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architectural lighting

JUNE/JULY 2000

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editorial

"Architecture is the masterly, correct and magnificent play of masses brought together in light."

— Le Corbusier

I once read "Light is the key to well-being." Well, after all the hustle and buzz surrounding Lightfair 2000 and the excitement—and exhaustion—that ensued after a week of seminars, events, industry chat and just plain catching up with colleagues, I thought surely the author of that statement must have had something else in mind. I mean I just returned from a rather spontaneous but long-overdue, meditative trip to the south of France and have decided that my latest passion—golf—especially when played on a course nestled in the Pyrenees Mountains, is the true key to well-being.

All jesting aside, there is certainly merit to the idea of light as a source of strength, as an essential element to our existence. There have been countless times lighting designers have commented to me on the importance of designing for the occupants of a space or the visitors to a site—whether for function or atmosphere—as it is critical, above and beyond "designing for looks," to design for people. A successful lighting design promotes a sense of comfort, sustenance and sure enough, as a specifier recently told me, well-being.

The design projects featured in the pages of *Architectural Lighting*—and in particular, the award-winning projects showcased in this issue—so clearly celebrate the notion of light as the sculptor of our visual experience. While shapes and structures define the shape of our world, it is light that allows us to see them. From revealing original intent to reshaping an urban environment—and the existence of its inhabitants—from transforming industry to artistry to exposing the spiritual nature of architectural form, the nine IALD award winners represent the synergy of architecture and light and strike the fine balance of integrating them to form a unified composition.



COVER PHOTO: © ANTHONY BROOMHEAD





CHRISTINA TRAUTHWEIN, EDITOR-IN-CHIEF

the nine winners were among 141 submission reviewed by the judges. The technical expertise and creativity displayed in each entry showcase the unique combination of design and knowledge—the essence of the independent lighting designer. Coverage of the wining projects begins on page 30, prefaced by snapshots of the evening's festivities held during Lightfair. And while this section of the magazine honors lighting designers who received awards for recently completed projects, it was another recipient, Lifetime Achievement Award winner Jules Horton, to whom I bring your attention. For those of you in attendance at the event, I'm sure you'll remember the truly motivational speech this visionary and innovator gave upon receiving the award. But it is for those of our readers who were unable to attend that I share just some of his thoughts—presented with eloquence and wit, inspiration and experience in words that truly embody the spirit of the lighting designer, or as Jules once told me in an interview, "the visual environment designer."

"In all of the years I have been a lighting designer, I had an opportunity to inspire

others to believe that this is a profession, that this is something independent of what powers the light sources—meaning electricity—that this is a unique thing by itself and that light and lighting is a career that is worthy of consideration and one that has a great future. Competence in lighting design is something that is achieved through hard work; there is no easy way and no free ticket. You should not worry about long hours nor low pay."

And while Jules' career has given us many memorable projects and priceless words of wisdom, I leave you with this gem to shelve in the backs of your minds but pull out often:

"Glare is not an unavoidable curse in lighting; it is merely a side effect of incompetence."

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To the Editor:

C-z.com is honored to be an Editor's Pick in Alice Liao's article, "e-lectric Avenues" (January/February 2000). However, the same article referred to the absence of (lighting) distributor networks in the e-commerce models on the web today. In fact, c-z.com is building a comprehensive distributor directory. Furthermore, we see distributors as continuing to be integral in the specifying process and essential to successful e-commerce.

Pamela A. Yenawine, IESNA, LIRC Lighting products manager, c-z.com

To the Editor:

In the January/February Insights, Barbara Horton asks rhetorically what incentives a large manufacturer has to invest in new tooling, research on optics of traditional commodity lighting fixtures and developing lighting fixtures "right," and correspondingly applauds the innovation of smaller, privately owned firms.

The notion that large companies don't or won't invest in research and product innovations stems from perceptions developed in the Old Economy when some large manufacturers relinquished innovation to small, privately owned firms. However, if one looks objectively at the recent exciting product introductions and adoptions of new technologies of large manufacturers, they will notice change is taking place.

In the New Economy era of consolidation, widespread availability of tools for compressing development schedules and increased competition from both domestic and international companies, businesses taking a "wait-and-see" approach on adopting new technologies, entering smaller niche markets or taking risks on new fixtures designs will be left in the proverbial dark.

The incentive is solving customer problems and meeting customer needs for a profit, and it's up for grabs for responsive companies—be they large or small—looking for growth.

Thor Scordelis

Manager, marketing and product development Metalux Fluorescent Products, Cooper Lighting Elk Grove Village, IL

To the Editor:

I loved the contribution by JoAnne Lindsley in the March/April issue of *Architectural Lighting*. I read her statement, "...the lighting designer is often the 'watch dog' or advocate for the occupant of the space." Although this is an accurate statement, it does not ensure a lasting design. In the words of George Washington, "The price of freedom is eternal vigilance." No better statement could be applied to that of a lighting design. What happens after a lighting designer has moved on? Lighting falls into disarray because there is no vigilance in maintaining that design.

As a seasoned veteran with 26 years in the theatrical lighting industry and the owner of a lighting and signage maintenance business, I run into this all the time. In all cases, instead of retaining a company that will maintain the integrity of a design, managers have made a pricedriven decision to use "light bulb changers." Often, these individuals are janitors, bus boys, facility employees and signage companies. Most often they do not have training or experience in lighting or electrical troubleshooting. And, if I may point out, the signage contractors engaging in this work are in direct violation of their state's contracting laws by working outside their license classification.

Businesses in general are doing themselves a disservice and don't even know it. End-users need to be educated to the fact that quality costs less. The National Association of Lighting Management Companies (NALMCO) is doing a great job promoting professional lighting management techniques. We are on your side; we want your design to live on long after you have moved on. This helps preserve your reputation and casts you in a good light. Would you please help us get the word out to all lighting designers? It is imperative that they inform their clients of the importance of maintaining their new lighting design as professionally as it was designed.

When you shine, so do we!

James (JW) Wright

Owner, Wright Brothers Novato, CA

To the Editor:

The Spring Market issue's Perspectives column by Warren Meltzer regarding the (hopeful) death of the mega-rep was fabulous.

Though short on references to companies that adopt this goal (unless the few mentioned companies are all of them currently), this article was very enlightening and sufficiently concise. The forthright attitude was blatant, but decently so. Well done.

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Nathan Woods

LPA, Inc. Irvine, CA



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ACQUISITIONS...

Fiberstars, Inc. has announced that it has signed an agreement to acquire **Lightly Expressed Ltd.**, a Salem, VA-based manufacturer of lighting fixtures for cabinet, accent, glass-edge and museum lighting applications. In conjunction with the acquisition, Will Learnan, principal of Lightly Expressed, will join Fiberstars as marketing manager, Display Case Lighting, where he will support the sales process and refine display case lighting products to meet customer requirements. Lightly Expressed was founded in 1997 by Learnan.

SLI, Inc. has announced the signing of a purchase and sale agreement to acquire the assets of four product lines of **EMESS Plc**, London, UK. The four product lines involved are Brilliant, which manufactures decorative lighting in Bremen, Germany; Marlin, a producer of architectural and display lighting manufactured in Feltham, UK; Eclatec, which manufactures outdoor lighting in Nancy, France; and EMESS Lighting, a manufacturer of highend table lamps with a plant in Pittsburgh, PA.

The Watt Stopper, Inc. has announced its acquisition of Horton Controls, Inc., a Birmingham, AL-based company providing lighting control solutions for commercial and industrial buildings. Horton Controls served as the national representative for GE Total Lighting Control from 1994 to 1999. Through the acquisition, Horton Controls joins the Legrand North America group, which includes Pass & Seymour/Legrand, Ortronics as well as The Watt Stopper.

DOE IMPLEMENTS NEW BALLAST REGULATIONS

The Department of Energy (DOE) will be implementing new regulations regarding the manufacture and sale of fluorescent lamp ballasts. Hammered out in two days of negotiations between energy advocacy groups and lighting component manufacturers, the new ballast efficiency standards, when adopted, are expected to save enough energy by 2030 to power between 12-26 million homes in the U.S. Other benefits include a reduction of greenhouse gases equivalent to removing 58 million cars from the roads. Negotiations resulted in the creation of a reasonable timetable, which would allow manufacturers to make the transition without closing factories or writing off millions of dollars of investment.

Highlights of the timetable include:

· Effective April 1, 2005, ballast manufacturers can no longer produce ballasts for installation into new lighting fixtures unless they meet the new minimum ballast efficacy requirements (BEF) set forth in the proposed rule. With existing technology, only electronic ballasts comply with these guidelines for the F40T12 and F96T12 lamps. Energy-efficient magnetic ballasts for F96T12HO lamps now rated for -20 degrees Fahrenheit will be required for all applications except outdoor signs. Exceptions will be ballasts with factors less than 0.90 that are designed and labeled for use in residential building applications and ballasts that dim 50 percent or less of their maximum output. The exemption for 0 degrees Fahrenheit starting is removed.

• The manufacture of ballasts not compliant with the new BEF values, but still meeting the old BEF values, is allowed for replacement use only until June 30, 2010. These products must be manufactured with short leads, packaged in quantities of 10 or less and marked "For Replacement Only."

• June 1, 2000: Ballast manufacturers can no longer sell ballasts that do not meet the new BEF requirements.

• April 1, 2006: Lighting fixture manufacturers can no longer incorporate ballasts that do not meet the new BEF requirements in new fixtures.

• July 1, 2010: Ballasts not meeting the new BEF guidelines can no longer be manufactured.

For more information about the new regulations, call (800) BALLAST, ext. 362.

UL PUBLISHES EIGHTH EDITION OF STANDARD UL 542

The Underwriters' Laboratories Inc. has announced the publication of the eighth edition of the *Standard for Safety Lampholders*. *Starters and Starter Holders for Fluorescent Lamps*, UL 542. UL 542 requirements cover starters, starter holders and lampholders intended for use with fluorescent lamps in accordance with the National Electrical Code. Starters for use with simple reactance-type fluorescent-lamp ballasts are intended for use in circuits involving a potential of 125 or 250V. Starter holders are for use in circuits involving a maximum of 250V. Lampholders are intended for use with fluorescent lamps involving a potential of 2500V or less during either starting or operating conditions. UL 542 requirements also cover lampholders intended for use with low-pressure sodium lamps. For more information, visit www.ulstandardsinfo.net.ul.com.

IALD PUBLISHES SPEC INTEGRITY GUIDELINES

The International Association of Lighting Designers (IALD) has published the *Guidelines for Specification Integrity*. Developed in conjunction with the Lighting Industry Resource Council (LIRC) to assist lighting design professionals in creating clear and precise specifications, the guidelines outline seven distinct areas that lighting professionals should address during a design project.

The two-year project was spearheaded by co-chairs Randy Burkett, IALD of Randy Burkett Lighting Design and LIRC member Philip Cialdella of Poulsen Lighting. A copy of the *Guidelines for Specification Integrity*, which was published in the Market issue of *Architectural Lighting*, is available at www.iald.org or by calling (312) 527-3677.



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NEWS

NLB ANNOUNCES 21ST ANNUAL AWARDS PROGRAM

The National Lighting Bureau's (NLB) 21st annual lighting awards program has been announced under a new name. Established in 1980, the awards program recognizes lighting applications that demonstrate the value of High-Benefit Lighting and consequently, is now the High-Benefit Lighting Awards Program.

"High-benefit lighting" is a term coined by the NLB to designate electric illumination that is designed to fulfill the specific purposes for which it will be used, thus spurring significant bottom-line savings. To be eligible for consideration, projects must have been completed on or after January 1, 1997. Submissions must be received no later than October 31, 2000. For information, visit the NLB website at www.nlb.org, phone (301) 587-9572 or e-mail info@nlb.org.

LEVITON FORMS INSTITUTE

Leviton Mfg. Co. has launched the Leviton Institute, an educational facility designed to help consumers, builders, architects and contractors understand the capabilities and benefits of new electric wiring devices as well as the importance of electrical safety. The Institute's educational efforts will focus on such areas as structured wiring systems, home office applications and lighting controls. For information, phone (718) 229-4040.



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NUCKOLLS FUND AWARDS YEAR 2000 GRANTS

The Nuckolls Fund for Lighting Education has announced the funding of four grants this year totaling \$52,500. The announcement was made during Lightfair at the Fund's annual luncheon, held May 9, 2000 at the Jacob K. Javits Convention Center in New York City. This year, two \$20,000 grants, each payable over a two-year period, were awarded to the University of Nebraska and the Rensselaer Polytechnic Institute's Lighting Research Center. With a lighting faculty lacking significant experience in lighting design, the University of Nebraska will use the grant funds to work with three established lighting designers on the development of a curriculum that will respond to the needs of the lighting design community. The Lighting Research Center will use the grant to research, develop, initiate and evaluate "Light and Health," a new course within the Master of Science in Lighting Program. The course will consolidate current research and information on the influence of light and lighting on people's physical and psychological health and well being.

The Nuckolls Fund awarded the Edison Price Fellowship grant of \$7,500 to Ruth Beals, a member of the interior design faculty at the Ringling School of Art and Design. With this grant, Beals will work over the summer at Osram Sylvania's Lightpoint training center to research the Color Rendering Index.

The fourth grant, in the amount of \$5,000, was given to the National Council on Qualifications for the Lighting Professions (NCQLP) to enable them to undertake a pilot program that will evaluate the establishment of an intern Lighting Certified program for students.

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ON THE MOVE ...

Hayden McKay Lighting Design Inc. has moved to 259 West 30th Street, 11th floor, New York, NY 10001. To contact the firm, phone (212) 868-5680, fax (212) 736-4466.

The Lighting Research Center has moved to 21 Union Street, Troy, New York 12180-3352. To contact them, call (518) 687-7100, fax (518) 687-7120, e-mail: lrc@rpi.edu, www.lrc.rpi.edu.

Vari-Lite, Inc. has relocated its Las Vegas office to a new 15,000-sq.-ft. facility located at 1889 E. Maule Avenue, Suite G, Las Vegas, NV 89119; the office can be reached by phone at (702) 795-4766, fax (702) 795-4768.

Aurora Lampworks Inc. has moved to 172-174 North 11th Street, Brooklyn, NY 11211; phone (718) 384-6039, fax (718) 384-6198, www.auroralampworks.com.

CORRECTIONS...

In the March/April and Market Issue, the phone number for Ushio America was incorrectly listed as (800) 838-7446. To contact Ushio America, call (714) 236-8600.

The phone number listed in the Market issue for Lightron of Cornwall was also incorrect. The company can be reached at (914) 562-5500.

From the December Directory and a correction appearing in the January/February issue, Q-Tran Inc. does not manufacture low-voltage lighting, but produces power supply centers for low-voltage lighting. The web address is www.q-tran.com, e-mail: sales@q-tran.com.



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The Lighting Architects Group, comprising Jonathan Speirs and Associates Ltd. and Speirs and Major Ltd., has relaunched its website at www.lightarch.com. Visitors to the site can browse through a portfolio of projects, both completed and in-progress, and learn about the activities of both studios, including educational events and awards. The site also provides a collection of quotations about light and related issues as well as a selection of images of light and its effects gathered from around the world. A postcard engine allows visitors to send electronic postcards of images of various projects.

Lightolier has developed an online lighting education program for newcomers to the lighting industry. The self-administered program, "Lessons in Lighting," is available without charge to the entire lighting industry and will cover lighting fundamentals, different lamp, fixture, ballast and lighting control applications as well as the lighting design process. The course will also include tests to determine a student's grasp of the material. Lightolier has registered with the ALA for CLS accreditation and the AIA for CES accreditation. To access the course, visit Lightolier's web page at www.lightolier.com.



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Nessen Lighting's new website at www. nessenlighting.com provides users with access to company information as well product news releases. The site allows visitors to search products by fixture type and once a fixture is located, offers specifications and ordering information. Visitors can also locate local sales representatives and sign up to receive updates by e-mail on latest products and company news.

The Watt Stopper, Inc. has launched a newly enhanced website at www.wattstopper.com. The site features a literature center, expanded product-application searches and case studies and online shopping capability. Product information available online includes product cut sheets, specifications, installation manuals, technical bulletins and product application guides. The literature download center also allows visitors to download software upgrades and engineering tools.

G Lighting's new website at www.glighting.com features a resource library of fixtures designed over the company's 90-year history. Lighting designers can select from a pulldown menu by fixture type, style or use and view 200 submittal drawings from the company's design archives.

As part of its new Internet program, W.A.C. Lighting has upgraded its website at www.waclighting.com with e-commerce capabilities to support lighting distributors. The business-to-business site offers product catalogs as well as specifications and FAQ. Product information may be accessed by item numbers, categories and keyword searches. The dealer access section is password-protected and offers lighting distributors the opportunity to order products and access inventory levels and status of orders. The program will also enable retailers to create e-stores over the Internet by providing support materials.

Alkco Lighting has announced the launch of it new website at www.alkco.com. In addition to providing background information and current news releases, the site is equipped with the ability to locate products by application type. Visitors to the site can access product literature, including complete specification, technical and ordering information. The homepage also features a shortcut to an e-mail form and a link to the JJI Lighting Group's homepage.

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CUH2A has named **Onkal (Duke) Guzey**, **AIA** associate and project manager for the mid-Atlantic region.

Barganier Davis Sims Architects has named Ray E. Williams a principal and Frank W. McKinnon an associate with the firm.

Blake Ellis, PE, Joseph Ellis, AIA, Geoff Glueckstein, Adrian Hagerty, Richard Miller, AIA, Kim Way and Stephen Wenersbach, PE have been named principal at Ellerbe Becket. Horton-Lees Lighting Design has named Guy Smith project director, Los Angeles office and Angela Lawrence project director, San Francisco office; Christina Campobasso, Lee Hanel, Natalie Glover, Kelly Ryan, Bryan Raguskus, Sameena Sitabkhan and Kelley Burney have also joined the firm.

Terry R. Bell, IES, LC has joined The Lighting Practice.

HDR Architecture has promoted **Robert D.** Cavigli to president.

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Adkins, Chris Huber, Zach Weimer, Lynn Vadasy, Sheri White, Ed Link and Martin Rodriguez have joined RNL Design.

Taylor & Associates Architects has promoted Gary Davidson to principal and Gary Simmons to associate.

Clara Muller, Brad Burns, Mark Montoya, Jim Fischer, Dan Kessler, Gregg Allen, Bryan Aumiller, Troy Schneider, and Jesse Michael Stevenson, AIA have joined Kling Lindquist as design principals.

Osram Sylvania's General Lighting division has appointed **Tim Lesch** VP of sales, Industrial & Commercial Lighting; **Ken Schedin**, VP of sales, Consumer Products; and **Tom Grover**, VP of Sylvania Lighting Services.

Osram Sylvania Electronic Control Systems has named Allen Abell director of quality; David Bay, corporate manager for global systems coordination; Mike Colotti, VP of sales and marketing; Jay Donovan, controller; Tom Goldner, plant manager; Richard Koeppl, director of engineering; and Roger Myers, manager of manufacturing integration.

Lithonia Lighting has appointed Jim H. McClung chairman and CEO, Lithonia Lighting Group, consisting of Lithonia Lighting and Holophane; Kenneth W. Honeycutt, Jr., president of the Lithonia Lighting unit; John K. Morgan, president of the Holophane unit and executive VP of sales and marketing, Lithonia Lighting Group; Jeffrey F. Kernan, VP of infogistics, Lithonia Lighting Group; Charles J. Darnell, vice chairman, Lithonia Lighting Group; and Wesley E. Wittich, VP of finance and CFO, Lithonia Lighting Group.

Holophane's product & market development group has named **Randall Crothers** director of architectural outdoor and **Mark Keller** director of infrastructure and commercial outdoor.

MagneTek Lighting Products has promoted **Bill Kirkland** to VP, sales and marketing and **Pat Sullivan** to VP and general manager.

Don Kinderdick has been named VP of marketing and product development at Bega/US.

ETC has promoted **Tim Guion** to associated regional manager for the western U.S. region.

Litetronics has named Herb Hadley director of sales.

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calendar

July 31-August 2 IESNA National Conference, Renaissance Hotel, Washington, D.C.; (212) 248-5000 (ext. 117), www.iesna.org.

September 7-9 Restoration & Renovation, Henry B. Gonzalez Convention Center, San Antonio, TX; (800) 982-6247, (978) 664-6455 (ext. 14), www.egiexhib.com.

September 8-12 Lumiere Paris, Paris-Nord Villepinte, France; (33) 1 44 29 02 47, fax (33) 1 44 29 02 43, www.lumiere-paris.com.

September 10-13 19th IESNA Street and Area Lighting Conference, Minneapolis Marriott City Center Hotel, Minneapolis; (212) 248-5000 (ext. 117).

September 17-19 World Workplace, Ernest N. Morial Convention Center, New Orleans, LA; (713) 629-6753, www.worldworkplace.org.

September 25-30 FIAM 2000: International Fair of Lighting Fixtures, Valencia, Spain; (34) 96-386-11-00, www.feriavalencia.com.

October 8-16 Athens to Rome: Architecture 2000 Trip; (800) 975-7775, www.travelmgmt.com/aia.html.

October 20-22 LDI 2000, Sands Expo & Convention Center, Las Vegas, NV; (800) 288-8606, (303) 741-2901, www.ldishow.com, www.etecnyc.net.

November 1-3 Luminaire Asia 2000, Singapore International Convention & Exhibition Centre, Singapore, Singapore; (65) 220-76-33, www.hfasin.com.

November 6-9 Computers for Construction 2000 & A/E/C Systems Fall, Anaheim Convention Center, Anaheim, CA; (800) 451-1196, (610) 458-5472.

December 7-10 8th Annual Broadway Lighting Master Class, New York; (212) 229-2965 (ext.829), www.etecnyc.net.

For information on seminars and workshops offered by the following facilities, contact them directly at the phone numbers listed below:

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> GE Lighting Institute (800) 255-1200

Juno Lighting Education Center (847) 827-9880

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insights

This month, Architectural Lighting interviews David A. Mintz, LC, FIALD, FIESNA, principal of The Mintz Lighting Group Inc in New York City. In addition to Mintz, Associate Principal Faith E. Baum, LC and Associate Principal Kenneth Douglas, LC, IALD, the group includes a staff with backgrounds in architecture, fine arts and theatrical lighting design. The Mintz Lighting Group, formerly known as David A. Mintz, Inc., is an award-winning, lighting design and consultation firm working with architects, interior designers and engineers and specializing in lighting designs for all types of corporate and institutional projects including the Sears Tower in Chicago; Chesapeake & Delaware Canal Bridge in Delaware; Sprint World Headquarters in Kansas City, MO; Columbia University's Law and Business Building in Manhattan; and the New England Medical Center Building 1-C in Boston.

-Christina Trauthwein

AL: How did you become interested in pursuing a career as a lighting designer? Mintz: As a student in both junior and senior high school, I was active-

ly involved in theater productions but had never ventured backstage. My mentor at the time suggested I pursue an education in what I enjoyed most, the theater, and encouraged me to go to The Carnegie Institute of Technology (now Carnegie Melon), which was and still remains one of the finest drama schools in the country. As part of the curriculum, each student worked on six to eight productions a year and for each show, worked with a different crew to learn all aspects of the theater. Then came the day I was assigned to the lighting crew. It was a pivotal moment in my life and defined my career path. Lighting immediately clicked and, literally, I've never done anything else since. Why? I like to think of myself as a creative person, but I have an "electromechanico, scientifico" type of mind. Lighting design becomes an expressive outlet for me in a medium I can understand.

AL: When did you make the transition from theater to architecture?

Mintz: When I got out of the army, I was offered the opportunity to apprentice with the leading Broadway lighting designers of the day. But I had determined that none of them, while they were very influential in the theater and skilled at their craft, were actually making a living. So I decided it would be in my best interest to, instead, accept a job with Century Lighting, a manufacturer of both stage and architectural lighting equipment. The resident architectural lighting guru at Century was, in fact, Stanley McCandless, the man who wrote the book on lighting. I had the great fortune to work under Stanley's wing and although I was a sales engineer, he acted as a mentor and turned me on to the idea of lighting architecture.

AL: Well, they say "All the world's a stage..."

Mintz: But obviously in theater, you clamp a light on a pipe and if it's not right, you move it a couple of feet and clamp it again. In architecture, you place it in concrete so you had better be right the first time. Of course, when you study theater and scenery design, you study architectural styles, so the theater is a wonderful foundation for architectural pursuits and for learning terminology. What does make architectural lighting that much more satisfying than theatrical lighting, though, is that in the theater when the job has been completed, all you've got are the photos. In architectural lighting, what you've accomplished is still there 20 years later. Your work has permanence.



AL: When did your first "big break" as a lighting designer come?

Mintz: In my capacity as a sales engineer at Century, I was assigned to call on architects and designers while others dealt with the wholesalers and contractors. I was hired by a lighting consultant to work for his firm, which is what I intended to do, but four months into the job, I was offered this incredible opportunity to create the lighting design for the AT&T Pavilion at the New York World's Fair in 1964. What made it such an exceptional experience is that the team consisted of architect Max Abramowitz of Harris & Abramowitz, Jo Mielziner, the dean of stage and theater design and Henry Dreyfus, the first true industrial designer. This was a once-in-a-lifetime opportunity and I owed it to myself and to my career not to pass it by. Two years later, I opened my own firm.

AL: And now 35 years later, you've changed the name of the firm from David A Mintz Inc. to the Mintz Lighting Group. Mintz: Yes. The name change reflects the collaboration and creativity of the team. The

fact is that I now have people who are stepping forward and taking more responsibility in managing projects on a dayto-day basis, essentially on their own. They've made great contributions and I want to acknowledge the firm, not just the individual.

AL: You were active in forming the IALD. Tell me about its origin and its direction.

Mintz: There exists a couple of stories about the genesis of the IALD. It is my contention that the association grew out of a telephone conversation between myself and Martin Garon, Lesley Wheel's partner at the time. We discussed how small groups could not get health insurance, licensing or professional liability insurance. Nobody had a standard contract and we were all making it up as we went along. We thought that if we belonged to an association, we could use that as the foundation for getting coverage and setting guidelines. We, as lighting designers, desperately needed a common voice so we all didn't sit in our offices reinventing the wheel.

I'm more active in the IALD now because as others in my firm have taken on more responsibility, I have more time. The association has evolved to take an active role in educational and scholarship programs and in environmental initiatives with the EPA. The IALD has also been represented on certain committees where energy standards are discussed at the federal and state levels and has been actively involved in the development of the LC certification.

AL: And your thoughts on certification?

Mintz: While I think that the concept is a good one in theory, I'm concerned about deliberate abuses and misuses of it. For one thing, many people think LC means "lighting consultant" and when they do understand it means "lighting certified," they don't know what that really means. It certainly does not in any way imply design ability. In fact, it represents a certain amount of technical knowledge that one has mastered. But that's only part of it. Lighting is both an art and a science. And being an LC doesn't fulfill the artistic end of lighting. Now, that is not to say that one is more important than the other, but to be a successful lighting designer/ consultant, you need both the art and science.

Problems arise when a salesman (or a (Continued on page 26)

(Continued from page 24)

manufacturer's rep) who has the LC takes issue with something a specifier has done on a project and signs an irate letter with the initials "LC" after his name. This only indicates that he took and passed the exam, but does not imply that he knows the details of the project or the requirements as the lighting consultant. That's detrimental not only to the project but to the profession-it implies equal status and that gives me great pause. I may have worked two years developing the specification for good and sufficient reasons. That being said, a prudent firm will support certification because, in the not too distant future, there may be federally funded jobs that require the LC designation. The issues can't be ignored, they must be worked out.

AL: Do you find that recent graduates are fully prepared for a future in lighting design? Mintz: First of all, I am a strong supporter of internships. Hiring a student, teaching them the daily operations of working in a design firm and providing them with the opportunity for hands-on experience are invaluable tools. As a matter of fact, when the IALD started the internship program about 15 to 20 years ago, we hired interns for many years and invariably, they became fulltime employees.

Our experience is that the students who come out of the design schools are heavily oriented in the engineering aspects of lighting and are not as design conscious as we would prefer. We've actually had great success hiring interior designers and teaching them lighting because their sensitivity to design has already been developed. The theater is another wonderful foundation for lighting design. In the theater, you get to work with light as a plastic material-you shape it, color it, aim it-you can actually play with it as a tangible object like you would other media such as sculpting material. The result is that you begin to develop a mental reservoir of experience of what certain things look and feel like. The visual experience of creating effects on the stage is so powerful and can be translated into the architectural realm. An "engineer" works by a formula to achieve an effect but doesn't necessarily feel it.

AL: So you would advise those entering the field to get as much real-life experience as possible?

Mintz: Absolutely. Even if your experience has been basically limited to the classroom, it

is essential to go out and explore. After 50 years in lighting design, I still do that. Every time I visit a restaurant or walk into a lobby I take notice. I am still learning and gathering information for that experience bank in my head. In fact, my wife insists that I'm going to die by falling into a manhole since I'm always looking up. All joking aside, I think young designers should take advantage of their surroundings. Go out at night and observe, understand and file it away.

AL: What professional values do you hope you have instilled in those who have worked either for or with you?

Mintz: In two words: Design integrity. First of all, the lighting has to accomplish what it's designed to do and be appropriate for the functions of the space. Secondly, it has to feel right for the space. And sometimes, achieving

DESIGN TO "THE ART OF THE POSSIBLE": MEET THE GOALS OF CLIENTS, EXPECTATIONS OF USERS AND CAPABILITIES OF MAINTENANCE PERSONNEL.

both of these objectives simultaneously is quite difficult. But above and beyond thatand this is paramount to any good design-the lighting must be maintainable: If something is difficult to be maintained, it won't be maintained. And if it isn't maintained, then it isn't going to be what you designed. And if it isn't what you've designed, the client has been cheated because they didn't get what they paid for and the occupants of that space have been cheated because we didn't deliver the environment they anticipated. I would rather do something that's a little less complicated but easier to maintain than do something that is tricky and cutting edge but will fall apart in six months. Keep in mind, many times. especially in retail spaces, it will be a "maintenance man" or stock boy who will be maintaining the lighting system-so that's the level to which you should design. Of course,

when designing a corporate headquarters with the CEO present, we know that the lighting is going to be maintained exactly as intended so we can do more in that environment.

AL: Largest obstacle to advancing the field? Mintz: Dilution. Yes, the field has grown and there are a great many qualified people and then there are those who aren't and shouldn't be advertising their credentials. Since it's a competitive, capitalist society, sometimes we find that on certain projects we, as a firm with a staff, insurance, pension plans and the like, are bidding against individuals with whom we just can't compete. So, often it's not a level playing field and too many clients get blinded by fees.

AL: Is there an industry "issue" that sparks certain interest in you?

Mintz: Packaging. While the topic is not new, it has changed a bit. In the old days, packaging was done by a distributor. perhaps, who would get bids from different manufacturers and put together a package that was most favorable to him and try to supply that. Today, the emphasis has shifted, and a lot of the packages are being created by the reps because there's been such consolidation in the manufacturing field. A few large conglomerates own many of the major lighting companies. They have representatives who present the whole "package," and in turn, they try to supply the whole package to the project. If I had one vote, I'd vote against packaging but that's not realistic and so we need to find a way to deal with it in a positive way so that it does not instantly provoke a battle between the specifier and the packager. Is there a solution that will allow some room so that it is not an all-or-nothing situation?

AL: What's the best piece of advice you've ever received?

Mintz: The former owner and founder of Century Lighting was a man by the name of Ed Kook. Ed was a legend in the New York theater and I was fortunate to have him as one of my mentors. He gave me two pieces of advice years ago and not only have I never forgotten them, I still practice them. First: Life is not a 50-yard dash. There are certain things you want to achieve and you get to them in a slow and steady way. And second: It is essential when you're in business to have a good marriage. In business, people say no to you all day long. It's important when you go home to have someone say yes.

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he 17th annual International Association of Lighting Designers (IALD) Lighting Design Awards presentation and dinner took place on May 10, 2000 at the Puck Building in New York City. The judging for the awards, which are cosponsored by Architectural Lighting Magazine, was held February 17-18 at New York City's W Hotel. From the 141 submissions received this year. seven projects received Awards of Merit and two were recognized with Special Citations: no Awards of Excellence were granted. For details on the winning projects, turn the page ...



Left to right: Ann Kale, co-chair IALD Awards Committee, Ann Kale Associates; IALD winners Christine Sciulli and Thomas Thompson, Thompson + Sears

Lifetime Achievement...

The evening's festivities concluded with the presentation of the IALD's second Lifetime Achievement Award, which was awarded to Jules G. Horton, FIALD, FIES, founder, Fellow and past president (1977-1979) of the IALD.

Horton, born in Warsaw, Poland, graduated from the Warsaw Polytechnic Institute and received a Master's Degree in Engineering from Columbia University in New York. He has worked in all phases of building construction as both a structural and construction engineer. In 1959, he became the chief engineer for one of New York City's leading lighting design firms. In 1968, he founded the lighting design firm that in 1984 became Horton-Lees Lighting Design Inc. The firm has offices in New York, Los Angeles and San Francisco.

IALD Chairman JoAnne Lindsley, FIALD of Lindsley

Consultants presents Jules Horton, FIALD with the Lifetime Achievement Award



Award winners, the Lighting Architects Group, include (left to right): Jonathan Speirs, Gavin Fraser, Claudia Clements, lain Ruxton and Alan Mitchell







Left to right: Mary Ann Hay, Syska & Hennessy; David B. Miller, Elliptipar; and Sylvan Shemitz, Sylvan R. Shemitz Designs



Dwight Kitchen, Osram Sylvania and Christina Trauthwein, Editor-in-Chief, Architectural Lighting and co-chair IALD Awards Committee





Left to right: Nicolas Cohen, Con.Daz Lighting; Burt Grant, Luminis; Jaine Grant, Con.Daz Lighting; and Alain Cohen, Luminis

Lighting consultant Parnela Hull Wilson, IALD (left) and Rochelle Kimball, Philips Lighting Co.

awards



James Baney, Schuler & Shook (left) and Thomas A. Minnick, Sylvan R. Shemitz Associates

Congratulations...

The IALD has awarded six aspiring architectural lighting design students a total of \$10,000 in scholarship and cash awards to further support educational pursuits in lighting design. This year's winners represent the largest group of recipients ever awarded scholarships by the IALD.

Tuuli Somma of Helsinki, Finland received the IALD \$1,500 scholarship and an all-expense-paid trip to Lightfair. Somma is pursuing a Master of Art degree in industrial design at the University of Art and Design in Helsinki.

An undergraduate in architectural engineering at the University of Kansas, Emily Emerson is the recipient of the \$2,000 scholarship sponsored by Lighting Design Alliance. In addition, she received a \$500 grant to attend Lightfair.

The \$1,000 scholarship underwritten by Architectural Lighting Magazine was awarded to Swapna Sundaram of New Delhi, India. Sundaram received her Master of Architecture degree in architectural technology from the University of California, Los Angeles.

Pursuing a Master of Architecture degree from Harvard University School of Design, Brad Koerner was the winner of a \$1,000 scholarship from the IALD. Koerner received his Bachelor of Science degree in architecture from the University of Virginia.

Also receiving a \$1,000 IALD scholarship, Sandra Loren Park is a Master of Fine Arts candidate in interior design at George Washington University. Park earned her Master of Art degree in international development and her Bachelor of Art degree in anthropology from the University of Pennsylvania.

A third \$1,000 IALD scholarship was awarded to Paul Wraa of Pleasant Hill, CA. Wraa is currently pursuing an Associate of Art degree in industrial design from the Art Institute of Seattle.

IALD 2000 awards

Albert Memorial, Kensington Gardens London, England, UK

award of merit



Described by IALD judges as "totally breathtaking," the illumination of the Albert Memorial in Kensington Gardens creates a hierarchy of brightness, which highlights as its main focus the re-gilded statue of Prince Albert and the canopy above. In lighting the memorial, Lighting Design Partnership's Graham Phoenix and Michael Simpson were challenged with creating a viewing experience enjoyable from afar as well as up close, while fulfilling a requirement that a limited number of fixtures be attached to the monument. Their response prompted one IALD judge to remark, "The lighting design is pure magic," and another to comment, "It's an amazing, monumental achievement."







The re-gilded statue of Prince Albert (opposite) overlooks the site from underneath a luminous canopy. Its importance in the hierarchical assembly is emphasized by two narrow-beam 500W Xenon searchlights mounted on the roof of Albert Hall situated almost 470 ft. south of the site. The ornate canopy seems to glow with the reflected light of the statue. To create the illusion, four 70W metal halide spotlights hidden inside the base of each of the four columns uplight the canopy and are the only fixtures incorporated into the fabric of the monument.

Left: Also mounted on the roof of Albert Hall, a single narrow-beam searchlight highlights the crucifix and orb at the top of the canopy. Lighted less brightly, they are given secondary importance in the hierarchy of the monument. Diagonally cross-lighted by clusters of carefully focused HQI spotlights mounted in special buried housings, the statues flanking Prince Albert are illuminated with even lower levels of light to suggest a tertiary role in the assemblage.

The four architect-designed buried housings (below) are located outside the corners of the monument. Modeling each of the sculptural elements from all directions, they also light an outer group of statues, "the Continents," as well as a frieze around the base of the Prince Albert monument. The frieze is lighted with a ribbed-glass lens, which elongates the beam and increases precision.



details

project Albert Memorial, Kensington Gardens location London, England, UK lighting designer Lighting Design Partnership—Graham Phoenix, IALD and Michael Simpson architect Peter Inskip and Peter Jenkins engineer Mendick Waring equipment supply and control design Lighting Technology Projects photographer Lighting Design Partnership lighting manufacturers Astralux; Thorn; Meyer

IALD 2000 awards

award of merit



To respond to Helsinki's call as one of nine "European Cultural Capitals of 2000," this lighting master plan, the seventh submitted to the city, utilizes a high-quality, efficient roadway and pedestrian lighting system to protect views, highlight celebrated facades and propel the city into the 21st century. Commented judges, "It's great how they actually implemented the lighting scheme." Designed by Ross De Alessi, IALD, Ross De Alessi Lighting Design in collaboration with Helsinki Energy's Eero Metso and Cadvance's Erkki Rousku, the lighting scheme allows the city's denizens and visitors to enjoy the beauty of Helsinki.

details

project Downtown Helsinki Master Plan—Esplanade and Side Streets location Helsinki, Finland lighting designer Ross De Alessi Lighting Design—Ross De Alessi, IALD; Helsinki Energy—Eero Metso; Cadvance—Erkki Rousku research Ross De Alessi Lighting Design—Susan Tracey Stearns renderings Ross De Alessi Lighting Design—Trish Connor, Carlos Inclan project assistants Ross De Alessi Lighting Design—Cathy Woods, Carlos Inclan photographer Ross De Alessi Lighting Design lighting manufacturers Cariitti Oy; BEGA; Agabekov Opposite: The master plan improves visual clarity and acuity by eliminating the tall poles, bulky trusses and cross-wires that clutter the city's streets. Lighted by ceramic metal halide sources, the two Esplanade streets, which total 1.2 km (approximately 0.75 miles) combined, and the city's neo-classical facades glow unobstructed to enliven pedestrians' spirits. In the summer, the lighting scheme uplights mature linden trees.

Right: To replace the clutter of cross-wires and poles, the solution lights the city with double-head custom poles and luminaires that line the streets. Mockups were conducted to determine which of two elements would be used to construct the final fixture: the original resin cone or the PH-style cross-wire luminaire proposed for narrow streets. In the end, the lighting committee settled on a hybrid of the two. Combination PH-style lanterns and drop cones are equipped with an inner diffusion cone and 35W ceramic metal halide lamp. The upper compartment houses variable and rotatable optics for uplighting with 70W ceramic metal halide. Lowering the lighting system to pedestrian scale achieved greater visibility, efficiency and uniformity.





Pole details harmonize with the variety of architectural styles found throughout downtown Helsinki. Poles located on both building and park sides of the Esplanade's encircling streets uplight facades and trees during the city's long twilight periods. On pedestrian-only side streets (left), single mount poles were carefully developed to maximize the uplight component and reduce brightness on the pole arm. In all of the custom fixtures, brightness levels of the inner diffusion cones fall well below half of the city's guideline threshold of 6,000 candela/m². In addition, the glow from the ceramic metal halide lamps better complements the sky at twilight than the original 250W HPS sources.

At City Hall (below), the plan's detailed designs are adopted to articulate the ornate and historic facades with light. Miniature 20,000-hour Xenon striplights accent City Hall's pediment and crest, while low-profile quartz uplights highlight pilasters on the mayor's balcony and at the building's corners.



IALD 2000 awards

award of merit

New York Public Library Rose Main Reading Room New York City, USA



As part of the rehabilitation of this Carrere and Hastings Beaux Arts landmark, lighting designers Barry Citrin and Richard Renfro were charged with increasing light levels to meet modern standards while restoring the Library's original splendor. The solution incorporates a strategy of "conceal and reveal," which discreetly ensconces new lighting fixtures to enhance the historic qualities of the space. "The lighting is really beautiful," commented judges. "These types of projects are really difficult to pull off." Adding complexity to the challenge, the Library insisted on using only fixtures and lamps that were already part of the building.

details

project New York Public Library— Rose Main Reading Room location New York, NY, USA owner The New York Public Library lighting designer Fisher Marantz Renfro Stone, Inc.— Barry Citrin and Richard Renfro, IALD architect Davis Brody Bond engineer Atkinson Koven Feinberg photographer Peter Aaron lighting manufacturers Elliptipar; Edison Price; Excalibur




Opposite: Entry into the Rose Main Reading Room is gained through a vestibule historically lacking in electric lighting. Once a gloomy space, the vestibule has been considerably brightened for modern-day visitors by the presence of two linear bar fixtures chain-mounted to side balcony railings. Lamped with six glass-shaded incandescent sources each, they provide the electric light that was previously absent and echo chandeliers used in other areas of the library.

Left: Inside, Q25W PAR38 floodlights illuminate the newly restored ceiling murals of lush clouds and cerulean

blue skies. Mounted atop balcony bookcases, the floodlights are hidden in a new cornice, which also conceals additional uplight fixtures to accent the stone arches at the windows and louvered fluorescent striplights to light the balcony book stacks. Suspended below the rich murals and intricate woodwork, 18 orig-

inal chandeliers punctuate the space with their warm and jewellike glow. To preserve their historic quality, the lighting designers elected not to make any fixture modifications and limited their restoration to cleaning and relamping them with globe-shaped incandescent light sources.

The gleaming rows of oak tables beckon one to sit and read for awhile. For reading light, each of the tables is equipped with original brass table lamps refinished and

refitted with 52W long-life energy-saving incandescents (above). The table lamps are slightly raised and the interior of their metal shades painted white to provide a more even light distribution on the oak surfaces.

Mounted to the underside of the balconies (left), customdesigned, T5 twin-tube 3000K compact fluorescent fixtures replace the bare fluorescent striplights that once lighted the stacks and produced excessive glare. The custom fixtures are fitted with an elliptical reflector and lens system, which projects both vertical illumination on the stacks and glare-free backlight onto the tabletops.

IALD 2000 awards

award of merit

Northeastern University Multi-Faith Spiritual Center

Boston, Massachusetts, USA

Resurrected from the fire-ravaged Inter-Faith Chapel, Northeastern University's Multi-Faith Spiritual Center was designed to accommodate the needs of many faiths. Devoid of any specific orientation or religious imagery, its main worship space, the Hall of Prayer, relies on layered translucent glass panels illuminated by concealed incandescent and fluorescent sources to create a spiritual environment. The panels are lighted from front and back and provide the main light source for the center. Upon viewing this glowing solution designed by Paul A. Zaferiou and Glenn Heinmiller of Lam Partners, Inc., one judge remarked, "The lighting is very organic to the architecture."







Although daylight is lacking in the windowless Hall of Prayer, the atmosphere is luminous and tranquil, befitting a place of worship. The walls are lined with a series of glass panels that are backlighted from above and below by 3-ft. T8 fluorescent strips creating radiance in the space (opposite). The fluorescent strips are contained in a white cavity behind the panels and work in concert with a single 50W BR30 flood lamp on an adjustable lampholder also concealed behind the layered glass. The design team conducted several mockups to determine the ideal combination of light sources and fixture locations for the lighting of the walls. Allowing easy access to the fixtures contained in the cavity, hinged panels at the top and bottom of each wall section also facilitate maintenance (left).

Layers of perforated metal create the three inverted domes in the ceiling (left). At the center of each dome, an oculus is equipped with a 90W PAR38 flood downlight to create focal points at the ends and center of the of Hall or serve as an accent for an altar. Mounted above the metal domes between the ceiling and the wall, black track fixtures on individual pendant stems illuminate the front of the glass panels, supplementing the fluorescent light (below). The tiny fixtures are fitted with 50W 40-degree stable color MR16 lamps, prismatic spread lenses and a glare hood.

A dimming control system offers a selection of preprogrammed lighting scenes to accommodate the multiple faiths and needs of the Hall of Prayer. Because each lighting element is separately circuited, the amount of light from above, below, front and back can be varied to create a diversity of atmospheres. The dimming system also conserves energy and extends lamp life.

details

project Northeastern University Multi-Faith Spiritual Center location Boston, MA, USA owner Northeastern University lighting designer Lam Partners, Inc.— Paul A. Zaferiou and Glenn Heinmiller architect Office dA—Monica Ponce de Leon and Nader Tehrani engineer Cosentini Associates—Richard Lieber photographer Dan Bibb lighting manufacturers Lightolier; Kurt Versen; Litecontrol



IALD 2000 awards

award of merit

Radio City Music Hall

New York City, USA



On December 27, 1932, New York City's Radio City Music Hall opened its doors as the world's largest indoor theater. Sixty-seven years later, as part of a major renovation effort, the relighting of the venerable landmark adapts it to its current uses of concerts and television, adjusts lighting levels to meet modern requirements and returns it to its former eminence and glory. Designed by lighting designers Paul Marantz and Scott J. Hershman, this rejuvenation of Radio City Music Hall through lighting was accomplished in an eight-month construction schedule, which in itself was, as one IALD judge noted, "remarkable."

A major portion of the lighting design effort involved the restoration of the Hall's 733 Art Deco lighting fixtures, which over the years had fallen into varying stages of disrepair. Fixtures requiring extensive refurbishment were removed, stripped and replated. The fixtures were then rewired and equipped with new glass and new lamps. To address budgetary concerns, many of the larger ceiling-mounted fixtures that only required cleaning or field-refinishing were refurbished in place.

Presiding over the Grand Foyer (right), Ezra Winter's mural, "Fountain of Youth," was originally lighted by incandescent R lamps. A modern system of lamps and optics replaces the lamps to fully reveal the mural's beauty. A computerized dimming system adapts the foyer lighting to the space's diverse roles.

Torchieres and table lamps that once supplemented the Deco lighting in the theater promenades and lounges had been removed to accommodate larger crowds. As a result, light levels in these public spaces were less than 1 fc. The solution responds by illuminating the spaces with shielded 35W MR16 downlights discreetly integrated into the archi-



tecture and concealing additional downlights in the centers of parallelogram-shaped uplights. The uplights are organized in a grid that echoes the patterning on the floor.

In the auditorium (opposite), streaks of light race across the ceiling to produce a sunrise effect. Originally controlled by the world's first preset dimmerboard and equipped with PAR lamps, the "sunrise" coves now glow with the soft light of halogen light sources. The lighting design team also refitted the coves with new reflectors to accommodate the new lamp. Lenses were specified to revitalize the innovative, color mixing solution.

The restoration effort also extended to the world-famous marquee, where the lighting designers revived the historic three-color neon color scheme. New lamps and HPF transformers were specified to provide a brighter, more energy-efficient system that was less expensive to maintain.



details

project Radio City Music Hall Restoration location New York, NY, USA owner Radio City Productions LLC lighting designer Fisher Marantz Stone, Inc.— Paul Marantz, FIALD and Scott J. Hershman architect Hardy Holzman Pfieffer and Associates engineer Meyer, Strong and Jones Engineers PC photographer T. Whitney Cox lighting manufacturers Winona Studio of Lighting (historic restoration); Iris Lighting Systems; ETC; Edison Price; Altman Stage Lighting

IALD 2000 awards

award of merit



Rodin Museum Pavilion/Samsung Seoul, Korea

Auguste Rodin would have been proud. Housed in a 12,500-sq.-ft. free-form glass pavilion in Seoul, Korea and gracefully illuminated by lighting designers Thomas Thompson, Christine Sciulli, Jonathan Plumpton and Russ Burns of Thompson + Sears, his sculptures have never exuded so much power. According to one IALD judge, the lighting design of the Rodin Museum Pavilion dramatizes "the contrast between the mass of the Rodin sculptures and the transparent quality of the glass," creating an effect that is "simply beautiful."

40



details

project Rodin Museum Pavilion/ Samsung location Seoul, Korea owner Samsung Group lighting designer Thompson + Sears, LLC—

Thomas Thompson, Christine Sciulli, Jonathan Plumpton and Russ Burns

architect Kohn Pedersen Fox Associates, PC— Kevin Kennon, design principal; Gregory Clement, managing principal; Andreas Hausler and John Locke, project managers; Marianne Kwok and Luke Fox, design team leaders; Francis Freire, coordination leader; Vladimir Balla, Christopher Ernst, Andrew Kawahara, Michael Marcolini, Chulhong Min, Cordula Roser, Aida Saleh and Trent Tesch, team members

engineer Ove Arup & Partners (structural); Cosentini Associates (mechanical, electrical) photographer Timothy Hursley lighting manufacturer Nulux





Standing at the edge of Samsung's three-block complex (opposite), the pavilion's glowing volumes anchor and illuminate the plaza in the evening. The museum's transparent shell is composed of hollow envelopes of sandblasted, acid-etched glass that filter sunlight during the day. At night, the shell is internally illuminated by 500W halogen floodlights mounted inside at the base of the walls.

When viewed from above, the walls become gentle curves nestling a flat, glazed roof (top). Adding cool to warm, fluorescent channels suspended along a structural grid and tucked above the pavilion's etched-glass ceiling suffuse the roof in blue light. From inside, the lighted grid appears muted through the etched glass and enhances the perception of depth in the ceiling.

During the day, soft diffuse natural light penetrates the glass skin to illuminate the museum's displays. The daylight is supplemented by multi-circuit track lighting concealed at the perimeter of the glass ceiling. In the evening, MR16s concealed at the top of cylindrical columns uplight structural cruciform elements, providing visual accent to the space (above). Low-voltage MR16 downlights, integrated at intersecting points in the structural grid, bathe the beige limestone floor in golden light.

A clear glass panel leads to the museum's changing exhibition gallery (left) where statues pose against a dramatic backdrop of the pavilion's luminous forms. Recessed halogens in the floor accent the stainless steel pillars framing the glass wall and illuminate the ceiling. Monopoint-mounted PAR38s and PAR38 adjustable accent lights in the ceiling provide flexible art lighting.

IALD 2000 awards

award of merit

Zollverein Kokerei

Essen, Germany



Developed to reinterpret a disused coking plant as an industrial monument/sculpture, the lighting of Zollverein Kokerei revolves around the juxtaposed concepts of nature, power and process. The solution lends the industrial structure dramatic impact by saturating the primary tones of rust with a monochromatic red and highlighting and enriching textures. Despite limitations in budget, the lighting design also includes a ³/4-mile-long reflecting pool and the animation of 900 LED cluster plates. The dramatic transformation of ancient industry to potent landmark for the city of Essen was effected by the Lighting Architects Group, comprising Speirs & Major and Jonathan Speirs and Associates. Only two colors were used to create the drama of this coking plant. Although red prevails throughout—recalling the heat that once emanated from the factory's ovens—metal halide fixtures light the approach in blue to provide contrast to the textured batteries, furnaces and elevators radiating scarlet in the darkness (right). Above, chimneys standing roughly 250 ft. high are crowned with clusters of 150 LEDs that sparkle and randomly animate to surprise passers-by. Visible from 15 miles away, they serve as beacons for the site.

A rhythmic march of chimneys, pipes and elevators terminates in a solid wash of red (below). The lighted facade is part of a towering structure that once stockpiled huge quantities of coal ready for distribution. Now, the building houses a gallery and exhibitions.

Constructed from an aluminum sheet fully tanked with black bitumen, the reflecting pool (opposite) creates ripples of white that move across a facade of coking ovens. The ovens are cross-lighted with asymmetric red floodlights, and the reflections mingle with the play of shadow and texture in the vertical coal bunkers. On the upper level, gas burners and elevators are bathed in a smooth red glow.







details

project Zollverein Kokerei location Essen, Germany lighting designer The Lighting Architects Group comprising Speirs & Major and Jonathan Speirs and Associates architect Steiner Architects engineer Start Media Projekte research Lighting Architects Group renderings Lighting Architects Group photographer Lighting Architects Group lighting manufacturers Ambiance; Meyer; Thorn

IALD 2000 awards

citations

For Design of the Illuminated Ceiling

UBS A.G. Headquarters

Stamford, Connecticut, USA

Collaborating with architects at Skidmore, Owens & Merrill, lighting designers Stephen Margulies and Stephen Szynal of Cosentini Lighting Design developed the concept of a folded ceiling to deliver high levels of glare-free light to the traders at UBS A.G. Headquarters. The massive trading arena boasts ceiling heights ranging from 35 ft. to 50 ft. and accommodates 1,000 traders. IALD judges praised the treatment of the ceiling as "very ambitious" with one judge who had visited the space, adding, "The lighting is really even, glare-free."



Target illuminance levels for the trading floor were 45 fc. Suspended by cables from a skeletal structure, a system of S-shaped acoustical panels integrated and lighted with fluorescent fixtures provides indirect lighting. The fluorescent fixtures are each equipped with four 40W biax lamps for powerful light output. Recessed in the panels, metal halide downlights fitted with square reflectors contribute direct lighting. The reflectors are radiused to accommodate the curved surface and add texture to the ceiling.

To evaluate light levels achieved by this assembly, the design team built full-size mockups of the ceiling and through computer simulation, conducted photometric tests. A controls system enables the lighting to adapt to changes in daylighting and to ensure ample illumination for evening trading. The flexible system provides individual control for each row of panels.

details

project UBS A.G. Headquarters location Stamford, CT, USA owner UBS A.G. lighting designer Cosentini Lighting Design—Stephen Margulies, IALD and Stephen Szynal architect Skidmore, Owens & Merrill, LLP—Mustafa Abadan, Ken Lewis, Steve Apking and Randy Fahey engineer Cosentini Associates photographer Jeff Goldberg lighting manufacturers Linear Lighting; Lighting Services Inc; Winona Lighting

For Integration of Light and Medium in an Urban Setting

Plantation Place Marketing Suite "Beacon"

London, England, UK

A freestanding glass and stainless steel structure measuring nearly 90 ft. tall, the Plantation Place Marketing Suite beacon imparts a visible identity to London's urban landscape and marks the entrance of the Marketing Suite. Lighted by Arup Associates' David Hymas and Haico Scheppers, the procession of luminous rings appears to float in the darkness and in demonstrating the height of a proposed building, hints at the future of the Plantation Place site.

An exercise in the structural use of glass and stainless steel, the beacon visually transforms with the fluctuation of surrounding light levels. By day, the structure is a series of nine translucent horizontal glass rings strung together by stainless steel rods. The laminated rings are each supported at the perimeter by the vertical rods. At night, they are lighted from their inner rim by a circular luminaire box containing 16 18W compact fluorescent lamps arranged radially. The topmost ring, with its smaller inner diameter, glows with cold cathode light, while LED marker lights surround the beacon to bathe the lower disk in blue.

A limestone path illuminated by low-level floor wash lights leads to an open glass pavilion at the western end of the Marketing Suite. Providing clear views of the site, the glass pavilion is internally lighted by tungsten halogen downlights located at the roof edge.



details

project **Plantation Place Marketing Suite** "Beacon" location London, England, UK owner The British Land Company PLC lighting designer Arup Associates—David Hymas and Haico Scheppers architect Arup Associates engineer Arup Associates photographer Anthony Broomhead

NIGHTTIME IDENTITY— LIGHTING EXTERIOR FACADES

BY ROBERT DANIELS, IES

In viewing the skyline of most major cities, we are struck by the beauty of nighttime lighting, which illuminates some of the world's greatest and most famous buildings. Using the shape and form created by architects, lighting designers direct light to both enhance—and sometimes alter—the structural image, creating new identity in the darkening sky.

Architects envision form based on the sun, a moving point-source of light with an ambient fill. In architecture, projected surfaces and recessed relief create style, and the interplay of light and shadow becomes a significant element in detailing visual contrast. Great architecture acknowledges the movement of daily and seasonal sun patterns and its impact on transforming the building's appearance. For instance, buildings with glass and reflective metallic surfaces respond to the movement of clouds and the color of the sky. The best architects have the ability to create these giant chameleons that are in constant change.

Where the architect creates the form that is unpredictably illuminated in the day, the lighting designer has more control of the nighttime image. Consequently, understanding architectural design is paramount to the lighting design. Having the ability to visualize the architect's design statement is critical to achieving the desired effect. A building's primary theme must be discovered. Since buildings are comprised of a series of shapes linked together into a larger form, the lighting design should also accommodate secondary and tertiary design elements to fully celebrate the entire architectural package. Smooth and fluted columns, vaulting arches,





PARTIAL WALL LIGHTING USING HPS SOURCES. FOUR SEASONS HOTEL, ATLANTA, GA.

ledges, sills, recessed windows, capitals and eaves all become details in the design.

It is up to the lighting designer to discover what image the owner is trying to create. An architectural design and its major themes can be defined through various lighting design elements—Kelvin variation, color filtration, brightness and exposure to direct lumen flux—to create multiple and distinct looks.

While the topic of exterior facade lighting is rather extensive, employing some of the following techniques can be helpful in achieving a viable lighting solution:

• Buildings should have light on or near the top edge and the widest walls. This will help to define the size and shape of the building. Height is important, as it defines the optics, style and wattage of the fixtures. The color of the wall surface will determine the lamp color. Brick, red, brown or yellow colors such as those typical of sandstone facades are a natural candidate for sodium sources. White, concrete, gray or painted wall surfaces are more appropriate for metal halide sources.

• Lighting the building walls can be accomplished with a smooth wall wash, an intentional diminishing

(Continued on page 48)

COLORED UNIFORM WASHES. CENTRUST/NATIONSBANK IN MIAMI, FL. LIGHTING DESIGN BY DOUGLAS LEIGH.

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Code Change to Affect All Commercial Construction in Massachusetts



The Massachusetts Board of Building Regulations and Standards (BBRS) has adopted NEW ENERGY CONSERVATION REQUIREMENTS into the State Building Code (780 CMR, Chapter 13.) The new provisions will take effect on JANUARY 1, 2001, and will cover all new commercial and high-rise residential construction in the state.

BBRS, in cooperation with the U.S. Department of Energy, the Massachusetts Division of Energy Resources, and the state's gas and electric utilities, will be offering **FREE SEMINARS** on the new Energy Code throughout 2000. Lighting designers, architects, engineers, contractors, and others are encouraged to attend. The following schedule is for LIGHTING/POWER seminars. (Sessions on Envelope and on HVAC requirements will also be offered.) Registration is required at least one week in advance. Please register by e-mail at www.state.ma.us/bbrs/register.htm or call 617-951-1433 x323. AM sessions run from 8:30 to 12:00, PM sessions from 1:00 to 4:30. Directions will be sent with confirmation.

FREE LIGHTING/POWER SEMINARS

CITY	DATE	TIME
Peabody	2/2/00	8:30 AM
Boston	2/10/00	1:00 PM
Andover	2/23/00	8:30 AM
Northborough	3/2/00	1:00 PM
Swansea	3/15/00	8:30 AM
West Springfield	3/21/00	1:00 PM
Cambridge	4/6/00	8:30 AM
Boston	4/12/00	1:00 PM
Northampton	4/26/00	8:30 AM
Needham	5/4/00	1:00 PM
Cambridge	5/16/00	8:30 AM
Boston	5/24/00	1:00 PM
Northborough	6/7/00	8:30 AM
Boston	6/13/00	1:00 PM
Newburyport	6/27/00	8:30 AM
Andover	7/12/00	1:00 PM
Wareham	7/26/00	8:30 AM
Yarmouth	8/1/00	1:00 PM
Cambridge	8/22/00	8:30 AM
Northborough	9/12/00	1:00 PM
Boston	9/26/00	8:30 AM
Billerica	10/2/00	1:00 PM
West Springfield	10/18/00	8:30 AM
Boston	10/24/00	1:00 PM
Boston	11/9/00	8:30 AM
Andover	11/15/00	1:00 PM
Boston	12/6/00	8:30 AM

(Continued from page 46)

wash, scalloping patterns and partial wall washes. Prominences, such as columns and pilasters, can create well-defined, single-surface vertical lines. Recessed chutes, when lighted, appear as wall channels of defined vertical light.

• A smooth wash, accomplished with metal halide or HPS sources, is one that has little or no visible diminishment of light. Washes having a maximum to minimum ratio of 5:1 or less will appear very smooth. Fixture spacing for smooth washes should have one setback distance to the edge of the wall for the first fixture and two setback distances between the fixtures in the middle. The setback is determined by the beam shape, or if the setback is predetermined by physical requirements, then the beam must be engineered to the space.

• When a narrow spot placed near the facade is used to create a wall-washing effect, care must be taken to aim the fixture on a steep angle of 70 degrees or greater, otherwise a hot spot will be formed.

• When lighting a pilaster or column, make sure that the light remains focused on them to accentuate these architectural details without spilling competing light onto adjacent surfaces.

RENDERINGS OF MIAMI'S J.W. MARRIOTT

DEPICTING VARIATION OF STYLE ELEMENTS.

LIGHTING DESIGN BY ROBERT DANIELS.

This is accomplished by using a narrow spot close to the column face.

• Diminishing washes enhance the drama of contrast. For example, sometimes darkness is desired at the top of a throw to emphasize a lighted feature atop the building. In this case, a maximum to minimum ratio of 20:1 may be desired. A wide-angle beam placed close to the wall will achieve this effect.

• A scalloping pattern may be desired to break the monotony of a very plain wall that has little detail. The fixtures should be placed at closely spaced, regular intervals, directly next to the wall. The angle of the scallop is relative to the optic patterns, which are typically 30 and 45 degrees.

• Linear details can be displayed with very narrow spots of projected light or with direct emanating light from neon, fiber optics, linear fluorescent, cold cathode, light pipe or rows of incandescent, compact fluorescent and LED lamps.

• Thematic design intersections can be amplified with spots of light, either direct or diffused. If there is direct exposure, care must

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uniform illumination on walls

LIGHTING

Surface Material on Building Exterior	City	Suburban	Rural
Terra Cotta, Light Marble or Plaster	15	10	5
Bedford or Buff Limestone, Smooth Buff Face Brick, Concrete, Aluminum	20	15	10
Smooth or Medium Gray Brick Common Tan or Dark Field Gray Brick	30	20	15
Brownstone, Stained Wooden Shingle, Other Dark surfaces	50	35	20

LEFT: RECOMMENDED ILLUMINATION LEVELS. RIGHT: UNIFORM WALL WASH VS. DIMINISHING SCALLOPING WASH.

COURTESY OF GE LIGHTING INSTITUTE.

be taken so that glare from the luminous flux does not overpower the rest of the image. This must be determined by the lumen output and the observed distance, as well as other adjacent flux output.

• If a fixture must be positioned on the building and it creates undesirable glare when viewed, it must be shielded. Shielding may be standard from the factory or custom built, but in all cases should be painted to match the fixture and the surrounding environment. There is nothing worse, for instance, than seeing black or bronze fixtures visibly mounted on a light colored wall, yet it happens all the time. Likewise, the positioning of fixtures, either on the ground or on poles, can become obtrusive to the daytime environment. Aesthetics of the daytime look must be considered. Be conscious of your design decisions, as what can appear luminous at night can be an eyesore during daylight hours. If fixtures are to be seen, care should be taken to specify those fixtures with appealing body styles. Many of the older designed fixtures and stadium fixtures are quite appropriate for a rooftop, but detract from the daytime aesthetics of the building. These aspects of



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RENDERINGS DEPICTING VARIATIONS IN WALL-WASH STYLE AT CODINA HEADQUARTERS IN CORAL GABLES, FL. THE STYLE OF DESIGN CAN BE SIMPLE WITH ONE STYLE OF LIGHTING DISPLAYED ON ONE OR MORE WALLS. IN A SLIGHTLY MORE COMPLEX DESIGN, A FULL WALL WASH MAY BE FLANKED BY PARTIAL WASHES TO DE-EMPHASIZE THE ADJACENT FACADES. LINEAR OR SPOTS OF LIGHT CAN BE INTEGRATED TO EXPRESS STRONGER ARCHITECTURAL ELEMENTS. LIGHTING DESIGN BY ROBERT DANIELS.

specifying should be discussed with the architect or owner.

• Brightness and intentional shadowing of areas can create dramatic contrast. Many times, it is not what you show, but what you don't show that helps in a design. For example, it might be wise to accentuate the strongest design details, allowing the less significant ones to fade. Monotony can arise when all areas of the design are treated equally.

· Brightness or light levels are relative to the exterior lighting of

adjacent areas and the reflectiveness of the building wall surfaces. If dark surfaces are present and the goal is to achieve maximum impact through heightened light levels, two to four times the illumination typical to your design is necessary.

• Fill light may be necessary when harsh shadows are created from strong accent lights. If cross-lighting, be aware that one of the consequences could be undesirable shadows in the non-illuminated areas.

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MULTIPLE TYPES OF SOURCES AND COLORS CREATE VISUAL INTRIGUE AND ENHANCE A VARIETY OF ARCHITECTURAL STYLES. CAESAR'S PALACE ENTRANCE IN LAS VEGAS.

DIMINISHING AND PARTIAL LIGHTING CAN ENHANCE THE DRAMA OF A STRUCTURE BY ADDING STRONG CONTRAST. WATER TOWER, CORAL GABLES, FL.



highlight depth and detail on a building's facade. Illuminating differing facade depths and areas will give the building a threedimensional feel unattainable otherwise.

• Colored lighting can be added throughout the design or on specific walls to create accents. Using basic colors of sodium or metal halide with splashes of filtered light will give the building a remarkable enhancement. Vibrant colors of red will draw the greatest attention, as will highly saturated colors with adequate flux coming through the filter.

The most advanced designs employ several types of light sources, as well several styles of lighting. By doing this, the multiple themes of the architectural design are brought into the lighting design. It is this integration of lighting styles and techniques that creates a truly artistic and memorable lighting design.

Robert Daniels, IES, is the president of Brilliant Lighting Design in Miami, FL and is chair of the IES Building Facade, Bridge and Monument Lighting Committee.

For additional articles on outdoor and landscape lighting, visit www.lightforum.com/design/outdoor/html.

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JUNE/JULY 2000

Circle No. 25

LIGHTFAIR 2000: NEW & NOTEWORTHY

BY DAVID HOUGHTON, PE, CONTRIBUTING EDITOR

Set against the frenzied backdrop of midtown Manhattan, Lightfair 2000 once again featured advances in light sources, fixtures and control systems. One of the most exciting developments in this year's exposition was the crossover of computer network technology into lighting equipment. Two major control/communication protocols made their U.S. debut: the AddressPro system created by ballast manufacturer Energy Savings Inc. (ESI) and the European DALI standard that was foreshadowed at last year's Lightfair.

ADDRESSING NEW TECHNOLOGY

AddressPro is a scheme by which controlled lighting devices are connected on a two-wire network. Each AddressPro device is assigned one of 8 million random serial numbers in the factory to create the device's permanent "address." Devices on the network can then be turned on and off, dimmed, grouped with other devices into "zones" or set to pre-programmed "scenes." Users program and operate the system via handheld infrared devices and wall-mounted controls.

AddressPro is an open protocol, meaning that any controls company can get the instruction set and make their own products using the same format (but they must be qualified for compatibility by ESI). At this time, at least a dozen companies have announced products using the AddressPro protocol, including Cooper Lighting, Prescolite and Zumtobel Staff. ESI's embodiment of the AddressPro system is called SuperDim Digital and includes a family of wall-mounted and handheld controllers, IR receivers, and modules that connect the network to addressable devices-digital dimming ballasts, 0-10V dimming interfaces, dimming and nondimming incandescent controllers, PCs and even non-lighting loads. ESI offers addressable digital ballasts for T8 and T5 linear fluorescents and quad- and triple-tube CFLs. Products for other lamps such as the F39 fluorescent and T5 circlines are in the works.

The Cooper Lighting booth provided a look at how AddressPro works in action. With the handheld remote, the user first aims at the wall controller and presses a button to enter the "set" programming mode. The nearby light fixture then flickers to indicate its address, the remote picks up the address and the fixture can then be assigned to a zone. "Scenes" are programmed similarly by setting zones or fixtures to different dimming levels. The interface is fairly intuitive; it takes only a few minutes of instruction to be able to program zones and scenes.

The DALI (Digital Addressable Lighting Interface) system is more ambitious. Developed in Europe, DALI also connects lighting components into a twisted-pair network, with each device occupying its own address that can be controlled. Users can communicate with the network several ways, including handheld wireless IR controllers, PCs, building automation system gateways and even personal digital assistants (PDA) such as the Palm Pilot. (At the show, I was able to download a Palm application to my own PDA and use it to control lights through the device's serial port). Like AddressPro, DALI also offers scene programming, variable dimming rates and the ability to control groups or



IGL SERIES FROM INTREPID. CIRCLE NO. 79

individual fixtures. However, DALI is a two-way street: Lighting components can report their status back to the network, including lamp burnout, percent dimmed and ballast condition. With DALI, a building's control system would be able to alert maintenance staff that an individual lamp or ballast is inoperative.

The primary originator of DALI is the Austrian company Tridonic, but like the AddressPro protocol, other companies can produce components that use the DALI standard. Although many of these firms are European companies that are unfamiliar to U.S. specifiers, companies such as Osram Sylvania, Philips and Magnetek are involved in the DALI process and are at least considering DALI products. DALI has its limitations: The standard will support only 64 devices within a given communications loop and like the Echelon LonWorks protocol, companies employing the standard in their products must pay a royalty to Tridonic, the patent holder on the system.

For all the promise of digital communications in lighting equipment, some Lightfair observers are skeptical. "Do we really need to address each and every ballast?" asked Bob Burke, director of engineering with Magnetek's Technology Development Group. "We're struggling with the tradeoff of complexity and cost-effectiveness. We're not sure users are willing to pay for these capabilities." Burke added that emerging wireless radio-frequency networking technology may leapfrog hard-wired communications like AddressPro and DALI.

CFL VS. HID TECHNOLOGY

This year's show provided more evidence that fluorescent sources are challenging HID for the industrial/warehouse high-bay fixture market. Sportlite, the original creator of CFL high-bay fixtures, still offers its cone-shaped highbay fixture that uses a cluster of triple-tube CFLs. This year, fixture manufacturer Intrepid actually set up a mock warehouse aisle in their booth to show off their IGL-series fluorescent warehouse fixture. The IGL uses rows of 36W, 40W or 55W biax fluorescents to put out angled light that illuminates the sides of the aisles. Delray also showed a CFL highbay fixture. Fluorescents have the edge over HIDs for warehouses because of their dimmability, instant restrike, high efficiency, long life and—particularly with T5 technology superior lumen maintenance.

A Reporter's Notebook

* Turn the page to find out what's happening on the international scene with coverage of three European shows...

• A stand-alone dimming system, the **Flexiwatt**, is back. This dimming ballast, originally introduced more than 10 years ago, has a fiber-optic lead and internal photocell that automatically provide daylight dimming for T8 fluorescent fixtures. Although the Flexiwatt may be attractive for single fixtures, more complete dimming systems have leaped way beyond this in the last decade.

• In the "smoke and mirrors" department, **USA Illumination** showed a rather unusual fixture that used rotating mirrors to provide four downlight beams from a single lamp source. The company claims maintenance savings from having fewer lamps.

• Another "two lights from one" arrangement was shown at the **Venture** booth: A 68W DC metal halide lamp coupled with two diametrically opposed quartz glass light guides that each deliver 2,000 lumens of highly focused light. The application shown was for displaying objects d'art. Venture also continues to improve metal halide lamp technology. Among the new from their booth: Weldless metal halide lamps (electrical connections are instead made with high-pressure crimping equipment) that are easier to manufacture and more rugged in field and a 200W lamp that produces 21,000 lumens—reportedly the world's brightest medium-base lamp.



• Fixtures with a metallic industrial look are "in" this year, with examples shown by Lexalite, Lightolier, Prudential, Guth and others. **Delray** has introduced the "modern industrial" approach to highbay fixtures. The Rocket features wide and narrow light distribution with multiple-lamp CFLs (also metal

halide and QL induction sources). Other innovations from Delray include dual-cone lamp shielding, multi-lamp downlights with separate switching, downlights for the QL induction lamp and some attractive surface-mount downlights.

• Engineered Lighting Products showed their "Hole-In-The-Wall"—a recessed fixture that can wash ceilings, floors or walls with light from a box that blends into and has the same finish treatment as the wall itself. Lamping ranges from 5W PLs to F39 fluorescents and 75W halogens.

• Fluid Light Technologies (FLT) showed an innovative neon animation system. Instead of a typical, bulky transformer and 6,000V wiring to the lamps, FLT uses a "neon controller" that feeds 24V power to tiny transformers mounted right at the lamp ends. By controlling the way that the transformers step up the power to the cathodes, FLT can make the light "flow" down the length of the tube, bounce back and forth and create other special effects. The low-voltage wiring improves safety and reduces installation costs.

• Canadian manufacturer **B+L** is still producing ballasts, but has given up on its earlier "Nuance" design that provided full-size fluorescent dimming on the line-voltage switch leg. Although this product offered easy and inexpensive dimming (no control wiring, and works with conventional hardware store dimmer), their booth rep said that sales were too low to justify continuing.

• Live Wire Enterprises displayed a new type of linear electroluminescent accent lighting. Their product takes a technology that has previously been seen in sheet form—a dielectric/semiconductor/phosphor blend—and turns it into a luminous cable that is available in eight colors (photo: livewireent.com).

· Canadian light pipe manufacturer TIR Systems has refined the light distribution

of their tubes to provide more directional capability and optical control. The company is actively developing LED drivers for its light pipes and showed a short sample of a prototype square-section light pipe that uses the latest high-output units from LumiLeds.

• This year **LumiLeds**' booth glowed with bright LEDs. Hewlett-Packard (HP) has split their LED business in two, with the smaller packages handled by its recent spin-off, Agilent, and the larger "power package" LEDs being marketed by LumiLeds, which is an HP-Philips joint venture. The last year has seen more dramatic leaps in LED output and efficiency and the emergence of a coherent packaging and marketing effort that should have high-power LEDs popping up in more applications.





EUROLUCE 2000: REPORT FROM MILAN

Euroluce, the biennial International Exhibition dedicated to the lighting industry, was held in Milan, Italy on April 11-16. Distinguished as one of the largest lighting shows in the world, it has a tradition for showcasing new, avant-garde designs that combine both quality and innovative use of materials. And it continues to feature the traditional products that have historically made Europe and Italy the front-runner in lighting design.

No one style, form or technology dominated the Euroluce 2000 exhibition. In content, the show offered an amazing blend of beautifully crafted fixtures, elegant in color and material selection and minimal in manufactured detail. In contrast to the highly commercial presentation of steel and aluminum forms of fluorescent and metal halide products, the emerging market of beautiful form and function is dominant. Some noteworthy trends and products:

LED. Rapidly growing in the field of lighting is the use of LED technology. For decades, LEDs have been used as luminous indicators on household appliances and for electrical and electronic devices. They are emerging in the field of interior lighting. Zumtobel Staff introduced miniature light sources, Phaos and Ledos, as decorative light points or directional colored lighting effects. Color can be controlled at the source or PC. The Milan design team of DePonte & Gaeta was dramatically successful in their sophisticated pendant Saturn-LED of juxtaposed circles of light.

Plastic. Materials and technologies have been borrowed from other industries, as shown in the use of metachrylate Lexan in sheet and tubular form. Murano Due introduced sheet product and Murano glass in a simply beautiful presentation of color and form for the Tip table series and Metalarte forms MetPE-MetPR of tubular Lexan with a halogen source topped by an adjustable MR16 cylinder.

Fabric. The use of fabric and light is emerging in the decorative market in strong geometric shapes that evoke traditional material in modern format. Modiss was successful in rectangular geometry in Maria, in wood and fabric. And Quasar offered a stunning solution in Flow, a silk and stainless steel pendant.

Linear Incandescent. Tubular incandescent, long in the marketplace for bathroom use, has emerged in both frosted and clear forms. Quasar shrouds the clear tube with paper elements supported by brass rods, creating Narita Kin/Gin, a simplistic chandelier. Prandina creates a triangle of light in Three with overlapping 60W frosted tubes.

— James L. Crowell, IESNA, principal of Crowell Design, Inc., Radnor, PA.

SATURN-LED, DEPONTE & GAETA





PHAOS AND LEDOS, ZUMTOBEL STAFF

THREE, PRANDINA



LIGHT + BUILDING: FRANKFURT

Prior to this year, the largest lighting trade show was an annual event in Hannover, Germany. This year, the Germans decided to take their show on the road and move it to the fairgrounds in Frankfurt, adding electrical technology, building automation and air conditioning. The resulting event, which debuted March 19 through 23, was a hit. More than 1,800 exhibitors showed their products to 100,000 visitors. Walking the lighting exhibition, an American lighting designer familiar with Lightfair would immediately be wowed by the sheer size of the show and by the elaborate designs of the booths. "The major manufacturers' booths had a design point of view, almost a vision, about the future of lighting that made the experience of being at this incredible show all the more stimulating," said Charles Stone of Fisher Marantz Stone. Light + Building, in a word, was overwhelming. The imagination put into the design of the lighting equipment, the emphasis on visual aesthetics and the quality of its production-both trademarks of European design-were remarkable. Products ranged from commercial and residential lighting fixtures to lighting controls systems to LED technology.

"One of the areas I found extremely exciting is the extensive growth in fixture designs for T5 and T5/HO lamps," said attendee Peter Ngai of Peerless. "Another, is the development of LEDs and the overall progress in terms of their applications. For example, I saw one product that, though still in the conceptual stage, used LEDs in task lighting. It was real evidence that the potential is there. A third trend that emerged from the show was the development in controls, especially those with digital technology."

Over the last few years, the requirements that lighting equipment is expected to fulfill have changed considerably. This applies to both residential and commercial spaces. The demand for lighting designs tailored specifically to particular work conditions or living environments is being realized through dynamic light-control products, very much in evidence at Light + Building. The focus of this technology may be on comfort, energy savings or even a combination of the two but the approaches used vary according to technical scope and the amount of investment needed.

Light control and light management cannot play an isolated role in any building and in fact, the close interplay of lighting, electrical engineering, air-conditioning technology and building automation under one roof at a single tradefair is a concept with far-reaching potential—not only in terms of the synergism created between electrical engineering and lighting, as control devices are indispensable to modern lighting, but the relationship between lighting

THE UK'S TOTAL LIGHTING EVENT

Birmingham, UK's building and construction event, Interbuild 2000, seemed a little brighter this year with the inclusion of Total Lighting, a commercial lighting show supported by the Institution of Lighting Engineers and the International Association of Lighting Designers (IALD). Held May 21-25 in Hall 6 of the NEC, Total Lighting debuted with over 140 exhibitors who offered visitors an opportunity to view the UK's most expansive display of commercial fixtures, lamps, interior and lighting equipment all under one roof. While products shown covered a range of categories and applications, four trends emerged as noteworthy themes of this initial effort.

 Perhaps in strong reaction to the HPS "crime lights" that dominated exterior lighting in the '70s, several manufacturers showed fixtures that have capitalized on recent advancements in metal halide technology to combine contemporary aesthetics with advanced optics. Shortlisted for the Total Lighting Award, DW Windsor's Bluewater boasts a wide-brim, modern optical system and flat glazing for reduced light pollution and is a staple in the company's drive to promote the concept of mass customization. Another award contender, the vandal-resistant Pathfinder from WRTL Exterior Lighting employs a computer-generated refractor optic to maximize light output and reduce spill light in exterior lighting applications.

• Energy management systems also created a buzz at the show, with Tridonic's DALI making its first appearance in the UK. (For more indepth coverage of the DALI system, see the Lightfair review on page 52). The company also unveiled an array of DALI ballasts, including the PCA Excel one4all, a digital ballast that can be individually or group programmed. The ballast also features controllable fade times and fade rates and 16 programmable scenes.

• Despite the absence of major fiber-optic manufacturers in the show, several small, top-notch independents created a strong presence with their colorful displays illustrating current technology. Advances in fiber-optics have contributed to the possibility of LEDs that are different colors within a single unit/wallbox and which also were a topic of conversation on the show floor.

• Finally, perhaps resulting in part from the ongoing enthusiasm for fiber optics, a host of companies wowed visitors with giant image projections and lively theatrical effects. Their booths offered lamps, theatrical fixtures, dyes and color gels. Because much of the visual wizardry was based on but not limited to exterior applications, one may be seeing more interiors exhibiting the same theatricality and drama.

— Compiled with assistance from Gene de Nicolais, international marketing communications for Lutron

DAVID SERIF (LEFT) AND NEIL MACKINNON OF WRTL EXTERIOR LIGHTING LTD.





PICTURED LEFT TO RIGHT ARE: MARC HICKMAN, FRANCIS WRIGHT AND IAN RAYNER OF MIKE SMITH DESIGNS LTD.

and building automation. This holistic view was reflected in the range of products exhibited at the show. For example, the DALI (digital addressable lighting interface) can be linked to central building management responding to the demand for variable control of light scenes and a higher degree of economic efficiency. Osram, for instance, unveiled its new lighting control system for DALI, designed for applications such as multifunctional offices and lecture halls.

Light + Building had far more to offer, though, than an impressive show of exhibitors and technical innovation. For instance, one of the particularly interesting aspects of the tradeshow was a series of fascinating light installations in the Via Mobile, Messe Frankfurt's moving walkway (a much-needed device for walking the show!). Students from the Offenbach Polytechnic of Design, working with Messe Frankfurt, presented their creative projects, the results of their own technical developments, to underscore lighting as an essential element to architecture. Attendees traveling from one hall to the next could enjoy a visual and acoustic experience through interactive video systems, flashlight corridors, a sound-controlled laser-projection system or computer-controlled LCD monitors.

Furthermore, attendees had the opportunity to hear and view a retrospective of the past 50 years of light. Achille Castiglioni, a master of Italian furniture and lighting design, presented approximately 40 of his most important and world-famous lighting creations, covering a period from 1956 to the present. His lighting objects are on exhibit in museums around the world including the Centre Pompidou in Paris and the Museum of Modern Art in New York City.

The next Light + Building will be held April 14-18, 2002.

light+building

Some stats on the show:

- Total exhibitors: 1,810 (927 from Germany; 883 outside Germany)
- Total lighting exhibitors: 1,141
- Total exhibition space: >100,000 sq.m
- Total exhibition space/Lighting: 62,778 sq.m
- Number of U.S. exhibitors: 12 (including Lutron, Energy Savings Inc., Lithonia, SuperVision)

LIGHTFAIR NEW PRODUCT SHOWCASE

Architectural Lighting was proud to sponsor once again the New Product Showcase at this year's Lightfair International in New York City. The 2000 New Product Showcase received a record number of submissions, totaling 143 entries. The entries, grouped into nine major categories, were presented by Peter Barna, IESNA, Barbara Bouyea, IALD, Willard Warren, FIES and Randall Whitehead, IALD. Nineteen products received a Category Innovator Award for demonstrating exceptional benefits to lighting professionals. From the 19, four finalists were chosen to receive Awards of Distinction—Energy Award, Technical Innovation Award, Design Excellence and the coveted Best New Product of the Year Award. Two additional awards, the Judges' Citation and the Roeder Award, were also presented. This year, the Best New Product of the Year was awarded to Style F305 from Elliptipar.

Jurors for the New Product Showcase were John Bos, Bos Lighting Design; Mary Ann Hay, Syska & Hennessy; Stephen Margulies, Cosentini Lighting Design; and Maurizio Rossi, Maurizio Rossi Lighting Design. The New Product Showcase Committee included: James Benya, Benya Lighting Design; Boyd Corbett, Belfer Lighting; Gary Dulanski, Stan Deutsch Associates; and Mark Roush, LumiLeds.





COSPONSORS CHRISTINA TRAUTHWEIN, EDITOR-IN-CHIEF, ARCHITECTURAL LIGHTING MAGAZINE AND DAVE BURTNER, PRESIDENT, INTER.LIGHT (RIGHT) PRESENT THE BEST NEW PRODUCT OF THE YEAR AWARD TO SYLVAN SHEMITZ (CENTER) AND PAUL FORD OF ELLIPTIPAR.



BEST NEW PRODUCT OF THE YEAR AWARD

ELLIPTIPAR Style F305

tyle F305

Style F305 features a low profile $(2^{5/8} \text{ in. high})$ and the precise optical control of the T5 fluorescent for uplighting from perimeter coves. The fixture can be mounted individually or in a continuous row and is adjustable, allowing orientation to light from a slot, valance or niche. Patented brackets allow all reflectors in a row to be linked and aimed together while minimizing socket shadow, and locking set screws secure aiming. Construction is aluminum and stainless steel. An integral electronic ballast in a continuous wireway enables easy installation. **Circle No. 50**

ENERGY AWARD

ENERGY SAVINGS INC.

Selective Switching Three + Four Lamp T8 Ballast

Energy Savings Inc.'s Selective Switching Three + Four Lamp T8 Ballast is a microprocessorcontrolled, universal input voltage ballast that can be operated as two independent, two-lamp ballasts or independent two-lamp and one-lamp ballasts, each driven from separate power feeds. Other features include Super LampGard, which protects the lamp, ballast and fixture at the end of life of the lamp, and Anti-arcing Protection, which monitors the lamp, wires and lamp holders and shuts down when an arc is detected in normal operation. Circle No. 51





TECHNICAL INNOVATION AWARD

ENERGY SAVINGS INC. SuperDim Digital with AddressPro

Energy Savings Inc. s SuperDim digital with AddressPro provides digital fixture addressing capability with multiple zones, multiple scenes and fade time adjustment. Each digital dimming ballast is shipped from the factory with an assigned identification (ID). An infrared remote assigns a light source to a specific zone by addressing and retrieving the individual IDs. Individual zones can be controlled via the remote or wall box with programming capabilities. Up to 12 scenes can be stored in memory. **Circle No. 52**

DESIGN EXCELLENCE AWARD

ZUMTOBEL STAFF LIGHTING

Aria

Zumtobel Staff Lighting introduces Aria, an indirect/direct luminaire featuring "waveguide" technology for a minimal profile. The patented microprism structure directs light downward in a glare-free manner. The rounded (or square) edges conceal the T5/HO lamps within. Circle No. 53





JUDGES' CITATION

PENN STATE UNIVERSITY AE 565—Architectural Daylighting Course

The AE 565—Architectural Daylighting distance education course from Pennsylvania State University permits architects, engineers and lighting designers to study daylighting system design/analysis and control system integration in a collaborative Internet environment. **Circle No. 54**

ROEDER AWARD

MARTIN PROFESSIONAL MiniMac

The MiniMac Profile is an automated moving-head spotlight that provides 12 dichroic color filters and seven interchangeable rotating gobos. The spotlight features a high-speed mechanical shutter, manually adjustable focus, 540 degrees of pan by 270 degrees of tilt. MiniMac uses a 150W discharge light source and is DMX controllable. Circle No. 55



Alkco Lighting

Alkco Xenon Undercabinet

Slim and sleek, Alkco's Xenon Undercabinet subminiature modular display case and undercabinet lighting system employs advanced state-of-the-art



electronic circuitry to operate low-wattage, long-life, dimmable low-voltage Xenon lamps with specular reflector and optional decorative fascias.

CIRCLE NO. 60

Aromat Corp.

NAiS DCP "Multi Voltage" Metal Halide Electronic Ballasts

Aromat Corp. introduces a new family of NAiS DCP "multi voltage" metal halide electronic ballasts for 35/39W, 70W, 100W and 150W lamps. The new ballasts are designed to operate on input voltages ranging from 108V to 305V and all voltages in-between for either 50Hz or 60Hz systems.



CIRCLE NO. 61

Boyd Lighting

Finestra-Arco

The "window frame" of anodized aluminum on this ADA-compliant sconce houses a synthetic material that provides gently diffused illumination. The Finestra-Arco is available with incandescent or electronic 21W 2-D fluorescent sources.



Bulbrite Industries

KX-2000 Chroma Lamp

Bulbrite's KX-2000 bulb has the brilliant white light of halogen at low wattages in line voltage. Specifically designed

to meet the need for a small, high-quality light source, it is ideal for wall sconces, bathroom vanity lights and other compact areas. Made with a combination of Krypton and Xenon gases, these bulbs stay cooler and can be used on dimmers.



CIRCLE NO. 63

Cooper Lighting

Aerial, T5 Surface-Mount Series

Architectural T5 Surface-Mount Luminaire Series for Stand-Alone or Linear Mounting. From Metalux, a division of Cooper Lighting, comes Aerial—a diverse series of T5-dedicated, architectural surface-

mounted luminaries. Aerial combines T5 technology, low-profile styling, optical precision and modular flexibility while being available in numerous lengths and optics.



CIRCLE NO. 64

Elliptipar

Style F305

Elliptipar's new Style F305 combines a low, 2⁵/s-in.high profile T5 design with precision optics for uplighting from perimeter coves... and it's adjustable. The patented brackets allow all reflectors in a row to be linked and aimed together while minimizing socket shadow.



EYE Lighting International of North America, Inc.

MR8 Dichro-Cool

EYE Lighting International of North America Inc., a subsidiary of Iwasaki Electric Ltd., presents the MR8 lamp, a small, multimirror halogen reflector lamp. This compact lamp is ideal for

tight-space residential and commercial applications as well as fiber-optic systems. Available in 6V and 12V, narrow and wide beam spread, 2950K and 3050K with cover glass and a standard GZ4 base.



CIRCLE NO. 66

GE Lighting

GE HIR PAR Lamp with Silver Reflector

GE offers a shock- and vibration-resistant halogen HIR lamp that extends lamp life 33 percent while maintaining the same quality light output as standard GE HIR lamps. A robust filament and silver reflector make this an ideal retail display lamp.



CIRCLE NO. 67

GE Lighting

StayBright Multi-Vapor Improved Metal Halide Lamps

GE Lighting's StayBright Multi-Vapor Improved Metal Halide Lamps feature exclusive integral technology offering pulse-

start performance in a retrofit lamp. Available in 360W and 400W, StayBright offers a high lumen maintenance on existing CW/CWA ballasts without requiring external igniters.



<u>Illuminating Engineering Society</u> of North America

IESNA Lighting Handbook 9th Edition

The 9th edition of the *IESNA Lighting Handbook* is an important reference for industry professionals and includes the new "Lighting Design Guide," which changes the way lighting issues are considered. Now available on CD-ROM and searchable by key words.



CIRCLE NO. 69

Kim Lighting

Bronze Lightvault

The Bronze Lightvault from Kim Lighting is one of the most durable products possible for in-grade longevity. The Bronze Lightvault line includes a wide range of optical choices, cast bronze trims and a 25-year limited warranty. Specifically well suited for permanent installations exposed to servere environmental conditions.



CIRCLE NO. 70

Kim Lighting

Era

Inspired by the growth of the "International Style" in design, the Era adds a new dimension to applying the superior performance of Kim's optical systems. Optically identical to other Kim Site/Roadway systems, Era offers an alternative to rectilinear shapes, without compromising performance.



CIRCLE NO. 71

Kim Lighting

Site/Roadway Optical Systems Design & Application Guide

The design of site/roadway lighting requires an understanding of the unique information used to represent elements of optical performance. This catalog includes descriptions of the standards used to define characteristics and predict the applied performance of outdoor area luminaires.



CIRCLE NO. 72

Nutech Lighting Corp.

Nonmetallic Compact Fluorescent Downlights

UL-listed, non-corrosive, polycarbonate, recessed downlights, featuring innovative patent-pending con-

struction, damp- and wet-location labels, single- and doublecompact fluorescent lamps in five wattages and 14 trim options.



CIRCLE NO. 73

Quality Lighting

Design PD-Paradigm

Paradigm—the high-tech parking lot luminaire that can be customized. Now you can have your parking lot luminaires carry your corporate colors...your identity... right out into the parking lot. The Paradigm luminaire's Edge-Glo illuminated

windows are available in hundreds of standard 3M Scotchcal translucent colors... or have one specifically formulated to match your logo.



CIRCLE NO. 75

Starfire Lighting, Inc.

Versa-Lux

Versa-Lux provides highperformance, easy-to-install display, accent and wallwash illumination from a versatile series of fixture housings, designed especially to accommodate fast-track new or retrofit commercial and residential applications. The lowprofile, extruded aluminum recessed slot housings are available for single- or multilamp incandescent, halogen and compact fluorescent lamps.



CIRCLE NO. 76

Phoenix Products Company, Inc.

Metro Series

The Metro Series is the latest fixture family in Phoenix Products' Intrigue Series. The solid rings on this modern European design provide good glare control and increased area light. Available in two sizes for pole, wall and pendant mount.



TIR Systems Ltd.

LED Color Change Luminaire

TIR Systems' new LED Color Change Luminaire offers unlimited colors in the company's Light Pipe. Custom color-change sequences can be achieved with a standard DMX control.



All Exhibitors Are Manufacturers

CELF 2000

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INTERTECH

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LIGHT EMITTING DIODES 2000

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Pre-Conference Tutorial "LED Basics" Mark Roush Lumileds Lighting

Learn How LEDs Will Revolutionize the Illumination Industry

Intertech proudly announces its Ist annual Light Emitting Diodes Conference. This exclusive three day conference will provide the first-ofits-kind forum to hear how key players from traditional and semiconductor lighting industries, lighting designers and end-users are revolutionizing the way the world thinks about lighting.

If your company is involved with: Architectural Engineering, Interior Design, Lighting Design, or Lighting Manufacture for traditional or solid state devices – you can't afford to miss this event.

Program Highlights

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- High brightness red and yellow LEDs
- Tomorrow's LEDs- What end-users want
- LEDs for incandescent bulb replacement
- Indium Gallium Nitride (InGaN) LEDs
- Interior/exterior automotive lighting applications
- Current and future applications for white/blue LEDs
- LED market review and forecast 1998-2004
- · Future trends in solid state lighting
- High brightness GaN-based light emitters
- Overcoming manufacturing and cost challenges
- Aviation, roadway, traffic signal, video screen and medical applications

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perspectives

WHEN IMITATION IS <u>NOT</u> A FORM OF FLATTERY— INTEGRITY VS. KNOCK-OFFS

BY DANIEL MOZEY, ASSOC. AIA, IES

wo years ago, a man from California (hereafter referred to as "Mr. West Coast") called me at my office indicating he was interested in representing our product line. He had seen one of our track systems in a recent advertisement. Mr. West Coast was loquacious and seemingly confident as he outlined his firm's accomplishments and personnel roster. I asked him what his strategies would be to promote our line. Overall, his presentation was good. As the call continued, Mr. West Coast began to relax. Our conversation wandered into specifications and bidding—and then came the bombshell: He explained in detail how he was able to offer cut-rate prices on fixtures he thought were overpriced or fixtures he did not rep. With the help of a metal shop, his company would "replicate" the fixtures he needed! He then began to boast about his underhanded business practice—and I promptly ended the conversation.

Is this situation unique? Reps actively involved in creating their own knock-offs is certainly a rare occasion. But the practice of knocking-off other companies' ideas and products is not unique in the lighting industry. There once was a time when many worried about inexpensive knock-offs coming from other countries with cheap labor markets. But the reality is that this immoral practice exists everywhere, including the U.S.—and it's not just small, unknown companies.

Most fixture manufacturers thrive in the design community, enjoy the competition of others, feel invigorated by the breadth of ideas and products in the industry and, most importantly, are proud of their own unique product line. These manufacturers devote time and money into developing their fixtures, often hiring top-notch industrial designers. They strive to create a design vision with a style of their own while meeting common industry demands of function and efficiency. So why do knock-offs exist? Greed is certainly one reason. Unfortunately, some manufacturers, who may even have few products of their own design, choose to ride the coattails of others. Instead of developing a vision and style of their own, these manufacturers want to capitalize on the original work of others.

Another reason knock-offs exist is that so many people look the other way—contractors, specifiers, reps and even project owners allowing this practice to continue by permitting the use of knock-off products in their projects. Business practices also have an impact. The influence of "packaging" and "value engineering" can sometimes lead to compromises of dubious long-term value. As we all know, these two business practices bring the promise of saving money and if used responsibly, they can do a fair job. Yet they often trade longterm performance for short-term savings. Worst of all, these practices can lead to the use of inappropriate substitutions or knock-offs. Obviously, original products most often cost more than knock-offs since knock-offs have no development costs and are often of a lesser quality. Knock-offs undermine the design community and ultimately, the building project itself.

Whether it's an automobile or light fixture, we are surrounded and influenced by design. It is rare that an idea is completely spontaneous.

When I was a graduate student in architecture, my classmates and I were often given the same project to complete during the semester. Our small studio size led to lively discussions and an intimate sharing of ideas. Yet, during the final presentations, not one of the student's buildings looked the same. Life is interactive and so is design. There is a difference, though, between being influenced by and copying a design. A knock-off is like taking someone's published book, changing the title and characters' names and then releasing it under a new author's name. Let's face it, the term "knock-off" is much too kind. Other industries call it copyright infringement, software piracy and theft of intellectual property.

Everyone in the lighting industry has a responsibility to ensure that integrity remains alive. As the ultimate patron, the project owner has sway over the bidding process and can use this position to ensure that

KNOCK-OFFS UNDERMINE THE DESIGN COMMUNITY AND ULTIMATELY, THE BUILDING PROJECT ITSELF. their project is completed with integrity. Look beyond the first year of ownership. The long-term benefits of unique design and high quality increase the value of a property: Good interior design increases desirability of a location while high quality products reduce maintenance costs. Obviously, the owner deserves the best building that money can buy. Yet they should not compromise their project by using inappropriate substitutions or knock-offs. If the lighting

or interior designer had meant that a dirt-cheap fixture was appropriate for a certain location, don't you think they would have specified that? After all, they are readily available.

Contractors also have a responsibility to ensure project integrity. Put yourself in the shoes of fixture manufacturers—would *you* want another contractor winning a new building contract because they offered a much lower price due to their use of under-paid and undertrained labor? The contractor often has the responsibility of the overall project success. If savings must be realized, and for whatever reason these savings must come from the lighting specifications, then by all means find cheaper, appropriate substitutions.

Anyone can build a structure. The job of the architect, interior designer and lighting designer is to create a dwelling that is, at the very least, livable and attractive. These designers, as well as specifiers, need to speak up for their choices. All too often they remain in the background. They need to make their design intentions known. How do the lighting products and interior design reinforce the project's intent? How do the product choices add value to the project?

Product reps can also help by carefully researching manufacturers before they agree to represent them. Avoid manufacturers with a known history of creating knock-offs. Even design publications can play a role by bringing these issues to the forefront and encouraging discussion. All players need to work together to initiate changes that will encourage and reward original design. After all, we're all members of the construction industry.

Please specify with integrity-steer clear of knock-offs.

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