LIGHTING EQUIPMENT NEWS

SEPTEMBER 1988

ILE conference

Lighting for the community will be the theme of this year's annual conference of the Institution of Lighting Engineers to be held at the University of Warwick from Monday 19 September to Thursday 22 September.

Although the majority of the programme is concerned with outdoor lighting, there will be a session on modern office lighting.

Subjects to be covered include: keeping the customer satisfied; lighting design, a major impact on crime and fear; discharge lamp circuits; occupancy detectors; new recommendations for tunnel lighting, and latest developments in compact fluorescent lamps.

The new code of practice for lighting urban centres will be discussed, as will luminance design and various methods of illuminance measurement.

A paper on putting lighting on the map will outline a method of using computers in street lighting departments to store and analyse information on maintenance planning.

Further details can be obtained from the ILE at 9 Lawford Road, Rugby, Warwicks CV21 2DZ, telephone (0788) 76492.

In Brief . . .

● **D W Lighting** has opened a depot to serve Langbaurgh District Council on Teesside. Under a new contract it will maintain 16 000 street lights and illuminated signs. From this depot it will be possible to service local authorities in north eastern England up to the Scottish border.

● **Crompton Parkinson Ltd** has streamlined its distribution network by expanding its Birmingham premises into a regional headquarters which will serve the whole of the Midlands, including the Nottingham area.

● **Lee Colortran International** has opened a theatre lightingg shop at Unit 43, Nottingham South and Wilford Industrial Estate, Ruddington Lane, Nottingham. An over-the-counter service is offered on luminaires, dimmer equipment, filters and lamps, and a consultancy service is also available.

INSIDE THIS ISSUE

Floodlights are incorporated into the canopy of the new stand.

Lighting scores!

2-0 was the result — in favour of the visiting team when PSV Eindhoven took on AC Milan recently in a friendly match to mark PSV's seventy-fifth anniversary and the opening of the new stand in the Philips Stadium at Eindhoven.

The new stand is a sloping, covered steel and concrete structure providing seating for about 10,000 spectators of the stadium's capacity crowd of 27,000.

The multi-functional complex houses conference and catering facilities, shops, a Business Club with room for about 1000 visitors and a 130 metre-long walkway suitable for venues such as exhibitions and product shows.

Total building and installation costs — including the new floodlighting scheme — came to more than £10 million and the work was completed in about eight months.

Floodlighting is by means of the new Philips Arenavision system (see story on page 8). The new system almost doubles the vertical lighting level for the television cameras on the main stand possible because a line arrangement has been applied to the roof of the main stand. The lighting level on the horizontal plane has been kept approximately equal to the calculated initial level of the previous installation — resulting in a reduction in the power load of almost 20%.

The indoor lighting uses low-voltage halogen lamps for accent lighting, TL and PL fluorescent lamps in service areas and white SON in major rooms. The latter lamp is used with optics which were specially developed for the project to minimise reflection and glare. Approximately 800 of these lamps were installed in the suspended ceilings in the business lounge, restaurant, walkway and conference rooms.

PSV Eindhoven and AC Milan battle it out.

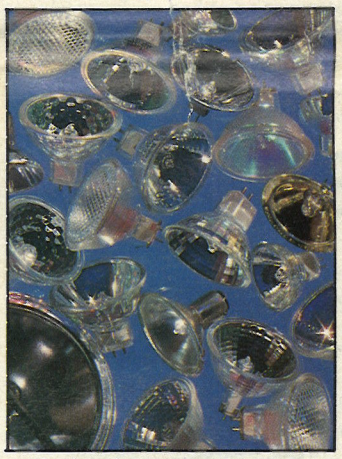
Lighting review on video

The first video reviewing lighting has been produced by the Lighting Division of CIBSE. It shows selected lamps and luminaires introduced during the last two years and examples of outstanding lighting installations.

The video is based on a session called *Lighting communique '88* at this year's National Lighting Conference. It is in the form of a 65 minute VHS tape.

Karl Pike, of the Lighting Industry Federation, introduces the review and the speakers are Brian Morgan, Whitecroft Lighting Division, Barbara Trigg, *Lighting Equipment News*, and Iain Maclean, Thorn Lighting.

Although the film was originally developed for colleges, as it shows the rapid progress of lighting in recent times, it is also a valuable training aid for lighting designers, lighting engineers, and sales and marketing departments.



Copies of the video, price £18.25 inclusive, may be obtained from CIBSE at 222 Balham High Road, London SW12 9BS.

Bright sparks

Young lighting engineers keen to make a name for themselves should enter the 1989 Miller Award. The competition, open to anyone between the ages of 16 and 30, is sponsored by the Worshipful Company of Lightmongers and administered by CIBSE. Entries should be papers of up to 2000 words on any topic related to lighting. These will be judged on content, originality, value and presentations with age and experience being taken into account.

Three finalists will be invited to present their papers at a special CIBSE meeting and assistance with expenses and with preparation of visual aids will be available to finalists. Prizes of £250, £150 and £100 will be awarded.

For rules and entry forms contact Debbie Rowe, CIBSE, Delta House, 222 Balham High Road, London, SW12 9BS, telephone 01-675 5211.

Armada fights again

Blackpool's famous lights are to be switched on on 2 September and, at the special request of the holiday industry, they will remain lit for an extra week this year. Such is the draw of this spectacular display that £100 million is expected to be spent in the resort during this nine week period.

New for 1988 is a tunnel of light with all the colours of the Armada. A three dimentional feature shows galleons in combat, with smoke coming out of the cannons.

The illuminations are more than 9km long, covering 18 major carriageways and a cliff-top display. They have just won a special prize in the European Lighting Awards.

NEWS

LEN sponsors fibre optics seminars

Within the next five years, fibre optics will be the major type of display lighting in the high street, predicts Applied Lighting Technology plc.

This company has specialised in research and development on the use of fibre optics for lighting and now feels it has made a breakthrough that will enable this technique to be used far more widely. Major applications in prestige offices are forecast for example.

It has arranged a series of seminars in major centres throughout the country during October in association with *Lighting Equipment News.*

These events will be of special interest to architects and interior designers.

Topics covered will include: principles of fibre optics; latest technical developments in fibre, sources and other equipment; recent key projects and installations; standard equipment available; installation methods; lighting applications in residences, restaurants, offices, shops, fountains and pools, landscaping, museums, art galleries and historic buildings; details of benefits, and photometric data.

Venues for evening meetings starting at 6pm are as follows:

Bristol: 4 October
Birmingham: 5 October
Manchester: 11 October
Leeds: 12 October
Newcastle: 25 October
Edinburgh: 26 October
London: 20 October

There will also be an afternoon seminar on 20 October in London, commencing at 3pm.

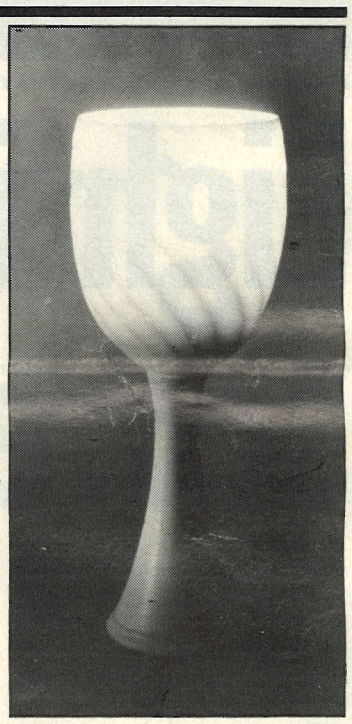
Registration fee is £10 plus VAT. Accommodation is limited so applications for tickets should be made as soon as possible to: Applied Lighting Technology plc, Southbank Technopark, 90 London Road, London SE1 6LN, telephone 01-922 8818.

Interpretations of light

A light touch is the name of an exhibition of the work of 13 designers who were asked for their impressions of light. Exhibitors include Gary Morga, Maxine Naylor, Peter Freeman and Sally Townshend.

It continues until 17 September at the Cirencester Workshops, then moves to Inverness from 6 December to 7 January. Other venues include St. Andrews and Bovey Tracey.

For further details contact Cirencester Workshops, Brewery Court, Cirencester, Glos GL7 1JH; telephone (0285) 61566.



Right: a porcelain light by Margaret O'Rorke, currently on show at the Cirencester Workshops.

People in Brief . . .

● Powerlite Electrical Products Ltd has appointed **Alan Moss** product design manager. He will be responsible for the design of an innovative range of lighting. Before joining Powerlite Mr Moss was chief design engineer with Moorlite Electrical.

● **Bert Luscombe**, founder director and recently chairman of Lab-Craft Ltd has retired after 32 years with the company. Among other work, he pioneered the introduction of miniature low voltage fluorescent lights operating from 12 and 24V batteries for use in caravans, ambulances, buses etc.

● **Richard Turpin**, recently appointed commercial director of Reggiani Ltd, has additionally been appointed sales director of Prima Lighting. Ralph Altmann, Reggiani's UK managing director, said, "Prima were for many years the UK distributors of Reggiani fittings and we welcome this opportunity of maintaining a link with them."

● **Stephen V. Medway** has been appointed general manager of Rists Ltd, Cables and Specialist Products Division.

● Marlin Lighting has appointed **Bob Austin** manager of overseas operations. His brief is to develop distribution in Europe and the USA while improving penetration in existing overseas markets elsewhere.

Paris lighting exhibition dates

The 1989 Paris International *Lighting Exhibition will take place* from 12-17 January at the Porte de Versailles exhibition centre.

This time, the public will be admitted on Saturday 14 January. On the Sunday evening specifiers are invited to attend free of charge, to enable them to catch up with new products and techniques in lighting.

The exhibition again takes place within the framework of the international *Perspectives* week of home decor being held in Paris.

DIARY

SEPTEMBER

11-14

Light and Sound Show '88. Stage and disco lighting exhibition at Olympia 2, London. Details from Professional Lighting and Sound Association 0323 410335.

14-19

Euroluce international lighting exhibition in Milan. Details from COSMIT, 96 Corso Magenta, 20123 Milan.

19-22

Lightec '88. Institution of Lighting Engineers' annual conference at Warwick University. Theme: *Lighting for the community.* Details from Institution of Lighting Engineers 0788 76492.

22

Studio lighting and services. A visit to TVS, Southampton, arranged by Southern Region of the Chartered Institution of Building Services Engineers. Details from regional secretary Derek Muspratt, 0703 339300.

OCTOBER

5

An appraisal of indoor lighting for sport. An evening lecture by Paul Blackburn. To be held at the Golden Lion Hotel, Leeds. Arranged by Yorkshire Region of the CIBSE. Details from regional secretary G D Hoyle, 0532 674411 extension 351.

High frequency lighting. An evening lecture by Lou Bedocs, at the School of Architecture, Manchester University. Arranged by North West Region of the CIBSE. Details from regional secretary J H Troughear, 061-449 0276.

6

Computers in Lighting. Lecture arranged by Irish Region of the Institution of Lighting Engineers, to be held at the Mourne Hotel, Newry, Co Down. Further details from regional secretary, S K Whiteside, 0265 4111.

One-day exhibition of commercial and road lighting equipment at Gateshead-on-Tyne International Stadium. Details from Institution of Lighting Engineers, 0788 76492.

18

Gala concert at Royal Festival Hall, London to celebrate 60th birthday of Thorn Lighting. Details from Diana Vernon, Thorn EMI, 01-355 4848.

21

Inner city lighting. An afternoon meeting with three talks arranged by Western Region of the Institution of Lighting Engineers. To be held at Northavon District Council Offices, Thornbury, near Bristol. Details from regional secretary D Wilson 0272 266031 extension 686.

26

In the morning light. Inaugural address by new chairman of CIBSE Lighting Division, Ken Scott. An evening meeting at the Royal Aeronautical Society, London W1. More details from Chartered Institution of Building Services Engineers, 01-675 5211.

LOOKING AHEAD

10 November

Lighting columns — design, finish and quality assurance. A meeting arranged by London & South Eastern Region of the Institution of Lighting Engineers at the Post House Hotel, Brentwood. Details from regional secretary F P Ramsay, 0920 870567.

NEWS

Going by the book

Philips Lighting has introduced a new user's design manual on sport and recreational floodlighting which the company believes will clarify much of the existing confusion over the planning and installation of this type of lighting.

Philips Lighting has gathered floodlighting solutions to a range of sports and recreational applications into a reference manual, which provides all the data required to plan, install and aim floodlights. Additionally, a plot is provided to show the lighting result that can be expected.

In detail, the manual works by identifying various standard floodlighting needs in general areas — car parks or storage areas for instance — and in sports areas such as rugby or football pitches and tennis courts. A base plan is supplied mapping the different areas to be floodlit. A selection of the lighting levels which can be applied in the given situation are then listed.

The manual also contains a breakdown of the relevant specification details in data tables covering the relevant billing quantities, photometric and electrical summaries and an aiming schedule for each specified project.

Finally, each category contains two transparant charts which can be overlaid on the original plan to show mounting pole locations, beam angles, aiming points, and the resultant lighting levels.

Copies of the manual, are available, price £30.00 from the Publicity Department, Philips Lighting, City House, 420-430 London Road, Croydon CR9 3QR.

Inaugural talk on morning light

Ken Scott, new chairman of the Lighting Division of CIBSE, will present his inaugural address on Wednesday 26 October at the Royal Aeronautical Society, Hamilton Place, London W1.

Mr. Scott has chosen as his theme *In the morning light.* Everyone interested is asked to apply for a ticket to the Member Services Department, Chartered Institution of Building Services Engineers, 222 Balham High Road, London SW12 9BS; telephone 01-675 5211. The occasion starts at 5.30 for 6pm and will be followed by light refreshments.

How a service station saved 80% of its energy bill

When a more energy efficient lighting scheme was required at the Aust motorway service station, on the M4 adjacent to the Severn Bridge, Rank Motorway Services decided that the lighting fittings must be retained.

This restricted the options to new lamps with similar lighting characteristics to the existing GLS lamps, but with none of their disadvantages.

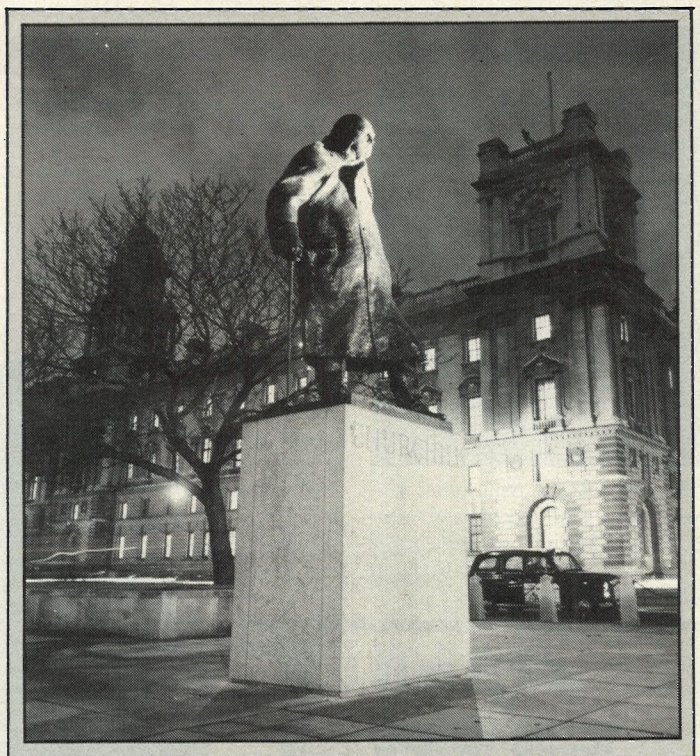
The solution was found with Wotan's Dulux EL compact fluorescent lamp, which was installed on a trial basis in the Aust service station last October.

After three months a significant drop in energy consumption was registered with no loss of illuminance or change in the colour appearance of the interior.

After 1426 running hours with 184 switchings per lamp, only one lamp failed. During the trial there was a substantial reduction in maintenance costs both in relamping and rewiring.

As a result of this trial, Rank changed from GLS lamps to the Dulux EL in January this year. In the restaurant area alone there are 100 lighting fittings, recessed into a coffered ceiling, which are on for 15.5 hours per day, 365 days a year.

The replacement has resulted in an 80% saving in electricity costs and an overall 51% saving on relamping, buying lamps, maintenance and electricity costs, representing an annual saving of £1,960.



Sir Winston Churchill is no longer a subject for daytime viewing only, thanks to Thorn Lighting. A 150W metal halide Arcstream lamp now brings the famous statue in London's Parliament Square into sharp relief against the night sky.

Powerful discharge fittings could not be used because they would have caused too much glare and spill light. Tungsten halogen was not economically viable because of its running cost. The Arcstream lamp, however, can be focused into a narrow beam to throw light directly onto the statue and it produces more light than a 500W tungsten halogen lamp. Only one fitting was needed for maximum modelling effect.

Suppliers and retailers warned about safety

"Serious criminal charges and civil law suits will result from suppliers' failure to comply with the 1987 Consumer Protection Act."

That was the message at a one-day safety seminar organised by the Decorative Lighting Association and attended by almost 200 people. It formed part of the DLA's campaign on safety, being waged because it feels many suppliers and retailers are ignorant of the serious consequences of the act.

David Walker, Shropshire's deputy chief trading standards officer, told the audience that suppliers had to ensure their lighting met a general safety requirement. It had to be reasonably safe, made to comply with safety standards, and fit for the purpose for which it was intended. Otherwise, the supplier was in trouble, he said.

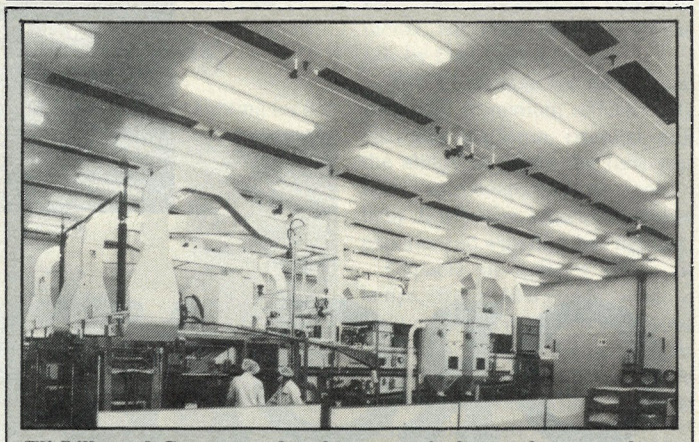
Additionally, assembly and fitting instructions had to be accurate and clear; the limitations of goods emphasised; and there also had to be a specific safety warning. It was no longer good enough to rely on the common sense of the public.

He suggested the way round this might be to attach a card to each fitting listing suitable uses.

Manufacturers and suppliers had to make themselves aware of industry safety standards, because these were likely to be used as the benchmarks in subsequent court cases.

DLA director, John Tengwall, told the audience that the DLA was providing an advice hotline for suppliers and retailers concerned about the act.

Unless every luminaire was built to a certain standard, it posed a major legal and financial threat to its supplier and the retailer who sold it, concluded Mr Tengwall.



Eli Lilly and Company, the pharmaceutical manufacturers, have improved lighting levels and reduced energy consumption in the clean room of their capsule plant in Basingstoke as a result of relighting. The original 200 fluorescent fittings have been replaced by 56 1.5m twin-lamp luminaires from the Crompton range of Dulcet surface mounted luminaires. Each unit is fitted with prismatic diffusers and contains two 58W Crompton Wattsaver fluorescent lamps. An increase of 20 per cent in the lighting level provides approximately 580 lux to give a comfortable working illuminance for machine operators in the 4.8m high clean room. Additionally, a reduction in electrical load from 17.5 kW to 7.2 KW will yield energy savings of around £3,500 per annum. Further details from: Crompton Parkinson, Tel. 0604 30201.

COMMENT

The single-market making the small voice heard

We in Britain were late coming into the EEC. Due to a combination of Britannic foot dragging and de Gaulle saying 'non' we arrived just too late to help shape the Community's institutions and policies in its most formative years. Some would say that we have been suffering the disadvantages ever since.

The single market initiative is the next step on the road to a united Europe. Are we not in danger of the same thing happening again — at least so far as small firms are concerned?

The larger manufacturers already have European connections developed over the years. Moreover, they can manage to release specialist staff to sit on international committees elaborating standards which will determine the way in which the lighting market will develop in a united Europe. Is it certain they will chose to do this in the common good, or will the interests of large firms — principally multinationals — predominate?

In one area, at least, the influence of the large companies on their smaller colleagues has been beneficial. Over the past ten years many smaller manufacturers have been persuaded of the need to seek certification of their products through certification bodies, such as BSI and BASEEFA, as appropriate, usually following pressure from larger companies with whom they hope to do business. As a result, British manufacturers are in a particularly good position vis-a-vis 1992.

What is, however, certain is that small firms particularly need all the help, advice and international expertise that a trade federation acting in their interests can offer. In this respect the Lighting Industry Federation is particularly interested in approaches from small companies who feel they do not want to be left out of the brave new world lying just ahead. Perhaps this is still the very best way of making a small voice heard.

LIGHTING EQUIPMENT NEWS

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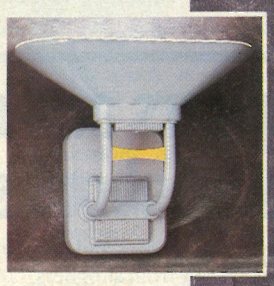


ANTENA The concept of uplighting carried one stage further.

ANTENA IS NEW a range of six distinctive uplighters, each a careful balance of function and elegance. Designed to integrate perfectly with the modern office environment.

ORGATECH

ORGATECH LIGHTING: Riverside House, Corney Road, Chiswick, London W4 2SL. 01-995 4101

Reader Service No. 4

NEW PRODUCTS

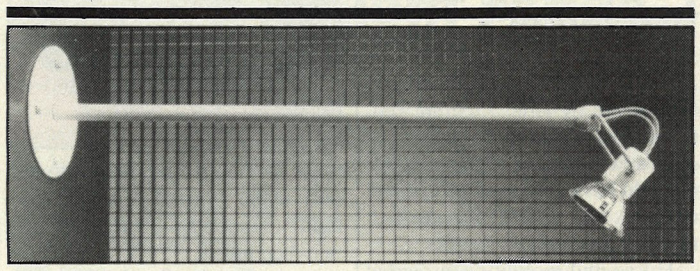
Quality at lower prices

Variance is a collection of 160 table lamps and tungsten halogen uplights launched by Le Dauphin, France, whose products are now being handled in Britain by Ambiance 88 Ltd.

Described as a middle market range, the average retail price of these lights is £60. Ambiance 88 says the lower prices have been achieved without compromising on style or quality.

The group illustrated features a two-tone decoration of contrasting, hand applied, walnut style finish with gold-lined black lampshades.

Reader Service No. 165.



Graphic Stick lights graphic displays

Graphic Stick from Light Projects Ltd is a versatile low voltage spotlight that can be readily adapted to different situations. Typical uses are for lighting graphic panels in retail, exhibition and museum displays.

The adjustable head is mounted on a 365mm rod as standard, but the rod can be supplied in other lengths according to the requirements of the installation. The unit takes M16 20W, 50W or 75W dichroic lamps and is available with either an integral or remote transformer.

Primarily intended for wall/ceiling surface mounting, there is also a version for mounting on track.

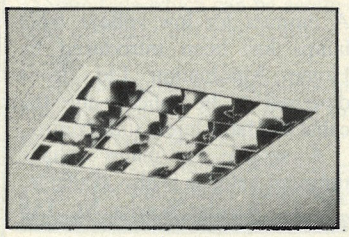
Reader Service No. 166

Luminaire for VDU areas

RADA Lighting Ltd has introduced Paralux, a new luminaire designed specially for VDU areas in offices.

Paralux is available with a 9-cell or 16-cell deep profile, aluminium louvre, which is computer designed to defeat glare. There are models for many different concealed and exposed ceiling systems.

A key benefit is that Paralux can



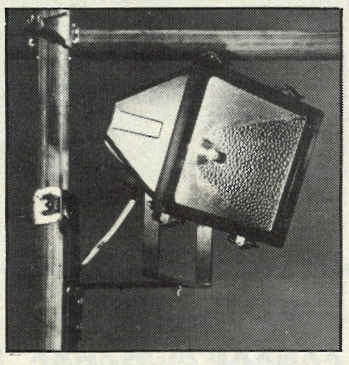
be used as standard with most metal tile and plank ceiling systems. There is also a model for microlook exposed T-ceilings.

The luminaires are all 600mm x 600mm for recessed mounting. Versions are available for three 18W, and two or three 36W or 40W compact fluorescent lamps.

HPF switchstart or electronic, high-frequency control gear is available for all models.

Reader Service No.167

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



Scaffold lighting system

Hardall Building Products Ltd has a versatile and powerful scaffold lighting system that is stated to be easily and securely fixed to vertical or horizontal scaffolding bars.

Using either 500W, 1000W, or 1500W quartz halogen lamps, the lights can be used singly or grouped together by using Hardall splitter boxes. Each light is supplied with 10m of high visibility yellow cable complete with plug.

Positioning the lights away from the immediate working area helps to prevent hazards caused by trailing cables.

Difficult areas such as roof spaces, stairwells and basements can be brightly lit with improvements in efficiency and site safety.

The lights are designed to run off a 110V a.c. supply for additional safety. A choice of three transformers is available to convert 240V supply.

Reader Service No. 168

Versatile table lamp base

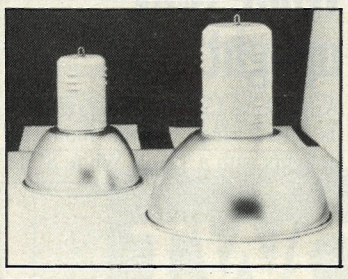
A new table lamp base called Nouveau is available from Arden Manufacturing (Birmingham) Ltd. It is made of solid brass and the shape was chosen for its versatility.

It can be used with a laminated or cloth shade such as a coolie style, or to give it a completely different appearance it can be fitted with a stained glass Tiffany shade.

Another alternative is that a brass ring carrier can be fitted to take a domed glass shade, as illustrated, in either white with a buff, orange and blue marbled effect, or blue marbled effect, or plain opal white.

A base called Art Deco has also been introduced. This has a six-sided stem and accepts the same range of shades.

Reader Service No. 169



High bay luminaires

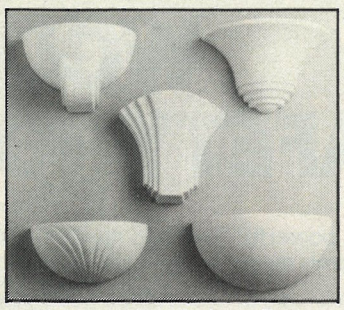
Powerlux High Bay is a range of luminaires introduced by Powerlite Electrical Products Ltd for industrial and multi-purpose buildings.

They are available in two sizes, each with seven lamp options: 150/250/400W high pressure sodium, 250/400W mercury and 250/400W metal halide.

Reader Service No. 170

Wall lights match decor

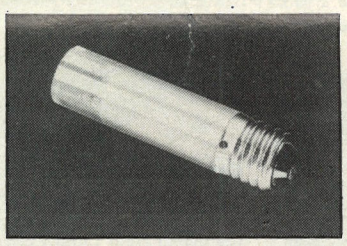
A selection of new wall lights has been launched by Cresswell Shades Ltd. Made of biscuit coloured, unglazed ceramic, they can be painted to blend with the rest of the room decor.



There are five designs: Roman, bell, fan, Deco and bowl.

Reader Service No. 171

Tester for discharge lamp control gear



A time and money-saving tester for discharge lamp gear that is stated to identify the most likely starting faults in seconds has been introduced by Rada Electronic Products Ltd.

Costing only £65, the POC tester is simply screwed into the fitting and it electronically checks the pulse and open-circuit voltage for every type of discharge lamp gear up to 400W. There is no need to keep trying new lamps or checking the circuit to trace the fault.

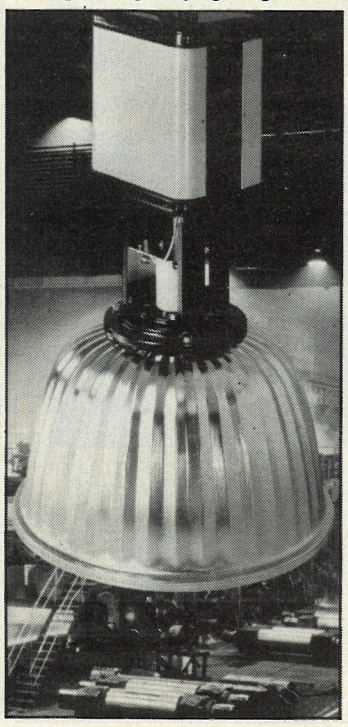
It saves time on-site for contractors and means that manufacturers can prove their luminaires quickly without stocking a range of lamps to test gear.

The tester is compact and comes with a two-year guarantee.

Reader Service No. 172

Adjustable high bay lighting

A range of high bay lighting for use



in a variety of applications, from industrial and retail through to leisure and commercial establishments, has been launched in the UK by Fael Luce Ltd.

The YES range has an unusual prismatic aluminium reflector. By changing the lamp, coupled with the ability to adjust the reflector, users can overcome the 'polo' light distribution effect sometimes experienced with high bay lighting.

Capable of using a range of lamps, from 70W high pressure sodium to 400W mercury or metal halide, the range offers a fixed or variable focus reflector to achieve a gradual spread from narrow to wide angle beam.

YES 1 has a fixed porcelain lampholder for general use, YES 2 has a lampholder on an adjustable slider to allow the lamp to be positioned to give optimum lighting performance.

YES 3 has the combination of an adjustable lampholder and focusing reflector with prism facets, to achieve maximum performance yet avoid glare.

Accessories include dust and water covers, meeting IP55 requirements.

Reader Service No. 173

LIF LINE

Reaching the decision-makers

The Federation is embarking on a programme of constructive cooperation with the Property Services Agency (PSA) with the objective of ensuring that, as the individual departments of government take over responsibility for the management of their own properties, they continue the good work of the PSA in refurbishing their lighting.

Far from being laggards in this respect, the PSA has made a major investment in the installation of new, energy-efficient lighting schemes. Indeed, it was a PSA Scotland refurbishment scheme, the Main Hall of the National Museum of Scotland, that won the Commercial Section of the EMILAS '87 competition, and has also been entered in the second National Lighting Awards — such are the design qualities of the installation.

The PSA has also commissioned surveys of a number of government buildings to see to what extent lighting *controls* could further improve the efficiency of their installations — yet further evidence that the PSA and LIF are thinking along similar lines (see last month's LIF LINE: *Lif in control*).

LIF is concerned to see this work continue and is playing an active role in briefing departmental energy managers and accommodation officers. The Federation will be helping the PSA in its Training Seminars and in the drafting of advice notes for inclusion in accommodation officers' handbooks.

A point of criticism which LIF has made in the past has recently been laid to rest. The 4.5 million GLS lamps which it was thought the PSA purchased each year for use in Government offices are, in fact, a two-yearly purchase by the MOD for servicemen's married quarters where the occupants, not the government, pay the electricity bills.

So, the constructive dialogue which is now under way has already been productive in laying to rest old bones of contention and, more importantly, in enabling LIF to reach the new decision-makers in the government estate.

NEW PRODUCTS

Adjustable uplight range

Taunas is a range of powerful, stylish uplights launched by Prima Lighting Ltd. The luminaires come in free standing and wall mounted versions using respectively a 500W and a 300W linear tungsten halogen lamp.

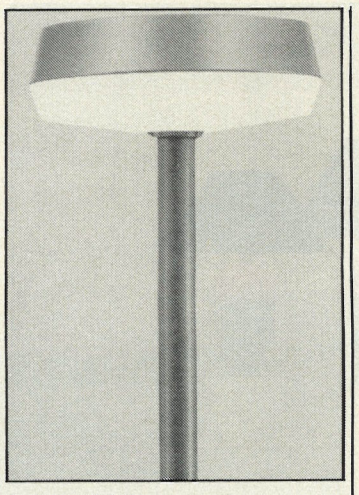
The free standing Alta Taunus is 1900mm high and incorporates a dimmer switch. Its head can be tilted to reflect light off a wall, if required.

On the wall mounted model the head can be swivelled through 180° to give downward light.

Both have protective glass over the lamp.

Reader Service No. 151

Lantern for amenity areas



A post top amenity lantern from Abacus Municipal Ltd has an impact resistant, opal coloured diffuser and cast aluminium alloy body.

It is designed for use with either 70W or 100W high pressure sodium, or 80W or 125W mercury, or twin 35W low pressure sodium lamps.

The AM250 is supplied ready wired with heat resistant cable. Lamp control gear can be either integral or remotely mounted. Abacus recommends a mounting height of 5-8m.

Reader Service No.152

White SON uplight

Anglepoise Lighting has extended its Quad range of wall mounted uplights with a 100W White SON model to meet a demand from specifiers and contractors.

The simple quarter sphere is available in painted or metallic finishes in matt white, brushed aluminium, brushed or polished brass, antique pewter and bronze.

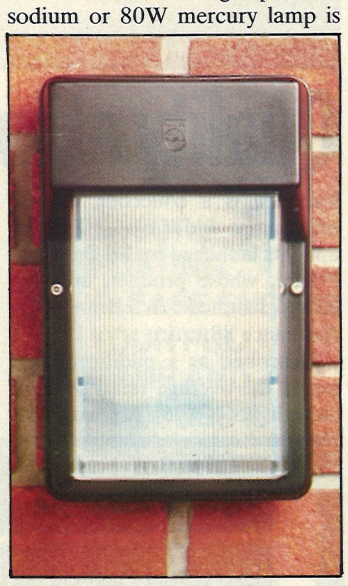
Reader Service No. 153

Vandal resistant bulkhead

With its Black Watch bulkhead, Philips Lighting has concentrated on good design and vandal resistance. A tough polycarbonate diffuser is combined with a durable diecast aluminium mounting plate.

Everything needed to install Black Watch is included in its Kombipak. Optional photo cells are available for automatic dusk-to-dawn control.

Either a 70W high pressure sodium or 80W mercury lamp is



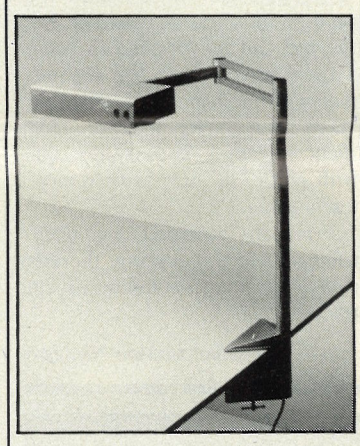
used. Side reflectors built into the unit make maximum use of the light allowing wide spacing between units.

Reader Service No. 156

Task light has two lamps

A task light called Cantax has been introduced by Erco Lighting Ltd. Originally designed for use in its own new technical design centre, the light has a 773mm high column which is attached to the desk or table by a clamp.

Horizontal mobility is provided



by a cantilevered arm. The rectangular head contains two light sources that are switched individually: an 18W compact fluorescent lamp and a 12V 20W tungsten halogen lamp. The transformer is in the housing.

Reader Service No. 154

Downlights are relamped from below

New low voltage downlights from Light Projects are very compact and require a recess depth of only 80mm. Suitable for use in commercial and residential projects, the fittings use a remote transformer and either 20W or 50W M16 tungsten halogen lamp.

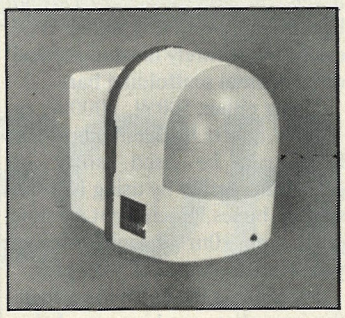
One advantage is that the lamp can easily be replaced from below — and without risk of losing small components.

Optional extras include a safety glass, frosted glass for wall washing effect, a glare-reducing louvre and a holder for colour filters.

Reader Service No. 157

Long range sensor switches lighting

Latest addition to the range of energy saving, automatic switches for lighting and heating by DEM



Controls Ltd is the type PLS2/L.

This long range, infra-red occupancy sensor for indoor use has a detection range up to 50m. It uses digital signal processing for improved detection.

Reader Service No. 155

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

Dimmer for low voltage table lamps

A dimmer for low voltage table lamps has been introduced by Home Automation Ltd. It is designed to be spliced into the cable and has a linear slide control.

A version for mains voltage tungsten halogen is also available.

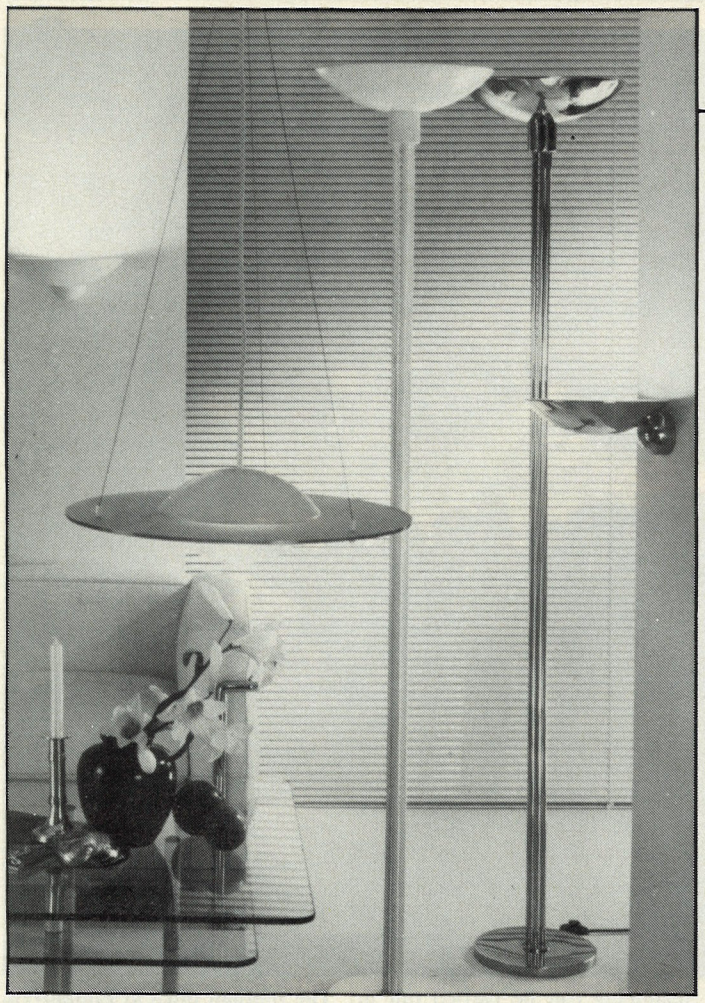
Reader Service No. 158

Bathroom downlights

A range of enclosed, low voltage downlights from Light Projects Ltd has been designed for use in bathrooms, shower rooms, on shop fronts and in other damp areas. The fittings are silicone-sealed and moisture proof.

Powered by a remote transformer, they can be used with a choice of PAR36 lamps which are positioned to prevent glare. A feature of the design is that the lamps can be easily changed from below.

Reader Service No.159



Modern uplight range

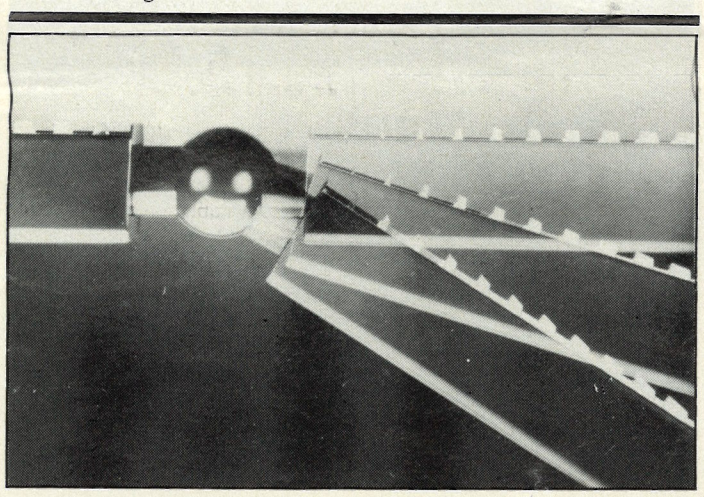
A range of modern uplights has been introduced by Panorama Lighting Ltd. The floor standards are in either white, polished brass, chromium plate or black with matching wall brackets in a choice of white, polished brass or chromium plate.

The dish shaped reflectors can alternatively be in opal glass.

Panorama says that one attraction of the range is that mains voltage lamps up to 200W with E27 caps are used. This means that as well as GLS lamps, appropriate single-ended tungsten halogen lamps can be used.

A pendant with a circular glass plate surrounding a metal dome in either white, chromium or brass, completes the range. It uses a GLS lamp up to 100W (with E27 cap) and has a diffuser.

Reader Service No. 160



Tubular lighting system made in Denmark

A tubular lighting system from Ultra Line A/S, Denmark, is made up of modular sections 155mm long which can be assembled to create different configurations.

The modules are supplied in housings that are either round or square in cross section.

Key to the system's flexibility is a ball joint which links the lighting modules together at any angle from 90-180° and also accommodates T-junctions and wall mounting brackets. The system can therefore be angled for sloping ceilings above staircases or in attics.

The usual mounting method is by means of an adjustable suspension fixing.

Separate channels are included for low voltage cables, such as for telephones.

In addition to the fluorescent modules, which can be fitted with louvres, there are tungsten halogen spotlight modules.

Reader Service No. 161

Three modular luminaires

Anchorlite, the lighting division of Protec Fire Detection Ltd, has introduced three modular luminaires.

Two are suitable for either lay-in, exposed T ceiling systems, or, with modular frames, for concealed systems.

Modular 1 is provided as standard with a prismatic controller, but alternative decorative louvres are available. The luminaires can be supplied with emergency lighting packs, special lamp types, dimmer controls and other equipment to order.

Modular 2 is similar, but has a parabolic broad spread louvre giving precise control of the light with a cut-off above 55°.

Modular 3 is a 300mm square luminaire for surface or recessed fixing. It is designed to accommodate either the 16W or 28W 2D lamp and is supplied with either an opal sided prismatic controller or a parabolic broad spread louvre. Emergency lighting packs, dimmer controls and other equipment can be provided.

Reader Service No.162

Exterior light deters intruders

An automatic exterior light has been introduced by Superswitch Electric Appliances Ltd. Model 6007 is designed to both welcome guests and provide a first line of defence against prowlers.

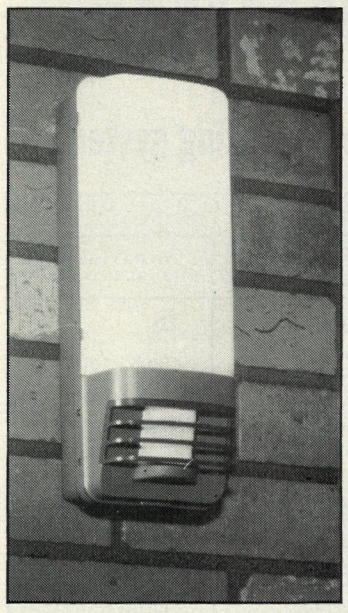
The unit incorporates a passive infra-red detector which triggers a 60W lamp. The lamp remains illuminated for as long as people or vehicles are detected, plus a further set period which can be varied from 12 seconds to 12 minutes.

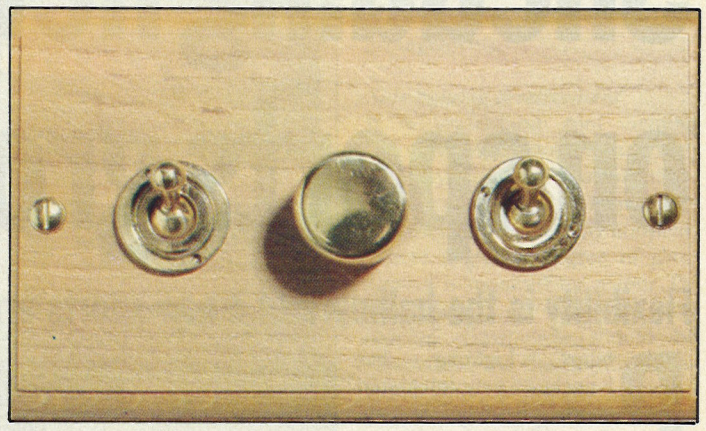
To ensure the light operates only during hours of darkness, the unit incorporates a photocell switch, which can be by-passed if continual operation is required.

Correct positioning of the unit is facilitated by the inclusion of a "walk test" device which allows the detection area to be identified during daylight before final fixing. The detection zone is up to 12m covering an arc of 110°.

Where additional lighting is required, up to 1000W of tungsten lighting or 500W of halogen flood-lighting can also be controlled.

Reader Service No. 163





Switching to wood

Woods Electrical Accessories manufacture light switches and sockets with wooden plates for applications ranging from domestic projects to large scale contract work such as hotels, offices and ships.

Six different hardwoods/finishes are available, from chestnut to oak, and special woods or stains can be specified. The units can be supplied in bare wood for on-site matching to special paint effects.

The range includes plug, aerial and telephone sockets, together with rocker, dimmer and dolly switches, all made to fit standard wall boxes.

Reader Service No. 164

Shedding new light on sports grounds

Flexibility is the hallmark of a new sports arena lighting system.

Philips Lighting has launched a new, integrated sports lighting system, ArenaVision, based on a new 1800W metal halide lamp with a new optical system and associated housing. The system is specifically designed for use in medium- to large-sized stadia in conjunction with colour television recording, and is suitable for both mast and in-line arrangements at mounting heights of 20m or more above the playing area. The manufacturers also recommend the system for use in large indoor sports halls and other buildings where high quality floodlighting installations are required.

Inside stadium		
	Conventional floodlighting	ArenaVision
Number of floodlights	240	220
Total power	504 kW	412 kW
E (horizontal field)	1500 lux	1650 lux
E (vertical field towards camera)	800 lux	1500 lux
Outside stadium		
	Conventional floodlighting	ArenaVision
I (450m from mast)	200 000 cd	200 cd
E (at vertical window)	25 lux	5 lux

The Philips Stadium at Eindhoven. Comparative performance figures for the previous conventional floodlighting system and the new ArenaVision installations.

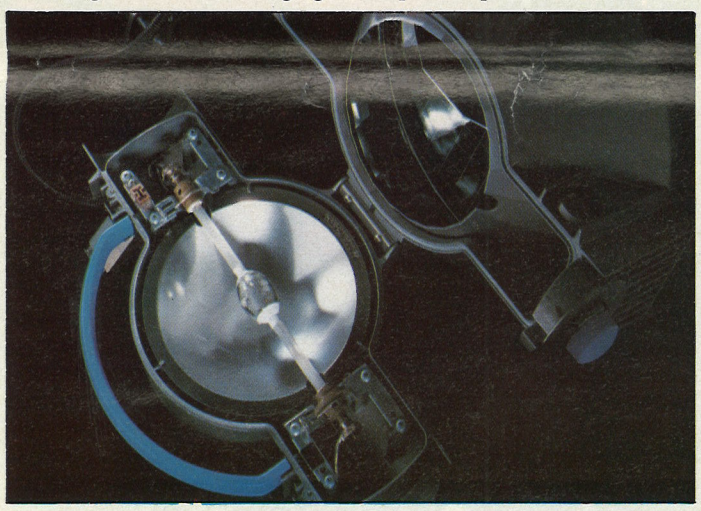
Conventional circular floodlights use a single-ended lamp which points directly at the field, and is contained in an outer bulb. By contrast, the MHD 1800 is a double-ended lamp without an outer tube, fixed in a transverse position. Both these design features, it is claimed, ensure accurate location of the lamp in the optical system, giving more precise beam control, and thus reducing light spill outside the stadium. The accompanying table gives figures for the Philips Stadium in Eindhoven for both the new ArenaVision installation and the previous conventional floodlighting scheme. In the immediate vicinity of the stadium, for instance, Philips maintains that light spill will be comparable to the illumination produced by a normal road lighting installation at about 5 lux; and that local residents will similarly notice a considerable reduction in unwanted light.

Advantage

A further advantage claimed for the system is that because light is concentrated on the actual performance, players, spectators and television viewers alike will benefit from sharper focus, more natural colours and reduced glare. At the same time lighting efficiency inside the sports complex is increased, thereby reducing energy consumption.

The floodlights themselves are more compact that their predecessors of comparable load — 445mm in comparison with 665mm — and, at 11kg, are nearly 40% lighter in weight. This reduces wind loading considerably, according to Philips by more than a half. Moreover, as they are more efficient than the lights they replace, fewer units are required so the size of floodlight towers and headframe structures can be reduced. The more compact form of the floodlight also makes it easer to mount in the roof of gallery structures, allowing architects greater flexibility in design.

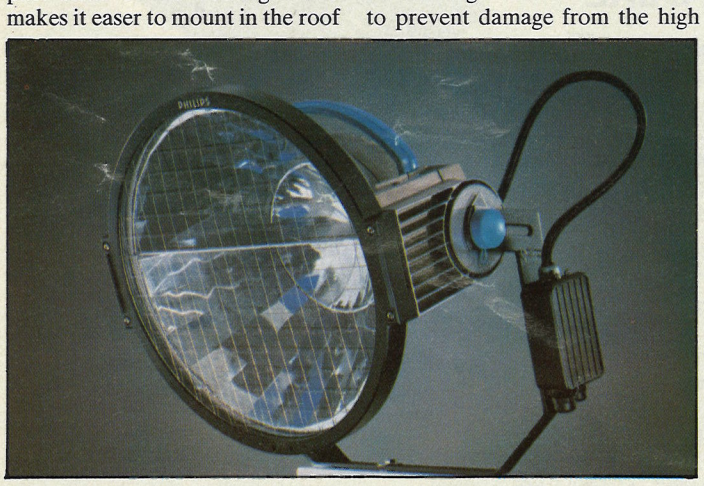
Four optical combinations are available, each giving different beam spreads, and appropriate to different mounting heights. Each option is fitted with an aluminium reflecting skirt for deflecting light downwards to the field of vision, thus reducing glare and keeping stray light to a minimum. The wide beam option is intended for mounting at heights of 20 metres or more and the narrowest beam option for high mast schemes in excess of 50 metres.



The luminaire takes a pre-focused metal halide lamp.

The MHD 1800 lamp has been specially developed for sports lighting and floodlighting applications. Within the housing it is protected by chemically toughened glass 1.6mm thick and a wire mesh. If this front glass is broken the floodlight must be switched off to prevent damage from the high content of UV radiation given off by the lamp.

Colour rendering is excellent, given a colour rendering index of 90 and a high colour temperature of 5600 K (± 350K). The lamp has a short arc length of 25mm and an efficacy of 84 lm/W. It is designed to be burned in the horizontal position, although deviations of up to 15 ° in either direction are permissible. However, because of the considerable amount of heat generated, no object should be placed closer than 3.5 metres from the lamp in the path of the beam.



The floodlight which forms the basis of the ArenaVision system.

The football pitch at Eindhoven. There is very little spill light.

If the mains supply voltage is interrupted for more than 2 milliseconds, the lamp will extinguish. But, after a cooling down period of some 10 minutes, it will reignite without special devices. A hot restrike device is provided as an optional extra, but as reignition peaks are very high (50kV between lamp terminals) high levels of insulation are required. So, in lamps provided with this facility, the rear housing and hot restrike device form one unit. It is not, therefore, possible to add the hot restrike device to a standard luminaire.

Housing

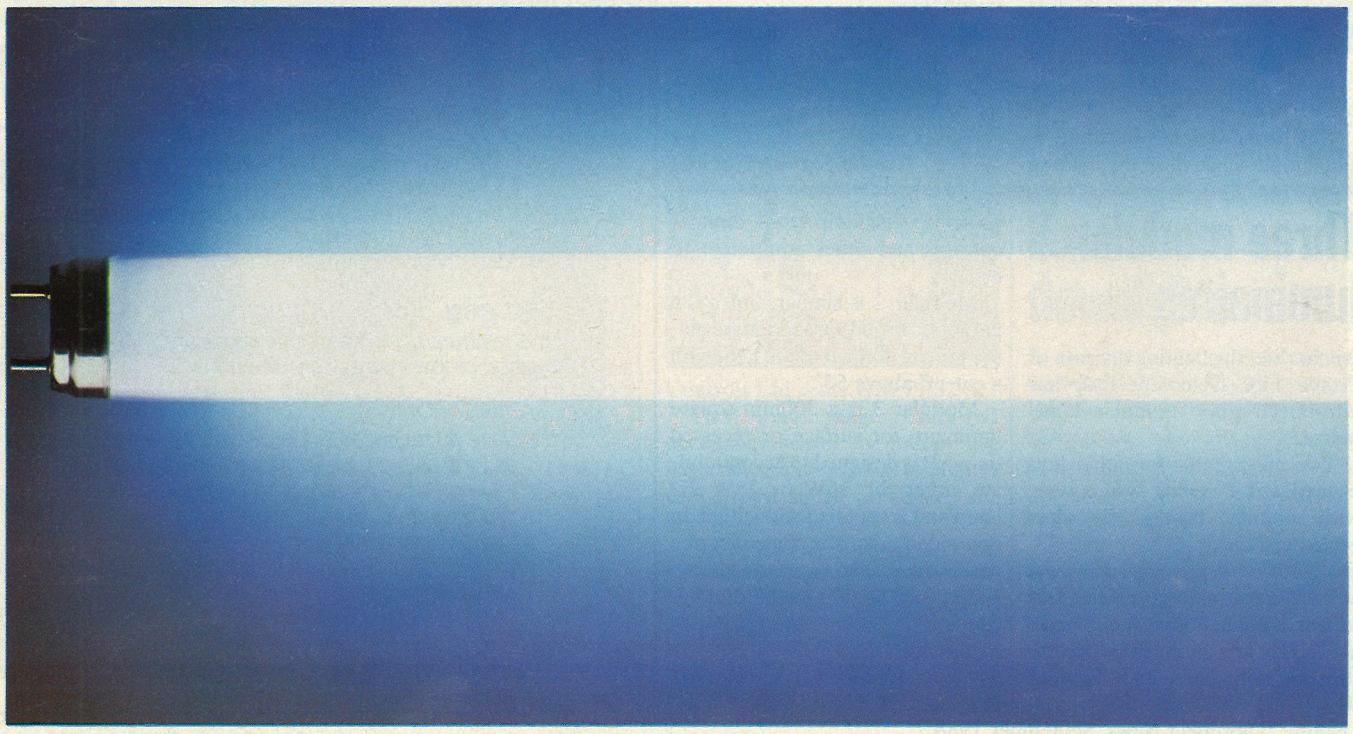
Finally, a new approach has been adopted to the design of the lamp housing. Decreasing the volume of the unit by nearly one-half increased the heating load considerably, so new processing techniques and materials with greater heat resistance are used.

To minimise weight, the unit utilises lightweight components. The reflector and rear housing, for instance, are constructed of non-corrosive aluminium. The housing is opened by loosening two clips, and this action automatically disconnects the power to ensure that relamping can be carried out in safety.

For ease of installation the die-cast rim retaining the front glass is designed to take a precision aiming device to simplify pre-aiming.

The PSV Eindhoven v AC Milan match.

LIGHT WITHOUT FLASH AND FLICKER



Spotlight on sport

LEN looks at the principles behind the design of stadium lighting installations and how to set about planning a scheme.

The principal reason for lighting sports grounds is to extend the length of time for which their facilities can be used. Floodlighting becomes feasible when the increased income generated from the operation justifies the costs of the lighting installation and its operation. Increasingly, with the introduction of more efficient light sources, it is the cost of installation which determines whether or not a project will go ahead.

Lighting installations should provide conditions that allow players to perform as well at night time as they can during daylight hours. Surprisingly, many sporting activities can be carried on at relatively low levels of light, at least at the amateur and practice levels of play. Some sports, however, require high lighting levels if they are to be carried on at all. These include activities such as rifle shooting where safety is a major consideration, and others where objects, like cricket or squash balls, are moving fast. Otherwise, as the standard of play increases, and particularly at national or international levels, higher lighting levels are required.

Commercial sports often need more light than is absolutely necessary for the players to provide adequate viewing conditions for spectators, illuminance being determined by the visual needs of the spectators furthest from the pitch. Finally, where events are to be televised regularly the floodlighting installation is usually determined by CTV requirements (see box).

Fill light

Where floodlighting is used externally there is no luminous sky or ceiling to provide fill light so additional light sources must be used for this purpose. Each point of the playing area should, thus, be lit with two or more floodlights from at least two directions. In addition, most ball games require some illumination of the air space over the playing surface so the ball does not disappear at some point in its course, and this cannot usually be adequately provided for by reflection off the playing surface.

The direction of light is also important to ensure good three-dimensional modelling, the quality of this is determined by the ratio of horizontal to vertical illuminances. If these are equal then modelling will be very good; if horizontal illuminance is twice vertical illuminance then modelling will still be acceptable.

Glare can be minimised by using floodlights with precise light control that are correctly aimed from the correct mounting height. A further check can be carried out using a computer programme to calculate the CIE glare rating, this should not exceed 50%.

Additional steps to reduce glare are fitting luminaires with louvre attachments, or light distributions particularly suited to the lighting arrangements. Side lighting installations, for example, benefit from the use of assymmetric distribution floodlights.

For team games, cameras are located on one side only of the pitch to avoid the feeling that the direction of play has changed every time a different camera is used. With colour television installation, therefore, savings in cost can be made by biasing the lighting towards television camera positions. Thus, the masts opposite the TV camera positions may have the floodlighting reduced by up to one third while still providing acceptable modelling.

Cardiff Arms Park was the first rugby stadium in the world to be floodlit using linear metal halide lamps (Thorn ON 1500 fittings with 1500 W lamps). The scheme comprises a total of 36 floodlights: 18 are mounted along the leading edge of the stand roof on opposite sides of the pitch to give an even light distribution. Twelve of these incorporate special dispersive reflectors to give a wide beam angle and a shorter throw. An illuminance of over 200 lux is achieved between the goal posts.

System

The choice of lighting system is determined by:

- the quality requirements of the specification;
- the size of the playing area;
- whether existing masts or grandstands are to be used for mounting luminaires and their position relative to the pitch;
- planning and other aesthetic restrictions on the location of new masts or grandstands and their height.

In planning the scheme the desired lighting level, colour of light source and preferred location of structures are first established. The number of mounting points depend on the area to be lit and the requirements of the particular sport.

The mounting height must be established early on in the project. A lower mounting height will give a more favourable vertical illuminance and reduce the cost of masts, but it also increases the danger of glare and the length of shadows cast by players. The type of light chosen generally determines the maximum elevation of the aiming angle which does not cause excessive glare. This angle together with most spacing and limitations on uniformity determine the minimum mast height.

Light untilisation, or the ratio between the light reaching the area to be lit and the light emitted from the lamps, tends to decrease with high aiming angles and the distance the lighting points are away from the area to be lit, but are also dependent on the choice of luminaire. Generally speaking, the greater the degree of light control provided by a luminaire the lower is its light output ratio.

The usual floodlighting layouts are:

- lighting mounted on leading edge of grandstand roofs, ie a side lighting arrangement;
- floodlights mounted on towers or masts positioned at the corners of the pitch;
- a combination of tower and line arrangements.

A new installation at Manchester United's Old Trafford football ground uses 216 asymmetrical Thorn OWA 1500 floodlights housing linear metal halide lamps to provide an average horizontal illuminance of almost 1500 lux. Floodlights are mounted in groups of six either side of the stadium. The installation replaces an earlier scheme based on four corner towers which provided an average illuminance of only 800 lux.

BBC requirements for lighting for colour television outside broadcasts

- An average illuminance of 800 lux (although 1000 lux is preferred) at a level 1.0 — 1.5 metres above ground level and on a plane normal to the line of sight of the main camera position.
- In sports such as soccer and horse jumping where zoom lenses are required the illuminance should exceed 1400 lux, and even this lighting level presupposes a limitation on close-up shots.
- Surroundings and spectators should be lit to approx. 400 lux.
- Illumination should be reasonably even to ensure adequate visibility of the players and/or ball at all times across the field of play. Minimum illunination should be not less than 20% less than the average illumination in the vertical plane or 30% less in the horizontal plane. In addition, the fall off in illumination should not exceed 20% over any 4 metre distance within the playing area.
- Good colour rendering with a correlated colour temperature of 3000-6000 K (preferably above 4000 K) to permit an easier transition from daylight to artificial light conditions for late afternoon fixtures.

Side lighting arrangement

If a grandstand roof lighting arrangement is adopted then high intensity discharge lamps with a wide symmetrical horizontal fan-shaped beam are usually adopted. Where a greater degree of glare control is required for colour TV broadcasts, an assymmetrical lighting distribution should be chosen and the floodlighting provided with an integral baffle to ensure fast cut-back above the peak intensity of the floodlight to reduce lens flare on TV cameras and disability glare for both players and spectators.

With this form of layout it is important to maintain correct mounting height to maximise modelling and careful aiming is required to avoid undue glare.

Corner tower arrangements

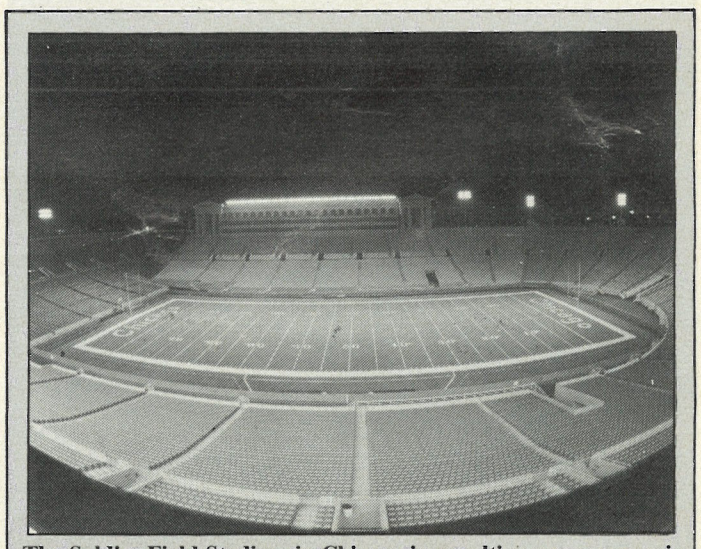
Masts tend to be located at the back of spectator areas and outside the stadium because of their size and potential obstruction of viewing positions. Indeally, angular offsets of 5° from the centre of the touchline and 15° from the centre of the goal mouth are regarded as satisfactory positions for masts in the United Kingdom. Practice in other European countries varies.

The lowest row of floodlights on the headframe should be 25° above the centre of the playing area. Mast heights of up to 50 metres may be demanded depending on their remoteness from the pitch. It is, therefore, essential for floodlights to be as small and efficient as possible to reduce headframe size and, thus, wind loading on the mast structure.

Combination lighting arrangements

Where a stadium has only one grandstand roof suitable for mounting floodlights, two or more masts will be needed on the opposite side of the stadium to provide a balanced lighting effect. Here, a combination of floodlight type and distribution is necessary to provide the optimum lighting solution.

This feature is based on material supp-lied by Thorn Lighting Ltd.



The Soldier Field Stadium in Chicago is a multi-purpose open air stadium seating 65 000, originally constructed in 1926 on the shores of Lake Michigan. Among other activities it houses the Chicago Bears football team. When a new lighting installation was considered the major problem was the position of the floodlights. The obvious mounting positions were the roofs of the classical colonnades on both sides of the pitch. But these were located 64 metres back from the field and only 32 metres above field level, whereas the ideal mounting height would have been at 49 metres. The problem of glare was resolved by specifying a maximum intensity for any colonnade mounted floodlight towards the front row of spectators opposite. A single row of 118 1500 W MBIL spotlights was finally adopted, mounted on existing steelwork on each colonnade. Existing masts — four at the south end of the pitch and two at the north end — were utilised to raise the illuminance for the end zone TV cameras. In addition, one new pole was provided at the end of each colonnade and equipped with narrow angle spotlights.

Spotlight on sport

Lighting installations in sports stadia and single-purpose sports buildings now stress energy efficiency. *LEN* reviews some recent examples.

Bowling them over

Modular, emergency and batten luminaires from Crompton Lighting have been used to light a new 12-lane ten pin bowling alley recently opened at the Crome Recreation Centre in Norwich.

Crompton Modulux lay-in modular luminaires, fitted with opal diffusers, provide varying degrees of illumination using two, three and four-lamp combinations. Starting at approximately 200 lux in the spectator area, the lighting level increases to 300 lux over the lanes and to 500 lux in the machine room behind the pins. All luminaires can be individually operated from a multi-switch bank.

Single-lamp battens have been concealed behind the risers of a specially designed stepped ceiling to provide additional illuminance above the lanes. This arrangement reduces the possibility of reflected glare from the highly polished surfaces of the lanes.

ICEL-approved emergency lighting is supplied by Crompton

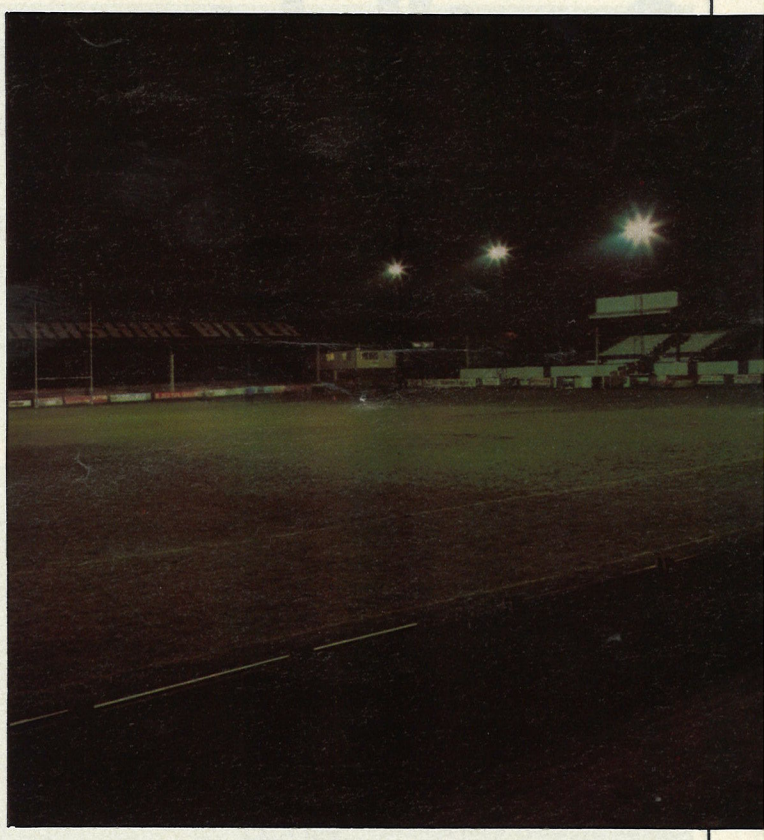
Convertex 2 mains-to-emergency conversion modules, fitted within selected Modulux units, and by Crompton Albany single point luminaires located above exit doors.

The new bowling centre funded by Norwich City Council and designed by the City architects department has already attracted over 6,500 new members to the recreation complex. The ten pin bowling equipment includes computerised scoring consoles and overhead monitors.

Lighting scheme brings them in

Like most Rugby Football Clubs, Halifax, League Champions in 1984-5, have to work hard to operate on a break-even basis. The old tungsten floodlighting installation had become so bad that on some occasions it was touch-and-go whether a league fixture would be cancelled. Then the lighting installation was condemned as unsafe under the Safety of Sports Grounds Act, so Halifax had to do something to survive as a major Rugby League club.

A new scheme was produced by Philips, using computer-assisted design techniques to avoid glare and predict average light levels across the pitch. The ten tungsten halogen floodlights on each of the ten towers were replaced by two HNF013 asymmetric floodlight projectors, each fitted with an energy-saving 2kW metal halide lamp. As well as increasing light levels by 60%, the projected scheme would cost £6 less an hour to run, and more than halve main-



New lighting installation at Halifax saves over 60% energy costs.

Highlighting Hammers

Thorn Lighting has relit Upton Park, home of First Division West Ham United. The 324 compact source iodide (CSI) floodlights, 81 fitted on top of each 32m high corner pylon, now illuminate the turf with an average 1,300 lux, making West Ham one of the best-lit grounds in the Football League. Lighting intensity at pitch level is over 10 times that of a normal domestic living room and nearly three times brighter than the average commercial office. Thorn Lighting originally installed a CSI scheme at the ground in 1969 to meet the demands of colour television coverage, and the system has been operational ever since.

During installation, engineers targetted individual lamps on to their own 10 metre square grid marked on the pitch. Correct alignment was crucial as television cameras would have exposed any error in adjustment of the floodlights. Engineers also took account of the close proximity of the main stand roof to the pitch perimeter, rearranging the floodlights where necessary to pull in the shadow cast by the roof.

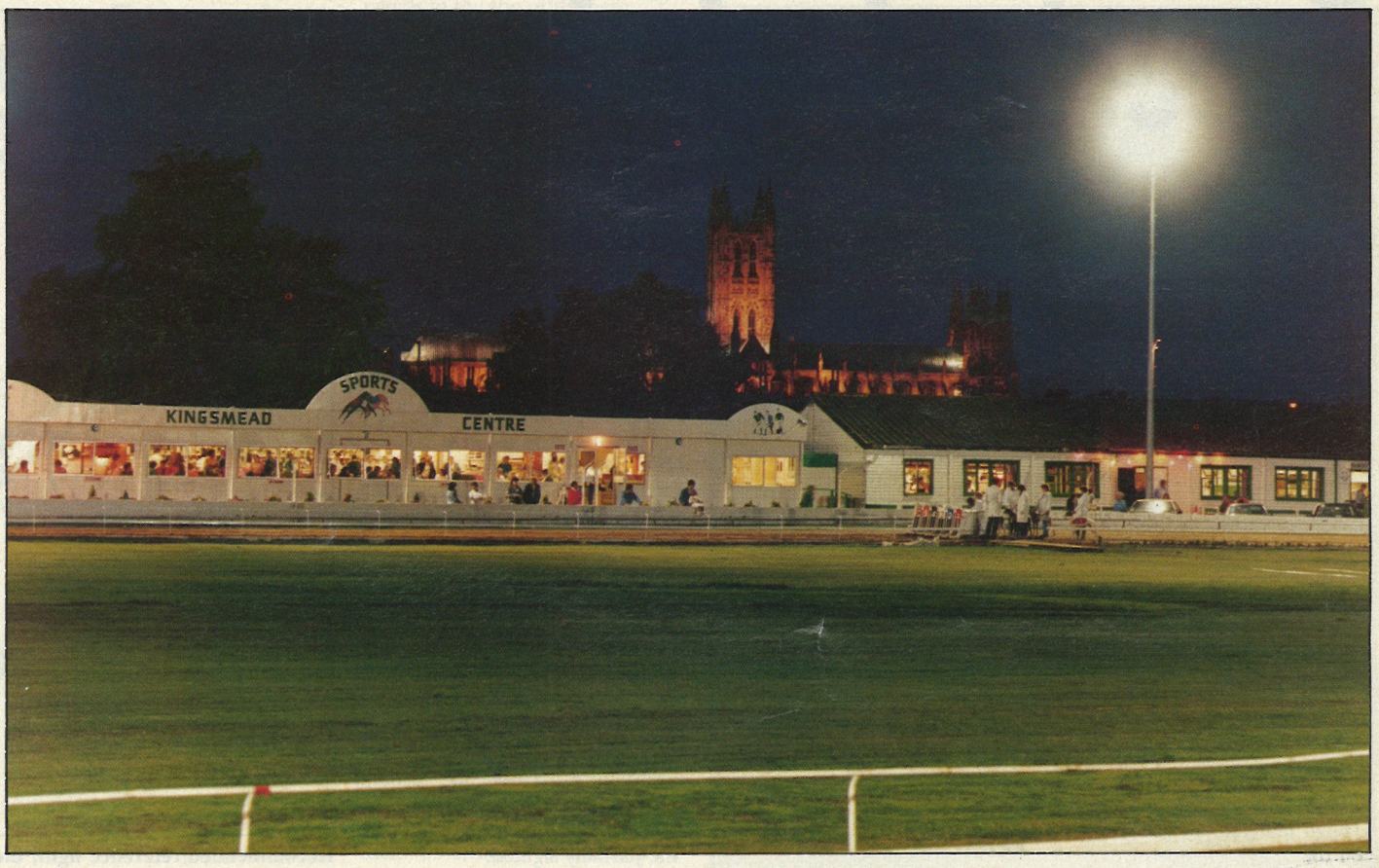
Consulting engineers were Beveridge Associates of Ilford and Christy Lighting installed the system.

tenance labour.

Then, a sponsor pulled out, leaving Halifax with insufficient capital. So, Halifax approached Philips' Lighting Management Service and the new scheme was installed on a 4-year agreement which provides the lights and guarantees to keep them working at their designed level.

The scheme is partly funded from energy savings. The new installation has an overall power consumption of 44kW — less than one third that of the previous installation. The number of fittings required on each of the ten towers has decreased from ten to two, so the labour involved in maintenance has been reduced by more than a half. Running costs have actually been reduced by more than 70 per cent to less than £2.50 per hour. In addition to the cash saving, light output has increased some 60% — from an average of 100 lux to one of 160 lux.

Following the installation of the new lighting scheme, Halifax's average gate has increased from some 4500 to 11,000 or so — and the club feels that the lighting is partly responsible for this success.



Getting on the right track

Kingsmead Sports Stadium, home of Canterbury's football club, has been given a new lease of life as a sports centre catering for greyhound racing and other track events as well as Association and American football. There are also plans to provide conference facilities.

The development called for a scheme good enough to provide lighting of a level and quality for all events to the high standard of amenity provided by the centre, and flexible enough to meet the varying requirements of the different activities. It also had to be simple to operate. The scheme, designed by Philips, uses a total of 46 HNF002 floodlight projectors, each fitted with a 2kW metal halide lamp, on eight 15m towers. each tower has a four-way switch giving three light levels: pitch only and greyhound track, only as well as all on and all off.

This advanced installation is energy-effective, and Kingsmead's directors felt it has led to increased attendance, thus boosting income of the stadium.

As the £35,000 development was carried out under Philips' Lighting Management Service, it involved the stadium's directors in no capital investment.

Not quite cricket

Over 100 Osram-GEC Hi-Saver lighting fittings provide near daylight conditions, round the clock, for cricket enthusiasts who play an unusual Australian version of the game at the first Cannonball Cricket Centre to have been opened in this county at Hounslow.

The centre has six courts, each totally enclosed by strong, taut netting. The lighting arrangement for each court includes 18 Hi-Saver fittings with 400W mercury flourescent lamps, giving a lighting level of around 1,000 lux.

The game is played on artificial turf by teams of eight and involves each team member bowling two overs and batting four, using a ball which is substantially softer than a normal cricket ball. In the confined space of the court the pace of the game tends to be hectic, demanding a high and uniform level of lighting.

Experts give help on task lights

New guidance has been given on choosing task lights for the partially sighted.

Suitable task lights for the partially sighted have been one of the subjects under consideration for some years by the Light for Low Vision Committee, which is sponsored by the Chartered Institution of Building Services Engineers and the Partially Sighted Society.

After testing typical task lights, the committee has identified the following desirable design criteria.

☐ High illumination with dimmer control.

☐ An even spread of light over a wide area, e.g. an A3 sheet of paper.

☐ Absence of glare, for user and others nearby.

☐ Reflector should be cool enough to place against the face, if necessary.

☐ Equipment should be lightweight, portable and economic of desk space.

☐ It should be available with both 'warm' and 'cool' colour appearance lamps.

☐ Controls should be easy to operate, particularly for the elderly.

Although the committee is not aware of any task light on the market that has every desirable feature, it considers some positive guidance may be helpful at this time and has recommended that the Anglepoise 90PL task light is likely to be useful for many partially sighted people.

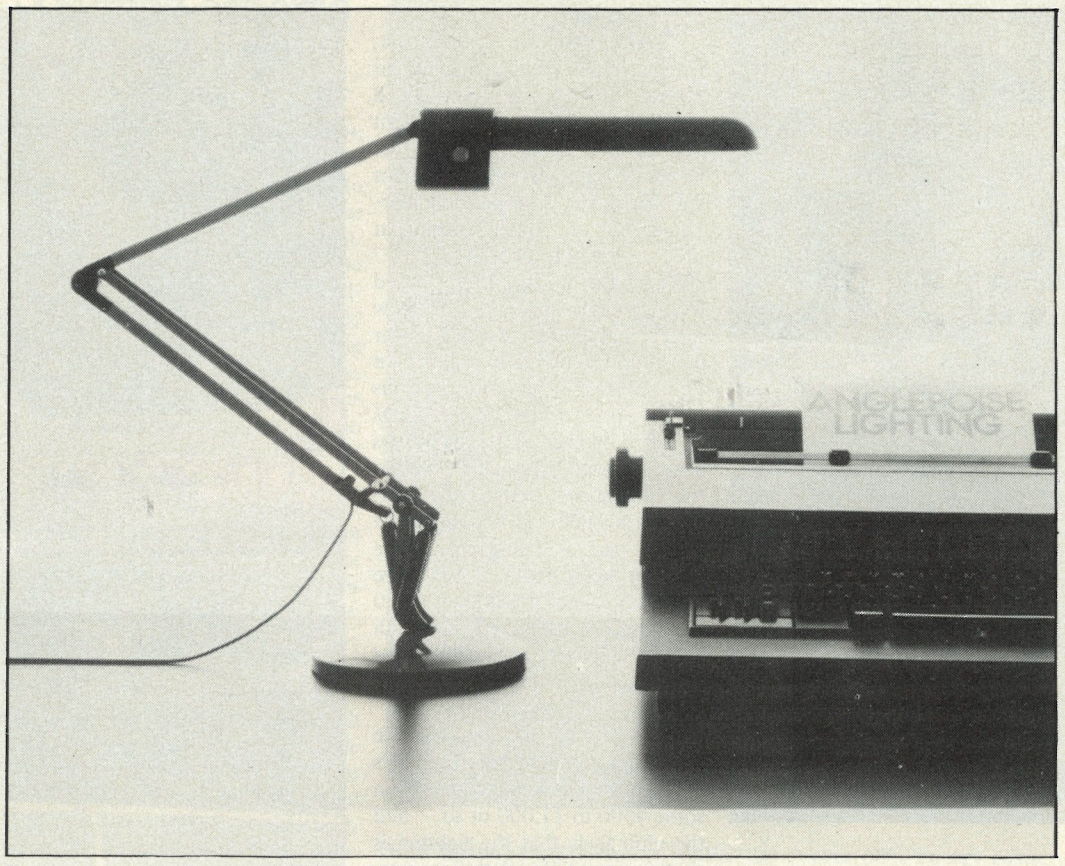
Reference

It incorporates several of the design criteria and can act as a reference with which other lights can be compared. It uses an 11W PL compact fluorescent lamp and is available through the retail market.

However, the committee strongly recommends that partially sighted people should try out a range of lights under realistic conditions before buying, because detailed requirements vary from one individual to another.

Following this announcement, opticians Dollond and Aitchison, decided to stock two models of Anglepoise task lights, the 90PL and the tungsten 90, in its 26 low vision aids centres around Britain. They will be available to patients at competitive prices.

In addition, Dolland and Aitchison has sent out an information card to general practitioners reminding them of the importance of good lighting for the partially sighted.



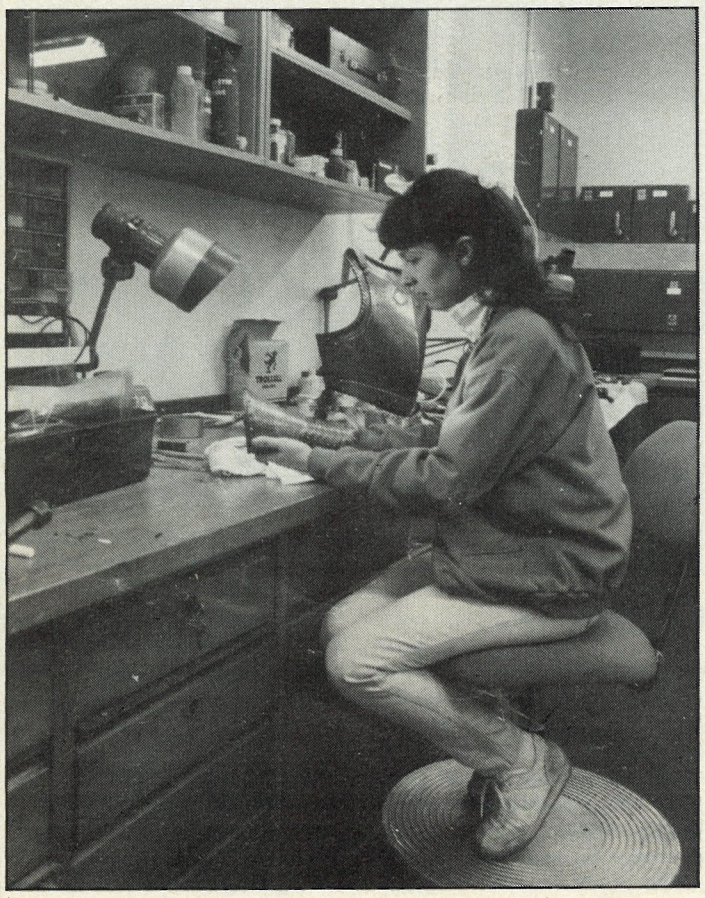
Recommended reference light, the 90PL task light by Anglepoise.

New lamps for old armour

The White Tower of the Tower of London is the home of the Royal Armouries where arms and armour going back to about 1066 are on display. The museum's conservation department carries out inspection, conservation and restoration of the delicate pieces that are displayed.

Until recently this work was carried out using ordinary tungsten filament lamps in Luminaire Task 1 adjustable bench lights by EDL Ltd, but the yellow bias and bad colour rendering associated with these lamps was not ideal for the work.

Now the tungsten filament lamps have been replaced by 60W Neodymlite BC lamps supplied by High Fidelity Lighting of Birmingham and, according to staff, the good colour to rendering and ability to highlight the finer details of exhibits is a vast improvement on the previous lighting.



Task light facilitates conservation work at the Royal Armouries.

It takes a long time to become a legend. It's not something that happens overnight.

Not only do you have to come on with the impact of a shooting star, but then you've got to stay on top without burning yourself out.

Lucalox® made its debut two years before Sergeant Pepper.

And like all good legends it came on with a bang.

Light Years Away From Mercury

Suddenly here was a range of high pressure sodium lamps, light years away from mercury, that at once optimised light output, extended lamp life and – if that wasn't enough – also saved energy.

Uniquely designed, uniquely constructed

What made Lucalox so different was its unique construction. Unlike other high pressure lamps, the amalgam for Lucalox was kept in a reservoir *outside* the arc tube, and released into the arc stream *only as it was needed.*

As a result the voltage rises considerably slower, which is a critical point when you consider that controlling voltage rise is the key to long life.

The American Lamp With The Great British Virtue

It also meant that the lamp was less likely to crack under pressure.

Many high pressure sodium lamps, particularly those used in street lighting, are prone to vibration by factors such as high winds.

With ordinary lamps there's always a danger of the amalgam splashing onto the electrodes which can cause 'blink-out'.

But this is far less likely to happen with Lucalox because since the amalgam is outside the arc, there's little chance of it coming into contact with the electrodes.

The Lamp That Can Cope With The Ups and Downs Of Factory Life

But being stable in high winds is one thing.

Coping with factory life is another.

This is important because variations in mains voltage will affect many high pressure lamps. And some lamps don't cope with it very well.

Lighting helps the antiques fair

An exhibition of valuable antiques presents more problems than usual for the display lighting designer. Here, *Janet Turner* describes some of the techniques used at the Grosvenor House Antiques Fair.

An awareness of the major role that good lighting can play in commercial exhibitions is very much the current thinking by organisers, designers and exhibitors alike.

Grosvenor House Antiques Fair, an annual event in London, now boasts the most exciting and appropriate illumination on the many and varied treasures and antiquities.

Conservation is an important consideration, because items that are sensitive to heat and ultra-violet light are commonplace at such an event.

The star attraction last year was the purple velvet coronation robe worn by HM Queen Elizabeth II in 1953. There was a maximum illuminance limit of 50 lux on this to avoid fading or damage to the fabric.

This year there was no such restriction on the silver cistern and fountain displayed in a special showcase. They were lit by four Tiller spotlights using 50W 12V tungsten halogen lamps and mounted on Micro track. A remotely mounted transformer was positioned above parabolic louvre panels in the top of the case.

The quality of lighting at this prestigious exhibition has improved out of all recognition over the past four years. Before Concord Lighting Ltd was made responsible for the lighting of all the stands they were lit by unshielded, internally silvered spotlamps, regardless of what the exhibits were, their surface texture, size or colour. The result was the inevitable problems of heat and glare for both exhibitors and visitors.

Variety

The variety of spot and flood type luminaires seen at this year's show underlined the precise lighting needs of such an event and the solutions.

Low and mains voltage tungsten halogen, as well as the established incandescent light sources, are now commonplace at the exhibition. They are used in correctly positioned luminaires selected for their good reflector design, anti-glare cowls and baffles to control the light.

For example, for timber surfaces of antique furniture, 40W crown silvered lamps are used in Trio Minor spotlights with parabolic reflectors. They produce a warm coloured beam of light with minimum glare.

China, glass and glazed pottery is shown to advantage under the colder light of low voltage tungsten halogen lamps, which brings out the colours in the decoration.

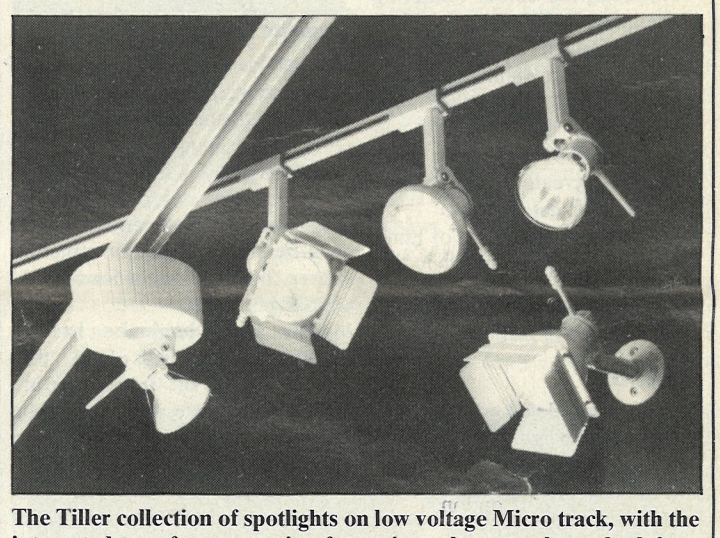
Dichroic low voltage tungsten halogen lamps are used to light jewellery and Russian icons, where heat projected forward from spotlights would cause problems.

The 85 or more exhibitors, many of them international experts in their respective fields, responded enthusiastically when presented with the benefits of good modern lighting.

To quote one exhibitor and furniture expert, "To enhance the inlay, highlight the colour and reveal the craftsmanship in an item worth £140 000 is vital. Nothing can do this better than good lighting."

Janet Turner is design director at Concord Lighting Ltd, 241 City Road, London EC1V 1JD.

Silver fountain and cistern sparkle under low voltage spotlights at the Grosvenor House antiques fair.



The Tiller collection of spotlights on low voltage Micro track, with the integrated transformer version for mains voltage track on the left.

Display lighting for Bazaar

A new, upmarket clothes boutique, called Bazaar, in London's South Molton Street has a lighting installation designed by Lightgraphix in conjunction with architects Wimpenny Bussell Associates. On the ground floor, a large cornice at picture rail height has miniature low voltage downlights recessed into it. Adjustable, 70W metal halide downlights are used in the top of this cornice to provide uplighting.

Looking at the latest display lighting

New display lighting tools are always in demand, especially for the retail market. This article describes recent developments.

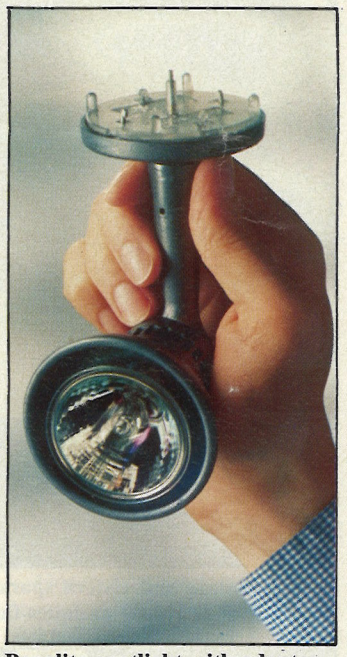
Display lighting has been the most rapidly expanding sector of lighting over the last two years and the signs are that interest is going to be maintained for a while yet, because new developments are still taking place.

Within this sector, the market has been dominated by the tremendous number of miniature, low voltage, tungsten halogen spotlights.

A gradually increasing number of low wattage metal halide luminaires has also been seen, but a dramatic entrant into the display lighting field has been Philips' White SON lamp. Not long ago it would have been unthinkable to use sodium lamps in shop windows or for in-store displays of, say, cocktail dresses.

However, the colour rendering of the latest high pressure sodium lamps has improved to such an extent that colours right across the spectrum look attractive and vibrant under this source. It can also be mixed with other light sources to create displays with highlights and halo effects.

There is now a choice of luminaires for White SON, including narrow beam spotlights, and no doubt more will be introduced.



Panelite spotlight with adaptor.

Panelite

A more recent development in low voltage display lighting is Panelite, a system in which spotlights are plugged into metal panels that can be an integral part of the decor of an interior.

Leading Edge Lighting Ltd, a subsidiary of Whitecroft Lighting, has developed this system.

The panel consists of two sheets of steel, zinc plated, with the side facing the room additionally PVC coated. Spacing blocks maintain uniform separation and the sheets are bonded together and enclosed at the edges by a PVC extrusion.

Perforations in the lower sheet allow luminaires to be plugged in. These perforations can be in one of three modes: either in pre-determined positions chosen by the user, or repeated in rows (in one or two directions) offering a choice of positions for the spotlights and giving similar flexibility to that of lighting track, or the panel can be perforated all over.

The transformer is attached to a bracket and then fixed above or behind the panel. Because the panel is energised from the transformer via a totally encapsulated connection, the user is protected from the mains voltage.

A 0.6m long cable from the panel is plugged into the back of the transformer. Up to six 50W, 12V tungsten halogen luminaires can be plugged into one panel, or other combinations of loads up to 300W per panel.

The basic luminaire has an adaptor at one end of the arm. Locating clips on the adaptor are inserted into the perforations on the panel and the adaptor is then rotated until it locks.

A spring loaded centre pin makes contact with the top sheet of the panel. To disengage the luminaire a release button is pressed.

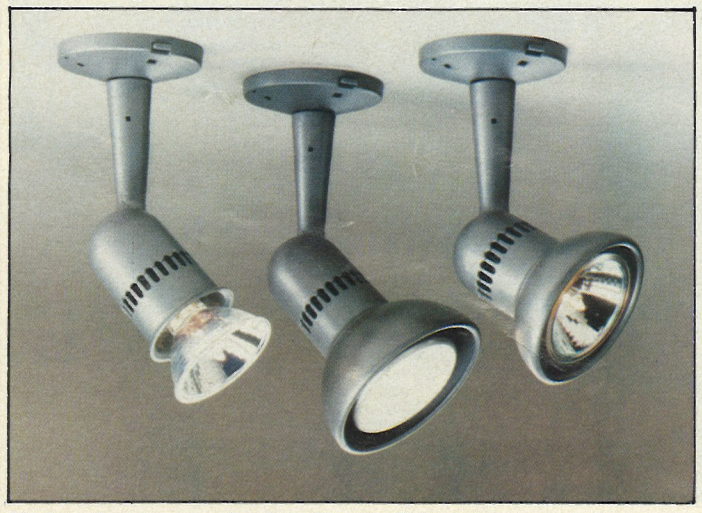
The spotlight, which swivels through 360°, accepts either lamps with integral dichroic reflectors, or M32, or SBC cap tungsten halogen lamps.

Two cowls, a textured reflector, a specular reflector and a glass reflector are available for use with the spotlight.

In addition there is a pendant reflector which is used in conjunction with a small central reflector to give emphasis to the central area below the luminaire.

A few weeks ago, Leading Edge signed a contract for the exclusive UK distributorship of five specialist, modular lighting track systems made in Italy by Sames.

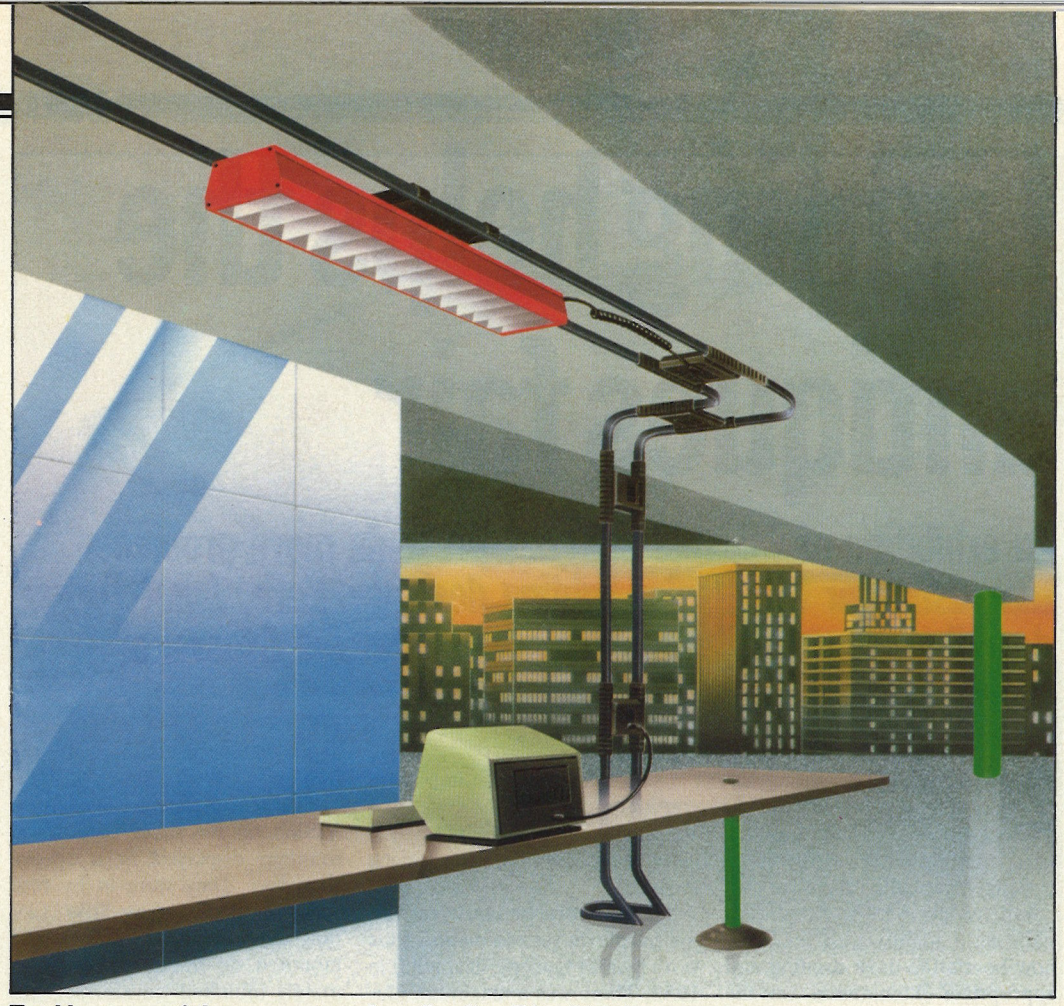
The systems are called Trackluce, Tondoluce 70, Tondoluce 100, Stickluce and Breakluce. All are designed for commercial applications.



Choice of accessories for Panelite spotlight.

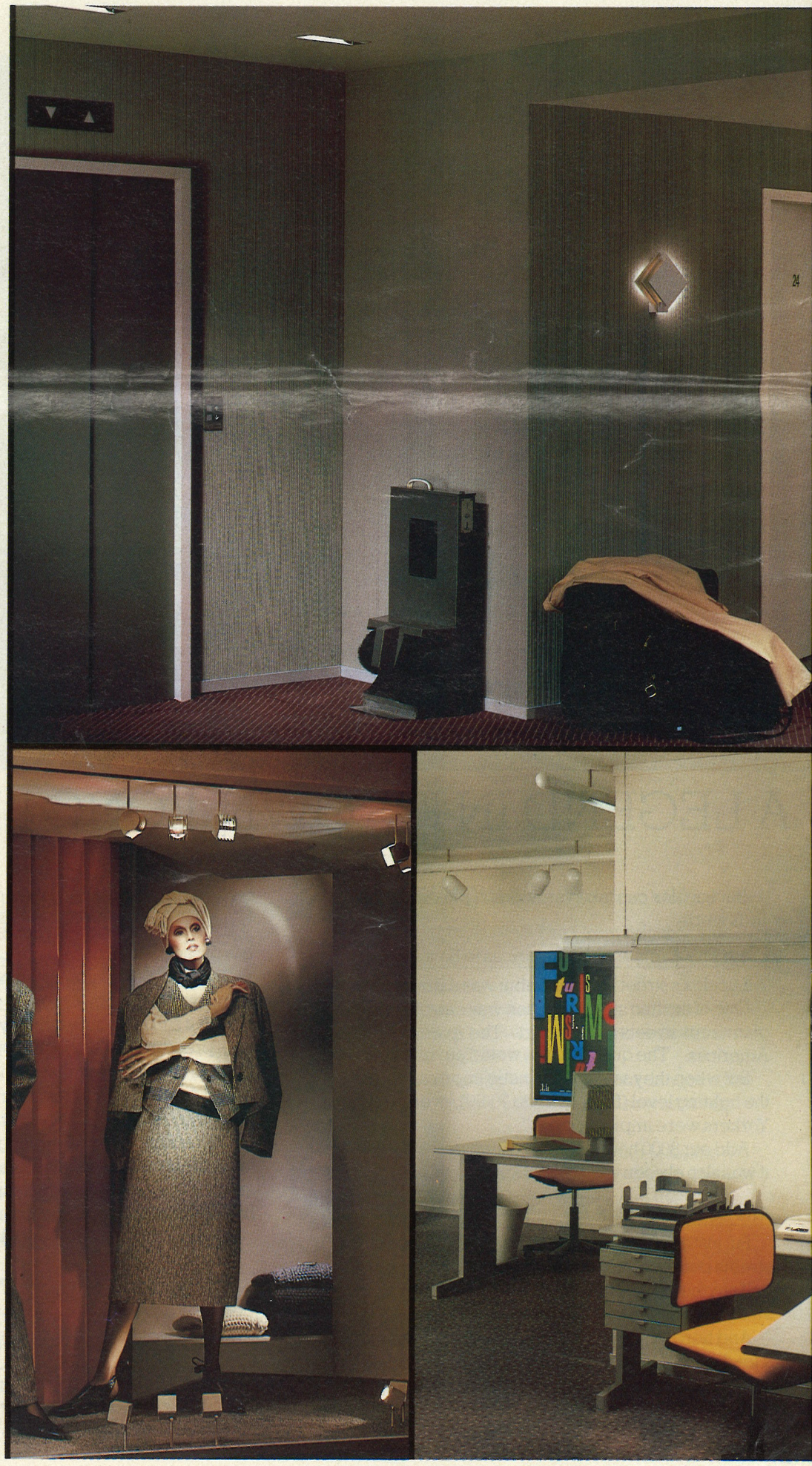
Trackluce consists of two parallel "tram tracks" which can be curved to follow the shape of a room or to create interesting patterns and architectural features. The tracks can carry cables for computers, telephones, etc, as well as lighting. Square service modules are positioned at intervals between the tracks and carry sockets and terminal blocks.

There are fluorescent modules for the system and directionally adjustable metal halide and Dulux



Trackluce, one of the new systems from Leading Edge Lighting.

Luminance



compact fluorescent units. Other options include a digital clock and sound modules.

Tondoluce 70 is a particularly versatile cylindrical track system that can be formed into hair-pin bends and three dimensional shapes. It accepts a wide variety of lamps.

Fibres for display

The most exciting technical breakthrough promised however is in the field of fibre optics. It is being forecast by Applied Lighting Technology plc, a specialist company in this field, that within five years fibre optics will be the major type of display lighting in the high street.

Until now, these sub-miniature spotlights have been purpose built for each installation. Applied Lighting Technology has just announced that it can offer a standard range of light projectors, harnesses of fibre optics and fittings to suit a wide variety of illumination requirements.

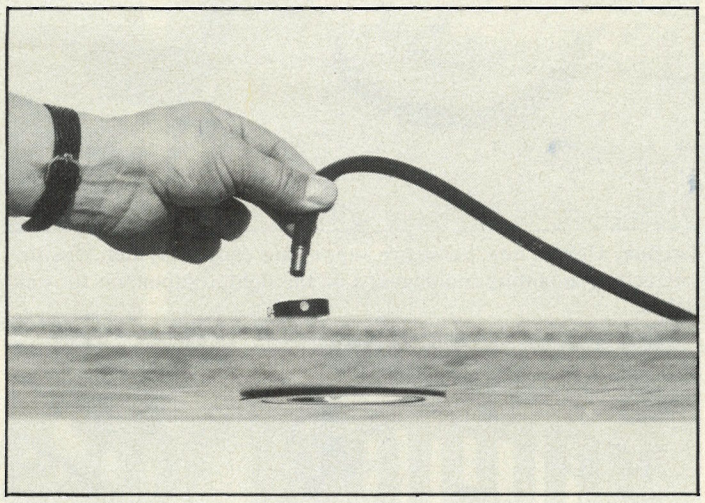
Through careful monitoring of each of its projects over the last three years it has built up a core of expertise which is unequalled.

Now, a standard package can be supplied to clients who wish to instal their own equipment and re-position it from time to time.

Technological developments in the quality of optical fibre has resulted in improved efficiency of light transmission. This in turn has given much greater flexibility in the areas of both design and application of fibre optic lighting installations.

The fibre optic tails can be fitted with either fixed or adjustable downlights, which can be lensed or unlensed.

A light projector developed by the company has a specially designed reflector which makes more efficient use of available light. Projectors are offered with either a 12V 100W tungsten halogen lamp or the longer life 150W metal halide lamp. Both can be supplied with a mechanical dimmer if required; this is used to avoid the effects of changes in colour temperature.



Inserting a fibre optic tail into a lensed downlight.

Applied Lighting Technology says that with the advent of its standard range of fibre optic equipment, coupled with the technological advances, the arguments against its use on grounds of cost effectiveness have been virtually eliminated, particularly when installation and maintenance costs are taken into consideration.

In retail premises, untrained staff can amend a lighting layout when the display is altered, and changing one remotely positioned lamp will no longer mean stepping gingerly into the window display area!

Floating messages

A novel application of light for retail displays, exhibition stands, leisure centres or anywhere where an eye catching feature is needed is the Holo Spacegram.

This device "floats" a message in the air. It looks like a hologram, but is not. It was invented by Professor Paul Cook, who set out to produce a cheap hologram that could be used in shop windows, but which did not have the disadvantages of holograms, i.e. the expense and the fact that they cannot be changed.

The Holo Spacegram floats a message out to passers-by.

The Holo Spacegram achieves its effect by the use of a special mirror, a photographic negative and three 15W fluorescent lamps. Instead of an image appearing to be behind the mirror, the image appears to be in front of it.

If a moving message, as opposed to a static one, is required, four negatives of the message — or four different messages — are attached to a drum which revolves around the lamps. The negatives are about the size of a car number plate and are easily made up. They can include line drawings such as cartoons and can be coloured simply by using a fibre tipped pen on the negative.

With the model that produces a static message, the negative is simply put between two pieces of clear plastic and slid into a large slot; it can be changed in seconds.

The floating messages can be seen under normal lighting and at wide viewing angles.

The standard size of the spacegram units is 510 x 290 x 390mm, but they can equally be made large enough to act as a shop counter.

Both the fixed and moving message type can be fitted with a pulse unit for an extra £85. This produces a flashing message to give even more impact.

Japan has already shown its appreciation of this British invention by ordering 800 from Scientifica-Cook Ltd for use in a chain of shops.

White SON used to add sparkle to an Adel Rootstein mannequin.

Changing lighting is now easier

New standards have been published for luminaire supporting couplers. LSCs make changing pendants and wall lights, for cleaning or replacement, a simple and safe operation.

Another step has been taken towards bringing luminaire supporting couplers (LSCs) into common use in the home with the publication of two British Standards.

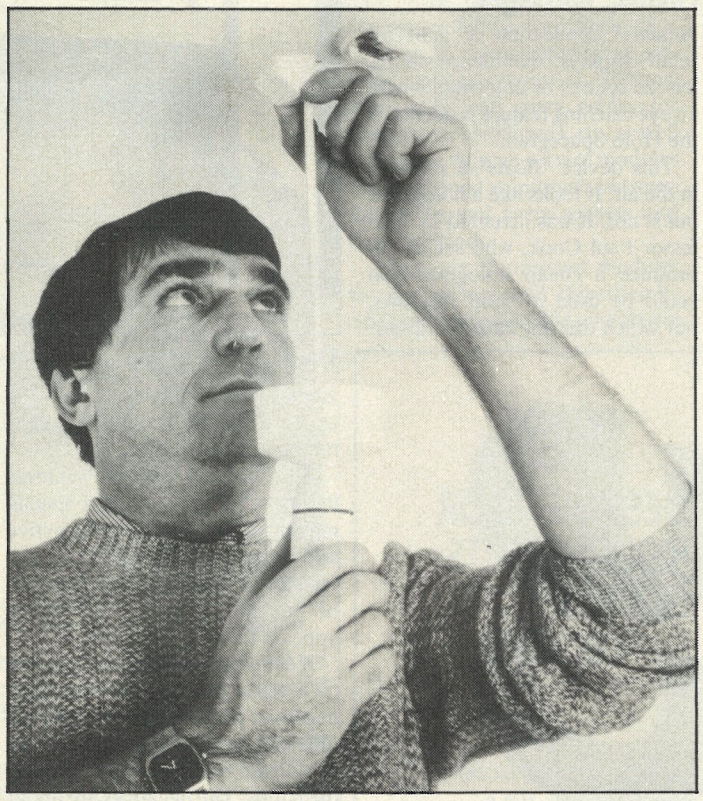
BS6972 sets out general requirements for LSCs for domestic, light industrial and commercial use. These requirements are particularly concerned with safety in normal use. They cover aspects such as provision for earthing; resistance to ageing, moisture, humidity and heat; and mechanical strength.

The standard classifies LSCs according to position of mounting (wall, wall/ceiling or ceiling), method of mounting (surface or flush type), and current carrying terminal arrangements.

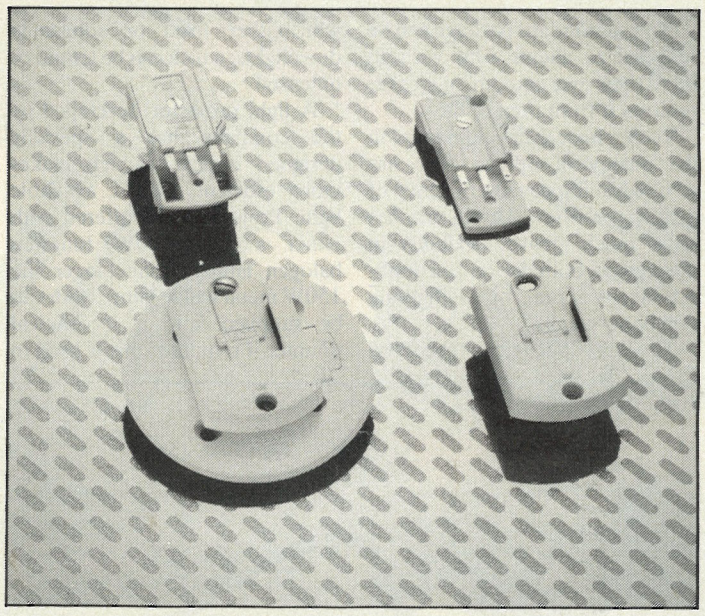
BS7001 is a specification for interchangeability and safety of a standardised LSC. It gives detailed drawings and measurements. A "plug" from any coupler that complies with BS7001 will fit into the outlet of any manufacturer's coupler that also complies with this standard.

The manufacturers who joined forces and formed a consortium to work towards the introduction of a British Standard for LSCs, having achieved their objective, have gone their separate ways and are launching their own couplers.

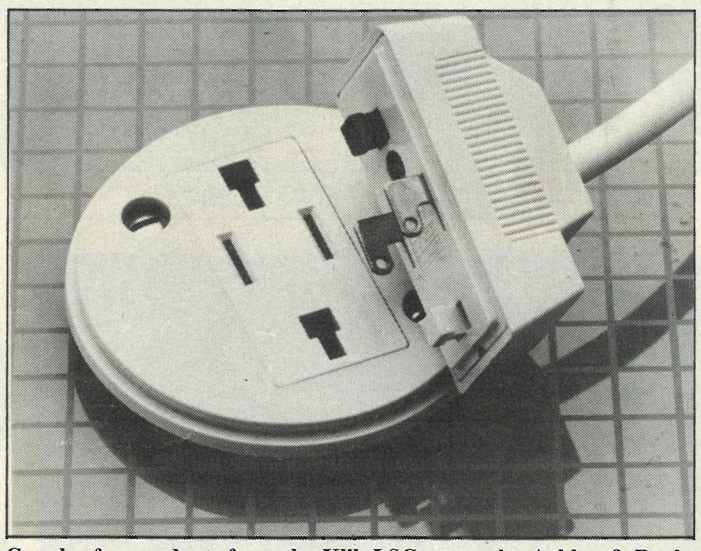
However, they have one eye on Europe and have proposed that the two British Standards be adopted internationally. This will be discussed at a meeting of the International Electrotechnical Committee in Adelaide in October.



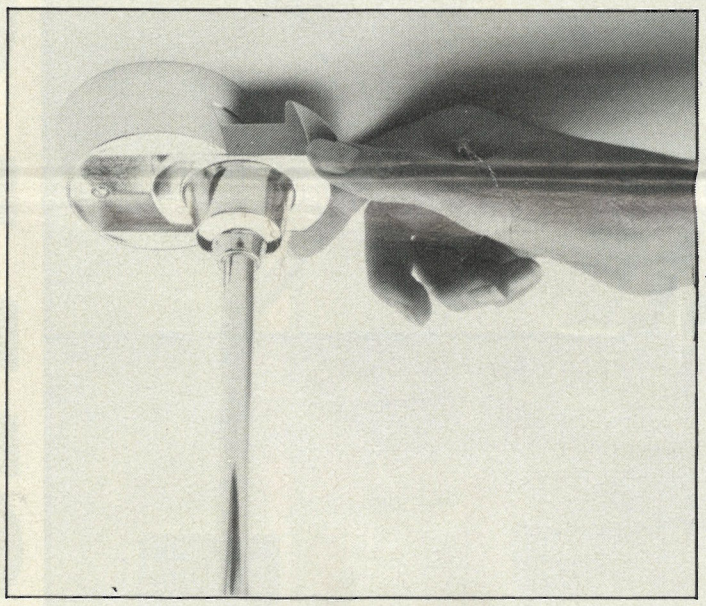
Luminaire supporting coupler introduced by MK Electric, shown as part of a complete pendant set.



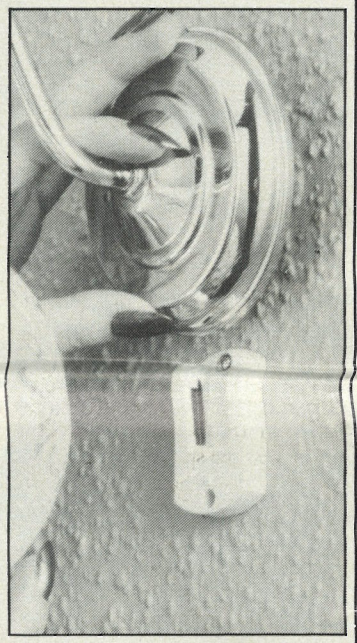
Litelink, Delta's new luminaire supporting coupler system. On the left, ceiling mounting components; on the right, components for wall lights.



Coupler for pendants from the Klik LSC system by Ashley & Rock.



Ceiling Maestro, for use with ceiling and wall lights, by Maestro Lite.



A wall light being detached from a luminaire supporting coupler (in this case Litelink).

Couplers available

At present, only two companies are making LSCs that comply with the interchangeability requirements: MK Electric Ltd and Delta Accessories and Domestic Switchgear Ltd.

Both companies are supplying complete pendant sets, i.e. including cable and a lampholder, as well as individual "plugs" and outlets for ceiling and wall mounting.

Ashley and Rock Ltd is producing the now established, Klik connector system. This includes a special interface for low voltage lighting and a four-contact interface for emergency lighting. To date, Klik has been used more in factories and commercial premises than in homes. It can, for example, be used in conjunction with trunking to speed installation and facilitate maintenance, or be integrated into suspended ceilings. The large number of items in the system includes pendant sets.

The fourth coupler available is the Ceiling Maestro by Maestro Lite Ltd. This has been on the market for a number of years.

Next step

The biggest problem is still to be solved — how to persuade the public to use LSCs in large numbers.

The general feeling among manufacturers of LSCs is that the next step is to get lighting retailers to stock them, and after that encourage builders to install them in new homes.

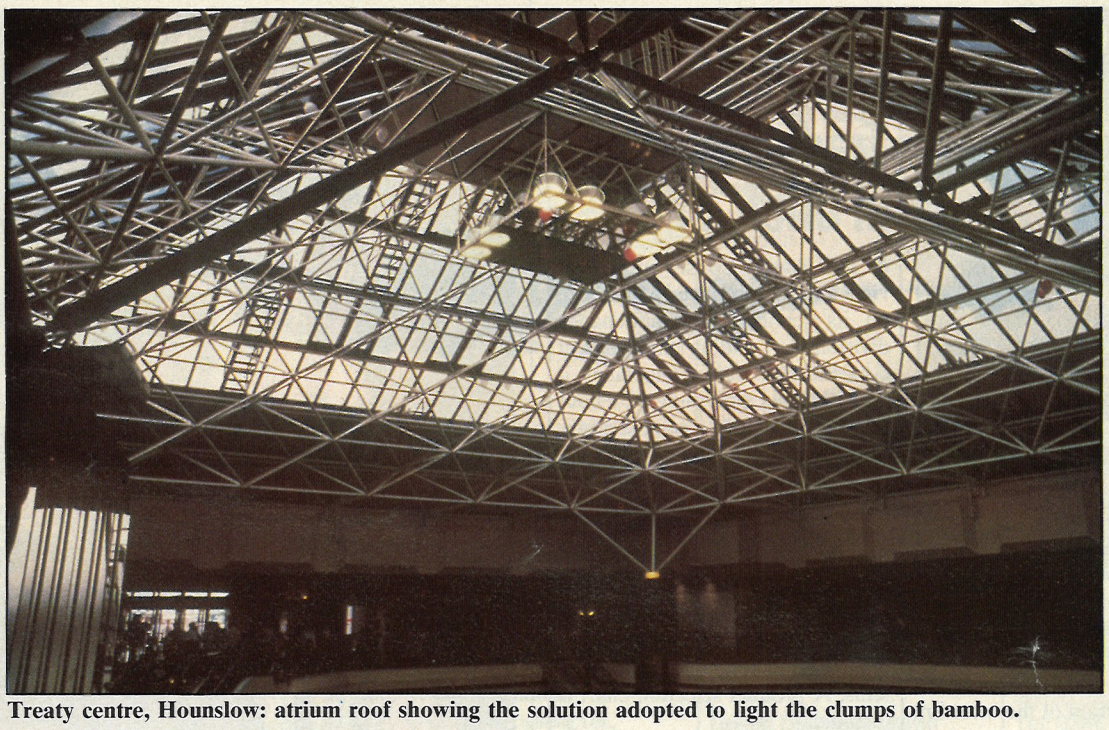
MK is concentrating on gaining the interest of leading lighting retailers, but at the same time is directing some publicity towards house builders. Delta has found that builders do not want to be pioneers in this field.

K J Bailey, chairman of the British Standards Institution committee which drew up the new standards, forecasts that pendants will first be sold with the plug attached and a conversion kit for fixing over an existing ceiling rose.

He thinks that once the idea is seen to be catching on, builders will start to install them in new properties.

MK Reader Service No.201
Delta Reader Service No.202
Ashley and Rock Reader Service No.203
Maestro Reader Service No.204

Treaty Centre, Hounslow: view of the atrium.



Treaty centre, Hounslow: atrium roof showing the solution adopted to light the clumps of bamboo.

Daylit bridge at Cityplaza in Hong Kong.

Lighting for planting

Supplying the right environment for planting in modern buildings can be difficult. *Derek Phillips* looks at the broad requirements of different groups of plants.

Bringing the outside inside was one of the exciting new concepts of the modern movement in architecture of the 1930s — although long before this the splendid conservatories of the eighteenth and nineteenth centuries, such as Chatsworth and Bicton, had enabled exotic plants to grow in the British climate.

It is not new to bring planting and even large trees within glazed areas — this was done at Crystal Palace in 1851. What is different now is that the spaces involved are often taller and have less daylight due to surrounding accommodation.

The question of providing planting within a building is not one to take lightly. If the question of daylight during the day and artificial light at night is not taken seriously and solutions found for this problem, together with that of watering, I think it would be better to accept the concept of artificial plants.

Artificial plants have advanced in quality over the last few years and, particularly where planting is provided in situations where maintenance is difficult, artificial plants are a better solution than real plants which wither and die or have to be rotated.

Once, however, having made the decision that real plants are desirable — and one has to agree that they do have a quality which even the best artificial plants lack — then the environment in which they are to be placed must be carefully considered.

Plants require light for survival and still more light for growth, to facilitate the process of photosynthesis. Many of the early planting schemes in shopping centres failed due to lack of light with tired, dirty-looking plants slowly dying.

The whole subject of planting has received considerable attention recently and it has been established that different types and sizes of plant require different light levels.

Survival

The table provides a guide to required illuminance but this is general in nature and specialist advice should be sought. The list is provided as an indication of the need to consider the illuminance levels in relation to the type of planting. The majority of plants derive from tropical localities with levels of 100 000 lux, and are being introduced to much lower levels. It is, therefore, more a question of survival than the promotion of healthy growth.

When designing a lighting scheme it is important that plants should have a minimum rest period of six hours at illuminances not exceeding 50 lux, followed by the main boost of high level light.

It can be seen from the table that species such as black olive or bamboo require very high illuminances to maintain growth. This can be provided over a longer or shorter period. For example if 3000 lux is required for 12 hours, then this might be provided by a boost of 600 lux for six hours — both achieving 36 000 lux hours.

It has been found that plants respond best to high levels of light after the rest period, as would be the case in the natural environment. Modern research appears to suggest that the wavelength of the light is of less importance than the intensity in promoting plant growth.

The highest levels of light required to keep certain species in health can only be provided from very high-powered sources which, if seen against a night sky, would be very glaring but can be found to be acceptable against a daylight sky.

Lux ranges for 12 hours	Types of plant
500 lux	A small number of house plants, tolerant of low temperatures and low light levels. Green leaf varieties only
500-800 lux	General foliage, ground cover, green leaves with some variegation and little colour
800-1500 lux	Larger plant forms, with some flowers and colour
1500-2000 lux	Smaller "ficus" plants, tree forms 1-2m size and smaller palms
2000-3000 lux	Larger ficus plants, tree forms 3m plus size and larger palms
3000-4000 lux	Black olives and specialist species such as bamboo

Bamboo

A recent example of this is at the Treaty Centre in Hounslow where three clumps of bamboo are a main feature of the daylit atrium. The photographs show the bamboo in the atrium associated with the lighting solution.

The plants require illuminances of roughly 3500 lux for a minimum of 12 hours per day. This is achieved by nine 2kW floods baffled by deep concentric rings, three fittings to each clump mounted on a platform specially designed for their support at the apex of the atrium glass pyramid.

To avoid the glare which these might cause in the afternoon, they are timed to be on from 2am—2pm giving the 12 hours of high intensity required after a six hour rest period from 8 pm — 2 pm. This level is gained from a combination of daylight and metal halide using two of the three fittings for each. The third fitting acts as a spare, but can also be used singly to achieve a special effect on the planting in the afternoon and evening without glare.

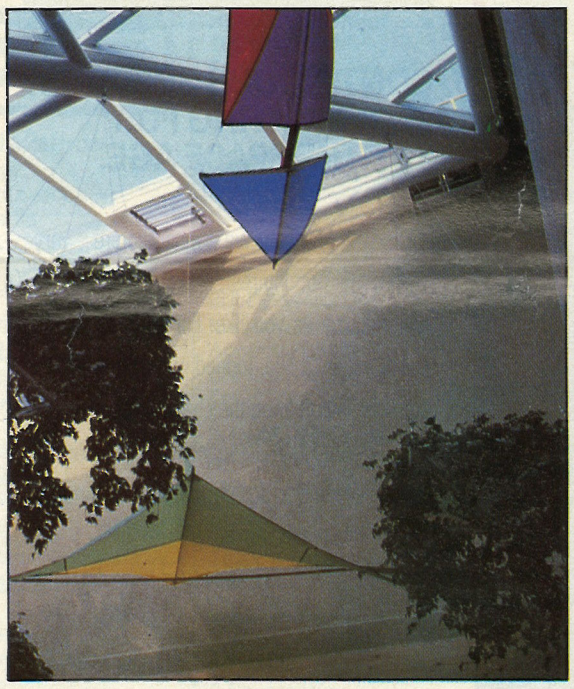
Specialist advice should be sought on the illuminance levels required from specialist landscaping companies who will supply the plants, often costing several thousand pounds each. It will pay to take their advice.

The alternative is to design the environment in such a way that the plants (generally of types not requiring the highest levels) will receive sufficient light from the daylight alone.

Examples of such daylighting solutions are the Cityplaza, Hong Kong, and a glazed pyramid in the Grafton Centre, Cambridge, both illustrated here.

Finally, the Potteries Centre, a recently completed shopping centre in Hanley, has a food court planned below a large rooflight and developed as a Victorian conservatory. During the day there is ample natural light, while at night low level artificial sources give a café atmosphere.

Light and planting are a magic combination after dark and while the healthy growth of all forms of planting is of paramount importance, the environment they create within buildings at night must be a major consideration — this can never be quite the same with the artificial variety.

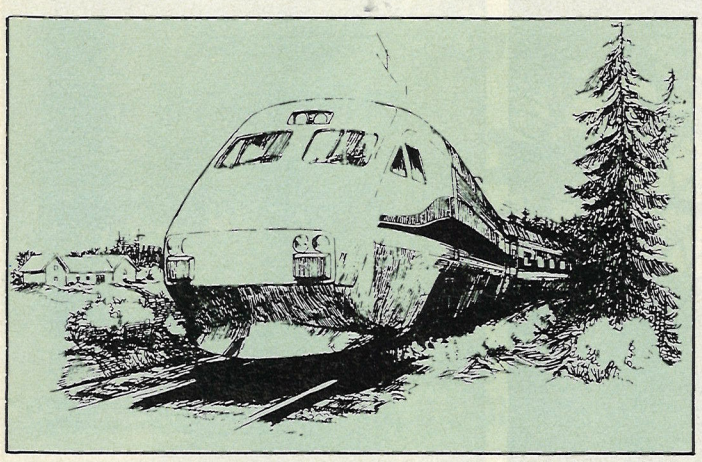


Glazed pyramid in the Grafton Centre, Cambridge.

Food court at the Potteries Centre, Hanley.

Author, Derek Phillips is principal of Derek Phillips Associates.

NEWS



Northern lights

Thorn EMI Lamps and Components, in conjunction with Thorn Lighting Sweden, have just won a £1/2 million contract to supply the interior lighting for Swedish Rail's new high speed train, the X2.

The inverter offered by Thorn is designed for 24V dc operation of 36W fluorescent lamps. A selection of the inverters are dimmable.

The X2 high speed train is intended to take Swedish Rail into the 1990s and it is hoped that it will be in commission by late 1989.

Trade literature in brief . . .

- **JEL Energy Conservation Services Ltd** has produced a brochure on its service and maintenance division for building management systems. Bureau management is also available, providing a 24-hour permanent link to a central monitoring centre.
- **Kingswood Services Ltd** has issued a 166-page A4 sized catalogue of its architectural street lighting and street furnishings.
- **Interlux Ltd,** previously called Interlite Linear Controls Ltd, has published a guide to its range of integrated lighting and ceiling systems. A product selection chart is included.

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

The Drum-na-greah Northern Ireland hotel that lost much of its late Victorian splendour in a fire in 1900 has been restored. The task of refurbishing a building that had become progressively more delapidated over 80 years fell to the architects, Raymond Leith Partnership.

The long, wide corridors and high-ceilinged bedrooms demanded lighting that would give sufficient illumination while remaining in keeping with the style. So Chelsom period lighting was chose for this scheme.

Engraved wood ballustrading and white pillars with decorative metalwork divide the tables within the new restaurant providing a cosy, intimate atmosphere which is enhanced by the Brasserie range of lighting which features opal glass globes and solid brass scroll-work arms. Single downlighters adorn the ballustradesin pairs above the dining areas and plinth lanterns illuminate-individual dining tables. Dimming permits a change of atmosphere from brisk lunchtime eating to more sophisticated evening meal.

Infotube, the British-made moving message display system recently patented by Contact Marketing, has been installed in the newly-refurbished Bank of Scotland in London's Oxford Street. Contained within polished aluminium rubing, it supplies pre-programmed moving or static message displays and can be used with any Contact Marketing tubular lighting system. Full editing facilities allow pause, flash and hold effects, and a choice of three speeds. The built-in memory holds messages for up to six months to overcome

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All finishes to a high gloss.

Regency Line Ltd.

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Wide range of standard parts for domestic and industrial light fittings.

METAL SPINNERS

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Metal Spinners for the Lighting Industry.

Anglia Spinners, Spinnings, presswork, spraying & finishing,
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Metal spinners and general sheet metal workers. A complete service to the lighting industry.
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Sculthorpe, Nr Fakenham
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Prototypes and small quantities a speciality
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Injection Moulders & Component suppliers. The complete Lighting Services.
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Clwyd LL13 9UG
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Sungro-Lite Limited
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Telex: 78049 FIFTY HX
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For top quality wall lights in T/Halogen GLS and PL.
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Surrey CR3 2HR
Tel: 01-668 5295/6
Telex: 945809

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Pulsestarter
Arlen
Arlen House
808 Oxford Avenue
Slough, Berks
Tel: 0753 37921
Telex: 847194
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PRESSWORK

M.R.L. Ltd.,
115 Brunswick Park Road,
New Southgate,
London N11 1JR
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Established supplier to major brand names.

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Tel: 0695 33068
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Manufacturers of all types of luminaires and metal louvres to the Trade.

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Tel: 04862 4172/3
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Tel: 0376 24809
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Tel: 0245 267428

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Full range of low-voltage transformers available.

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Lamp Transformers (SELV) 50VA to 600VA rating.

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Surrey CR4 7JP
Tel: 01-689 8002
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Metal spinners and tube benders and manipulators to the lighting trade.

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Tel: 0787 76259
Telex: 987126

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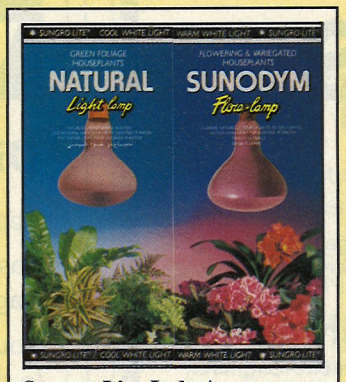
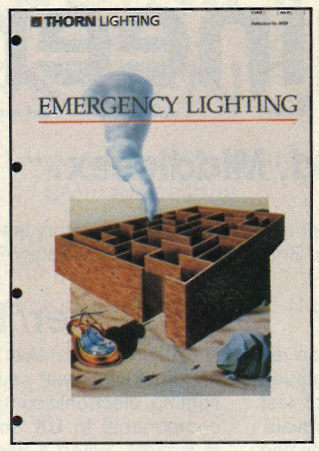
Telex: 37362 comcon G

CATALOGUE DIRECTORY



Sungro-Lite Ltd: A new brochure natural light lamp cool white, sunodym flora-lamp warm white, diffused, glare-free, natural colour reproduction. Intended for shops, offices, hotels, restaurants, art galleries, exhibitions, commercial interiors, lighting system: circle 90



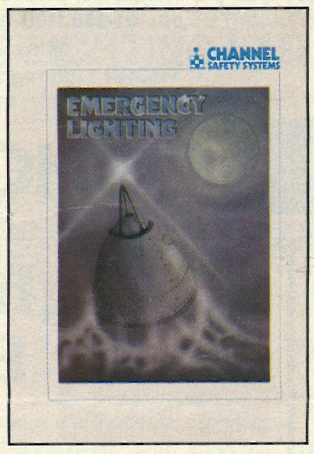
Thorn Lighting have published a new brochure for emergency lighting products. It contains a complete list of all commercial luminaires which can be converted for emergency lighting. It is intended to help specifiers, architects and consultants design a completely unified scheme: circle 91

GENERALUX

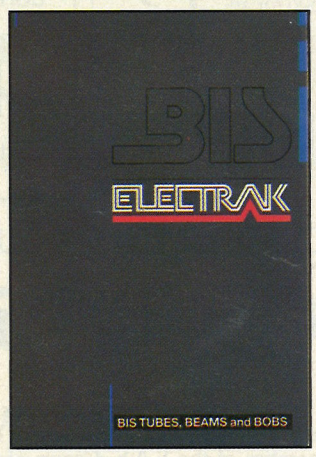
Suppliers of luminaire components to the lighting industry. Range includes weather proof polyester, interior and energy saving luminaires. Colour catalogue available to manufacturers and O.E.M.'s: circle 92

Light Source Electrical Equipment Ltd: Optima HQI thermally-protected ballasts provide two important safety features — a thermal switch and a thermal fuse. Suitable for 35W, 70W and 150W metal halide lamps, the ballasts give additional safety assurances to the growing market for metal halide lighting: circle 93

Rada Electronic Products Ltd: New Rada Discharge Lamp Gear Tester screws in to locate ballast and ignitor faults in seconds. Robust, compact, suitable for all lamps up to 400W. Saves time, money, trouble on all kinds of lighting. Send for further details and order form: circle 94

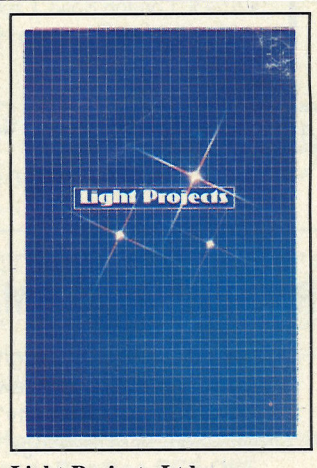


Channel Safety Systems Ltd: An attractive range of self-contained emergency lighting units including the award winning "LASER PACK" Low Voltage Conversion Kit and the now well established "EMERGENCY DOWNLIGHTER" developed to blend into the architectural design of commercial ceilings: circle 95



Electrak Ltd:
The launch catalogue of the Electrak — BIS Lighting Tube, a specialist product unique to the UK and available only through Electrak International Ltd: circle 96

Marlin Lighting Ltd:
A comprehensive range of decorative lighting for interior and exterior applications: circle 97



Light Projects Ltd:
Specialises in the design and manufacture of a professional range of light fittings, offers an independent lighting design service, and provides lighting design supply and commission packages: circle 98

To advertise your Catalogue in this directory contact Joanne Barker on 01-441 6644 ext 1154.

Engineers

Enfield, Middlesex.

Two opportunities have arisen to join our small Standards Laboratory team engaged in testing new designs of luminaires to British and International Safety Standards.

Senior Engineer

Responsibilities of this senior position as deputy to the Test House Manager will include day to day management of a team of test engineers, co-ordination of product approvals, and liaison with design, development producton and marketing departments.

The successful applicant will have a degree or equivalent in Electrical/Electronic Engineering, experience in the Lighting Industry and be familiar with British and overseas product safety standards. Good inter-personal skills are essential to deal with staff and approvals authorities in the UK and overseas. This post will necessitate some overseas travel and knowledge of foreign languages would be beneficial.

Engineer/Technician

Reporting to the Senior Engineer, responsibilties will cover testing emergency lighting, electronic control gear and luminaires components to UK and international safety standards, using a wide range of electrical, mechanical, environmental and EMC techniques.

Applicants must be qualified to HNC standard in Electrical/Electronic Engineering preferably with experience in electrical product testing and a good understanding of electronics in lighting. The ability to communicate concisely and effectively both orally and in writing is essential. Participation in BSI technical committees can be expected as a natural development involving some travel.

These positions offer an attractive benefits package and excellent salaries commensurate with experience and qualifications.

If you are interested, please telephone for an application form to Miss. J. Armstrong on, 01-366 1166 extension 3155 or write enclosing your C.V. to:-
Miss. J. Armstrong, Recruitment Officer,
THORN Lighting Ltd., Lincoln Road, Enfield, Middx, EN1 1SB

THORN LIGHTING

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Display Lighting Sales Consultant

Required by The Wholesale Fittings plc

Based in the South East and reporting to the Lighting Manager at our Dagenham Head Office this challenging position offers a varied job content.

You will maintain contact with our existing major Lighting accounts and help to develop new business within the fast-moving user and contractor areas.

You will already be involved in sales of Commercial Lighting Products and have the knowledge and imagination necessary to succeed in this exciting field.

We offer an attractive salary, Company Car, non-contributory pension and life assurance schemes, profit sharing scheme and the best back-up in the industry.

Write, giving all relevant details, in full confidence to:

Ros Bradford
The Wholesale Fittings plc
313/333 Rainham Road South
Dagenham,
Essex RM10 8SX.

Lighting Design Engineer

Croydon

The successful applicant will join an experienced design team covering all aspects of indoor and outdoor lighting with particular emphasis on energy effectiveness. There are occasional opportunities for site visits and scheme commissioning. This post is suitable for somebody wishing to broaden present lighting design skills, or qualified Technician Engineers wishing to specialise in lighting.

Applicants who are Associates/Members of the CIBSE or ILE are preferred. Candidates should have qualifications in Electrical or Mechanical Engineering subjects and/or the appropriate City and Guilds or HNC in Illuminating Engineering.

There are excellent opportunities for career progression within our rapidly expanding organisation, and we offer the first class benefits associated with a leading company.

Please write with comprehensive details of qualifications and experience to Mrs P A Hayden, Personnel Manager, Philips Lighting, City House, 420-430 London Road, Croydon CR9 3QR, or telephone 01-689 2166 ext 2606 for an application form.

PHILIPS Lighting

PHILIPS

SALES & MARKETING PROFESSIONAL

We are a rapidly expanding designer and manufacturer of good quality luminaires with a prestigeous customer base and a reputation for meeting clients' special needs in terms of design, price and delivery.

The company seeks an experienced sales professional to take responsibility for the Sales and Marketing operation and ensure achievement of the planned objectives — Prime target area's include High Street chains, Public Sector and Office Developments through direct and specifier contracts.

The prime task will be achievement of personal targets whilst developing a Sales and Marketing team to contribute to the success of a 5 year business plan.

You will have a proven track record of sales success in the commercial and industrial lighting arena and be currently engaged in this type of activity.

This is an opportunity to join a progress company and for the **real** achiever the excellent salary and benefit package will reflect our determination to secure the right individual.

Please write in the first instance, enclosing a comprehensive CV, marked for the attention of C. Holt, Managing Director. All applicants are assured of strict confidentiality.

UDALL *Designers & Manufacturers of Luminaires*

Udalite Limited, 5 Avery Dell, Lifford Lane, Kings Norton, Birmingham B30 3DZ.
Tel: 021-459 8001/2/3/4. Telex: 858452 UDALL G

DRAWING OFFICE MANAGER-ELECT

Are you a luminaire designer with the flair and experience to lead our drawing office team with imagination and authority? Able to contribute effectively to client meetings, and produce practical solutions in conjunction with our production department? If you are, then here is an excellent career opportunity.

We are a leading manufacturer of commercial lighting and a specialist in purpose-made luminaires and lighting systems. We require a first class designer to join us now and to assume responsibility for our drawing office within three months. You must have experience in luminaire design, at least an HNC in mechanical engineering and be familiar with sheet metal fabrication, and CNC machining.

Please send your CV to:
L. LEVINSON, MANAGING DIRECTOR.

RADA LIGHTING

RADA LIGHTING LIMITED
Hollies Way, High Street,
Potters Bar,Herts. EN6 5BH

Program Lighting

Program Lighting has established itself as the market leader in the design and manufacture of luminaires for open cell ceiling systems.

As a member of the S.A.S. Group of Companies – the UK's largest ceiling supplier, Program Lighting have formed a new division to provide commercial lighting to integrate with the Group's ceiling systems.

The technical service strengths of Program Lighting are paramount to its ambitious expansion plans, and we wish to recruit:

TECHNICAL SERVICES CO-ORDINATOR

To provide technical support to the new division and to assist the Technical Director to ensure effective co-ordination of projects.

The position will involve working closely with both customers and suppliers alike, and calls for effective communicaton skills. The candidate should come from a lighting background and ideally have experience in a similar environment.

The position is primarily office based in our new Head Office building in Reading.

Please send a comprehensive C.V. in the strictest confidence to:

The Technical Director
Program Lighting Ltd
27/28 Suttons Park Avenue
Earley, Reading
Berkshire RG6 1AZ

SAS

SALES ENGINEERS

Marwood Electrical Company enjoys a rapidly expanding position as an independent distributor of discharge lighting equipment to public authorities and industrial and commercial end users and now needs:

1. **Technical Sales Executive – North of England**
2. **Lighting Sales Engineer – South Home Counties**

A Technical Sales Executive is required for the North of England to take charge of existing accounts including contracts with public authorities, and to develop these and new accounts with further sales of discharge lighting equipment. An ability to interpret and negotiate customers lighting requirements would be preferred.

In the South East the need is for a Lighting Sales Engineer who apart from taking charge of certain existing accounts with Local Authorities would design and negotiate lighting schemes and projects.

Both positions call for persons of high calibre who are self motivated, have good administrative and communication skills and have had comprehensive experience within the industry.

An excellent salary/benefits package is offered.

Interested? Please write enclosing full C.V. to:

Mr. J. Stafford Smith
Marwood Electrical Company Limited
Specialists in Lighting
Paddock Wood Distribution Centre
Tonbridge, Kent TN12 6UU

SALES ENGINEER - LIGHTING

c£15,000 + Car + Benefits

London and Bristol

As a result of a period of sustained growth, our client, an industry leader, is seeking to expand its operation in London and the South West. Dealing at a senior level with Contractors, Consultants, Architects and other Specifiers, the role of the Sales Engineer is to increase the profile of the company with energy and professionalism.
The successful candidate is likely to come from a lighting related background and will certainly be able to provide evidence of strong negotiating skills and a track record of achievement in this environment. The continued success of the company will present increased opportunities for career advancement.
In addition to the salary, there is a generous bonus scheme together with a comprehensive benefits package.

For further information and interview details, telephone, ***KEVIN KEATING*** *on* ***01 242 4440*** *(24 hours), quoting* ***Ref No 1045*** *or write to him at:–*

MKA
MORGAN ◆ KEATING ◆ ASSOCIATES
Specialist Sales Recruitment Consultants
25 Bedford Row Holborn London WC1R 4HE Tel: 01 242 4440

LUMINAIRE TEST ENGINEER

Due to continued expansion we urgently require a self motivated person with experience of Luminaire testing.

Applicants should be familiar with British and International Standards and will have HNC/HND or equivalent in Electrical Engineering, knowledge of B.S. 5750 and Professional membership desirable.

The position is primarily laboratory based and he/she will work as part of an established team and enjoy the support of a major UK based company of world wide repute.

We offer negotiable salary, free medical insurance, contributory pension scheme and attractive holidays. Relocation where necessary.

Apply in writing with a detailed C.V. to:

Mr J. Toplis, Principal Technologist
Nuthall Lighting Limited
High Holborn Road, Codnor Gate Industrial Estate
Ripley, Derbyshire DE5 3NL, Telephone 0773 570000 ext. 42

An Electrocomponents Company

St ALBANS CITY AND DISTRICT

Street Lighting Technician

Up to £12,318 pa inc (Pay award pending)

There are over 10,000 street lights and illuminated traffic signs in St. Albans. With your skills and experience we will ensure that they are operating effectively. We are looking for someone with 2 years' relevant experience and preferably with a BTech (Higher) or equivalent. If you are able to use new technology this would be a real advantage. You'll be working as part of a dedicated team in a forward-looking department so this is a real opportunity to gain practical experience.
In addition to the salary, we can offer you removal expenses, car leasing scheme, free Life Assurance and Flexitime.
Applications are welcome from anyone irrespective of their sex, marital status, race, religion, colour or disability.
Job Descriptions and Application Forms are available from Personnel, Civic Centre, St Albans, telephone (0727) 33748 (24 hour answerphone service). Completed applications to be returned by 19th September 1988.

LUMINAIRE DEVELOPMENT ENGINEER

This important new position in our fast growing company will ideally suit a candidate with flair and initiative who is thoroughly versed in all aspects of modern lighting technology and BS4533 requirements.

Responsiblities will include the design, documentation and costing of Luminaires. Good communication skills will be essential for customer liason, and shop floor experience of sheet metal work and injection moulding would also be an advantage.

Remuneration will be attractive and commensurate with experience and relocation expenses will be available for the successful candidate, if appropriate.

Please write with personal and career details to:

The Managing Director, Jerrard Bros. Ltd
Arcadia House, Cairo New Road, Croydon CR0 1XP
or telephone 01-688 8222

JERRARD BROS

ANGLEPOISE LIGHTING LTD.

Expansion of our range of products creates opportunities for experienced Sales Representative to join the market leader in the field of task and ambient lighting.

Two vacancies exist, one covering: **GREATER LONDON AREA**
the second for: **NORTH MIDLANDS & NORTH**

It is envisaged that the bulk of new sales will be generated by specifiers therefore experience of visiting architects, consultant engineers and interior designers will be an advantage.

Applicants having experience of lighting, particularly those having an LIF qualification will be preferred.

Product training will be provided, but applicants must be able to demonstrate success in sales at all levels.

Salary will be negotiable. Benefits include Company bonus scheme, car, pension scheme, luncheon allowance and incidental expenses.

Introductions by Employment Consultants and Agencies will be considered, but at £500 max. per appointment.

Applicatons in writing together with full CV to:

Mr Ray Terry, Marketing Director, Anglepoise Lighting Ltd
51 Enfield Industrial Estate, Redditch, Worcs B97 6DR

PROJECT ENGINEER — LIGHTING
LONDON/SOUTHERN HOME COUNTIES

Expanding lighting company is seeking an ambitious, highly motivated, experienced sales engineer.
Excellent package offered for right person.

Write with full CV to Mr John Smith, MD
N.I. LIGHTING LTD
Intech House, 34-35 Cam Centre, Wilbury Way, Hitchin, Hertfordshire SG4 0AP.

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We have one of the most extensive ranges of light fittings — low voltage — modern — traditional — period style — etc.

We are currently looking for agents to expand our coverage in most areas.

Applications to:

Mr R. V. Giblin, Project Line Ltd
80 Duncombe Road, Hertford
Tel: 0992 500056 Fax: 0992 581654

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(London & Home Counties)

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(Reading based)

We are looking for high calibre people to join an expanding company. These positions will be well rewarded in terms of salary and company benefits. If you feel that you have the right qualifications and experience, please write with C.V. to:

The General Manager, Hoffmeister Lighting Limited,
Unit 3, Preston Road, Reading RG2 OBE

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290 × 400W MBF/U 220/250 GES
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Various brands. Interested parties can view by appointment with the above. Buyers to collect, sold as seen.

01-441 6644 ext. 1154
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phone Joanne with YOUR classified advertisements.

GENERATORS & TOWER LIGHTS from ½ to 80 kW
BRIMOTOR LTD.
Clarence Works, 30A Church Road, Tunbridge Wells TN1 1JP Kent Tel 0892 37588 Telex 95446

AGENTS WANTED

For interesting new ranges of INTERIOR and EXTERIOR COMMERCIAL LIGHTING. If you call on specifiers, local authorities and distributors then we would like to hear from you.

Please forward replies to:
Box no. 1449
Lighting Equipment News
Maclean Hunter Ltd
Maclean Hunter House
Chalk Lane
Cockfosters Road, Barnet
Herts. EN4 0BU

Torquay Pavilion restored to former glory

The Pavilion at Torquay, Devon, has regained its former Edwardian opulence thanks to sensitive restoration. The building — a former theatre — has been converted into a shopping mall without destroying any of its original features.

Torquay Pavilion consists of 26 shop units on the ground floor with a central staircase rising to a mezzanine, formerly the auditorium but now transformed into a restaurant area. The lighting is provided from a combination of uplighters and light sources with a warm colour and high efficiency.

Half sphere pendant uplights with opal acrylic diffusers light the ground floor circulation areas. Each uplight uses three 2D 28W lamps with a warm appearance to match the deluxe high pressure sodium lamps used elsewhere. Diffusers also provide a proportion of downlight.

Column mounted uplights are fixed to the balustrades at mezzanine level. A combination of lamp wattages is used here to maintain a uniform illuminance because ceiling heights vary with the curvature of the old auditorium roof. Quarter sphere uplights are mounted in each shop unit providing an average of 500 lux. Finally, uplight-effect luminaires are recessed into the mirror finished edge of the mezzanine floor. Here, a louvre allows light to be directed upwards and shields the lamp from normal viewing angles — thereby eliminating glare. The effects achieved from the reflections are stunning.

Low voltage tungsten halogen is used to highlight the sculptural motifs above the shop doors and dimmable tungsten lighting is used in the restaurant area.

The Torquay Pavillion is a listed building, so fixing positions for luminaires were strickly limited. Moreover, key features like the ceiling had to remain intact and the luminaires had to blend with the architecture of the building.

A uniform design approach adds to the effect. The warmth of the light sources enhances the gold of the wood floor, and the shapes of the luminaires echo the plaster mouldings of the restored ceiling.

Architects for the scheme were Kay Elliot Associates and interior designers Simons Design. Lighting was supplied by Thorn Lighting and consulting engineers were Howard Alan. Further details from Thorn, tel: 01 366 1166.

Devonshire House in London's Piccadilly provides an impressive location for displaying the SAAB range of cars. As designers of some of the world's most individual and impressive passenger vehicles, SAAB are well aware of the positive effect that well designed lighting can have on the sculpted metal and glossy paintwork of a motor car body. To give the desired effect, Marlin Lighting's Gyrospot and three-lamp Tristar spotlights were chosen. Both use low voltage tungsten halogen lamps to give dramatic emphasis and highlighting against a background of tubular fluorescent lamps concealed in the coved ceiling.

UK's top electrical apprentice

Martin Rawley, a 21-year old employee of Matthew Hall Mechanical and Electrical Engineering Limited, London, is the winner of the 1988 Edmundson EFA Apprentice of the Year Award. He won the top apprentice title against competition from 1500 apprentices eligible for this year's Award.

To be shortlisted for the Award — now in its fourteenth year — Martin had first to gain a distinction result in the City and Guilds examination for electrical installation work. He then faced a regional interview before appearing in London in front of a final judging panel who selected him from ten finalists.

Prizes include a two-week study trip to Italy and the Netherlands hosted by Pirelli General and Philips Lighting, and a £500 cheque from Edmundson Electrical.

IN YOUR NEXT ISSUE

Future developments in theatre lighting, as seen by David Taylor of Theatre Projects, will be featured in the October issue of *Lighting Equipment News*. Will we be able to create "Happiness" on stage at the touch of one key on the console in a few years' time?

The range of specialised light sources has increased in the past few years and now covers applications from insect electrocutors to assistance in crime detection. LEN will review the present equipment on the market.

The special requirements of dealing rooms with VDU work stations will be considered.