

LIGHTING EQUIPMENT NEWS

JANUARY 1989

British firms look east

Two major British lighting companies, Thorn EMI and Emess, have recently come to arrangements with local companies in a bid to exploit the growing lighting market in the Asian Pacific basin.

Thorn EMI and Jardine Engineering Corporation have formed a 50/50 joint venture lighting business in Hong Kong.

Named Thorn Lighting (Hong Kong) Company, this operation will have access to the full range of Thorn Lighting fittings and sources in serving its local market and in exporting to the Philippines, Macao and Taiwan. It will also focus on developing major lighting project business with China. The Jardine Engineering Corporation has been Thorn Lighting's agent in Hong Kong and China since 1951.

Commenting on this announcement, Hamish Bryce, managing director of Thorn Lighting, said: "In line with Thorn EMI's international strategy, our programme of worldwide growth is targeting all significant markets for lighting products. Taken together, our Hong Kong joint venture, our activities in Malaysia and Singapore, and our now very substantial Australian strengths, add up to a powerful presence in the Asia Pacific region — one of the world's fastest growing lighting markets".

In addition, Emess plc has acquired 45% of Transformic Electronics Limited, a manufacturer of quality electrical and electronic components in Hong Kong and the People's Republic of China. Transformic has sales of approximately HK\$150 million and net assets of approximately HK\$70 million. The management of Transformic are retaining the remaining 55% of the company.

Transformic operates from several plants in Hong Kong and China. It produces high quality lighting assemblies for the European and North American markets, together with components for major American and European multinationals such as Krupps and Philips.

The acquisition will enable Emess to extend its existing interests in the Pacific basin, working with an experienced local manufacturer, and to gain a significant benefit by manufacturing and assembling its products in a low cost, fast growing region.

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St. Magnus Cathedral, Kirkwall boasts a new floodlighting scheme.

Faith in light

Lighting Design Partnership has recently completed an unusual religious double. The practice was engaged as lighting design consultants for the exterior of Britain's most northerly cathedral at Kirkwall in Orkney as well as the interior of the largest Buddhist temple in Europe at Eskdalemuir, Dumfriesshire.

The 850 year old St Magnus Cathedral has been lit externally by dimmer controlled tungsten halogen sources which gently

emphasize the rich and varied red sandstone hues. The green spire of the cathedral is emphasized by cool HQI sources. The dimming system is programmed to provide three lighting states which vary from 'spire and weathervane' only to 'full building'. In addition, the Orkney Islands Council agreed to change the sources within the surrounding streetlighting from SON to HQI in order to emphasize the building's depth of colour in relation to its surroundings.

The remotely located Samyeling Buddhist community has constructed a major temple in Tibetan style. The centrepiece is the 452 square metre Shrine Room dominated by a large Buddha figure.

The lighting scheme is based on special uplighter/crystal wall brackets, manufactured by LB Lighting. These units provide uplighting to the painted ceiling panels while, on a separate circuit, providing low voltage sparkle through less crystal droplets suspended from the hemispherical uplighting body. The Electrosonic Sceneset dimming system is programmed to provide several lighting conditions to accord with the needs of prayers, meditation, assemblies and entertainment.



The Tibetan-style temple at the Samyeling Buddhist community.



Uplighter and crystal wall brackets in the buddhist temple.

CIBSE and 1992

A recent survey conducted by the Institution has enabled CIBSE to identify areas in which it can offer guidance and advice to members on the development of the single European market.

A quarter of the members expected European harmonisation to change the way in which their company or organisation worked, and most welcomed the change. But, only 11% of those responding saw continental Europe becoming their prime target, a response depressed by the number of public sector responses received. The most optimistic and keen to compete were manufacturers.

Just under a quarter (22%) of firms, mainly contractors and manufacturers, said they already operated in Europe. A small increase of 4% stated that they will be operating in Europe in the future.

A third of those replying believed they were organised to deal with the wider European Market and same 28% had nominated someone to look after European affairs. Although just a fifth of respondents had looked at their competitors' products, 72% (83% of consultants) said that they were monitoring general progress and 37% thought that they were in

good financial shape for Europe. Only 4% had already applied for EURing but a further 44% intended to do so before 1992.

The areas where members seemed to underestimate difficulties were in the use of the CIBSE Guide in Europe and in language problems. Fifty two per cent of companies not presently involved in Europe and 83% of consultants with a low level of activity in Europe believed that the Guide would be usable in Europe.

In contrast only 27% of firms already highly involved with Europe agreed that it was, in fact, usable. With regard to language, 32% did not see this as a problem, whereas as many as 75% of those within the group having a high involvement in Europe anticipated problems.

Fifty seven per cent wanted CIBSE or others to run courses on Europe (83% of consultants); and 70% thought that CIBSE should take some form of action. Most of these thought CIBSE should provide details of working methods; standards and the education and training requirements of continental firms. In particular members wanted more details relating to EURing.

In brief . . .

- **British Central Electrical** has opened its 48th branch. The address is: Units 7A and 7B, High Brooms Industrial Estate, Chapmans Way, Tunbridge Wells, Kent, TN2 3EF. Roy Downes is the manager.
- **FKI Lighting** has appointed CSM Lighting as specialist agent and distributor to sell its decora-

tive outdoor lighting and controls into garden centres. In addition, CSM is handling the smaller electrical wholesale orders.

● **Moorlite Electrical Ltd** has obtained the BS5750 Part II Certificate of Quality which confirms the company as a BSI registered firm of assessed capability.

● **The Building Industry Council** has elected Professor Edmund Happold as its first chairman. An

education and training committee has been set up to co-ordinate industry wide action on recruitment, education and training.

● **Armada Lighting and Fire Ltd** has been formed by Simon Perrott to make energy efficient lighting, emergency lighting and fire detection systems. It is operating from Unit 1, Huxley Close, Plympton, Plymouth PL7 4JN (telephone 0752 342942).

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NEWS

New prescription for hospital lighting

A revised lighting guide entitled *Hospitals and health care buildings* is due to be published any week now by the Chartered Institution of Building Services Engineers.

Some 70 people attended a half-day seminar in Coventry recently to introduce the guide, which is the first revision for 10 years.

Tony Critcher, regional lighting engineer, West Midlands Health Authority and chairman of the CIBSE hospital lighting committee, reviewed the background to the new publication. He referred to considerable changes in medical requirements, building structures, regulations and light sources in the last 10 years.

The DHSS was expected to recommend the use of the guide for lighting design, Mr Critcher said. When published, it would be the only comprehensive current document relating solely to hospital lighting.

Guidance given on the lighting of specialised areas in hospitals, such as hydrotherapy pools and areas for the manufacture of sterile fluids, was not recorded in any other documentation.



A hospital entrance in the West Midlands Regional Health Authority area. Lighting is by recessed compact fluorescent luminaires.

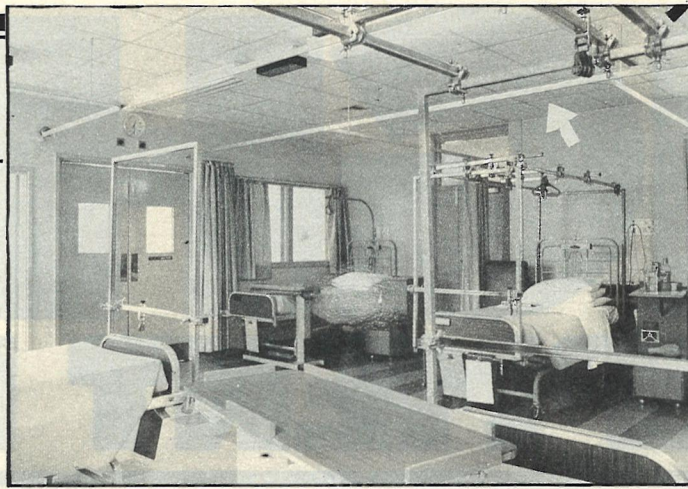
Creating a pleasant, reassuring and homely atmosphere for patients in general areas of health care buildings was the aim of designers, said Peter Lovett, senior principal technical officer, engineering, DHSS. This approach could be taken partly into clinical areas. The choice of lighting contributed to the atmosphere, but equipment should also be selected to co-ordinate with the other building services.

Wise choice of equipment could

lead to energy, and therefore cost, savings.

Subject to clinical needs, efforts should be made to use lamps of the highest efficacy, but Mr Lovett emphasised the importance of good colour rendering in clinical areas, where lamps with a colour temperature of 4000K should be used.

Certain compact fluorescent lamps could now be used in clinical areas as well as in utility areas, because versions had been intro-



A modern orthopaedic ward. Arrow indicates recessed, compact fluorescent, over-bed luminaire (West Midlands Regional Health Authority.)

duced with a colour temperature of 4000K.

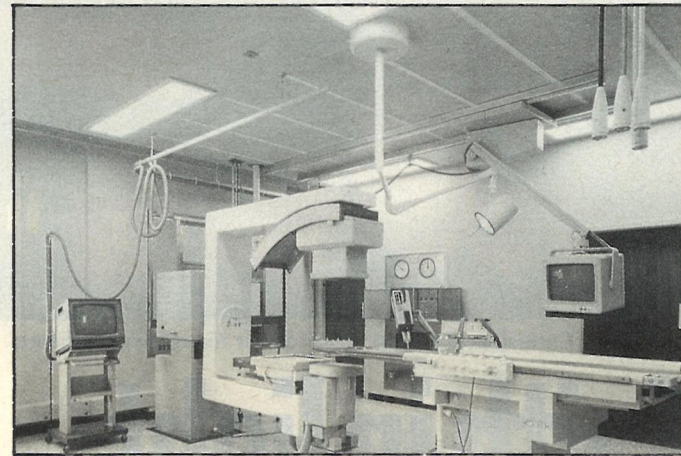
It was reported that the DHSS had issued a specification to lamp manufacturers requiring the colour rendering of lamps to be tested against a skin-sample index.

The specification of luminaires for hospitals and health care buildings was now covered by BS4533; BS3541 had been withdrawn.

If circumstances made it necessary to use a luminaire outside the

scope of the British Standard, Mr Lovett said either a Kitemarked model or one made by a manufacturer who was a BSI registered firm under the requirements of BS5750 should be specified.

The most difficult areas to light in hospitals were bedded areas because they had conflicting requirements. However, the speaker said that the new guide contained information to help to achieve satisfactory results.



Radiodiagnostic room with fully recessed fluorescent luminaires, by Thorn Lighting, supplemented by a spotlight on an articulated arm.

He believed that new lighting technology would assist in improving the standard of lighting and at the same time reduce running costs.

Whatever equipment was available though, it would still be up to the lighting engineer to design the most appropriate scheme.

Tony Buchanan, marketing manager, fluorescent tubes, at Thorn Lighting Ltd, brought delegates up to date on developments in lamps and circuits since the pre-



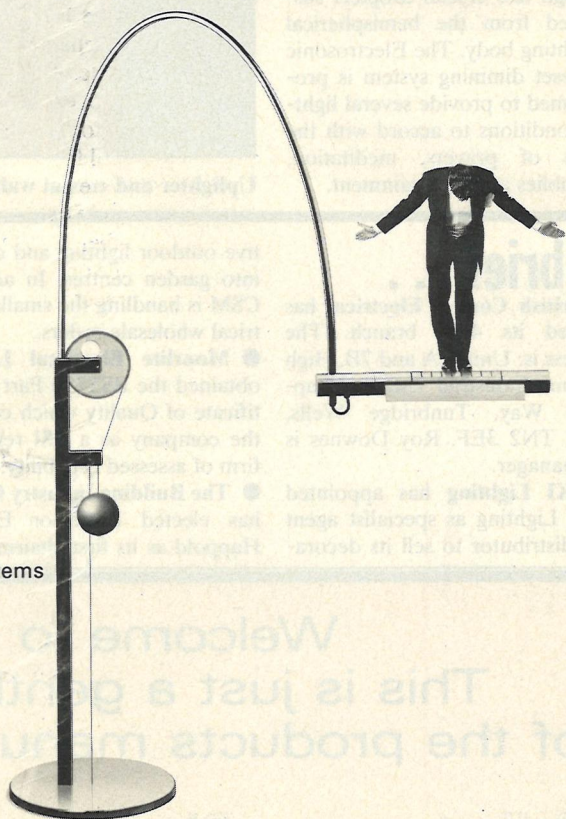
Inspecting sterile fluid in the laboratory with an illuminated viewer (West Midlands Regional Health Authority.)

vious report was published. He covered fluorescent, high intensity discharge and low voltage light sources.

Giving delegates a glimpse into the future, he forecast more electronics, whiter high pressure sodium and warmer coloured metal halide lamps, along with programmable lighting installations.

Further information and copies of the guide are obtainable from the publications department, CIBSE, 222 Balham High Road, London SW12 9BS (telephone 01-675 5211).

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DIARY

JANUARY

Details from AGB Exhibitions Ltd
01-868 4499.

6

Industrial lighting seminar and exhibition at UMIST, Manchester. organised by the Lighting Division of the Chartered Institution of Building Services Engineers. Details from member services department CIBSE 01-675 5211.

9

High frequency lighting — the way forward. An evening meeting at the Drumkeen Hotel, Belfast, arranged by the Northern Ireland Region of CIBSE. Details from J Patton, 20 Glebe Manor, Glebe Road, Ballycrune, Hillsborough BT26 6NS.

Millar Award: last day for receipt of entries at CIBSE, 222 Balham High Road, London SW12 9BS.

11

Period lighting. A lecture held by the Midland Region of the Institution of Lighting Engineers. Details from R B Simpson 0602 269711 extn 2243.

12-17

Paris International Lighting Exhibition. Information from French Trade Exhibitions 01-225 5566.

15-19

25th Lightshow, Olympia, London. Details from the Decorative Lighting Association 058 84658.

17

Floodlighting of Tower Bridge, London. Evening meeting and boat trip arranged jointly by CIBSE, ILE and the Institution of Electrical Engineers. Details from Deborah Rowe, CIBSE 01-675 5211.

LIF award paper: Are you feeling shady? An evening meeting at MANWEB offices, Sealand Road, Chester, organised by Merseyside and North Wales Region of CIBSE. Details from K R Roughley 051-530 1148.

17-19

Contract Lighting Exhibition, Business Design Centre, London.

18

Celebrity evening with Rod Hackney, RIBA president, at the School of Architecture, Manchester University. Arranged by North West Region of CIBSE. Details from J H Troughear 061-449 0276.

FEBRUARY

7

CIBSE Energy Code Part 2B. An evening meeting at the Trinity Maritime Centre, Newcastle upon Tyne, arranged by the North East Region of CIBSE. Details from MJ Calvert 0642 766266.

9

Road lighting. One-day conference in Leeds organised by the Northern Region, ILE. Details from J Brewis 0484 22133.

14

Lighting of the Royal Scottish Museum. An evening meeting at the RSM in Edinburgh held by the Scottish Region of CIBSE. Details from R S Webb 031-449 5111.

Design: science or art. An evening talk arranged by the South West Region of CIBSE. Details from D. Lowdon 0272 279419.

Battery stand-by systems. Evening meeting at Leeds University held jointly by Yorkshire Region of CIBSE and Leeds Power Section of the Institution of Electrical Engineers. Details from G D Hoyle 0532 674411 extn. 351.

15

Design and use of modern platform vehicles. An evening meeting at the West Lodge Park Hotel, Hadley, Wood, arranged by the London and South Eastern Region, ILE. Details from F P Ramsay 0920 870567.

Vehicle lighting: latest developments. A meeting organised by the Midland Region, ILE. Details from R. B. Simpson 0602 269711.

NEWS

Top speakers for TV and theatre event

The programme for Showlight '89, the international television, theatre and film lighting colloquium, has now been published. Speakers from all around the world have agreed to take part in the event, which will be held in The Netherlands from 15-17 May.

Opening speaker will be leading USA lighting director Bill Klages. Other guest speakers include Dutch lighting designer and theatre consultant Hans Wolff, and Tony Imi one of Britain's most accomplished cinematographers.

Papers will be presented from Australia, India, Poland, Hungary, Germany, the USA, Holland and Britain.

Subjects range from lighting for dance, night clubs, musicals and rock concerts to television and feature film lighting. One session is entitled *The best from the BBC*.

There will also be sessions on controlling light, automated lighting, luminaires and light sources, laser light in the theatre, light in the visual arts, and trends in lighting

education.

Companies who have already booked space in the exhibition to be held alongside the colloquium include ADB, Arri, CCT, De Sisti, Flashlight, David Hersey Associates, Lee Colortran, Strand, Teletage and Varilite.

The colloquium opens on the Monday in Amsterdam and the two subsequent days' lectures take place at the NOB Television production centre in Hilversum.

No-one working in the performing arts can afford to miss this event, which is aimed primarily at professional lighting designers world-wide. The working language will be English.

For registrations received before 1 May the fee is Dfl 250 (about £72); the fee increases for late reservations. Brochure and registration form are available from: Maureen van Woudenberg, NOB PR department, P O Box 10, 1200 JB Hilversum, The Netherlands. UK enquiries can be made to Anne Gibbins, CIBSE, 01-675 5211.

Call for conference papers on lighting

The next National Lighting Conference will be held from 8-11 April 1990 at Robinson College, Cambridge.

Papers are invited on all aspects of electric and natural lighting.

Topics of particular interest are architectural lighting, luminaire design, lighting electronics, costs, ergonomics and human factors in lighting.

Synopses of proposed papers should be sent by 30 March 1989 to CIBSE Lighting Division Conference Committee, 222 Balham High Road, London SW12 9BS.

16

Colour for light. A seminar at the Winter Gardens, Weston-Super-Mare, arranged jointly by ILE Western Region and CIBSE South West Region. Details from D Wilson 0272 266031 extn 686.

22

Sheffield total energy scheme. Evening meeting at the Rutland Hotel, Sheffield, organised by the Yorkshire Region of CIBSE. Details from G D Hoyle 0532 674411 extn 351.

23

Emergency lighting in practice. A technical evening at the Institution of Engineers of Ireland, Dublin, held by the Republic of Ireland Branch of CIBSE. Details from O Reddy, VRMA Consulting Engineers, Tramway House, Dartry Road, Dublin 6.

COMMENT

Throwing light on lighting

Where can members of the general public or building industry professionals go for independent advice on lighting? Since the abolition of the British Lighting Council in 1968 there has been no national lighting information service.

Other lighting institutions such as the Lighting Industry Federation, CIBSE and — dare we say it — the editorial department of *Lighting Equipment News*, are constantly being approached by members of the public and students for information. In the past this was given freely but in all organisations staffing levels increasingly will not permit manpower to be released from the task in hand for what is essentially a public relations exercise. As LIF's Karl Pike quipped, "The spirit is willing but the manpower is weak", but he went on to stress that LIF would always give out information which might lead to commercial benefit to its members and in the case of other queries would always be as helpful as was physically possible at that particular point in time.

The Electricity Council has traditionally provided expertise, but the Council will be abolished on privatisation. Their spokesman would go no further than to say: "The electricity industry will continue to give expert advice both to the general public and to professionals on electrical matters".

In the interim, however, the Build Electric Bureau run by the Council at the London Building Centre, which has frequently in the past acted as a point of initial enquiry for electrical advice, was closed down by the Council on 23 December, and staff there in its final days were advised to tell all enquirers to approach their appropriate area board in future. The extent to which some of the boards will be equipped to provide such a service is questionable.

With respect to written information, Andrew Ramsay of CIBSE felt the situation was definitely improving. At the consumer level the Decorative Lighting Association, originally in conjunction with CIBSE and now independently, was producing a series of booklets, *Enlightened Lighting*, on how to improve home lighting. These were distributed by retailers — just at the point where the consumer started asking questions. The CIBSE guides were designed to provide information at the higher end of the scale. For the manager who had to make decisions about lighting requirements the introduction and appendices provided all the necessary help; while the complete code was more appropriate to the needs of architects and lighting engineers.

Trade association information is naturally coloured by the fact that all members must be fairly treated and it is difficult to recommend the choice of one light source rather than another. Paul Rolfe, formerly of CIBSE, noticed this lack of unbiased information on lamps and is currently preparing a publication which will appear early in 1989.

Expert advice has historically been provided by manufacturers who prepared schemes on the understanding that a sale would ultimately be made. Diminishing profit margins led this source of advice to dry up, except on the largest projects. The manufacturers' place appears to have been taken by a new generation of professionals who hail from consultancies, but their skills are, once again, only appropriate on larger schemes.

So, to a certain extent, the problem remains. There are few places where a member of the public or a non-specialist can go for independent advice on lighting. Perhaps the industry should shake itself up in this respect now — in anticipation of 1992?

LIGHTING EQUIPMENT NEWS

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NEWS

Common markets — common standards?

The European lighting industry and lighting practitioners met to consider problems in workplace lighting. Robin Aldworth reports.

Between now and 1992 more than 60% of the law-making enacted in Europe is likely to come from Brussels. With this assessment of the likely impact of the lead in to the single European market the incoming chairman of the European Lighting Council, *Peter Lees* of GTE Sylvania, Switzerland, opened the second ELC seminar devoted to the topic of lighting at work.

The day's proceedings attracted some 150 delegates from eleven countries including 20 British representatives.

The ELC was particularly well placed to influence developments which had implications for lighting practice and the lighting industry, as during the three years of its existence, it had steadily built up credibility and was beginning to be recognised as a partner for discussion on appropriate EEC directives.

Workplace lighting

Lighting at work, the next two year theme for the ELC, was introduced by *Dr Peter Boyce* of the UK's Electricity Council Research Centre. He reported that opinion surveys of office workers had shown that when asked which aspect of the working environment was most important to them they placed 'good lighting' at the top of the list. "But what exactly is good lighting?", he asked.

After a lucid and well illustrated examination of this question he concluded that the aspect of lighting which influenced vision and, hence, performance of work was firstly the amount of light provided. It was, however, not the only requirement; the uniformity, the direction, glare control and the colour quality of light were all equally important.

Inadequate lighting adversely affected productivity not only in purely visual terms, but also by influencing the morale and motivation of workers. There was plenty of evidence of improved lighting resulting in productivity improvements of up to 13%. The cost of lighting was such that even a slight increase in performance was sufficient to justify the expenditure on lighting improvements.

In the discussion that followed, *Dr Boyce* estimated 'off the top of his head' that no more than 20-30% of lighting installations in work places were designed by people qualified to take account of the many design criteria that had to be balanced to achieve a good modern lighting system. If his guess was correct, at least 70% of installations could be improved to give higher productivity and improve staff well-being.

Bad lighting at work could be costing European industry millions. Many existing well designed installations were now several years old and recent developments in technology meant that they were not providing the best seeing

conditions by today's standards or operating at optimum energy efficiency.

Having established the theme for the next 2 years the seminar returned to the presentation of awards for the first European Lighting Awards scheme which was linked with the public lighting theme of the previous two years. The winning installations were fully reported in the August 1988 issue of *Lighting Equipment News*.

The awards were presented by the chairman of the judging panel, *Prof. J B de Boer*, who has been active in the lighting business for more than 50 years and is also a Past President of the Commission Internationale de l'Eclairage (CIE).

The overall trophy was presented to the Mayor of Angers, France, and certificates were given to the other ten award winners, but the stage management of the presentation ceremony in Brussels did leave something to be desired. The award scheme has been largely modelled on the experience of the LIF in the UK which has run EMILAS and NLA competitions for a number of years.

The first European Lighting Award scheme could, however, be viewed as a success, with 65 entries to an overall standard which was considered by the jury to be of outstanding quality. The Council had decided to continue the award and the second competition would be announced in 1989 when entries would be invited for outstanding, innovative lighting design for factories, offices and other spaces in the working environment.

Barriers tumble

During lunch, the delegates were addressed by *Robert Verrue*, recently appointed as Director of the Directorate General III of the European Commission. Mr Verrue pointed to the new momentum given to legislation by the Single European Act, which allowed majority voting on most of the decisions needed to establish the open market in 1992.

The Cecchini Study, published in spring 1988 estimated that the benefits to be achieved by the removal of barriers could amount to a 5% increase in gross domestic product and the creation of 2 million new jobs in the Community. Mr Verrue felt that the future elimination of two particular barriers would be of special significance to the lighting industry:

□ *Technical standards* which would be harmonised and Europeanised faster, thanks to a new approach which left greater responsibility to industry and its standards organisations such as CEN and CENELEC. The Low Voltage Directive, already in force for a number of years, was one pioneering example of the new approach.

□ *Liberation of government purchasing* which eliminated national



Lighting is a major feature of the SAS Building in Stockholm.

selectivity by governments in their purchasing policies. In view of the importance of public contracts for the industry this development deserved special attention on the part of the lighting industry.

Concluded Mr Verrue: "On top of the elimination of these barriers, technical developments and increased competition from the outside will lead to radical changes in the structure of the industry. Both small and large companies will be affected, with the small companies exploiting the advantage of their flexibility and the large companies, their sales networks and research potential. Higher quality and more innovation will result. There will never be a dull moment for the lighting industry and its customers!"

CIBSE initiative

Lou Bedocs, of Thorn, opened the afternoon session with a preview of the new CIBSE Lighting Guide, *The Industrial Environment*, due to be published in January 1989. The guide provided proven solutions and practical lighting design advice for specific industries and for various processes used in those industries. The publication was not just written with the lighting design engineer in mind, but provided useful information for users and industrial management as well as installation and maintenance engineers. It covered both new industrial complexes and the refurbishment of existing installations.

Information on all relevant modern light sources, luminaires and lighting and control systems was given with the aim of providing a safe, efficient and enjoyable lit working environment, which in turn assured benefits from improved efficiency and productivity in industry.

Three further speakers concentrated on office lighting. *Peter Lees* returned to discuss the lighting of offices with VDUs. The EEC had recently issued a directive on the VDU environment which stated that, "suitable lighting is required so as to provide satisfactory working conditions and appropriate contrast between the screen and the background environment". Mr Lees seemed to be arguing that this directive was too general and vague in its wording and should provide specific illuminance values and design guidance. Others argued that the general wording was just right and the industry, through the ELC, should promote national or, better, harmonised international standards which provided detailed design guidance to meet the spirit of the directive.

After reviewing the well known visual and lighting design problems presented by the electronic office Mr Lees came down on the side of up-lighters with tungsten halogen or metal halide lamps as the preferred solution. This view was balanced to some extent by the third paper of the afternoon given by *Frantz Josef Bierbrauer* of Osram GmbH, Germany, with the title 'New accents on work station lighting'.

Mr Bierbrauer advocated mixed direct and indirect systems with low wattage metal halide lamps providing the indirect component and 'high' wattage compact fluorescent the direct lighting. He showed tailor-made systems integrated with work stations as part of

the desks, screens or cabinets. In open plan offices he suggested that the control of the indirect system could take account of daylighting and unoccupied desks, the direct lighting being operated by the employees themselves.

Electronic challenge

The theme of lighting control was taken up by *Peter Van Westering*, of Philips Lighting, Netherlands. He stressed that changing requirements within working environments had challenged the lighting industry to find new answers. The solution was found through electronics, and lighting engineering would have to change in order to apply this solution effectively.

The use of work areas was becoming increasingly varied. Precision work, desk work and working at computers in one office, all required different lighting levels. In factories, the different reflective properties of the various materials all demanded different lighting levels. Moreover, individual multifunctional tasks required different values and combinations of lighting for each function. Visual requirements also varied greatly from one person to another, and age and personal preference had also to be accommodated.

Traditional lighting solutions suited static situations, whereas electronics now made possible dynamic lighting environments that could be adapted to meet specific requirements. High frequency systems controlled the output of low voltage tungsten halogen and fluorescent lamps using a simple potentiometer, photocells or digital IR remote control.

Digital technology allowed pre-programming of lighting installations which could also be linked to lighting management systems. Flexibility, comfort and cost control were the key benefits of electronic lighting assisting the designer, installer and owner, but it was the end user that benefited most as he got the right light at the right place and time.

Harmonisation?

All four afternoon speakers emphasised that lighting design for lighting at work was a matter of looking for complete lighting solutions, which took account of the variety of tasks and operators involved. The lighting system, therefore, had to be designed as part of the total working environment. There was no one type of lamp, luminaire or control system which provided the universal answer, nor could the complexities of the requirement be encapsulated in a single EEC directive.

An important function for the ELC over the next two years, while it concentrated its energies on lighting for work, was to encourage the various national and international lighting bodies to come together to provide harmonised lighting design proposals which, while based on today's technology, did not inhibit the development of new equipment and techniques. This would be no easy task!

Finally, one important landmark in the promotion of the industry's expertise would be the announcement, during 1989, of the second European Lighting Award scheme, which would be looking to reward the very best in European lighting design for working areas. So — watch this space!

LIF LINE

President's view of 1992

At the 1988 Hanover Fair I was invited to a lunch with Lord Young. Although the discussion was supposed to be on all matters affecting industry, in fact it was heavily biased towards 1992 which Lord Young stated would be the biggest single event in the whole of our business careers. Since, then there have been numerous seminars and everyone is jumping on the bandwagon. Much interest has been created, and yet only two years ago the Single European Market was never even discussed. Why this change? Have we been missing something?

Founded over 30 years ago, it used to be called the Common Market. In 1973 when we joined, there was a promise of a large, free domestic market. The industry responded with, for example, joint ventures at Hanover and work on European Standards for our products. And what did we find? Still the non-tariff barriers were there. And what did we get from Brussels? More and more social directives and legislation for things that we found irrelevant, like worker directors on company boards.

This came home to me when I recently attended the European Lighting Council in Brussels where we had a talk from Monsieur Robert Verrue who is Director of Internal Market and Industrial Affairs in Brussels. He admitted that the Directorate had become bogged down in social legislation; the progress toward a Single European Market had been hampered by the rule of 100% agreement. As long as a veto could be applied, total harmonisation had proved impossible to achieve. The new approach initiated by Jacques Delors, as we know, relies on majority agreement. Second, Mr. Verrue felt that the Community could not agree on a common response to the two oil price shocks. It is only recently that the world economy has stabilized to an extent where things could move ahead.

Later I attended a DTI seminar for trade associations on 1992. The picture that I was beginning to get was that major changes were going to come about, that they would affect all businesses in varying degrees and that a major rethink of company strategies was going to be required.

But what does 1992 mean to us? In one word, I feel that it is all about competition. Not only competition between companies, but also increased competition between governments.

I quote Alain Madelin, French Minister for Trade at the time, talking about competition between states. "In the Europe of 1992 the advantage will go to the one with the most to offer in terms of free enterprise, to the one who will have the least interfering and most efficient state. We shall see jobs, firms, brains and capital go to the country with the best social and fiscal climate, with a tax system that offers the highest rewards for effort and initiative, with an education system best able to forge skills and develop talent, with a social welfare system offering the best service at least cost".

In the UK we have recently seen steep reductions in the level of direct taxation. I wonder, was this to create a competitive climate ready for 1992?

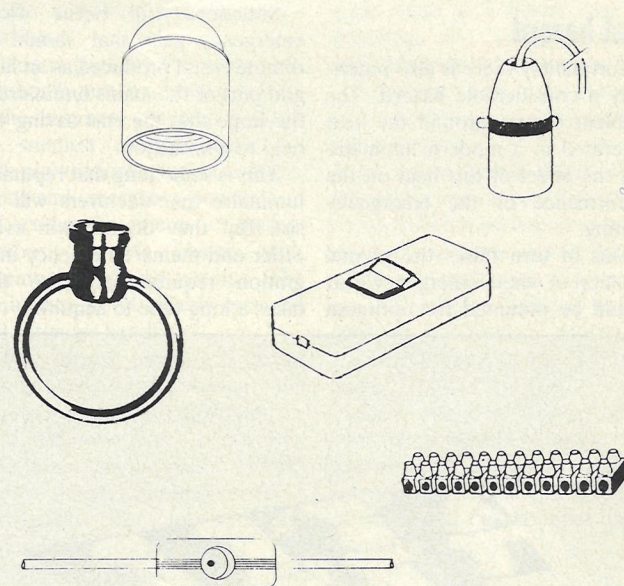
We often forget that there is a world angle on this and the original concept is to provide us with a firm homebase from which to compete throughout the world. I'm told there is a French supermarket chain which now supplies cars. They will take your specification and source the car from wherever in Europe it is sold the cheapest and then have it delivered to the supermarket. The power of supermarkets in the UK is already very high. Can you imagine the power of a supermarket chain which buys throughout Europe and sells throughout Europe?

I believe it is inevitable that there will be further mergers and acquisitions in the industry. At the same time, I believe there is a great opportunity for the smaller companies, provided we are efficient and do our jobs properly.

The LIF will continue to work on European Standards, keep its members informed and build on its contacts at the ELC, and I would remind *LEN* readers once more about the ELC Paris Conference for manufacturers next Easter 23 March 1989. This important 'getting to know you' exercise is being held at La Cité des Sciences de la Villette, Paris (Conference room Louis Armand), and is organised by the French Trade Association, Centre d'Information de l'Eclairage, 52 Boulevard Malesherbes, 75009, Paris. The fee is 1000FF for the 24-hour event, and covers delegate and spouse. Simultaneous translation is to be provided during the sessions. I strongly recommend it to all UK lighting equipment manufacturers.

John Terry President, LIF.

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Emergency and mains luminaire integration

Emergency facilities are increasingly being incorporated into mains luminaires — for practical and aesthetic reasons. But is it always advisable? *Paul Dion* of RADA Lighting, and a member of the council of ICEL, examines the pros and cons.

The trend towards incorporating emergency lighting facilities in mains luminaires is the result of technology fulfilling a long-felt want of architects and consultants.

Most architects and designers would probably rather not have any luminaires in their ceilings at all, so extra emergency fittings are a major irritation. Services consultants want the minimum amount of hardware in an already crowded ceiling void — and ceiling voids seem to be getting shallower.

However, we all had to put up with it until battery and inverter technology advanced far enough to live up a mains lamp.

Today it has. The developments in electronics mean that we can now satisfactorily operate almost any fluorescent lamp available from a compact, sealed battery.

In fact, it has been possible for over ten years, but the full implication of this opportunity has only recently made an impact on the professions.

Consequently, the past three or four years have seen the trend towards mains/emergency integration accelerate.

The immediate benefit — aside from any considerations of aesthetics or convenience — is that in an emergency situation you may now get more light output per luminaire.

You will be living up perhaps an 1800mm fluorescent tube instead of the 150mm-300mm tube or small tungsten bulb that you otherwise might use — and you will also have light distribution via a modern high-efficiency louvre instead of a plastic diffuser.

So there can be a gain in terms of potential safety.

Heat hazard

Unfortunately there is also potentially a considerable hazard. The problem centres around the heat generated in a modern luminaire and the effect of this heat on the performance of the emergency lighting.

This in turn raises the pivotal question of where emergency gear should be mounted for optimum

performance.

Although it is cheaper to do so, it is often advisable not to have the emergency control gear incorporated into the mains luminaire itself. The heat generated by the mains lamp and gear can reduce the life and performance of the battery and inverter considerably.

The battery will not accept the total charge if the temperature is too high. This means that in an emergency it may not provide light for long enough — or it may not give any light at all.

Also, many emergency control gears contain safety devices that are activated thermally, and excess heat can trip them. This can render the emergency lighting ineffective for the future and it can also affect the mains lighting.

So there are clear risks associated with mounting the emergency gear in the mains luminaire itself. These risks may be reduced if the luminaire is air handling — depending on the path of the air flow — and certainly it is often safe to incorporate the gear in a single lamp luminaire, especially if it has a louvre rather than a diffuser. But often it is essential to mount the remote gear separately from the luminaire.

Unfortunately it costs more to do so.

Price sensitive

Consequently, as the trend towards integration approaches the point where every architect always wants his mains and emergency lighting if the same luminaire it seems inevitable that a percentage of installations will be inadequate, and perhaps even dangerous, especially if the marketplace remains so price-sensitive.

Situations will occur where emergency gear that should be remote is still produced as an integral part of the mains luminaire in the hope that the cost saving will help to win the job.

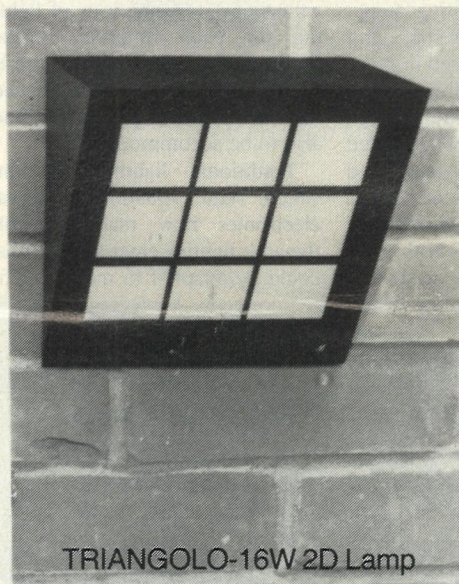
This is something that reputable luminaire manufacturers will resist. But they do not win every order and mains/emergency integration requires expertise that takes a long time to acquire.

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Mains luminaires in this dealing room double as emergency lighting.



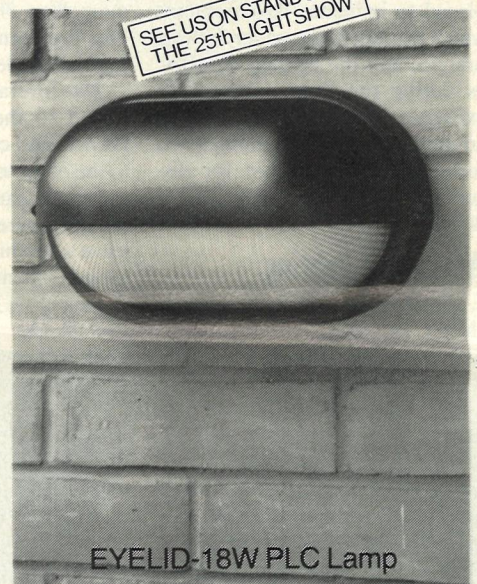
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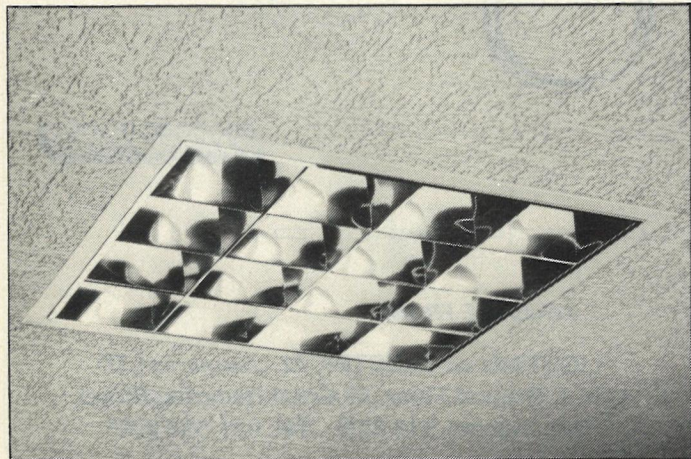
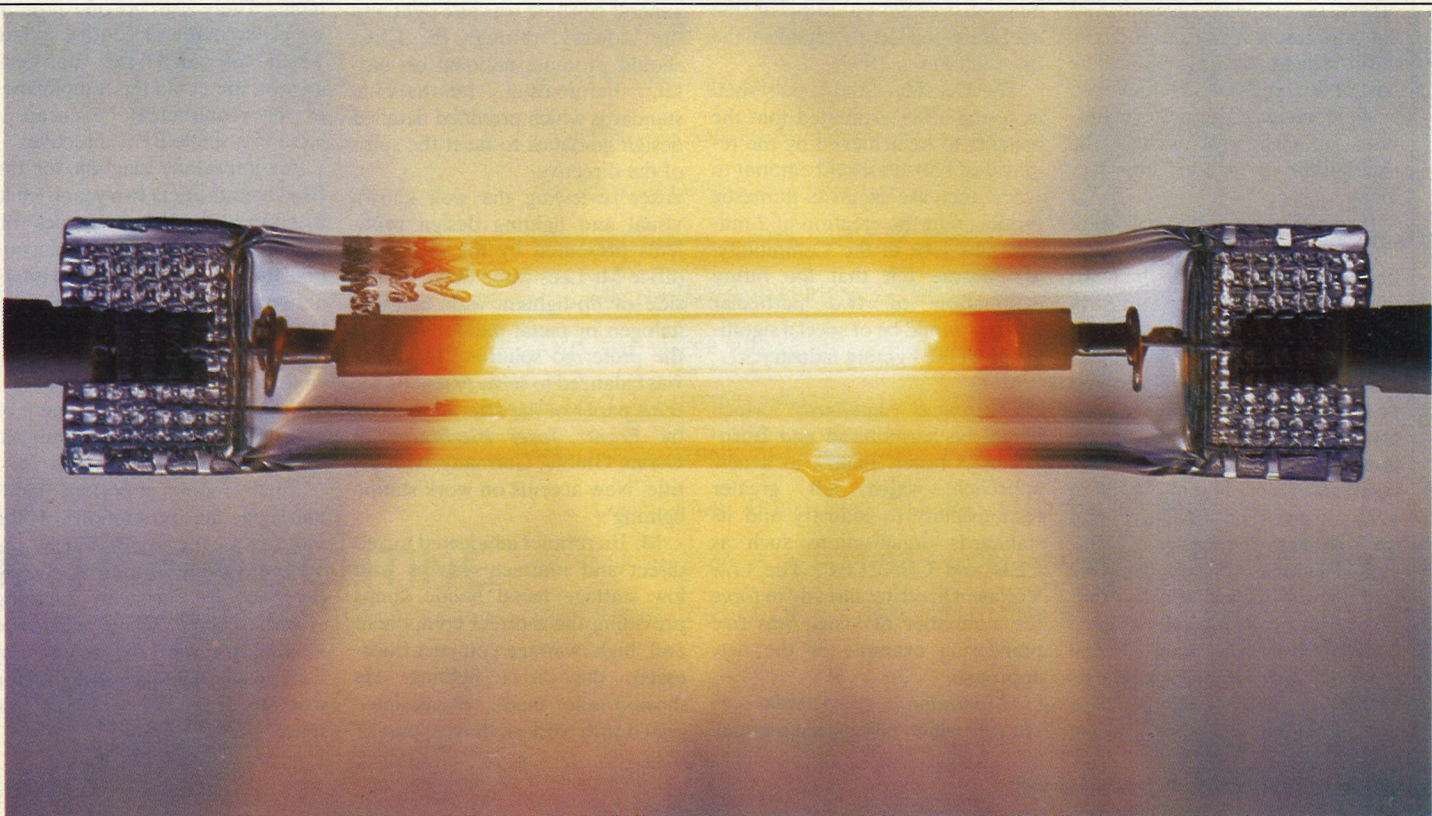


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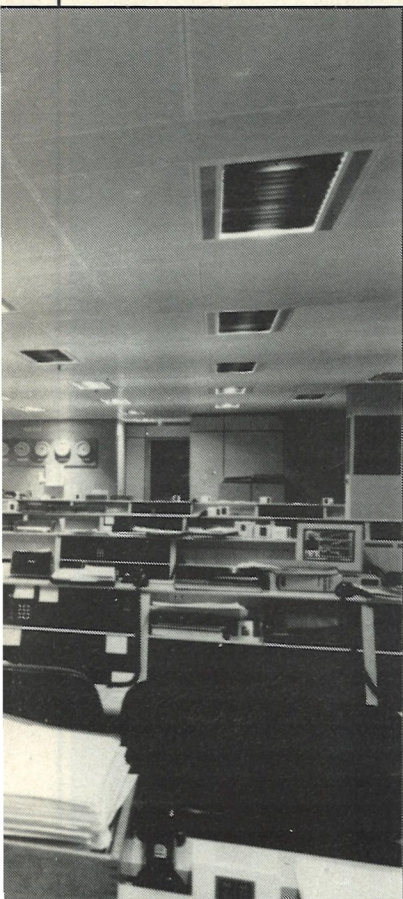
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producing mains and emergency luminaires and we have our own in-house heat test facilities for checking every luminaire design.

Yet there are manufacturers with no emergency expertise at all who are trying to combine emergency and mains in the same fitting.

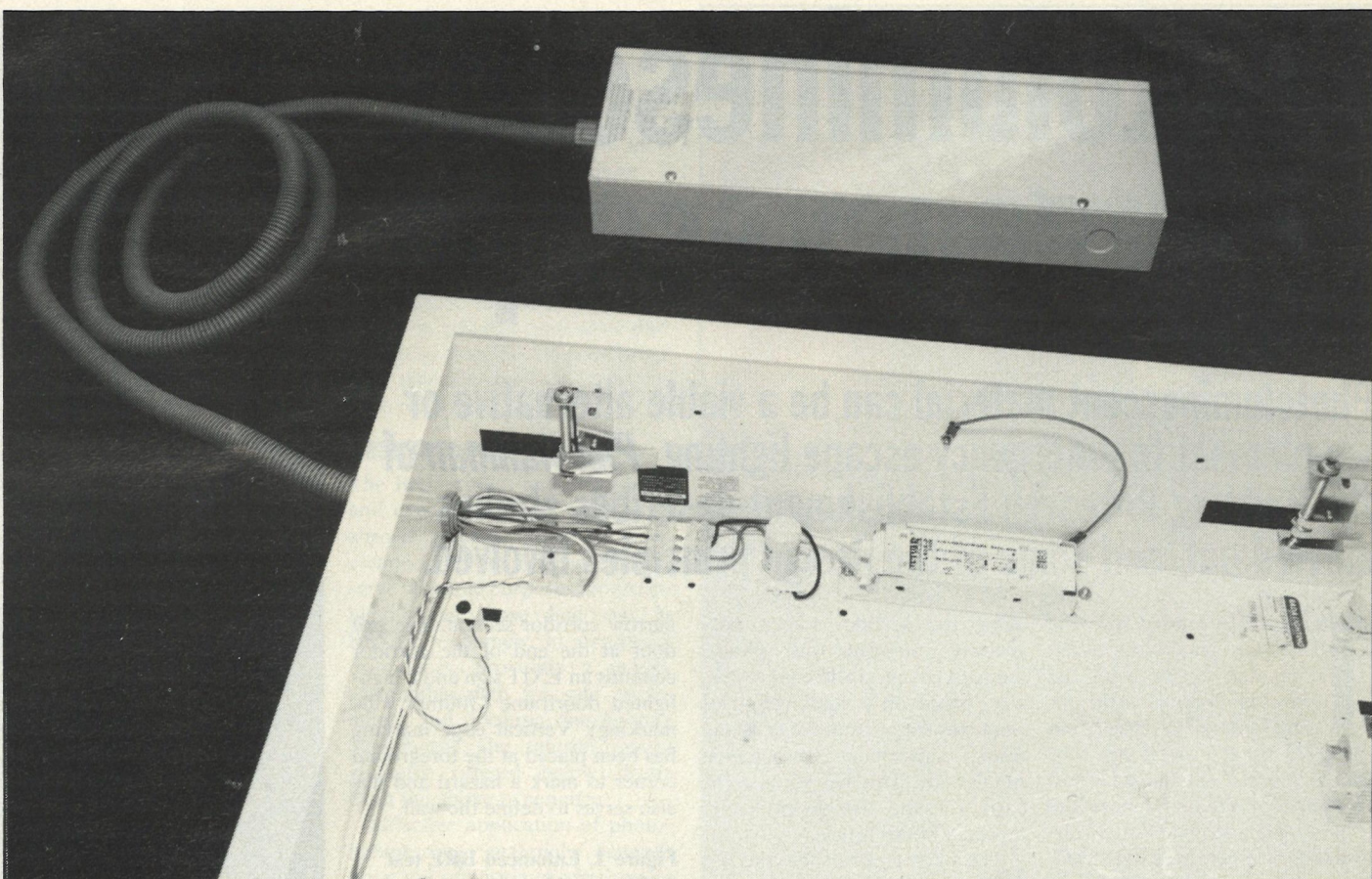
We also fit and test all the wiring and components in every luminaire. Even more importantly, we may be unique among manufacturers in supplying our emergency gear ready fitted with simple plug and socket connectors for rapid and reliable on-site fitting.

In our view it is not good practice to cut costs by supplying loose components and hoping that the electrician on site has the specialist skills for wiring emergency luminaires. And, even if he has, how can he test the fitting satisfactorily?

Gambling

The point is that ignoring or accepting inadequacies in emergency lighting expertise ultimately boils down to gambling with people's lives, and this has to be unacceptable.

To come back to the location of



Mains luminaires with pre-wired remote emergency pack.

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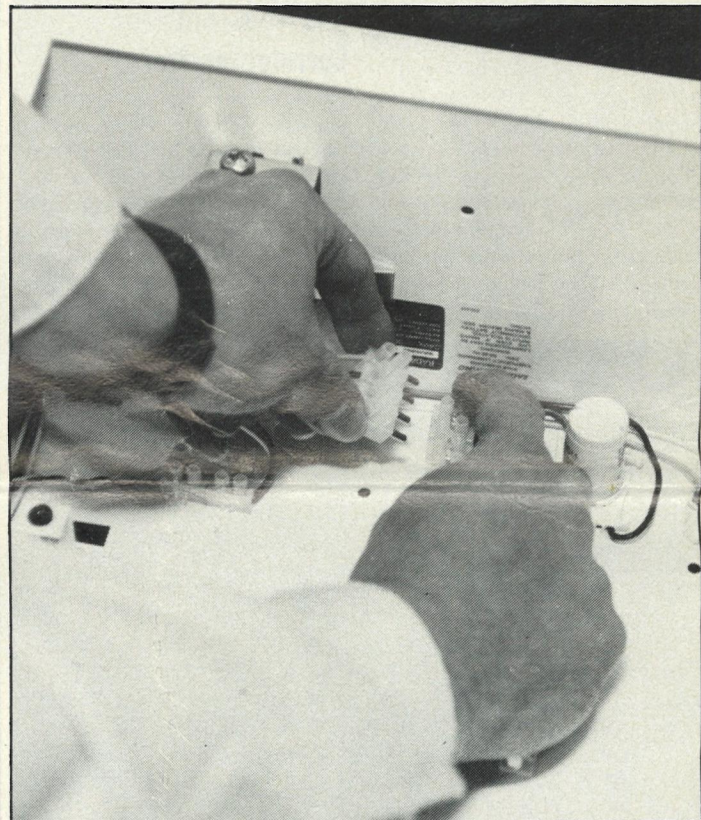
new World Champion in the 70 watt class the VIALOX NAV-TS SUPER.

As small as it is, it has the highest efficacy of 100 lumen per watt. In comparison the incandescent lamp achieves only 12.

Apart from the floodlighting of facades this lamp is especially suitable for bringing light and safety to roads, pedestrian precincts, building sites and production areas.

So it looks as though this World Champion is here to stay.

WOTAN



Plug and socket connects remote emergency pack to mains luminaire.

the emergency gear, it may be impossible to mount it in the mains luminaire, regardless of heat considerations, simply because the fitting is too small. A remotely-mounted pack then becomes the only alternative.

Also, the development of compact lamp sources, which suggests that luminaires will become even smaller, will inevitably add to this problem.

This is particularly ironic, and potentially very frustrating, in view of the imminent arrival of some of the smallest compact lamps in four-pin versions capable of being mains and emergency powered.

Locating the emergency pack is obviously much easier with continuous lighting systems. The luminaires are invariably recessed and often air handling.

This means there is a better chance of incorporating the emergency pack into the luminaire itself but, even if this is not possible, there may be plenty of infill panels between luminaires where the packs can be mounted remotely.

Surface-mounted fittings will always pose a major problem for mains/emergency integration. If the emergency gear cannot be fitted into the luminaire there are only three options, and none of them is entirely satisfactory.

The luminaire can be extended to incorporate the emergency gear, but this is visually unattractive; the

gear can be mounted on the ceiling close to the luminaire, which is visually even more unattractive; or, thirdly, a central battery system will have to be installed, which is costly.

The question of gear

Finally, there is the question of the type of mains gear specified. And again there is a strong case for mounting the emergency gear remotely from the luminaire.

Switchstart gear is the cheapest and smallest but it produces the greatest heat. Low loss gear is more expensive but larger. Electronic gear is the most efficient and produces the least heat, but is also the most expensive and the largest.

So, whatever gear you specify you will face problems of heat or space if you want to mount the emergency pack in the luminaire itself.

As so often in lighting, it is a constant trade-off between heat, cost and size. Except that, in this instance, there is the added factor of safety and the potential risk to human life.

RADA Lighting Limited is a manufacturer of mains and emergency luminaires, a member of the Lighting Industry Federation and a member of the Industry Committee for Emergency Lighting. Paul Dion serves on the Emergency Lighting Committee of the LIF, and is a member of the Council of ICEL.

Reader Service No. 9

Photoluminescent emergency escape

Photoluminescent material can be a viable alternative or supplement to emergency escape lighting. *Phil Hallman of the Building Research Establishment describes studies carried out, and some of the design principles involved.*

The BRE studies on the use of photoluminescent material began with an investigation of corridor and stairway evacuation speeds by some 84 work-age subjects in a special simulation facility. A number of different approaches to providing adequate visual conditions in an emergency were tried. These included a range of low level illumination, among them an approximation to the British Standard minimum recommended illuminance of 0.2 lux, and a unique approach based on photoluminescent marking of the route.

The results were positive enough for BRE to begin developing design guidance for possible wider use of photoluminescent material in escape route systems. Enhancements have been made subsequent to the original tests

along the corridor (when only sparsely provided with photoluminescent cues) and on the stairway, based on a combination of what was learnt from the tests and from subsequent evacuation simulations. This has formed the basis for the design principles reported in this article.

The photographs show the test facility as it presently is and a practical application of the material in the BRE lecture theatre.

Corridor markings

Figure 1 shows how skirting board markings (100mm wide) on both sides of the test corridor provide characterisation of the corridor space. The internal doors are similarly marked close to the floor to give a continuous wayfinding line.

Arrowed EXIT signs are placed on either side of the start of the

narrow corridor section. The exit door at the end of the corridor contains an EXIT sign and a highlighted doorframe (100mm wide marking). Vertical edge marking has been placed at the foreground corner to mark a hazard and this also serves to define the wall.

Figure 1. Enhanced BRE test facility corridor.

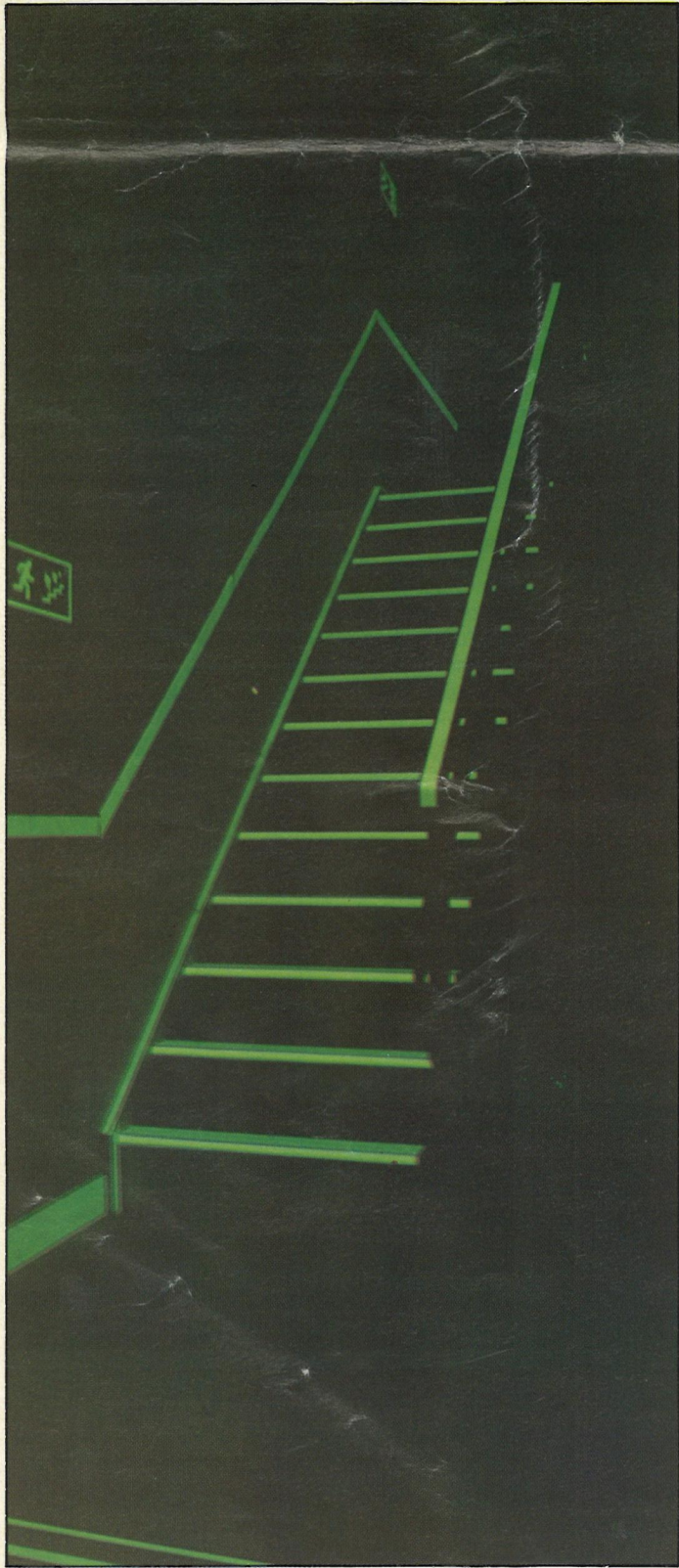
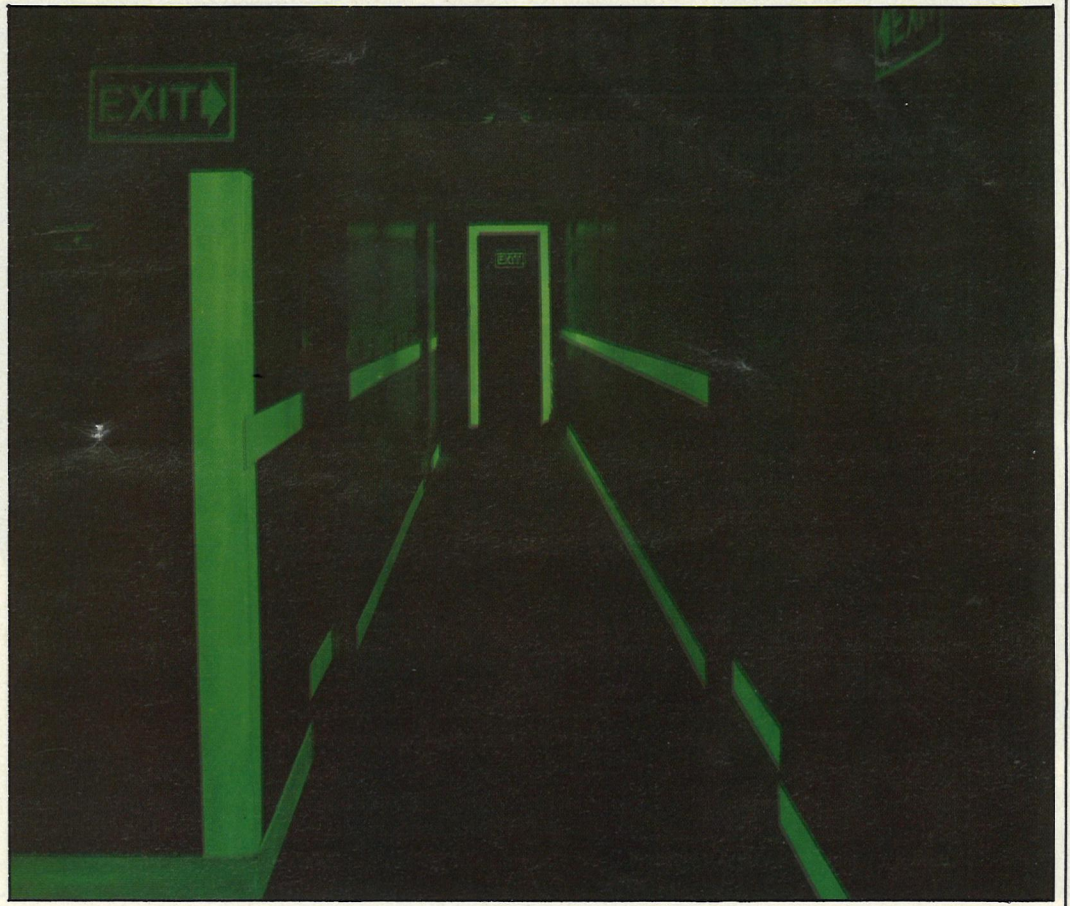


Figure 2. Enhanced BRE test facility stairway.

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Additional continuous marking at waist height on the walls is shown as a further possible measure for silhouetting other people.

Lighting from tungsten luminaires and fluorescent lamps in the facility provides illuminances approximating to CIBSE recommendations (at least 100 lux) on the corridor and stairway (described below), and this adequately serves to excite the photoluminescent materials in situ.

Stairway markings

Figure 2 shows commercial prototype stair nosings incorporating photoluminescent material (supplied by Shinebuild Photoluminescent) on both the tread and riser faces of the test stair. This approach gives acceptable visibility for movement up and down the stairs.

A continuous marking has been added to the wall on the left-hand side of the stair to reassure users of the presence of the wall — not a void — and to further emphasize the start of the top and bottom landings and slope of stair.

Other highlighting includes the left-hand wall string and the right-

hand handrail. Man-on-stairs signs have been placed at the top and bottom of the stairs.

'Walkthrough' assessments

Following a period of excitation, typically 5 to 10 minutes, the photoluminescent marking system throughout the building has been put through a number of informal walkthrough assessments by both technical and non-technical subjects, singly and in groups of up to 10 or so people at a time, including a range of visitors to the facility.

No particular difficulties were encountered in their use of the corridor or stairs. The efficacy of the results has also been validated by similar feedback from reaction to a highlighted stairway in the BRE lecture theatre, shown in Figure 3 in combination with an internally illuminated EXIT sign (top left) and some extraneous borrowed light (top centre) after switch-off of theatre lighting.

On switching off the normal lighting in the test facility and in the lecture theatre, the luminous markings have immediately created orientation cues, enabling the essential characteristics to be instantaneously identifiable for the

provision of an escape route.

Some observers have remained in the test facility for up to an hour after switch-off and commented that conditions for wayfinding and movement were still acceptable. The author has found that the materials were visible and enabled movement throughout the building for at least three hours in sustained darkness.

Photoluminescent material

The light output of photoluminescent material depends upon the amount of excitation which it receives prior to lights out. With visible radiation below about 500nm together with the ultra violet part of the light spectrum providing this excitation, the greater this is the greater the luminance immediately on switch-off of the excitation source and the longer the time the material is visible to a person in the space during sustained darkness.

BRE photometric measurements¹ have shown that 10 lux excitation illuminance is the minimum starting point for tungsten lamps and white fluorescent lamps. Above this level and up to about 300 lux there is a linear

relationship between the luminance of the material and the logarithm of excitation illuminance.

Above about 300 lux, excitation luminance tends to level off to a constant value. There is a short time to saturated excitation — even as little as 40 lux produces saturation in a few minutes. Comparing both lamp types after switch-off for a given excitation illuminance, the fluorescent lamp results in a higher luminance during decay than the tungsten lamp: after one minute above 10 lux the ratio is about 2.5:1.

Design considerations

The BRE studies and simulations and experience from installations abroad indicate that luminous escape route marking systems can serve the same purposes for escape lighting as those laid out in BS5266 — namely, in identifying exit doors, providing a readily identifiable path for safe movement, and locating fire-fighting equipment. The interim design guidance offered below draws from the above experience.

Effective application of photoluminescent material depends upon the provision of appropriate



Figure 3. BRE Lecture theatre — a practical application.

and sufficient visible cueing. The general principles which BRE² has derived for their use on escape route systems are that they should:

- identify each exit door and emergency exit door;
- provide clear, unambiguous information as to direction of route;
- mark continuously a path line to enable safe movement towards and through the identified exits;
- mark path(s) and main door(s) within open-plan areas;
- emphasize stair characteristics and any other changes of floor level;
- highlight specific hazards such as dangerous corners and edges (protruding objects);
- indicate locations of fire alarm call points and fire-fighting equipment.

Additionally, photoluminescent material can be used to:

- show plans of escape routes;
- locate and identify control equipment;
- give a general — very low level — illumination in areas such as lifts and plant rooms.

A photoluminescent system requires suitable light sources for

excitation to yield appropriate luminance performance and visibility of the material. The whole approach is a combination of legible signs, visible lines and suitable excitation.

A new British Standard could be required for testing photoluminescent materials. At present there only exists a German Standard, DIN 67510, for testing long-afterglow phosphors and products.

The use in emergency escape systems of photoluminescent material warrants serious consideration by the industry and designers and specifiers.

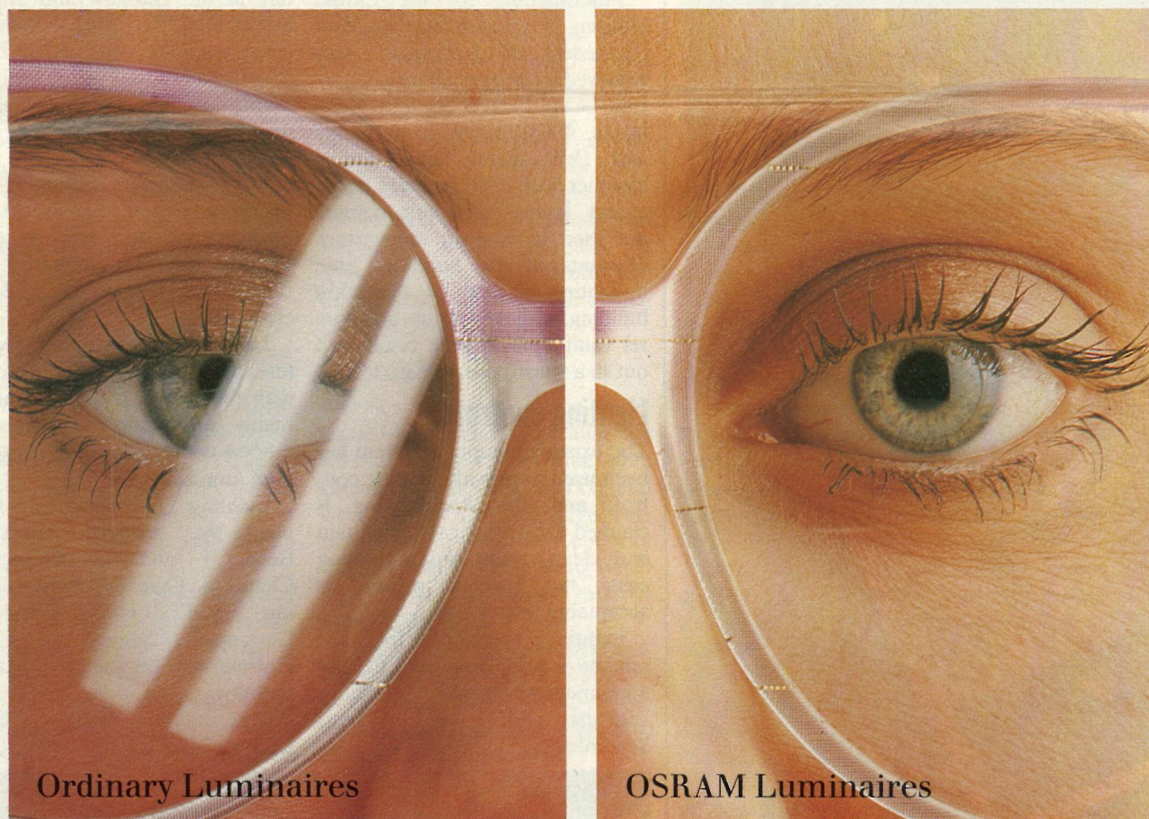
Acknowledgement

The work reported here forms part of the research programme of the Building Research Establishment and this article is published by permission of the Director.

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- ¹ GMB Webber, P J Hallman and A C Salvidge. Movement under emergency lighting: Comparison between standard provisions and photoluminescent markings. *Lighting Research and Technology*, 20 (4) (1988).
- ² Dr Gerry Webber and Philip Hallman. Photoluminescence for aiding escape. *Fire Surveyor*, 17 (6) 17-27 (1988).

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OSRAM

High commended lighting

LEN looks at the runners up in the National Lighting Awards and finds a key in sophisticated control systems.

The highly commended projects in the National Lighting Awards range across a very wide variety of buildings and lighting applications and, unlike the section winners, include internal and floodlighting installations, and both new-build and rehabilitation schemes.

Designing a lighting scheme for the new Tate Gallery in Liverpool posed a number of interesting technical problems. The building's Grade I listed status meant that

none of the ceiling heights, ranging from 2.4m to 4.0m, could be altered nor could the internal structure. A very high degree of uniformity of lighting of the walls was necessary to enable large paintings to be displayed properly and, naturally, exceptional colour rendering was required. Finally, the works of art themselves had to be protected both against UV irradiation and against excessive exposure to ordinary visible light.

The solution adopted was to combine lighting and other build-

ing services into a central duct which runs high up along the vaulted ceilings. This carries the lighting wiring trays, transformers, associated control gear, and air conditioning. It also has compartments for smoke detectors and loudspeakers.

Uniform wall lighting is provided by special asymmetric mirror reflector luminaires which are mounted very close to the wall. The mirrors were computer-designed by Philips. Each reflector has 22 facets and is mounted at 45°



The Treaty Centre, Hounslow, comprises an atrium and a series of short shopping malls. Low energy, long-life lights controlled by computer were chosen to provide a high level of energy efficiency, and particular importance was given to lighting a group of bamboo trees, an unusual feature of the atrium.

Instead of lighting the atrium generally to the high level needed for plant growth, narrow-beam metal halide floods are used to direct light onto the canopy of the bamboo, and this is supplemented by natural daylight. This use of lighting was discussed by the lighting consultant Derek Phillips, in his article on lighting for planting (*LEN* September 1988); the project as a whole was described in detail in the August 1988 issue.

The Windsor Leisure Pool opened 16 months ago following redesign by architects Faulkner Brown, and has since consistently exceeded attendance targets. High pressure sodium lighting and tungsten low-voltage luminaires are extensively used both above and below water level — with a single unit governing three areas of the pool for lighting and scene selection.

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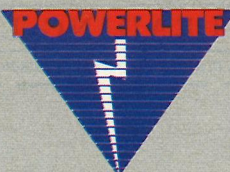
In the hours of darkness this automatic, Photocell operated luminaire combines low energy consumption with high light output.

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Floodlighting scheme for the Lloyds Building, London.

to the horizontal plane on the side of the duct. Fluorescent uplighting is also built into the boom to provide security and amenity lighting.

All fluorescent lighting is high frequency with light output regulation. Colour 83 (warm) tri-phosphor lamps are used throughout these combine deluxe colour rendering and high luminous efficacy with the low UV content required in this application.

Floodlighting for the Lloyds building in London, the so-called 'Cathedral of Insurance', was achieved by using a mixture of narrow beam floodlights and bulkheads, 400W metal halide lamps and 1kW metal halide lamps together with 80W mercury fluorescent lamps. Different colours are used to contrast the various elements of the building; blue uplighting is used on the main building, while the atrium and barrel vault were lit both inside and out in a warm rose amber.

Lighting controls

The existing computer system has been used to provide lighting control, and the floodlighting is claimed to be practical to maintain and clean, while giving running costs the owners regard as acceptably low.

Lighting designer for the scheme was Imagination Ltd, and equipment was supplied by Philips Lighting, GEC and Francis Searchlights.

Scene selection

Up to 16 moods can be created for fashion shows, parties and discos, and other types of promotion, and this generates further revenue for the local authority, the Royal Borough of Windsor and Maidenhead.

Lighting designer for the scheme was Cairns and Bules, and equipment was supplied by Holophane Europe Ltd, Bega and Electrosonic.

Up to 160 cases are heard each day in the Glasgow and Strathkelvin Sheriff's Court, a new 21 court complex constructed from stone, marble and exotic timbers. As natural light is not available in the court rooms, care was taken by architects Keppie Henderson and lighting designers Ramsay and Primrose to provide an acceptable environment, and light is consciously used to emphasise the shape and texture of building elements.

Lighting manufacturers were researched on a worldwide scale, with the result that six countries finally contributed to the finished scheme comprising 4 000 custom-built luminaires.

Lighting equipment was supplied by: Alumex, BBI-Staff, Bega, J and G Coughtrie, Claudgen, Courtney Pope Lighting Ltd, Dampa-Rondella, Designplan Lighting Ltd, Erco, Hoffmeister, LB Lighting, Marlin Lighting, Moorlite Electrical, Philips Lighting, Simplex, Thorn Lighting, and 1001 Lamps Ltd.



The Windsor Leisure Pool showing normal sports lighting.

IMI Reeves

LIGHTING EQUIPMENT NEWS



Pull-Out!

The City of Birmingham — and one of its oldest companies — celebrate together this year as they each attain their hundredth birthday.

Just as the City celebrates its centenary, so does the long-established firm of IMI Reeves, famous the world over for lampholders.

IMI Reeves is one of Britain's leading suppliers of high quality metal, porcelain, and phenolic lampholders to the decorative lighting industry.

It is also a major exporter of lampholders to Europe, Asia, Africa and Australasia.

Reeves' lampholders have earned an enviable worldwide reputation for quality and service.

History

The firm now known as IMI Reeves was founded in 1889, in Birmingham, by Arthur Bernard Reeves. He had started up a business making decorated brass spinnings for use on curtain rails and beds.

Around this time it was the fashion for curtain rails to be finished off at both ends with highly decorative, convoluted, brass spinnings. Similarly, bed heads and foot railings were frequently finished off with a complicated set of brass knobs, some of them quite large.

Other products made by Mr Reeves in his factory included leaf-like solid brass pieces for use on chest of drawers, and also as the background to handles for drawers in cabinets, wash stands, and wardrobes.

Mr Reeves' business changed, however, with the advent of the First World War.

The pattern book of this time, which is still held by the firm, shows that some of his business was the making of shoulder flashes and regimental buttons for a number of units in the British army.

It was not till December 1910 that Reeves made its first lampholder, but records are few as to how this came about.

From small beginnings came fresh rewards, however, and soon Reeves was supplying lampholders to some of the biggest names in the electrical world. Its ever-expanding business tended more and more towards concentration on lampholders and electric lamp fittings.

This was the scene, then, between the wars, with Reeves fitting into Birmingham's industrial scene and establishing for itself a name which was growing ever important throughout the world.

Incorporation under the Companies Act of 1929 came about on 24 October 1939 when the firm became known as Reeves and Company (Birmingham) Ltd.

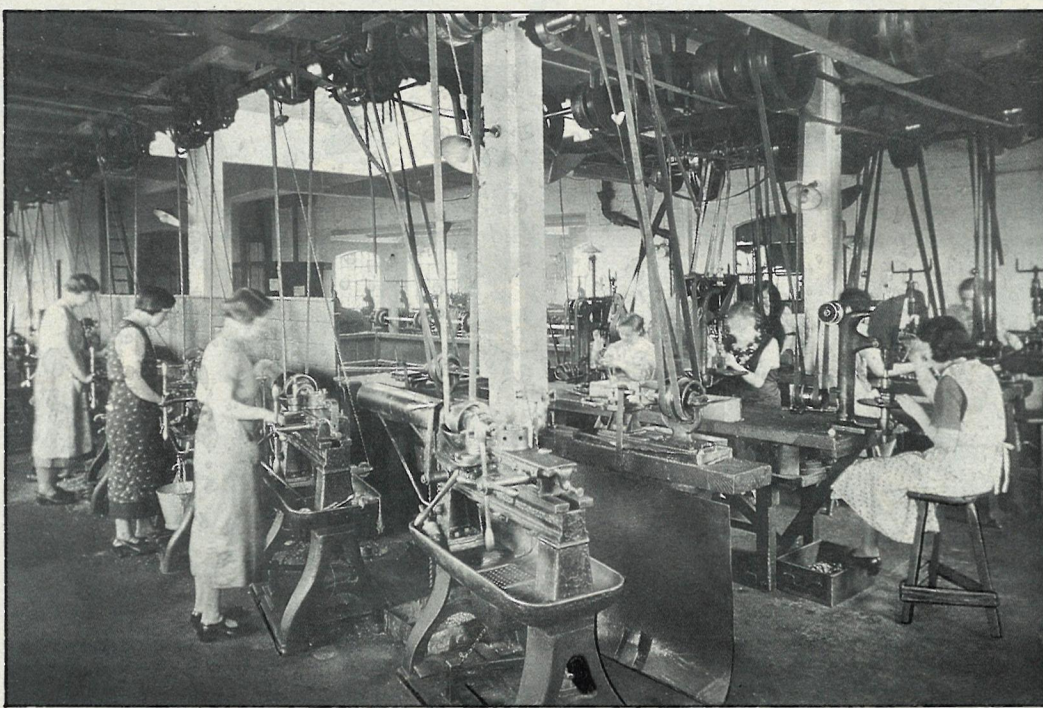
Between the wars, and especially during the Second World War, the familiar Reeves trade mark — a crescent carrying the letter R — became renowned for lampholders. At home the company established agents and stockists in Manchester, Belfast, and Glasgow, while abroad, it appointed agents in Calcutta and Cairo, and later in South Africa and Australia.

Crescent

Use of the crescent as the trade-mark was significant because the Reeves works at this time were known as Crescent Works, and were located in Cambridge Terrace — an area near the Repertory Theatre which is now being developed as the Birmingham International Convention Centre.

Original photographs still show the workshops at the old Crescent works, and depict vividly how working conditions and styles have changed since those days.

These pictures were used by the Institute of Production Engineers and exhibited at their centenary in 1981 at the Science Museum in London, part of the Victoria and Albert Museum.



They were used alongside modern pictures of the present plant as an example of some of the changes which have occurred in the organisation of mechanical engineering production in Britain in the twentieth century.

Reeves' catalogue of that era shows bayonet cap B22 lampholders rather more bulky in design than the current range, but all made in solid brass.

The catalogue also shows a pushbar, or switched, lampholder, candle holders, batten holders, and strip lighting type lampholders — then known as switch lighting holders. There are examples of three light and two light battens which are not now considered to be the best type of electrical practice!

Further examples of lampholder products then made by Reeves included a range of bakelite wall switches, switch holders, ceiling plates, and ceiling roses or galleries, together with wiring clips, chain-hooks, conduit bushes and ferrules.

The Edison screw lampholders of those days were the now almost obsolete Goliath, or ES E40, type.

The history of the Reeves family is sketchy, except to show that the male line of Reeves died out. By

1967 the last member of the Reeves family was a Mrs Betty Thomson, who was married to A J Thomson, the British Consul in Beirut.

Mrs Thomson had assisted, in 1960, in transferring the company to a new site in Graham Street, on the edge of Birmingham's jewellery quarter. Cambridge Terrace was taken over by the City Council for its redevelopment plans of the 60s.

On the Graham Street site Mrs Thomson helped to consolidate the transfer from Cambridge Terrace, together with that of another smaller branch which had previously been housed in Edward Street.

Here, by chance, and as if by premonition, the factory had been known as Lion Works. Later, Reeves' parent company was to become IMI at Witton, which in more recent times has been rechristened Lion Works, has a Lion Gate at one of its entrances, and a huge stone lion displayed proudly outside its headquarters.

It was Mrs Thomson who, with older members of the Reeves family, had been involved in the factory's war effort between 1939-45 when anvils and plugs for the Primer 15 Mk 11 ammunition were made for the Ministry of Supply.

The value of the old crescent Works and plant in March 1941 had been estimated at £23 000. A revaluation in March 1946 put the value of the physical assets of the business at £35 000.

During the 1960s IMI had made several explorations into local businesses associated with its manufacture of wrought copper and copper alloy semis. Therefore, IMI, as a supplier of brass strips and deep drawn components for lampholders to Reeves and Company (Birmingham) Ltd, made an approach to Mrs Thomson's solicitors. She was a willing seller.

IMI was then known as Imperial Metal Industries Ltd. An agreement was reached and, on 30 December 1967, IMI secured the Reeves business for one of its subsidiaries, Imperial Metals (Kynoch)

Ltd. IMI (Kynoch) was divided by product into divisions, one of which was Components Division, now known as IMI Components Ltd, and IMI Reeves became an integral part of the activities of this company. The parent company is now known as IMI plc.

IMI itself has quite a history, because it was originally the Metals Division of ICI. But its history goes back much further than that of its former parent, ICI, as it is based on the amalgamation of several firms all located in various parts of Birmingham which carried out wholesale rationalisation of production in the years immediately following the First World War.

These firms included the Kings Norton Metal Company, George Kynoch Ltd, and 15 others, all of whom amalgamated in 1918 in an attempt to withstand foreign competition. All were companies which had grown up between 1914 and 1918 to meet wartime demands for explosives, ammunition, and metals.

The group was originally called Explosive Trades but was soon rechristened to become Nobel Industries following its amalgamation with others. These included the business now known as Nobel Explosives, which had factories at

Stevenston, near Glasgow, and is still a subsidiary of ICI. Only eight years later in 1926, Nobel Industries was one of the four founder groups of a new industrial giant, Imperial Chemical Industries Ltd.

By 1962 IMI celebrated its hundredth birthday as a manufacturer in Birmingham. Soon afterwards, while still owned by ICI, its title was changed to Imperial Metal Industries and within a short time 10 per cent of ICI's shareholding was sold to shareholders, to employees of ICI, and, more particularly, to employees of IMI.

By the late 1970s ICI's shareholding had been reduced to about 65 per cent. And, as IMI's activities were no longer integral to and closely enmeshed with ICI's mainstream business, the decision was taken to sell the remainder of the shares.

IMI Reeves

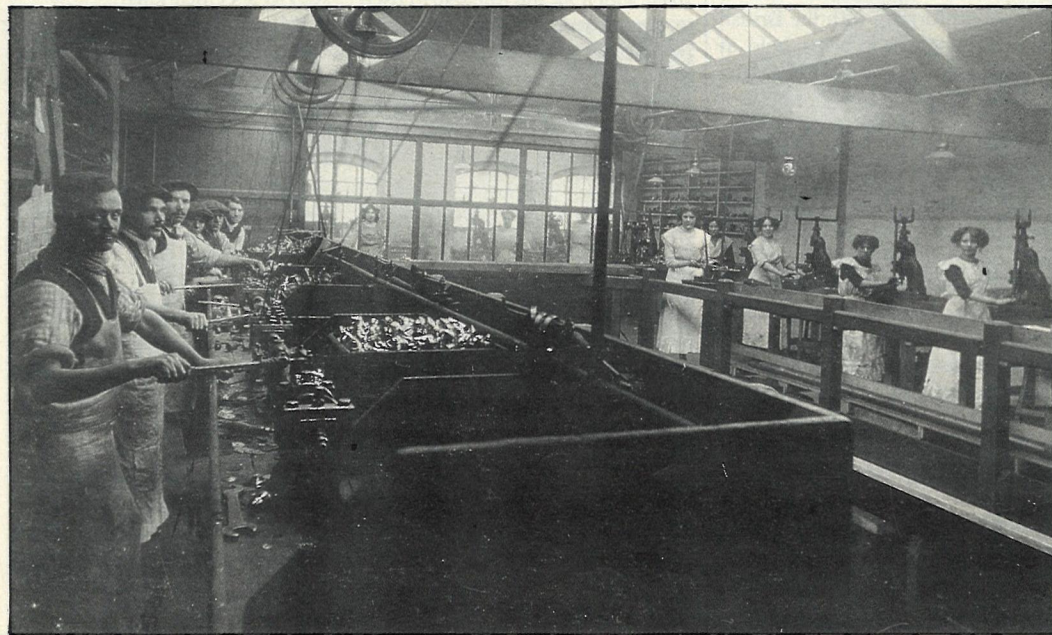
Hence, IMI Reeves became part of what is now in its own right an internationally known group, manufacturing not only copper and copper alloys, but a whole range of sophisticated engineering products.

IMI plc is one of Britain's largest industrial groups, running its world-wide operations from headquarters in Witton, Birmingham. It has nearly 50 companies in the UK, and almost as many overseas. In 1987 IMI plc achieved sales of £861m and pre-tax profits of £92m.

IMI Reeves is located at Witton, in Birmingham, the heart of the motorway network. It is within a mile of a major access point and even closer to a container depot.

Birmingham International Airport, with its own Freeport and extensive freight handling facilities, is only 12 miles away. Direct scheduled flights are available to many cities in the UK and Europe, with shuttles to Heathrow and Gatwick for intercontinental travel.

In addition, Birmingham's New Street station is regarded by British Rail as the hub of the country's rail network. The station provides half-hour Inter-city services to London, the journey taking only 90 minutes.



IMI REEVES



A selection from the IMI range of lampholders.

Products and processes

IMI Reeves now manufactures a very wide range of bayonet cap and supplies Edison screw lampholders in four different types.

These are the bayonet cap B22 and small bayonet cap B15 size, together with Edison screw in the ES E27, and the small Edison screw SES E14 sizes.

Both the bayonet cap sizes are

available in brass, but the B22 size is also available in anodised aluminium, brass plated steel, ceramic, and phenolic materials.

The Edison screw E27 size is supplied in brass plated steel, ceramic, phenolic, and high temperature plastic materials. The small Edison screw size is available only in the phenolic material.

Along with the actual lamp holders Reeves also makes available various accessories such as reducers, hexagon nuts, nipple plates, and all-thread and wood nipples, together with a heat-resistant plastic cord grip, hooks, insulated bushes or grommets, and a glass-retaining spring clip.

Reeves has several deep draw

transfer presses which produce the bodies and domes of brass lamp holders. Unions and shade rings, earthing terminals and accessory fittings are made by the turning process on high speed lathes.

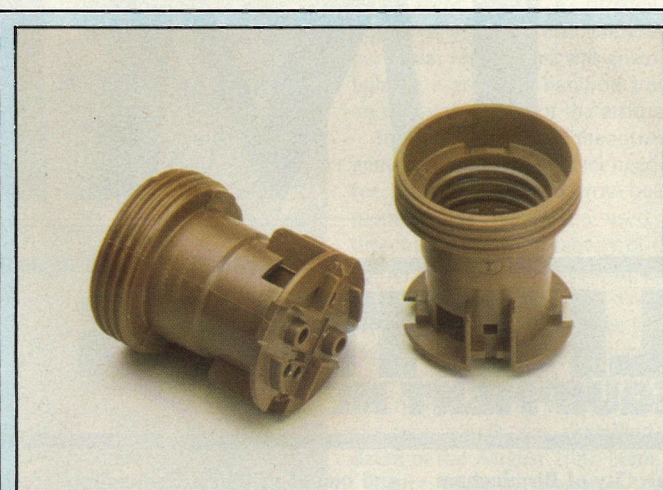
The investment which has been necessary for Reeves to manufacture the high volume of lamp holders required by customers each year is quite significant. Forthcoming expansion by the installation of just one new machine will run into six figures sterling.

Various ancillary processes, such as threading and tapping, as well as inspection and some assembly, are also carried out. The whole process results in the production of lamp holders designed to meet all the requirements of British Standard BS 5042. This standard is accepted throughout the EEC, as well as in many countries around the world. In fact, Reeves lamp holders are regularly submitted to tests carried out to ensure conformity with the British Standard, the tests being held at laboratories nominated by the British Standards Institution.

Some countries then require confirmation tests in their own laboratories. Needless to say Reeves has been successful wherever its products have been subjected to further examinations.

IMI Reeves was one of the first companies to allow its production processes to be inspected by officials of the Decorative Lighting Association so as to qualify for the certificate proving compliance with the Association's Code of Good Practice.

Reeves is a fully-fledged member of both of the appropriate associations for the electrical lighting trade — the Decorative Lighting Association, and the Lighting Industry Federation.



New high temperature plastic lampholder from IMI Reeves

New from IMI Reeves, the UK's leading lampholder manufacturer, is a high temperature plastic Edison Screw ES E27 lampholder with screwless terminals.

Primarily designed for spotlight and downlighter applications, it has a high designed operating temperature up to 240° C, and allows fast and efficient installation with automatic snap-fit, wire retaining terminals. This makes the lampholder particularly suitable for quick assembly by luminaire manufacturers and use in commercial applications where speed of installation is necessary.

The lampholder is finished in brown, and can be supplied with shade rings and rear entry snap caps if required.

This is yet another addition to the growing range of quality lampholders from IMI Reeves, supplied in a variety of materials to meeting exacting standards in both bayonet and Edison screw forms.



Quality control and inspection of lampholder components: foreground: Christina Cheshire; background: Karen McGuire.

Friendly neighbours

It may not be generally realised that within the IMI plc Group is one of IMI Reeves' associate companies — IMI Rolled Metals Ltd — from which all the brass strip used in the making of lamp holders is purchased, at normal commercial prices.

This brass strip is made at the IMI headquarters site at Witton, where both Rolled Metals and Reeves are located.

IMI Rolled Metals Ltd is one of Europe's major producers of rolled copper, brass and other alloys and in the UK is the largest producer and only mill offering the full range of strip — plus sheet, plate and circles. Quality is of great importance to IMI Rolled Metals and it has received approval of its inspection and control systems from the Ministry of Defence (to AQAPA), the Civil Aviation Authority and a number of large UK companies such as MK Electric Ltd, and the Ford Motor Company Ltd.

Many customers provide their own specification but in their absence IMI Rolled Metals supplies to BS 2870, DIN and ASTM specifications.

IMI Rolled Metals starts the manufacture of copper and copper alloy metal both from virgin and from recycled scrap copper, together with the zinc which, alloyed with copper, makes brass.

The process begins with melting and casting. The composition of the material is controlled within very strict limits and for this purpose, x-ray and optical emission spectrometers are used.

Next, comes the production of the strip. Close control of tolerances and accuracy and uniformity of gauge are essential. For final rolling IMI Rolled Metals use a Sendzimir mill, a type recognised as being one of the most efficient and accurate available.

The strip is then coiled and moved across the road into the IMI Reeves works.



Lampholder bodies and domes are produced by automated methods.



Mrs Anne Beale marking domes of lampholders with earthing symbols. At the same time, the dome is pierced to take the earth terminal block.



Mrs Glennis Taylor loading the bowl feeder of the unit which count checks the brass domes used in IMI Reeves lampholders.



Packing station in IMI Reeves' warehouse; foreground: David Hawtin; background: left, Alan Clarke; right, John Hughes.



Sydney's Queen Victoria Building.

Reeves in the market place

No-one doubts that when it comes to brass lampholders IMI Reeves can rightly claim that it has a substantial share of the UK market.

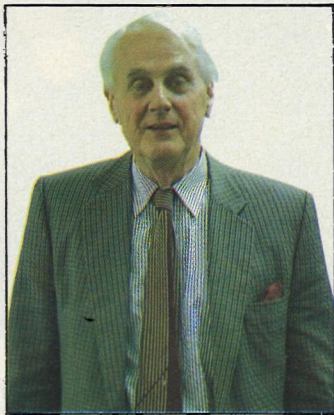
But it may not be generally realised that the same can be said about Reeves in various parts of Africa, the Antipodes, and exotic places, like Cyprus and Taiwan, to name just two.

Currently Reeves sells to 36 countries throughout the world. Although a large proportion of export sales are to other member countries of the EEC, the senior members of the British Commonwealth still occupy very significant positions in a list of overseas customer countries when arranged in order of sales volume.

Some of the Reeves' overseas agents have been doing that job for many years. In South Africa, for instance, Normax has been selling Reeves lampholders for decades, even though they did change their company name about three years ago.

Normax

At Normax the two people mainly identified with Reeves are **Otto Alexander** and **Roland Fischer**, who are both well known south of the Limpopo.



Otto Alexander.

In Australia, **Bruce Weston** operates out of Melbourne and covers the whole of the Commonwealth of Australia — a pretty daunting task seeing that it is as big as Europe.

It is this sort of individual who is pretty good at ensuring that Reeves lampholders are always to the fore whenever prestige lighting contracts come along.

In Johannesburg, for instance, Reeves lampholders light up the prestigious Carlton Centre, which provides a hotel, and shopping and office complex in the city centre. Reeves, also, displays the dignity of Capetown Cathedral.

And in Australia one of Reeves' customers is Donald Magin Light-



Reeves' trademark in the days of the Crescent works.

ing Pty Ltd which uses Reeves lampholders in the recently-built Prime Minister's residence in Canberra, as well as in the New South Wales State Parliament House. Over in Sydney, Reeves lampholders grace the refurbished Great Victoria Building, which is a monument to the burgeoning prosperity of late nineteenth century Australia. Its tasteful overhaul in the mid-80s reiterates Australia's continuation of the progress made in Victorian times.

Even in "darkest Africa" nearly all the main developments in hotels, commercial and retail buildings are fitted with luminaires produced with Reeves lampholders.

They are made by a company in Bulawayo where **Graham Burroughs**, an Anglican clergyman, has created a lighting business to help finance a healthy expanding church and educational programme on the edge of the city.

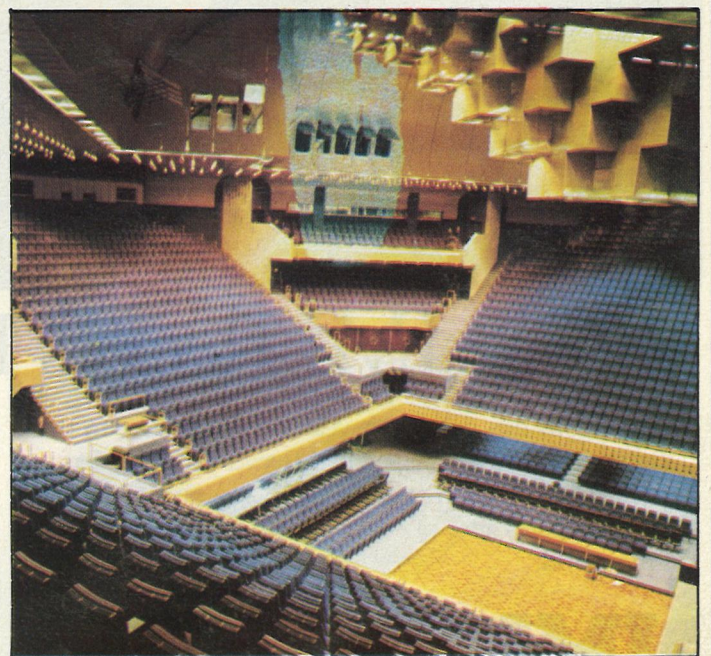
Actually, Reeves' products pop up in some very surprising places: you will find them on the railway network of Mozambique; on sea ferries in the Netherlands; on table lamps in plush hotels in the Seychelles; and at oil installations of the Kuwait Oil Company; and in Australia and New Zealand they are used so widely as to be ubiquitous.



Interior of Sydney's Queen Victoria building.



Parliament House, New South Wales.



Harare International Conference Centre.

IMI REEVES

Who's who
at Reeves

The man at the helm at IMI Reeves headquarters in Witton, Birmingham, is the managing director of IMI Components Ltd, **Kenneth Collie**. He has been instrumental in securing the finance for the expansion in capacity which will take place this year.

David Cobourne, a director of IMI Components, has special responsibilities for Reeves and is its general manager.

He represents the company on the council of the Decorative Lighting Association and, together with the operations manager, **John White**, on the Lighting Industry Federation.

Like David Cobourne, **John White** is a production engineer. He runs the day to day operations of the factory as well as the commercial office. John has had very much to do with the design of all the tooling, and also some of the special purpose plant in the factory. He also participated in the committee which formulated the current British Standard BS 5042 for lampholders.

Ex 4th/8th Hussar and ex 3rd Dragoon, **John Hughes** is another

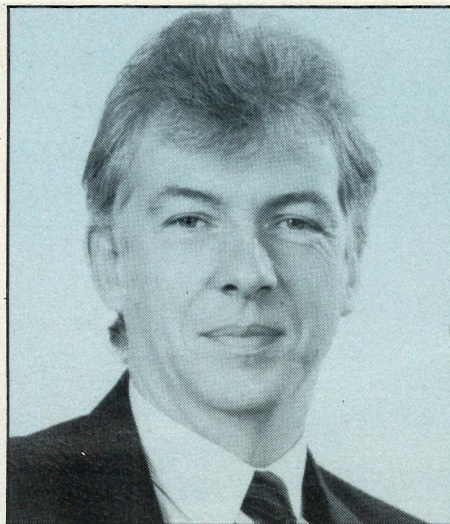
member of the team. He is the man who 'takes all the flak' on the factory floor in his capacity of factory superintendent. John is a quiz whizz-kid and doesn't mind about the fact that he is now getting 'a bit thin on top'.

Ring up Reeves and you will most likely find yourself talking to either **Jenny Neal** or **Ellen Cairns**.

Jenny does all of the buying as well as being in charge of the commercial and sales administration.

Not everyone will know that Jenny is an athlete and has taken part several times in the London Marathon. She runs almost everywhere — not just for exercise, but to check up on goods going out to customers. Ellen has only recently joined Reeves, but is coming along fast. Her hobbies are swimming — and breeding fish!

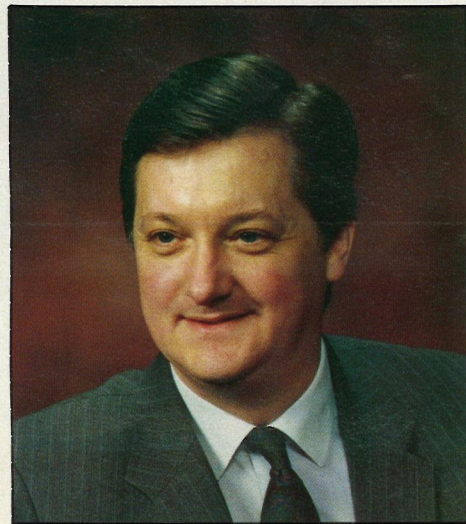
Customers in the home market are visited by the staff of Reeves' offices in London. The most senior is **John Diamond**, who trained as an electrical engineer with STC and then started on his own in 1946, so he has been 'doing this sort of thing for longer than he cares to remember'; **John Pluckrose** also began as an electrical



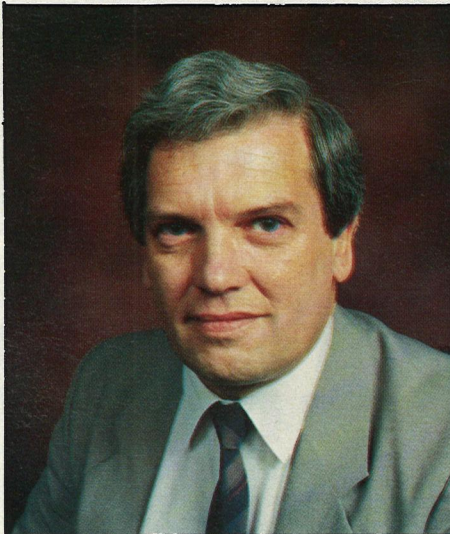
Managing director, Kenneth Collie.



Overseas manager, John Wood.



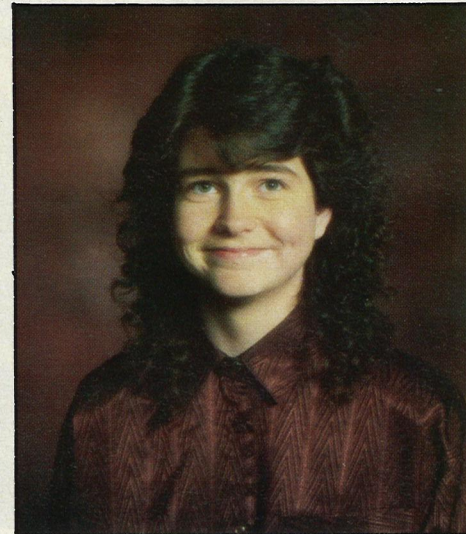
General manager, David Cobourne.



Operations manager, John White.



Jenny Neal.



Ellen Cairns.

engineer, in this instance at BTH Rugby (now GEC); while that young scion of the cricketing world **Brian Gathercole** (he was a trialist with Surrey a few years ago)

gained his experience with Peto Scott.

Responsible for all the overseas customers, agents, and stockists, marketing exhibitions, and also

sales service is **John Wood**. It was John who, in his callow youth, wrote the résumé about Reeves & Company (Birmingham) Ltd prior to IMI's purchase.

Like Jenny, John has to overcome his frustrations by calming himself at the concerts by the City of Birmingham Symphony Orchestra.



Years of Excellence

IMI Reeves Lampholders Centenary Year 1989

In this our 100th year we would like to thank everyone who has helped IMI Reeves Lampholders achieve its position as market leaders — our workforce, our suppliers and, of course, our customers throughout the world.

The key to our success has been our total commitment to the highest quality across the entire Reeves range. That total commitment remains unchanged. It is your guarantee that by specifying Reeves Lampholders you know you're getting top quality in

terms of safety, lasting reliability and value-for-money.

The Reeves range meets almost every conceivable application to both British and European standards.

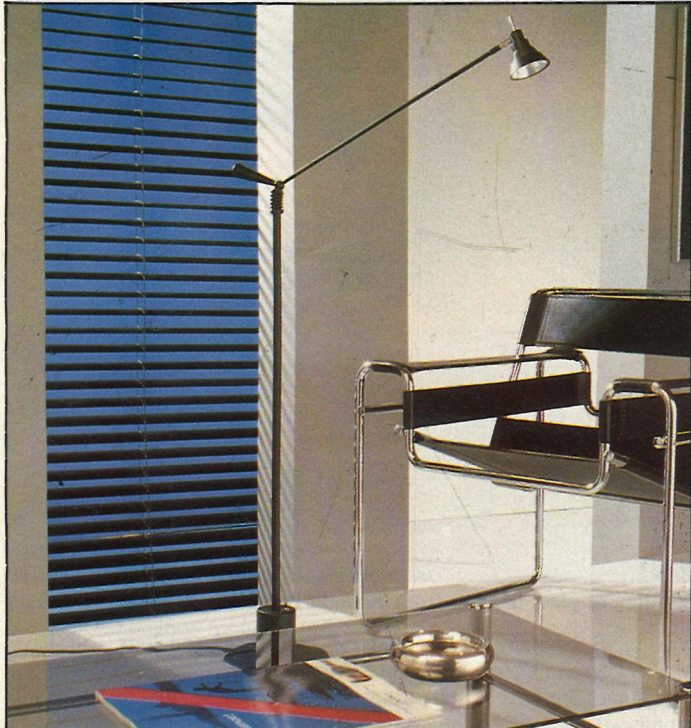
For full details circle the reader enquiry card or phone us direct.

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IMI

Silver Lightshow shines on



Low voltage floor light by Delmas.

Modern lighting looks to the 1990s

A variety of modern uplights, downlights, pendants and spotlights will be among the display of Firstlight Products Ltd, as well as low voltage recessed lighting.

Haddock Lighting Ltd, a new exhibitor, is developing a range of low voltage fittings in addition to its uplights, spotlights and table lamps.

An ultra modern system of lighting on bare wires will be shown by Hitech Lighting plc. Parallel wires arranged vertically, horizontally or in bowed shapes carry a 12V electrical supply and support miniature adjustable spotlights. This versatile system offers elegant and unconventional solutions to many lighting needs in domestic and commercial interiors.

Omega Lighting Ltd, showing its Mazda range, will have new mini spotlights and uplights. An infra-red approach light joins the security range.

Dar Lighting Ltd has ceramic uplights in its 1989 collection, along with modern and traditional

ranges of brass fittings.

A slender, low voltage floor light with double switch will be part of the modern range by Delmas to be seen on the stand of Drimmer UK Ltd. Drimmer's prestige modern table lamps will also form part of the display.

Another company showing low voltage lighting will be British Electric Lamps Ltd.

Among MD Lighting's contemporary range will be pendants and a track system.

A group of Danish lighting manufacturers will be exhibiting domestic and commercial lighting, including energy saving models.

Buyers looking for tungsten halogen floor lights will find them on the stands of Ambiance 88 Ltd and C A Lighting.

David Hunt Lighting Ltd promises new designs in wood with unusual finishes and elegant fittings in antique steel which the company expects to be the fashion finish for the nineties. A new type of light for hallways will also be seen with a marble finish.

This year from 15-19 January at Olympia, London, Lightshow is celebrating its 25th anniversary and to mark the occasion visitors will receive a silver medallion with each exhibition catalogue.

The show will be officially opened by Christopher Gill, MP, on Monday 16 January in the Club Room, Olympia, at 12.30 pm. This will be followed by a banquet and presentation of the design awards for the best modern and traditional lighting fittings at the exhibition.

Winners of the retailers' window display awards will also receive their trophies at this event.

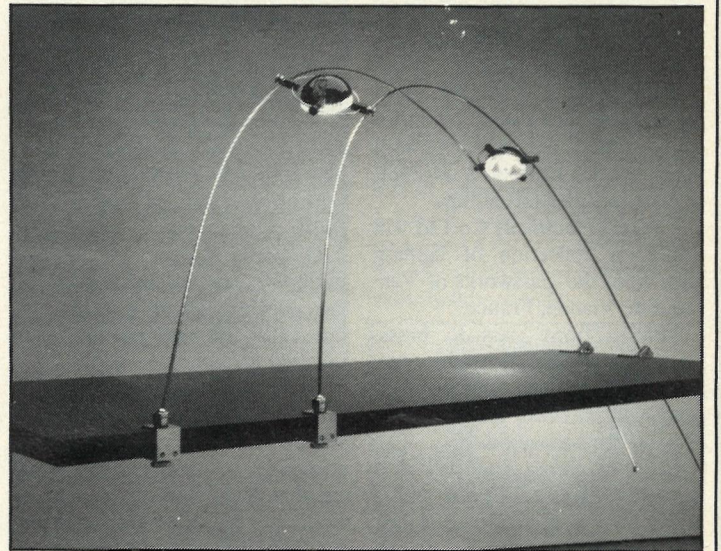
The number of exhibitors has risen to 171 at the time of writing,

which includes companies from Taiwan, Denmark and France. A score of companies are showing for the first time. Newcomers are highlighted on the list of exhibitors and stand numbers on page 18.

An innovation this year is the joint technical stand staged by the British Standards Institution and the Decorative Lighting Association. Enquiries will be answered about testing and safety of lighting fittings and a new label carrying the BSI logo will be launched.

Visitors will see a wide variety of decorative lighting of all types and some products for commercial lighting installations.

Desk light from Hitech arches over the working area.



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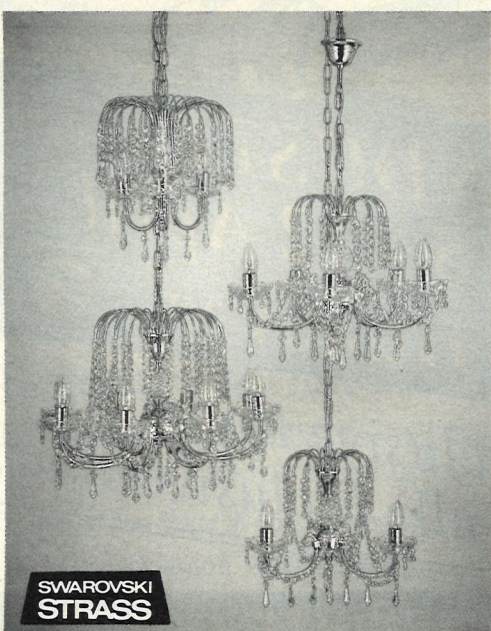
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LIGHTSHOW

Variations will be seen on traditional styles

A new collection of stained glass Tiffany lights is to be shown by C Sandberg & Son Ltd, while Bayada Bros & Co Ltd is introducing an exclusive range of colourful glass pendants with matching wall lights. Bayada also has a selection of glass rise-and-fall fittings.

J Segal (Electrical) Co Ltd will display a collection of lighting glass from the glassworks of Verrieres de Vianne, France.

Moving from glass to brass, Franklite Ltd will exhibit traditional lighting in solid polished brass, antique brass, cast brass and brass with a bronze finish.

Leyris Lighting Ltd will also show fittings in solid brass and is giving a five year guarantee against tarnishing.

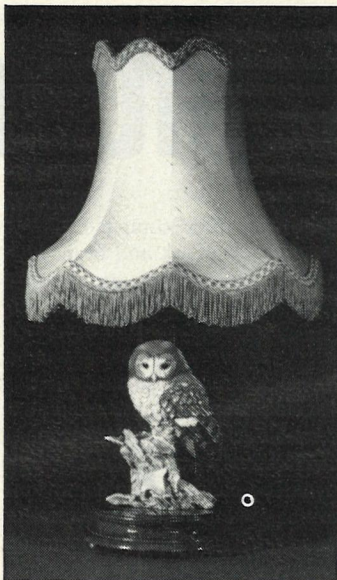
Brass table lamps and swing arm lamps will be among the display by PLMC Ltd. Studio 17 (Lighting) Ltd promises an unusual range of oriental cast brass.

At least two companies will display gold plated lighting: Contessa Furnishings (London) Ltd and J H Miller & Sons Ltd.

Granville Paul is bringing its pottery castles, cottages and village pubs to Lightshow for the first time. They are hand painted lights touched up with 22ct gold.

A new exhibitor, Global Village, imports from 43 countries. Its stand will show wrought iron chandeliers, candelabra and candleholders, with lamp bases in wood, pewter, brass and ceramics.

Chain Run Co Ltd, from Tai-



Tawny Owl table lamp from a selection shown by Italy Direct.

wan, will have a wide variety on its stand, including Tiffany table lamps, novelty lamps, floor standards and wall lights.

Crystal keeps sparkling

The recently formed British Crystal Lighting Company (BCLC) is off to a flying start in developing exports. Its products are on the front page of a publication associated with Dublin's Shannon Airport: *Shannon Mail Order*, which is sent to 3.4 million readers in North America.

"To get in, we had to guarantee delivery to anywhere in the United States within 48 hours," said managing director, Keven Verdun.

Mr Verdun formed the company in an exclusive agreement to make and market lighting for two of Britain's leading full lead crystal glassmakers, Stuart Crystal Ltd, and Royal Brierley Crystal Ltd.

BCLC's chandeliers for the domestic and contract sector will be at Lightshow.

Impex (Glassware) Ltd will dis-



A range of glass lighting from Bayada Bros.

play its Bohemian, lead crystal, Maria Theresia chandeliers. Four new ranges of Strass crystal basket fittings will be available, all assembled and individually boxed.

Starlite Chandeliers will have many new models. Of special interest will be the spiral crystal pendants and the rope and tassel pendants.

The World Light Show

Lights and Lamps

The World Light Show – the world's largest presentation of lighting technology – will occupy an impressive display area of at least 30,000 m² at HANNOVER FAIR Industry '89. Some 400 exhibitors from 23 countries, including the market leaders, will exhibit a comprehensive array of lighting, lamps and illumination systems. The World Light Show showcases design trends and the latest functional solutions – and serves as the market-place for orders by the trade.

In the direct vicinity of the World Light Show more than 200 exhibitors will present the entire spectrum of installation technology.

5th – 12th April, 1989

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INDUSTRIE

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Arnold Rustemeyer, 25 Hurst Way, South Croydon, Surrey CR2 7AP, Tel.: (1) 688-9541, Fax (1) 6810069, Telex: 8951514



Wrought iron candelabra to be shown by Global Village.



Table lamp by PM Lighting has crystal tipped fringe.

Pendant selection

Buyers looking for pendants will be interested in the following stands. Gaylights of Bromley will be featuring fully lined pendants, while Wickshades Lighting Ltd will show lined and screen printed designs.

Bitto will show a selection of its most popular pendants.

Windsor Lighting Ltd will display Italian brass and glass pendants with other models in wrought iron.

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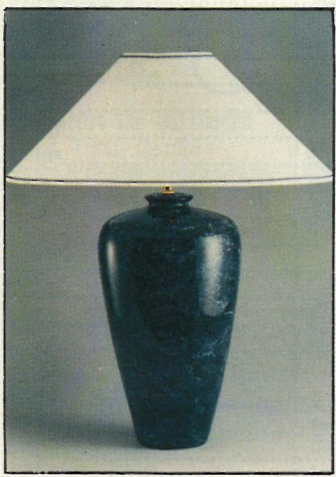
The specialists for trade fair travel

Table lamps to cater for every taste

Most buyers include table lamps on their shopping list at Lightshow and they will not be disappointed with this year's selection.

ETD Lighting Ltd has collected together nine ranges of table lamps, some with new finishing techniques, which will be shown under its Cresswell brand name.

Sculpture range features bases in classic shapes with rich transparent glazes set off by co-ordinated shades. Sumptuously coloured ceramic bases decorated with gold leaf and teamed with plain or pleated shades form the New Traditionalism range. Earth Tones range has bases in hand thrown terracotta or stone effect with linen-look shades.



Marble Opulence, a table lamp from ETD Lighting.

English Country Pottery makes hand painted pottery table lamps and has two new lines: Summer Orchard and Clematis. Exclusive lines are produced for customers.

Pottery lamp bases will also be shown by S P Lighting.

Ambiance 88 Ltd will be showing elegant designs from France by Le Dauphin, including the Variance range designed for the middle market.

New designs in alabaster and solid marble lamp bases will be seen at the stand of Squire Lighting Ltd.

For stoneware lamp bases, the stand to visit is Denby Tableware.

Italian figurine lamps will be displayed by Hadrian International Ltd, Italy Direct Ltd and Daveen Manufacturing Co Ltd.

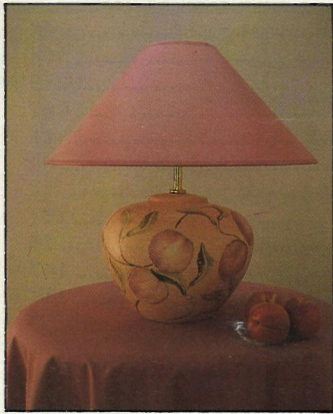
Chinese

There will be a wide choice of Chinese lamp bases this year. Look for the stands of Carlos Remes Lighting Co, J N Preedy Ltd, Base and Shade Co Ltd, The Chinese Collection and Import Developments Ltd.

Japanese lamps will be shown by RoChamp Ltd and the Base and Shade Co Ltd.

New shades

Real silk shades in a variety of textures and soft colours will be exhibited by J C Harding Ltd.



Summer Orchard table lamp by English Country Pottery.

Plain and perforated metal lampshades as well as a soft fabric selection will be shown by a new company, Interlite.

Kay Pate Lampshade Makers is a newcomer to the show and is bringing unusual shades decorated with flowers, leaves and grasses.

New ranges of shades are to be displayed by Autumn Shades Ltd and Horrocks Shades Ltd.

News highlights

● **Art Deco lights** will be shown by L & M Lighting Ltd, Philips Lighting and Poole Lighting Ltd.

● **Jivelight Ltd** will be the only company exhibiting disco lighting.

● **Bathroom lights** can be seen at the stands of MD Lighting and Philips Lighting.

● **Lighting co-ordinated** to home furnishing fabrics is being shown by Poole Lighting Ltd and Park Rose Ltd.

● **Picture lights** will be displayed by Scan Decor, Opal Lighting and Poole Lighting Ltd.

● **Antiques** restored and converted into lighting fittings are the speciality of B C Metalcrafts Ltd.

● **Astro lamp**, Glitterlites and fibre optic Phantomlites made by Crestworth Ltd will be appearing at Lightshow after a long absence.

● **Ceiling fans** plus lighting will be exhibited by Fantasia Ceiling Fans Ltd (including low voltage lights), Homelight Ltd and Catalina



Art Deco style light by L & M.

Lighting.

● **Wooden table lamps** with a new finish, in modern and traditional designs, will be displayed by Tramar Ltd.

Brighter gardens!

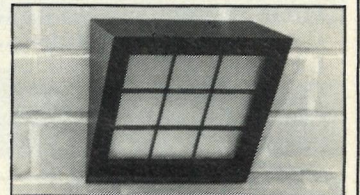
Elstead Forge Ltd is branching out into Victorian lanterns.

Malibu is a low voltage garden lighting system introduced by Besa Lighting Ltd. It consists of two floodlights and two decorative bollards for driveways and patios.

Spectrum Luminaires Ltd will be showing wall, corner, post top and under canopy models.

Philips Lighting will show fittings for wall or spike mounting and an infra-red security system.

Emess Lighting (UK) Ltd is launching a security system called Eyespy which includes several outdoor bulkhead lights.



Triangolo, by British Electric Lamps.

Fluorescent fittings and decorative lamps

Marque X Contract Lites, part of the Hamilton group, is launching a tubular lighting system for the commercial and leisure markets. It has pre-wiring for three independent circuits, giving a high degree of control over the lighting. Low voltage and emergency lighting facilities are included.

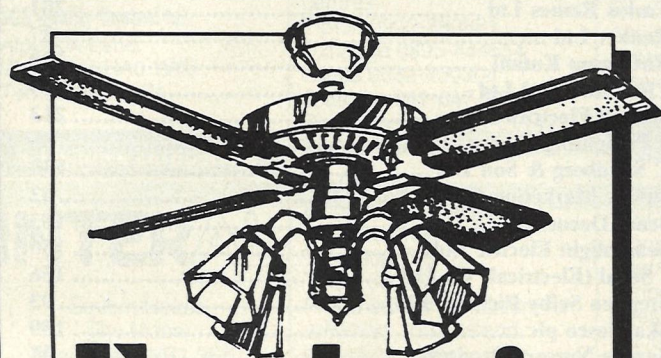
Crompton Lighting will exhibit new ranges of spotlights and fluor-

escent luminaires for indoors and outdoors.

The company will also show its Charmlight candle lamps in pastel colours, Neodymium reflector lamps and energy saving lamps.

Fitzgerald Lighting Ltd plans a display of its fluorescent battens, Lighting domestic circular fluorescent fittings with glass shades, and luminaires for 2D and PL lamps.

Globe shaped lamps with decorative finishes such as crystal, Croc-Ice and marbled effect, for use in lighting fittings where the lamp is visible, will be displayed by Electro-Replacement Ltd.



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LIST OF EXHIBITORS

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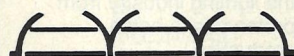
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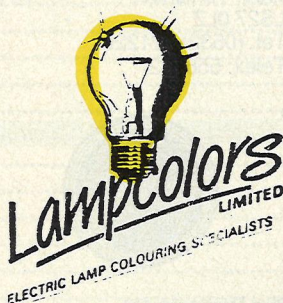


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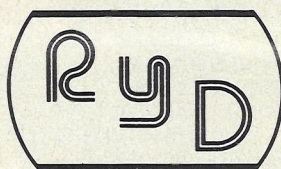
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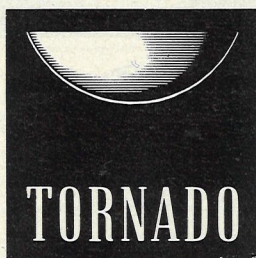
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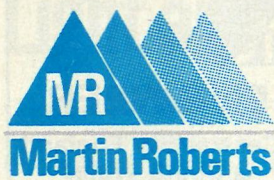
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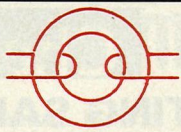


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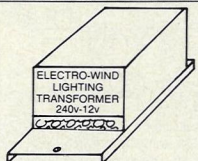


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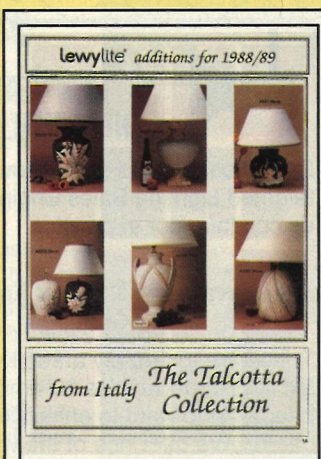
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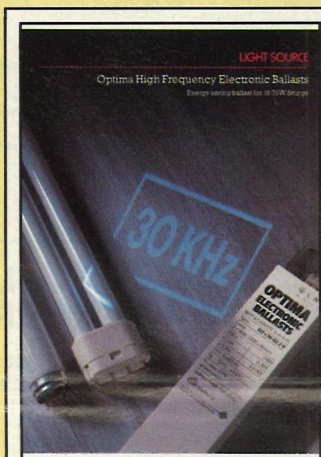
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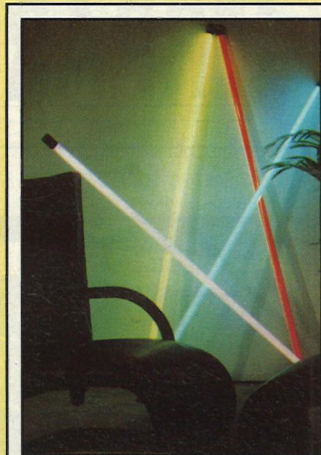
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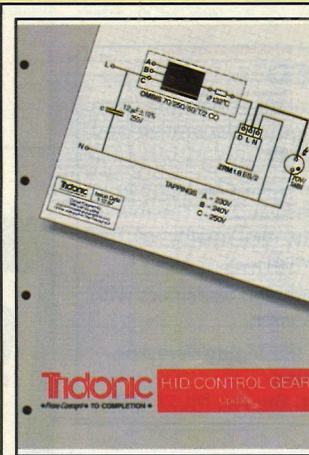
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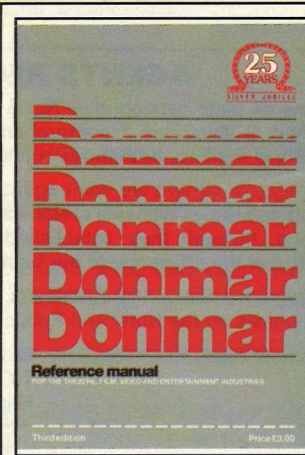
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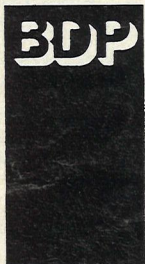
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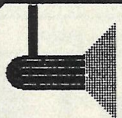
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Persons wishing to be considered for inclusion in the above list should write for application forms to **Director of Commercial Services Department (AMD), Commercial Services Department, Blenheim Road, Epsom, Surrey, KT19 9AJ.** Not later than 10 February 1989.



NEW YEAR — NEW CHALLENGE

Due to continuous sales growth we invite talented Lighting Sales Engineers to help us continue our expansion.

**Areas available: North of England
Scotland**

These are extremely attractive and exciting opportunities for ambitious sales people, who want to enhance their career. We offer one of the widest packages of competitive and quality lighting in the market including *structura* which is a brand leader. Motivated income packages are available for the right candidates.

Applications in strictest confidence to:

Mr G. Noble,
National Sales Manager,
C & R Lighting Systems
Ambrooke House,
Southfields Road,
Dunstable,
Bedfordshire LU6 3EJ
Tel: (0582) 662423

LUMINAIRE DEVELOPMENT MANAGER

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

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

A salary of circa £15,000 is offered and relocation expenses available plus usual benefits.

Please write with personal and career details to:

The Managing Director,
Jerrard Bros plc
Arcadia House, Cairo New Road, Croydon CR0 1XP
or 'phone 01-688 8222

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Reader Service No. 19

Institute of Environmental Engineering
CENTRE FOR CONTINUING PROFESSIONAL EDUCATION
Another in the series of Lighting short courses is being offered by the Centre on Monday 20th and Tuesday 21st February 1989.
Design of optical systems for luminaires.
The two day course will cover basic principles of light control, methods of reflector and refractor design and photometry of luminaires. Course fee £195 including refreshments.
A course certificate will be issued on completion.
For further information and registration please contact:
The Centre, Room N201A, IoEE, Polytechnic of the South Bank,
Borough Road, London SE1 0AA.
Tel: 01-928 8989 Ext 2025.

**South Bank
Polytechnic**

Chalmit

LIGHTING SALES ENGINEER

London &
South Coast

Central/SW England
& South Wales

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are a progressive and highly successful Lighting Manufacturer of Marine, Industrial Commercial and Hazardous Area Lighting products. Our quality range of Standard and Specialised Equipment has been used extensively in both the U.K. and International markets for many years.

We require 2 Sales Engineers familiar with Industrial and Commercial lighting to cover the territory mentioned above.

A working knowledge of our existing markets, whilst advantageous, is not essential as many of our new products are suitable for use in more industrial/commercial and specialist applications.

Attractive remuneration will be paid, consisting of a basic salary plus commission on all sales in the area.

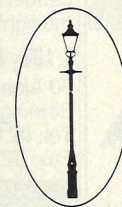
We are part of a multi-national Group, benefits include an attractive Company Pension Scheme with free Life Insurance etc., plus various other fringe benefits, including company car.

Men and Women wishing to apply for this position should do so in writing to:

Mr. R. R. Cochran, Sales Director
ANDREW CHALMERS & MITCHELL LTD.
477 Hillington Road, Glasgow G52 4QW



a Pillar electrical company



SALES / MARKETING DIRECTOR — DESIGNATE EXCITING NEW SENIOR POSITION

MARKET LEADERS in Heritage Style external lighting, Queen's Export Award winners, expanding U.K. and overseas. We need a proven Sales Manager, lighting or building products experience, to exploit growth potential. You must be energetic and enthusiastic to develop our established yet innovative company.

You are offered a highly attractive package and profit share.

WE are extremely ambitious — are YOU?

Apply in confidence to:

Wally Maisey, Managing Director
D. W. Windsor Ltd., Stanstead Abbots,
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**D. W. Windsor Limited is a member of the
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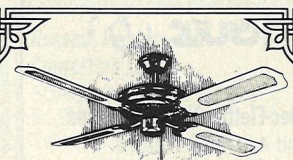
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Reader Service No. 20

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NEWS

Light and sound images

Centrepiece of the Peugeot Talbot stand at the Motorshow was a light and sound sculpture featuring fibre optic lighting, lasers and computer technology and designed by i-Laser Sound and Vision Ltd.

The main structure was based on a crystal formation. Each of the crystals was individually cast from ultra-violet reactive resin with surfaces simulating the texture of real crystals.

Composed predominantly of transparent light guiding materials and fluids, the structure was brought alive by a high intensity, colour modulated laser source.

The laser light was carried in bundled glass optical-fibre strands 100 microns in diameter, designed to emit light along their length

rather than at the termination point. Modulation of the intensity and colour of the lasers, combined with selection of the fibres to be illuminated, gave a powerful visual effect.

In addition, each of the crystal-line structures was lit with ultra violet light and theatre spotlight projectors.

The Peugeot-Talbot lion was computer-cut from UV reactive perspex and lit via an optical fibre link from the main body of the sculpture.

The addition of two "keylines", one fashioned out of conventional neon, one of process-blue flow neon, added further strength to the image.

The control system and sound track were also by i-Laser.

Sponsoring design talent

Emess plc is to sponsor the 1989 New Designers exhibition at the Business Design Centre, London, from 16-19 July. It is investing £90,000 in the project.

The exhibition shows the work of final year students, which is submitted by their colleges to a selection committee that includes the Chartered Society of Designers.

Lighting is one of the eight categories of interior design covered by the exhibition.

Michael Meyer, Emess chair-

man, has become aware of the high regard abroad for British trained designers and feels that British industry should be encouraged to share this view.

His company's support for the exhibition is intended to underline its belief in the crucial role of design and to encourage two-way communication between designers and manufacturers.

For further information contact the Business Design Centre on 01-359 3535.

Period lighting with a purpose

Period lighting plays an important part in the Austin Reed store in London's Liverpool Street, where a major refurbishment involved creating a distinguished, traditional, corporate image.

Georgian chandeliers and art deco style uplights from Chelsom combine to give ambient lighting.

Mounted on mahogany and sycamore veneered pillars, adjustable solid brass uplights using 300W linear tungsten halogen lamps accentuate the wood grain and help to create a welcoming atmosphere.

On the upper level of the store, floorstanding uplights are built into shelf units displaying gentlemen's suits. The halogen light sources are protected by toughened glass covers.

Functional display lighting is



provided by adjustable 70W metal halide luminaires by Concord Lighting Ltd, which are semi-recessed into the ceiling.

Three, ten-light Georgian

chandeliers provide illumination on the upper landing of the store and a 24-light chandelier in the entrance area provides the finishing touch to a classic interior.

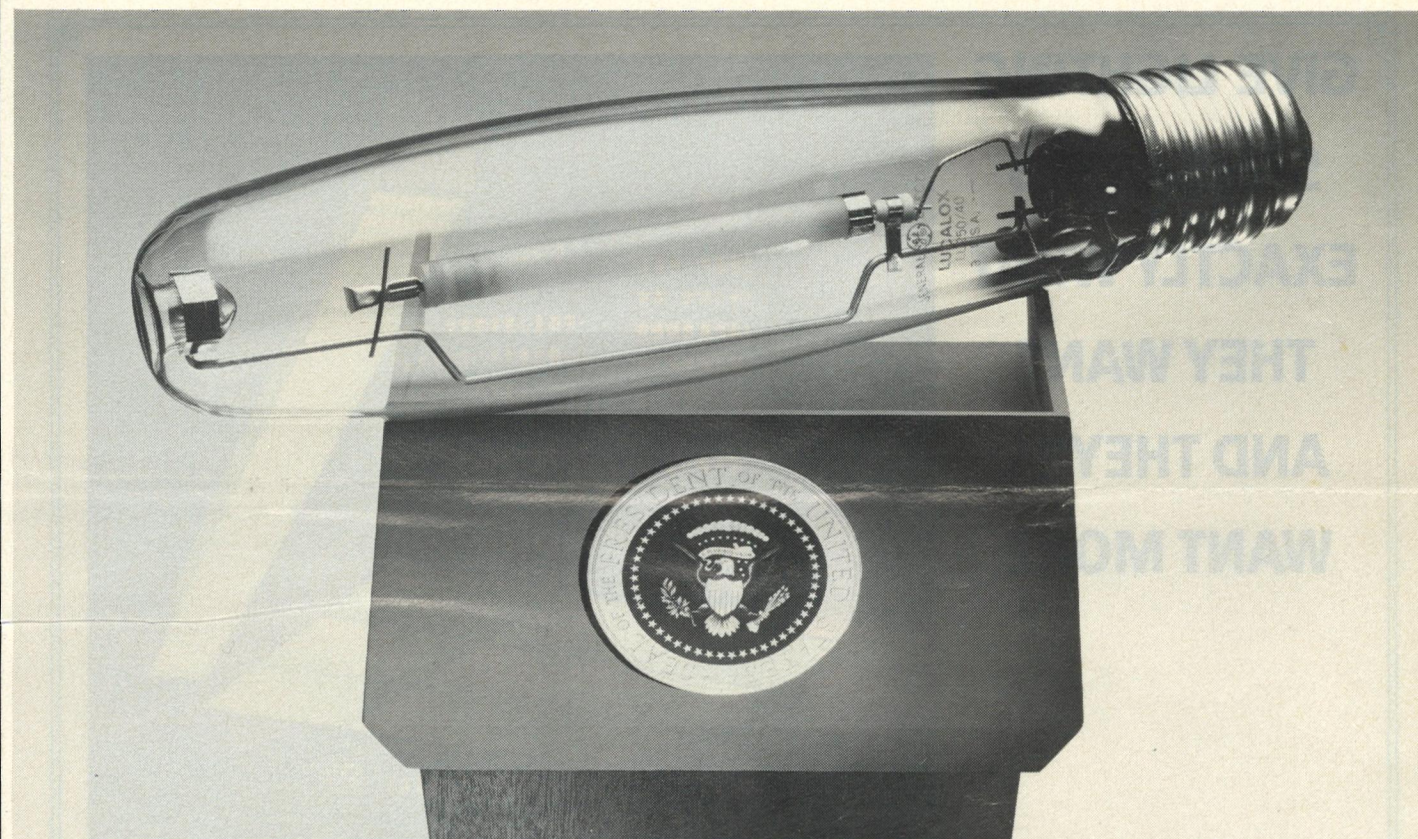
People in brief

● **Philip Jordan** is the Institution of Lighting Engineers' 1988 student of the year. He completed the Institution's three courses in lighting technology with a distinction. Mr. Jordan is a senior technician with Kingston upon Hull Council.

● **Ray Terry** has become managing director of Anglepoise Lighting Ltd. He will continue to devote much of his time to marketing with the support of **John Allen** who has been promoted to sales development manager.

● **Roy Stacey** is now UK sales manager for Cablok cable support system made by Cableways Ltd.

● Moorlite Electrical Ltd has three new sales engineers. **John Hartles** in the north west and **Paul Riley** in the Cheshire/south Manchester area become senior sales engineers. **Stephen Haley** joins as project engineer covering west Yorkshire.



THEY'LL BE REPLACING THE PRESIDENT BEFORE YOU NEED TO REPLACE A LUCALOX

Presidents need to be replaced every four years, even if the incumbent replaces himself. Lucalox®, on the other hand, doesn't have to be replaced for five.

So if you installed a GE Lucalox lamp on inauguration day, you could forget it until 1993.

Because under normal usage Lucalox has an average lifespan of 24,000 hours, eight thousand of which we guarantee absolutely.

That's considerably longer than your ordinary high pressure sodium lamp.

The reason for this remarkable longevity is simple.

It lies in our lamp's unique design, as well as its unusual construction.

Lucalox has its unique amalgam reservoir outside the arc tube. As a result, the amalgam is released only as it's needed.

Since the amalgam is released more slowly, the voltage rise within the lamp is also slowed down considerably.

This is the critical point. Because with high pressure lamps, the key to longer life lies in how carefully you control voltage rise.

But we wouldn't want you to get the impression

that longevity is the only thing Lucalox has going for it.

Its unique construction also makes it less likely to crack under vibration.

And far better able to cope with the variations in main voltage that are frequently encountered in factories.

Any lamp with all these virtues is bound to be popular.

So you won't be surprised to hear that Lucalox was chosen to light the prestigious Avenue of the Americas in New York.

And London Bridge.

As well as some very high powered factories.

So next time you're looking for an HPS lamp, it might pay to keep those points in mind.

Long live long life. Long live Lucalox.

We don't just sell lamps - we sell expertise



GE Lamps United Kingdom

General Electric Technical Services Company Inc., Lamp Dept. 10 Prospect Way, Royal Oak Industrial Estate, Daventry, Northamptonshire NN11 5PL. Tel: Daventry (0327) 77683. Telex: 311664. (not connected with the English company of a similar name)



Building stands out at night

The new Bournemouth head-quarters of sheltered housing developers McCarthy and Stone has been floodlit using equipment by Philips Lighting, installed by Meggit Marsh of Bournemouth.

The glass and stainless steel clad building stands on a prominent site in central Bournemouth and is eleven storeys high above a podium and semi-basement car park. The floodlighting installation needed careful design because of the nature of the fabric of the building and the need to avoid

overspill light onto adjacent roads and buildings. In addition, the building needed a relatively high illuminance to enable it to stand out against the normal night-time lighting of the town.

The light source used is high pressure sodium, which gives the building warmth and colour at night, as well as having high luminous efficacy and a long service life.

Main floodlights are twin lamp 400W SON type, supplemented by single lamp projectors. All are located at ground level. In all, 22 lamps are used, giving a total installed load of 9.68kW and running costs of around 50p an hour.



More light down below

Part of British rail's programme to maximise safety and modernise facilities for London's commuters called for an increase in lighting levels on the busy Travalator at Bank underground station. This forms part of the BR link from Waterloo to the City of London, and conveys nearly 1 3/4 million people each year from the lower

platform to the concourse and street level. The 84m long subway was fitted by Silverlight (UK) with 94 Silverlux reflectors, installed in the trough luminaires between the hand rail and wall to throw light upwards. The 3M reflectors, used with twin 2.4m, 125W lamps, have more than doubled the ambient lighting level.

People in brief...

- **Peter Brooks** has retired as chairman of the Professional Lighting and Sound Association. He has been elected chairman of the European Federation of Entertainment Technology, a grouping of lighting and sound trade associations.
- **Rob Peck**, managing director of Icelectrics Ltd, has been elected chairman of the Professional Lighting and Sound Association for a three year term.
- **Clive Robertson** has been appointed managing director of Delta Accessories and Domestic Switchgear Ltd. He was previously with Ega and replaces David Crook who is now managing director of Delta's circuit protection and control division and a group board director.
- **James A Davidson**, past presi-

dent of the ILE, has been appointed agent/consultant to Marwood Electrical Co Ltd in Scotland. He is based in Glasgow.

● **Charles R Lee** has been elected president, chief operating officer and a director of GTE.

● **Cliff Taylor**, production director at Anglepoise Lighting, has retired after half a century of working for the same family business.

● **Derek Wood**, partner in Hughes Wood Associates Ltd and previously with Wilson Products and Spinnings and BBI Lighting, has died suddenly.

● **Barry Greaves** has become commercial manager, and **Derek Raymont** sales manager, at Abacus Municipal Ltd.

● **Geoff Harrop** has joined the board of WM Lighting Ltd as sales and marketing director.

● **Electrak International Ltd** has appointed **David Lunn**, **Jim Burgess** and **Robin Isitt** as sales engineers to cover central London and the home counties.



Richmond Riverside, the prestigious new development presented **RADA Lighting** with the unique challenge of providing visual comfort inside and outside the building.

To satisfy a local environmental requirement, the 2500 luminaires for the offices had to be designed so that they were not apparent from outside the development, which is located alongside Richmond Bridge.

At the same time the luminaires provide the necessary cut-off angle to ensure the maximum comfort in VDU areas within the offices.

The luminaires are a nominal 600mm x 600mm and accommodate three 18W fluorescent lamps, one of which is wired for emergency operation and emergency facilities.

GIVE LIGHTING SPECIALISTS EXACTLY WHAT THEY WANT AND THEY'LL WANT MORE.



Moorlite means more performance – from the pioneer of the concepts of high output, low glare, uniform illuminance fluorescent luminaires and the leader in energy efficient lighting.

Moorlite means more choice. Our highly efficient and flexible CNC manufacturing systems mean fittings that suit all interior applications and ceiling types – including custom built designs and special luminaires for critically demanding areas as well as a comprehensive range of standard luminaires.

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Above all, Moorlite means more value-for-money from our competitively priced range with luminaires to suit all requirements.

More information? The Moorlite Lighting 1988/1989 catalogue shows you how and why – with complete photometric data to aid specification. All backed by our CAD lighting design and full technical support services. To get your copy – fill in the coupon today.

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Dubai Office Tel: Dubai 581025.

Searchlights over Birmingham

Searchlight beams, recently seen weaving patterns in the night sky over Birmingham, were Central TV's idea when filming the trailer for the 'New Faces' programme.

Having conceived the idea of a searchlight display, Central TV contacted Francis Searchlights Limited of Bolton, a company which specialises in lighting products for defence, emergency services and other industrial and commercial applications.

FSL recommended xenon gas discharge searchlights – similar to a type of searchlight normally used at sea for spotting and tracking icebergs! Five of these 1000W search lights were supplied and fitted to the roof of central Birmingham's Hippodrome Theatre, and a helicopter was used in approach and hovering modes, to film the effect from 500 to 1500 feet. The resulting display makes an eye-catching introduction to 'New Faces'.



The after-dark scene at the new **Caversham Hotel** on the Thames at Reading is enhanced by **Marlin's Sphereline** luminaires. The luminaires are mounted on poles and plinths to light the main entrance, and wall-mounted to illuminate the pergola leading to the banqueting suite. Architects for the project were **Scott, Brownrigg and Turner**.

IN YOUR NEXT ISSUE

The February issue of *Lighting Equipment News* will review the first guide to industrial lighting published by the Lighting Division of CIBSE covering: the contents of the guide; its application; and the solutions it offers for both interior and exterior industrial situations.

Specialised lighting to enable operatives to carry out the diverse

visual tasks demanded by industry will also be considered, as will a number of recent industrial schemes which illustrate trends in the lighting of these areas.

Finally we will conclude with a report on a recent RIBA conference dealing with advances in the techniques of creative lighting design.