

LIGHTING

EQUIPMENT NEWS

JANUARY 1991

Sterling design

The new £37.5m Gatwick Sterling Hotel, designed by the YRM Partnership; the hotel is square in plan with eight floors of bedrooms rising above two public floors. The central feature is an atrium designed to look like a public square with an avenue of trees. Bars, cafes, restaurants and shops open onto this plaza.

The hotel is designed along a diagonal axis with the entrances on one corner and a large glazed slot running the full height of the building, cut into the opposite corner, giving dramatic views of aircraft taking off and landing at the South Terminal Satellite. A water feature runs the length of this diagonal.

The atrium is illuminated by theatre lights that project changing patterns and intensities of lighting onto the public areas giving the effect of sunlight filtered through leaves. The lighting responds to the exterior conditions creating different moods.

The public rooms use low voltage dichroic lamps, controlled by



dimmers, and compact fluorescent tubes in mini ceiling fixtures. HQI 3000K lighting is used to illuminate the entrance to the podium and compact PL lamps are integrated into the passages.

Fibre optic lights emphasise the curved wall to the a la carte restaurant and the water feature.

Features on hotel lighting appear on pages 6-11.

UK lighting is below EC requirements

Nearly one-third of office workers operating VDUs suffer from eye strain, tiredness or pains in the back, shoulder or neck. Almost one in four (24%) experience headaches as well. This was shown by the first Gallup survey into the changing working environment of Britain's four million office workers.

It also showed that 27% of those asked complained about glare and reflection which can make reading the screen difficult.

Between 26 October and 6 November Gallup interviewed more than 700 office workers — 391 men and 323 women — aged between 16 and 65 at some 200 sampling points throughout the country.

They found that 56% of those asked said that the lighting in their offices had not been changed since VDUs were introduced. For example, fluorescent lighting fittings with low brightness louvres or low brightness reflectors had not been installed.

More than 20% of those interviewed said the lighting in their offices had not been modernised for six or more years, and 11% thought it had not been redesigned for over 10 years.

Legislation

Tony Armstrong, president of the Lighting Industry Federation said: "If only 21% of those interviewed knew that their lighting had been changed with the arrival of VDUs, it almost certainly means that working conditions in the vast majority of UK offices are below the minimum European health and safety standard. . . The European Community has issued a directive requiring all member countries to introduce legislation by the end of 1992 making all VDU screens free of reflected glare and reflections.

"Work stations will have to be designed so that windows, lamps or brightly coloured fixtures or walls cause no direct glare and, as far as possible, no reflections

on the screen.

"The importance of the Gallup survey is that it shows the government, employers and trade unions just how much we still have to do to provide efficient working conditions, to boost productivity, reduce staff sickness, fatigue and eyestrain — and at the same time reduce energy bills."

To explain the facts about the new legislation and help to raise the standard of lighting in Britain's offices, the LIF has produced a new set of guidelines for each office to conduct its own lighting audit.

This brochure, *Better Lighting at Work* was launched by Georgios Gouvas of the European Community's directorate general for employment, industrial relations and social affairs, and Brenda Dean, general secretary of the Society of Graphical and Allied Trades and a member of the National Economic Development Council.

Urbis wins Chunnel order



The multi-million pound contract to supply lighting fittings for the

24 hours a day by standard MY Urbis fittings for pedestrian underpasses. Sealed to IP66 standard, they use 36W compact fluorescent lamps and have polycarbonate diffusers.

Specially designed luminaires for the running tunnels will be lit only in the event of an emergency. However, they must withstand pressure waves from trains travelling at high speed.

Streamlined

The streamlined profile is lozenge shaped in cross section. Housings are high pressure diecast aluminium for strength, with toughened glass diffusers held very tightly in special frames. Glass was chosen because it is more resistant than plastic to scratching by dust.

Compact fluorescent 18W PL type lamps are to be used in the luminaires, which will be surface mounted at about 18m spacings along one side only of the tunnels.

As a precaution against power failure, alternate fittings will be supplied by electricity from the British and French ends of the Chunnel.

Courtney Pope

The lighting business of Courtney Pope (Holdings) is being put into receivership. The group had tried unsuccessfully to sell The Lighting Workshop and Courtney Pope Lighting and has now withdrawn support from these subsidiaries.

In brief . . .

● **BDC** is now a distributor of Philips' lamps and is stocking 275 different types (tel 081-881 2001).

● **May and Christie GmbH**, manufacturers of transformers and lamp control gear, have set up a UK subsidiary: May and Christie Ltd, Mead Park, River Way, Harlow, Essex CM20 2SE.

● **Image Pro** stage lighting should be ordered from Optiki-

netics on 0582 411413, rather than the number given in *LEN* November issue.

● **Pillar Electrical** has formed a new company, Davis Alumex Lighting Ltd by bringing together Davis Lighting (London) and Alumex Lighting, based in Scotland.

● **Electrosonic** has moved from Woolwich to a new headquarters building at Hawley Mill, Dartford. The new building, over 5000m² in area, houses administration, sales, product development, project engineering and a special systems building.

● **F W Thorpe** reported a 19% increase in turnover coupled with a 10% increase in profit for the year ended 30 June 1990. Domestic turnover increased by 15% during this period and exports were up by 38%.

● **AB Wibe** has acquired Dutch group Electro Beheer making it Europe and Scandinavia's largest cable support system company.

● **Tenby Industries Ltd**, part of the Emess group, has acquired midland-based lighting manufacturer Crossland Rolls. The company will now trade as Tenby Crossland.

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NEWS

Catch up on lighting developments

Lighting developments and applications is the title of a conference and exhibition being organised by ERA Technology. It will be held on 16 January at the Heathrow Penta Hotel, Hounslow, Middlesex.

The conference will review current interior lighting requirements and recent changes in technology which are providing a wide variety of new opportunities for both designers and users.

Included in the programme are

sessions on codes and regulations (with special reference to 1992); quality and efficiency; lamps and luminaires, and ideas for tomorrow. The last session is split into *Piping light using fibre optics*, and *Dimming the undimable*.

For further details of the conference or to reserve exhibition space, contact Miss Linda Jelly, ERA Technology, Cleeve Road, Leatherhead, Surrey KT22 7SA (tel 0372 374151).

Learn about successful office lighting

A one-day course on lighting for offices, on 19 February, will demonstrate the design process and calculations for successful lighting installations. In addition,

factors affecting the provision of aesthetically pleasing schemes will be reviewed.

Guidelines for lighting areas with visual display terminals, and electronics in lighting equipment will also be discussed.

The venue will be the Building Services Engineering Centre, London. To reserve places contact CIBSE, 222 Balham High Road, London SW12 9BS.

International lighting event in India

An international lighting exhibition and conference will be held in New Delhi from 7-13 October 1991. Special emphasis will be placed on energy management and on energy efficient

products.

The event will incorporate the South Asian Association for Regional Co-operation lighting conference, and the Afro-Asia Oceania Congress on Lighting.

For further information on exhibition space and conference programme contact: H S Mamak, Indian Society of Lighting Engineers, c/o Philips India, Hindustan Times House, Kasturba Gandhi Marg, New Delhi 110001, India.

DIARY

JANUARY

6-10

Lightshow, Olympia, London. Details from the organisers, The Decorative Lighting Association 058-84658.

9

Application of compact fluorescent sources. Afternoon lecture at Olympia, London. Details from S Lane 081-568 7751.

9-11

Lighting design. A three-day course in London arranged by the Centre for Continuing Professional Education, Institute of Environmental Engineering. Details from A H Fuad, director, 071-928 8989.

10-15

Paris International Lighting Exhibition. Details from Promosols 071-221 3660.

14

Airport lighting. An evening meeting at Belfast International Airport arranged by the Northern Ireland Region of CIBSE. Details from J Patton 0232 732121.

15

Young Lighters of the Year. Lectures presented by the finalists and announcement of winners at an evening meeting in London organised by the Lighting Division of CIBSE. Details from member services department 081-675 5211.

16

Lighting developments and

applications. One-day conference and exhibition in London organised by ERA Technology. Details from Miss Linda Jelly 0372 374151.

17

High frequency lighting and lighting electronics. Evening meeting at the Post House Hotel, Southampton, held by Southern Region of CIBSE. Details from M R Dorgan 0703 339300.

24

Lighting design principles. One-day course in London. Details from Mid Career College 0223 880016.

24-25

Interior lighting design. Two-day course in London arranged by the Centre for Continuing Professional Education. Details from A H Fuad, director, 071-928 8989.

28-1 Feb

Photometry and management course for lighting engineers. A new course arranged by the Institution of Lighting Engineers. Details from ILE 0788 576492.

31

Lighting controls in offices and shops. One-day course in London. Details from Mid Career College 0223 880016.

FEBRUARY

5

Lighting in the electronic age. Evening meeting in Leicester arranged by CIBSE East Midlands region. Details from S Nicholson, 19 Greythorn Drive, West Bridgford, Nottingham NG2 7GG.

6

Lighting in the electronic age. Evening meeting in Manchester organised by CIBSE North West region. Details from L Daniels 061-228 2331.

7

Exterior lighting. One-day course in Birmingham. Details from Mid Career College 0223 880016.

7-8

Daylight and energy management systems. Two-day course in London held by the Centre for Continuing Professional Education. Details from A H Fuad, director, 071-928 8989.

12

Lighting: emergency, high frequency, uplighting. Evening meeting in Cardiff arranged by CIBSE South Wales region. Details from A D Jones 0792 641172.

13

Emergency lighting design and practice. One-day course in London. Details from Mid Career College 0223 880016.

19

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

Biological effects and protection standards for optical radiation. Evening meeting in London organised by CIBSE Lighting Division. Details from member services department 081-675 5211.

Intelligent buildings. One-day conference in London. Details from Eurodata Foundation 071-629 0991.

CIBSE



The Chartered Institution of Building Services Engineers

For those who suffer in silence

From time to time I am asked to go and look at places where someone has thought "there may be a problem with the lighting". What amazes me is not the problems I find, but the fact that unfortunate individuals have put up with the situation sometimes for months, before anything gets done about it.

Nearly always it is a single individual who is affected — if the staff of a whole office or a whole shopfloor are complaining, then something will be done. Sometimes it is glare, or uneven illuminance across someone's desk, or a disturbing pattern, or the lack of a view of the outside world, but almost always it is only a single person's workplace that is affected.

I regret to say that often the individual concerned knows well what the problem is, but dare not complain about it for fear of victimisation.

In one case, a junior typist in an office in a University complained of continual eyestrain. She was using a word processor and the VDU was against a wall. On either side of it were brilliantly lit white wallcharts, much brighter than anything on her VDU. No wonder she had problems. But she dared not ask for them to be taken down — the professor had put them there! It took a stiff letter from me to get them moved. And this happened in a department of environmental health.

Sometimes the agony is prolonged beyond belief. A certain glassblower in a research institute had been suffering badly. First it was headaches and eyestrain; new glasses made no difference. Then it was conjunctivitis. Then severe clinical depression: the local hospital referred him to their psychiatrists. Then someone thought, "Could it be the lights?" and I was called in. What I found was beyond belief.

There were five glassblowers whose benches formed a continuous strip along one wall of the workshop. The benches were black. There were a few windows, far above eye level, and the whole place relied on electric lighting.

Over each man's bench there was a large fluorescent luminaire hung on long chains from a high ceiling — except for this man's bench. Someone had decided that the whole building needed more ventilation and a huge ventilation duct had been put clean through the glassblowing shop. This chap's luminaire had been in the way, so they had simply pulled it to one side and laid it on top of the new trunking — and there it was, *still alight*, on top of the trunk where no light could get out of it at all.

The man's workplace was in deep shadow, he had less than one-tenth of the illuminance of his colleagues on either side. Why on earth had no-one seen what was wrong? He had been ill for nearly a year.

Sometimes I have to remind myself that this is 1991 and not 1891. Bad visual conditions that are tantamount to cruelty are quite common, and nowhere is this so apparent as the question of "visual escape" — the ability to see the outside world.

In a supposed "sick building" I found that the chairman's office had a magnificent view over trees and gardens. He only comes in on Mondays. Down below, I found office juniors working in half of an underground corridor; it had been divided longitudinally to get more work space and those poor kids saw no daylight, week in, week out. It was a dreadful place. It was grossly unfair to those youngsters. But none of them dared complain.

So what do we do about it? Most of these problems arise because buildings are used in ways grossly different from those the architect and lighting designer were led to believe they would be. Do we need, as some countries have, a small army of office and factory inspectors to see that the visual conditions are all they should be? And all the legislation to back them up? No, I don't think we need that.

What we need is a greater awareness on the part of office and factory managers that visual conditions *matter*. *That's our job*, and it seems that we still have a long way to go.

Dr Arthur Tarrant

NEW FROM IMI REEVES

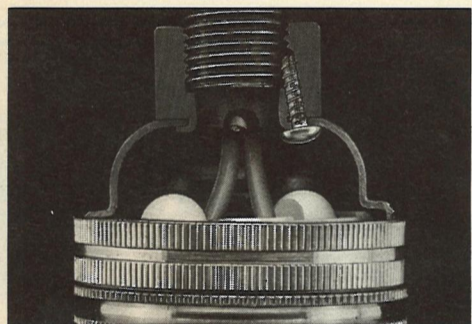
Three lampholders made to order!

It's always been IMI Reeves policy to listen and respond to the special needs of lighting manufacturers. That's why we've introduced these three new lampholders to our already extensive range. All three have been developed to meet the exacting high standards you expect of IMI Reeves Lampholders.

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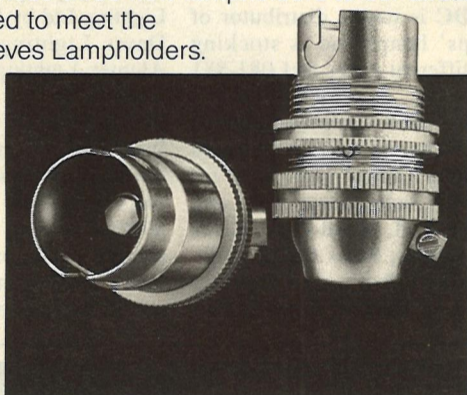


*2210/2212/2213/RXTC

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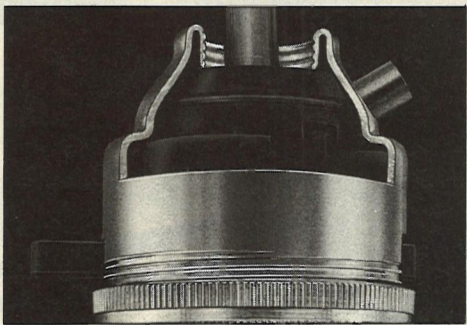
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IMI

NEWS

Hilight speakers announced

Hilight exhibition at London's Business Design Centre from 20-23 February will include display, office and exterior lighting. There will be a student designers' feature called *Lighting the future*.

On 20 February, John Shipley, Walt Disney Imagineering, will speak on the Disney approach to lighting, reviewing the peculiar problems of theme park lighting.

Richard Forster, Thorn, will conduct a light source review workshop, and David Loe, Bartlett School of Architecture, will talk about the true cost of lighting.

Among other speakers that day will be Nick Chatham, Lighting Design Partnership, dealing with the control of light, and Markus Hoffmeister, Hoffmeister Lighting, Germany, leading a workshop on understanding optics and lightshapes.

The lighting artisan will be the subject of Albert Jaspers from Albert Jaspers & ZN BV, the Netherlands, on 21 February.

Klaus Maack, Erco Lighting,

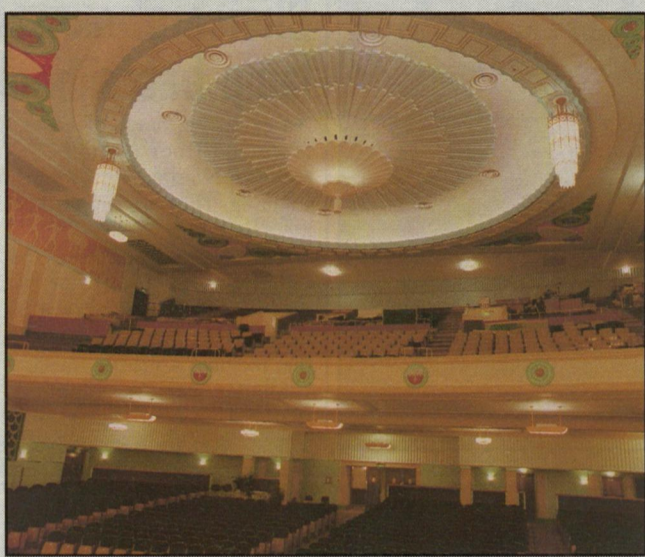
Germany, will take as his subject *Design for lighting design*, while Sally Storey, Lighting Design Ltd, will speak on designing with light. André Tammes, Lighting Design Partnership, will present a major study called *Lighting a city*.

Speakers on 22 February will include John Bullock, Equation Lighting, on *Lighting to draw*, and Barrie Wilde, Building Design Partnership, on lighting designers' future hardware needs.

Claude Engle, Washington lighting consultant, will review notable international projects, followed by the architect's point of view on the same projects, presented by Sir Norman Foster and Spencer de Grey, Foster Associates.

Design director of British Rail, Jane Priestman, will assess the value and expectations of including a lighting designer in the design team.

For further details contact the Business Design Centre on 071-359 3535.



Replacing a thousand filament lamps by compact fluorescents has reduced energy consumption by nearly 80%. The Forum Cinema in Bath was built in 1933 and lit by 1145 filament lamps of various wattages in single and multi-light luminaires.

It fell into disuse and in 1990 was sold by the Bath Corporation to the Bath Christian Trust. The total installed load was 68.7kW although only used for short periods.

When the Christian Trust wished to use it as an assembly hall and conference centre, the lamps were replaced on a one-for-one basis with BC compact fluorescent PLCE lamps. The 60W GLS lamps were replaced with 916 PLCE 11W lamps, the 100W GLS with 210 PLCE 20W and 13 PLCE 15W lamps, and six 40W GLS lamps with PLCE 9W.

The new total installed load is 14.525kW a reduction of 54.175kW or 78.8%. In addition, the eight times longer service life has greatly reduced the maintenance problem.

LIF training courses

For 1991 the Lighting Industry Federation has arranged three of its Lighting Certificate courses and three further Advanced

Module courses.

The Certificate courses will take place from January to May with two seminars at Aston University; from April to July with two seminars at Leeds University, and September to December with seminars in London.

An Advanced Module on interior lighting will run from May to September, including a seminar at Aston University. Exterior lighting will be the subject of an Advanced Module to be held from September to December, also with a seminar at Aston Uni-

versity. The third Advanced Module will deal with light measurement and will commence in the autumn; the seminar will be held in London.

Details can be obtained from the LIF, 207 Balham High Road, London SW17 7BQ.

People in brief . . .

● **Ken Last** retired from active directorship of LB Lighting at Christmas, though he continues as chairman. As well as being a co-founder of the company he is a past master of the Worshipful Company of Lightmongers.

● **George Dale** has joined ceiling manufacturer Ecophon International as its first lighting product manager. He will be expanding its lighting range.

● **Alan Green** has been appointed national sales manager at GTE Sylvania.

● **David Baker** is the new sales manager at De La Mer. This is part of a restructuring.

● **Paul Covell** has left Lighting Design Partnership and set up a consultancy covering theatre design and fit-out, as well as theatre and architectural lighting. For details, contact him at "Greyhurst", Old Lane, St John's, Crowborough, East Sussex.

● **John Hardman** is now managing director of Moorlite Electrical.

● **Peter Gould** has become executive chairman of Whitecroft following the retirement of **Tom Weatherby**. The new deputy chairman is **John Marvin**.

● **George Mela** has been appointed to the new post of technical sales manager at Mattalex.

Prospects are bright for Lightex 91

All the main stands for Lightex 91 exhibition in Birmingham in September have already been booked.

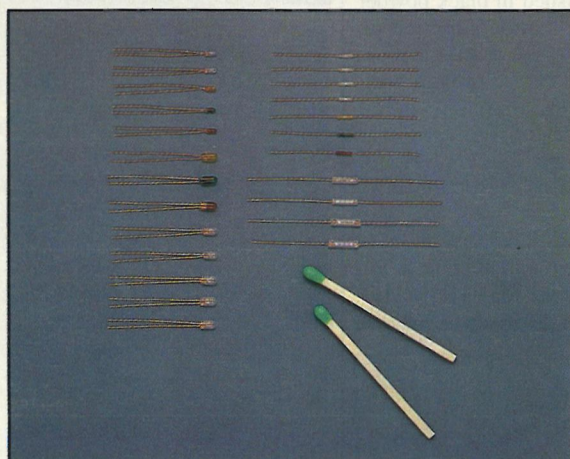
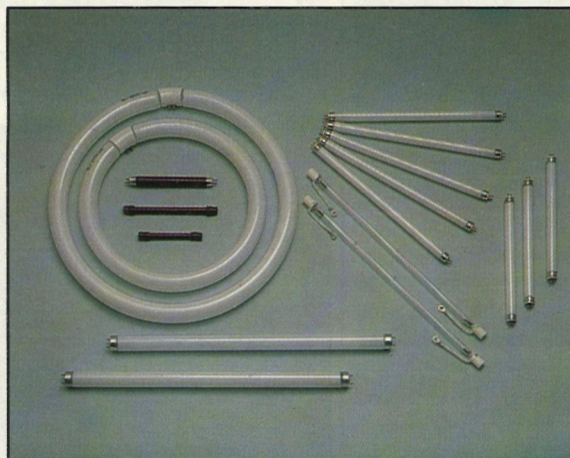
The Institution of Lighting Engineers says it has been overwhelmed with demand for space. For further information ring the ILE on 0788 576492.



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COMMENT

Countdown to Europe

A slow but far-reaching series of changes is now underway which may ultimately end in a United states of Europe — and which we ignore at our peril.

Legislation now in the Brussels pipeline will force governments to change national laws in a way that will profoundly affect the UK building services industry. Three groups of directives are particularly pertinent here: building services products directives, including the Construction Products Directive; health and safety at work directives; and finally, public procurement directives.

The effect of the Construction Products Directive is that products installed in buildings will have to comply with more severe regulations than in the past and regulations will rely heavily on product standard and quality assurance.

Two points should be grasped here. One is that this directive is concerned with the fitness for use of the product rather than safe incorporation into a building, so its full rigour will be brought to bear on the manufacturer rather than the electrical contractor or the installation designer. The other is that it affects you even if you do not wish to trade across national boundaries. It will be mandatory to apply the fitness for use provisions to goods sold at home as well as in the wider community.

Health and safety requirements will have the effect of forcing employers to provide their workforce with a better standard of working environment than in the past, and this may well provide increased market opportunities for office and factory lighting, particularly in areas where new technology has been taken on board.

Finally, public sector and utility companies will be forced to remove many national restrictions on tendering, and the manufacturer of lighting equipment may find himself with increased competition when it comes to building projects. The other side of the coin is, of course, true. He, in turn, will be given enhanced opportunities to go out and tender for work on someone else's national patch.

How then is it possible to keep on top of this mass of information and keep abreast of the rapidly changing scene? Primarily by keeping in contact with your trade or professional association which will probably have a representative involved in standards and regulation making. A further useful contact is the EuroCentre of the Building Services Research and Information Association which has been undertaking an ambitious review of the EC codes, standards and legislation relative to building services. This information is to be updated twice yearly with bulletins covering developments at intervals between.

LIGHTING EQUIPMENT NEWS

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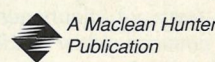
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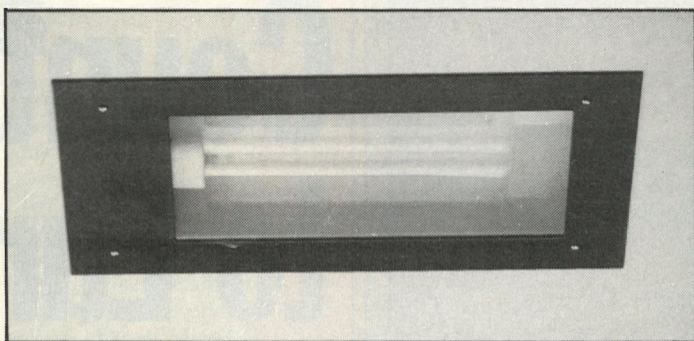
NEW PRODUCTS

Corridor and bathroom luminaire

A luminaire for hotel corridors and bathrooms has been introduced by Green Island. It is fully recessed and uses an 18W PLC type compact fluorescent lamp.

The reflector is finished gold colour and gives a broad spread of light. The rectangular bezel is also finished gold. A diffuser is available for locations where steam or dust need to be excluded.

Reader Service No. 151



Choice of lamp bases

An extensive range of bases for table and floor lights is being made in Nottingham by Leisure Lighting. They are supplied complete with plug.

The round steel bases have either a brass, bronze or black finish, while the cylindrical plastic stems are available in a choice that includes a marble finish.

Shades can be supplied if required, in card-backed or soft styles. Reader Service No. 152

Ringing the changes

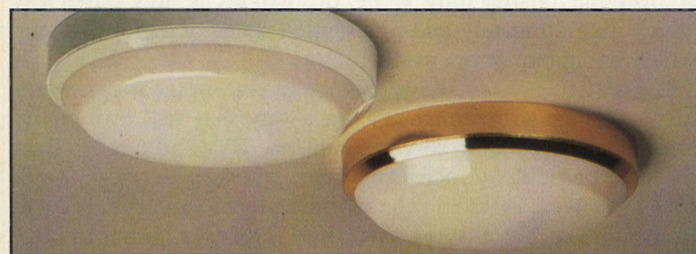
Lumiance has introduced a choice of aluminium ring accessories for the Giotto range of ceiling and wall luminaires. They convert Giotto Circo models into drum

type luminaires. An advantage is that dust does not collect easily.

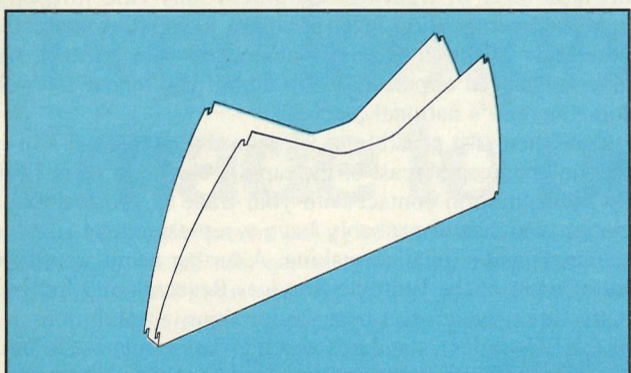
The ring is located between the luminaire and the mounting surface and is held in position automatically once the luminaire is installed in the normal way.

The rings are available in white or brass coloured finishes.

Reader Service No. 153



ALTERLUX®



Alterlux® is an innovative range of modular recessed luminaires for all commercial interiors, that meets all categories and requirements of the CIBSE Lighting Guide LG3, and is designed to fit most suspended ceiling systems.

LUXONIC

L I G H T I N G P L C

Tel: 0420 541166 Fax: 0420 541270

Transformer system for LV lighting

LightGraphix has introduced a low voltage transformer system which provides a safe, simple and quick-to-install method of providing an electrical supply to low voltage luminaires.

The transformer module consists of a 200VA 240/12V boxed transformer with input socket for mains supply and 4 x 50VA 12V fused socket outlets. The transformer is a double wound safety type with auto-resettable thermal cut-out and mains input fuse.

Connection between the transformer and luminaires is provided by means of two-core leads with moulded-on connectors to ensure that the correct cable size and length is used.

Mains connection is by means of three-core cable with moulded-on plug into the transformer. All fuse holders are accessible without removing the cover.

Reader Service No. 154

Continuous lighting system

Philips has introduced an easily installed, continuous fluorescent lighting system called Tourlite which is available in two widths and with a choice of prismatic panel, louvre or low glare mirror controller.

This versatile system permits complex lighting layouts.

Reader Service No. 167

Plug-in LV spot

Lumiance has extended its plug-in low voltage Primosystem with the introduction of two spotlight ranges: Primostar Comfort and Primostar Quadro.

The Primostar range uses 50W dichroic lamps. In addition Primostar Comfort offers the option of a 50W capsule lamp fully enclosed with a glass cover.

There is a wide choice of styles and arm lengths in black or white.

Reader Service No. 168

Floodlights use compact lamps

The Omnilux range of floodlights by Powerlite Electrical Products uses either two or four 9W PL type compact fluorescent lamps.

These polycarbonate luminaires can be either wall mounted or fitted under roof eaves. A knuckle adjusts through 180°. Extension arms 130mm and 400mm long are also available.

Reader Service No. 155

Range of amenity lanterns

The Hatfield lantern is now available from D W Windsor as a standard product — it was originally designed for Welwyn Garden City.



Post top and pendant versions are being produced in three sizes for mounting heights from 4m to 8m, making it suitable for a wide range of requirements.

The hood is spun aluminium with stainless steel fixings on an aluminium frame. The glazing is ultra-violet stabilised polycarbonate. It is finished in black powder coating but can be supplied on request in any BS or RAL colour.

There is a choice of high pressure sodium, mercury, metal halide, compact fluorescent or tungsten lamps. Either a reflector or a refractor can be provided.

The style bridges the gap between traditional and modern designs. Ingress protection rating is IP64. Reader Service No. 156

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

Portable lighting on site

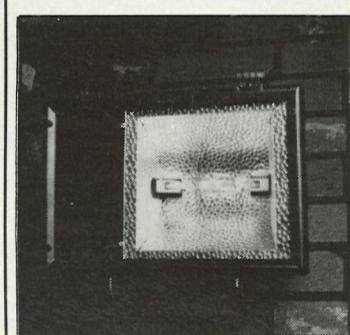
A weatherproof portable floodlight complete with 500W tungsten halogen lamp, metal stand with integral carrying handle and 5m of cable is available



from Tam-lite Fase.

Designed for exterior and interior use the overall height of the fitting is 840mm. Suggested applications include building, plumbing and electrical work, and use in agricultural buildings, garages and private gardens.

Reader Service No. 157



Floodlights for wall mounting

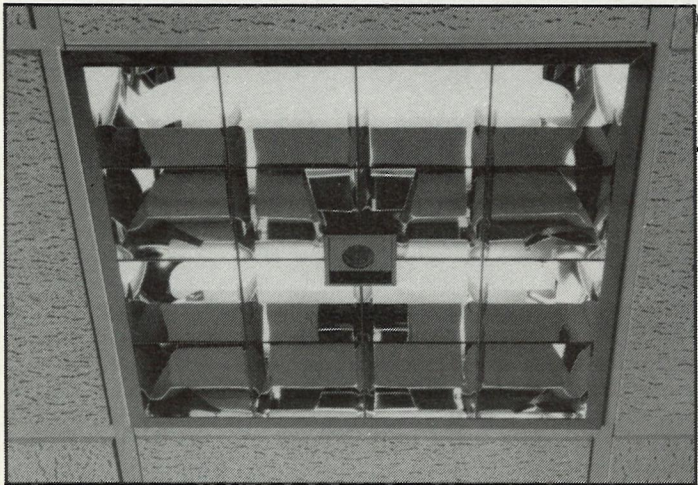
Linolite has launched two floodlights called Flood 70 for wall or ground mounting. Both have black, diecast aluminium housings, zinc plated steel mounting brackets and hinged, heat resistant protective glass fronts.

One uses a 70W high pressure sodium lamp, the other a metal-arc lamp.

Applications include car parks, utility areas and security lighting.

Reader Service No. 158

NEW PRODUCTS



The intelligent luminaire

Sensa is an intelligent, independent luminaire for offices. Introduced by Thorn Lighting, it makes use of the latest developments in lighting technology.

Every 600mm square, recessed luminaire incorporates in the centre of the louvres a pre-set photo-electric cell to monitor the ambient lighting level, and an infra-red presence detector.

The two 40W 2L compact fluorescent lamps operate off a high frequency dimmable ballast.

Sensa saves energy by adjusting its light output according to the amount of daylight available locally. The change is made smoothly so that it is imperceptible to those working below it. In addition, when it detects that no one is present in its 2.5m radius zone, it switches off the lamps until the zone is occupied again.

Ease of installation is another feature. It is easily handled by

one person and because of being self-contained it is connected directly to the lighting ring circuit; no wall switches are required, nor links to a central energy management computer.

When an office layout is altered, the fitting's automatic sensing enables it to adapt to the changes; it is not necessary to reposition these luminaires.

Sensa is designed to provide an illuminance of around 500 lux where the ceiling height is 2.4m to 2.7m. A 16-cell, specular, double parabolic, low brightness reflector makes the luminaire suitable for VDU areas. High frequency operation also contributes to a pleasant environment, helping to eliminate eye strain and headaches for people who are sensitive to flicker.

An emergency version is also available, for design continuity.

Reader Service No. 159



Triangular light is versatile

A versatile range of wall lights called Sydney, made in Denmark, is available from Elemsystems.

The triangular design in either white, black or grey gives downward light, or can be inverted for use as an uplight. There is a choice of GLS (maximum 60W), tungsten halogen or PLC compact

fluorescent lamps.

This stove enamelled aluminium luminaire also produces a subtle spill light on the wall which softens the lighting effect.

As well as being used indoors, it can be used outdoors as a downlight, when a range of nameplates can be added below it.

Another option is to mount the fitting as a downlight on low posts for pathway lighting.

Reader Service No. 160

Transformers solve problems

Low Voltage Technology has a range of 12V toroidal transformers for low voltage lighting.

Made from grain-orientated EN52 steel laminate and high quality copper, the range is available in sizes from 20VA to 750VA.

Individually fused outputs from separate secondary windings are provided in all sizes over 50VA, minimising the traditional regulation problem of output voltage varying with load and affecting lamp life.

In addition, the spun aluminium housings with an enhanced heat-dissipating finish reduce temperature problems often associated with this type of transformer.

Reader Service No. 161

Asymmetric floodlight

Abacus Municipal AM540 Series floodlight has an asymmetric light distribution. There is also a choice of narrow or wide beam. The diecast aluminium housing is finished in dark bronze polyester powder coating.

Both wall and column mounted versions are adjustable and can be specified with integral or remote control gear.

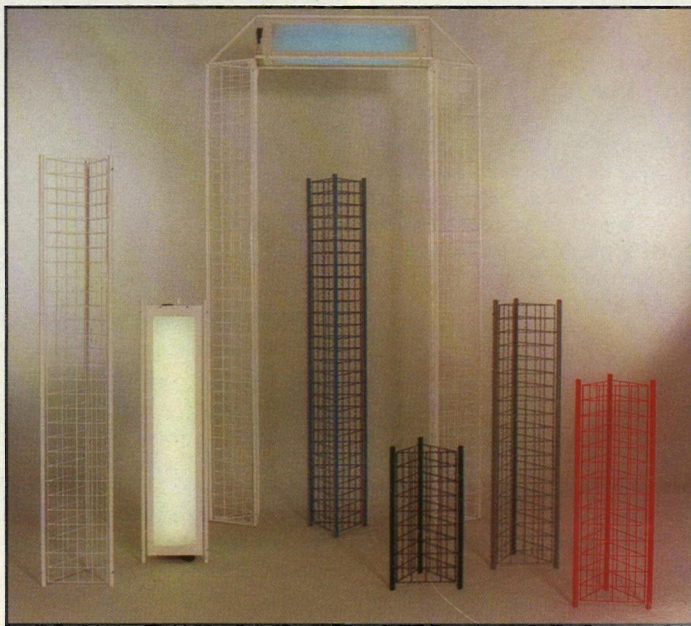
Either tubular high pressure sodium or metal halide lamps



from 70W to 400W can be used.

Additional features include easy access for maintenance, toughened front glass, ingress protection rating IP55 and a support rod to prop up the top cover for hands-free maintenance.

Reader Service No. 162



Spaceframe has lighting

Trimesh and Trilight are modular space and light frame systems from Clip finished in black, grey, red, blue or white.

Structures can be built up either horizontally or vertically with easy push-fit assembly to form illuminated displays. Free standing units, such as walk-

through archways, can be created. Shelf and racking systems can be supported by Trimesh.

Complementary Trilight has built-in fluorescent luminaires with Perspex diffusers. Red, green and blue acrylic sleeves are available for the lamps to add further colour. Graphics can be added to the diffusers.

Trimesh and Trilight are both supplied in lengths from 0.5m to 2.25m.

Reader Service No. 163

Electronic ballast reduces stage problems

Lumo Lighting has developed a universal electronic ballast which can drive any of the company's 575W, 1.2kW or 2.5kW Super Daylight Fresnel luminaires. It not only gives flicker-free light but includes for the first time power factor correction.

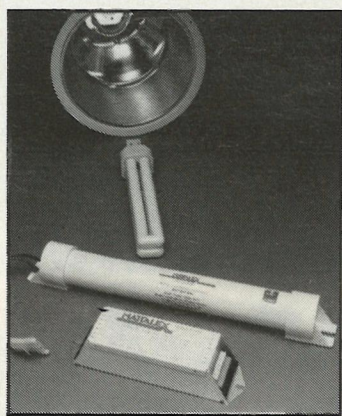
The benefits for users of a single ballast which drives three different luminaires include reduced

equipment stockholding, lower capital investment, and ease of transportation.

An example of the benefits of power factor correction can be clearly illustrated with the 2.5kW 240V unit. It reduces input current dramatically from 17.5A to 11A, enabling the unit to be powered from a domestic power outlet.

Other benefits arise when the ballast is powered by a mobile generator. Because the power factor corrected ballast load is resistive, potential problems with generators and electronic ballasts are eliminated.

Reader Service No. 164



Conversion kit saves space

Mattalex has an emergency lighting conversion kit for downlights using 10W or 13W Dulux DE 4-pin compact fluorescent lamps.

Electronics for the new ML418 module have been arranged in double-deck format so that a shorter can may be used, saving both space and cost.

Reader Service No. 165

Versatile wallwasher

The Micropan Wallwash from Microlights accepts 35W, 50W, 75W or 100W low voltage tungsten halogen capsule lamps and is

available with either a 10° spotlight reflector, a 20° medium reflector, or 40° flood reflector.

These luminaires complement the other fittings in the Micropan range which all use the same reflectors and lamp types.

Reader Service No. 166

LIF LINE

Lighting industry partnership beats crime

"We also know that many people are afraid of becoming victims of crime. That crime can alter the way in which they live, and that turns the fear into reality because if people are over-fearful, it stunts their lives. That is why so many women are worried about travelling after dark."

John Patten MP
The Ministry of State, Home Office

The national crime statistics published recently by the Home Office revealed that in the second quarter of 1990, the number of crimes recorded by the police had increased by 17%. Theft from motor vehicles had increased since the previous quarter by 16%, burglary by 14%, violence against the person by 7% and sex offences by 4%. Although quarterly figures are subject to wide variations, the annual figures to March 1990 still show that recorded crime has risen by 9% on the previous 12 months — 4 million crimes were recorded.

The increase in crime is a cause of fear and anxiety, even among people who have not yet been its victims. A summer poll in The Observer showed that the single most important issue which concerns the public is the breakdown of law and order. Women and elderly people, especially, are afraid to go out alone at night.

People have a right to be safe and to feel safe. Safety is an important element in the quality of our lives. The government has a duty to meet the commitment to law and order for its citizens. Fear is as real a problem as crime itself because crime disfigures society and threatens the quality of life.

The Home Office warns that crime statistics should be treated with caution because attitudes to crime and reporting crime have changed and continue to change. For example, although the figures show that rape and child abuse is more prevalent than previously, what is really happening is that in these areas such offenders are no longer hidden, they are now being reported.

With caution in mind, the figures still show an alarming picture which may yet be hiding the fact that many people still do not report certain crimes because they do not want to prolong their distress by police involvement.

But help is at hand. A recent debate in the House of Commons highlighted two simple steps which the government could initiate to make our streets and homes safer.

The first is to make more police available to combat crime. Although the statistics may show that certain groups are less vulnerable to crime than others and that the figures should be treated with caution, statistical explanations are no substitute for a beat policeman. General foot patrol is mainly about public confidence rather than stopping criminals, as a recent Audit Commission report stated. Only 10% of police time is devoted to investigating crime while 22% is currently spent on preventive patrol. Opinions surveys have shown that the public sees the principal police function as deterring crime by being visible on the streets.

The other way in which the government could make a real difference is by activating and co-ordinating programmes of crime prevention among local authorities. A principal feature of such a programme would have to include better street lighting. Improved public lighting can transform the environment. Our streets would be perceived to be places where people could go out, even at night, with confidence.

A partnership between local councils, community groups and the police can create a wholly different environment.

Such a transformation is currently underway in Manchester. Strathclyde, South Glamorgan, Birmingham, Humberside and Leeds.

The lighting industry is working with local authority engineers, the police and academics to monitor the impact of improved lighting in these areas. Researchers and criminologists will carry out questionnaires and surveys during December 1990 prior to relighting. By the end of January the street lighting along the routes will be upgraded to comply with the revised British Standard for road lighting.

In preparation for National Crime Prevention Week in April 1991, LIF has been working closely with local authorities and crime prevention groups to ensure that the crime figures are reduced.

Better lit streets and public places deter crime and reduce the fear engendered by crime. Street lighting is, for example, under review in central Gloucester after a serious assault on the city newspaper's chief reporter. The city council believes that street lighting can help prevent crime and has already ploughed money into special lighting programmes in areas where there is felt to be a danger of crime, including car parks and shopping centres. LIF will be participating in the activities arranged for Crime Prevention Week by the Gloucestershire Crime Reduction Programme.

These joint exercises with local authorities have helped to illustrate that street lighting and crime prevention at night go hand in hand, and provide an excellent opportunity for street lighting engineers and the police to forge closer links with a common aim.

Working together in this way, the lighting industry is helping to make Britain a safer and more enjoyable place to live.

Designed for effect

The hotel is daily life in a microcosm, and as such it presents the lighting designer with a major challenge. *Mike Jankowski, of Marlin Lighting, discusses lighting design for hotels.*

The term 'lighting' is normally taken to refer to electric light, but this is only the most recent of the three broad types of light source available to the lighting designer. These are: natural daylight; light from burning organic materials; and electric light.

Historically, architecture has frequently taken special account of daylight to maximise daylight, to exclude excessive solar radiation, or to utilise the penetration of light through carefully-designed openings for special effect. Cheap electric light has made us cave dwellers again, all-too-often excluding daylight from our considerations. Happily, there is a perceptible trend back to the recognition that daylighting has an important contribution to make to the lighting of many interiors.

Organic materials — such as candles, wood and oil lamps — are not normally considered for general lighting in the West, but in restaurants candles can make a unique contribution to the 'ambience' while the crackling log fire imparts character to a country pub.

The importance of integrating these different sources is not always appreciated: sometimes it may be possible to use daylight as the principal light source, progressively increasing the amount of electric lighting as daylight fades or changes. Elsewhere, the transition from bright daylight to the relative gloom inside a building may require special lighting measures at the entrance.

Purpose

The objective of lighting can play an important part in the selection of an appropriate lighting scheme. Six main purposes may be defined:

- 1 Ambient lighting aims to achieve a pre-determined level of light within an interior so that normal activities can take place. This will normally be a combination of natural light and electric lighting.
- 2 Orientation lighting leads people from one area to another — from the exterior to the interior, from the entrance to the reception desk, from reception to the lift or lobby, or to the restaurants or shopping plaza. Emergency lighting is a special form of orientation lighting.
- 3 Atmosphere lighting creates a special atmosphere, for example in a restaurant, bar, lounge or in the grounds of a hotel. It

is sensually orientated. Typical forms are decorative luminaires, standard lamps or even exterior floodlighting.

- 4 Accent lighting draws attention to particular features — a painting or sculpture, an architectural feature, an important notice, a special area or even a hazard. Accent lighting plays on the physiological effects of light and dark to create attention, provoke or intrigue.
- 5 Lighting can form a feature in itself, with the lighting or the light source itself as the object of interest — an elaborate crystal chandelier or the use of unshielded tungsten-halogen lamps or capsules.
- 6 Interactive lighting is flexible and can be programmed to respond to changes in the environment to meet the multiplicity of requirements expected of a modern interior. An example of this is the hotel conference centre which may be used for social gatherings, sales presentations, meetings and conferences and a host of other purposes.

These categories may overlap, so that accent lighting may be used for orientation, and atmosphere lighting can contribute to ambient lighting level. Most interiors will demand several, or all, of these forms of light. Interactive lighting is, as yet, a relatively unexplored technique except in the most modern and prestigious projects.

Hotel types

In defining the lighting needs, hotels may be represented on a matrix (Figure 1). The needs of the small hotel catering for the individual can be quite different from those of the large hotel catering for hundreds of people at a time; and the needs of the 'standard' hotel — large or small — offering a basic accommodation package will be different from those of an exclusive luxury hotel.

In the small exclusive hotel (Quadrant 1) the need to create the right atmosphere will be of overwhelming importance, whether it be in the reception area, lounge areas, bedrooms or restaurants. For the small hotel or guest house offering bed and breakfast, on the other hand, (Quadrant 2) the scope for imaginative lighting will be limited by economic factors if nothing else.

In the large holiday hotel (Quadrant 3) there will be a great deal of standardisation throughout

the bedrooms. If the hotel is part of a large chain, this standardisation may apply from hotel to hotel. Large hotel groups often employ their own engineers and design teams who play a major part in determining the choice of lighting.

It is the large exclusive hotel (Quadrant 4) which offers the greatest scope for imaginative lighting. Not only will the owners want to create the right atmosphere in reception areas, lounge and restaurants, but bedrooms may offer varying standards of appointment. Large conference/meeting facilities will also require special lighting techniques. In these hotels an interior designer usually plays a vital role in the selection of lighting.

The first impression of a hotel may be created from a distance. In daylight this impression is created by the architecture — be it the rustic image of the thatched country pub or the grandeur of a towering city hotel — at night this impression will be reinforced by effective floodlighting.

As the guest approaches the hotel — on foot, by car or in a taxi — lighting can again play an important part at night. Good amenity lighting directs the guest faultlessly to the main entrance while poor lighting can create a sense of insecurity or uncertainty. Even worse, it could cause an accident! For guests arriving by car, ease of parking and a sense of security for the car will be important.

A good reception

The reception area is the first space guests experience on entering the hotel; it can help determine whether they will return to that particular hotel.

Daylighting will normally play an important part in the lighting of the reception area. High levels of electric lighting may be necessary close to the entrance to assist adaptation as guests enter the hotel during daytime. At night a



Lighting enhances the night-time scene: the Caversham Hotel on the Thames at Reading.

much lower level near the entrance will prevent a blaze of light dazzling those arriving. It will also assist the departing guest to adapt to lower exterior lighting levels. Grading of lighting levels can start with the canopy area or even the approaches to the hotel.

Inside, reception area lighting may be graded as guests move between the entrance and the interior, but arriving guests should always be guided towards the reception desk. This is achieved by using accent lighting to ensure that the desk is more brightly lit than its immediate surroundings.

From here on, subtle use of accent lighting and orientation lighting can help guide the guests to the other services they require. On first arrival this will be the lift lobby but at other times it may be the restaurants, the shopping plaza, the lounge and meeting area or the exit.

There may be variations in lighting provision in the reception area through the day to suit the different conditions. In the morning a bright interior will assist the activity as guests bustle around to check out, meet business col-

leagues, and prepare for departure. Later in the day a less hurried atmosphere with fewer people many justify lower levels of lighting, while in the evening it may be important to create a more intimate and relaxed atmosphere as guests move about and new guests arrive.

The changing scene

These variations in lighting requirements through the day can be achieved in a number of ways. In the smaller hotel they may be achieved by simple manual switching. In larger premises it will be preferable to use a pre-programmed switching system where a number of different scenes can be programmed to operate automatically through the day, with provision for manual override where necessary. In the largest hotels, a sophisticated computer control system will control these and other lighting functions.

Another consideration in lighting the interior will be whether to create a 'cool' or 'warm' atmosphere. In the tropics, the use of metal halide discharge lamps or fluorescent lighting with a cool

colour temperature of the order of 3500K will be normal, while in temperate regions, the warm colour of incandescent lighting or white SON at approximately 2700K, may be preferred. A combination of the two sources could cope with variations in external temperature between summer and winter, or between day and night.

Social areas

Close to, and sometimes a part of, the reception area are areas where people meet during the day. These need to be easily located so that guests and non-residents can quickly find the people they are looking for.

In the more exclusive hotels, these areas will normally have comfortable seating to permit conversation in congenial surroundings. Lighting will be designed to create a relaxed atmosphere and may make use of downlighters and, table or standard lamps, or a combination of the two. There may also be provision for much higher levels of lighting at certain times of the day.

In the large holiday hotels, there may be little or no seating

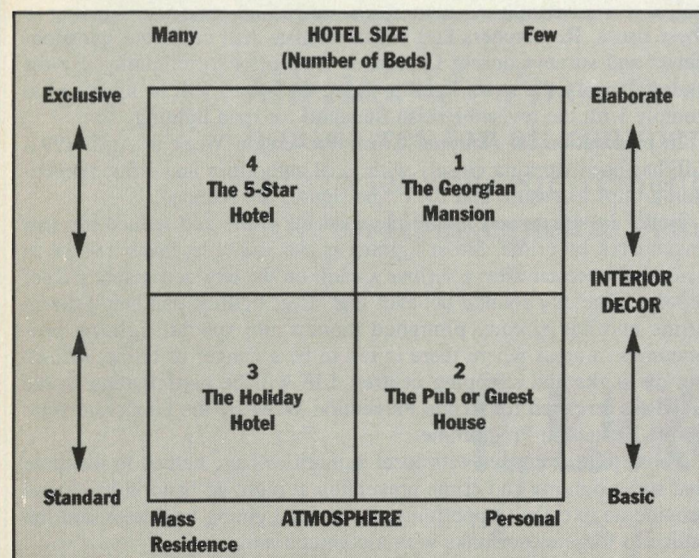
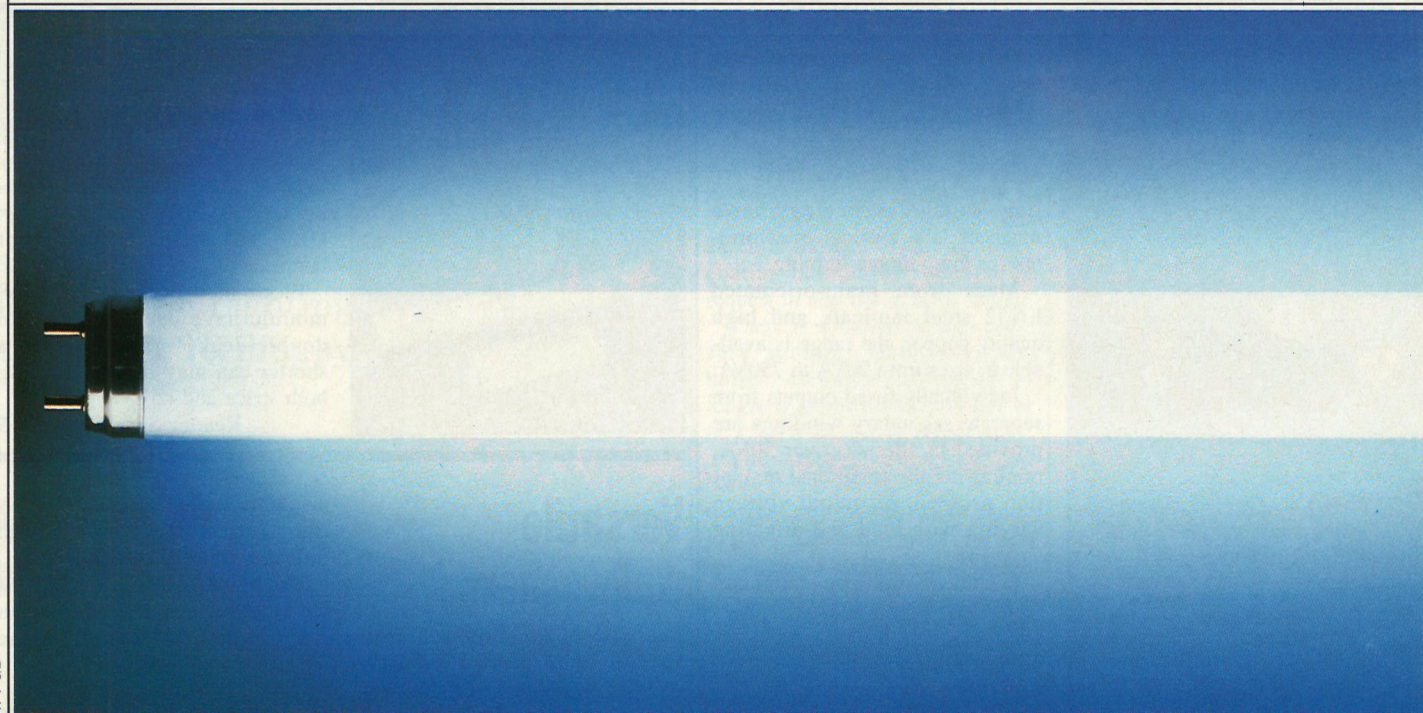


Figure 1. Hotel types

THE GOOD NEWS FOR FLUORESCENT LAMPS:





Forte Hotel, Brighouse: The dome in the reception area is lit by L8 fluorescent tubes.



Forte Hotel: Ambient lighting in this lounge is given by 50W low voltage tungsten halogen capsules.

in social areas. The emphasis is on parties gathering together before going out. Here the requirement is normally bright lighting to assist identification and promote activity rather than a relaxed informal atmosphere.

Transit areas

In transit areas the requirement is normally orientation lighting to enable people to move confidently from one part of the building to another. Such areas can still be creatively lit but, in general, the requirement will be fairly high lighting levels to keep people moving.

Transit areas to restaurants or shopping plazas should also create the right atmosphere. Some grading of lighting will be needed near the entrance to restaurants which have a low level of interior lighting.

By contrast, fairly subdued,

but effective, lighting can be provided in the transit areas to bedrooms.

Emergency lighting is very important in transit areas in order to achieve safe and speedy orientation in an emergency. Aesthetically, it may be preferable to incorporate the emergency lighting into selected general light fittings.

Normal emergency lighting standards specify an extremely low 'minimum' lighting level but the use of lighting other than the statutory minimum should always be considered. A substantially higher lighting level could be used to highlight critical features such as exit doors.

Consideration should also be given to providing emergency lighting other than on the ceiling — in a smoke-laden atmosphere the smoke will rise and could obscure the emergency lighting. Lighting closer to floor level pro-

vides better guidance under such circumstances. Non-traditional lighting such as fibre-optics may be used for this purpose. Another possibility is a system that switches all lighting on to maximum for a short period.

Bedrooms

In the guest bedrooms, lighting performs a number of functions: resting, relaxing and watching television; working or writing; social meetings; washing and dressing; and storage of belongings.

First impressions are again important and various questions need to be considered. Should the room be pre-lit (from a switch in the reception area, for instance)? Should the guest switch it on, or should it switch on automatically as he or she enters the room? Should it be a low level for orientation only or full lighting?

The first essential when enter-

ing a room is orientation to enable the guest to move quickly to the bed, the telephone, the bathroom or storage facilities.

Atmosphere is very important in the bedrooms, especially in the more exclusive hotels where suitable lighting adds character to the rooms and will normally be selected by an interior designer as part of the interior decor. Fittings may include table lamps and standard lamps, wallwashers or uplights.

Atmosphere lighting should be supplemented by additional lighting that can be switched separately to give more light to work, dress to go out, or to go about other activities requiring plenty of light. Downlighters and surface fittings may be used for this purpose.

Other lighting may give more concentrated areas of light — downlighters or standard lamps to

create pools of light for reading, make-up lighting over the mirror, and narrow-beam adjustable reading lamps either side of the bed so that one person may read without disturbing the other.

Bathroom lighting is not always given the attention that it might in hotel design. The possibility of automatic activation of the main bathroom light should be considered for safety and convenience. Consideration should also be given to extra lighting for make-up and shaving. Within the bath/shower area there should still be adequate light even when the shower curtain or screen is drawn.

Thought needs to be given to the positioning of switches for convenience and easy appreciation of their function by all visitors. Bedside switches are especially important; the guest should be able to switch off all the lights from the bed without having to get up and go to the door to switch off a light near the entrance. He should also be able to find a switch easily in the middle of the night and have adequate orientation lighting to find his way to the bathroom.

People today are becoming increasingly conversant with the complexities of programmers such as those used for video recorders and other household appliances. So, it may be that facilities should be considered to enable guests to programme the lighting. A series of scenes could be set up by selecting the lighting levels from the various fittings to suit different moods. But the needs of the guest who wants simple, easily-used controls must still be satisfied.

Another area for consideration is an emergency switching system which brings on all the lighting in the room for a short duration — say 10 minutes — in conjunction with the alarm sander or paging system, to signal an emergency to the guest and help him react quickly. This will be additional to meeting the statutory requirements for emergency lighting.

Eating and drinking

Restaurants and bars represent some of the most fruitful areas for

imaginative lighting to create the right atmosphere. The impression created in these areas can be an important element in attracting repeat business to a hotel. The requirements will vary considerably according to the type of hotel, the character and decor of the restaurant or bar, and the time of day.

In general, the ambient light level within a restaurant will be related to the number of people — the larger the number of diners and servers, the higher the level of lighting.

Breakfast is frequently a busy time when facilities are stretched and both guests and management want a speedy turnaround. Bright lighting will help promote a sense of urgency and efficiency and should enable staff to see guests who require attention. Similar considerations will apply to the quick bar or fast-food restaurant, especially in the larger holiday hotel.

Coffee shop

The breakfast restaurant or coffee shop may be used throughout the day and may require a variety of lighting scenes to suit the occasion — high levels if it is used for quick snacks; more relaxed and yet reasonably good lighting for the buffet-style business lunch; lower lighting or lighting of selected areas for times of day when there is less custom; and more intimate lighting in the evening.

As in the reception area, these lighting changes may be achieved by manual switching, pre-programmed controller or computer.

The role of daylighting is important to eating areas. At times it may be possible to use daylight effectively to help achieve high lighting levels, alternatively it may be necessary to filter the light out by tinted glass, curtains or screens. In some cases the view from the restaurant — a panoramic view of a city, an ornamental garden, a river or mountains, for instance — may be essential to the unique atmosphere of the restaurant.

Sometimes electric lighting may need to simulate the external

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conditions. In a basement restaurant, for example, subtle use of concealed lighting may be used to follow the general pattern of daylight and so convey the impression of contact with the outside world. At other times it may be important to provide a sense of relief from the outside environment — a welcoming sense of 'warmth' in contrast to a cold exterior: 'cool' lighting when it is hot outside, or a sense of peace and relaxation from the bustle of a city.

Where ambience is all

When it comes to specialist restaurant and bars, the requirements vary radically from the ultra-modern bar using high lighting levels with metal halide lighting, to the small exclusive restaurant or bar where candles, oil lamps or a crackling log fire create a totally different ambience.

Accent lighting can be used to good effect to pick out special features such as prints or paintings on the wall, or an architectural feature of the interior. A lighting feature, such as a chandelier, may form part of the internal scene.

In some cases, the provision of atmosphere and accent lighting may extend to the outside environment, especially for a terrace restaurant or one which looks out onto attractive or interesting grounds. Trees and shrubs, water features or structures may require illumination.

Careful grading of lighting levels where the restaurant meets other areas of the hotel will be important both for adaptation as people move from brightly-lit areas into a bar and restaurant, and also to avoid undesirable glare through doors and entrances. This will be especially true of the interface with the serving areas. It may be necessary to provide a special adaptation zone between a brightly-lit serving area and the subdued atmosphere of a restaurant.

Conference and meeting rooms

Facilities for meetings and conferences are an important service offered by the more exclusive hotels. These may vary from small meeting rooms to large conference halls for hundreds of people.

The range of activities in these areas will vary considerably even

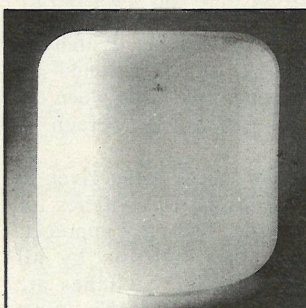
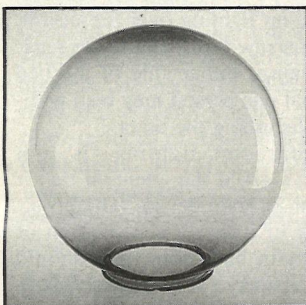
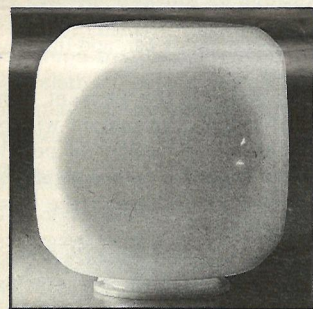


Forte Hotel: The bedrooms are lit by wall lights and table lamps using PL13 compact fluorescents; the ceiling fittings take two such lamps.

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Forte Hotel: the gymnasium is lit by PLC Dulux 10 compact fluorescents.

in a single event, and make it possibly the most complex area to light effectively. Activities will include plays or concerts, lectures and sales presentations, films and audio-visual presentations, reading and writing, small discussions, receptions and meals.

The range of lighting requirements may include dramatic, brash and aggressive lighting for sales presentations and product launches; high levels of uniform lighting for reading and writing; softly supportive lighting for receptions and evening functions. Facilities for frequent fading of house lights will be necessary for lectures, while concerts and theatrical presentations may require the full range of theatrical lighting.

There is no ideal solution that encompasses all these needs. However, one possible technique is a slatted or louvred ceiling behind which are placed a whole range of light sources including: fluorescent fittings, downlights, metal halide lamps, spotlights and floodlights. These should then be backed by soft wall-washers and orientation lighting for use when lights are dimmed for audio-visual presentations.

A less costly solution would be a mix of downlights, including wide-angled fittings to provide uniform light levels and narrow beam fittings to provide dramatic

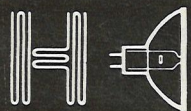
effect or a variation of light and shadow.

Modern controls will again enable different scenes and changes to be programmed. The ideal for effective use is for the hotel to provide, as part of the hire package, specialist staff who are familiar with the capabilities and limitations of the system and who can create sympathetic and supportive lighting solutions.

Conclusion

The larger hotel today is a complex of specialist premises: residential, recreational, commercial and even industrial. Each area has its own lighting requirements and solutions.

The choice of lighting will be influenced by different people according to the type of premises — the owner or his electrical contractor in the case of a small pub, the engineering department in the case of a large holiday hotel, an interior designer or, a specialist lighting consultant, in the case of the exclusive hotel. Lighting manufacturers provide a free computerised lighting scheme design service and offer a wide range of high quality products, thus providing solutions for all lighting requirements. In reality, a combination of the intelligence, skills and expertise of each is probably needed.



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Inner Pack 20	20 Watt	x	x	x		
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	50 Watt	x	x	x		
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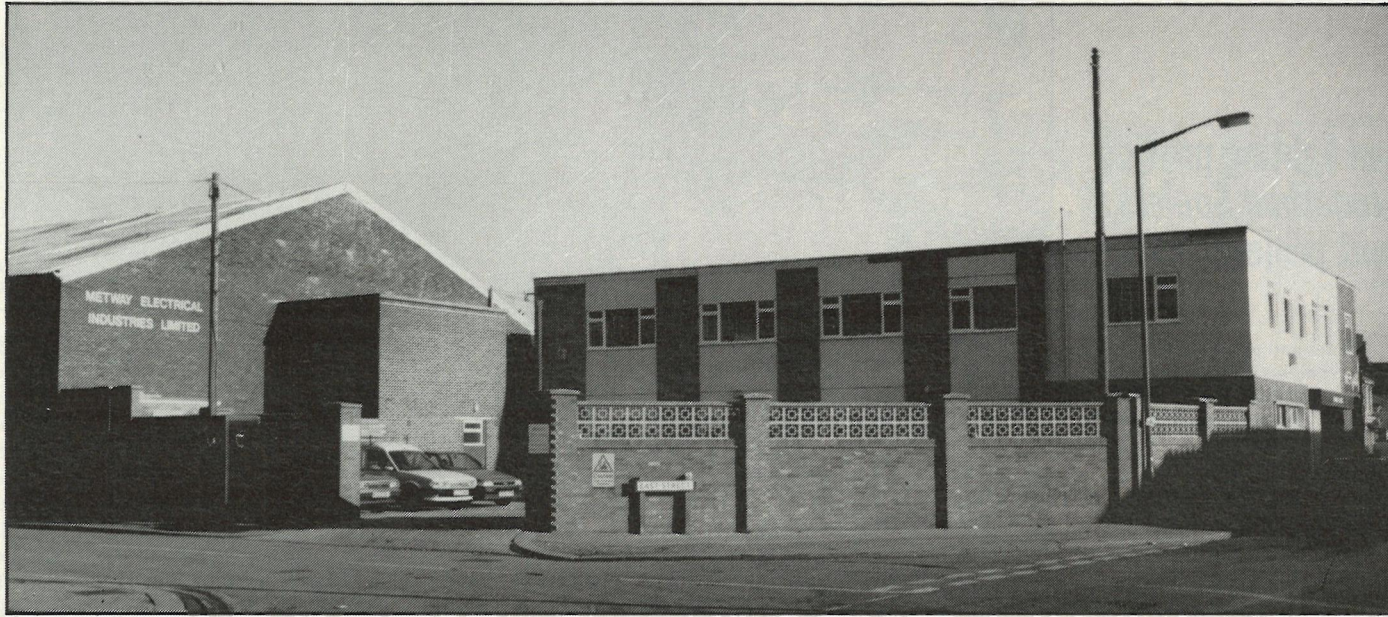
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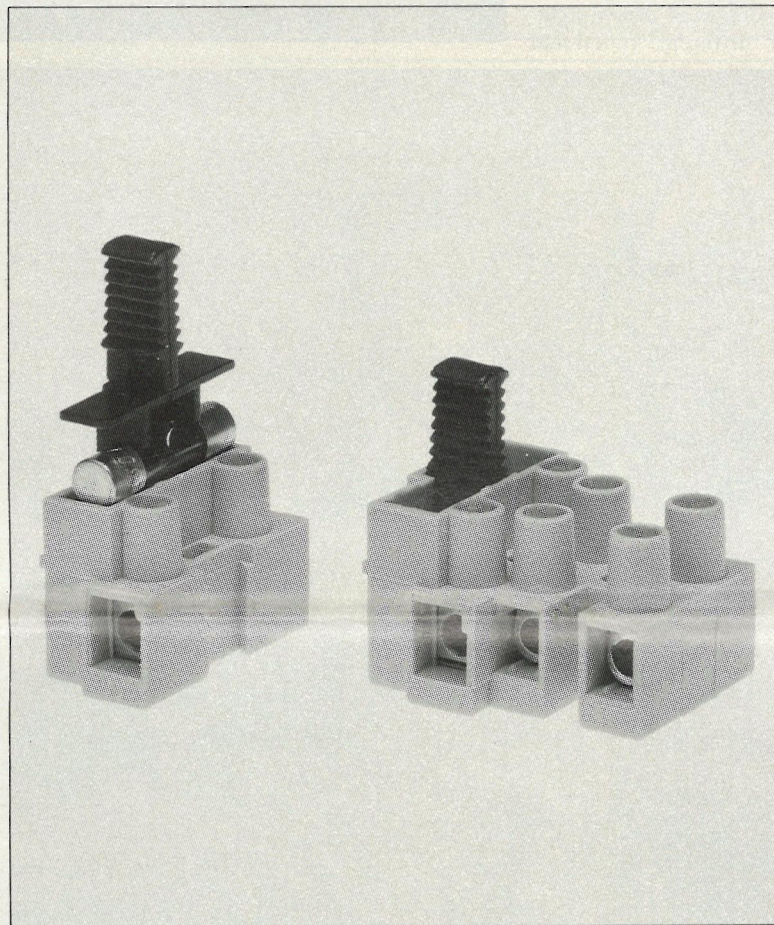
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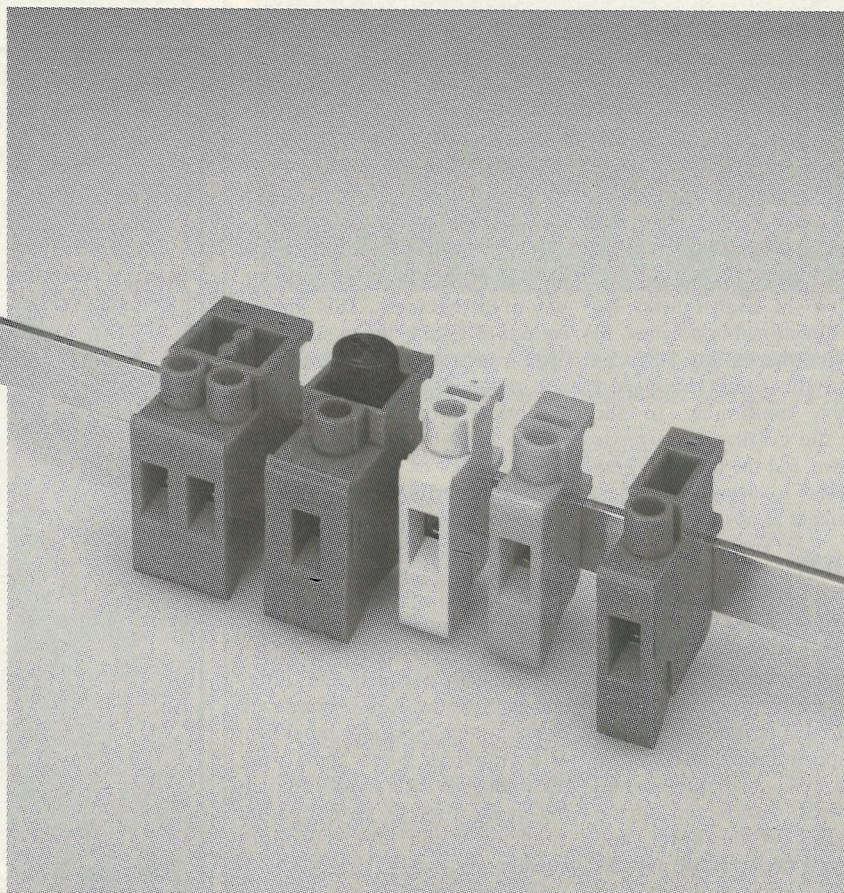
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Putting on the style

Traditional reserve or designer chic, nowhere can lighting provide a more useful sense of identity than in hotels. *Jonathan Speiers*, of Lighting Design Partnership, talks about recent projects in the UK and abroad.

New hotels need to be given a sense of identity — otherwise they can be cold and soulless places. In establishing this identity interior design is all-important — and one of the designer's key tools is lighting.

The Hotel Conrad on London's Chelsea Harbour is a brand new building, so one of the most important things lighting has to do is create a distinctive and individual character for the hotel.

Working in close collaboration with the interior designer, David Hicks, LDP designed a flexible and responsive lighting scheme which visually supports the interior design.

Control system

Since the hotel opened earlier this year, LDP has received a 'highly commended' award for its work on the project in the Lighting Industry Federation National Awards. What caused particular

Trees and natural landscaping enclose a range of bars and restaurant spaces in the atrium of the SAS Hotel, Brussels, Belgium

comment was the use of micro-processor-linked control systems to regulate all the hotel's lighting automatically (responding to differing conditions of natural lighting and different functional



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Lounge area at the Hotel Conrad in London's Chelsea Harbour reflects a restrained traditional atmosphere.

requirements throughout the day.

A striking trompe l'oeil painting incorporated into the ceiling in the reception, was lit using luminaires concealed behind the surrounding coving; and the carpet below is highlighted by recessed directional luminaires. In the daytime the ceiling surfaces are brightly lit, giving the space a light, airy ambience. In the evening the ceiling lighting is toned down and the carpeted area emphasised to create a softer, more intimate atmosphere.

Roman wall

Another recently completed project by LDP is the SAS Royal Hotel in central Brussels. Like so many hotels nowadays, this has a central atrium as its internal focus. But this atrium space has a unique appearance thanks to the presence of a triple-arched Roman wall, discovered during the building of the hotel, and retained and incorporated into its design. The atrium encloses a number of different bars and restaurants and is extensively planted, with trees and natural

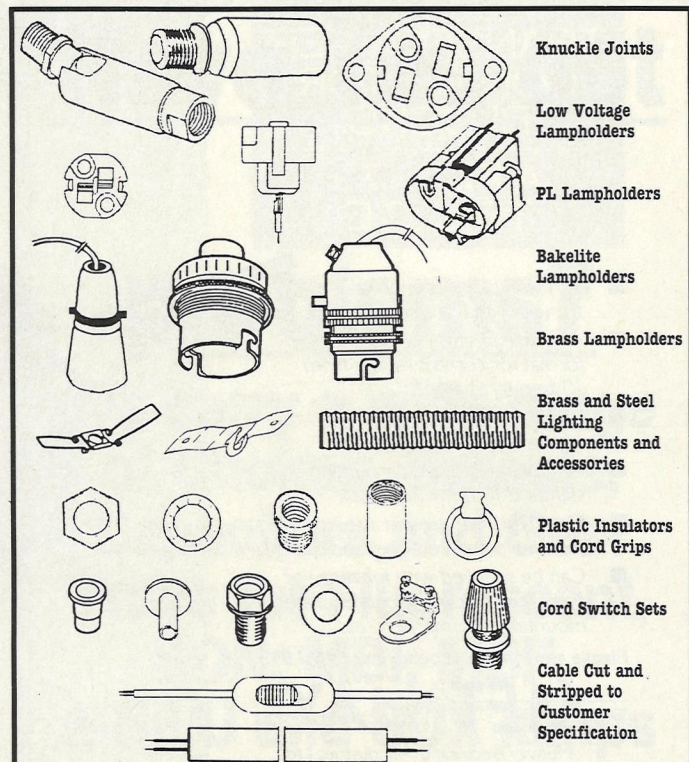
landscaping recreating an outdoor atmosphere. The architect's intention that this should read as an exterior space reinforced by using same light fittings here as outside the building.

Leaf patterns

Theatrical 'gobo' projectors throw leaf patterns and dappled shadows onto the wall to give added texture, and also onto the guests sitting in the bar areas. This shifting pattern of light helps to soften the appearance of the atrium space and responds to the many trees and plants within it.

The base of the Roman wall sits in a pool of water. Spotlights were mounted under the water to shine up onto the surface of the wall, casting shimmering ripple-patterns of light across it. The whole lighting system is fully integrated into an overall computer-based control system which runs through a sequence of different daytime scenes — pre-dawn, dawn, early morning, breakfast, mid-morning, lunch and so on, the timing of each scene responding to the time of year, weather conditions and levels of light outside.

One of the most unusual and exciting new commissions is to design the lighting for the six hotels at the Euro Disneyland



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Reader Service No. 12

Lighting Equipment News, January 1991

Reader Service No. 11
Page 10

Reception area of the Hotel Conrad. The ceiling is lit by concealed luminaires, while recessed downlighters pick out the colours in the carpet.



development, due to open near Paris in the Spring of 1992.

Each hotel has a specific theme. The Magic Kingdom Hotel, Hotel New York, Sequoia Lodge, Newport Bay Club, Santa Fe and the Cheyenne Hotel: in each case the hotel's individual character will be brought out with lighting designs which add to the atmosphere.

Gentleman's club

Once the Langham Hilton in London's Upper Regent Street, is opened in March 1992 guests will be able to relax in the Club Bar which was designed to feel like a traditional gentleman's club. The lighting system, thus, uses a wide range of different fittings to give the impression of something which has evolved gradually. There is also a palm court which used to be open to daylight, located beneath a new plant room. This uses the familiar computer-controlled dimming system (linked via photocells to outside lighting conditions) to simulate daylight convincingly.

The Langham Hilton is strong on period detail. This has prompted designing purpose-built chandelier fittings to harmonise with the interiors while providing good lighting.

So much for interior spaces — but a hotel's exterior deserves equally serious consideration. Particularly after dark, it is the exterior lighting which defines and establishes its character. Lighting can play a vital role in distinguishing a hotel as an attractive landmark, and, thus, an obvious place to stay.

The major practical problems include keeping light out of bedroom windows and finding suitable mounting points for the light fittings. One answer is to mount fittings very close to the building so that the light washes up the walls without being directed into windows. This was the technique adopted for lighting the SAS Royal Hotel in Brussels.

Fingers of light

It was lit to emphasise the building's verticality with fingers of light grazing up the facades.

The Langham Hilton Hotel meanwhile is actually one of the

trickiest exterior projects LDP have ever had to light in London. Although, basically one large building, it is irregular in shape, bending round a corner and features an asymmetrically placed tower which conflicts with the symmetrical main facade. The appearance is almost one of three different buildings. As a result, a great deal of planning went into designing an installation which would light each of these elements effectively while at the same time producing a coherent and unified scheme.

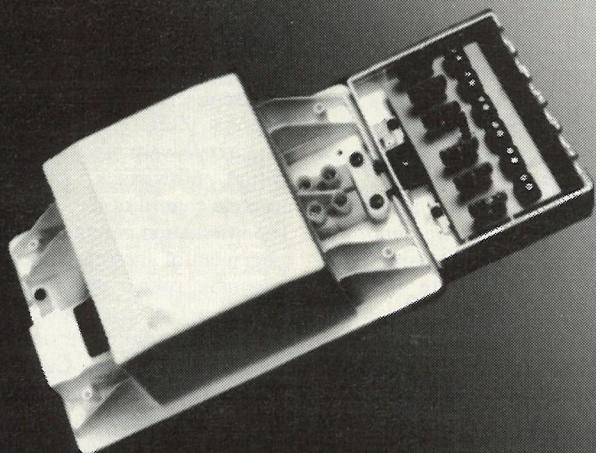
Powerful tool

Finally, lighting is a powerful psycho-suggestive tool and can be used to influence people to move in a pre-determined way. To take the SAS Royal Hotel Brussels again as an example. The colour temperature of different light sources was used to draw customers into the hotel. The exterior of the building is relatively warmly lit, but the area directly outside the main entrance is deliberately kept cool, and this contrasts strongly with the much warmer lighting of the hotel's reception and atrium area. The effect is to make guests feel welcomed by the cosy, inviting atmosphere of the hotel reception space beyond.

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The role of the National Lighting Awards is to challenge accepted standards of lighting and to ensure that more people enjoy the benefits of a well-lit environment — part two of a feature in which *LEN* looks at this year's winners

Best of British

No entry in the industrial section was adjudged to be worthy of the major award, but the factory complex at Felixstowe for Schlumberger Industries was highly commended. This £8.0 million complex is the design and manufacturing headquarters for the company's production of electricity meters.

Mechanical and electrical services were designed by William Steward Eastern, and a major aspect of the brief was to produce

an innovative lighting scheme for the factory. Within the production area the lighting scheme also had to be practical and cost effective. Here, the designers finally decided that an uplighting scheme would be most suitable, and would be more visually attractive than the large quantity of fluorescents luminaires that would be required to achieve the same illumination level.

To enhance the clean, crisp environment it was decided to use 400W metal halide lamps

enclosed within Crompton Gladiator luminaires which had to be finished in white for this high tech environment.

The Gladiator was chosen for its versatility as it was to be stirrup mounted and turned through 180 degrees with the asymmetric reflector distributing the light evenly over the structural linear tray which was to be the reflective surface. Four hundred and thirty-two of these luminaires were installed, mounted onto purpose-made brackets suspended



Schlumberger Industries' electricity meter factory at Felixstowe — highly commended in the industrial section.

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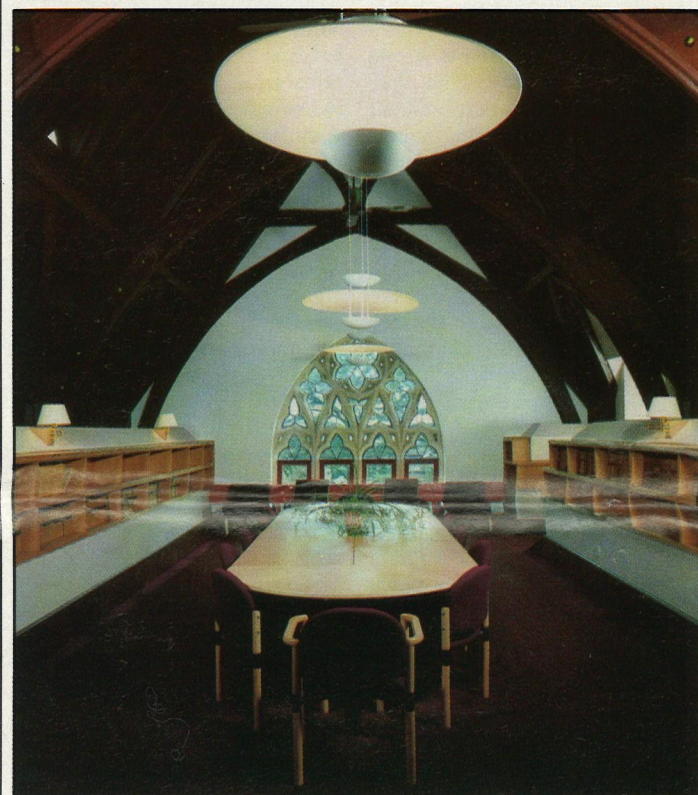


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Wood Green Crown Court, a combination of new build and Victorian gothic. Picture shows the Judges' Library.

from the air conditioning ductwork. The wiring was carried out using PVC single cables installed within lighting trunking, the final connections being made using a plug-in ceiling rose and butyl flexible cable.

Winner of the civic section is the lighting scheme designed for the multi-million pound refurbishment of the Imperial War Museum. Housed in the surviving part of the old Bedlam lunatic asylum, the museum needed to increase the amount of gallery space and provide better environmental conditions for displaying relics, principally of the Second World War.

Floor space on four levels is planned around a new central exhibition hall, formed by roofing over an old courtyard with a steel structure supporting a lattice barrel vault covered with UV filtered polycarbonate.

The brief required a lighting installation which was unobtrusive, aesthetically pleasing, controllable and flexible — while capable of achieving dramatic effects.

A particularly interesting aspect of this installation is the micro-processor control and dimming system which enables the lighting to respond to changing daylight entering through the translucent covering. The system is automatic, requiring no action on the part of museum staff. Low volt-

age sealed beam lamps, used in association with louvres, provide precise optical control.

In the main atrium, high level lighting provides a glare-free situation with the exhibits as the brightest points in the field of vision. Modelling of large exhibits is achieved with key and fill lights of different values directed from two or three angles. Metal halide uplighting concealed within the original anti-aircraft searchlights, prevents too much silhouetting of suspended aircraft during daylight hours and the effect of a night sky is provided by dark blue uplighting into the interior of the barrel vault.

Showcases

Finally, a glare-free environment has been created for the small exhibits. Fibre optic lighting has been extensively used within individual showcases, permitting accurate control of the light beam. The installation permits easy rearrangement of showcase interiors.

Notable runner up in the civic section is the spectacular floodlighting installation designed by Philips for St Paul's Cathedral. The company was commissioned by the Corporation of the City of London to create the scheme to mark the 800th anniversary of the founding of the mayoralty of London.

The design uses metal halide lamps which enhance the ivory



Winner of the civic category — the Imperial War Museum's refurbishment and extension.

white of the Portland limestone out of which the building is constructed, and enables the building to stand out from the high pressure sodium used locally for street lighting and to floodlight other city landmarks.

Aesthetically, the aim of the installation was to show the cathedral as it would have appeared by moonlight to its architect Sir Christopher Wren.

The upper part of the dome is illuminated by 1800W Arenavision floodlights which even manage to light the lantern, orb and cross surmounting the dome from ground level. The lower half of the building is principally lit by 2000W luminaires with 400W fittings to provide fill light.

Wood Green Crown Court, provides a unique location for the administration of justice. A further runner up in the civic buildings category, the scheme is based on a remodelled Gothic building dating from 1865. This has variously served across the years of the Royal Masonic Institute for Boys, a missionary nurses' training college, and offices and workshops for the Gas Board.

The scheme as built retains the original Gothic façade and the chapel wings of the building. To provide the required extra accommodation the roof now houses three extra floors.

The space defined by the exist-

ing building houses the courts — two per floor — and ancillary areas such as offices, robing rooms, judges' rooms, libraries, and dining areas together with secure accommodation for the defendants in the basement. The ground floor houses administration offices, a public restaurant and shared services. Circulation is segregated both horizontally and vertically so that members of the public, jurors, judges, and defendants only meet in the courtroom.

Fluorescent ceiling

As there is no natural daylight to the court rooms, the main lighting is provided by fluorescent lamps mounted in the central ceiling void. A ceiling, formed from translucent panels gives the impression of a rooflight and also serves to diffuse the light from the fluorescent fittings.

Supplementary lighting is provided by spotlights above the judges' bench, jury and public seating areas, and by low glare fluorescent task lighting. Fluorescent uplighters fitted with low energy lamps provide modelling to the ceilings.

The staircase is lit using profiled tubes which follow the soffit of the staircase, while lighting in the judges' library uses a combination of direct lighting and uplighting to counter the low reflectance of a dark, oak beamed ceiling.



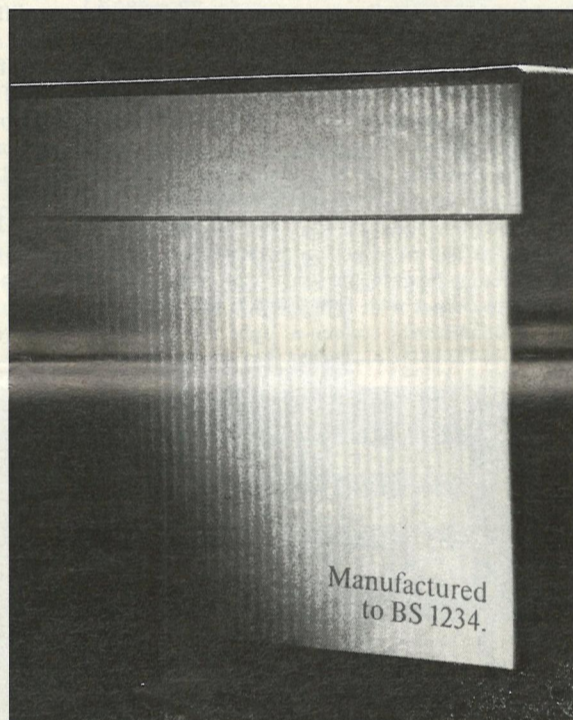
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Lighting Italian style

Part two of our report on Euroluce concludes the review of new interior fittings and examines an exciting new range of amenity lighting

Butterfly bright colours make the Titania suspension lamp from Luce Plan one of the most attractive fittings on offer this year.

The luminaire uses a 150-250W halogen lamp. The elliptical body, which provides screening for the light source, is made of aluminium strips in black or silver finish. Five pairs of interchangeable silk-screened polycarbonate filters allow the body to assume different colourations, while diffused lighting remains a natural white. The filters are available in green, with red, yellow, blue and violet as optional.

The lamp has a dynamic quality. Depending on the observer's viewpoint, the fixture changes from a transparent form when viewed straight ahead to a solid body when viewed end on. Physical support is provided by a hook fixed to the ceiling, which is separate from the electrical connection formed by a white ABS ceiling rose. This also enables the product to be positioned anywhere in the room.

On a contract scale, the Cini and Nils decorative light system, designed for reception areas in

public buildings, meeting spaces, and hotels, is a low voltage system based on two elementary modules: the ceiling rose and the arm. A number of from two to eight arms can be fitted to any one ceiling rose to give the desired lighting levels. The ceiling rose is available in both a flush version using a remote transformer and a ceiling or wall mounted rose with its own integral transformer. Both models are finished in chrome.

Modelling with light

The arms, of brass finished in bright chrome, come in four versions: two straight angled arms and angled arms with clockwise and anticlockwise curves.

Each arm enables a bulb up to a maximum of 50W 12V — or in some cases 100W 24V — to be used, and these arms are fitted to the rose simply by pressure on a patented clip-in joint. This then effects both mechanical and electrical connections simultaneously.

The possibility of grading the number of arms and of selecting lamps of different powers allows the designer to model with lighting: making it uniform, concen-

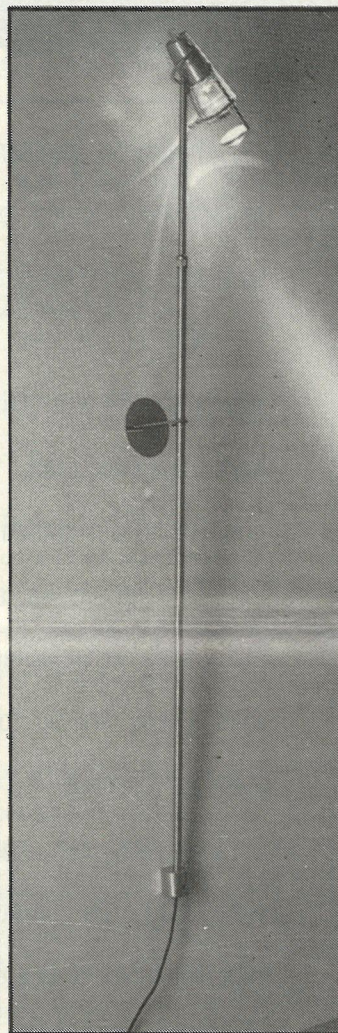
trating it in certain areas or creating areas of varying light intensity in patterns.

The control of light was one of the key design themes of the show. Light is modelled, bounced off reflective plates, concentrated by lenses — all in an attempt to show that the designer is master of his medium. One of the simpler designs in this category is Magritte, a table lamp from New Society Illuminazione. This comes in two versions: aluminium and copper on aluminium and black lacquered aluminium, both with an adjustable reflector in polished aluminium that it can bounce the light onto a wall or display object. Light from the 50W 12V dichroic lamp is softened by a polycarbonate diffuser.

The Galileo system from Antonangeli takes the notion of control a stage further. The fitting comprises a dichroic lamp with an adjustable diaphragm made of segments of toughened steel. This enables the diameter of the cone of light to be altered. Fixed a short distance in front of this diaphragm is a lens which controls the degree of focus of the light. For all settings, therefore,



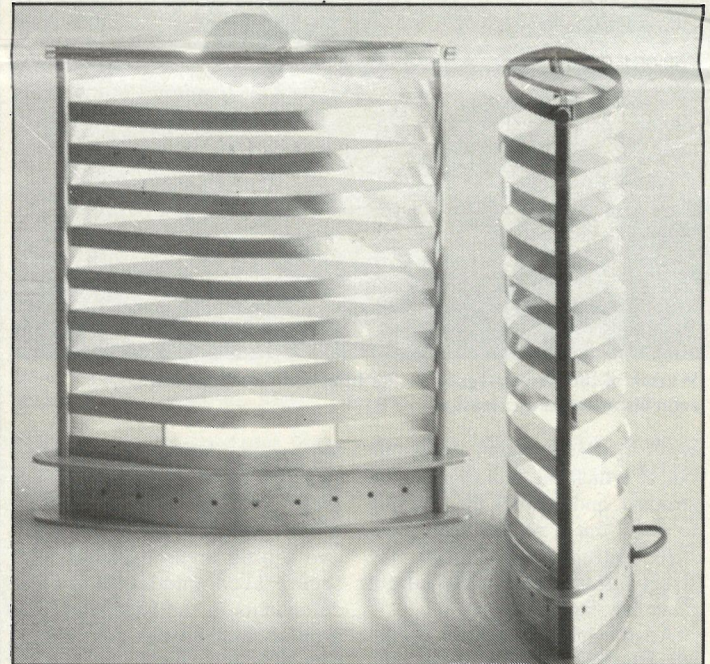
Arc exterior lighting from Guzzini is an unusual bow-shaped luminaire in cast aluminium.



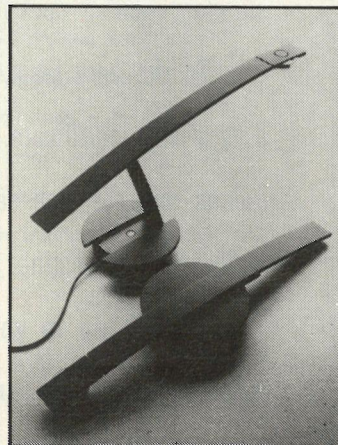
The Galileo system offers the user advanced lighting control.



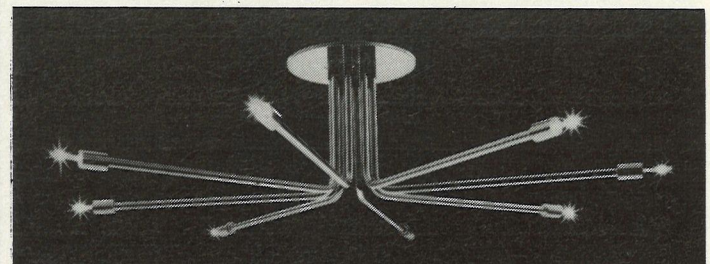
Titania pendant lamp from Luce Plan.



Magritte table lamp with adjustable reflector.



Folding table lamp by Tronconi.



Cini and Nils lighting system gives design flexibility.

light can be concentrated, diffused or put out of focus. The body is in cast aluminium with the front part formed from narrow mesh expanded steel sheet. The whole fitting is mounted on a chromed steel telescopic pole.

Galileo is available in a range of designs, including floor and table models and fittings for wall or ceiling mounting. The table model comes with a switch which permits three intensities of light.

Designed for convenience of another sort is the Master table lamp from Tronconi. This folds flat for easy storage. The luminaire, designed by Paul Barbieri, is finished in black with a bright

red switch. It features a balanced rocker arm, giving a height of up to 300mm on a 240mm rotating base. The luminaire takes a low voltage halogen lamp of up to 35W.

Amenity lighting

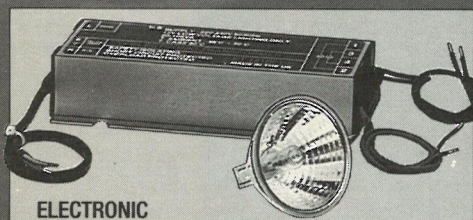
On the exterior amenity lighting front, the most exciting range of products was undoubtedly i Guzzini's range of fittings originating from Yamada of Japan and adapted by them for the European market.

These include Arc, an unusual bow-shaped cast aluminium fitting in natural metallic finish taking an 18W compact fluorescent lamp.

The diffuser is in polycarbonate, and the fitting as a whole meets IP55. On a more conventional note, low level lighting is provided by the Bliz luminaire, produced in natural cast aluminium with a methacrylate diffuser. The fitting takes a 24W compact fluorescent lamp. Finally, from the same stable, Kriss, a stylish wall fitting taking a 150W halogen lamp, provides mostly downlighting. What distinguishes the fitting, however, is that a flat convex lens on top of the luminaire gives a single vertical line of light up the wall to a height of 10m. The fitting, to IP54, is available in black or white.

RAM

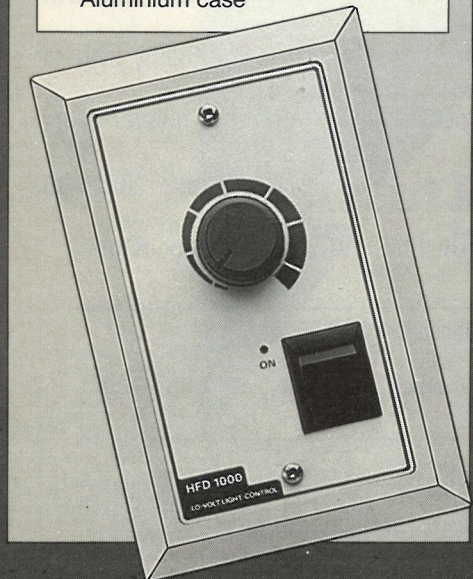
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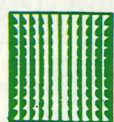
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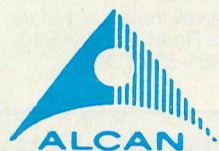


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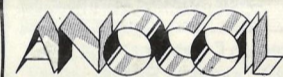
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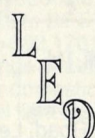


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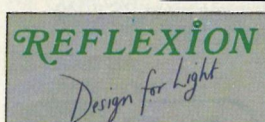
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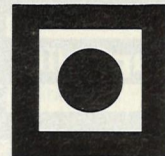
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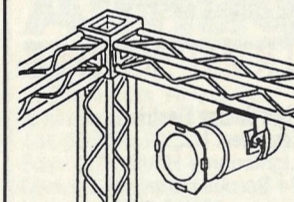
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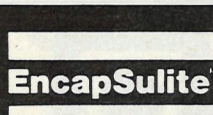
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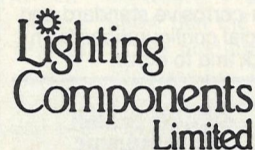
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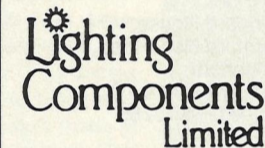


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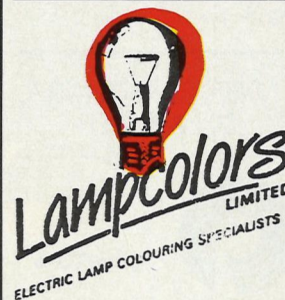
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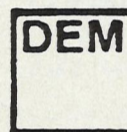


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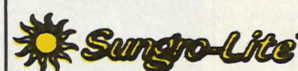
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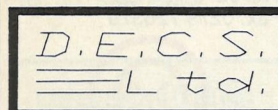


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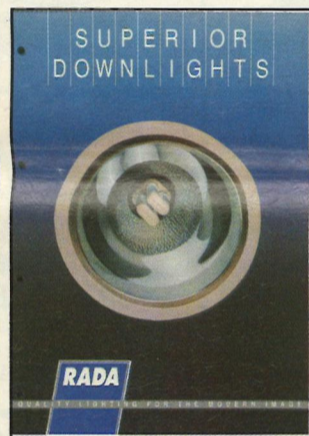
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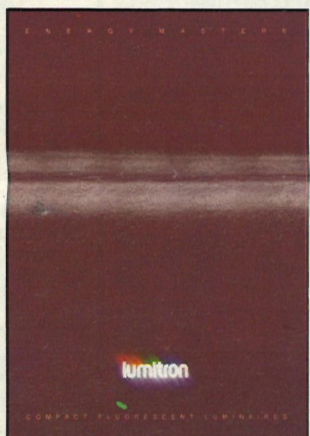
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Rada Lighting introduce a new range of advanced reflector design downlights for superior lighting efficiency. The Rada Downlight range includes recessed, semi-recessed and surface mounted models with computer designed multiple form reflectors — some with a rare stage-leafflet. A 6 page colour leaflet reveals all: circle 90



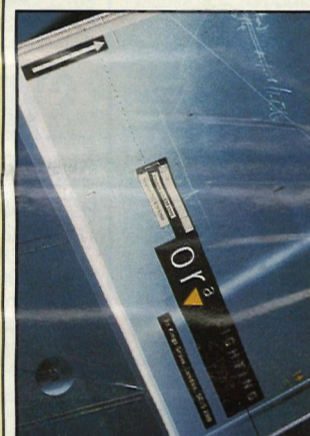
Lumitron's new Energymaster catalogue updates the original range to take account of all the new compact fluorescent lamps now available. Illustrated are luminaires ranging from 600 square luminaires down to those using 11 watt TC lamps. The catalogue is in full colour and photometric data is now included: circle 91



Advanced Lighting Industries has produced a brochure that compares its DURASTART fluorescent starter with conventional starters. Advantages featured are: the virtual elimination of tube blackening; 50% reductions in tube replacement costs; a 70% saving on programmed and interim maintenance costs; and flicker free operation. circle 92



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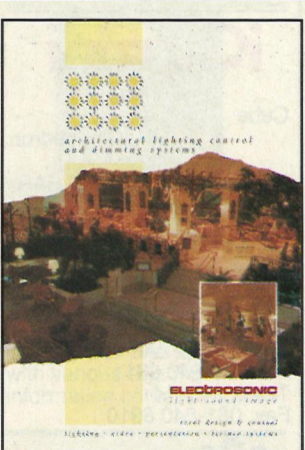
ORA's continued growth in a declining market is the result of flexible response, efficient project management, innovative products, close liaison with the specifier and delivering the goods on time. ORA supply lights to many of the finest and most discerning customers in the country. Why not join them?: circle 94



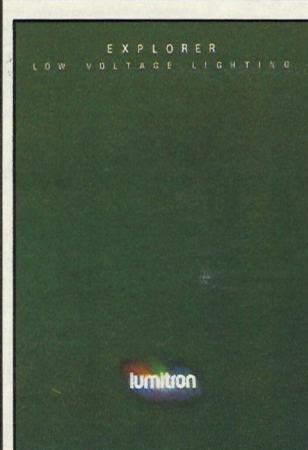
Polestar is a new low-voltage, low energy spotlight from Acolyte Lighting Services, incorporating its own miniature built in transformer. It can be wall/ceiling mounted or used with most existing lighting tracks and unlike any other light of this type it has the capacity to use 50W or 75W dichroic reflector lamps: circle 95



Acorn Lighting is introducing the SLUZ range of lighting products from Spain. This high quality range of products, include a low voltage Rod system, low voltage and mains voltage downlights, Metal Halide downlights and spots, Track system and a complete range of compact source fluorescent downlights: circle 96



The Electrosonic range of architectural lighting control and switching systems provides a solution to all control requirements: from a simple, single channel of dimming, right up to a custombuilt, computer-controlled network capable of running a major building complex. Send for the brochure: circle 97



Lumitron Lighting announce the release of their revised catalogue illustrating the Explorer range of low voltage products, which include the latest additions to the track and surface spotlights with integral transformers, also an interesting and diverse range of new recessed downlighters, many of which are produced from die-cast aluminium: circle 98



Specialist luminaire manufacturers, L. B. Lighting Limited have published a new full colour catalogue which includes comprehensive ranges of Uplites, Tubelites, Globelites, Fluorescent luminaires and Downlites together with illustrations of purpose made units: circle 99

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Applicants should already be experienced in the lighting industry. They will also be confident and convincing in their own presentation.

The Company

As a member of the Pillar Electrical Group of Companies, Davis Alumex Lighting is now geared up for major expansion. 1991 and beyond will see some exciting things happening within the company in addition to our continuing range of standard and custom built luminaires. Successful applicants will share in this growth.

The Rewards

If you have the necessary abilities you'll be rewarded well. The package will of course include a company car, bonuses and the support of an enthusiastic management team.

If you feel you qualify for any of these positions please contact:

Mr E.K. SMITH
Managing Director
Davis Alumex Lighting Ltd.
1-9 Tannoch Drive
West Lenziemill, Cumbernauld
Glasgow G67 2SX
Tel 0236 722233



a Pillar electrical company

HOW FAR CAN YOU GO BY BUILDING A TEAM

With most Companies the answer is probably 'as far as Sales Director... If you're lucky'. But here is an opportunity for a seasoned Lighting, or related professional to go straight into a soundly-based, rapidly expanding Company as Number Two to the Managing Director. We'll expect you to eat, sleep and breathe Lighting, and have a no-nonsense, hands-on approach to opening doors and bringing the business out. And we'll expect you to continue to build a team around you who can do the same.

The big difference is that you will also have a direct and vital role to play in determining future policies for the Company. Your involvement will be total as will be the commitment we expect from you. And if you can continue the success you have demonstrated in your career so far we can promise you a future which looks to Sales Director and beyond.

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Managing Director
Office Lighting Systems Ltd
Blackhorse Road, Exhall
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Domestic lighting agents required for all areas of the UK, selling shades and bases to specialist lighting shops. Agents must have a large existing customer list.

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You are tired of offering one manufacturer's product. You want to promote *your* name or *your* Company for a change! You want to work when *you* want to. You want to benefit from *your* efforts. You are angry when your big successes go to House Accounts? Pressure and paperwork mount up — to say nothing of targets (the more you do this year — the bigger your target next year! Why can't *you* have a share of the bigger profit margin projects — and windfalls? You do not mind long hours — as long as it is for *you*. Your greatest asset is probably your contacts — why can't *you* use them for *your* benefit.

We think we have the magic formula to attract people to work with us to find some different incentive for them to sell our products as if they were their own, to run their own business and sharing some of the profit margin as well as taking a good commission to feel free to make their own deals, decide discounts themselves. To sell your personal service for your company. We could carry the financial project funding.

We cannot give our secret success formulae away over the telephone but we will be happy to talk to you in person if you would telephone to fix a meeting.

DON'T START ON YOUR OWN, START WITH US — ON YOUR OWN

Contact: John Smith, Managing Director, on 0582-491955
NI Lighting (UK) Ltd, Unit F.2, Bramingham Business Park, Luton, Beds. LU3 4BU



SALES MANAGER

We require a self starter with a proven record. Must be capable of controlling and motivating staff, agents and distributors throughout the U.K. This is a key company position and therefore has unlimited potential for the right person. Salary and benefits will reflect the importance of this post.

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A bright assistant to our Senior Lighting Engineer required. Must have some experience in preparing lighting schemes. This is a new position which offers a good salary and excellent prospects for rapid advancement in a fast growing company.

Write in strictest confidence with full curriculum vitae to D. Silver, Beta Lighting Ltd. 383/7 Leeds Rd., Bradford BD3 9LZ.

Brian Highton Lighting

requires

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Glamox Electric (UK) Ltd leaders in lighting, have an opportunity for two experienced Lighting/Electrical Engineers.

Due to our continued expansion we require engineers to service two very important areas of Glamox UK's business. The areas to be covered are Bristol and Birmingham.

Two highly responsible people reporting to the National Sales Manager, your duties will be demanding and rewarding. You will cover existing accounts and also be responsible for new business.

You should be either already in the lighting market with a proven track record in selling to consultants, specifiers and architects. Alternatively an experienced Electrical Engineer with a good working knowledge of lighting design concepts.

Working from home you will have the back up facilities of the latest G.O.L.D. computer, C.A.D. machines and Glamox expertise in lighting design.

In return we offer a good basic salary, profit sharing, company car and pension plan.

Please write enclosing a CV to:

National Sales Manager, Glamox Electric (U.K.) Ltd.
Anderson House, 29 Coast Road,
Wallsend, Tyne & Wear NE28 8DN.

EUROELECTRIC (UK) LTD
SALES REPRESENTATIVES

We are a rapidly expanding manufacturer/importer of lighting and associated products.

Our continued success in this field has lead to the need to appoint two additional salespersons in the London and South East area.

Applicants by preference will have a proven track record selling into the Electrical Wholesale Industry.

We offer a generous salary, plus commission, company car and other fringe benefits.

Please forward your current C.V. or telephone in confidence.

Mr B M Saxby, Sales and Marketing Director
Euroelectric (UK) Ltd, Brunel Close
Park Farm Industrial Estate
Wellingborough, Northants NN8 3QX
Tel: 0933 673144

AGENTS REQUIRED

We require Agents for most areas of U.K. who have established contacts with giftware, photographic and lighting outlets to add to their range an illuminated brass photo frame.

Please call

0666 825450 FAX 0666 825436
CSM Lighting Ltd,
Contact: Rita Legg

Tangara trains set the pace

A new standard of comfort and security is being experienced by commuters in Sydney on the Tangara railway. The order for 450 double decker carriages was the largest rolling stock contract ever undertaken in Australia.

The lighting system blends into the train's interior profile, maintaining the clean, uncluttered lines, and also incorporates speakers and air conditioning equipment.

As well as the comfort, security and well being of the passengers, a further consideration was internal reflectance of the windows, which were specially

designed to reduce solar energy gain. The window reflectance and internal illuminance combine to affect visibility of stations at night; the brighter the lighting the greater the mirror effect. An illuminance of 200 lux at seat level was finally decided on.

Thorn ALI Lighting designed and made the fluorescent luminaires which are mounted longitudinally in two lines of extruded aluminium ducting, one along each side of the carriage. To provide a continuous line of light, ballast units are mounted behind the lamps on the back of the gear trays. Diffusers are formed from



modular lengths of polycarbonate.

The top section of the lighting fittings also provides an outlet for the air conditioning, while the proximity of the inverter ballasts to the conditioned air helps to cool the ballasts.

Public address speakers are mounted behind the gear trays to prevent vandalism.

Certain lights in each compartment are connected to a separate

battery circuit to provide emergency lighting for safe passage on stairways and inter-car gangways.

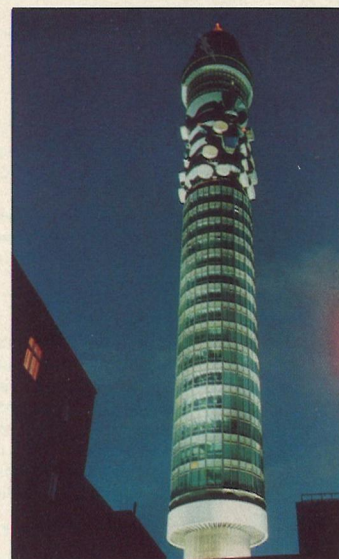
A certificate of commendation has been awarded by the Illuminating Engineering Society of NSW for the Tangara lighting. The judging panel said, "There is little or no glare and it is the best lighting installation of public transport ever experienced by the judging panel."

Happy birthday Telecom Tower

One of London's most prominent landmarks, the British Telecom Tower has been floodlit to resemble a giant candle. The installation marks the twenty-fifth anniversary of the building.

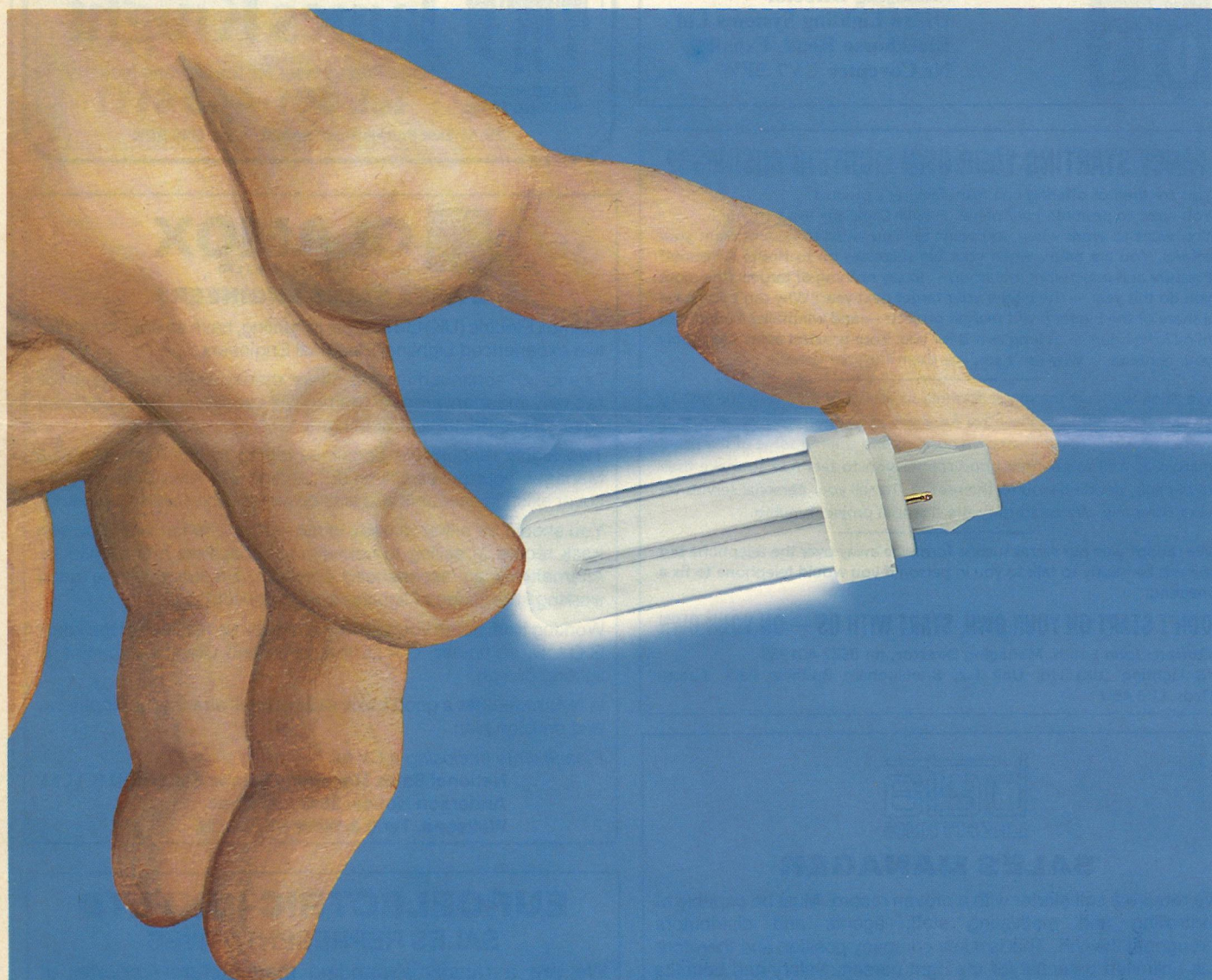
Philips Lighting found designing and installing the scheme presented a real challenge. Fixing points had to be found on adjacent, BT owned, roof tops and a few positions were made available at about fourth floor level.

The light source chosen for the main part of the structure was metal halide which gives a white light to contrast with the high pressure sodium used on many of the surrounding buildings and also with the illuminated lettering. High pressure sodium was used at the top of the Tower, pro-



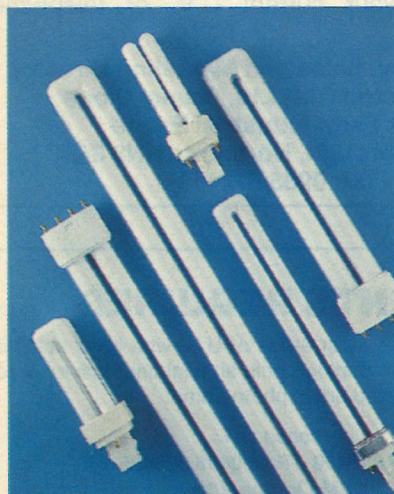
ducing a golden flame effect — hence, the overall impression of a candle.

Sadly the installation will only be seen on special occasions.



THE NEW FORCE IN LIGHTING MAY BE BIG, BUT IT'S NOT AFRAID TO THINK SMALL

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GE-Tungsum Lighting Limited, Nene House, Drayton Way, Drayton Fields Industrial Estate, Daventry, Northants. NN11 5EA Tel: (0327) 77683 Telex: 311684 Fax: (0327) 76386



Low voltage lighting has been used in a refurbishment of the high-tech restaurant bar at Gallerie Oriol in London's Sloane Square. A row of individually mounted spotlights on 600mm long stems emphasises the bar counter. Matching spotlights, are ceiling mounted at the back of the bar to add sparkle to shelves of glasses. Both types of spotlight are from the Conchero range by La Conch and use 50W lamps with integral reflectors and glass covers.

IN YOUR NEXT ISSUE

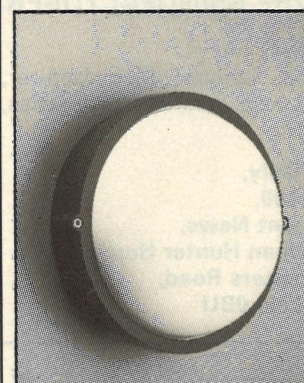
There is a move to require common standards of emergency lighting across the whole of Europe. The February issue of *Lighting Equipment News* looks at the likely impact of this development,

and other changes already agreed, on the emergency lighting sector.

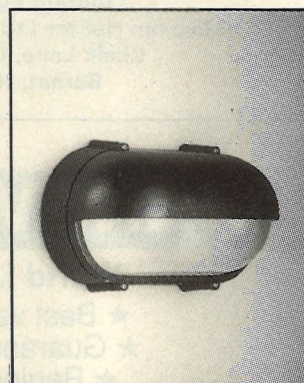
A further feature considers the more unconventional uses for lamps, and reviews the changing face of the OEM market.

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