

LIGHTING

EQUIPMENT NEWS

AUGUST 1990

Assessment scheme for new office buildings

The first 'green' assessment scheme for buildings, which will enable developers and their clients to influence the environmental impact of their buildings has been launched by the Building Research Establishment.

BREEAM (the BRE Environmental Assessment Method) was developed in collaboration with The ECD Partnership and sponsored by property developers Stanhope Properties, Olympia and York and Greycoat, together with Sainsburys. The method will be used at the design stage of buildings to examine aspects of the design affecting the global, neighbourhood and internal environments.

The first version of BREEAM applies to new office designs; versions for other building types are currently being developed. It provides recognition for buildings which are more environmentally friendly than those designed to the best normal practice.

Assessment covers a range of design aspects affecting the global neighbourhood and internal environments. Credits are given for aspects which meet specific targets. The first version of the scheme, which applies to new offices, includes the following aspects:

- global issues: global warming, ozone depletion, rain forest destruction
- neighbourhood issues: Legionnaires' disease (from air conditioning), local wind effects, re-use of existing sites
- indoor issues: Legionnaires' disease (from water supplies), lighting, indoor air quality, hazardous materials.

The scheme is voluntary and is carried out on a fee-paying basis by independent assessors approved by BRE. Assessments are carried out at the design stage, so that suggested improvements can be incorporated into the final design.

In brief . . .

- Ring Electronics Ltd has achieved certification to BS5750 Part 2 for its emergency lighting.
- Smiths Industries Environmental Controls Co Ltd has taken over exclusive manufacturing and distributing of the Q range of passive infra-red lighting products previously supplied by Delta Design, a division of Nicotech Ltd.

INSIDE THIS ISSUE

News	1,2,3,19,20
New products	4,5
Lighting technology	6,7
Case study: atrium lighting	8
Hanover highlights	9,10,11
Where to buy directory	12,13,14
Classified advertising	15
Catalogue directory	15

LIF in talks with Energy Department

The widespread introduction of energy efficient lighting can help achieve the government's energy savings target of 20% savings in the nation's total electricity bill, according to the Lighting Industry Federation, which has started discussions with the Department of Energy and Energy Efficiency Office on how this could be tackled.

The discussions follow talks between Energy Minister, Peter Morrison, and LIF President Tony Armstrong, who urged the minister to pursue the conclusions of a recent report published by the government's Harwell Laboratory¹. This maintained that the introduction of energy efficient lighting in offices, homes and factories would cut the nation's electric light bill

by 50%.

The problem was particularly acute in the service sector, which the report quantified as the largest user of lighting energy with a consumption of 23TWh per year.

"There is a huge potential for energy savings by upgrading old and inefficient lighting," explained Mr Armstrong, and went on to announce that the lighting industry was launching a major campaign to promote the use of modern energy efficient lighting in offices in the coming winter.

"The domestic sector also has great scope for replacing incandescent lighting with the new generation of compact fluorescent lamps," he added.

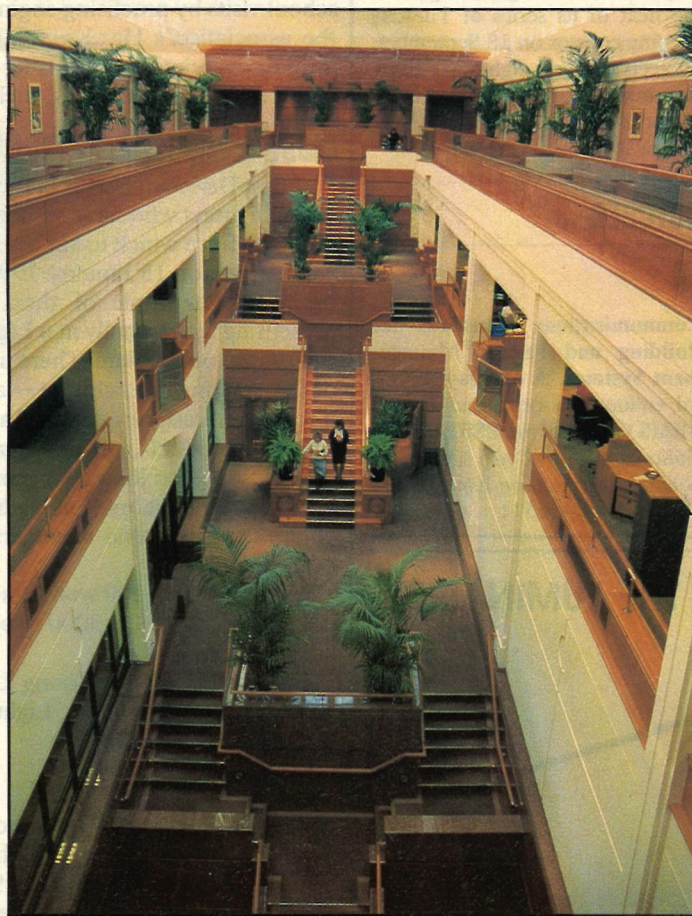
Electronic versions of compact

fluorescent lamps are suitable for use in the home. They use only 20% of the energy and generally last eight times as long as their incandescent equivalents. Over a period of 8 000 hours a 100W incandescent will use £55.04² worth of electricity, whereas a compact fluorescent will use £11.00.

So, even paying up to £15 for a compact fluorescent bulb, the consumer still saves £29 on his electricity bill.

¹ The abatement of gaseous emissions by energy efficient lighting. Lighting and environmental Paper 2. Energy Technology Support Unit, Harwell, March 1990.

² Based on a domestic tariff of £0.0688/KWh.



High-tech flexibility for building society

Four floors of high-tech electronic offices, an atrium and ancillary areas at the new headquarters of the Cheltenham and Gloucester Building Society, have recently been lit by Thorn Lighting Ltd.

Profiled ceilings in the general office area are of perforated metal construction and create an interesting feature within the 7.2m module formed by structural columns. To complement the ceiling design a square luminaire was chosen.

An important factor was to

allow flexibility for orientation of VDTs and workstations without users experiencing glare. It was also a requirement to be able to subdivide the 7.2m module into 16 areas in terms of ceiling, electrical and mechanical services. This meant that luminaires had to be positioned at 1.8m square centres.

To achieve the minimum requirement of 500 lux average on the working plane, the most appropriate combination was twin 24W 2L compact fluorescent luminaires

with 16-cell VDT louvres. Semi-specular aluminium is used for the louvres.

Return air is extracted via the luminaires. This serves several functions. The ceiling pattern remains unbroken (no air extract grilles); optimum performance of the temperature sensitive, compact fluorescent lamps is permitted, and the air flow helps to keep lamps and luminaires clean.

Four prototype luminaires were produced for tests in a mock-up of the ceiling system. Optimum lamp performance was found to occur when extracting air at eight litres per second. Air flow sensing devices are incorporated within the by-pass slots on the perimeter trims for control of the VAV air conditioning system.

The narrow trim is finished to match the colours of the ceiling panels and the inside of the slot finished black to create a crisply defined perimeter detail.

After tests in a colour comparator with samples of the principal materials and colours proposed in the offices and atrium areas, the warmer appearance of the Polylux 3000 lamp was chosen.

The luminaires comply with the requirements of category II of *Lighting Guide 3* published by CIBSE. A total of 2750 were supplied for the project and selected luminaires are fitted with emergency lighting.

Lighting in the atrium consists of 150W narrow beam, Arcstream, metal halide downlights mounted in the roof above an open cell louvered structure which incorporates an access walkway and is designed to admit maximum daylight.

Indirect lighting from 250W metal halide floodlights, by Concord, concealed along each side of the atrium above top floor level, contributes to the illumination.

For added sparkle, 50W low voltage tungsten halogen Lightstream lamps in specially designed luminaires are recessed into the sides of the granite and timber-clad stairs.

Delta buys Home Automation

The Home Automation Group has been acquired by Delta plc to join their Circuit Protection and Control Division.

The acquisition is claimed to give Delta market leadership in domestic and commercial electronic lighting controls in the UK, and also a significant position in the expanding European market for passive infra-red detector products.

According to David Crook, managing director of the division,

the group had been bought as a successful company with a sound reputation and technically advanced products which supplemented Delta's existing portfolio.

"The existing operations and management will continue as before," he stressed, "but with the backing of Delta plc the company will be able to strengthen its position in the market, enhance existing product ranges and develop other electronic controls for the European and export markets."

GTE in merger

American telecommunications giants GTE Corporation and Contel are to merge in a \$6.2 billion deal. The merger is subject to approval by directors and shareholders, and to obtaining the necessary permissions from regulatory agencies. This move will result in the issuing of 200 million GTE shares.

GTE, with operations in 41 countries, is a leader in three core

businesses — telecommunications, lighting and precision materials. Following the expected takeover of Thorn Lighting, it will be the world's second largest lighting company. In 1989 the company registered a turnover of \$17.4 billion, and had a total payroll of 158 000 employees.

Contel operates in the sectors of local telephones and cellular service provision. Turnover in 1989 was \$3.1 billion, and the company employs 22 000.

The new company will operate as the GTE Corporation under GTE's present chairman and chief executive officer. Five directors on the new board will be nominated by Contel.

In brief . . .

- An agreement between Combined Optical Industries Ltd (COIL), Slough, and Fresnel Technology of Fort Worth, Texas, enables COIL to sell Fresnel lenses

worldwide. It clears the way for use of COIL polyethylene Fresnel lens arrays by makers of infra-red detectors who wish to sell products in the USA.

- Zon International Ltd has become distributor for Solar, Scandinavian lighting.

A COMPLETE RANGE OF DIMMERS FOR COMMERCIAL USE

From the simplest wall mounted unit to multi channel control units.

Simple 2-wire installation and flexible in application.



QUALITY ALWAYS SHINES THROUGH

HELVAR
081-568 6205

NEWS

Getting tee-d up

Two more meetings of the Lighting Industry Golf Society have taken place. At the Wilderness Golf Club, the Tiger Trophy was won by T Cartledge, with runner-up R Spilsbury. The Rabbits Trophy went to J Waites ahead of D Bonnie, while M Goddard lifted the Guests' Trophy. Prizes were provided by AEG Capacitors and presented by Barry Ship.

In the afternoon pairs competition D Bonnie and C Short were first with S Haggis and K Haggis second. Tridonic Ltd provided the prizes which were presented by D Morrison.

The guest meeting at Burhill featured the Lighting Equipment News Cup. In the members' competition J Butler was first with

R Flitt and M Bailey second and third. Among the guests C Legg was triumphant, followed by D Harrison and A Thoroughgood. Members' prizes were provided by Moorlite and presented by R Flitt; Industrolite gave the prizes for guests, which were presented by S Haggis.

The pairs competition at Burhill was won by J Waites and S Waites with I Loader and S Alexander second. J Butler presented the prizes on behalf of Staff Lighting.

All change for Signtech

Signtech '90, which was to have been held in September, has now been incorporated into Sign '90 International which takes place at the Business Design Centre, London, from 23-25 October.

Further details can be obtained from Louise Levy at the organisers, Batiste, on 081-340 3291.

Hospital equipment and services show

Hospital and Care Premises Management '90, an exhibition to be held at the National Exhibition Centre, Birmingham, offers an opportunity for any company whose products or services can be

used by the National Health Service.

It will take place from 31 October to 2 November 1990. Visitors will be key buyers in the NHS, who together are responsible for expenditure on goods and services worth hundreds of millions of pounds.

The event is sponsored by the Department of Health's Estates Directorate and organised by Paramount Exhibitions and Conferences (tel 081-207 5599).

1992 IDI Awards

Competition for the Fourth Interior Design International Awards, organised by I D Exhibitions, will start in autumn 1990, with judging taking place in February 1992.

Rodney Fitch of design consult-

ants Fitch & Co will chair the international jury. Interiors completed worldwide between January 1990 and January 1992 will be eligible for entry.

The IDI Awards consist of an overall award of £10 000, and four category awards for office, retail, leisure and public interiors.

DIARY

SEPTEMBER

9-12

Light and Sound Show, Olympia, London. For details contact organiser, David Street, 081-569 9742.

11-13

Northern Interior Design Exhibition G-Mex, Manchester, with associated seminar programme. Tickets from AGB Exhibitions Ltd 081-866 3877.

18-20

Institution of Lighting Engineers, annual conference, York. Details from ILE 0788 76492.

24

Insight on-site security seminar at the Strand Palace Hotel, London. Organised by Philips Scientific Communications and Security Division. Details from Sharon Pilkington 0223 245191.

25

Insight on-site security seminar at the Post House Hotel, Southampton. Details as above.

27

Insight on-site security seminar at the Stakis Inn on the Avenue, Cardiff. Details as before.

27-28

L'Association Française de l'Eclairage national lighting conference in Nice. Registration closes 16 August. Details from AFE, 52 Bd Malesherbes, 75008 Paris. Computers in Electrical Building Services. South Thames College Department of Engineering starts the next of its series of Tuesday evening courses on 18 September. Subjects include lighting design. Information from F S Smith, senior lecturer 081- 870 2241 ext 389 or 315

OCTOBER

10

Communications Standards for Building and Energy Management Systems. A one day technical colloquium organised by the BEMS Centre of the BSRIA at the National Motor Cycle Centre in Solihull. Information from BEMS Centre 0344 426511



The Chartered Institution of Building Services Engineers

Targeting the young — CIBSE Young Lighter of the Year scheme

It has been forecast that, unless we act now, building services will suffer a serious drop in young engineers joining the profession by the mid 90s. This will apply as much to lighting as to any of the other engineering disciplines that are competing for the interest, and careers, of young, or potential, engineers.

This means that we have to target the young while they are still at school or college, educate them as to the attractions and benefits of building services engineering, and steer them towards the career options that are available.

CIBSE Lighting Division's awareness and concern about 'young lighters' will have been made abundantly clear to readers of this column in recent months, specifically when the deficiencies in the current lighting education system in this country were revealed and discussed.

So what is CIBSE doing to target the young?

Careers Initiative

Fundamental to CIBSE's activity in this area is its Careers Initiative which was launched in 1988. This aims to encourage awareness of the career opportunities in building services among science and maths teachers at secondary schools, and in particular among the 13-14 year olds that they teach. This is an age at which decisions are made about the subjects they will follow, with obvious implications for their future career direction.

Over 4000 teachers have responded to this CIBSE scheme and are kept in touch with regional co-ordinators who arrange school visits by practising engineers. Twenty thousand copies of the association's Hawkwatch newspaper are distributed each term to the schools, dispensing valuable information and advice about all building services, including lighting.

CIBSE Young Lighter of the Year

Lighting Division itself is launching a new incentive scheme for young lighters who have something to say about lighting but no platform from which to say it. Entrants, who should be under 30 years of age on 15 January 1991, are invited to prepare a paper on a lighting topic of their choice, with the objective of presenting it personally at a Lighting Division sessional meeting in London on the date. There are no restrictions on what aspect of lighting they may choose — a case study, a lighting scheme of unusual interest, research and application, a new use for existing lighting products, a new product concept or design, or daylighting — so long as it is original, unpublished work.

All young people in lighting may enter — scientists, engineers, designers, managers, representatives, students and trainees.

Initially, a 300-500 word synopsis is required, followed by the full paper of 2000-3000 words, suitable for a 15 minute presentation.

Full details of the Young Lighter of the Year Scheme are available from Karl Pike, Lighting Division Secretary, on 081-675 5211

Lighting Education Forum

This is being planned to coincide with the annual meeting of Teachers of Lighting, to be held at CIBSE's Balham headquarters on 10 October 1990.

The programme will include a survey of the present state of lighting education and the levels of professional qualification it can lead to; the varying requirements of lighting manufacturers, consultants, designers, architects, contractors; concluding with an open forum and a look to the future.

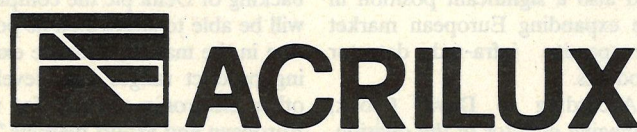
Fuller information is available from CIBSE Lighting Division on 081-675 5211.

National Lighting Awards

Finally, a postscript on the NLA. CIBSE is, of course, pleased to note the withdrawal of the "LIF members' products only" clause from this year's competition. This means that the awards are again open to the best of British lighting schemes, regardless of whose products are used.

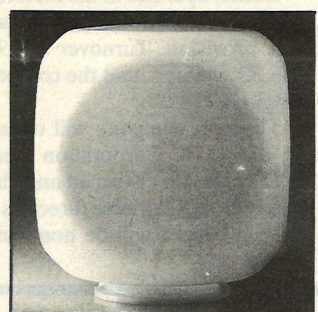
CIBSE Lighting Division, as much as any of the other previous co-sponsors of the awards, has been pressing for this reversal to the original concept of the NLA. We only hope that this "hiccup" has not done too much damage to the prospects for entries in this year's competition.

Karl Pike
Secretary, Lighting Division



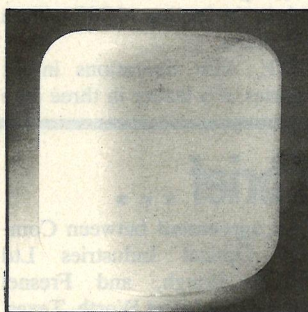
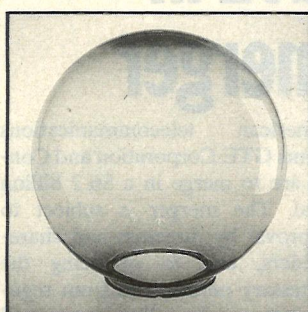
THE GLOBE SPECIALIST TO THE INDUSTRY

POLYCARBONATE ACRYLIC KAMAX

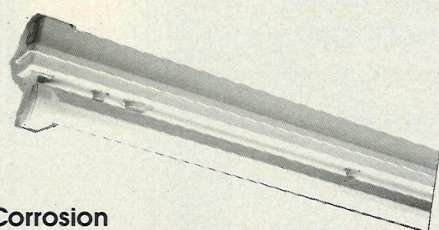


VERALUX-LTD
TEL. 071-4021997
FAX 071-4021998

Reader Service No. 2



GENERALUX SUPPLIES THE COMPONENTS, YOU COMPLETE THE LUMINAIRE

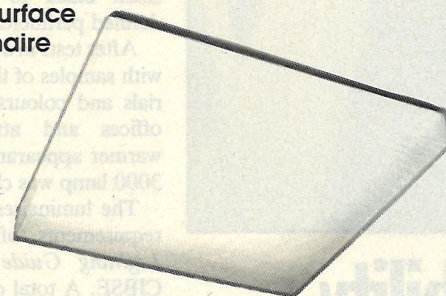


K. K. — Corrosion proof batten luminaire available with polycarbonate overtube — IP65

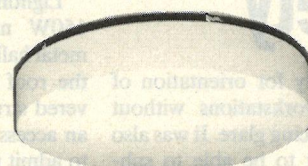


FLP — Energy saving polycarbonate luminaire for P11 lamps. Vandal resistant — IP65.

AK — Interior surface mounted luminaire available with opal/prismatic diffusers.



RAO — Circular surface mounted luminaire — opal diffuser suitable for all 2D lamps.



Increase your range by including our products without having to capitalise expensive design development and tooling costs. Colour catalogue and data sheets available to manufacturers and OEM's.

21 OLD NEWTOWN ROAD,
NEWBURY, BERKS RG14 7DP.
Tel: 0635 48131
Fax: 0635 35675
Telex: 848260

NEWS

Lighting the way out



Before.



After.

The British Airports Authority commissioned Concord Lighting to renew the lighting in the Departure concourse at Heathrow's Terminal 1. The brief asked for less energy use, increased operational efficiency and a warmer, more pleasant light.

The existing scheme, using 3 x 400W fluorescent tubes with flat opal diffusers produced too much glare. Concord upgraded the ambient lighting with modern luminaires which use the existing ceiling apertures and network of maintenance cat walks.

The new lighting consists of white inverted pyramidal coffers made of zinc coated sheet steel which reduce glare by positioning the light source above the ceiling

line.

In the centre is a 300 mm square downlighter designed for use with the Sylvania M100 100W metalarc lamp and fitted with a white cellular louvre producing a warmer white light and a more pleasing atmosphere.

The new installation gives an 11 per cent increase in light output with a 24 per cent reduction in energy consumption. Relamping is easier and quicker, one lamp instead of three, and cleaning and maintenance has been simplified.

The central downlighter section lifts out of the coffer so that relamping and cleaning can be done on the ceiling cat walk or completely away from the location of the luminaire.

Lighting up the home of the arts

Eighteenth century vaults in the Royal Society of Arts' home at 8 John Adam Street in London have been converted into a conference centre. The series of vaults has been linked via a new staircase and lifts, with the Society's lecture theatre, celebrated Great Room and other Adams rooms on the ground and first floors.

Concord Lighting devised a lighting scheme in sympathy with the architectural features of the building, while providing the necessary lighting levels for its new function.

Uplighters recessed into the corridor floors accentuate the

cathedral-like spaces, while rooms are fitted with two circuit Concord Lytespan Track that floats on wires suspended from the curved ceilings.

One circuit provides accent spotlighting with Torch 50 low voltage electronic transformer spots. The second circuit carries uplighters designed to highlight the texture and shape of the brick vaulted ceilings.

The stairwells and circulation areas are lit with low voltage Optic spots while the impressive new entrance from The Strand has been lit by four Conford Bega 150W tungsten halogen uplighters.



Heathrow light sculpture

Passengers and visitors using Heathrow's Terminal 1 are now greeted by an adventurous light sculpture advertising National Power. The design features pulsing and sophisticated light animation, representing a massive ball of energy — and is based on the National Power logo.

Designer Duffie White of Vectorvision commissioned lighting

and display specialists Absolute Action to bring together the different lighting and structural technologies needed.

Absolute Action project-managed a team of seven specialist companies who worked for six months and used a wide variety of lighting effects, including strobes, neon tubing, fibre optics and linear lighting.

People in brief

● **Garry Jackson** has been appointed technical manager at Collingwood Lighting. He was previously with Catalina Lighting where he was technical services manager.

● **Nigel Pemberton** and **Ron Taylor** have been appointed senior executive managers of the BDC Group. Mr Pemberton is head of BDC Trade Centres Division and Mr Taylor head of BDC's commercial and specialist lighting division.

● **Chris Charnock** has returned

to BDC Trade Centres as sales executive for the West of London and Middlesex. He was previously with Wholesale Fittings Ltd.

● **John Strike** has been appointed managing director of both Ascot Lamps and Lighting Ltd, and Pope's Electric Lamp Company Ltd. The appointment follows the retirement of Eric Regnier.

● **Bryan Newey**, has joined Courtney Pope Lighting Ltd as managing director. He replaces Brian Norris who will be concentrating on his divisional role, heading up the Electrical Division of Courtney Pope (Holdings) plc.

Demonstrating a controlled environment

The CIBSE exhibit at London's Science Museum has been updated with the installation of a building management system and interactive display. The new system has been designed to show the public, and especially young peo-

ple, how a building and its environment can be controlled.

It features an occupancy detector, a room temperature sensor and a thermistor which responds to touch; these are linked to an onscreen graphics display. Trend Control Systems provided, designed and installed the system.

The exhibit, located on the third floor of the building, also includes a video about building services, a computer quiz on energy and a new display board featuring air conditioning.

Info update

CIBSE has now published **Lighting Guide 4: Sports lighting** which provides essential guidance on the design, installation, operation and maintenance of lighting for sports facilities. This guide was previewed in the June issue of LEN.

The Institution has also produced a revised version of **Technical Memoranda 4: Design notes**

for the Middle East. This contains updated meteorological data for sites in 19 countries and new sections dealing with topics such as local standards, solar radiation, sand and dust, and corrosion.

Both publications are available from the CIBSE Bookshop at 222, Balham High Road, London SW12 9BS. LG4 costs £20.00 for CIBSE members and £40.00 for others; and TM4 is priced at £17.50 for members and £35.00 for non-members.

Just connect

Chelsom is to incorporate KLIK connectors into the company's decorative lighting products. These include ceiling and wall lights, decorative bulkhead fittings

and chandeliers.

The intention is to make installation simpler, safer and faster; and to underline that fact that is preferable to install decorative lighting products only when construction and decoration have been completed.

COMMENT

It all begins in the home

So, LIF is now speaking to the Department of Energy about the need the stimulate the use of more energy efficient lighting in offices (see lead story on page 1). And it's high time the government was pushed to appreciate the value of good lighting in energy conservation.

But the ETSU report* also went on to make the point that the domestic sector was very significant in terms of energy saving, and that higher percentage savings were potentially possible here than in any other sector.

Looking specifically at domestic lighting, the report more or less dismissed the scope for improved housekeeping (just switch off all those lights) and more sophisticated controls (every home should have its dimmers) and concluded that, in general, the only improvements likely to be made in this sector came from two possible changes.

The first of these was the replacement of existing fluorescent fittings by high efficiency fluorescent tubes using electronic ballasts. This basically amounted to upgrading existing kitchen lighting, as that was the only area in which fluorescents were used in the home to any extent. The second, and potentially more interesting, was the substitution of compact fluorescents for gls lamps.

Market penetration of both these types of products, concluded the report, was at present negligible, and this had been constrained mainly by lack of availability of the products themselves, lack of information, and consumer emphasis on purchase costs.

As demand for the products increases, so the first factor becomes increasingly less relevant. Lack of information, on the other hand, is a constant problem. The UK has no non-profit making lighting organisation that can give unbiased advice to the consumer. But, surely, in this situation the Department of Energy, perhaps in conjunction with the Consumers' Association, should step in to fill the gap.

It is cost, however, that is the major problem. Consumers are used to paying some 35p for a gls lamp and there is considerable resistance to paying more. A standard compact fluorescent, on the other hand, costs somewhere around £9.50. At this price the break-even point comes at an operating time of some 250 hours per year. But electronically ballasted CFLs are even more expensive, and unless the prices come down are unlikely to be economic in the home.

What is really needed is to convince the consumer that the better quality of light and small size of CFLs makes their additional cost acceptable. Other countries have managed quite successfully to introduce these lamps to the domestic market and encourage their use by running special lighting events which make a limited number of lamps of this type available to the domestic consumer at highly advantageous prices. Should the political will be there, the Department of Energy still has time to initiate such a campaign in collaboration with the electricity authorities for the autumn.

*Energy Technology Support Unit, Department of Energy, Energy and Environ paper 2, The abatement of gaseous emissions by energy efficient lighting by J Eyre, Harwell, 1990.

LIGHTING EQUIPMENT NEWS

Editor: Judy Sewell

Associate Editor: Barbara Trigg

Art Editor: Lorna Francis

Midlands Area Manager: Jim Hughes

Northern Area Manager: Robert Ditchfield

Southern Area Manager: Jim Hughes

Classified Sales: Peter Hardy

Production Manager: Lee Hibbert

Circulation: Kirtie Parmar

Associate Publisher: John Bull

Publisher: Nigel Foster

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

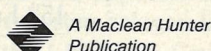
Published monthly by **Maclean Hunter Ltd**, Maclean Hunter House, Chalk Lane, Cockfosters Road, Barnet, Hertfordshire EN4 0BU.

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 (Print) Ltd, Silver End, Witham, Essex. Annual subscription £42 (£3.50 per copy including postage) but free to executives in the UK and Ireland meeting the terms of control.



© 1990 ISSN 0024-3418

NEW PRODUCTS

Amenity pyramid light

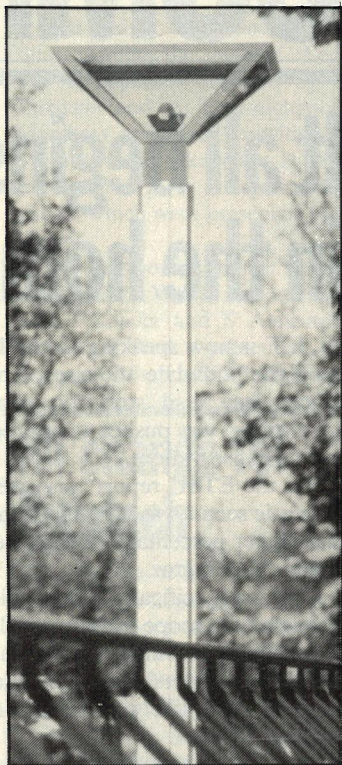
Staff Lighting Ltd has an amenity light called Pyramide.

The design is based on an inverted 760mm square pyramid housing which has silicon sealed, steel wire armoured, clear glass panels. It uses either a mercury lamp up to 250W or a high pressure sodium lamp up to 70W.

In addition to the standard white finish, a range of RAL colours is available on request.

The column mounted luminaire stands 3.5m high. Decoration of the pole is provided by an aluminium extrusion and a beading down its length.

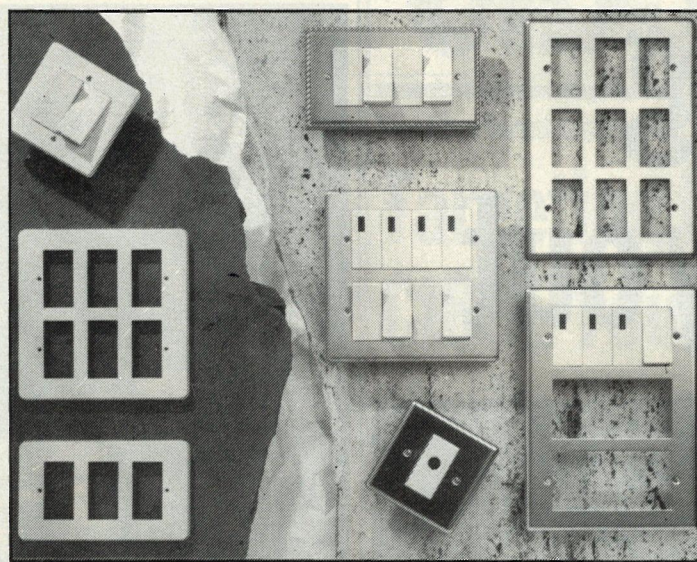
Reader Service No. 151



Grid switch range

Tenby Electrical has entered the commercial wiring accessories market with Multigrid. The switches have a broad "piano key" rocker and come with a choice of six front plates: white moulded, satin steel, satin brass, polished steel, rope-edged brass effect and surface metalclad. These are matched by socket outlets, plateswitches and other wiring accessories.

A new front-loading installation technique is claimed to cut installation time by as much as 40% compared with traditional wiring. Grids are installed in the box prior to connection and installation of the clip-in components. This approach also simplifies subsequent circuit fault analysis and reduces the risk of accidentally breaking or disconnecting adjacent conductors when a component is changed.



is changed.

The range includes two dimmers, rated at 250W or 400W, with integral on/off switch and radio interference suppression to BS800, all in a single module width. There is an extensive choice

of switches in 6A and 20A versions (fully rated for fluorescent and tungsten lighting loads), a two-pin universal shuttered socket, co-axial TV socket, fused connection unit, and a range of indicator modules.

Reader Service No. 152

Illuminance meter

Minolta has an inexpensive, hand-held, lightweight illuminance meter with liquid crystal display.



The TL-1(Lx) measures illuminance from 0.1 to 19 999 lux.

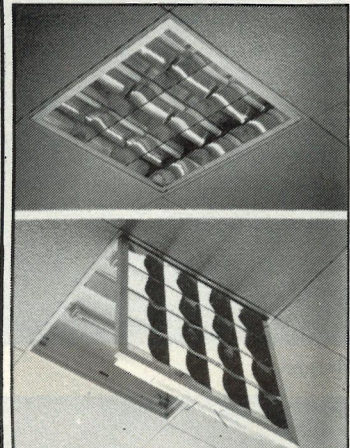
Reader Service No. 153

Modular recessed luminaires

Moducell is a range of energy efficient, recessed fluorescent luminaires from Crompton Lighting Ltd.

It has louvres formed from interlocking, curved, specular aluminium, with profiled curved reflector segments. Nine-cell and 16-cell types are available.

The louvres are suitable for use with either 26mm diameter linear fluorescent lamps (three or four 18W), or PL halophosphate or tri-



phosphor compact fluorescent lamps (two or three 36W).

Most concealed track suspended ceiling systems accommodate the Moducell 600mm square one-piece housing.

Applications include reception areas, stores and general offices.

Reader Service No. 154

Photo-electric control unit

Fisher Pierce has introduced the Nitelighter photo-electric control unit which is designed for use with both industrial and domestic luminaires. It switches in the 55-70 lux range.

Consisting of heavy duty components housed in polycarbonate, the control offers a long, trouble free life. The unit has a rated load of 1000W and is supplied complete with 500mm leads, two fixing nuts and a gasket.

Reader Service No. 155

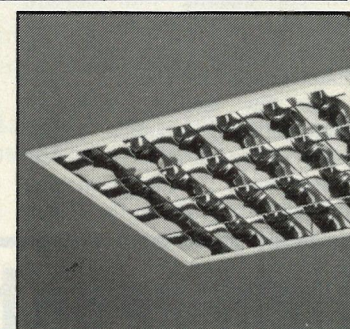
Luminaire for many ceilings

Rada Lighting Ltd has launched Summit, a fluorescent luminaire suitable for concealed grid, exposed 'T' and both metal tile and metal plank ceilings.

As well as giving specifiers the economy and convenience of one standard body design for all ceiling types, Summit offers a choice of louvres for VDT and non-VDT areas in offices.

HPF switchstart control gear is standard but other options include electronic starters, low-loss chokes, high frequency control gear, energy management systems and dimming facilities.

Integral or remotely mounted



emergency lighting packs can also be supplied with the range.

There are two, three and four lamp versions, either 300mm or 600mm wide and up to 1800mm long, plus 500mm and 600mm square modules to accept two 36W compact fluorescent lamps. All have return air-handling facilities.

Reader Service No. 156

Solar power for gardens

Guardian light is a natural extension to Chronar Ltd's range of solar powered garden lighting. It features an infra-red sensor which triggers the light, and also an audible alarm if required, when it

detects people.

The triangular black plastic head carries the solar panel, with the lighting unit and infra-red sensor below it.

Two switches allow a choice of operation. Both the 3W tungsten lamp and the alarm can be set to come on automatically, or the lamp alone.

Reader Service No. 157

September 19 will be
the brightest day
of the year in Milan as
Euroluce lights up.

15th Euroluce, International Lighting Exhibition. Milan, September 19-24 1990.

Cosmit, Organizing Committee of the Italian Furniture Exhibition,

20123 Milano, Corso Magenta 96, Tel. 02/48008716, Fax 02/4813580, Telex 334394 Cosmit I.



NEW PRODUCTS

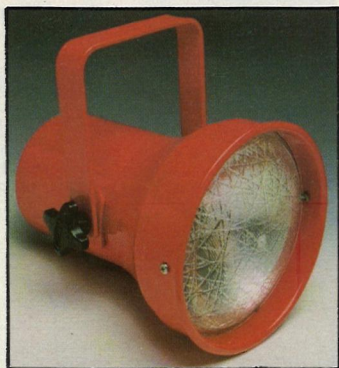
Portable lighting is rechargeable

A range of portable, rechargeable lighting from Tildawn Electronics Ltd offers users three options.

Portaflood EFI (illustrated) uses a 10W 6V quartz halogen lamp and gives five-and-a-half hours' light before recharge. It has a carrying handle which can also be used as a hanging bracket or attached to a tripod to leave the hands free for working.

The EFII model is free standing with a swivel and tilt head. It also uses a 10W quartz halogen lamp, but gives eight-and-a-half hours' light before the batteries need recharging.

Portaflood EFIII is also free standing with a swivel and tilt head, but uses a 20W quartz halogen lamp which when fully charged gives six hours' localised floodlighting. Alternatively, a dual



operation switch allows this model to operate as a flashing hazard warning light.

All three products recharge in 12 hours. Battery chargers are supplied separately.

The bright red housings are water resistant.

Reader Service No. 158



Protection and control for LV lamps

ABB Power Ltd has launched a range of dimmers to enhance the control and safety of low voltage tungsten halogen lamps.

They offer a combination of monitored symmetrical phase control, thermal overload protection and short-circuit protection, and are claimed also to prolong the life of tungsten halogen lamps.

The Busch-Dimmer range, consists of six models for loads of 20-1000VA, in ratings of 0.87-4.50A at 230/240V. A control unit allows up to 18 dimmers to be connected with a total capacity of 36kVA. Both rotary and touch sensitive controls are available.

Reader Service No. 159

Quick-fit fluorescent luminaire

A luminaire designed for easy fitting into spring "T" suspended ceilings has been introduced by Firststeel Metal Products. It fits quickly and simply on top of the grid, reducing installation time and costs.

The luminaire, which complements Firststeel's Nimbus range of metal panels, comes with a metal diffuser carrier, which clips onto the underside of the grid like a normal panel, giving the ceiling an unbroken line.

This 600mm wide box fitting is available with two, three or four fluorescent tubes in 600mm, 1200mm and 1800mm lengths.

Reader Service No. 160

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

Decorative outdoor lighting

George Turnock Ltd has introduced low voltage pea lights to complement low voltage tape lights.

T9056 pea lights, consisting of 140 replaceable 24V 0.8W miniature clear lamps with a 10 000 hour life, fitted at 200mm spacings to two-core flat green cable, are supplied with a 2m lead. These are particular suitable for outdoor use in areas which are accessible to the public.

Reader Service No. 163

Hard fired lighting dimmers

RAM Electronics UK Ltd has launched a range of hard fired dimmer controls. Specifically designed to control low voltage lighting transformers, both conventional and electronic, the dimmers can also be used for controlling fluorescent lighting powered by dimmable electronic ballasts.

Load resistors are not required, and because the dimmer is operating on its own stabilised power supply a much better dimming effect is achieved than from conventional units, according to the company. Pre-set levels of light are



more stable and overall control is more positive.

Units are available ranging from 500VA to 1000VA on double-gang, flush or surface mounted switch plates and are fitted with fully enclosed electronics, supply fusing, mains neon indicator and double-pole rocker switch for isolation.

Pre-set minimum and maximum levels are incorporated at the rear of the units.

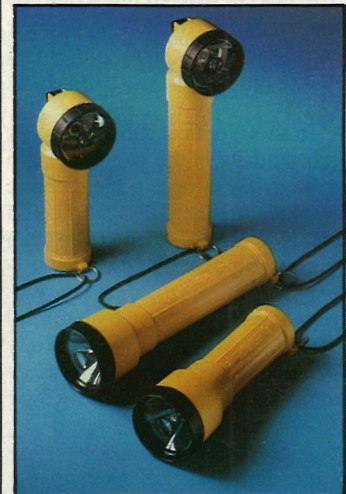
Reader Service No. 164

Improved safety torch

Wolf Safety Lamp Co Ltd has improved its range of dry battery Wolf safety torches and in addition now supplies them in safety yellow.

Improvements have been made to the patented lens optical system, so that it produces a more uniform divergent beam pattern. The certification information and operating symbols on the lens ring have also been improved. Minor internal refinements have been made to improve switching performance.

The Wolf safety torch has already won approval from users



for increased safety and efficiency in potentially explosive atmospheres, the company reports. Conforming to harmonised European standards it comes in two- and three-cell versions, each with the option of straight or right-angled head. The variable beam angle is controlled by a mechanism incorporating a rotary switch.

One of the features of the design is two separate explosion protection enclosures: one, an intrinsically safe enclosure for dry batteries, allowing them to be easily changed in hazardous areas, and the other, a lockable 'increased safety' enclosure containing the switch and lamp.

Reader Service No. 165

Bulkhead lighting

The Half Moon bulkhead luminaire from Simplex Lighting is an addition to the company's amenity and security lighting range. It is suitable for interior and sheltered outdoor locations.

Made of polypropylene, it accepts GLS lamps up to 60W when wall mounted, or up to 100W when used as a ceiling fitting.

Reader Service No. 166

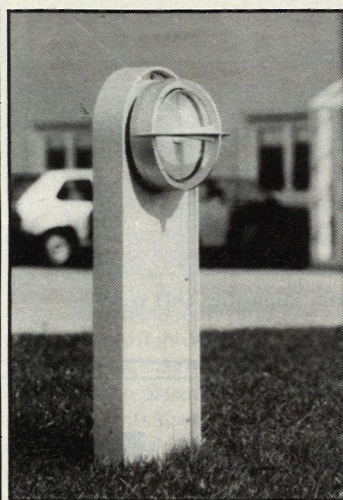
Bulkhead light saves energy

A vandalproof bulkhead light for either ceiling, wall or post mounting is available from Zon International Ltd. Called Pirat, it has a housing made of cast aluminium with a weather resistant finish.

The luminaire is produced in white, red, black or silver with either an opal coloured or clear polycarbonate diffuser.

It accepts either a 10W PLC or Dulux D compact fluorescent lamp, or a 75W GLS lamp. A galvanised post for mounting can be supplied if required.

The Pirat range has been deve-



loped for public applications such as marinas, swimming pools, railway stations, schools and parking areas.

Reader Service No. 161

Fashionable lighting for the home

A range of tungsten jewel lamps called Images is being launched by Omega Lighting. They have been developed as fashion accessories to enhance style in the home.

Available in three sparkling finishes — ice crystal, crystal gold and croco ice — the lamps are said to be as appealing as they are lit.

There is a choice of 40W candle lamps to suit wall and chandelier style fittings, and 60W and 100W 95mm Decor Round lamps for pendants.

The Decor Round types have a rated life of 2000 hours.

Reader Service No. 162



LIF LINE

Seeing the light with tungsten halogen lamps

In overall trends, halogen lighting seems to be spearheading an upsurge of interest in the domestic lighting market following its widely successful application in the lighting of theatres, hotels and, in particular, the retail industry.

The success of halogen lamps comes from the quality of the light and the higher efficacy of the lamp in relation to the conventional GLS filament lamp.

Its benefits include:

- ☐ increased light output and extended life compared with standard filament lamp;
- ☐ brilliant white light which enhances texture and colour;
- ☐ no blackening of the bulb, as the halogen cycle prevents tungsten evaporation being deposited onto the inner wall;
- ☐ multitude of possible applications due to small dimensions of quartz bulb.

As with all innovative and highly technical products assurance of safety and guidelines on correct handling of the product should be an integral part of the product packaging and the prime consideration of reputable manufacturers.

From time to time articles appear in the press linking excessive levels of ultra-violet radiation (UVR) with desk top lamps. Such reports may be traced to statements from the National Radiological Protection Board which, in June 1989, drew attention to the matter of UVR levels. They stated that the design of certain desk lamps was inadequate to prevent unnecessary exposure to potentially harmful UVR.

The equipment in question was the type of desk lamp fitted with a tungsten halogen light source that has no glass screen either as part of the luminaire or as an integral part of the lamp.

The report evaluating the possible occupational hazard of UVR exposure was considered by some to be misleading. In tests, on which the report was based, UVR from tungsten halogen desk top lamps was measured in unrealistic conditions which, in any event, put in context, would represent one's normal exposure to natural sunlight.

On the safe side

Despite the lack of evidence of any real risk, but in response to the public concern which the report created, the lighting industry recognised the need for action as a precautionary measure to maintain its excellent safety record.

Subsequently, at a recent meeting of the IEC International Working Group in Stockholm, an amendment was proposed to IEC 598.1 which provided for the screening of single ended, low voltage tungsten halogen lamps. This amendment would resolve the safety debate with regard to the workplace UVR emission safety standard and counter the issue of non-passive failure of unscreened lamps. On a more tangible plane, it would prevent access to the lamp wall which can reach temperatures exceeding 260° C, thus preventing the risk of serious burns.

The amendment will not come into effect until the proposal is successfully progressed through the voting stages but D P White of Thorn, who is chairman of the International Working Group, is keen to see the amendment in place as soon as possible. LIF is also well placed to accelerate procedures with Mike Kormanik, Technical Manager at LIF as secretary to the group. Both Mr White and Mike Kormanik are central figures in international standards-making for lamps and luminaires.

Another issue currently involving tungsten halogen lamps arises from the influx of cheap substitute double ended linear tungsten halogen lamps from China and Japan. These lamps are often unmarked, arrive in plain packaging and are unlikely to have internal fusing.

LIF recommends that linear tungsten halogen lamps in plain packaging and not bearing a reputable manufacturer's label should be avoided by wholesalers. If the consumer is injured and sues under the Consumer Protection Act, the wholesaler would have no line of defence.

As with all products, the wholesaler should minimise the question of safety in use and application by sourcing from a reputable manufacturer.

Information on the characteristics and application of the principal types of lamps, including tungsten halogen lamps, is available in the revised version of the LIF Lamp Guide now available, price £2.000. Contact LIF, tel: 081-675 5432.

The changing face of halogen display lamps

At the start of a new decade, Keith Neilson, of Philips Lighting takes a look at new developments in the halogen display lighting field.

In the last decade halogen lamps have experienced a market and product revolution. Prior to 1980 the volume halogen market was dominated by double ended K lamps used mainly in a variety of outdoor floodlighting applications. Additionally, there was an indoor market for wall-washing. Since then the indoor market has developed to include effect uplighting, mainly in the retail and commercial

environments.

The early 1980s saw the introduction of good optical quality, low voltage, aluminium and dichroic reflector lamps for the mass volume display market. In reality, dichroic lamps were developments of the 1960s cine and micro projector lamps, with modifications to the filament, to provide longer life and with more appropriate beam characteristics to accommodate the new market needs.

Surprisingly, low voltage halogen capsules, which also gained attention in the 1980s never captured the same market segment appeal as reflector lamps. The market seemed more fired by the dichroic twinkle and their small size, rather than optical and luminaire design expertise from OEMs.

In short, optical control was left substantially in the hands of lamp makers. By adopting the dichroic twinkle, luminaire designers could opt for more open (free air) smaller fittings, using less expensive materials, rather than surrounding a capsule with an optical controller, which was aesthetically pleasing and capable of withstanding temperatures often in excess of 130°C.

Along with these product developments came expanded market applications. Thus, lamps which lampmakers had created for display purposes commanded wider applications and are now often seen as the prime general lighting source.

Fashionable

The lamps were seen as a fashion item, and their original concept as a compact, efficient accent lighting source tended to be forgotten — a matter of market forces, yet again, instructing technologists in the ways of the world.

Towards the end of the 1980s the second generation of dichroics appeared in the form of closed front glass types. These were more convenient for consumers and provided easier installation and improved maintenance, because both the capsule and reflector integrities were protected. Obviously, the use of a front glass also eliminated risks of accidentally touching the capsule when hot.

While this second generation lost some of the twinkle of the earlier types it cut out much of the ultra violet radiation, thus reducing fade factors on cloth and lessening gratuitous suntanning in continuous close range exposure applications. So, the new dichroics were following the principles advanced by Philips' aluminium reflector lamps, which had always had a front glass.

Third generation

Despite their relative newness, closed dichroics have already been superseded by a third generation lamp, called Masterline by Philips. This range returns to the higher twinkle levels of the first generation, but retains the benefits of a front glass by utilising a clear flat glass rather than the fish eye lenses of the second generation.

In addition, a computer designed faceted reflector profile has been developed to improve light output. With this new development, a higher colour temperature (3200K) has been introduced producing a crisper whiter light. The net result is up to 72% more effective light (for the 35W 8° lamp) for the same wattage and beam angle. A comparison for the popular 50W type is shown in Table 1.

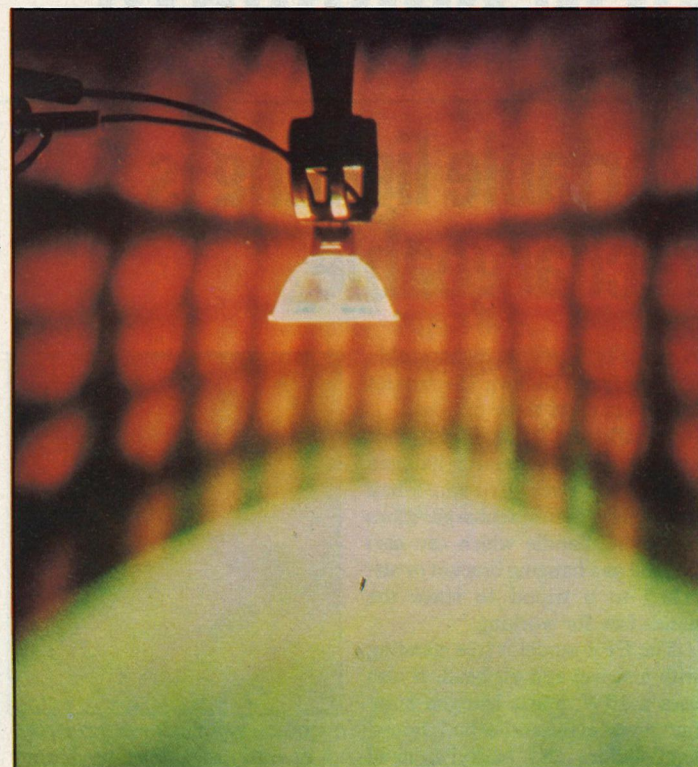
Alternatively, users can return to an energy saving theme for dichroics, but in this case the energy saving can be measured

Beam angle	Masterline	Standard	% gain
8	19 000	12 000	58
12	11 000	10 000	10
24	4 000	3 000	40
38	2 250	1 550	45

Table 1. 50W Masterline centre beam intensities (ld) versus standard dichroic lamps.

not only against traditional sources but between Masterline and standard dichroic lamps. In rounded terms, the Masterline range can produce equivalent light outputs, by using the next wattage down from standard types (see Table 2).

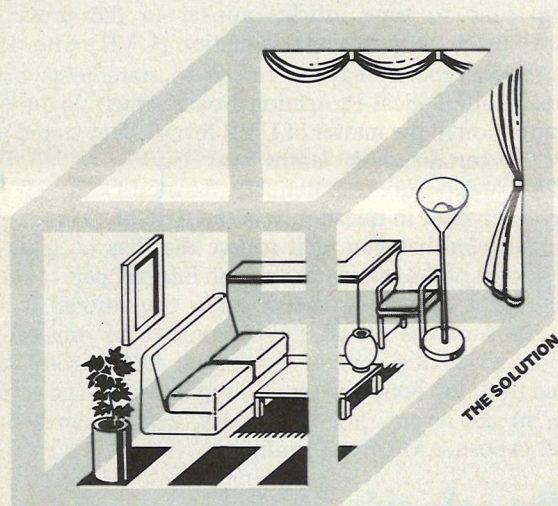
The full Masterline range will also encompass 65W, and each



These pictures show the difference between Masterline and standard dichroic lamps. Masterline (above) gives a more uniform and controlled light beam.



northern
(nidex)³
interior design exhibition



IF YOU ARE LOOKING FOR INNOVATIVE IDEAS AND THE TOP NAMES IN INTERIOR DESIGN - VISIT NIDEX, THE NORTH'S PREMIER INTERIOR DESIGN EXHIBITION.

With over 150 companies exhibiting products across the industry. From fabrics to floor-coverings, from furniture to furnishings and lighting.

You can't afford to miss NIDEX, complete the coupon below or call **NIDEX HOTLINE 081 866 3877**.

PLEASE SEND/FAX THE COUPON TO:
HAZEL HALSEY, ID EXHIBITIONS LTD,
AUDIT HOUSE, FIELD END ROAD,
EASTCOTE, RUISLIP, MIDDLESEX HA4 9LT.
FAX NO: 081-866 8363

NIDEX is sponsored by Designers Journal

11 - 12 - 13 Sept 1990

Central Hall G-MEX

Greater Manchester

Exhibition Centre

BUSINESS AND PROFESSIONAL VISITORS ONLY

Please send me complimentary ticket(s) (state quantity) _____

Please send me seminar details ☐ _____

Please send me details of reduced rate hotel accommodation ☐ (Please tick) _____

Name _____ Job Title _____

Practice/Company _____

Address _____

Postcode _____

Telephone No. _____ LBN

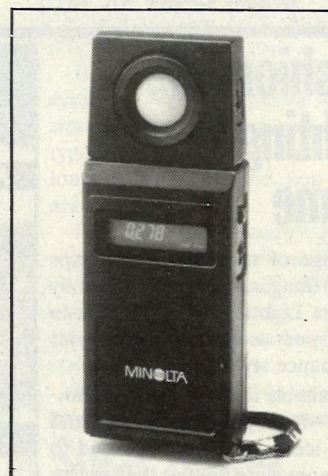
From time to time, we may send relevant commercial literature to visitors using mailing lists based on this information.

THE EQUATION OF INNOVATION

NEW METERS FROM MINOLTA



The TL-1, is a new, low cost, hand-held Illuminance Meter that will measure from 0.1 to 19,900 lux or 0.01 to 1,990 ft.c, depending upon model. It features automatic range selection, LCD digital display and swivelling head.



We can now offer the UM-1, UV Radiometer for measuring irradiance up to 1,000,000,000mW.h/cm². It has three different receptors for three peak wavelength measurements and will calculate integrated irradiance, percentage irradiance and irradiance difference.

For details on these and all Minolta Light Meters contact:
The Industrial Department, Minolta (UK) Limited, 1-9 Tanners Drive, Blakelands North, Milton Keynes, Buckinghamshire, MK14 5BU or telephone 0908-211211, extension 215 or 216.

MINOLTA

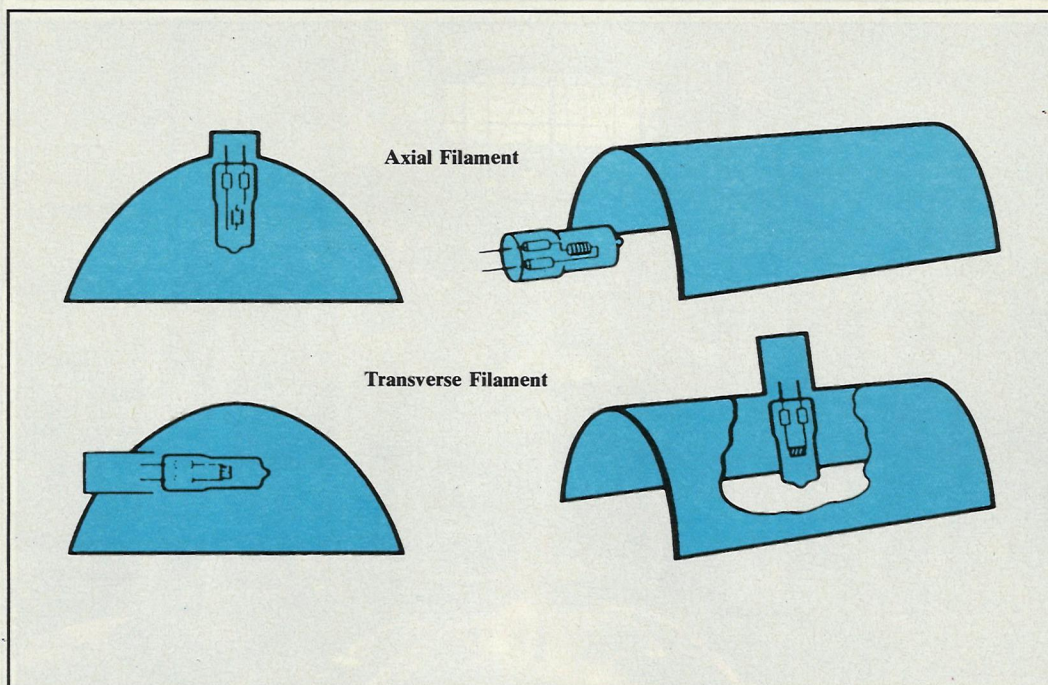


Figure 1. Ideal filament/reflector combinations.

Masterline (W)	standard (W)
50	65 (75)
35	50
20	35

Table 2. Equivalent wattages per lighting results.

wattage will be available in 8°, 12°, 24°, and 38° beam angles.

In short, a Masterline lamp of 15W lower rating is equivalent to a standard dichroic.

This range also provides improved dimensional control of the optic and the filament location, resulting in a more precise reproducible beam. When placed side by side with standard dichroics, the visual effect is immediately noticeable.

Masterline features a new metal cap which gives a solidly positive base retention with no need for rim clamping. So the days of mere pin retention are over. The lamp uses a GU5.3 base, but it can also be used in any standard GX5.3 base.

In short, Masterline has universal cap applicability — but standard dichroics should only be used with GX5.3 caps and not with the better designed GU5.3 cap. However, the new cap has also caused some end users to enthuse about the aesthetic symmetry of the twinkle circle — a novel but commercial benefit.

Greater impact

Examining the well-trodden market application paths, the new generation of dichroics appears to offer improved lighting levels or reduced cost options for the same solution. This can be demonstrated by taking two of the popular applications for dichroics — display and general lighting.

For display lighting the AF or accent factor (E (spot)/E (horizontal)) of displayed products in average retail outlets is improved from 1.3:1 to 2.3:1, even for a wide beam (38°) 20W lamp. This change is noticeable and, hence, makes the point more vigorously for more intense beam lamps. For 50W 8° lamps the accent factor increase is from 30:1 to 50:1.

Hence, the range provides opportunities for substantially improved display impact, not only in accent factor terms but also as a crisper light source. There is no doubt that it will enhance retailers' products by providing more eye catching displays, enriching colours and emphasising sparkle and brilliance. It is also likely that it will stimulate different market applications.

Scheme tests for downlighting applications show that higher horizontal plane lux levels are achieved with better uniformity when changing from 50W 24° standard lamps to 50W 38° Masterline, even at the same spacing. In schemes where there was no beam angle change, but a reduction from 50W

to 35W was implemented, the lux level and uniformity remained substantially constant. Hence, a 30% reduction in energy was produced.

So, practical results confirm these properties by providing improvements in either lighting level/uniformity or reduced energy costs.

There has also been a significant change in the humble capsule. Display lighting OEMs are all now beginning to adopt a principle which car lamp setmakers first took to many years ago — that of opting for axial filament lamps rather than transverse.

Put simply, axial lamps allow luminaires to be developed with both more candelas and narrower beams than transverse lamps.

For optimum candela results in rotationally symmetrical reflector systems, lamps should be placed as in Figure 1. From this it can be imagined that with the side entry positioning of the transverse lamp, black holes could be produced in the beam. Certainly more reflected light will be captured by the transverse lamp than the axial lamp.

In practical terms, tests on six commercially available luminaires (all with rotationally symmetrical reflectors and rear entry holders) produced an average of 38% improvement in centre beam intensity for axial lamps over transverse lamps. An additional 73% were made by optimum positioning of axial lamps giving an overall 139% improvement. Optimum positioning of the transverse lamp, on the other hand, only produced a 57% average improvement.

In addition, when the transverse lamps were replaced by axial filament types with the holders in their as-received positions, the average half-intensity beam angle decreased by 26%. Optimum positioning of the axial lamp reduced the angle by a further 25%, or an overall 57% compared to only 44% for optimum positioning of the transverse lamp.

Axial lamps

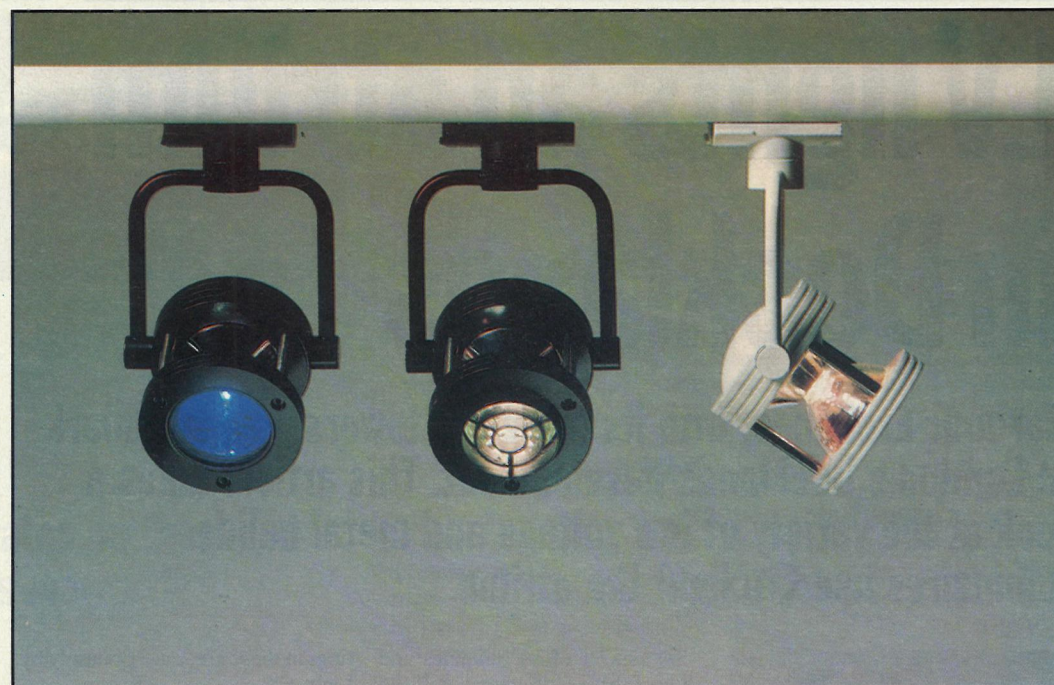
The results obtained when comparing axial versus transverse filament lamps for this common reflector/holder combination were truly due to the filament orientation and its practical positioning within the reflector. In the case of the lamps, the light centre lengths (LCLs) were identical, and the average displacement of the holder, to optimally position a lamp (of either type), was a matter of millimetres rather than typical manufacturing/assembly tolerances.

In conclusion, the tests demonstrate that the case and application market for axial lamps is markedly stronger than for transverse lamps in accent lighting applications.

Therefore, the opportunities for OEMs to produce new optics in pleasing aesthetic compact

enclosures has been improved. Certainly the display AFs — and that is the key to successful display merchandising — can be marketed in an exciting way.

Coupled with a market need for



The Gyrospot system by Marlin makes use of the Masterline dichroic reflector lamp range.

low lamp replacement costs, the business opportunities should not be solely in the hands of optics (reflector) lamps supplied by lamp makers.

Finally, we are entering a new

decade with new generation HID lamps for display purposes. The old PAR, bowl mirror and blown bulb lamps still have a buoyant market share. But halogen lamps are continuing to develop. There

still remains known science to be exploited by conversion to production technology in halogen lamps, so their future remains at worst intriguing and at best exciting.

MIKE SMITH DESIGNS LAUNCH THE WINDSOR AUTHORITY RANGE

Mike Smith Designs have recognised the need for a traditional style lantern giving all the aesthetic qualities of a bygone era yet maintaining the very latest performance standards in order to withstand the rigours of the modern age. The features below solve every problem the lighting engineer has to face when choosing a traditional scheme!

DIE CAST ALUMINIUM BODY
Maximum strength giving the highest resistance to vandalism.

PHILIPS POT OPTIC REFRACTOR
For high light output efficiency hinged for easy lamp maintenance.

QUICK RELEASE FASTENER AND GAS STRUT
Locking is achieved with a quick release retained fastener, opening and closing are gas strut assisted, enables quick access for maintenance of lamp and control gear.

CHOICE OF FROGS
A choice of either a traditional Mild Steel frog or solid Cast Aluminium frog for highly exposed conditions.

Complementary to this lantern, cast iron embellishment kits have been designed for standard steel lighting columns with the options of four different designs of cast iron bollards which complete the 'WINDSOR AUTHORITY' range.

A SUBSIDIARY OF BROMLEY PARK LIMITED

HINGED HOOD

The hood of the lantern is fixed to the body with a stainless steel hinge and closes onto a EPDM sealing strip for further resistance to the elements.

PHOTO-ELECTRIC CELL
For automatic switching.

POLYCARBONATE ONE PIECE GLAZING BOX
The clear polycarbonate diffuser glazing is a one piece box unit, supported on seals in the lantern frame, allowing ease of removal and refitting, but giving very good resistance to water, dust and insect ingress as well as vandal damage.

HEAT RESISTANT CABLE
1.5mm Black heat resistant cable with 5 metre lead for easy installation.

BS 4533 IP66

MIKE SMITH DESIGNS
Units 31 - 32 - 33,
Fordhouse Road
Industrial Estate,
Steel Drive, Bushbury,
Wolverhampton,
WV10 9XE
Tel: (0902) 784400
784425
Fax: (0902) 785980



LV lights an atrium in Docklands

Harbour Exchange, with its tall glass towers, is a landmark in London's Docklands development. This article takes a look at the variety of low voltage and metal halide luminaires used to light the atrium.

Docklands development in east London continues apace. The most recently completed complex is Harbour Exchange for Charter Group Developments plc. The principal building was originally planned as two separate towers, but these 17-storey, glass clad sky scrapers were later joined by the building of an atrium.

Six smaller office buildings and a row of three-storey retail units on the waterfront surround the principal building, Exchange Tower, to form a pedestrian square.

The lighting design scheme for the atrium and reception areas of Exchange Tower is by W E Hannan & Associates, mechanical and electrical engineering consultants for the project. Lighting fit-

tings in these areas are primarily by Light FX.

There are two identical reception areas, one for each tower, at ground floor level. Above each reception desk is a curved, plaster clad structure 6.5m x 4.5m suspended on six rods and housing feature lighting designed to create a sparkling effect.

Each structure has 63 low volt-



The central area of the atrium at Exchange Tower, looking towards the restaurant.

BETTER BY CHOICE

EMERGENCY LIGHTING BATTERY PACKS OUR SPECIALITY

EURO ENERGY RESOURCES LTD.

Suppliers and manufacturers of high quality nickel cadmium and sealed lead acid battery packs. Cases, connectors and design service available.

FAST DELIVERY OUR SPECIALITY.

All leading brands stocked.

GATES ENERGY PRODUCTS
YUASO
SANYO

SAFT
TREPCE
ALEXANDER

VARTA
EVER READY
UNION CARBIDE

and

LITHIUM
LEAD ACID
NICADS
BUTTON CELLS.

UNIT 6, WANSTEAD INDUSTRIAL PARK, WANSTEAD ROAD, LEICESTER. TEL: 0533 313021 FAX: 0533 313912

Reader Service No. 8

age, tungsten halogen Cypher fittings with M32 35W capsule lamps recessed into the bottom of metal gear trays. The fittings have individual transformers and fuses to eliminate multiple lamp failure. Transformers are housed in the rows of gear trays which are suspended on concealed chains and recessed into the plaster clad structures. These structures were made by Applied Lighting Technology in conjunction with Light FX.

Further low voltage tungsten halogen downlights are recessed into the ceiling at first floor level around the suspended structures. In this case the luminaires are 50W Mini Lamps by The Lighting Workshop.

Atrium

The central area of the atrium rises through four storeys. It has a warm coloured floor of polished Jura marble and the lower balconies have front cladding of American cherry wood.

Two modern, flat, circular chandeliers made of painted sheet metal each carry eight 70W metal halide downlights with clear glass fronts. Light FX commissioned Electrolite to make these special chandeliers.

Metal columns in the central area of the atrium are uplit by 250W tungsten halogen luminaires recessed into the marble floor, two at the base of each column.

A central fountain has underwater, heavy duty pvc lighting by

Hydrel, Germany, which uses 240V PAR38 lamps.

At the far end of the atrium there is a restaurant and serving areas lit by downlights recessed into a soffit. Twenty-four of these use 70W metal halide lamps and are positioned in three circles, while the remainder, over 60, are low voltage 50W fittings.

The serving areas have curved bar counters with decorative metal table lamps with green frosted glass shades. Called Bara Bara, these table lamps are from Lighthouse Interiors.

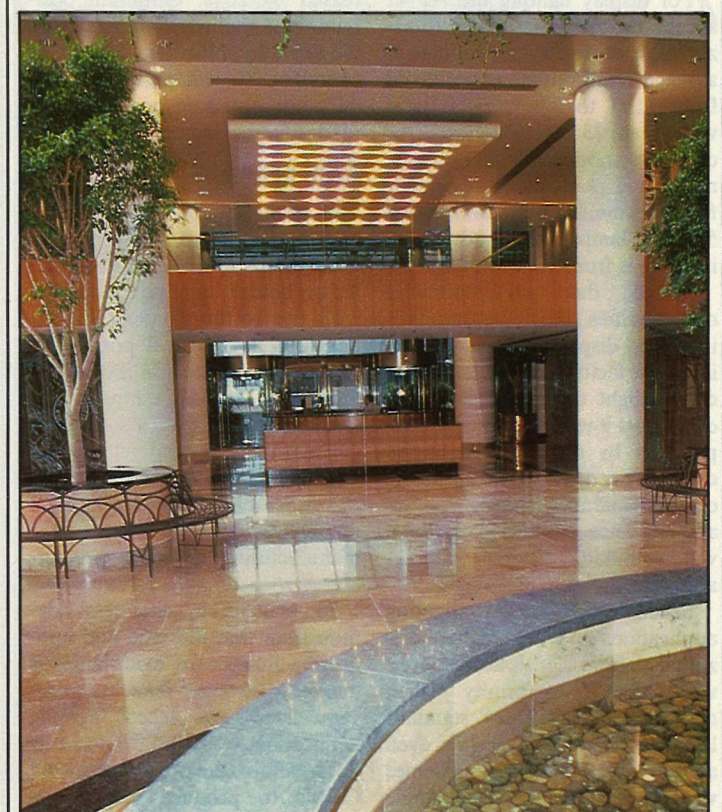
Canvas "sails" suspended horizontally over the front of the restaurant area echo the nautical theme of the development and create a canopy and focal point. Highlighting for these is provided by low voltage Icen spotlights with integral transformers mounted on the edge of the soffit.

Three planted areas at second storey level above the restaurant are lit by low voltage Cypher downlights containing capsule lamps.

Under balconies around the atrium, except for those at second floor level, there are low voltage Ultra recessed downlights with 50W medium beam lamps.

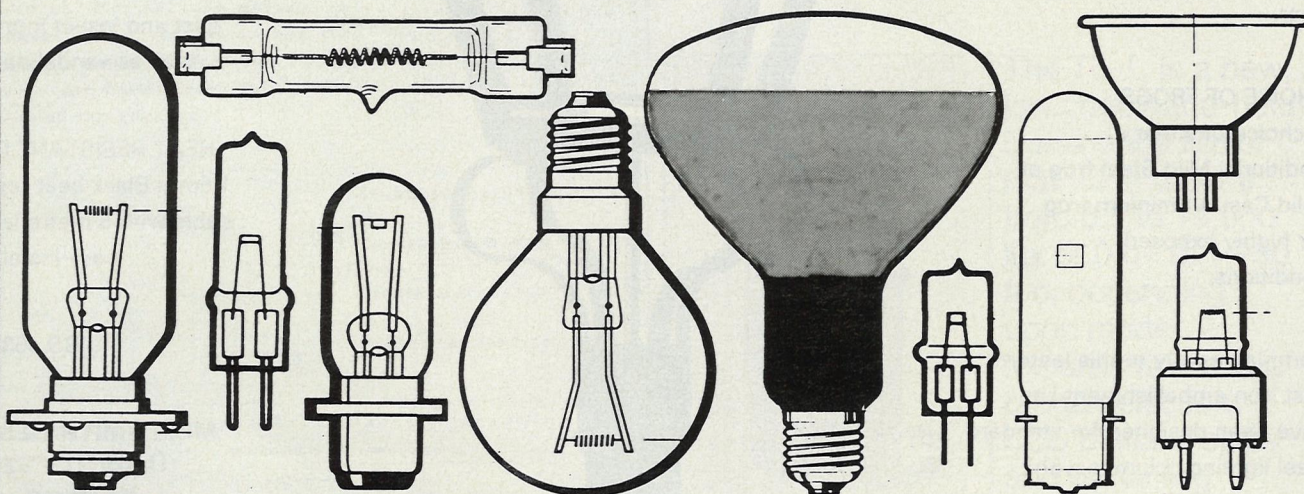
At second floor level, 150W metal halide downlights are used below the balconies to give extra "punches" of light.

Architects for Exchange Tower were Frederick Gibberd, Combes and Partners; building contractors were Fairclough Building Ltd.



One of the reception desks, showing the suspended structure above it.

International Lamps

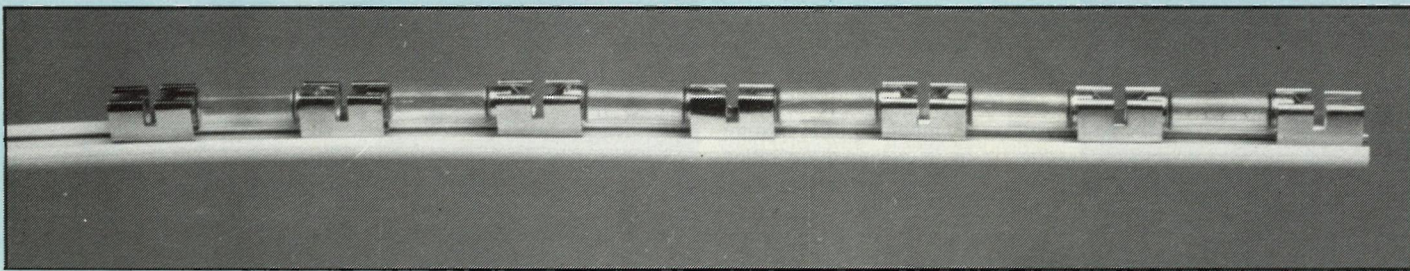


For prompt service and competitive pricing call:



INTERNATIONAL LAMPS LIMITED
South Street, Hertford, Herts. SG14 1BL
Telephone: 0992 554411
Telex: 817296 LAMPS G
Fax: 0992 587766
Cables: International Hertford

Reader Service No. 9



Klikstrip, from Courtney Pope, is a 20mm wide track that can be fixed to almost any surface.

Hanover highlights

The third and last report on the 1990 Hanover Fair concentrates on the widening range of luminaires coming onto the market. This is inevitably increasing to accommodate developing lamp technology.

This year's Hanover Fair showed a pattern of steady development in the range of luminaires available to take the high technology lamps, rather than a spectacular advance in the nature of fittings on the market. That it was a consolidating rather than an innovative year, was rapidly evident.

That lighting could be just plain fun as well as practical was soon shown by a new miniature incandescent strip lighting system, Klikstrip, introduced to the European market by Courtney Pope. The slim — 20mm wide — track can be fitted to concave, convex or irregular surfaces without lamps shifting out of line or becoming dislodged. Continuous busbars run the length of the track, allowing incandescent festoon lamps to be placed at any desired interval.

Klikstrip can be run off a 12V or 24V low voltage supply, so the 20 amp rating allows 240W to be loaded onto a 12V supply and 480W onto a 24V supply — permitting the use of long, uninterrupted stretches of lighting.

A halogen version comes with two clips which enable the specifier to choose the position of the light fixtures; this permits the use of capsule lamps and dichroic reflector lamps.

Easy fixing is achieved by a strong self-adhesive tape, with screw holes provided for more tricky applications. The strip comes in pre-cut lengths, ranging from 320mm to 3620mm, which can be adjusted on site to exact requirements.

Display lighting is traditionally the area which has first reflected the advances in lamp technology. In the past this type of lighting has been seen as a fashion led, almost 'throw away' product. And this approach was coupled with the redevelopment and redesign of retail outlets every two or three years. The current economic situation has led to an emphasis on quality and a more pronounced demand for flexibility in these systems, which are now considered more of a long-term investment. The new products on display at Hanover naturally tended to reflect this trend.

So, flexibility is the key concept behind Genesi, a series of aluminium projectors for low voltage

dichroic reflector lamps launched by Reggiani. The fittings are available with built-in or remote transformers and can be wall, ceiling or track mounted. The units can be assembled without the need for tools — allowing for quick installation.

Genesi is seen as being particularly suited to providing accent light in museums, art galleries, and sales displays or shop windows. Fittings are made of die-cast aluminium with a polished black or white lacquer finish.

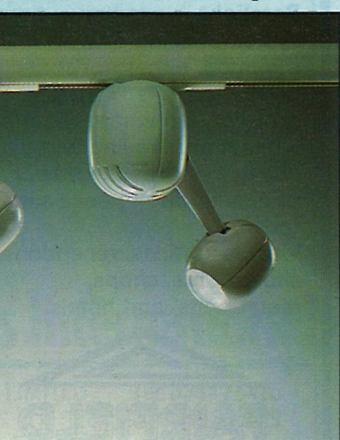
New from Concord, is the Talus range, developed to maximise the benefits of the latest PAR lamps, in particular, Sylvania's PAR 38 and PAR 30. The new generation of low energy tungsten halogen PAR lamps are mains operated, and so offer a valuable alternative to transformer dependent light sources. At the same time, the lamps give significant improvements in light quality and output with extended lumen maintenance throughout an extended lamp life of 25% together with reduced running costs.

Talus spots have been developed for mains operated E27 base lamps. There are three basic spotlight options, and all versions are compatible for mounting to



This Talus luminaire from Concord takes a PAR 38 lamp.

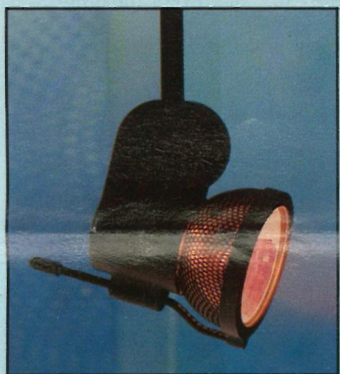
the Concord Lytespan single circuit and multi-circuit track systems or for direct mounting to ceilings and walls. In addition, there is a wallmounted uplighter model utilising 100W crown silver or 150W GLS lamps.



Genesi, a low voltage system from Reggiani.

Talus spots are moulded in white polycarbonate to match the white Lytespan track system. Feed wires to the lampholder are concealed within the hollow stirrup which can rotate through 345° and allows a 90° lockable tilt. The cowls of the two PAR models have inner heat shields to dissipate heat.

Staff also showed itself to be active in this sector, with Pico its new low voltage spotlight range. Because an external transformer is used, the individual lamps have been designed to be small and delicate. A characteristic feature of the system is a basket-like lamp housing for Pico 50. The ring trim of this model also acts as a housing



Rico 50 spotlight from Staff has a basket-like lamp housing.

for accessories such as colour filters, a UV filter and an honeycomb louvre. Luminaires come in a choice of 20W and 50W versions.

A combi-lampholder takes dichroic reflector lamps or QT lamps with mirror reflectors (in spot or flood) and a further QT model gives a particularly narrow beam of light (5° beam angle). The fittings, constructed of cast aluminium, come in a choice of white or matt black. All can be used in combination with Multitron transformers and the Staff track system and suspension rods.

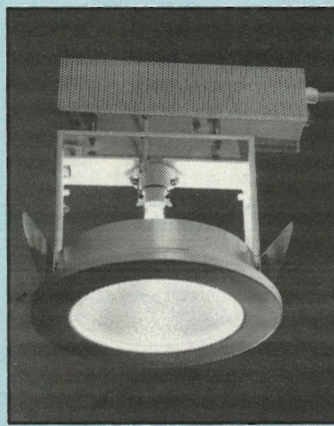
Finally Edison Halo introduced a new range of low voltage remotely transformed spotlights with dichroic lamps.

Available with a choice of bright silver or black finish, the new fittings feature a multi-positional beam to provide an effective display lighting system.

Three versions are available: LV 485, LV 486 and LV 487. The first model features a flush ceiling plate and is designed for surface mounting. LV 486 and LV 487 feature 500mm and 800mm extension rods.

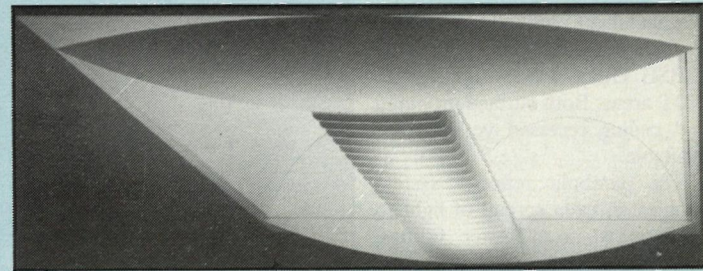
The fittings are designed to suit a variety of ceiling types. Lamp replacement is simple, and for the installer an easy to use spring lock fitting is an added bonus.

With the emphasis still on lamps, a new metal halide fitting comes from the Microlights stable. The Microbole, a recessed downlighter, comes in three versions: 35W, 70W and 150W. The capsule lamp is offered with a choice of 3000K or 4000K colour temperatures and in 10°-20° or 40° beam widths.



Microlights' recessed downlighter, Microbole.

The high light output of this luminaire makes it particularly suitable for large commercial interiors with high ceilings. A useful safety feature is a microswitch built in behind the cover glass which makes it impossible to operate the luminaire without the glass in position.



Direct/indirect luminaire from Trilux gives a soft lighting effect.

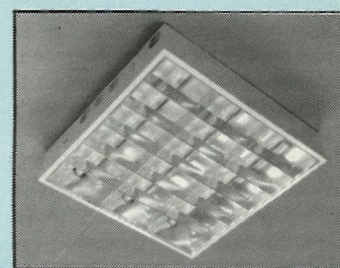
Variable optics are a feature of the new Trilux downlights for compact fluorescent and metal halide lamps. The light distribution characteristics of the downlights can be changed by means of adjustable reflectors. Precise, newly developed optical systems, electronic ballasts and economic light sources maximise energy efficiency. The new design incorporates fresnel lenses, conical optics and faceted reflectors with alternative styles of ceiling bezel rings.

A white metal reflector above a new direct/indirect luminaire also from Trilux eliminates harsh contrasts produced when viewing the light source directly, giving a soft lighting effect.

Direct/indirect lighting giving uniform luminance over the complete surface of the luminaires is also the characteristic of the RCE luminaire from Zumtobel. The luminaire, which is recessed into a ceiling grid, comprises concave reflectors in a matt white enamel finish which lie flush with the lower flange of the housing. A semi-cylindrical opal diffuser con-

cealing a 36W compact fluorescent lamp is mounted beneath the two reflectors, forming a visual contrast with the surrounding ceiling panels.

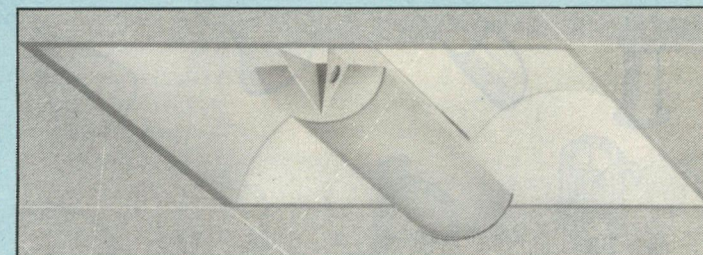
The diffuser is covered with an additional controller in white perforated metal. Indirect light, representing the main portion of luminous flux, is distributed at a wide angle by means of the white reflectors. The diffuser and reflectors



Widelight parabolic reflector system from Courtney Pope.

have been carefully designed to ensure uniform luminance over the complete surface of the luminaire.

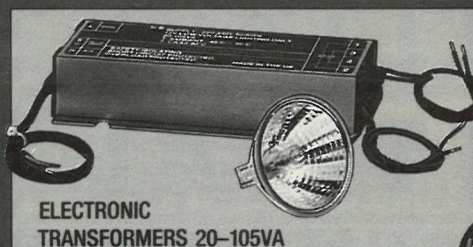
Lighting VDT areas without glare is a continuing lighting problem. Courtney Pope are adding



Zumtobel's RCE luminaire.

RAM

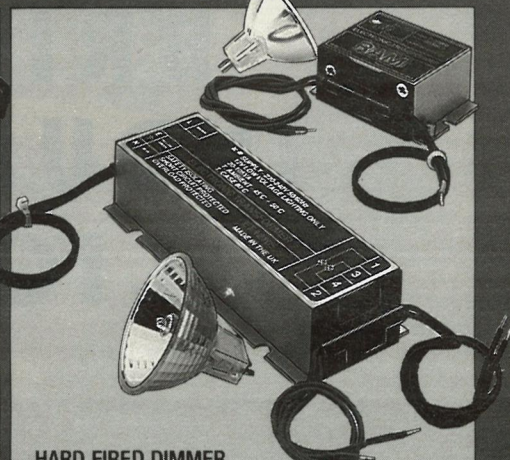
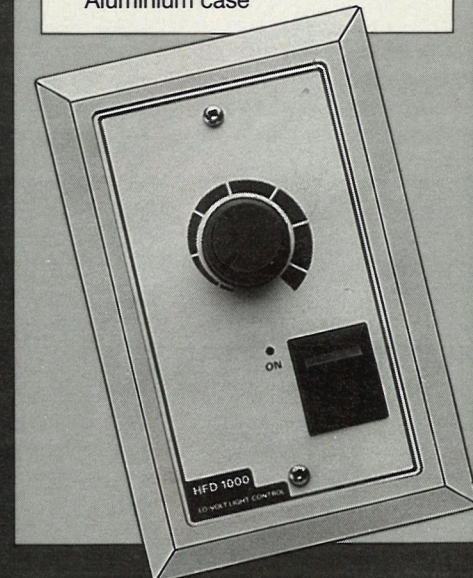
ADVANCED DESIGN
TRANSFORMERS & DIMMERS
FOR LOW VOLTAGE LIGHTING



ELECTRONIC TRANSFORMERS 20-105VA

TRANSFORMER FEATURES

- Compact size
- Cool running
- Light weight
- Energy efficient
- Soft start
- Overload protected
- Short circuit protected
- Suppressed to BS800-VDE 0875
- Safety isolated
- Anodised extruded Aluminium case



HARD FIRED DIMMER CONTROLS FOR ELECTRONIC & CONVENTIONAL INDUCTIVE TRANSFORMERS

DIMMER FEATURES

- 500VA and 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

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

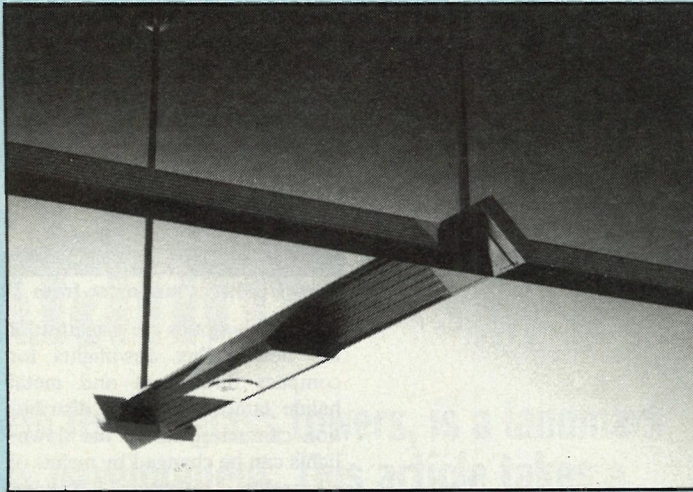
new widelight parabolic luminaires to their range to comply with the CIBSE Guide LG3: Lighting for VDT areas. Both surface mounted and ceiling recessed versions are available.

The parabolic reflector system enables an even spread of light to be attained from fewer fittings, thereby reducing installation and running costs while maintaining lighting levels. There is a choice of two parabolic louvre options, prismatic flat sheet/frame diffuser and prismatic dish diffuser.

Low-loss, switch-start control gear is fitted as standard, with a wide range of options including fully electronic, high frequency dimming and electrical pulse start systems.

In addition, an emergency control gear pack is available. This includes an inverter and battery pack, which has the capacity to operate one lamp within each luminaire for 3 hours, in the event of a failure of the main power supply.

Track systems are also gaining popularity for office applications. Conventional track systems are, as a rule, mounted with their open side downwards, allowing spot-

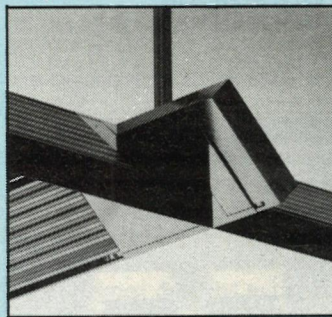


lights to be suspended from them by means of adaptors. Vertical mounting of tracks, or mounting with the track opening upwards, is very rare.

Hoffmeister claims to be the first lighting manufacturer to have developed and introduced a double-sided five conductor track under the name R&R System.

This idea had its origin in the wish to be able to mount fixtures in a vertical arrangement on a lighting track, to direct their light left or right, up or down at option, and to

The Hoffmeister R & R system. Detail (below) shows the cross coupler.



control them independently of each other. This clearly would add flexibility for lighting design.

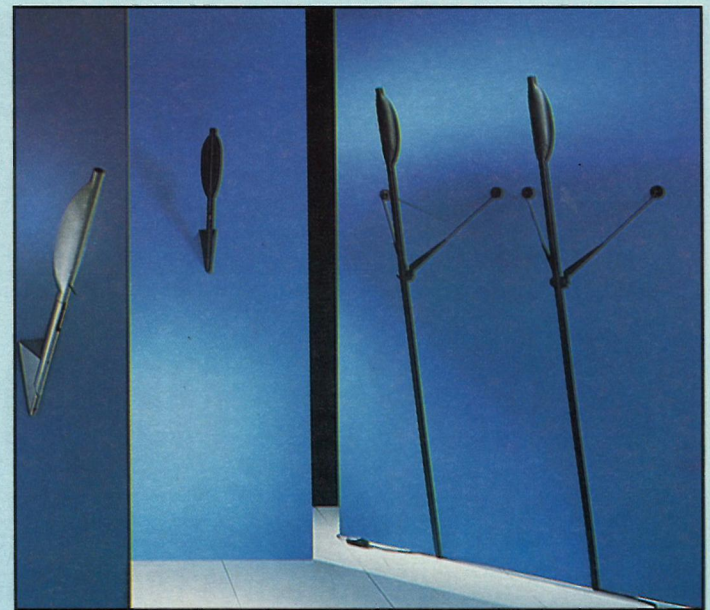
A further advantage is the possibility of mounting the fixture directly in its required operating position, without any intermediate components.

The supporting track is a rectangular 2 x 5 pole track assembly suspended from the ceiling or floor-mounted, and tilted at an angle of 45° to its longitudinal axis.

On the upper side of the supporting assembly, a circuit with its lines all in one plane, supplies individual fixtures casting their light upward — indirectly — or sideways — horizontally. On the lower side of the supporting assembly, fixtures can be connected using the same technology. They can then be operated on a second circuit to cast their light downwards — direct — or to the other side — horizontally.

The supporting track is made of extruded aluminium section and has additional empty channels on both sides for communication or data transfer lines.

The core component of the tilted 45° system is a cross coupler which permits any required L-, T-, or



Kalla, by Tre Ci Luce, is a modern interpretation of the torch.

X-shaped connection, independent of the tilt of the supporting track assembly (-45° or +45°).

Fixtures have a triangular housing. The end pieces of die-cast aluminium lend additional stability to the fixtures.

The fixtures are mounted individually to the supporting track. They can be mounted and operated either as individual units or as a system, and are equipped with a three-circuit adaptor, which is integrated into the fixture housing and has blade contacts to provide connection to the track conductors.

The R&R System can be used with most lamp types, wattages, and reflector designs. There are, for instance, long fixtures for fluorescent tubes of up to 58W, in one- or two-lamp versions, with symmetrical or asymmetrical reflectors.

Also available are very small fixtures, for low voltage halogen lamps in rigid or adjustable versions. Fixtures for fluorescent lamps are protected by clear or opal synthetic diffusers or aluminium louvres.

Up-market task lighting in the guise of floor standing luminaires and desk lamps has long been the province of the Italians and the Scandinavians. Italian style was very much to the fore in the form of two new offerings from **Tre Ci**

Luce, designed by Lorenzo Stano and Paolo Bistacchi. A mains voltage tungsten halogen floor standing lamp and matching wall fitting called Nike is claimed to provide a modern interpretation of the feeling of light diffused by old lampshades.

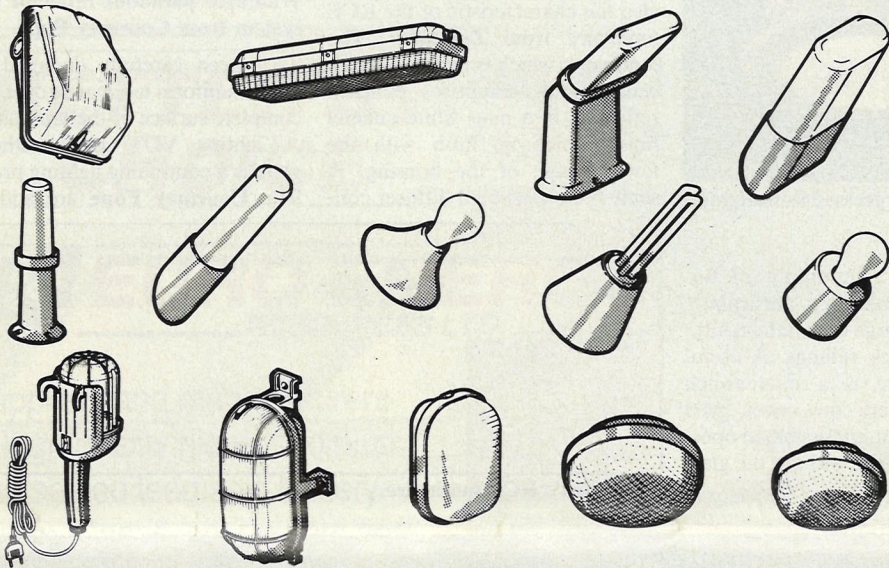
An aluminium stem terminates in a fork which houses the dimmer, lampholder and electrical connections. The luminaire comes in matt black and satin aluminium finishes.

Kalla, another lamp from the same stable can equally be used as a wall or as a floor lamp. Two slender arms support a post terminating in a vertical torch shaped holder. Once again this takes a 300W linear tungsten halogen lamp.

Task lights

The other end of this sector is the province of the Scandinavians. Skarabé is a range of task lights from **Ateljé Lyktan AB** of Sweden in lacquered aluminium designed by Ahlstrom and Kock. The luminaires take a 50W low voltage tungsten halogen lamp and are provided with separately adjustable reflectors of mirror glass. The design comes as a floor lamp 140mm high, a desk lamp and in a wall mounted version.

Novelties on the exterior lighting front show the increase in pop-



With innovation as the keyword, **Gewiss** gives constant assurance of high quality products backed up by **computerised design, complex laboratory testing** and the application of **advanced production processes** to achieve maximum quality, safety and durability.

Our extensive range of industrial lighting equipment uses the most advanced high grade plastics in the electrotechnical industry, ensuring top electrical and mechanical performance levels, simple practical installation and appealing design.

Our range includes:

Weatherproof Industrial Luminaires
Weatherproof Bulkhead Luminaires
Wall Luminaires
Decorative Wall & Ceiling Lampholders
Garden Luminaires

As a market leader in the manufacture of **Low Voltage Electrical Installation Equipment**, **Gewiss** can claim to be the **complete supplier** with the necessary technical, financial and staff resources to meet your most exacting requirements.

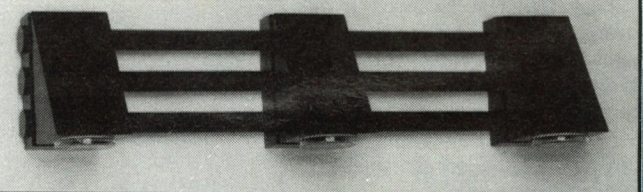
Contact our Sales Department if you require further information or a copy of our catalogue.

GEWISS
GET WISE!

Bumpers Way, Bumpers Farm Ind. Est.,
Chippenham, Wiltshire SN14 6LH.
Tel: (0249) 444734. Fax: (0249) 444514.

Reader Service No. 11

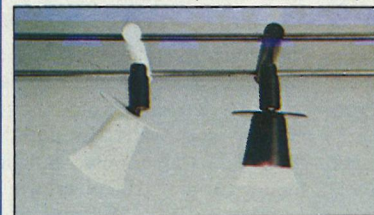
electrical installation equipment



Halogen exterior fitting from **DZ Licht**.

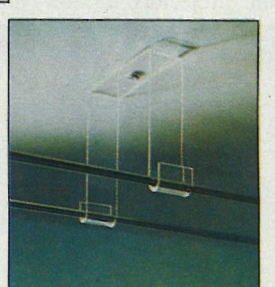
PARALIGHT

THE LIGHTING SYSTEM THAT RUNS PARALLEL TO YOUR DESIGNS.



Low voltage lighting that just clips onto pairs of parallel rods.

Paralight is a 'go-anywhere' system. Ceiling or wall-mounted, either horizontally or at any angle. You can now light-up where required without any trailing wires or heavy tracks as the power passes through pencil slim rods. Ideal for offices, receptions, showrooms, shops, restaurants, and hotels.

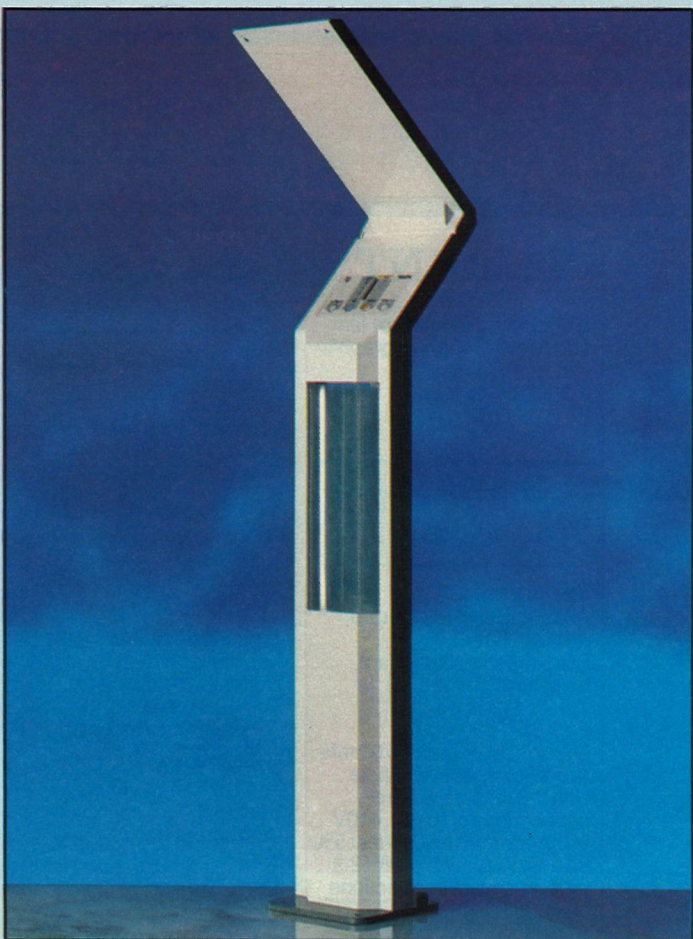


Tel: 0252-812211
Fax: 0252-812123
LARGE SHOWROOMS
127 Albert Street
Fleet, Hants GU13 9RP.

FAIRFIELD

Reader Service No. 12

Lighting Equipment News, July 1990

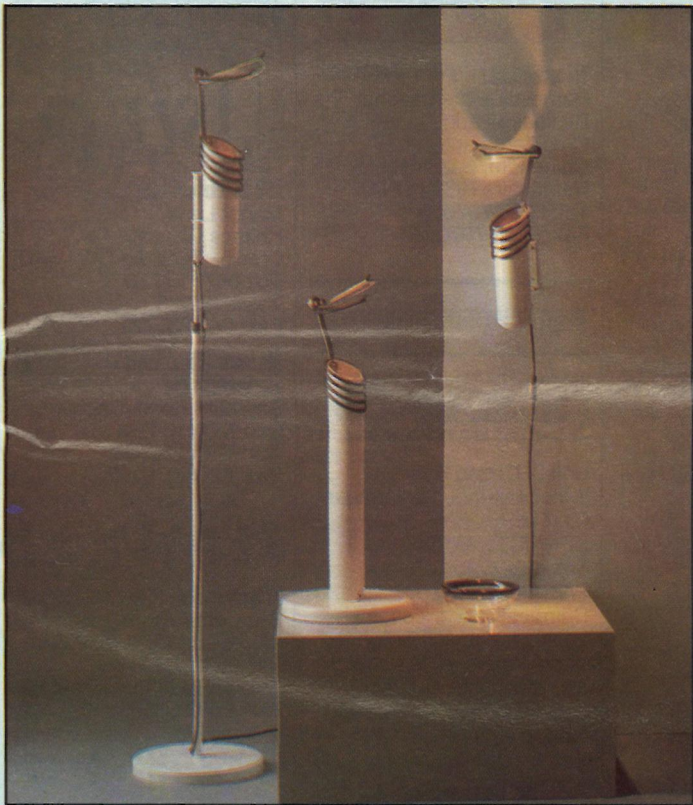


Solar charged fitting from Philips for gardens and patios.

the entrance to the home, domestic swimming pools, and other similar moisture laden areas.

ularity of outside lighting in the home environment. **DZ Licht**, for instance, have extended the concept of a low voltage to lighting

Protected against rain and snow, the three lamp bar fitting **DZ 1980** is constructed of cast aluminium and aluminium tube



Akteljé Lyktan's Scarabé gives a complete range of decorative lights.

and is available in a choice of six bright, modern colours, including cadmium yellow, flame red and mint green. The fitting also comes complete with toughened glass bedded in silicon washers, and each 50W lamp has its own individual transformer which is fused for additional safety.

The light bar is installed as a unit by means of a wall adaptor that also takes the electrical connections, and it can be fixed to give uplight or downlight.

Exterior lighting

Turning to the garden, the Solar light from **Philips** is a cordless luminaire designed for outdoor applications, including gardens, balconies, patios and camp sites.

It is a battery operated device which recharges through its own adjustable solar panel containing 21 semi-crystalline silicon solar cells which store energy during the daytime to provide illumination for up to 3.5 hours at night.

A weather-resistant control panel enables simple control of all features. The solar module is adjustable to maximise the amount of sunlight absorbed and eight

LEDs show the best angle of the solar panel for optimal charging of the batteries.

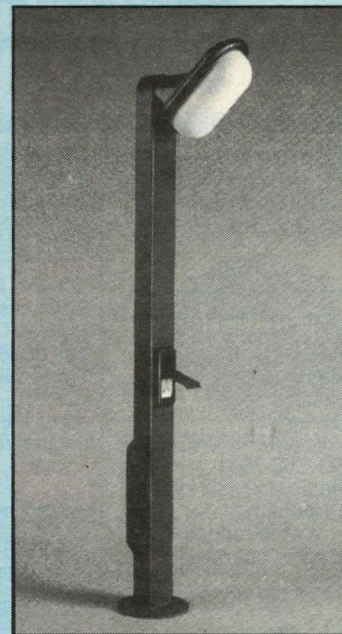
The luminaire uses a PL 7W lamp, and two-face reflector distributing light uniformly in a forward and backward direction, giving an oval lighting pattern.

The light can be switched on manually or automatically at nightfall, with preset burning times ranging from 0.5 to 3.5 hours in incremental steps of 0.5 hours.

The futuristic design of the luminaire is matched by its toughness — the housing is made of sturdy polycarbonate. Each fitting can easily be installed by bolting it to a concrete pad or by securing in sand or grass by means of a javelin spike.

Newcomer to the outdoor amenity lighting field is Netherlands company **Lumiance**. The range of four new luminaires is made of impact resistant polycarbonate, making them tough enough to be used for public lighting.

Fresco is a round fixture with an opal cover, designed for general outdoor lighting. This fixture can be used under canopies, next to



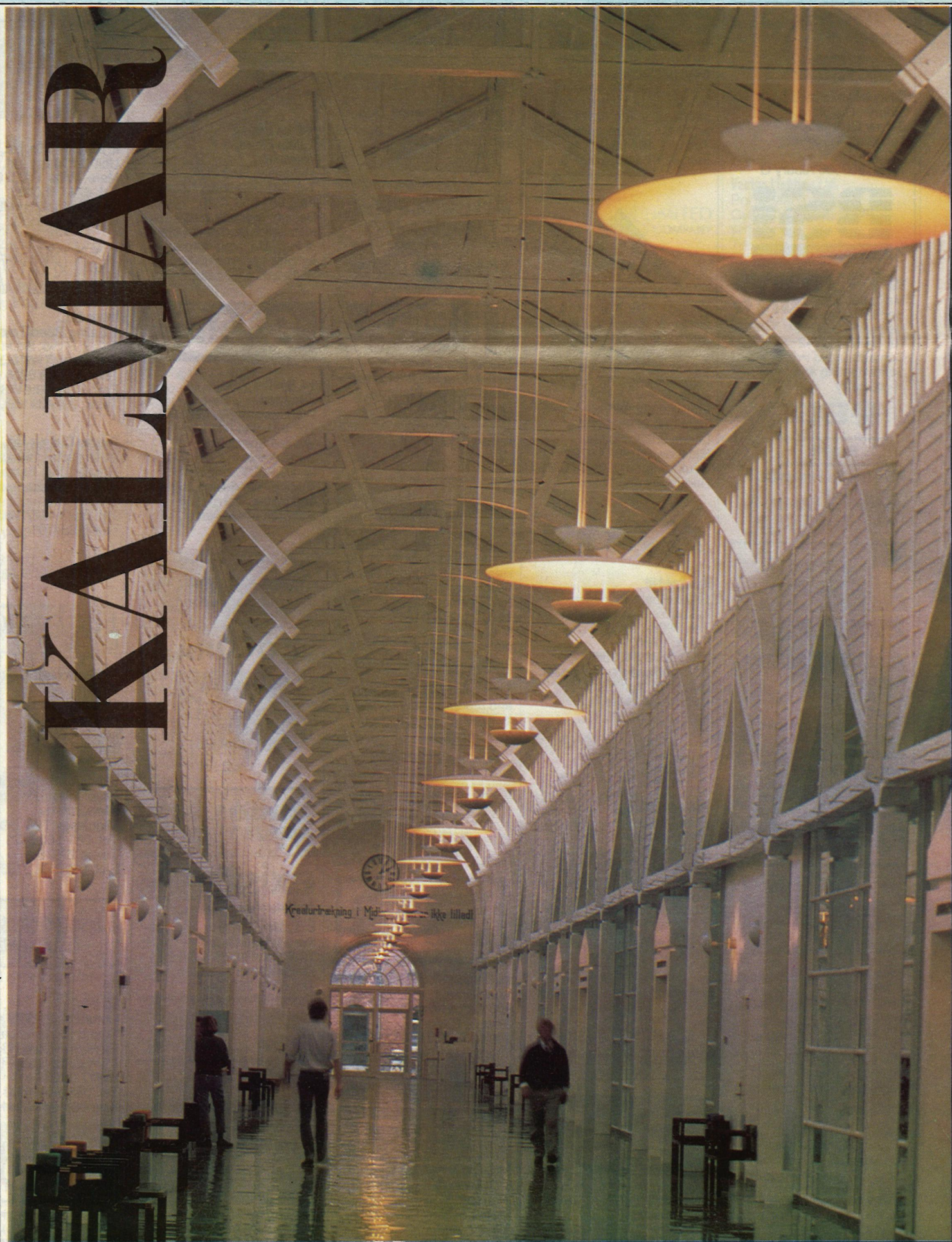
Outdoor lighting is a new venture for Lumiance.

or above a door. It can also be used indoors as well, for example in the bathroom. The various installation options offer many possibilities, for instance, mounted directly against the ceiling or wall or, with a bracket, at an angle of 15° against

the wall. With its bracket, **Fresco** can also be installed on posts, which form part of the outdoor-lighting product range as well. **Fresco** is a class 1 lighting fixture to IP 44, which uses 2 energy saving 9W compact fluorescent lamps. It is available in both black and white.

Pallazzo major is a modern variation of the classic Bullseye, designed for general outdoor lighting. The Major can also be installed in various ways, such as flat to the wall or ceiling or, with a bracket, against the wall at an angle of 45° or directional lighting. It can also be mounted horizontally or at an angle of 45° to the aluminium posts. This lighting fixture has an opal cover and it is supplied in white and in black. It is available in a version for a TC 11W and one for two TC 9W compact fluorescent lamps, which provides a greater light output. The **Pallazzo major** is a class 1 lighting fixture to IP44.

Pallazzo minor and minor deco are variations of **Pallazzo major**. The former is a smaller version, and the latter has a half cover to provide directional lighting.



THE EXTRA TERRESTRIAL

FATA MORGANA CREATING NEW PERSPECTIVES IN SPACE. WITH PURE GEOMETRIC SAUCERS OF AMBIENT, GLAREFREE LIGHT. **KALMAR**. SERIOUSLY GOOD DESIGN.

KALMAR LIGHTING, 19 DACRE STREET, LONDON SW1H 0DJ TEL 071 222 0161/1543 FAX 071 233 0580

Floodlighting

**Manufacturers of
SELF SUPPORTING TOWERS
PLATFORM LIGHTING
STANDARDS
HINGED LIGHTING COLUMNS
for floodlighting and
communications projects.**



TOWERS DESIGN & MARKETING LIMITED Tel: 0384 76475
Kenley House, Pedmore Road, Fax: 0384 265839
Dudley DY2 0RA West Midlands, England

To advertise in
this Directory contact
Classified Sales

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



Albury Laboratories Ltd.,
Albury, Guildford,
Surrey GU5 9AZ
Tel: (048641) Shere
2041/4
Telex: 859336 Albury G



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

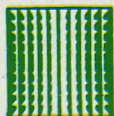
ALUMINIUM FINISHING

PROGRESS ANODISING

Progress Anodising Ltd
Unit 7 St Johns Estate
St Johns Road
Penn, Buckinghamshire
HP10 8HR
Tel: 049-4815577
Fax: 049-4816074
Comprehensive Anodising
Service including Polishing,
Finishing, Alachrome 100,
Alachrome 1200, and Brytol
Process.

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)

Maxi Engineering Company,
26/32 Plumstead High St.,
London SE18 1SL
Tel: 081-854 3181



**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.

ANODISED ALUMINIUM COIL AND SHEET

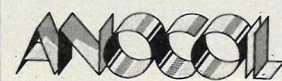


alanod®

Alanod & Garfield Lewis
Middlemore Road,
Birmingham.
Pre-anodised strip-blanks
available from stock to
your precise requirements
telephone or fax for more
information and details of
our 9 UK service centres.
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.,
Bilton Road, Bletchley,
Milton Keynes MK1 1HT
Tel: 0908 75642
Telex: 825031
Fax: 0908 643956
Pe-anodised aluminium for
reflectors, louvres and
decorative uses.

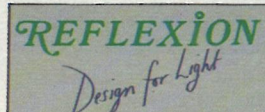


Pre-anodised and pre-
painted aluminium slit coil
and cut sheet for your
lighting reflector and louver
requirements available ex
stock.
Contact
Non Ferrous and Feralco
Tel: Walsall (0922) 722200.
Fax: Walsall (0922) 722466

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.

BATTENHOLDERS/ CEILING ROSES/ JUNCTION BOXES

Ashley and Rock Limited
Morecambe Road,
Ulverston,
Cumbria LA12 9BN
Tel: 0229 53333
Telex: 65164
Fax: 0229 57659

BATTERY BASED EMERGENCY STANDBY SYSTEMS

Colbere Eng Ltd.,
Church Lane,
Caldwell, Burton on Trent,
DE12 6RT
Tel: 0283 761267

BEGA LIGHTING STOCKISTS LIGHTING COLUMN SUPPLIERS UNDERWATER LIGHTING



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

BRASS PLATED LAMPS AND FITTINGS

Newtown Manufacturing Co. Ltd.
Rear of 116 Aldridge Road
Perry Barr
Birmingham B42 2TP
Tel: 021-356 8151
Manufacturers of brass
plated and powder coated
metal components for the
lighting industry.
Specialising in traditional
and modern designs. Made
in Birmingham, cast from
our own dies.

BULKHEAD LUMINAIRES — TUNGSTEN AND ENERGY SAVING



BG Electrical Accessories
Arlon House,
808 Oxford Avenue
Slough, Berks
Tel: 0753 37921
Telex: 847194
Fax: 0753 691468

CABLES/SILICONE

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

CEILING FANS

Hilton Marketing Ltd.,
Star Works
Trinity Lane,
Hinckley, Leicestershire,
LE10 0BJTel: 0455 610798
Fax: 0455 615329
For decorative and effective
ceiling fans

COLD CATHODE



Cold Cathode,
S.E.L. (S.E.F.T.)
High Output Lighting
Contact: Mick Watts
Tel: 081-771 8318

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

COLOURED SLEEVES FOR FLUORESCENT TUBES



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

COMBINED MAINS AND EMERGENCY LUMINAIRES



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

CONSULTANCY AND PROJECT MANAGEMENT



JSA Consultants
18 Cardross Street
London W6 0DR
Tel: 081-741 3972
Fax: 081-741 0436

CUSTOM DESIGN AND MANUFACTURING FACILITIES



Phipps Plastics Ltd.,
Coneygre Road, Tipton,
West Midlands DY4 8XF.
Tel: 021 557 1113
Fax: 021 557 6369.
Ex stock range. Fabricated
and formed diffusers in
styrene, acrylic,
polycarbonates etc. Opal
and clear prismatic.

CUSTOM DESIGN LUMINAIRES

Sugg Lighting Ltd.,
65 Gatwick Road,
Crawley, Sussex
Tel: 0293 540111

DIMMERS



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

Polaron Controls Ltd.,
21 Greenhill Crescent,
Hollywell Ind. Estate,
Watford, Herts
WD1 8XG
Tel: 0923 40272/5
Telex: 934191



**Richmond
LIGHTING
LIMITED**

11 Cambridge Trading
Estate,
Cambridge Road,
Hanwell,
London W7 3UP.
Tel: 081 567 6086

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

CLASS
Commercial Light and
Sound Systems Ltd.
Experts in Disco Lighting
837 Garratt Lane, London
SW17 0PG
Tel: 081-944 1400
Fax: 081-944 0141



MSL Prolight and Sound
Head office: 071-354 2254

VALIANT

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

DUCATI CAPACITORS EX-STOCK

Hale Instruments Ltd.,
Atlantic Business Centre,
Atlantic Street,
Broadheath, Altrincham,
Cheshire WA14 5NQ
Tel: 061-941 4540
Fax: 061-926 8597
250V Range-2 mfd to 60 mfd
at 5% tolerance available
with 2.8 tags, pushwire
connections or leads. 440V
Range: 2 mfd to 60 mfd at 5%
tolerance available with 2.8
tags, pushwire connections
or leads.
Approvals include: IMQ,
SEMKO, NEMKO, B.S.
(PENDING)

ELECTRONIC CONTROL GEAR



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

ELECTRONIC TRANSFORMERS



Unit 2, Cotton Road,
Wincheap Industrial Estate,
CANTERBURY,
KENT CT1 3RB
Tel: (0227) 454778
Fax: (0227) 450 507
Competitively priced, high
quality range of 12v lighting
transformers, both toroidal
and electronic. Custom
design considered for bulk
orders.



Intram Barwell Ltd.,
Barwell Business Park,
Leatherhead Road,
Chessington,
Surrey KT9 2NY.
Tel: 081 391 5252
Fax: 081 974 1629
Competitively priced
transformers with high
performance standards.
Bespoke service available.

Lighting Components Limited

249 Seaside, Eastbourne
East Sussex, England
BN22 7NT
Tel: (0323) 410105
Telex 878512 NAJMA G
Fax: (0323) 410161

EMERGENCY LIGHTING CONTROL GEAR



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

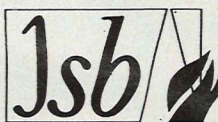
D.C. Emergency Systems Ltd
Wharf Street, Dukinfield
Cheshire SK16 4JG
Service and Sales
Tel: 061-343 1189

Ensura Systems Ltd.,
Farrington Road,
Burnley, Lancs.
Tel: 0282 29261/2/3
Telex: 63300 (Ensura)

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



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



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

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



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



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

ENERGY MANAGEMENT LIGHTING CONTROL



Bumpers Way,
Chippenham
Wiltshire SN14 6LF
Tel: 0249 443511
Reader Service No. 51

FLUORESCENT & COMMERCIAL LIGHTING



22 Nursery Place,
Chipstead, Sevenoaks,
Kent TN13 2RH
Tel: 0732 451744
Fax: 0732 456205
The home of Ronald Dury!

To advertise in
this Directory contact
Classified Sales

WHERE TO BUY DIRECTORY

Telephone:
081-975 9759

FLUORESCENT COMPONENTS AND ACCESSORIES

ADVANCED LIGHTING INDUSTRIES

Advanced Lighting Industries,
Electronic Fluorescent
Starters,
Electronics and Adapters,
Motem House,
Brooker Road,
Waltham Abbey,
Essex EN9 1JW
Tel: 0992 88668

KNOBEL

Sole UK Agent and
Distributor
Hylec Elettro 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

Transtar

CONTROL GEAR FOR LIGHTING

Transtar Ltd.,
Victoria Industrial Estate
Victoria Road West
Hebburn
Tyne and Wear NE31 1UB
Tel: 091-4832797
Telex: 537234 Transtar

Tridonic

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

FLUORESCENT/ DISCHARGE CONTROL GEAR

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

PARMAR

W. J. Parry (Electrical) Ltd.,
Victoria Mills,
Draycott, Derby DE7 2PW
Tel: 033 17 2321
Fax: 033 17 4035
Telex: 37374

Tridonic

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

VOSSLOH

Vossloh-Schwabe UK Ltd
38 Tanners Drive
Blakelands
Milton Keynes MK14 5BW
Tel: 0908 611060
Fax: 0908 613131
Telex: 825606 VOSUK G

GARDEN LIGHTING

Alectralink Distributing Company
Unit 5, Popin Building,
Southway, Wembley,
Middlesex HA9 0HB
Tel: 081-900 2322
Fax: 081-903 3403
New range low voltage
path and garden lights
only knee high! + five way
garden transformer to suit.
Low voltage sunken
Uplighter with integral
transformer.

GENERATING SETS

Brimotor Ltd.,
Tel: 0892 37588
Fax: 0892 27724
Telex: 95446+Floodlighting

GLASS

Rembrandt Glass,
Rembrandt House,
Whippendell Road,
Watford, WD1 7WD
Tel: 0923 815510
Computer guided glass
cutting machine requires
work, shapes a specialty.

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.

INJECTION MOULDING

Clear Cut
Unit 14 Pontnewynydd
Ind. Estate, Pontypool,
Gwent, NP4 6PB
Tel: 0495 750130
Moulding in Polycarbonate,
Abs, Polypropylene & other
thermoplastics.
Quotes for new tooling.

LAMP HOLDERS

Golden Peacock
A-143 New Friends Colony
New Delhi - 110065
India
Tel: (91-11) 635322, 529545
Telex: (031) 62324 LITE IN
Cable: Lightwest
All items meet BS 5042
Part 1: 1981.

AGH

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

IMI Reeves Lampholders

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

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.,
80 Alcester Street,
Birmingham B12 0QE
Tel: 021-622 2385
Fax: 021-6666 148

LINDNER

Bereich Installationstechnik

Sole Agent and Distributor
Hylec-Elettro Gibi (UK) Ltd
Unit 4, Trinity Centre
Park Farm Industrial Estate
Wellingborough
Northants NN8 3ZB
Tel: (0933) 677633
Telex: 312620 HYLEC G
Fax: (0933) 675771

BENDER + WIRTH



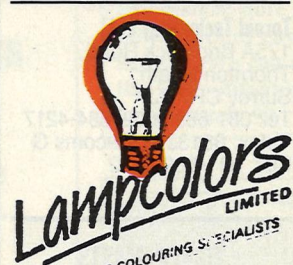
C. Quitman Ltd.,
Sole Agent and Stockist for
Bender and Wirth
Ullswater Crescent,
Marpit Lane, Coulsdon,
Surrey CR3 2HR
Tel: 081-668 5295/6
Telex: 945809
Fax: 081-660 2589

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

VOSSLOH

Vossloh-Schwabe UK Ltd.,
38 Tanners Drive,
Blakelands,
Milton Keynes MK14 5BW
Tel: 0908 611060
Fax: 0908 613131
Telex: 825606 VOSUK G

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 Cootie Green Road
Pilgrims Hatch, Brentwood,
Essex CM14 5PN
Tel: 0277 374247
Fax: 0277 374949

LAMP SHADE FRAMES

Brendon C. Hoarau,
149 Tideswell Road,
Eastbourne, Sussex
Tel: 0323 37096
Frames plastic coated
delivered anywhere in
England. Good quality, good
prices, fast and reliable
delivery.

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

C and G Weir (Glasgow) Ltd.,
Project 9, Unit D/A,
McPhail Street,
Bridgeton,
Glasgow G40 1ND
Tel: 041-554 3126
Quality lampshade frames,
ringsets and shade carriers.
Nylon coating.

LAMPS AND LIGHTING

American Lamps and Lighting Ltd.,
367 Uxbridge Road,
Acton, London W3 9RH
Tel: 081-993 3181
Telex: 894452



Chadwell T.S.M. Ltd.,
Unit No.2
Southbrook Mews,
Southbrook Road, Lee,
London SE12 8QL
Osram-Thorn-Philips-
Omega-Wotan.
Tel: 081-318 5071

CP Lighting
9A Tudor Road, Hampton,
Middlesex TW12 2NH.
Tel: 081-783 0499
Fax: 081-979 9007
Lamp specialist, low volt,
metal halide, photographic,
tripphosphor and colour
match tubes.

H. J. Rose,
84 Boundary Road,
London E17 8JU
Tel: 081-521 5845
Coloured lamps a
speciality.

GLOW BALL LIGHTING LIMITED

55 West Grove
Woodford Green
Essex IG8 7NR
Tel: 081-559 0666
Fax: 081-559 1695

TUNGSRAM

Tungsramp Lighting Ltd.,
35-37 William Road
London NW1 3ER
Tel: 071-388 8889,
071-722 6611
Telex: 266086
Fax: 071-387 4071

Wire Technic,
Lighting Specialists,
50 Capel Road,
Watford, Herts WD1 4AE
Tel: (0923) 228896
Fax: (0923) 53513
Specialising in low voltage,
metal Halide, all lamp types
supplied. Installation and
maintenance undertaken.

LIGHTING COMPONENTS LAMPHOLDERS/SWITCHES CABLE/BRASS/GLASS



Collingwood VLM Ltd,
17 Stilebrook Road,
Olney,
Bucks.
Tel: 0234 712121
Telex: 826207
Fax: 713673

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 CONTROLS



DEM Controls Ltd
Winnington Avenue,
Northwich,
Cheshire CW8 4EE
Tel: 0606 782547
Reader Service No.60

LIGHTING DIFFUSERS

Dawn Diffuser Services
2 Mead Crescent,
Sutton, Surrey,
SM1 3QS
Tel: 081-642 4709
Suppliers of all types of cut
panels, diffusers and metal
louvres.

Diffuser Replacement Services
Unit 8, Landmark Centre,
Shaftesbury Road,
Edmonton,
London N18 1SW
Tel: 081-884 4934
Fax: 081-884 2212

Panelservice Ltd.,
Wycliffe Works,
Wycliffe Road, Wimbledon
SW19 1ER
Tel: 081-540 7172

LIGHTING DIFFUSERS/ PLASTICS

Arrow Plastics Ltd.,
Arrow Works,
Hampton Road,
Kingston-upon-Thames,
Surrey
Tel: 081-546 6258
Telex: 8955343

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,
Marpit Lane, Coulsdon,
Surrey CR3 2HR
Tel: 081-668 5295/6
Telex: 945809
Fax: 081-660 2589

LIGHTING LOW VOLTAGE FLEXIBLE STRIP

Alectralink Distributing Company
Unit 5, Popin Building,
South Way, Wembley,
Middlesex HA9 0HB
Tel: 081-900 2322
Fax: 081-903 3403
Only 1/2" wide uses new
type of miniature Halogen
lamps, runs bright, white,
cool (low heat emission).
It is new it is amazing.

LIGHT MEASURING INSTRUMENTS



Hagner International
(UK) Ltd.,
Itcheor, Chichester,
West Sussex PO20 7DA
Tel: 0243 512387

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

LIGHT SOURCES & COMPONENTS TO OEM MANUFACTURERS

Thorn EMI Lamps &
Components Ltd.,
Miles Road, Mitcham,
Surrey CR4 3YX
Tel: 081-640 1221
Telex: 25534 TELC.G
Fax: 081-685 9625

LOW BRIGHTNESS VDU LOUVRES



A.L.C. Cellite Ltd.,
Unit 16 Adler Ind. Est.,
Betam Road, Hayes,
Middlesex UB3 1ST
Tel: 081-848 1881
Fax: 081-569 1837

LOW VOLTAGE TRACK SYSTEMS



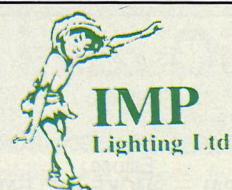
Lamplighter House,
Shripney Road,
Bognor Regis,
West Sussex PO22 9LL
Tel: 0243 829040
Fax: 0243 829051

LUMINAIRE DESIGN SALES AND ASSEMBLY



121 London Road,
Knebworth,
Herts SG3 6EX
Assemblers of all forms of
lighting. Luminaire Design
Undertaken. Lighting Sales.
Tel: 0438 812550

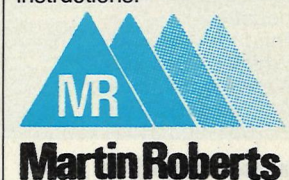
MANUFACTURERS OF SPECIAL AND PURPOSE MADE FITTINGS



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.



Luna Lighting Ltd,
Lotmead Business Village,
Wanborough, Nr Swindon,
Wilts SN4 0AS
Tel: 0793 790177
Fax: 0793 790043
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.
Maxi Engineering Co.,
26/32 Plumstead High St.,
London SE18 7SL
Tel: 081-854 3181



Vector Lighting Ltd.,
Porte Marsh Estate,
Calne, Wiltshire SN11
9PU.
Tel: 0249 814548
Fax: 0249 816138

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: Lee Freeman.

METAL FINISH PLASTIC BASES & FITTINGS

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

METAL PRESSWORK

TRANSTEEL

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.

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

Moore Metal Spinners Ltd
3 Sussex Place
London W6 9EA
Tel: 081-748 6061
Comprehensive service to
the lighting industry from
prototypes to batch
production.

Vale Metal Spinners Ltd.,
7 Bryngelli Industrial
Estate,
Hirwaun, Mid Galmorgan,
South Wales, CF44 9PT
Tel: 0685 811706
Fax: 0685 811340
General metal spinners
Max spin 1828mm dia.,
Tool-room and Capstan
turning. Press and sheet
metal work. Polishing and
lacquering. Large and
small quantities and
prototypes undertaken.

**METAL SPINNING/ASSEMBLY
ANODISING/PRESSWORK
METAL WORK/SPRAYING**

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

**MODULAR LUMINAIRES
ENERGY SAVING &
EMERGENCY LIGHTING**

ADLITE

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

**NATURAL LIGHT LAMPS
SUNODYM AND SUNGRO LITE**

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

**ORIENTAL LAMPS AND
SHADES**

50-Steps
WE SELL THE HOTEL LIGHT

**50-Steps Lighting International
Ltd.,**
5th Floor
Federal Centre
77 Sheung on Street
ChaiWan, Hong Kong.
Tel: 5 897 1060
Telex: 78049 FIFTY HX
Fax: (852)-5-897-0509

**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 Pfizman
(0920) 462272
Charles House, Furlong
Way, Gt. Amwell, Ware,
Herts SG12 9TA

PICTURE LIGHTS



JCC Marketing,
Lampighter 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



Green Tree Lighting
Top quality uplighters in
plaster, alabaster and glass.
GLS, halogen and low
energy. Colour brochure
available.
Tel: 0904 691122
Fax: 0904 691123



Tornado Lighting
235 Upper Richmond Road,
Putney, London SW15 6SN
Tel: 081-788 2324
For top quality wall lights in
T/Halogen GLS and PL.
Phone or write for brochure.

POLYCARBONATE GLOBES

iGuzzini

Sphere
Cube Octahedron
Ellipse
OPAL - SMOKE - CLEAR
Sole UK Distributor
Forma Lighting Limited
Unit 3
Mitcham Industrial Estate,
85 Streatham Road
Mitcham
Surrey CR4 2AP
Tel: 081-640 6811
Telex: 945414
Fax: 081-640 6910



Keylighting Components
Royd Mill, Cowling
N. Yorks, BD22 0BE
Tel: 0535 35922
Fax: 0535 33546
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.

Elkamet
Spheres and Shapes, Also
in Acrylic and Polyethylene,
OPAL-CLEAR-FROSTED +
others. Sizes from 160mm
diameter.
Sole UK Agent
Walter Logan and Co Ltd
3 Athenaeum Road
Whetstone, London
N20 9AA
Tel: 081-446 0161

**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.

**POWDER COATING
SERVICES**

Purpose Products Ltd.,
Powder Coating Specialists
18 Manor Grove
London SE15 1BR
Tel: 071-639 2511
Fax: 071-277 5942

RECESSED LIGHTING



Lampighter 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

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

**REPRODUCTION VICTORIAN
LIGHTING**

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

**SELF-ADHESIVE LABELS
AND BASE COVERS**

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

**SHEET METAL WORKERS/
PRESSWORKERS AND
ASSEMBLERS TO THE
LIGHTING INDUSTRY**

Alpha Lighting Services Ltd
55 Canning Street,
Kempton, Brighton,
Sussex, BN2 2ES.
Tel: 0273 620840
Fax: 0273 620850
Contact: Francis Stevens
Comprehensive service to
Lighting and sign industries.

SILENT POWER HIRE



JPL Services
15 High Street,
Rampton, Cambridge,
CB4 4QE
Tel: (0954) 50851
Fax: (0223) 237405

**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.



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 louvers
to the Trade.

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.

Maxi Engineering Co.,
26 Plumstead High Street,
London SE18 1SL
Tel: 081-854 3181

**SUPPRESSION
COMPONENTS**

Almag

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 Inverter
and Switching Transformers.

THERMAL CUT-OUTS



MCB Components Ltd.,
82 Wick Street, Littlehampton
Tel: (0903) 715503
Telex: 877560 BMFBS 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 724425



Economy Lighting Ltd.,
For your UL approved
Toroidal Transformers
Telephone: 081-863 0943



Toroid Technology Ltd.
175A Brigstock Road,
Thornton Heath,
Surrey CR7 7JP
Tel: 081-689 8002, 684-4217
Telex: 8813271 Gecoms G
Fax: 081-689 0002

**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

**TRADITIONAL EXTERIOR &
INTERIOR LANTERNS &
LIGHT FITTINGS**

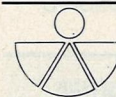


Victoria Works,
133 Reddings Lane,
Tyseley,
Birmingham B11 3HA
Tel: 021-707 6936
Fax: 021-707 7425

**TRADITIONAL WOOD
FITTINGS AND
WALL BRACKETS**

S. Smith (E.F.) Ltd.,
85 Abercromby Avenue,
High Wycombe,
Tel: 0494-21667

**TRANSFORMER
MANUFACTURERS**

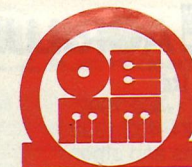


APEX INDUCTIVE DEVICES
27 Abbey Manufacturing
Estate, Mount Pleasant,
Alperton,
Middlesex HA0 1RD
Tel: 081-903 2944
Telex: 8813237
Fax: 081-903 7944
Manufacturers of Inverter
and Switching Transformers.



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.



Low Voltage Transformers
WIRE WOUND
50VA + 100VA
COMPACT
ELECTRONIC
50VA + 100VA + 150VA
DIMMABLE
COMPACT
Sole UK Distributor

Forma Lighting Limited
Unit 3
Mitcham Industrial Estate
85 Streatham Road
Mitcham
Surrey CR4 2AP
Tel: 081-640 6811
Telex: 945414
Fax: 081-640 6910

KNOBEL

**Sole Agent and
Distributor**

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

LightGraphix

LightGraphix Ltd.,
Vauxhall Place,
Lowfield Street,
Dartford, Kent DA1 1HU
Tel: 0322 222389
Fax: 0322 71512
Low voltage Transformers
from 20VA to 500VA

**Lighting Components
Limited**

249 Seaside, Eastbourne
East Sussex,
England BN22 7NT
Tel: (0323) 410105
Telex 878512 NAJMA G
Fax: (0323) 410161

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



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.



Toroid Technology Ltd
175a Brigstock Road,
Thornton Heath,
Surrey CR7 7JP
Tel: 081-689 8002, 684-
4217
Telex: 8813271 Gecoms G
Fax: 081-689 0002

Tridonic

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

TUBES

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

**ULTRA VIOLET/SPECIALIST
LAMPS & EQUIPMENT**

Starna Ltd.,
33 Station Road,
Chadwell Heath, Romford,
Essex RM6 4BL
Tel: 081-599 5115
Telex: 8951154 Starna G
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**

D. W. Windsor Ltd.,
Pindar Road,
Hoddesdon,
Herts EN11 0EZ
Tel: 0992 445666
Fax: 0992 440493

**WOOD FLOOR
STANDARD LAMPS**

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

S. Smith (E.F.) Ltd.,
85 Abercromby Avenue,
High Wycombe,
Tel: 0494-21667

**ZONES 1 & 2 BASEEFA
APPROVED LIGHTING
FITTINGS**

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

CLASSIFIED ADVERTISEMENTS

Lightning Growth

- **Lighting Sales Engineers**
Cambridge
London
- **Showroom Manager/Assistant W1**
- ▼ **Lighting Design Engineer**

The people we seek for these posts will be able to equal the exacting standards of our products and clients — architects, consulting engineers, government departments and major retail chains.

We are intent on employing the very best, and offer salaries and company benefits accordingly. If you are confident that you can rise to these opportunities to develop your career in conjunction with our rapid growth, please contact either:-

- ▼ Mark Rowling
Technical Manager
- Mike Hill
National Sales Manager
- ERCO Lighting Limited
38 Dover Street
London W1X 3RB

ERCO

AREA SALES MANAGER PUBLIC LIGHTING

INDUSTRIA specialising in the Public Lighting sector with a professional lantern range supplying their home market of Holland and the U.K. as well as throughout the world.

Reporting to the U.K. Manager the successful candidate will be responsible for the continued promotion of INDUSTRIA equipment and should be capable of giving full technical assistance when required, therefore a thorough working knowledge of lighting with an appropriate technical qualification will be required.

Resident in the northern home counties with responsibility for the East Midlands/South East of England. An attractive salary package will be offered to the most suitable candidate.

Apply in writing with full C.V. to:

U.K. Manager
B.V. Industria
Consultancy Office
52-62 Brasenose Road
Bootle
Merseyside L20 8HG



LIGHTING EQUIPMENT SALES c. £20,000 + car

Sales to specifiers in London, Home Counties, Midlands, North West etc.

TELEPHONE (0273) 208741 TODAY!

K. P. Personnel

WANTED

**SURPLUS STOCK OF DECORATIVE LIGHTING
ANY QUANTITY. IMMEDIATE PAYMENT GIVEN.**

WRITE IN CONFIDENCE TO:

**MERCHANDISE MANAGER, LHS STORES LTD,
10 TRADING ESTATE ROAD,
LONDON NW10 7LU.**

Scottish Lighting Company
requires additional assembly work. Experienced in
fluorescent, low voltage and emergency luminaires.

Box No. 1482
Lighting Equipment News, Maclean Hunter Ltd
Maclean Hunter House, Chalk Lane, Cockfosters Road
Barnet, Herts EN4 0BU

AXIS

Lighting Sales Engineer

Based London/South East

Axis Lighting is a progressive architectural and display lighting company within the F W Thorpe Plc group.

A lighting sales professional is urgently required to sell exciting and innovative lighting systems to specifiers and consultants.

You will be an experienced lighting sales engineer with a proven track record of successful sales to the specifier market who is now looking for an opportunity to progress with a dynamic company.

Attractive salary and commission package. Send CV to:

Ian Thorpe
Axis Lighting
Merse Road
North Moons Moat
Redditch Worcs B98 9HH Fax 0527 584177



The manufacturing section of DHA's
expanding special effects
department require a
workshop technician

Experience of soldering and pcb
work preferable. Computer literacy
and interest in theatre/TV lighting an
advantage. Applications to:
Nikki Scott, 3 Jonathan Street,
London SE11 5NH
For further details call 071-582 3600

CAREER MOVE DESIRED

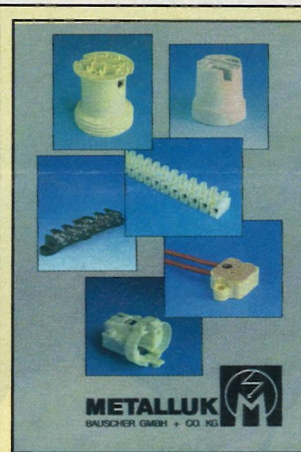
26 year old male, self motivated
product development manager with
good experience in the domestic
lighting industry looking for career
advancement.

Reply to
Box 1483,
Lighting Equipment News,
Maclean Hunter Ltd,
Maclean Hunter House,
Chalk Lane, Cockfosters Rd,
Barnet, Herts EN4 0BU

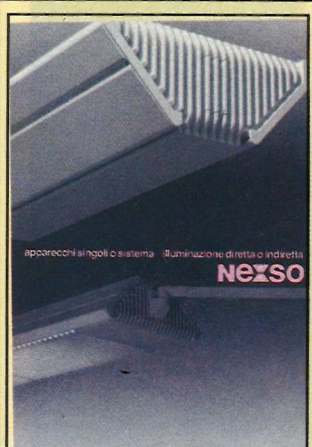
CATALOGUE DIRECTORY



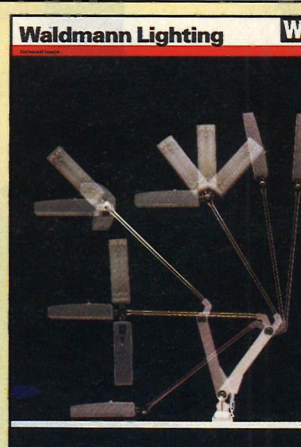
Minolta is one of the world's
leading manufacturers of
light and colour meters. We
have instruments that will
measure the Luminance,
Illuminance or colour of
luminaires, back-lit legends
and panels, fibre optics and
most types of environmental
lighting. We can also check
the U.V. output of specific
lamps. circle 90



Metalluk offers a complete
range of lighting components
from mains and low voltage
lampholders through to fused
terminal blocks and plug-
connectors. Acorn Lighting
Products and Metalluk are
able to offer a solution to
most termination problems:
circle 91



New from Crescent Lighting.
Nexso is an integrated system
of uplights and direct
luminaires for retail and
office environments. Each
module can be wall or ceiling
mounted and the system
allows the designer great
flexibility. Lamp options
include 70W or 150W
HQITS, 36W or 58WT8 and
36W PLC Lamps: circle 92



The new catalogue from
Waldmann Lighting is
available through UK
distributors Midland
Machinery Services. It shows
a comprehensive range of
functional task lighting,
workshop machinery lighting
and specialist magnifier
lamps: circle 93

NEWS



Sweetness and light

The installation of Sylvania 400W Super Metalarc high bay fittings in the British Sugar factory in Kidderminster has reduced running costs and improved the working environment.

Sylbay High fittings with the Metalarc lamp produce a 25.11kW loading, a saving of over 41 per cent and worth around £4 000 pa.

The lamps were fitted as a one to one replacement for 700W mercury highbays in the 6 000 square metre warehouse. Lighting is in operation continuously between October and February and for 16 hours a day, 5 days a week for the rest of the year.

Lighting levels have doubled to 300 lux, enabling staff to locate material and recognise printed matter far more easily.

Estate action scheme

Local authority engineers at Blyth Valley Council in Northumberland have initiated a major street-lighting improvement programme on two Cramlington housing estates. The scheme is part of a £1.7m package of 'Estate Action' — funded works aimed at increasing the popularity and security of the estates — and was designed in conjunction with Thorn Lighting.

The old lighting — unchanged since the estate was built 15 years ago — consisted of 251, 35W low pressure sodium lamps in post top lanterns. This gave the area a particularly gloomy appearance, with lighting levels less than 1 lux — not even complying with the lowest requirements of BS5489 Part 3.3 for residential areas.

The new lighting scheme keeps most of the existing columns and spacing, thus minimising costs, but introduces Thorn's latest, powerful 70W SON-XL lamp in a combination of Beta 79 side entry lanterns and more modern Gamma 6 post top lanterns.

The increased, whiter light output and improved distribution from the new lanterns means the scheme now complies with the superior requirements of BS5489: Part 3.2, producing an average illuminance of 9 lux with better uniformity. Lighting design was carried out using Thorn's new streetlighting software package, Optilume.



Simplex Lighting was chosen to provide the lighting for FFV Aerotech's aircraft maintenance hanger at Stansted Airport — outright winner of the 1989 British Construction Industry Awards.

Lighting designers created a special module based on the Simplex Hibay reflector. The module included two reflectors, sited on a mounted arm, and a specialised gear box with individual controls. Two 400W lamps, high pressure sodium and metal halide, provided illumination close to natural daylight.

The two lights were mounted in pairs to form 4-light clusters and 94 clusters were installed in the 23 metre high roof.

Lighting the jet set



What happens on the ground plays a big part in the reputation Australian airline Qantas has for safety. Exacting standards for inspection and servicing of aircraft called for a lighting system which offered both quality and reliability when the new Qantas Hangar no.

96 at Mascot in Sydney, had to be illuminated to provide lighting for maintenance work. And, due to the size of the new hangar at the jet base, the lighting system had to be custom designed.

The size of the hangar presented a formidable problem. The light fitting mounting heights in the huge building were 16m and 26m above the ground respectively. The challenge to Thorn ALI Lighting was to design a lighting system which would provide excellent visibility, long life, low maintenance and maximum efficiency.

The solution was developed with the aid of a computer analysis of alternative lighting layouts. The final design utilised compact 1kW metal halide, single lamp, directional light fittings — combining easy maintenance and optimum performance.

The light fittings were totally enclosed and had to pass stringent safety and deluge testing.

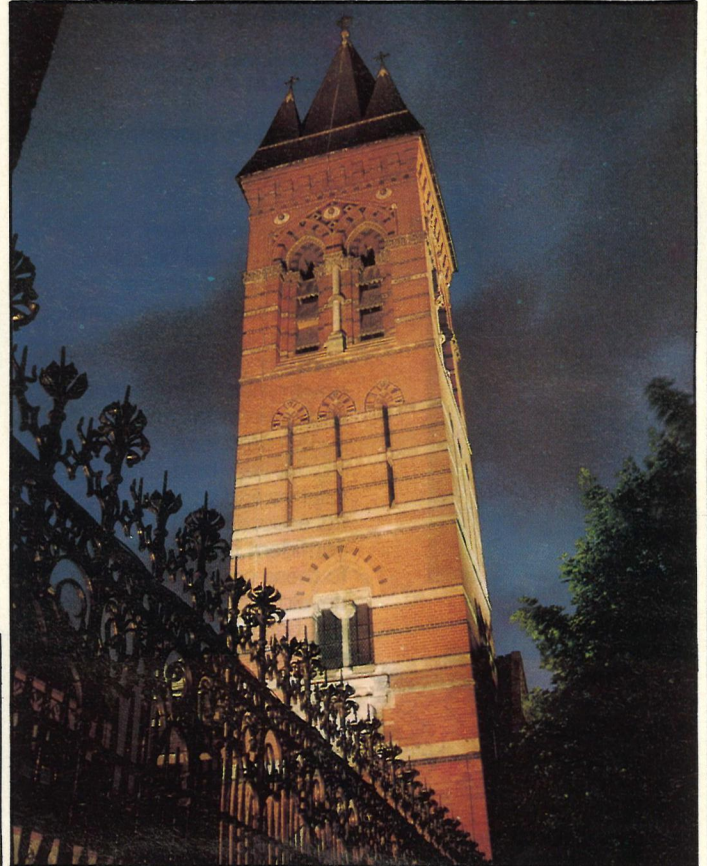
More lighting for St James the Less

Floodlighting of a London church has helped make the surrounding area safer.

St James the Less Church in Pimlico, built in 1860, is one of the few churches designed by Victorian architect G E Street. Standing within the award-winning 1960s Lillington Gardens Housing Estate, the dark setting of the church made it a place to avoid at night.

Its renovation, cleaning and floodlighting is an important move, both architecturally and for the nearby residents. Lighting design was by Westminster City Council, using the latest lamp and luminaire technology.

The body of the church is lit by four SILL/LDMS 150W compact source mercury iodide lamps, while the tower is lit by a further seven 150W single ended lamps,



five in SILL/LDMS and two in Thorn projectors.

The installation, carried out by London Electricity, is completed

with a 70W SON/T traditional style lantern mounted on the wall of the adjoining school to illuminate a dark alleyway

WHO ARE YOU GOING TO SPECIFY...?



DOUBLE LAMP LIFE... HALVE WASTE... HALVE POLLUTION
HELP SAVE THE WORLD! FIT **Pulsestar**

Government funding for BEMS centre to cease

The Department of Energy will cease to provide 'pump priming' for the Building Energy Management Systems (BEMS) Centre at BSRIA from the end of September 1990.

Government support depended on increasing funding from member subscriptions. Although tar-

gets had been met from manufacturers and supporting industries, the user sector — which was forecast to be the biggest growth area — had been well down. This was not because of lack of interest, but rather from a preference to pay for advice or applications research on a client/contractor basis; and, unfortunately, while subscriptions did qualify for support, contract income did not.

Graeme Baker, BSRIA's chief executive, commented this was somewhat earlier than hoped, but the Centre, now in its fourth year of operation, would continue to provide information and research for its membership.

Small firms must improve training

Small companies are being urged to increase their levels of training to bring them into line with European companies. Increasing the skills of their workforces will help them improve their competitiveness, according to a new training guide from the National Economic

Development Office.

The guide, available free to small and medium sized companies, recognises the difficulties of dealing with training when faced with many other business problems. But, in the light of reducing numbers of young people, increasing workforce skills is of prime importance.

'Step up to Technology-Based Training' is available free from Barbara Stephens, NEDO, Millbank Tower, Millbank, London SW1P 4QX, tel. 071-217 4041.

Single market advice

Guidance for the smaller company is what Dr David Stoker and Vincent Benson, of Durham University Business School, provide in their book *The Smaller Company and 1992*.

The European Community holds the view that small firms,

with their growth potential, flexibility to cope with change and ability to innovate, should be encouraged and supported. However, at the very time the value of the small firm is being recognised, economic conditions present a major threat to their existence.

Against this background the book looks at the challenges of the Single Market. It is intended for both owner/managers of smaller firms and those who advise them.

IN YOUR NEXT ISSUE

The September issue of *LEN* will take a look at the lighting requirements of educational buildings, including schools and universities.

In the area of lighting controls, we hope to publish a couple of case

studies on the use of a control system in a factory building and mains signalling in retail premises.

On the lighting technology side, we shall be featuring a review of developments in theatre lamps.

