

APRIL/MAY
1998

lighting

architectural

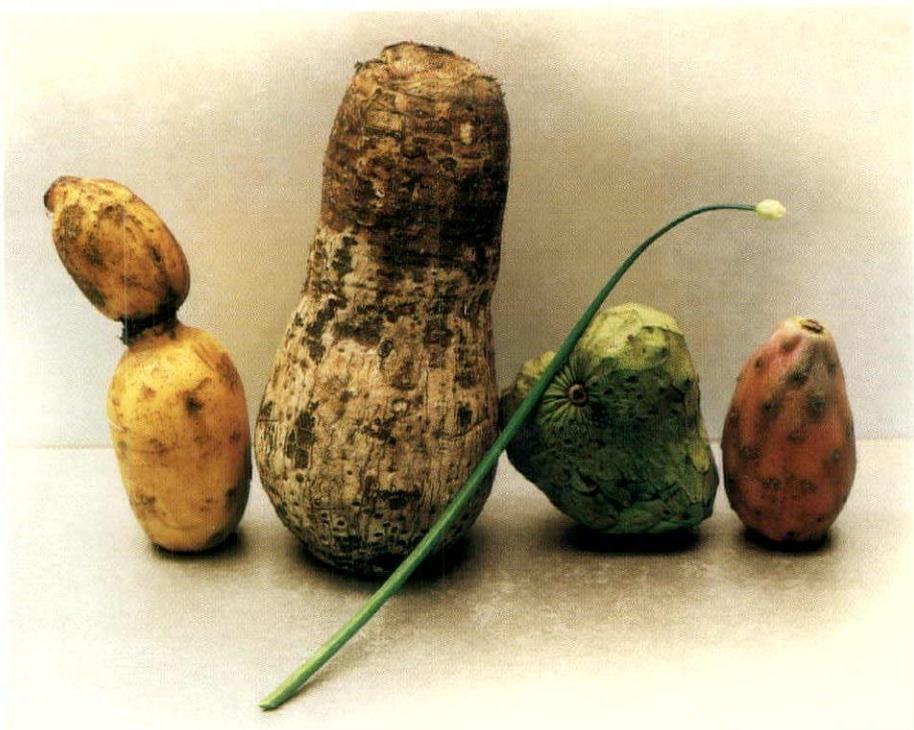
NIKETOWN

LIGHTFAIR PREVIEW
DAYLIGHTING TECHNIQUES
WHAT THE CUSTOMER WANTS

MAXIMUM CUSHIONING
U TO PEAK = 32.70MSEC
MAXIMUM PENETRATION = 16
VELOCITY AT IMPACT =

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BAP

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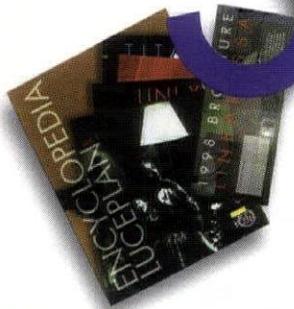
Four modular sizes available for recessed wall or ceiling use: compact fluorescent lamplng, indirect or diffused illumination, graphics/signage applications.



STRIP

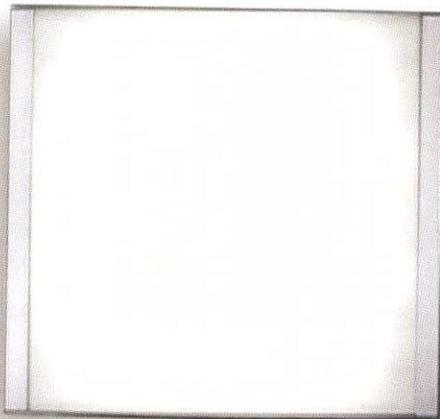
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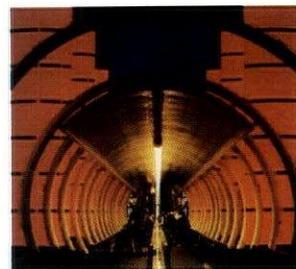
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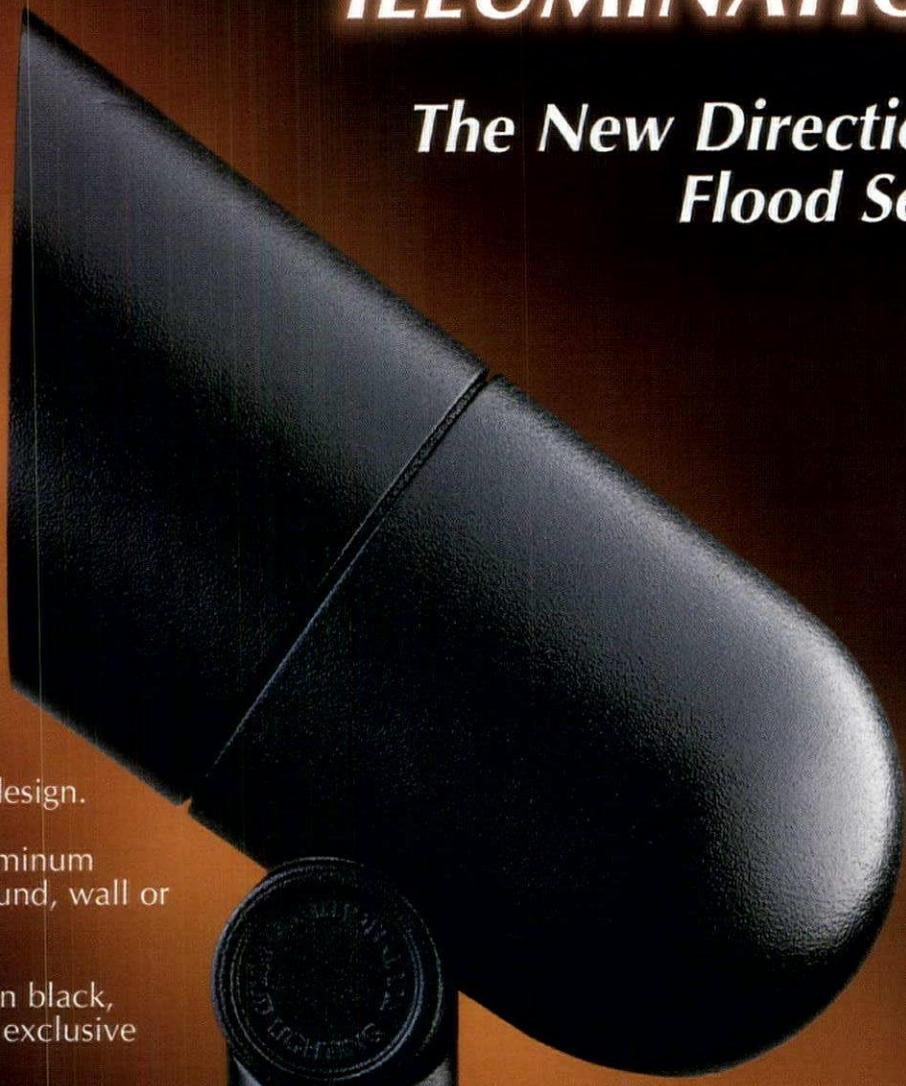


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architectural lighting

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Production	VINCE HABICK	(415) 905-2454 fax (415) 905-2236
List Rental		(847) 619-9800 fax (847) 619-0149
Circulation	WENDY SAAR	(212) 615-2687 fax (212) 279-4460
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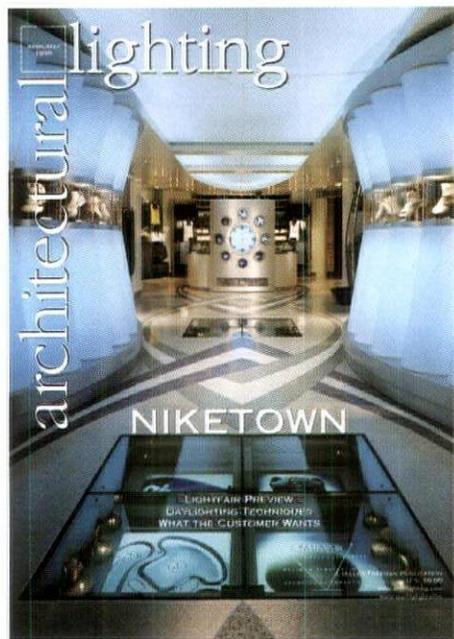
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CAN'T TAKE THE TIME? MAKE THE TIME

Time. It's on everybody's minds these days—but certainly not in everyone's schedule. More than ever, it seems that time, or the lack of it, is impacting all of our lives. That's certainly been the theme of this issue. In putting together April/May, the subject has come up more than once—in fact it has been part, if not *the* topic, of nearly every conversation I've had with those I've interviewed and with whom I've met in the past month or so. And, in each case, we took the time to discuss "not having the time."

Time for what? To enter awards contests, or for that matter, judge them; to attend industry meetings and association functions; to participate in educational endeavors; to meet with clients; or just to send in projects. We've all been racing against the clock—and losing. More than ever, we're feeling the pressure. Now, business is good. And business comes first. What better reason to be extraordinarily busy? I'm certainly not proposing anyone sacrifice a project, but I *am* suggesting that it's important—and significant to the growth of the profession—to rethink our schedules...just a bit. In our efforts to keep producing, we can't forget to make time for those things that will personally enhance business and greatly impact our industry.

What comes to mind? Serve the industry. Comment on issues. Market your business. Get involved with the lighting community. Many of the articles in this issue encourage you to take a time out. A necessary one. The Business column on page 100 provides 10 tips on marketing your firm—possibly common sense, though not always common practice. Our Industry Focus on page 66 previews noteworthy events during Lightfair, and profiles a few Vegas "hot spots" designed by our readers, that invite each of us to check out the lighting solutions; page 82 is a follow-up on the progress of the LIRC. Familiarize yourself with their efforts, as the Council strives to benefit both manufacturer and designer through specification integrity. In the Insights column, page 42, Howard Brandston challenges each of us to get involved. Review and comment on the Energy Code. It will shape your profession. Learn more deeply what your customers want. For starters, end-users in each of the major markets tell *Architectural Lighting* what they expect from lighting designers (see page 72).



COVER PHOTO
BY HEDRICH
BLESSING

Welcome to *Architectural Lighting's* "Lightfair" issue. We're all in the process of gearing up to head to Vegas for another exciting show that promises to deliver quality educational seminars and innovative products. In the spirit of seeking out new information at Lightfair '98, *Architectural Lighting* has a few introductions of its own.

What's new for us? To start, we've added a fourth person to our team of editors. David Houghton, our newest contributing editor, joins Wanda Jankowski, Lois Burgner and Jean Gorman to provide you with unparalleled industry coverage. Dave will be writing our Technology column—starting with the article on page 96 on pager lighting controls. This will be just the first of many informative and truly inspiring columns on what's new in the fast pace of lighting technology.

In addition to our new editorial team, I'm honored to announce that we have an impressive new editorial advisory board. The advisers, lighting designers Renee Cooley, Howard Brandston, LC, FIALD, FIES, Gary Steffy, LC, FIALD and architect Rand Elliott, FAIA have agreed to share with *Architectural Lighting* their knowledge, insight and perspectives on important issues and significant strides in our industry. We're thrilled to surround our editorial with such expert advice.

Outside the printed page, *Architectural Lighting* is pleased to support the industry in other ways. In addition to cosponsoring the New Products Showcase and the IALD Awards Dinner at Lightfair, we will be cosponsoring www.lightfair.com, a "cyber-cafe," with inter.Light. Look for it on the show floor. We have also pledged \$1,000 to the IALD to create a scholarship opportunity for students pursuing a career in architectural lighting design. I am also proud to announce that *Architectural Lighting* has been made a "contributor and supporter" of the NCQLP in recognition of our efforts to support certification.

I look forward to seeing you at Lightfair. In the meantime, please keep me informed, so that *Architectural Lighting* can keep you informed. ■



CHRISTINA
TRAUTHWEIN,
EDITOR-IN-CHIEF



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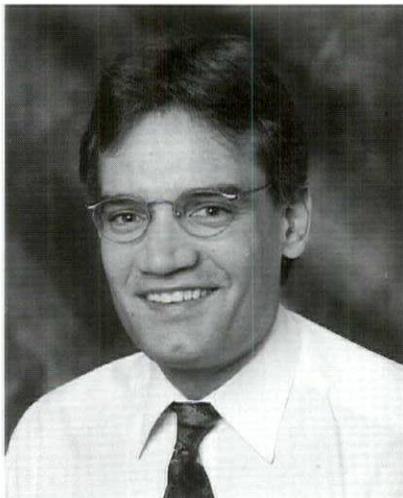


LOIS I. BURGNER

Lois Burgner has served as editor of the Illuminating Engineering Society of North America's two periodicals, *LD+A* and the *Journal of the IES*. She holds a Certificate of Technical Knowledge from the IES and is an associate member of the IESNA.

WANDA JANKOWSKI

Wanda Jankowski was editor-in-chief of *Architectural Lighting* from 1989 to 1995. Prior to that, she was editor-in-chief of *LD+A* and the *Journal of the IES*, both publications of the Illuminating Engineering Society of North America. Ms. Jankowski has authored several books, including *Creative Lighting: Custom and Decorative Luminaires*, *Lighting Exteriors and Landscapes* and *Designing with Light: Residential Interiors*, all published by PCB International.



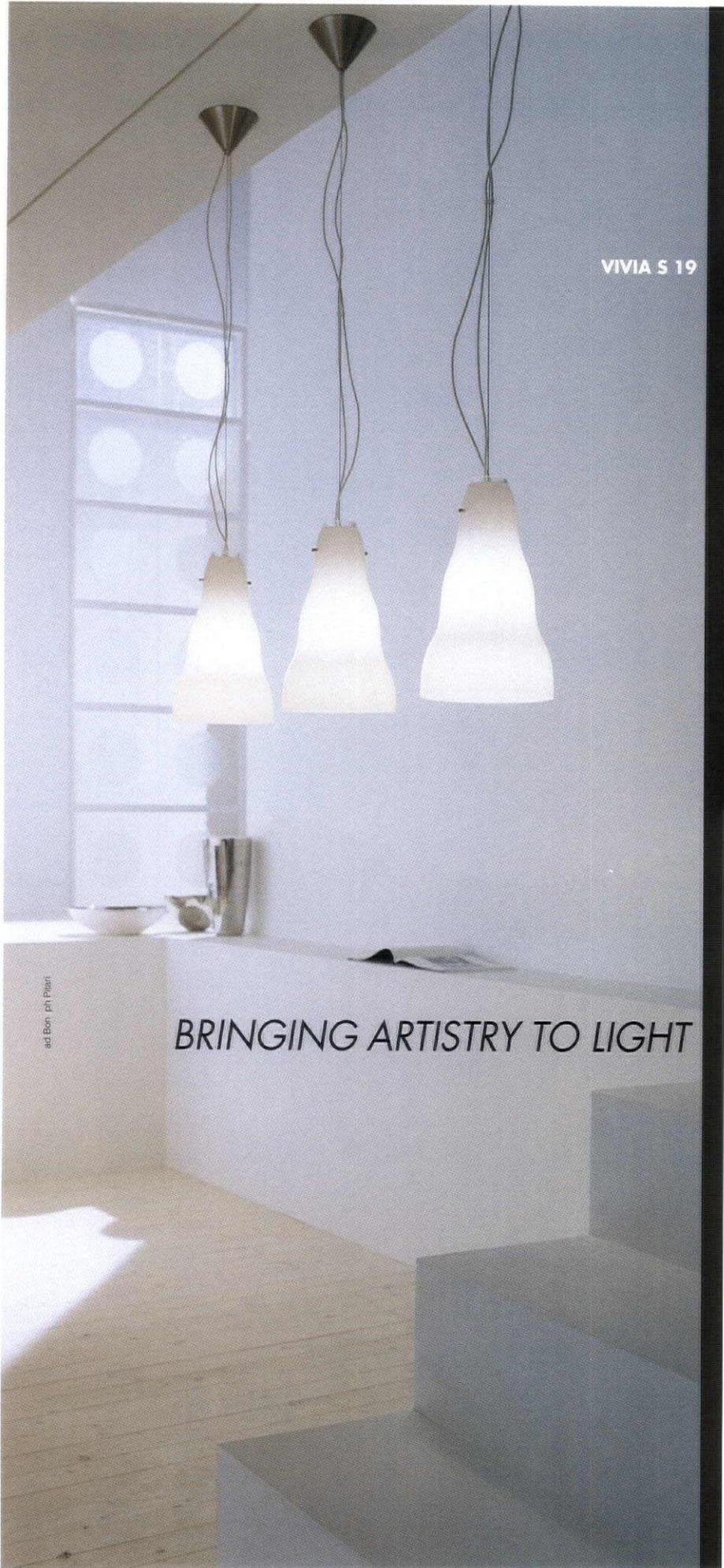
DAVID HOUGHTON

David Houghton, PE is president of Resource Engineering Group, a Colorado-based consulting firm in the area of energy-efficient lighting design. Mr. Houghton has nearly a decade of experience with lighting systems, focusing particularly on energy efficiency and integrating lighting with other building systems. He has authored award-winning technical papers and journal articles. He was formerly with E-Source and the Rocky Mountain Institute's Energy Program.

JEAN GORMAN

Jean Gorman has served as managing editor of *Architecture Minnesota* magazine and later as executive editor of *Interiors* magazine. She has also worked for a number of consumer magazines, including *Travel & Leisure*, *GQ* and *Vanity Fair*. In 1995, she completed a book on lighting design entitled *Detailing Light* (Whitney Library of Design), which has been printed in three languages and distributed internationally.





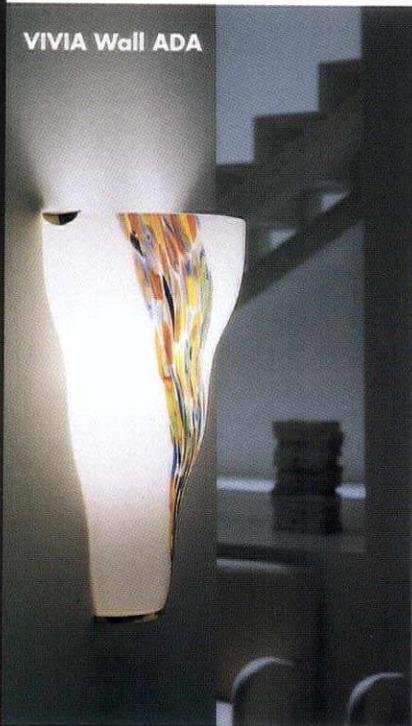
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BRINGING ARTISTRY TO LIGHT

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VIVIA

design by R. Toso, N. Massari and Associates



VIVIA Wall ADA



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STARFIRE INCREASES PLANT SIZE BY 50 PERCENT

Starfire Lighting, Inc. has announced that the company is adding 50 percent more workspace to its plant and corporate offices in Jersey City, NJ. The expansion will accommodate present and anticipated business increases. Zachary Gomes, president and CEO of Starfire Lighting, made the announcement.

The company currently occupies a 30,000-sq.-ft floor in the American Industrial Center, a two-million-sq.-ft. complex. Work is expected to be completed by June this year.

LUMIERE DESIGN & MANUFACTURING EXPANDS

Lumière Design & Manufacturing, Inc. has relocated its factory, warehouse and offices to an expanded facility in Westlake Village, CA. The expansion more than doubles the company's size, increasing administrative, manufacturing and warehouse capabilities.

Lumière is now located at 2382 Townsgate Road, Westlake Village, CA 91361. The new telephone number is (805) 496-2003; fax (805) 496-2303.

LSI AND YAMAGIWA AFFILIATE IN JAPAN

Lighting Services Inc has contractually appointed Yamagiwa as the exclusive distributor of LSI products in Japan. Yamagiwa Corporation has a sales force of more than 200 people and sells worldwide.

ARCHITECTURAL LIGHTING SPONSORS NEW IALD SCHOLARSHIP

Architectural Lighting magazine has pledged \$1,000 to the International Association of Lighting Designers (IALD) to create a new scholarship opportunity for students pursuing architectural lighting as a course of study.

This \$1,000 scholarship, administered by the IALD, joins the IALD's existing \$1,500 scholarship and \$500 grant.

The scholarship applicants, who must be students pursuing architectural lighting design, are judged on grades, extracurricular activities and a written statement about a personal experience with lighting and supporting artwork. The winner of the \$1,500 scholarship receives the award at

the IALD Awards Dinner at Lightfair.

The applicants for the \$500 IALD grant, who need not be students, are evaluated on a proposal for a non-commissioned research or design project in lighting, including a schedule for completion of the project.

E. Sara McBarnette of Fisher Marantz Renfro Stone Architectural Lighting chairs the IALD Scholarship/Grant Committee. Other members include DW Schweppe, Jr., IALD of Schweppe Lighting Design and Robert Prouse, IALD of HM Brandston & Partners.

For more information, contact the IALD at (312) 527-3677.

INTERPLAN TO FEATURE THREE CO-LOCATED SHOWS

InterPlan, the largest commercial interior planning and design event on the East Coast, is scheduled to take place October 28-30, 1998 at Jacob Javits Convention Center in New York City. This year's event will be co-located with two other shows and an education conference.

In addition to sharing the stage with Batimat Design/Build, which will hold sister shows in Paris, China, Russia and Turkey, Interplan will also include the debut of a new FM Outsourcing Pavilion showcasing companies that provide outsourcing to businesses

around the globe, and "The Design Show: Environments for Living," a new residential interior design and planning exposition, which will include an Antiques Pavilion.

In addition, InterPlan will team up with the American Society of Interior Designers (ASID) to host Design Power, the association's annual interdisciplinary educational conference.

For more information about exhibiting at or attending InterPlan, call (800) 950-1314, ext. 2611 or visit InterPlan's Web site at <http://www.interplanshow.com>.

CORRECTIONS

In the January/February 1998 issue, the technology story on page 48 incorrectly listed the phone number for for fiber-optic system manufacturer **Lightly Expressed Ltd.** The correct phone number is (540) 387-2104; fax (540) 387-2105.

In the January/February 1998 issue, the photo for the Toledo Museum, featured in Applications Updates, appeared on page 20. It should have appeared with the story on page 21.

Architectural Lighting regrets the errors.

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splendor, the lighting controls
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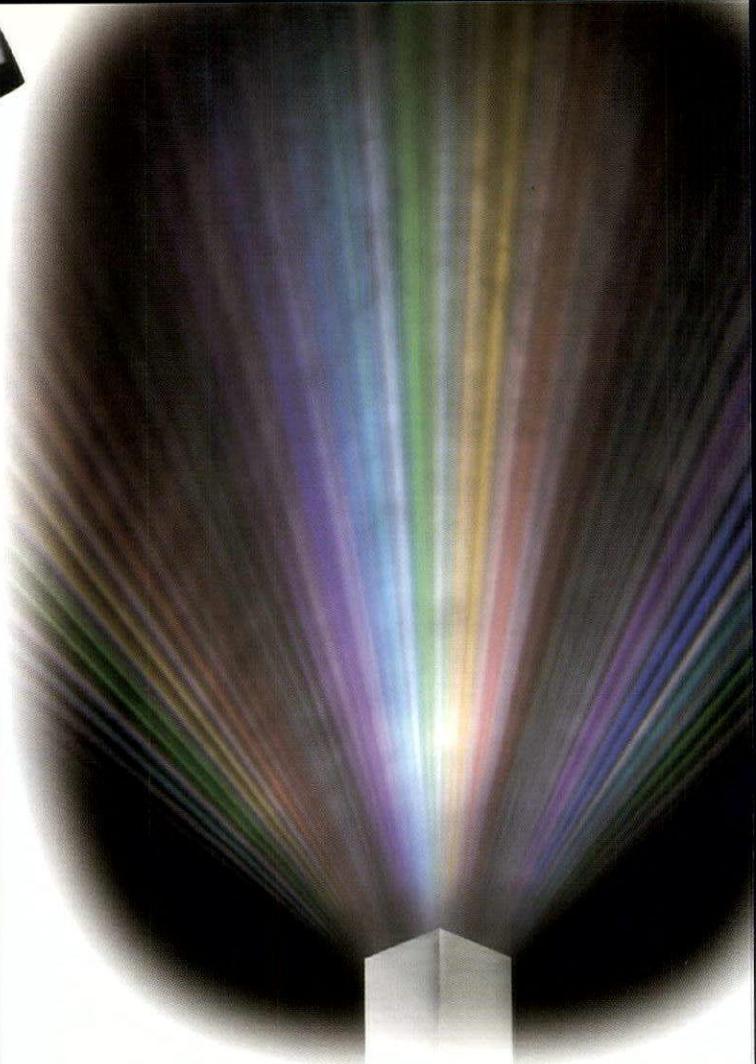
See us at Lightfair International, Booth #470
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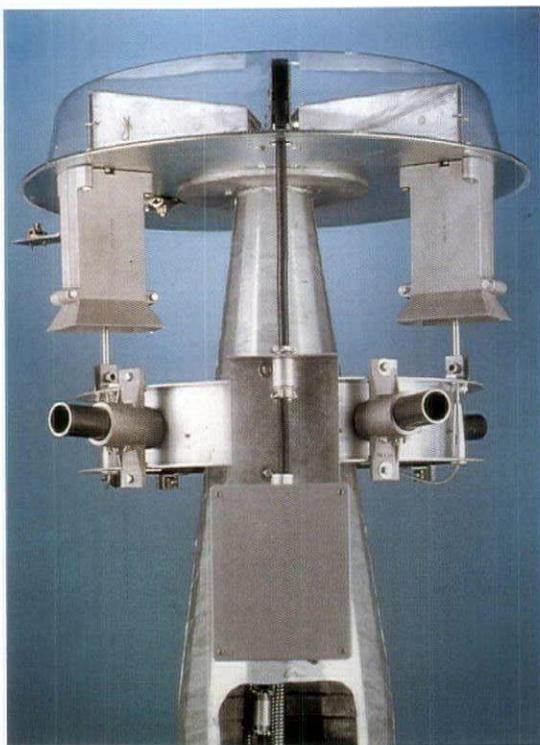


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Alkco's T2 undershelf
and cabinet fixtures (lengths
to 44") flaunt a next-to-invisible
1/2" x 1 1/2" profile.

Endless color combinations for
dramatic exterior wall washing
with d'ac's Fanfare — up to
30 ft. coverage with up and
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upgrade of
the intricate
raising/
lowering
mechanism
facilitates
lamp servicing
of 15-story,
high-mast
roadway
lights.



Aimable and amiable indirect
lighting from LAM's Horizons fixtures...
predictably uniform wall-washing or ceiling
downlighting from halide, quartz or biac sources.

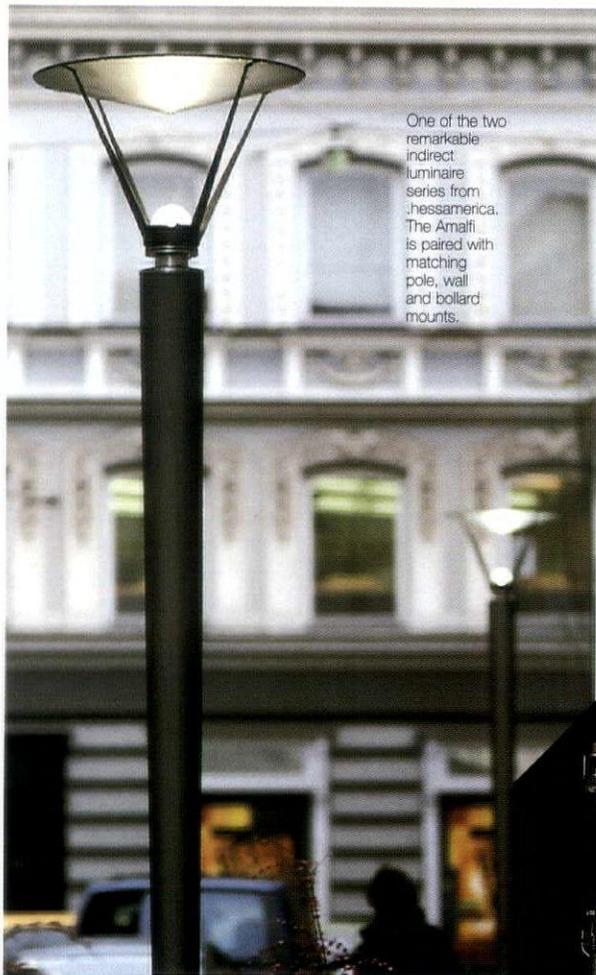


It's
chaos
out
there

FINE BY US...

Godzillions of electrons whizzing around
While about two thousand companies
try to convert them into useful light from attractive fixtures
Of these, JJI Group comprises fifteen of the finest — all but three acquired since 1983
Today, they're getting even better, because we work to optimize, not drain, the
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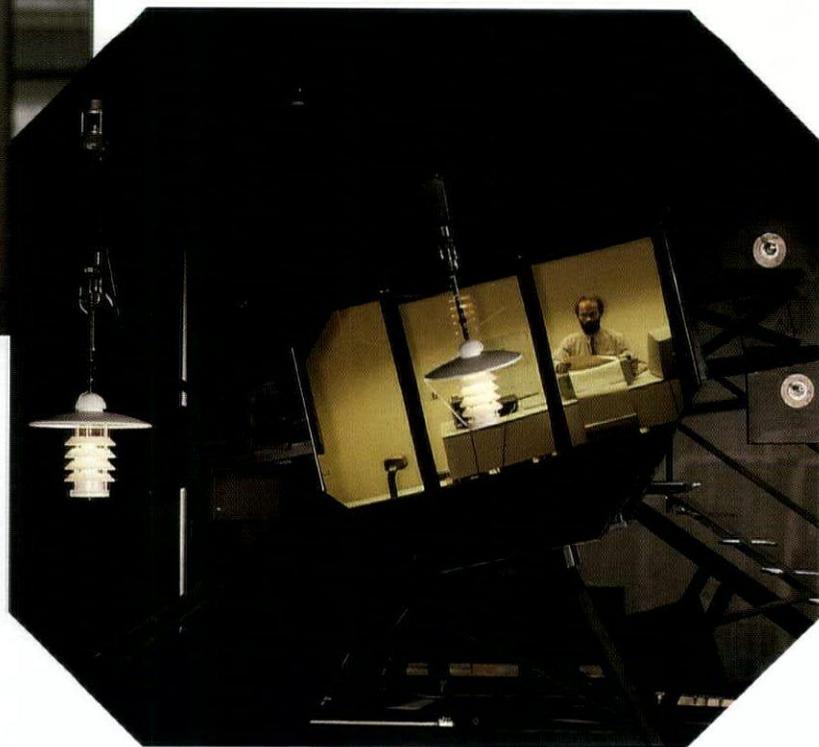
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One of the two remarkable indirect luminaire series from Jhessamerica. The Amalfi is paired with matching pole, wall and bollard mounts.



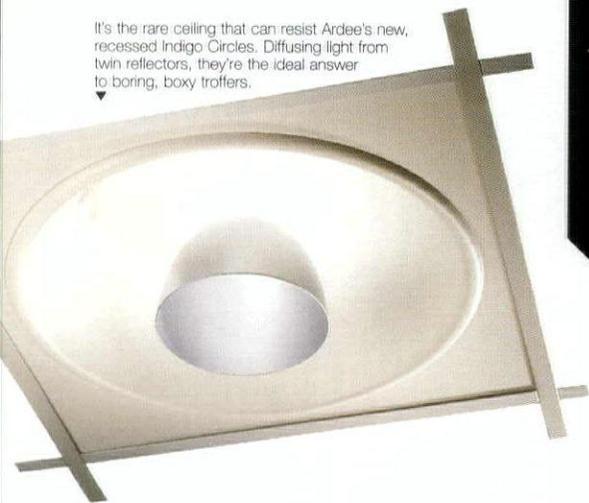
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It's the rare ceiling that can resist Ardee's new, recessed Indigo Circles. Diffusing light from twin reflectors, they're the ideal answer to boring, boxy troffers.

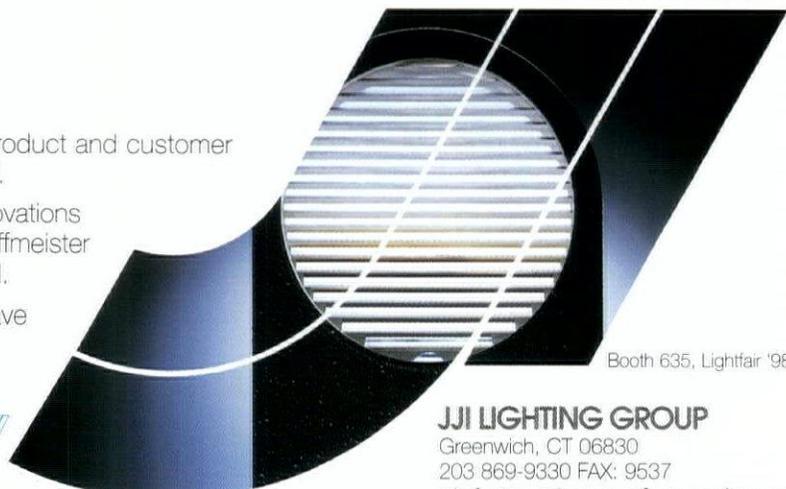


As a result, JJI companies focus full force on improving product and customer satisfaction. Non-core distractions befall to corporate staff.

The formula must be working. Above are a few notable innovations we've introduced, all within the last 12 months. Our recent Hoffmeister acquisition in Germany by itself grew our business one third.

We invite you to inspect personally how the harmony we have brought from chaos can help illuminate your world.

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Booth 635, Lightfair '98

JJI LIGHTING GROUP

Greenwich, CT 06830

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Circle No. 12 on product service card

PHILIPS RECEIVES GOLD MEDAL

Philips Electronics, NV has been awarded the World Environment Center (WEC) Gold Medal for International Corporate Environmental Achievement. The medal will be presented at the National Building Museum in Washington, D.C. on Friday, May 29, 1998 to Mr. Cornelis Boonstra, president of Philips, who will accept on behalf of the company.

The WEC Gold Medal jury commended Philips for the application of its Ecologically

Conscious Product Design (EcoDesign) program, which calculates the environmental, health and safety impact of a product's entire life cycle.

WEC is an independent, not-for-profit, non-advocacy organization founded in 1974. The Center dedicates itself to the strengthening of the industrial and urban environment and the reinforcement of health and safety practices worldwide.

NYSID UNVEILS LIGHTING LAB

The New York School of Interior Design (NYSID) has announced the opening of its new Lighting Laboratory, a 625-sq.-ft. facility dedicated to the study of interior architectural lighting and the interaction of different types of light sources with various materials. The interactive facility offers some of the newest and most sophisticated light sources and control devices supplied by 46 lighting manufacturers.

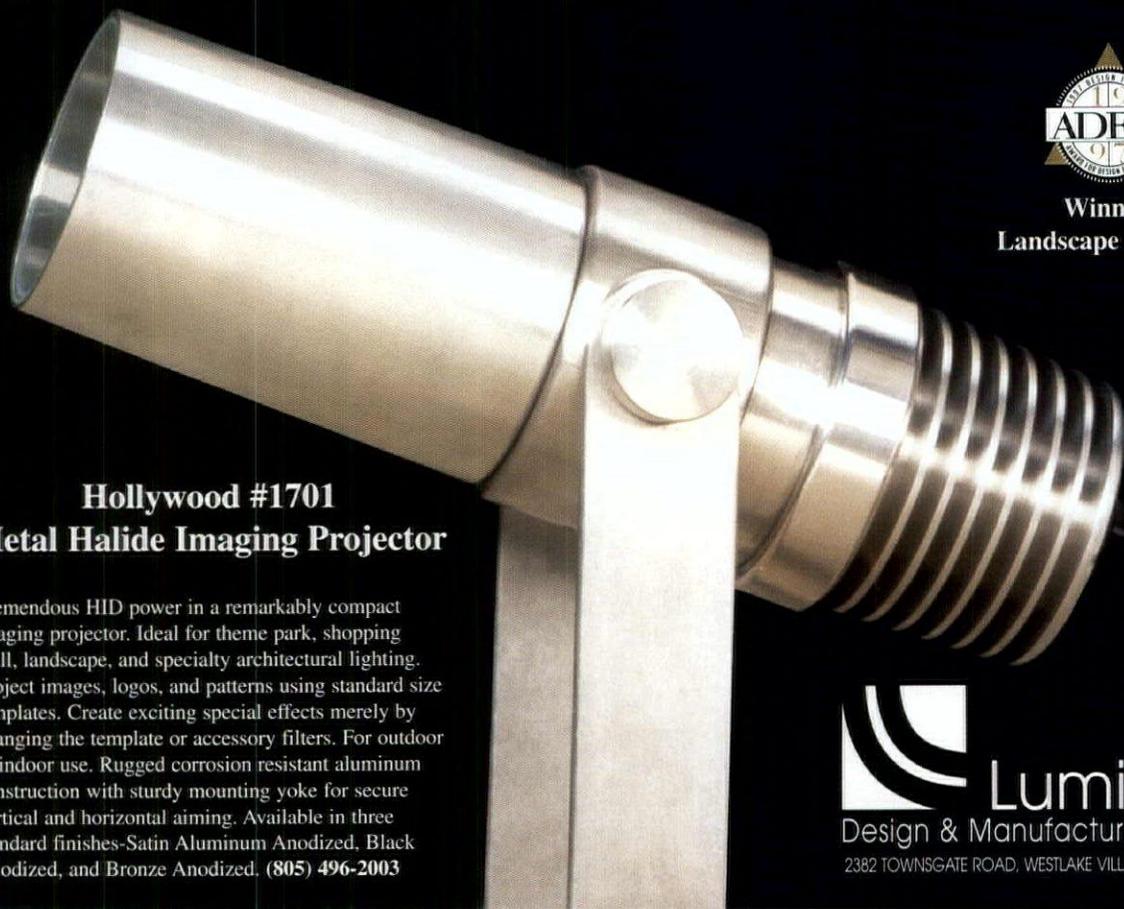
The NYSID Lighting Lab was conceived and designed by commercial and residential lighting designer Mark Kruger, who also serves on the faculty of NYSID. The Lighting Lab is open to design students and professionals.

For more information, call (212) 472-1500.

MERCHANDISE MART TO MANAGE IIDEX/NEOCON CANADA

Merchandise Mart Properties, Inc. has signed an agreement with the Association of Registered Interior Designers of Ontario (ARIDO) to manage its annual event, IIDEX, scheduled to take place October 1-3, 1998 at the Metro Toronto Convention Center. Through this union, MMPI, the producers of NeoCon World's Trade Fair and NeoCon West, will create IIDEX/NeoCon Canada.

Launched in 1984, IIDEX is Canada's largest event for interior designers, facility managers, architects and business professionals. As the redefined IIDEX, NeoCon Canada is expected to feature more than 200 exhibitors. ARIDO will continue to own the event and collaborate with MMPI on marketing. For more information, call (416) 944-3350.

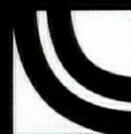


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LUTRON RECEIVES VDE CERTIFICATION

Lutron Electronics Co. has received German VDE certification for the CE models of its Grafik Eye 3000 Series of multi-scene preset lighting controls. VDE is recognized worldwide as a standards writing body and certification and testing agency in Europe.

To receive VDE and KEMA KEUR certification, the Grafik Eye 3000 Series CE models met the European electronic switch and dimmer standard used by all members of CENELEC as well as the comparable international IEC standard.

COOPER•LECKY CUH2A, LLP FORMED

Cooper•Lecky Architects PC of Washington, D.C. and Princeton, NJ-based-CUH2A, Inc. have joined to form Cooper•Lecky CUH2A, LLP. The new firm has offices in Washington, D.C. and Richmond, VA.

LRC PRESENTS SATELLITE VIDEOCONFERENCE

On June 11, 1998 the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute will present a nationwide video-conference for architects, engineers and lighting professionals. Featuring presentations by the leading researchers and designers in the lighting field, the series, *Live from the LRC*, will be broadcast live via satellite to locations throughout the country in collaboration with the LRC's industry, utility and government partners. Attendees will be able to interact with the presenters during the broadcast.

"The Human Factors of Lighting" will be presented on June 11 and will focus on issues dealing with the interaction of people and light.



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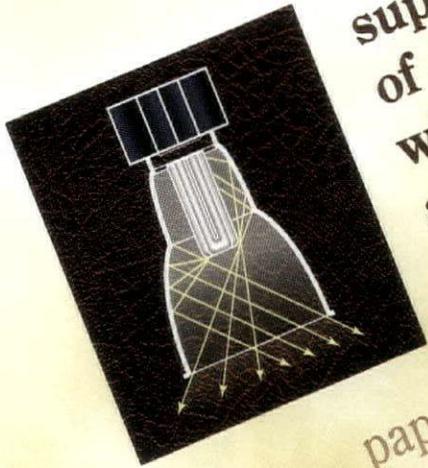
Pathway Lighting Products, Inc., provider of LED emergency exit signs, has relocated to a new headquarters building in Old Saybrook, CT.

Pathway lighting is now located at 175-5 Elm St., Old Saybrook CT 06475. The phone number is (860) 388-6881; fax (860) 388-5766.

Performance Defined . . .

employed to
A railroad employe
passengers in a sleeping car.
car. 3. A gatekeeper, doorman.

port·fo·li·o (pôrt'-fô'lē-ō) n., pl.
1. A case for holding loose sheets of paper, drawings, maps, and the like.
2. The premier collection of recessed luminaires offered by Cooper Lighting incorporating the latest lamp technologies, superior optics, a multitude of distributions, and the widest selection of finishes and options. 3. An itemized list of the investments, securities, and commercial paper owned by a bank, investment organization, or other investor. 4. The office or post of a cabinet member or minister of state.



Halo

Architectural

Lighting

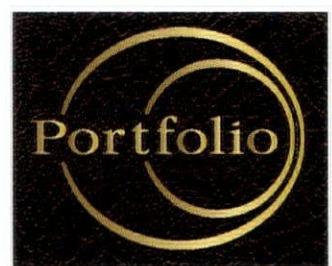
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Portfolio offers

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...all the specification features you demand,
and more.

Achieve your vision...
specify our Portfolio in your portfolio.



COOPER ACQUIRES ATLITE

Cooper Industries, Inc. has announced that it has acquired Atlite Lighting Equipment, Inc. Atlite will become part of the Cooper Lighting Division, reporting to the Division's president, Fritz Zeck. The purchase will increase Cooper's customer base and expand its lighting fixture line.

Headquartered in Maspeth, NY, Atlite manufactures emergency, exit and recessed lighting fixtures primarily used in commercial applications. The Cooper Lighting Division of Cooper Industries manufactures recessed, track, fluorescent, HID and emergency lighting fixtures and is based in Elk Grove Village, IL.

EDISON PRICE AND WILA LEUCHTEN ENTER ALLIANCE

Late last year, Edison Price Lighting formed a business partnership with WILA Leuchten of Germany. WILA Lighting (WILA Leuchten's American division) has relocated its manufacturing facilities from Miami to Long Island City, NY, where it has established an operating plant inside Edison Price

Lighting's 140,000-sq.-ft. factory.

The companies will assist each other in manufacturing, marketing, sales and product design. Through the partnership, Edison Price Lighting products will be available for specification in Europe and the Middle East.

AWARDS PROGRAM RECOGNIZES MARKETING

Presented by the society for Marketing Professional Services, the 1998 Marketing Communications Awards recognizes outstanding marketing vehicles created by architectural, engineering, design and construction firms between 1996 and 1998. The deadline for submission is 5 pm, May 15.

Open to SMPS members and nonmembers, this annual program offers professional service firms an opportunity to showcase their best marketing efforts. Awards are presented in 11 categories: Advertising Program; Communicating Through Multimedia and Three-dimensional Design; Company Brochure; Corporate Identity Program; Direct-Mail Campaign; Magazine and Annual

Report; Newsletter; Publicity Campaign or Combined Media Program; Special Events Piece; Special Market Brochure; and Web Page.

In addition, a small-firm award is presented in each category to encourage companies with limited marketing resources to compete against each other. (A small firm is defined as having 50 or fewer employees.) Outstanding entries in all categories will be considered for the 1998 Best of Show Award.

The awards winners will be honored during a ceremony on Aug. 27 at the SMPS 1998 National Marketing Conference, Hilton Head Island, SC. For more information, call SMPS at (800) 292-7677, ext. 14, or e-mail megan@smps.org.

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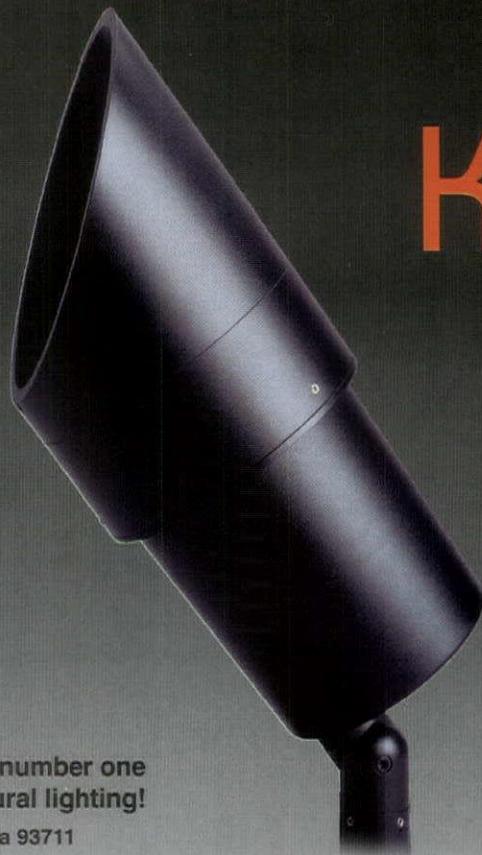
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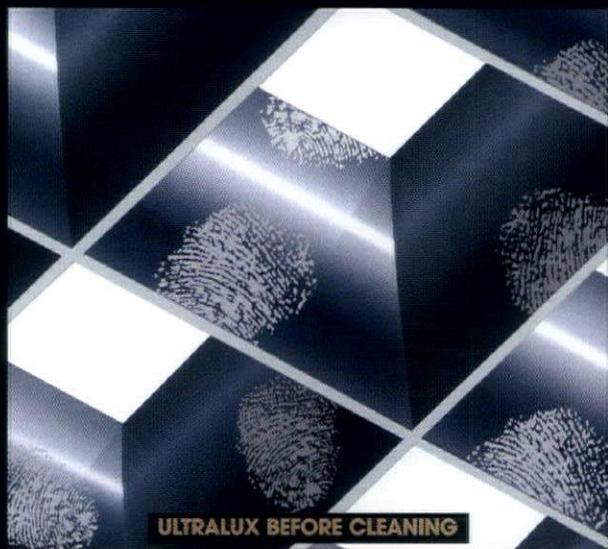
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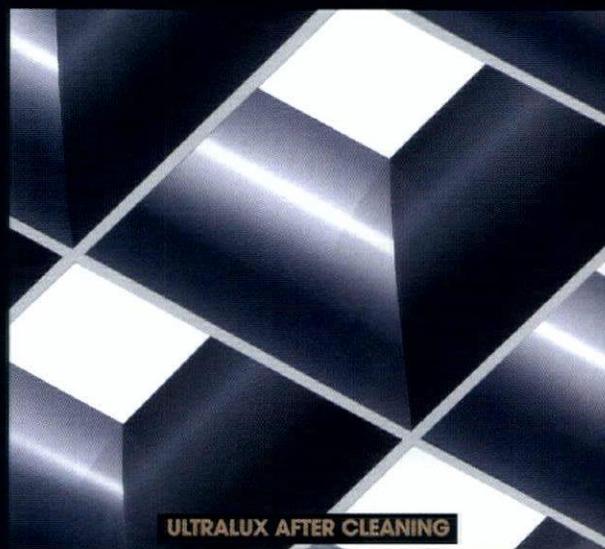
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CONGRATULATIONS TO FIRST CLASS OF LC

More than 250 professionals in lighting and related fields may now use the professional designation LC (Lighting Certified) after their names. The credential is valid for three years and all certificants must participate in ongoing professional development and continuing education to maintain their credential. Recertification is required every three years.

Fred Oberkircher, LC, chair of the NCQLP

percent of the candidates for the 1997 LC examination were successful and more than 100 industry practitioners with 20 or more years of lighting-related experience qualified for the Granted LC program. This project, chaired by Diarmuid McSweeney, LC, FIES reviewed applications that demonstrated competent practice through and intensive peer review process.

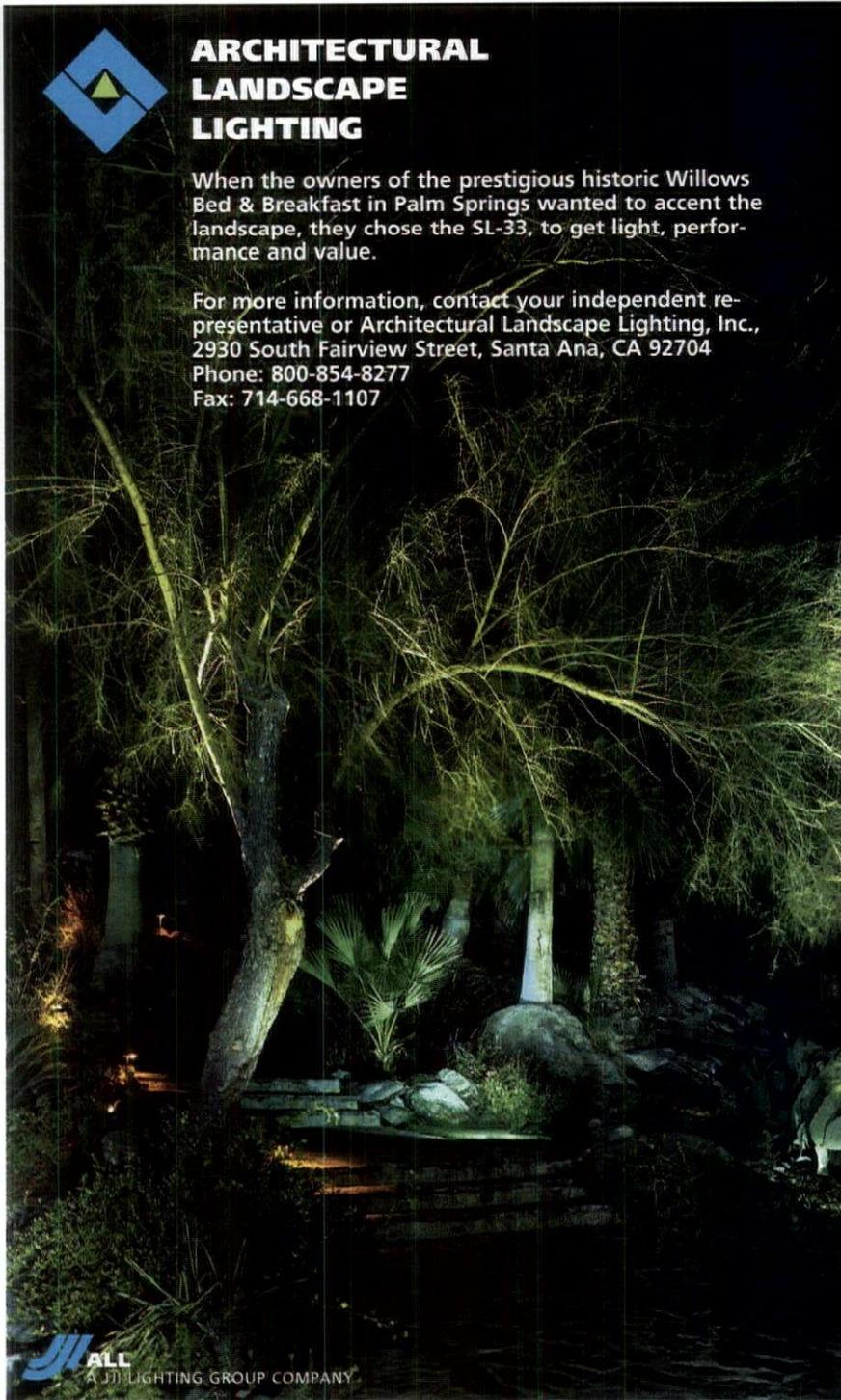
The next LC exam is scheduled for November 7, 1998 at more than 20 sites in the U.S. and Canada. Information on the '98 LC exam will be available in April. To obtain an LC Handbook or be added to the mailing list, fax your request to (301) 654-4273 or visit the website at www.ncqlp.org. NCQLP does not

ual will be presenting special courses related to the exam. Two prep review courses are registered with the NCQLP: IESNA Sections (call Rita Harrold at 212-248-5000); and the Lighting Design Laboratory (call 206-325-9695).

For additional information on the NCQLP or the LC program, call Jacqueline Callahan, executive director NCQLP at (301) 654-2121, e-mail: info@ncqlp.org.

Following is a list of all those who are certified. A 1998 LC Registry, published by the NCQLP, is available. It includes all registered LCs as of February 1, 1998. To order a copy, fax your request to (301) 654-4273. Cost is \$25 plus postage and handling.

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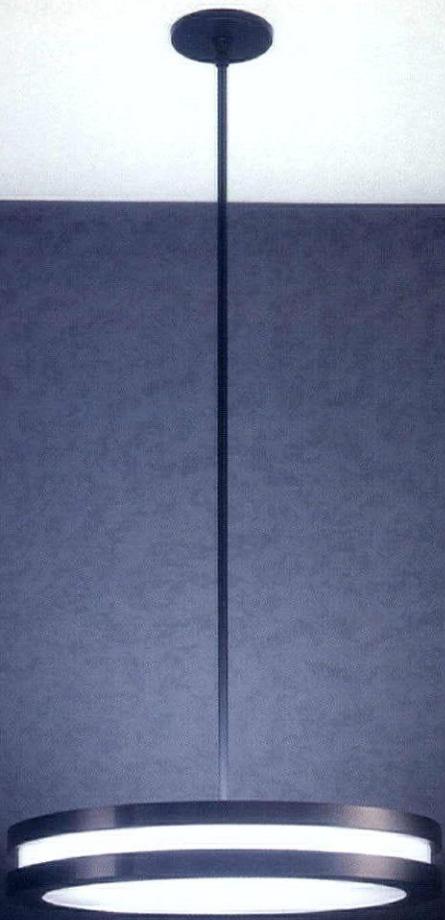


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Unison, a joint venture of Advanced Lighting Technologies, makers of Venture Lighting metal halide lamps, and Rohm and Haas, makers of OptiFlex™ flexible light pipe, have shattered this image by revolutionizing the industry. By combining these technologies, Unison fiber optic lighting doesn't just offer an illuminator or a fiber optic cable. Instead, it offers a total solution to your retail lighting needs. With Unison, you get the most complete fiber optic lighting solution available including side and end light fiber, illuminators and fixtures, couplers, even specially designed cutting and stripping tools. Everything you need, for any application from display case to visual merchandising, is packaged and at your fingertips.

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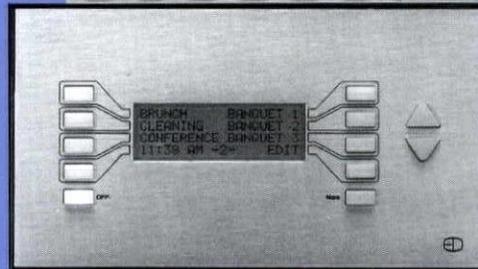
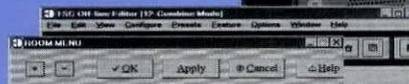
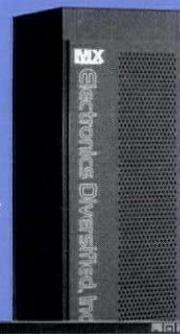
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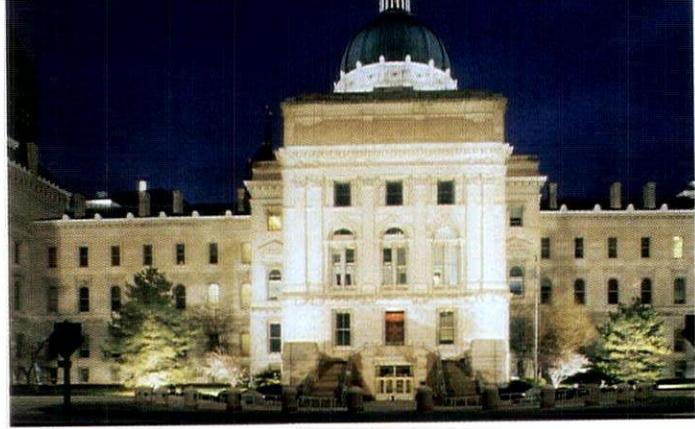
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RESTORING INTEGRITY

The new exterior lighting scheme used for the Indiana State Capitol building in Indianapolis accentuates the aesthetic appeal of the building's facade. Since 1888, the building has remained the seat of the state's most important government functions. Like the U.S. Capitol in Washington, the building is Neo-Classical in style, made of a light-colored stone, and has a dome—in this case a 250-ft. copper dome.

Over the last century, the building has undergone many renovations resulting in the deterioration of original internal character. In 1986, the state legislature approved funds to restore the building to its original condition in time for its centennial. Although the appearance of the interior was restored to its origi-



nal state, the exterior lighting system did not highlight the architectural beauty of the building at night. The previous lighting system used seventy-six 1000W mercury floodlamps housed in cast aluminum fixtures mounted around the building. The mercury lamps were complemented by fifty-six 400W HPS lamps, housed in a unistrut system anchored in the roof inside the parapet. The mercury lamps offered poor color rendering, while the HPS sources casted a yellow glow. As a result, the state wanted to install a new lighting system that would complement the integrity of the limestone facade and copper dome, and be both energy and cost efficient.

William R. Cronin, state engineer, worked on the design with Stephen Warstler, a principal of Indianapolis-based Spectrum Lighting, Inc., to determine the best lighting system. During the design phase, Cronin, Warstler and Joe Frey, a photometric/field sales technician for Sterner, found a major obstacle in developing the new system, namely the existence of many trees—gifts to the state from former presidents and governors—around the building. This limited the possibilities of relocating the fixtures on the ground. As a result, the new lighting system had to be incorporated into the existing system's location.

The design team selected 1000W metal halide lamps to light the building and the dome; four 400W lamps were specified to light the flagpoles. Metal halide was chosen for its energy efficiency and compact size. In addition, the metal halide sources deliver crisp white light, needed to accentuate the light-colored facade.

Due to the efficiency of these lamps, only 116 lamps were required to replace the existing 141. The new lighting system provides twice the light of the previous system—13,024,000 lumens vs. 659,900. The metal halide lamps average 107 lumens per watt compared with the 56 lumens per watt provided by the old system.

Lamp manufacturer: Venture Lighting

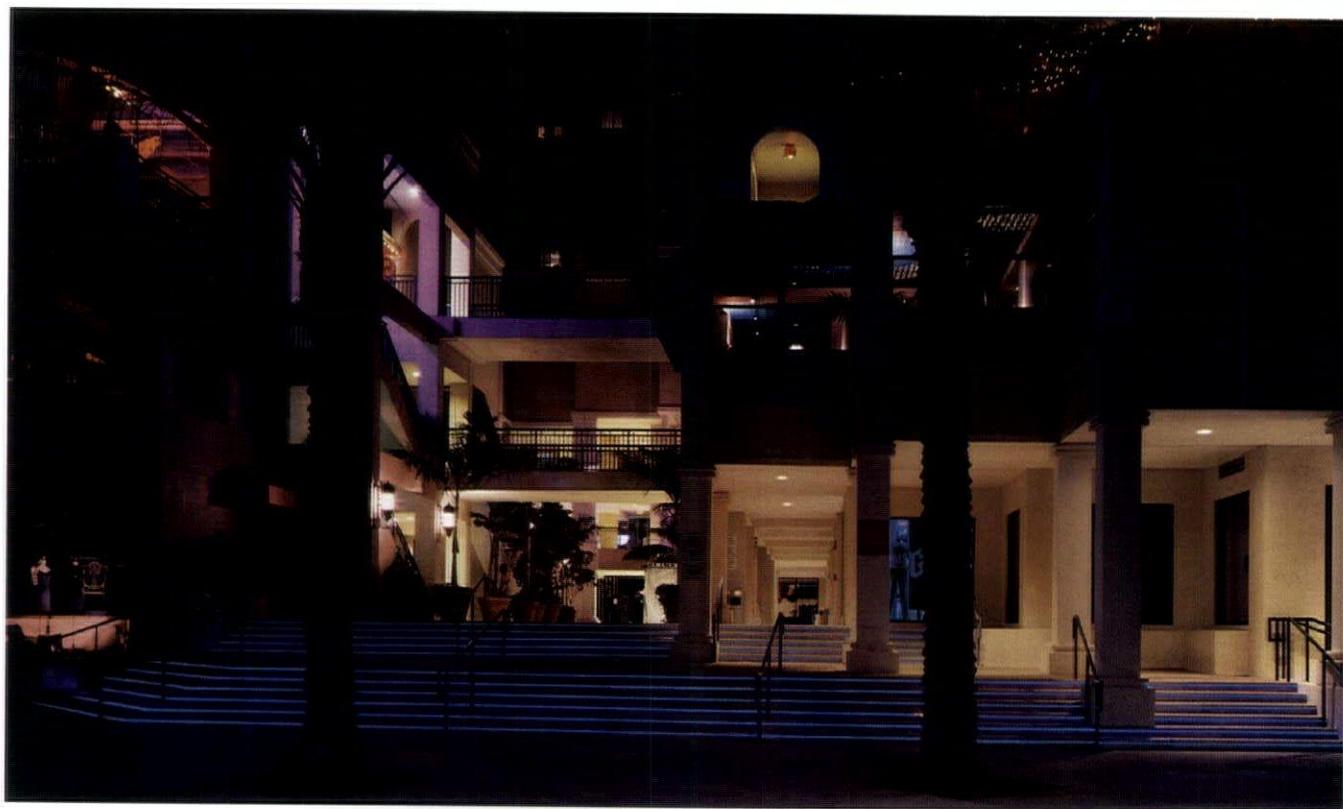
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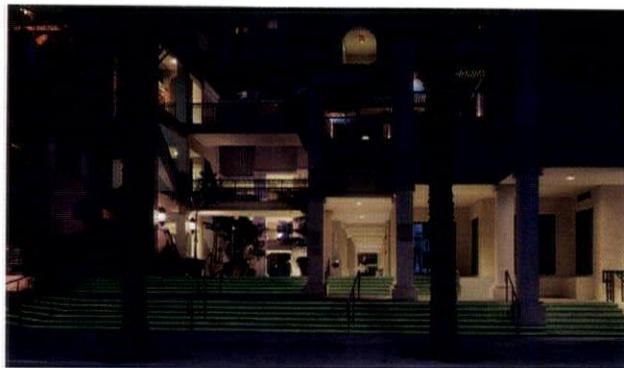
When Lighting Designer Paul Morgan took on the challenge of lighting thousands of feet of stairs at Florida's Beach Place complex, he turned to Fiberstars for help. "It was no easy task: we had to provide appropriate stairway illumination in a way that created a powerful visual impact. . .while meeting strict local and ADA requirements.

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The result was so successful that even Morgan was surprised: "I never thought that 120' runs could be so consistent and bright. I'm truly impressed."

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Circle No. 26 on product service card

LIGHTFAIR PROGRAM ANNOUNCED

The annual Lightfair International trade show and conference will be held May 27-29 at the Las Vegas Convention Center in Las Vegas. Exhibit hours for the show are 10 am-6 pm May 27 and 28, and 9 am-3 pm, May 29. Following are highlights of the conference program at Lightfair:

WEDNESDAY, MAY 27

8:30-10 am

- New Product Showcase, sponsored by *Architectural Lighting* and *inter.Light*

10:30 am-12 pm

- "The Magic Behind Cirque du Soleil"; speaker: Luc Lafortune
- "New & Innovative Technology from Around the World"; speaker: Michael Lane, IESNA
- "How Can Lighting Complement Your Facility?"; speakers: Alan Suleiman, IESNA; Gale Spencer, IESNA; CSI, Brian R. Cournoyer, R.A., CCS

2-3:30 pm

- "Casino Lighting...It's All in the Game"; speaker: James Benya, PE, CLEP, IALD, FIESNA
- "Lighting on the Internet: What's Working? What Isn't?"; speaker: Dave Burtner, IESNA

- "Maintenance After the Fact...The Party's Over"; speakers: Barbara Bouyea, IALD, IESNA; John Fetters, IESNA, AEE

3:45-5:15 pm

- "The Power of Color"; speakers: Stefan Graf, IESNA, IALD; Steven Rosen, DLF, USITT, USA Local
- "Your Lighting Wish List: Why Don't They Make This Product?"; speaker: Russell Leslie, IESNA
- "Lighting Guidelines and Energy Update 1998"; speakers: Cheryl R. English, IESNA, David Ranieri, IESNA

THURSDAY, MAY 28

8:30-10 am

- "Spotlight on Controls"; speakers: Ted Ferreira, TEA, USITT, Karl Haas, USA Local 829
- "Ergonomic Lighting: Its Time Has Come!"; speakers: Carol Jones, IESNA, Associate IALD; Dr. Peter R. Boyce, FIESNA, CIBSE; Dr. Judith Heerwagen; Francis Rubinstein, IESNA; Dr. Guy Newsham, Ph.D.
- "They're Back...Decorative Luminaires"; speakers: Viggo Bech Rambusch, IESNA, ASID/Arch. League; Edwin Rambusch

10:30 am-12 pm

- "The World is Our Stage...Show Lighting in Entertainment Architecture"; speakers: Joe Falzetta; Patrick Gallegos, IALD, DLF

B A L D I N G E R

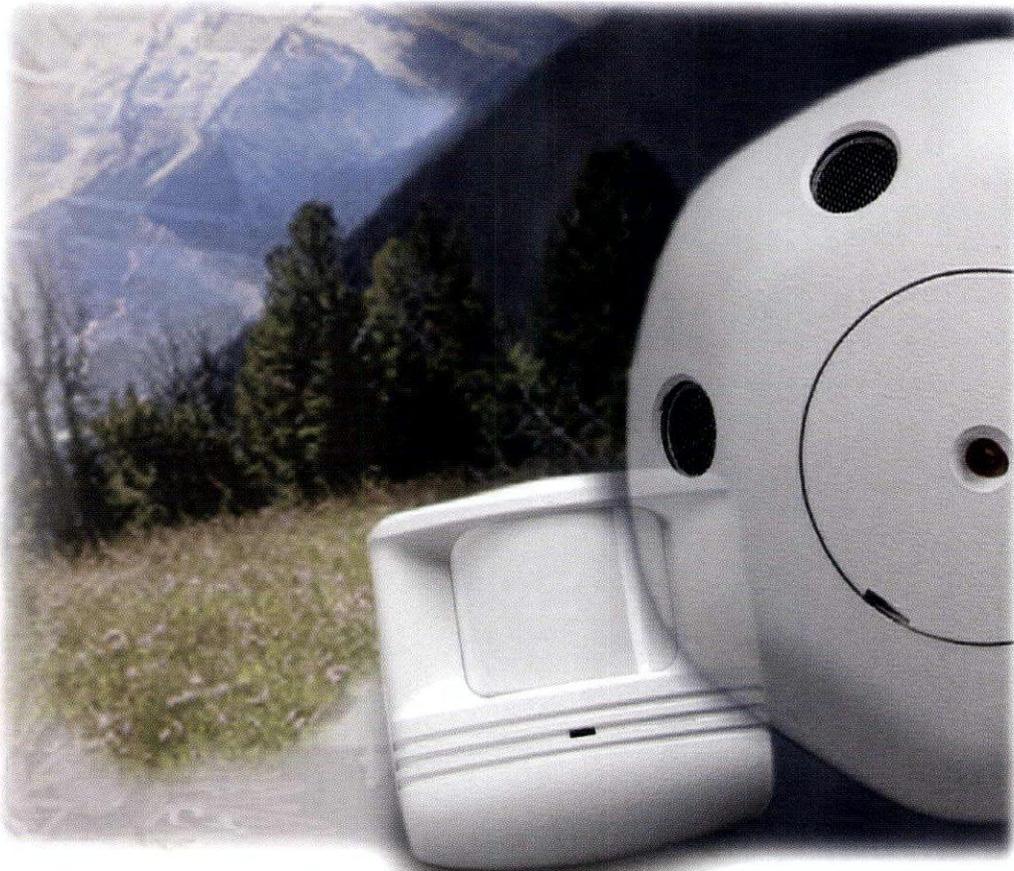
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- "Lamp & Systems Issues 1998"; moderator: Cheryl English, IESNA; speakers: Edward Effron, DLF; Ed Hammer, IESNA, IEEE; Wayne R. Hellman; Bob Horner, IESNA
- "Ratcheting Outdoor Retail"; speaker: Nancy Clanton, PE, IESNA, IALD

2-3:30 pm

- "Theatrical Lighting Techniques in Themed and Retail Environments"; speakers: Ron Harwood, IESNA; Rich McCleve; Michael Leclere; Bruce Fable
- "In the Eye of the Beholder...Lighting as an Art Form, Part I"; speaker:

John J. Kennedy, IESNA

- "Alternatives, Substitutes OR Equals"; speaker: Randy Burkett, IALD, IESNA, CIE

3:45-5:15 pm

- "Lighting For All Generations"; speaker: Ann Kale, IESNA, IALD
- "The Future of Lighting: Is it an Art or a Science?"; speakers: Pam Horner, IESNA; Charles G. Stone II, IESNA; Rogier van der Heide, Associate IALD, VPT, NSVV
- "New Directions in Hotel and Resort Lighting"; speaker: Chip Israel, IALD, IESNA, DLF

FRIDAY, MAY 29

8:30-10 am

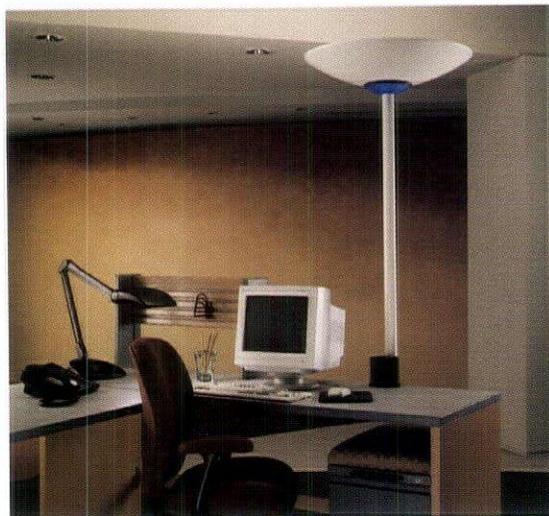
- "Why Do Lighting Designers Do That?"; speaker: Bradley Bouch, AIA, IESNA, IIDA
- "In the Eye of the Beholder...Lighting as an Art Form, Part II"; speaker: Peter Erskine
- "Lighting Delivery Systems...Beyond the Hype"; speakers: Kenneth E. Yarnell; Jeff Brown

10:30 am-12 pm

- "We All Have to Tighten Our Belts and Budget Installation Costs"; speaker: Barbara Bouyca, IALD, IESNA
- "The History of Lighting Technology"; moderator: Harold D. Wallace, Jr., AHA; speakers: Robert Levin, Ph.D., FIESNA, CIE; Terry McGowan, FIESNA; Clara Powell
- "Home Away from Home"; speakers: Renee Cooley, IESNA, DLF; Emily Monato, IESNA, Associate IALD, DLF

2-3:30 pm

- "Lighting Design Internationally"; speakers: Jonathan Spiers, IALD, ELDA, IESNA, RIBA, ARIAS; Paul Gregory, IESNA, USAA
- "In the Eye of the Beholder...Lighting as an Art Form, Part III"; speaker: Leni Schwendinger, Associate IALD, SEG D
- "Feeling Comfortable: Safety & Security Outdoors"; speakers: Dr. Peter R. Boyce, FIESNA, CIBSE; Sandra M. Stashik, PE, FIESNA, IALD



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Circle No. 30 on product service card

Russell L. DeVeau has been appointed specification and design manager for Starfire's fiber-optic lighting products division.

David Danby has been named general manager of sales in the United Kingdom for Lutron Electronics Co., Inc.

Waldmann Lighting Company has announced the appointment of **Chris Morris** to lighting applications manager.

G. Steven Day has been promoted to VP/general manager of Vista Lighting, Inc., a JJI subsidiary manufacturer.

Denise B. Fong, has been named principal of Candela.

Prescolite•Moldcast has announced the appointment of **John Nadon** to VP of marketing.

Richard V. Morse, VP of marketing at Lithonia Lighting, has been elected to a fourth term as chair of the National Lighting Bureau (NLB). The NLB has also named Cary S. Mendelsohn, representing the International Association of Lighting Management Companies, as vice chair, and Robert E. Horner of Osram Sylvania, Inc. as secretary/treasurer.

Dale G. Peterson has been appointed senior associate of the firm CUH2A, Inc. Newly formed Cooper•Lecky CUH2A has

announced the promotions of **James Clark**, AIA, **Robert Smedley**, AIA and Ed Weaver, AIA to principal.

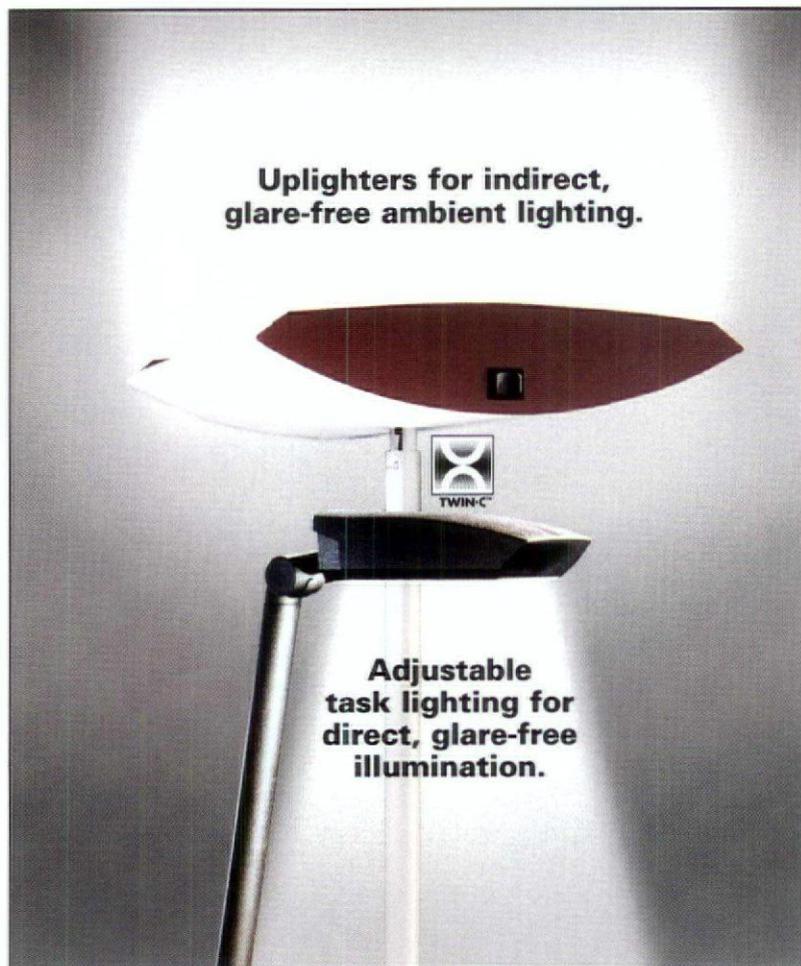
Focal Point LLC has announced the addition of **Ann Reo** as VP of marketing and product development.

The international architecture and interior design practice of Brennan Beer Gorman/Architects, Brennan Beer Gorman Monk/Interior has announced the retirement of partner **Sergio Gonzalez**. The firm also announced the promotions of **Mark Sheeleigh**, AIA to partner and **Douglas Wilk** to associate. The interior design firm has announced the promotions of **Jennifer Mackenburt** and **Carolyn Frani**

to senior associates, and Gregory Stanford and **Kathryn Mickel** to associates. **Ginger Revercomb** has been promoted to associate of both the architecture and interior design practices.

Unison Fiber Optic Lighting Systems has named **Millicent Pitts** president; **Harry Tweedie**, VP, finance; **Jeff McDonald**, VP, marketing and sales; **Casmier Iienda**, VP, OptiFlex Operations; and **Ray Hixon**, VP Cable Lite Operations.

Sara Schragger, lighting consultant, and **Bill Warfel** of System Design Associates have joined to form Warfel Schragger Architectural Lighting, LLC.



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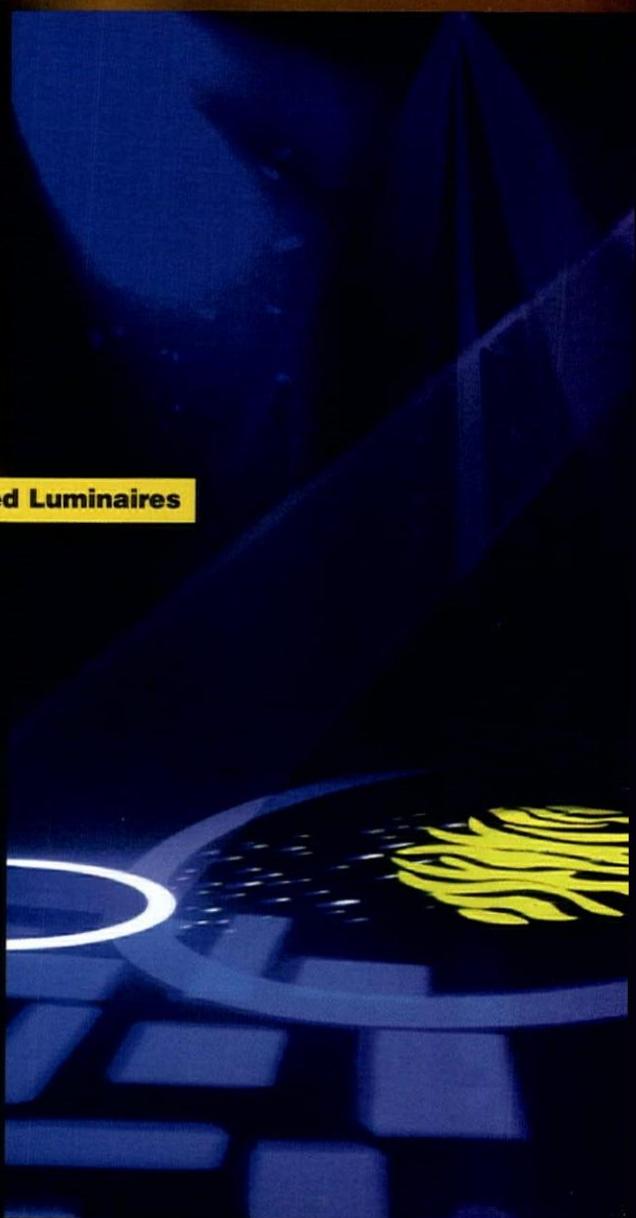
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May 16-19 International Contemporary Furniture Fair, Javits Convention Center, New York City; (914) 421-3286.

May 21 ASID Seminar: "How to Increase Your Sales and Become a Valued Member of the Interior Design Team," Cleveland; (202) 546-3480

May 27-29 Lightfair International, Las Vegas Convention Center, Las Vegas; (404) 220-2000.

June 2-5 A/E/C '98, McCormick Place, Chicago; (800) 451-1196.

June 4-5 AEE Seminar: "Effective Relighting Solutions," Sheraton Inn Lowell, Boston; (978) 452-1200.

June 8-10 NeoCon, Merchandise Mart, Chicago; (800) 677-6278.

June 21-24 Building Owners and

Managers Association International, Philadelphia Convention Center; (202) 326-6331.

June 24 1998 Lumen Awards, NY IES Chapter, Puck Building, New York City; (718) 376-8539.

June 25-28 CSI Annual Convention & Exhibition, Baltimore Convention Center, Baltimore; (800) 689-2900.

July 19-22 Interbuild 98, Melbourne Exhibition Centre, Australia; (301) 656-2942.

July 23-24 AEE Seminar: "Fundamentals of Lighting Efficiency, a Preparatory Course for the CLEP Examination," Sheraton Atlantic City, Atlantic City; (609) 343-2896.

August 12-14 Alt.office Conference & Exhibition, San Jose; (212) 615-2612.

September 22-23 AEE Seminar: "Effective Relighting Solutions," Navy Pier, Chicago; (312) 836-0100.

September 24-25 International Energy and Environmental Congress, Navy Pier, Chicago; (770) 279-4386.

October 1-2 AEE Seminar: "Fundamentals of Lighting Efficiency, a Preparatory Course for the CLEP Examination," Treasure Island, Las Vegas; (702) 894-7111.

October 1-3 IIDEX/NeoCon Canada, Metro Toronto Convention Center, Toronto; (416) 944-3350.

October 6-9 ELENEX Australia, Melbourne Exhibition Centre, Melbourne; (301) 656-3179.

October 28-30 InterPlan, Javits Convention Center, New York City; (212) 615-2737

October 28-30 The Design Show: Environments for Living, Javits Convention Center, New York City; (800) 950-1314.

December 9-10 Business Energy

Solutions Expo, Walt Disney World Dolphin, Orlando; (770) 279-4390.

December 10-11 AEE Seminar: "Fundamentals of Lighting Efficiency, a Preparatory Course for the CLEP Examination," Walt Disney World Dolphin, Orlando; (800) 227-1500.

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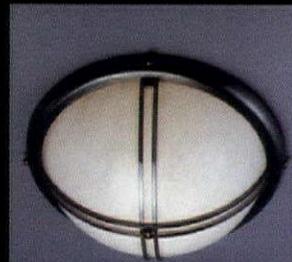
GE Lighting Institute; Cleveland, Ohio; (800) 255-1200

Osram Sylvania Lightpoint Institute; Danvers, MA; (978) 750-2464.

The Philips Lighting Center; Somerset, New Jersey; (732) 563-3600.

A complete list of seminars will be listed in the upcoming Spring Product Tabloid issue.

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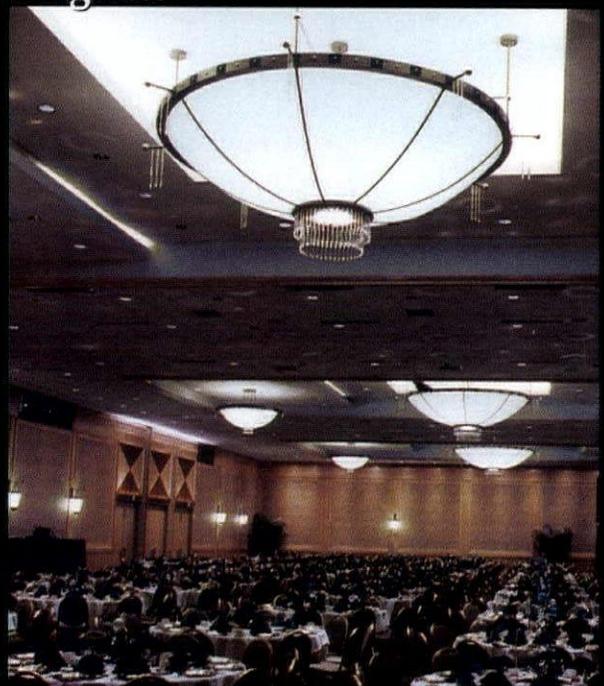


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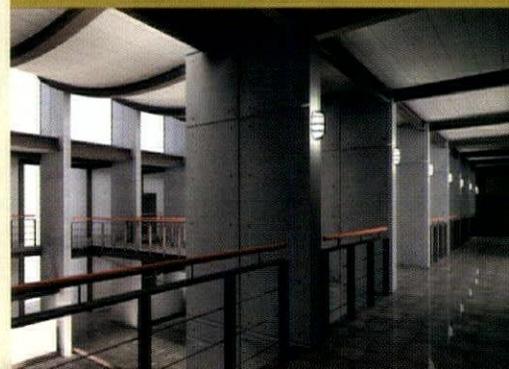
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H.M. Brandston & Partners Inc. Howard studied theatrical illumination at Brooklyn College and began his career in lighting in the New York theater. Prior to founding his own firm in 1966, he was a designer at several manufacturing and lighting design firms including Century Lighting, Inc., where he was assistant to Stanley McCandless, one of the pioneer figures in lighting design. In addition to designing illumination for more than 2,000 commercial, institutional, residential and governmental projects, Brandston's light sculptures have been shown in art galleries throughout the U.S. and are permanently installed in museums and university collections. He has served on committees for the National Academy of Sciences, and was IES representative to the Architectural/Engineering Federal Energy Committee during the Energy Crisis. His work on energy conservation helped set the initial standards for lighting from 1975 to 1985, and he was one of the founding members of the Ad Hoc Committee of Lighting Research and Education Funding Entities, the Lighting Research and Education Fund and the Lighting Research Institute.

—Christina Trauthwein

AL: What initially turned you on to lighting design?

Brandston: I was interested in the theater in high school, so I auditioned for the plays—and was good. However, when I went to college, I was blown away by how sophisticated everyone was. I was intimidated, and abandoned the idea of acting. Since I was dissatisfied with the general academic curriculum, I returned when they had another meeting of the Varsity Players. Toward the end of the meeting, they asked if anyone would like to work on the lighting. Figuring I had better get involved, I volunteered. And that was the start. I was fascinated by it. I switched my major and studied theater, scene design, lighting design.

AL: Your early interest was in theater lighting. Why architectural lighting?

Brandston: I have done theatrical lighting. I started out in the theater and did a couple of shows that opened and closed in one day. I realized it was not a good way to earn a living. In architecture, there were opportunities to do work of great social significance—not that there aren't in the theater—but it was enduring. You built that building and it stayed there for a while.

AL: Did you have a mentor in those years?

Brandston: When I was a student, God was called Stanley McCandless in the industry. He was at the advent of the incandescent lamp and, at that time, literally wrote all the fundamental principles of lighting. It was very clear when I got out of school that I had to work for him. And I did. McCandless taught me that design and budget were synonymous. He was very careful with clients' money and very honorable. To a mini-philosopher, which I considered myself, he was an absolute model of perfection. Ethics—morality has been at the heart of the way I work. I look at the designs I do, and

being the designer, I am accountable.

AL: Had you always dreamed of starting your own firm?

Brandston: In the early '60s, I was unhappy with where I was working and I decided to start my own firm. So I borrowed some money and got my enterprise off the ground in a little loft in Manhattan, sent out announcements and sat there. I was getting to be a pretty decent guitar player because I was



there alone, playing, waiting for the phone to ring. Then a lighting company called and said they needed a new line of fixtures and wanted me to design the optical systems. It was Kurt Versen. My lucky break had come along.

AL: And it didn't stop there...

Brandston: Here's a platinum spoon story. Rudy DeHarak, a world-famous graphic designer, called Dick Anisfield at Kurt Versen and asked if he knew a guy who could do the lighting for the theme pavilion for Canada for Expo '67 in Montreal. He referred Rudy to me—what a break. At the same time, Hilton Hotels interviewed me for a very important project for Hilton International. They asked, "You know, you're brand new and this is a very important job. Why should we give it to you?" I said, "Because you will be the first."

"Give him the job," they said. "It's very rare you can be the first at anything." It was a small job, a restaurant, but it opened the door. I got back to New York after the opening and they called and gave me several major hotels around the world. And my career took off from there. Rudy and I then went on to work together on the U.S. Pavilion at Expo '70 in Osaka, Japan. It's funny, I remember, when we were done, thinking how can anything ever top this? And then I got a call to do the lighting master plan for what is now the Meadowlands Sports Complex in New Jersey.

AL: Working on so many projects over the years, how do you maintain creativity?

Brandston: Culture. And New York is the world's center of culture. I go to museums and it moves me. I draw on all the creativity of the allied artists. They're my inspiration.

Having had a remarkable education with world-class teachers as mentors has also inspired me. Whenever I want to find out about anything, I first find out who the world's authority on the subject is and go directly to that person. So I'm always at some point or another talking to the voice of experience and it's very stimulating. I'm always searching for clues, connection, motivation.

AL: You are an adjunct professor of architecture at the Lighting Research Center at Rensselaer. What beliefs or professional values do you hope that you have instilled in those who have studied with you?

Brandston: Process for excellence. When I was studying philosophy, my favorite paper was one written by Bertrand Russell, "The Elements of Ethics." In the class I teach, I share two philosophical papers with my students. That is one, the other is "Two Dogmas of Empiricism" by Willard van Orman Quine. Certainly, dogma and fad just riddle the design profession, and it's an

(Continued on page 44)

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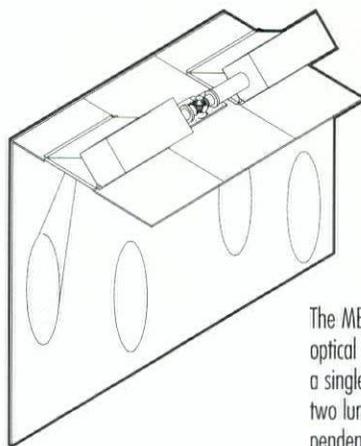
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(Continued from page 42)

exercise in recognizing them so you can guard against falling into their trap. Another is: You learn by experience. Every time you don't try something, it's a lost opportunity. Don't fear the unknown. Take a chance. The worse thing that will happen is you won't like it, and you don't have to do it again.

AL: *What advice do you give to those entering the profession?*

Brandston: Get a great mentor. I chose to take a nominal salary coming out of school so I could work with Stanley McCandless. Money was not the key. But working for him was the springboard to knowledge. The next thing you do is get your work criticized. If you don't wish to hear it, don't bother, but you will limit your ability. Quality criticism greatly increases your chances of growing.

And here's a wonderful piece of advice I'd like to share. Milton Glaser, a very well-known artist, recently said at Cooper Union's graduation ceremony: "Go out and do good work." Very simple. Raise the bar, but continue to go over it.

AL: *What is the largest obstacle to the lighting designer?*

Brandston: Ego. Being open-minded with no predetermined notions is so important. I think lighting people have a tendency to follow simplistic lighting criteria, metrics and jargon too frequently. You must start from ground zero with every project. I never presume to know how to do anything. Many designers look at a project type and fall into the stereotype of that type of project.

AL: *You have been a leading proponent of the NCQLP, encouraging designers to receive certification. How important is the LC?*

Brandston: The camera doesn't make the photographer, it's the person behind it. The NCQLP exam shouldn't be looked at as a plan to keep people out; it should be looked at as a minimum competency test to serve in this media. Will it succeed? The answer lies not with those in the ranks of certified lighting professionals but those that are out there hiring lighting people. Do they see any

importance to it? If somebody sells them that message, it will be successful. After all, it's not a license to practice, it's a certification. You have to create a market for making lighting certification worthwhile. It has the potential for being a good measure. Not with the intent of raising the bar but with the intent of honing it to ensure lighting certified people are qualified to serve their clients.

AL: *Has technology replaced technique over the past decade or so?*

Brandston: Technology vs. context. When I got the job to light the Statue of Liberty, my job was to make the Lady look good, not to accomplish a technical *tour de force*. I look at some projects out there and

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I see the logical solutions, but I don't see something that has meaning, that is in appropriate context. So the accountability part of professional responsibility has then failed. In many cases, technology has replaced the simple idea of good lighting.

AL: *What is good lighting, then?*

Brandston: Good lighting is an agreement between the designer and the client at the beginning of every project. It's not anything other than that. Certainly not what it says in a textbook or handbook. And the ultimate criticism is when, upon completion of the project, the guy who's paying the money says, "This place looks precisely the way you told me it would." Good lighting is not achieving some lighting metric. There is no lighting metric today that holds water. Some are fine as guidelines for professionals, but I worry about designers who "sell" them to clients.

AL: *How do end-users perceive lighting today?*

Brandston: The ones who have a clear view are developers and merchants because lighting is one of the widgets in their arsenal of selling products. So they make very astute

evaluations. They don't care about whether it's a whiz-bang, whammy reflector. They just want to know "Does it sell my donuts?" In general, I think there is a far greater recognition of the impact lighting has. Lighting technology has grown at a meteoric rate and a lot of people don't feel quite as competent to do it themselves, so they're hiring lighting designers. We have to have a bigger thrust on education so that the real understanding of what good lighting is reaches out to the general population.

AL: *The biggest detriment to the industry?*

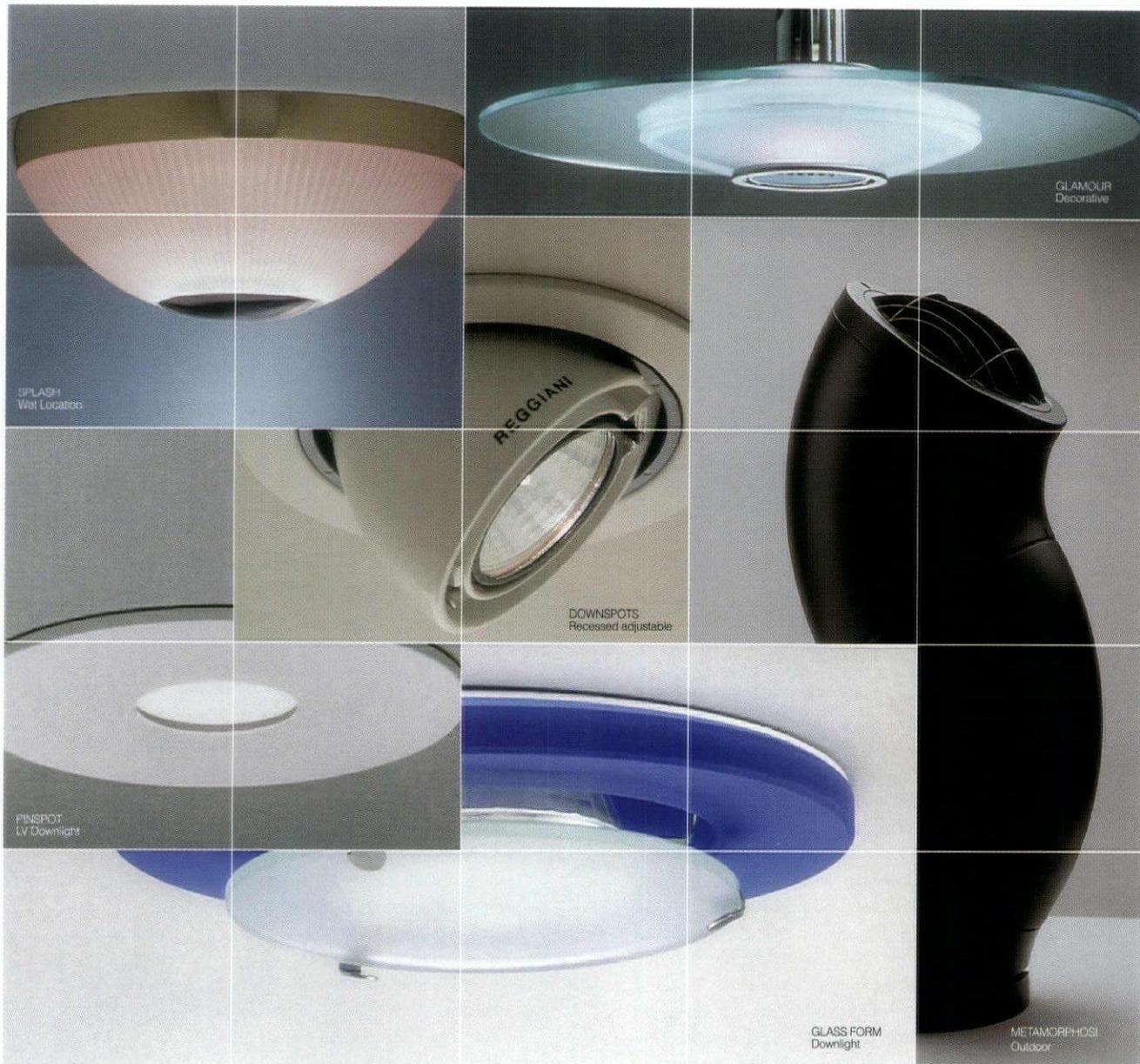
Brandston: Apathy. If we don't get over this apathy, the profession will atrophy. It will lose the momentum of the springboard provided by the energy crisis. For example, the societies put out codes and standards. These are sent out for public review, but nobody comments, nobody is willing to be involved in the standard-setting process. So we're leaving it to a few committee people who probably are not expert enough in that area to set a standard. We are lowering the lighting bar all the time. The bar is raised by participating in public comment.

For instance, the IES School Lighting Standard RP-3 is again out for public review now. It came out approximately three years ago. I read it and felt it was one of the worst documents that I had ever seen. It was produced by an IES committee, approved by the IES elite, their technical review council, and then approved by the board. So I wrote a response—and I was the only respondent. It went through a few rounds of having to be rewritten, and remains a failure to serve the public. Where is the profession? Why are we so apathetic that we will permit any code or standard? Will anyone other than me send in a comment to the IES on RP-3? No, they'll say, "Well, my friend is on the committee, he'll take care of it."

AL: *But it greatly impacts the profession.*

Brandston: That's right. But it's time-consuming so people don't want to get involved. We are a professional group of lighting practitioners, not a professional group of professionals. Serving on a committee or two is not good enough. Shaping the profession, that's how you measure the success of a true professional. And therein lies the difference between being a professional and a practitioner. A practitioner goes about and does his professional work the best he can. A true professional gives back, serves and makes contributions. ■

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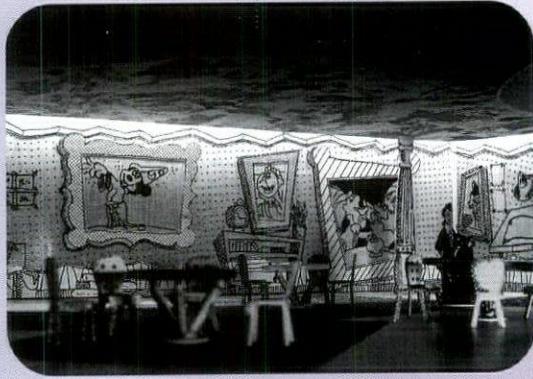
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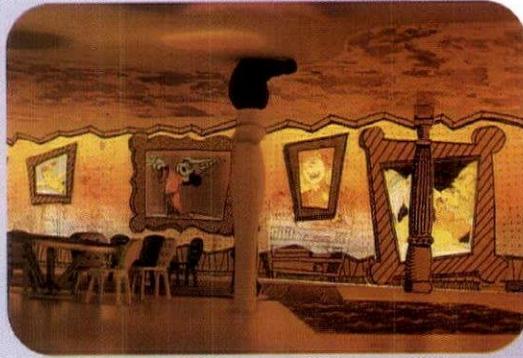
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cast & cruise

Disney Cruise Lines commissioned Manhattan-based Rockwell Group to develop a concept for a 4,000-sq.-ft. restaurant, Animator's Palate, on their new cruise ships that would represent the "process of creativity." The design firm designed the dining space to feel as if one is entering into a pen and ink sketch in an animator's studio. During the meal, Disney animations gradually shift and evolve into full-color drawings that make the patrons feel the threefold process of drawing an animated sketch—the still sketch in black and white; the living-color sketch; and the animated, or moving sketch. According to the firm, the process involves some clever lighting and standard theatrical effects. Elements involved in the process include paintbrush columns with fiber-optic tips and tables supported by larger-than-life "pencils." Wall surfaces will be painted to simulate the animator's story boards, and the corridor leading to the dining areas will serve as an exhibition space, presenting the process of animation through sketches.

Photos: ©1997 White Pictures



midnight cowboy

Apache Junction, AZ is a small western city located at the base of the Superstition Mountains near the presumed location of the legendary Lost Dutchman's gold mine. The city wanted to create a focal point for Apache Junction at the main intersection to represent the cultural underpinnings of the area's past, present and future. The City Parks and Recreation Department originally planned a series of western-theme sculptural metal silhouettes, mounted against a granite wall and illuminated with in-ground floodlights, but was concerned with the excessive amount of light that would be created at the intersection. Lighting designer David Breedlove recommended fiber-optic lighting to provide a dramatic backlit illumination without potential dangerous light spill-over. Three illuminators, remotely mounted behind the granite wall, use long-life 150W HID metal halide lamps. An integral reflector projects lights through nearly 300 ft. of tubing affixed to the back of the forms to create striking linear highlights around each silhouette. A color wheel inside each allows four different colors of light to be emitted.

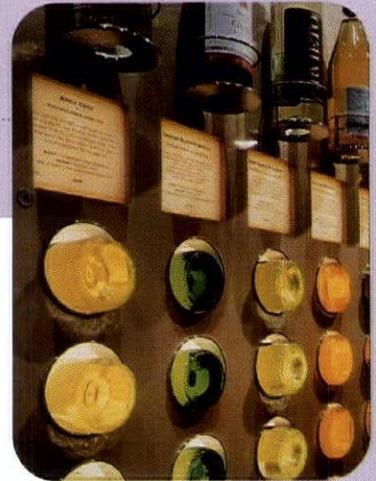
Fiber-optic manufacturer: Fiberstars Inc.



wine seller

Best Cellars is a radically new concept in wine retailing. The client's goal was to make wine easy to understand, easy to buy and to promote the concept of "wines for everyday." The 800-sq.-ft. store was designed as a prototype for a national retail chain and sells 100 wines for under \$10. Each bottle is encased in a frosted acrylic sleeve and is backlit with color-corrected fluorescent sources—a straw tone for the whites, light pink for reds. "The bottles appear to glow and sparkle," said lighting designer Paul Gregory, Focus Lighting. MR16s accent the bottle display, and signs, used to organize the wines by taste instead of grape type or region, are backlit by fluorescents. The store, designed by Rockwell Group, allows the wine bottles to be the star of the show, adding color to the space with high visibility from the street.

Photographer: Paul Warchol



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GRAZING THE GLASS CEILING

Ribbons of stained glass project their serene beauty while keeping the secret of what makes them glow

BY WANDA JANKOWSKI, CONTRIBUTING EDITOR

CHALLENGE After the midtown Manhattan lobby was gutted and rebuilt, one of the most striking features planned for it by the architect, Ron De Souza of David K. Specter & Associates, was to be the rows of geometrically patterned stained glass panels suspended from the ceiling. There were several goals for lighting designer, Michael Mehl of Jaros, Baum & Bolles Consulting Engineers. First, the lighting needed to accentuate the stained glass to produce the kind of contemplative atmosphere typically found in a house of worship. Second, the correct volume of light had to be achieved and a suitable fixture and mounting system devised that would emphasize the stained glass without producing visible hotspots or the bland effect that can result from a luminous ceiling.

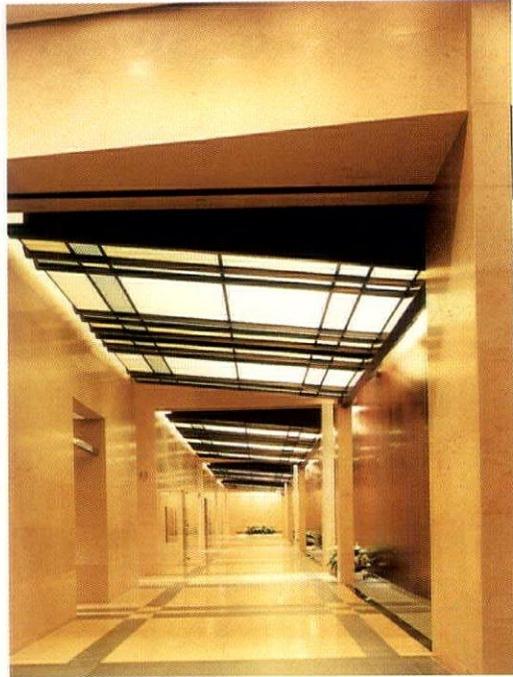
DESIGN/TECHNICAL CONSIDERATIONS Mehl explained, "The mounting conditions were a limitation. I didn't want to create a luminous ceiling, but wanted a drag of light above the ceiling to show off the stained glass with no single image of light source apparent through the glass." To present an attractive view to pedestrians passing by the lobby and visitors entering the building, the ceiling illumination also needed to simulate natural brightness to complement the daylight just outside. In addition, since the ceiling was the dominant aesthetic feature of the lobby, accent fixtures for ancillary lobby elements needed to be effective yet unobtrusive.

METHOD In the entrance area of the lobby, a look complementing daylight was achieved by adapting and concealing compact fluorescent reflector fixtures within panel mullions. This technique backlights the panels evenly and prevents lamp images from being perceived below the ceiling. The fixtures are maintained and relamped via removable panels.

Angled flat panels of stained glass, designed to mimic banding on the flooring below them, are suspended beneath the ceiling in the corridors and elevator banks. It was desired that the lighting reinforce the "floating" appearance of the suspended panels. To do this, Mehl used a direct/indirect fluorescent fixture placed only on one side of the panels. The indirect portion of the fixture throws light across the back of the glass which then "bleeds" out the far side to create a glow down the far wall. The direct portion of the fixture, fitted with a shield to prevent the lamp image from being visible through the glass, casts light down the opposite corridor wall. This significant washing of the wall reduces the visual "narrowing" effect of the long corridors.

Mehl also installed rows of downlights to "punch up" lobby perimeter areas without detracting from the stained glass, and an unexpected benefit came from this addition. "The artwork on the walls was not originally planned," Mehl said, "but when the building was purchased by a new owner, it was decided to use it when the lobby areas were about 90 percent complete. Luckily, I had enough intensity and flexibility in what I had designed to provide enough lighting for the artwork without diminishing the effectiveness of the backlit stained glass ceiling."

"The architect was sensitive to light and 'let me run with it,'" said Mehl. "There was trust. It's nice when members of two professions merge instead of butting heads." ■



THE LOBBY OF THIS MANHATTAN BUILDING COMBINES NATURAL LIGHT AND A STRIKING ILLUMINATED STAINED GLASS CEILING TO PRODUCE A SERENE AND RELAXING ATMOSPHERE.



DETAILS

PROJECT
1290 6th Avenue Lobby

LOCATION
New York City

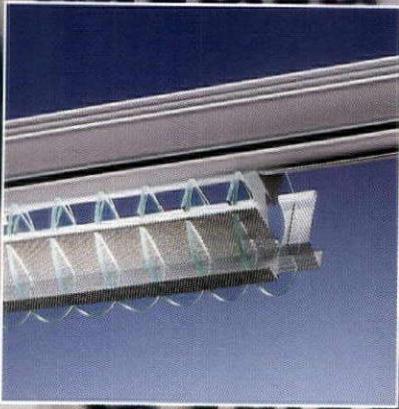
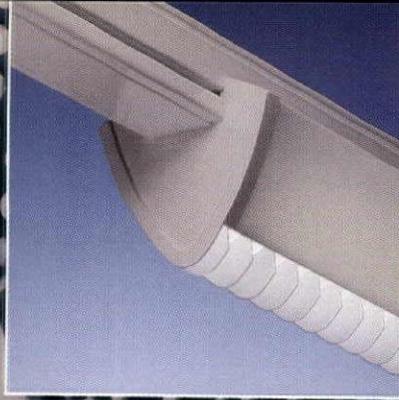
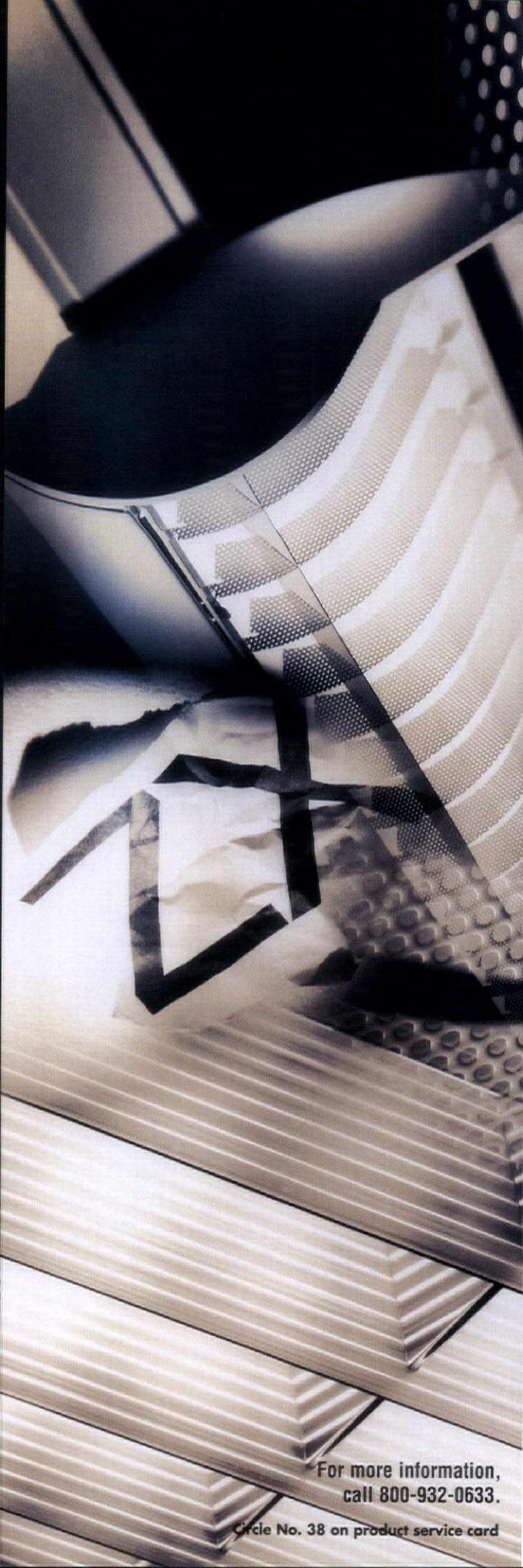
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The Equitable Life Assurance Society

ARCHITECT
Ron DeSouza, David K. Specter & Associates

LIGHTING CONSULTANT
Michael Mehl, Jaros, Baum & Bolles Consulting Engineers

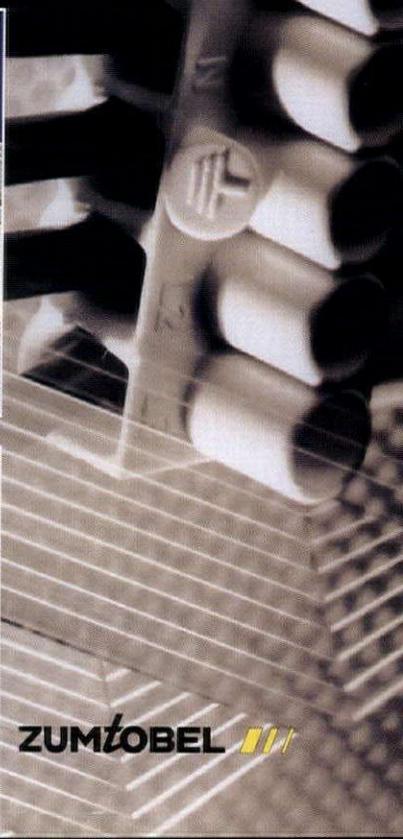
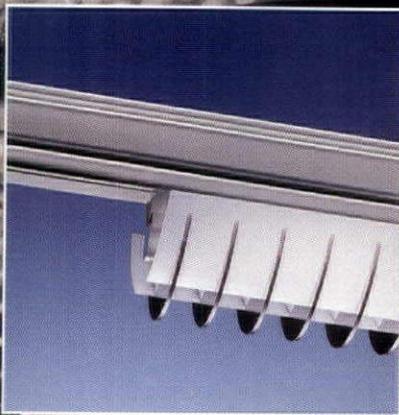
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WATTAGES	18	26	32	18	26	32	26	32	42	13	18	26	26	32	42

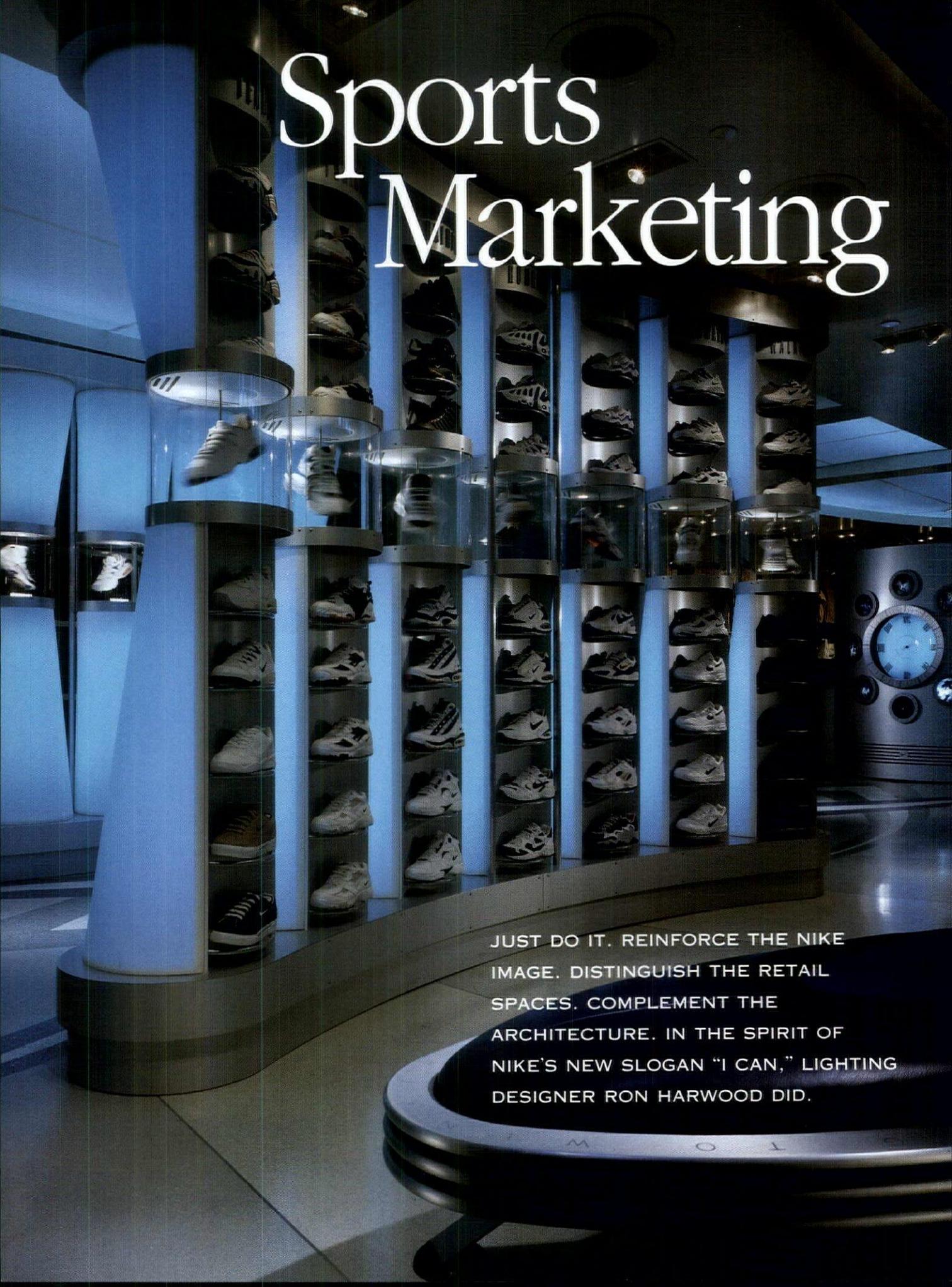
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NIKE'S NEW SLOGAN "I CAN," LIGHTING
DESIGNER RON HARWOOD DID.

BY WANDA JANKOWSKI, CONTRIBUTING EDITOR

NikeTown, a “village” of shops covering multiple floors in midtown Manhattan, is a completely new concept and design for New York City, blending the look and feel of an early 20th-century Manhattan school gymnasium with an innovative and futuristic retail structure. Conceived and built as a building within a building, the exterior is reminiscent of a classic New York school gymnasium and the interior, a free-standing modern “second building” that houses more than 65,000 sq. ft. of selling space for sports apparel, footwear, equipment and accessories. “We looked to classical examples of historic buildings with contemporary interiors to reflect the contrasts of Nike’s sports heritage and product innovation,” according to Nike Design Director John Hoke.

“The Nike design team did a fantastic job on the interior design,” said Ron Harwood, president of Illuminating Concepts and lighting consultant for NikeTown New York. “The merchandise and its colors define the different retail spaces, which each feature its own character. Nike merchandise is varied and filled with exciting colors, so light sources had to be selected that would distinguish them.”

But that was not the only challenge the lighting designer had to face. “The lighting system also couldn’t offend or intrude on the architecture by being different in each zone or retail area,” Harwood explained. “But it had to be adjustable enough to create an appropriate mood in individual areas.”

BASIC & BEYOND

The basic lighting system developed by Harwood contains two parts.

The first is a rectangular slot fixture chosen to house three lamps. In the center of each slot is a 100W full-spectrum-rendering white sodium lamp. On either side of that source are smaller, adjustable fixtures housing 50-75W PAR lamps. Using the slot approach was a way to organize the focusable sources, which can be adjusted from the retail floor with a pole developed specially for that purpose. This system provides general illumination in trafficways and browsing areas.

Within each retail area, a second system used to highlight merchandise consists of a lamp housed at one end of a custom-designed, portable metal arm. The lamp in the arm can be focused to create the appropriate image for each retail area, whether for golf and tennis gear or equipment for rugged or extreme sports. The demountability of the arms allows them to be removed or added as merchandise displays change. “The arms unclick and you unplug it and move it,” explained Harwood. “If you want to highlight a graphic instead of merchandise, you can refocus the source or take some of the monopoints away.”



PHOTOGRAPHY BY HEDRICH BLESSING

THE EXTERIOR OF NIKETown IN MIDTOWN MANHATTAN (ABOVE) REMAINS TRUE TO ITS EARLY 20TH-CENTURY DESIGN, WHILE THE INTERIOR (OPPOSITE) REFLECTS A MORE CONTEMPORARY APPROACH—A BLENDING OF THE RETAIL GIANT’S IMAGE OF SPORTS HERITAGE AND PRODUCT INNOVATION.

Beyond these systems, other lighting elements have been added as needed to complement the architecture or interior design. For example, in the arcade showcasing footwear (see cover photo), the shapely, blue, translucent plexiglass columns are backlit with fluorescents. Midway up each column, shoes are highlighted with MR16 and PAR sources concealed in the top of the displays. The passageway is topped with a translucent ceiling also backlit with fluorescents.

Nike’s modern, futuristic image is reflected in the use of some sleek stainless steel surfaces. Beyond the colonnade showcasing shoes is the “Running” display wrapped in brushed stainless steel. Harwood never shies away from dealing with reflective surfaces and has spotlighted the stainless steel facade. Said Harwood, “When you skew light across stainless steel, it picks up the brush strokes and as you move toward it, it’s like a moray-patterned, moving piece of art,” said Harwood.

PRESERVING INTEGRITY

Although the top floor of NikeTown also offers customers apparel and equipment, it has a completely different interior than the rest of the store. This space borrows its design from the building’s early 20th-century history. The wood slat ceiling and structural wood beams are vestiges from that time. To maintain the integrity of the space, no recessed downlights pierce the ceiling. Instead, 1920s-style



industrial incandescent pendants are suspended over the central areas of the space. And in gracious contrast, delicate halogen lamps perch on thin wire cables throughout the space. It appears as if the area was “moved into” without extensive renovation—which was exactly the intention of the design team.

The lighting for this complex store was designed in phases. Some of the basic elements of the systems were developed in the concept stage; others, particularly those for individual displays, were developed during the construction document phase and on-site.

Every 15 minutes in the store’s central, open atrium, the interior changes from a retail space to an inspirational/educational story-telling space. A screen descends over the front arched window and atrium skylight and the interior lighting is dimmed and short Nike films are presented to customers.

The lighting and audio-visual systems are controlled by a computer system located in a control room in the

NikeTown building. When an a/v program is run in a retail space, the lighting is preprogrammed to dim for easier customer viewing. Each retail zone has its lighting programmed to its own appropriate level. A touch screen interfaces on all floors and with the manager’s office to allow all lighting systems to be adjusted for special events, or maintenance and cleaning modes.

Though Harwood’s experience as a lighting consultant includes working with a wide range of applications, he has a solid history of developing successful environments for well-known retailers. His experience also shows in the attention his firm pays to maintenance. “Our office has an 800 number that the store staff can call for technical and service information,” Harwood noted. An operational manual and lamping guide containing exploded views of each fixture and how the lamps fit into them are also prepared and given to the appropriate retail staff. In addition, at least one day of training was given to the store manager, assistant manager and maintenance staff. ■

sidelights

KEYS TO SUCCESSFUL RETAIL LIGHTING

Ron Harwood, a veteran of retail lighting, defines the challenges retail lighting offers and provides advice on how to cope successfully with them.

• *Devise lighting systems versatile enough to serve the store long term.* "Competition has quadrupled," said Harwood. "Retail stores need to distinguish themselves more than ever because there are so many options for how and where consumers can shop today. There's only so much discounting that can attract customers."

Thanks to developments in technology, the wealth of theatrical effects achievable with light can complement the trend in retail to make shopping an entertaining experience. But do you always need moving lights to grab attention? "Moving lights have their place," Harwood explained, "and you must handle them right. They are 'show biz' one day, and paint and paint brush that creates a more artistic effect the next." The availability of flexible and focusable fixtures is great for retail. It's all part of the entertainment that brings the consumer to the store. But at the same time, you need to create a system that will permit a durable, flexible reimagining without having to refit the fixtures when the merchandise is changed or the store interior needs to be

freshened. "The tools are there," Harwood said. "You need to figure out what to use for the long run that will serve the store not just for today, but over the next year or more."

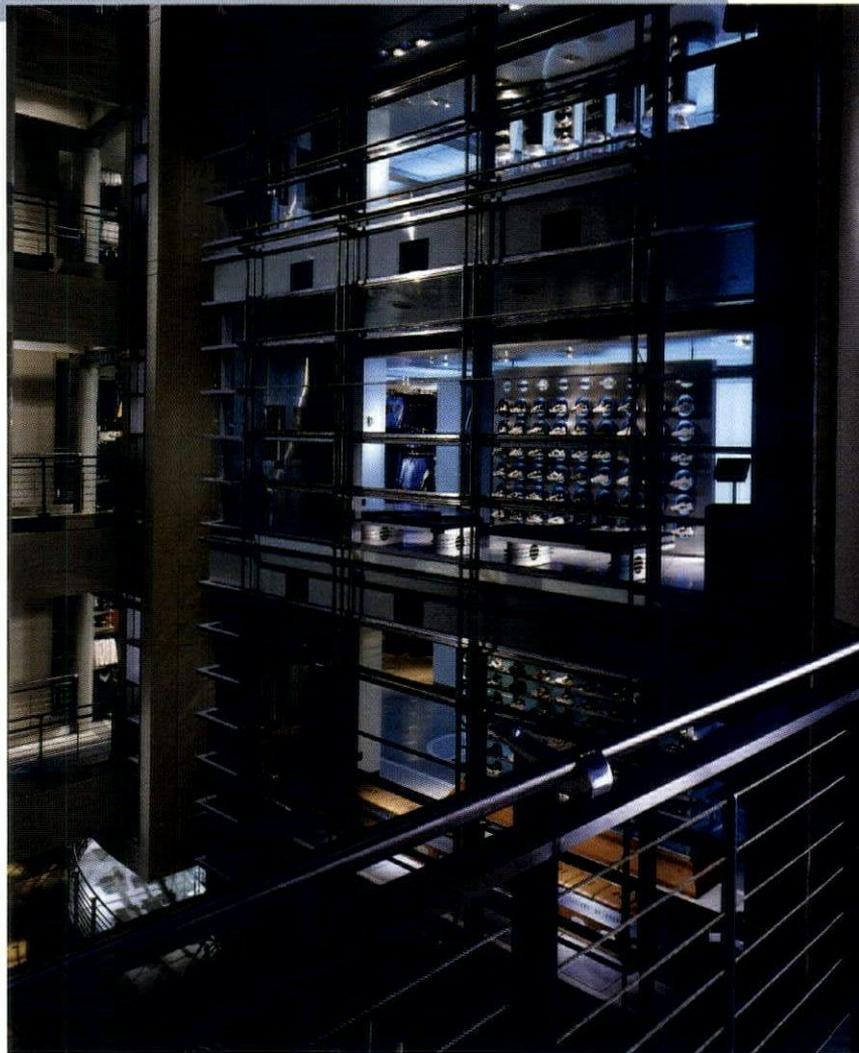
• *Design sells. Integrate the lighting system into the image the store projects.* "Think through where you need ambient and focused light," Harwood said. "Figure out what scenes your viewer needs to see. This concept is part of branding." Branding involves expressing an image or concept so distinctly and tangibly that it can be used to extend the kinds of merchandise marketed. Lighting, with its ability to increase or diminish visual importance by highlighting or casting shadow, needs skillful planning in order to interpret correctly the objects to be sold as well as the image to be merchandised.

• *Once you've decided on the effects, carefully choose how to mount the lighting system.* "In some retail installations, it is appropriate to allow the fixtures to show. High-tech looking fixtures, for example, may complement the high-tech interior design of the store," Harwood noted. "However, there are also a lot of retail spaces in which fixtures and equipment should be concealed or unobtrusive. To figure this out is a difficult challenge." It's a challenge that makes retail lighting one of the most creative opportunities for lighting consultants to explore today.

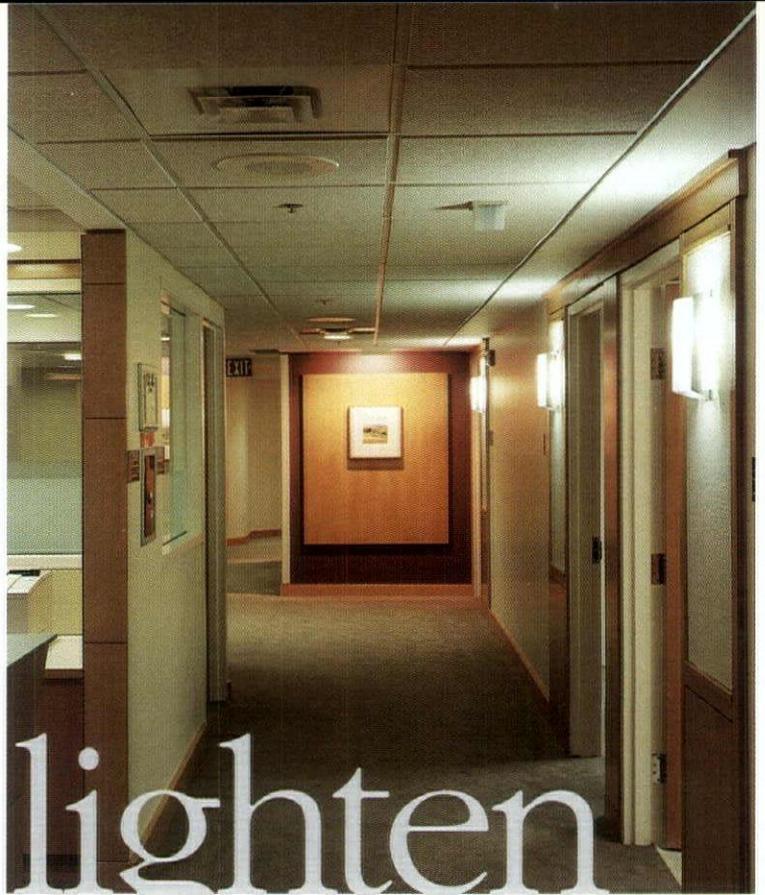
DETAILS

- **PROJECT** NikeTown New York
- **LOCATION** New York, NY
- **INTERIOR DESIGNERS**
John Hoke, Nike Design
Director
- **LIGHTING CONSULTANT**
Ron Harwood,
Illuminating Concepts
- **PHOTOGRAPHER**
Hedrich Blessing
- **LIGHTING MANUFACTURERS**
Zumtobel; Capri; Philips; ETC;
Kramer Lights; Bruck
Cable Lights

THOUGH MANY OF THE RETAIL FLOORS OF NIKE TOWN ARE SLEEK AND MODERN (RIGHT), THE DESIGNERS CHOSE TO PRESERVE THE HISTORIC SETTING ON THE TOP FLOOR (LEFT). INDUSTRIAL INCANDESCENT PENDANTS, CHARACTERISTIC OF A 1920S STYLE, PROVIDE ILLUMINATION AND PAY HOMAGE TO THE BUILDING'S HISTORY.



UNLIKE THE COLD, IMPERSONAL DESIGNS TYPICAL OF SO MANY HEALTHCARE CENTERS, THE THOUGHTFUL INTEGRATION OF CAREFULLY CHOSEN LIGHT FIXTURES AT THIS BOSTON FACILITY GOES A LONG WAY TO CREATE AN OTHERWISE COMFORTABLE ATMOSPHERE THAT, FOR CANCER PATIENTS, JUST MAY



lighten the load

BY JEAN GORMAN, CONTRIBUTING EDITOR

From the reception areas to the patient rooms, it's easy to see how the Women's Cancer Treatment Center in Boston is conducive to healing. Unlike the cold, sterile, equipment-filled spaces that characterize many medical facilities, the atmosphere here is instead warm, inviting and almost residential. The spaces are imbued with soothing wood finishes, comfortable furnishings

and soft, mostly indirect, light.

Indeed, the subtle, unobtrusive lighting design developed by Syska & Hennessy, Inc., was readily received by the client, who "was willing to go the extra mile and wanted to make the environment as comfortable as possible," said Mary Ann Hay, Syska Hennessy's director of lighting design. "The center is set up for research and ongoing treatment of cancer patients and the ultimate goal was to create a relaxing environment for these patients and their families."

The artful integration of light in the Treatment Center, which was constructed in only four months' time and completed last November, is the result of an auspicious collaboration among the lighting designers, the architects of Bullfinch Richardson & Abbott, the interior design team of Rothman Partners, and several of the center's medical professionals, who played an active role in reviewing the concept and selecting the fixtures. While creating a soothing environment was essential to the client, so was choosing light sources and fixtures that would serve the needs of the medical professionals. In addition, they had to be energy-efficient and easy to maintain. To meet all of these requests, about 90 percent of the sources the lighting designers chose are fluorescent, with



incandescent sources selectively used only for special features. Yet it is how the designers employed these sources that establishes the tranquil tone in the Treatment Center, which occupies 60,000 sq. ft. on three floors of the renovated Dana Farber Cancer Research Institute building.

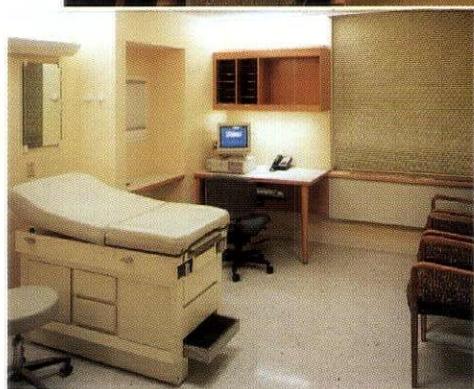
CHANNELED ENERGY

According to Hay, they chose to minimize the use of ceiling light sources, and instead, strategically integrated a combination of compact-fluorescent and T8 linear fluorescent sources in recessed niches and channels in the millwork, thus producing an essentially indirect lighting scheme. This approach also allowed the designers to solve the problem of an oppressive floor-to-floor height of only 9 ft.: concealed sources in coves at the top of the beech-wood paneled walls psychologically raise the height of the ceiling. The effects of this strategy are first seen in the main and supporting reception areas on each floor. Concealed fluorescents, with a color temperature of 3000K, high-light pockets of the beech-wood walls and bounce off the ceiling to provide ambient illumination, while only a few compact fluorescent downlights, shielded with cross baffles to reduce surface brightness, follow the contours of the reception desks and provide focused illumination at the transaction areas.

Nearby, etched art glass panels separate the reception areas from the waiting areas for the families of patients. Only these panels, and the artwork placed at the ends of corridors leading to the patient exam rooms, are grazed by the light of adjustable PAR 20 halogens, which are recessed within the ceiling. Otherwise, compact fluorescents are used in table lamps and wall washers in the waiting areas, and in sconces positioned at the entries to the exam rooms in the corridors of the patient areas.

LINEAR THINKING

The predominant use of indirect light was carried through to the exam rooms, which required an intricate layering and sensitive integration of illumination. "It was especially important to minimize the ceiling downlights in the patient care areas," said Hay. "When patients are lying on tables or are sitting in reclining chairs in an infusion suite, they are looking at the ceiling. We used indirect sources to keep their experience as comfortable as possible." Linear fluorescents are concealed within a wall-mounted fixture and above the millwork cabinet. When the patient enters the



A MINIMUM OF DOWNLIGHTS IN THE CEILING AND RECESSED COVE LIGHTING CREATE A SOOTHING RESIDENTIAL ATMOSPHERE IN THE RECEPTION AREA (OPPOSITE, BOTTOM). INDIRECT ILLUMINATION PREDOMINATES IN THE EXAM ROOMS (LEFT). AN OVERHEAD LIGHT IS TURNED ON ONLY DURING AN EXAMINATION. THE CORRIDORS (OPPOSITE, TOP AND ABOVE) ARE LIGHTED IN A SUBDUED FASHION.

room and is waiting for the medical professional, only the indirect lighting is turned on. The task light is turned on by the medical professional if necessary. A 2x2 exam light overhead is turned on only during an examination. This light is composed of T8 fluorescents, covered by a milk-white opal acrylic lens mounted flush with the ceiling plane.

Several systems of exam lights were mocked up and reviewed by both medical professionals and patients. Overwhelmingly, the opal lens 2x2 system was chosen as the most effective source of illumination for the staff and the softest light for the patient.

An on-site boutique offering accessories needed by patients undergoing treatment was designed to evoke the image of an upscale shop, while providing a compassionate atmosphere for patients enduring the side effects of the medical treatment. The lighting designers responded by using a minimum of recessed, adjustable halogens along with a series of flexible, low-voltage MR16 accent lights suspended from a cable aimed only at the merchandise. The lighting in the boutique, as in the other areas of the facility, sensitively address the needs of patients on a challenging road toward healing. ■

DETAILS

PROJECT

Women's Cancer Research Center

CLIENT Dana Farber Partners

LIGHTING DESIGNER

Syska & Hennessy—Mary Ann Hay, director of lighting design; Bill Kuchler, senior lighting designer

SCHEMATIC DESIGN PARTICIPATION Lam Partners

ARCHITECT Shepley Bullfinch Richardson & Abbott

INTERIOR DESIGNER

Rothman Partners

ENGINEERING

Syska & Hennessy

PHOTOGRAPHER Zbig Jedrus

LIGHTING MANUFACTURERS

Baldinger (elevator lobby pendants); Boyd Lighting (corridor wall sconces); Reggiani (recessed adjustable PAR 20 accent lights); Linear Lighting (exam room uplights); Lightolier (compact fluorescent downlights and wall washers); Bruck (cable-track system)

Image Conscious

BY CHRISTINA TRAUTHWEIN, EDITOR-IN-CHIEF

THE LIGHTING DESIGN OF THIS FILM-INDUSTRY FACILITY IS PARTICULARLY SENSITIVE TO THE SPECIFIC NEEDS OF ITS EMPLOYEES WHILE CASTING SPECIAL EFFECTS ON THE RICH ARCHITECTURAL DETAILS

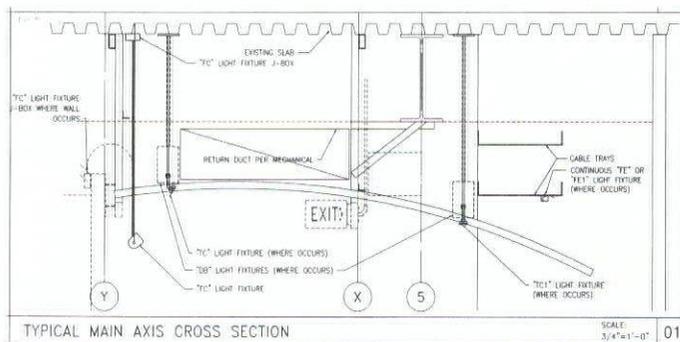
Setting a scene is an important part of any production. And lighting plays a critical role in achieving the right balance between aesthetics and function. At Sony Imageworks in Culver City, CA, a facility where highly sophisticated computer special effects for the motion picture industry are created, the award-winning lighting design, directed by Lighting Design Alliance, carefully integrates the equipment into the architecture while meeting necessary criteria such as variable light levels, color temperature requirements, budget and codes specific to California.

The Title 24 energy code has strict requirements for office spaces. As a result, fluorescent sources with electronic ballasts were utilized wherever possible. Vertical triple-tube compact fluorescent cylinder downlights are concealed between ceiling arches to raise light levels on horizontal surfaces. Furthermore, all suspended fixtures had to be properly attached to the structure per local earthquake codes (they must be able to swing a total of 45 degrees) and carefully coordinated with the HVAC ductwork and electrical cable trays above the wood arches.

Adherence to stringent parameters, however, did not mean sacrificing on design. The lighting designer used techniques of lighting wall and ceiling surfaces to emphasize the architecture in very distinctive ways. "Early in the conceptual design phase of this project it became very apparent that

this would be an appropriate philosophy in the lighting of the unusual architectural elements planned for these spaces," said Andrew Powell, Lighting Design Alliance.

"There are so many great design elements and architectural features in this space such as curvilinear forms, fabric ceilings in open office spaces and suspended wood arches," Powell added. The lighting is very heavily integrated into these architectural features so as to reveal these surfaces through light. Powell selected sources and color temperatures that were flattering to the particular feature he was lighting, and carefully concealed the fixtures that light the horizontal workplanes.



PHOTOGRAPHY BY HEDRICH BLESSING

MAIN ATTRACTION

Suspended wooden arched structures in the main corridor of the space are lighted from one side by warm-tone (3000K) compact fluorescent uplights suspended by custom pendants integrated into the metal stanchions. Opposite walls are washed with continuous linear fluorescent wall washers concealed above the edge of the wood arches. Low-voltage MR16 accent lights highlight color poster artwork. These fixtures are powered by a low-voltage cable system held in tension by custom metal brackets integrated into the metal stanchions.

There were specific color requirements for light sources in the adjoining open office spaces where computer-generated special effects are created. "Lighting is critical to those working on the computer graphics," said

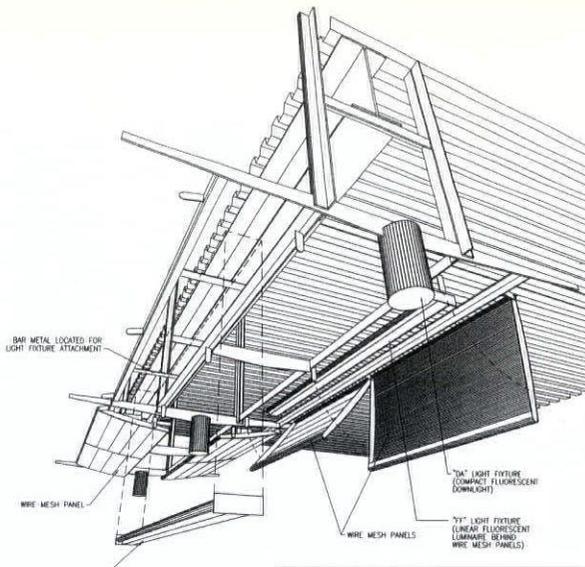
Powell. "The original intention was to use very-high-color-rendering (CRI>95) 5500K T10 lamps." For cost reasons, however, Powell opted for T8 lamps with a color temperature of 5000K and CRI of 85—a decision that proved acceptable to all involved. "Not only were the lamps less expensive, but we could then utilize standard fixtures and ballasts."

He added, "We all have to deal with value engineering on projects. This project was no exception." The interior

design team spared no expense on certain details and finishes in this project, according to Powell, but in turn, there were some compromises that had to be made. One of the ways the architect was able to keep many of the custom detailed elements was to strip them out of the first floor, used mainly for administrative functions, but leave them on the other two floors. "What results is a 'typical' office space with lay-in grid ceilings and parabolic troffers on the first level," said Powell.

INDIRECT APPROACH

Since the users of the office space will spend all of their time in front of computers, the lighting designer chose an indirect lighting system for maximum visual comfort. A ceiling plane, fabricated from suspended fabric, graces the open office areas. Partition-mounted fixtures indirectly light the tensile fabric ceiling; custom brackets were designed with the furniture manufacturer to mount the indirect units. A perforated aluminum reflector on the sides of the fixture add some sparkle, and complement the high-tech look of the space. Since the computer graphics artists like to work in relatively low light conditions, these two-lamp fixtures are dual-switched for variable light levels. "This



WOODEN ARCHES IN THE MAIN HALL (OPPOSITE) ARE LIGHTED BY COMPACT FLUORESCENTS. A FURNITURE-INTEGRATED INDIRECT LIGHTING SYSTEM IS USED IN OPEN OFFICE AREAS (LEFT). MR16 UP/DOWNLIGHTS ARE INTEGRATED INTO THE CENTRAL CEILING "SPINE" IN THE WAITING AREA (RIGHT).

too was a 'value engineering' compromise," noted Powell. "Our original plan was to provide dimming ballasts and dim all of the indirect units."

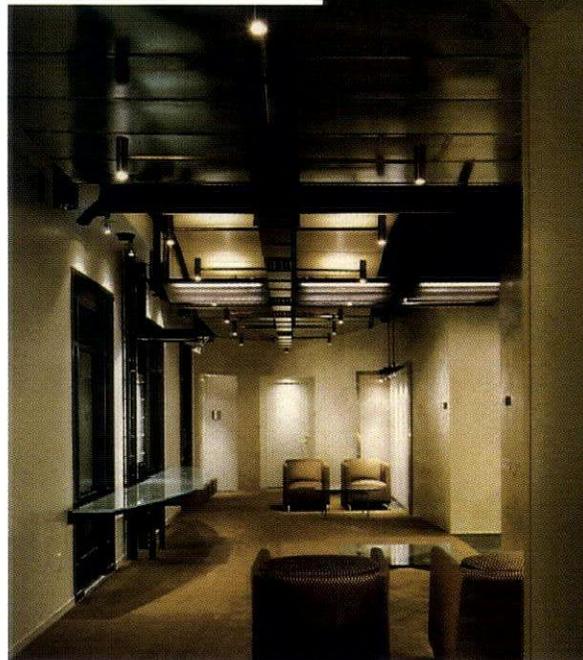
Coordination of the fabric ceiling, furniture and fixture locations was critical not only for lighting, but also to allow proper sight lines to exit signs to meet life safety codes. "The partitions are relatively high," said Powell, "and the fact that we put these continuous fluorescent fixtures atop them increases the height. Visibility from all areas is critical. Consequently, we had to eliminate or relocate some of the fixtures." In addition to 30 fc delivered by the indirect lighting system, task fixtures (also fitted with 5000K T8 lamps) were incorporated into the furniture system for added flexibility.

SUPPORTING ROLE

The waiting area consists of MR16 up/downlights with custom-length brackets integrated into the central "spine" of the ceiling system. These downlight the space and accent ceiling elements above. Additional low-voltage accent lights wash vertical surfaces with light.

In secondary corridors, fluorescent strips behind curving wire-mesh panels are all carefully integrated into the custom ceiling treatment. Size and proportion were important considerations when selecting these and the compact fluorescent cylinder downlights so they would fit into the ceiling system.

This project has received a GE Edison Award of Merit, an IES Lumen West Award of Excellence and an IES IIDA Award of Merit.



DETAILS

PROJECT

Sony Imageworks

LOCATION

Culver City, CA

OWNER

Sony Pictures Entertainment—Bob Sirchia, Michael Neilson

ARCHITECT/INTERIOR DESIGNER

Interior Space International (ISI)

LIGHTING DESIGNER

Lighting Design Alliance—

Andrew Powell, Chip Israel

ELECTRICAL ENGINEER

Levin/Seegal Associates—John

Neshek

PHOTOGRAPHER

Hedrich Blessing

LIGHTING

MANUFACTURERS Edison

Price Lighting; Insight;

Zumtobel; Bruck; Juno;

Lightolier; Nightscaping



Garden Variety

A PARK'S STREET LIGHTING POLES, BEDECKED FOR THE HOLIDAYS, ARE TRANSFORMED INTO ABSTRACT "TREES" OF COLOR AND LIGHT, A DISTINCTIVE DEPARTURE FOR DOWNTOWN MANHATTAN

BY WANDA JANKOWSKI, CONTRIBUTING EDITOR

"T aking something that was there and making it more apparent," in the mind of lighting designer Jim Conti, was the basis for the design that transformed Lower Manhattan's Liberty Park Plaza into a "Glowing Topiary Garden" in celebration of the 1997-98 winter holiday season. The project began when the Alliance for Downtown New York commissioned Kenneth Smith, landscape architect and Jim Conti to create a holiday scheme for the block-long Liberty Plaza Park. The outdoor artwork was to be on view for six weeks. Though Conti had created artworks utilizing projections, it was not feasible to go that route due to the site—subject to signifi-

cant wind gusts from the nearby Hudson River—and budget limitations.

Instead, the inspirations for combining a Japanese garden with a hint of a French topiary came from two different key factors. First, across the street from Liberty Park Plaza at 150 Broadway stands a sleek Noguchi cube sculpture, and so the idea of transforming the light poles into Japanese lanterns to relate it in spirit to its artistic neighbor took shape. Next, Smith examined the site plan and discovered that there had at one time been a central lighting pole in the park and that by reinstating a central element, a kind of topiary garden arrangement of forms could be created.

TAKING SHAPE

Since the light poles could not be removed, the idea of using them as the basis for illuminated abstract cones would render a fresh and more universal holiday statement in this melting-pot city of many faiths and nationalities than the traditional Christmas tree with twinkle lights. Sixteen-foot-tall translucent fabric cones shaped by metal frames with base diameters of 8 ft. were placed over the park's existing mercury vapor light poles. A larger 24-ft.-tall cone with a 12-ft.-diameter base was placed in the park's center.

An awning company, GT Custom, chosen by Smith and Conti, fashioned the aluminum tubing framework for the cones and the six-paneled fabric covering made of vinyl-coated polyester. Originally, the cones were intended to have a shiny exterior; however, Conti and Smith turned the fabric inside-out so that the matte side was revealed to echo the look of a paper Japanese lantern.

The 16-ft. cones were illuminated with two lighting systems. First, a custom-designed metal shield was attached to the 250W clear mercury vapor light sources to prevent the pole lighting from washing out the colored light sources installed at the base of the cones.

The second lighting system consisted of three wet-location, two-lamp fluorescent fixtures with a cold weather ballast—one fixture behind every other fabric panel—supported on a tripod structure. Each fixture housed

3000K 40W rapid-start fluorescents fitted with color gels. Fluorescents facing west glowed amber; those facing southeast, yellow; and those facing northeast, lavender.

The 24-ft. center cone does not have a pole in its center, but glows a deep red violet. In addition to color-filtered fluorescent tubes at the base, special tubes were filled with miniature Christmas lights and also fitted with color filters to create a chevron pattern of pulsating light that resembled a geometric garland. The system was powered from outlets at the poles' bases. The park owner, World Financial Properties, helped with the installation.

Though the cones and lights are stationary, an animation of sorts is provided by the pedestrians themselves. As they walk through the park and alter their points of view, they experience changes in color from east to west, north to south. Time of day also affects the color perceptions of on-lookers. "Sunrise and sunset are most interesting," Conti explained. "At dusk, the tops of the cones look green. At sunset, the color bases become more apparent and the top appears more white."

The exotic beauty of these large urban lanterns comes in part from their creating an atypical low-contrast nighttime environment. "Most night environments have a high contrast and are stimulating," Conti explained. "Building floodlighting or roadway lighting keeps you alert and makes the pupil of your eye work as it adjusts. Here, because it's low contrast, it's relaxing inside the 'garden' with the softly lit cones. The pupil of the eye doesn't have to adapt as much."

DETAILS

- **PROJECT**
Glowing Topiary Garden
- **LOCATION** New York City
- **CLIENT AND SPONSOR**
The Alliance for Downtown New York
- **OWNER** (of Liberty Park Plaza) World Financial Properties
- **LANDSCAPE ARCHITECT**
Kenneth Smith
- **LIGHTING DESIGNER**
Jim Conti
- **PHOTOGRAPHER**
John Back
- **LIGHTING MANUFACTURERS** Legion; Osram Sylvania; Brooklyn Brackets; GT Custom

LIBERTY BELLS

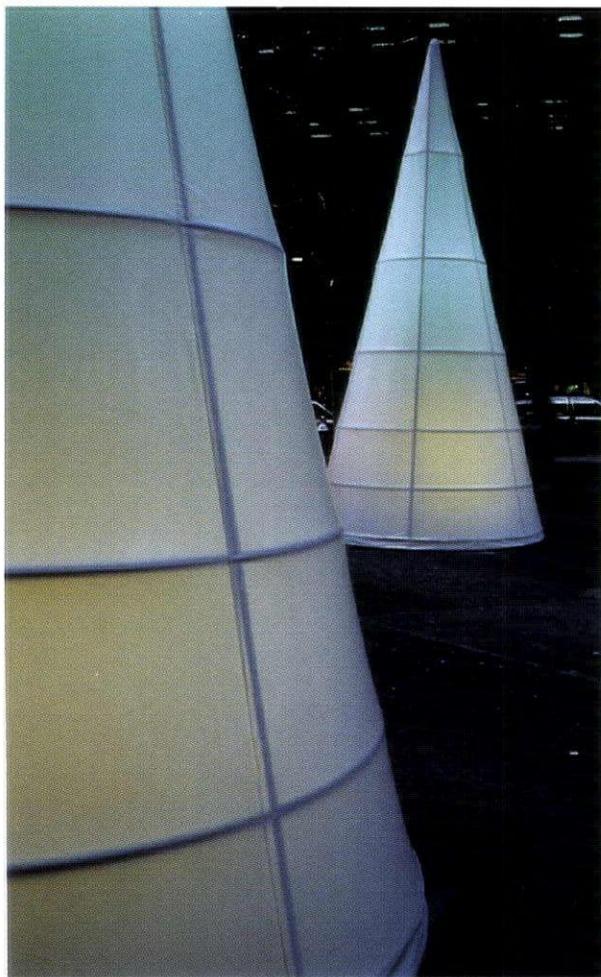
In addition to the visual artwork, there is also an audio accompaniment. Conti assembled bell sounds from all parts of the world. Each of the eight cones that circled the center cone played four one-minute soundbytes for a total of 32 minutes. In addition, three wind chimes were mounted in each tree, totaling over 200. "The lower frequency sound coming from the cones and the higher frequency sounds coming from the trees made for an interesting and layered audio relationships," said Conti.

Conti watched pedestrians' reactions to the environment. "People slowed down noticeably," said Conti. "The park became like a room—a defined space."

The Glowing Topiary Garden was the single largest environmental art project ever planned for downtown Manhattan and the largest lighted art installation in New York City. The topiary was fabricated and installed in less than six weeks. It was on display 24 hours daily from December 15 through January 31, 1998.

This larger-than-life-size artwork will be displayed for two more years during the holiday season. Each year, the center cone will be a different color, and the audio arrangement will be revamped. ■

THIS ENVIRONMENTAL ART INSTALLATION, THE GLOWING TOPIARY GARDEN, BRIGHTENED UP DOWNTOWN NEW YORK CITY DURING THE 1997 HOLIDAY SEASON. TRANSLUCENT "TOPIARY" CONES WITH BASE DIAMETERS OF 8 FT. AND HEIGHTS OF 16 FT. WERE ILLUMINATED TO CREATE A FESTIVE ATMOSPHERE IN LIBERTY PARK PLAZA.



PHOTOGRAPHY BY JOHN BACK

Rooms with a View



PHOTO COURTESY OF OJ. PAUL GETTY TRUST

**CALIFORNIA'S NEW GETTY MUSEUM DEFINES BEAUTY, BOTH CREATED
AND NATURAL, AS VISITORS ARE EQUALLY AWED BY FINE ART
AND SPECTACULAR SURROUNDINGS**

BY JEAN GORMAN, CONTRIBUTING EDITOR

“Part of the wisdom of this design,” said Paul Marantz, “is that it is derived from the early Getty Villa in Malibu, which was modeled on the Villa dei Papiri in Herculaneum, Italy.” The design he is referring to is the new Getty Museum designed by Richard Meier and completed late last year. One of the joys of that site, he musingly pointed out, is that you can walk inside the Villa and then outside again at various points along the way, wandering through dimly lit galleries and absorbing the subtleties of fine art one moment, then emerging into bright sunlight and taking in the stunning views of the surrounding Southern California landscape the next. This calculated procession, which allows one to leisurely move from areas of enclosed introspection to platforms offering unbounded, expansive views, is recreated in the new Getty museum.

Composed of five separate pavilions linked by glass-walled bridges, the museum is part of the billion-dollar, multi-facility Getty Center complex located on a 110-acre site in the mountains north of Santa Monica. “Some people come to the site just to take in the views of the mountains, the Pacific, and the coastline,” said Marantz. Yet, he submitted, this stimulating yin-yang passage from light to dark “can also be awfully difficult on the eyes.” In fact it was one of many dilemmas in the lighting of the museum that he was asked to resolve.

A principal of Fisher Marantz Renfro Stone, the lighting design firm responsible for the lighting throughout the Getty Center complex, Marantz has worked on some 30 museums throughout the world, including two others designed by Meier, the Barcelona Museum of Modern Art and The Museum of Television and Radio in Beverly Hills.

Before designing the Getty Museum, Meier and the Getty Center’s director John Walsh visited virtually every museum in the world built within the past 20 years.

NATURAL WONDER

The primary model for the lighting of the Getty Museum galleries was Sir John Soane’s Dulwich Picture Gallery south of London, which predates electric light, but like many of the Getty galleries, is rectilinear hipped-roofed and lighted from above with natural light. Meier wanted visitors to be able to see the blue Southern California sky overhead from within the galleries, and Walsh was adamant about illuminating the museum’s collection of mostly 14th- through 19th-century classical paintings in the same

light in which they were seen when they were painted: daylight. The insistence on illuminating the galleries with daylight, however, conflicted with a fundamental tenet of contemporary museum lighting from a conservator’s point of view: that the ultra-violet rays and variation of sunlight are damaging to fragile works of art. Confounding these aesthetic and technical concerns were a number of legal, economic and logistical issues that would necessarily affect the choices of light sources the lighting designers could make.

Key among these, said lighting designer and project manager Scott Hershman, were the long throw distances from the tops of the skylight-topped, double-height galleries to the picture plane near the ground; the impending passage of the EPACT legislation, which would limit the entry of inefficient lamps into this country, including a common museum light source, the 150W PAR 38; and California’s strict Title 24 energy code. One final factor influencing the lighting design, said Hershman, was the fact that the “client had the budget and the desire to develop what was needed and not settle for less.” Ultimately, the lighting designers arrived at solutions that have set new standards for museum lighting and enabled new fixtures to be produced, which are now publicly available on the market.

Their response to the issue of transitioning from extremely bright conditions outdoors to the lower light levels in the galleries was straightforward. “One of the great rules of museum design,” said Marantz, “is to

THE GETTY MUSEUM (OPPOSITE) CONSISTS OF FIVE PAVILIONS LINKED BY GLASS BRIDGES AND HOUSING A SUITE OF GALLERIES. IN THE UPPER-LEVEL GALLERIES (RIGHT), DAYLIGHT IS THE PRIMARY SOURCE OF ILLUMINATION. IT IS CONTROLLED BY OPERABLE LOUVERS ABOVE A SKYLIGHT. A SERIES OF HALOGEN FIXTURES IN A RECESSED CHANNEL AROUND THE SKYLIGHT PROVIDE ILLUMINATION AT NIGHT AND IN INCLEMENT WEATHER.

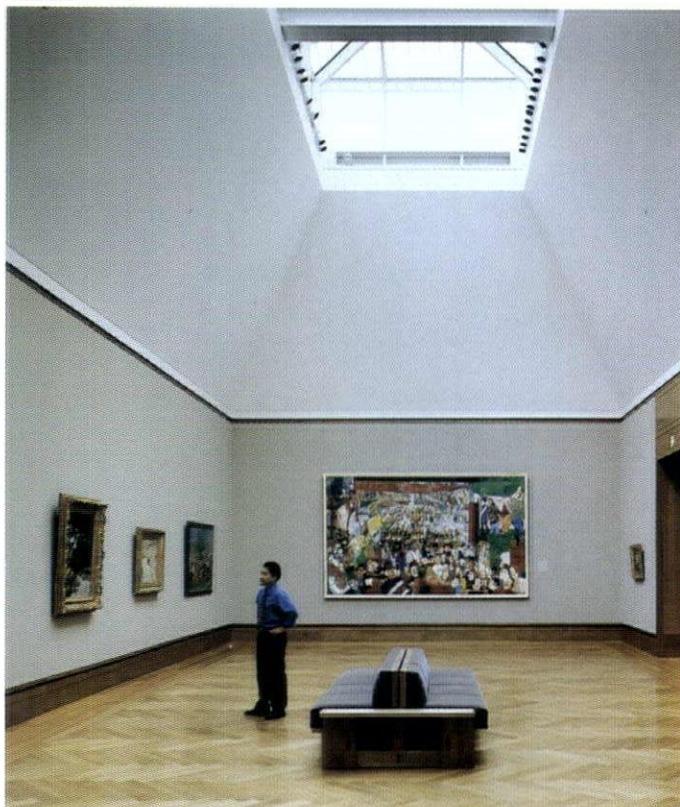


PHOTO COURTESY OF ©J. PAUL GETTY TRUST



create a space just inside the museum with a level of light that modulates between that of the bright light outdoors and the lower levels in the galleries, giving your eyes a chance to adjust to the very different conditions." In the transition spaces at the Getty pavilions, the lighting designers used a combination of halogen downlights and shaded walls of glass.

UNDER CONTROL

The illumination of the two-story galleries, on the other hand, required much more thought. "In most museums you have mostly electrical lighting, supplemented by daylight," said Hershman. "In the Getty Museum, it's the other way around." To create these conditions on the upper levels of the galleries, the lighting designers developed a system of operable louvers to control the daylight, coupled with two circuits of low-voltage 100W quartz lamps, one with blue-filtered lamps to match the daylight and the other

with unfiltered lamps. (Daylight is not permitted in the lower-level galleries, where the extremely fragile art work is shown; there the lighting designers used 45W-90W PAR38 accent lights.) The louvers are positioned above glass skylights mounted on the roof above the galleries. Daylight enters through the skylights, which are gray-tinted and only 35 percent transmissive into the upper-level galleries, while "the louvers keep the sun out at all times," said Marantz, "never allowing more than 30 fc and never less than 12.5 fc of light in the galleries."

Controlled by a series of exterior photocells, which measure the level of ambient light and override the preset levels if necessary, the louvers are linked to a computer program that changes every two weeks with the seasonal movement of the sun through the sky. To enable the louvers to move to positions with a precise degree of accuracy, the lighting designers worked with different manufacturers to refine the connection between the digital control system and the analog louver system. "We needed the louvers to move to positions that were accurate to within 0.5 of a degree," said Hershman. "The initial installation was accurate to

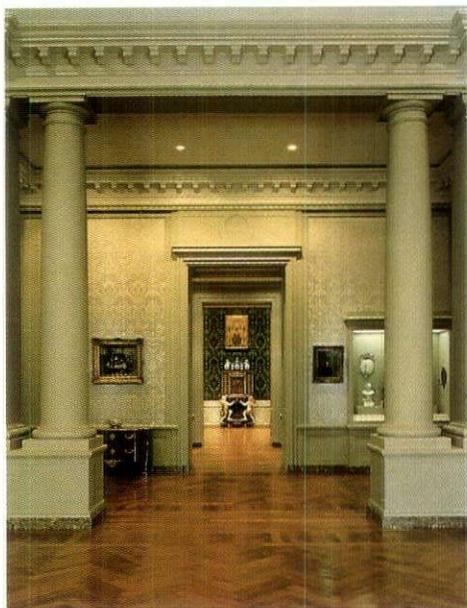
within a range of plus or minus three degrees." The louvers can rotate from the closed position oriented toward the northern hemisphere to 135 degrees, opening toward the southern hemisphere to block the light of summer afternoon sun as it makes its arc through the sky.

The low-voltage 100W quartz lamps, the source the designers chose as the mainstay of scheme, are mounted out of the range of view in a channel around the perimeter of the skylight and are turned on only in inclement weather and at night. Working with Edison Price Lighting, the lighting designers developed a fixture for these sources that meets three requirements specific to this application. It locks down positively in a pan and tilt position, allowing for relamping without the need to refocus; it can be equipped with a wide range of spread lenses (the lamps must throw beams distances of between 8-40 ft.); and it incorporates a three-position switch, allowing the lamp to operate at full voltage or at 11.2V, which enables the light output to be reduced to 80 percent without a shift in color temperature and eliminates the need for neutral-density filters.

Connected to a dimming system and dimmed as a function of their operation, the lamps all work on a soft start, fading on over the course of several minutes. "The lamps are controlled to go on slowly, silently," said Marantz, "so the public is almost never aware of the light changing." Indeed, given the fact that there is "no fixed cushion of electric light, and everything is variable," said Marantz, the consistency in the level of light the designers were able to achieve with the operable louvers is remarkable. Yet, as finely tuned as the system is, Marantz acknowledged that there is a point each day when sunlight does enter the galleries as the louvers flip over to face the opposite hemisphere as the sun travels through the sky. "At that point, the sunlight comes in for a moment," he said, "and that moment is quite magical." ■

DETAILS

- **PROJECT** The Getty Center
- **LOCATION** Los Angeles
- **CLIENT** The J. Paul Getty Trust
- **ARCHITECT** Richard Meier & Partners
- **INTERIOR DESIGNER** The Office of Thierry Despont, Ltd. (decorative arts galleries/gallery design consultant)
- **LIGHTING DESIGNER** Fisher Marantz Renfro Stone, Inc.
- **ENGINEERS** Robert Englekirk Consulting Structural (structural); Alrieri Sebor Wieber, Hayakawa Associates (mechanical/electrical); B&E Engineers, RBA Partners, Inc. (civil)
- **GENERAL CONTRACTOR** Dinwiddie Construction Company
- **PHOTOGRAPHER** Scott Frances/Esto (Provided courtesy of J. Paul Getty Trust and Edison Price Lighting)
- **LIGHTING MANUFACTURERS** C/S Group (operable louvers); Lutron (dimming controls); Edison Price Lighting (track and track fixtures); Zumtobel/Staff, Prudential, Lightolier (interior fixtures); Bega/US (exterior fixtures); Lithonia (exits)
- **GLASS MANUFACTURERS** Viracon; Hehr, Downer, Sumiglas; Dlubak; GlassTech; UltraGlas; Architectural Glass Design; Skylights O'Keefe's, Inc.



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Viva Las Vegas!

Lightfair '98 is right around the corner. The country's largest architectural and commercial lighting trade show and conference heads west where more than 12,000 architects, engineers and design professionals will gather at the Las Vegas Convention Center, May 27-29. In its ninth year, Lightfair will feature the newest products and latest technology in addition to seminars in six tracks: entertainment architecture; design applications; research & technology; energy & facilities; design process & specification; and lighting cultures (see page 34 in this issue for schedule). In

addition to the more than 350 exhibits and educational presentations, there are a variety of awards ceremonies and association events.

Architectural Lighting highlights some of the scheduled events and previews some of the special features planned for this year's show. For more information on any of the following events, call (800) 856-0327/(972) 620-3036 or visit Lightfair's new website at www.lightfair.com. Information about attending, exhibiting, conference program workshops and seminars, travel, current exhibitors, special events, registration and more is included.



TUESDAY, MAY 26

The following workshops are authorized for the **CEU/Learning Units** indicated in accordance with guidelines set forth by the AIA, ASID, IIDA, IESNA and the NCQLP. Many national, state and local licensing boards and professional organizations may grant Continuing Education Credit for attendance at the workshops and/or seminars when course outline and proof of attendance is submitted. Contact your own board or organization to find out what is required. Each workshop is scheduled to begin at 9 am.

- "The Quality of the Visual Environment"
- "The Mock-Up Workshop"
- "Successful Applications of Lighting Controls: Principles from Field Research"
- "Fiber Optics Workshop: Design, Installation and New Techniques"
- "Painting with Light: Lighting Design Techniques for Residential Spaces"

New for 1998

Sponsored by *Architectural Lighting* magazine and inter.Light, **www.lightfair.com Cafe** will feature the Lightfair International, inter.Light (www.light-link.com) and Lighting Design Forum (www.qualitylight.com) websites. Come visit the Cafe in the exhibit hall and enjoy some complimentary espresso and biscotti while navigating the sites.

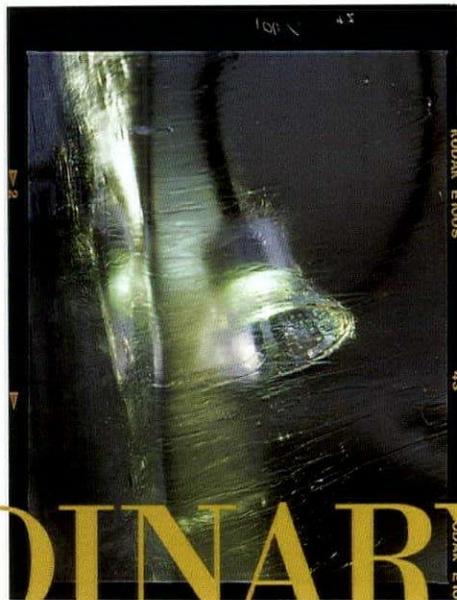
Gain firsthand knowledge of professional lighting certification and network with colleagues at the first annual **NCQLP LC Breakfast** on Thursday, May 28 at 7 am at the Las Vegas Hilton. President Gary Gordon and directors of the NCQLP Board will recognize the 1998 LC class (see page 26 for the list). Examination chair, Fred Oberkircher, and Test Committee chair, Jim Benya, will provide a report card on the LC examination's first year and outline plans for the 1998 exam.

The **Lighting Industry Resource Council (LIRC) Luncheon** will be held on Friday, May 29, 12:15-1:45 pm. This informal meeting is open to all attendees to learn more about the LIRC and IALD adjunct for manufacturers. The presentation will include updates on current activities, future plans and a panel discussion with members of both the IALD and LIRC on specification integrity.

(Continued on page 68)

the Ordinary

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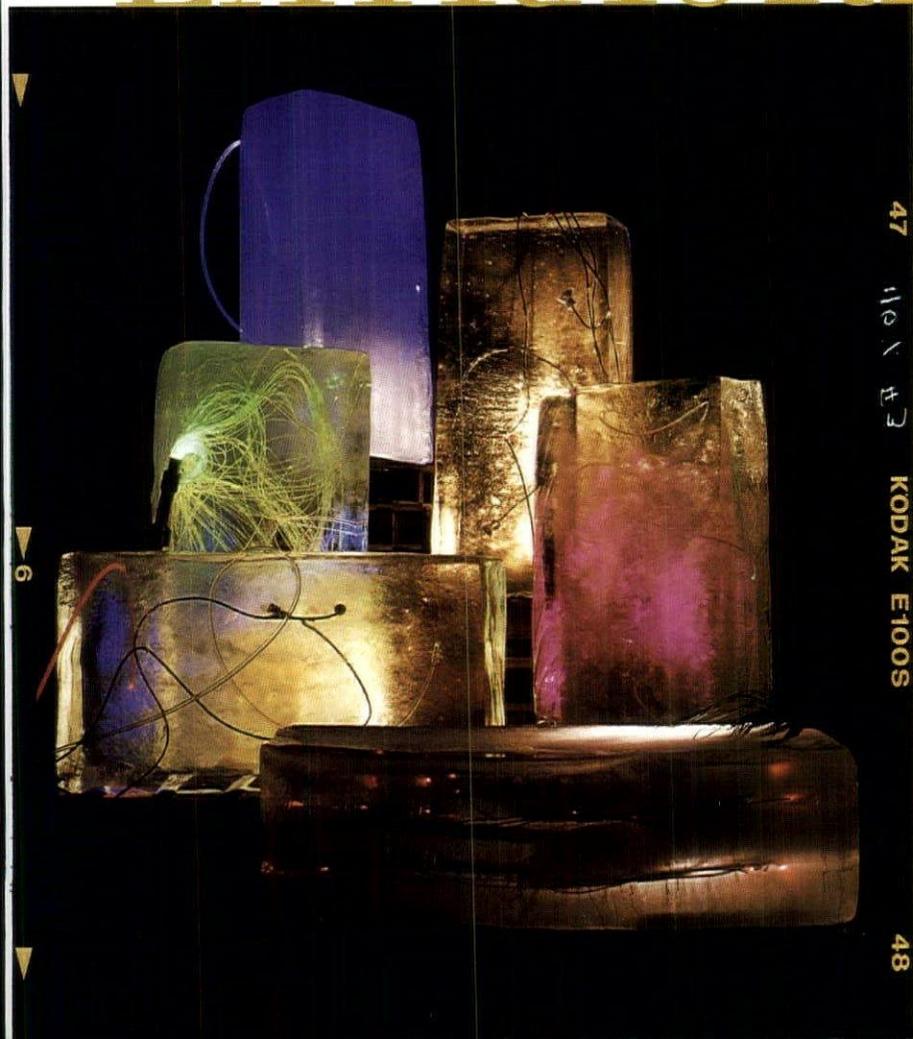
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(Continued from page 66)

WEDNESDAY, MAY 27

The latest in new product development will be presented at the **New Product Showcase**, sponsored by *Architectural Lighting* magazine and *inter.Light*, from 8:30-10 am. This multimedia presentation kicks off the 1998 show by presenting manufacturers' products introduced in the past year, as well as live product demonstrations. Planned to present this year are James Sultan, IESNA, James Benya, PE, CLEP, IALD, FIESNA and Andre Tammes, IALD. A jury of lighting professionals will present the Best New Product of the Year award, along with Best Technical Innovation, Most Innovative Component and Best Product in Category awards to manufacturers whose product entries meet and exceed the challenges of the marketplace. The jury will consist of Larry French, IALD; Donald Newquist, IESNA; Roger Smith, IESNA; and Pamela Hull Wilson, IALD.

At the **Nuckolls Fund for Lighting Education Luncheon and Seminar**, 12:15-1:45 pm, Jeffrey Milham will announce the recipient of the 1998 grant, increased this year to \$20,000, as well as officially announce major new funding for the endowment to support a second award in memory of Edison Price. A seminar, "The Changes Ahead in Lighting Education" will follow. Fran Kellogg Smith discusses the impact of the NCQLP and how design professionals can influence the process.

An evening at **Cirque du Soleil's Mystere**, 7:30-9:30 pm at Treasure Island Hotel at The Mirage, is a theatrical extravaganza by the world-famous performance troupe. The show combines choreography, lighting, music and spectacular acrobatic feats to thrill and amaze.

THURSDAY, MAY 28

At the **Designers Lighting Forum Awards Luncheon**, 12:15-1:45 pm, DLF organizations from across the country will meet to exchange ideas on programs, educational outreaches and fundraising, and will honor the lifetime achievements of Lesley Wheel.

FRIDAY, MAY 29

The IESNA International Illumination Design Awards (IIDA) Breakfast, 7 am, will provide information on submitting lighting design projects to the IIDA program of the IESNA. Criteria and guidelines will be addressed, and past winners will be presented.

IALD AWARDS DINNER

A special event of note is the 15th annual IALD Lighting Awards presentation, cosponsored by the International Association of Lighting Designers (IALD) and *Architectural Lighting* magazine. This year's winner, among 87 entries, will be awarded on Thursday, May 28 at Caesars Palace. Tickets are \$100 (members) and \$120 (non-members) and can be purchased through Lightfair registration.

Judging for the IALD awards was held on March 6 at the Museum of Modern Art in New York City. Respected professionals from the architecture and lighting design communities judged the entries on their aesthetic and technical merits. Complete coverage of the winning submissions will be covered in the July/August issue of *Architectural Lighting*.

Mark your calendars for future Lightfair shows: Moscone Center, San Francisco, May 11-13, 1999; Javits Convention Center, New York City, May 9-11, 2000.

Extra Time?

To find out about Vegas fun, check out www.lasvegas24hours.com, or call the Las Vegas Entertainment Guide at (702) 225-5554.

For questions about anything Vegas, including where to dine, call the Las Vegas Convention and Visitors Authority at (702) 892-0711.

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During your stay in Vegas for Lightfair, take time out to visit some Vegas hot spots with interesting and often innovative lighting designs. Following is just a sampling of some of the work that's been done in America's "City of Lights." So, before you check out, check some of these out...

bright lights

LIGHT YEARS AHEAD

Designing an environment for **Star Trek: The Experience** demanded an extensive application of theatrical technique and conventional sources carefully concealed in the surrounding architecture. Ease of maintenance and budget constraints were balanced against the demand for authenticity and high levels of expectation generated by such a globally recognizable property. The architects, Solberg & Lowe, made every effort to design flowing, stylized architecture that concealed lighting and other practical needs of the facility while creating a fully immersive environment for the guests. The interior designers, Landmark Entertainment, emphasized curving shapes and metallic finishes in the production style of the many *Star Trek* films and television series.

The entry of the attraction, located at the Las Vegas Hilton, is marked by a 25-ft. scale model of the original *Enterprise*. Fluorescent, low-voltage halogen and neon sources provide an electric palette of colors, "float" the ceiling and emphasize the three-story height of the opening. The exterior of the *Enterprise* and other models are lighted entirely with recessed framing projectors hidden in the ceiling above and in the buttress and railings below the ships.

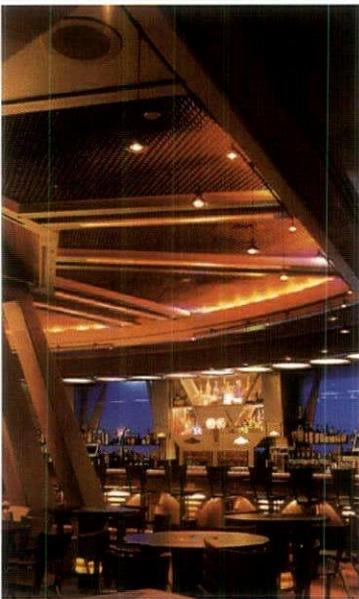
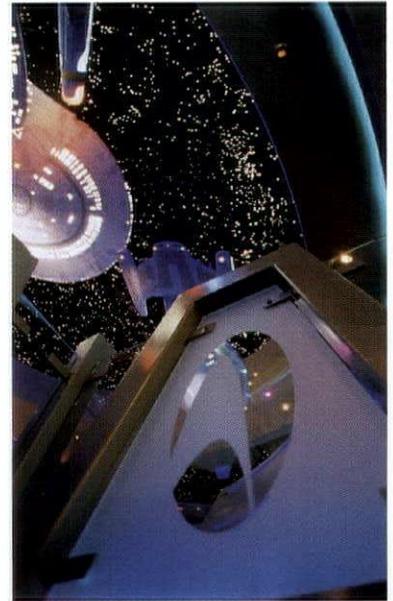
The ship's bridge is lighted with more than 200 dimmable T8 lamps mounted on the ceiling approximately 3 ft. above the acrylic panels. The challenge in this space was to recreate the authenticity of the original TV set using only architectural sources in a tightly confined space. Two colors of neon are used in the coves; flow neon creates a "warping" star effect in the ceiling; and fluorescent lamps behind the wall panels emphasize the range of color in the graphics.

As guests exit from a considerably smaller show space to the Grand Corridor, fiber-optic starfields, UV effects projectors and miniature moving lights establish a mood of tension and danger. Neon and linear low-voltage festoon lighting accentuate the height of the corridor, scenic arches and wall treatments. Sandblasted glass, mounted in wall partitions separating the restaurant from the circulation areas, is uplighted with a slowly rotating palette of cool colors using fiber-optic endpoint fixtures hidden behind a polished metal extrusion at the base of the glass—creating a rippling wave of light that surrounds the restaurant and draws attention to the etched logo design. Bands of neon mounted below and in the surface of the railing above provide cool indirect lighting.

Quark's Bar, designed in the style of the TV setting, creates a warm, active atmosphere. Carefully hidden MR11 lamps with dichroic filters create a blaze of saturated colors on the ceiling and decorative track lighting on thin metal rails suspended below provides additional lighting above the tables. The soffit over the bar was built around multiple 24-in.-diameter round fluorescent fixtures, each provided with a white grill diffuser on the inside to direct the light down at the bar top and reduce horizontal glare. The contrast of color between these two areas is

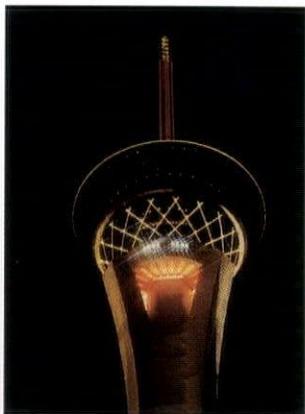
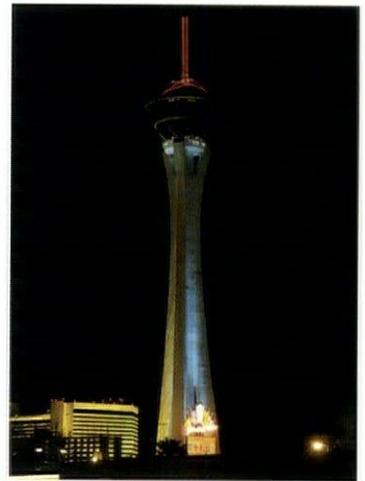
emphasized with lighting to create two different atmospheres. A glass dance floor in the center of the room is uplighted with color fluorescents, and decorative rods are uplighted with MR16 well lights hidden in the mounting bases. Electric blue plasma neon plates in the walls over the dining booths add excitement, and close ceiling-mount fixtures provide a soft white glow.

Lighting Designer: Ted Ferreira, City Design Group



big city

DESERT STRANDS



Stratosphere Tower is a 1,149-ft. towering structure housing a theme park with two thrill rides, a revolving restaurant, cocktail lounge, indoor and outdoor observation decks and wedding chapels. The tallest structure west of the Mississippi, the tower is topped by a 12-story pod.

Viewed as a “diamond in the desert,” by lighting designer John Levy, the pod’s exterior lighting is a criss-cross of one-and-a-half miles of fiber-optic cable with lights that change through eight different colors. The pod appears to rotate as a result of the chasing and pulsating effect. The facets of the diamond shimmer with 54 strobe lights, one at each intersection of the fiber crisscross.

Above the pod, 88,000 2.5W LED bulbs line the High Roller roller coaster’s tracks and 200-ft. Big Shot mast. Fiber-optic cable outlines the framework of the 50-ft. needle at the tower’s top while the tower’s legs are illuminated with fifteen 7000W xenon fixtures fitted with custom color changers which bathe the legs in continuously changing hues. The light performance program may be viewed throughout Las Vegas Valley. The entire lighting program is operated by a lighting control system that runs as many as 300 effects simultaneously.

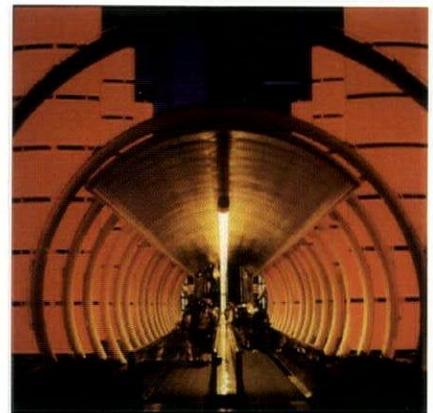
Lighting Designer: John Levy Lighting Productions

A LITTLE NIGHT MUSIC

A 600-ft.-long colonnade of 28 illuminated vertical pylons alternating with huge Canary Palms line **Bally’s Plaza**. Together with the interaction of underwater lights, fountain jets and an original sound score, this nighttime spectacle becomes a showcase of light and sound drawing crowds to the casino’s entrance.



Ranging in height from 18-38 ft., the glowing pylons flank a neon-lit, spiral walkway that leads to the casino. Constructed of perforated metal backed by an opal acrylic sheet, the pylons house 15mm neon tubes running top to bottom, spaced 6 in. apart, divided by a deeper reveal housing MR11 spots fitted with red lenses. The tubes are red,



blue and green so that cross fading between them creates a wide range of colors. These pylons run a continuous, slow color change, except during the seven-minute shows, when they change according to the beat of the music. In addition, a top cap in the pylons contains four 1000W PAR lamps, two strobes and a moving light which is also choreographed to the music. The pylons are divided vertically into 4 ft. modules and each color within each model is separately controlled to allow the

color to chase vertically and horizontally along the walkway or across the entry arc.

A spiral “slinky” outlined in the three-color neon appears to circle the elevated people-mover, adding another whimsical element to the landscape. The slinky supports a translucent sun screen that also houses a 6-in.-diameter continuous fluorescent light tube. The custom tube incorporates a suspended speaker every 8 ft., which pipes out the music of the show. At night, the translucent screen is lighted above using the PARs on the pylons so that the guests pass under a continually changing ceiling linked to the music. ■

Lighting Designer: John Levy Lighting Productions

Great Expectations

CONSTRUCTION SPENDING HIT NEW LEVELS, ECONOMIC FORECASTS ARE GOOD. HERE'S AN OUTLOOK FOR EACH OF THE MARKET SEGMENTS AND SOME IDEAS ON WHAT END-USERS IN EACH SECTOR WANT FROM THE LIGHTING PROFESSIONAL.

The U.S. forecast for new construction and refurbishment projects looks better and better as the year develops. But before principals leap ahead to expand, they must first ask themselves where the markets may be and, what do they want? Every lighting specifier, at one time or another, has wanted to understand customers better—to get inside the head of a client, or prospective client, and find out just what is important to them.

Interviewing a select group of end-users, facility managers and project architects is hardly a scientific survey. But it can provide some food for thought, and perhaps an inside track on a future project. Total construction spending hit new record levels of activity in 1997 and forecasts are optimistic. Expansion is expected in the office, hotel and educational sectors. A U.S. economic slowdown, rising interest rates and fallout from the Asian economic plight, as of this writing, have not materialized. No recession is currently forecast. (Source: Portland Cement Association Economic Research Department.)

OFFICE

Lower vacancy rates and high rents are sure signs of growth in the office market sector, both from corporate expansion and speculative development. 1997 culminated a three-year boom in new construction and modernization of office properties, and various sources predict continuing record growth or, at worst, a leveling off.

Several managers of office properties, including David Dinsfriend, director of project management for Prudential Insurance Company of America, and John W. Thompson, assistant VP at CIGNA,

have worked with lighting designers to assemble a standardized office lighting solution, and today only seek lighting consultants for "special use" spaces. A lobby, cafeteria or training center, representing a small percentage of floor space, might merit a consultant's fee as well as higher costs for light fixtures and energy consumption.

Mary Beard More, facilities manager for Humana/Employers Health Insurance, was recently involved in construction of a new facility. "We did talk to the lighting consultant relative to general office lighting as far as lifecycle costing. Then we were looking at a training center, and in that instance, we definitely needed a lighting consultant." More expressed a non-sense design strategy, focusing on practical, pleasant lighting: "Practicality, functionality, common sense; no dramatics. I know that's difficult for people who are creative."

Currently developing a new facility for Sendant Mortgage, Director of Administration Patrick Cummings is working with a lighting consultant to look primarily at total cost of ownership. Appropriate lighting for employees and energy-saving controls are priorities. Sendant's teleservice employees are mostly women and many work odd hours, so Cummings is focusing strongly on parking lot and site lighting for security.

Even after working for years with a consultants, facilities personnel all seem to be from Missouri. "Show me" is their motto: multiple mock-ups, tours of sites using a recommended lighting strategy, system comparison calculations, renderings, fixture alternatives or sometimes all of the above.

"Once the consultant completes their design we ask them to sit with us and

(Continued on page 74)



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(Continued from page 72)

explain exactly what it is they've created, the effect that they'll create and how they're doing it—to make sure we know what we're going to get," said Thompson. He said that this process is necessary, especially "if and when the time comes" to cut lighting costs. "Lighting is one of the most important considerations or elements of the entire design," he added. "Your success is contingent upon a successful lighting system."

RETAIL

New retail construction has been flat in recent history. With the advance of big-box retail, some forecasters fear that overbuilding already exists. But with modernization efforts at double the dollars spent and still growing, the outlook isn't entirely bleak as long as retail sales and consumer confidence remain high. According to the National Retail Federation, a number of major retailers continue to build new stores, remodel old ones and close others.

Low capital costs in lighting seem to be a priority among several retailers. Many chains, in cooperation with manufacturers, distributors and sometimes a lighting consultant, have developed a standardized lighting package that achieves set objectives. James C. Noack, AIA, senior manager of architectural design at Pier 1 Imports, and Laura Harsch, construction manager at This End Up, both seemed knowledgeable about the lighting issues affecting sales of home furnishings. Both try to create a residential feel while highlighting merchandise through warm fluorescent ambient and incandescent spotlighting.

Noack seemed very mindful of energy efficiency: Strategies developed to conform to Title 24 in California stores

An informal survey on lighting issues, sent to 500 facilities management professionals on lighting issues, was conducted by *Architectural Lighting* in 1997, and received a 20 percent response rate. These individuals, who collectively manage millions of square feet, shared their opinions, past experience and future plans.

Ease of maintenance and energy efficiency, logically, scored high in the 32 respondents' list of priorities. But quality lighting issues, including aesthetics and enhancing worker productivity, scored as high or even higher. Denoting an increasing trend, 67 percent of respondents indicated that they place a higher emphasis on quality lighting today than they did five years ago.

The majority said they are willing to spend money on premium products and design services to help them attain their stated goals, whether it be to reduce glare in VDTs, conserve energy or create a pleasing atmosphere. Sixty-five percent indicated that they would be contracting with a lighting specialist within the next two years to assist in renovation or new construction work. Two thirds of respondents said that they did not have a lighting specialist on staff.

are now being implemented throughout the chain. Maintenance is also an issue in that it's performed by retail personnel. Interestingly, Pier 1 regularly uses a T8 wall washer manufactured specifically for the chain.

Harsch has worked closely with an architect and a manufacturer to develop lighting strategies for This End Up, used mostly in new construction. "We try to cut corners on large-quantity fixtures. But we are willing to spend extra money on the specialty fixtures [decorative sconces or pendants] that really give a flavor to the store and add to our image," she said.

HOTEL/MOTEL

The boom in the hotel business should continue through 1998, which means more renovation work for architects, interior designers, and lighting designers. Hoteliers generally renovate guest rooms every five years, and other guest spaces every decade or so. A slump in the early '90s forced many properties to delay renovations, which are now being initiated. Mergers and acquisitions also play a role as new owners often impose stricter standards demanded by chains.

Lighting standards can vary from

minimum requirements concerning light levels and color to exact replicas of prototype designs. Holiday Inns exhibit a trend-setting concern for conservation of natural resources in their newer standards and policies. Holiday Hospitality, which franchises Holiday Inns, and its European parent company Bass PLC, have adopted environmental responsibility as more than just a public relations boost; it's company policy.

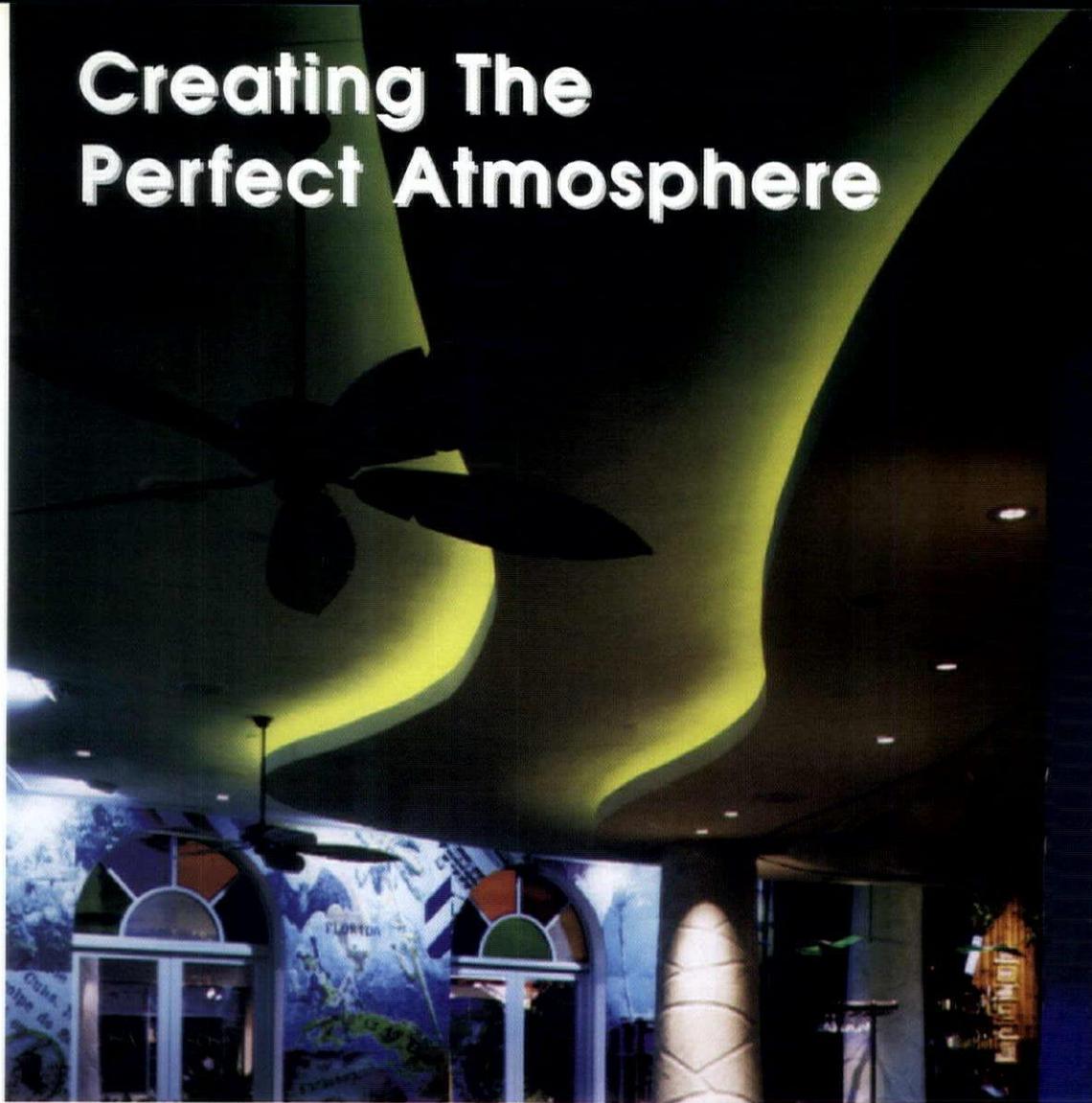
"Energy efficiency is something we're trying to focus on right now," said James Gaines, who is manager of environmental purchasing and practices at Holiday Hospitality. Gaines has employed the help of manufacturers and a distributor to develop his written minimum standards. These must be followed by franchisees, their architects, and contractors and enforced by roving teams of quality inspectors.

Extended Stay America deals in 100 percent new construction in a burgeoning niche market. With the help of a manufacturer and distributor, Bill Knetge, director of architecture, developed a prototype for rooms, public areas, site lighting, etc. that is almost completely fluorescent. "We don't redesign it with each project," Knetge said. "We're

(Continued on page 76)

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(Continued from page 74)

looking for a standardized experience for our guests." The use of compact fluorescents has become prevalent in all classes of hotels, with interior fabrics and finishes being selected to marry with specific color temperatures and color rendering characteristics.

PUBLIC BUILDINGS

This final growth segment includes educational institutions, prisons and healthcare facilities. The increase in school construction is driven by the second wave of baby boomers entering the primary schools, according to the Portland Cement Association.

At the University of California, Los Angeles, administrators believe (and surveys show) that students are attracted to a campus's physical environment. Jerry Markham, division manager for facilities design and project management at UCLA, is proud of the cutting-edge renovation work of the architects on his staff, as well as outside architects and lighting consultants.

"What we're trying to do is take a space and make it adaptable for today's needs. And in doing that, existing conditions are often such that we really have to rely on the lighting to pull it off,"

"WHAT WE'RE TRYING TO DO IS TAKE A SPACE AND MAKE IT ADAPTABLE FOR TODAY'S NEEDS. AND IN DOING THAT, WE REALLY HAVE TO RELY ON THE LIGHTING."

— JERRY MARKHAM,
UCLA

Markham said. The demands of modern education and building systems are often difficult to shoehorn into a 50-year-old, architecturally significant building. "We have to not only look at today's technology. We have to consider what will the uses be 20 or 30 years from now," he added.

In local school districts, trends seem to be more conventional, with maintenance a primary concern. New construction allows for a bit more advanced technology, but lighting manufacturers still struggle to get their products onto districts' "approved" lists.

(Continued on page 78)

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(Continued from page 76)

HOUSING & INDUSTRIAL

Housing construction felt a slight dip in 1997, and would bear the brunt of any economic downturn. Housing starts are expected to drop 3.2 percent this year (source: National Association of Home Builders). Multifamily construction may also decrease.

The highest category for which the U.S. Department of Commerce compiles housing starts is \$250,000+. This upper tier is averaging 10 percent of the total, a proportion that fluctuates with changes in economic conditions in high-cost-real estate geographic centers. The NAHB expects very slight improvements

in the residential remodeling sector.

Healthcare and multifamily residential property managers seem willing to tap the creativity and experience of lighting consultants to achieve a cheerful, upscale, and safe ambiance for a rock-bottom lifecycle cost. As these fields become more competitive, owners look for new ways to increase visibility and attract patrons.

The forecast for industrial construction is not exciting: some predict continuing slight decline while others see a slight upsurge, particularly in technological centers. Industrial

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HIGH-TECH
INDUSTRIES SEEM
SLUGGISH IN
ADOPTING ADVANCED
LIGHTING
TECHNOLOGIES AND
PRINCIPLES OF
QUALITY LIGHTING.

facilities, including high-tech industries, seem sluggish in adopting advanced lighting technologies and principles of quality lighting. Many of the engineers responsible for lighting focus on energy efficiency, to the detriment of a pleasant workplace or even task performance.

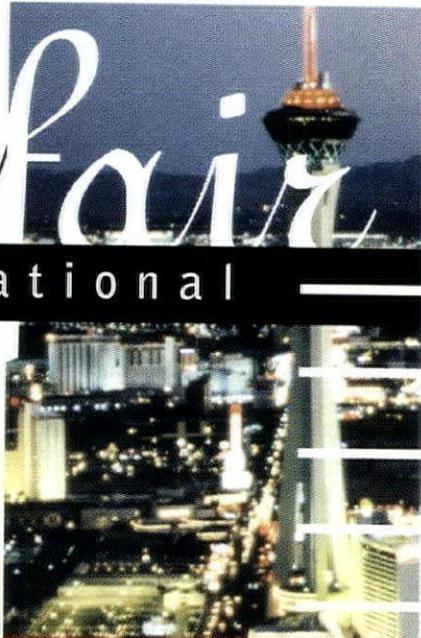
Principal Planner Peter Yee is excited about quality lighting, but cannot seem to overcome the cool-white mentality at Genentech, a biotechnology concern. He feels that architects respond to this mind-set, and consistently propose no-frills lighting schemes. "Somehow you need to reach the owners' reps," Yee advised. "If you can show you can provide value to the owner or to the process, you'll be invited in." ■

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LIRC Follow-up

Both the IALD and its adjunct group, the Lighting Industry Resource Council (LIRC), have continued with the refinement of the Specification Integrity document announced here in *Architectural Lighting* late last year. A joint committee of IALD and LIRC members has brought together perspectives from both designers and manufacturers. In addition to the sidebar

entitled "Actions a Specifier Can Take Prior to Actual Work on a Project," which was featured in the October/November story by Craig DiLouie, the joint committee is in the late development stages of the document's other key components. The interim result of their efforts are the following guidelines, developed to help ensure specification integrity.

These actions, as outlined by the LIRC, help ensure that the lighting designer and manufacturer work as a team—a true partnership—with the manufacturers becoming a valuable resource in the entire process.

"Manufacturers are often called for assistance too late in the game," said Philip Cialdella, regional director of sales for Louis Poulsen and LIRC committee chair for the specification integrity committee. "They should be part of a lighting designer's tool set during specification and construction." He added, "If there was more communication in the process, there would be a higher rate of success in providing what was specified on budget."

Each of these elements is being explored in detail by the committee, with the goal of presenting an overview of the work from this collaboration at the Lightfair luncheon in Las Vegas (see page 66). By working in concert, the lighting designer and lighting manufacturer are seeking to provide specifiers with an understandable set of guidelines maintaining the integrity of their specifications.

"It is hoped that these guidelines will form a framework within which the lighting practitioner can construct a set of fair, defensible specifications that are of benefit to the owner and designer," said Randy Burkett, Randy Burkett Lighting Design, IALD committee chair for specification integrity.

For further information, or to join the LIRC, call Morag Fullilove, IALD executive director, at (312) 527-3677. ■

Actions to take during the project's preliminary design phase:

- Establish a product quality level
- Understand and impact the product's approval process
- Understand and impact the project's financial issues
- Adopt a company policy statement along with procedures for selecting appropriate lighting equipment and the review of substitutions
- Establish accurate budgets for the products being considered

Actions to take during the project's construction document phase:

- Compose a coherent and defensible product specification
- Create supportive product notes
- Create supportive details
- Integrate lighting specifications with Division 16000 including: single name, multi-name, deduct alternates, performance criteria and custom fixtures
- Compose product bid format sheets to assist in fair and equal product assessment
- Work closely with a manufacturer to work out the details of modified or custom products to minimize the wrong product being bid, or that it can be built as specified (include drawings when possible)
- Confirm products that are specified are actually being bid and are in budget

Actions to take during the project's construction phase:

- Establish procedures for shop drawing review and samples
- Establish procedures for dealing with alternates and substitutions
- Assist in product expedition
- Assess and respond to field condition changes
- Respond to specification coordination issues
- Communicate with the manufacturers specified on the project to ensure proper products being bid and supplied



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Let's make things better.

BY BARBARA ERWINE

Daylight. Varying in both intensity and direction over time, changing from a point source to a diffuse source, daylight animates our architecture and challenges the lighting design process. With daylight as the light source, the building itself becomes the light fixture¹; and its design must be scrutinized with the same engineering exactitude bestowed on electric fixtures. Unlike electric fixtures that roll off an assembly line, however, a building is only constructed once, and its light delivery characteristics can't be explored first through a series of prototypes. How then do designers make good daylighting decisions to satisfy the overlapping goals of interesting, balanced luminous environments, adequate ambient light levels, minimization of HVAC loads and integration with electric lighting schemes?

Too often, daylighting decisions are based primarily on two-dimensional drawings of building sections relative to selected solar angles. Using this approach, designers often get into trouble drawing arrows that represent beams of direct sunlight executing specular reflections off a series of diffusing surfaces until they finally reach remote corners of the building—acrobatics that real sunlight could never match. For a more realistic understanding of daylight's dynamics, the design tool kit should include one or more specialized prediction tools—a scale model, computer lighting simulation or full-scale mock-up of the proposed design. A building energy simulation may also be employed to evaluate impacts of daylight on building energy use.

The innovative daylighting design for North Clackamas High School (designed by BOORA Architects in Portland, OR) utilized all four of these tools to inform the design decisions. The design team took an aggressive, energy-conscious approach and endeavored to bring daylight into all areas of the school (see Figure 1). This building provides some insight on how each of these tools proved useful in the daylighting decisions.

COMPUTER SCHEMING

The Lightscape simulation program was the first lighting tool enlisted by the architectural team.

Lightscape uses a radiosity algorithm (with the potential for a ray-tracing post-process to add specular reflections and transparency effects) to calculate light levels and generate photo-realistic images appropriate for client presentations. The architectural team simulated a two-story section of the classroom wing, representing four classrooms and the attached upper and lower corridors. They used the simulations to render the spaces qualitatively and generate quantitative values for both illuminance and luminance levels for several different iterations of the schematic design (see Figure 2).

This schematic work generated a sophisticated daylighting scheme involving sidelit classrooms with lightshelves and a suspended sloped ceiling ("cloud") floating below the exposed structure. A double-loaded toplit corridor connects the classrooms and shares daylight with them through clerestory relites. VisualDOE energy simulations (generated as part of a performance-based fee structure experiment spearheaded by the Rocky Mountain

Institute²) estimated \$50,000 annual energy savings for this initial design.

Institute²) estimated \$50,000 annual energy savings for this initial design.

SCALE MODELS

But constructing a building is still a physical process; and sometimes it helps to get your hands on the shapes and forms that create it. This is especially true during this time of rapidly evolving software when computer simulation tools are not necessarily in the hands of the lead design architect. So during design development, the architectural team chose to simultaneously study a physical scale model.

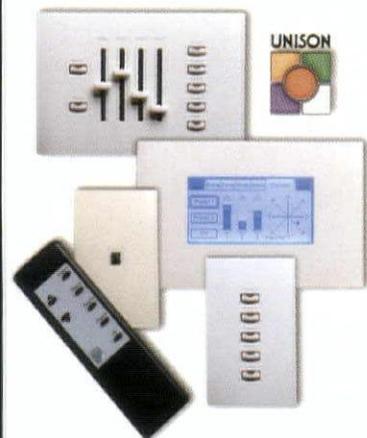
Scale models are favorite tools of architects—quick to construct, easy to modify and a compelling client communication tool. In addition, since daylight is independent of scale, a model with precise geometry and surface reflectances can accurately represent both qualitative and quantitative effects. The scale of these models usually ranges from about $\frac{3}{8}$ in. = 1 ft. to 1 in. = 1 ft. Smaller scales find use early in the design process to access building massing, aperture location and size; larger scales are employed later to fine tune issues of shading, glazing.

(Continued on page 87)

FOR A REALISTIC UNDERSTANDING OF DAYLIGHT'S DYNAMICS, THE DESIGN TOOL KIT SHOULD INCLUDE ONE OR MORE SPECIALIZED PREDICTION TOOLS—A SCALE MODEL, COMPUTER LIGHTING SIMULATION OR FULL-SCALE MOCK-UP OF THE PROPOSED DESIGN.

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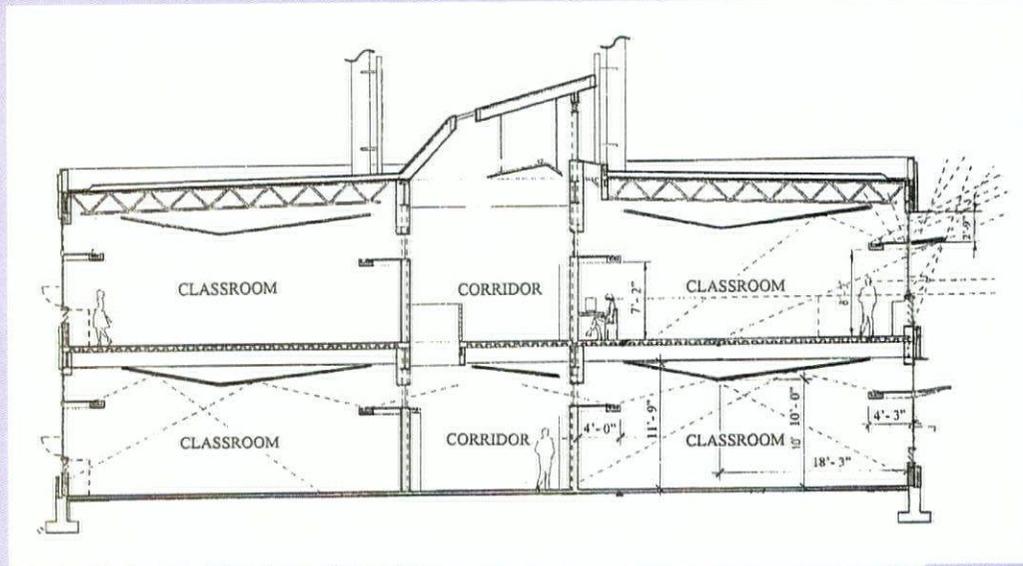


FIGURE 1
SECTIONAL DRAWING OF CLASSROOM WING

THE DAYLIGHTING DESIGN FOR NORTH
CLACKAMAS HIGH SCHOOL UTILIZED FOUR
TOOLS—A SCALE MODEL, COMPUTER LIGHTING

SIMULATION AND FULL-SCALE
MOCK-UP—TO INFORM THE DESIGN
DECISIONS. THE MODEL ($\frac{1}{2}$ IN. = 1 FT.)
WAS CONSTRUCTED TO STUDY THE
CLASSROOM WING. THE DESIGN
TEAM TESTED IT IN THE ARTIFICIAL
SUN AND OVERCAST SKY SIMULATION
ROOM AT THE LIGHTING DESIGN LAB
IN SEATTLE. LIGHT LEVELS WERE
RECORDED AS DAYLIGHT FACTORS
AND QUALITATIVE EFFECTS WERE
DOCUMENTED PHOTOGRAPHICALLY.

FIGURE 3
SCALE MODEL

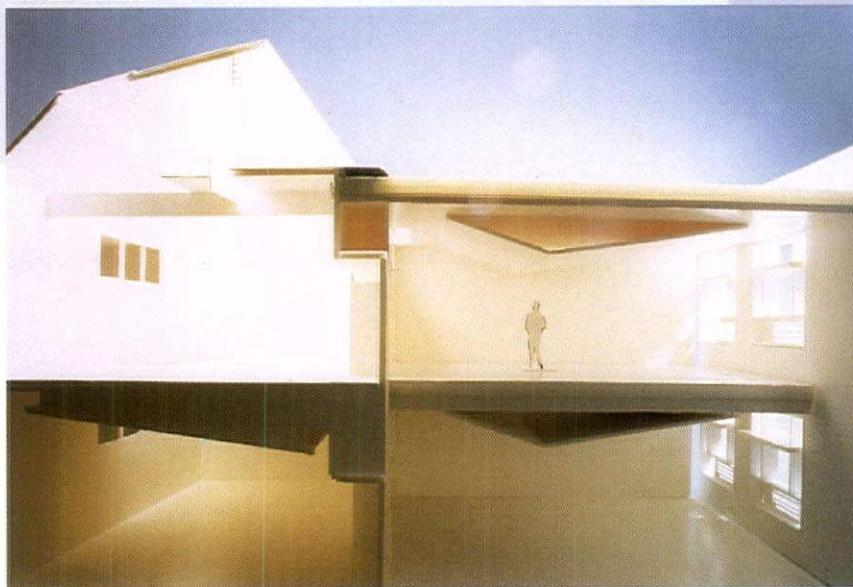
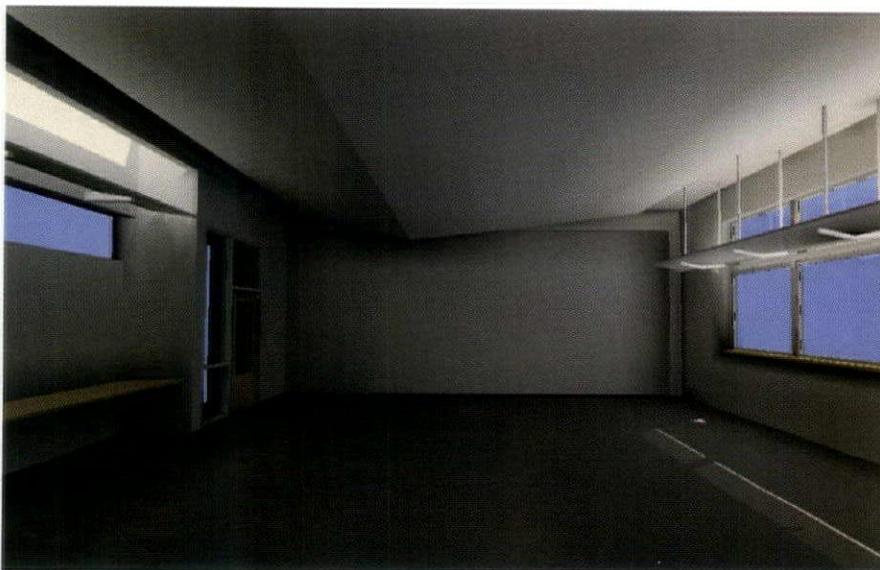


FIGURE 2
 LIGHTSCAPE SIMULATION OF TYPICAL CLASSROOM. CLEAR SKY CONDITION
 SIMULATED FOR SEPTEMBER 1 AT 12 NOON.



(Continued from page 84)

glare, light level distribution and interior furnishings. Differing from presentation models, daylight models are rough working prototypes that are cut, pinned and manipulated to represent various iterations of the design scheme. For convenience and reproducibility, these studies are usually carried out with an artificial electric "sun" or overcast sky simulator (available through several universities and utility conservation programs).

The N. Clackamas High School model (1/2 in. = 1 ft.) was constructed to study the same classroom wing as the Lightscape simulation (see Figure 3). The design team tested it in the artificial sun and overcast sky simulation room available at the Lighting Design Lab in Seattle. Light levels were recorded as daylight factors (ratios of interior to exterior illumination) and qualitative effects were documented photographically. (Some modeling facilities also have capabilities to capture dynamic video sequences of daylight movement throughout a day³, but this was not available at the Lighting Design Lab.) Since the Lightscape software was new to the architectural team, this model was used to verify the Lightscape predictions and to fine-tune decisions about window size and location and decisions about glass transmission in the corridor skylights. It was also invaluable for increasing the client's trust in the design approach.

After testing at the Lab, the model was displayed in the firm's atrium for hands-on experimentation throughout the design process.

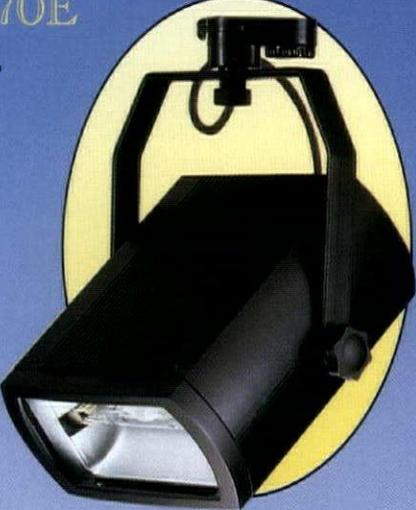
FULL-SCALE MOCK-UP

Few daylighting projects have the luxury of a full scale mock-up, but to explore the integration of daylight and electric light, Portland General Electric (local utility for the Clackamas project) helped to fund the construction of a typical classroom in the Lighting Design Lab's Mock-up Facility. This facility consists of a 40 ft. x 30 ft. room with two moveable ceilings that can be raised or lowered to match the proposed space. It also has a south-facing window wall with a series of black-out shades to adapt window size for

the space being simulated. The classroom was constructed in a 30 ft.-5 in. by 26 ft. space under one of the moveable ceilings. The suspended "cloud" ceiling was simulated with white "black-out" fabric stretched over a wood frame (see Figure 4).

(Continued on page 88)

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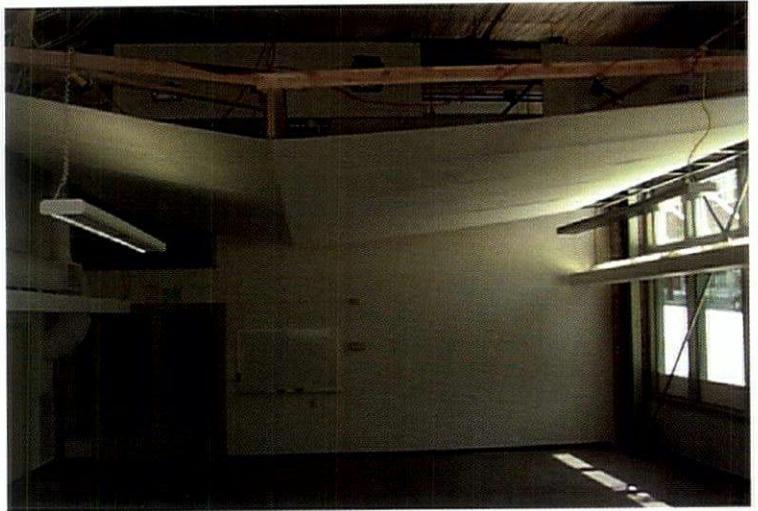


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FIGURE 4
VIEW INTO FULL-SCALE MOCK-UP WITH
END WALL REMOVED. CLEAR SKY,
DIRECT SUN CONDITIONS.

(Continued from page 87)

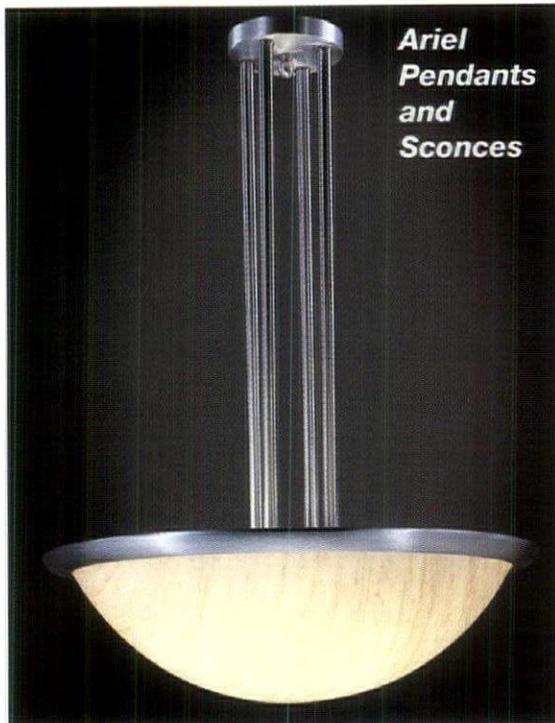
Two electric lighting scenarios were mocked-up: 1) pendants suspended beneath the cloud and 2) indirect light covers mounted in the lightshelves. The mock-up proved to be the compelling tool that crystallized the design approach for architect, lighting designer and client. The lighting designer commented, "Scaled models and computer models help immensely; to experience a full scale mock-up, however, is to experience the actual space." The client representative said, "This is the first district project where we have considered something more than the most basic design. The small models helped us to understand the theory of how daylight would work. It was very easy to see, but I was skeptical until I saw the full scale in Seattle." Experiencing the classroom mock-up, the evaluation team quickly devel-



oped a preference for the perimeter light cove scenario. But they also observed that this approach had problems creating even illumination across the ceiling plane. When cove fixtures were tilted to eliminate glare, luminance levels dropped significantly at the low part of the ceiling. This identified the next challenge for the lighting designer and opportunities for a future mock-up.

The mock-up also helped the team evaluate light

(Continued on page 90)



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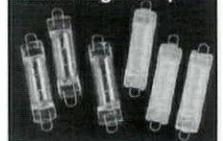
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² Hubbard, G., "Performance-Based Fee Contracts: Doing it Right the First Time," *Solar Today*, January/February 1997.

³ Navvab, M., "Scale Model Photometry Techniques Under Simulated Sky Conditions," *Journal of the IES*, Summer 1996.

Barbara Erwine is with the Daylighting & Controls Department at the Lighting Design Lab in Seattle.

(Continued from page 88)

levels. With no daylight, the indirect electric scheme provided 30-35 fc at desk height. The client had earlier been skeptical of levels this low, but agreed readily that it was a "very comfortable" and sufficient level when they experienced it in a balanced luminous environment. In addition, the mock-up spawned discussions of design details such as overlap between the cloud and the lightshelf, window glare on computer screens and integrated lighting controls.

WHICH TOOL IS BEST?

The VisualDOE simulation gave valuable feedback on energy costs and balances but gave no qualitative feel to the space. The Lightscape simulation generated simultaneous qualitative and quantitative information for both electric light and daylight. But it required a large time investment because of the learning curve, and did not fully give the design team the feeling of being inside the space. The scale model, judged by this design team to be the best overall daylighting tool, was less expensive to create. But it gave no electric lighting information and quantitative measurements necessitated travel to Seattle for stable "artificial" sky conditions. The full scale mock-up was the most expensive, suffered quantitative inaccuracies because of uncontrollable exterior site conditions (landscaping and buildings exterior to the mock-up room) and again necessitated travel to Seattle. But it was priceless in quickly bringing the group to a design consensus and was pivotal in garnering the confidence of the client.

Which tool is best? That will vary with the project and the nature of the design decisions to be answered. One member of the architectural team described the process as moving from the abstract to the concrete—starting with design concepts, then moving through schematic sketches, computer simulations and scale models to culminate in the full scale mock-up. When asked about future projects, both the architectural team and lighting designer saw expanded use of computer simulations as the barriers of technical skills, time requirements and improved visualizations are overcome. ■

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LIGHT & COLOR: EQUIPMENT & APPLICATION

BY LOIS BURGNER, CONTRIBUTING EDITOR

The built environment all around us is becoming more interactive, more entertainment-oriented and more colorful. "Shopping malls used to be these boxes where the retail store really was the thing to look at; and now the mall itself is as much of the entertainment," said Alex Friend, senior designer with Lighting Design Alliance in Long Beach, CA. "Las Vegas is the extreme. Everything's interactive; everything's color; everything's entertainment."

As colorful interior and exterior lighting becomes more commonplace, its utility in defining and enhancing architecture increases. Concurrently, the technology to achieve these effects is also improving. The added dynamic of changing color has brought new power and excitement to lighting and is today easily achieved with a single fixture.

How can you achieve these brilliant hues? One way is with lamps. All of the top lamp manufacturers produce lamps in basic colors. Fluorescent tubes are available in red, blue, green and yellow (or gold), as are incandescent A, PAR and MR lamps. Some of these utilize a colored coating on the front lens and others employ a specific dichroic reflector coating to subtract all but the desired wavelengths. Venture Lighting offers unique metal halide lamps in blue, green, pink and yellow. UV blacklights can be found in new high-powered lamps.

C O L O R F I L T E R S

Perhaps the most common strategy is to use a white light source with a colored filtering medium. Color filters are available in a variety of materials and colors, and can add a lot of impact to ordinary fixtures. But the color spectrum of the light source must be taken into consideration. Filters work, generally speaking, by passing particular wavelengths of light—the color we see—and filtering out the rest. If the light source is deficient in the desired color, little light will come through the filter. Cooler color temperatures will enhance blues, and incandescent sources will conduct more reds and yellows.

Likewise, the colors of surfaces will influence colorful lighting design. A tan building may muddy facade lighting in brilliant spectral colors. Instead, try saturating a blue ceiling cove with blue uplighting. But make sure the ambient lighting in the space below isn't so bright that it washes out the colored effect.

The most common filter medium is a gel, which comes in sheets of dyed plastic. "Originally developed for the theatrical market, gels have wonderful saturated to very faint color, and are literally available in thousands of colors," said Mark Frank, also a senior designer at Lighting Design Alliance.

Gels work by passing a single color of light and absorb-

ing the rest, including a lot of infrared and ultraviolet wavelengths. Because gels are thin and not very stable, they all eventually fade and sometimes burn. Light fixtures on long burning schedules need to be regelled often. One solution is to sandwich the gel between two plates of glass. This reduces the amount of heat and UV exposure, adding life to the gel.

"The great thing about gels is that they're relatively inexpensive and they're readily available. And you can almost always get that exact color you want," Frank said. Gels are also flexible and can be formed into sleeves for fluorescent tubes.

A more durable, permanent type of filter is made of glass, composed of either molded glass or glass plates. Glass filters work in the same way as gels but are much more stable, easily handling much higher temperatures and long-term exposure. Newer glass filters are made of strips of colored glass held in metal frames. Because most lamps do not have an even distribution pattern, differential heat expansion causes some lenses to break. The glass strips may shift microscopically but rarely break. These are available in a large variety of sizes and shapes to fit almost any fixture, according to Frank. "You see them a lot now in floodlighting to correct color temperatures on lamps."

Unfortunately, glass can be expensive, depending on the color. If it is a custom color the glass can take weeks to get. Exact color consistency is also difficult to achieve.

The new color filtering medium is dichroics. Thin-film technology applied to a substrate of glass allows only a very narrowly defined, single bandwidth of light to pass—i.e., a single color. But instead of absorbing all the other colors, dichroic filters reflect them back into the fixture. Dichroics allow vivid saturated colors that don't deteriorate over time.

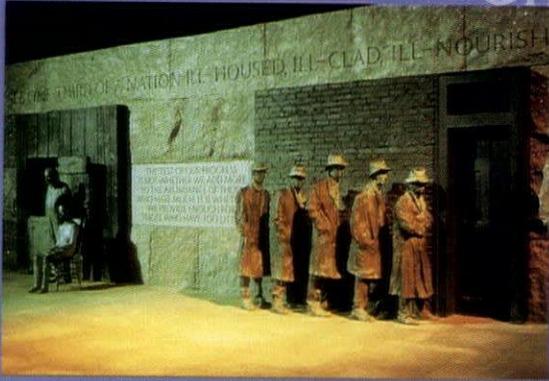
An unusual characteristic of dichroics is that they're sensitive to the angle at which the light strikes the filter. Light passing directly through the filter is the pure color, but light at higher angles in a flood or spot distribution shifts in color somewhat. "That can be attractive, but it is a factor to consider when choosing media and the fixtures it goes on," said Frank. His solution is: When in doubt, mock it up. "There's nothing like having the samples out and actually seeing how it's going to look."

C O L O R I N M O T I O N

The most basic color changers are called scrollers: gels of different color are joined one after the other in a long roll. Motorized spindles scroll the gels across the face of the fixture, changing the color of the light via DMX controls. Several glass or dichroic filters can be mounted onto a color

(Continued on page 94)

DEFINING AREAS AND CIRCULATION PATHS



FDR MEMORIAL

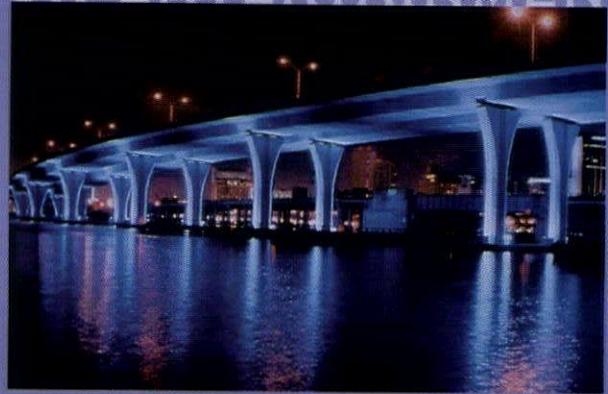
AT THE FRANKLIN DELANO ROOSEVELT MEMORIAL IN WASHINGTON, D.C., COOL METAL HALIDE LIGHTING THROUGHOUT SETS THE MOOD. IN CONTRAST, WARM INCANDESCENT LIGHTING DRAWS VISITORS TO FDR'S WORDS ETCHED IN STONE, INSPIRING A MOMENT OF THOUGHTFUL REFLECTION. *Lighting Designer: Patrick B. Quigley, Patrick B. Quigley & Associates; Photographer: Dan Morris*

ENHANCEMENT OR ENTERTAINMENT

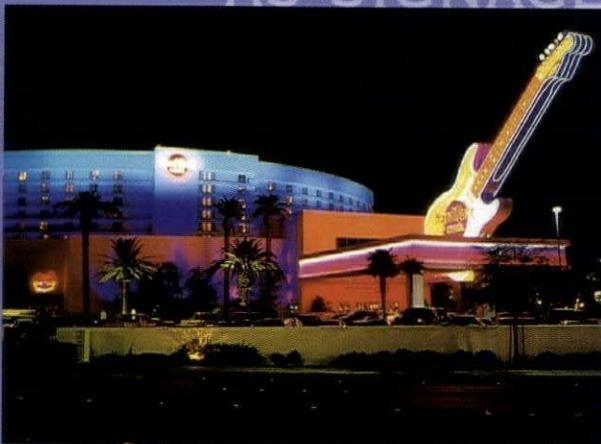
MIAMI BRIDGE

BLUE METAL HALIDE LAMPS FROM VENTURE LIGHTING ENHANCE THE PORT OF MIAMI/DODGE ISLAND BRIDGE, MIAMI, FL. WHAT WAS ONCE A DARK, HULKING CONCRETE BRIDGE HAS BECOME A BEAUTIFUL ASSET TO THE CITYSCAPE.

Photography courtesy of Venture Lighting



LIGHTING AS SIGNAGE



HARD ROCK HOTEL

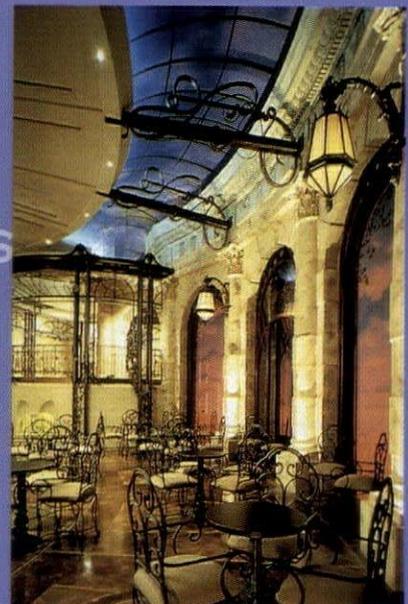
THE HARD ROCK HOTEL SHONE BRIGHTLY FOR FEW NIGHTS AMID THE VISUAL BOMBARDMENT OF LAS VEGAS. LIGHTING DESIGNER: TIM GRIVAS, HIGH END SYSTEMS, USED STUDIO COLOR WASH LUMINAIRES AND CYBERLIGHT LITHO AUTOMATED LUMINAIRES TO ADVERTISE THE HOTEL. *Photographer: Matt Scherzinger*

DEFINING ARCHITECTURAL PLANES

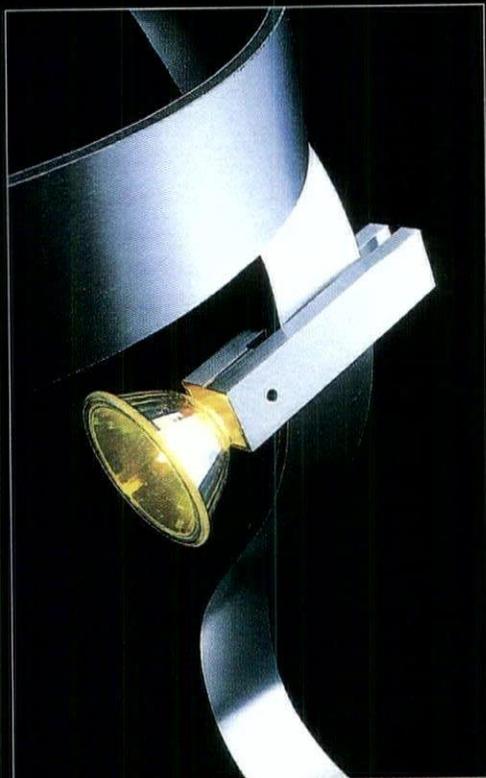
ELDORADO CASINO

BLUE NEON SATURATES THE COLORS IN ELDORADO CASINO'S PAINTED "SKY." THE DIMMED INCANDESCENTS THAT ACCENT THE COLUMNS IN THIS RENO, NV CASINO CREATE CONTRAST AND WARM THE SEATING AREA.

Lighting Designer: Chip Israel, Lighting Design Alliance; Photographer: Vance Fox



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Circle No. 57 on product service card

(Continued from page 92)

wheel placed in the path of a light source. These can run on a continuous clock motor or on a DMX-controlled stepper motor. Color wheels are found in many fiber-optic illuminators.

A DMX control system can change from one color, pause, and then onto the next over a specified time. But to fade from, say, blue at one end to magenta at the opposite end, light must pass through any other color media that may lie between. In addition, a color wheel on a stepper motor can only travel 360 degrees before it reverses direction. "These are the things that we sometimes find out the hard way on some jobs. So a little research on how your color is changing is really essential to make sure that you end up with the effect you desire," Frank advised.

The latest intelligent lighting fixtures employ an array of dichroic filters to achieve subtractive color mixing. The dichroics are unique in that they block a single color of light and pass the rest. Three consecutive arrays of dichroic filters—one cyan, one magenta, one yellow—pass gradually in and out of the beam. A sophisticated DMX system controls the yokes to produce virtually any color in gradual fades or in the blink of an eye.

These automated fixtures and fiber-optic illuminators can be a lot of fun, but they add a new element—programming. The orchestration of complex color-changing sequences (especially those combined with changing gobos and pan and tilt commands) entail a good deal of thought and programming time upfront. The manufacturers of intelligent lighting fixtures will recommend that most specifiers hire a professional programmer for a few nights or a few weeks, depending on the complexity. Intelligent fixtures can be reprogrammed for a new look or a special occasion. This adds a lot of flexibility and more programming time. ■

F. I. T. Interior Design Program Seeks Qualified Lighting Design Faculty

The Interior Design program at FIT/SUNY has recently expanded its lighting design course offerings within its AAS and BFA Interior Design degree programs. As a result, qualified lighting design faculty with a minimum of five years of professional lighting experience are being sought to fill some of these new openings. All courses are taught in FIT's Design Resource Lighting Laboratory (DRLL).

Lighting design professionals interested in teaching at FIT should either call Susan Forbes @ (212) 217-8580 or send a letter of interest with resume to:

Prof. Susan Forbes, Chairperson
Interior Design Department
FIT/SUNY
227 West 27th Street
New York, NY 10001-5992

NeoCon® 98

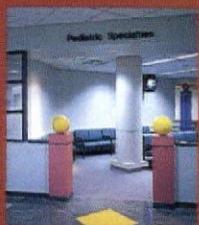
World's Trade Fair



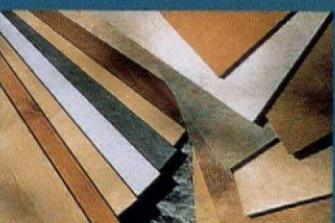
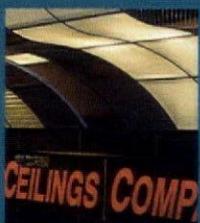
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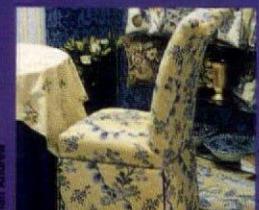
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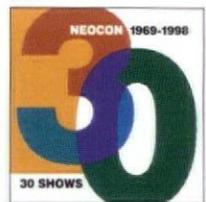
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DECOREX USA Opens June 7

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Circle No. 58 on product service card

A NEW PAGE IN LIGHTING CONTROL

BY DAVID HOUGHTON, CONTRIBUTING EDITOR

Every day as darkness sweeps across North America, millions of outdoor lights snap to attention. Or do they? The simple act of turning outdoor lights on and off isn't actually that simple, thanks to a tilted earth, occasional power outages and the milkmen who dreamed up daylight savings time.

To address these problems, a new option for outdoor lighting control is popping up in shopping malls, over billboards and along roadways. Pager lighting control—a marriage of lighting relays and pager technology—is now a viable alternative to time clocks and photocells. Pager systems are relatively inexpensive and deliver features that conventional controls can't match.

A NEW OPTION FOR
OUTDOOR LIGHTING
CONTROL IS POPPING UP
IN SHOPPING MALLS,
OVER BILLBOARDS AND
ALONG ROADWAYS.
PAGER LIGHTING
CONTROL IS NOW A
VIABLE ALTERNATIVE TO
TIME CLOCKS AND
PHOTOCELLS.

OLD (UN)RELIABLE

The old standby for outdoor lighting control is the time clock. Mechanical time clocks (cost: \$50-\$100) have a revolving dial and user-placed trigger pegs that turn the lights on and off at specific times. The clocks, however, must be reset regularly to track with the seasons, recalibrate after power failures and adjust for daylight savings time. Electronic "astronomical" time clocks address some of these shortcomings (they can predict variable sunset and sunrise times and ride out power outages), but they cost quite a bit more (\$200-\$500, depending on features) and still involve programming effort and maintenance.

Photocells were the next step in outdoor lighting control. In theory, photocells should solve most of the control challenges of outdoor lighting: They don't care what time it is—they simply open and close a circuit in response to ambient light levels. The reality, however, is that photocells don't always operate reliably in the field due to dirt, bird-related events and lack of maintenance.

THE NEW KID IN TOWN

Enter the pager system, which has three elements—a remote receiver box mounted at the lights to be controlled, a ground-based computer that broadcasts instructions to the receivers and a satellite pager network to complete the connection. The remote box contains a processor to control the lights, a built-in clock with battery backup and a pager receiver that collects information from the satellite network four times per day. Each transmission burst includes the exact time (to calibrate the remote unit's clock), the day's sunset and sunrise times and any modifications to the local programming instructions. The remote unit can turn lights off or

on at any time of day, or at any time relative to sunset or sunrise. For example, the controller can turn a parking lot's lights on at 25 minutes before sunset and turn them off at 2 am.

Profile Systems of Merrillville, Indiana is currently the only provider of pager lighting control. A typical controller costs about \$400 for a unit that switches up to 40 lighting circuits on four different schedules, plus \$6 per unit per month for programming and pager airtime.

Installation requires an electrician, and is similar to installing any other line-voltage switching equipment.

The company offers two options for programming: do-it-yourselfers can install software on their own modem-equipped PC and program their on and off times, while those that prefer picking up the phone can call Profile's operations center in Indiana and request program changes.

TESTING THE WATERS

Reliability is the bottom line for Karen Clayton, who manages operations for several

shopping centers in North Carolina. Clayton switched from time clocks and photocells to pager controllers at two of her properties last year and is converting a third this year. Clayton said, "We don't have to worry about the outdoor lights anymore." At her shopping centers, pager controllers handle parking lot fixtures, wall- and roof-mounted floodlights, pedestrian walkway lighting and tenant display signage.

Recently one of Clayton's tenants extended their operating hours and requested that their outdoor lights stay on one hour later. "Last year, I would have had to call our contract maintenance man and pay him to make the change, then verify that it had been done properly. With the pager system, I called an 800-number and requested the change (at no cost). That night the lights stayed on the extra hour." Clayton also tested their pager system by "simulating" a thunderstorm. Without warning Profile, they threw the main breaker on their outdoor facilities circuits, killing power to the outdoor lights and the pager controllers for over an hour. That evening all the outdoor lights turned on—right on time.

LOOKING AHEAD

Profile has installed approximately 10,000 of its pager controllers in 38 states; its satellite network reaches anywhere that pagers can get beeped. So far, the biggest single market for pager controllers is billboard lighting, but other good applications include streetlights, parking lot lights, architectural floodlights, illuminated signs and outdoor lighting for municipal facilities such as parks and sports fields.

Profile has recently developed a two-way pager system that allows remote units to communicate with the host computer network, advising of lamp failures, power outages, real-time on/off status and 30-day operation logs. A bar-code scanner at the remote unit also lets maintenance workers record activities such as posting a new advertisement or replacing a burned-out lamp.

For now, getting the features of pager control requires specifying a product from a single supplier, but the cost compares favorably with other methods. The coming years may well bring additional suppliers of this type of service—a welcome development for this not-so-simple area of lighting. ■

For more information, **Circle No. 65.**

THE PROFILE PAGER LIGHTING CONTROL SYSTEM

MANUFACTURER

PROFILE SYSTEMS LLC
MERRILLVILLE, IN
TEL: (219) 757-3575
FAX: (219) 757-3541
E-MAIL: SALES@PROFILE-SYSTEMS
WEB: WWW.PROFILE-SYSTEMS.COM

MODEL

PROFILE 2001

PROGRAMMING SCHEDULE LOGIC

UP TO TWO "ON" AND TWO "OFF" EVENTS
PER DAY, RELATIVE TO SUNSET, SUNRISE OR
ABSOLUTE TIME

CONTROL METHOD

LINE-VOLTAGE RELAY THROWS REMOTE
CONTACTORS (NOT INCLUDED)

DIFFERENT PROGRAMMING SCHEDULES PER UNIT - 4

RATED VOLTAGE

UP TO 240V

BOX SIZE

12 IN. WIDE X 6³/₄ IN. HIGH X 5 IN. DEEP

COST (SMALL QUANTITIES)

\$400

COMMUNICATIONS CHARGES

\$6 PER MONTH

WARRANTY

48 MONTHS

OTHER MODELS

2000 (FOR BILLBOARD LIGHTING)
2002 (ALLOWS TWO-WAY COMMUNICATION)

LRC RESEARCH TESTS NEW SPECIFICATION TOOL FOR LAMP-BALLAST SYSTEMS

BY CRAIG DILOUIE, ASSOCIATE PUBLISHER

When specifying T8 lamp-electronic ballast systems, the lighting specifier is often faced with the choice: Do I specify instant-start ballasts, which are more efficacious but produce more wear and tear on the lamp? Or do I specify rapid start ballasts, whose method of starting the lamp can result in longer life?

The question becomes crucial when making choices for lamps that are frequently switched on and off, such as applications involving occupancy sensor controls.

The Lighting Research Center (LRC) recently concluded research comparing the performance of instant-start and rapid-start electronic ballasts operating frequently switched linear fluorescent lamps. The results show that a new metric—the Rh/Rc value—may provide a new tool for the specifier when making these tough choices. Rh/Rc is a predictor of cathode temperature immediately before a lamp is started, the ratio of resistance (hot) to resistance (cold).

RAPID VERSUS INSTANT

One of the principal functions of the ballast is to provide a starting voltage across the lamp's electrodes to initiate the arc and produce light. Instant-start ballasts apply a higher voltage (more than 400V) to "jump start" the lamp, causing it to light immediately. Rapid-start ballasts initiate the arc with a lower starting voltage (200-300V), causing the lamp to achieve full output within one second. Rapid-start ballasts also apply a low voltage of 3.5V to the electrodes during startup and during operation, warming the electrodes and increasing active power by 2-4W per lamp versus instant-start operation.

The rapid-start circuit, which has been the most popular system for commercial applications for decades, has yielded many applications in recent years to relatively new instant-start electronic ballasts, which offer higher efficacy. But is instant start better?

As in many cases with lighting technology, there are tradeoffs. The instant-start mode of startup, many sources of information suggest, degrades the emissive coatings on the lamp electrodes faster than rapid-start operation. This can result in a lower average lamp operating life. In applications with longer hours per start (10-12 hours), some lamp manufacturers argue, the effect on lamp life is minimal. But in frequently switched applications, such as those where an occupancy sensor is used, the effect has produced enough concern to cause many lighting specifiers to choose rapid-start over instant-start ballasts.

L R C S Y S T E M T E S T S

Lamp manufacturers rate their fluorescent lamps for lamp life by testing them on a commercially available ballast using a three-hour-on, 20-minute-off cycle. The idea is that every time the lamp is turned on, its useful life is depreciated because of deterioration of the cathode coatings experienced during startup. At longer hours per start, the lamp operating life will increase; with more frequent switches, lamp operating life decreases. In the case of an occupancy sensor, there can be much more frequent switching than every three hours.

To examine the effects of increased switching, the LRC conducted rapid-cycle tests (5 minutes on, 5 minutes off) of fluorescent lighting systems using T8 lamps from three manufacturers and five electronic ballast types, labeled A through E (see Table 1). The study was sponsored by the Empire State Electric Energy Research Corporation (ESEERCO), the National Lighting Product Information program (NLPIP) and the New York State Energy Research and Development Authority (NYSERDA).

During the test, NLPIP determined the active power, ballast factor, system efficacy and operating time of each of these systems. The NLPIP also determined the Rh/Rc value for each of the rapid-start systems. This Rh/Rc value emerged as a significant metric.

Lamp manufacturers recommend that the lamp's cathodes be warmed to 700-1000°C prior to starting. In the LRC test, Rh/Rc values were assigned to the rapid-start ballasts; a value of 4.25 translates to an electrode temperature of 700°C. As can be seen in Table 1, lamp operating life is maximized at this value.

The Table shows the results of the tests. One of the rapid-start systems operated much longer before lamp failure than the other systems; it was also the only rapid-start system with an Rh/Rc value of 4.25 or greater. Lamps operating in the instant-start systems and in the two rapid-start systems with lower Rh/Rc failed after similar operating times.

SPECIFICATION IMPACT

The research shows that it may not be right to assume that in applications where the lamps are frequently switched that rapid-start ballasts should be specified. To gain the true benefit of using rapid-start ballasts—i.e., longer lamp life—the lamp-ballast

system must have an Rh/Rc value of 4.25 or greater.

If such a system is not available, the specifier may consider, among other choices, the use of instant-start electronic ballasts to gain similar lamp life as well as the benefits of higher efficacy.

ANSI ballast standards currently do not include Rh/Rc as a metric of lamp performance; the organization is now considering whether to include it in the future. The new metric is potentially a very useful tool for specifiers. For those who want to take advantage of this metric now, specifiers can consult ballast manufacturers for the Rh/Rc values of rapid-start fluorescent lamp-ballast systems.

SEE THE STUDY

The research results, published in a conference paper titled "Computability Testing of Fluorescent Lamp and Ballast Systems" and presented in October of 1997, have been recognized by the Institute of Electrical and Electronic Engineers (IEEE) with a Technical Committee Prize Paper Award. The paper was co-authored by Yunfen Ji, Robert

Davis, Conan O'Rourke and Waimun Chui.

The LRC is now publishing a booklet titled, "Guide to Selecting Ballasts for T8 Lamps in Occupancy Sensor Applications." To receive a copy and learn more about the Rh/Rc metric, call (518) 276-8716 or fax (518) 276-2999. ■

TABLE 1. PERFORMANCE COMPARISON OF FIVE T8 LAMP-BALLAST SYSTEMS
(ASSUMING RATED LIGHT OUTPUT FOR T8 LAMP IS 2950 LUMENS)

Ballasts Operating Two 4-ft. 32W T8 lamps

Ballast Type	ID	Starting Method	System Active Power (W)	Ballast Factor	System Efficacy (lm/W)*	Median Test (Cycles)	Median Test (Hours)	Rh/Rc
Electronic	A	Rapid Start	60	0.86	85	43,274	3,606	4.25
Electronic	B	Rapid Start	60	0.87	85	15,732	1,322	3.25
Electronic	C	Rapid Start	62	0.88	84	11,977	998	2.75
Electronic	D	Instant Start	58	0.89	90	13,514	1,126	NA
Electronic	E	Instant Start	59	0.90	91	19,562	1,630	NA

* System efficacy = (lamp lumens x ballast factor)/ system active power



Last year, more than 600 energy product and service Allies in EPA's Green Lights® and ENERGY STAR® Buildings programs helped hundreds of program Partners reduce energy costs and prevent air pollution. This means these Allies not only took advantage of the opportunity to improve their business, but the environment as well. Imagine what joining an EPA Ally program could do to brighten your business' future.



To find out how your company can become a Green Lights and ENERGY STAR Buildings Ally, call EPA's toll-free Hotline at 1-888-STAR-YES (1-888-782-7937).

Circle No. 59 on product service card

10 TIPS TO LIGHT UP YOUR BUSINESS

BY RANDY EDWARDS

Think about marketing. What comes to mind? Advertising? Sales meetings? Mechanical pencils with your company logo and phone number? If you're like most people, the classic approach to marketing ends with purchasing space in key trade publications and perhaps a Yellow Pages ad.

When it comes to reaching your firm's prospects most effectively, today's successful lighting professionals are using a variety of methods that go beyond the traditional marketing approach. It's called marketing communications. It entails looking at the complete marketing objective and developing a balanced program that employs a combination of marketing and communications tools that will do the job most effectively and efficiently. The key is to have clear agreement on your objectives before identifying the audiences to be reached.

The following are some tips to help you develop a marketing program. Most can be implemented immediately regardless of the size of your firm or department.

Take the long view. Treat your existing clients as if you were pitching their business for the first time. It's much easier—and less expensive—to grow your business with additional work from existing clients than it is to go out and find new ones. Don't get lazy. Even if you've worked with a client for years, you need to show as much enthusiasm as you did the first time around. Take a whole new look every year. Remember, you're making proposals that will impact the client's future and yours.

Establish key messages. If you can't summarize the advantages of your lighting design expertise and what differentiates you from your competition in a few short points, you're missing the boat. Politicians use "sound bites" to get elected and so should you. Practice, practice, practice. Try out your key messages on a third party.

Get out of the office. Find excuses to "walk the halls" within your own firm or those of an outside client and make time to chat. Ask what's new and share any new developments in your firm or department. You'll be amazed at how much additional business comes from being in the right place at the right time.

Stay current. Keep up with the latest trends and technology. Read industry trade publications, attend conferences and stay in close contact with industry representatives. When calling or writing clients, begin with, "I've been thinking about your business and I'd like to share some exciting new ideas..."

Be an industry "mover and shaker." Being involved in your profession outside the office lends credibility to your marketing efforts. Join the Illuminating Engineering Society (IES) and the International Association of Lighting Designers (IALD). Clients notice and appreciate the interest you show in advancing your profession. Be sure to tell them.

Keep expanding your credentials. Obtain LC certification as a lighting designer through the National Council on Qualifications for the Lighting Professions (NCQLP). Finish your degree or take some classes to increase your knowledge.

Maximize your time at industry meetings. Contact the program chair months in advance and suggest a topic that you or one of your colleagues can present. Take clients to lunch, dinner or to a fun destination during the meeting. Drop off a news release or information packet about your firm and its latest projects in the press room and make yourself available for interviews.

Get to know the trade and business press. Visit or call them and learn the types of stories they publish, editorial calendar, deadlines, etc. Some publications publish by-lined articles on projects or new developments in the industry. Don't forget business journals and the business section of your local newspaper. Send releases that contain "real" news (an outstanding project you've just completed, awards, key staff hires and promotions, etc.).

Teach a class. There are courses on lighting offered through the IES. Classes are composed of professionals representing the various disciplines in our industry—i.e., architects, interior designers, facility managers, etc. If you can't teach a class, think about offering informal sessions on lighting design or lighting design roundtables.

Direct mail is not rocket science. You can spend months debating over colors, paper and size. Will Rogers once said, "Even if you're on the right track, you'll get run over if you just sit there." Design an attractive template that allows you to announce important developments to a pre-selected audience quickly and inexpensively. Sometimes the best direct mail is a copy of an interesting article with a handwritten note from you that begins, "I've been thinking about your project..." This method is also effective with internal clients.

Remember, everyone in your firm is a marketer. They just don't realize it yet. Take your support staff to lunch and find out how much they know about your business and your clients. Hold informal meetings to update your employees on new business wins, recent industry developments, project updates or new technology. Encourage your employees to read trade publications, attend industry meetings and mingle with industry leaders. Well-informed employees can be your best marketing asset. ■

Randy Edwards is a principal in charge of firmwide marketing with Ellerbe Becket, an international firm that provides architecture, engineering, interiors, lighting design, planning and construction services.

www.light-link.com

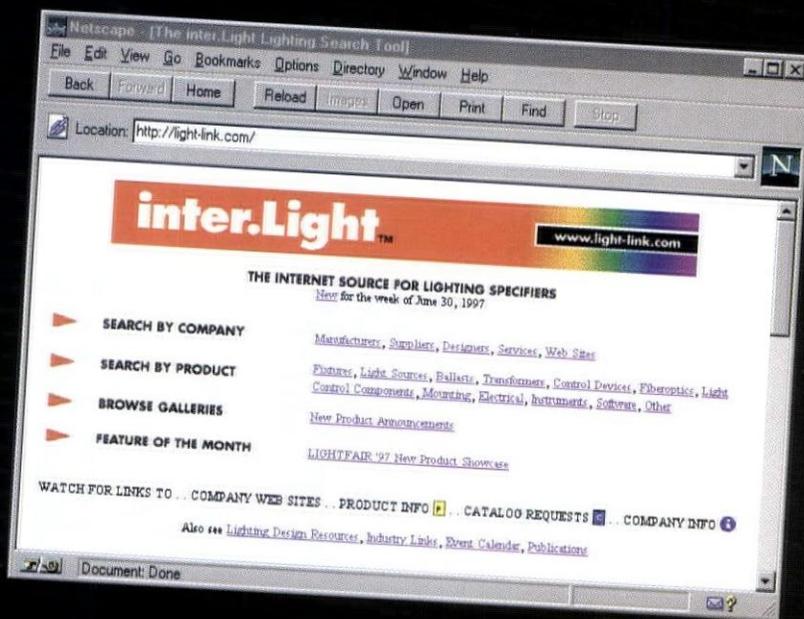
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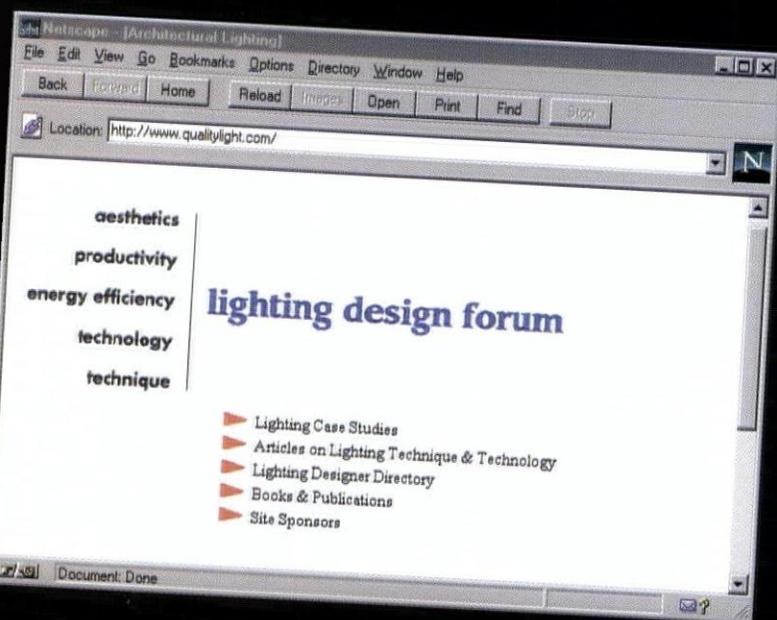
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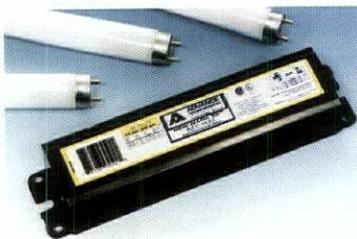
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Phone: (847) 390-5000

The New Mark VII controllable electronic ballast delivers continuous control of light output and energy use for lighting systems utilizing F32T8 rapid-start fluorescent lamps. When used in conjunction with compatible controls, it can automatically minimize energy consumption while providing the illumination required for the task or situation. The ballast provides full-range (5-100 percent full light output) control.

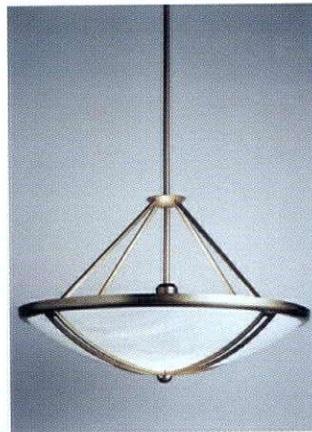


CIRCLE NO. 100

Architectural Details, Inc.

Phone: (425) 822-1292

The Linear # 1875 pendant is shown in antique brass with an art glass diffuser. The fixture is available in various diameters ranging from 12 to 36 in., 36-in. drop being standard. It is available in a variety of finishes, diffusers and lamping choices and can be used in both commercial and residential applications.



CIRCLE NO. 103

Antron Compact Electronics

Phone: (817) 624-7005

The 2 x 42W Cool Operator high-power-factor compact fluorescent electronic ballast saves up to 80 percent in energy costs by replacing higher-wattage incandescent fixtures with virtually no loss of available light. Heat-dissipating custom metal alloy cases, thermally conductive potting compound, and high efficiency designs that use fewer heat-generating components enable the ballast to run at 45°C at room ambient temperature.



CIRCLE NO. 101

Architectural Landscape Lighting

Phone: (714) 668-3660

The BL-Series of building-mounted landscape light fixtures is designed specifically for applications that require high illumination of general building and grounds areas from a building-mounted fixture. Each fixture housing is cast aluminum, with a high-impact clear glass or opal polycarbonate lens and extruded silicon gasket for a water-tight and bug-free seal. Cast aluminum vertical and horizontal lens guards protect fixtures from debris and vandalism. Fixtures accommodate compact fluorescent or HID sources.

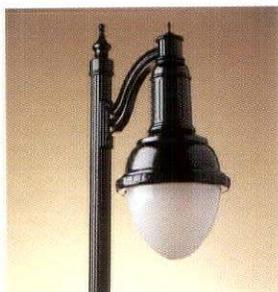


CIRCLE NO. 104

Architectural Area Lighting

Phone: (714) 994-2700

The Promenade Series combines classic forms and modern reflector technology. The newly revised catalog features four new fixture designs and more options. Shown is the PRMS with an LDL lens that conceals the fixture interior while still delivering optical control.

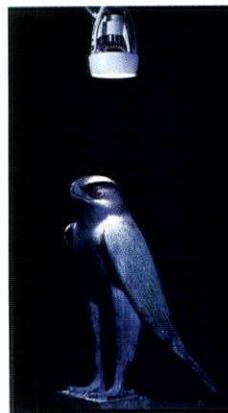


CIRCLE NO. 102

Ardee Lighting

Phone: (704) 482-2811

SpeX30 is a collection of small-scale recessed downlights and surface-mounted spotlights that provide accurate, energy-efficient halogen lighting to suit a wide range of applications. An unobtrusive housing offers a contemporary aesthetic suited for museums and art galleries, as well as high-end retail, hospitality and residential applications.



CIRCLE NO. 105

Bega/US

Phone: (805) 684-0533

Specifically designed for the J. Paul Getty Center, this custom fixture is now a standard Bega product. The heavy-duty bollard/marker uses an 18W PLC compact fluorescent light source housed within a three-ply opal glass diffuser to provide symmetrical light distribution. Extruded aluminum and stainless steel construction is durable and corrosion resistant. Suitable for wet locations.



CIRCLE NO. 106

Conservation Technology, Ltd.

Phone: (847) 559-5500

Con-Tech's Peak Performance HID fixtures are specifically designed to maximize the high efficiency, color and color stability of Philips' MasterColor medium base ceramic arc tube metal halide PAR lamps and are suited for retail applications, including lighting, re-lighting and highlighting. The series has a telescopic lamp collar to adjust for all lamp sizes (35W PAR20 or PAR30L, 70W PAR30L or PAR38, 100W PAR38) and a compact vertical ballast compartment. The round-back cylinder series is designed for the PAR38 lamp, 70 or 100W, and has a horizontally mounted ballast housing for protection from lamp heat.



CIRCLE NO. 109

B-K Lighting, Inc.

Phone: (209) 438-5800

The K2 Series utilizes a PAR38 metal halide lamp including MasterColor lamps and all PAR38 metal halide lamps in 70W, 100W and 150W for long life, high efficiency and outstanding color performance. The K2 series is available in three different cutoff configurations and can be combined with optical, accessory and ballast options.

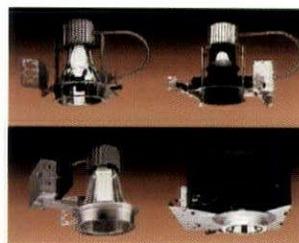


CIRCLE NO. 107

Cooper Lighting

Phone: (847) 956-8400

Portfolio recessed downlights from Halo Lighting offer a complete range of distributions with matching apertures. All units have equal cutoff to lamp and lamp image for glare-free illumination in all optical distributions. Portfolio's wall wash downlights are built with Halo's Geometric Reflector for Uniform Vertical Illumination, which incorporates a series of calibrated facets within the reflector. A choice of low-iridescence clear, haze, straw and wheat reflector finishes are available. Other features include die-cast plaster frames, socket caps and connectors. The downlights can be installed in up to 3-in.-thick ceilings.



CIRCLE NO. 110

Bruck Lighting USA

Phone: (714) 259-1000

Shou (meaning "long life") utilizes the classic cable system concept but adds a new twist by initiating a softer approach to fixture design. Handcrafted wood, aluminum and opaque-cased glass create soft ambient illumination, ideally suited to both classic and contemporary interior environments. A catalog is available.

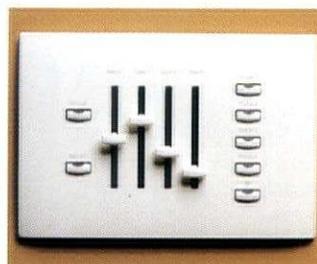


CIRCLE NO. 108

Electronic Theatre Controls

Phone: (608) 831-4116

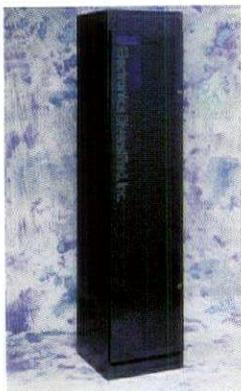
The Unison Lighting Control System incorporates sophisticated engineering with elegant styling to provide a full-range lighting control product. Unison dimmers and controls are designed for architectural applications including hotels, convention centers, restaurants, churches, museums and theme parks. Control features include astronomical time clock, programmable control stations, "Macros" and on-line computer programming and operation.



CIRCLE NO. 111

Electronics Diversified, Inc.*Phone: (503) 645-5533*

The MX System is suitable for medium to large theater installations, as well as large architectural dimming systems. Its features include off-line programming via any IBM-compatible PC or the hand-held programmer, assignable, patchable, DMX inputs, back-up memories with remote access and LCD status beacons.



CIRCLE NO. 112

High End Systems, Inc.*Phone: (512) 836-2242, ext. 125*

Created for outdoor architectural applications, the EC-1 (shown) and ES-1 architectural fixtures utilize the Studio Color design in a weatherproof, static package. The EC-1 and the ES-1 can be used when use of a High End Systems Ecodome is prohibitive, or when the 370-degree x 240-degree movement of Studio Color and Studio Spot is not required. The waterproof fixtures include a 575W 6200K light source, convection cooling, DMX-512 control, variable frost, smooth mechanical dimming, shutter for instant blackout and strobe effects, and full power factor correction.



CIRCLE NO. 115

Engineered Lighting Products*Phone: (626) 579-0943*

Engineered Lighting Products presents its recessed fiberglass reinforced fixture for use in exterior stucco construction. With "Weld-Crete" the fixtures can be finished to match the stucco texture of the wall and will appear to be custom-built light niches. The composite casting is water- and high-impact resistant. Available for 20W incandescent, 13W PL, or 20, 26 or 27W quad lamps. UL-listed and approved for wet locations.



CIRCLE NO. 113

Hydrel*Phone: (818) 362-9465*

The M9000 Series is designed to accommodate the new color-corrected metal halide lamps in a 9-in. footprint housing. The M9800 in-grade floodlight fixture accommodates 400W mogul base lamps.



CIRCLE NO. 116

Fiberstars, Inc.*Phone: (800) FBR-STRS
(510) 490-0719*

FE-4133-XX (shown) and FE4134-XX are two small-scale decorative ceiling accent lighting fixtures. FE-4133-XX is a shallow cylindrical fixture reminiscent of a demitasse cup. FE-4134-XX is a flat, saucer-shaped fixture. Pink, white or sea blue frosted glass can be specified. A single remote-source illuminator can power many individual fixtures. An optional color wheel inside the illuminator provides on-demand color changes.



CIRCLE NO. 114

Industry and Design Light Inc.*Phone: (612) 673-9213*

Flexibility and elegant simplicity. Designed and manufactured in Germany, Industry and Design Light (IDL) offers a wide assortment of lighting products. The patented Alulite lighting system (shown) is a cable-free low-voltage system. Now, IDL introduces 2HIGH!, a new line-voltage hand-moldable rail system.



CIRCLE NO. 117

Irideon, Inc.

Phone: (214) 819-3208

Irideon, Inc. manufactures architectural fixtures with automated color change, movement and beam control capability, providing a means of choreographing light in an interior or exterior space. The new AR6 and AR7 recessed fixtures are completely user-configurable, offering a variety of long-life lamps and colors, patterns and beam.



CIRCLE NO. 118

Leucos USA

Phone: (732) 225-0010

Multiple sheets of Murano glass are blown together to create the signature pendant shades in the Circe series. The new smaller scaled Circe 19 (shown) is 7½ in. wide x 5⅛ in. high; the Circe 35 large is 15¼ in. wide x 11 in. high; and the Circe 40 extra-large original shade sizing is 16 in. wide x 11 in. high. From left to right: sleek white; satin amber tabby; and "tigrato" amber tiger-striped shade.

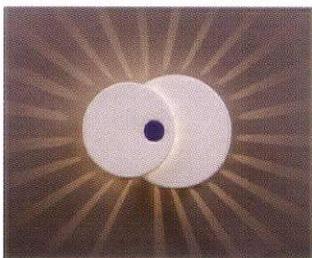


CIRCLE NO. 121

Koch and Lowy

Phone: (508) 588-4700

Eclipse is a 100W halogen ceramic wall sconce that illuminates a setting and simultaneously casts an artistic pattern of light upon the wall. Offered in matte white with cobalt blue glass; 11½ in. high x 4½ in. deep.

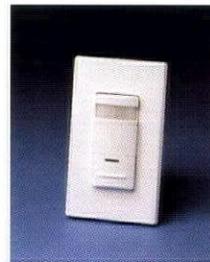


CIRCLE NO. 119

Leviton Manufacturing Co., Inc.

Phone: (718) 229-4040

The Decora wall switch occupancy sensor (Cat. No. 6768) features new self-adjusting sensor technology and automatic "walk-through" sensing. This enables the lights to switch off within 2½ minutes immediately following initial entry if the 6768 does not continue to detect activity. During periods of occupancy where there is little activity and infrequent motion detection, the self-adjusting delayed-off time setting is automatically increased up to the maximum of 30 minutes. With more activity and frequent motion, the delayed off-time setting will automatically be decreased.



CIRCLE NO. 122

Lam Lighting Systems

Phone: (714) 549-9765

The Litedisc CR indirect lighting pendant fixture displays an architectural profile from a one-piece housing with curvilinear edges. Four or six biaxial compact fluorescent light sources can be specified. The computer-enhanced, proprietary spectral metal reflector yields light output efficiency of 90.4 percent. Glare and hot spots are eliminated; shadows and reflections on worksurfaces and VDT screens are minimized.



CIRCLE NO. 120

LexaLite International Corporation

Phone: (616) 547-6584

LexaLite introduces new material options for the prismatic Reflexors: HID acrylics, which feature improved UV packages for enhanced performance. New material options available for our Reflexors include an impact-resistant acrylic, a high-heat acrylic, and for reduced UV-output metal halide lamps, polycarbonate.



CIRCLE NO. 123

LexaLite International Corporation

Phone: (616) 547-6584

The 424 Series refractor is available for street and area lighting applications. Available accessories include a matching prismatic top with LexaLite optics and an aluminum internal reflector to increase downlight and reduce uplight.



CIRCLE NO. 124

Lightolier

Phone: (508) 679-8131

The suspended channel structure of Multi-Lyte allows ambient and accent lighting to be combined in one system. Designed for a broad range of spaces, Multi-Lyte features five separate lighting modules and accepts hundreds of different track fixtures for accent lighting. Meets IES RP-1 criteria for lighting VDT spaces.

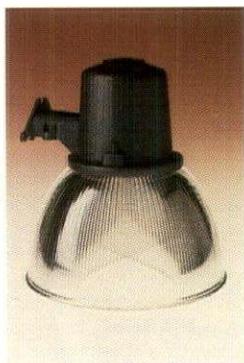


CIRCLE NO. 127

LexaLite International Corporation

Phone: (616) 547-6584

Model 812 Reflexor features a new housing for outdoor lighting applications. The housing allows easy mounting to poles or the side of buildings. Model 812 features excellent fixture efficiency and uniformity.



CIRCLE NO. 125

Lightron of Cornwall, Inc.

Phone: (914) 562-5500

In the Multi Beam 2000 light conveyance system, a single 100W metal halide lamp provides four adjustable beams. Under 30W per beam with beam life of 15,000 hours. Several distributions are available (15-25 degrees). One electrical connection powers four fixtures. The beams are UV- and heat-free. Intensities of up to 250 fc per beam are possible.

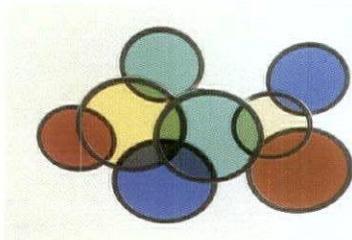


CIRCLE NO. 128

Lighting Services Inc

Phone: (800) 999-9574

More than 85 hues and tones of colored and dichroic glass filters are available from LSI. Permanent glass filters create an extra dimension of brilliance, richness and vividness.

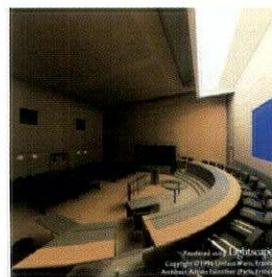


CIRCLE NO. 126

Lightscape

Phone: (408) 342-1900

Lightscape 3, an advanced visualization and lighting tool for Windows 95/NT, accurately simulates the physical properties of light and materials, delivering three-dimensional scenes of realism. Lightscape enhances the ability to evaluate and communicate intentions to clients. Lightscape is compatible with a range of 3D CAD applications.

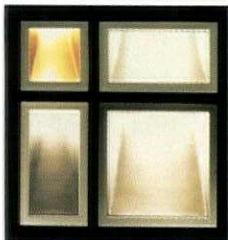


CIRCLE NO. 129

Luceplan USA Inc.

Phone: (212) 989-6265

The Orchestra recessed lighting system consists of square and rectangular housings that utilize fluorescent sources to provide different types of interior illumination. Asymmetrical reflectors permit upward or downward mounting. An overall depth of 3³/₄ in. and quick-assembly allow for use in narrow spaces and retrofit installation in existing ceilings and walls. Orchestra may be used with or without prismatic or opal diffusers. With signage and photo transparencies, the opal diffuser produces an illuminated "lightbox" effect. Frames are available in a variety of finishes. Stamped reflectors are available anodized gold or natural.

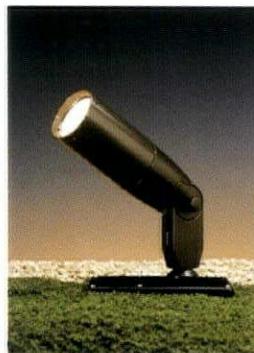


CIRCLE NO. 130

Lumiere Design & Manufacturing, Inc.

Phone: (805) 496-2003

Designed for MasterColor type metal halide lamps, Lumiere's Coronado Series fixtures feature distinctive styling and performance. Versions available for PAR20, PAR30 and PAR38 lamps. The fixtures received two U.S. patents, the 1996 ADEX Award for outdoor lighting, and one of *Residential Lighting* magazine's "Top 100 Products" of 1997.



CIRCLE NO. 133

Lucifer Lighting Company

Phone: (800) 879-9797

The low-voltage Shelf Light is composed of miniature rotatable spotlights which use 20W quartz halogen lamps for illuminating shelving and cabinetry neatly and inconspicuously. Each spotlight can be clipped to any point along the shelf. A thin, ribbon-like conductor allows for 12V power along the shelf perimeter, powered by remote transformer. These fixtures permit flexible, adjustable lighting of glass shelving and cabinetry without wires or track. ETL-listed.



CIRCLE NO. 131

Luxo Corporation

Phone: (914) 937-4433

Iris is a contemporary, energy-efficient pendant fixture that emits evenly distributed, non-glare illumination from two 24W compact fluorescent lamps. It features a metal housing in matte-white polyester powder-coat finish and an opal glass diffuser and ring louvers. Iris is available in two sizes; custom cable lengths allow for use in a wide range of high-ceiling commercial spaces.



CIRCLE NO. 134

Lumenyte International Corporation

Phone: (714) 556-6655

Super LEF—functional side-light fiber-optic lighting system—is suited for cove lighting (shown), accent lighting, display cases, signs and other applications. Fiber-optic lighting permits color-changing and customization, and is energy efficient. Super LEF can be manufactured to vary the beam spread and light output based on the application requirements.



CIRCLE NO. 132

Osram Sylvania

Phone: (978) 777-1900

Osram Sylvania's new Tru-Aim IR MR16 is a low-voltage infrared-coated reflector lamp. A multi-layer thin film coating on the quartz capsule transmits visible light but reflects infrared back to the filament.



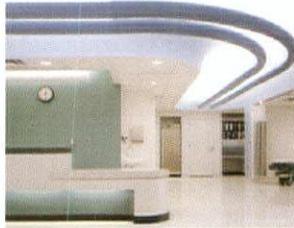
Capturing the infrared heat within the lamp capsule reduces the energy input required to bring the lamp up to optimal operating temperature, increasing operating efficiency. The new 37W Tru-Aim IR draws 13 fewer watts of power versus conventional 50W MR16 lamps.

CIRCLE NO. 135

Precision Architectural Lighting

Phone: (713) 946-4343

Precision Architectural Lighting (PAL) completed this lighting project for the Detroit Receiving Hospital, which required large sweeping radiused sections of a round fixture to mimic the vaulted corridors. The architect, Gunn-Levine Associates of Detroit, required consistent illumination levels which were achieved by utilizing a series of compact fluorescent lamps throughout the radiused sections. PAL specializes in architectural lighting solutions for schools, airports, supermarkets, healthcare facilities and offices.



CIRCLE NO. 136

SPI Lighting

Phone: (414) 242-1420

Echo is available in four sizes in solid steel or perforated steel with extruded aluminum housing. The fixtures accommodate linear fluorescent, metal halide and halogen in single- and multiple-lamp configurations. Integral and remote ballast options, and optics up to 85 percent efficient. Mounting variations include ceiling, wall, pier or pendant.



CIRCLE NO. 139

ProLight

Phone: (616) 396-6722

ProLight's Omni II compact fluorescent floodlamp is an energy-saving direct replacement for incandescent flood lamps. The Omni II utilizes a replaceable 13W quad lamp, a patented reflector system and a 150,000-hour rated ballast. The product replaces 75W floodlamps and provides over 75 percent energy savings. The Omni II is designed to fit in most fixtures.

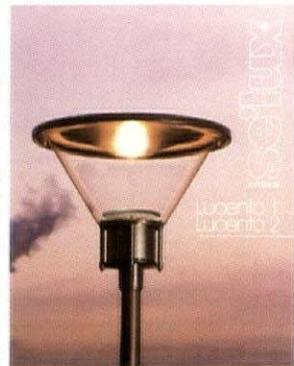


CIRCLE NO. 137

Selux Corporation

Phone: (914) 691-7723

Lucento's fixture design consists of four supports in 16-gauge grade stainless steel and recessed grooves in the diffuser. Lucento 1 uses MTR optical technology in an inverted open cone form for heightened visual impact. Lucento 2 is an indirect version of Lucento 1 with high-performance mirror technology concealing the light source. Available pole top or wall mount.



CIRCLE NO. 140

Ruud Lighting

Phone: (414) 886-1900

The new Directional Floodlight (DF Series) provides security, landscape, signage or accent lighting. Choose from four die-cast aluminum housing sizes for ground, wall or soffit mounting. Offered in black, white or verde finishes, these UL wet-listed units carry the Delta Guard seven-year warranty. Achieve energy-efficient illumination by selecting the MR16 or PAR36 low-voltage models. This family also offers line-voltage metal halide or halogen units for use with PAR20, PAR30 or PAR38 lamps.

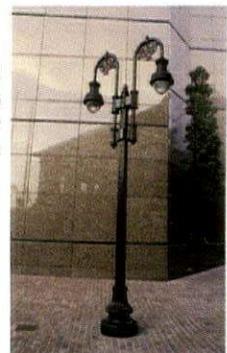


CIRCLE NO. 138

Spring City Electrical Manufacturing Company

Phone: (610) 948-4000

A wide selection of cast-iron and cast-aluminum outdoor lighting, as well as custom pieces, is available from Spring City. Call for a free catalog.

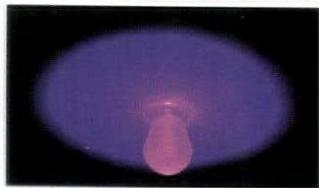


CIRCLE NO. 141

Super Vision International Inc.

Phone: (407) 857-9900

Super Vision International introduces a shatterproof, weather-proof, solid acrylic bulb that emits no heat and never needs replacing. The bulbs are mainly used for emergency floor lighting, commercial/hazard lamps, theatrical lighting, restaurants, museums and downlighting applications. They are available in three different types: frosted with filament, frosted without filament and crystal clear without filament.



CIRCLE NO. 142

Times Square Lighting

Phone: (914) 947-3034

The MC70FP Projector utilizes the new 70W MasterColor metal halide lamp. This cool burning, long-life metal halide lamp creates pure white images without the heat of 500-700W quartz lamps. The MC70FP can project standard "M"-size patterns, although custom patterns can be reproduced from computer-generated images. More complex patterns from photographs can also be produced. The fixture features numerous mounting options, such as track adapters, canopy plates and clamps. A new outdoor version of the fixture is also available.

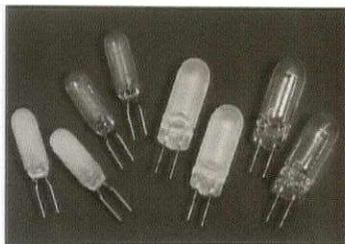


CIRCLE NO. 145

THHC Lighting

Phone: (626) 330-8368

JC Xelogen Lamps last up to 20,000 hours. Dimming or handling does not threaten lamp life. JC Xelogen does not emit damaging UV rays; it can be used to highlight sensitive fabrics and artwork. The tipless and vertical filament distributes light evenly, and lower pressure enables unlimited fixture design capabilities, since glass shielding is not required.



CIRCLE NO. 143

Tivoli Industries, Inc.

Phone: (714) 957-6101

Paravision combines Tivoli's patented ParallaxE low-voltage, aimable suspended linear downlighting with continuous-use micro video-camera technology. Paravision employs multiple non-dichroic MR16 long-life halogen sources in a straight or arced aluminum light tube. A range of 20-65W per lamp can be specified for desired levels of evenly distributed, glare-free illumination. Each point of light is housed in an adjustable, aimable spherical mount. Units can incorporate one camera or multiple cameras. A wide range of focal lengths and camera options are available.



CIRCLE NO. 146

Tango Lighting

Phone: (201) 662-7012

The Bau decorative pendant features a popular industrial appearance with a 9-in. or 12-in. diameter shade that comes with a metallic or acrylic finish. Houses a 100W incandescent light source.



CIRCLE NO. 144

Unison Fiber Optic Lighting Systems

Phone: (888) UNISON-9
(440) 519-1033

Opti-Flex brand light pipe, Cable Lite Light pipe and illuminators offer fiber-optic lighting for interior and exterior retail and commercial applications. The products allow retailers to achieve multiple light ratios from just one light source and do not emit UV light. With Unison Fiber Optic Lighting Systems, multiple cables can be run from a single remote light source. The remote light source allows the light pipe to be easily installed without having to contend with electrical wiring or weatherproofing issues.



CIRCLE NO. 147

Ushio America, Inc.*Phone: (800) 218-7446*

Ushio's Ultraline 10,000-hour MR16 lamps are rated at more than twice the life of standard MR16 lamps. The Ultraline series maintains consistent color throughout the life of the lamp, and the halogen capsule helps to protect UV-sensitive objects by eliminating 90 percent of the harmful UV emissions. Available in medium-, wide-, and soon to be released spot-beam spreads.



CIRCLE NO. 148

The Watt Stopper, Inc.*Phone: (408) 988-5331*

The Watt Stopper, Inc. announces the Isole IRC-1000 remote control system for lighting. This system provides on/off and dimming control of overhead lighting with a handheld transmitter that is accessible from the workspace. The IRC-1000 saves energy and features programmable addressing, which allows neighboring transmitters to control only their own lights, even if they are in close proximity to another cubicle.



CIRCLE NO. 151

W.A.C. Lighting*Phone: (800) 526-2588*

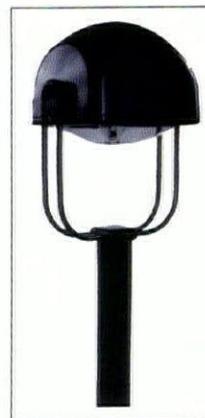
State-of-the-art task lighting featuring track lighting and recessed fixtures for undercabinet, cove, accent and hard-to-light areas. Miniaturized units, surface mounts, pendants, rope lighting, linear systems, display lights, track extensions/suspensions available. Residential and commercial applications.



CIRCLE NO. 149

Wide-Lite*Phone: (512) 392-5821*

Wide-Lite introduces the EFFEX Area Luminaire (EAL) Series. The EAL is designed to complement any architectural setting and incorporates a wide array of high-performance optics available in a single-area lighting fixture. The EAL Series' many optical choices combine with a selection of options for arm- and post-top mounting.



CIRCLE NO. 152

Waldmann Lighting Company*Phone: (847) 520-1060*

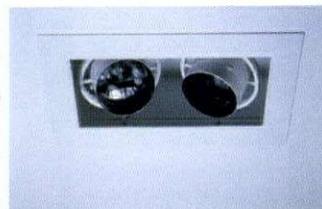
With its compact head design and parabolic louver, the Montreaux task light spreads light evenly over work surfaces and reduces glare from any VDT position. The Montreaux uses one 18W flat compact fluorescent bulb that provides more than 10,000 hours of lamp life and 4100K color temperature. A variety of color temperatures are available. Articulated arms (available in black or silver) come in three styles: single, twin vertical and twin horizontal. Other mounting options include a table clamp for standard and rounded surfaces, wall bracket and designer table bases (three styles offered).



CIRCLE NO. 150

Zumtobel Staff Lighting*Phone: (914) 691-6262*

The Recessed Multi-Slot is a fixture designed to meet the specification criteria of retail store designers. The fixture is a highly-styled retail solution, featuring a clean, white aperture, and two or three adjustable "heads," which accept numerous sources, including metal halide PAR30, halogen PAR30 and PAR38, or MR16. The fixture is easily relamped from below the ceiling.



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SPECIFICATIONS AND BIDDING: TIME TO CHANGE OUR METHODS

BY BRUCE THOMPSON

Three past commentaries published in *Architectural Lighting* have offered important viewpoints on the business end of the industry. John Nadon's perspective in the October/November 1996 issue, Warren Meltzer's in January/February 1997 and Gary Steffy's in October/November 1997, all address topics that have considerable impact on the implementation of any design. It is appropriate for the design community to understand the manufacturers' and reps' perspectives on practical considerations that influence—and to large degree define—the lighting business.

The subjects of each article point to an unstated, underlying premise that should be of great concern to everyone in the lighting industry: The system of specification and bidding, as widely practiced, frequently fails to fulfill its most basic objectives. I suggest the foremost of these objectives being to obtain the greatest value in lighting products for the project owner. And the second is to ensure fair and open competition that also encourages choice and innovation. In theory, the current methods work. In practice, the results regularly leave everyone unhappy. It is time that the industry reviews the specification and bid process at its structural level.

Members of the industry need to decide what values we want our business practices to demonstrate. Is the goal of obtaining the greatest value to be judged by the metric of the lowest price? Will unique products be recognized and innovation encouraged by allowing for single-name specifications, or will investment in the future be undermined by the solicitation of blatant knock-offs? Will fair pricing and support services provided by specialty agents be rewarded, or will commodity reps who never call on designers successfully win substitution battles by the sheer force of "low-ball" bidding? Faced with the disparity between objectives and results, we need practical solutions that can be accepted by all parties in the process.

While it is both easy and common for the design community to disparage the practice of packaging as the root of most evils, there is another side to this issue. It should be acknowledged that in many cases, packages yield benefits to all parties, otherwise they would not have flourished. Packaging is simply a Darwinian response to increasingly competitive bidding practices. It allows manufacturers and agents to extend their profit potential and protect the considerable investment they make in developing specification business. Just like any design or contracting firm, manufacturers and reps strive to achieve profit levels that enable them to maintain quality personnel and continue to offer the wide array of products and services their customers have come to expect and often perceive as "free." Dependence on the marginal profits that result from allowing "cherry picking" unit-priced bids eventually diminishes both the manufacturers' and agents' ability to meet these needs and expectations. Of course, the owner must ultimately benefit from lower costs derived principally from economies of scale and lower gross profit margins. When practiced responsibly and responsively by manufacturers and agents who balance short-term profits with the maintenance of long-term relationships, packaging is a valuable cost containment method on par with Design & Build or GMP contracts. Regrettably, some reps abuse this practice to their profit, but more recently, the contractor

has become the prime beneficiary through their common practice of pitting packaging agents against each other in a post-bid auction. In these worst-case scenarios, packaging has devolved to a winner-take-all proposition. Often in markets where contractors are the strongest player, agents are routinely required to provide "value-engineering" packages along with an "as specified" quote at bid time before there is any evidence that a job might require cost savings. The contractor gains a competitive advantage by forcing inappropriate substitutions on the owner and designer in the name of competition. What was once a reasonable marketing technique of the manufacturer and the agent has become a tool for the contractor to leverage deeper price concessions. As Mr. Meltzer pointed out, the "Gourmet" rep can be left holding an empty bag. Regardless of design intent, this practice goes beyond Mr. Nadon's description of specifications as an outline. It devolves to the use of specs as a mere suggestion with little thought for delivering true value to the owner. This all-too-common situation gives Mr. Steffy just cause to question the ethics of our entire industry.

It is clear that manufacturers, their agents, distributors and even contractors either cannot change or are unwilling to change the culture of their own volition. They are too immersed in the vortex of competitive struggles. Specifiers must take the lead in changing the process. It also seems clear that the current character of the process is driven by the obsession for competition through multi-name specifications. Designers often refuse to acknowledge that addressing these practical conditions of the lighting market are their problem. Creative design work is only part of the job. Construction administration is the occasionally messy but necessary part required to make design a reality.

Convenience in spec writing aside, bidding specialty products in the same fashion as commodities is an invitation to problems. Bidding of generic commodities should take full advantage of packaging, but specialty items should be treated in a different manner. Single-name specifications need not be a hindrance to fair competition and fair prices. An owner's insistence on multiple names presumes that there are equals. It also assumes that this is the best means to a good price, which is not necessarily the case. The greater danger is that this invites the theft of intellectual property, poor-quality knock-offs and inappropriate substitutions that deliver little true value to the owner and discourage product innovation and tooling investment by the manufacturers. If handled correctly, pre-negotiated allowances for key items will ensure that competitive bidding for other materials is not jeopardized and that a fair price can still be obtained. Required unit pricing of a base-bid item and alternatives would allow for informed decisions to be made by the design team and the owners' representatives as part of the post-bid evaluation. If value engineering is needed, it can be done from the top down, as it should be.

The burden falls on the specifiers to initiate changes in the specification and bid process. Architects, engineers and designers who burn fee in the CA phase reviewing substitutions and educating owners should consider a change in methods. A greater investment in proactive specifications in the CD phase will show beneficial results in the end. ■

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