

LIGHTING

EQUIPMENT NEWS

APRIL 1990

Emess achieves record profits

Emess plc has announced a record profit of £18.7 million — an increase of 24% over the 1988 figures — together with an increase in turnover of nearly 42%, giving a 1989 figure of £146.9 million.

Of this overall profit growth, the company claims that 9% was provided by acquisition and some 15% by organic growth.

During the year the company has restructured its decorative lighting activities in the UK with the closure of Emess Lighting (UK) and the launch of Quest Emess at a new site in the West Midlands. The UK decorative lighting business has performed satisfactorily in spite of the downturn in the retail trade, with Cresswell achieving particularly encouraging results.

In brief...

● **Hylec-Elettro Gibi (UK) Ltd** has become UK agent for lighting components by Knobel, Switzerland. In particular it is handling low voltage transformers and semi-electronic ballasts.

● **Menvier (Electronic Engineers) Ltd** is considerably extending its main factory at Banbury to give more production and warehousing space.

● Two of **Marlin Lighting's** product ranges — the Matrix range of downlights and the Opaline luminaires — have been selected for the German IF 90 Good Industrial Design Award (Gute Industrieform).

● **Thorn Lighting Ltd's** senior management has moved from Enfield to: Elstree Way, Borehamwood, Herts WD6 1HZ (telephone 01-366 1166). The new headquarters is built on the site of the former MGM Elstree studios. Other departments remain at Enfield.

● **Home Automation Ltd** has achieved BS5750: Part 1 certification for its lighting controls.

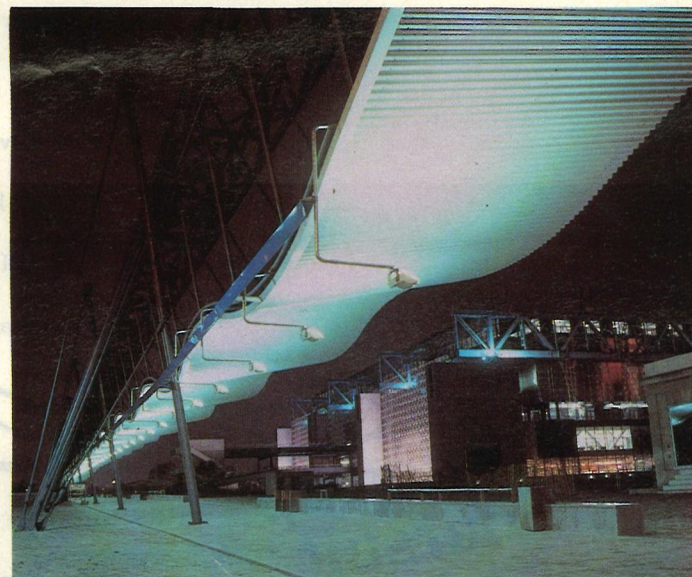
● The organisers of the **Salon International du Luminaire** say that although the number of visitors to this year's exhibition, 26 615, was slightly down on last year, the exhibitors were very happy with the show and many made new contacts. They declare it a "brilliant" 25th birthday show.

INSIDE THIS ISSUE

News	1,3,19,20
New products	4,5,7
Simplex supplement	8,9
Transformers	10,11
Shop window lighting	12,13
Research and development	14
Where to buy directory	15,16,17
Classified advertising	18
Catalogue directory	18



The lighting of Parc de la Villette



When Thorn Lighting's French subsidiary was asked to illuminate Parc de la Villette, standard utility fittings and ornate Victorian lanterns were equally inappropriate for the exterior environment to be lit. The dilemma was solved by asking top designer Philippe Stark to create a visually striking, ultra-modern, amenity fitting.

Parc de la Villette, the largest urban park in Paris, is located to the north east of the city centre on the former site of the historic abattoirs of La Villette. The 55 Ha site, crossed by two canals, houses the Cité des Sciences, Europe's biggest scientific and technical museum. The museum building itself is housed in a former meat warehouse transformed by architect, Adrien Fainsilber, to give an immense structure which would hold the Pompidou Centre three times over!

Philippe Stark set out to create a luminaire that by day brought its own style to the park and by night added safety and security. At the same time flexibility, the influence of the light source, energy efficiency and suitability of materials had to be addressed. Moreover, the brief required the lanterns used to signal pedestrian routes across the large open spaces.

The final result was a luminaire known as the Villette Line. The distinctive luminaire consists of a linear, 230mm diameter tube finished in natural aluminium with a post top cylindrical prismatic controller that houses either two or four 36W 2L compact fluorescent lamps. The Villette Line, sealed to IP44, is available in four mounting heights ranging from 4.2 to 6.3m in height. An alternative version has an additional cylindrical controller situated towards the base —

rather like an integral bollard. This additional optical device houses either single or twin 36W 2L lamps.

The use of compact fluorescent lamps mounted at a fairly low height helps emphasise the human scale and this version is used extensively throughout the park.

Elsewhere in the park, modern walkways have been lit by using floodlights in uplight mode suspended on special brackets. The high pressure sodium sonpak fitting has been converted by Louis Clair to use an 80W super de luxe mercury lamp.

Energy foundation launched

The National Energy Foundation has been launched to promote awareness of energy and its efficient use by means of education, demonstration and research.

First director of the foundation, which is structured as an independent charitable trust, is Stephen Fuller. Fuller has a long history of involvement with schemes in Milton Keynes as project director.

Stressed chairman of the board of trustees, Dr Mary Archer, 'At present energy efficiency, at least on a domestic scale, tends to be viewed as worthy but not really very important. But it is important — crucially important.'

Initially the foundation will be undertaking four key programmes: the introduction of the national home energy rating scheme, due to be launched this year; the establishment of the National Energy Centre; continuing advice on the further development of the Milton Keynes Energy Park; and the development of education and information programmes.

The National Home Energy Rating is a measure of a house's energy efficiency. Qualified assessors will rate both new and existing housing on a scale of one to ten for bad to good. The rating will give home owners and prospective buyers tangible evidence of a dwelling's energy efficiency and estimated energy running costs. It will also be used to assess the cost effectiveness of energy saving measures at the design stage and for home improvement.

The National Energy Centre will be located in Milton Keynes. Construction should begin in 1991, with completion in 1993.

The Milton Keynes Energy Park is a large-scale demonstration project of energy efficient houses and commercial buildings. The National Energy Foundation will continue to act as adviser to the Development Corporation on the development, monitoring and promotion of the Energy Park.

The Foundation's education and information programmes will include an education resource unit and a consumer advisory service.

Plans for GTE — Finnish joint venture

GTE International has formed a 50-50 joint venture with the lighting division of Oy Airam Ab to strengthen the multi-national's presence in Finland.

The company, called Oy Airam Electric Ab, will be managed by GTE and report directly to the vice president of GTE Lighting Europe in Switzerland.

Airam's is the strongest force in the Finnish lamp industry with lamps selling through major mass-merchandising outlets and the

traditional electrical trade. The intention is to offer the Finnish company the backing of a major international partner to provide the new products and know-how needed for growth.

According to Robert Schappi, manager for the area covering Finland, GTE will be adding Airam lamps to the company's European range and will take advantage of the synergy of its own current products to supplement Airam's range.

QUALITY ALWAYS SHINES THROUGH

HELVAR
01-568 6205

LAST year, companies from the European Community spent over £2.5 billion buying up their British counterparts. THIS year they can be expected to spend at least the same again.

THE truth is, 1992 actually began in 1985, when the European heads of government agreed to the programme which would lead to a Single Market.

SINCE then, stories of major European investment have been a regular feature of our business pages.

IF THE SINGLE MARKET DOESN'T HAPPEN UNTIL 1992, HAS YOUR COMPETITION PULLED

A FAST ONE?

A FRENCH company buys a large stake in two British companies which, together, undertake 11% of all our funerals.

A SPANISH company wins the contract to clean the streets in Brighton.

A GERMAN company launches its super-market concept in the UK, selling food straight from the packing cartons.

INDEED, all kinds of British businesses in areas as different as insurance from tomato ketchup, are now being shaken up by new European owners.

(OF course, our sharpest brains are giving many companies the same treatment over there.)

BUT the threat, or rather the opportunity, is perhaps best described by the recent story

of a French manufacturer of industrial water purifiers.

NOT for him the sophistication of a computerised targeting of his market.

NOT for him a franchising arrangement, a distribution deal or a merger.

HE just got on a plane, his briefcase bulging with brochures.

HE flew to England, hailed a taxi and asked the driver to take him to any water-using business he could think of.

THE Frenchman is now doing buoyant

business here in Britain.

AT the expense, of course, of local suppliers.

(Perhaps they were still waiting for 1992 to come along?)

CLEARLY there is no time to lose. You have to pull out all the stops now.

STOP and think where you should be going in the new business environment.

STOP and talk to your accountant, bank manager or your solicitor.

STOP by your Trade Association, Chamber of Commerce or your local business club. (Have you joined one?)

EACH may have invaluable advice. And if you don't know where to start, please ring the DTI Hotline on 01-200 1992, or your local DTI office.

THEY can direct you to expert advice and provide you with news of the latest developments from their Single Market information service.

THE most important development is that you're now part of the largest free market in the world.

SET up your stall.

Spanish win fight to clean up Brighton

by Colin Adamson

despite heavy opposition, has won a £1,900,000 contract to take over street-cleaning operations from such criticised local au-

cy, was forced on Brighton council's ruling Labour group and the unions after the Manchester-based Spanish firm undercut the council department's own tender by £750,000. The Spaniards were so keen to win the contract, to open the door for many other hoped-for council jobs, that they were prepared to lose up to £500,000 a year on

German tyre maker lifts its holding in Kwik-Fit

the West tyre manufacturer, Kwik-Fit, is lifting its holding in the company, raising its stake from 40 to 51.3 per cent. The share buying has been seen as an attempt to gain marketing leverage in the tyre market rather than as a takeover move, Mr Farmer, Kwik-Fit's chairman, has said. Mr Kwik-Fit's interest in the company was acquired in September, when it was announced that the company was to be sold.

THE SINGLE MARKET IS HERE NOW. WHERE ARE YOU?

Quaying into the nineties

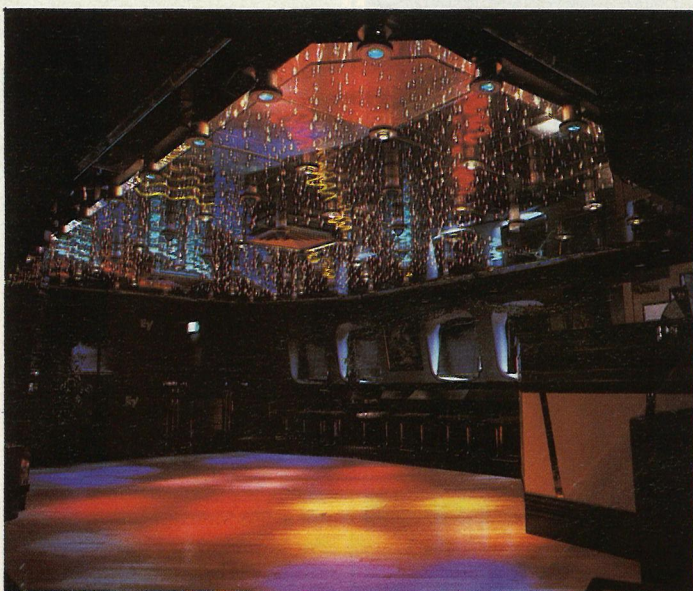
An ex-car ferry, once used to evacuate the US Embassy in the Lebanon, has been converted into a multi-million pound leisure centre by European Leisure. Now moored at a permanent site on the Tyne at Gateshead, the ship has been renamed the Tuxedo Royale by its new owners.

Lighting designers, Wynne, Willson, Gottelier, were responsible for the lighting design, including the decor lighting of the public areas. The lighting scheme covered seven different areas including a cafe bar, a restaurant and two nightclubs.

Ceiling heights on a boat are very restrictive when it comes to lighting and everything had to be recessed within a maximum of 2.2 metres, which required considerable ingenuity.

Designer, Tony Gottelier, is particularly pleased with the technique developed by the partnership to enable the incorporation of infinity effects above one of the dance floors. An unusual suspension system gives a seamless appearance to the finished article, which incorporates neon and star lights, and includes low voltage dichroic spots used externally to the glass, but housed within the limited soffit level.

In the cafe bar, sculpted art deco



Seamless infinity ceiling with neon waves over the dance floor. Thousands of pea lights give a starlight effect.

style lines in the ceiling are made from side-emitting fibre optic rope. This 13mm diameter tubing, connected to hidden light sources, changes colour along its length making a stronger statement than the shimmering effect normally associated with fibre optics.

On the old car deck, the original vehicle turntable has been renewed and converted into a dance floor. A giant circular rig

made from Trilite truss was suspended above, to support a central cluster of speakers and a battery of lighting effects. Power Swings, developed in collaboration with Lynx Lighting, give synchronised concentric mechanical movement.

Outside the ship is floodlit, and two Xenon arcs sweep the night sky in a windscreen wiper format in a bid to encourage boarders.

kin Payne and Partners, and Charles Stewart, Light Projects.

The aim of the David Currie Award, which is sponsored by Holophane Europe Ltd and presented every two years, is to encourage higher standards of design and implementation of lighting schemes.

Each finalist was required to make a 20 minute presentation, as if to a prospective client, on "The elements of good lighting design in a commercial environment". This was followed by a 20 minute discussion with the adjudicators.

The assessors were David Pritchard, LIF's director of lighting courses, David Loe, Bartlett School of Architecture and Planning, and Bryan Matthews, an independent building services consultant specialising in lighting.

Holophane present the award to commemorate the name of David Currie, who was the company's engineering manager for 16 years. This year the trophy and cheque for £750 were handed to the winner by David Currie's widow, Mrs Valerie Currie. All three finalists received engraved tankards.

Andrew is tops in lighting design

Andrew Hill has won the David Currie Award as top student in the Lighting Industry Federation's Advanced Certificate Course.

Andrew, sales manager at Illuma Lighting Ltd, was one of three finalists. The other two candidates were Anthony Cork, Wat-

BhS and MK combine to educate the public

A major retailer and a major manufacturer are joining forces to promote domestic lighting in a new way. This link-up between BhS and MK Electric promotes MK's plug-in lighting connection system and also marks a move by BhS into the trade sector of the market.

The MK plug-in connection system for ceiling and wall lights (known in the industry as a luminaire supporting coupler) conforms to British Standard specifications BS6972 and BS7001.

BhS is incorporating this system in its top selling 41 ranges of traditional style, co-ordinated ceiling and wall lights, which will be sold initially in selected stores. Kits are also being sold to convert existing lighting.

Because BhS believes that demand for the connection system must first come from specifiers and the trade, it has introduced a trade service.

Lighting fittings with the plug-in connector can be ordered from BhS sales department, 129 Marylebone Road, London NW1 5QD.

Trade prices are available and there are account facilities; tele-

phone orders can be accepted on 01-262 3288. A 12 months' warranty is being given on the luminaires.

Orders will be delivered free to any mainland address and normal delivery will be within 10 days.

MK will be mailing out two leaflets to the trade, one about the connection system and the other about the trade facilities available through BhS, with illustrations of the kind of lighting already fitted with the system.

The standard plug-in connector can be ordered direct from MK at Shrubbery Road, Edmonton, London N9 0PB (telephone 01-803 3355).

Selwyn Moon, BhS sales manager, believes that once the plug-in system has been accepted by the trade, demand will percolate through to the general public and will then grow and grow.

"People can take their lighting with them when they remove, or if moving into a new home they can buy lighting fittings and put them straight up. It's so easy, it removes the need for a specialist to install them," said Mr Moon. He added, "We know a good idea when we see one".

People in brief . . .

● **Howard Poulson** has been appointed group managing director and chief executive officer of the Volex Group plc.

● **Gary Reeves-Smith** has been promoted to the position of sales manager at Radius Lighting Ltd.

● **Fred Pratt** has joined the board of Crompton Lighting Ltd as general manager of the specialist division.

● **Douglas Brennan** has become a partner in Lighting Design Partnership and has moved to the London office.

● **Christopher Waldron** has been appointed managing director of Strand Lighting Ltd.

● **John Beales**, sales director with Omega Lighting, retires in March after 33 years with the company.

● **John Tavare**, CBE, chairman of Luxonic Lighting Ltd, has received a knighthood. Sir John, a former chairman of the north west region of the CBI and of Whitecraft plc, is currently chairman of the Mersey Basin Campaign.

● **Dr Maurice Arthur Cayless**, an outstanding scientist who made major contributions to lamp technology, has died.

His achievements include notable work on cathodes, pioneering advances in gas discharge physics and work on producing white light from high pressure sodium lamps.

He retired from Thorn Lighting in 1987, where as head of lamp research he had founded a small but productive research team. Prior to joining Thorn in 1968, he worked for the company's predecessors, AEI and BTH.

● **William Leonard (Bill) Fursden**, manager, lamp standardisation and specifications department of Osram-GEC, has died.

He joined Osram in 1946 and became manager of the standards department in 1975. From that time on he made an impact on the international standards scene.

As well as being chairman of four BSI committees and sitting on seven others, he served on International Electrotechnical Committee panels and working groups.

DIARY

APRIL

8-11

National Lighting Conference at Robinson College, Cambridge. Details from CIBSE 01-675 5211.

9

Electricity at Work Regulations. One-day course aimed at engineers and supervisory staff with responsibility for electrical systems. Details from Careers Development Section, Institution of Electrical Engineers 01-240 1871.

11

Energy conservation in prisons. Evening meeting at the Royal Aeronautical Society, London, arranged by London and South East Region of CIBSE. Details from M Carter 01-348 5171

12

Building management systems. One-day seminar organised by Republic of Ireland Branch of CIBSE. Details from hon secretary Oliver Reddy, Dublin 975716.

18

Insight on-site. Seminar on secur-

ity arranged by Philips. To be held at the Moat House, Cambridge. Details from Sharon Pilkington, Philips Communications and Security 0223 245191.

Millar Award: winning lecture. Evening meeting held by North West Region of CIBSE, at British Gas plc, Manchester. Details from hon secretary L Daniels 061-228 2331

MAY

1

Professional indemnity. Evening meeting at the Post House, Brentwood, held by London and South East Region of CIBSE. Details from A Wincott 01-387 9671.

2-9

Hanover Fair, Germany. World light show. Details from Arnold Rustemeyer 01-688 9541.

13-17

Interior Design International exhibition at Earls Court, London. Further information from Paul Murphy, AGB Exhibitions 01-868 4499.

COMMENT

Drang nach Osten

The results of last month's elections in the German Democratic Republic underline one fact of life — not only is the market opening up across Western Europe, but the current loosening of Eastern bloc bonds is generating unprecedented investment opportunities and possibilities for joint ventures with companies in the Warsaw Pact countries.

The GE takeover of Hungarian lamp manufacturer Tungsram in late 1989, enabled as it was by that country's policy of encouraging foreign investment, set the pattern for all future deals.

Tungsram thereby acquired not only the hard currency investment necessary to modernise its business — \$150 million was paid for a controlling interest in the company — but access was immediately gained to Western management know how and advanced lamp technology. Competitors already view this link-up as potentially price disruptive.

The situation in Eastern Germany is also beginning to stabilise now that the election results have made trends for future economic development clearer. According to the German business press, Osram GmbH has for some time been involved in negotiations with its former sister company in the GDR, Narva. It can, therefore, be assumed that these contacts will soon lead to definite results now that there will be a legal basis for investment in the foreseeable future and the safety of foreign money invested in that country will be assured.

The pattern here is likely to run along Tungsram lines: a controlling interest for the Western company in return for investment in both plant and staff training, and access to advanced technology.

The plus point in this particular arrangement is, of course, that these two companies already know each other and can easily begin to work together again.

On a wider scale, cultural and economic ties mean that BRD companies are likely to sweep the board in Eastern Germany, the market remaining more or less closed to other players.

Russia, as ever, remains the great unknown, and most companies are content at present to play a 'wait and see' game — although the long term prospects must be immense.

Thorn Lighting, for instance, maintains a permanent exhibition in the Moscow Trade Centre and uses a representative in the USSR as a contact. The company — with its presence in Finland, Western Germany, and Australia — is already on the doorstep of the Eastern bloc waiting to gain admittance, and already has a small amount of trade there at present, mostly with Baltic countries such as Lithuania.

Overall, at present, Eastern Europe presents a confused and rapidly changing picture, and experience in the political field has showed that once things begin to move they move very fast.

But one thing remains clear — the European trading map has changed irrevocably, and companies need to come to terms with the new reality.

LIGHTING EQUIPMENT NEWS

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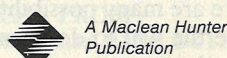
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The Chartered Institution of Building Services Engineers

A lack of lighting research will leave us in the dark

In my chairman's address to the Lighting Division of the CIBSE in October last year, I raised the question of lighting research and how, in my opinion, the level in this country is desperately inadequate. I would like to take this opportunity to explore the topic in greater detail.

First of all, why is research important? In my opinion, when people carry out a study of a particular subject, either to test an idea or to explore an area of study for its own sake, two things happen. First, the people doing the work gain a greater understanding of the subject and are, therefore, a greater asset to the profession and second, the whole profession benefits by the publication of the results of the study. A profession/industry which has an active research and education programme is also likely to be taken more seriously by other associated professions than one that does not.

Now in lighting, although some research and development is done on products, particularly lamps, almost none is done on applications, and yet lighting has a major influence on our visual environment. It is possible that without proper research lighting design ideas may develop by natural evolution on a trial and error basis; but this cannot be an efficient method in today's world of fierce competition.

Let me now discuss just a few of the areas that I think need to be studied.

Energy efficiency and the quality of the lit environment. There is little doubt that in the near future there will be both economic and social pressures for us to reduce the energy used in lighting but this must be done without reducing visual effectiveness, visual quality and visual comfort. If any of these aspects are reduced, then the people we are designing for will be less effective. Now, improved light sources and the use of electronics will be ways in which this can and will be achieved, but the actual lighting design may be able to make an even greater contribution. An imaginative design of daylighting and an electric lighting installation which complements it is one way, but we need a better understanding of this subject to achieve the maximum benefits.

Another subject which requires greater study is that of light patterns. These have a benefit in terms of visual quality not only in terms of energy use by not lighting all areas to the same high level — creating areas of light and shade — but we also need to know more about it if mistakes are to be avoided. Exterior lighting also needs consideration, particularly with regard to the visual quality of our urban areas at night. The potential problem of light pollution is another area requiring study. Another important area of consideration is the part, if any, lighting plays in the sick building syndrome.

Lighting units and measurement. Currently the units and measurement techniques used to quantify lighting are woefully inadequate. They were developed early in this century as a physical science subject; but lighting is for people and if possible lighting needs to be specified and measured for that purpose. This means we need a greater knowledge of the human response to lighting. We need a better understanding of visual adaptation, visual constancy and the range of luminances within the field of view that are acceptable without causing a loss of visibility. Currently the only reference to human response in light measurement is the use of the human spectral response distribution.

The subjects indicated here are just a few of the gaps in our lighting knowledge. There are, of course, many more but the next question is how do we begin to improve the research activity? In my view the major responsibility must lie with the industry. It would be good if government would support more lighting research, but realistically this is unlikely to happen in the short term. Therefore, the UK/EC lighting industry will need to take the initiative to finance research if it is to be done. If it doesn't, then it is likely to suffer the fate of other industries that have died or been taken over by their overseas counterparts.

There are a number of ways this could be achieved. Individual companies could set up their own lighting research departments adequately staffed and equipped rather as the major lighting companies did 20 years ago. Alternatively an independent lighting research/development establishment could be set up, perhaps under the auspices of the Lighting Industries Federation. An organisation like this could also provide a lighting advisory service which is desperately needed to develop lighting use — re-establish the British Lighting Council perhaps? The third option is to use the centres of higher education — the universities and polytechnics. These can be used in a number of ways: individual sponsored projects, sponsored centres or sponsored students to undertake research degrees on a full or part-time basis.

There are many possibilities for research to happen but there must be the will to do it and to finance it; but it must happen quickly if we are not to lose any further opportunities. I look forward to hearing your thoughts on the matter. **David Loe**

NEW PRODUCTS



Space age lighting

Advanced technology connectors, developed for the United States' space shuttles, are embodied in Program Lighting's new Axis plug-in system.

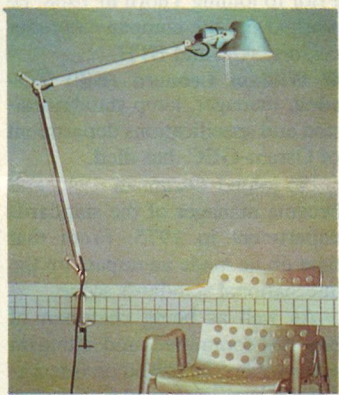
This low voltage display lighting system permits unobtrusive vertical or horizontal installation. Equipped with gold-plated contacts for efficient electrical connection, it is complemented by a wide range of spotlights.

When connected, each Axis

probe provides secure support for up to 60kg and yet is simply removed by applying slight pressure to the spring-loaded collar. The double insulated probes carry the current within the stem, which can be rotated through 360° for precise spotlight adjustment.

Axis points can be supplied for recessing in mineral fibre, plaster and metal ceilings, as well as in a version for surface mounting.

Reader Service No. 163



Adjustable desk light

Tolomeo is a desk light from Lightstyle which is adjustable at the base, head and mid-arm. It is supplied complete with GLS lamp.

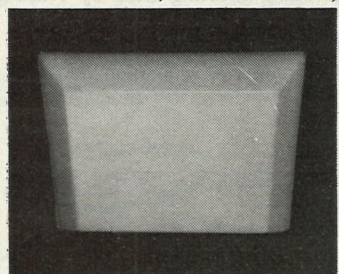
There is a choice of either a simple base in a range of colours, or a desk clamp in burnished aluminium. A floor standing version, which has optional wheels, is also available. **Reader Service No. 164**

More choice for specifiers

Lumiance has extended its range of Giotto luminaires.

Giotto Major Quattro has been developed to accept a 38W 2D lamp and all three Giotto 2D models in white are now also available fitted with a Fastlux electronic starter.

In addition, self-contained,



maintained emergency options are being launched.

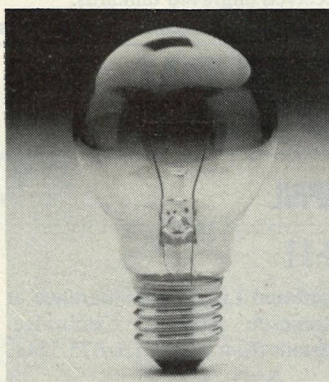
These additions mean that designers and specifiers can use the Giotto range as a single design theme throughout a building.

Reader Service No. 165

More LV dichroic lamps

Tungram Lighting Ltd has launched a range of low voltage, dichroic tungsten halogen lamps.

A total of twelve lamps is offered with beam angles from 6° to 38°. **Reader Service No. 167**



Tungsten lamps to light displays

Linodym lamps from Electro-Replacement Ltd are said to give light with a reduced yellow content compared with other tungsten lamps.

They are intended to enhance displays and illuminate public areas where a relaxed atmosphere is required.

Two ratings are available, 60W and 100W, with either BC or ES caps. **Reader Service No. 166**



Infra-red sensor unit

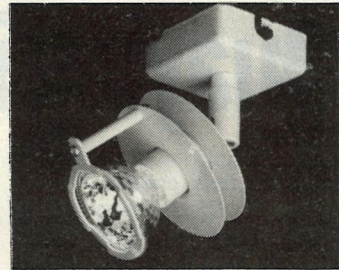
Tamlite Emergency and Security has introduced an improved version of the Tamsan 4000 outdoor infra-red sensor unit which has a switching capacity of 4kW with detection adjustment up to 15m.

A photocell ensures that the unit operates only at night. Operating time is adjustable from 20 seconds to 20 minutes, with automatic reset.

Connection to a floodlight or bulkhead luminaire is possible without additional hardware in the form of junction boxes.

As a courtesy device, Tamsan provides a welcoming light for visitors and also lights access spaces and storage compounds. Energy savings are soon made when the unit is used in common entrances, educational buildings, hospitals and car parks.

Reader Service No. 168



Discs dissipate spotlight heat

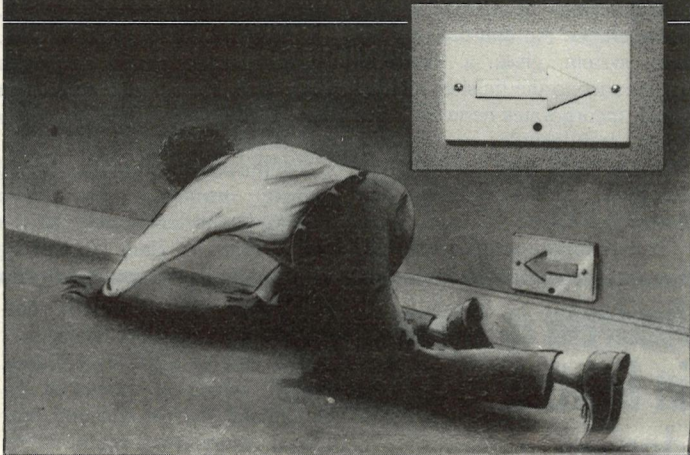
Collesque Elite low voltage spotlight has two discs at the neck of the fitting which dissipate heat from the lampholder and capture the attractive glow from the back of the lamp.

This model uses either 20W, 50W or 75W lamps and has the added security of an in-built lamp retaining ring.

Cowl and barn door attachments can be added

Reader Service No. 169

SAFEX - "The Guiding Light"



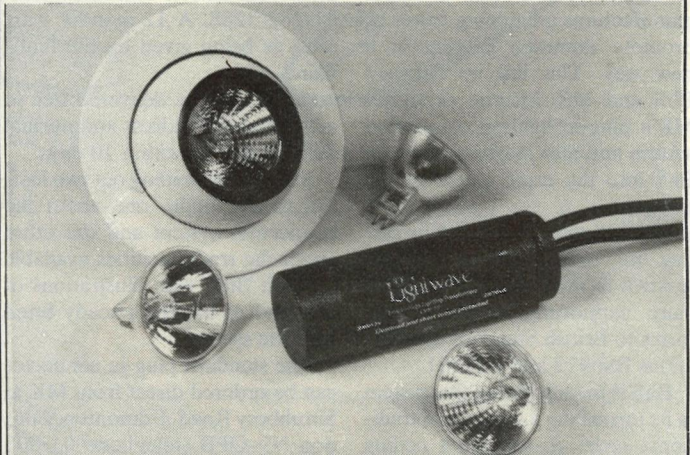
If there was a fire in your building, how would you find the way out? Conventional emergency lighting systems which rely on the use of overhead fittings have limited effectiveness in heavy smoke conditions. Now, through the use of pioneering electroluminescent technology, G T Lighting have developed Safex, designed to operate at a lower level.

Fitted at skirting board height, Safex overcomes the problems of dense smoke coverage. Safex is triggered by either failure of the mains voltage or activation of the fire alarm system. By the time the smoke ceiling descends the green arrow is energised, clearly indicating the way to the nearest exit.



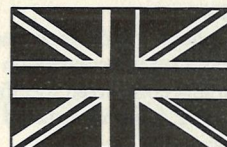
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TRANSFORMERS



A range of Electronic Power Supplies from 20-315vA featuring short circuit and overload protection.

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- * RFI SUPPRESSED
- * DIMMABLE
- * COMPACT 20-70vA UNIT ONLY 40mm DIA
- * ELECTRONIC BALLASTS FROM 20-58WATT

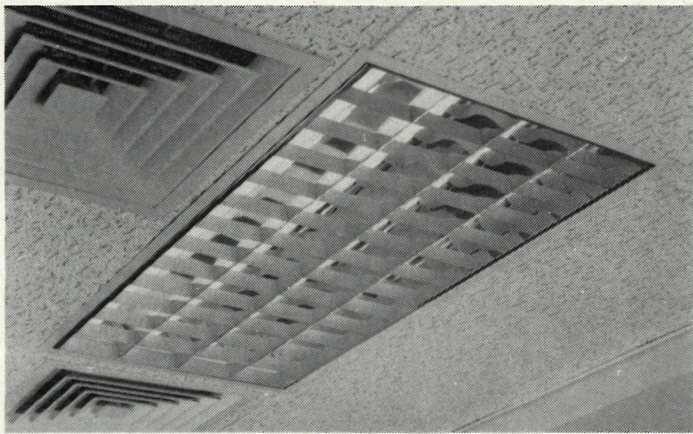


Lighting Components Limited

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

Reader Service No. 4

NEW PRODUCTS



Modular luminaires

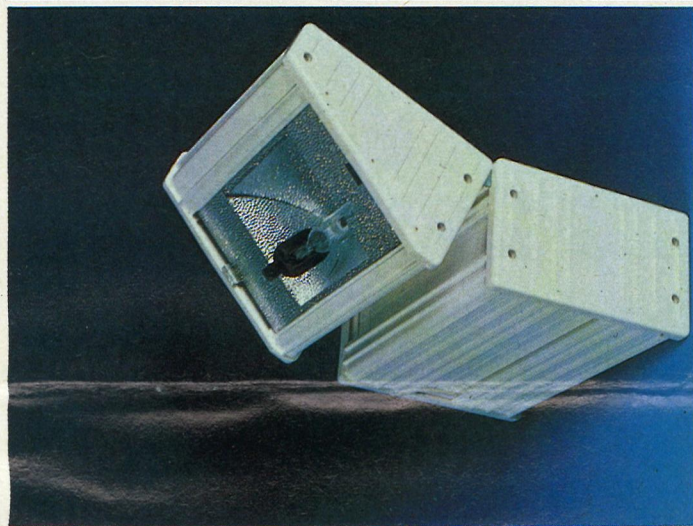
Rowledge Lighting has introduced a range of switch start, modular, recessed fluorescent luminaires, for integration with most types of suspended ceiling, either lay-in exposed tee with a 24mm or 15mm table, or concealed fix, or metal pan or linear system.

Size 600 x 600mm comes with either three or four 18W lamps, 1200 x 600mm with either three or four 36W lamps, 1200 x 300mm with two 36W lamps, and 1500 x

300mm with two 58W lamps.

Louvre options are parabolic wide light distribution, double wedge aluminium for low brightness VDU viewing, and a range of alternative wedge patterns for a variety of other applications. Louvres can be specified with either polished, specular or semi-specular finish. There is also a prismatic controller.

Reader Service No.151



Versatile metal halide range

A series of multi-directional metal halide luminaires for commercial and display lighting has been produced by Light Years.

The range consists of three categories of fitting: Metalide with optimum adjustability; Expolux projectors, and the Slimline Halide projector.

Metalide A and B are two-part wall or ceiling mounted projectors with either side or back surface fixing and a head which adjusts through 90° from the vertical plane. The entire fitting can rotate axially through 350°.

This design has been adapted to produce the Metalide Mobile, a floorstanding fitting with 2m of cable which is suitable for shop windows, exhibitions and changing displays. Recessed versions with

remote control gear are also available.

All Metalide fittings feature high efficiency asymmetric reflectors and front protection glasses. The separation of the lamp from the control gear housing isolates the heat of the lamp. The adjustability of the fittings allows them to provide powerful uplighting, downlighting, wallwashing and accent lighting.

Expolux projectors have an optically designed aluminium reflector giving a symmetrical light distribution. Control gear is integral and there is a front protection glass. The fitting can rotate horizontally through 350° and adjust through 5° above and 45° below the horizontal. Accessories include ceiling plate and ultra-violet filter.

The Slimline Halide adjustable projector incorporates a 250W metal halide lamp and control gear in a 240mm long by 235mm wide by 125mm deep extruded aluminium housing.

Reader Service No. 152

Lighting control for classrooms

Chalmor Ltd has doubled the load on its electronic lighting timer to 6A which means that it can now switch up to 12 1800mm fluorescent lamps.

Designed for local authority use, the timer has been installed in classrooms where previously a bank of switches controlled individual lights which were often all switched on irrespective of ambient lighting levels.

The timer is easily connected to existing circuits, providing sepa-

rate control for background and full lighting levels. Savings are achieved by limiting full lighting to a fixed time, after which the timer must be reset.

Background lighting is controlled by one existing switch with the timer replacing all other switches. If lights are not switched off when a classroom is vacated the timer automatically switches to background lighting at the end of a preset period which is adjustable up to two hours.

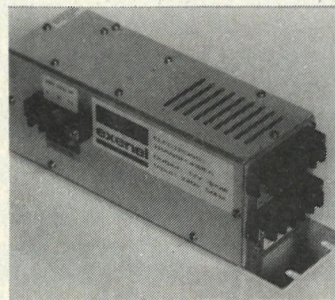
For additional savings, when the main light switch is at "off" it overrides the timer irrespective of the remaining time program.

Reader Service No.153

Electronic transformer for LV lamps

Exenel Electronics Ltd has introduced a 12V electronic transformer which has been specially designed to provide the close tolerance voltage required for the operation of tungsten halogen lamps.

Output voltage is stated to remain constant irrespective of load, from 50W to 400W. It is suitable for use with track systems where lamps can be added or



removed, up to a maximum load of 400W. Failed lamps do not cause overvoltage to other lamps in the same circuit.

The transformer is fully suppressed and protected, compact, lightweight and cool running.

Reader Service No.154

A smaller 2D lamp

A 10W compact fluorescent lamp has been introduced by Thorn EMI Lamps and Components Ltd. It is considerably smaller than the 16W size.

The use of a four-pin cap allows the option of remote control gear, making the lamp suitable for transport and emergency fittings, though it is primarily intended for domestic users.

The new 2D is small enough to be used in shallow downlights where ceiling space is restricted. Other applications include desk-lights, table lamps and bulkheads.



Designers are expected to develop new, smaller, efficient luminaires using this 2D compact fluorescent lamp.

Reader Service No.155

Garden floodlights

BBI Lighting has a range of floodlights for highlighting gardens and outdoor features.

Made of extruded aluminium with semi-specular reflectors, the fittings are ingress protection rated IP54. They accept either 12V tungsten halogen lamps up to 100W, or 35W or 70W single-ended metal halide lamps, and have glass covers.

All control gear is integral. There are surface mounted,



recessed, wall mounted and ground spike versions.

Reader Service No. 156



Multi-channel infra-red control

Philips Lighting has launched an infra-red remote control lighting system, the MCS (multi-channel system). It is designed to switch incandescent and low voltage tungsten halogen lamps, and certain discharge loads.

When used in conjunction with Philips' high frequency regulated (HFR) fluorescent luminaires, the fittings can not only be switched remotely, but the light levels can be varied from a remote position.

The system consists of a control unit, which can either be fitted into a luminaire or located remotely, an infra-red receiver and a hand-held infra-red transmitter. Each transmitter controls up to 10 lighting

circuits with the facility to store different lighting scenes using two preset keys.

Each control unit has a maximum switching load (without the use of external relay or contactor), of 500VA. In the case of HFR fluorescent schemes, a maximum of four luminaires can be controlled and for larger loads, the cost of an additional control unit is not prohibitive, says Philips.

As well as providing flexibility within an overall lighting scheme and offering reduced energy consumption, the MCS system increases personal control of lighting in offices.

Reader Service No. 157

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

LIF LINE

Light years ahead

The recent formation of the National Energy Efficiency Association — a group of energy managers in local authorities, government bodies, private enterprise and other organisations — should prove a powerful force lobbying the Government to take greater steps in the years ahead to encourage efficiency and conservation to protect the environment and reduce energy costs.

The association, which was launched in November, will try to persuade the government to formulate an energy policy, incorporating a code of practice which would require the labelling of appliances to inform customers of their energy efficiency and running costs. It could also involve giving an energy score out of ten when selling your house.

Such developments would be in line with the code of practice already in action in the United States where penalties are liable for buildings that rate as energy inefficient, and with certain European countries which impose a tax on owners of buildings that waste energy.

As lighting accounts for some 15% or 16% of total UK electricity consumption, this all bodes well for the lighting industry and adds impetus to the action already initiated within the industry in response to the problems of energy saving and the demand for improved lighting technology and energy management.

The LIF, in its continual efforts to persuade government not only to save energy but give the lead, has calculated that modern lighting technology installed wherever possible in UK offices and buildings could save 13 TerraWatt hours (TWh) which is the equivalent to half a Drax power station, the nation's biggest coal burner.

Such a saving would, in turn, relieve the depletion of our natural resources, leaving 6 million tonnes of coal in the ground and prevent 15 million tonnes of carbon dioxide being emitted into the atmosphere.

Naturally, the environmental issue is of great concern to us all and public pressure is increasingly pushing government to respond. Further pressure, however, should be encouraged in terms of the substantial economic savings that can be produced as a result of more efficient lighting plus the real benefits that effective lighting yields in terms of improved productivity and worker satisfaction.

A recent announcement of energy saving success came from the Post Office with anticipated savings of £4.2 million a year thanks to new energy efficient lighting being installed over the next few years. This initiative is part of the Post Office's cost cutting energy saving campaign and involves installing energy management systems, micro-chip lighting control systems and surveying buildings to pinpoint energy waste.

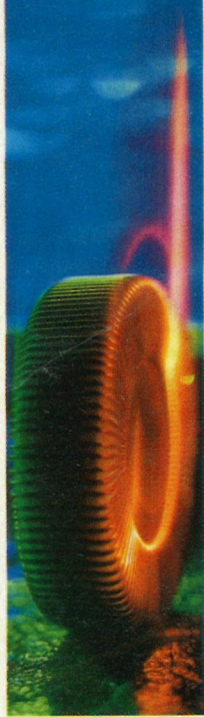
Such initiatives are inspiring and are encouraging for the LIF which, for its part, long ago undertook the issue of energy management through its annual energy management award scheme EMILAS.

This year the EMILAS 1989 awards presentation will take place on 1 June at The Cafe Royal, London and will be presented by EEC Commissioner Antonio Cardoso Cunha, underlining the growing importance that these awards have attracted over the years.


The Lighting Industry Federation has also produced several publications addressing these issues, including the **Energy Managers's lighting handbook** and **Lighting controls and energy management systems**.

Further publications which will shortly be available include the revised and updated **Lamp guide** and an **Office lighting factfinder** which will focus on energy saving lighting installations that provide effective working environments to meet the demands in the modern electronic office.

Details of these and other LIF publications can be obtained from: LIF, Swan House, 297 Balham High Road, London SW17 7BQ. Tel: 01-675 5432.



BOXED AND OPEN TOROIDAL TRANSFORMERS
TECA TRANSFORMERS FROM
ACORN LIGHTING PRODUCTS Ltd 0483 64180



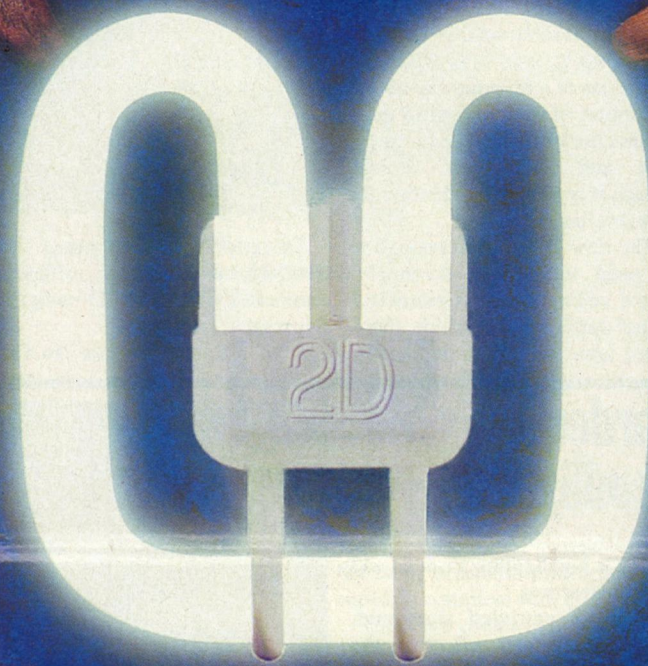
WE'VE JUST CREATED THE WORLD'S HANDIEST 2D TUBE

At THORN Lighting our emphasis is always on innovative design and technological excellence.

And our latest creation, the world's smallest 2D lamp, is no exception. It opens up a whole new arena of possibilities for fittings designers the world over.

The remarkable 10 Watt 2D lamp has the same light output as a 60W incandescent lamp and will be our star exhibit at this year's Hannover Fair. Also on display will be our other new 2D lamp, the 21 Watt (equivalent to a 100W incandescent lamp).

So the 2D range now covers the five equivalent light outputs from 60 to 200 Watt incandescent lamps in only three different physical sizes.



2D lamps have been designed with fittings in mind.

- The 2D shape ensures all round, even illumination with no dark shadows in corners or on edges.
- 2D offers tremendous energy savings which is important in today's market.
- The flat shape and central fixing allows the design of shallower, neater fittings.
- The new lamps are supplied with 4 pin caps as standard, to allow total flexibility of control.

So now the only restriction on your designs is your imagination, which, as Michaelangelo has shown, need know no bounds.

See the 2D range at Hannover Fair on both Stand 520 in Hall 10 and A35/A37 EG in Hall 9. And discover how THORN are pointing the way towards the fittings of the future.

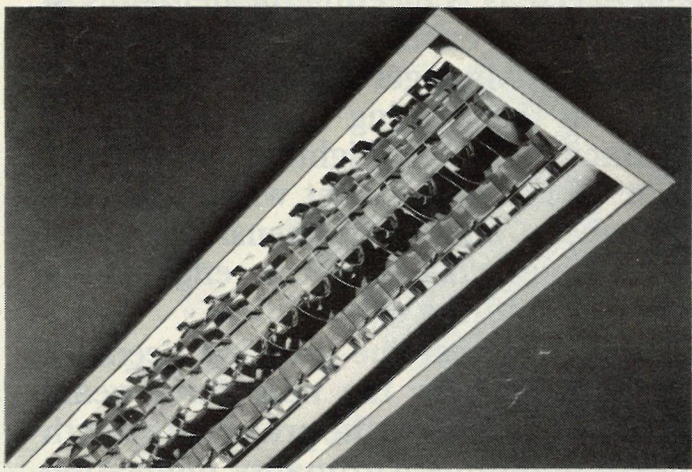
For more information on THORN 2D Compact fluorescent lamps, use the Reader reply service or Call THORN on FREEFONE BROCHURE LINE 0800 289 869.



INNOVATION AT THE SPEED OF LIGHT

Reader Service No. 6

NEW PRODUCTS



Recessed fluorescent luminaires

A range of recessed fluorescent luminaires, TBS 222, is the latest product from Philips Lighting.

The luminaires are well suited for use in "high design" applications such as major retail and prestige commercial and office installations.

Three mirror controllers are offered which reduce glare to a minimum without sacrificing the overall light output. This is achieved not only by a specially profiled reflector, but by the use of an additional "wrap around" mirror reflector within the housing to improve the light output ratio. The housing is also slotted for air-handling.

The optics have been designed with CIBSE Lighting Guide No 3, in mind, which details lighting

requirements to areas where visual display terminals are used.

Mirror controller MM5 has a matt parabolic main reflector with matt aluminium louvres. It gives low glare illumination even at the low mounting heights in modern offices.

HM5 has a specular parabolic main reflector and specular aluminium louvres.

The decorative HR5 also has a specular parabolic main reflector but has circular, high gloss aluminium louvres. A halo effect is created around this luminaire.

Available with either standard switchstart or high frequency regulation circuits, TBS 222 fittings are compatible with most exposed tee suspended ceiling systems.

Reader Service No. 158

Lanterns have glazed tops

The Copper Lamp Co Ltd has a range of outdoor lanterns with 'open top' acrylic panels, reminiscent of lanterns in many European cities.

They are available in four sizes, from 255mm to 457mm, in four finishes, either polished or antique copper or black or polished brass.

With 1992 in mind, the company intends to sell into Europe as well as the home market.

Reader Service No.159

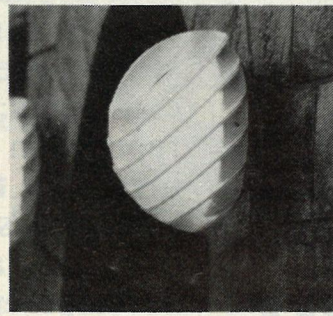


Striking design in outdoor lights

Thorax, from Staff Lighting Ltd, is an external light that combines a bold design with the rigorous requirements for outdoor use.

This globe shaped luminaire has six strong lateral ribs and one vertical connector rib. The housing is aluminium, with stainless steel components.

It is available in two standard sizes, 325 x 230mm and 250 x 180mm. Standard colour is white (RAL 9002). There is a choice of three light sources: GLS, SL compact fluorescent, or mercury.



Lamps are protected by a 6mm thick, opal glass diffuser.

Striking contrasts of effect are seen at night when the fitting is viewed from different angles.

An additional 40W emergency lamp can be incorporated if required. Reader Service No.160

Low wattage metal halide lamps

G E Lighting, USA, has announced two additions to its Halarc range of metal halide lamps, 32W and 100W versions.

The 32W lamp uses an electronic ballast and GE states that it can be used in open fixtures.

Reader Service No. 161

Spotlights on a strip

Orbit Strip is a versatile low voltage spotlight system added to the range of Raak products from Crompton Lighting.

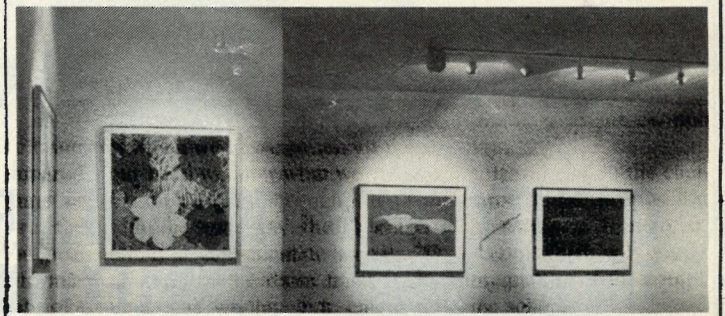
It is designed to accept three, four or five Orbit Spots in a fixed position, all controlled by a single electronic transformer that is simply attached to the strip by a mounting bracket.

This transformer is self-regulat-

ing and allows lamps of varying capacities to be used up to a maximum load of 210W. It is equipped with both short-circuit and overload protection, resettable when the power is disconnected.

Combined with the transformer, the Orbit Strip range is particularly suitable for use where a transformer cannot be placed above the ceiling. Made of white extruded aluminium, the units can be mounted separately or linked together to create many display lighting variations.

Reader Service No.162



TRANSFORMING



PERFORMING

Intram Barwell, leading designers and manufacturers of low voltage lighting transformers, introduce the CONTROLLE 50 — a unique dimmer control, that sets new standards in performance, reliability and compatibility with our full range, including our Electronic Transformers.

The CONTROLLE 50's advanced design employs hard fired circuitry specifically designed to overcome the traditional problems of instability and blown fuses when controlling transformer loads and fully conforms to the newly harmonised European EMC Standards BS800, VDE0875 and EN55014.

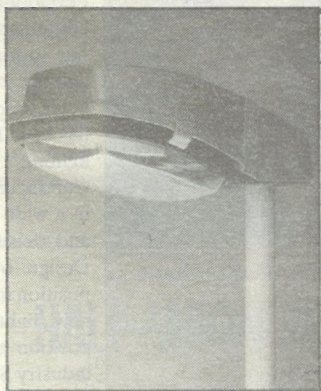
For further information please phone for our full literature.



TRANSFORMING THE LIGHTING INDUSTRY

Intram Barwell Limited, Barwell Business Park, Leatherhead Road, Chessington, Surrey KT9 2NY. Telephone: 081-391 5252. Fax: 081-974 1629. Telex: 925415 INTRAM G.

NEW 'ROAD LIGHTER' FROM GAASH



A new concept in street lighting luminaires and reflector design has been introduced by Gaash Lighting Industries of Israel through his "Road Lighter". Particularly designed for two and three lane routes, it reaches ratios of up to 5:1 distance to mounting height. At these extreme conditions, its superb cutoff characteristics ensure its compliance with the latest CIE standards. The "Road Lighter" photometrics, is not its only advantage. A lantern designed with special attention to maintenance, allows replacement of almost any part in 2 or 3 minutes, including gear tray by means of a quick snap-in connector. Among other features:

Class II insulation, protection degree of IP 54 for lamp compartment, and IP 44 for gear compartment. Wide Lamp Range. Suitable for post top or side entry mounting. Easy access to lamp and gear. The reinforced, polycarbonate chassis supports gear, bowl, and the polycarbonate canopy. The Road Lighter is vandal resistant and suitable for corrosive environments.



Kibbutz Gaash,
60950 Israel
Tel: (972) 52 52 1111
Tlx: 33399 GAASH IL
Fax: (972) 52 52 1139

Reader Service No. 7

Reader Service No. 8

SIMPLEX LIGHTING

THE LEADING LIGHT

Quality Innovation Service

QUALITY, INNOVATION AND SERVICE THE WAY AHEAD FOR SIMPLEX LIGHTING

Recognised as one of the country's leading lighting manufacturers, Simplex Lighting is earning an enviable track record for quality, innovation and service.

Based at Tipton, West Midlands the company is recognised as manufacturers of specialist, commercial and industrial lighting, supplying a comprehensive range of lighting products, used in a wide variety of market areas throughout the world.

Product Quality and Innovation.

Simplex Lighting products are innovatively designed and rigorously engineered to achieve the optimum performance and reliability. Expertly trained engineers use only the highest quality materials and finishes to ensure a long, trouble free operating life.

The Simplex Lighting manufacturing base at Tipton in the West Midlands with its advanced technology encourages meticulous attention to quality in the assembly of all products.

Products can be adapted to meet customers specific requirements — this option is often critical to end users such as building contractors, engineers and architects, who require flexibility of specification to suit their particular needs.

Commitment to Service.

Where service is concerned, Simplex Lighting is dedicated to ensuring that stockists and customers enjoy the best possible service at all levels — from pre-sales advice to after sales service. Training is on-going to guarantee the best of service to the customer, from enquiry to deadline delivery. Both customers and stockists are invited to view and evaluate Simplex Lighting's superb range of luminaires at the company's impressive Lighting Showroom which offers advanced display and sophisticated video facilities.

ULTIMATE RELIABILITY IN HAZARDOUS AREAS

Simplex Lighting has a reputation for the design and manufacture of lighting for Zone 1 and Zone 2 hazardous areas. Accumulated years of experience of the rigorous criteria demanded by potentially hazardous areas have given Simplex Lighting a unique insight into the complex nature of the problems and their appropriate solutions.

All Simplex Lighting Hazardous Area Products carry full BASEEFA approval and certification. New products include the ACFN Emergency Fluorescent, which utilises a unique 'unrestricted breathing' concept, specially developed by the company to give Ex 'N' protection in Zone 2 hazardous areas.

Reader Enquiry Number 40



Product Development and Design Office.

Reader Enquiry Number 41

Simplex Lighting — recognised as a leading manufacturer of high quality lighting products, widely used in industrial, commercial and hazardous area applications both in the UK and overseas is meeting the demands of today's markets with its quality, innovation, its expertise and dedication to service. Joe Whitcroft, Director and General Manager at Simplex Lighting comments, "To maintain our position in the lighting industry and our reputation for quality and performance, Simplex Lighting continually invests in technological advancement. This commitment will ensure the Company's steady growth in the years ahead. Our comprehensive range of products are backed by years of research, practical engineering development and the most modern manufacturing capabilities."

Our marketing strategies will develop to meet the growing needs of superior lighting throughout the world and over the next three years European development will be of prime importance to the projected growth of Simplex Lighting. With our continued commitment to quality, innovation and service we will be assured of our position in the lighting industry worldwide as Simplex Lighting, the Leading Light".

QUALITY AWARD THROWS LIGHT ON 1992 FOR SIMPLEX

Quality and safety standards have always been a top priority for Simplex Lighting and this continuous achievement of recognised standards has brought Simplex Lighting the approval and acclaim of a number of European and UK Standards, including the British Standard 5750 award.

Tony Brachmanski, Quality Manager at Simplex Lighting comments, "We view BSI assessment to BS5750 Standard as being the best way to demonstrate to our customers that we are committed to quality, and have been assessed accordingly. BS5750 Part II covers quality specification of manufacture — raw materials, administration right through to the finished product. In specifying Simplex Lighting, customers can be totally confident that our products are consistently manufactured to the highest specification and quality required for both UK and export markets."

Already challenging European markets Simplex Lighting has established an international network of agents together with a second manufacturing base in Sydney, Australia. This latest award, presented to Director and General Manager Joe Whitcroft by Miss Betty Boothroyd, Deputy Speaker, House of Commons and Labour MP for West Bromwich West, is the latest in a series of international quality and product endorsements achieved by the Company.

Director and General Manager Joe Whitcroft comments on the benefits that this Award will bring to the Company, "Our policy is one of quality, innovation and service. We have set our sights for the 1990's and as a major UK lighting manufacturer we hope that it will lead the way forwards into Europe. Our acquisition of BS5750 reinforces our commitment to our Company, its products and trading policies."



Simplex Lighting receive BS5750 Award from Miss Betty Boothroyd, M.P. (Left to Right: Mr Paul Barton, Sales Director; Miss Betty Boothroyd M.P. Deputy Speaker - House of Commons; Mr Joe Whitcroft, Director and General Manager, Mr Tony Brachmanski, Quality Manager.)

LEADERS IN LIGHTING TECHNOLOGY



Conductalite Luminaire.

Reader Enquiry Number 42

Simplex Lighting has pioneered the development of many products which through design and rigorous testing have proven optimum performance throughout various applications.

Paul Barton, Sales Director at Simplex Lighting comments, "The on-going development of new products ensures the continuance of market leadership through our prime innovation of such modern lighting technology as Conductalite, which being unique in both its concept and design has been hailed as one of the most exciting lighting products yet developed. Conductalite is now specified and installed in a wide variety of industrial, commercial and leisure applications. Our Lighting Design office has established a leading position in the research and development of new lighting products. To maintain its position as a market leader in the lighting industry Simplex Lighting must continually monitor and develop new products in order to remain competitive. Taking a close interest in what the market and our customers require, plays a vital role in new product development."

DESIGN AND TECHNICAL SUPPORT

Simplex Lighting's BSI approved Lighting Laboratory and Technical Department provides stockists and customers with a comprehensive technical support facility, including advanced photometric engineering capabilities and full thermal and electrical testing equipment.

Simplex Lighting also designs and manufactures its own high intensity discharge control gear for lighting fixtures. This enables close quality control procedures to be maintained, and ensures all gear is totally compatible with the luminaires.

THE LEADING LIGHT THE LEADING LIGHT THE LEADING LIGHT



SIMPLEX LIGHTING SOLUTIONS

Simplex Lighting Limited manufactures quality lighting products for use in a wide variety of applications, providing solutions to a complete spectrum of lighting problems.

- INDUSTRIAL • COMMERCIAL •
- HAZARDOUS • SECURITY •
- PUBLIC • AMENITY •

The Simplex Lighting engineering office is equipped with the latest in computer technology for on-the-spot lighting design calculation to give complete customer satisfaction. The Sales Office is also able to utilise this computer technology to offer lighting solutions to the customer.

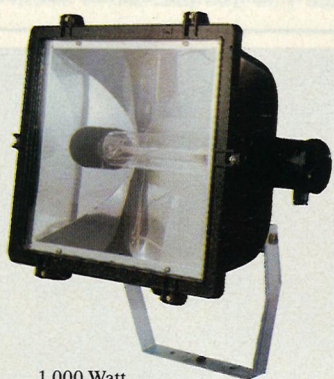
Full details of the company's product range can be found in the Simplex Lighting Catalogue, data sheets and specialist brochures covering Conductalite, Softlighters and the Hazardous Area Catalogue.

If you would like to receive copies of product literature or the Simplex Lighting Wall Chart contact: 021 557 2828. Reader Enquiry Number 47

NEW STARSCAN RANGE

Simplex Lighting Ltd has recently launched its new Starscan range of floodlights. Designed and manufactured to accommodate a wide variety of applications and offering maximum versatility the luminaires range from 70 Watt to 1,000 Watt with an IP rating of 54.

The Starscan range comprises a medium beam symmetric reflector, combined with a high light output and compact dimensions making it ideal for security and amenity lighting situations. Fittings can be installed internally or externally, wall or pole mounted in a wide variety of locations including car parks, construction sites, monuments, and architectural detail.

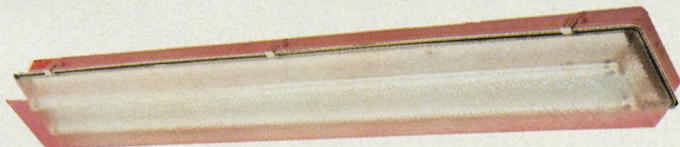


1,000 Watt

- Die cast aluminium body, black epoxy polyester powder coated.
- Anodised aluminium reflector for superior photometrics.
- Gear housing in heat resistant polyimide.
- Three way terminal block.
- Heavy duty galvanised steel bracket for enhanced strength when fitted.
- Stainless steel external screws for maximum durability.
- Glass front hinged to body for ease of maintenance.
- Silicone gasket.
- Optional accessories available include a 1 metre wall arm and light hood.

Reader Enquiry Number 43

NEW UNRESTRICTED BREATHING EMERGENCY FLOURESCENT LUMINAIRE



A new addition to the hazardous area range is the Zone 2 Unrestricted Breathing Emergency Fluorescent luminaire, specially designed for the particular problems of the potentially dangerous environment.

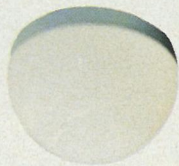
Recognised pioneers in the area of hazardous lighting, Simplex Lighting has developed this luminaire to give Ex'N' protection in Zone 2 areas.

- Benefits include:
- The unrestricted breathing concept gives Type N protection even under gasket failure conditions.
 - High IP rating — IP65.
 - Electronic lamp ignition gives improved temperature classification.
 - Failed lamp cut-out prevents failed lamp flicker and choke overheating.
 - Suspended gear tray for simple installation and maintenance.
 - No requirement to use expensive Zone 2 approved cable glands.
 - Full BASEEFA certification.
 - Constructed in tough, corrosion resistant, compressed moulded GRP.

Reader Enquiry Number 44

HALF-MOON BULKHEAD

New from Simplex Lighting, is the Half Moon Bulkhead luminaire. Representing one of the latest additions to the Simplex Amenity and Security Lighting range, the luminaire features a circular plastic shade and base suitable for interior and sheltered exterior locations.

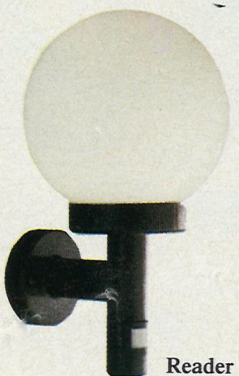


Reader Enquiry Number 45

PIR SPHERE

A particular feature of this new luminaire is its passive infra-red facility, making it an ideal security light for porches, patios and path lighting.

- Approximate range of 6 metres with a 90° light spread allocation.
- The lampholder is constructed from acrylic porcelain — available in an attractive opal or smoked effect finish. Maximum lamp output 100 watt.
- The hard wearing wall bracket is constructed from non-corrosive ABS, particularly suitable for all weather conditions.



Reader Enquiry Number 46

PRODUCT PROFILE FOR THE 1990'S

SUCCESS INHERENT WITH RELIABILITY AND SERVICE

Joe Whitcroft, Director and General Manager at Simplex Lighting comments, "Our commitment to the lighting industry is specifically dedicated to the key areas of pre-sales support, technical advice, effective distribution and after sales service. The electrical wholesale trade is a major outlet for product distribution and we at Simplex Lighting devote much time and investment to servicing its needs. This includes technical, commercial and promotional support. With our fleet of purpose designed vehicles servicing most areas of the UK on a weekly basis and our team of qualified sales engineers on call for site service and back-up, we are fulfilling our aim to maintain maximum end user satisfaction."

CREDO

"Our first address is to our customers. To satisfy their requirements we must provide goods of consistently high quality together with service and information that is prompt, accurate and clear."

EXTRACT FROM WHITCROFT LIGHTING DIVISION, CREDO.

Simplex Lighting regard service generally as a cornerstone fundamental to success. This is highlighted by the company Credo which states "Our first address is to our customers. To satisfy their requirements we must provide goods of consistently high quality together with service and information that is prompt, accurate and clear."

"To be more precise" comments Joe Whitcroft, "Our customers will expect that we provide quality products, quality service and competitive prices. With the open European market of 1992 upon us front line managers are constantly having language skills updated. This is all part of our strategy to maintain position as a total quality, service company within the lighting industry worldwide."

SIMPLEX LIGHTING SALES STRUCTURE

The structure of the Simplex Lighting Sales operation enables equal emphasis to be given to all areas of its product applications and comprises both UK and Export Sales Teams. Headed by Paul Barton, Sales Director, the UK operation benefits from regional and specialist sales engineers. Specialist teams are those where focus has been given to a market sector rather than a geographical area, for example Hazardous Area Lighting. Results speak for themselves, during the last year sales of Hazardous Area Lighting products increased dramatically.

Flexibility to respond to changing or diverse market requirements has been a significant strength of the Simplex Lighting sales operation. The growth in design/build has opened many new opportunities for the company and a strong foothold is currently being established by the company with UK Contractors, Specifiers, Consultants and Developers. On the export front, the Simplex Lighting sales operation has also experienced rapid expansion, and is strongly supported by a Company presence at key overseas trade seminars and exhibitions.

Sales research and development undertaken includes market research into potential sales areas, product penetration and application appraisal. The Simplex Lighting Annual Sales Conference provides all participants with a useful forum for the exchange of new ideas, product and technical updates, market analysis and training.

Sales and Marketing Strategy for the 1990's

Simplex Lighting believes in positive positioning of its products in the market place. Paul Barton comments, "Our policy is to do more than simply react to an established market place. This effects greater results for all areas of our sales operation and it facilitates enhanced profit potential for our stockist who can more readily carry quantity stock of new products."

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Reader Enquiry Number 48

Advice on choosing transformers

In part I of this two part feature, *Mike Tatem* gives guidelines on selecting the most appropriate transformer for a LV lighting installation. He looks first at wound transformers.

Low voltage lighting has become extremely popular and is now the generally accepted norm for display lighting in shops. It is also seen extensively in hotels, bars, restaurants etc, where a highly controllable light source with good colour rendering is required.

There is a very wide selection of lamps, and lighting designers and interior designers have never had such an opportunity to use light so simply and effectively.

To be strictly correct, it should be referred to as extra low voltage, but the term low voltage lighting is universally used and accepted.

The choice of transformer is often perplexing for the designer or installer, as not only are there a great many transformers on the market but also there is a wide variation in types and configurations. Basically they fall into three groups:

(a) wound transformers which are without enclosures or fusing and are sold as component parts for building into luminaires or enclosures;

(b) boxed transformers which have a protective enclosure, primary fuse, thermal cut-outs and secondary fusing, and

(c) electronic transformers.

The choice depends on two main considerations, performance and safety.

Taking wound transformers first. When choosing a transformer it must be remembered that the CEEB delivers a supply that is $240V \pm 6\%$. Experience shows that voltage tends to be over rather than under, and 5% overvoltage means 50% shorter lamp life. Therefore, wound transformers

should be wound to cater for over-voltage, normally with 250V primary and 11.8V secondary windings. Even if the supply is 240V this will give a secondary voltage of 11.4V.

The next factor to consider is voltage regulation, i.e. the effect of reduced load on secondary voltage. This occurs when one or more lamps extinguish, resulting in increased voltage on those remaining.

This effect is shown on the voltage regulation graph for a wound 200VA transformer running four 50W lamps. If the supply voltage is 250V and one lamp fails the secondary voltage is approximately 12.1V, and if a second lamp blows the voltage is 12.3V.

This shows that it is most important for lamps to be replaced immediately and also that a transformer should be chosen with good voltage regulation. This is not a problem with some electronic transformers as they may have constant secondary voltage regardless of load.

It can be seen that the best electrical solution is one transformer per luminaire, but cost and installation restrictions sometimes make this impossible.

Safety

As far as safety is concerned there are many factors to be considered, some of which are covered by the *IEE Wiring Regulations* but more recently by the *Low Voltage Electrical Equipment (Safety) Regulations 1989* (this is the correct use of the term low voltage referring to equipment for use with a supply voltage between 50V and 1000V). Clearly a remotely mounted trans-

former comes within its scope.

The low voltage electrical equipment regulations require "that persons and domestic animals are adequately protected against danger of physical injury or other harm, which might be caused by electrical contact direct or indirect".

In addition, they state that "in

Lamp	Cable size			
	1.0mm ²	1.5mm ²	2.5mm ²	4.0mm ²
20W	5.7m	8.6m	14.1m	21.8m
35W	3.3m	4.9m	8.1m	12.5m
50W	2.3m	3.4m	5.6m	8.7m
75W	1.5m	2.3m	3.8m	5.8m
100W	1.1m	1.7m	2.8m	4.4m

Table 1: maximum cable runs for luminaires fed individually from a transformer with full load output of 11.8V and assuming min. voltage at the lamp cap of 11.4V (i.e. 5% under voltage).

foreseeable conditions of overload the electrical equipment shall not endanger persons, domestic animals or property".

F mark

This means that unprotected transformers cannot be used for remote mounting; they must be in a suitable enclosure which makes them electrically safe. The enclosure should also meet 'F' mark regulations which define the construc-

tion so that it is safe to mount on combustible surfaces.

This is achieved by defining the distance between the transformer base and the mounting surface as a minimum of 10mm. In between must be a non-inflammable material which is a minimum of 3mm away from the mounting surface and the transformer base plate. At the moment, the regulations allow a thermal cut-out to be used instead.

A primary anti-surge fuse must be used and to comply with 'foreseeable conditions of overload' a thermal cut-out and/or secondary fuse per lampway should also be fitted.

It is very easy for an end user to create an overload situation merely by installing a higher wattage lamp. In this way the transformer can be overloaded 200% by installing 100W lamps rather than 35W lamps. The thermal cut-out

Transformer	Cable size					
	2.5mm ²	4mm ²	6mm ²	10mm ²	16mm ²	25mm ²
200VA+	0.6m	0.9m	1.4m	2.5m	-	-
250VA+	0.3m	0.5m	0.8m	1.3m	-	-
300VA+	-	0.2m	0.3m	0.5m	-	-
360VA++	-	0.8m	1.3m	2.2m	3.4m	5.1m
500VA++	-	-	-	1.3m	2.0m	3.0m

Table 2: maximum cable runs for transformers feeding 2.5m of extra low voltage track with 4mm² conductors (+); or 2.5m of low voltage track with 13mm² conductors at 63A (++).

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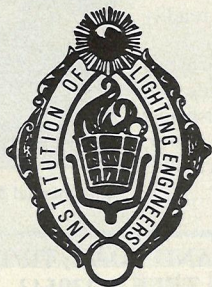
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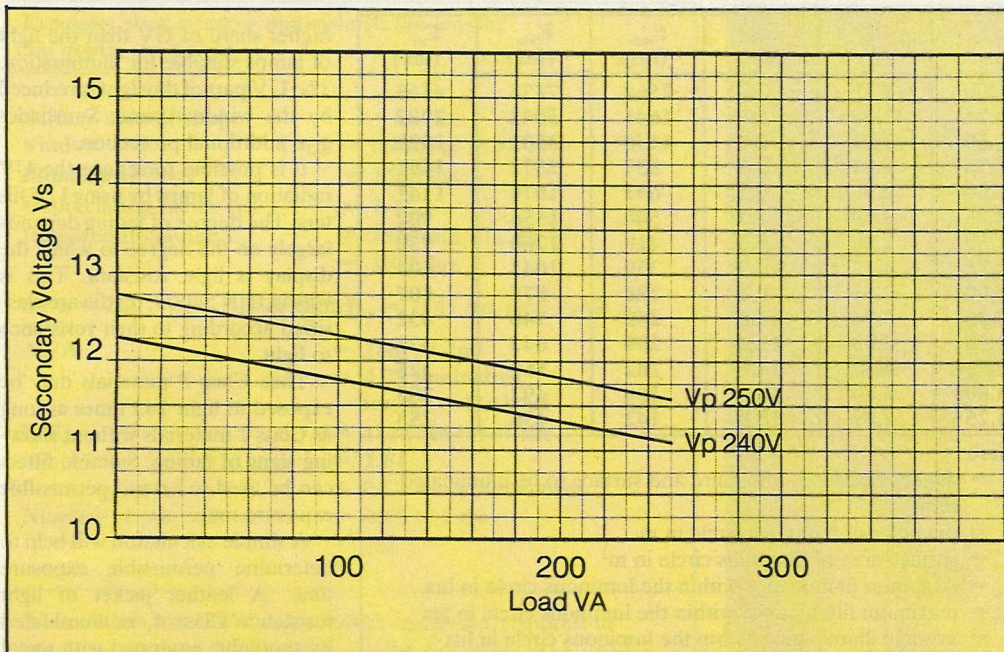
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Graph showing voltage regulation for a 200VA 240/12V transformer.

will ensure that the transformer cuts out before any damage is done.

By using secondary fusing, which is becoming very popular, you ensure that if the fault is restricted to one lampway, only that

lamp goes out rather than all lamps connected to the transformer.

But how about the transformer itself? Firstly the transformer should be made to EN60742, a specification that will be adopted by BSI as a substitute for BS3535.

Safety isolating transformers are desirable but remember that to produce a SELV (safety extra low voltage) system the luminaire and installation must also meet these requirements.

Wound transformers produce

heat; how much depends on how efficient the transformer is. The maximum running temperature depends on the insulation class, 165°C for class H and 115°C for the more common class E.

No transformer should be installed on the basis that it will run at these temperatures constantly, as life expectancy will be severely reduced.

Wiring of transformers is probably the most common source of problems in low voltage lighting.

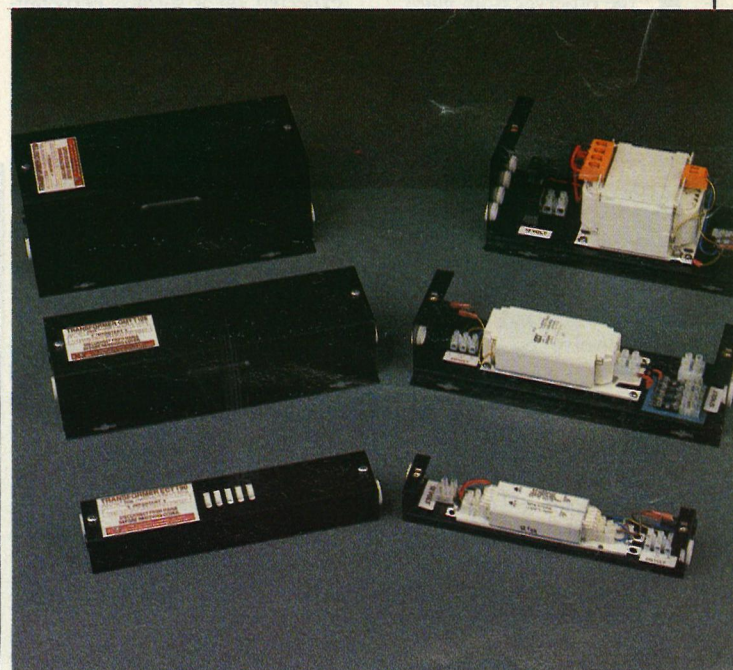
Ready made leads

Wiring to the primary side is no different to that of any other piece of electrical equipment. The differences occur on the secondary side. This can easily be taken care of by buying a transformer system which includes leads made to the correct size and length with moulded-on connectors.

If this system is not used then the correct size and length of cable must be selected. Low voltage lamps are sensitive to under voltage, so normally the size and length are calculated on the basis that the maximum length is equivalent to a 5% drop i.e. to 11.4V.



A low voltage system with plug-in leads.



Examples of wound, boxed transformers.

A number of manufacturers publish tables, all based on Table 9D2 of the 15th edition of the *IEE Wiring Regulations*.

Cable runs

Table 1 shows the maximum for transformers feeding individual luminaires, which incidentally must be wired individually, with the same length and size of cable, otherwise the voltage and hence brightness and colour will differ from one luminaire to another.

Table 2 shows track fed by a transformer. In this case, the resist-

ance of the track has to be taken into account.

With all low voltage installations terminations must be of high quality and absolutely tight as secondary currents are high, 20 times higher than on the primary side. That means a 500VA transformer has a secondary current of nearly 42A.

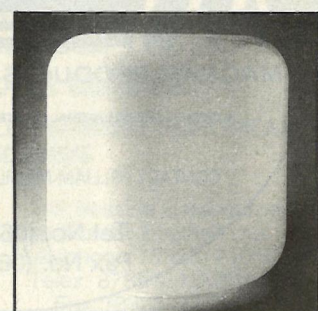
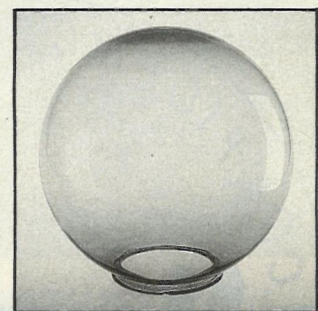
This article will be continued in the May edition of *LEN*.

Mike Tatem is marketing manager at Tridonic Ltd.

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Shop window as sales magnet

Dramatic shop window lighting is a most effective way of attracting customers into retail premises. In Part 2 of our feature *J Kan*, of Hoffmeister Lighting, looks at luminaires and outlines an approach to scheme design.

The purpose of luminaires is to direct the light emitted by the lamps and to protect the observer from glare. Spotlights that can be equipped with a large number of accessories have proved their worth. These accessories include different kinds of mirror reflectors, colour filters, differently shaped screens, honeycomb louvres, as well as IR and UV filters. The luminaires selected must be electrically and mechanically safe. Their operation and maintenance should involve no risk of accidents.

Lighting track

Modern shop window illumination is hardly imaginable without lighting track, which greatly enhances its flexibility. Single circuit and three circuit tracks have been around for years. One additional advantage of the three circuit system is that two circuits can be switched off by a time switch, while the third circuit is used for overnight emergency lighting.

Number of luminaires

As Part 1 of this feature stated, contrasts should be between 3:1 and 10:1. For planning purposes, the surface is assumed to be monochrome and will diffuse radiation features, contrasts of brightness are identical to the proportion of illuminances. Photometric tables facilitate a rough calculation of the number of luminaires required for background lighting. The tables have been based on the luminous flux

encompassed by the beam angle. They can be consulted to find the illuminances that are to be expected on a surface perpendicular to the luminaire. For the approximate calculation, first find the size of the reference plane, in our example the surface area of the shop window. The desired illuminance is 1500 lux. Taking into account the depreciation factor, $p = 1.25$, the product of service value of illuminance and depreciation factor will yield the new value of illuminance.

The photometric table (Table 2) gives values for the surface area of the luminous circle (A) and the average illuminance (E_{av}) for a suspension height (h) of 2.00 m. The next step is the calculation of the number of luminaires required for 1141 lux. This is done by dividing the total area (A_w) through the individual illuminated area (A). In theory, 4.29 luminaires would be necessary to achieve 1141 lux on the area of 18m². The desired illuminance however, is 1875 lux (new value of illuminance multiplied by depreciation factor). We need 64% more luminaires to obtain this value. By multiplying the theoretical number of luminaires (4.29) by the factor 1.64 we arrive at the figure of 7 spotlights for 150W metal halide lamps.

The photometric tables also help select the best spotlight for accent lighting. The dimensions of the display and its distance to the luminaire are given. We can now look up, in the relevant tables for spotlights, the diameter of the luminous

circle that comes closest to the dimensions of the display, for the distance given. The most important factor now is the maximum illuminance obtained within the luminous circle. It should be three to ten times the background of illumi-

h (m)	D (m)	A (m ²)	E _{max} (lux)	E _{min} (lux)	E _{av} (lux)
1.00	1.15	1.0	2564	7878	4565
1.25	1.44	1.6	1641	5042	2922
1.50	1.73	2.3	1140	3501	2029
1.75	2.01	3.2	837	2572	1491
2.00	2.30	4.2	641	1970	1141
2.25	2.59	5.3	506	1556	902
2.50	2.88	6.5	410	1260	730
2.75	3.17	7.9	339	1042	604
3.00	3.45	9.4	285	875	507
3.25	3.74	11.0	246	746	432
3.50	4.03	12.7	209	643	373
3.75	4.32	14.6	182	560	325
4.00	4.60	16.6	160	492	285
4.25	4.89	18.8	142	436	253

Where:
h = distance between luminaire and surface to be illuminated in m
D = diameter of luminous circle in m
A = surface area of luminous circle in m²
E_{min} = minimum illuminance within the luminous circle in lux
E_{max} = maximum illuminance within the luminous circle in lux
E_{av} = average illuminance within the luminous circle in lux

Table 2. Photometric table for floodlights with SON metal halide lamp

nance of the shop window.

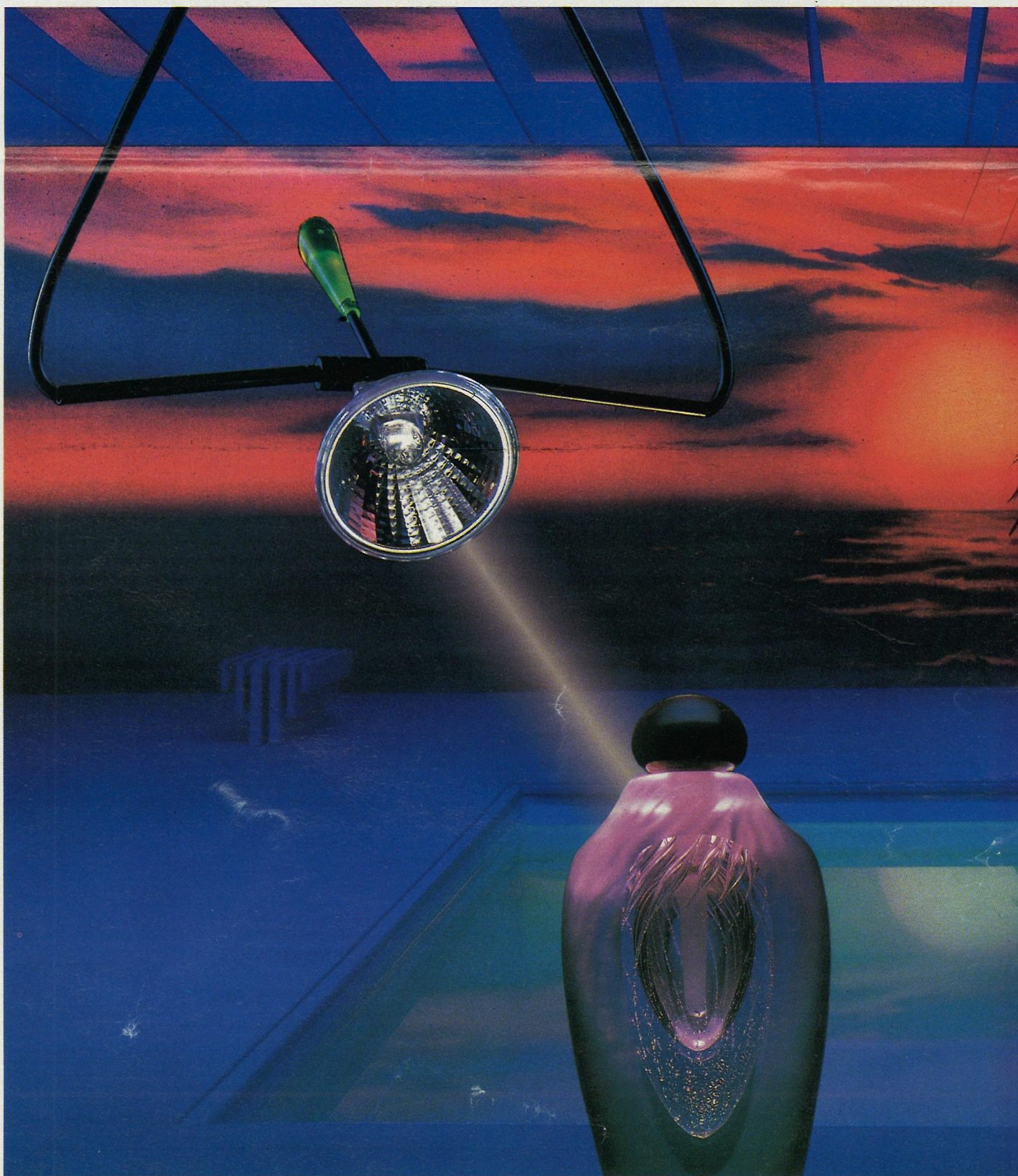
Fading

Many goods are light resistant up to a certain limit only. Their

colours fade due to ultraviolet radiation. UV radiation is present, to a greater or lesser extent, in the spectra of all light sources. Relative to 1000 lux, daylight has a

higher share of UV than the light of lamps suitable for illumination. The UV part of daylight is reduced by the window pane. Sunshades give additional protection. It is possible to reduce the UV radiation of lamps by using UV filters. The degree of fading depends largely on the degree to which the display is light resistant. This is why in DIN 54003, textile are classified according to their resistance to light. Thus Class 8 materials may be exposed to light 143 times as long as Class 1 materials without showing signs of fading. Suitable filters can be used to extend permissible exposure time. A simple calculation will help to determine permissible exposure time. A leather jacket of light resistance Class 4, is illuminated by spotlights equipped with metal halide lamps. A standard filter with an extension factor of 2.5 is used to protect against ultraviolet radiation. Table 4 gives, for light resistance Class 4 and daylight of 1000 lux, a permissible exposure time of 600 hours. The illuminance obtained in

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Example: shop window dimensions: 6m length;
3m depth, 2m height

Surface area of shop window $(A_w) = 6m \times 3m = 18 m^2$
Illuminance level = 1500 lux
Depreciation factor (p) = 1.25
Required illuminance = $1500 \text{ lux} \times 1.25 = 1875 \text{ lux}$

for $h = 2m$, $A = 4.2 m^2$ and $E_{av} = 1141 \text{ lux}$ (see Table 2)

$A_w/A = 18m^2/4.2m^2 = 4.29$ luminaires
for $E_{av} = 1141 \text{ lux}$
 $E/E_{av} = 1875 \text{ lux}/1141 \text{ lux} = 1.64$
= 64% more luminaires
Number of luminaires = $4.28 \times 1.64 = 7.0$

7 luminaires for 150W metal halide lamps are required to obtain an average illuminance of 1500 lux in the shop window cited in our example.

Table 3. Approximate calculation of the required number of luminaires for the shop window.

the shop window, however, is 1500 lux. For this value, we find an exposure time of 400 hours. By using a standard filter, we can extend this time to 1000 hours. This value, however, is valid only for metal halide lamps. The additional UV radiation of day-



Books benefit from modern display lighting.

Light resistance class	Permissible light exposure time per 100 lux daylight (hours)
1	70
2	150
3	300
4	600
5	1200
6	2500
7	5000
8	10 000

Table 4. Light resistance classes for textiles according to DIN 54003 and permissible light exposure times.

Light source	Extension factor relative to daylight
Daylight through shopwindow	1.5
General service incandescent lamps	4.0
Fluorescent lamps	2.0
Halogen lamps — with filter	2.0
Metal halide lamps — with standard filter	1.5
	2.5

Table 5. Extension factors.

Example: Leather jacket light resistance Class 4 illuminated by metal halide lamps with standard filter (Extension factor = 2.5)

Illuminance in shopwindow = 1500 lx
Permissible exposure time = 600 hours/1.5 = 400 hours
Extension of exposure time by filter = 400 hours x 2.5 = 1000 hours

Given a daily exposure of 10 hours, the leather jacket may be displayed for 100 days.

Table 6. Permissible exposure time.



Lighting gives punch to display of such small items as spectacles.

light that will of course reach the display through the window pane is not accounted for.

This is where the problems involved become evident, for the intensity of daylight in the shop window fluctuates naturally. This fact prevents a reasonably accurate calculation of the additional impact of daylight on the fading of displayed goods.

Another problem is that manufacturers are often unable to indicate the light resistance class of their products.

This is why luminaires should always be equipped with an ultra-violet filter when illuminating textiles, leather goods, or furs, to name just the three most important product categories. And, when in doubt, it is advisable to change shop window displays frequently.

To conclude, shop window illumination that is modern, economical, and well designed makes great demands not only on manufacturers of luminaires and lamps, but also on lighting engineers, advisors, and users.

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Computers in lighting

LEN looks at novel computer techniques which are being developed to improve the design of lighting and lighting products.

Scheme visualisation

Computers have been used by lighting engineers for some time to carry out lighting calculations, but the power of modern computers is now starting to be used for 'scheme visualisation'. Previously it was necessary to build a

complete mock-up of an installation in the laboratory in order to assess the effect of new lighting concepts. Increasingly graphics software can depict a room and its lighting on the computer, and some CAD software can include simple lighting effects.

The problem with accurate representation has always been to deal with the millions of inter-reflections between all the surfaces in a room (including furniture and obstructions) and also to include the effect of colour.

The room must be subdivided into small elements and the effect of each element on every other element, must be calculated. That means a lot of arithmetic — even a simple scene requires some 10 to 100 billion lengthy calculations! So, even on the fastest and most expensive conventional computers, the time needed to calculate the result can take hours unless short cuts or simplifications are made.

The Central Research Laboratories of Thorn Lighting have now developed techniques which enable a complete colour visuali-

sation of the lighting effects, including diffuse light, in an area with around 1000 surfaces to be calculated within seconds.

The method used by Thorn is based upon the way that the brain processes information. Compared with a typical home computer or office personal computer, the human brain is very slow at processing individual bits of information — it works in thousandths of a second rather than millionths or less. Yet, unlike even fast computers, the brain can process visual images very rapidly. The secret is that it processes many items of information simultaneously.

The Thorn visualisation system was developed under Esprit, Europe's research programme in information technology, and uses transputer technology developed with INMOS, now part of SGS Thomson the Franco-Italian group.

Another important difference between this system and conven-

tionally calculated perspectives of rooms is also analogous to the brain. The brain does not show us 'pictures' of the world around us, but creates a 3D map of the world in which we move (when we move our head we alter what we see of a fixed picture).

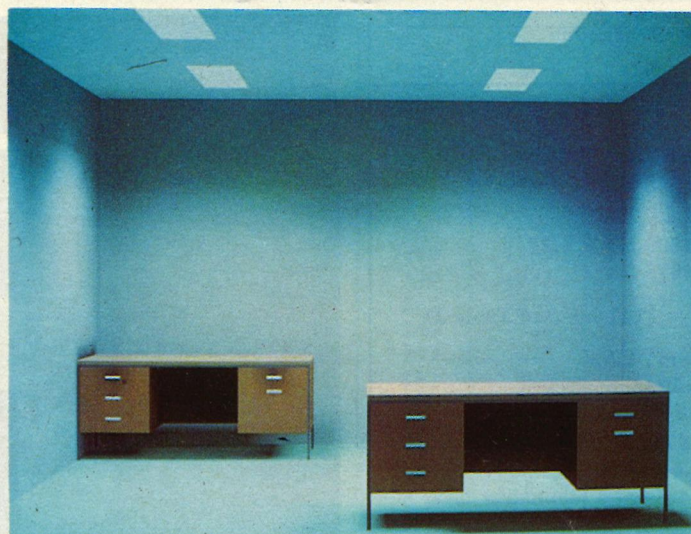
In the same way, the Thorn system does not calculate a single 2D 'picture' of the room from a particular viewpoint, but calculates

the complete 3D room. This means that the viewer can move around the illuminated room, on screen, without the lighting being recalculated — he can even look under the tables!

The extra speed that this methodology has given, has been used to add detail to the visualisations. Not only are obstructions fully dealt with, but trichromatic interreflection theory is used, so that light reflected from a coloured surface becomes suitably coloured.

We know that people do not judge photographs of lighting installations in the same way as they do the installation itself. Therefore, more research work in this field is needed. This system is still at research and development stage, but will become available early in 1991 and will be used at first for major Thorn project work with key architects and consultants.

It will enable the client to 'walk through' the proposed installation by sitting in front of a computer screen which will build up a moving picture of the completed lighting scheme.



Design your own interior lighting.

CAT aids lighting

A computer-aided tomography scanner, combined with the power of super computers, is enabling GTE scientists to shorten dramatically the time needed to bring the next generation of motor vehicle headlamps onto the market. In the first known application of this technology in lighting research, they are discovering what occurs in the interior of high-intensity lamps.

The new light sources, currently under development at GTE Laboratories in Waltham, Massachusetts, USA are not only five times more efficient than present headlamps — they also last up to 25 times longer.

Combining information from the CAT scanner with computer models gives the most complete picture yet available of the processes occurring in HID lamps.

At the heart of each lamp is a tiny arc tube filled with gases which, when excited with an electrical current, produce an intense light. The tube must be precision-designed and fabricated to minute tolerances to maximise

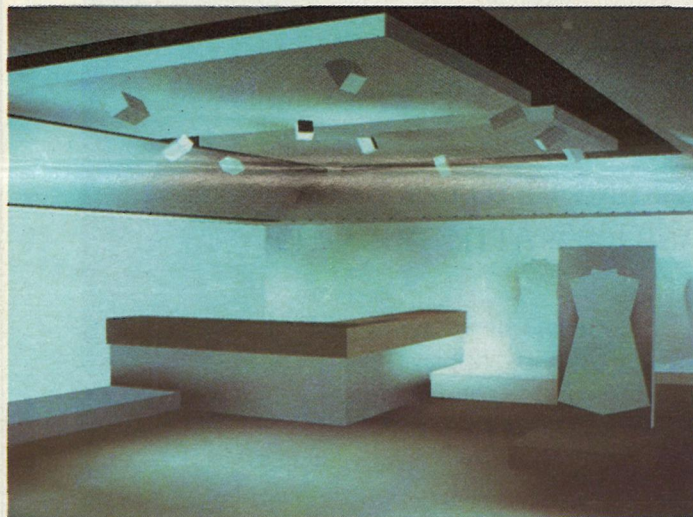
efficiency and endurance. The more evenly heat and light are distributed, the more efficient the lamp becomes.

The CAT-scanned images reveal exactly where light is being emitted in the tube. This information is then fed into a supercomputer where it is combined with a mathematical model of the arc tube environment. The resulting calculation appears as a graphic image showing the pattern of heat energy within the lamp.

Rapid changes

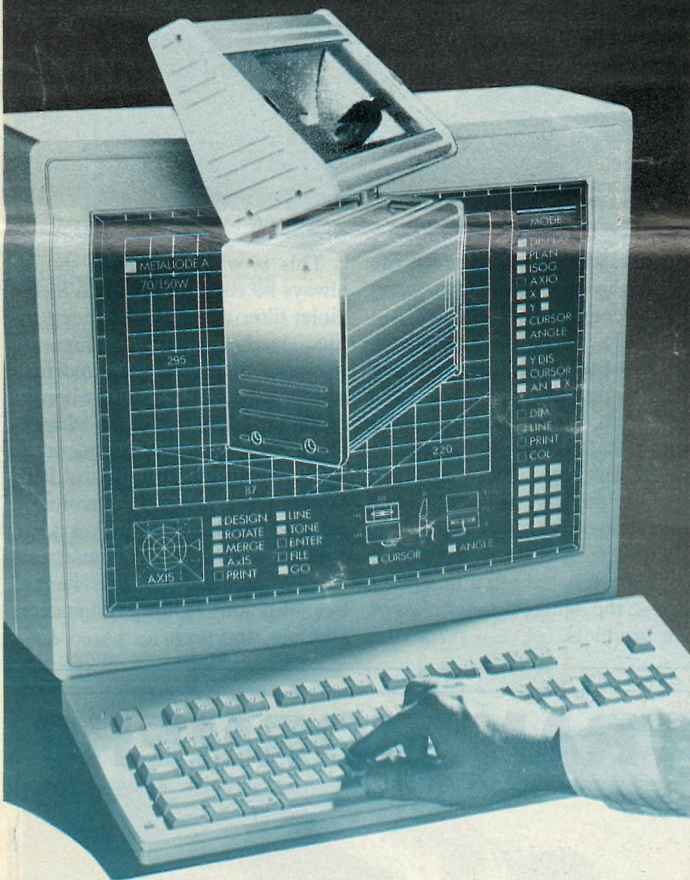
Once the positions of the imbalances are known, they can be corrected by changing the chemistry of the gaseous discharges or the shape of the tube; and, using the new technology, observations and changes can be made in a matter of days rather than months.

CAT scanning has been widely used for medical imaging, astronomical measurements and the study of fusion plasmas, but GTE understands that this is the first time the technology has been used to design a better light source.



Use of the Thorn visualisation system, currently under development, in a retail environment.

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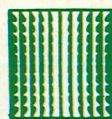
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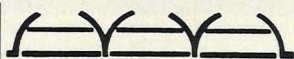
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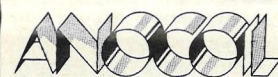
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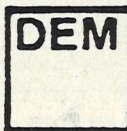


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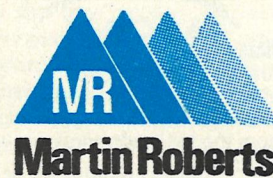
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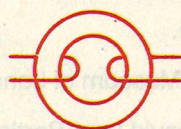
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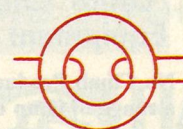
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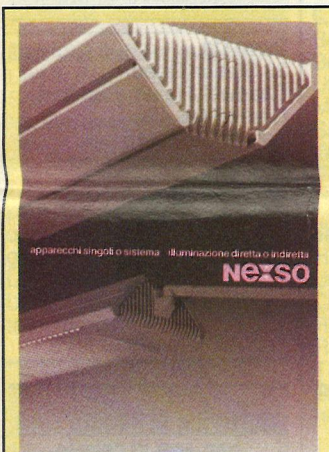
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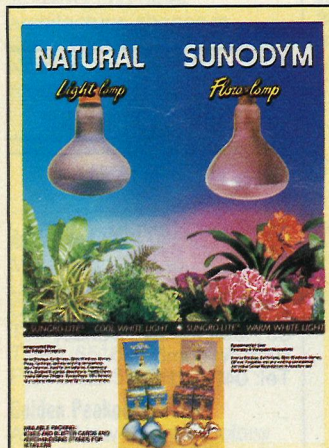
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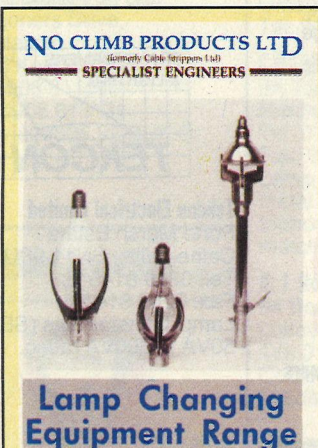
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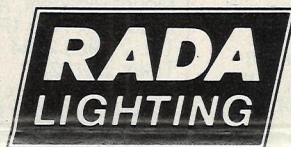
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Reader Service No. 21

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Street lighting software

A computer software package which designs lighting solutions for traffic routes has been introduced by Thorn Lighting.

The 'Optilume' program consists of three sections. The first two design installations to the latest street lighting code, BS5489: Parts 2 and 3, for main traffic routes and residential roads respectively.

In both of these sections the program calculates the maximum spacings once the scheme geometry and lantern options have been selected.

The third section is a modified version of the CIE Comprehensive Luminance Program which calculates a grid of lighting values. Spacings, geometry and lantern choice are input separately.

The first two sections give a marked advantage over certain other software packages, where spacings have to be determined on a trial and error basis.

'Optilume' incorporates a listing of Thorn's street and amenity lighting range, but it can also be extended to include information about other manufacturers' products. It is available in IBM-compatible, floppy disc format from Thorn Lighting regional offices at a cost of £300 + VAT.

BIC welcomes fifteenth member

The latest new member to join the Building Industry Council is the Board of Incorporated Engineers and Technicians (BIET).

BIET, part of the Institution of Civil Engineers, becomes the eighth incorporated body within the BIC, bringing the total number of members to fifteen.

The BIC is shortly to be renamed the Construction Industry Council, a move felt necessary to reflect the broader range of interests among constituent members.



The recently built St Dominic's Primary School in Stone, Staffordshire has been equipped with Sylvania Syl-Louvre white aluminium reflector fluorescent fittings. These fittings were specified to provide a lighting level throughout the classrooms and corridors of between 350-500 lux, while avoiding glare, as all classes make extensive use of computer screens.

Theatrical highlight

Strand Lighting's PALS lighting system has won an award for technical merit presented by Electrex.

The Precision Automated Lighting System was designed primarily for theatres, TV studios and concert halls. It was chosen for the Electrex '90 Award of Merit for Technical Excellence in Class C, which covers illumination.

PALS was developed by Strand to meet the growing need for a method of remotely positioning luminaires smoothly and with consistent accuracy. The motorised luminaire system allows beams to be repositioned repeatedly by means of simple commands from a control console.

Electrex results

Over 48 000 people visited Electrex '90 and exhibitors overall were very pleased with the results of their participation, report the organisers.

The total number of stands was 643 representing total exhibition space of almost 27 000m², an increase over the 1988 figures.

NEWS

Lighting up North America

Lighten Up is the theme of the 1990 conference of the Illuminating Engineering Society of North America. Baltimore is the venue for this event which takes place from 29 July to 2 August.

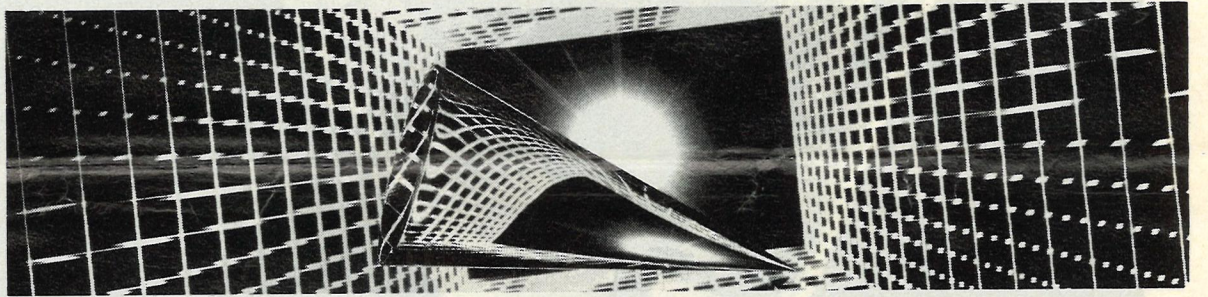
As well as technical papers in the field of illumination, there will be educational seminars on: office lighting; ballasted lamps; compact fluorescent and MR16 lamp systems; NASA Space Station; lighting for conservation of art, and other topics.

In-depth workshops will be held on such subjects as residential lighting, and landscape and exterior lighting.

For more details contact the Illuminating Engineering Society of North America, 345 East 47th Street, New York NY10017.

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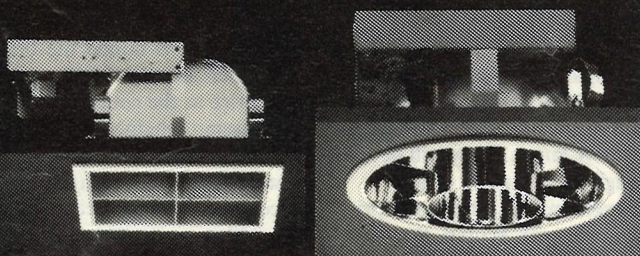
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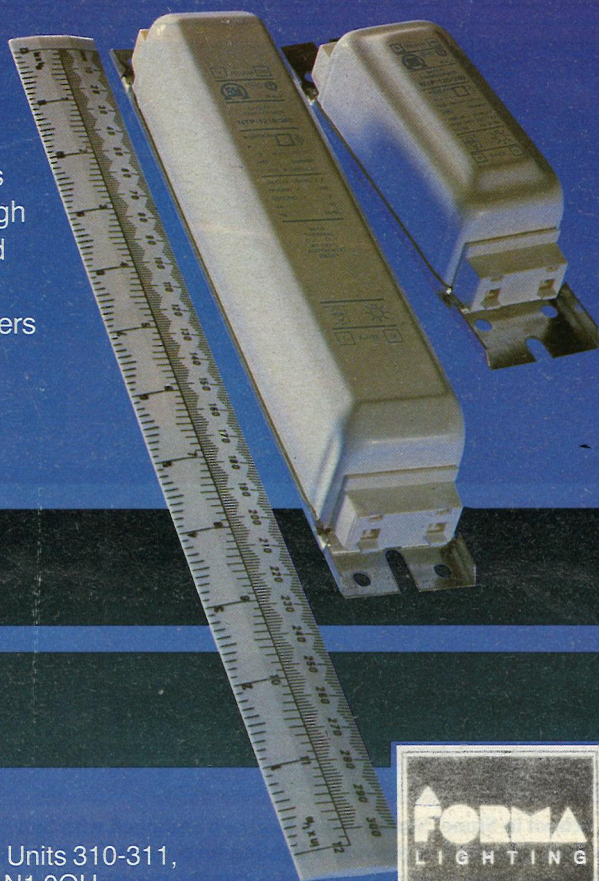
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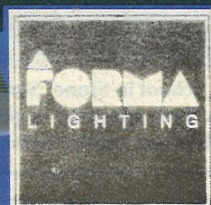
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Reader Service No. 20

LIGHTING EQUIPMENT NEWS



Staying on the road with low glare

A continuous lighting system with special low-glare VDT louvres is providing an excellent working environment in the RAC's new high-tech operations centre near Walsall.

The £7.5million building is the nerve centre of the RAC's computer-aided training and rescue service for the Midlands, East Anglia and part of Southern England — and the RAC emphasised operator comfort throughout.

The Continulite system specified for the building was introduced by RADA Lighting to provide continuous lighting in an economical, standard package form. Here, it was chosen partly for its high-efficiency, 'Quasar' louvre and partly for a special fixing detail that cuts the cost of installation in metal tile ceilings.

With 'Continulite' it is not necessary to have a separate ceiling support system, the luminaires

are suspended from the slab ceiling and the metal planks clip directly to them via a half spring tee in a purpose-designed extrusion.

In the RAC building the architects, Building Design Partnership, also used the standard extrusion detail to create a flash gap between the metal tile and the extrusion for extra aesthetic appeal.

The system comprises 1200mm luminaires separated by matching infill panels, and for the RAC building these were pierced to accommodate two 12V 50W low-voltage downlighters in each panel to add sparkle in the training and restaurant areas.

The lecture theatres and classrooms use high-frequency electronic dimming control gear operated by infra red from the lectern. Throughout the system, there are also 110V inverter units wired back to a central battery unit to provide emergency lighting.

Council sells compact lamps to tenants

Compact fluorescent lamps are to be sold to council tenants at a reduced price by Leicester City Council as part of its environmental protection strategy.

Wotan's Dulux EL lamp with electronic ballast has been chosen because it is nearest in size and weight to the tungsten lamps the general public is used to.

All council tenants will receive a leaflet giving information about the lamps. Two wattages are to be offered, 11W to replace 60W GLS lamps and 20W as a replacement for 100W lamps. They will be sold through area housing offices.

Depending on the bulk price negotiated with Wotan, the council expects to sell the 11W size at about £9 — a reduction of some £8 on the normal retail price.

It is estimated that changing one 60W GLS lamp for an 11W compact fluorescent lamp will cut electricity bills by £4.43 per year

(based on 4hr use per night), and reduce the amount of carbon dioxide released into the atmosphere by generating electricity from coal fired power stations by 70kg a year.

In addition, the City Council is asking the local Electricity Board to consider making a similar offer to all its customers, so that the scheme will not be limited to council tenants. It is hoped the board will either sell the lamps at the same price as the council, or operate a leasing scheme such as making them available without an initial charge and then adding a percentage of the price to quarterly bills over a period of years until the lamps are paid for.

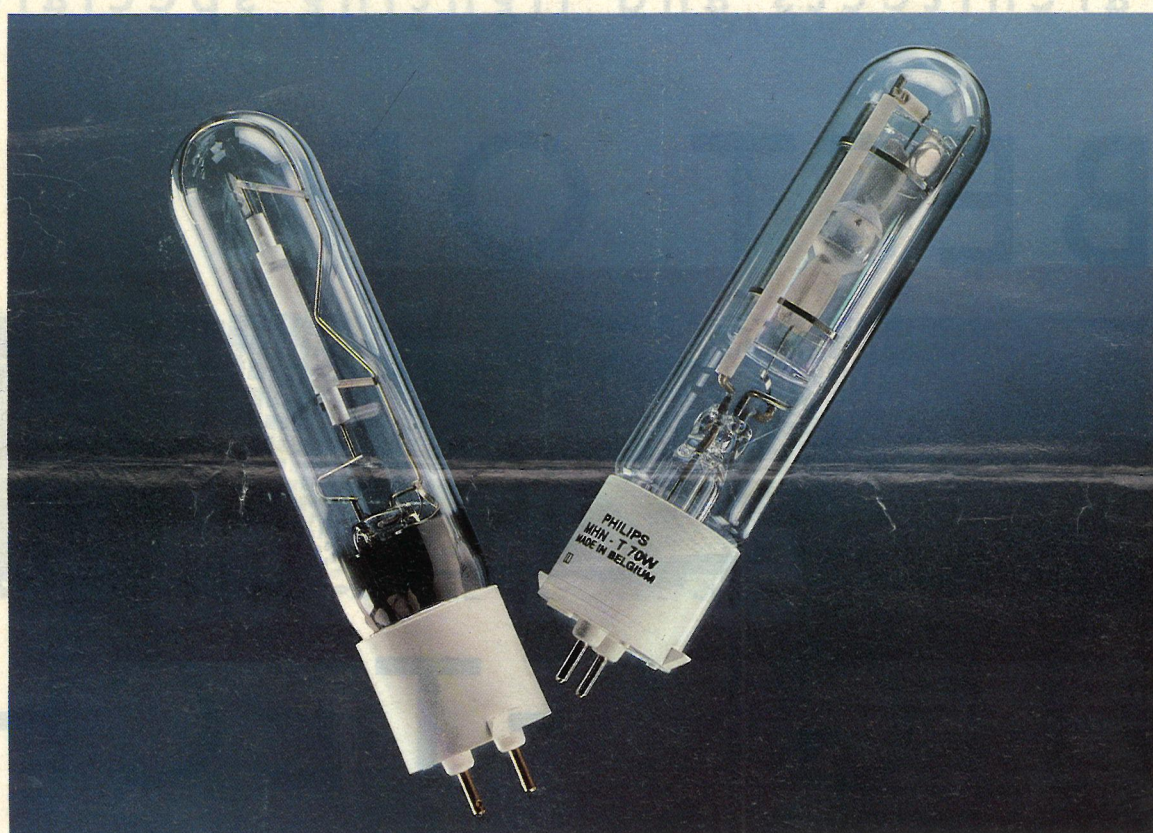
Dr Paul Fleming, energy manager, city engineer's department, hopes the idea will spread and other local councils will be encouraged to adopt similar policies to protect the environment.

IN YOUR NEXT ISSUE

The May issue of Lighting Equipment News takes a look at the problems and opportunities posed by the single European market. Firms need to formulate both offensive and defensive strategies here — as the market will lead to

increased incoming competition as well as provide expanded opportunities in mainland Europe.

In addition we discuss current issues in emergency lighting including the likely development of common European practice.



SETTING NEW STANDARDS

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- Both allow fittings to be made for spots, general lighting, ambience, wall washing or outdoor decorative luminaires.
- WHITE SON has a warm (2500K) appearance and injects real, larger than life drama and texture into your displays.
- The New METAL HALIDE lamp has a cool (4000K) light, creating a crisp appearance.

- Both lamps have excellent colour rendering (CRI 80).
- There's no need for filters in the fittings, so material won't fade.
- Both lamps can use the same reflectors and housings.



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