

LIGHTING

EQUIPMENT NEWS

OCTOBER 1991



Part of the continuing programme of gallery restoration at London's Victoria and Albert Museum, the Tsui Gallery of Chinese art opened in June. The brief included a requirement to restore many of the building's original features which included a rooflight giving illumination levels of over 30 000 lux! Although it was felt that daylight could play a part in the gallery displays, lighting levels were to be maintained at 50 lux or less to protect items which would be irreparably damaged by bright light.

Project designers Fitch wanted a collection which looked at the way artefacts related to one another and eschewed the conventional approach of displaying like objects, such as ceramics, together. So lighting designers, Equation Lighting, adopted a dramatic approach, showing areas of highlight and accent rather than meeting a strictly technical brief.

The rooflight remains as a building element – it still appears bright on sunny days and dark at night – although most of the light had to go. Heavy masking and other light reduction techniques produced a final ambient lighting level of only 20 lux in the gallery.

Due to the delicate nature of most of the objects on display, UV is controlled at source and at each intervening layer of material. So light is filtered both at the fitting and again as it enters display cases.

Tungsten halogen seemed an obvious light source but many of the objects such as tapestries and furniture are too large for a point source to be really successful. Experiments showed that the smaller compact fluorescent lamps provide the correct level of highlighting. Their relatively small size means that modelling and shadowing remain good, while their low wattage gives reduced energy bills.

A focal point of the design is the enormous canopy which floats over the entire gallery. This proved to be the ideal place for concealing track-mounted spotlighting, providing both ambient and display lighting. It also permits a flow of illumination across the space so that levels in the centre of the gallery are relatively high, falling away in corners and enclosures.



In brief...

- **Nietronix** has been appointed exclusive European distributor for the O C White range of inspection lights.
- **Alpha Lighting** has been awarded the contract to supply luminaires for Ogilvy and Mather's new offices at Canary Wharf in London's Docklands.
- **M S Components** has changed its name to Steatite Power Ltd to reflect the growth of Steatite Power transformers in the last three years.
- **Menvier's** main lines of emergency lighting have received BSI Kitemark approval.
- **Cryselco Lighting** has received approval to BS5750: Part 2.

Philips clinches sponsorships

1992 will see Philips Lighting sponsoring three major events in the world calendar.

Disney World is coming to Europe next year. The opening of five main theme parks on the Euro Disney site near Paris will take place on 12 April 1992 and some 11 million visitors are expected in the first year. When finished, in an estimated thirty years' time, the site will cover the

equivalent of 20% of the area of the city of Paris!

The Winter and Summer Olympics will be held at Albertville France between 8 February and 23 February 1992 and Barcelona, Spain, between 25 July and 9 August 1992.

The previous Olympics in Seoul and Calgary saw TV audiences of 10.4 billion and 6.56 billion respectively; the projected figures for 1992 are 15 and 10 billion.

Following the success of the 1990 World Cup, Philips has decided to sponsor the Intersoccer '94 programme which includes the 1992 European Football Championship to be held in Sweden between 10 June and 26 June 1992.

Celebrating Waldram with stage lighting

The National Museum of Photography, Film and Television, in Bradford, will be the venue for the second Waldram lecture, which will be held on the afternoon of 2 December.

All the visual world is but a

stage is the title of the lecture to be presented by David Brooks, Andrew Collier and Edward Pagett of Strand Lighting, who will explore how effects are achieved in the theatre and how they can be translated to other applications. There will also be a glimpse of new ideas under development.

Tickets should be ordered as soon as possible from Mrs D Barnes, Institution of Lighting Engineers, 9 Lawford Road, Rugby, Warwicks CV21 2DZ.

Thorn expands airport runway lighting

Thorn Lighting and Philips have signed an agreement transferring Philips Lighting's airport runway luminaires activity to Thorn. This becomes effective on 20 September 1991.

Major player

Thorn has a strong market presence worldwide in the airport runway luminaires sector. The company intends to continue Philips Lighting's present range of airport runway luminaire products and

will guarantee obligations towards customers previously made by Philips Lighting.

Philips has decided to sell the activity, with its annual sales of just under £3 million, in view of the company's relatively modest position in this field.

Transfer

The agreement includes the transfer of stock and production machinery from Philips Lighting's French factory in Miribel to

Thorn's factory in Les Andelys, Normandy.

Enhances position

Commenting on the announcement Colin Southgate, chairman and chief executive of Thorn EMI plc said, "This acquisition, which enhances our position in the important airfield runway market, is part of our continuing investment programme to strengthen further Thorn Lighting, Europe's leading light fittings company".

2-D warning

GE Thorn has issued a warning that inferior copies of 16W 2D lamps infringing its patent No. 0057974 are being brought into the UK. These Chinese-made lamps are of very poor quality. They are not connected in any way with GE Thorn's own 2D branded products, and the company will not be held liable for any accidents or damage resulting from their use.

INSIDE THIS ISSUE

News	1, 2, 3, 20
New products	4, 5, 6, 7
Lighting technology	8
Role of the distributor:	
Wholesalers speak	11, 12
European scene	14
Where to buy directory	15, 16, 17, 18
Classified advertising	18, 19
Catalogue directory	19

Top of the class

The Faculty of Engineering and Computer Technology at Birmingham Polytechnic has just established a new teaching company with Thorn Lighting at Hereford.

This will undertake joint work resulting in the development of a new manufacturing strategy and the complete reorganisation of the Hereford factory. The objective is

to introduce world-class manufacturing practices.

The total value of the project is £224 000, of which 50% is provided jointly by the Science and Engineering Research Council and the DTI, and the other 50% by Thorn itself. The project will last for three years and, at its peak, will employ four research associates.

HIGH INTENSITY DISCHARGE LIGHTING

Choice of voltage tapplings (up to 4).

To cover European Standards.

Compact size.

Precision winding technology.

Volume production.

Selection of base-plate fixings.

Thermal cut-out for Metal Halide lamps.

HELVAR

081-568 6205

QUALITY ALWAYS SHINES THROUGH

NEWS

Association villages at Light Fair

The Association of Independent Electrical Manufacturers will be making its first major exhibition appearance with stands at Electri-

cal Products '91 and Light Fair. Both events take place at Wembley, London, from 22-24 October. Members of the association will be involved in "purpose-built AIEM villages" in each exhibition.

Association members are typically small to medium sized manufacturers of electrical accessories and lighting.

Successful office lighting

A one-day course on different facets of office lighting is to be held on 5 November at the Building Services Engineering Centre, London.

Subjects covered will include: integration of natural and artificial light for maximum visual

comfort at optimum cost; the design process and calculations for successful installations; factors affecting aesthetically pleasing schemes; VDU guidelines, and electronic equipment and controls.

The presenters will be Roger Gardner, SVM Partnership and Eric Maddock, YRM Engineers.

Details are available from CIBSE, 222 Balham High Road, London SW12 9BS.

Learning package on 16th edition

An open learning package called *Applying the 16th edition* has been produced by The Open College in association with the Institution of Electronics and Electrical Incorporated Engineers.

Arranged in three self-study workbooks, the course covers the

scope and status of the *IEE Wiring Regulations* and highlights the main requirements for their use.

The price is £65 plus £4 postage and packing, from IEEIE, Savoy Hill House, Savoy Hill, London WC2R 0BS.

Light FX acquires design consultancy

Light FX, has moved to larger office and showroom premises in London's Docklands. The company has also revamped its corporate image following the acquisi-

tion of product design consultancy, Flag Design. The new address is: Unit 1, Metropolitan Wharf, Wapping Wall, London E1 9SS, tel 071-702 3499.

Renewable energy: world gathering

The second World Renewable Energy Congress will be held at Reading from 13-18 September 1992. Almost 130 countries have already agreed to take part and

many will be sending ministers, directors of energy and researchers.

Well known scientists and other workers in this field will present their findings and expectations for use of renewable energy around the world.

Last date for receiving

Mixed pairs for golf match

On 28 August members of the Lighting Industry Golf Society and their guests played a 36 hole competition at Burhill Golf Club.

The competition was split into

four prize categories. The morning singles was won by Tom Cartedge and Noreen Barnes-Hoggett, the afternoon by Bill and Chris Walker. Pairs overall winners were Barry Glazer and Joan Edgington. Prizes were donated by T Smith (honorary secretary), B Watts (match organ-

DIARY

OCTOBER

8

In the light of experience. CIBSE Lighting Division chairman's inaugural address. Evening meeting in central London. Details from CIBSE, 081-675 5211.

Bad lighting means poor productivity. Evening meeting in Ipswich arranged by CIBSE East Anglia region. Details from A N Rands, 0954 32277.

9

Lighting design - a link between engineer and architect. Evening meeting in Manchester organised by CIBSE North West region. Details from L Daniels, 061-248 7272.

10

Low energy lighting and its applications. Evening meeting in Kettering held by East Midlands region of CIBSE. Details from J G Ettison, 0629 580000.

11

What's new in the 16th Edition? Symposium in London organised by the Institution of Electronics and Electrical Incorporated Engineers. Details from 071-836 3357.

14

Light at the end of the tunnel. An evening meeting in Durham held by the North East Region of the ILE. Details from D Blackett, 15 Alnwick Road, Newton Hall, Durham DH1 5NL.

22-24

Light Fair '91. Exhibition and

abstracts of papers is 15 January. Further details of the congress are available from Professor A A M Sayigh, Department of Engineering, University of Reading, Whiteknights, PO Box 225, Reading RG6 2AY.

iser), B Glazer, Bernlite, and B Walker, Parkersell.

First tee gifts were presented to the ladies by B Walker of Parkersell, and to members by D Proctor of G E Thorn, who also hosted the after-match dinner.

The next meeting will be in October at St Georges Hill.

seminar programme at Wembley, London. Details from organisers IML Techpress, 0732 359990.

Electrical Products '91. Exhibition at Wembley, London. Details from IML Exhibitions, 0732 359990.

23-25

An introduction to lighting design. Three-day course at the Institute of Environmental Engineering, Southbank Polytechnic, London. Details from the director of the Centre, IoEE, 071-928 8989.

30

Lighting and crime. Afternoon seminar in London organised by London and South Eastern region of the ILE. Details from F P Ramsay, 0920 870567.

31

What's new in the 16th edition? Symposium in Manchester organised by the IEEIE. Details from 071-836 3357.

NOVEMBER

5

Lighting for offices. One-day course in London arranged by CIBSE. Details from 081-675 5211.

12

What's new in the 16th edition? Symposium in Glasgow held by the IEEIE. Details from 071-836 3357.

CIBSE on NVQs

Greater investment in vocational subject training in secondary schools is among recommendations made by CIBSE in its response to the government White Paper on *Education and training for the 21st century*. It supported compulsory education and training for 16-18 year olds.

It also urges the government to plan its publicity carefully for the National Vocational Qualifications, to ensure that industry sees NVQs as relevant and acceptable.

CIBSE



The Chartered Institution of Building Services Engineers

The 1991/1992 Sessional Programme

What used to be known as the winter lighting season is upon us, signalling the commencement of another session's programme of lighting meetings and events.

As usual, the sessional programme is the result of many months' hard work by the Divisional Papers Committee, planning a series of lectures, visits etc designed to appeal to a wide cross-section of the membership, and their guests. The downward trend in attendance at these meetings, discerned in recent years, was strongly reversed during the 1990/91 session, due to our holding meetings in the same venue on the same day of each month. This, coupled with stimulating and informative papers, seems to have re-awakened members' interest in this important area of the Division's activities.

There is a danger for most of the professional institutions of becoming largely correspondence bodies, not participating ones. Much of the Lighting Division's vitality derives from the personal contacts that sessional events promote, bringing together the many disparate interests to be found within the discipline of lighting and providing both professional and social exchange.

Traditionally, the session opens with the chairman's address, to be given this year by Alan Wilson on 8 October, his chosen title being 'In the Light of Experience'. The period 22-24 October sees the Lightfair '91 Exhibition and Seminars at the Wembley Conference Centre, with CIBSE making a major contribution to the seminar programme each day. On 19 November the sessional meeting will constitute a paper to be given by Dr Bob Bean on his work on establishing a quality index for office lighting. Dr Bean is a long-serving member of the Lighting Division, and it will be a pleasure to have him addressing a slightly different 'congregation' from the one he is accustomed to now in his role as a Methodist minister!

The end of November brings a seminar on lighting controls, to be held at CIBSE's Building Services Engineering Centre, in London, with contributions from the major players in the design and specification of lighting control systems.

Early December sees two events of note, starting with the 1991 Waldram Lecture 'All the Visual World is but a Stage', to be given by David Brooks and some of his colleagues from Strand Lighting. The venue is the National Museum of Photography, Film and TV in Bradford; the date 2 December. This annual lecture, a joint activity between CIBSE and the ILE, is fast becoming one of the highlights of the year, with quality speakers commanding large audiences.

A week later, we will have a chance to share in the latest wonders of '3D Imaging' with a paper given by Dr Phillips, of Loughborough University, illustrating the remarkable properties of holograms.

The new year opens with the CIBSE Young Lighters of the Year presentations on 21 January; followed by Gordon Rusden who on 18 February will be talking about BS5469, its introduction and application.

A new speaker on the CIBSE scene will be the British Sign Association, who on 17 March will present a paper on the history, design and specification of internally lit signs, a specialist area that has a marked influence on the lit appearance of our urban environment, but which is sometimes, unfortunately, largely ignored by many practising lighting engineers.

April 1992 brings the biennial National Lighting Conference, being held in Manchester from 5-8 April. This conference, which enjoys an international reputation for the high quality of its lectures, looks set once again to provide a focus for all who are interested in the propagation of good lighting practice. A record number of papers has already been submitted to the conference committee.

The Divisional lunch and AGM take place on 29 April, at Church House, Westminster; 12 May is the date for the Overseas Lecture by Dr Slob, of the Dutch government, who will be giving a paper on environmental aspects of lighting. June sees the last event in the 1991/92 session appropriately scheduled to take place at Kew Gardens, where John Weir, of the Electricity Association, will talk about 'Lighting for Plants'. This meeting will include visits to some of the hot houses and floral displays.

As can be seen from this summary, a wide and varied selection of lighting topics will be covered during the next session. Large audiences are awaited - and will be welcome. A number of events will qualify for CPD certification and, in line with Lighting Division's policy of issuing attendance certificates, these will be available at functions indicated in the Division's associated publicity.

The Division's Papers Committee looks forward to welcoming readers of *LEN* to events during the coming months. CIBSE membership is not an essential requirement for attending; you are welcome to join us as a guest of a CIBSE/Lighting Division member, or just because you have a serious interest in the topics being discussed.

Iain Maclean,
Chairman, Papers Committee, Lighting Division.

Lighting Equipment News, October 1991

RECESSED LIGHTING



Fitzgerald Lighting, the right choice for commercial applications ranging from Schools to Offices. Subtle yet efficient units offering unbeatable quality and design.

All luminaires are manufactured from British Steel coated with epoxy polyester paint.

- Trimod and Fremod - available with dimming, emergency and electronic ballasts.
- Canopy - A range of luminaires which give a high quality appearance but with a low cost.
- Attachments for our range include dish and parabolic diffusers and aluminium louvres.

Quality products from Britain's largest independent fluorescent luminaire manufacturer.

FITZGERALD

LIGHTING

A full colour brochure is available on request from: Fitzgerald Lighting Limited, Normandy Way, Bodmin, Cornwall PL31 1HH. Telephone (0208) 75611. Fax (0208) 74893

NEWS

Saying it in neon

Europe's first three-dimensional multi-coloured neon sculpture has been unveiled at Birmingham's

International Convention Centre. Standing more than 20m tall above the entrance to the new

ICC, the grafted-glass sculpture depicts 82 brightly-coloured exotic birds flying round a tree.



Its completion marks the culmination of more than two years' design and development.

The sculpture, conceived by Ron Haselden and commissioned by Birmingham's Public Arts Commissions Agency, was built by Sign Specialists.

It is believed to be the first time that a three-dimensional neon sculpture has been produced and that multi-coloured neon glass has been grafted successfully in continuous lengths.

At the heart of the creation is a 21-way random electronic-circuitry microchip computer which selects the parts of the sculpture to be illuminated and controls the time sequencing. It has such a large range of parameters that it is estimated the sculpture will reproduce the same sequence of movements only once every five years.

Erecting the sculpture presented some difficulties according to Sign Specialist's Richard Tisdale: "Constructing traditional neon signs is quite straightforward because you can work from drawings. Once we moved into 3-D we had to reproduce a full-scale version of the model and then bend the neon into shape using our life-sized wire template as a basis from which to work."

Even when the sculpture was complete we had to overcome a series of installation problems because the whole thing had to be erected in such a manner that it was safe and secure while, at the same time, ensuring the steel supporting cables were invisible. Suitable access routes had to be left through the centre of the sculpture so that service engineers could gain easy access to all parts of it for routine maintenance and repair.

Installation of the 700-piece sculpture took more than 10 weeks, with teams of neon engineers mostly working at night when they could best see the neon illuminated. Its arrangement required more than 750 metres of wire and rod to create a spider's web of support inside the steel-work which forms the entrance canopy to the ICC.

COMMENT

Unsafe at any price?

A couple of incidents brought to my attention in the course of the past month give rise to some concern. It would appear that not only are unsafe lamps on the market in increasing numbers and more varied types, but otherwise reputable suppliers seem prepared to source products as cheaply as possible with little regard either for performance or – even more importantly – for safety.

In the first instance, GE Thorn found it necessary to issue a disclaimer about poor quality copies of 16W 2D lamps, manufactured in China, which are finding their way into the UK and could well be dangerous. With the current emphasis on energy-saving compact fluorescents it is especially sad that the safety of this particular light source should be brought into question.

The second occurrence was pointed out in a letter from Robin Davies, a director of Electrolite, which lack of space unfortunately precludes me printing in this issue. Addressing the problem of substandard dichroic lamps on the market, he says:

"A prime example is a retail project we have recently completed where lamps were supplied under an own branded name by a well known wholesaler. Of the forty-seven lamps supplied, within two weeks not only had a high percentage failed but, of greater concern, three lamps had exploded completely shattering crystal and glass over quite an area. Fortunately no-one was blinded."

Although the lamps in that particular chain of shops had since been replaced with reputable manufacturers' products, he went on to spell out the implications of such incidents on the use of low voltage equipment. In short, they could have no other effect than to damage the reputation of suppliers of low voltage equipment and to pose questions about the safety of a versatile and popular light source.

Unsafe electrical products pose hazards which the average consumer cannot be expected to spot. The law permits him to expect that when he purchases products of this type they will be safe for the purposes for which they are intended. So, cheap, unsafe GLS lamps are rightly condemned.

However, when we are talking of advanced light sources we are looking at products where materials are working at higher temperatures and under conditions approaching their limits. This naturally compounds the question of consumer safety. Under these circumstances, not only is the user concerned with electrical safety but the lamp may well fail catastrophically, producing considerable danger both of personal injury and of damage to property.

Of course the consumer may well be exhorted to buy reputable branded goods. But in many cases distributors may not offer him the choice. Retailers, in particular, tend to offer the purchaser one alternative for each type of light source on a 'take it or leave it' basis. And you can bet the lower cost of the unbranded product is not reflected in the price paid by the purchaser.

So, in the end, it is for the industry to put pressure on those who are offending in this way, as it is the reputation of the industry as a whole that suffers from substandard products and cowboy operators. But in order to exert pressure we need to know the extent of the problem. In this respect I am quite prepared to act as a postbox and collect a dossier to present to the safety authorities. So, if you have any properly documented horror stories along similar lines please contact me.

ECA issues guidance

The Electrical Contractors Association (ECA) has registered recommendations, with the Office of Fair Trading, which are designed to assist its members in gaining fair conditions of contract and greater security of payment.

The first recommendation advises ECA members to use standard forms of subcontract which are approved under the Association's Insolvency Protection Scheme. This action supports Confederation of Associations of Specialist Engineering Contractors' campaign within the JCT for a mandatory form of domestic sub-contract and encourages the use of a balanced contract with fair conditions and adequate pay-

ment entitlements.

The second recommendation advises members to request a payment bond from a contractor where they consider that the company has a bad payment record or is considered a bad financial risk. In effect, this reverses the developing practice of clients and main contractors demanding some form of performance from the specialist engineering services contractor.

It is important for electrical contractors to protect themselves as far as possible financially, especially in the present economic climate with a high incidence of main contractor failures. The ECA feels that using standard forms of sub-contract and obtaining payment bonds will assist specialist contractors to obtain payments that are due and will provide a more balanced and equitable contracting framework.

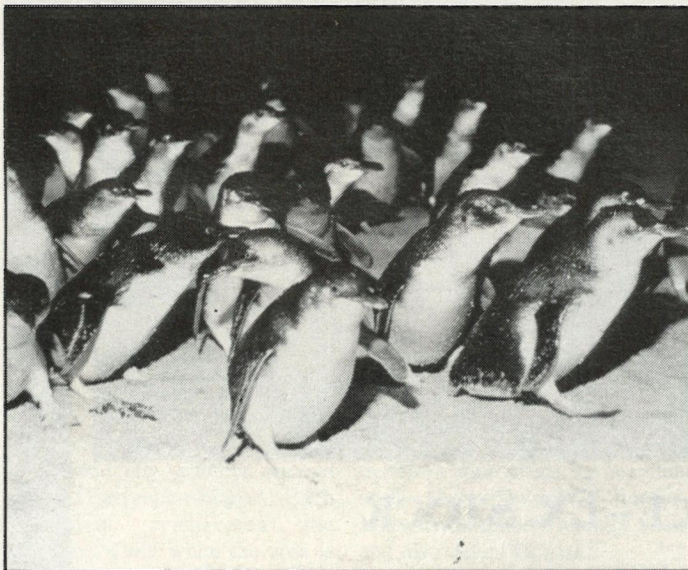
VDU lighting seminar

Most UK office lighting for VDU operation is below the minimum European health and safety standard and there could be serious implications for employers who do not adhere to the minimum requirements laid down in the EC Council Display Screens Directive which comes into force at the end of 1992.

To discuss the health and safety legislation which will be adopted

in the UK and the progress towards an Approved Code of Practice for the workplace, LIF the EEA and Association of Optometrists, will co-sponsor a Seminar organised by SIRA Communications entitled Working with VDU equipment.

The seminar will take place on 5 November 1991 at the Scientific Societies Lecture Theatre, London W1. Further details from Diane McGraw on 081 467 2636.



Night light for Penguins

Some 20 000 of these tiny fairy penguins live on Phillip Island, off Australia's Victorian coast. Thanks to amenity lighting, half a million visitors each year are able to see them as they return through the sand dunes each evening on their way to their burrows.

People's enthusiasm for this endearing sea bird creates special problems, according to staff on the nature reserve. "While the penguins have grown quite used to people – some even living

beneath nearby homes – people get very excited when, at dusk, the penguins start landing on the beaches. So we only allow 3500 people to watch them each night from special viewing platforms", commented the Phillip Island information officer.

Over 100 Thorn Ali fluorescent bollards specially modified with black reflectors to create a 'moonlight' effect have been installed on the platforms and fully withstand the tough marine environment.

LIGHTING EQUIPMENT NEWS

Editor: Judy Sewell

Associate Editor: Barbara Trigg

Art Editor: Lorna Francis

Advertisement Manager: Jim Hughes

Northern Area Manager: Robert Ditchfield

Classified Sales: Alastair Moyes

Production: Nick Smith

Circulation: Kirtie Parmar

Publisher: John Bull

Group Publisher: Nigel Foster

Directors: R W Osborne, (Chairman), G J F Brigg (Managing Director), N C G Foster, D L Jones, D B Wright.

Published monthly by Maclean Hunter Ltd, Maclean Hunter House, Chalk Lane, Cockfosters Road, Barnet, Hertfordshire EN4 0BU.

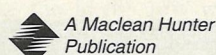
Telephone: 081-975 9759. Facsimile: 081-975 9753

Telex: 299072 MACHUN G. Northern Area Office,

Tel: Cannock (05435) 72771.

Origination by Facsimile Graphics Ltd, Coggeshall, Essex. Printed by E. T. Heron & Co. Ltd, Heybridge, Maldon, Essex.

Annual subscription £50 (£4.50 per copy including postage) but free to executives in the UK and Ireland meeting the terms of control.



© 1991 ISSN 0024-3418

NEW PRODUCTS

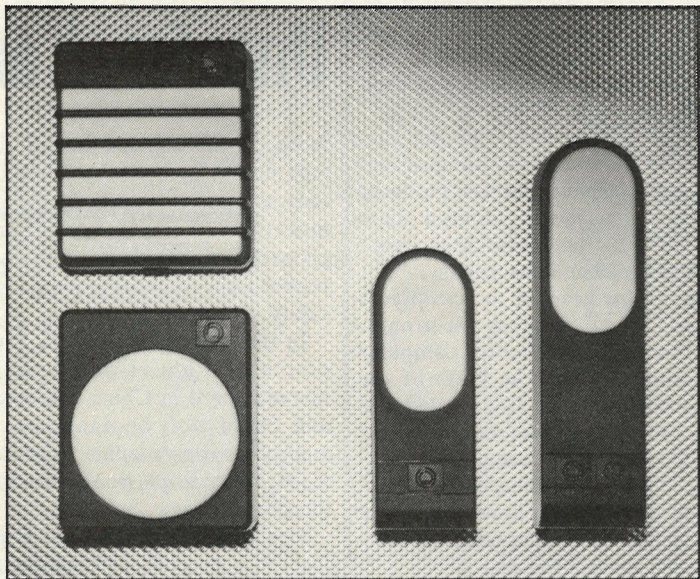
Amenity lights have plug-in options

A range of low energy, outdoor luminaires with the unusual option of plug-in switching controls has been launched by J & G Coughtrie.

Quorum range of four wall lights accepts compact fluorescent lamps and can be used either as basic fittings or upgraded to "intelligent" lighting by plugging in a selected electronic control module.

These modules offer respectively: passive infra-red movement detection within a 90° zone up to a distance of 12m; light from dusk to timed switch-off; dusk to dawn all-night illumination, or push-button control to give light for five minutes when entering or leaving the premises.

A further two dual-control modules can be selected for the largest fitting giving movement



detection with manual override for continuous light, or, on-at-dusk switching changing to movement detection at a pre-set

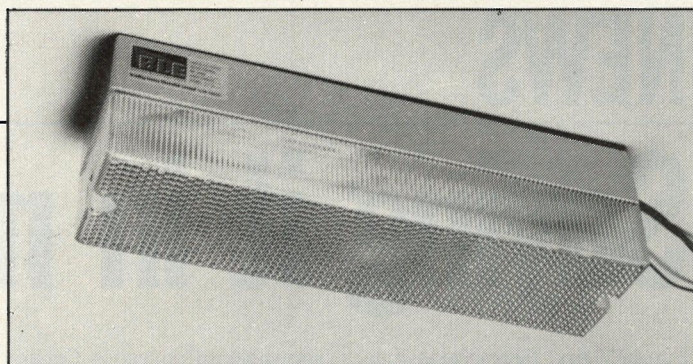
time. This imaginative combination offers both security and amenity advantages.

Fittings can be upgraded after installation; no tools are needed for this simple conversion. Because the modules are contained inside the fitting their security function is less obvious, therefore accidental damage and vandalism is reduced.

Quorum luminaires will continue to operate by normal switching even in the unlikely event of electronic control failure. Furthermore, each module will operate up to 1500W of slave lighting, so floodlighting can also be controlled from a single module.

The two square fittings accept 16W 2D compact fluorescent lamps and have an electronic starting device to extend lamp life. The small linear fitting accepts a 13W PL cluster lamp and the larger version a 26W PL cluster lamp.

Reader Service No 173



Emergency budget range

Bradley Lomas Electroluk has introduced Euroglow, an emergency luminaire specifically designed to maintain high quality standards at a budget price.

This self-contained 8W fluorescent luminaire is suitable for shops, hotels, meeting halls, leisure centres and general commercial and industrial locations. Its light weight makes it appropriate for suspended ceilings.

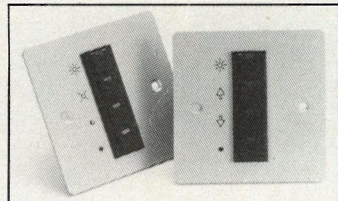
Mains cables from the base plate clip into the gear tray, allowing the plate to be fitted initially and gear tray and prismatic diffuser installed later.

Weatherglow, in the same range, has a diecast aluminium case with polycarbonate diffuser and is ingress protection rated IP65.

There is also an exit sign.

Reader Service No 174

Versatile wall mounted dimmer



dimmer, or by changing a switch inside, turned into a raise-and-lower preset unit. Preset light levels are easily adjusted using a screwdriver.

Applications include offices, foyers, boardrooms, shops, conference rooms and homes. It is suitable for dimming low voltage, fluorescent, tungsten and neon lighting loads.

There is the option of infra-red remote control.

Reader Service No 175

Oxtron Digital Systems has launched a wall mounted 10A dimmer with its own built-in control circuitry.

Known as the Compact CL6-10, it can be used as a four-preset

Starburst panels for nightclubs

Starburst is a versatile ceiling panel from Lynx Electronics, fitted with lamps to create stunning effects for nightclubs, restaurants and hotels.

Starburst panels are available in either a matt black powder coated finish, or polished aluminium. Each panel is fitted with clear, low voltage lamps in either a random or structured pattern. The lamps, which can be static or sequentially switched, are pro-

tected by a tough plastic lens which is available in red, yellow, green, amber or clear. As well as protecting the lamps, the lens maximises the effect by adding more depth, contrast and luminosity to the illuminated panel.

Panels have been designed to fit standard suspended ceiling grids, but can also be used effectively as wall panels. Special sizes can be produced.

Reader Service No 176

Easy fixing for lighting cables

A self-adhesive support for lighting cable has been introduced by Cablefix. It is D-shaped in cross section and slit so that cable can

be easily pushed into it. There is a range of pushfit couplings to neaten corners.

Reader Service No 177

HAWKER

SIDDELEY



SHEER BRILLIANCE—EX. STOCK

Some manufacturers talk about improving stock levels, but Crompton has gone ahead and done it. Now, through 250 appointed distributors nationwide, you will enjoy the benefits of the Crompton range, off the shelf.

Each distributor is committed to a comprehensive stock profile. For your business it means quality products—from fluorescent fittings to display lamps; from amenity and discharge

lighting to emergency luminaires. All available through your local Crompton distributor.

Crompton Lighting—it's sheer brilliance.

Contact us for a list of Crompton Lighting distributors in your area.



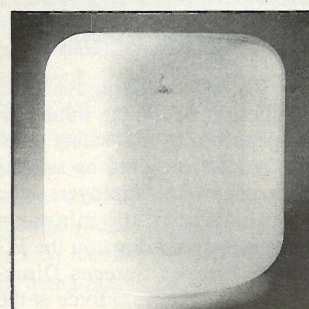
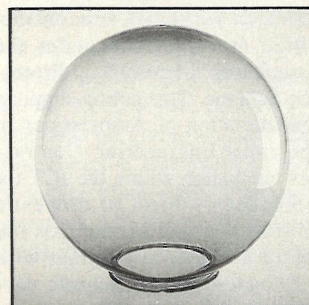
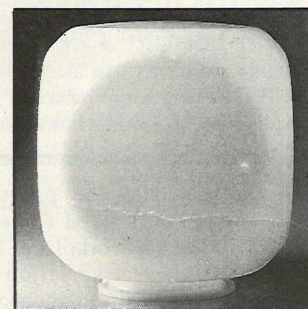
CROMPTON PARKINSON LIMITED, WOODLANDS HOUSE, THE AVENUE, CLIFTONVILLE, NORTHAMPTON. NN1 5BS. Tel: 0604-28882. Fax: 0604-26982

A GREAT COMPANY IN GREAT COMPANY

ACRILUX

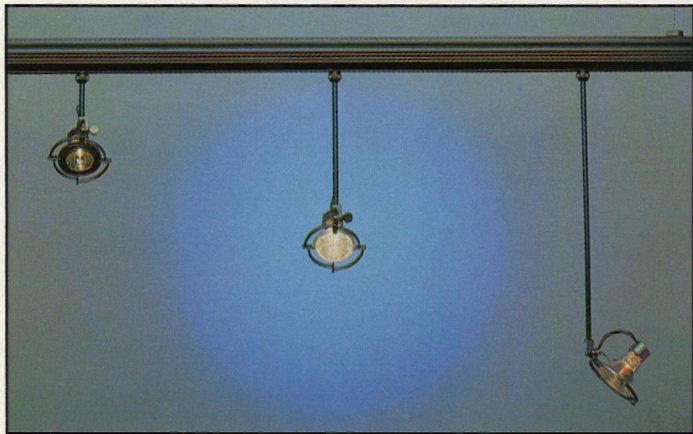
THE GLOBE SPECIALIST TO THE INDUSTRY

POLYCARBONATE
ACRYLIC
KAMAX



VERALUX-LTD
TEL. 071-4021997
FAX 071-4021998

NEW PRODUCTS



LV light bar system

Option-LV is a low voltage display lighting system from ORA. It uses extruded aluminium bars that house the electronic transformers. Luminaires are screwed into the bars on mounting rods at pre-determined points.

The bars range in length from 580mm, which accepts two spotlights, to 2360mm, which carries eight spotlights. Longer lengths can be produced to order.

In addition, there is a choice of electrical capacity: bars can accept either luminaires with 20W lamps, or with lamps up to 50W.

The bars can be mounted on either rods or wire suspensions. The system is stated to be easy to assemble and install. In particular,

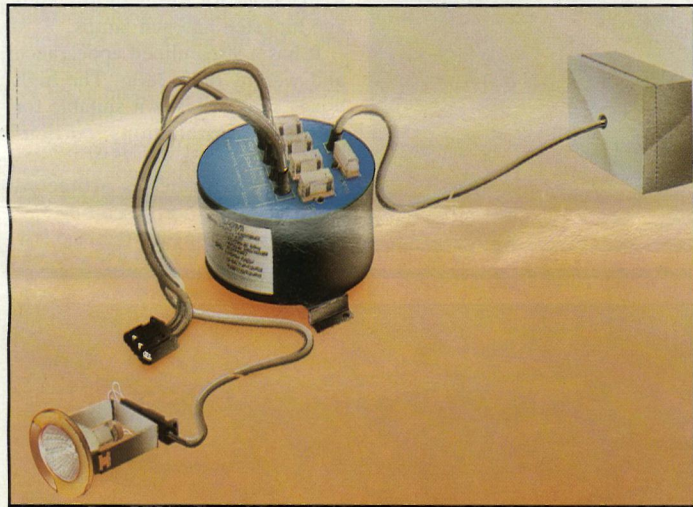
the wire suspension has a quick release mechanism that is adjustable without tools.

Transformers are self-regulating in that they eliminate current surges and ensure that lamps are run at the correct voltage. As they are housed in the light bar, there are no bulky adaptors to be seen and no remotely positioned transformer units. The light bar itself is ribbed and designed to act as a heat sink for the transformers.

Luminaires are available on pendant rods of various lengths, or on articulated arms.

Standard colours are: electric blue, white, black or satin silver, with other colours to special order.

Reader Service No. 151



Low voltage kit avoids problems with wiring

Rasmi Electronics has introduced a complete low voltage lighting system in kit form consisting of transformer, all necessary cabling, cable connectors, and up to six luminaires, together with lamps from either GE Thorn, Philips or Osram.

All connections, other than that made by the installer to the mains, are carried out with pre-fitted Mate and Lok connectors.

There is a choice of downlights (fixed or adjustable), eyeball

spotlight, or wallwasher, finished in either hard metal or powder coat paint. Colour finishes are white, black, chromium, brass, gold and black chromium.

The transformer has individually fused secondary outputs and a fused input, each protected by a transparent polycarbonate cover. In addition there is an internal thermal cut-out and switch-on surge current limiter. A flame retardant case encloses the unit.

The Mate and Lok system is stated to eliminate poor wiring connections and use of incorrect cable.

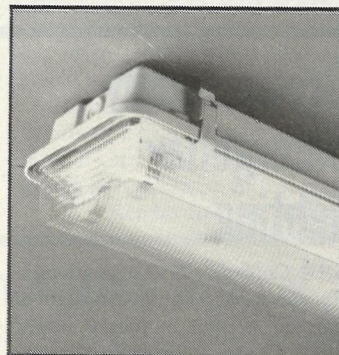
Luminaires from a different source can be used with the kit by adding a connector which is available as an accessory.

Reader Service No. 152

Luminaire is resistant to corrosion

Linolite's Weatherlite range of fluorescent luminaires is for applications requiring a tough, corrosion resistant fitting, such as subways, farms, loading bays, car washes and garage forecourts.

Weatherlite, which has ingress protection rating IP65, is also suitable for damp, steamy, or dirty environments, for example, swimming pool areas, kitchens



and laundries.

There are three lamp options, 18W, 36W and 58W, in single and twin lamp versions.

Reader Service No. 153

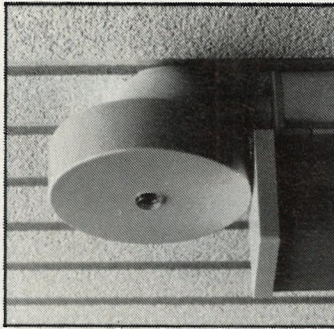
Plug-in controls for lighting

Danlers has a range of modules to control office or factory lighting. These plug-in, ceiling mounted units perform various distinct functions.

Photo-cell modules switch lights according to the ambient light level. With photocell reset switches, lights are switched off automatically and must be turned on again manually, if required.

Occupancy switches bring on lights only while the room is occupied. An occupancy switch with optional photocell override brings on lights only while the room is occupied and the ambient light level is low.

With a ceiling remote control, lights are switched by sending a signal to a ceiling mounted receiver from a hand held or fixed battery-operated controller.



Advantages of the system include that it can be introduced into a small area of a building as part of a pilot study. It is also easy to experiment with a proposed layout before being finally committed. The plug-in system is easy to understand. If the building layout is later rearranged, modules can be removed, added, interchanged or upgraded.

Electrical wiring is separate from electronic circuitry, simplifying procedures for quotations and allocation of contractual work. **Reader Service No. 154**

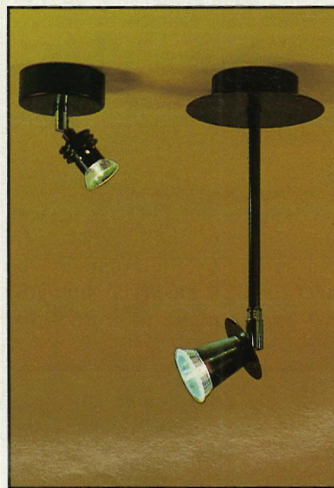
LV spotlights for shops

Fairfield Displays has introduced Highlight, a range of low voltage, retail display lighting.

There are two spotlights: H1 is a conical shape with a decorative, flat, circular back plate, while H2 has a short, cylindrical, perforated housing with three decorative rings around it. They can be rotated through 360° and pivoted through 90°. Both accept lamps up to 50W.

The wide variety of fixing options includes pendant tubes up to 1m long and an extension wall bracket. They can also be used as uplights from the window bed, incorporated into counters or showcases, or mixed with other display lighting systems.

Transformers are available with



capacities from 50W-300W.

Standard colours are black, white or silver, though special adaptations and colours can be easily produced on request, the company says, even in small quantities.

Reader Service No. 155

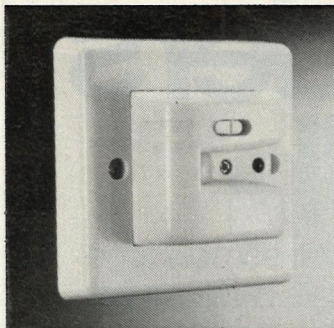
Automatic switch for fluorescent lighting

Infraswitch FL is claimed to be the first automatic lightswitch for fluorescent lighting that is interchangeable with a standard wall switch.

It is designed and made by Tasley and is easy to install to a three-wire switch system. Maximum load is 1200W; there is no minimum.

A passive infra-red device senses body heat and movement, while the additional feature of micro-phonics senses noise.

When the switch detects a person moving into a room the light is automatically switched on, and a timed sequence begins. Each movement reactivates the sequence. Only when the area is vacated and no movement has



been detected within a pre-set time, will Infraswitch FL turn off the light.

The sound detection feature only comes into operation once the infra-red control is activated and it then overrides the timer and prevents the light from being turned off.

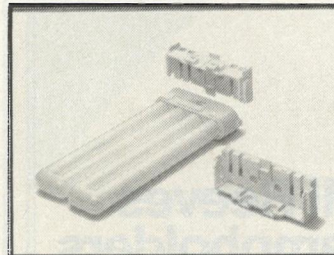
Particularly suitable for the young, infirm, or disabled, it is therefore appropriate for hospitals and elderly people's homes. Infraswitch reduces energy costs and also deters burglars.

Reader Service No. 156

Lampholder for flat compact fluorescent lamps

Vossloh-Schwabe has developed a lampholder for Osram's flat, double Dulux compact fluorescent lamp for shallow surface mounted and recessed luminaires.

A special feature of the lampholder is that it allows the lamp to be inserted laterally, which saves space in short luminaires. The



lamp can also be pushed into the lampholder in the normal way.

The lampholder, type 2G10, can be mounted in a luminaire from the front, rear or side. It weighs 25.5g.

Reader Service No. 157

LIF LINE

All change for safety

On the 2 September 1991, the Industry Committee for Emergency Lighting (ICEL) handed over the Industry Standard ICEL 1001: Part 2 : 1986 to BSI. Members will now use the BSI kitemark to show conformity with the harmonised European norm.

ICEL 1001 : Part 1 : 1986 is a product standard which was created by ICEL in lieu of an available standard for self-contained emergency lighting. It covers the construction and operation of the luminaire but not its performance.

In the latter part of 1990 a European standard EN 60.598.2.22 was adopted in Europe and was published as a British Standard (BS 4533. Part 102.22). It reflected much of the content of the ICEL standard, to the credit of the standard makers in the UK, but failed to address two important issues:

- ☐ the concept of flame retardant housing (which was, and still is, a requirement of ICEL;
- ☐ the issue of photometric performance.

The need for flame retardant housing is explained by the potential hazard of failure of high-discharge batteries. This could cause a fire which would be contained within a flame retardant housing. Moreover, in the event of a fire, flame retardant housing might last longer and be safer where luminaires are spaced along an escape route.

The importance of these two factors has been recognised by ICEL, along with the need for proper maintenance and installation, and hence two new schemes are being hatched by ICEL.

From 2 September, the new ICEL mark showing the company registration number will be reserved for manufacturers that not only meet the EN but have also had their luminaires tested photometrically registered their claimed performance with the ICEL secretariat. This data so registered will then be available for scrutiny by other members and interested parties to ensure claims are within the tested performance. Inspection of conformity will take place on a regular basis by BSI inspectors.

The ICEL mark, by itself, will also indicate that the housing is made of flame retardant material. However, if the luminaire fails to meet the flame retardancy test, the ICEL mark will be accompanied by a letter D struck out diagonally meaning the luminaire only meets the 650°C glow wire test.

A second scheme being developed in co-operation with the ECA, the Home Office and BSI involved an installation and maintenance scheme designed to ensure that systems are designed, installed and maintained in compliance with the 16th edition of the wiring regulations and a spate of European Directives concerning Safety at Work.

ICEL will, in the meantime, continue to make an input into the International and European product and codes of practice standards, aiming always to improve the level of safety in the event of emergencies.

Cooler running downlights

Edison Halo's Ribbed downlight range has a deeply ribbed, extruded aluminium body, together with a slotted end cap and porcelain terminal block. All combine to dissipate the heat from the 12V dichroic lamps used throughout the range. Lampholders are mounted on a pur-

pose-made heat sink to provide cooler wiring and improved lamp life.

The Ribbed range has a simple spring fixing and comes in three finishes: white, gold or silver.

There is a standard downlight, an adjustable downlight, an eyeball, and a clear Perspex drop to add sparkle to the standard unit if desired. A safety glass accessory is also available.

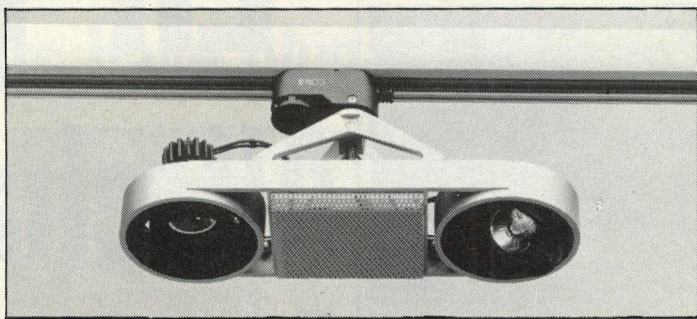
All units accept lamps up to 50W with Gx5.3 caps; the fixed unit accepts a 75W lamp due to additional internal heat sinking.

Reader Service No. 172

NEW PRODUCTS

Twice the spotlight power

Gimbal is a luminaire from Erco with two adjustable, low voltage spotlights. The support frame is permanently aligned parallel to the lighting track; to change the direction of the light beams the spherical spotlights are adjusted



MODULAR HF™ ELECTRONIC BALLASTS



IMMEDIATE DELIVERY

MANUFACTURED TO THE HIGHEST QUALITY STANDARDS AND PROCEDURES

- DESIGNED TO RUN BOTH ARGON & KRYPTON LINEAR & PL LAMPS
- 30% ENERGY SAVING
- SOFT "FLICKER FREE" START
- FLICKER FREE OPERATION
- OPEN & SHORT CIRCUIT PROTECTION
- FULL REGULATION FROM 160 TO 260V
- DOUBLES LAMP LIFE
- ELIMINATES STROBING
- INDEPENDENT LAMP DRIVES
- COOL RUNNING
- FULL "BROWN OUT" RECOVERY

ADVANCED LIGHTING INDUSTRIES

Motem House, Brooker Road, Waltham Abbey, Essex EN9 1JW
Tel: 0992 88668 Fax: 0992 700835 Tlx: 261439 MOTEMW G

A Motemtronic Company

Reader Service No. 5

within the frame. They can be angled at up to 40° from the perpendicular.

An electronic transformer is positioned in a perforated tray between the spotlights.

Two sizes of Gimbal are available: a 300mm long version accepts lamps up to 35W, the 358mm long model uses lamps up to 50W.

There is a choice of three types of tungsten halogen lamp. Either a clear M32 capsule lamp can be used with a separate reflector, or a dichroic lamp, or a lamp with integral metal reflector.

Reader Service No. 158

Safety push-bar lampholder

Collingwood-VLM has a push-bar lampholder, 945CAB, that fully complies with BS4533. It is guaranteed by the company to meet the 4kV electrical strength test and is made in a BS5750 approved factory.

This B22 lampholder for table lamps has 2m of cable attached. Manufacturers should state when ordering whether 0.5mm or 0.75mm cable is required.

Reader Service No. 159

Floor light is also task light

A multi-purpose floor light from Myddleton Hall Lighting is called Meridiana Terra. It uses a 300W tungsten halogen lamp controlled by a foot-operated dimmer switch.

The shallow dish shaped reflector can be swivelled through 180° so that it becomes an uplight. In addition, it can act as a desk or task light because the two supporting stems of the luminaire can be adjusted to angles between 90° and 45° to direct light over the work. A stop prevents the luminaire from leaning over further and becoming unstable.

Standard finishes are either galvanised metal or black epoxy paint. Other colours can be provided to order.

Reader Service No. 160



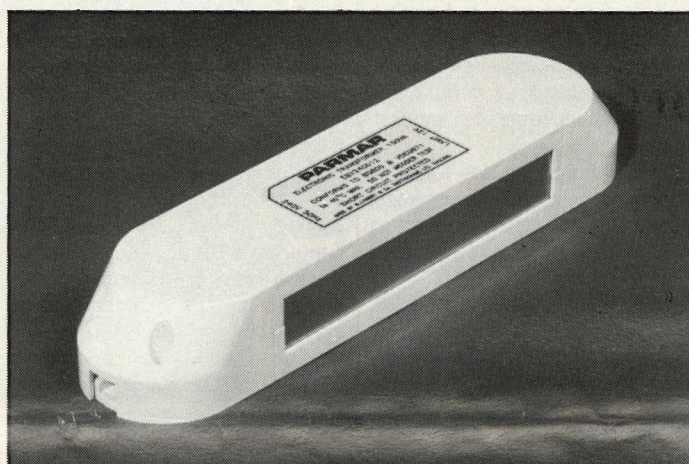
Electronic transformer

W J Parry has introduced a 150VA high frequency 12V transformer for use with low voltage tungsten halogen lamps.

It has a streamlined appearance and weighs only 380g. The high power rating makes it suitable for multilamp installations, particularly 3 x 50W or 2 x 75W.

The transformer is protected against lamps short circuiting.

Reader Service No. 161



Outdoor uplights for floodlighting

Exterior uplights in the Hydrel range from Lightscape Projects are for burying in the ground and are designed to eliminate glare.

The fittings use a range of PAR56 and discharge lamps, including mercury, metal halide and high pressure sodium.

Applications envisaged are wallwashing building facades, highlighting architectural landscape features and uplighting trees and shrubbery.

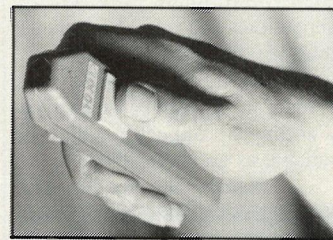
Reader Service No. 162



Remote control added to office switching system

Lightspot office lighting control system by Ex-Or has been made even more user-friendly by the introduction of a hand-held switching device which overrides the presence detection automatic control system.

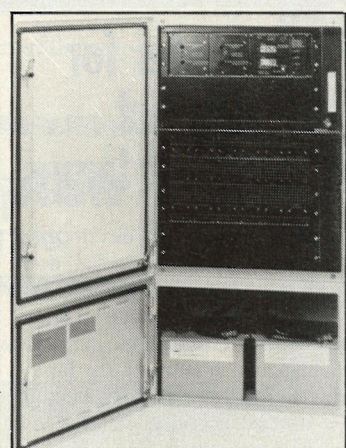
The new remote unit can be used to turn Lightspot-controlled



lights off if lower lighting levels are required, or to override built-in photocells which keep lights off in areas of bright natural light.

The system reverts to automatic detection mode without resetting after the hand-held unit has been used.

Reader Service No.163



Group supply emergency lighting

ABB Control's GVL group supply emergency lighting system is claimed to offer increased safety levels due to decentralised installation of units, either on separate floors or in separate fire zones of a building, rather than having one central battery system.

Although each system func-

tions independently, up to 64 GVL systems can be connected to a central status monitoring system.

Maintenance costs are reduced by providing constant monitoring of battery charge, a weekly function test cycle, a programmable periodic battery test and specific fault indication in individual group supply systems.

Installation of the system causes minimum disruption to occupants and uses existing standard lighting fittings. Each system is in a sheet steel housing.

Reader Service No. 164

IMI Reeves Candleholders outshine all others.

Save valuable assembly time and labour costs by fitting IMI Reeves Candleholders.

Neat, no-nonsense, two-piece construction makes them easy to fit – quickly. Their slim-fitting design gives you wider

flexibility of application. As you'd expect from Reeves, every one meets BS 5042: Part 1: 1981.

And so that you know you're using the best, every one carries the Reeves logo.

IMI Reeves Candleholders – for the enlightened manufacturer.



IMI Reeves Lampholders

Holdford Road, Witton, Birmingham B6 7ES.

Tel: 021-356 7369 Telex: 335959

IMICOM G. London Office Tel: 01-636 9533

IMI



Office lighting can be fine tuned

ErgoVision from Philips Lighting is a system for multi-functional, cellular offices. It is supported by a range of design co-ordinated uplights, downlights, wallwashers and desk task lights, all available with end caps in a choice of five accent colours.

The concept is to adapt lighting to the needs of people, whatever task they are called on to perform. During the working day, an individual may be reading, writing, filing, operating a visual display terminal, attending a formal meeting or having an informal discussion with colleagues. Each of these tasks has its own lighting requirements and ErgoVision enables them to be performed with optimum efficiency.

Philips' high frequency fluorescent lighting is used with light output regulation under the control of either desk top or wall mounted, battery-operated infra-red handsets.

The brightness of each element of a mixed lighting installation can be adjusted. Up to three scenes can be stored in the memory of the handset and recalled at the touch of a button for changing work patterns.

A major benefit of the system is its inherent flexibility. Lighting design is greatly simplified by the ability to "fine tune" levels of illuminance, uniformity and glare control for VDT operation.

Since the wall mounted or hand-held controllers are battery-

operated, installation costs and subsequent costs of changing office layouts are reduced due to elimination of vertical wiring.

There is a choice of three, surface mounted or recessed downlights with mirrored reflectors, complying with *Lighting Guide 3* categories I, II and III respectively and using linear lamps; surface or recessed wallwashers with linear or PLL lamps; modular downlights with PLL lamps; wall mounted uplights using PLL lamps, and suspended or free-standing up and downlights using PLL or PLC lamps in the downlight elements.

A desk task light with a PLC lamp is also included in the range. **Reader Service No. 165**

Decorative lights for caravans

LightGraphix is introducing a range of enclosed, semi-recessed, low voltage lighting designed for use in yachts and caravans, where

ceiling heights and recessing depths are limited.

Some of these units can also be used in bathrooms, the company states.

Ranging in size from 60-180mm in diameter, the ten luminaires have a variety of either clear or etched decorative glasses.

Shapes include cones and hexagons. A choice of finishes is available for the circular bezels.

Lamp options include 12V tungsten halogen capsule type and 10W 2D compact fluorescent, with alternative versions for d.c. and mains a.c. electrical supplies. **Reader Service No. 166**

Cylindrical luminaires have own ventilation

Sunlight range of accent lighting launched by Reggiani is visually simple. The cylindrical shape has a cut-away lampholding section which adjusts to give directional

low voltage tungsten halogen lamps with metal or dichroic reflectors. This enables lighting designers to specify the same luminaire form for a variety of tasks in the same interior.

Two diecast aluminium sections are connected by a mechanical friction joint giving wide adjustability. This allows the luminaire to be used as a spotlight as well as functioning as an uplight or downlight.

Lamp and control gear have been separated and each given its own housing. Both sections have a ventilation system developed by Reggiani.

Another benefit of this separation is that the lamp section can be used with a remote gearbox to produce a compact luminaire in installations where size is critical.

Polyblok retaining system is incorporated for anti-glare protection glass and accessories such as an ultra-violet filter, louvre, shield and barndoors.

Applications include ambient lighting, accent lighting in window displays and powerful high-lighting of architectural features. **Reader Service No. 167**

Wide choice of emergency lighting

Centric Systems has launched a range of emergency lighting called Helm. It includes a shallow luminaire with prismatic controller, that will blend with office lighting schemes, a rectangular bulkhead and emergency signs.

As well as self-contained units, there are slave versions for central battery systems. Some of the luminaires are available in mains only models.

In addition, there are conversion kits for both tungsten and

fluorescent lamps. The range concentrates on the conversion, with extensive options, of low voltage tungsten halogen lamps and the use and conversion of 2D and PL type compact fluorescent lamps. **Reader Service No. 169**

Small sensor can be masked

Steinel's passive infra-red sensor incorporates two Fresnel lenses, the main lens with a range of 12m when mounted at a height of 2m and a secondary "creep" detector.

Lens masks are included to enable individual zones of the lenses to be blanked off, so that authorised and expected usage does not activate the sensor. The light duration can be varied from 10 seconds to 15 minutes.

Weighing 230g, the IS140 is extremely compact at 88mm x 71mm x 112mm. **Reader Service No. 170**



Footlight for the garden

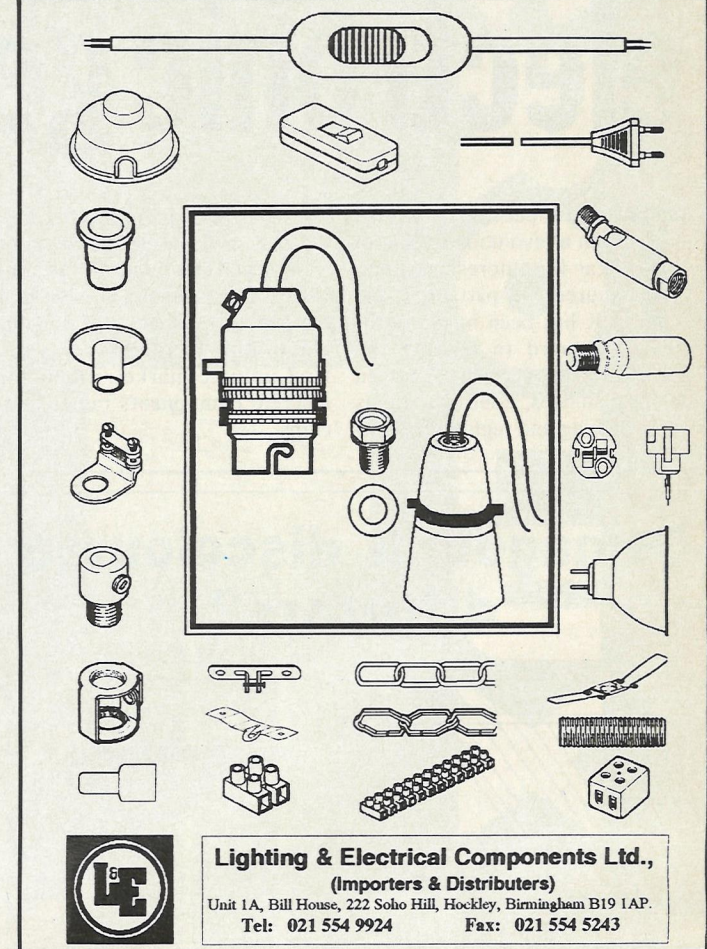
Footlight, recently introduced by LightGraphix, is suitable for recessing into paving or walls, either for interior or exterior use. Ingress protection rating is IP65.

Using a 20W 12V tungsten halogen lamp, either capsule, 35mm diameter reflector, or AR48 metal reflector type, the luminaire provides decorative



amenity lighting for pathways, gardens, alcoves or shrubberies.

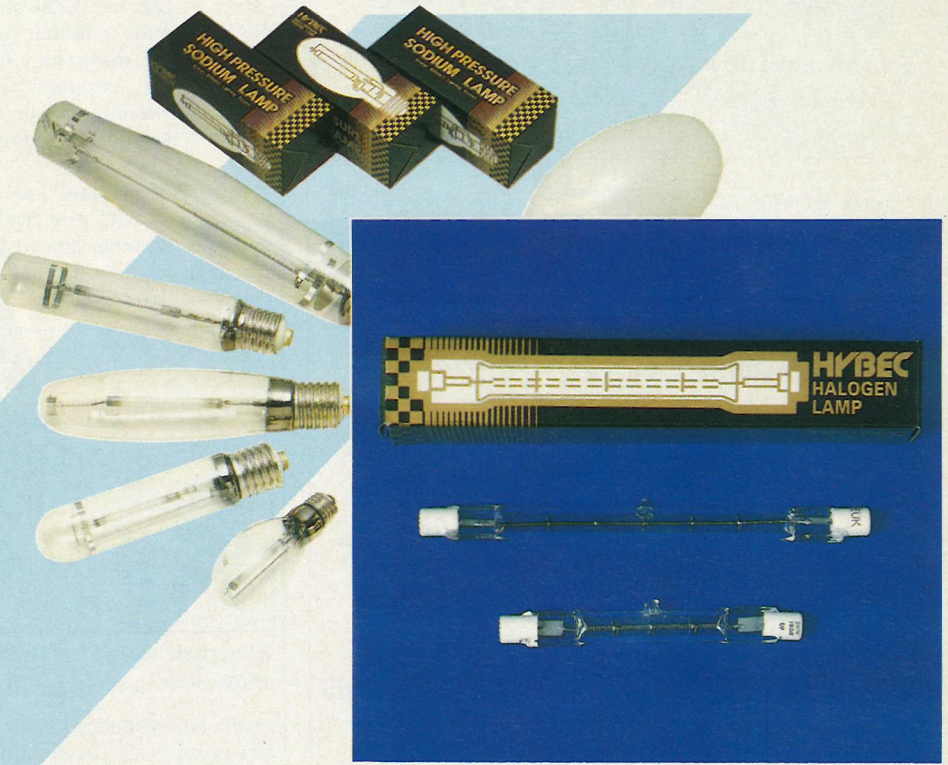
It has a diecast aluminium body with black finished bezel and toughened glass cover which may be either clear or diffused. A further option is a cellular louvre to reduce glare. **Reader Service No. 171**



Lighting & Electrical Components Ltd.,
(Importers & Distributors)
Unit 1A, Bill House, 222 Soho Hill, Hockley, Birmingham B19 1AP.
Tel: 021 554 9924 Fax: 021 554 5243

Reader Service No. 7

HYBEC HIGH TECHNOLOGY LAMPS



U.K. MANUFACTURED LINEAR HALOGEN LAMPS

PART OF THE HYBEC RANGE OF HIGH TECHNOLOGY LAMPS



**HYBEC LTD UNIT 9, BARRINGTON INDUSTRIAL ESTATE
LEYCROFT ROAD BEAUMONT LEYS LEICESTER LE4 1ET
TEL: 0533 358818 FAX: 0533 358810**

A wholly owned subsidiary of the Miyakawa Corporation - Japan

Reader Service No. 8
Page 7

Although HID lamps do not represent a volume market in the same sense as fluorescents or metal halide lamps, nevertheless electronics is making an inroad into the market for control gear. Keith Neilson, of Philips Lighting, looks at likely developments in this field.

Trends in HID electronic gear

The last decade or so has seen a revolution in control gear for fluorescent lamp sources. In particular, the UK has been in the European vanguard in leading the growth in HF electronic gear. In many instances, control systems for switching and regulating light-

ing have been incorporated into the system. Here again, electronics have taken a high profile. But what has happened and what will happen in HID gear? After all, electronics in ignitors was the first volume market, albeit for discrete components rather than chips.

Theoretically, all HID lamps can also be controlled by electronics. Certainly the science is available. The stumbling block is converting science into technology at acceptable market prices. Put crudely, it's a price/volume issue. For while TL lamps have volumes attractive enough to interest electronic component suppliers, this is not yet as sure for HID sources in the main.

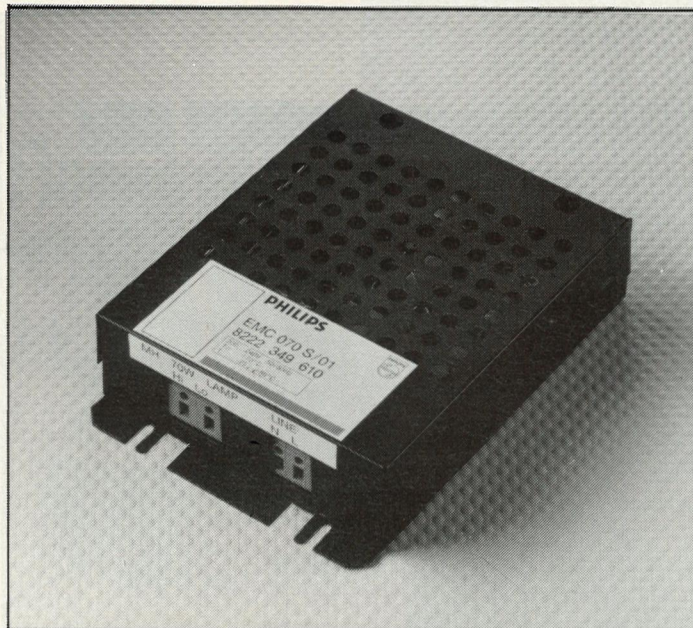
Where market prices are sufficiently high and these are coupled with predictable high market volumes, HID lamps have begun to follow the electronics path. Retail and commercial markets are the prime examples where low voltage metal halide and white SON have grown from zero to well, very large numbers.

Physical volume

It is also true to say that gear size or volume is compatible with this market need; so not only does electronic gear face a price/production volume issue, there is also the physical volume issue.

But the inevitable move into electronics does not mean that copper/iron technology has remained static. Substantial investments have been made in this area. This may be a sailing ship effect - similar to the faster clipper sail ship classes introduced to the China tea routes when steam ships became available. Steam eventually won; but 'state of the art' technology is not always the solution, whereas 'appropriate' technology usually is. In short, copper/iron will retain a substantial chunk of HID business, as, indeed, it does with TL.

In the UK the traditional major markets for HID gear are street and road lighting, amenity lighting, high and low bay and floodlighting. However, unlike the



A 'state of the art' 70W electronic metal halide ballast.

Despite a prime cost market emphasis, 'cost of ownership' principles are making noticeable inroads into the traditional markets. That is, the owners of lighting schemes are considering total life costs, so quality, serviceability and energy costs are becoming more important.

The notorious first cost street and road lighting market is taking a lead in this aspect. At the forefront of this trend is Control Gear Systems, who produce gear trays for columns using copper/iron gear and who have always stressed quality and serviceability. Despite the financial restraints on local authorities, Control Gear Systems have moved further up-market in the quality of their components. If we compare current gear trays with models only two years old, they show more impact resistant encapsulated ballasts and more professional and expensive terminal blocks. Control Gear Systems are, in effect, advancing the case for electronics

SON electronics units at this time the benefits here are less apparent than for the metal halide market. This does not mean that products will not be test marketed or even introduced. It just suggests that the economics will not command the obvious strength of metal halide. White SON is the exception where both the necessary volumes are met and surface mounted device technology in the printed circuit board coupled to heat sinking by potting compounds has reduced the physical volume. It should be said that the printed circuit board itself is the smallest component and this alone can be incorporated into a luminaire or control box to meet dedicated design.

Improved efficacies

SON presents a more promising case for electronics, particularly for motorway and motorway access lighting. Improved efficacies are produced by electronics so that higher lumen packages

(suitably controlled) can be generated for wider spacing or, alternatively, lower energy costs can be achieved for the same lumen package.

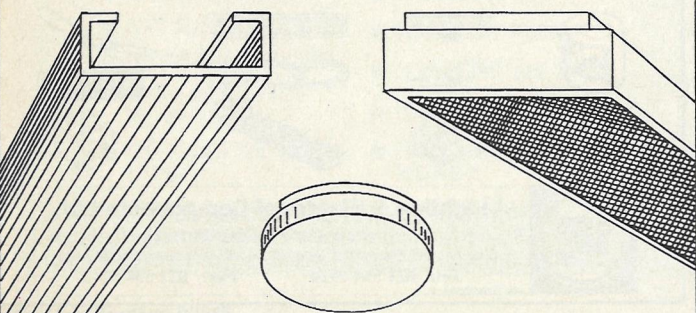
It is expected that the cost of ownership will be attractive and physical size will not be an issue. Indeed, size will be a real bonus for integral gear luminaires because not only will the electronics be lighter but the layout of the printed circuit board is capable of being dedicated to help 'streamline' design. Because of the UK economics for road and street lighting we can expect that in the volume market (35W SOX) it will not be easy to justify electronics unless benefits additional to efficacy can be expected.

Size reduction

The potential advantage of size reduction from using electronics invites one to ask what degree of size reduction is feasible and what sort of temperature regime the gear will operate under. Current luminaire designs using copper/iron gear are a result not only of lamp optics but also of gear constraints. Hence, if gear can be reduced in size the designer has a new degree of freedom, if his company can afford to invest. An early benefit should be substantial reductions in the cost of materials. This is often a considerable benefit in luminaire design. But before designers become too elated at the possibilities they should note that the temperature issue is not at present wholly resolved.

In conclusion, the future for electronics in HID lighting is clear. Size reduction and price will define the markets. At this point in time retail outlets are the most prominent. By definition this means that copper/iron gear will still have a substantial sales, primarily in the 'old' markets.

Damaged & discoloured diffusers?



A Diffuser Service from the professionals



ARROW DIFFUSER SERVICES
ARROW WORKS
HAMPDEN ROAD
KINGSTON-UPON-THAMES
SURREY KT1 3HQ

A DIVISION OF ARROW PLASTICS LIMITED

Tel: 081-546 6258

Fax: 081-541 4654

Reader Service No. 9

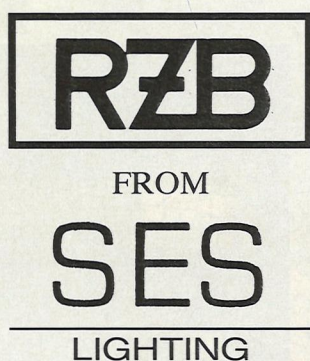
The most comprehensive range of technical and amenity lighting to suit all your requirements.

TECHNICAL CATALOGUE

- Nokia track systems
- Metal halide, PL, mercury
- Superflat modular luminaires
- Tubular lighting systems
- Highbay & lowbay

OUTDOOR LIGHTING

- Bosio design bollards and bulkheads
- Recessed & surface accent lighting
- Floodlighting
- Garden lighting

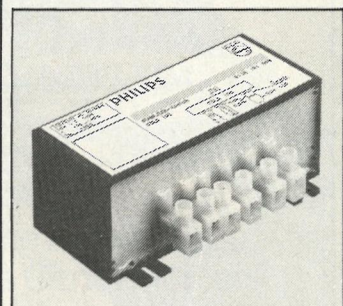


WALL & CEILING FITTINGS

- Bulkheads and drum fittings
- Polycarbonate and glass wall fittings
- Downlighters
- Murano crystal fittings

Unit 2, Britannia Industrial Estate,
Poyle Road, Colnbrook, Berks. SL3 0BH.
Tel (0753) 680611 Fax (0753) 680418

Reader Service No. 10
Page 8



Electronic ballast for 100W white SON.

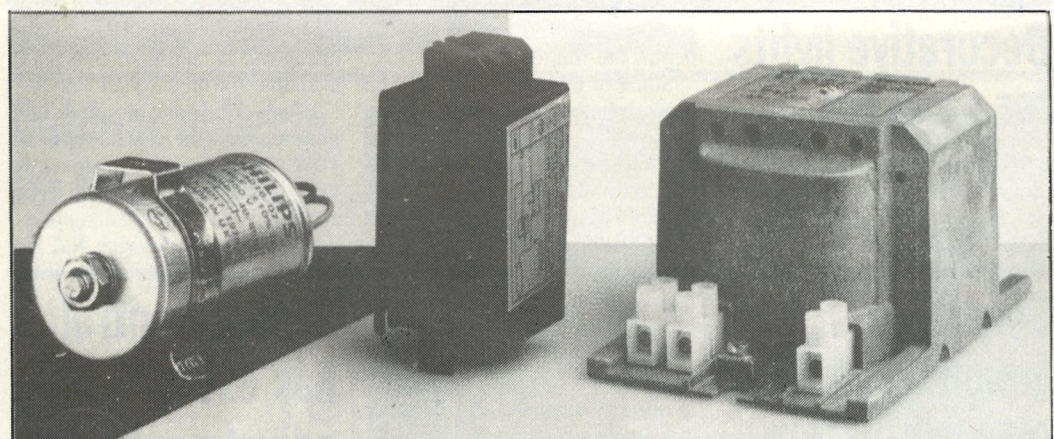
retail and commercial sector, market growth has been minor. A noticeable product exception has been 70W SON by a combination of substitution of other products and original points. A consequence of such market factors is that price driven market share strategies have ruled for many years. This tends to benefit copper/iron technology if only for the sake of cheapness, but a continued 70W SON substitution will assuredly accelerate a commercial electronics solution.

Conventional 70W SON gear: capacitor, ballast and ignitor

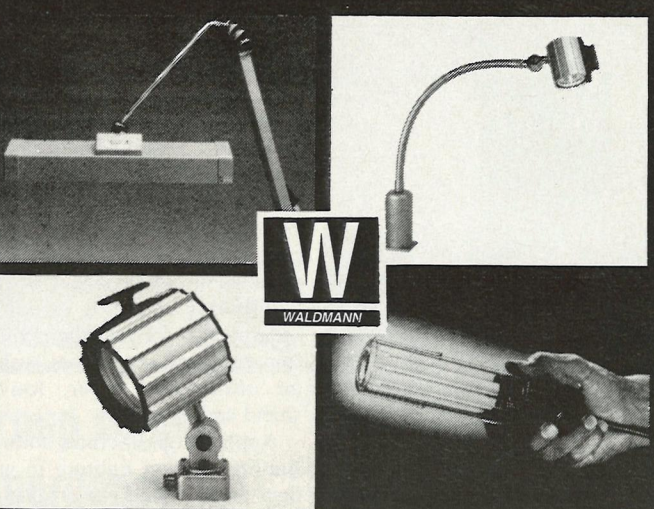
by following Japanese system quality principles, thus making first price a less sensitive issue and providing electronics with a more viable price level. Doubtless, this company would spearhead any market advance in electronics.

The move towards Japanese quality, along with BS5750 or EN 20 9000, and market awareness has caused some manufacturers to adopt more flexible, automated systems and practices. This is true at last for volume runs, if not variety in tapped options. As an example, changes for orthocyclic to wild winding without loss in electrical quality encourages more flexible, market-driven manufacturing regimes.

Faced with two volume issues identified above, electronics has to find market needs that can benefit from its introduction. One such area is prolonging lamp life; this is true for TL lamps and low wattage metal halide. The benefit of an increase of more than 30% in 70W metal halide lamp life is invaluable in the retail market. Lamp outages are not merely a lamp manufacturer cost but could also represent lost sales. While it is possible to manufacture 70W



NEVER A DULL MOMENT ...



The WALDMANN range of quality industrial luminaires offers over 100 standard models and 500 special variations. Waterproof (IP 65) fluorescent and halogen. Available in a range of voltages from 12 volts to 240 volts. Full details from:

TASK LIGHTING LEADERS



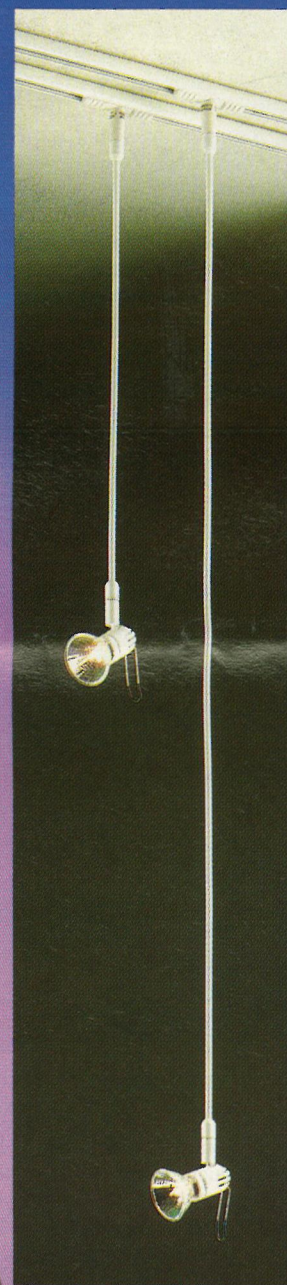
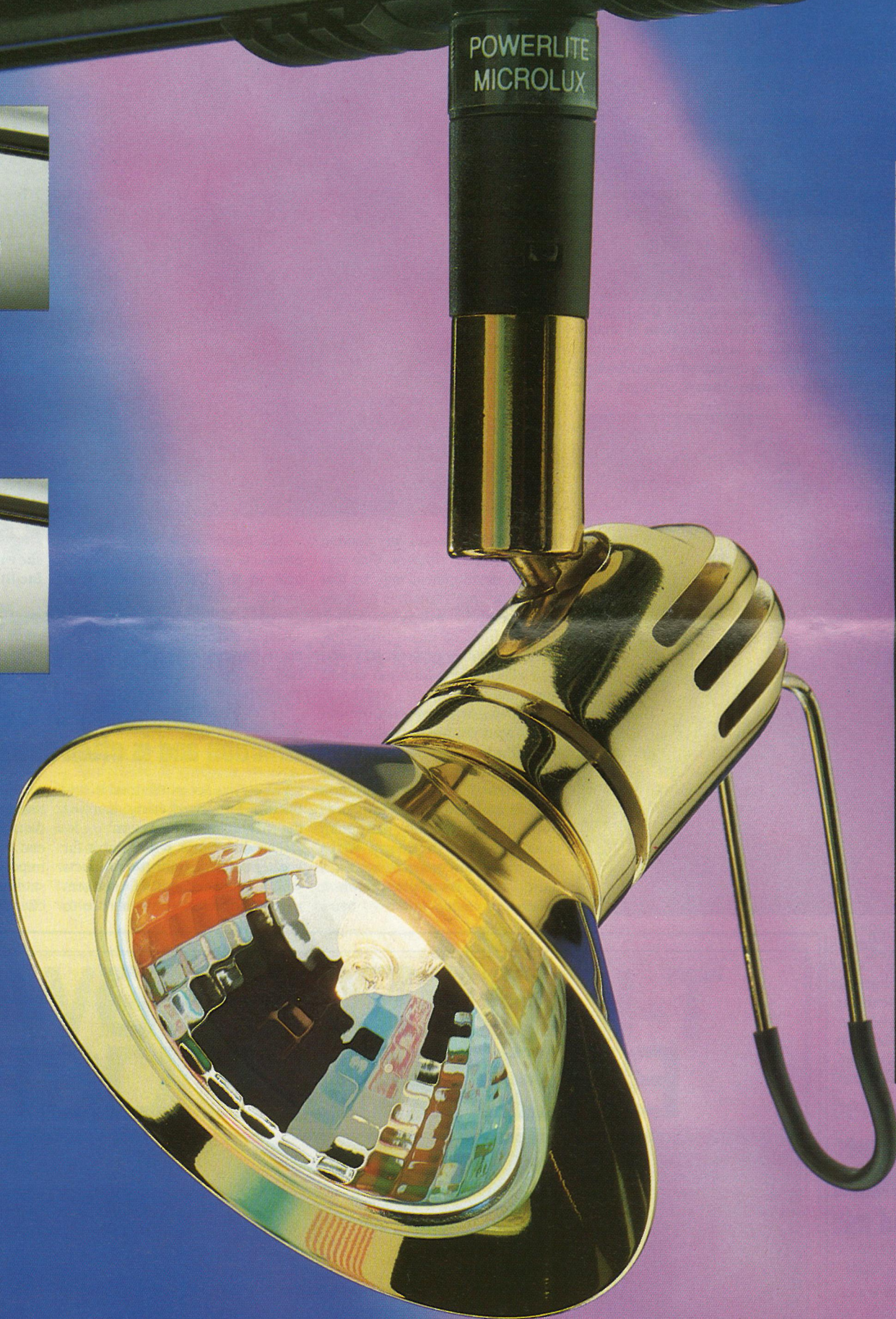
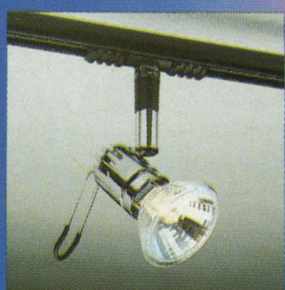
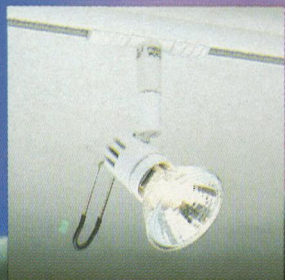
MIDLAND MACHINERY SERVICES

1 LOW FARM PLACE
MOULTON PARK
NORTHAMPTON NN3 1HY
Tel: Northampton
(0604) 644875
Fax: 0604 790016

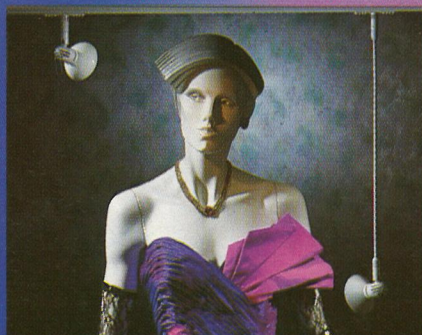
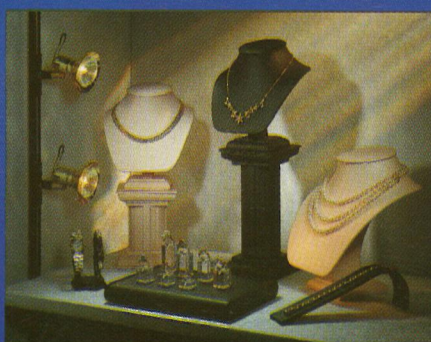
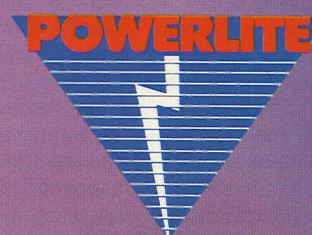
Reader Service No. 11

LOW VOLTAGE LIGHTING

MICROLUX[®]



EXCELLENCE
IN LIGHTING



POWERLITE ELECTRICAL PRODUCTS LTD.
122 North Street, Leeds LS7 1AF
Telephone: (0532) 450788.
Telex: 556612 PLITE. Fax: (0532) 422573.
Reader Service No. 12

An increasingly important role

Using an electrical wholesaler can save time and money. **Stephen Rose, of WF Electrical Distributors, looks at the function of the distributor in the lighting supply chain.**

The traditional view of the electrical wholesaler is far removed from the function of today's distributor who is able to offer an extremely cost-effective service, not only to end users and installers, but also to specifiers and manufacturers.

Many of the traditional functions of the distributor still form the backbone of the operation. The ability to hold stock smooths out fluctuations in both demand and supply. Local availability of this stock means that the installer or contractor can be assured of regular site deliveries and local sales counter collection points. Multi-branch electrical distributors are now able to balance stock between depots in order to maximise this important investment.

... "regular on-site representation ensures that the highest level of communication is maintained" ...

The availability of credit is a vital function and one which is often misunderstood. Standard monthly credit trading terms should allow the contractor to optimise his own cash flow if he adopts regular and firm debt collection procedures. The provision of credit is an expensive operation for the distributor, and it is vastly less expensive for the installer to take advantage of monthly credit terms than to seek additional borrowings from his bank.

Regular deliveries, on suitable transport, of the correct goods are a prime function of electrical distributors, together with their local knowledge of trade, industry and commerce.

Good communication with the distributor serves as an efficient flow of dialogue between manufacturer and distributor, from distributor to customer – and often from customer straight back to the manufacturer.

In the 1990s the professional electrical distributor is playing an increasingly important role within the manufacturer/distributor/end-customer partnership.

A key improvement in the current ability of distributors is their enhanced awareness both of the problems faced by installers and end-users and those encountered by manufacturers. This more open method of operation should serve to strengthen these links further.

Lighting equipment installation is inherently complicated. Planning, design and ordering are often left until late in the timetable of the project. The function of the professional electrical distributor is to coordinate a wide variety of requirements for equipment, and to ensure that delivery schedules are met.

But, we are not just talking about the prestige final components such as luminaires and light

sources, but also about the whole gamut of installation components such as ballasts and chokes, fixings and tools, and wiring and switching systems.

The installer should be able to rely upon his local distributor to provide a cost-effective and steady flow of these vital parts.

Several electrical distributors now operate specialist lighting design and service departments. A handful offer the facility of extensive showrooms or display facilities, designed to ease the objective choice of the correct luminaire and light source. These showroom facilities are often used by the end-customer in conjunction with his installer, the specifier (often an architect or designer) and the lighting equipment manufacturer.

On a more detailed level, the

versely, the knowledgeable distributor will actively market high technology light sources in situations where the installer and client are open to suggestion.

Time and money are saved by the function of the electrical distributor as central contract point. The distributor's stocking and administrative functions ensure that there should be only one point to chase or monitor progress, should the need arise.

This is of major significance to both installer and manufacturer.

On-site representation

Lastly, the distributor offers regular on-site representation in order to ensure that the highest level of communication is maintained.

In my opinion, the arrival of the single European market in



City trade counter, showing some of the lighting stocked.

professional distributor of lighting products is able to liaise with the architect, the quantity surveyor, the installer and the client on 'just in time' schedules, both for commercial office and multi-site retail projects.

... "comprehensive stocks of all types of light sources are a prime responsibility" ...

Efficient electrical distributors are often able to offer technically knowledgeable staff who are capable of responding to a client's request for alternative equipment should the original request prove not to be available within the time period specified.

Comprehensive stocks of all types of light sources are a prime responsibility of the lighting equipment distributor. The 'hands on' operator will know that a delivery of fluorescent tubes before the luminaires are consigned is wasteful, inefficient and poor commercial practice. Con-



1992 will not herald any sudden or breathtaking changes. One significant development may be that current pricing variations between EEC members will be balanced. The abolition of much time-consuming frontier paperwork could also encourage additional export opportunities.

The majority of continental manufacturers are already represented in Great Britain and – although we are often accused of being insular – the wide variation in technical and design standards both between other European countries, and in many cases within certain countries, reminds us of their own protectionist policies.

The future holds many exciting prospects for the electrical distributor in the UK. I believe that market-leading manufacturers will develop even closer ties with selected distributors – these being the companies who can offer a full range of complementary

Distributors may offer showrooms with display facilities.

smaller non-franchised wholesalers.

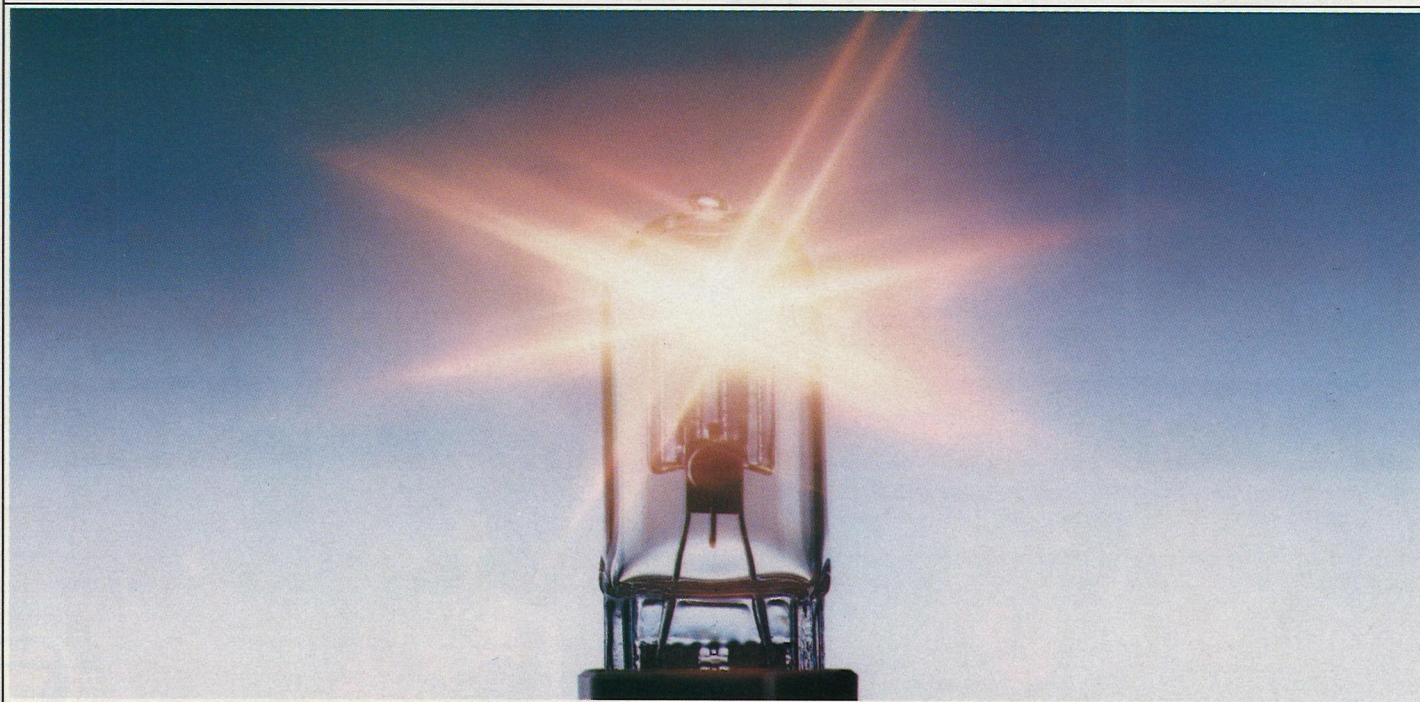
Technical skills will increase and there will be a greater under-

... "the availability of credit is a vital function and is often misunderstood" ...

standing, particularly by manufacturers, that products supplied to a distributor do not represent the end of a sale but instead, a vitally important link in the route to their satisfactory final installation in a client's premises.

The distributor will exhibit far greater selectivity in the products which he stocks and will perform a greater redistribution role to

RECORD BREAKING LIGHT:



3.35 GB



The stock check system gives customers instant access to product availability.



Reloading a typical warehouse bay.

The trading equation

Ron Taylor of BDC's specialist Lighting Division discusses the distributor, end user, manufacturer relationship, its future, and the strains caused by the current economic climate.

The superficial answer to the question – what is the role of the distributor – is standard textbook stuff about providing the right mix of stock, in sufficient quantities, at the time and place where the customer wants it and at a price which enables him to make

money on the deal.

And there is nothing wrong with this definition as far as it goes – the problem is that it does not go far enough these days.

Looking at it another way, if we ask what the role of the distributor **should** be rather than what it is in many cases, we are

more likely to reach the answers which point the way ahead in distribution rather than those which merely reflect what has happened in the past.

It is important to understand that the distributor is just one part of the equation which is completed by the manufacturers, con-

tractors and end users. Each is dependent on the other and each will benefit from using the strengths and services of the others.

Essential relationship

This tends to happen more when times are good and business is buoyant. Manufacturers are content to concentrate on what they do best and make things, and happy to leave the business of stockholding and delivery scheduling to the distributor, which is what he should be good at.

Meanwhile, the contractor or end user has plenty of business on his books and quite happily uses his one or two regular distributors because they will provide him with what he most needs at that time, namely a fast, assured supply of the mix of products he requires.

So everything in the garden is rosy – or so it seems.

However, change economic conditions somewhat so that

times are not quite so good – or even decidedly difficult, as is the case just now – and what happens? The sensible process of an orderly market breaks down and we have the unedifying sight of manufacturers, who, only recently assiduously courted the distributor because of the benefits of employing a specialist, suddenly going hell for leather to supply end users directly, thus cutting across the established lines of distribution.

Not unnaturally, this can lead to a wall of mistrust being established between distributor, customer and manufacturer, at a time when exactly the opposite is required in order to establish a successful long-term business relationship.

From the contractor's or end user's position a similar transformation can occur. Instead of a seemingly tried and trusted relationship with one, two or a handful of distributors, come the squeeze and you some will turn to any distributor who can offer an additional few pennies off the product. Understandable? Perhaps, but remarkably short sighted.

... "without a higher degree of trust between the parties involved, the entire distribution system can be upset" ...

For experience has surely shown us time and time again that the 'pile it high – sell it cheap' merchants never seem to stay around for any length of time. When they go under – as most assuredly do – the end user finds himself searching around for someone to fulfil his requirements, at the cost of delay and additional expense to himself.

And, of course, if he goes back to his former distributor, what is the likely reaction if there is a choice between supplying a regular customer who has stuck with the distributor through thick and thin and this fairweather friend?

Of course not all manufacturers, contractors or end users act in

this way. There are those who do practise what they preach and operate in a responsible, professional way when it comes to the distribution process.

... "the pile it high – sell it cheap merchants never seem to stay around for any length of time" ...

But for those who do not, the only effect their actions have is to weaken the distribution system. If a distributor cannot plan ahead with any degree of certainty then he is likely to cut stocks rather than hold them. If the distributor does not liaise closely with the manufacturer and keep him informed about what is going on then he, the manufacturer, will be left with excess stocks.

Or, if he too cuts back on production, what happens to the contractors or end users who have work on, or who suddenly need supplies when the economy starts to pick up?

The moral is that without a higher degree of trust between the parties involved, the entire distribution system can be upset relatively easily.

And what this means is that the distributor cannot plan adequately for the future and may not make the investment decisions necessary to provide the level of service that both manufacturers and customers will require, and should demand, in the 1990s and beyond.

This is not a plea for distributors to be given an easier time by manufacturers, contractors and end users. It is a recognition that without a process of orderly marketing within the industry, the levels of investment needed for distributors to do their job properly will not be made, to the detriment of all concerned.

Therefore, in order to build and maintain the level of trust and cooperation needed, a more formal working relationship between distributor, manufacturer, contractor and end user is required.

But, before going on to develop

POWERSTAR HQI-T FROM OSRAM.

As small as the OSRAM POWERSTAR Metal Halide lamp is, it still has one of the highest luminous efficacies under the sun. No other lamp technology produces so much brilliant white light using so little wattage from such a small point source.

The OSRAM POWERSTAR HQI-T 70 W and 150 W lamps are no bigger than your thumb. However, they are 6 times brighter than incandescent lamps with equivalent

wattages. Furthermore they last 6 times as long.

That makes OSRAM POWERSTAR outstanding wherever brilliant white light is required: for lighting up offices, conference halls, museums, sales areas, shop windows and exhibitions.

Record breaking OSRAM POWERSTAR HQI-T – to achieve your own record breaking business objectives.

**TECHNOLOGY
BROUGHT TO LIGHT**

OSRAM

OSRAM Limited, PO Box 17, East Lane, Wembley, Middlesex HA9 7PG

Reader Service No. 13

this theme, what quid pro quo should the manufacturer and end user seek from the distributor in return for this commitment to loyalty?

The simple answer is **service**. These days it is not enough for a

...“a more formal working relationship between distributor, manufacturer, contractor and end user is required”...

distributor to provide the right goods at the right time and place and at the right price.

In addition, he must provide powerful marketing and promotional support in the shape of sales literature and trained and knowledgeable telesales and field sales staff. The range of products has to be truly comprehensive and readily available by means of a modern, easy to use, extensive



The wholesaler can only guarantee delivery with his own fleet.

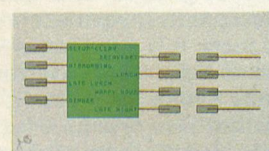
Strand's new Premiere system - Commanding greater flexibility in architectural lighting control.



Strand's revolutionary Premiere system makes even the most complex combination of lighting scenes simple to achieve and easy for users to recall. So your creativity need never be compromised by technology.

Premiere is a PC configured system with a menu driven program, giving the designer total flexibility.

● Premiere allows you to define or redefine pushbutton or slider controls to perform any of over 50 functions.



- A possible 4096 different lighting scenes can be recorded across 32 different areas.
- Select from a range of 40 stylish control stations whose functions can be changed manually or automatically.
- Premiere controls up to 512 dimmers.
- Design information once transferred to Premiere's system processor can be accessed from control stations linked by a common data highway.

To find out more about the exciting possibilities offered by Premiere, call Strand today, or complete and return the coupon.



Strand Lighting
A REPUTATION BUILT ON BRILLIANCE

Strand Lighting Limited
Architectural Lighting Division
Grant Way, Isleworth, Middx TW7 5QD
Telephone: 081-560 3171
Telex: 27976. Fax: 081-568 2103

Please send more information
about the new Premiere system ☐
Please telephone me to arrange a
demonstration ☐

Name _____

Position _____

Company _____

Address _____

Postcode _____

Telephone _____



LEN/10/91

product catalogue, supported by a modern computerised system of ordering.

Deliveries should be swift and assured, and this can only be guaranteed by having one's own transport fleet. Joint ventures should be undertaken with manufacturers to promote particular products or to introduce contractor/end user guides to lighting particular environments.

All of these and more are undertaken by BDC, and repre-

mal working relationship referred to earlier, will be the introduction of electronic data interchange or EDI.

EDI, which my own company, BDC, is introducing early in 1992, will provide the industry with benefits which can be compared with those achieved since the introduction of electronic point of sale (EPOS) a few years ago.

Manufacturers, distributors, contractors and end users will be able to communicate electronically with each other 24 hours a day.

It will enable us to undertake sales planning and calculate manufacturing and delivery lead times much more accurately than is currently the case. Many administrative procedures will be undertaken automatically, saving time and money.

Automatic stock replenishment will come about and distribution patterns will be able to be identified and analysed more quickly and efficiently than now.

Indeed, EDI is worthy of a separate piece itself, but suffice to say that it might prove to be one of the ways in which all the relevant parties have really started to build proper working relationships, because although EDI will increase the use of electronic communication between the parties, at the end of the day it will still require the personal contact necessary to make these relationships work.

...“at the end of the day it will still require the personal contact necessary to make these relationships work”...

sent the minimum a distributor should be doing to fulfill his side of the bargain.

This is not enough, however. As time goes on, ever more modern techniques and technological innovations become available, which, if approached in the right way, can improve the levels of service provided in the industry.

An important step in this direction and one which will at last move us closer to the more for-



On screen soon - BDC introduces EDI in 1992.

VICTOR
LIGHTING

Photograph of *Lightguide* installation at 250, St. Vincent Street Glasgow by kind permission of Dron & Dickson Ltd.

*The Victor **Lightguide** System is one of the most ingenious lighting concepts to be developed in recent years. It uses a high intensity discharge light source to provide high illumination with low glare from Transmitter Modules up to twelve metres in length. The overall effect is that of a large fluorescent tube.*

For further advice and information contact:

Lightguide
MODULAR LIGHTING SYSTEM

Victor



ROLLS-ROYCE INDUSTRIAL POWER GROUP



Victor

NEI Mining Equipment Ltd., Victor P.O. Box, Wallsend, Tyne & Wear NE28 6PP, England.
Tel: 091-262 8331. Tlx: 53374. Fax: 091-234 4550

The wholesale scene on mainland Europe

In few countries in mainland Europe does the electrical wholesaler dominate the lighting market to the same extent as in the UK. *LEN* examines the differences.

From the briefest examination of the electrical wholesale market in continental Europe it is possible to discern differences that heighten the vulnerability of the British wholesaler.

Electrical wholesalers are not as dominant in the European mainland lighting market as they are in the UK. Whereas an estimated 75% of lighting sales in this country go through wholesalers, in most other European countries the proportion is about 50%; in Norway it is as low as 30%. Nevertheless, lighting sales through wholesalers on the conti-

nent amount in value to an estimated £1650 million.

The differences reflect to some extent the varying structures of the wholesale trade in individual countries; but they are primarily due to the much bigger volume of direct purchases by users. This is especially the case in Germany (at least in the former West German territories) where, although only 50% of lighting sales are through wholesalers, the value of these sales is higher than the 75% of sales going through wholesalers in the UK.

Obtaining what might be called an overall view of the European

wholesale trade is not easy. I sympathise with the American journalist who recently wrote 'trying to get a fix on the European electrical wholesaling industry is about as easy as getting a good firm grasp on a wet water melon seed'.

Figures

Let's start with some statistics prepared by the European Union of Electrical Wholesalers. This represents 14 national electrical wholesale trade associations, including Britain's Electrical Wholesalers Federation. The EWF's 93 member firms, how-

ever, do not account for such a high proportion of the total national business as do the members of the other associations within their own countries. Total electrical wholesale trade in the UK is worth an estimated £2226 million, of which only £1011 million is accounted for by EWF members.

In France the 290 members of the Fédération Nationale des Syndicats de Grossistes Distributeurs en Matériel Électrique et Électronique (FGMEE) were responsible for sales worth £2787 million and the 246 members of the Bundesverband des Elektro-Grosshandels (VEG) for £3041 million worth of sales. Total sales by the 1334 continental wholesalers affiliated to the EUEW (ie excluding EWF members) amount in value to £11 240 million.

Because of the dominance of the French wholesale market by two groups, Sonepar and CDME, it may seem surprising that of all the European trade associations the French one is the largest. The reason is that the many companies that belong to these two groups have a high degree of autonomy. They are allowed to

operate as individual companies but benefit from centralised purchasing power.

This centralisation has benefited them in other ways – such as where Sonepar, for instance, has supported the setting up of lighting centres by its member companies. In Lyon MAT Electrique is an exhibition centre where manufacturers are able to exhibit samples of their products (including lighting) and make staff available to advise customers on them. There is no pressure on visitors to purchase and no obligation for them to buy – but there is a Sonepar company with a trade counter across the road from the centre.

Market leaders

Between them, Sonepar and CDME have control of just over 50% of the French electrical wholesale market. Two other groups worth mentioning are CGE-D which has 10% of the market and Groupelec, 10%. Reference should also be made to the foothold gained in the French wholesale trade by one of the UK's largest electrical wholesalers, City Electrical Factors (CEF). This is not, incidentally, a member of the EWF and it has interests in France as well as in Germany, Italy and the Netherlands.

A feature of Sonepar and CDME is that they are also both international companies. Sonepar has interests in Canada, Germany, Spain and the Netherlands. CDME is involved in the USA, Germany and Britain, and earlier this year bought STC Distributors, now known as Senate Electrical Wholesalers.

And could Sonepar by any chance have known what was going to happen in the USSR, having set up an office in Moscow well over a year ago? The group management must really be feeling over the moon with the business potential in a new free market, now even stronger than before.

In Germany only 50% of light fittings are sold via wholesalers. This is due to the huge amount of direct user purchases. This might partly result from the involvement of Siemens in wholesaling and contracting, as many of the companies involved in these activities are owned or controlled by the electrical giant. And Siemens is, itself, Germany's biggest lighting manufacturer.

Germany has marginally fewer wholesaling companies than France and only half the number of outlets. Two French owned international groups, Sonepar and CDME, also operate in Germany, and there are four or five loosely grouped consortia.

Low profit levels

In comparison with other EC countries the German electrical wholesale trade is one of Europe's least profitable. Could this be because they have the highest rate of employment per outlet in Europe? German electrical wholesalers employ more people than those in any other European countries, giving an average of 39 per outlet compared with an average figure for Europe as a whole of 22, and 18 for the UK. However, one might expect the quality of German staff to be above the average.

While the French wholesalers generally claim to operate on higher margins than others – their gross profits are higher – the highest net profits are found in Holland. The market there is dominated by the Otrá Group, of which 58% is owned by Sonepar. Otrá is a formidable international operation in its own right, embracing nine Dutch companies, 21 German firms and a

clutch of UK companies, previously owned by the Hawthorn Leslie Group.

Largest of the Dutch companies in Otrá is Technische Unie which controls between 25% and 30% of the Dutch market. Like other Dutch electrical wholesalers – but unlike the British – Technische Unie handles plumbing, heating and air conditioning, and domestic appliances as well as electrical installation materials and equipment. Indeed, electrical goods take up no more than 25% of the warehouse space, while accounting for 55% of the sales inventory.

A 24-hour delivery to customers anywhere in the Netherlands is offered. This is met by a highly mechanised and well organised central warehouse covering 507 500 sq. m. The company has some 1000 of its 15 000 customers linked to an EDI system.

CEF is not the only UK wholesaler to be in Holland; Edmundson Electrical also has interests in that country.

Italy has more electrical wholesalers than Germany but only nearly half as many outlets. There are no major multi-branch companies there, although Sonepar has a token representation. Yet, 60% of lighting business in Italy goes through the wholesalers, second in Europe only to the UK. Annual sales of all product types amount in value to about £1422 million.

Spain has as many electrical wholesalers as France, fewer outlets. Annual sales are in the region of £1000 million against France's £2676 million. Thus, sales per outlet are about the same.

Sales per outlet

Switzerland has the highest value of sales per outlet with Denmark coming a close second (£6.7 million and £6.2 million, respectively). Germany is third with £5.5 million and Italy fourth with £4.3 million.

In the Scandinavia countries, the wholesale market is shared between a few players in each country. Seventy per cent of the Swedish market, for instance, is in the hands of four companies – ABB ASEA Skandia, SELGA, Skoogs Elektriska and Ahlsell EL. In Finland, three companies – ABB ASEA Skandia, Slo and Suomen Sähkötukku – hold 50% of the market.

For British lighting companies already operating in continental Europe through subsidiaries and associated companies this wholesale scene will be familiar, and they will indeed know more than is contained in this brief article. But what this brief and incomplete review needs to make clear is two points:

□ There are some very formidable wholesale groups in operation that are already international and are likely to continue to spread their network to become even more global.

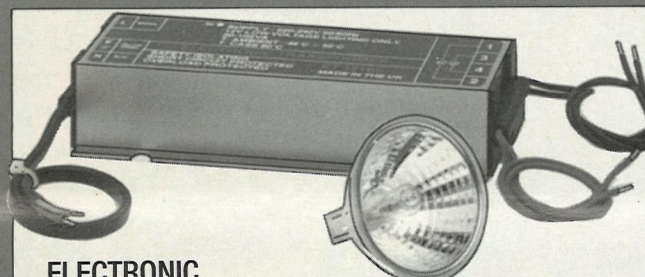
□ Nevertheless, it is still a very fragmented market, but only those companies that are most efficient and cost effective are likely to survive.

As a consequence there is a possibility of more takeovers occurring across national boundaries and perhaps, after 1992, greater competition in the UK from wholesalers driven from the continent.

How this would affect the lighting market is difficult to predict. Presumably in the UK the practice of most lighting being sold through wholesalers will continue. What is an interesting topic for speculation is whether this practice will ever become more widespread in mainland Europe.

RAM

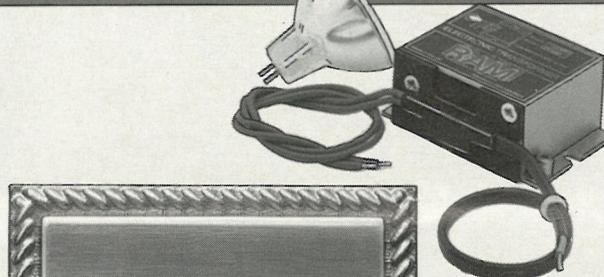
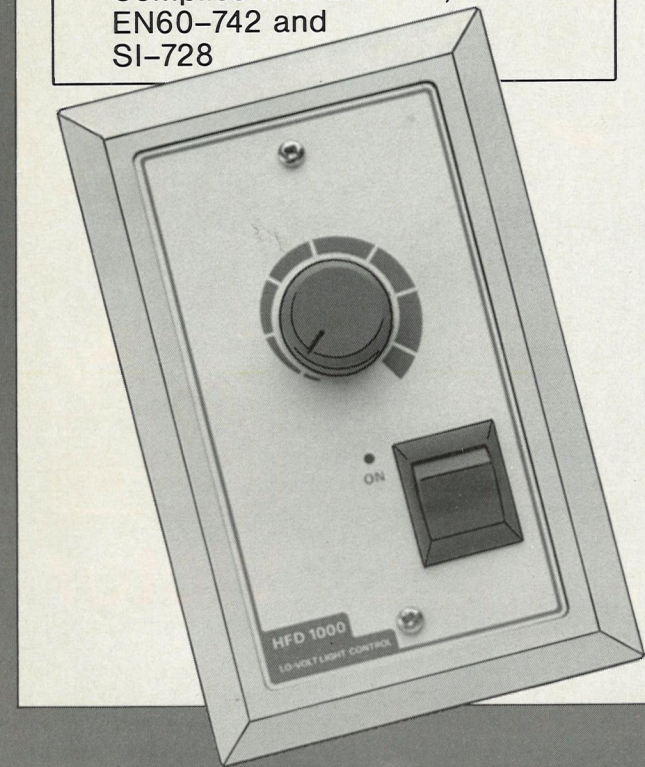
ADVANCED DESIGN TRANSFORMERS & DIMMERS FOR LOW VOLTAGE LIGHTING



ELECTRONIC TRANSFORMERS 20-150VA (PATENT PENDING)

TRANSFORMER FEATURES

- Compact size
- Cool running
- Light weight
- Energy efficient
- Soft start
- Overload protected
- Short circuit protected
- Suppressed to BS800-VDE 0875
- Fully Safety isolated
- Anodised extruded Aluminium case
- Complies with BS4533, BS3535-EN60-742 and SI-728



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

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 MEMBER OF THE AIR MOVEMENT GROUP

To advertise in
this Directory contact
Alastair Moyes

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759

ACCESSORIES — BRASS PRESSED AND TURNED

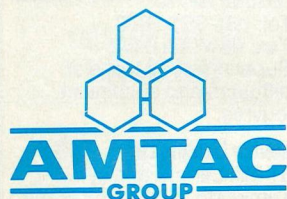
S. Lilley & Son Ltd.,
80 Alcester Street,
Birmingham B12 0QE
Tel: 021-622 2385
Fax: 021-666 6148

ACCESSORIES — CEILING CUPS/ CORD GRIPS/PLUGS/ SWITCHES

LIGHT SOURCE

**Light Source Electrical
Equipment Ltd.,**
Lightsource House,
24 Scrubs Lane,
London NW10 6RD
Tel: 081-960 2188
Telex: 915506
Fax: 081-960 8901

ACCREDITED SAFETY TESTS



AMTAC Laboratories Div.
Altringham, Cheshire,
WA14 4EP
Tel: 061-928 8924
Fax: 061-927 7359
ALBURY Laboratories Div.
Cranleigh, Surrey, GU6 8PY
Tel: 0483 268800
Fax: 267579
Rapid, NAMAS, accepted
testing services.



BSI Testing
Maylands Avenue
Hemel Hempstead
Herts HP2 4SQ
Tel: 0442 230442
Contact: David Price
Safety testing and
photometry.

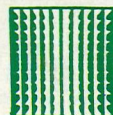


SGS Inspection Services Ltd.
Alperton Lane,
Wembley, HA0 1WU
Tel: 081-998 2171

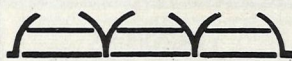
ALUMINIUM LOW BRIGHTNESS AND VDU LOUVRES



A.D.D. Louvre Sales Ltd.,
8 Seax Way,
Laindon, Basildon,
Essex SS15 6SL
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
Telex: 896061 (ALPA G)



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.

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

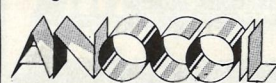
ANODISED ALUMINIUM COIL AND SHEET



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



Alcan
Anocoil pre-anodised
aluminium coil, sheet and
blanks available ex-stock
from the following service
centres.
Tipton 0902 880881
Uxbridge 0895 444554
Leeds 0532 450304
Glasgow 041-647 9222
Southampton 0703 611471
Bridgend 0656 55981



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 require-
ments of the lighting codes.
Ano-coil Service Centre
Unit 1, Red House Ind Est
Middlemore Lane, Aldridge
Walsall WS9 8DL
Tel: 0922 55411
Fax: 0922 55667
The Service Centre Division
of Ano-coil will provide you
with a 'once location
purchase programme'
combining comprehensive
stock of Ano-coil pre-
Anodised products,
supplemented by stocks of
commercial grade coil and
sheet and specialised
extrusions.



Bandoxal — Satma
38570 Goncelin, France
Tel: 76 71 71 31
Telex: 320666
Fax: 76 71 78 89
Une Societe du Groupe
Pechiney Bandoxal —
Satma products for the
lighting and ceiling industry.
Full range of optical quality
pre-anodised strip. High
quality materials available in
coil and strip. For further
information contact U.K.
agents: MG Non-Ferrous
Products Ltd.,
Tel: 0376 502064
Fax: 0376 510611



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



The Old Court,
All Saints Road, Newmarket,
Suffolk, CB8 8HH
Tel: 0638 662140
Fax: 0638 662143
Lighting, design,
consultancy, concept
engineering, specification.



Light. Ideas. Systems.

Se'lux UK Ltd
Spartan Close
Tachbrook Park
Warwick CV34 6RR
Manufacturers of
architectural lighting for
commercial and retail
interiors: Linear Fluorescent
systems, direct and indirect,
dark light louvres, wall
washers. Air-handling
lighting systems. Spots
(mains & L.V.) all lamp
types. Project lighting design
and manufacturing service.
Eutrac 3-circuit main and
low voltage track, multi-
adaptors, accessories.

Team Tornado Ltd
Tel/Fax: 0959 74694
Tooling and machinery
consultants with 40 years
experience of louvre and
fittings manufacturers

ASSEMBLY — COMPLETE MANUFACTURING SERVICE

ASSEMBLEC

Unit 5, Bay Works,
Eastbourne BN24 6EG.
Tel: 0323 767904
Fax: 0323 767133
Assemblers of all forms of
lighting. Design and
manufacture undertaken

BULKHEAD LUMINAIRES



Tel: 0293 539666
Fax: 0293 539444
Weatherproof, vandal-proof,
diecast aluminium,
thermoplastic, oak!!,
tungsten and energy saving,
classic and modern designs.
You'll love the range and the
prices. Call for a brochure!



Gewiss UK Limited
Bumpers Way
Chippenham SN14 6LH
Tel: 0249 444734
Fax: 0249 444514
Full range of weather proof
polycarbonate round and
rectangle bulk head
luminaires.

CABLE

Kingston Cable Distributors Ltd.,
Amsterdam Rd. Sutton
Fields,
HULL HU8 0XF
Tel: 0482 830367
Fax: 0482 830369

CABLES/SILICONE

Technical Silicones Ltd.,
3rd Floor,
Stamford House,
Stamford New Road,
Altrincham,
Cheshire WA14 1BL
Tel: 061-941 5766

CAPACITORS



DNA Capacitor (UK) Ltd.,
A member of the Alexander
Boxhall Group of
Companies. Who hold
approvals. Plastic film
lighting capacitors from:
2.0mfd to 60.0mfd
250vac to 450vac
Mini-series and parallel
ranges. Multiple fixing
technology. BS-5750-4017
and European Appr.
Contact Alan C. Runnette,
125 High St
Berkhamsted
Herts HP4 2DT
Tel: 0442 877340
Fax: 0442 877449

COLD CATHODE



National Signs Ltd.,
1 Hampshire Street
London NW5 2TE
Tel: 071-485 3363
Fax: 071-284 1700
Cold Cathode & S.E.F.T.,
lighting installations,
servicing nationwide, wide
range of colours.

Oldham Lighting

Oldham Lighting
Fulton Road,
Wembley,
Middlesex HA9 0DF.
Tel: 081 902 3682
Fax: 081 903 7320
Design, manufacture,
installation and maintenance
of long-life, high output,
lighting systems using HI-
SLIM and cold cathode.



14 Smiths Yard
Summerley Street,
Wandsworth SW18 4HR
Tel: 081-944 0411
We are Specialist
Consultants in Cold Cathode
and S.E.F.T. longlife
lighting. We design, supply
and install. Contact Mr
Beecroft or Mr Watts.

COMBINED MAINS AND EMERGENCY LUMINAIRES

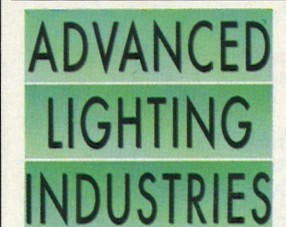


Existalite Ltd.,
Project House, 18 Tallon Rd
Hutton, Essex CM13 1TZ
Tel: 0277 263600
Fax: 0277 263592
Uplights with auxiliary and
emergency features.



Gewiss UK Limited
Bumpers Way
Chippenham SN14 6LH
Tel: 0249 444734
Fax: 0249 444514
Non-corrosive standard and
special configurations from
stock and to order.

COMPACT ELECTRONIC ADAPTORS



For both 2D and PLC Lamps
Motem House
Brooker Road
Waltham Abbey
Essex EN9 1JW
Tel: 0992 88668

CUSTOM DESIGN LUMINAIRES

Sugg Lighting Ltd
Sussex Manor Business
Park
Gatwick Rd, Crawley
West Sussex RH10 2GD
Tel: 0293 540111

DECORATIVE BRASS TUBING

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

DIMMERS

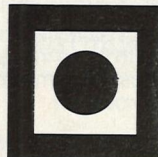
Hamilton

Litestat

R. Hamilton & Co. Ltd.,
Unit G, Quarry Ind. Estate,
Mere, Wilts. BA12 6LA
Tel: 0747 860088
Telex: 41416 HAMLIT G
Fax: 0747 861032



Helvar Ltd.,
1 Ealing Road Trading Est.
Ealing Road, Brentford,
Middlesex TW8 0QY
Tel: 081-568 6205
Fax: 081-568 6473
Telex: 291439 HELVARG



Home Automation Ltd
Bumpers Way
Chippenham, Wilts
SN14 6LF.
Tel: 0249 443515
Fax: 0249 443315
Manufacturers of consumer
& commercial dimmers.
BS5750 Part 1

Lighting Controls Systems Ltd
Tel: 0843 860200
Fax: 0843 602733
Design manufacture and
servicing
Contact: Richard Canfield

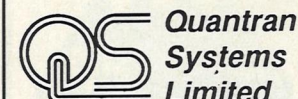
Lytemode Ltd.,
Unit 3, Maple Ind. Est.,
Mapleway, Feltham,
Middx TW13 7AW
Tel: 081-751 5449
Fax: 081-751 3334



LA Relco SRL
20142 Milano, Italy
Fax: 010-39-2-895 00408
UK Office: 0280 705041
UK Fax: 0280 700150
240V. 'in line' dimmers for
mains and low voltage
tungsten lamps.

Oxtron Digital Systems
Sucklings Yard, Church St
Ware, Herts SG12 9EN
Tel: 0920 460542
Fax: 0920 400543

Polaron Controls Ltd.,
21 Greenhill Crescent,
Holywell Ind. Estate,
Watford, Herts
WD1 8XG
Tel: 0923 240272/5
Telex: 934191



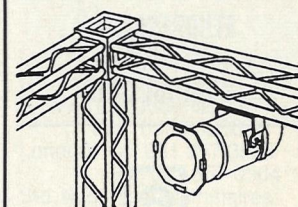
Unit 6, Garnett Close,
Greycaine Estate,
North Watford,
Herts. WD2 4JL.
Tel: 0923 52512
Fax: 0923 39559



4 Wealdstone Road
Kimpton Ind. Estate, Sutton
Surrey SM3 9QN
Tel: 081-641 8511

Strand Lighting (Environ),
Grant Way (off Syon Lane)
Isleworth
Middlesex TW7 5QD
Tel: 081-560 3171
Telex: 27976
Fax: 081-568 2103

DISCOTHEQUE & STAGE LIGHTING

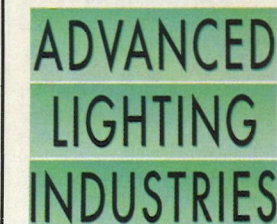


Penn Fabrication Ltd
Unit 26, St John's Estate
St John's Road
Penn, Buckinghamshire
HP10 8HR
Tel: 049 481 6262
Fax: 049 481 6074
Par 64, Par 56 Cans and
Trussing Systems supplied



UK Largest Stockist of film,
television and photographic
lamps.
Tel: 071-736 8115
Fax: 071-731 3339

ELECTRONIC CONTROL GEAR



Modular high frequency
single piece ballasts for up
to 4 lamp ways
Motem House
Brooker Road
Waltham Abbey
Essex EN9 1JW
Tel: 0992 88668



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

ELECTRONIC TRANSFORMERS

TECNOLUX®

Forma Lighting Ltd
Unit 310 Business Design
Centre, 52 Upper Street
London N1 0QH.
Tel: 071-288 6025
Fax: 071-288 6057
A range of electronic
double-insulated
transformers.



Tel: 0536 417213
Fax: 0536 82602
UK made, BS3535, Tordidal
and electronic transformer



Mode Electronics Ltd
Chelsing Lodge
Tonwell Ware
Herts SG12 0LB
Tel: 0920 462121
Fax: 0920 466881
Manufacturers of electronic
transformers which can be
switched or dimmed with all
types of dimmers.



ORBIK Electronics Ltd.,
ORBIK House
Northgate
Aldridge, Walsall
West Midlands WS9 8TH
Tel: 0922 743515
Telex: 339612
Fax: 0922 743173

ELECTRO PLATING SERVICES

Jebbron Plating Ltd
Specialist in plating on
aluminium and
electrophoretic coatings to
the lighting industry.
Tel: 021-568 6689
Fax: 021-526 5322

To advertise in
this Directory contact
Alastair Moyes

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759

EMERGENCY LIGHTING CONTROL GEAR

ORBIK

ORBIK Electronics Ltd.,
ORBIK House
Northgate
Aldridge, Walsall
West Midlands WS9 8TH
Tel: 0922 743515
Telex: 339612
Fax: 0922 743173

EMERGENCY LIGHTING EQUIPMENT

Armada Lighting and Fire Ltd.,
Unit 1, Huxley Close,
Plympton,
Plymouth PL7 4JN
Tel: 0752 342942
Fax: 0752 342864

Erskine Systems Ltd.,
Lee De Forest House,
Eastfield,
Scarborough,
Yorkshire YO11 3DU
Tel: 0723 583511
Telex: 52562

existalite

Existalite Ltd.,
Project House,
18 Tallon Road, Hutton,
Essex CM13 1TZ
Tel: 0277 263600
Telex: 996770 Apex
Fax: 0277 263592

Isb

JSB Electrical Ltd.,
Manor Lane,
Holmes Chapel,
Crewe, Cheshire CW4 8AB
Tel: 0477 37773
Telex: 36526
Fax: 0477 35722

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

PLASMOLD

Plasmold Safety Systems Ltd.,
Bruncliffe Lane,
Morley, Leeds, LS27 0LZ
Tel: 0532 539119
Telex: 556322
Fax: 0532 535665

Selite

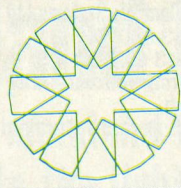
Selite Ltd
19 Stafford Road,
Croydon CR0 4NG
Tel: 081-686 9919
Fax: 081-680 9288
Telex: 917759

FLUORESCENT & COMMERCIAL LIGHTING

**MANLIGHT
LIGHTING
LIMITED**



Wilmore House,
The Mews, Hollybush Lane,
Sevenoaks, Kent TN13 3TH
Tel: 0732 451744
Fax: 0732 456205
The office of Ronald Dury!



LIGHTING DESIGN

29 Wedgewood Road,
Bicester, Oxfordshire
OX6 7UL
Tel: 0869 244341
Fax: 0869 253408
Wide range of tubular and
other fluorescent and L.V.
systems

FLUORESCENT COMPONENTS AND ACCESSORIES

**ADVANCED
LIGHTING
INDUSTRIES**

Electronic Fluorescent
Starters
Motem House
Brooker Road
Waltham Abbey
Essex EN9 1JW
Tel: 0992 88668

KNOBEL

Sole UK Agent and
Distributor

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

LIGHT SOURCE

Light Source Electrical
Equipment Ltd.,
Lightsource House,
24 Scrubs Lane,
London NW10 6RD
Tel: 081-960 2188
Telex: 915506
Fax: 081-960 8901

Tridonic

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

FLUORESCENT/ DISCHARGE CONTROL GEAR



Control Components (EW) Ltd
3 Macadam Road
Corby, Northants NN17 2JN
Tel: 0536 402403
Fax: 0536 402419

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

LIGHT SOURCE

Light Source Electrical
Equipment Ltd.,
Lightsource House,
24 Scrubs Lane,
London NW10 6RD
Tel: 081-960 2188
Telex: 915506
Fax: 081-960 8901

**MAY &
CHRISTE**

Manufacturers of
OPTIMA control gear
May & Christie Ltd
Unit 22, Mead Park,
River Way, Harlow
Essex CM20 2SE
Tel: 0279 422540
Fax: 0279 421570

Transtar
CONTROL GEAR FOR LIGHTING

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

Tridonic

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

VSS

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

FLUORESCENT LIGHTING COLOURED TUBE SLEEVES

COLORAP

E. C. Hinton & Co.,
225 Cannon Hill Lane,
London SW20 9DB
Tel: 081-540 5813
Fax: 081-543 9395

GARDEN LIGHTING

**EUROFORM
LIGHTING-RANGE**

Tel: 0293 539666
Fax: 0293 539444
Lanterns, lampposts, diecast
aluminium — black,
patinated green, pewter.
Super designs, excellent
quality, can be supplied with
20 year guarantee. You'll
like the prices and the
quality. Also safety low-volt
garden/path lights in super
modern designs. Why not
call for a brochure!

GEWISS

Gewiss UK Limited
Bumpers Way
Chippenham SN14 6LH
Tel: 0249 444734
Fax: 0249 444514
Cylindrical and angle
luminaires to IP55

GEAR TRAYS

ASSEMBLEE

Unit 5, Bay Works,
Eastbourne BN24 6EG.
Tel: 0323 767904
Fax: 0323 767133
Assemblers of all forms of
lighting. Design and
manufacture undertaken.

JERRARD

Jerrard Bros PLC
Arcadia House
Cairo New Road
Croydon CR0 1XP
Tel: 081-688 8222
Fax: 081-681 3119
Standard and made to
measure fluorescent gear
trays and control boxes.
"BS 5750 approved"

GLOBES

ACRILUX

Veralux Ltd
Tel: 071-402 1997
Fax: 071-402 1998
Spheres and other
architectural shapes in
Polycarbonate, Acrylic and
Kamax, injection/blow
moulded.

**EUROFORM
LIGHTING-RANGE**

Tel: 0293 539666
Fax: 0293 539444
Tough high quality globes —
clear, smoked or opal. IP44
Bases, poles, wall brackets.
You'll like the range and the
price. Call for a brochure
now!

LAMP HOLDERS

A G H

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

Hylec

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

IMI Reeves Lampholders

IMI Reeves Lampholders
Holdford Road, Witton,
Birmingham B6 7ES
Tel: 021-356 7369
Telex: 335959
Fax: 021-356 7987



Lighting & Electrical Components
Ltd

Unit 1A, Bill House,
222 Soho Hill (off Villa Rd)
Hockley,
Birmingham B19 1AP
Tel: 021-554 9924
Fax: 021-554 5243

LIGHT SOURCE

Light Source Electrical
Equipment Ltd.,
Lightsource House,
24 Scrubs Lane,
London NW10 6RD
Tel: 081-960 2188
Telex: 915506
Fax: 081-960 8901

**S. Lilley
& Son Ltd**

S. Lilley & Son Ltd.,
80 Alcester Street,
Birmingham B12 0QE
Tel: 021-622 2385
Fax: 021-6666 148

BENDER + WIRTH



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

Studen Products Ltd.,
Hedgehog House,
Unit 8,
Caldershaw Centre,
Rooley Moor Road,
Rochdale OL12 7NR
Tel: 0706 45225
Bakelite and brass wired
holders.

VSS

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

LAMP COLOURING

Lampcolors Ltd.,
Wiseman Street,
Burnley,
Lancs BB11 1RU
Tel: 0282 56231/2
The largest independent
lamp spraying company in
Europe, with the fastest
turnround of orders in the
business.

Lampspray (Lampcolourers)
Unit 41/42,
Cromwell Industrial Estate,
Staffa Road, London E10
Tel: 081-539 7785

LAMPSHADE AND BASE MANUFACTURERS

The London Trend Lighting Co. Ltd.,
3/5 Coxie Green Road
Pilgrims Hatch, Brentwood,
Essex CM14 5PN
Tel: 0277 374247
Fax: 0277 374949

LAMP SHADE FRAMES

Wards Coatings
Sheffield S2 3DA
Tel: 0742 580963
Manufacturers of quality
frames in round or flat wire.
Coated or plain wire.

C & G Weir (Glasgow) Ltd
Competitive, quality,
standard. Shade and harp
carriers.
Contact: Graeme Weir on
Tel: 041 5543126
for samples and prices.

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



G. E. Tungsum Lighting Ltd.,
Nene House, Drayton Way
Daventry, NN11 5EA
Tel: 0327 77683
Fax: 0327 76386
Telex: 311684 IGE DAV

**GLOW BALL
LIGHTING LTD**

20 Woodside Place
Wanstead, E11 2RH
Tel: 081-518 8008
Fax: 081-518 8129



Specialist Lamp Distributors
10 Sovereign Ent Park
Manchester, M5 2UP
Tel: 061 873 7822
Comprehensive range of
quality branded lamps at
competitive prices, by return
service nationwide.

LIGHTING CAPACITORS

LCR

LCR Components Sales Co.
(Tredgar) Ltd,
Lighting Capacitors up to
100µF, Electrolyte,
Polystyrene, "Tuning" &
Interference. Suppression
capacitors supported by a
development RFI measuring
service. Europes most
comprehensive range of
Plastic and Aluminium cases
for encapsulation available.
BS5750 Pt1 & BS4017
approved.
Tel: 0495 253131
Fax: 0495 711782

LIGHTING COMPONENTS LAMP HOLDERS/SWITCHES CABLE/BRASS/GLASS

LIGHT SOURCE

Light Source Electrical
Equipment Ltd.,
Lightsource House,
24 Scrubs Lane,
London NW10 6RD
Tel: 081-960 2188
Telex: 915506
Fax: 081-960 8901

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 diffuser of all
types.

Lighting Maintenance Co.
2 Sovereign Park,
Coronation Rd, Park Royal,
London NW10
Tel: 081-961 3888
Fax: 081-963 0142
Suppliers of all types of
diffusers and aluminium
louvres.

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

LIGHTING DIFFUSERS/ PLASTICS

Akeron Ltd
15 Terminal Close
Shoeburyness
Essex SS3 9BN
Tel: 0702 297101 (also Fax:)

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

Lamplighter Products
Ashton under Lyne,
OL6 6LN
Tel: 061-343 1113
Replacement Diffusers.

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.

LIGHTING GLASS



C. Quitman Ltd.,
Ullswater Crescent,
Marlpit Lane, Coulsdon,
Surrey CR3 2HR
Tel: 081-668 5295/6
Telex: 945809
Fax: 081-660 2589

LIGHTING STOCKIST AND DISTRIBUTORS — LIGHT COLUMN SUPPLIERS

BEGA

Exterior-Lite Services Ltd.,
Unit 4, The Empire Centre,
Imperial Way, Watford,
Herts, WD2 4YH
Tel: 0923 247254
Fax: 0923 226772

To advertise in
this Directory contact
Alastair Moyes

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759

KINGFISHER LIGHTING LTD



Kingfisher Works
Main Road, Langwith
Mansfield NG20 9BH
Tel: 0623 748090
Fax: 0623 746532

CROMPTON



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

LIGHT MEASURING INSTRUMENTS

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

LOW BRIGHTNESS VDU LOUVRES



A.L.C. Cellite Ltd.,
Unit 16 Adler Ind. Est.,
Betam Road, Hayes,
Middlesex UB3 1ST
Tel: 081-848 1831
Fax: 081-569 1837

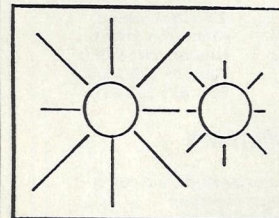
LOW VOLTAGE TRACK SYSTEMS



Lamplighter House,
Shripney Road,
Bognor Regis,
West Sussex PO22 9LL
Tel: 0243 829040
Fax: 0243 829051

MANUFACTURERS OF COMMERCIAL LUMINAIRES

Akeron Ltd
15 Terminal Close
Shoeburyness
Essex SS3 9BN
Tel: 0702 297101 (also Fax:)



Dimmable
Just one of the options
available in the softlighter
range...



Silvertown Lighting Ltd
Springwood Ind. Est.
Braintree, Essex, CM7 7QX
Tel: 0376 43434
Fax: 0376 21873

MANUFACTURERS OF SPECIAL AND PURPOSE MADE FITTINGS



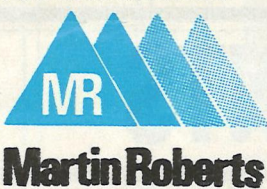
Unit 29, Mochdre Ind
Estate, Newtown,
Powys, SY16 4LE
Wales. Tel: 0686 625797
Fax: 0686 623084
London. Tel: 081 857 3565
Fax: 081 857 0964
Specialist Fitting, Louvre &
Reflector, Manufacturer.
Write or phone for details.

SONDIA LIGHTING LTD.

45 Portland Place,
Hull, HU2 8QP
Tel: (0482) 223353
Fax: (0482) 26811
Design and manufacture of
special purpose light fittings.
Sub-contract sheet
metalwork and assembly.



Luna Lighting Ltd.,
Swindon SN6 8TZ
Tel: 0793 784400
Fax: 0793 784488
Designers and
manufacturers of luminaires
to architects instructions.



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,
High Street, Cheshunt,
Herts EN8 0BU
Tel: 0992 26222
Telex: 28725
Fax: 0992 37738
Luminaires/louvres, major
trade suppliers.
BS5750 part 2.
Contact: Brian Chappell.

METAL FINISH PLASTIC BASES & FITTINGS

Febus Agencies
75 Jackson Street
Manchester M32 8BA.
For bases, risers, breaks
etc,
ring 061-865 4237 or
061-872 3276

METAL PRESSWORK



TRANSTEEL COMPONENTS LTD.
Trinity Road, Richmond
Surrey TW9 2LG
Tel: 081 948 8822
Fax: 081 948 1998
Metal Pressing and Deep
Drawing for the Lighting
Industry.

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.

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: Colmworth 0230 62 398
Fax: 0230 62506

H.D. Collins Ltd.,
Delamare Road,
Cheshunt,
Herts EN8 9TB
Tel: 0992 25981/24936
Fax: 0992 36915
Auto and manual spinners,
presswork and assy.

E.G. Sheet Metal Works,
Metal spinners and
general sheet metal
workers. A complete
service to the lighting
industry.
Third Way,
Exhibition Grounds,
Wembley, Middlesex
Tel: 081-902 2153
081-903 3171

Jacksons General Metal
Spinners
Prototypes and small
quantities a speciality
Unit 1
Noke Lane Business
Centre
Noke Lane, St. Albans
Herts AL2 3NY
Tel: 0727 46038
Fax: 0727 46658



METAL FORM

Metal form spinning/
welding
Castle Works
Feckenham Rd
Astwood Bank, Redditch
Worc. B96 6DS
Tel: 0527 893736
Fax: 0527 893995
Metal spinners for the
lighting ind. since 1962.

METAL SPINNING/ASSEMBLY ANODISING/PRESSWORK METAL WORK/SPRAYING

Akeron Ltd
15 Terminal Close
Shoeburyness
Essex SS3 9BN
Tel: 0702 297101 (also Fax:)

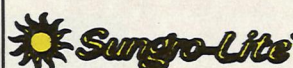
Shawe Metal Spinners Ltd.,
Injection Moulders &
Component suppliers. The
complete Lighting Services.
Tariff Road, London,
N17 0EJ
Tel: 081-808 1271
Telex: 25545

MODULAR LUMINAIRES ENERGY SAVING & EMERGENCY LIGHTING



ADLITE
Unit 242J Redwither
Complex
Wrexham Industrial Estate,
Wrexham,
Clwyd LL13 9UG
Tel: 0978 661083

NATURAL LIGHT LAMPS SUNODYM AND SUNGRO LITE



Sungro-Lite Ltd.,
Tel: 081-459 2636
Fax: 081-459 4130
From main elec w/salers.

OPERATING AND MAINTENANCE INSTRUCTION MANUALS

Nash Draughting Services,
Enterprise House,
181-189 Garth Road,
Morden, Surrey SM4 4LL
Tel: 081 330 7566

Stanley Lyons
4 The Rise, Shipton Oliffe,
Cheltenham, Glos
GL54 4JQ
Tel: 0242 820023

PETROL FORECOURT UNDER CANOPY LIGHTING UNITS

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

PHOTOMETRY



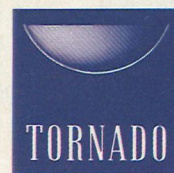
B.S.I. (reg) Laboratory
Photometry/Reflector
Design and development
Exterior and Interior
luminaires.
Tel: Dr Harold Pfitzman
(0920) 462272
Charles House, Furlong
Way, Gt. Amwell, Ware,
Herts SG12 9TA

PICTURE LIGHTS



JCC Marketing,
Lamplighter House,
Shripney Road,
Bognor Regis, West Sussex,
PO22 9LL
Tel: 0243 829040
Fax: 0243 829051
A range of traditional picture
lights available in brass,
satin, reeded and gilt.

PLASTER WALL UPLIGHTS



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.

POLYCARBONATE GLOBES

KEYLIGHTING PRODUCTS LTD.

Keylighting Components
Roid Mill, Cowling
N. Yorks, BD22 0BE
Tel: 0535 635922
Fax: 0535 633546
Cube Sphere Amphora
Opal Smoke Clear
Polycarbonate and Acrylic
150mm through to 500mm
Screw and Bayonet neck
fixing. Full range of galleries.
Wall brackets posts.
All Ex-Stock.

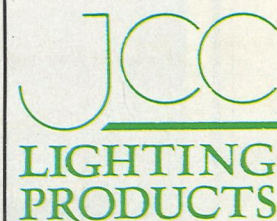
POWDER COATING AND STOVE ENAMELLING

Trinity Enamellers Ltd.,
Trinity Road, Richmond,
Surrey TW9 2LG
Tel: 081 948 9152
Fax 081 948 1998
Powder Coating and Stove
Enamelling for the Lighting
Industry.

RECESSED LIGHTING



Tel: 0293 539666
Fax: 0293 539444
Our range includes low-volt
downlights for 50/35mm
dichroic/capsule lamps.
White/black/brass plus a full
range of mains downlights.
Our quality range is
competitively priced. Send
for a brochure now!



Lamplighter House,
Shripney Road,
Bognor Regis,
West Sussex PO22 9LL
Tel: 0243 829040
Fax: 0243 829051
A full range of recessed
lighting in Energy Saving
Low Voltage and 240 Volt
Mains.

REFLECTORS



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

SELF ADHESIVE LABELS AND BASE COVERS

Rosehill Printers and
Converters Ltd.,
50A Bolton Street, Bury
BL9 0LL
Tel: 061-761 3501

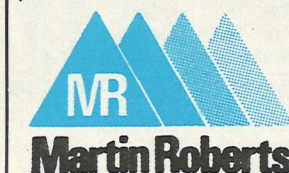
SPECIAL & PURPOSE MADE FITTINGS

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.



P.S.M. Dunbar & Co.,
Hedley Works
Hedley Road, St Albans
Herts, AL1 5JC
Tel: 0727 45829
Fax: 0727 45830
Manufacturer of specialist
lighting. Full C.N.C.
production, BS5750/AP.



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.

SPRINGS AND CLIPS

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

STANDARD & SPECIAL LUMINAIRES & FLUORESCENT LIGHTING DESIGN SERVICE



Unit 29, Mochdre Ind Estate
Newtown, Powys, SY16 4LE
Wales. Tel: 0686 625797
Fax: 0686 623084
London. Tel: 081 857 3565
Fax: 081 857 0964
Std. fluorescent luminaires
+complete lighting designs.
Write or phone for Brochure.

SUPPRESSION COMPONENTS



Almag Ltd.,
17 Broomhills, Rayne Rd.,
Braintree, Essex CM7 7RG
Tel: 0376 45200
Fax: 0376 551917
Manufacturers of Toroidal
chokes for dimmers,
electronic ballasts and
electronic transformers.



APEX INDUCTIVE DEVICES

27 Abbey Manufacturing
Estate, Mount Pleasant,
Alperton,
Middlesex HA0 1RD
Tel: 081-903 2944
Telex: 8813237
Fax: 081-903 7944
Manufacturers of
Suppression Chokes and
Toroids for Dimmers,
Emergency Lighting and
Low Voltage Systems.



Toroid Technology Ltd
Tel: 081-689 8002, 684 4217
Fax: 081-689 0002
Standard Range 20-600V
and custom designed to
your requirements.

SUSPENSION WIRE & STRANDS

ORMISTON WIRE

1 Flemming Way
Isleworth, Middx. TW7 6EU
Tel: 081-569 7287
Fax: 081-569 8601
Low voltage lighting cable,
stainless steel cables, super
clamp cable fittings.

THERMAL CUT-OUTS



Hhv Components Ltd
11 Prospect Drive, Lichfield
Tel: 0543 416667
Fax: 0543 416140
Thermal Fuses/Cut-Outs/
NTC Range: 5/330C
Loads: 15A/250V



MCB Components
Lloyds Bank Chambers
High St
Littlehampton, BN17 5AD
Tel: 0903 715503
Telex: 877560 MKTRV-G
Fax: 0903 715431
Full range of thermal cut-
outs. Temps 70C to 150C.
Auto/manual reset options.

TOROIDAL TRANSFORMER MANUFACTURERS

Airlink Transformers Ltd.,
Unit 6, The Maltings,
Sawbridgeworth, Herts.
Tel: 0279 600139
Fax: 0279 726379



Economy Lighting Ltd.,
For fully approved (EN60/
742 & UL) toroidal L/V
transformers, 18 models
20Va-750Va, inbuilt splitters
specials on request
Tel: 081-420 1810
Fax: 081-420 1813

To advertise in
this Directory contact
Alastair Moyes

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759

TECNOLUX®

Forma Lighting Ltd
Unit 310 Business Design
Centre, 52 Upper Street
London N1 0QH.
Tel: 071-288 6025
Fax: 071-288 6057
A range of Toroidal and
laminated transformers
ranging from 20VA to
1000VA

**Lighting
Components
Limited**

Tel: 0536 417213
Fax: 0536 82602
UK made, BS3535,
Toroidal and electronic
transformer

NEWMARKET TRANSFORMERS LTD.

L. V. Lighting Transformers
Also box and canned,
you'll definitely be
illuminated with our prices.
Tel./Fax: 0279 419302

**talema
nuvotem**

Custom/Standard Toroids
for all applications from
World's largest
manufacturer.
UK: Delta Components
48 High St
Dormandstand, Sussex
Tel: 0342 834900

TOWER/MASTS FLOODLIGHTING

Strumech Versatower Ltd
Portland House,
Coppice Side, Brownhills,
Walsall WS8 7EX
Tel: 0543 452321
Fax: 0543 361050
Static and Portable
Floodlight Units

TRANSFORMER MANUFACTURERS



APEX INDUCTIVE DEVICES
27 Abbey Manufacturing
Estate, Mount Pleasant,
Alperton,
Middlesex HA0 1RD
Tel: 081-903 2944
Telex: 8813237
Fax: 081-903 7944
Manufacturers of Inverters
and Switching Transformers.

Birch

H. A. Birch & Co Ltd,
Progress Drive, Cannock,
Staffs WS11 3JE.
Tel: 0543 506226
Fax: 0543 579180
Manufacturer specialising in
toroidal and laminated
transformers ranging from
3VA up to 750VA for
lighting, industrial controls,
medical and leisure industry
applications. Quality
products in accordance with
British and international
standards.

Cumbernauld Transformers Ltd.,
18-20 West Lenziemill
Industrial Estate,
Cumbernauld,
Glasgow G67 2XT
Tel: 023-67 25914
Telex: 777350
Full range of low-voltage
transformers available.

KNOBEL

Sole Agent and
Distributor

Hylec Eletto Gibi (UK) Ltd
Unit 4, Trinity Centre,
Wellingborough
Northants NN8 3ZB
Tel: 0933-677633
Fax: 0933-675771

LAELCO

LA Relco SRL
20142 Milano, Italy
Tel: 010-39-2-895 02396
Fax: 010-39-2-895 00408
Electronic transformers for
low voltage lamps.
Dimmable with inductive wall
dimmers.

**Lighting
Components
Limited**

Tel: 0536 417213
Fax: 0536 82602
UK made, BS3535, Toroidal
and electronic transformer

LIGHT SOURCE

**Light Source Electrical
Equipment Ltd.**
Lightsource House,
24 Scrubs Lane,
London NW10 6RD
Tel: 081-960 2188
Telex: 915506
Fax: 081-960 8901

**MAY &
CHRISTE**

Electronic and
wound transformers
May & Christie Ltd
Unit 22,
Mead Park,
River Way,
Harlow,
Essex CM20 2SE
Tel: (0279) 422540
Fax: (0279) 421570

ORBIK

ORBIK Electronics Ltd.
ORBIK House
Northgate
Aldridge, Walsall
West Midlands WS9 8TH
Tel: 0922 743515
Telex: 339612
Fax: 0922 743173

RAM

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.



Skot Transformers Ltd
Malvern, Worc. WR13 6PL
Tel: 0684 569104
Fax: 0684 565766
Full range of low voltage
transformers available.



Toroid Technology Ltd
Tel: 081-689 8002, 684 4217
Fax: 081-689 0002
Standard Range 20-600V
and custom designed to
your requirements.

Tridonic

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

TO ADVERTISE IN
CLASSIFIED, WHERE TO
BUY AND CLASSIFIED
CALL ALASTAIR MOYES
ON 081-975 9759

UNIVERSAL TRANSFORMERS

Universal Transformers
9 Hurworth Road,
Aycliffe Industrial Estate,
Newton Aycliffe,
County Durham DL5 6UD
Tel: 0325 317429
Fax: 0325 311081
Fax for instant quote.
Full range of Toroidal and
Laminated Transformers
available Ex-Stock.

UNDERWATER LIGHTING

BEGA

Exterior-Lite Services Ltd.
Unit 4, The Empire Centre,
Imperial Way, Watford,
Herts, WD2 4YH
Tel: 0923 247254
Fax: 0923 226772

ULTRA VIOLET/SPECIALIST LAMPS & EQUIPMENT

Starna Ltd.
33 Station Road,
Chadwell Heath, Romford,
Essex RM6 4BL
Tel: 081-599 5115
Fax: 081-599 5415

U.V. Systems Ltd.
PO Box 797, Sudbury,
Suffolk CO10 6PL
Tel: (0787) 76259

VICTORIAN REPRODUCTION GAS AND ELECTRIC LIGHT FITTINGS

A. J. Bernasconi Design
15 Mill Green, Warboys
Huntingdon, Cambs PE17
2SA
Tel: 0487 822660
Fax: 0487 825914

The Copper Lamp Co Ltd.
Nutts Lane, Hinckley
Leics LE10 3EJ
Tel: 0455 633140
Fax: 0455 632664

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

WOOD FLOOR STANDARD LAMPS

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

ZONES 1 & 2 BASEEFA APPROVED LIGHTING FITTINGS

B.V. Industria,
52-62 Brasenose Road
Bootle, Merseyside L20 8HG
Tel: 051-922 0052
Telex: 629135
Fax: 051-922 0099

081-975 9759

CLASSIFIED ADVERTISEMENTS

081-975 9759



FIFE • REGIONAL • COUNCIL

SENIOR TECHNICIAN UP TO £17,553

The Street Lighting Section, which is based at the Roads
Division Headquarters in Glenrothes, designs and
supervises street lighting installations and improvements,
formulates maintenance policies and provides a support
service for the maintenance sections in Fife.

Your key role will be as a member of a team providing the
support service for the maintenance of street lighting. The
team will investigate, fault-find and test installations, and
design and supervise renovation schemes. The team
prepares maintenance policies and contracts and advises
and trains in safe working methods.

You must have a broad experience in street lighting, an
HNC in Electrical Engineering and preferably be an
Approved Electrician.

Application forms are available from
Team 1, Department of Personnel
Services, Fife House, North Street,
Glenrothes KY7 5LT, or by telephoning
(0592) 763576/ 3822 after 5.00 p.m.
(Answerphone), to whom completed
forms should be returned not later than
MONDAY 21st OCTOBER, 1991
Reference No. EQT/28/LEN.



We Are An Equal Opportunities Employer
Applications from people with disabilities will be particularly welcomed

Lighting Sales Engineers

Kalmar have a long record of supplying high quality
lighting to discerning clients on a varied range of
projects in the UK and abroad.

We are introducing a major new product into our existing
range and are looking for two sales engineers to cover
London and the Home Counties.

Successful applicants would have a minimum of ten
years' experience in the industry, will be in contact with
architects, designers and consultants, used to working
on their own initiative and be keen to be part of a
compact, enthusiastic team.

For the right person the reward is there.

If you think you have the skills required write, with full
details of qualifications and experience to:

**The M.D.,
Kalmar Lighting,
19 Dacre Street, London SW1H 0DJ**



TECHNICAL LIGHTING SALES

We need a technical salesperson to share the growing workload. You will be involved in
technical support and some sales work on projects from design concept, through preparation of
detailed schemes to supply.

You should be a lighting engineer, probably in your twenties, with some experience and a
strong desire to widen your horizons in the area of state of the art lighting. Commercial
awareness and an ability to spot sales opportunities are also important.

Apply now, with career details and salary indicator:
**K Clark, Rich & Pattison Lighting Service, Essex House,
Kent Street, Birmingham B5 6RE. 021-622 5411**

EXPERIENCED SALES AGENTS REQUIRED

For established manufacturers and importers of
lighting and security products nationwide. Selling
nationwide to Wholesalers.

Please reply to Box No. 1507
Lighting Equipment News, Maclean Hunter House,
Cockfosters Road, Barnet, Herts EN4 0BU

**I GUZZINI
ILLUMINAZIONE U.K. LTD**
UNIT 3, MITCHAM INDUSTRIAL ESTATE
85 STREATHAM ROAD, MITCHAM, SURREY CR4 2AP
TELEPHONE 081/6464141 FACSIMILE 081/6406910 TELEX 945414

REQUIRE LIGHTING SALES ENGINEERS

FOR CENTRAL LONDON, CALLING ON
ARCHITECTS, DESIGNERS AND CONSULTING ENGINEERS
WE OFFER AN EXCELLENT PACKAGE.

WRITE TO:

CHRIS PIFF — SALES AND MARKETING MANAGER

iGuzzini

ISOMETRIX Lighting + Design

Senior Architectural Lighting Designers

Applicants should have at least 5 years practising experience and come
from an architectural/engineering background. Skills in project
management and the coordinating of projects will be a fundamental
requirement. Knowledge of Apple Macintosh and of US lighting
equipment and regulations are also desirable.

Lighting Product Designers (Temporary + Full Time)

Applicants must have past experience in designing specialist lighting
fixtures for manufacture and be familiar with sources and suppliers
within the lighting industry. A good drawing technique is essential and
knowledge of the Apple Macintosh desirable.

Please send CV's to the above address.

2 Frederic Mews,
Kinnerton Street,
London SW1X 8EQ
Tel: 071 235 5858/9
Fax: 071 235 0356

CLEARANCE OF CERAMIC TABLE LAMPS

- All colours, shapes & sizes
- Large range
- Low factory prices

Contact Mr Chris:
Tel: 081-444 5630 Fax: 081-444 3458

**TO ADVERTISE HERE
CALL 081-975 9759**

N.J. Hamilton Esq. F.C.A. and W.S. Martin Esq. F.C.A., Joint Administrative
Receivers of Sublime Lighting Limited
PHILIP DAVIES & SONS
Will Sell by Auction

**GARMENT MAKING-UP AND LAMPSHADE ASSEMBLY MACHINERY,
ANCILLARY EQUIPMENT AND OFFICE FURNITURE**

at
DENABY INDUSTRIAL ESTATE,
DENABY LANE, DONCASTER, SOUTH YORKSHIRE

ON WEDNESDAY 16TH OCTOBER 1991
COMMENCING AT 11 A.M. PROMPTLY

Including:

Two Pfaff 469-6 BS lockstitch machines; FOUR PFAFF 563-8 UNDERBED
TRIMMERS; Wilcox & Gibbs 500-4 overlocker; Four Rimoldi 327 three thread
overlockers; Rimoldi 327 four thread overlockers; Four Nordseal glueing
machines; Veit 4216 pressing unit; eight lampshade forming machines; Union
Special cylinder arm machine; Mutual attaching unit; Mutual 5353 heat sealer;
Four Mutual lampshade binders; Nucleave rivetter; BT R40 rivetter; KM KS-EV
4" knife cutter; CRA Pacemaker 72" cloth laying machine; SAMCO 35 CONTIN-
UOUS CUTTING PRESS; Dennison Dial-Set label printer; five Dexion boltless
pallet racks; EDC, RIDAT AND EMPNER SHRINKWRAPPERS; Fobco bench
drill; Triumph UT68-1 needle grinder; HPC PLUSAIR SA18 ROTARY COM-
PRESSOR; fire extinguishers; fittings; spaces etc;

ON VIEW TUESDAY 15TH OCTOBER 1991 - 10 A.M./3.30 P.M.
AND MORNING OF SALE - 9.30 A.M./11 A.M.

Auctioneer's Offices:

THE AUCTION CENTRE, NEWBY ROAD, HAZEL GROVE, STOCKPORT
SK7 5DE. TEL: 061-483 2637 FAX: 061-483 1433

NEW KENSINGTON AUCTIONS

are instructed to
SELL BY PRIVATE TREATY

3 NEW PB 90 DC Emergency Lighting
control battery systems - with alcad
vantage nickel cadmium batteries

System 1: (2Kw)

0.75 Kw Floating Maintained
1.25 Kw Non-Maintained

System 2: (5Kw)

1 Kw Floating Maintained
4 Kw Non-Maintained

System 3: (25Kw)

5 Kw Floating Maintained
20 Kw Non-Maintained

ALL: 1 Hour duration; Tropicalised;
with Steel Stands and Export Packed
Inspection, further details and Offers to:

NEW KENSINGTON AUCTIONS

Kensington Park

Hallam Fields Road

Ilkeston

Derbyshire DE7 4BR

Tel: (0602) 442022 Fax: (0602) 440614

AGENCIES AVAILABLE

Due to continued expansion both of professional and user
Product ranges and of our target markets, Light Projects are able
to offer exclusive Agencies in many parts of the British Isles.

We are a forward-looking and innovative Company with an
impressive range of professional lighting products.

If you know you have the determination and drive to join our
existing successful network of Agents, please write in
confidence to:

**Charles Stewart
Light Projects Ltd
23 Jacob Street
London SE1 2BG
Tel: 071-231 8282**

Edison Halo Lighting SALES PROFESSIONAL

We need a dynamic sales professional based in the London Area to promote our
exciting range of top quality display lighting products. A hard-working and self
motivated individual is sought to join a successful company committed to expansion,
both in the UK and Europe.

Applicants, who must be aged 23+, should possess the following:

— Proven track record in sales, preferably within the lighting or electrical industry.
— Experience in dealing with consultants, specifiers, interior designers and
distributors.

— A high level of self motivation and enthusiasm.

In return we can offer a good basic salary, open-ended commission, fully expensed
company car, expenses, pension and life assurance schemes.

Please send your full C.V. to:

**Lorraine Kimber, Personnel Manager, Edison Halo Lighting
5 Delaware Drive, Tongwell, Milton Keynes, MK15 8HG
Fax No: 0908 617205**

All replies will be acknowledged and treated in the strictest confidence.

•SELL•TELL•
•LEND•VEND•
•DEAL•WEAL•
•IMPORT•
•EXPORT•
•BUYER•
•SPECIFIER•
•ARRANGE•
•EXCHANGE•
•REPRESENTATIVE•
•ALTERNATIVE•
•PROSPEROUS•
•PROFITABLE•
•VENDOR•SENDER•
**IT'S ALL IN L.E.N.
CLASSIFIED
TELEPHONE
ALASTAIR
081-975 9759**

FOR SALE

IMO AUTOGIL GUILLOTINE

IMO CLARE TEST STATION A433R10/230B/AM/1

IMO WIRE STRIPPER SHINMEIWA MODEL, AWS 4

Offers please to Chirs May, C J May Ltd. Tel: 0302 390011

**COPY DATE FOR
NOVEMBER ISSUE
18TH OCTOBER**

LIGHTING SUITES



Poole Lighting announces a new
catalogue incorporating the most
popular products within their
range and those from Quest
Emess Limited whose business
has been consolidated into their
own. In a further change, they
have entered into an agreement
with CSM Lighting Limited to
manage the sales and marketing
of this enlarged range of popular
products:
circle 90

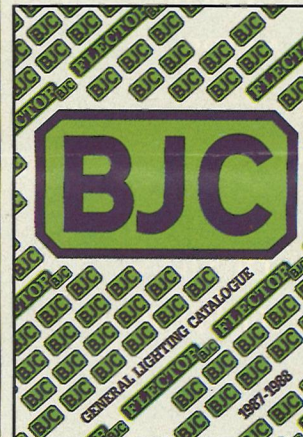


Creative Design in Emergency Lighting

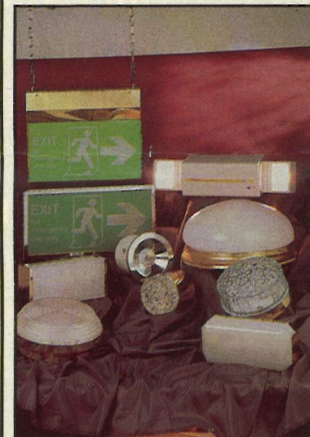
Channel Safety Systems Ltd
announce the launch of
'Couturier', a new concept in
emergency lighting for the
nineties. An innovative range of
emergency luminaires designed
to present an opportunity to
break away from the stolid
conventions of the past and apply
refreshing creativity to this sector
of the market:
circle 91



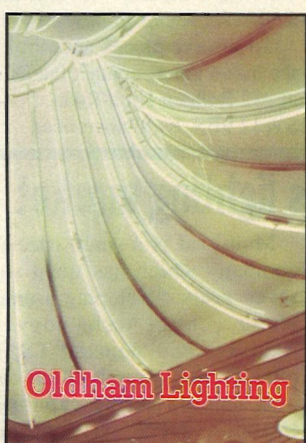
The Artec Lighting System from
Se'lux. Subtle combinations of
direct and indirect light, arranged
in elegant housings designed for
contemporary interiors. Artec
produces diffused ambient
lighting, while the integral
3-circuit tracks allow the
attachment of spots for specific
display or workplace lighting.
Double parabolic louvres make
the system ideal for lighting rooms
with computer screens: circle 92



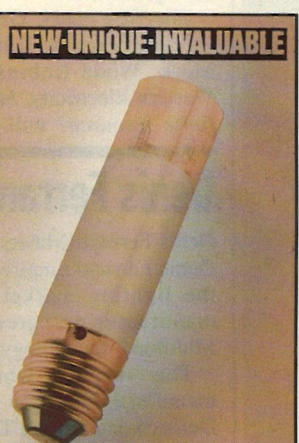
Acorn Lighting are pleased to
announce that the BJC product
range has been added to their
portfolio of products. BJC offer
a range that includes street &
amenity lighting, industrial
lighting, floodlighting & lighting
for security. The whole product
range is manufactured to the
highest quality standards:
circle 93



Catalogue Update
Introduced by JSB Electrical is
a range of prestige luminaires
which includes the new Carina
with crystal glass and a brass
body. It is available as an
emergency luminaire in
maintained, non-maintained and
slave options with a matching
mains version. All are available
with a choice of surface or semi-
recessed mounting:
circle 94



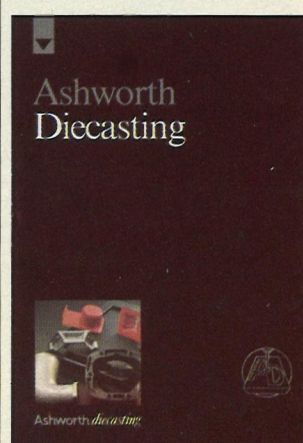
Oldham Lighting manufacture
and install both 20mm cold
cathode and 26mm Hi-Slim,
long-life, high output, low
voltage fluorescent tubing. Any
shape can be provided for
special lighting effects in
cornices, behind pelmets etc,
giving the designer complete
freedom in the creation of
lighting features not possible
with standard light sources:
circle 95



From RADA, the amazing
Discharge Lamp Gear Tester.
Just screw in to locate faults in
seconds. The P.O.C. (Pulse and
Open Circuit) Tester saves time,
worry and money on
maintenance and testing of
discharge lamp gear. Robust,
compact, perfect for continuous
on-site use from leisure to
industry:
circle 96



The launch of Kotzolt Lighting
(UK) Limited in the UK
coincides with the release of its
comprehensive price list. Aimed
at all specifiers and users, the
92-page full-colour brochure,
has been designed to provide a
useful and detailed buyers's
guide to Kotzolt's extensive
range of Tube Systems,
Modular, Display and Sports
lighting luminaires:
circle 97



Ashworth Diecasting has a
history stretching back to the
turn of the century. Their new
brochure illustrates how an
aluminium diecasting company
has integrated high technology
equipment and quality control
systems, with the skills gained
over a century. They work for
leading names in the defence,
automotive, consumer durable
and lighting industries:
circle 98

LIGHTING CATALOGUE

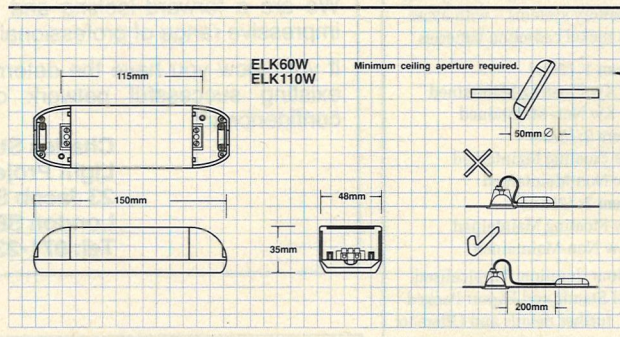
CATALOGUE DIRECTORY

Every year companies spend
huge amounts of time
developing catalogues and one of
the biggest problems they face is
publicising and distributing
them to specifiers. If you have a
catalogue, printed or in
production which is targeted at
lighting specifiers then this
section can help you. Contact:
Alastair Moys on 081-975 9759:
circle 99



Elektra Electronic LV Transformers

- | | |
|-------------------------------------|-----------------------|
| Overload & Short Circuit Protection | Double Insulated |
| Radio Interference Suppressed | Dimmable Circuitry |
| Compact Lightweight Housing | Soft Start Technology |
| Complies with CEI Standards | Thermal Cut-out/Reset |
| Cable Clamps Included | 60VA & 110VA Versions |



TECNOLUX®

FORMA LIGHTING LIMITED
Business Design Centre, London N1 0QH.
Tel: 071 288 6025 Fax: 071 288 6057

Reader Service No. 17

A TOTALLY NEW MINIATURE LIGHTING SYSTEM

- FLEXIBLE LIGHTING STRIP
- LONG LIFE XENON LAMPS
- 10 YEAR LIFE
- ALL METAL CONSTRUCTION
- NO PLASTIC PARTS
- HIGH TEMPERATURE DESIGN
- COMPACT DISPLAY LIGHTING



crescent

Crescent Lighting Limited

8 Rivermead, Pipers Lane,
Thatcham, Berkshire
RG13 4NA
Tel: 0635 78888
Fax: 0635 73888

Reader Service No. 18
Page 20

LIGHTING EQUIPMENT NEWS



Two hundred and ten, 2kW Metaline floods turned night into day when Wales played France at Cardiff Arms Park in the first ever Rugby International to have been played in the UK under floodlights.

Sadly the lighting, designed by Thorn to achieve over 2000 lux, didn't help the host nation see their way to victory, but it did make for good colour TV broadcasting so thousands were able to watch the match from the comfort of their homes. The new lighting means that Cardiff is the only national ground able to host televised evening matches during the forthcoming World Cup Series. The high lighting levels also make the Welsh Rugby Union's national ground one of the best lit sports grounds in the UK. Lighting design was by Thorn's Cardiff Office and installation was by Celtic Contracting.

Philips Lecture

Applications are invited for invitations to attend the fourth Philips Lecture at University College London. This year, the lecture will be given by David Loe, director of The International Philips Centre for Lighting Education and Research at The Bartlett, University College London and is entitled *The appearance of lighting*.

Over the last few years the lighting group at The Bartlett has been involved in a programme of research concerned with the appearance of lighting and how

this relates to physical measurements. The lecture will describe these studies and will examine the results in terms of lighting design and its relationship to people and architecture. The work is to be extended to consider the lighting of objects in addition to the lighting of spaces and this theme will also be explored.

Applications should be made in writing to Eve Anderson, The Bartlett, University College London, Wates House, 22 Gordon Street, London, WC1H 0QB.

Lighting in the green age

An afternoon seminar called *Green highlights* has been arranged by the National Illumination Committee of Great Britain. It will be held on 20 November at CIBSE London headquarters.

The first paper, *Good lighting - less energy*, will be given by Mark Wood-Robinson, South Western Electricity. *Materials - a finite resource?* will be the sub-

ject of Brock Hoaran, Thorn, followed by Nigel Pollard of Westminster City Council speaking on *Light Pollution - a wasted resource*.

Finally, Deidre Janson-Smith, The MET Studio, will talk about *Light and living things*.

To reserve places and book for the buffet lunch, contact Ian Davies at 222 Balham High Road, London SW12 9BS, by 8 November.

Denis Ferranti enters lighting market

Denis Ferranti Meters, part of the Denis Ferranti empire, is entering the lighting market through a manufacturing agreement with Multiload Technology Ltd.

The company, which already manufactures for the Ministry of Defence and British Telecom, has been searching for a compatible partner to assist its entry into the lighting industry for some time.

Multiload is a small specialist company which has spent some seven years developing a unique phase control technology for lighting, and demand for the product now exceeds Multiload's own manufacturing capability. Initially, DFN will produce a range of intelligent lighting control products developed by Multiload.

IN YOUR NEXT ISSUE

The quality of the nighttime environment, particularly in our towns and cities, has improved immeasurably in recent years, largely due to imaginative floodlighting and amenity lighting schemes.

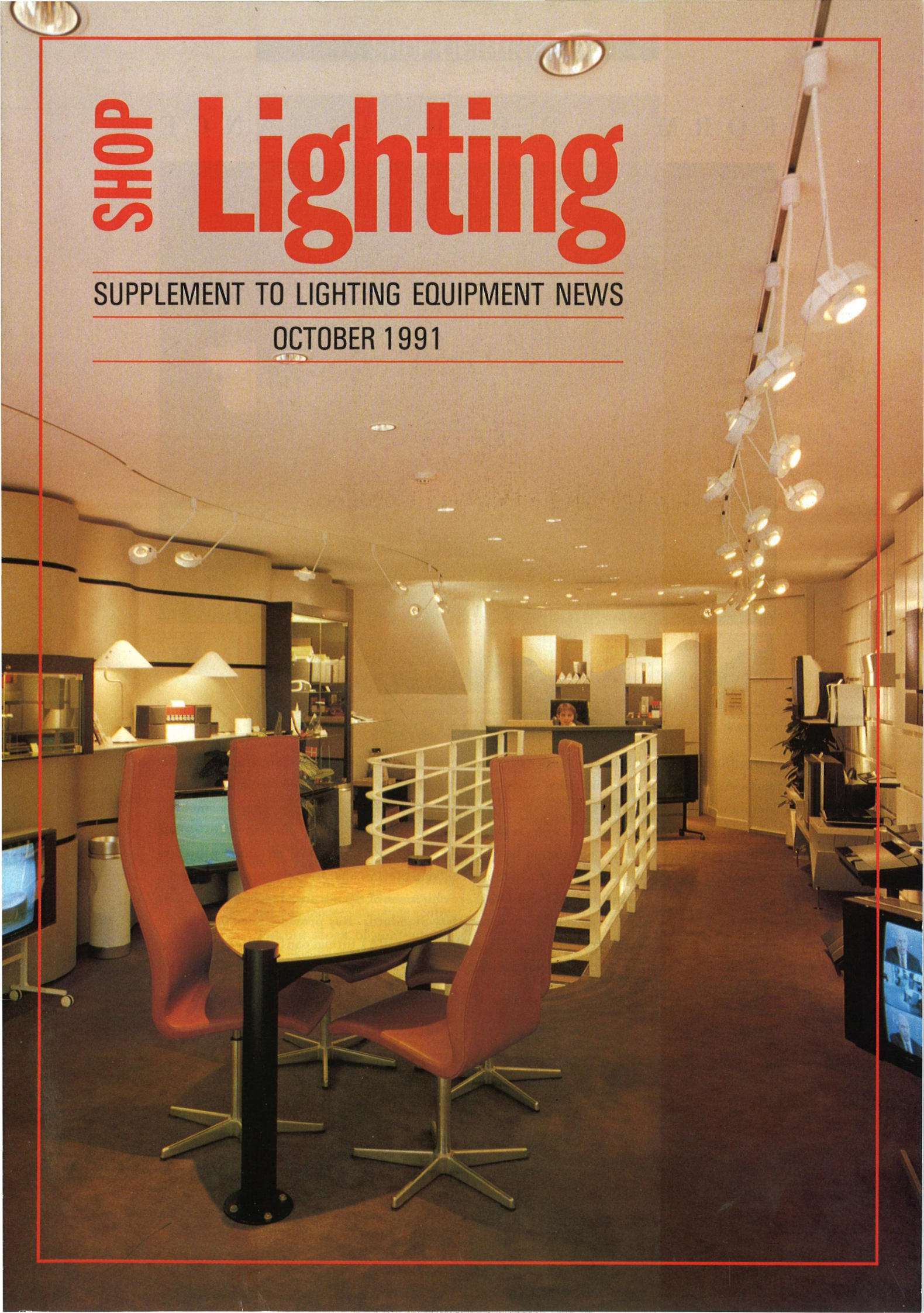
Even street lighting is rapidly becoming a major political issue with the growing concern about urban crime. So a review of outdoor lighting in all its forms is the major theme of November's *LEN*.

Lighting Equipment News, October 1991

SHOP Lighting

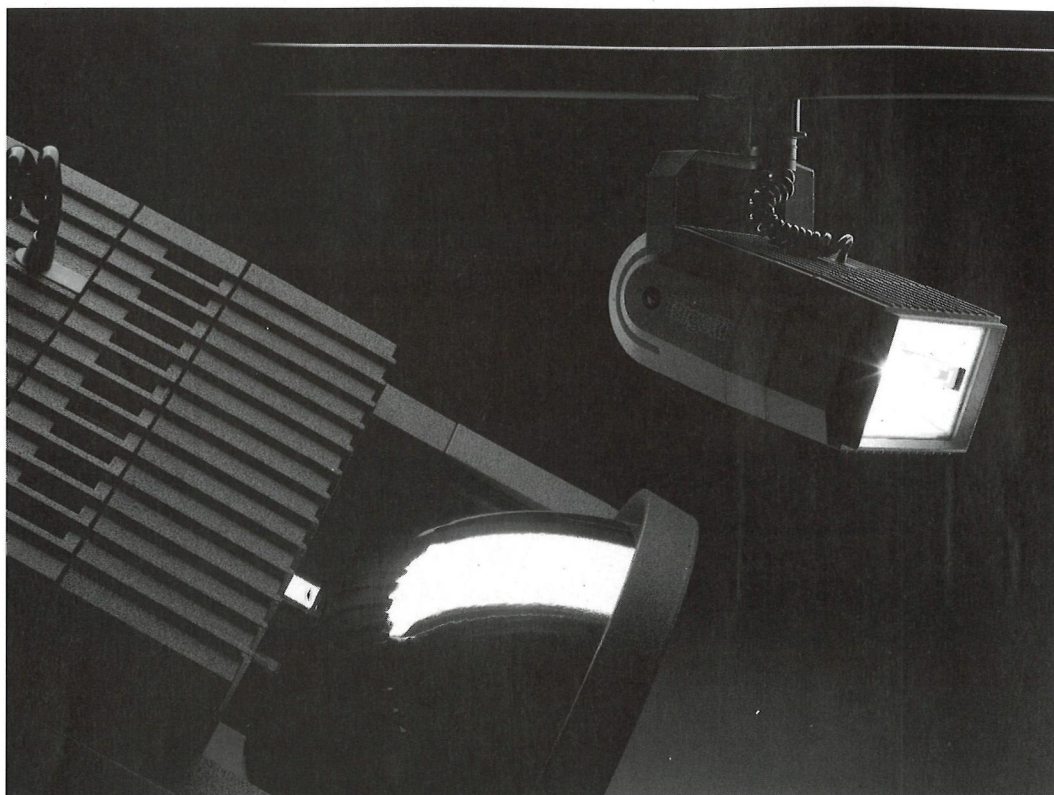
SUPPLEMENT TO LIGHTING EQUIPMENT NEWS

OCTOBER 1991

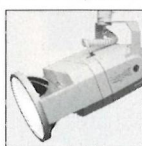


FORM AND PERFORMANCE

D&A



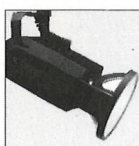
SDW-T 50W



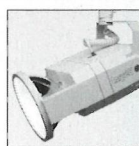
SDW-T 100W



HAL R7S



HQI-T 150W



HQI-T 70W



HQI-TS 70W



HQI-TS 150W

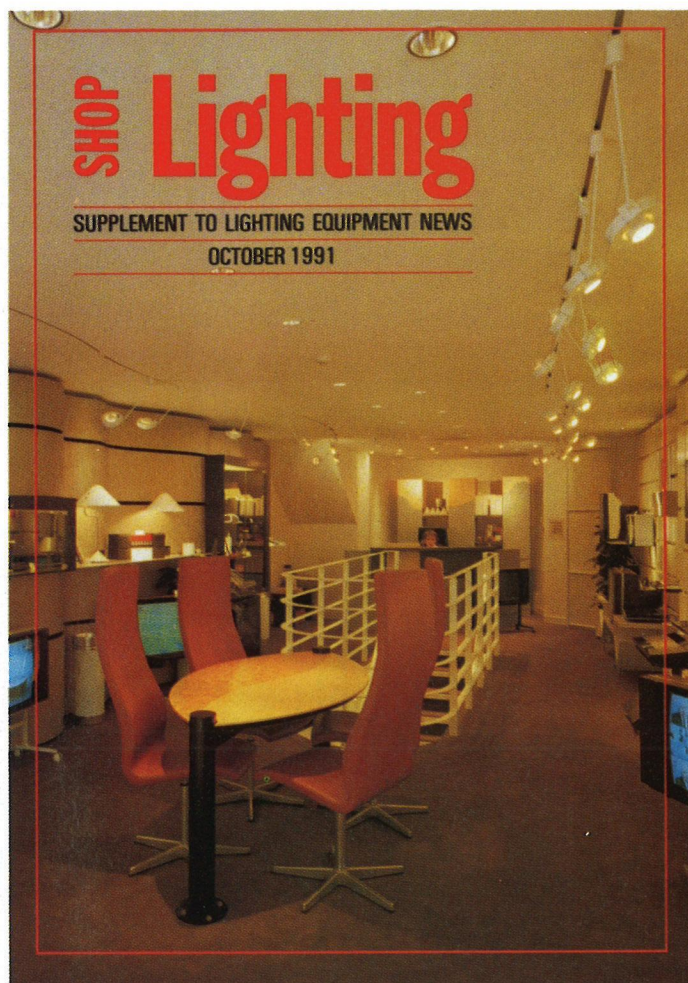
Targetti, the creator of the internationally renowned Structura spaceframe has adopted for this particular system a new luminaire known as RAY. RAY, a complete and versatile range of luminaires from Targetti, applies the most recent developments in discharge lamp technology, offering the lighting designer a wide variety of beam spreads, lighting intensity and colour temperatures. Solid diecast aluminium housing and glare-free high vacuum metalised reflectors characterise RAY. A disconnect system at the end of lamp life, low operational temperatures and a very high degree of protection (IP41 and IP54) are only some of the advanced technical solutions which have allowed RAY to meet all European Safety Standards. Ray provides ideal lighting for public spaces, commercial areas, stores, offices and museums. RAY fittings can be surface mounted, adapted to track or to Targetti's Structura system.

targetti®

innovation & design in lighting

CROMPTON - TARGETTI, P.O. Box 74, Doncaster DN2 4ND, tel. 0302/323941 - fax. 0302/323934

Reader Service No. 301



SHOP Lighting

SUPPLEMENT TO LIGHTING EQUIPMENT NEWS


OCTOBER 1991

The front cover of this supplement features Bang and Olufson's central London showroom. In this installation the visual impact of the luminaires was as important as their lighting technology. White Discus spotlights from Staff Lighting enhance the crisp colour scheme, while the track curves, echoing the form of the showroom walls. For more information, please see page 8.

CONTENTS

Lighting for sale	4
An introduction to lamps and luminaires for retail lighting.	
Centre point	10
Lighting is a major element in creating an atmosphere and sense of place in modern shopping centres.	
Taking stock of controls	13
How lighting controls can be used to attract the customer into a store or shopping centre.	
Showing the safe way out	17
Alternative approaches to designing emergency lighting.	
Buyers' guide listings	20

Editor Judy Sewell Associate Editor Barbara Trigg Art Editor Lorna Francis Production Nick Smith Circulation Kirtie Parmar
 Advertisement Manager Jim Hughes Northern Area Manager Robert Ditchfield Publisher John Bull Group Publisher Nigel Foster
 Published by Maclean Hunter Ltd, Maclean Hunter House, Chalk Lane, Barnet, Herts EN4 0BU Telephone 081-975 9759
 Area office 05435-72771 Telex 299072 MACHUN G Fax 081-975 9753
 Directors R W Osborne, (Chairman), Gerald Brigg (Managing Director), Nigel Foster, Denis Jones, D B Wright. Origination Facsimile Graphics Ltd, Coggeshall, Essex. Printer E T Heron & Co. Ltd, Heybridge, Maldon, Essex Shop Lighting is published as a supplement to Lighting Equipment News.

 A Maclean Hunter Publication

Lighting is one of the most useful marketing tools available to the retailer. The large multiple retailers are well aware of this; lighting levels two to three times those encountered in the average office are commonplace. The retail sector has been to the forefront in using new high-technology lamps and luminaires.

If lighting is such an important marketing tool to the large multiple retailers, the same benefits can be reaped from effective lighting in smaller shops. There is considerable scope here for lighting designers and electrical contractors.

Apart from its purely functional role of enabling people to see the merchandise, the role of retail lighting is, first, to attract customers' attention and draw them into the premises. Once inside, it must show off the merchandise to best effect. This may sound obvious, but how many florists' shops have lighting which really brings out the correct hues of the flowers?

At the same time the lighting has to create the right ambience, appropriate to both the merchandise and the clientele (a shop selling beachwear will have different requirements from a jeweller's shop, and an exclusive men's tailor will have very different requirements from a do-it-yourself store).

Colour rendering is a major consideration in the retail sector, pointing to the use of modern light sources with a high colour rendering index.

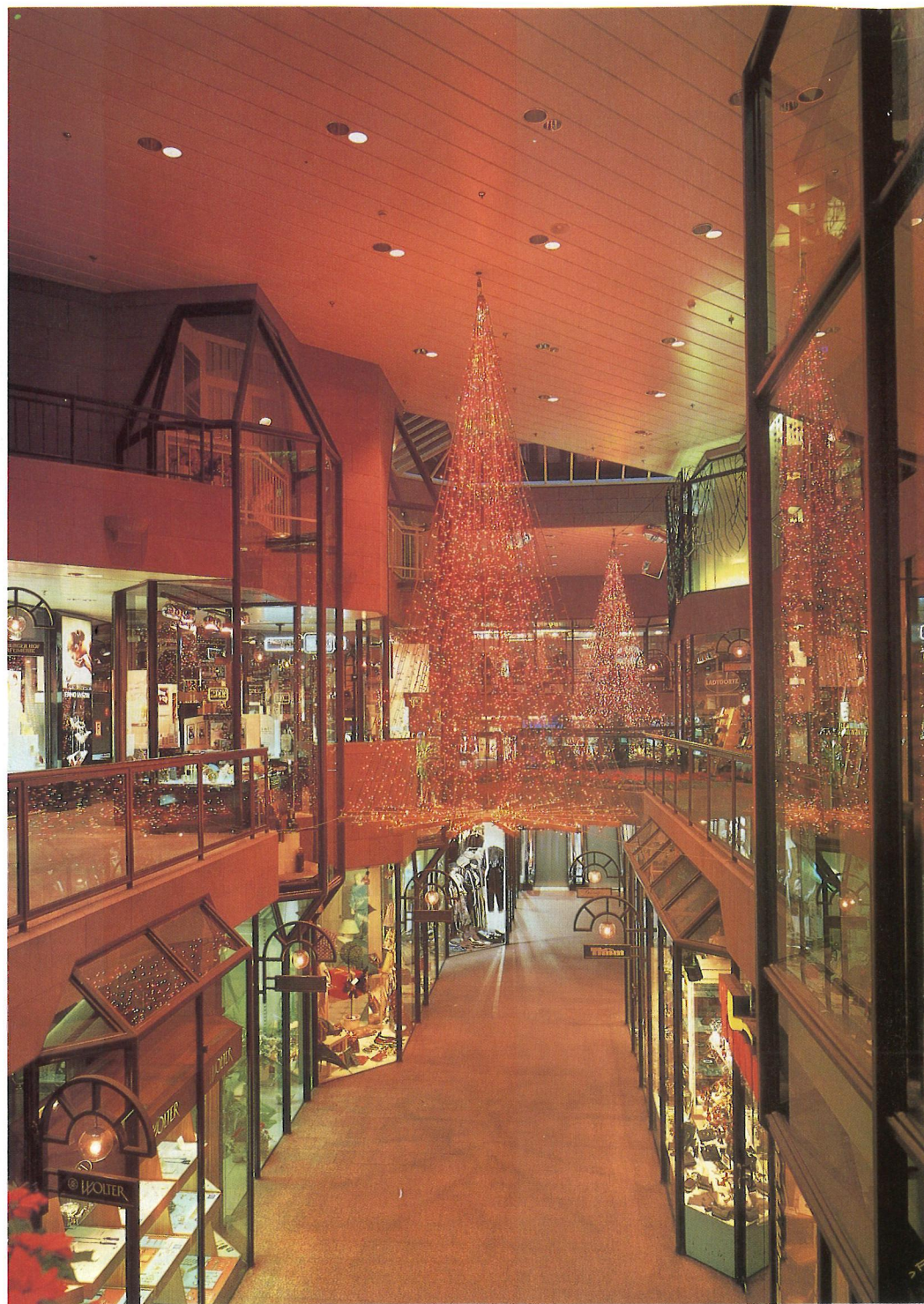
Economics also has an important part to play, and it is here that the large multiple retailers have shown their acumen in the use of new lighting techniques. Installation costs can represent as little as 10% of the total operating cost of lighting; and with the high levels of lighting employed in large stores, any savings in energy and maintenance costs can be considerable.

LAMPS

Three modern light sources are of major significance to the retail lighting sector:

- metal halide;
- compact fluorescent;
- low voltage tungsten halogen.

The essential features which make these the natural choice are their excellent colour rendering



Low voltage tungsten halogen and metal halide lamps are ideal for shopping precincts.

Lighting for sale

SMALLER SHOPS CAN LEARN FROM THE MULTIPLES — THEY KNOW HOW IMPORTANT LIGHTING IS IN DRAWING CUSTOMERS INTO THEIR PREMISES. IAN CERFONTYNE OF SIEMENS AND GRAHAM SKELDON OF OSRAM SHOW HOW.

and high energy efficiency.

Conventional double-ended tubular fluorescent lamps — albeit in their latest T8 and triphosphor forms — also have a role. Other lamps such as high pressure

sodium and mains voltage tungsten halogen may have certain specialist applications, but the above lamps satisfy the vast majority of modern retail lighting requirements.

Fluorescent lighting

The modern triphosphor lamp should always be the preferred choice over halophosphate lamps for retail lighting because of its good colour rendering. A colour

LAMPS AND LUMINAIRES



Fluorescent lamps are ideally suited for the display of meats and other foodstuffs as can be seen in this Gateway supermarket.



Compact metal-halide lamps produce a distinct beam with high luminous efficacy and excellent colour rendering which is ideal for this men's clothing department.

rendering index of 85 is far superior to the 50-55 which is typical of normal halophosphate lamps.

Coupled with this is the higher luminous efficacy. As a general guideline the efficacy of the T7 (26mm diameter) triphosphor lamp is about 20% higher than that of the equivalent T8 halophosphate lamp and 30% higher than that of the older T12 (on 38mm diameter).

For existing installations, replacement of the T12 lamps by T7 types will effect a reduction in the consumption of electricity while maintaining luminous

output because the lamps have a lower rating for the same tube length. A switch from halophosphate to triphosphor types results in a useful increase in lighting levels because tube ratings are the same.

In new installations, the improved luminous efficacy of triphosphor T8 lamps compared with halophosphate and/or T12 types means that fewer luminaires can be used.

Where modern compact fluorescent lamps are used, including the longer versions which are now available up to 55W, there will be no question of

choosing between halophosphate or triphosphor as these lamps all use triphosphor technology.

One of the main advantages of fluorescents, apart from their relatively high luminous efficacy and low unit cost, is the vast range of colours which is available. The main choice is between the three basic colours, Cool White, White and Warm White, but special colours such as Natura de Luxe are available which emphasise reds and, for instance, enhance the texture of meat in a butcher's shop.

Fluorescent lighting is still the main choice for ambient lighting. It is also suited to concealed

lighting (in display cabinets for instance,) and for some forms of spotlighting where the accurate beam control of tungsten halogen is not required.

One of the earliest applications for compact fluorescent lamps was as energy-efficient substitutes for GLS filament lamps — offering an 80% reduction in energy use and up to eight times the lamp life. This is still a major application.

An interesting development is the advent of compact fluorescent reflector lamps designed to replace the old PAR 38 reflector lamps. These are available in 11W, 15W and 20W ratings to replace 60W, 75W and 100W PAR 38 lamps respectively.

Metal halide

Of the high intensity discharge sources, the metal halide lamp is the main choice for retail lighting although high pressure sodium may be used for canopy lighting and external areas. Like the triphosphor fluorescent lamp, its key features are excellent colour rendering and high luminous efficacy.

Originally developed in ratings from 250W to 3500W, its use in interior lighting was severely restricted, but the range of ratings has been coming down progressively. Double-ended lamps are now available in the 70-250W range and single-ended lamps in 35W, 70W and 150W versions. Consequently, an increasing range of narrow, medium and wide beam luminaires is becoming available to take advantage of these newer lamp types for display lighting.

The astute use of phosphors and rare earth additives has made it possible to offer a choice of colour temperatures (including a Warm De Luxe lamp with a 3000K temperature, similar to incandescent lighting) while maintaining a high colour rendering index and luminous efficacy.

Metal halide lamps have limited applications in general ambient lighting but come into their own where a spot or floodlight with a high lumen package is required. Applications include window lighting, which must compete with natural daylight, and accent and display lighting.

Metal halide is especially popular with boutiques and clothes shops because it offers a compact, high intensity source



Low voltage dichroic lamps bring a sparkle to watches, rings or other items of jewellery.

which is ten times as efficient as the equivalent tungsten filament lamp and offers excellent colour rendering. For spotlighting, the single-ended metal halide lamps offer excellent beam control.

Low voltage lighting

Low voltage tungsten halogen lighting has had a major impact on retail lighting over the past decade. It offers a highly controllable point light source giving crisp white light with twice the light and up to three times the efficacy of the equivalent GLS lamp. The compact lamps are far less obtrusive than the old GLS reflector lamps and luminaires and yet they introduce a sparkle which has made them popular.

The modern lv tungsten halogen lamp is available in a much wider range of types and sizes than the old GLS display lamps. There are three main types:

- Capsule lamps (similar to those used in projectors) which are incorporated into luminaires with separate reflectors and/or lenses or used bare to give sparkle.
- Metal reflector lamps with a factory prefocussed lamp and reflector combination for precise beam control.
- Glass dichroic reflector lamps with a prefocussed lamp and a dichroic glass reflector which transmits infra-red and other selected wavelengths, reducing heat in the beam by up to two-thirds.

Dichroic lamps have enjoyed particular success. Originally

introduced as cool beam lamps for lighting foodstuffs and other heat-sensitive merchandise, they have become popular as decorative lamps but where the cool beam is not essential, metal reflector lamps can offer virtually double the light intensity.

Although there is little forward production of heat in this lamp type large amounts of heat are projected backwards. Thus, only fittings specially designed for dichroics can safely be used with these lamps and, when building them into shallow suspended ceilings or bulkheads the need to dissipate heat from these fittings must always be considered.

The advent of sealed dichroic reflector lamps has introduced the advantages of easier handling and freedom from reflector soiling. All that is necessary is to wipe the front glass from time to time. Other advantages are protection in the unlikely event of non-passive lamp failure and uv filtering.

Recently, a range of coloured dichroic lamps been introduced in which a coloured beam is achieved by filtering out the unwanted colours through the reflector. This imparts an attractive decorative glow to the rear of the reflector.

LUMINAIRES

For general ambient lighting, fluorescent luminaires are still far and away the most popular types of fitting.

Many large retailers see the lighting as part of the image of the shop. Consequently, many have

opted for high-technology luminaires with louvre controllers. A few still use bare batten or diffuser fittings for preference where they feel that this is more in keeping with a value-for-money image.

But it is not just a concept of image that dictates the preferences for high-technology luminaires. Louvre controllers are more efficient than opal diffusers and offer control of lighting distribution. The vertical component of lighting is as important, if not more so, than horizontal illuminance in many retail outlets and so careful use of luminaires with a batwing distribution can give improved lighting on display shelves.

Luminaires with electronic control gear have found a ready market amongst some larger retailers. In this application, the extended tube life (up to 50 per cent longer) which enables relamping intervals to be extended, can be as important as the saving in energy due to lower control gear losses. Another significant advantage is the fact that a faulty tube is automatically disconnected, thereby preventing annoying flicker and allowing tube replacement to be carried out when convenient.

Multiple-tube luminaires with separate supplies to different tubes enable ambient lighting levels to be adjusted according to the time of day. Typical would be an installation of triple-tube luminaires where the centre tube

in each luminaire is on a separate circuit from the two outer tubes, giving the option of one, two or three tubes. Some large stores differentiate between times when business is brisk, requiring full lighting, and the quieter times when some energy saving is possible by reducing lighting. Switching can be manual or automatic.

In boutiques and shops where the idea of fashion is important (and this includes such non-clothing as hi-fi stores) the lighting is an important part of the internal decor. Lighting track and spotlights have been popular for some years and the constantly-changing styles of luminaire and track have brought lively business to the luminaire manufacturers.

Metal halide lamps tend to dictate the parameters of the luminaire because of the need for control gear housings and, protective covers, so metal halide spotlights have changed less than other types. In contrast, the constantly-evolving range of lv tungsten halogen lamps and the versatility of capsule lamps has given luminaire manufacturers a wide range of options.

There is, however, a discernible trend away from the use of prominent fittings suspended from the ceiling towards the use of adjustable downlighters installed within the ceiling. This demand can be met by semi-recessed metal halide or lv tungsten halogen luminaires with a tilt-and-swivel lamp and reflector system.

LEADING LIGHTS.



Just a small selection from the JSB range of emergency lighting.

FEATURES INCLUDE:

- ▲ FULL PRODUCT RANGE OF SELF CONTAINED, CENTRAL BATTERY AND MAINS LUMINAIRES AND EXIT SIGNS.
- ▲ CHOICE OF ATTRACTIVE FINISHES INCLUDING BRASS AND CHROME.
- ▲ READY AVAILABILITY FROM NATIONAL NETWORK OF STOCKISTS.
- ▲ FREE ADVICE FROM SPECIALIST SALES ENGINEERS.
- ▲ INNOVATIVE DESIGN FEATURES TO SPEED INSTALLATION.
- ▲ VANDAL RESISTANT AND WEATHERPROOF OPTIONS AVAILABLE.

JSB, leading the way in emergency lighting.

For more information contact:

JSB Electrical plc, Manor Lane, Holmes Chapel CW4 8AB. Tel: 0477 37773. Fax: 0477 35722.

When it comes to emergency lighting you need all the reassurance of quality and reliability.

With JSB you can be confident that all our products conform to the highest standards whatever your project. With production facilities certified to BS 5750, we are proud to be listed on the BSI register of Firms of Assessed Capability.

However, having the highest standards doesn't mean you have to pay the highest prices.

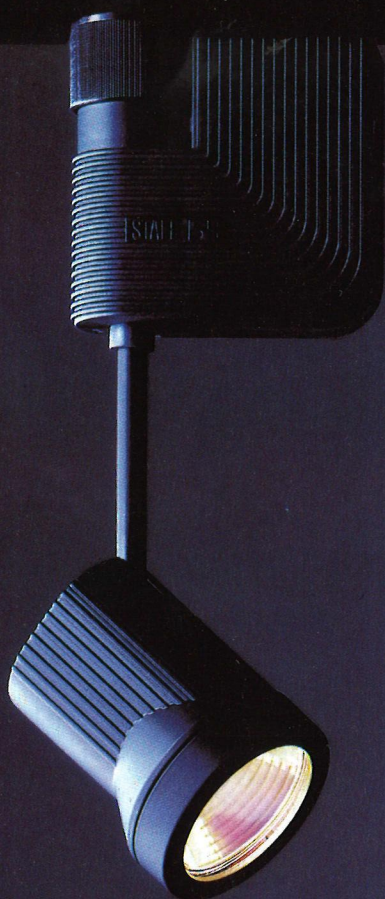
You'll find all our products and systems help you retain your competitive edge without compromising on quality.



**EMERGENCY
LIGHTING**

A MORE ILLUMINATING APPROACH TO EMERGENCY LIGHTING

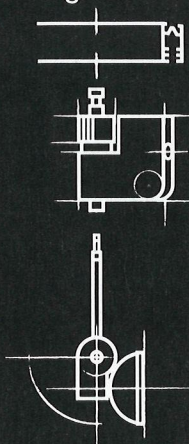
JSB5



Low voltage halogen technology has been extended with the beautiful STAFF Multitron and

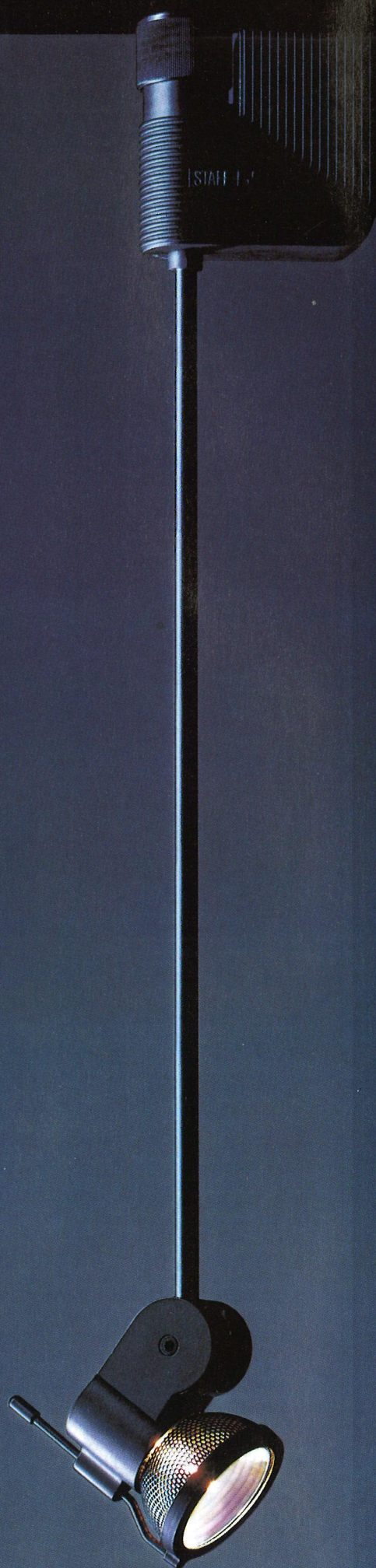
TRACK SYSTEMS ENTER A NEW PHASE

Multitec. A low voltage system for mains voltage tracks which facilitates the conversion and planning of lighting installations. Multitron, the small electronic transformer, changes the voltage directly at the track and takes the Multitec spotlights without integral transformer by means of a plug-in connection system.



Low voltage lighting on mains voltage tracks

For example, PICO 50 and UNO 55, two extremely small spotlights, which can be easily connected and interchanged by slight pressure of the fingers. Therefore, many opportunities are available with the new system from STAFF. Detailed information can be obtained from STAFF Lighting Ltd., Basingstoke, Hampshire RG 24 OWH, phone (0256) 707007 or telefax (0256) 707018.



STAFF

Reader Service No. 303

The matching and connection of tungsten halogen lamps and transformers is an ongoing problem. The ideal is for each luminaire to have its own transformer but economics dictate that several lamps are frequently supplied through one transformer. Problems arise where transformers are overloaded by having too many lamps connected. Another problem is poor lamp performance where excessive cable length produces unacceptable voltage drop. Yet another problem with several lamps connected to one transformer, is the chain reaction that occurs if one lamp fails.

Continental manufacturers have tackled these problems with a variety of protection modules and multi-way connectors for low voltage lighting but these are not yet available in the UK. However, pre-wired connectors, which would limit cable lengths and the number of fittings connected to one transformer, could be available here soon.

TECHNIQUES

Two major areas in shop units require the application of lighting design — the display window and the actual sales area. Within the sales area, there are two main types of lighting — general ambient lighting and accent and display lighting. In addition there is, of course, a need for emergency lighting.

The window display is frequently the first point of contact with the potential buyer and plays a vital part in attracting attention. Lighting must compete effectively — and yet without offence — with the brightness of natural daylight or the rival attractions of neighbouring windows. Around 1500-2000 lux is a typical value for window lighting.

Metal halide lamps up to 150W rating, in ceiling-mounted or recessed spotlights, will produce bright and yet very economic sources of general lighting in windows. Careful overlapping of the light enables the number of fittings to be reduced at night.

Alternatively, for smaller displays or applications where a lower level is acceptable, compact fluorescent lamps in specular louvre luminaires with asymmetric reflectors can provide general lighting.

High-power tungsten halogen spotlights can be used with either of these arrangements to highlight important features.



Metal halide lamps can bring out the best in retail displays.

Sales areas will generally require ambient lighting that is in keeping with the atmosphere and character of the store. Light sources should have a high colour rendering index so that the colours of the merchandise are reproduced faithfully, but the choice of a cool, intermediate or warm colour appearance will depend on the nature of the merchandise. This will be backed up by the choice of accent and display lighting.

It may be found desirable to have higher levels of general lighting close to the entrance doors during daytime, graded back into the interior.

Dimming facilities are sometimes requested — but rarely used — in retail premises. Straight switching of groups of luminaires, or tubes, to suit different occupancy patterns is a more practical and economic solution in most cases.

Dynamic lighting of specific displays can, however, prove very effective. This could involve sequential switching of different spotlights to draw attention to different items in a display; changing colour to produce different effects; or fading between narrow, medium and wide beam spotlights.

Islands of light can be created by metal halide lamps and a reassuring sense of correct colour perception can be conveyed in the interior, even after dark, with an island of fluorescent light in a 'Daylight' colour.

APPLICATIONS

Different lighting techniques are relevant to different types of shop. A selection of typical applications

gives some indication of the principles and types of equipment available:

Furniture

Furniture and furnishings look their best in the right setting. Pendant lamps over a dining table, elegant table lamps and standard lamps next to a sofa simulate ideal conditions in the home. In the sales area, general lighting will probably be subdued, making use of Warm White fluorescent lamps in wide-angle specular louvre fittings. Metal halide lamps in tilt-and-swivel recessed luminaires or track-mounted luminaires can provide pools of light to break up large areas or simulate the effect of a window. Where fabrics could be bleached by ultra violet light, metal halide spotlights should be fitted with uv filters.

Fashion

Boutiques and fashion shops evoke much of the atmosphere of the theatre, making extensive use of high-technology spotlighting effects in the process. These effects must be tempered by a conscious effort to enable customers to see what they are buying and to avoid excessive heating. As a rule, PAR 38 and other mains voltage tungsten filament lamps should be avoided and modern light sources such as metal halide and tungsten halogen which combine high luminous efficacy with excellent colour rendering are to be preferred. Dichroic reflector lamps will reduce the heating effect compared with other types of tungsten halogen lamp while producing plenty of "sparkle".

Jewellery

In general, the more concentrated and white the light, the more precious metals and stones will glisten and sparkle. Consequently, for jewellery, 70W or 150W metal halide spotlights in Natural De Luxe colours will be effective. Low voltage tungsten halogen lamps in narrow beam widths will spotlight individual items or displays. Dichroic reflector lamps should be used for heat-sensitive goods.

Florists

Florists require lighting with the best colour rendering properties to avoid distorting the colour of the flowers and, at the same time, very low heating effect. Warm De Luxe tubular fluorescent lamps and metal halide lamps will meet these demands. Low voltage tungsten halogen spotlights can be used to pick out special displays but should use dichroic reflector lamps to reduce the amount of heat in the beam.

Butchers

Fresh meat needs to be protected from undue heat and yet lit so as to bring out the colour and texture. Special fluorescent tubes such as the Natura De Luxe are designed for this purpose and are particularly appropriate where the lamps have to be close to the meat, in windows, display shelves or cabinets. 70W Warm De Luxe halide lamps fitted with pink filters can provide general lighting of shop windows.

Cosmetics

Cosmetics shops generally require an intimate and refined ambience while the large number of vertical shelves filled with bottles and other small containers require bright vertical lighting. Downlighting or indirect lighting using light sources with a warm colour temperature is ideal for ambient lighting. Low voltage tungsten halogen spots and floodlights will produce sparkle as well as excellent illumination of the shelves.

In conclusion, while the large retailers are already making full use of modern 'high technology' lamps and luminaires, these same advantages are available to be exploited in the smaller high street shop. The same benefits of improved running costs and greater customer appeal can be realised by well-planned and carefully chosen lighting.



The Burlington Arcade — a successful example of an Edwardian arcade in London.



The Metrocentre, Gateshead, shows similarities to the method of daylighting used in the Burlington Arcade.

Centre point

A WIDE RANGE OF AMENITIES AND EASE OF ACCESS PUT THE SHOPPING CENTRE AHEAD OF THE HIGH STREET IN TERMS OF CONVENIENCE.

DEREK PHILLIPS LOOKS AT THE ROLE PLAYED BY LIGHTING IN CREATING A SENSE OF PLACE.

The importance of the individual shop has been overtaken by the shopping centre built in the centre of a town or the shopping park outside; likewise the problem of retail lighting. This short article concentrates, therefore, on the architectural implications and the associated lighting problems of the shopping complex.

Over the past ten or fifteen years there has been a revolution in shopping habits and the growth of the supermarket, the hypermarket and the shopping centre has been at the expense of the individual High Street shop. This has as much to do with the ability to park a car as the quality, of the shopping experience.

Once the problem of transport to the complex has been solved, the next most important aspect is the quality of the environment and the facilities offered.

Daylight

You cannot talk about the quality of the environment without talking about daylight. Some of the earlier shopping centres attempted to ignore daylight and produce 'blind boxes', due to an unholy alliance between mechanical and electrical engineers and the quantity surveyor who — generally ignoring the advice of the architect — concentrated only on the cost element, or cost per square metre of shopping space. This was rather like the designer of a restaurant using fluorescent lighting — great economics but no diners!

An interesting comparison can be made between Victorian arcades and modern shopping centres. For instance the Burlington Arcade in London can be compared with the Metrocentre in Gateshead. Both have daylight as a determining factor of the lighting strategy — and both are commercially very successful.

The lighting strategy for any shopping complex must start with the daylighting element. Daylight provides not just light — sometimes eliminating the need for artificial

lighting during the day in public areas — but also goes a long way towards generating the 'quality' of environment a sophisticated shopping public demands.

Daylight provides much more than just light. Perhaps one of the most important elements is 'orientation'. Due to the path of the sun over the 24 hours the direction of the light will change from darkness to early morning with its easterly flow, towards

midday with light mainly from overhead this declining in the afternoon towards the west and finally night again. The direction and colour of daylight varies with the seasons like the nature of the sky itself, cloudy, sunny etc, providing a necessary dynamic sense of time, and orientation within the complex — essentially providing a sense of well being. This is most important when it is missing.

Daylight is a functional element of building planning, and needs to be carefully considered by the architect. The most common means of introducing daylight in large complexes is by means of overhead rooflights. These may be associated with atria or malls, atria generally emphasising important elements in the plan, such as changes of direction of malls, entrances or elements of vertical circulation. Atrium floors



The Food Hall of the Potteries Centre, Hanley, which takes its theme from its local industry.

may be used for restaurants or food halls, they form useful meeting places.

Night-time lighting

While the nature of the shops themselves demands that they are lit artificially, and shops themselves have learnt what particular lighting suits their business best, the night-time lighting of the shopping centre itself is of critical importance to its success.

There should be a difference of atmosphere after dark (and in, the winter this will be for a larger proportion of the day) people's expectation of the appearance of spaces after dark will differ from that during the day. In well daylight spaces the differences will be obvious, in colour, in intensity and in direction. But in those areas, such as multilevel malls, where daylight is limited and artificial lighting is required during the daylight hours a change of lighting by colour of intensity can be provided by modern lighting technology and control systems.

It is important for the shops units to dominate the appearance of the centre itself. It must be a part of the brief to the lighting designer that, the 'setting' into which the shops are placed should be such as to put 'the shop' on display, in the same manner that the shops themselves emphasise the goods they are selling.

The architecture and its associated artificial lighting must, therefore, be a background to the main function of the building — the shops and other facilities that it contains.

For this reason it would be quite inappropriate to have similar illuminance levels in the malls to those in the shops, and it has been found that levels of 150-200 lux are quite appropriate when shops are lit internally to levels of 500-1000 lux. Further emphasis is given to the shops, which tend to be 'warm' in colour, if the lighting provided in the public areas is cool.

Architectural implications

A great deal of architectural ingenuity has been expended in the large number of shopping centres which have been built in the UK over the past ten years. The best of these can stand beside the shopping centres of the USA, Canada or Hong Kong.



The Egyptian Hall at Harrods carries on the tradition of a theme.

The design tends to develop in two ways. The first is a straightforward modern approach such as that for Milton Keynes

Centre. The alternative is the 'theme' approach such as for instance as the 'potteries' centre in Hanley where the client has

requested that the architect should take note of the local industry and location to produce a design which added details reminiscent of the nineteenth century.

Typical of this latter approach is the new Egyptian Hall in Harrods, almost a shopping centre in itself. This was recently completed and clearly captures the public imagination.

It is not the purpose of this article to support one approach rather than the other, but it is important to emphasise that lighting must play an important role in support of whichever approach is undertaken.

Shopping centres no longer house shops and department stores alone, and one of the reasons for their success is the wide variety of facilities offered.

It is not uncommon for any or all of the following facilities to be provided:

- Ice skating;
- Bowling and other sports facilities such as squash;
- Restaurant and food halls;
- A multiscreen cinema;
- Library;
- Leisure centre;
- Medical centre;
- Children's play park;
- One centre even has a church.

It is clear that the shopping centre is not somewhere you rush into to buy a pound of sausages, it is somewhere you go with your family to spend half a day or a full day and enjoy the atmosphere and the many facilities it offers.



The central atrium court of the Treaty Centre at Hounslow uses powerful metal halide sources at high level to ensure growth to the three clumps of bamboos. A high level of artificial light is required in spite of good natural lighting.



Surrey Quays, Docklands, a development by Tesco, illustrates the care now paid to the external appearance of shopping centres.

▷ The Metrocentre in Gateshead has its own rail and bus stations, in addition to car parking for 9000 cars. Once you're there you tend to stay.

Planting

Trees and other plants have become just as much a part of the modern shopping centre as the scenic lift, but these should be treated with care and in the knowledge of the costs involved. Ideally they should be limited to those areas where daylight is available in sufficient quantity, and the species selected to try to ensure that it will survive without recourse to expensive additional artificial light.

However, the effects can be delightful and in the Treaty Centre in Hounslow — a shopping centre which won both a European and National Award — a conscious decision was made to use clumps of bamboo, a species requiring levels of light of 3-4000 lux. This was provided by means of 2kW metal halide floods in deep cans from a special platform at roof level — an expensive decision but one which, having been taken on aesthetic grounds, gives the central square atrium a quality it would not otherwise have.

Exteriors

The exterior appearance of shopping centres will vary from the

town centre — where the walls of the building are the curtilage of the site — to the out of town centre where there may be acres of car parking surrounding the building, which will be set in its own landscape. The latter is the more interesting problem for the lighting designer, since he must reduce the visual impact of the sea of cars, while making this area safe for shoppers. At the same time he must give appropriate significance to the building by a combination of internal lighting at entrances and subtle floodlighting.

The exterior of the Tesco shopping centre at Surrey Quays is a good example of this. The

architect has surrounded the building with water basins along the line of the original Canada dock. Those with lit fountains add foreground to the gentle floodlighting of the brickwork building. This is associated with lit entrances containing the centre logo, which act as advertising from some distance away.

The town centre shopping centre is often criticised by planners for offering totally blank walls to the urban landscape. Much can, and should be done to ameliorate the poor quality of townscape afforded by such an approach, and the lighting designer can assist here.

Economics

The economics of the lighting centres lies not so much in the initial cost of the lighting equipment as in its subsequent running and maintenance costs.

Experience of running a recently completed shopping centre in the West Country, suggested that the annual costs for lighting alone were working out at £80 000 per annum, an unacceptable figure. A close investigation of the lamp types used, the circuitry and switching showed that this could be reduced by 43%.

This is just one example among no doubt many more, where thought at the design stage and some extra cost in wiring and in switching controls would have been repaid in 12 months. It did the client no favours to save pennies where pounds would be required to operate the system.

Modern means of lighting control through the BMS computer not only can provide economic running costs but can monitor lamp life to ensure that replacement is carried out on a planned maintenance system.

Summary

Little has been said here about the techniques of lighting shopping centres; this will be dealt with elsewhere; the purpose of this short article is to emphasise the important strategic principles behind the lighting designer's contribution to the design team.

First, in the integration of daylight with artificial lighting, there is a need for early discussions with the architect where the designer should be able to contribute to the dialogue on daylight strategy as well as providing the necessary technical knowledge of artificial lighting.

Next, he needs to understand the architect's concepts for the spaces he wishes to create and be able to enhance these with light in such a manner that the architecture provides a civilised background to the main function of the building — the shops and other facilities.

Finally, he must design in such a manner that the economics of the lighting fit the client's budget.

Lighting makes the difference between the barely adequate and the really successful architectural solution, in which the interior provides variety through the day and throughout the year, so that shopping becomes a pleasure.

REFLECTION DESIGNED REFLECTION

THE NEW AF910.31 PRE ANODISED HIGH PURITY SPECULAR FINISH

DESIGNED FOR THE CIBSE VDT LG3 GUIDE

DESIGNED FOR THE 1990's LIGHTING TECHNOLOGY

DESIGNED TO MAXIMISE ENERGY UTILISATION

Just Part of ANOCOIL'S Policy of Continuing Product Development

ANOCOIL LIMITED
Bilton Road, Bletchley,
Milton Keynes, England MK1 1HT.
Tel: (0908) 375642 Fax: (0908) 643956
Telex: 825031 ANOBL G



Taking stock of controls

DAVID DANBY OF ELECTROSONIC LOOKS AT HOW LIGHTING CONTROLS CAN BE USED TO ATTRACT THE CUSTOMER INTO A STORE OR SHOPPING CENTRE.

The High Street Revolution is the popular press's way of emphasising the dramatic changes that have taken place in recent years in the retail sector. The corner shop is all but extinct and nowadays over 90% of our retail purchases take place either in the High Street or in purpose built shopping centres. The revolution has also seen the demise of the small independent retailer and the ever-increasing growth of the large multiple store.

Irrespective of the state of the economy — buoyant or depressed — the competition for your custom remains severe! The enigma for the retailer is what makes you, the customer, select one store from another when making the first tentative steps towards a purchase.

The first response to this question might be **price**, but how many people actually know the price of an article when first thinking about a new TV, a new suit or even a packet of cornflakes. Price is an important, but by no means the only factor. It has been shown that equally important is the public awareness of the store and the style and image it creates. This need for style and image has resulted in an industry for the creation and continued development of store design.

Lighting is a major element in the design of a retail store and it's no mean achievement that the lighting industry has met the continued challenge to develop new light sources and luminaires to satisfy the needs of the retail designers.

The shop window has many similarities with a theatre set. The purpose of theatre lighting is to highlight the actors while keeping a balance of light with the surrounding scenery. The luminaires and lamps themselves must not intrude into the scene. It is the performance that the audience come to see, not the mechanics of theatre.

Similarly, in a shop window good lighting will direct and attract the shopper to the merchandise and not the lighting installation. Obtrusive luminaires or badly positioned fittings resulting in glare will distract the potential customer from the display.

It has been estimated that there are just a few initial seconds when a passer by might be attracted to a display and, hence, become a potential customer. The traditional



Thurrock Lakeside is one of Europe's largest purpose-built, out of town shopping centres and uses Electrosonic dimming and switching systems throughout. Control is a combination of photoelectric and BMS.

way of maximising the chance of attracting this customer in lighting terms was to use as much light as practical to flood the display. This often meant using banks of fluorescent fittings purely because of the luminous efficiency of the light source. The end result, although bright, was flat.

The development of low voltage light sources has, in itself, led to a revolution in shop window lighting, and it is probably true that shop windows are the major application for low voltage light sources. The compact size of the lamps and luminaires, combined with the ability to control the directional qualities of the light by a range of lamps with varying beam widths, makes them

ideal for display lighting applications. The use of such sources allows the designer to experiment with lighting introducing highlights and shadows to a display and thus creating the theatre set in the store window.

It would be unthinkable to have a stage lighting installation that did not also include a dimming installation. By dimming, not one lighting scene but many can be created. This same thinking is being adopted in the retail display sector. The designer has found that, by using purpose made architectural lighting control dimming systems, he can introduce a range of lighting scenes to his displays. He can produce changes to suit different

shop window layouts or he can effect variations in intensity and colour within a given display. If required, movement can be rapid or, more usually, it will be slow subtle changes using lighting to change the emphasis from one part of a display to another.

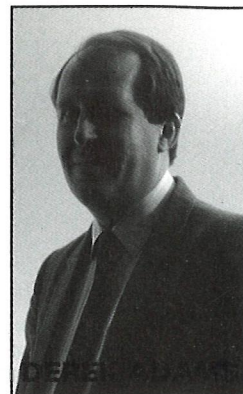
Unlike the theatre that has a lighting technician at the control desk during a performance, the retail application must be automatic and easy to reprogramme when required. This has been achieved by the development of programmable memory controlled dimmer systems. Lighting scenes are created using a simple hand held programmer and then stored in a memory unit. Scenes are then normally selected by a time clock with a facility if required for local pushbutton override. The lighting effects can then be selected at any time of day or night extending the application of control long after normal store opening hours.

In many cases the concept of lighting from a central programmable dimming system, such as the Electrosonic Sceneset system, is developed beyond the window lighting and the store interior lighting is also linked to the system. A single memory unit is capable of retaining different scenes for different areas of the store and therefore, it is possible to automate the lighting installation fully. It then becomes possible to provide different lighting scenes based on the time of day or even day of the week to suit varying trading conditions.

A most important consideration for owners of multiple retail stores is the ability to repeat the style and image of the store from one town to another. Programmable lighting control systems can help in this respect. A designers' brief can be translated into a lighting programme and the effects can be repeated from one store to the next. It

Q_{UESTION} & A_{NSWER}

Del answers your lighting queries and solves your problems.



LAMP TROUBLE

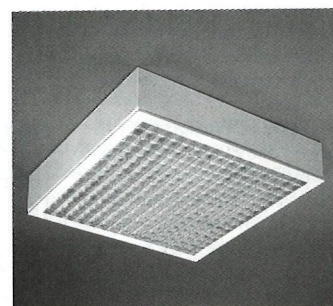
Dear Del,

I am at the end of my tether looking for a fitting suitable for a food factory or hospital.

The fitting has to be dust proof and cope with being constantly wiped down, and conform to all BSI and IEC regulations.

Yours Desperate.

Del Answers – Try **Davis Alumex** excellent Arduous conditions luminaire (IP 54/65), it conforms to all BS and IEC specs., so ring today and ask for a brochure of their full range of interior lighting.



RETAIL HORROR!

Dear Del,

My colleagues and I are in constant disagreement over who scored the winning goal in the 1969 Charlton Athletic v Millwall semi-final, I think it was Frank Mayfield, can you clear this up?

And Del, could you recommend a high efficiency luminaire for my chain of retail outlets, it must provide high levels of illuminance with maximum spacing between luminaires, and be suitable for use in a suspended ceiling.

Yours Confused.

Del Answers – I'm sorry but I haven't a clue about who scored that goal, but **Davis Alumex Lighting** manufacture an excellent recessed high efficiency deep wedge luminaire that conforms to all LG3 specs, ring them today for a copy of their excellent brochure covering their whole range of interior lighting.



WRITE TO DEL AT:

It's an advert,

DAVIS ALUMEX LIGHTING LIMITED
HEAD OFFICE

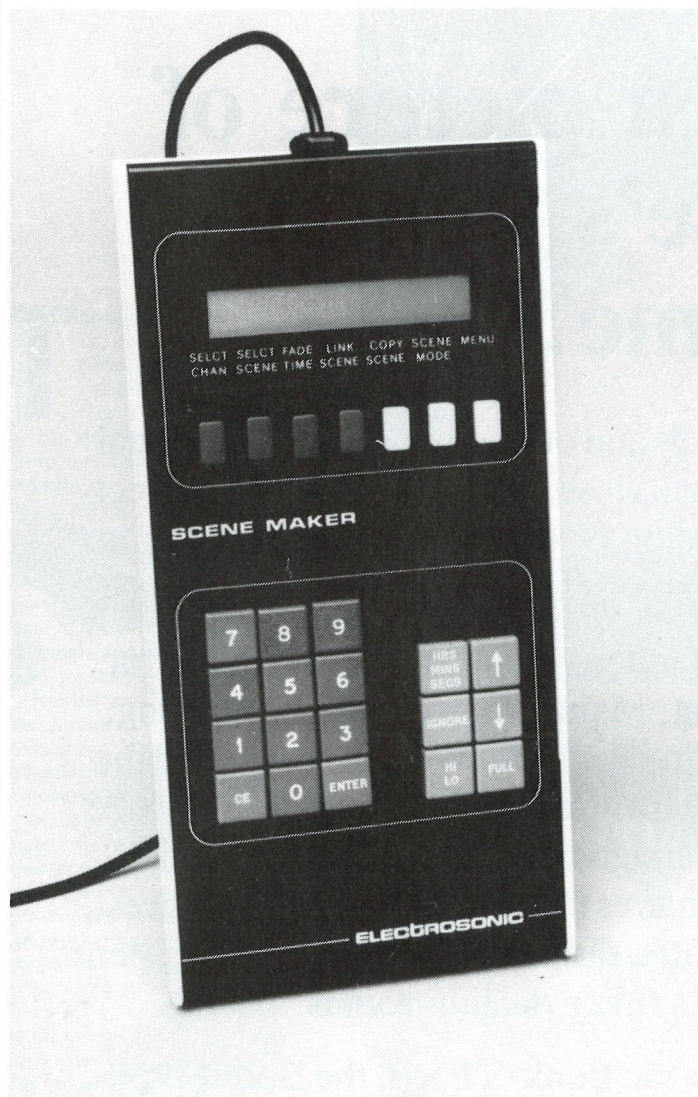
1-9 TANNOC DRIVE . WEST LENZIEMILL . CUMBERNAULD . GLASGOW . G67 2SX
TEL 0236 722233 . FAX 720320

LONDON OFFICE

HONYWOOD ROAD . BASILDON . ESSEX . SS14 3DS
TEL 0268 534777 . FAX 534771

 a Pillar electrical company

LIGHTING CONTROLS



'Scenemaker' is a hand held programmer which allows the design or modification of lighting scenes and effects, by plugging into the local programming point.

▷ would theoretically be possible to programme a store in London and then send the programme to an identical store in Glasgow and simply download the London programme into the Glasgow installation.

Recent years has seen a major development in purpose built shopping centres. Many of these are located in out town sites built on several levels and normally accommodate a number of atria.

The object is to meet all the customer's needs in a single location and to enable him to shop in comfort in a pleasing and attractive environment so that he will return again and again. Ample car parking, rest areas, cafeterias and restaurants all form part of this total shopping experience. Central atria, indoor gardens and seating all contribute to producing the right environment.

The public areas in these shopping centres have now become the point of attention for the designers. Developers are more than aware of the importance of good

lighting design in these spaces and most developers and architects will employ the services of a professional lighting designer. If the shop window has similarities to the

proscenium stage then the shopping centre atrium could well be compared to the theatre in the round. Indeed, it is not unusual to see theatre lanterns being used as part of the effects lighting in these applications.

The principle of programmable memory controlled lighting is again employed in the control of the public space lighting installations. A combination of dimming and switching of light sources enables different scenes to be created. A wide range of light sources are used in such applications. These include tungsten, fluorescent, cold cathode and the newer discharge HID and HPS lamps. Dimming is not recommended for discharge lamps but these can be switched within a scene.

The size of such shopping centres will normally mean that the electrical distribution to the space is from several locations. The solution is to construct distribution boards that contain the appropriate amount of dimmers, contactors and a programmable memory unit for each distribution board.

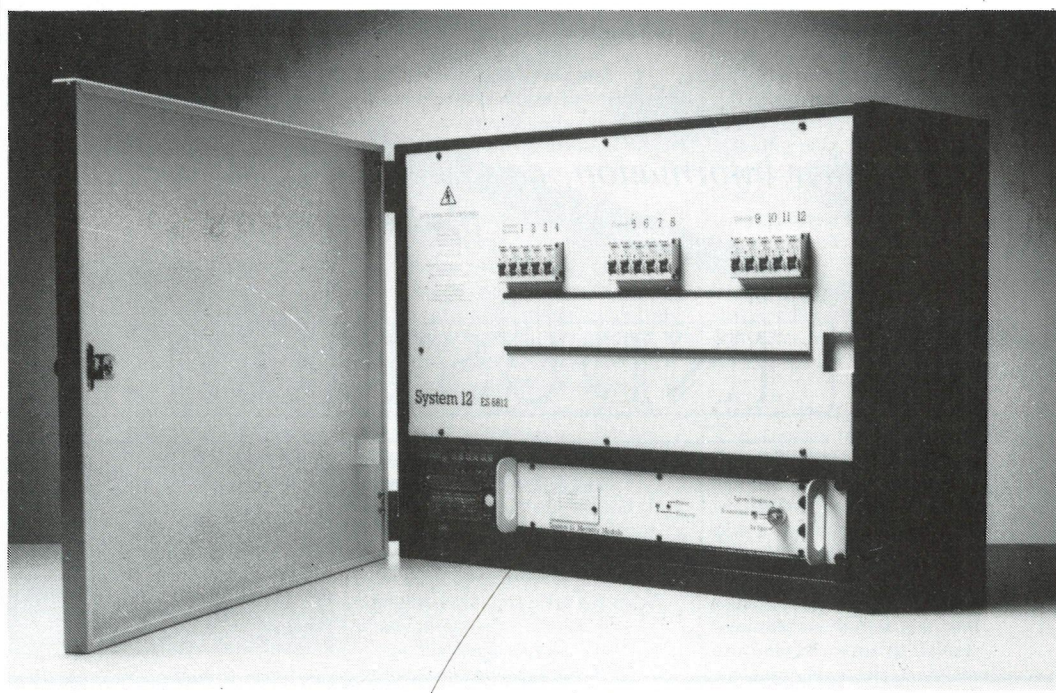
Communication between each distribution board can be achieved using a datalink, thus enabling the complete installation to be treated as a single entity and even programmed from a single location if required. Programming can again be carried out using a hand-held

programmer, or for larger installations, a portable computer.

Selection of lighting scenes can again be fully automatic by time clock or by commands from a building management system. Additionally, as many of these shopping malls have extensive glazing in the atria, photocell control is also commonly employed. New lighting scenes are selected as the daylight level falls below set points. Typically four changes would be programmed in between dark and bright daylight. This may be further varied by having different scenes for morning and afternoon — or even summer and winter.

As well as the sales and marketing benefits gained from the use of lighting control systems in retail applications there is the added bonus that such systems promote good energy management and reduced maintenance costs. Modern thyristor dimming products reduce energy consumption and can extend the life of certain lamps.

In the same way that the importance of good lighting is now seen as essential to the retail industry, lighting control has also now been established as an essential element in the design of the retail space from applications ranging from a single shop window through to the total lighting control of some of Europe's largest shopping centres.



System 12 is a compact 12 channel dimming system with programmable memory control.

Why look at a picture of someone else's lighting scheme?

Flexibility and Service are our keywords and our policy is one of continual up-dating of design and development and close co-operation with architects and consultants resulting in the provision of overall lighting installations employing the latest technology and techniques.

We manufacture and supply both standard and special luminaires for Platform lighting, Concourse lighting, Maintenance Yard Pit lighting, Subway lighting and Emergency Handrail lighting. We have produced the largest specially designed aluminium extrusion section in Northern Europe to be used in a ceiling structure, special signs in stainless steel for tunnels into Mecca, special and standard luminaires for schools, hospitals, offices, pedestrian precincts, warehouses, airports, distribution centres, department stores, banking halls and broker dealing rooms.

Companies and Organisations such as the Bank of Paris, the Body Shop, British Rail, Gatwick Airport, Heathrow Airport – Terminal 4, The John Lewis Partnership, Midland Bank, the PSA, Rolls Royce, Safeways, the US Embassy, Vauxhall Motors and Waitrose have all been supplied with either specially designed luminaires or standard lighting equipment.

For further information, details or a discussion about your requirements please contact:

INDUSTROLITE

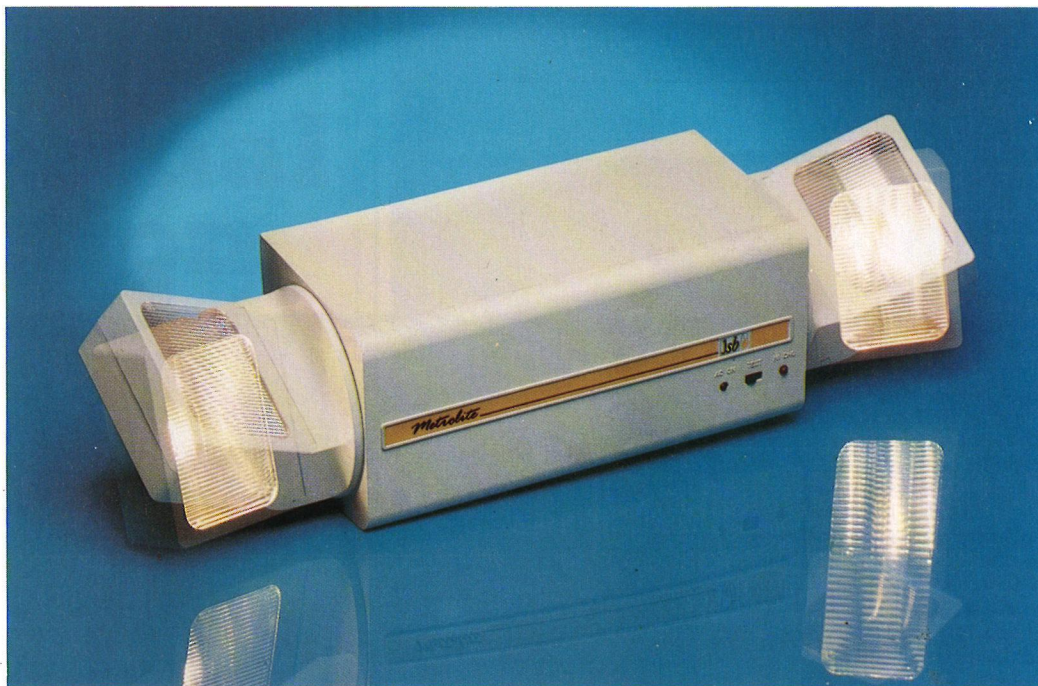
UNIT 3, BRAZIL CLOSE, BEDDINGTON FARM ROAD, CROYDON, SURREY CR0 4XQ
TELEPHONE: 081 665 7070 FAX: 081 684 1407

The modern retail environment covers a vast diversity of premises from small traditional shops to huge hypermarkets, from no frill 'stock 'em high, sell 'em cheap' environments to prestigious 'temples to consumption' designed to create a shopping experience.

Yet all have one thing in common, the need for emergency lighting which will come into operation automatically in the event of a mains failure to enable customers and staff to leave the premises safely.

Over the years legislation has been introduced — such as the Fire Precautions Act, the Health and Safety at Work Act and the Office, Shops and Railway Premises Act — which lays down, among other things, the requirement for emergency lighting in premises to which the public has access. Additionally, some of the larger local authorities produce their own standards.

Increased publicity related to safety matters has enhanced public awareness of the need to build safety features into buildings and brought pressure on local and central government. The recent changes to British Standard BS 5499 have been introduced to enable the clearer marking of safe exit routes by using green coloured



The Metrolite, a self-contained flood lighting unit for use in retail store or malls. Adjustable twin tungsten halogen lamps achieve good lighting levels.

Showing the safe way out

EMERGENCY LIGHTING ALLOWS FOR SAFE ESCAPE IF MAINS LIGHTING FAILS. JOHN MITTON, OF JSB, OUTLINES ALTERNATIVE APPROACHES.

signs with pictograms to indicate the direction of the exit. This is further evidence of increasing concern over safety.

Given the need for an emergency lighting installation the choice has to be made between the three basic types of system available: self contained; central battery; and sine wave inverter systems.

Self contained systems

These comprise luminaires with a built in battery, charging system, and mains failure relay/semi-conductor system often incorporating an inverter for operating a fluorescent tube.

Luminaires and conversion control gear are available for operating tungsten lamps with outputs of 2.4W through miniature fluorescent tubes up to 65W and 80W fluorescent tubes. In certain circumstances 125W fluorescent tubes may be used. The ability to convert PL and tungsten halogen luminaires for emergency use means that a display lighting scheme can be carried out and the same style of fittings adapted for emergency use.

In large open areas self contained systems offer a number of advantages.

Installation is simple. The circuit is usually wired in PVC insulated cable as a cable fault, for

instance due to fire, will bring the emergency lighting on. Correctly installed it will operate on failure of the local lighting circuit. It is inherently proof against supply failure due to the integral battery.

Minimal maintenance is required, and any failure will be confined to one luminaire.

There are however other, less favourable considerations, including cost. The luminaires are relatively expensive. Batteries are susceptible to high ambient temperatures, they have a limited life and should usually be replaced at least every five years. In addition, maintained and sustained systems have temperature limitations which tend to reduce battery life.

Central battery system

The second alternative is the central battery system. These systems usually consist of a large vented (wet or flooded) battery, with a capacity ranging between ten and several hundred ampere hours. This is charged by a sophisticated charging system to minimise electrolyte loss, and controlled by a mains failure relay. However, maintenance free gas recommendation cells



Green coloured signs with pictograms indicate the direction of exits. The Royalex exit sign complies with BS 5499.

▷ (GRCs) are now proving to be very reliable and offer savings in terms of space, initial outlay and maintenance cost. The expected life for a GRC type is 10-12 years, as opposed to 20-25 years for a conventional Plante Cell.

The advantages of such a system include a low battery cost per watt and low system cost, together with a long battery life. Battery charging can be precisely controlled. Maintained systems are easy to arrange, can give a high light output, and high temperatures do not create problems.

By contrast, a central battery system incurs a high distribution cost due to the need to segregate or wire in MIC or similar fire resistant cable. The system is not maintenance free. Batteries require routine topping, except for systems with gas recombination sealed lead acid cells. Battery failure will disable the whole system, and local mains failure protection is more difficult to arrange except with maintained systems. Plant cannot be located anywhere, as the system requires a ventilated area.

Sine wave inverters

These are reliable central battery systems in which the DC battery power is converted to AC at the appropriate voltage and frequency. Their main advantage compared with a conventional battery system is that standard mains luminaires may be used, thus giving specifiers complete flexibility of design. Lamps from miniature fluorescents, through compact types such as 2D and PL to large fluorescents up to 1800mm are suitable. As with all centrally supplied systems, fire protected cables should be used but as the luminaires can be power factor corrected and the supply voltage is normally 240V, the voltage drops in cables will be minimised.

Choice of system

The choice between self contained, central battery and sine wave inverter systems usually depends on an assessment of relative equipment, installation and maintenance costs.

In general small units with 10 or 12 points tend to be suitable for self contained installations. With a larger number of points, the equipment costs of a central



Emergency signs form part of the interior design at the Tontines Shopping Centre in Stoke-on-Trent.

battery system tend to be lower than that of self contained systems.

Maintenance should always be considered in relation to the anticipated life of the shop and its installation. It must be remembered that sealed nickel cadmium batteries have to be changed at regular intervals of between five and seven years and vented batteries must be inspected, topped up and cleaned every six months. This work is in addition to routine testing, with which it may be combined.

When designing and installing a central system, care must be taken that the voltage drop between the battery system and the slave luminaire is not excessive. So, fairly large cables will usually be needed to keep the voltage drop down to acceptable levels.

BS 5266, the code of practice for emergency lighting, states that the voltage drop should not exceed 10% of nominal but at JSB we recommend that designers aim for

about 5% voltage drop to allow for temperature, terminations and future extensions.

Many emergency lighting companies are prepared to provide a worked sample on a specific installation comparing the costs of different systems.

Maintenance

But, whichever type of installation is eventually chosen the key to safe reliable operation is regular testing and maintenance.

To ensure that testing and maintenance are properly carried out the occupier should nominate a responsible person who will keep adequate records of the inspection details, test reports and maintenance records. Routine testing will usually be carried out by this occupier, but many local authorities require an independent test.

The following test methods are recommended by BS 5266.

The standard also recommends that testing which involves

extensive discharging of the batteries should, wherever possible, be undertaken at time of least risk, should an emergency situation or mains failure occur immediately after a test period.

For example, on a 3-hour system a 1-hour test may be carried out immediately after normal trading hours to allow the system to recharge overnight, whereas a 3-hour discharge may be made most safely on a Saturday night, when the building will not be in use during the period of recharge.

This consideration is complicated by the increase in 7-day trading and longer opening hours which leave the premises unoccupied on fewer occasions.

To conclude, there is no mystique about emergency lighting. Choose the right system for the type and size of shop unit, after taking expert advice. And ensure the combined safety of both customers and employees by its regular testing and maintenance.

Hhv for thermal protection devices PDQ...

Protection for transformers, low voltage lighting systems, rechargeable battery packs and electrical circuits in any sensitive application.

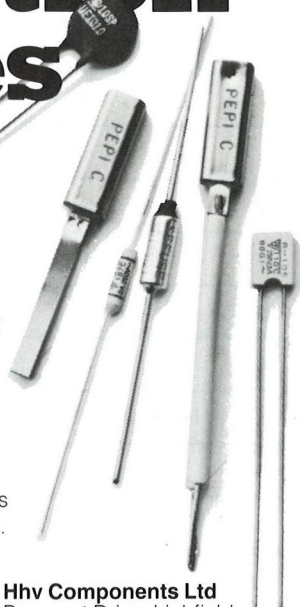
Hhv stocks a comprehensive range of thermal and current-sensitive controls, and offers a full technical back-up service.

Thermal fuses – universal one-shot devices

Thermal cut-outs – snap action bimetallic switches

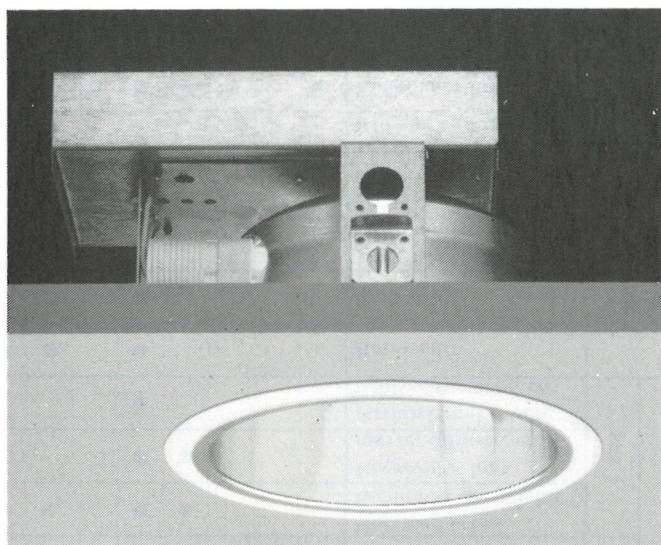
Thermistors – anti-surge, soft start types

Call us today for some inside information.



Hhv Components Ltd
Prospect Drive, Lichfield
Staffordshire WS14 9UX
Telephone (0543) 416667
Fax (0543) 416140

Reader Service No. 307



FORMLICHT DOWNLIGHTS for TC, TCD, HQI, HQI-TS, MXR

VARIABLE height, lampholder
position vertical or horizontal

DECORATIVE attachments with
glass and acrylic glass

supplied by VESSCO . . . for further
information and catalogues please
circle the Readers Service No.

Reader Service No. 308

L.B. LIGHTING LTD.

LB Lighting Ltd are specialist designers and manufacturers of purpose made luminaires. The Company founded in 1966 has supplied luminaires to many Shopping Mall/Arcade projects in the U.K. and are experienced in co-operating with the Architectural and Engineering disciplines as design/project lighting engineers.



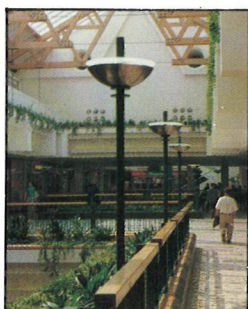
Victoria Place
London SW1



Kings Walk
Gloucester



Wolsey Place
Woking



The Chequers
Maidstone



Sovereign Centre
Boscombe

Concepts
Created
by
Lighting
Craftsmen

LB

LB LIGHTING LTD.

The Metro Centre
St Albans Road
St Albans
Herts AL4 9QT
Tel: 0727 44782
Fax: 0727 44783

Reader Service No. 309

Buyers' guide

Supplier

ABB Control Ltd, Grovelands House, Longford Road, Exhall, Coventry CV7 9ND Tel. No. 0203 368500																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

Buyers' guide

Supplier

	Fluorescent fittings	Incandescent fittings										HID fittings			Other items					
		Adjustable					Fixed					Recessed	Suspended	Uplighters - fixed or freestanding	Fibre optics	Lighting for stores and stock rooms	Emergency lighting	Security lighting	Dimmers and other automatic controls	General purpose lighting track
		Prismatic controllers	Low brightness reflectors	Air handling	Architectural - tubular wall mounting etc.	Internally silvered reflector lamp fittings	Crown silvered reflector lamp fittings	Low voltage-dichroic	Other low voltage	Low voltage - track and rail systems	Projectors	Floodlights	Recessed - low brightness downlights	Recessed - lens louvre, diffuser, etc.	Architectural - tube lights, structures, etc.					
Donmar Ltd, Donmar House, 54 Cavell Street, Whitechapel, London E1 2HP Tel. No: 071-790 1166											●								●	
ECS Energy Conservation Systems Ltd, Enterprise House, Central Way, Feltham, Middlesex TW14 0RX. Tel. No: 081-751 6514																			●	
EDL Industries Ltd, Redbrook Lane, Brereton, Rugeley, Staffordshire WS15 1QY Tel. No: 0889 582112						●	●	●	●					●		●		●		
Edison Halo Lighting, Delaware Drive, Tongwell, Milton Keynes MK15 8HG Tel. No: 0908 617617					●	●	●	●	●	●	●	●	●	●	●	●		●		●
Edison Volta Distributors, Units 1 & 2, Eastern Road, Aldershot, Hampshire Tel. No: 0252 336555		●				●	●	●	●	●	●	●	●	●	●	●	●	●		●
Electrak International, 45 High Street, Kingston, Surrey KT1 1LQ Tel. No: 081-547 2121					●					●					●					●
Electrolite Ltd, Entrance A, Rembrandt House, Whippendell Road, Watford, Hertfordshire WD1 7PN. Tel. No: 0923 816099					●	●	●	●	●	●	●	●	●	●	●	●	●		●	●
Electrosonic Ltd, Hawley Mill, Hawley Road, Dartford, Kent DA2 7SY Tel. No: 0322 222211																			●	
Erco Lighting, 38 Dover Street, London W1X 3RB Tel. No: 071-408 0320		●		●		●	●	●	●	●	●	●	●	●	●	●	●		●	●
Erskine Systems Ltd, Lee De Forest House, Eastfield, Scarborough, Yorkshire YO11 3DU Tel. No: 0723 583511																				
Ex-Or Ltd, Haydock Lane, Haydock, Merseyside WA11 9UG Tel. No: 0942 719229																			●	
Existalite Ltd, Project House, 18 Tallon Road, Hutton, Essex CM13 1TZ Tel. No: 0277 263600	●								●				●		●			●		
Fairfield Displays Ltd, 127 Albert Street, Fleet, Hampshire GU13 9RP Tel. No: 0252 812211								●		●										
Fitzgerald Lighting Ltd, Normandy Way, Bodmin, Cornwall PL31 1HH. Tel. No: 0208 75611	●	●	●									●						●		
Fluorel Ltd, Riverside Works, 312 Broadmead Road, Woodford Green, Essex IG8 8PG Tel. No: 081-504 9691	●	●	●													●	●			●
Futimis Ltd, 11 Mead Park, River Way, Harlow, Essex CM20 2SE Tel. No: 0279 411131	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●			
GFC Lighting Ltd, Westminster Business Square, Durham Street, London SE11 5JA Tel. No: 071-735 0677										●										
GTE Lighting Ltd, Otley Road, Charlestown, Shipley, West Yorkshire BD17 7SN Tel. No: 0274 595921	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●
Gent Ltd, Waterside Road, Hamilton Industrial Park, Leicester LE5 4JF Tel. No: 0533 462000																	●			
Gewiss UK Ltd, Bumpers Farm Industrial Estate, Bumpers Way, Chippenham, Wiltshire SN14 6LH. Tel. No: 0249 444734											●					●	●	●		
Glamox Electric (UK) Ltd, Glamox House, California Lane, Bushey Heath, Hertfordshire WD2 1EZ. Tel. No: 081-950 0046	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
R Hamilton & Co Ltd, Quarry Industrial Estate, Mere, Wiltshire BA12 6LA Tel. No: 0747 860088				●				●	●	●							●		●	
Helvar Ltd, Unit 1, Ealing Road Trading Estate, Ealing Road, Brentford, Middlesex TW8 0QY Tel. No: 081-568 6205																				
Hitech Lighting Plc, Tower House, Lea Valley Trading Estate, Edmonton, London N18 3HR Tel. No: 081-884 3333	●	●	●	●		●		●	●	●	●	●	●		●					

Guarantee

**Trust us
to save you
money**

GE Thorn Dichroic Mirror Lamps
now have a guaranteed minimum life.
Lamps that fail early will be replaced
free of charge to registered users.

So with GE Thorn you buy
**QUALITY PERFORMANCE, LONG
LIFE and LOW MAINTENANCE.**
*Register now to receive full details of the
GE Thorn Mirror Lamp guarantee.*

 **GE Thorn**
A genius for light

Use the reader reply card or contact: **GE Thorn Lamps** Miles Road Mitcham Surrey CR4 3YX Tel 081-640 1221 Fax 081 685 9625

Buyers' guide

Supplier

Home Automation Ltd, Bumpers Way, Chippenham, Wiltshire SN14 6LF. Tel. No: 0249 443422	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---



TRANSFORMERS LTD
FOR
LOW-VOLTAGE
LIGHTING

FULL RANGE OF BOXED AND FUSED UNITS

Primary fused only or Multifused
Secondary versions

50VA can

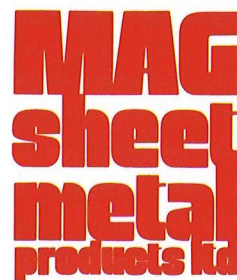
Primary fused or Thermally protected

- ☒ **COMPETITIVELY PRICED**
- ☒ **EASY TO INSTALL**
- ☒ **LARGE STOCKS — READY FOR
IMMEDIATE DELIVERY**

PHONE OUR SALES LINE
(0684) 569104

Skot Transformers Ltd
Upper Colwall, Malvern, Worcs. WR13 6PL

Reader Service No. 311



**MANUFACTURERS OF LOW BAY, HIGH BAY, PETROL
CANOPIES, INDOOR, OUTDOOR LIGHT HOUSINGS,
ALSO ELECTRICAL CONTROL PANELS.**

**LARGE OR SMALL BATCH WORK
FULL CNC CAPABILITY.**

**QUICK DELIVERY
DESIGN ASSISTANCE
FINISHED TO YOUR REQUIREMENTS IN HOUSE.**

**South Park Mills, Hare Lane, Pudsey
West Yorkshire LS28 8DR
Tel: Pudsey (0532) 577140**

**Stove Enamellers, Epoxy Resin Coating,
Plastic Coating, Fabricators and
Sheet Metal Workers**

Reader Service No. 312

High Efficiency-Low Energy Lighting

“Satisfaction by Co-operation”

Far from being just another luminaire manufacturer Bernlite's increasing reputation in **DISPLAY AND OFFICE LIGHTING** can be summarised in one word — **co-operation.**

● By constant liaison with architects, specifiers and installers, we at Bernlite are able to meet the specific lighting needs in today's modern offices and high street stores.

● Our free advice and design service is welcomed by architects and installers alike and close co-operation in lighting projects from a small office to a major shopping complex, ensures satisfaction to all concerned.

● With today's demand for efficient, low energy lighting our experience covers a wide and varied spectrum viz:- national retail outlets, estate agents, major office refurbishment, car showrooms, shopping precincts, leisure complexes etc.

● Bernlite's range of Low Voltage and Metal Halide luminaires are the result of joint co-operation to meet the requirements of today, and the future.

Please call us —
we are here to help.

New corporate brochure now available

Bernlite Ltd

3 Brookside, Colne Way, Watford, Herts WD2 4QJ Telephone: (0923) 55988 Fax: (0923) 246057

Reader Service No. 313

Buyers' guide

Supplier

Buyers' guide

Supplier

	Supplier	Fluorescent fittings				Incandescent fittings										HID fittings		Other items																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Prismatic controllers	Low brightness reflectors	Air handling	Architectural - tubular wall mounting etc.	Adjustable								Recessed - low brightness downlights	Recessed - lens louvre, diffuser, etc.	Architectural - tube lights, structures, etc.	Recessed	Suspended	Uplighters - fixed or freestanding	Fibre optics	Lighting for stores and stock rooms	Emergency lighting	Security lighting	Dimmers and other automatic controls	General purpose lighting track																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
						Internally silvered reflector lamp fittings	Crown silvered reflector lamp fittings	Low voltage-dichroic	Other low voltage	Low voltage - track and rail systems	Projectors	Floodlights																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	MK Electric, Shrubbery Road, Edmonton, London N20 0LU Tel. No: 081-887 3798																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

Buyers' guide

Supplier

Buyers' guide

Supplier

	Supplier	Fluorescent fittings				Incandescent fittings								HID fittings		Other items											
		Prismatic controllers	Low brightness reflectors	Air handling	Architectural - tubular wall mounting etc.	Internally silvered reflector lamp fittings	Crown silvered reflector lamp fittings	Low voltage-dichroic	Other low voltage	Low voltage - track and rail systems	Projectors	Floodlights	Adjustable			Fixed			Recessed	Suspended	Uplighters - fixed or freestanding	Fibre optics	Lighting for stores and stock rooms	Emergency lighting	Security lighting	Dimmers and other automatic controls	General purpose lighting track
	Reggiani Ltd, Giltland House, 12 Chester Road, Borehamwood, Hertfordshire WD6 1LT Tel. No: 081-953 0855	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Ring Electronics Ltd, Gelerd Road, Leeds, West Yorkshire LS12 6NB Tel. No: 0532 798887	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	C Sandberg & Son Ltd, Felhex Road, Cross Green Industrial Estate, Leeds, West Yorkshire LS9 0SS. Tel. No: 0532 492755	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Selite Ltd, 19 Stafford Road, Croydon, Surrey CR0 4NG Tel. No: 081-686 9919	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Siemens Lighting Ltd, Siemens House, Windmill Road, Sunbury-on-Thames, Middlesex TW16 7HS. Tel. No: 0932 752000	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Silvertown Lighting Ltd, Springswood Industrial Estate, Braintree, Essex CM7 7QX Tel. No: 0376 43434	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Simplex Lighting, Groveland Road, Tipton, West Midlands DY4 7XB Tel. No: 021-557 2828	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Son et Lumiere, Lantern House, The Priory, East Farleigh, Kent ME15 0EX Tel. No: 0622 729292	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Staff Lighting Ltd, Hampshire International Business Park, Crockford Lane, Chichester, Basingstoke, Hampshire RG24 0WH. Tel. No: 0256 707007	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Strand Lighting Ltd, Unit 2, Grant Way, Isleworth, Middlesex TW7 5QD Tel. No: 081-560 3171	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Superswitch Electric Appliances, Houldsworth Street, Reddish, Cheshire SK5 6BP Tel. No: 061-431 4885	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Taison Lighting, Taison Industrial Park, Great Horton Road, Bradford BD7 4EN Tel. No: 0274 521550	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Tally House Lighting Co Ltd, Unit 31, Cam Centre, Wilbury Way, Hitchin, Hertfordshire SG4 0TW. Tel. No: 0462 438336	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Tebdon Equipments Ltd, Springwell Road Works, off Whitehall Road, Leeds, West Yorkshire LS12 1BG. Tel. No: 0532 455644	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Thorn Lighting Ltd, Elstree Way, Borehamwood, Hertfordshire WD6 1HZ Tel. No: 081-905 1313	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Thousand & One Lamps Ltd, 4 Barmeston Road, London SE6 3BN Tel. No: 081-698 7238	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Transform Lighting Systems Ltd, 842 Ecclesall Road, Sheffield S11 8TD Tel. No: 0742 670777	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Uni-Com Group, Enterprise Way, Edenbridge, Kent TN8 6EW Tel. No: 0732 865238	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Valiant, 20 Lettice Street, London SW6 EH Tel. No: 071-736 8115	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	H Vesshoff & Co GmbH, PO Box 100725, 2800 Bremen 1, Germany Tel. No: (010) 421 321 373	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Wila Lighting UK, Nursted Road, Devizes, Wiltshire SN10 3DY Tel. No: 0380 725302	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Zon International Ltd, 12 Fairway Drive, Greenford, Middlesex UB6 8PW Tel. No: 081-575 5755	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Zumtobel Lighting Systems Ltd, Unit 5, The Argent Centre, Pump Lane, Hayes, Middlesex UB3 3BL. Tel. No: 081-573 3556	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•



LIGHT ONLY WHERE YOU WANT IT



CREATIVITY WITH LIGHT

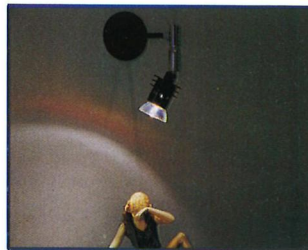
150W. Discharge range of Profile Frensel and Floodlights 6,000hr lamp life. High Light Output. Absolute Beam Control.

CCT lighting

HINDLE HOUSE, TRAFFIC STREET, NOTTINGHAM, NG2 1NE
Tel: 0602 862772 Fax: 0602 862546

Reader Service No. 314

FAIRFIELD
DISPLAYS • LIGHTING



**Specialised display
lighting design for the
retail market**

VISIT OUR LARGE SHOWROOM
127 ALBERT STREET · FLEET · HAMPSHIRE GU13 9RP
☎ (0252) 812211 FAX: (0252) 812123

Reader Service No. 315



Marks and Spencer plc, Lakeside retail park

the soft sell

Marks and Spencer plc, foodhall



H.R. Owen, Jaguar showroom



Retail sales are critically dependent on product display and in-store ambience. Lighting plays a vital role in creating the right environment.

Softlighters' wide diffuse beam gives excellent general lighting reducing harsh modelling and providing the perfect partner to effect lighting.

Our design team can use Softlighters to create the right environment – whatever your requirements, large or small, you should know more about Softlighters.

Softlighters

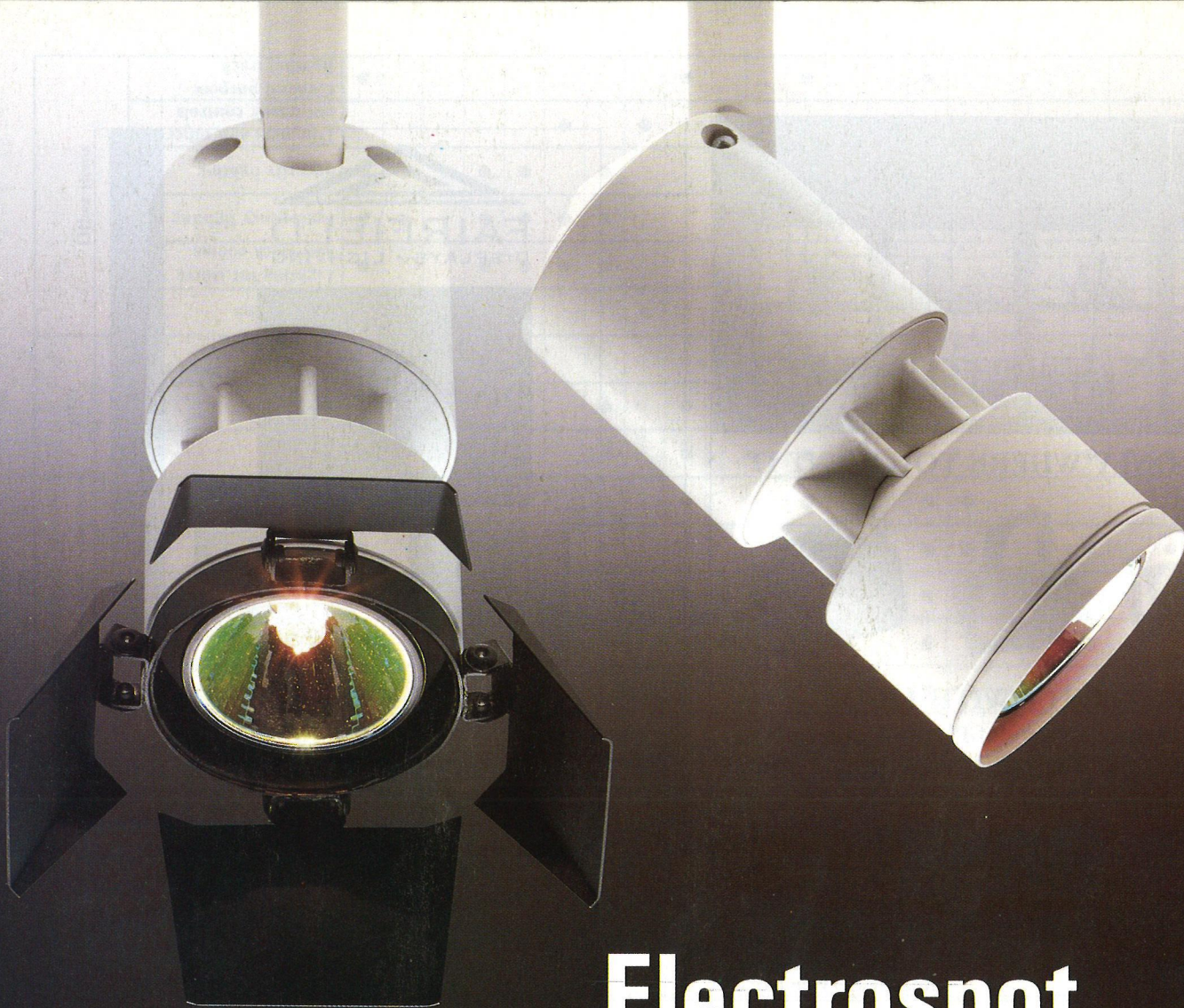
A BETTER VISUAL ENVIRONMENT

SILVERTOWN

Silvertown Lighting Ltd., 1 Warner Drive,
Springwood Industrial Estate, Braintree, Essex CM7 7QX
Tel: 0376 43434 Fax: 0376 21873



Reader Service No. 316



Elegant design – Brilliant performance.

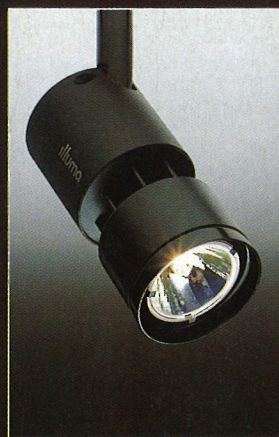
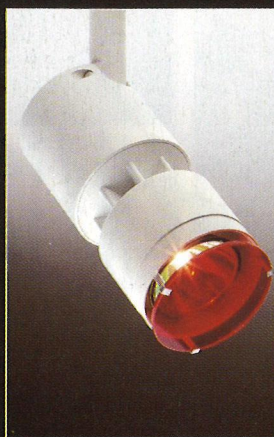
Electrospot is attractive, compact and very competitively priced. Incorporating the latest in electronic transformer technology, this lightweight spotlight is easy to install, avoiding the limitations of low voltage wiring and providing the flexibility of being able to add or remove track spotlights as required. Electrospot offers all the advantages of low voltage lighting – energy savings, precise beam control, cool white light and endless design opportunities. Whether you require track lighting or surface mounted spotlights, Electrospot will add quality and style to any installation.

Design features:

- Suitable for 20W, 35W or 50W dichroic and capsule lamps.
- Soft start electronic transformer extends lamp life.
- Short circuit and thermal overload protection.
- Colour filter and barn door accessories available.

Electrospot

12V Electrospot Low Voltage Spotlight with Integral Transformer



illuma

For further information please write or telephone for the Illuma Electrospot brochure.

Illuma Lighting Ltd. 24-32 Riverside Way, Uxbridge,
Middx. UB8 2YF. Tel: 0895-272275 Fax: 0895-270024

Reader Service No. 317

