East. The company stated that importers and wholesalers are "strongly advised" not to deal in counterfeit lamps under threat of further proceedings.



MIMO



Up to 70% energy saving

Automatic/manual control

Low installation costs

Simple 2-wire installation

HELVAR

081-568 6205

QUALITY ALWAYS SHINES THROUGH

Reader Service No. 1

DIARY

SEPTEMBER

12-15

The Plasa Light and Sound Show at Earls Court, London. Organised by Philbeach Events. Exhibition for lighting, sound and special effects technology for live entertainment, TV and film sectors. It now also caters for theme parks and interior design etc. Details from 071 370 8215.

14-16

Lightex '93 - The Latest in Lighting Technology. Biennial exhibition organised by the Institution of Lighting Engineers. Over 180 stands catering for consultants, contractors, wholesalers, security firms, architects, specifiers etc. Details from 0788 576492.

20-24

Lighting Technology (part one). Residential course in Birmingham organised by the Institution of Lighting Engineers. Details from Judy Park 0788 576492.

OCTOBER

5

Recent Lighting Developments and Energy Conservation - with particular reference to the intelligent building. Lecture in London organised by the Institution of Incorporated Executive Engineers and given by Pal Wilmhurst of Philips Lighting Ltd. The presentation will cover recent developments in lighting including a look at the future of lighting control systems. Details from 0483 222383.

6

Introduction to BS 5750. Half-day seminar in London organised by the IEEIE. Details from 071-836 3357.

7-10

Elenex - Turkey '93. Turkey's premier show for the electrical and electronic engineering industry. Details from Philip McKean, Overseas Exhibition Services Ltd, 071-486 1951.

18

Should Britain have an energy policy? Public lecture organised by the IEEIE with Colin Robertson, professor of economics at the University of Surrey. Details from 071-836 3357.

18-22

Lighting Technology (part two). Residential course in Wakefield organised by the Institution of Lighting Engineers. Details from Judy Park 0788 576492.

26

Total Quality Management. Seminar in London organised by the IEEIE. Details from 071-836 3357.

26-28

Electrical Products '93. London-based biennial show for the electrotechnical industry, including a sub-show, Light Fair. Details from Andrew Castle, IMI Exhibitions Ltd, 0732 359990.

NOVEMBER

1-3

Clima 2000. CIBSE-organised event with 50 papers being presented covering various building services topics. Details from CIBSE 081-675 5211.

9

Laser Safety in Entertainment and Display. Birmingham seminar by Sira Communications. Details from Isobel Smith 081-467 2636 ext 215.

JANUARY

13-17

SIL 94 International Lighting Exhibition in Paris with over 300 exhibitors. Details from (33-1) 40 76 45 00.

30-2 Feb

The European Lightshow 94 at Earls Court, London, sponsored by the LA and the LIF. Details from G Samuel 0952 290905.

CIBSE

The Chartered Institution of Building Services Engineers

Towards more efficient lighting

There is no doubt that inefficient use of energy for lighting is widespread throughout industry and commerce. The problem is lack of motivation, but changes to building requirements (some through necessity imposed by legislation) present an opportunity to rectify this.

The competitive nature of building in the UK is based almost entirely on construction costs against quantity specifications, and discourages the use of energy efficient equipment. This invariably results in the user paying many times over in future energy costs. We therefore need to bring energy efficient building costs closer to the costs of inefficient building.

A change to lifetime costing would change perceptions and should be encouraged, but may not have the desired result where the building owner is not the occupier, and other options need to be considered. We must emphasise the fact that it is more cost effective to install the most efficient lighting in the first place than to try to improve an inefficient scheme later.

The move to include energy efficiency in British Standards is a major step forward - specific reference to lighting must be included.

Existing buildings

Many existing buildings are prodigious users of energy for lighting. Over 40W/m² are common loads in offices, which could easily be cut to 11W/m².

When the demand for energy efficient buildings becomes the norm, efficient components and practices will be demanded and economies of scale will take place. In the meantime the process would be encouraged if energy efficiency was to be subsidised. This could be in the form of a rebate for reducing the lighting load to meet targets. The subsidy would have to be given only to those who reduce energy whilst maintaining standards.

A new CIBSE Code for Interior Lighting will soon be with us, with greater emphasis on energy efficiency. This could be adopted to form the basis of a National Lighting Energy Code of Practice.

A subsidised lighting energy audit by a qualified independent lighting consultant provides a valuable service. The CIBSE has recognised high levels of competence in lighting by awarding Lighting Diplomas and the LIF has also compiled a list of consultants who could be used for such work.

Many producers and schemes are sold on the basis of price, with what at best can be described as lip service to energy. A major contribution could be from those selling lighting products and designing schemes to change the emphasis to energy efficiency.

Product labelling

The majority of lighting products sold are not used in schemes designed with energy conservation in mind. It would be helpful if the items which include control gear were required by legislation to be labelled not only with the nominal lamp watts but also with the connected load, eg

- twin switch start luminaire: nominal lamp ratings 2 x 58 watts, connected load 142 watts
- twin high frequency luminaire: nominal lamp rating 2 x 58 watts, connected load 108 watts

This would give designers and purchasers a clear indication of efficient equipment.

Raising awareness

The Energy Efficiency Office Road Shows on lighting have been successful in attracting audiences to seminars on energy efficiency lighting. But those attending are a very small proportion of those using lighting. The Best Practice Programme leaflets could reach a far greater audience if widely distributed and targeted at the identified decision makers.

It is not generally appreciated that there are several EC Directives, which affect general and emergency lighting. New regulations include:

- The Workplace Health Welfare & Safety Regulations
- The Display Screen Regulations
- Machinery Safety (Integrated Lighting)
- Construction Products Regulations
- Electromagnetic Compatibility
- Safety Signs at Work

As a result of these Regulations coming into force it is likely that changes to lighting systems will be necessary.

They provide an opportunity to promote more efficient lighting practices.

Alan Wilson

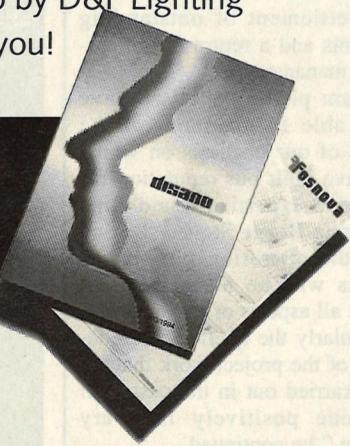
Past Chairman, CIBSE Lighting Division

Lighting Equipment News, September 1993

Making light work

D&F
LIGHTING

D&F Lighting, Millfield Industrial Estate
Arksey Lane, Bentley, Doncaster DN5 0SJ
Tel: (0302) 873500. Fax: (0302) 872700



NEWS

Meeting Adam's needs



When it was decided to re-light No 11 St James's Square, the project architects The Thomas Saunders Partnership wanted the lighting to reflect the decor of this listed Adam building. TTSP recognised the need for a company with an established understanding of period lighting and, therefore, approached Kalmar to design and manufacture chandeliers for the project.

A search through illustrations and source material led eventually to the creation of chandeliers, of sizes suited to the various rooms, which provide the finishing touches to the rooms and integrate with the ceiling details.

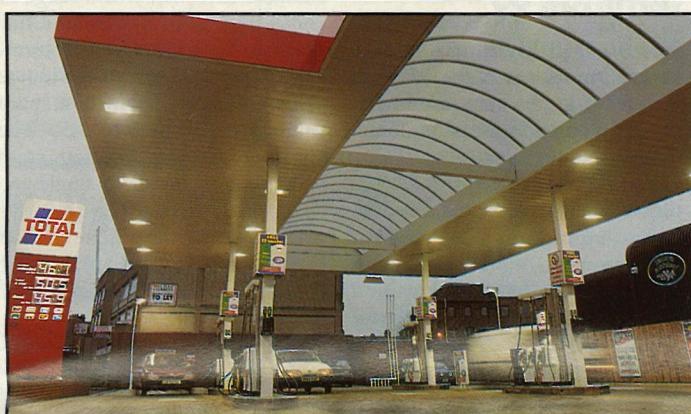
Reader Service No 151

Salary survey

The Institution of Electronics and Electrical Incorporated Engineers (IEEIE) has published a guide to salaries, benefits, academic qualifications and general working patterns of incorporated engineers and engineering technicians. Since the last survey in 1991, average earnings for IEEIE members have increased by 9.28%

overall, with the annual salary for the highest earners having risen by £5000 since that time to £39,000. The best payers are in the fields of electricity generation and distribution, and chemical and allied processing.

All IEEIE members will receive a complimentary copy of the survey. Others can obtain one, price £25, from The Secretary, IEEIE, Savoy Hill House, Savoy Hill, London WC2R 0BS.



A Total solution

At the Total service station in Watford the new, futuristic canopy features a central glazed barrel roof section and two solid canopy sections on either side. Integrated into the canopy are Canolux 30 luminaires from Parkersell. The underlining of the solid canopy sections is a 300mm plank system and the Canolux

luminaires are recessed precisely into a plank width to produce a fully integrated result.

The Canolux 30 luminaire was developed specifically for such applications and will accept different reflector systems to suit different lighting requirements. It offers a semi-specular reflector as standard and can be supplied with clear or diffused toughened one-piece glass front cover.

Reader Service No 152

QL for retail

C&A has become the first UK retailer to install Philips QL induction lighting (with a claimed lamp life of 60,000 hours) at its Bromley branch in south London. Some 16 lamps and fittings have been installed beneath a large canopy at the front entrance. "I specified QL because of its near zero maintenance requirements," said C&A's senior electrical engineer Alan Patton.

According to Philips, further reasons given were the need for environmentally friendlier products and cost savings - 14 metal halide lamps would be needed to last as long as the QL lamp.

Reader Service No 153



Looking after the pennies

With an annual budget approaching £10m for raw materials and utilities, a monthly saving of £100 on the electricity bill may seem small to floor covering manufacturer Bonar & Flotex. But purchasing manager Robert Morrow is a strong believer in making savings wherever they are viable.

Early in 1992 he installed three

Econolight units on the three floors of the finished goods warehouse at the company's Derbyshire factory. The area has no natural light and is lit by some 800 fluorescent tubes and a small battery of sodium lights.

At the time of the installation the load was measured at 32.4kW and the promised 20% reduction resulted in a load saving of 6.84kW. This, multiplied by the hours in use each day (16), then by the days (5) and finally by the weeks the factory operates (46) gives a 25,000kWh

annual saving - equivalent to around £1200 a year.

In practice, the savings are marginally higher, at 23%, and the company is currently considering extending the use of the system to other factory areas.

Econolight uses high speed sensing to calculate the percentage difference in voltage required every half cycle to effectively reduce voltage requirements and energy costs with no apparent reduction in lighting levels or equipment performance.

Reader Service No 155

LETTERS

Prevention better than cure

Dear Sir

The Steve Maddox article in the June issue of LEN is yet another which proposes that burning fluorescent lamps to extinction is economically sound and energy efficient. To add weight to his argument, he plays the environmental card backed up by dubious statistics.

It is about time the counter argument was heard. One that proposes a planned approach to lighting maintenance which will reduce the installed load, thus saving energy and provide the means to safely dispose of the waste lamps.

The latest edition of the CIBSE Code on Interior Lighting is about to be published and the introduction of 'designed maintained illuminance' will focus attention on the question of maintenance. There needs to be discussion as to whether a premeditated and preventative approach is preferable to attending to failures and problems as they arise.

W J Walker
Parkersell (Lighting & Electrical) Services Ltd

Light removal

Printers and reprographic houses can now dispose of used reprographic lamps through a new service provided by DC Lighting, sole distributor for the Sylvania range of tubular metal halide lamps.

Under current legislation, companies that generate waste products or materials which may contain any potentially hazardous substance should make special arrangements for their disposal.

"As the lamps fall into this category, we are pleased to save users the expense of taking this action," said DC Lighting's Don Campbell.

Reader Service No 154

Winning spotlight

The product design section of the Halo/Metalux lighting design competition, run by Cooper Lighting and the American Society of Interior Designers, has been won by UK designer Simon Dicks. The winning product is a metal halide spotlight, featuring adjustable beam and integral electronic control gear. The spotlight is currently in model form and is to be produced by Cooper lighting.

Simon Dicks is a graduate of Brunel University and has also received an MSc in Light and Lighting from the Bartlett College. His company, SD Design, operates as a lighting consultancy for both products and schemes.

Lights on show

The Guildford Lights Show takes place on the 16th and 17th of this month at Surrey University. The two day event consists of lectures and displays of the latest products backed by many leading manufacturers.

Thorn Lighting will present a talk on CIBSE's Lighting Guide 3, Crescent Lighting will discuss the subject of fibre optics. Lutron will cover aspects of lighting control and Erco will include a practical demonstration of 'Lucy' in its talk on computer design.

Further information is available from OLC Ltd; 0798 875312.

COMMENT

A period of gestation?

It's only natural that we should associate the period of nine months with birth, new events and all that sort of thing. It is now nine months since the changes at LEN that we first announced in the January 1993 issue. In this case, however, the end of the nine month period does not signal a major re-birth. On the contrary, while there have been a number of changes in the content of LEN, I hope these have more subtle than the drama that would accompany a born-again LEN.

During the last nine months, LEN's editorial team has been out and about in the lighting industry and we've come across a few misconceptions about our role in the industry and the purpose of the editorial we carry.

Many people view LEN as the paper for the lighting industry. I've even heard it referred to as the bible of the industry - and we do love a bit of flattery. Certainly, part of our role is to report on changes in the lighting industry and at times this may look like lighting companies talking to each other. But 88% of our readers are specifiers of lighting equipment and our main purpose must be to provide these specifiers with a valuable service.

One common misconception is that the companies which advertise most will also get the most editorial coverage. Indeed, it may seem that this is a sensible way to operate when LEN is almost exclusively dependent on advertising revenue for its continued existence. To adopt such a policy, however, would not benefit our readers or our advertisers.

For LEN to be a valuable marketing tool for our advertisers it must not only go to the people those advertisers want to reach, it must also be something that those people want to open and read - otherwise nobody sees the adverts anyway. A publication that is just full of corporate puff will not fulfil this ambition, it will quickly lose its readers and, eventually, its advertisers.

It is for this reason that I can assure you, the readers, that any editorial you read in LEN is there because we believe it will be of interest to you. That's not to say we get it right all the time and any feedback from you as to what you think we do well and what we do badly would be gratefully received. The important thing is that what we're trying to do is clear to all concerned. From there, the only way is forward and up.

Paul Haddlesey

PAUL HADDLESEY, EDITOR

LIGHTING EQUIPMENT NEWS

LEN is part of the Maclean Hunter Energy Publications Group

Editor: Paul Haddlesey

Assistant Editor: Anna Newham

Art Editor: Lorna Francis

Advertisement Manager: Jim Hughes

Northern Area Manager: Robert Sloan

Classified Sales: Alastair Moyes

Production: Claire Gray

Circulation: Kirtee Parmar

Publisher: John Bull

Group Publisher: Douglas Wright

Directors: Harvey Botting (Chairman), D L Jones, R. Osborne, D B Wright.

Published monthly by Maclean Hunter Ltd,

Maclean Hunter House, Chalk Lane, Cockfosters Road, Barnet, Hertfordshire EN4 0BU.

Telephone: 081-975 9759. Facsimile: 081-441 1361

Origination by Facsimile Graphics Ltd, Coggeshall, Essex.

Printed by E. T. Heron & Co. Ltd, Heybridge, Maldon, Essex.

Annual subscription £55 (£5 per copy including postage) but free to executives in the UK and Ireland meeting the terms of control.



A Maclean Hunter Publication

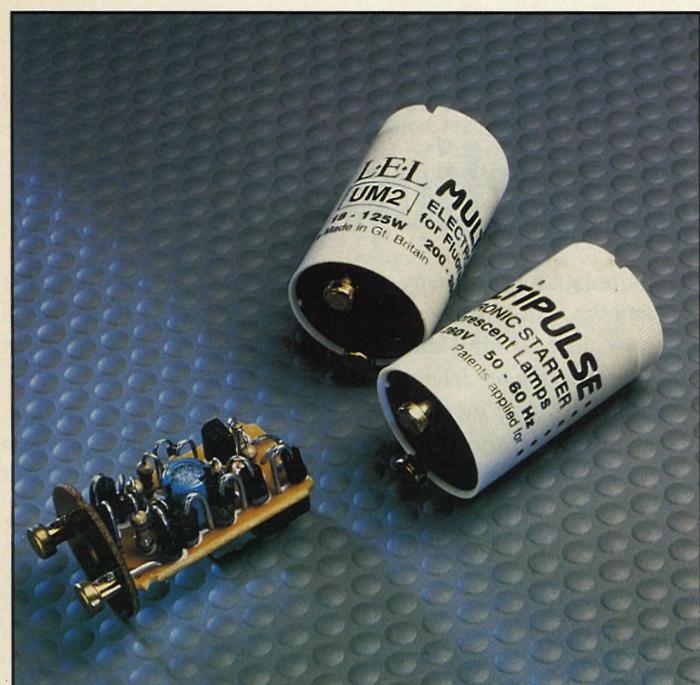


Member - British Business Press

© 1993 ISSN 0024-3418

NEW PRODUCTS

Electronic starters



New to the range of starters for fluorescent tubes stocked by distributor Bernlite are the Multi-pulse electronic starters from Lighting Electronics.

Two versions of the starters are available and each is housed in a normal starter canister for retrofit into existing fluorescent luminaires.

The UM2 is designed for a full range of linear fluorescent lamps as well as many compacts, and the UM3 is for twin 18 or 20W 600mm fluorescent lamps operating in series from one ballast.

Both starters offer long life, soft starting for enhancing lamp life, and automatic failed tube cut-off which avoids continuous flashing and ballast overheating, claims Bernlite.

The UM2 starts many tubes including 18W models, down to -20°C. The UM3 for twin 18/20W lamps will also start from the same temperature and on low Voltage supplies down to 200V.

Reader Service No 170

Emergency lighting for hazardous areas

Simplex Lighting has launched a new emergency lighting system designed to improve safety in offshore installations and other hazardous areas where escape routes need lighting which is not dependent on the survival of power supplies.

Patented worldwide, the Simplex Lumicae fittings have been developed in conjunction with Statoil and Conoco and are claimed to be capable of withstanding fire, explosion and severe vibration. Totally sealed, the product is rated IP68 in emergency mode.

Mounted safely at low level, the Simplex Lumicae is visible in dense smoke and does not emit any toxic gases in a fire. It operates in emergency mode for up to

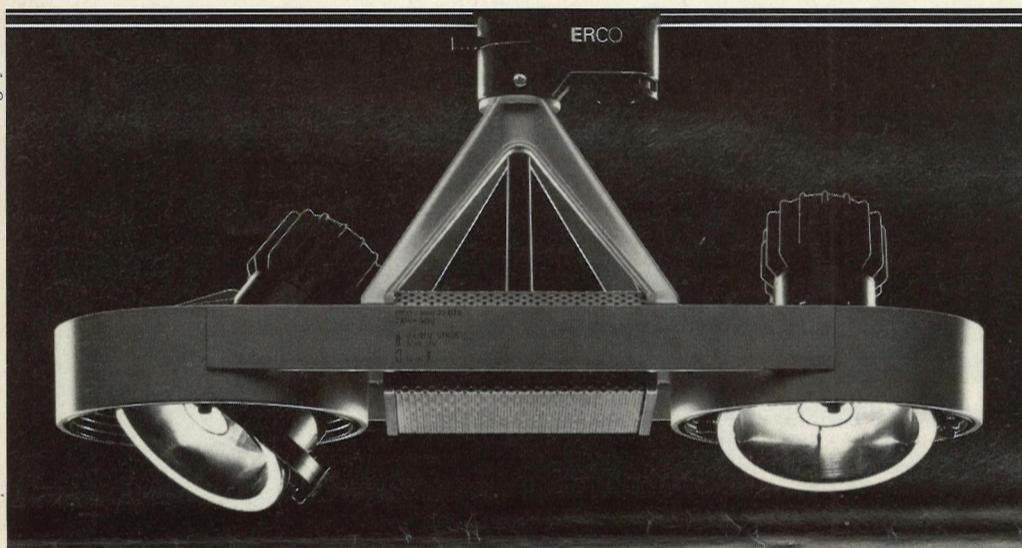


four hours in the event of a mains failure, and, it is claimed, requires zero maintenance, providing uninterrupted lighting for 10 years with no change of tubes or batteries.

The system is also energy efficient, using up to 50% less energy than traditional light sources, claims Simplex.

Reader Service No 171

Ogilvy & Mather



ERCO Lighting Ltd.
38 Dover Street
London W1X 3RB

Energy saving luminaires

New to IMP Lighting's energy saving luminaires is the Malvern Range of surface mounted fittings, designed to use slim 26mm diameter fluorescent tubes.

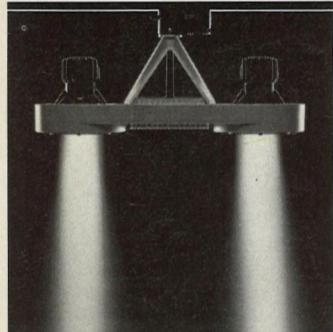
The range is fitted with a specular reflector, allowing a reduction of up to 50% in the number of tubes used, while maintaining suitable illumination levels and light distribution. It is suitable for general interior lighting installations including refurbishment projects.

The luminaires will, it is claimed, accept any of a range of controllers from a prismatic diffuser to an LG3 Cat 2 louvre.

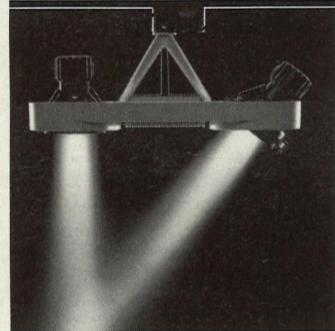
This photometrically tested louvre gives a 66% DLOR with a space to height ratio of 1 to 1.5. The shallow profile, painted steel body, will contain both single and twin tubes.

Design and manufacture of all IMP fittings is compliant with the requirements of their BS5750 certification.

Reader Service No 172



With Cardano's compliments.



Geronimo Cardano was a 16th-century scientist, who apart from discovering solutions to problematic equations, also devised a suspension system that kept ships' compasses level however high the seas.

Now with its Gimbal range of low-voltage halogen lamps, ERCO has brought Cardano's invention back into the limelight.

Installed flush with the ceiling, Gimbal spotlights are fully adjustable. They are also flexible enough to be fitted in pairs along an ERCO track, using a rigid mounting which

also houses the transformer. In this way, every spotlight can be adjusted independently.

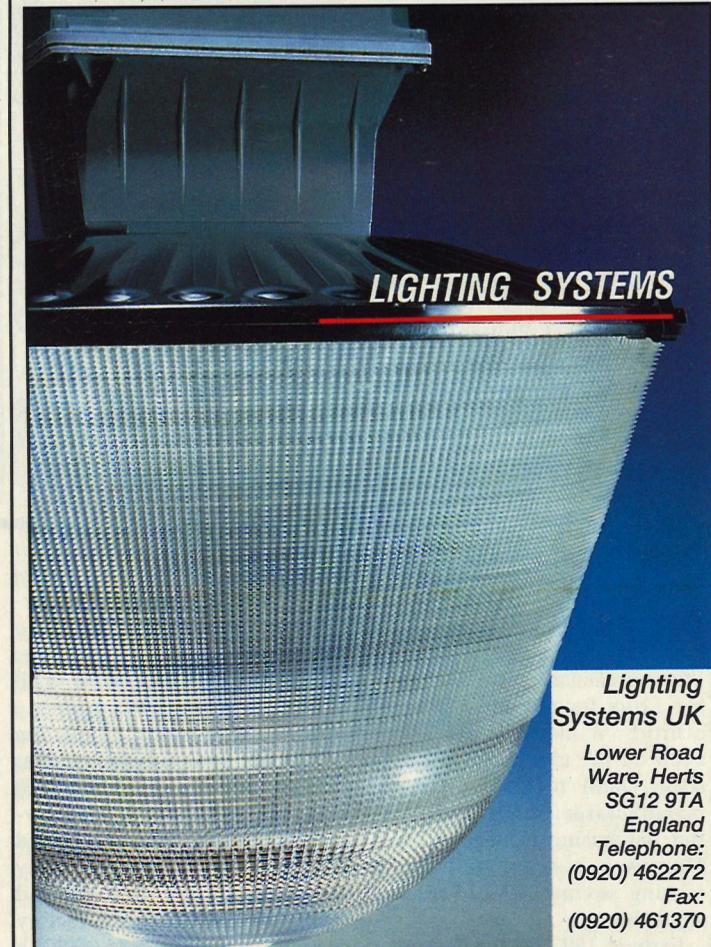
Just like Cardano's suspension system, Gimbal spotlights can be tilted up to 40° from the vertical axis.

This means you have the optimum versatility to focus attention on single objects in a showroom or exhibition.

In fact, if absolutely necessary, one has the freedom to adjust an ERCO Gimbal spotlight at the very last minute with say, a broomstick from the ground - even Cardano would admire that practicality.



LIGHTING SYSTEMS



Lighting Systems UK
Lower Road
Ware, Herts
SG12 9TA
England
Telephone: (0920) 462272
Fax: (0920) 461370

ERCO

Reader Service No. 3
Page 4

Reader Service No. 21
Lighting Equipment News, September 1993

NEW PRODUCTS



Programmable fire detection range

Emgi-Lite has launched Anatec, a new range of programmable fire detection systems designed to comply with all current standards. The control panels provide a fast and accurate response to sophisticated fire, smoke and heat detector systems with a total environment monitoring facility reducing the risk of false alarms. Anatec is also programmed to determine

pre-alarm, normal and alarm conditions.

The controls are located behind a locked glass panel giving the operator a clear view of the LCD information. A printer provides a full 'hard copy' of emergency situations.

Emgi-Lite offers specifiers, contractors and engineers a supply, installation and maintenance service for fire alarm and central battery systems. A range of emergency lighting systems includes the company's patented infra-red testing system.

Reader Service No 173

Display and effect HID downlighters

HID lamp recessed and surface floods and downlighters, now available from Moorlite, provide display and effect lighting as part of a balanced lighting scheme.

The Vogue series of recessed and surface floods are suitable where high illumination levels are required to emphasise colours and

textures; for instance in highlighting architectural features. The series includes fixed recessed, semi-recessed and adjustable surface projector models.

The Circo series of fixed circular downlighters can utilise metal halide lamps where true colour rendition is particularly important, or white SON lamps where a warmer colour temperature and long life with good colour consistency are required.

Reader Service No 174

Light and presence detection switch

SensoSwitch from Hylec-Electro Gibi (UK) is a newly developed intelligent and microprocessor controlled lighting switch combining accurate light and presence detection.

The company claims that the switch can achieve up to 50% energy savings through switching on and off according to daylight and occupancy. No manual switching is needed, and neither is manual adjustment due to self-learning and automatic adaptation to local lighting conditions.

Maximum switching load is 16A at unity power factor.

Reader Service No 175



VDT luminaire category selector

Thorn has developed Catalume, a hand-held device which identifies what type of fluorescent louvre is most suitable for a particular layout or function of a workstation. Catalume enables specifiers, employers and employees to

select the appropriate light fitting without the need for complicated geometric measurements.

The practical value of the triangular Catalume is that it takes into account the four factors which combine to cause screen reflection, the geometry of the operator's eye, screen orientation, position and intensity distribution.

The workstation operator holds

Footlights range extended

LightGraphix has added two new finishes to its footlights range. The high quality, low Voltage units now feature 316 stainless steel and polished brass bezels manufactured to IP65. The units are especially designed to illuminate the boarders of gardens, pathways and steps, and are widely used in Marine applications.

The footlights use 20W 12V halogen lamps as standard and can also be supplied with 5 and 10W 12V, and 20W 24V units, and can be recessed into exterior and interior pathways and walls, or even into the ground for those wishing to add a decorative touch to their garden.

Available in square or round form, the lights are die-cast aluminium body and bezel units, only available for low Voltage tungsten halogen lamps. The cover is made of toughened glass, enabling the customer to walk or drive over the footlight without fear of breakage. The rectangular footlight or wall lights are also die-cast aluminium and can have the following light sources; halogen 20W capsule, 36mm dichroic MR11, AR48 with integral transformer, and compact fluorescent 120V 60HZ - 230/240V 50HZ - AC, 12V or 24VDC, 2 B15D lamp holder for incandescent lamps.

Reader Service No 176

Low Voltage metal halide fittings

Edison Halo Lighting has introduced a range of low Voltage metal halide lighting fittings. Aimed at wholesalers and electrical contractors, the Dison range is suitable for lighting specialists who want off-the-shelf availability, plus ease of installation and maintenance.

The range comprises three recessed downlights (two adjustable) and four spotlights, two of which feature decorative acrylic Halo rings. Finishes are black, white and gold.

Also available, in black or white and 70 or 150W ratings, are double-ended adjustable metal halide downlights, plus surface and track-mountable, double-ended metal halide spotlights.

All Dison models conform to all current electrical regulations and standards, claims Edison Halo. Reader Service No 177

Interior wall/ceiling fittings

A new range of general interior wall/ceiling light fittings has been introduced by Powerlite Electrical Products. The Decorslim and Decortrim provide the specifier with a range of circular luminaires incorporating inherent design options suitable for most types of architectural applications.

This has been achieved by designing the fittings to provide the installer with a wide range of technical and aesthetic design options that will suit differing types of installation requirements and applications.

The Decorslim is available with a black or white base and a white opal diffuser (330mm diameter) while Decortrim is supplied with a finished steel flush bezel, available in white, polished brass or chrome (440mm diameter).

Reader Service No 178

In brief...

• The Vision emergency lighting range from Lyntech includes gen-

eral purpose luminaires which come complete with a versatile pictogram legend for the installer to attach, if required, and edgeglit/exit signs with a choice of 15 different pre-printed pictogram facias.

Reader Service No 180

• George Turnock Ltd has introduced the T4040 range of Brightlight, a 12V 5W halogen lamp in a polycarbonate prismatic enclosure. It has a design life of 4,000 hours and can be used with existing B22 festoon lighting chains.

Reader Service No 181

• A recreation of the original Anglepoise task lamp, introduced earlier this year as a special limited edition to commemorate the 60th anniversary of its invention in 1933, comes complete with all the features of the original.

Reader Service No 182

• The PX-6 controller has 24 programmable 'scenes' and controls 16 channels. There are four 10 amp channels for dimming which operate Tungsten, low Voltage, halogen, neon and fluorescent. The extra 12 channels can be accessed using slave units, the P-5/10s. Operation is by remote control and wall-mounted switch/information panels.

Reader Service No 183

LIF LINE

Wiring For Life

BS7671 has been around since the end of the last century but will be better known as the IEE Wiring Regulations. In October 1992 these were adopted as a British Standard - the 16th Edition of them, that is. And so, to its great credit, the wiring profession has kept a keen eye on its own operations and has a code which ought to be on the Statute Book, keeping a tight rein on the cowboys who would strive to ride roughshod over it. Sadly, it is not on the Statute Book.

Under the present regime there is no legal requirement for electrical installations to comply with the Standard. Lives are at stake if an unskilled "engineer" botches a job, but registration for BS7671 - an accreditation which sets high performance levels and diminishes the risk of danger from faulty wiring - is only on a voluntary basis.

Accredited individuals and companies alike who carry out installation work now find themselves under attack from outfits who do not possess the quality standard and who are winning contracts with cheaper bids. In addition to not meeting recognised professional standards they can afford to be less expensive for a number of reasons: their work may not be backed up by guarantees, nor covered by professional indemnity insurance; their personnel may not be as qualified as they claim to be; finally, unavoidable commercial cost pressures put a further squeeze on contract bids.

Everyone would like to get something for nothing. But the price paid for choosing the cheapest contractor without scrutinising the small print is inevitably paid in invaluable human lives. Government statistics reveal that during every 10-day period at work electricity kills one person, causes major injuries for 12 more and serious injuries to 24 people. 48 people die each year as a result of fires caused by faulty electrical wiring and equipment. Around 300 electrical fires at home and at work are reported each year.

The Electricity At Work Regulations 1989 under the Health and Safety at Work Act 1974 touches on the duties of employers and the risks of injury to persons at work, and the Health and Safety Executive guidance on these regulations mentions BS7671 as a compliant standard for installations to which it is relevant. But the standard itself is not a requirement. This means that the employer is responsible for deciding whether or not an electrical system presents a danger. This in turn is no great benefit to the employer who could do without having to ascertain that the electrical system installed in his or her workplace is legally approved. Far better for the installation and installation procedure to confirm to a recognised UK-wide standard and eliminate unnecessary risks. A mandatory requirement upon specialist installers to meet safety obligations is needed here and now.

The Electricity Supply Regulations 1988 govern the use and supply of electricity by the electricity supply companies to the consumer's premises. However, the legislation stops at the owner's front door. The supply companies do not - and cannot be expected to - examine and verify the safety and integrity of installations. Therefore the onus once more falls upon the employer.

BS7671 needs to be incorporated into the Building Regulations, themselves a statutory instrument governing design, construction and refurbishment of all buildings including domestic dwellings, public buildings, commercial and industrial premises. The Building Control Officer of local councils would ensure the regulations are adhered to. A certificate of compliance from the electrical installer to the Building Control Office would provide evidence that BS7671 had been followed. Therefore, the framework for implementing the legislation relating to BS7671 already exists. The IEE has done its bit - let's hope the Department of Environment does its.

CASE STUDIES

Round black boxes

Ashley & Rock has supplied Manweb Contracting Services with products from its new Modula range for installation in its own premises in mid-Wales.

Manweb Contracting Services was set up as a separate subsidiary to provide electrical installation services to developers and builders in the region and obviously handled the installation of the Modula equipment themselves. "Our electrician was, to say the least, surprised when he saw the round black box," said district contracting manager Graham Monks. "But when he examined the individual components and started the installation everything went smoothly. The round black box speeds up installation time because the hole can be cut with a standard 91mm core drill.

"Our visitors often comment



favourably on the appearance of the Modula light switches and we are now offering them to builders and developers in the region," he continued.

In addition to light switches, Manweb has installed Modula units for cable outlets feeding a water heater and wall mounted panel heaters. **Reader Service No 184**

Banking on Connect

Downlighters from Connect Lighting are said to be contributing to the new corporate image of a refurbished branch of Lloyds Bank in Bristol. "Lighting is a critical part of our new interiors," said the Lloyds' regional architect who specified the product. "We always try to ensure that we achieve, cost-effectively, the desired atmosphere and impact for all our refurbished branches."

Design Lighting at Bristol was consulted on the project and supplied a quantity of Connect's 18W compact fluorescent recessed downlighters for the open plan public area of the bank's Horfield branch. These fittings are available with silver or gold reflectors or with centre-etched decorative glass and are suitable for plaster or suspended ceilings.

Reader Service No 185



IMI Reeves Lampholders - specify the best.



IMI

Why compromise on quality - the IMI Reeves range of lampholders are world famous for value, safety and reliability.



British made, unbeatable quality and value for every application.

IMI Reeves Lampholders

For the enlightened manufacturer.



Send for full details of the complete range of IMI Reeves quality products:-

Holdford Road, Witton, Birmingham B6 7ES
Telephone: 021-356 7369

Telex: 335959 IMICOM G Fax: 021-344 4877

Hagner

Suppliers of the world's finest range of hand-held (and remote operation) meters for measurement of

- ★ luminance (brightness)
- ★ illuminance
- ★ chromaticity
- ★ colour temperature
- ★ ultra violet
- ★ visibility

MINOLTA AGENT & STOCKIST

Hagner International (UK) Ltd.
Victoria House, Christchurch Road,
Kingston, Ringwood,
Hampshire, BH24 3BH.
Tel: (0425) 480088 Fax: (0425) 478111

brought together by a radiussed four arm bracket which top-mounts each lantern. These are embellished with cast spheres to finalise the decoration. Each column is finished in dark green with gold highlighted detailing and the complete assembly is over 6.5m high.

Reader Service No 186



Getting in a Tate at St Ives

The Tate Gallery at St Ives uses a combination of natural light and artificial light to make the most of the exhibits from the local artists it houses. The day time light levels outside the gallery vary enor-

mously, from 5000 lux for a 'standard overcast day' to 50,000 lux for a very bright sky (excluding direct light from the sun). The level required in the gallery is 50 lux on the walls showing water colours and 150 lux for oil paintings.

Architects Evans & Shalev and consulting engineers Max Fordham & Partners favoured roof lights because they provide better quality light and maximise wall space. They use glass with laminated integral ultra violet filter and blinds to reduce the amount of light.

The positioning of the blinds was all-important and algorithms were used to ensure that natural light levels on the walls are maintained while direct sunlight is geometrically obscured. Fluorescent tube lights were specially designed and installed inside the roof lights, then set in front of reflectors for even illumination when natural light levels are low.

A particular problem faced by Evans & Shalev was to accommodate the dramatic views of Porthmeor Bay into the design of the sculpture gallery by fitting a sweeping glass wall, while at the same time preventing too much light entering the space. Therefore, the geometry of the roof overhang, the side walls and the sill of the glass wall are set like the aperture of a camera, controlling the light levels.

Reader Service No 187

The customer is always in the light

Anna Newham casts an eye over the world of retail lighting.

We all like to think we are unaffected by advertising, packaging and marketing – but we are. I was reminded of this recently in a supermarket, where I saw a man exchange a pizza box for a similar one on the shelf, explaining to his friend, "that one looks a bit off".

Taking a closer look (as one does) I saw that the colours on the box were a little faded compared to the other boxes but the sell-by-date was the same. So the leap had been made in the shopper's mind, faded colours – faded food.

Retailers know this, which is why they spend an enormous amount on packaging. Colour psychology comes into play, so our natural preferences are not offended. For example have you ever seen white sugar sold in green bags? That's because green and sugar don't go, according to colour psychologists.

The art of display

The same sort of thought and money goes into displaying and lighting goods. The psychology of the art of display is firmly embedded in our subconscious minds. When shopping for clothes, we know that the cost of clothes in a shop is in inverse proportion to the number of items on display. If we want to avoid re-mortaging the house we veer away from shops with six items of clothing on show, polished wood floors, and subtle lighting.

We all instinctively know by the 'image' of a shop, which price, style and quality categories the goods within will fall into. And lighting is an integral part of the subconscious message.

If the general level of lighting is high, the fittings inexpensive and the colour tone cold – you're in a supermarket or bargain shop. If the general level of lighting is

low but accent lighting is everywhere – you're in a high class boutique.

Shops know their target customer and it is important that the lighting both projects the right image and attracts the customer. And the importance of getting it right should not be underestimated.

The Saxone shoe shop in Oxford Street recently changed its lighting and decor – resulting in a staggering 77% increase in sales.

Previously the shop had a high level of background lighting provided by 1200 x 600mm recessed fluorescent lights. In addition products, set against a background of light grey panelling, were highlighted with 12v, 50W dichroic lamps. The overall effect was very bland and uninviting.

The central lighting was reduced by about 60% by using a number of recessed luminaires with four 18W Col 83 lamps in each. The grey panels were changed to 'beech' and 'mahogany' colours and the products are now highlighted by 48 adjustable semi-recessed downlighters with 50W white SON lamps.

This illustrates the importance of restricting the ambient lighting so as not to "wash out" the accent lighting.

In general, lighting levels around the shop should not vary beyond a ratio of 3:1 but within a single display area greater variations in lighting levels are needed to create a dramatic effect.

Lighting should also produce interesting modelling of the products to reveal their form and texture. Directional lighting, such as spot lighting, reveals form and texture, creates 'sparkle' and tends to increase the contrast of displayed objects by forming shadows.

Another general principle is that older customers are thought

to prefer a warm and cosy atmosphere, while younger customers tend to prefer a brighter environment.

Products in colour

The choice of lighting scheme also depends very much on the type of merchandise, fridges look better under cool colour lamps, whereas woolly jumpers look better under warm coloured lamps.

Supermarkets tend to go for a high level of brightness, to enable customers to read food labels and prices, but even here a certain



Downlights from Staff fit the bill at Leadenhall Street Marks and Spencer

L A N D M A R K S I N L I G H T I N G

Lighting control: Now there's a soft option...

Strand's GSX™ console announces a new era in lighting control, offering you the flexibility to choose and upgrade your console software via the integral 3.5" disk drive. Simply select one of the Genius™ foundation applications for 25, 50, 75, 100 or 125 channels, giving full professional functionality, then add Kaleidoscope™ for advanced effects and colour scroller control, and Communiqué™ adding MIDI, Midi Show Control, DMX in, RS-232 control and more. So when the time comes to add features or channels, you won't have to replace your desk – just upgrade your software. It's brilliant!

Ask for more information now!

Strand Lighting

Tell me more about the amazing GSX™ console and the Genius™ suite of programs.

Name _____

Job Title _____

Company _____

Address _____

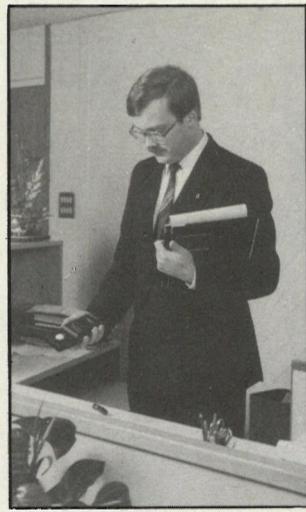
Postcode _____

Telephone _____

Fax _____



MINOLTA



Minolta light meters are world renowned for their accuracy and ease of use. All have digital displays and many have a data-out facility for connection to a logger or computer.

Whether you want to measure Luminance, Illuminance, Chromaticity or Colour Temperature we have a meter to suit your needs. For a little light reading ring 0908-211211, ext: 216 and ask for our catalogue.

MINOLTA - MEASURING UP TO YOUR STANDARDS

amount of 'light enhancement' takes place. Red meat is not as naturally red as it appears in shops. The red is due partly to dyes and partly to the use of warm colour lamps. It's colour psychology again - 'natural' meat looks like it's going off. Similarly the fish counter is lit with cool colour lamps to give it an icy 'just plucked from the sea' look.

The Pleissencenter in Zwickau, eastern Germany is a newly opened shopping complex comprising a supermarket, DIY shed, furniture shop, special liquor shop and other retail outlets.

The 35,000m² Pleissencenter is lit with nearly 4,000 fluorescent fittings worth DM1.2 million, manufactured at Thorn Licht's factory in Neheim. The general grocery area of the supermarket is lit with 3100 batten fittings from the Primag II range.

At the checkouts and at the delicatessen, butchery and other special counters a suspended ceiling

has been installed where 750 high performance Modulight luminaires with low brightness louvres create a 'high quality' appearance.

The luminaires also provide a good, low glare working environment for employees. This holds true for any store - whatever the lighting arrangement elsewhere, good lighting must be provided around the cash tills. Apart from the obvious practicality of employees needing to be able to see what they're doing, low lighting around tills creates suspicion in the minds of customers - are they to be short changed or deceived in the dark?

Total cost

Another major factor in retail lighting design is the cost of the scheme. Retailers must be made aware of all the costs involved - capital, maintenance, life-cycle and the pay-back period. Too often capital costs are considered

more important than getting the right lighting for the installation, with scant attention paid to running costs.

The luminaires specified were Staff Lighting Downlight 2000s. These luminaires give good colour rendition, and as compact fluorescents, are long lasting and energy saving. Fewer fittings than normal are said to be needed to achieve a desired lighting level and re-lamping is necessary only every 8,000 hours. The range is designed to be recessed into suspended ceilings up to 50mm depth.

Follow the rules

The scope for imaginative design in retail lighting is enormous, and will be successful as long as it observes 'the rules', ie it helps to attract customers, allows them to become visually intrigued by products, and provides sufficient light by which to write cheques or inspect change when buying goods.

And just as importantly, the design needs to take into account the customer's unconscious 'shopping psychology' and fit into prevailing expectations of how shops should look and goods be presented. No 'natural looking' meat or green sugar bags please.



Above: Better lighting and decor at Saxone, Oxford Street led to a 77% increase in sales. Below: the Pleissencenter in Zwickau has basic but bright lighting provided by 4,000 fluorescent battens.



IT'S ALL HERE IN BLACK & WHITE

Here's the clearest product endorsement that any manufacturer could offer. Moduspec -

Crompton's brand new recessed luminaire is backed by a 3 YEAR GUARANTEE. So you specify, buy and use it with complete confidence.

Designed, manufactured and marketed by

Crompton, Moduspec complies with EC directives on VDT and meets categories

1, 2 and 3 of CIBSE Lighting Guide

LG3. It's produced to exacting standards of quality; that's how

Crompton built its reputation, and we're

prepared to put that in black and white.

MODUSPEC

Recessed Fluorescent Luminaires

Moduspec recessed fluorescent luminaires backed by Crompton's 3 year guarantee.

Crompton
LIGHTING

Wheatley Hall Road, Doncaster, South Yorkshire DN2 4NB
Telephone 0302-344555 Fax 0302-367155

Reader Service No. 8
Page 8

METWAY FUSED TERMINAL BLOCKS.

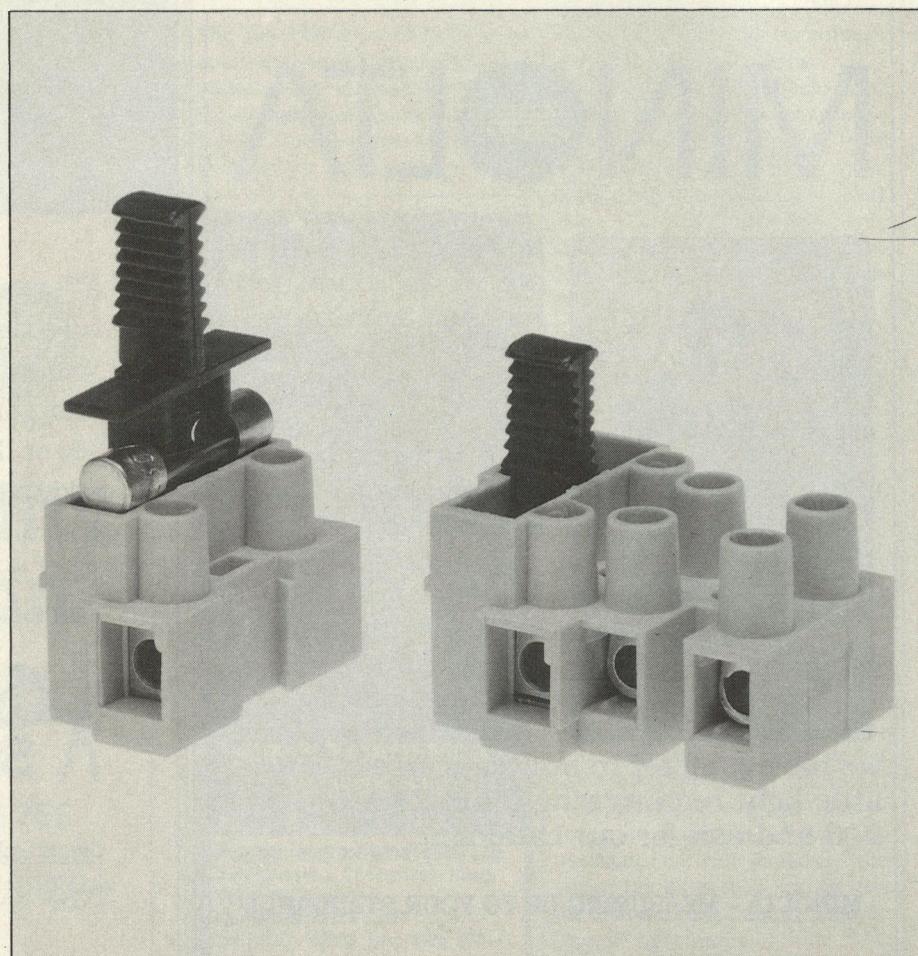
ALWAYS MAKE THE RIGHT CONNECTION.

- Fused terminal blocks available in two sizes.
- Series 503 Sl: to suit 20mm x 5mm fuses.
- Series 1003 Sl: to suit 25mm x 6mm or 32mm x 6mm fuses.
- Available in 2-5 pole lengths with additional single pole connectors which can be interlocked to make up longer lengths.
- Can be supplied with base entry earthing screws and available with or without wire protectors.
- Moulded in grey and black flame retardant nylon 6/6.

Send for catalogue ref. MEI 89S

METWAY

Metway Electrical Industries Ltd.
Barrie House, 18 North Street, Portslade
East Sussex BN41 1DG. Tel: (0273) 439266
Fax: (0273) 439288. Telex: 877166



A new energy efficient light source, suitable for the retail display market, is said to offer significant improvements in light output, life and reduced energy consumption when compared to standard halogen display lamps. *Brian Haywood discusses the advantages

Infra-red reflecting coatings are being used by GE Lighting to increase the efficacy of tungsten halogen lamps. The improvement in performance represents a major technical advance on a scale similar to the introduction of tungsten halogen lamps 30 years ago. A range of PAR and linear lamps is now available with improved life which will enable existing lamps to be replaced by IR reflecting lamps of equivalent luminous performance using 25-50% less power. This is because IR reflective coating directs IR radiation back onto the filament so less input power is required to achieve the correct filament temperature.

Incandescent lamp efficacy

The conventional tungsten filament GLS lamp only radiates approximately 8% of the input power in the visible region. This is expressed typically as 12-15 lumens/watt. Halogen lamps enable filaments to operate at higher temperatures without a reduction in life and this slightly increases the visible content of the radiated energy, up to 18-19 lumens/watt, which is approximately 10% of input power.

Normally the IR losses which are about 80% of the incandescent lamp input are simply wasted or at best deflected by a dichroic coating to minimise the unwanted heating of the illuminated objects.

IR lamp design factors

The IR lamps are halogen lamps coated with an interference filter made of alternating layers of materials with high and low optical indices. Typically, tantalum oxide or titanium oxide is the high index material and silicon oxide the low index material. The thickness of each layer is designed so the filter reflects IR radiation while transmitting visible radiation.

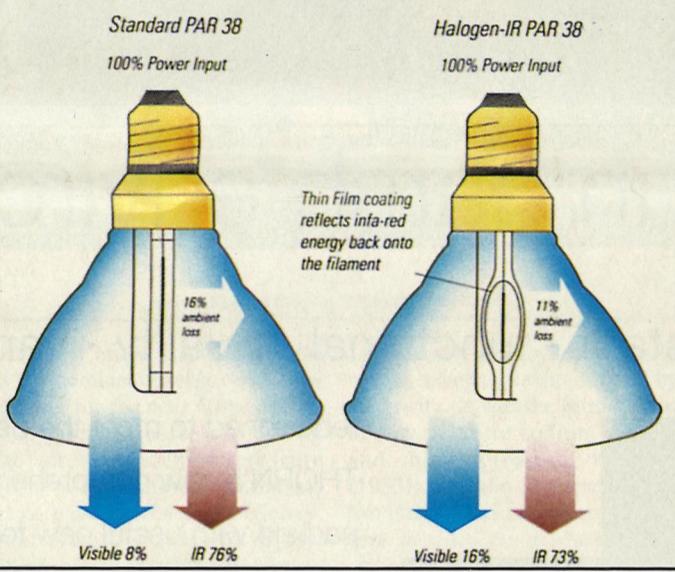
It is not possible to use all the IR radiation for several reasons. The filters are not 100% reflecting, the optical coupling of the filter on the lamp envelope and the filament is not perfect and the

filament absorption is low. Tungsten has high reflectivity of IR. The filament wire is coiled to trap the emitted IR but the coil is not dense enough to intercept all the IR reflected back onto the filament. The best filaments capture less than half the returned radiation.

A linear lamp with a long cylindrical filament positioned precisely on the axis of a narrow diameter coated tube is a good geometric arrangement for reflected IR and was the first lamp type to adopt this technique. For short linear lamps the loss of IR from the ends of the lamps reduces the efficacy gain.

For interference filters, the reflection band width and reflectivity depends upon the difference

How Halogen-IR works



The IR-PAR 38 produces up to 33% less heat than standard lamps.

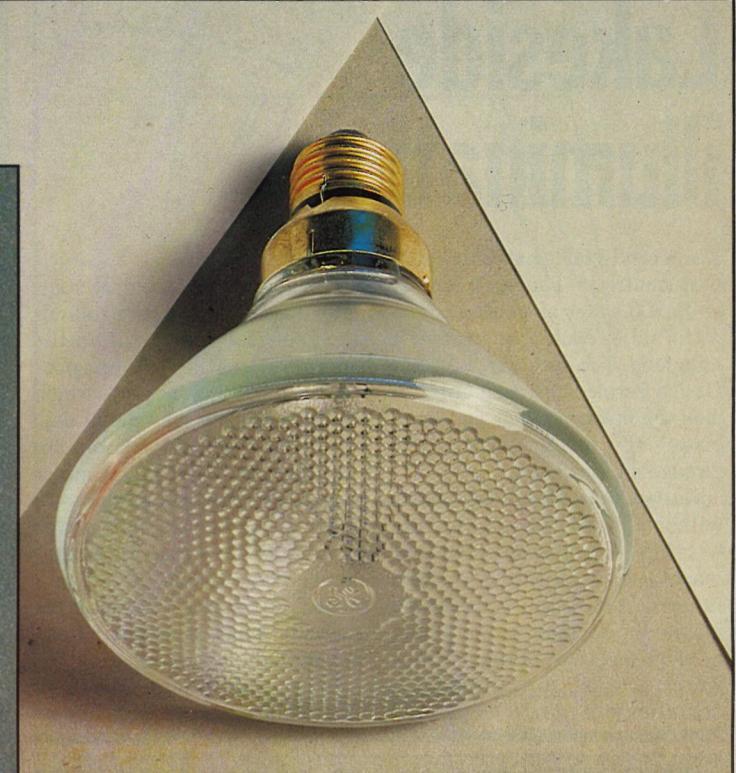
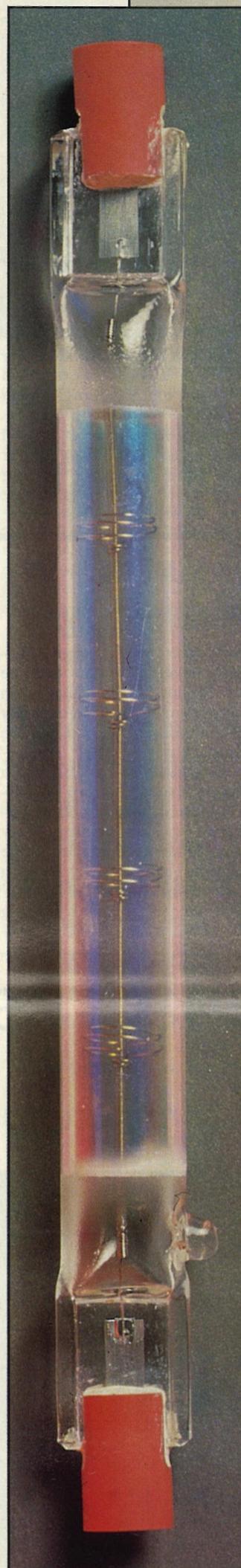
coated onto an elliptical envelope by a proprietary chemical vapour deposition process, produces 33% gain in lamp efficacy.

Other benefits of Halogen-IR lamps are significantly reduced heat and increased life. The radiated heat is about 50% lower than a non-IR halogen lamp with the same light output. This can result in conservation of sensitive materials, better comfort for occupants of the lit space and reduced air conditioning loads.

Standard products

The lamps which now have the IR coatings are versions of types in common use, the K1 and K9 linear tungsten halogens and the PAR38. The benefits of these lamps are available to many users immediately by retro-fitting in existing sockets. The economic advantage of changing to Halogen-IR is indicated by the simple cost comparison below but there is an additional environmental benefit. Less lamps means less material for disposal at landfill sites, and less electrical consumption means less pollution.

In the comparison below, a



GE Halogen-IR lamps (above and left) use layers of rare metallic elements to allow almost 100% transmission of visible light while reflecting infra-red energy back on to the filament.

SWITCH ON TO SAFETY



Pencon, the largest worldwide supplier of UK moulded plugs, has expanded its product range with the introduction of a new UK plug.

The new single insulated "tamper proof" plug has many of the benefits of a traditional moulded plug, as well as addressing the cost effective requirements of the lighting market.

PLUG FEATURES INCLUDE

- Approved to British Standard BS1363A.
- Solid brass semi-insulated pins.
- All wire connections incorporate crimped terminations ensuring complete product safety and reliability.
- Mechanical latching and ultrasonic staking ensures a permanent fixing of the plug body.
- Integral fuse carrier.
- Supported by a wide range of cable approvals.
- Lightweight construction ideal for the lighting market.

PENCON

A division of the Volex Group plc

For further details, contact David Holt at:
Pencon, Pendle Mill, Elizabeth Street, Leigh, Lancs WN7 3AE
Telephone - 0942 603412 Fax - 0942 606450

IN LICO



Quality Products Quality Service

Backed By 18 Years Of Experience In The Lighting Industry. We Offer The Most Comprehensive Range Of Lighting Components Ex-Stock. Please Call Our Sales Office For More Information On:

Tel: 021 554 6439

Industrial Lighting Components Ltd.
(Importers, Distributors, Manufacturers)
Unit 1, 5-7 South Road, Hockley,
Birmingham B18 5LT.
Tel: 021 554 6439
Fax: 021 554 3857

Lakeside illumination

The recently built Lakeside shopping centre in Thurrock houses up to 300 shops and contains two main halls, each a quarter of a mile long. The specifier, Lighting Design Partnership, used Osram's tungsten halogen lamps and Powerstar HQI metal halide lamps throughout the centre.

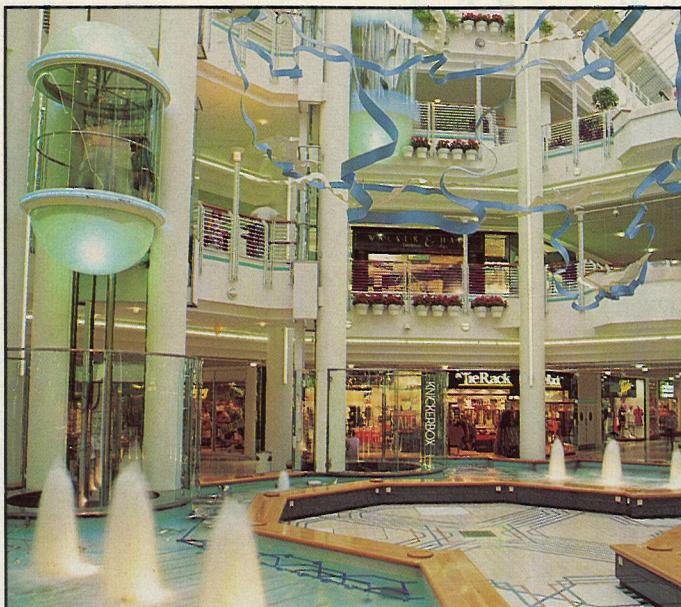
Rather than flood the centre with harsh artificial light, the lighting scheme at Thurrock makes use of the glazed roof and large central dome to provide maximum daylight in the public areas. Tungsten halogen lamps were chosen for Lakeside's downlighters and balustrade

mounted uplighters.

The central data control computer monitors and controls all the electrical output within the shopping mall. 24 pre-programmed lighting 'scenes', which take into account the time of day, day of the week and season, are sent through electronic dimmer panels throughout the centre.

When light levels are insufficient 250W Powerstar HQI natural daylight lamps, which are trained on the many plants in the mall, are switched on and remain so until light levels increase.

100 pendant fittings, each using four 150W incandescent lamps,

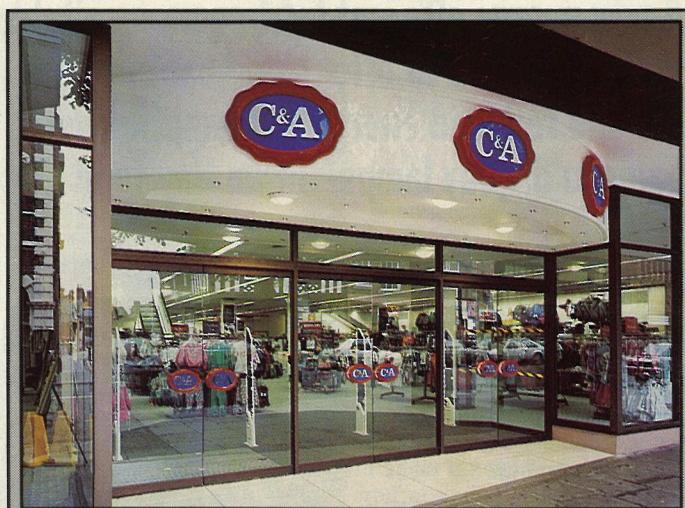


have been installed in the lower food court and Lakeside Pavilion - a craft and shopping market modelled on Covent Garden. There are also a number of wall mounted luminaires with 50W or 70W SON lamps. The lighting design is intended to help recreate the atmosphere of old-style

markets.

Eight Powerstar HQI 150W spotlights are mounted around the rim of the central dome. These, together with a combination of coloured filters and mirror, attractively illuminate the glass dome and the water fountains below.

Reader Service No. 196



C&A in Chester is using QL lamps in KBS100 downlighters to illuminate the entrance canopy and the wells of the escalators to give illumination with good colour rendering and a CT of 3,000K. The lamps operate by induction so there are no filaments or electrodes and lamp life is governed by the electronics. This gives a virtually maintenance-free lamp life of some 60,000 hours.

An additional feature at C&A was the installation of small downlighters in between the QL downlighters. These are of the fibre-optic type - light comes from fibre-optic tails at the back of the QL luminaires.

Reader Service No. 197



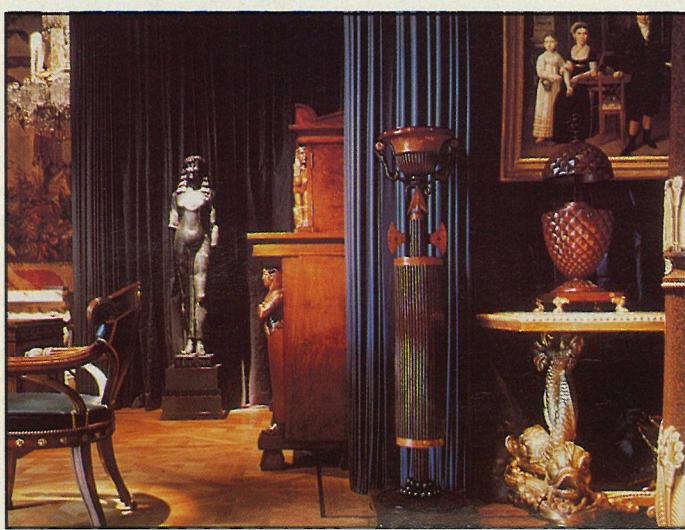
For the refurbishment of the Dunnes store in Dublin, Moortite became involved with interior designer John Michael to provide appropriate lighting for the shop's vast ceiling area. The solution proved to be special 1200 x 1200mm recessed luminaires with silver louvres to add sparkle to the ceiling, while maintaining the appropriate visual scale.

Reader Service No. 198

Fine art and flexible fittings

One of the country's most important dealers in antiques and fine art, Carlton Hobbs, called upon Concord to provide lighting for its 130m² exhibition stand at the Paris Biennale.

Representatives from Carlton Hobbs visited Concord's showroom where the Control Spot prototype was on display. They tested the performance of the spots and projectors by bringing various objects, such as a 'shell' chair, to the Concord's lighting theatre, then placed a £70,000+



order for the stand.

Control Spot is suited to exhibitions as each luminaire has inbuilt dimming facilities. In Paris three dimming levels were used on a stepped dimmer - 100% for dark absorbent surfaces and 80% or 60% for marble and paintings. Spot reflectors were focused on objects and furniture, while broad and medium beam reflectors were used to light tapestries.

After the show, the luminaires were installed in Carlton Hobbs' refurbished Pimlico Road showroom, as part of the new lighting scheme also designed by Concord.

Reader Service No. 199

raising standards in harsh environments

waterproof · safety · corrosion resistant · functional · quality · vandal resistant

LU europroof®



redesigned to meet the demands of the nineties, THORN's new comprehensive LU europroof series is packed with useful new features and a wide range of options, which help to make it the toughest and easiest to fix waterproof fitting to come on to the market for years

here's just a sample of its many talents

- IP65/67 • safety marked • kite marked
- ENEC marked • acrylic or polycarbonate diffusers
- noryl or stainless steel lockable toggles
- three control gear options
- cold store, low glare and emergency versions
- jointless gasket • fast fix gear tray

for further details, simply ring our brochure line on 081-967 6300

Retaining our heritage

Since the mid-1970s a new sector has emerged in the lighting industry. This article is based on a paper given by Malcolm Richards entitled, 'Developments in Heritage Lighting'

As good a date as any to mark the beginnings of public lighting in Britain is 1807, prior to which experiments with coal gas, notably by William Murdoch, had met with some success. But it was German entrepreneur, Frederick Albrecht Winzer (later anglicised to Albert Windsor) who saw the commercial potential of coal gas for lighting. His marketing endeavours culminated in 1807, when he lit Pall Mall with 13 elegant cast-iron lamp posts, spaced 30-40 yards apart. Each of these carried three globes and the light from the luminous gas flames was described as 'clear, bright and colourless'.

London lights

Eventually he won government approval to incorporate the first gas company in 1812, the London and Westminster Chartered Gas Light and Coke Company. By the early 1820s London had over 30,000 gas lights.

Research into burner design gradually produced greater efficiencies, with William Sugg a leading figure in this research. But, by the late 1870s, the challenge from electricity grew, with the established but complicated carbon arc and the simpler carbon filament lamp introduced by Swan and Edison. The latter was 10 times as efficient as the luminous gas flame, giving 2 lm/W. This proved to be the stimulus for further research and led to the incandescent mantle from Carl Auer von Welsbach. The rare earths with which it was impregnated, thoria and ceria, incandesced through the heating value of the flame and increased effi-



Fig. 1
Heritage style with light control.

cacy to 2 lm/W, maintaining gas as the dominant energy source for lighting for the next 60 years.

Inverted burners, pre-heating the air supply, high pressure burners and automatic controls gave ever increasing efficacy, controllability and reliability. Even as late as 1937 the City of

Leeds had 644 miles of streets lit by gas, compared with only 25 by electricity. It was the introduction of low pressure sodium (1932), and high pressure mercury (1933), with the long-established tungsten filament lamp (1908) that heralded the gradual demise of gas.

Elegant lanterns

Back at the beginning of the gas era, urban life was developing at a fast pace in the early 19th century, demanding the ever-increasing provision of lighting to allow safe passage after dark. The Victorians' flair for design and decoration was unleashed on this new technology and a vast range of lanterns and lamp posts began to be produced, many having a vigorous and elegant style.

Then, beginning around the 1920s, attitudes changed and a much starker design philosophy took hold. The efficient high

lumen packages offered by sodium and mercury lamps, and the latest improved high-output gas burners, were harnessed into functional enclosures of glass lenses and reflectors to he newly declared principle effective street lighting – by enhanced contrast, or silhouette vision. The superior performance began to displace the old, and understandably so. More recently we woke up to the impending extinction of something we liked and preservation began; only more so. For in public lighting, preservation turned into a kind of revival.

Reproducing the past

So it was in the 1970s when, rather than scrap old cast iron lamp posts removed to make way for lighting improvement schemes, they were restored and an attempt made to sell them. This failed because there were no appropriate lanterns to go with them, so reproductions were made of the 'Windsor' lantern – the traditional four sided design – in original materials but with modern lamps. These met with a slow start but eventually the market proved to be extremely receptive and since 1976 a whole new sector in the lighting industry has

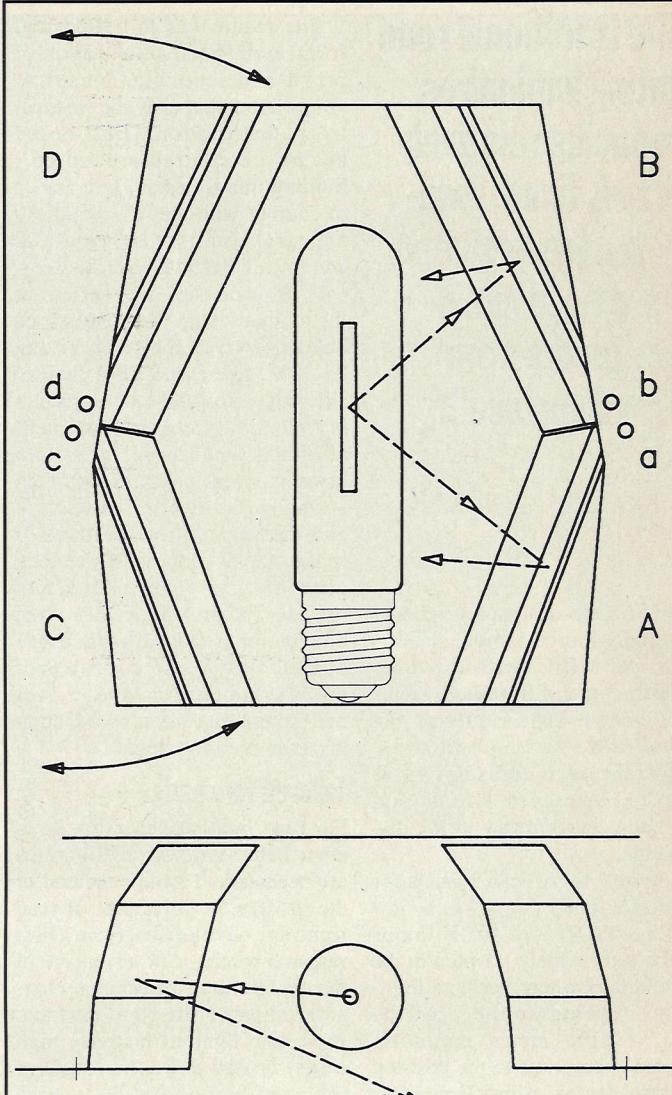


Fig. 2
Variable optic.

alternatives on technical grounds to justify its place in the street scene, by day and by night.

Lighting performance

When first re-introduced, heritage style lanterns frequently accommodated vertically fixed lamps suspended below a white reflector

tray, giving an appearance somewhat reminiscent of the gas lantern. Light control was incidental but with low power lamps they fulfilled the decorative role required of them. Dome refractors – perhaps better known as sugar bowls – were then incorporated to give a degree of optical control.

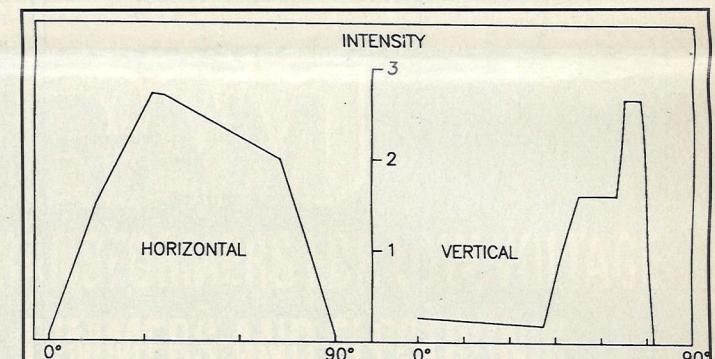
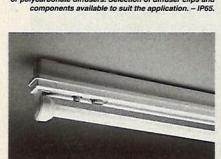


Fig. 3
Calculated intensity distributions.



WE SUPPLY THE COMPONENTS, YOU COMPLETE THE LUMINAIRE



Here is just a selection of high quality luminaires available, in component form, to manufacturers and OEM's.

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

With our commitment you can increase your range by including our products without having to capitalise on expensive design, development and tooling costs. Catalogue and data sheets of full product range available to lighting manufacturers and OEM's.

GENERALUX
Generalux Ltd, 21 Old Newtown Road,
Newbury, Berks RG14 7DP
Tel No: (0635) 48131
Fax No: (0635) 35675

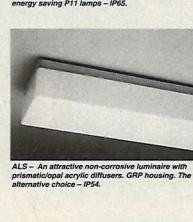
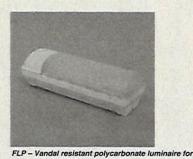
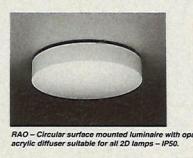


Table 1
Illuminance Requirements.

Part of BS 5489 Requirements for Mixed Pedestrian and Vehicular Traffic		
Category	Maintained Lighting Requirements	
	average	minimum point
Part 9 – Urban Centres	lx	lx
9/1/2 City or town centre	30	15
9/2/2 Suburban shopping street	25	10
9/3/2 Village centre	15	5
Part 3 – Subsidiary Roads	lx	lx
3/1 High night time use	10	5
3/2 Moderate night time use	6	2.5
3/3 Minimum night time use	3.5	1.0

ORBIT HALO LUMINAIRES

Following a claim by Marlin Lighting in respect of the copyright in Marlin Lighting's ORBIT HALO luminaires, Taison Lighting have, without admitting liability, withdrawn their round SATURN product from their range of luminaires.

"The traditional road lighting luminaires producing relatively narrow, fixed, twin-beams are designed to promote luminance on the strip of road surface"

As they were designed originally for small source lamps, such as GLS and MB/U, with the more modern, larger diffuse-bulb lamps light control was less precise, but they shielded the lamp to improve appearance and add some glare control, increased DLOR and gave some asymmetry to the distribution.

Clearly, there was a need for improved light control for the low wattage SON and MBF lamps which were widely adopted in the installations where heritage lighting was being applied. At the four to five metre mounting heights appropriate to the post-top lantern styles some light was often desirable above the horizontal to illuminate the upper building facades, refractors are well suited to this. A project was therefore initiated, in conjunction with SIRA, to develop a computer program to design a more effective compact prismatic controller in pressed glass that completely surrounded the lamp.

Those same principles apply today for traffic routes and where older style city, town and village areas are involved that are being enhanced or refurbished, a solution would be to use heritage lanterns as a decorative feature and to provide the 'working' light

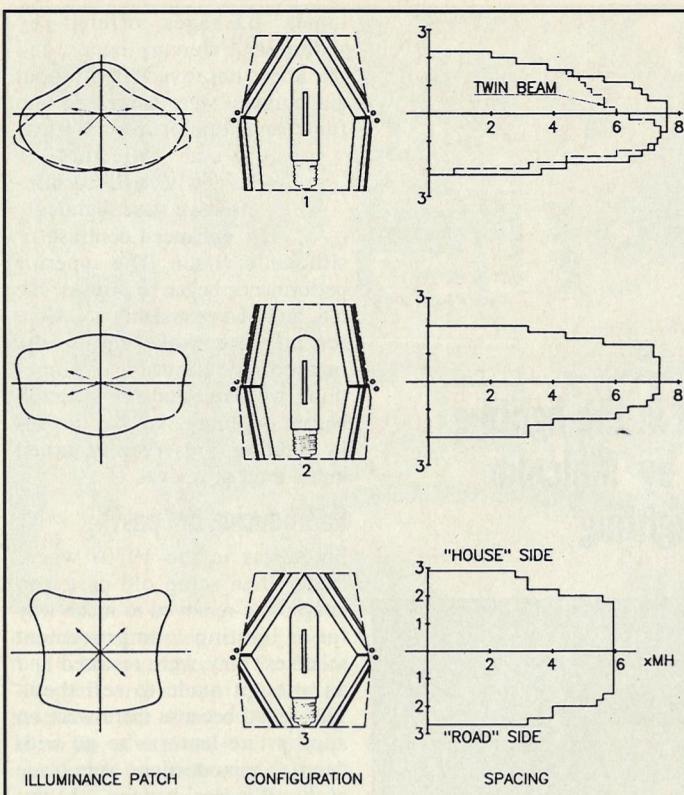


Fig. 5
Variations—optic, illuminance, spacing.

from less obvious conventional luminaires. However, rather than duplicating equipment, a more positive approach was to use the traditional style alone and give it the functional lighting role also.

The industry was quick to adopt this approach and began to embody the up-to-date optical systems developed for conventional side-entry lanterns—pressed aluminium reflectors and reflector/refractor combinations. Post top and pendant mounting lanterns covered the range of lamps up to 250W, giving the ability to cope with all categories of traffic routes and subsidiary roads in BS 5489, with performances equalling their modern counterparts in achieving carriageway luminance average and uniformity. Engineering these units into the various styles of lantern required considerable design ingenuity if the very reason for using the lantern—its elegant style—was not to be sacrificed. Proportions had to be carefully adjusted where necessary to take the reflectors; with the control gear often integral in the hood or canopy, and above or alongside the lamp in a restricted space, careful thermal design was required.

It was concluded that a reflector system consisting of four independent elements could provide a substantial degree of flexibility in the shape of the resultant light distribution, whilst allowing a fairly simple mechanical

main consideration and its distribution in terms of average level and minimum value is specified over the whole area.

Lantern siting

The traditional road lighting luminaires producing relatively narrow, fixed, twin beams are designed to promote luminance on the strip of road surface, with more restricted light on the surrounds. Different types of light distribution are desirable when lighting a whole area to a relatively uniform illuminance. Furthermore, to handle a wide variety of shapes and sizes of lit space, the lighting designer wants flexibility in siting lanterns, so that they can be placed where they will be visually most appropriate and convenient for installation rather than where the light distribution dictates. The ability to vary the light distribution is, therefore, highly desirable.

To achieve this desirable state of affairs over a useful range requires the azimuth beam shape from each element to be carefully chosen by means of its length and relationship to the lamp. Figure 4 shows the combined distributions predicted for two configurations: a) when both beams are superimposed to give an axial distribution and b) when they are split apart towards their limit to produce a wide distribution, where the beam widths must be such as to avoid a dip in the centre.

In practice a range of distribu-

tions, as selected in figure 5 are generated from three typical reflector settings. At one extreme, configuration 1, the light is biased towards the roadway but to meet the requirement to light the surroundings one of the reflector pairs deals with the pavement side. The superimposed conventional twin beam is seen to be less good in this respect, and to meet the requirements of part 3 of the BS, attention paid to this would be worthwhile, whether heritage or not. Configuration 2 shows a narrow axially symmetric patch for use, for example, in centrally mounted installations in shopping streets and pedestrian areas whilst configuration 3 produces a squarish shape for wider areas, plazas, car parks and the like where spacing between rows needs to be maximised.

Uniformity

To compare their effectiveness, it is useful to look at the parameter that normally determines spacing, which for an illuminance specification will almost invariably be uniformity—in BS quoted as the minimum point value. A diagram can be constructed showing the maximum spacing between lanterns in a line that will just yield the minimum value, for a range of widths of area either side of the line (house side and road side). Figure 5 shows the diagrams for 3/2 for a lantern with a 6800lm lamp at 5m mounting height and 0.85 maintenance factor. Any point outside the boundary will be below Emin. Where the line cuts the kerbline will, of course, be the limiting spacing regardless of how much further the line then extends along the road.

In between these patterns lie other combinations which seem to give fairly small differences at first sight. But the shape of an area is often such that with one distribution, no matter what spacing is adopted, the minimum illuminance cannot be met unless an extra row of lanterns is installed, or lanterns forced into sites where they may not be preferred. Variable optics can be applied as effectively to what we used to call group B installations as to town centre and public amenity lighting. The emphasis on lighting against crime has changed the role from merely marking the run of the road to providing fairly uniform illumination."

"The emphasis on lighting against crime has changed the role from merely marking the run of the road to providing fairly uniform illumination"

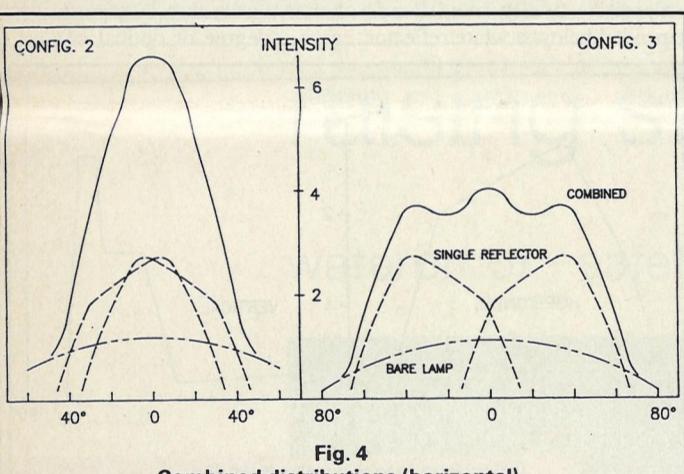
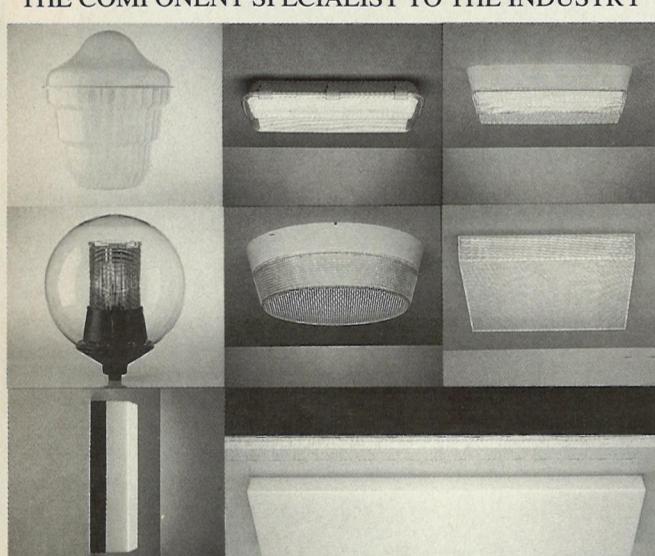


Fig. 4
Combined distributions (horizontal).



ACRILUX

THE COMPONENT SPECIALIST TO THE INDUSTRY



VERALUX LTD

Tel: 0525-875425 Fax: 0525-874202

Stockists and Distributors of Acrilux components for Veralux to the OEM's of the lighting industry.

BCP Lighting Ltd.

The Dairny, Tingrith, Milton Keynes, MK17 9EG



Fig. 6
Pendant lantern in The Strand.

Ingress protection

The optical controls discussed and the use of highly efficient lamps are partly negated if dirt accumulates—the light output suffers and the shape of the distribution is degraded. The original gas lanterns could not, of course, be fully sealed since they required considerable quantities of air to burn the gas. The ventilating top, which is regarded as such an attractive feature of these

"Heritage lighting is much used in 'special' places where aesthetic values rather than absolute economy are the criteria"

lanterns, was a balanced flue which allowed air in, often to be pre-heated, and combustion products out.

Today, the flue remains as an essential decorative feature, but is closed; and a good deal of effort has been devoted to sealing the rest of the lantern to upgrade IP ratings.

The tray carrying the lamp and optic is then sealed to the glazing bowl and by using proprietary sealed reflectors, or adapting others, ratings up to IP6.6 are achieved. In a similar way, refractor units can be sealed, with the lampholder fixed within a removable gasketed can. Even complete conventional luminaires have been embodied within heritage shells, although it must be recognised that quality of appearance should be one of the hallmarks of this style of lighting and such an approach may not always be visually satisfactory.

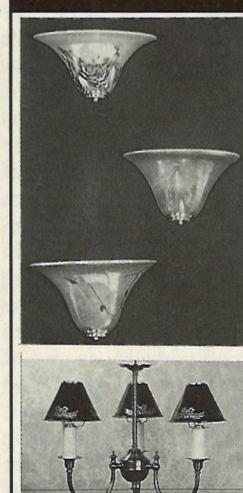


Fig. 7
Gasketed hood.

How does London's 'Limehouse Link' tunnel see the light with Hagner?

Remote control photometers from Hagner continuously measure changes of luminance levels at the three entrance areas. The signals are fed to a computerised control which then adjusts the tunnel's interior lighting to match changes of the exterior ambient daylight. Result: No 'black hole'!

Hagner International (UK) Ltd.
Victoria House, Christchurch Road, Kingston, Ringwood, Hampshire, BH24 3BH. Tel: (0425) 480088 Fax: (0425) 478111



RETAIL OR CONTRACT

At Arden we are consistently introducing new and exciting additions to our comprehensive range of contract decorative lighting. New to our product range is a superb selection of exterior traditional lanterns, a vast array of uplighters in a multitude of colours and finishes which can accommodate low energy lamps. Recently our imperial pendant fitting was acknowledged as one of the most flexible luminaires on the market, making it ideal for restaurant, hotel or pub installations. The Imperial lighting is also available in a smaller version designed for sale through lighting retailers.

For a full colour Brochure Please contact:

ARDEN MANUFACTURING
(Birmingham) Ltd.

SUPPLIERS OF DECORATIVE AND CONTRACT LIGHTING
47-50 TENBY STREET NORTH, BIRMINGHAM B1 3EG
Telephone: 021-233 1776 Fax: 021-200 1147



Reader Service No. 13

Lighting Equipment News, September 1993

Table 2
Lamp Choice.

	SON high output	MBF	HQI	MCF compact
Lumens	6800	6000	6800	6500
Watts	70	125	100	4x24
Efficacy	97	48	68	66
Colour temp K	2000	3800	3200/4000	3000/4000
Colour rend.	moderate+	moderate	good	good+
Life kh	12	16+	7.5	8

This goes a long way towards minimising maintenance but, where possible, it is more satisfactory to seal the whole lantern to a high level to protect the control gear and electrical connections as well. It is often the construction of the lantern that makes achieving this a challenge without destroying the proportions that give it elegance. Lanterns such as the square 'Windsor' lend themselves well to a hinged hood; the lid overlaps the frame so the initial barrier is provided, and by gasketing the hood where the edge of the vertical rim on the frame intrudes, a reliable compression seal is formed. On round lanterns a similar result is obtained with a lift-off lid, secure and pulled down onto the gasket by, say, a screw-on finial. By such methods complete lanterns can be sealed up to IP6.6, if that is appropriate.

Light sources

Quality as an attribute of heritage lighting does not stop at the hardware; at night this quality needs to be continued in the light it emits – its colour appearance and rendering. Even in the days of gas

these aspects received attention. The composition of rare earths giving the mantle its incandescence could be varied from "an intense white light to a golden yellow or greenish colour" according to Welsbach's literature from around 1890. Whilst in 1921 the South Metropolitan Gas Co introduced the 'Daylight Mantle' to satisfy a demand apparently for a light 'nearly approaching the solar spectrum', and life and candlepower depreciation were as topical then as now.

Aesthetic values

Heritage lighting is much used in 'special' places where aesthetic values rather than absolute economy are the criteria. This extends to the lamp used, where colour is of importance. In the main, most users would opt for 'white light' and here it is a question of compromise. Table 1 summarises a typical set of characteristics of various lamp types that could be used for a lumen package of 6000lm or so. SON is widely used, with some reluctance when colour is really important because the standard type is rather orange. If lower wattage improved colour lamps become established they would go a long way towards addressing this problem. The apparently small increase in colour temperature to about 2150K coupled with much improved colour rendering (Ra 60 instead of 25-35) does a lot but at a likely expense of effective life, as the colour will deteriorate. 100W would be needed as the efficacy drops. 'White' SON, as developed for display lighting, is an option in some circumstances with an excellent colour appearance (2500-2600K) and colour rendering (Ra 80-85) but efficacy is further reduced so 150W would be necessary for the above lumen package with a life of probably around 6000h.

At the illuminance levels specified, a higher colour temperature light can be very effective: not too high or it may appear uncomfortably cool, somewhere around or a little above tungsten. HQI at 3200 to 3700K offers a promising alternative, and the shorter life is perhaps not too much to sacrifice

for the benefits of a pleasant white appearance and quite good colour rendition. MCF has not really a large enough output, but it has a lot to offer in lower power applications – especially in colour and cost. The advantage of the small source lamps such as SON and HQI is that they are more amenable to precise optical control, thus maximising energy utilisation.

The heritage industry has grown to make available to a wide market the best from the past, not only the relatively distant past of gas, but the more recent also. It is not to perpetuate the past for reasons of nostalgia, but to maintain designs that have inherent quality. It satisfies the demand for lighting that will complement the period of the street scene, or add style and elegance for its own sake.

The future path for the industry looks clear. There is an ever increasing appetite for stylish products, even against the background of a recession. New products with improved performance will satisfy this in part. But to

"There is an ever increasing appetite for stylish products, even against the background of a recession"

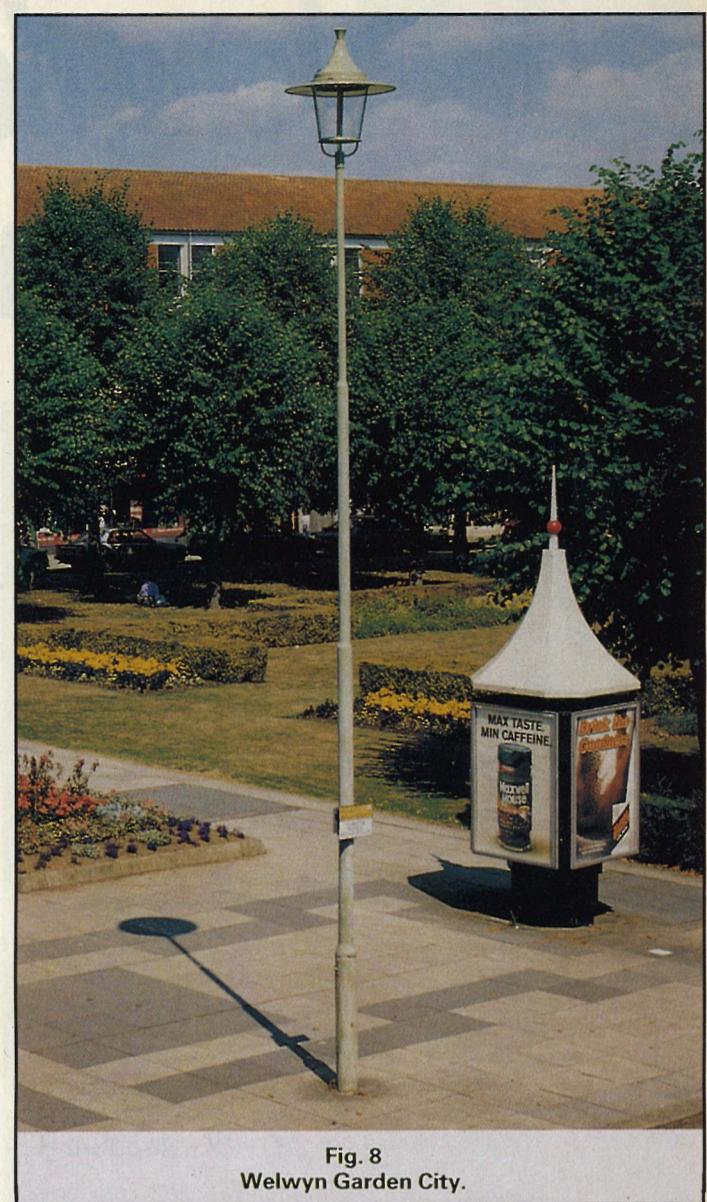


Fig. 8
Welwyn Garden City.

*Malcolm Richards is technical director at DW Windsor. His paper was first delivered at the 1982 Institution of Lighting Engineers' Annual Conference in Swansea.

Reader Service No. 200

RAM

ELECTRONIC TRANSFORMERS FOR LOW VOLTAGE LIGHTING, DIMMERS AND ELECTRONIC FLUORESCENT HF BALLASTS

**ELECTRONIC TRANSFORMERS 20-300VA (PATENT PENDING)
DIMMABLE AND NON DIMMABLE**

HARD FIRED DIMMER CONTROLS FOR ELECTRONIC & CONVENTIONAL INDUCTIVE TRANSFORMERS

DIMMER FEATURES

- 50 to 1000VA
- Flush or surface mounting
- Hard fired ■ Separate rocker switch ■ Internally fused ■ 16A Accessible Terminals ■ Auxiliary output ■ Mains 'on' indication ■ Enclosed electronics ■ Optically coupled output stage ■ BS800-VDE 0875

ELECTRONIC FLUORESCENT CONTROL BALLASTS

- Energy saving P/F 0.96
- Full range for both PL and standard tubes
- Single and twin tube ballasts
- Complies with BS800, VDE 0875, EN55014, VDE 0107/7 ■ Transient protection to IEC929 ■ Instant start ■ Flicker free ■ Line frequency harmonics EN60555/2, VDE0838/2 and BS5406/2 ■ Lamp failure shut down

RAM ELECTRONICS
THE PROFESSIONALS IN POWER CONTROL
Ram Electronics (UK) Limited, Wharfedale House, Iron Row, Burley-in-Wharfedale, West Yorkshire LS29 7DB
Tel: (0943) 863884 Telex: 578285 RAM(G) Fax: (0943) 862630
A DIVISION OF AIR MOVEMENT GROUP LTD.

Reader Service No. 14

Lighting Equipment News, September 1993

Reader Service No. 15
Page 13

So how long do discharge lamps last?

*Nick Kelso examines the controversial topic of discharge lamp life and lumen maintenance

Some years ago, an attack was launched on lamp manufacturers for supplying lamps to the US market that appeared to be twice as good and to last twice as long as those supplied for use in Europe. The attack was sincerely meant; the evidence to support it was misleading.

Lamps supplied internationally are, of course, identical within normal manufacturing tolerances. What differs is the national standard for predicting economic life. In the US, the quoted life expectancy of a discharge lamp is the point at which half of a batch on life test under laboratory conditions have failed completely. In this country, economic life is more usually quoted as the burning hours achieved before the lamp's light output has fallen below 80% of its 100-hour figure. By these yardsticks, the same lamp does indeed last twice as long in America as it does in the UK!

When to replace

Unlike filament lamps, discharge lamps generally don't die – they fade away into a senility of reduced light output and, in some cases, increased energy consumption, so that their dwindling light output actually costs more and more to provide. Clearly, the point is reached where it is cheaper for the user to replace them than to continue to use them. To aid users, manufacturers publish data under three main headings:

1. Life survival curve: The aver-

age life expectancy (to extinction) of a large batch of lamps tested under controlled laboratory conditions.

2. Lumen depreciation curve: The average fall-off in lumen output of a batch of lamps measured over a specific period of time and under controlled laboratory conditions. The initial light output is the 100-hour figure and subsequently the lamps are maintained at nominal wattage by controlling the input supply.

3. The economic service curve: An attempt by manufacturers to predict economic life by publishing the additive percentage value of the life survival curve and the lumen depreciation curve. Given no spot lamp replacements in a lighting scheme using lamps where both the survival and lumen maintenance curves have fallen to 90% after, say, 10,000 hours, the economic service curve would show 80% indicating that the performance of the installation in terms of light output has fallen to 20% below its initial design lumens.

A fourth piece of data, the average rated life, is the US standard to indicate the point at which half of a batch has failed under laboratory conditions. This information is of little or no value to the user in determining the economic relamping cycle for his installation.

These laboratory figures are all very well, but it has to be accepted that they give no more than a yardstick indication of the replacement cycle in a particular installation. Spot replacement, for

example, cannot be ignored in street lighting for reasons of safety – lamps need to be replaced as soon as they fail. In every lighting installation, the user has an obligation to maintain adequate lighting levels at all times, regardless of cost.

It might well be argued that, because no two installations have the same economics, there is no case for international agreement 'on the exact point in the life cycle of a lamp' where reduced performance indicates that the time has come for economic replacement. In that case, it is up to each user to determine his/her own relamping cycle by interpretation of manufacturers' published life expectancy and lumen maintenance data.

Interpretation of the life survival curve in terms of cost-effectiveness must take into account the fact that it is far cheaper per lighting point to replace all the lamps in one go than to spot-replace lamps as they fail. The survival curve for the high-pressure sodium lamp, for example, shows that after 10,000 burning hours (about three years' use), around 12 percent of lamps in a large installation will have failed and spot-replacement of these lamps will probably have been necessary for reasons of safety.

Cost of replacement

Any attempt to save money by extending the interval between bulk replacements will be increasingly offset by the rising cost of spot replacement. At some point, the lines will cross. That point indicates the optimum bulk relamping cycle based on lamp life alone, and ignoring the effect of lumen depreciation.

Obviously, judged by the criterion of cost-effectiveness alone, the economic life of a discharge lamp depends not so much on the lamp itself as on the actual cost to the user of replacing it. Users have done very little research in this area; one bulk user that has is Hertfordshire County Council. Relamping in Hertfordshire is contracted out under a carefully-negotiated deal that gives an extremely reasonable figure for spot replacement of failed lamps.

The recently-retired Mr N Zuman set up a computer system for Hertfordshire which monitored, evaluated and provided inventory for the county's maintenance contract in trials involving SOX-E low-pressure sodium lamps. His eventual conclusions resulted in Hertfordshire changing from a two-year to a three-year bulk change programme, despite the fact that the generally-accepted life expectancy of a SOX-E installation is two years.

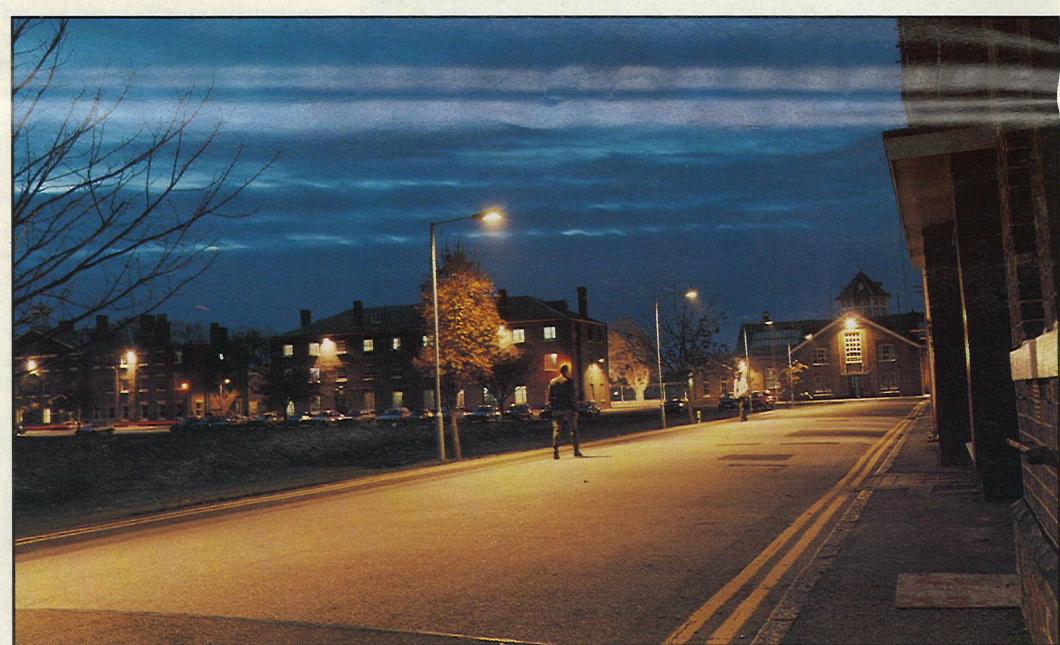
Mr Zuman subsequently wrote a paper on his finding which was published in Lighting Journal as well as being presented to various regions of the ILE. It is interesting to note that Hertfordshire still



180W SOX lamps used to light 15 miles of the M5 motorway before it was widened.



These were replaced by 250W SON/T Plus – which can be changed to 400W if the M5 widens again.



Flat glass lanterns are used to reduce glare.

operate a three-year bulk change programme using SOX-E lamps and, on Mr Zuman's figures, still reckon to save money on their maintenance contract for street lighting – but, as has been said, it is a very good contract.

Authorities who carry out their own maintenance often have no idea of the cost to them of attending a failure. Not so long ago, one such authority was horrified to find that the cost of changing a 60p GLS lamp in sheltered housing was £12.50!

The beneficiaries of a lighting installation judge it, not on its cost-effectiveness but on the quality and quantity of light it provides. To ensure that the installation is at least meeting minimum standards, the user will need to overdesign initially to compensate not only for lumen depreciation of the lamp but light loss in the luminaire or lantern caused by the ingress of dirt.

Overdesign implies an energy penalty that must be costed in alongside the increasing cost of

spot replacement in an old installation, and will inevitably shorten the bulk relamping cycle.

Cleaning and relamping

It is obviously not cost-effective to have separate cycles for cleaning and relamping – both jobs need to be done at the same time.

Extension of the relamping cycle therefore implies the selection of luminaires or lanterns which either have designed-in self-cleaning properties, as with certain high-bay luminaires, or with higher IP ratings in which the first characteristic numeral, which is concerned with the degree of protection against ingress of solid objects, is the most significant.

The second characteristic numeral, concerning water ingress, is less important – if water gets in, then the luminaire is either faulty, badly made or subject to quite exceptional circumstances.

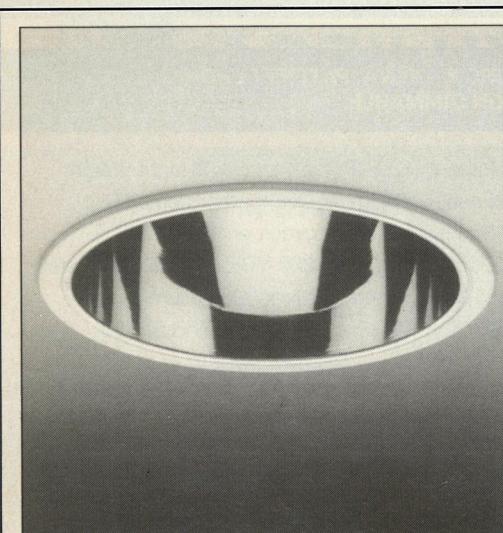
The highest IP rating against solids is IP6* – dust cannot enter at all (talcum powder is used in

the test). Experience has shown that luminaires of suitable design with an IP rating of IP6* can be left for three years between cleaning and, indeed, there is a marked trend for roadlighting lanterns designed specifically for use with high-pressure sodium lamps to be made with the Degree of Protection IP6*.

This philosophy has now been extended to lanterns using the new SOX PLUS long-life low pressure sodium lamp, and should certainly be considered by any user planning to extend his/her bulk relamping cycle to much over two years.

In summary, it can be said that the determination of the economic life of a given discharge lamp in a particular situation is a difficult but worthwhile job that generally only has to be done once and can show a very worthwhile reduction in the overall lighting budget.

* Nick Luso is PR manager for Philips Lighting



keenlight

The Lowline HE series

The Lowline HE series luminaires already provide high output low energy lighting in many High Street stores including Debenhams, Dorothy Perkins and Principles. The Lowline is available in a range of lamp and reflector combinations including 2 x 18 watt and 2 x 26 watt versions. Keenlight's complimentary range of Low Voltage, Metal Halide and Fibre Optic systems can provide a complete lighting package for all retail applications.

Keenlight Electrics Limited

123 Westmead Road Sutton Surrey SM1 4JH

Telephone: 081 770 1020 Facsimile: 081 770 0997

The Lighting Design Awards 1994

After the successful launch last year of the new lighting awards scheme – the Lighting Design Awards 1993 – the Lighting Industry Federation is inviting submissions for this year's competition – The Lighting Design Awards 1994.

The Lighting Design Awards aim to provide a showcase for the very best of UK lighting, and exemplify the design and energy management skills of the building design teams who have made such a significant contribution to the lit environment.

The competition is simply named to achieve a simple purpose – to promote excellence and innovation in all aspects of lighting design.

The sponsors of the competition no longer find it necessary to run two competitions, or to consider and promote energy efficiency as separate from the principles of good lighting design. The Lighting Industry Federation believes that these lighting awards span a breadth of lighting design and application which has not previously been considered in one national lighting awards scheme.

In the new competition last year, for instance, Mark Henderson, a theatre lighting designer, won a Highly Commended Award for the lighting of a permanent display in the Leisure Category. Anyone who was at the



Philips designed the new lighting for Muirhead Vactric Components in Penge using 50W high frequency tubular fluorescent lamps in industrial reflectors. Illuminance levels have been increased by 36% and the power consumption for lighting reduced by 52%.

awards ceremony at the Savoy earlier this year would surely agree that the inclusion of such an innovative and imaginative scheme lifted the whole presentation to a more exciting level.

The competition will continue to place great emphasis on energy efficiency, of course, and intelli-

gent energy management. This is why the sponsors have made a special award in this new competition – The Design Award for Energy Management. Last year, this went to an electronics company, Muirhead Vactric Components, who, because they could make savings of 52% on their power consumption used for lighting, were able to consider moving to a new site. Had the lighting design not created this opportunity for them, costly modifications to the on-site distribution set-up would have placed severe financial constraints on their ability to re-locate.

The Sponsors

The Lighting Design Awards have gained the support of just about every organisation associated with lighting in the UK. The official sponsors for the Awards Scheme are as follows:-

Energy Efficiency Office

Electricity Association

Chartered Institution of Building Services Engineers

National Illumination Committee of Great Britain

International Association of Lighting Designers

Confederation of British Industry

Royal Institution of Chartered Surveyors

Royal Institute of British Architects

Chartered Society of Designers

Trades Union Congress

Institution of Lighting Engineers

Electrical Contractors Association

Electrical Contractors Association of Scotland

Electrical Wholesalers Federation

Institution of Electrical Engineers

Lighting Association

Lighting Forum

Professional Lighting & Sound Association

What is Good Lighting?

But what does constitute good lighting? At what point does purely functional illumination become "well designed", "innovative" or "aesthetically pleasing"?

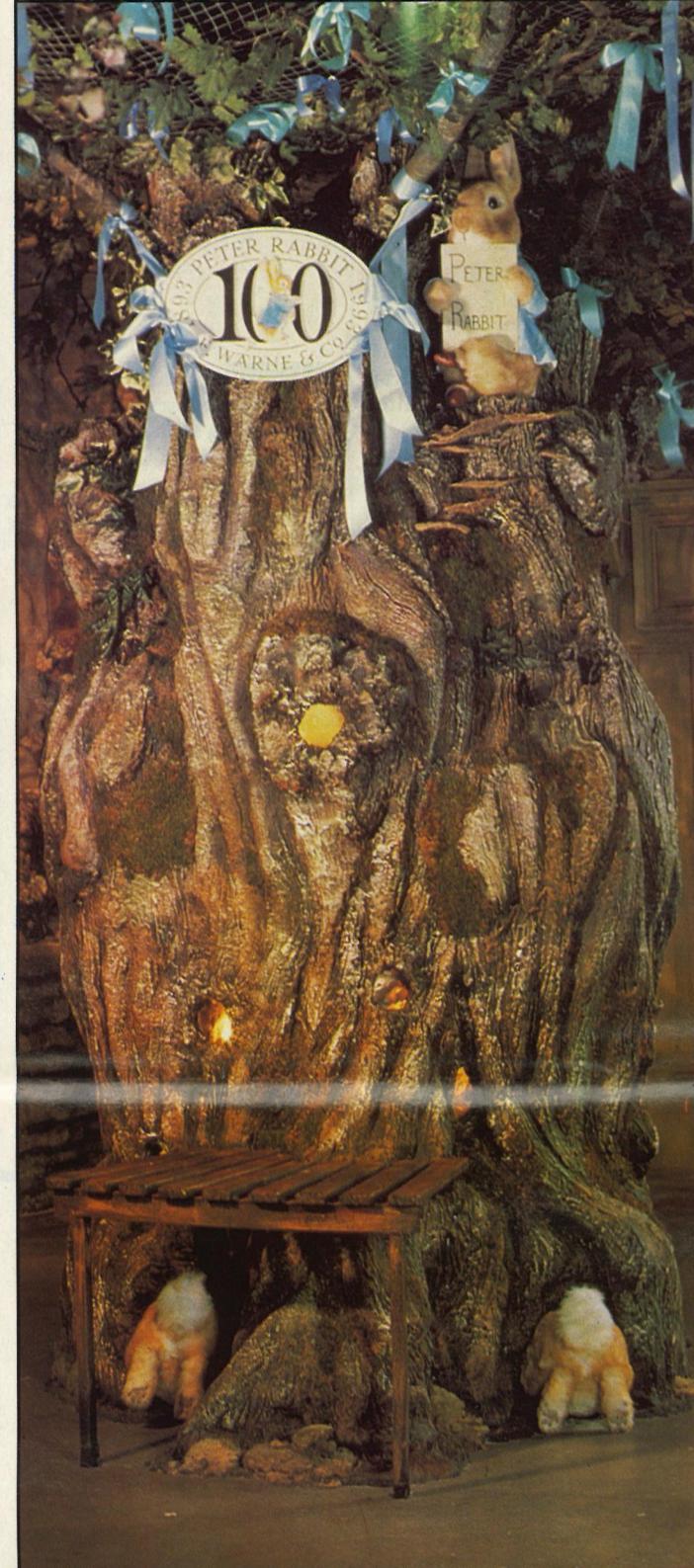
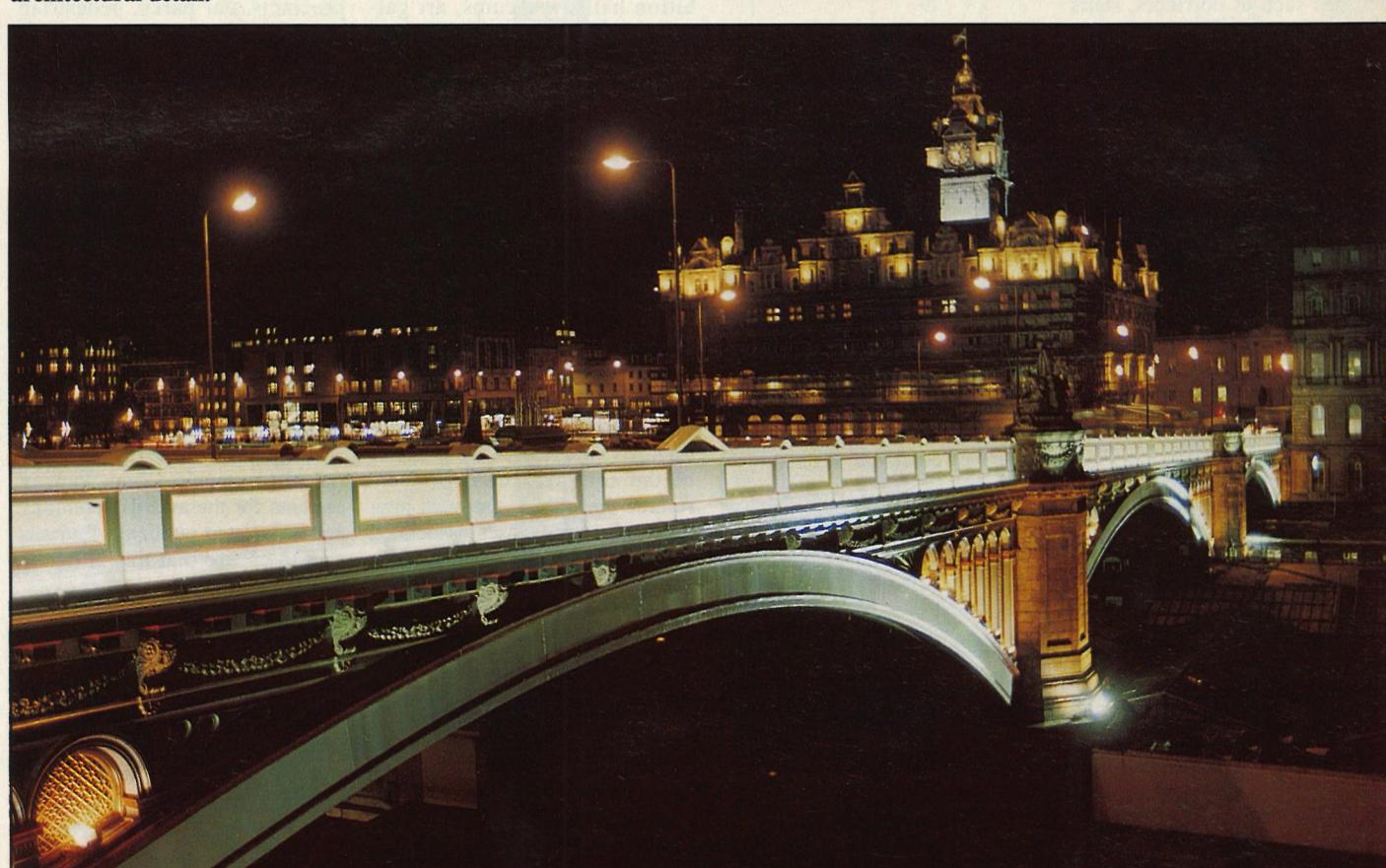
The award-winning examples on these pages illustrate that well-designed lighting can do more than just provide a specific illuminance on a working plane with minimum use of energy. Visual comfort, lighting matched to the task, appropriate contrasts and highlights, the total lit effect – these affect us all, whether con-

sciously or unconsciously. The characteristics of lighting in terms of intensity, direction and colour can enhance the appearance of space, objects and people and help to create a particular mood, or special ambience. And that mood or ambience will almost certainly affect the performance of tasks, our productivity, our safety, the enjoyment of our surroundings, even the quality of our lives.

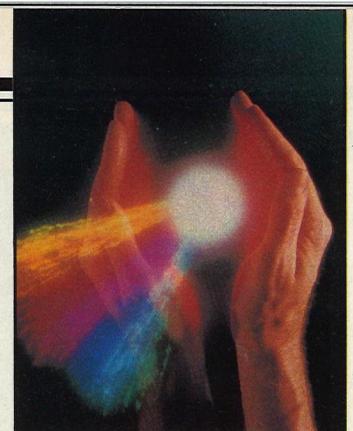
The Lighting Design Awards have been conceived in order to reveal and promote the importance and influence of good lighting and to encourage its wider application by all those concerned with the design, supply, specification, installation, maintenance and use of the lit environment.

Invitation to Enter

The Lighting Design Awards offer a unique opportunity to gain the highest recognition for the owners, or users, and designers of lighting excellence. The sponsors of the Lighting Design Awards invite designers, manufacturers, architects, lighting consultants, installation technicians and service engineers, indeed all those people associated with good lighting, to bring to our attention the schemes which are of a quality and standard to be called a Lighting Design Awards winner.



The Competition Rules



Who Can Enter?

In order to enter the Lighting Design Awards, the attached entry form must be completed by both the designer of the scheme, and the owner, or user or operator, of the lighting installation to ensure that both parties have given their consent to participating in the competition.

Entries can be originated, for example, by individual companies or organisations - including manufacturers and consultants - local authorities, government departments and agencies and health authorities.

The owner or user of the installation, and the designer of the scheme must approve and sign the entry form.

Submission of an entry form will signify acceptance of all the rules.

The decision of the assessors and the sponsors will be final, and no correspondence will be entered into.

The Lighting Design Awards cater for practically all types of lighting installation. There are no restrictions as to the origin of the equipment or the design skills used. Only ROAD LIGHTING AND INDIVIDUAL HOME LIGHTING are excluded.

Qualifying Period

The competition is open to all completed UK schemes that have been installed or refurbished during the qualifying period which is 1st May 1992 - October 29th 1993.

Assessment

The criteria for assessment of the schemes are as follows:

- * Effectiveness in terms of engineering and aesthetics
- * Effectiveness in terms of energy efficiency and energy management.
- * Effectiveness in terms of user satisfaction
- * Innovation
- * Compliance with the scheme rules, and relevant standards, codes of practice and legislation

Every scheme entered will be examined by a panel of independent lighting professionals who form the assessment team. The assessors reserve the right to visit any installation that may be short listed for an award.

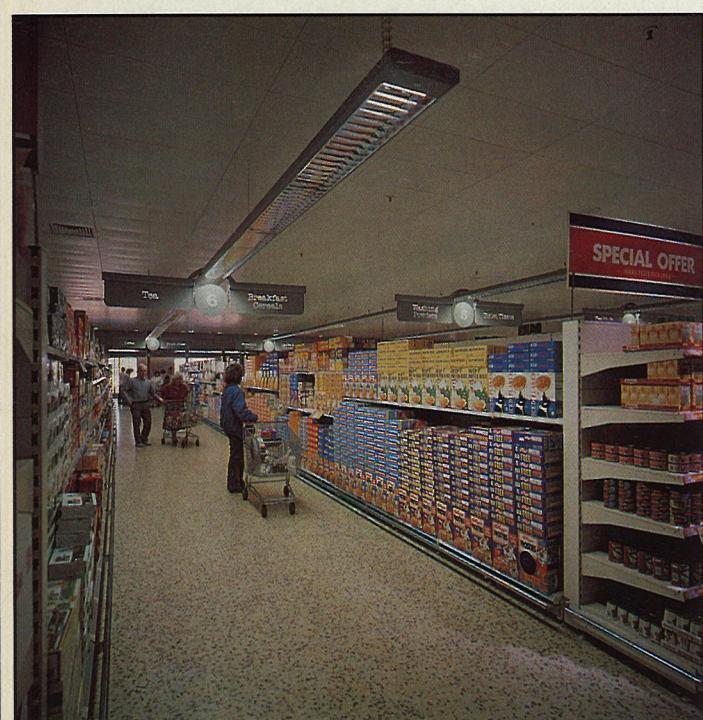


The Bath Forum is a lovingly restored and valuable example of a 1930's grand art deco cinema. The original "Odeon" style luminaires now incorporate a selection of Philips compact fluorescent lamps reducing the installed lighting load by 78% while increasing the illuminance levels.

Categories

Multi Residential

A new category has been added to the competition this year to cover multi-residential buildings. This includes, for example, residential homes, sheltered housing, student halls of residence, nurses homes, hospitals, boarding schools and other residential properties which share communal facilities such as corridors, stairs and laundries.



Vertically displayed merchandise is highlighted for more variety and impact with a special system of compact fluorescent fittings with low brightness symmetrical reflectors designed by Thorn Lighting for Tesco.

Industrial

Foundries, power stations, manufacturing areas, electronic assembly shops, maintenance depots, print rooms, distribution and storage areas, petrochemical and offshore installations.

Commercial

Offices, computer rooms, shopping centres, conference and training facilities, airports, car showrooms, sorting offices and private schools.

golf clubs and ice rinks.

Civic

Court rooms, registry offices, churches, parliamentary buildings, print rooms, distribution and storage areas, petrochemical and offshore installations.

Leisure

Hotels, restaurants, theatres, exhibition halls, museums, art galleries, cinemas, leisure centres, golf clubs and ice rinks.

Photographs

All entries MUST be accompanied by suitable labelled photographs and, if necessary, supporting material such as installation design drawings to enable the assessors to give the fullest consideration to each entry.

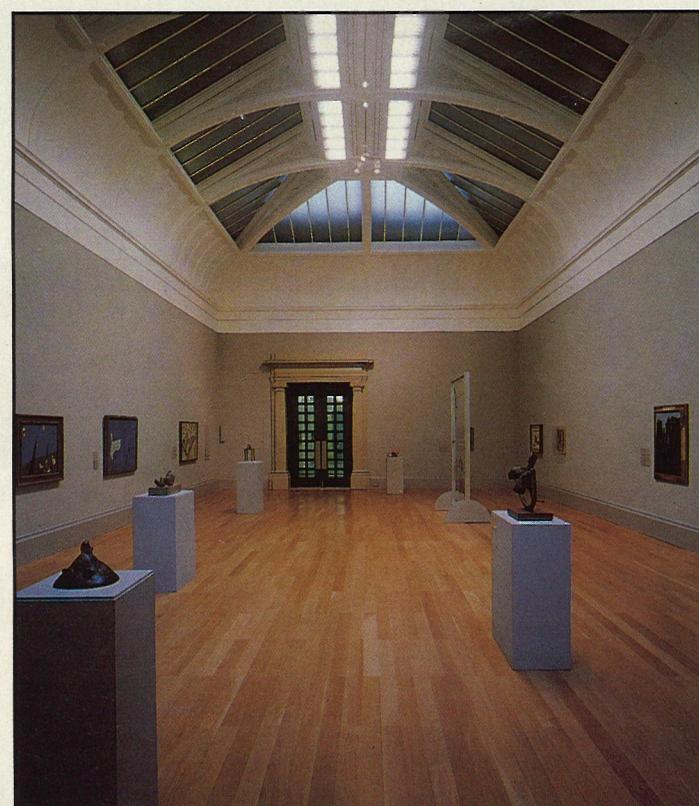
Although copyright of the photographs will remain the property of the entrants, the organisers reserve the right to use such photographs for purposes associated with the competition and its publicity.

Submission of any entry implies full acceptance of this rule by the owner or user, designer and all those associated with the installation. Any description of the installation extending beyond the scope of the entry form must be kept as short as possible and should be submitted on A4 size paper. It is not possible to return any documents or photographs submitted by entrants.

Additional photographic material will be required from winning entrants for the awards ceremony and associated publicity. Entrants should ensure that this is of the highest quality.

The Awards

The Awards will be presented at a ceremony during the Autumn, 1994. A certificate will be presented to the designer of each award winning lighting scheme and also to the owner or user of the installation. In addition to the Winning and Highly Commended Awards which will be selected from each category, the assessors have the discretion to make special category awards to any entry which they feel is outstanding in its approach to a particular aspect of the design process.



The SVM Partnership have used Osram linear compact fluorescent lamps in Erco recessed ceiling luminaires to provide an elegant and sympathetic lighting solution for the Tate gallery in London.

Closing Date

The closing date for entries is December 13th 1993. Entry forms should be completed as soon as possible and returned to:

THE SECRETARY, LIGHTING DESIGN AWARDS
SWAN HOUSE, 207 BALHAM HIGH ROAD
LONDON SW17 7BQ

The Winners of the Lighting Design Awards 1994 will be announced in September 1994.

The Lighting Design Awards are organised and sponsored by the Lighting Industry Federation Limited, Swan House, 207 Balham High Road, London SW17 7BQ. Tel: 081-675 5432. Fax: 081-673 5880

The Lighting Design Awards

Awards 1994

Please complete Section 1 - 6 where applicable. If necessary, details can be continued on a separate sheet and attached securely to the form.

1. Details of Entrant

NAME OF ORGANISATION (owner or user of the installation):

Address:
Postcode:
Telephone:

EXACT ADDRESS OF LIGHTING INSTALLATION (if different from above)

Postcode:
Telephone:
CONTACT FOR POSSIBLE SITE VISIT
Name:
Telephone No:

DESCRIPTION OF THE AREA (indicating its primary use)

LAMPS:
Quantity:
LUMINAIRES:
Quantity:
CONTROLS:
Type:
Manufacturer(s):
Type & Colour:
Quantity:
Manufacturer(s):
Type:
Manufacturer(s):
Post Code
Tel No
Fax No.

DATE INSTALLATION COMPLETED:
APPROXIMATE SIZE OF TOTAL AREA (m²)
(include gear losses where relevant)
REFURBISHMENT, or
NEW LIGHTING
(tick appropriate box)
CAPITAL COST OF LIGHTING (£)
PAYBACK (months)

INSTALLED LIGHTING LOAD (kW)
MAINTAINED ILLUMINANCE (lux)
[] Computer control
[] Group lamp changing
[] Time switcher
[] (more) Reflective decor
[] Regular cleaning schedule
[] Energy Manager appointed
OPERATING HOURS
PER ANNUM
(average)
IMPROVEMENT IN ILLUMINANCE (%)
SAVINGS IN ELECTRICITY (£ per annum)

DATE
QUALIFYING PERIOD
1st May 1992 - 29th October 1993

3. Previous Lighting Installation (where applicable)

Maintained illuminance (lux)
[] Measured
[] Estimated (tick appropriate box)

Installed Lighting Load (kW)
(include gear losses where relevant)
Average operating hours per annum

LAMPS:
Quantity:
Telephone:
LUMINAIRES:
Quantity:
Manufacturer(s):
CONTROLS:
Type:
Manufacturer(s):
Post Code
Tel No
Fax No.

4. Scheme Associates (where applicable)

Designer of the Lighting Scheme

Name:
Position:
Address:
Post Code
Tel No
Fax No.

Architect

Name:
Position:
Address:
Post Code
Tel No
Fax No.

Electrical Contractor

Name:
Position:
Address:
Post Code
Tel No
Fax No.

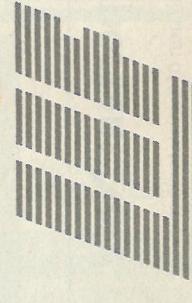
Electrical Wholesaler

Name:
Position:
Address:
Post Code
Tel No
Fax No.

This entry is being submitted by:

Name:
Company:
Signature:

LIGHTING INDUSTRY FEDERATION



The Qualifying Period is 1st May 1992 - 29th October 1993

The Lighting Design

Awards 1994 Entry Form

5. Lighting Designer's Statement

**Where necessary, a fuller statement can be continued on separate sheets and attached securely to the form.*

A THE LIGHTING DESIGN BRIEF*

*Aesthetics and Visual Comfort

*Productivity

*Cost and Energy Effectiveness

*Safety, Security and Flexibility

Where necessary, a fuller statement can be continued on separate sheets and attached securely to the form.

B HOW THE INSTALLATION MEETS THE DESIGN BRIEF* (Identify points of excellence in the installation)

C WHAT DO YOU CONSIDER TO BE THE MAJOR INNOVATIVE FEATURES OF THE INSTALLATION IN TERMS OF DESIGN, EQUIPMENT OR APPLICATION TECHNIQUE?

THIS STATEMENT HAS BEEN COMPLETED BY:
Name: _____
Company: _____
Signature: _____
Position: _____
Telephone No: _____

Important Note

Completion of this statement by the Owner or User implies acceptance of all rules pertaining to the 1994 Lighting Design Awards, in particular the rule relating to photographs and copyright thereof.

Completed entry forms should be sent to:

THE SECRETARY
THE LIGHTING DESIGN AWARDS
SWAN HOUSE
207 BALHAM HIGH ROAD
LONDON SW17 7BQ

Closing Date: December 13th 1993



LIFEUSE ONLY

Section: [C] [I] [CI] [L] [MR] [EX]

Entry number:

Important Note

Completion of this statement by the Lighting Designer implies acceptance of all rules pertaining to the 1994 Lighting Design Awards, in particular the rule relating to photographs and copyright thereof.

To advertise in
this Directory contact
Alastair Moyes

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759

ACCREDITED SAFETY TESTS



AMTAC
Laboratories Div.
Altrincham, Cheshire
WA14 4EP
Tel: 061-928 8924
Fax: 061-927 7359
Contact: Paul Harris
NAMAS accredited and
E.C. notified body, a rapid &
personal service
guaranteed.



BSI Testing
Hemel Hempstead
Herts HP2 4SQ
Tel: 0442 230442
Contact: Dr David Price
Electrical Safety Photometry & E.M.C. testing, NAMAS accredited, E.C. notified body



Rowland Laboratories
Safety Testing Division
15 Chelsea Fields Estate
Western Road
London SW19 2QA
Tel: 081-646 8383
Fax: 081-646 8099
NAMAS accredited and EC Notified Body



S.G.S. United Kingdom Ltd
Alderton Lane
Wembley HA0 1WU
Tel: 081-998 2171
Fax: 081-997 9723
E.C. notified body and
NAMAS accredited lab.

ALUMINIUM LOW BRIGHTNESS AND VDU LOUVRES



A.D.D. Louvre Sales Ltd.,
9-10 Seax Way,
Laindon, Basildon,
Essex SS15 6SW
Tel: 0268 415828
Fax: 0268 410985
The UK's foremost
manufacturers of low
brightness aluminium
louvres.



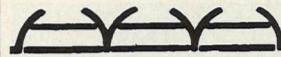
Avonlux Limited
Nathan Way, Woolwich
London SE28 0AZ
Tel: 081-854 3388
Fax: 081-851 5047



ESTABLISHED 1947

North Moors, Slyfield
Industrial Estate
Guildford, Surrey GU1 1SE
Tel: 0483 502202
Fax: 0483 575123

Manufacturers of louvres to
conform to CIBSE (LG3)
category 1, 2 & 3. Full range
of economy louvres
available for fast delivery
Reflecting the Future.



MBM Plastics Ltd
Aluminium Division

204 Oldbury Road,
West Bromwich,
West Midlands B70 9DE
Tel: 021-553 7551

High quality louvres for the
lighting industry.
Also - a wide range of
plastic light controllers.

Precision Louvre Company

Oakfield Farm, Blind Lane
Little Burstead, Billericay
Essex CM12 9SN
Tel: 0277 653817
Fax: 0277 655717

AMENITY & STREET LIGHTING

D. W. Windsor Ltd
Marsh Lane, Ware, Herts
SG12 9QL
Tel: 0920 466499
Fax: 0920 460327

ANODISED ALUMINIUM COIL AND SHEET

alanod*
Alanod & Thyssen Garfield
Birmingham B21 0BH.
Pre-anodised strip-blanks
for louvres and reflectors
available from stock to your
precise requirements.
Telephone or fax for more
information. Thyssen
Garfield is a quality assured
source to BS5750/1S09002
Tel: 021-554 5242
Fax: 021-551 9315

ANOCOIL

Ano-coil Ltd
The only British
manufacturer of Pre-
Anodised aluminium coil
and sheet using the latest
technology that enables the
production of reflectors and
louvres that meet the
requirements of the lighting
codes.

Ano-coil Service Centre

Tel: 0922 55411
Fax: 0922 55667
The Service Centre Division
of Ano-coil will provide you
with a 'one location
purchase' programme'
combining comprehensive
stock of Ano-coil pre-
Anodised products,
supplemented by stocks of
commercial grade coil and
sheet and specialised
extrusions.

Ano-coil Ltd.

Chippingham Drive,
Kingston, Milton Keynes,
MK10 0AN
Tel: 0908 282044
Fax: 0908 282033

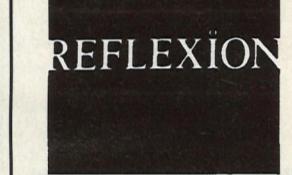


Pre-anodised and pre-
painted aluminium slit coil
and cut sheet for your
lighting reflector and louvre
requirements available ex
stock. Contact:
Non Ferrous and Feralco
Tel: Walsall (0922) 722200.
Fax: Walsall (0922) 722466

ARCHITECTURAL & COMMERCIAL LIGHTING CONSULTANTS & SUPPLIERS



BBI Lighting
23 Parkside
Coventry CV1 2NE
Tel: 0203 551444
Fax: 0203 525862



REFLEXION LIGHTING GROUP

Lanwades Business Park
Kentford, Newmarket
Suffolk CB8 7PN
Tel: 0638 750088
Fax: 0638 750030
Lighting Design Consultants
and Specialist manufacturers
of all types of luminaires and
fibre optic systems.



INFINITELY SUPERIOR LIGHTING

Wever & Ducre
Beversesteenweg 565
8800 Roeselare, Belgium
Tel: 010 32 51 22 8046
Fax: 010 32 51 22 9703
Design & Manufacture of
high quality luminaires and
systems for commercial and
domestic applications.



INFINITELY SUPERIOR LIGHTING

ASSEMBLY - COMPLETE MANUFACTURING SERVICE



Unit 5, Bay Works,
Eastbourne BN24 6EG.
Tel/Fax: 0323 767904
Assemblers of all forms of
lighting. Design and
manufacture undertaken.



Fixed price assembly and
wiring, all work to lighting
association code of practice
scheme quality.
C & M Services
Tel: 0422 885018
Fax: 0422 885787

B&J SERVICES

3 Mimram Rd., Hertford
Herts, SG14 1NN
Tel: 0992 501118
Fax: 0992 500371
(BS 5750 Approved)
Lighting Specialist - All
design work undertaken
modifications, assembly
and manufacture.

CABLE

Kingston Cables

Amsterdam Road
Hull HU8 0XF
Tel: 0482 830367
Fax: 0482 830369
Manufacturers of general &
heat resistant cables for the
lighting industry.

CABLES / SILICONE

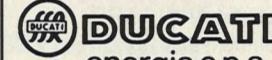


Technical Silicones Ltd.,
6 Ambassador Pl, Stockport
Rd., Altrincham, Cheshire
Tel: 061-941 5766
Fax: 061-926 8722
All harmonised, Euro,
V.D.E. and C.S.A. approvals
available.

CAPACITORS



DNA Capacitors (UK) Ltd.,
Contact: John Reeve
125 High Street
Berkhamsted
Herts HP4 2DJ
Tel: 0442 877340
Fax: 0442 877449



Manufacturers of poly-
propylene lighting
capacitors, 1.5mfd to 50mfd
multi fixing system
patented "Failsafe" device
apros. BS5750, BS4017,
I.M.Q. semko, nemko,
demko,
N.F. & Kema Keur.
UK Distributor & Agent:
Hales Instruments Ltd

Atlantic Business Centre,
Atlantic St., Altrincham
Cheshire WA14 5NQ
Tel: 061-941 4540
Fax: 061-926 8597
Contact: Mr Bob Bentley



Plastic and Metal Case
Lighting Capacitors to BSI
& VDE. UK Agent and
Distributors:

Hylec-Elettro Gibi (UK) Ltd
Wellingborough NN8 6ZB
Tel: 0933 677633
Fax: 0933 675771



Sole UK Representative/
Distributor
Vossloh-Schwabe UK Ltd
42 Tanners Drive Blakelands
Milton Keynes MK14 5BW
Tel: 0908 611060
Fax: 0908 613131

COLD CATHODE



Cold Cathode & S.E.F.T.
Sintered electrode
fluorescent tubing
lighting installations
nationwide service

National Signs Ltd.,
1 Hampshire Street
London NW5 2TE
Tel: 071-485 3363
Fax: 071-284 1700

Oldham Lighting

Oldham Lighting
6 The Lanchesters
162-166 Fulham Palace Road
Hammersmith,
London, W6 9PA
Tel: 081 563 7300
Fax: 081 563 7301
Design, manufacture,
installation and
maintenance of long-life,
high output lighting systems
using Hi-Slim, high voltage
cold cathode and our new
LOW VOLTAGE COLD
CATHODE.

COMBINED MAINS & EMERGENCY LIGHTING



OVA Bargellini UK Ltd.,
Unit 7, Triangle Business Prk
Pentrebach, Merthyr Tydfil
Tel: 0685 371222
Fax: 0685 387494

COMPACT ELECTRONIC ADAPTORS



For both 2D and PLC Lamps
Motem House, Brooker Rd
Waltham Abbey
Essex EN9 1JW
Tel: 0992 788668

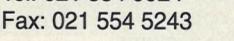


Manufacturers of Minitronic®
Adaptor & Electronic Compact
Lamps Extra Low Voltage
Lighting & Transformers
Tel: 0438 833561
Fax: 0438 832449

CONTROL GEAR AND COMPONENTS TO OEMs



L&E Components
Tel: 021 554 9924
Fax: 021 554 5243



Smart & Brown

Smart & Brown Limited

Merrington Lane Ind. Est.,
Spennymoor, Co. Durham
DL16 7UR
Tel: 0388 420222
Fax: 0388 420111

DECORATIVE BRASS TUBING

S. Lilley & Son Ltd.,
80 Alcester Street,
Birmingham B12 0QE
Tel: 021-622 2385
Fax: 021-666 6148

DECORATIVE TUBE LIGHTING



Decor Fabrications
Drake Avenue, Staines,
Middlesex TW8 2AW
Tel: 0784 457345
Fax: 0784 469387

DIMMERS



E.S.P. (UK) Ltd.
Unit 5 Furmton Court
Letchworth
Herts SG6 1EX
Tel: 0462 482411
Fax: 0462 673856
Distributor for a unique
range of theatrical &
environmental dimmers.

Hamilton group

R. Hamilton & Co. Ltd.,
Quarry Ind. Est., Mere
Wiltshire. BA12 6LA
Tel: 0747 860088
Fax: 0747 861032

HELVAR

Helvar Ltd.,
1 Ealing Road Trading Est.
Ealing Road, Brentford,
Middlesex TW8 0QY
Tel: 081-568 6205
Fax: 081-568 6473
Telex: 291439 HELVAR G
Southern Distributors
Jerrard Bros Plc
Tel: 081-688 8222
Northern Distributors
Mico Lighting Ltd
Tel: 0532 567113
Fax: 0532 572358

L E A X

CONTROLS

Leax Controls
1 Bard Road, London
W10 6TP
Tel: 081-964 2254
Rotary & scene controlled
dimmers, simple to specify
and even easier to install



Multiload Technology Ltd.,
2 Rosemont Road
London NW3 6NE
Tel: 071-794 9152
Fax: 071-794 9257

OXTRON DIGITAL SYSTEMS

OXTRON
DIGITAL SYSTEMS
Sucklings Yard, Church St
Ware, Herts SG12 9EN
Tel: 0920 460542
Fax: 0920 460543

MAY & CHRISTIE

Electronic Ballasts
May & Christie Ltd.,
Unit 22, Mead Park
River Way, Harlow
Essex CM20 2SE
Tel: 0279 422540
Fax: 027

To advertise in
this Directory contact
Alastair Moyes

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759



SimmTronic
Kinetic Centre, Theobald St.
Borehamwood,
Herts WD6 4SE
Tel: 081-381 6712
Fax: 081-381 6697



TRANSTAR
NEI Mining Equipment Ltd
Victoria Road West
Hebburn, Tyne & Wear
NE31 1UB
Tel: 091-483 2797
Fax: 091-428 0262



TRIDONIC
Lighting Components
Tridonic Ltd
P.O. Box 123
Basingstoke RG24 0YF
Tel: 0256 707000
Fax: 0256 707002



High Performance
Electronic Ballasts, fully
approved to European
standards from stock!
9 Hurworth Road,
Aycliffe Industrial Estate,
Newton Aycliffe,
County Durham DL5 6UD
Tel: 0325 317429
Fax: 0325 311081



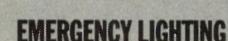
H. H. Electrical (London) Ltd
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000
Fax: 081-960 8901



H. H. Electronics Ltd.,
ORBIK House
Northgate,
Aldridge, Walsall,
West Midlands WS9 8TH
Tel: 0922 743515
Fax: 0922 743173



Ram Electronics (UK) Ltd.,
Iron Row,
Burley in Wharfedale,
West Yorks
LS29 7DB.
Tel: 0943 863884
Telex: 518285 RAM G
Fax: 0943 862630
Electronic transformers for
low voltage lighting and
hard fired dimmers for
electronic and conventional
lighting transformers.



OVA Bargellini UK Ltd.,
Unit 7, Triangle Business Park
Pentrebach, Merthyr Tydfil
Tel: 0685 371222
Fax: 0685 387494



UK Sole Distributor
H. H. Electrical
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000
Fax: 081-960 8901



ORBIK Electronics Ltd.,
ORBIK House
Northgate,
Aldridge, Walsall,
West Midlands WS9 8TH
Tel: 0922 743515
Fax: 0922 743173



Emergi-Lite Safety Systems Ltd.,
Wesley Pl, Wellington Rd
Dewsbury W. Yorks
WF13 1HX
Tel: 0924 450880
Fax: 0924 450770

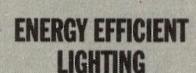


JSB Electrical plc.,
Manor Lane,
Holmes Chapel, Crewe,
Cheshire CW4 8AB
Tel: 0477 537773
Fax: 0477 535722

Menvier (Electronic Engineers) Ltd
Southam Road, Banbury
Oxon. OX16 7RX
Tel: 0295 256363
Fax: 0295 270102



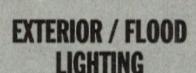
ORBIK Electronics Ltd.,
ORBIK House, Northgate,
Aldridge, Walsall,
West Midlands WS9 8TH
Tel: 0922 743515
Fax: 0922 743173



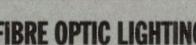
Jerrard Bros PLC
Croydon CR0 1XP
Tel: 081-688 8222
Fax: 081-681 3119
Manufacturers of H.F.
Fluorescent Assemblies
Distributors of Helvar
Products. BS5750 Approval.



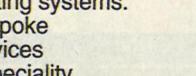
Luminaires - Reflectors
H.F. Gear - Lighting
Controls.
Up to 65% savings.
Silverlight
A Division of the Berkeley
Invicta Group.
Maidstone Road, Matfield
Tonbridge, Kent TN12 7JN
Tel: 0892 722202
Fax: 0892 723507



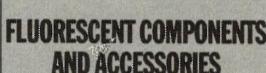
Sole UK Agent &
Distributor:
Commercial Lighting Systems Ltd
Unit 12, Chandlers Way
Park Gate Business Centre
Swanwick, Hants SO3 7FQ
Tel: 0489 581002
Fax: 0489 576262
Full range of IP65 & IP54
floodlights, spotlights,
pathlights, walllights and
accessories for HQI, PL,
SON etc.



Absolute Action Ltd
Mantle House
Broomhill Road
London SW18 4JQ
Tel: 081-871 5005
Fax: 081-877 9498
Complete
range of
fibre optic
lighting systems.
Bespoke
services
a speciality



Oldham Lighting
6 The Lanchesters
162-166 Fulham Palace Road
Hammersmith,
London, W6 9PA
Tel: 081 563 7300
Fax: 081 563 7301
Fibre optics for use as
dichroic emulators plus
special sparkle fittings.



**Electronic Fluorescent
Starters.**
Motem House, Brook Road
Waltham Abbey
Essex EN9 1JW
Tel: 0992 788668



UK Sole Distributor
H. H. Electrical
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000
Fax: 081-960 8901



H. H. Electrical (London) Ltd
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000
Fax: 081-960 8901



Prime Light Electrical Ltd
Armstrong Works,
Pump Lane,
Hayes, Middx UB3 3NP
Tel: 081-561 8466
Fax: 081-561 8896



UK Agent & Distributor
Hylec Eletro Gibi (UK) Ltd
Unit 4, Trinity Centre,
Wellingborough
Northants NN8 3ZB
Tel: 0933 677633
Fax: 0933 675771



Electronic Fluorescent
Starters.
ORBIK Electronics Ltd.,
ORBIK House, Northgate,
Aldridge, Walsall,
West Midlands, WS9 8TH
Tel: 0922 743515
Fax: 0922 743173



UK Sole Distributor
H. H. Electrical
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000
Fax: 081-960 8901



Helvar Ltd.,
1 Ealing Road Trading Est.
Ealing Road, Brentford,
Middlesex TW8 0QY
Tel: 081-568 6205
Fax: 081-568 6473
Telex: 291439 HELVAR G
Southern Distributors
Jerrard Bros Plc
Tel: 081-688 8222
Northern Distributors
Mico Lighting Ltd
Tel: 0532 567113
Fax: 0532 572358



H. H. Electrical (London) Ltd
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000
Fax: 081-960 8901



UK Agent & Distributor
Hylec Eletro Gibi (UK) Ltd
Wellingborough NN8 6ZB
Tel: 0933 677633
Fax: 0933 675771



OPTIMA Control Gear
May & Christe Ltd.,
Unit 22, Mead Park
River Way, Harlow
Essex CM20 2SE
Tel: 0279 422540
Fax: 0279 421570



SimmTronic
Kinetic Centre, Theobald St.
Borehamwood,
Herts WD6 4SE
Tel: 081-381 6712
Fax: 081-381 6697



TRANSTAR
NEI Mining Equipment Ltd
Victoria Road West
Hebburn
Tyne & Wear
NE31 1UB
Tel: 091-483 2797
Fax: 091-428 0262



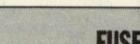
Tridonic Ltd.,
Hampshire International
Business Park,
Crockford Lane,
Chineham,
Basingstoke,
Hampshire RG24 0NA
Tel: 0256 707000
Fax: 0256 707002



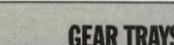
Vossloh-Schwabe UK Ltd
42 Tanners Drive
Blakelands
Milton Keynes
MK14 5BW
Tel: 0908 611060
Fax: 0908 613131



B&J SERVICES
3 Mimram Rd, Hertford
Herts, SG14 1NN
Tel: 0992 501118
Fax: 0992 500371
(BS 5750 Approved)
Lighting Specialist - All
design work undertaken
modifications, assembly
and manufacture.



Electro Replacement Ltd
Watford, Herts WD1 8SP
Tel: 0923 255344
Fax: 0923 255829
Plug Fuses BS1362
Glass/Ceramic/Thermal
Fuse Holders



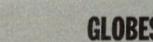
HLC Lighting
Pages Industrial Park
Leighton Buzzard LU7 8TZ
Tel: 0525 372252
Fax: 0525 851681

High quality standard and
made to measure
fluorescent and discharge
gear trays. Also enclosed
gear boxes.



Standard & made to
measure open trays or fully
enclosed

9 Hurworth Road,
Aycliffe Industrial Estate,
Newton Aycliffe,
County Durham DL5 6UD
Tel: 0325 317429
Fax: 0325 311081



Euro Electric Ltd
Tel: 0933 673344
Fax: 0933 678083

Spheres, cubes and
amphora up to 500mm,
post-tops, columns
up to 5 metres



Veralux Ltd
Tel: 0525 875425
Fax: 0525 874202

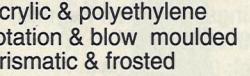
Spheres and other
architectural shapes in
Polycarbonate, Acrylic and
Kamax, injection/blow
moulded.



L&E Components
Tel: 021 554 9924
Fax: 021 554 5243



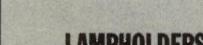
S. Lilley & Son Ltd.,
80 Alcester Street,
Birmingham B12 0QE
Tel: 021-622 2385
Fax: 021-666 6148



Prime Light Electrical Ltd
Armstrong Works,
Pump Lane,
Hayes, Middx UB3 3NP
Tel: 081-561 8466
Fax: 081-561 8896



**COMMERCIAL
LIGHTING
(UK) LIMITED**
Birmingham B19 3TG
Tel: 021-359 5530
Fax: 021-359 6865
Commercial and industrial
light fitting manufacturer.



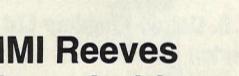
A. G. Hackney & Co. Ltd
Westport Road, Burslem,
Stoke-on-Trent ST6 4AP
Tel: 0782 577575
Telex: 36674
Fax: 0782 575230



H. H. Electrical (London) Ltd
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000
Fax: 081-960 8901



Hylec Eletro Gibi (UK) Ltd
Wellingborough NN8 6ZB
Tel: 0933 677633
Fax: 0933 675771



**IMI Reeves
Lampholders**
IMI Reeves Lampholders
Holdford Road, Witton,
Birmingham B6 7ES
Tel: 021-356 7369



L&E Components
Tel: 021 554 9924
Fax: 021 554 5243

To advertise in
this Directory contact
Alastair Moyes

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759

BENDER + WIRTH



Sole Agent and Stockist
C. QUITMAN LTD.
Ullswater Crescent
Marlpit Lane, Coulson
Surrey CR5 2HR
Tel: 081-668 5295/6
Fax: 081-660 2589



Vossloh-Schwabe UK Ltd.,
42 Tanners Drive,
Blakelands,
Milton Keynes MK14 5BW
Tel: 0908 611060
Fax: 0908 613131

LAMP COLOURING

Lampcolors Ltd.,
Wiseman St., Burnley,
Lancs BB11 1RU
Tel: 0282 456231
Fax: 0282 421317
The largest independent lamp
spraying company in Europe,
with the fastest turnaround of
orders in the business.

LAMP SHADE FRAMES

Wards Lighting
Sheffield S2 3DA
Tel: 0742 580963
Fax: 0742 555371
Manufacturers of coated
lamp shade frames and
complete lamp shades.

LAMPSHADES

Anglian Lighting
Soft Fabric Lampshades.
Halesworth, Suffolk IP19 8BZ
Tel: 0986 875250
Fax: 0986 873555

LAMPS AND LIGHTING

AMERICAN Lamps & Lighting
American Lamps and
Lighting Ltd.,
Unit 2, Tudor Estate
Abbey Road, Park Royal
London NW10 7UY
Tel: 081-965 6800
Fax: 081-965 0950



Chadwell T.S.M. Ltd.,
Units 1 & 2
Southbrook Mews,
Southbrook Road, Lee,
London SE12 8QL
Tel: 081-318 5071



ESTABLISHED 1947

Industrial and Professional Lamps Ltd
Tel: 081-445 8085
Fax: 081-343 9952
Lamps for general,
commercial & special
applications

IPL

Lighting Equipment News, September 1993



Specialist Lamp Distributors
Tel: 061-873 7822
Nationwide by return
service on quality
branded lamps

LIGHTING COMPONENTS



OMI-MEINZER
Walter Logan & Co. Ltd

Tel: 081 446 0161
Fax: 081-445 5137
Swivel & ball joints for most
lighting applications.
Brass, different finishes/
colours available
also range of flexible arms.

LIGHTING CONTROL PRODUCTS

Light Sound Image Systems Ltd

Dynalite
Architectural Lighting & LCD Touch Screen Control Systems
Penhurst, Kent TN11 8BG
Tel: 0892 870072
Fax: 0892 870074

LIGHTING CONTROL SYSTEMS



ENERGY SAVING
LIGHTING CONTROLS

DEM Controls Ltd
Winnington Ave., Northwich
Cheshire CW8 4EE
Tel: 0606 782547
Fax: 0606 77033

LIGHTING DIFFUSERS

Arrow Diffuser Services
A division of Arrow Plastics Ltd
Hampden Road, Kingston-upon-Thames, Surrey KT1 3HQ
Tel: 081-546 6258
Fax: 081-541 4654
Replacement diffusers of all types.

LIGHTING DIFFUSERS / PLASTICS

Arrow Plastics Ltd.,
Arrow Works, Hampden Road, Kingston-upon-Thames, Surrey
Tel: 081-546 6258
Fax: 081-541 4654



ESTABLISHED 1947

North Moors, Slyfield Industrial Estate
Guildford, Surrey GU1 1SE
Tel: 0483 502202
Fax: 0483 575123
Manufacturers of prismatic controllers, fabrication diffusers and thermoformed mouldings. Replacement diffusers & Design service available.
Specialists in our Speciality

Diffuser Replacement Systems

Unit 26, Rippers Court, Sible Hedingham, Essex CO9 3PY
Tel: 0787 60219
Fax: 0787 62052
Manufacturers of aluminium louvres, fabricated & flat sheet plastic diffusers, gear trays etc. For both the new & refurbished market. All quantities catered for plus many standard items in stock

Glaziette Ltd.

Bloomfield Road, Farnworth, Bolton, Lancs, BL4 9LP
Tel: 0204 791185
Fax: 0204 862613
Custom made flat prismatic sheet, dished diffusers and all types of louvres. Call NOW!

MBM Plastics Ltd.

204 Oldbury Road, West Bromwich, West Midlands B70 9DE
Tel: 021-553 7551
Extruded, fabricated and moulded diffusers for the lighting industry. Also - aluminium louvres.

Newton Lighting Ltd

31 Mill Lane, Fazeley, Tamworth, Staffs. B78 3QD
Tel/Fax: 0827 280249
Design and supply of diffusers, louvres, panels.

Richard Daleman (Profiles) Ltd

Old Wolverton Road
Old Wolverton
Milton Keynes MK12 5PS
Tel: 0908 222400
Fax: 0908 222607
Extruded Acrylic, Styrene, Polycarbonate diffusers in standard, custom and special section. Full Tooling and Manufacturing services.



Silwood Plastics Ltd
30 Penhall Road, Charlton, London SE7 8RX
Tel: 081 858 8822
Fax: 081 305 1360
Prismatic sheet in Styrene, Acrylic & P. E. T. Plus all other Thermoplastic materials



VRC Tele Larm Ltd
Winsford CW7 2RB
Tel: 0606 862144
Fax: 0606 862143
Bulkhead enclosures flame retardant styrene and polycarbonate. IP65 rating
Opal/Prismatic Diffuser Various sizes/colours U.K. produced

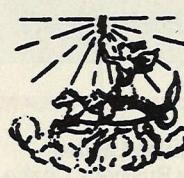
LIGHTING GLASS



Bedford Street, Dudley Port, Tipton, West Midlands DY4 7PN
Tel: 021-557 2153
Fax: 021-557 5145
The largest selection of shapes for blown glass in the U.K.



N.J. Bradford Ltd.
Tel: 021-559 5555
Fax: 021-559 3826
Lighting Glass.
Bent, Flat, Decorated Glass Panels. Design Service.

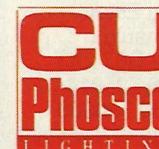


C. Quitman Ltd.,
Ullswater Crescent, Coulson CR5 2HR
Tel: 081-668 5295/6
Fax: 081-660 2589

LIGHTING STOCKIST AND DISTRIBUTORS - LIGHT COLUMN SUPPLIERS

Concord BEGA

Large stocks available
Guaranteed by
Concord/BEGA Warranty
BDC Specialist Lighting Div.
550 White Hart Lane
London N17 7RQ
Tel: 081-881 2001
Fax: 081-889 5130



CU Phosco Lighting
Manufacturers of columns up to 15 metres in tubular and tapered steel, aluminium and concrete. High masts up to 50 metres.

Contact: John Noble
C.U. Lighting Ltd.,
Lower Road, Ware
Herts SG12 9TA
Tel: 0920 462272
Fax: 0920 461370

BEGA

Litex (UK) Ltd.,
Unit 4, The Empire Centre, Imperial Way, Watford, Herts, WD2 4YH
Tel: 0923 247254
Fax: 0923 226772



Medlock Electric Ltd.,
605-609 Green Lanes, Harringay, London N.8
Tel: 081-340 3242
Fax: 081-341 6791

LIGHT MEASURING INSTRUMENTS



Hagner International (UK) Ltd
Victoria House, Kingston, Ringwood, Hants. BH24 3BH
Tel: 0425 480088
Fax: 0425 478111

Megatron Limited,
165 Marlborough Road, London N19 4NE
Tel: 071-272 3739
Fax: 071-272 5975

LUMINAIRE DESIGN



SimmTronic
Kinetic Centre, Theobald St, Borehamwood, Herts WD6 4SE
Tel: 081-381 6712
Fax: 081-381 6697

MANUFACTURERS OF SPECIAL AND PURPOSE MADE FITTINGS

ADVANCED FABRICATIONS

Unit 25, Furnace Ind. Est., Shildon, Co. Durham DL4 1QB
Tel/Fax: 0388 775449
Quality fabrications for the lighting & electronics industry using the latest CNC equipment



ELECTRICAL PRODUCTS LTD

112 Harvest Lane
Sheffield S3 8ED
Tel: 0742 786179
Fax: 0742 751087
Luminaires both Ind/Comm Applications to IP55 & IP65 classifications. Custom built luminaires to client spec. Small & volum batch size capability. All in-house.



Martin Roberts
Grimrod Place, East Gillibrands, Skelmersdale Lancashire WN8 9UU
Tel: 0695 33068
Telex: 629020
Fax: 0695 50227
Manufacturers of all types of luminaires and metal louvres to the trade.
B.S. 5750 Part 2.

SYMONDS

Symonds Engineering Plc
Tel: 0992 26222
Fax: 0992 37738
Luminaires/louvres major trade suppliers.
BS5750 Part 2.
Contact: Brian Chappell

METAL PRESSWORK

FRED BAKER LTD

Tel: 021-643 5409
Fax: 021-643 0914
Deep drawn presswork for the lighting industry, steel spotlights, eyeballs.

METAL PRESSWORK AND POWDER COATING

Colmore Pressings Ltd.,
40-41 Macdonald Street, Birmingham B5 6TQ
Tel: 021-692 1701 / 1702
Wide range of standard parts for domestic and industrial light fittings.

PHOTO ELECTRIC CELLS

Electro-Replacement Ltd
Watford, Herts WD1 8SP
Tel: 0923 255344
Fax: 0923 255829
Plug-in Heads (Nema) Miniature (Wire-in)

METAL SPINNERS

A. L. Munro (B'ham) Ltd.,
46 New Summer Street, Newtown, Aston, Birmingham B19 3TG
Tel: 021-333 3454
Fax: 021-359 6865
Metal Spinning and deep drawn presswork for the lighting industry.

Aman Metal Spinners
Complete lighting service capacity includes:
Metal spinning & presswork, powder coating, metal polishing, wet spraying, brassing, electrical assembly, deep drawn steel spotlights.
Tel: 0685 811882
Fax: 0686 813861

Anglia Spinners,
Spinnings, Presswork, Spraying & Finishing, Unit 115a, Little Staughton Airfield, Little Staughton, Beds Tel: 0234 376398 Fax: 0234 376506

J.P. Metal Spinners
Unit 3
15 Jameson Road, Aston, Birmingham B6 7SJ
Tel: 021-328 7014
Fax: 021-328 3639
Metal spinning & presswork for the lighting industry.

Moore Metal Spinners Ltd.
Tel: 081-748 6061
Fax: 081-948 1998
Spinning & Press Work
Spraying & Powder Coating
Anodizing & Sheet Metal Work

METAL SPINNING / ANODISING / METAL WORK / SPRAYING



Unit 2, Crockford Lane, Buntingford, Herts RG24 0NA
Tel: 0256 54627
Fax: 0256 58732
Lighting design services.

PETROL FORECOURT UNDER CANOPY LIGHTING UNITS

Lighting Units SON - MBFU - MBFI All ex-stock
National Signs Limited,
1 Hampshire Street, London NW5 2TE
Tel: 071-485 3363
Fax: 071-284 1700

TORNADO

Tornado Lighting
2 Stable Yard, Danmere Street, Putney, London SW15 1LT
Tel: 081-788 2324
For top quality wall lights in T/Halogen GLS and PL. Phone or write for brochure

PHOTOMETRY

B.S.I. (reg) Laboratory
Photometry/Reflector Design and development
Exterior and Interior luminaires.
Tel: Dr Harold Pitzman (0920) 462272
Charles House, Furlong Way, Gt. Amwell, Ware, Herts SG12 9TA

PICTURE LIGHTING
JCC
LIGHTING PRODUCTS
Tel: 0243 829040
Fax: 0243 829051

PLASTIC COMPONENTS
<

To advertise in
this Directory contact
Alastair Moyes

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759

REFLECTORS

GEORGE TURNOCK
LIMITED
MANUFACTURING ELECTRICAL ENGINEERS

TRIDONIC
Lighting Components
Tridonic Ltd
P.O. Box 123
Basingstoke RG24 0YF
Tel: 0256 707000
Fax: 0256 707002

SPECIAL & PURPOSE MADE FITTINGS

ASSEM LEC

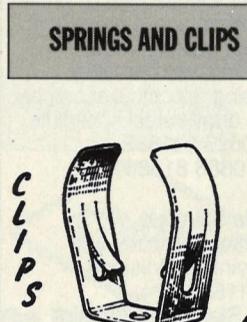
Unit 5, Bay Works,
Eastbourne BN24 6EG.
Tel/Fax: 0323 767904
Assemblers of all forms of
lighting. Design and
manufacture undertaken.

DAVIS CASH

Davis Cash & Co. Ltd.,
Alexandra Road,
Ponders End, Enfield,
Middx EN3 7EN
Tel: 081-804 4028
Fax: 081-805 2896
Quality manufacturing service
to customer drawings.



Martin Roberts
Grimrod Place
East Gillibrands
Skelmersdale
Lancashire WN8 9UU
Tel: 0695 33068
Telex: 629020
Fax: 0695 50227
Manufacturers of all types of
luminaires and metal
louvres to the Trade.
B.S. 5750 Part 2.



PRESSING

F. T. Pressings
Eagle Works, New Road
Studley, Warwickshire
Clips and Pressings for the
Lighting Industry
Tel/Fax: 0527 854925

Simpson Springs &

Pressings Ltd.
Unit 4 Station Ind. Estate,
Oxford Road, Wokingham,
Berks RG11 2YQ
Tel: 0734 786573
Fax: 0734 894434
Manufacturers of all types of
Springs & Clips for the
Lighting Industry.

**TO ADVERTISE IN
THIS DIRECTORY
PLEASE PHONE
ALASTAIR MOYES
ON 081-975 9759**

SUPPRESSION COMPONENTS

Almag

Almag Ltd.,
17 Broomhills, Rayne Rd.,
Braintree, Essex CM7 7RG
Tel: 0376 345200
Fax: 0376 351917
BS5750 approved
manufacturers of toroidal
chokes for dimmers,
electronic ballasts and
electronic transformers.



APEX INDUCTIVE DEVICES

Tel: 081-903 2944
Fax: 081-903 7944

TERMINAL BLOCKS

BJB

BJB (UK) Ltd
17 Spice Court
Plantation Wharf
London SW11 3UE
Tel: 071-924 1177
Fax: 071-924 5357

**PRIME
LIGHT**

Prime Light Electrical Ltd
Armstrong Works,
Pump Lane,
Hayes, Middx UB3 3NP
Tel: 081-561 8466
Fax: 081-561 8896

THERMAL CUT-OUTS

MICROTHERM

Microtherm Limited
Merrow Business Centre
Merrow Lane
Guildford, Surrey GU4 7WA
Tel: 0483 450100
Fax: 0483 451816
High quality thermal
cutouts, miniature
thermostats, thermal fuses
and thermistors.

TRANSFORMER MANUFACTURERS

Birch

H. A. Birch & Co Ltd,
Progress Drive, Cannock,
Staffs WS11 3JE.
Tel: 0543 506226
Fax: 0543 579180
Manufacturer specialising in
toroidal transformers up to
750VA. Quality products in
accordance with British and
International standards.

Cumbernauld Transformers Ltd

18-20 West Lenziemill
Industrial Estate,
Cumbernauld,
Glasgow G67 2XT
Tel: 0236 725914
Fax: 0236 730339
Full range of low-voltage
transformers available.

ERC

UK Sole Distributor
H. H. Electrical
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000
Fax: 081-960 8901



H. H. Electrical (London) Ltd
24 Scrubs Lane
London NW10 6RD
Tel: 081-964 2000

KNOBEL
LICHTTECHNISCHE KOMPONENTEN

UK Agent & Distributor
Hylec-Elettro Gibi (UK) Ltd
Wellingborough NN8 6ZB
Tel: 0933 677633
Fax: 0933 675771

ORBIK

ORBIK Electronics Ltd
ORBIK House,
Northgate,
Aldridge, Walsall,
West Midlands WS9 8TH



Skot Transformers Ltd
Malvern
Worcs. WR13 6PL

Tel: 0684 569104
Fax: 0684 565766
Full range of low voltage
transformers available.

**TECHNO
TRANSFORMERS**

Tel: 0793 853898
Fax: 0793 855025
Whitehill Lane
Wootton Bassett
Swindon, Wilts SN4 7DB
A full range for the lighting
industry

Tridonic Ltd
P.O. Box 123
Basingstoke RG24 0YF
Tel: 0256 707000
Fax: 0256 707002

**UNIVERSAL
TRANSFORMERS**

WHITECROFT
Lighting Division

Full range of toroidal and
laminated from stock or
designed & manufactured to
your requirements.
9 Hurworth Road,
Aycliffe Industrial Estate,
Newton Aycliffe,
County Durham DL5 6UD
Tel: 0325 317429
Fax: 0325 311081

UPLIGHTERS



Knight Smith Lighting
The Factory
14 West Street, Weedon
Northampton NN7 4QU
Tel: 0327 41550
Fax: 0327 349209
Specialist in energy efficient
uplighters and low energy
emergency luminaires.

VICTORIAN REPRODUCTION GAS AND ELECTRIC LIGHT FITTINGS

Candela
Traditional Lighting Limited

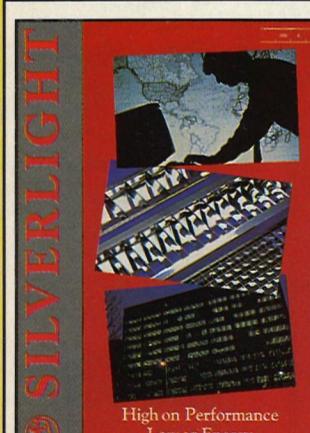


**Candela Traditional Lighting
Ltd**
133 Beddings Lane, Tyseley
Birmingham B11 3HA
Tel: 021-707 6936
Fax: 021-707 7425

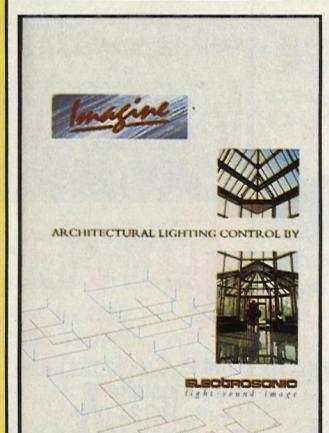
WOOD FLOOR STANDARD LAMPS

George Wood Ltd.,
Laundry Street
Pendleton, Salford
Lancs M6 6WJ
Tel: 061-736 6855

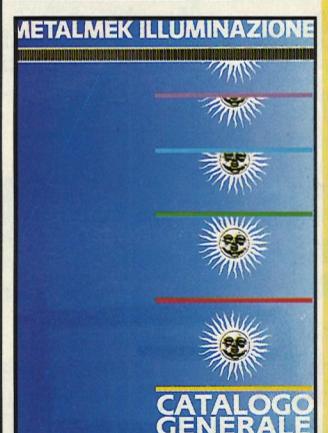
CATALOGUE DIRECTORY



SILVERLIGHT, part of the
Berkeley Invicta Group, is one of
very few lighting companies spe-
cialising solely in energy efficient
lighting – whether for retrofit,
refurbishment or new build. Each
project is thoroughly assessed on
an individual basis to achieve the
highest possible level of energy
saving whilst maintaining, or pro-
viding, a level and distribution of
light to meet the latest EC direc-
tives and CIBSE LG 3 guidelines.
circle 91



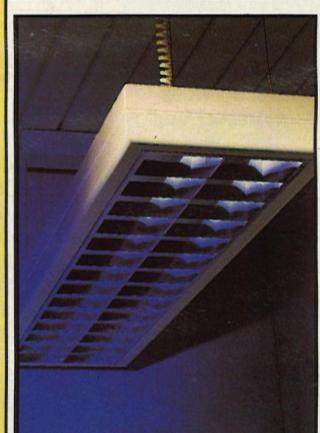
New from Electrosonic comes
Imagine, architectural lighting
controls combining a complete
system with startling 'scene set-
ting' performance. Imagine pro-
vides designers with vast flexi-
bility but the minimum number
of component parts. Patented
design techniques have created
an architectural lighting control
system that offers the ultimate
in capability, aesthetics and ease
of installation. circle 92



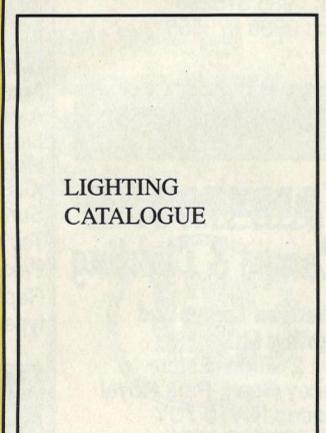
Acorn Lighting are pleased to
introduce the METALMEK
range of recessed modular and
surface fluorescent luminaires.
The range includes fittings with
Par 90 dark light high perfor-
mance louvers for use in com-
puter rooms, which meets all the
current requirements.
Most exciting of all is the
recessed uplight range for low
glare, high uniformity installa-
tions. circle 93



Minolta is a world leader for the
supply of light meters to measure
the Luminance, Illuminance,
Colour Temperature and
Chromaticity of a whole variety
of lamps and luminaires. All our
meters have digital readout, are
extremely portable and most will
link to a data processor or logger:
circle 94



Syncrolux - Direct/Indirect
lighting from RADA. Syncrolux
is the elegant new luminaire for
direct/indirect lighting to LG3
categories 2 or 3. Linear and
modular models are available
for pendant or close ceiling
mounting. Linear models can
be mounted individually or
continuously. Range includes
five modular fittings, from 300
x 300mm to 650 x 650mm.
circle 95



CATALOGUE DIRECTORY
Every year companies spend
huge amounts of time
developing catalogues and one of
the biggest problems they face is
publicising and distributing
them to specifiers. If you have a
catalogue, printed or in
production which is targeted at
lighting specifiers then this
section can help you.
Contact: Alastair Moyes on
081-975 9759: circle 96

WHERE TO BUY DIRECTORY
FROM £150.00 TOTAL FOR 6 MONTHS

CATALOGUE DIRECTORY
FROM £175.00 SINGLE INSERT £450 – 3 INSERTS

CLASSIFIED ADS
£23.00 p.c.c. NO CHARGE FOR TYPESETTING ADS

London Docklands

INVITATION TO TENDER

Applications are invited from suitably experienced contractors for inclusion on an approved list of contractors from which tenders will be invited for the following contract:

MAINTENANCE OF ELECTRICAL STREET FURNITURE

The works will include maintenance and repair of:

- Street Lighting
- Path Lighting
- Dock Edge Lighting
- Flood Lighting
- Traffic Signals

There are currently some 3800 items of electrical street furniture to be maintained within the Docklands Estate. It is anticipated that tenders will be invited during October/November 1993 and that the new contract will commence on the 4th March 1994 for a 3 year period. The annual anticipated turnover, at current rates is £0.4m.

Requests for tender documentation should be made in writing to the address below giving the following information:

1. Particulars of similar contracts carried out, together with the names of two referees able to confirm technical expertise.
2. Latest Audited Accounts.

3. An indication of the company's history and evidence of the ability to effectively carry out the contract. No acknowledgement of receipt of any application will be given and, those firms not giving full details as requested will be excluded from consideration.

The closing date for applications will be the 30th September 1993. The London Docklands Development Corporation does not undertake to invite all or any of the applications to Tender.

Alex Sava, BSc, FRICS, FIAS, ACI.Arb, Estates Maintenance Manager
London Docklands Development Corporation, Thames Quay, 191 Marsh Wall, London E14 9TJ

BUSINESS OPPORTUNITY

**DOMESTIC LIGHTING
MANUFACTURING
AND WHOLESALING
COMPANY
FOR SALE.
(SCOTLAND)
ESTABLISHED 19
YEARS.**

ENQUIRIES TO:
P.O. BOX NO 880
GLASGOW G40 1DN

HENRY JACOBS SALES AGENT

Well connected. Well known. Well liked! looking for top-class agencies for: Wales, South West, West Midlands, Worcestershire, Warwickshire, Staffordshire, Shropshire, Cheshire etc. 20 YEARS SELLING LIGHTING (full range including low voltage & fabric shades)

Reply to: Bryn Lodge, St Llythans, Cardiff CF5 6BQ. Tel: 0222 594540

NEWS

Lamp disposal

In the June issue of LEN we carried an article on the disposal of lamps and the environmental implications of such disposal. The article stated that two manufacturers of lamp crushing machines had, in recent years, been banned from advertising their products. The wording of this statement may have been misleading and implied a total ban on advertising for these companies.

In fact two manufacturers of such equipment, in 1988, were required by the Code of Advertising Practice Committee to change the content of some of their advertising material. This was because the material in question

was considered to imply that the equipment advertised could eliminate all the hazards associated with the disposal of fluorescent lamps. Neither of the two advertisers submitted material to support this claim.

In the next issue of LEN we shall be reporting further on other comments made in the article which, while fully substantiated, would benefit from a more detailed explanation.

This will be based on information we are awaiting from various water companies, Her Majesty's Inspectorate of Pollution and the National Rivers Authority.

Publications

● *Light & Engineering* is a translation of the Russian *Svetotekhnika*, described as one of the oldest and most authoritative journals in the world devoted to light and lighting research. The new English edition will appear quarterly and carry articles from the Russian monthly issues.

Reader Service No 240

● A new catalogue from Hubbell describes the company's new line of general purpose contactors and overloads. There are now seven contactor ratings from 5.5kW to 40kW and 17 overload units with setting ranges from 0.24A to 75A.

Reader Service No 241

● The latest technical bulletin from Armada Lighting and Fire Ltd summarises changes on emergency lighting codes of practice and legislation. It covers the subjects of quality, open areas, defined escape routes, high risk areas, exit areas and emergency lighting testing.

Reader Service No 242

● Illuma Lighting has produced a new 1993 Buyers' Guide to accompany the launch of six new product ranges at the European Lightshow. As well as product information and line drawings, three new sections cover lamp data, wiring installations and guidelines for low voltage systems.

Reader Service No 244

● Menvier has introduced a combined shortform catalogue and price list covering its emergency lighting products, fire detection and central battery systems. Among the new products featured are; Autotest, Testcheck, The Safe Range, analogue addressable fire systems and Series 700 fire detectors.

Reader Service No 245

● Nichicon has announced the availability of its 1993 Electronic Components catalogue. It details the company's range of electrolytic and tantalum capacitors.

Reader Service No 246

● The Aluminium Stockholders

OLDHAM TOWN CENTRE

Unique opportunity to purchase a highly profitable retail lighting business. Present turnover in region of 200K with scope to possibly double. Situated in the centre of a fast improving famous market town centre redevelopment. The property has been described as enjoying the benefits of "The Best Pitch in Town" together with the monopoly of being the only specialist shop. Genuine personal reasons for reluctant sale. Offers are invited in the region of £135,000 for business + S.A.V. For details please. Tel: 061 678 9139 day 0706 47872 eve.

Association has published an explanatory leaflet on the switch from imperial to standard metric sizes for ex-stock rolled aluminium from January 1st 1994. The leaflet answers typical queries and includes a table showing the range of standard metric sizes that will be available.

Reader Service No 247

● A new book *Lights* presents a subjective, but representative selection of 300 lamps for home use currently on the market. The comprehensive overview is intended to be used as a guide by architects, designers and others responsible for buying lighting.

Reader Service No 248

● Semtech Ltd has issued a 32-page catalogue detailing a wide range of transient voltage suppression products for ESD, lighting, inductive local switching and nuclear EMP protection.

Reader Service No 249

● BSRIA has issued an updated version of its directory of building services legislation, including a guide to 150 Government Acts and Statutes and 100 standards, codes and technical documents.

Reader Service No 250

● An A4 catalogue describing high quality luminaires from Swedish company Annell International is available from MW United Ltd.

Reader Service No 251

● Linolite's new catalogue contains technical information on the company's comprehensive range of commercial and domestic fittings. There are new sections on downlighting and multi-purpose lighting, and a low voltage guide in the technical section.

Reader Service No 252

● Elkay Ltd, UK distributors of HPM products, has introduced new weather, dust and hoseproof switches to its range, all of which are detailed in a new colour brochure from the company.

Reader Service No 253

● Glamox Electric has published *Lighting for Effect*, a 70-page brochure depicting the SDS range of interior light fittings. It includes technical details of high quality downlights and spotlights.

Reader Service No 254

● Bernlite has introduced a separate lamp guide and price list. Nearly 1,000 incandescent, halogen, fluorescent, compact fluorescent, and discharge lamps are listed in the guide.

Reader Service No 255

PERIOD CHANDELIER DESIGNER

Due to impending retirement we seek suitable candidate to work alongside our existing chief designer. Candidates attributes and experience/knowledge will need to include historic buildings interiors, periods and styles. Traditional metal manufacturing techniques. Current electrical regulations and up to date light sources with accompanying technology. Presentation skills as well as draughting ability. Being able to communicate effectively at all levels.

The prospective employer, London based, is the leading manufacturer of fine period decorative lighting in the UK. In the first instance please reply with full career resume to Box No. 1563, Lighting Equipment News, Maclean Hunter House, Chalk Lane, Cockfosters Road, Barnet, Herts EN4 0BU

REQUIRES AGENTS

most areas

Projection

U.K. manufacturer of quality architectural lighting-HID, PL, LV, downlights and uplights.

To earn high rates of commission (paid promptly!!) send your details to:

PROJECTION LIGHTING LTD,
Winchester House, 9 Winchester Drive, Sale,
Cheshire M33 5DN
Phone: 061 976 4025 Fax: 061 976 4026

LIGHTING EQUIPMENT NEWS

We make light work... of Dimming Systems



BUS System Control... Programmable Control... Lighting Scene Control... Remote Control... Preset Control... AWARD WINNING STUDIO 3

Home Automation

Home Automation Ltd., Bumpers Way, Chippenham, Wiltshire SN14 6LF, U.K. Tel: 0249 443422 Fax: 0249 443315

Reader Service No. 19



A smashing job of work

Providing chandeliers to be smashed to smithereens is not Chelsom's normal way of doing business but this is precisely what

was required for one of the recent series of adverts for the new Vauxhall Corsa. The chandeliers were required to collapse in a fountain of glass around the car, so the normal solid brass internal frames had to be modified.

The search for an alternative form of construction led to the replacement of the internal framework with a series of suspension chains. This arrangement enabled

the horizontal wagon wheel structure to be retained, while allowing the chandeliers to concertina on impact.

With each chandelier fully lamped, cutting the support chains and the electric cables sent nearly 1000 pieces of 15cm cruciform Venetian crystal rods plummeting to the ground in an explosion of glass.

Reader Service No 275

Good looking, and intelligent too...



Slim and elegant, the Europa Intelligent from OVA will grace any installation. But as we all know, looks aren't everything, which is why this emergency luminaire monitors and tests itself, saving on maintenance. It can also be pre-programmed, by the operation of simple selector switches, to carry out statutory discharge tests. The Europa conforms with the latest EN regulations, is waterproof to IP65, and is available in Maintained, Non-Maintained and Mains versions.

Our full colour brochure will tell you all about the Europa and the other luminaires in our range. For a complimentary copy please call Simon Fox on 0685 371222.



OVA Bargellini UK Limited

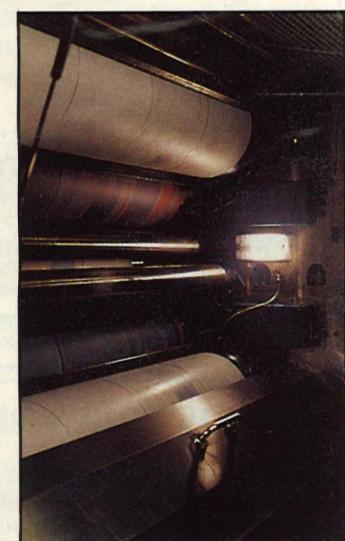
Unit 7, Triangle Business Park, Pentrebach, Merthyr Tydfil, CF48 4YB
Telephone 0685 371222 Facsimile 0685 387494

Reader Service No. 20

problem has highlighted the need to look at others as we have gone along. Each new one has met with a positive response from FGT," he continued.

"The combination of our personalised designs and advanced materials ensure good light levels at low cost," says FGT's technical director John Davies. "The provision of quality lighting is a highly specialised business. That is why we see our consultancy service as a very important part of our relationship with our clients.

Reader Service No 276



In brief...

- John Farnhill has been appointed managing director of Econolight plc. He was previously commercial director with Siemens Plessey Systems.
- Ian Brown FCIBSE has taken over as technical secretary of the Chartered Institution of Building Services Engineers. He replaces Peter Scurry who has retired.
- Noel Cox has become Britain's top young electrician in a contest run by the Electrical Contractors' Association. He works for the Midlands regional office of

Crown House Engineering in Birmingham.

David Taylor, project leader at Theatre Projects Consultants, London, is moving to the company's Connecticut, USA, office to become its senior consultant and project manager.

The Building Services Research and Information Association (BSRIA) has published *M&E Contracting in Great Britain* which gives an authoritative assessment of past, future and present trends in M&E contracting.

Reader Service No 277

IN YOUR NEXT ISSUE

Next month's feature will tackle the subject of office lighting. Included in the feature will be a

look at the lighting design in the new offices of the Lighting Association.