

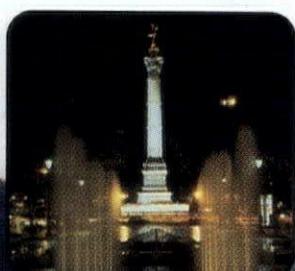
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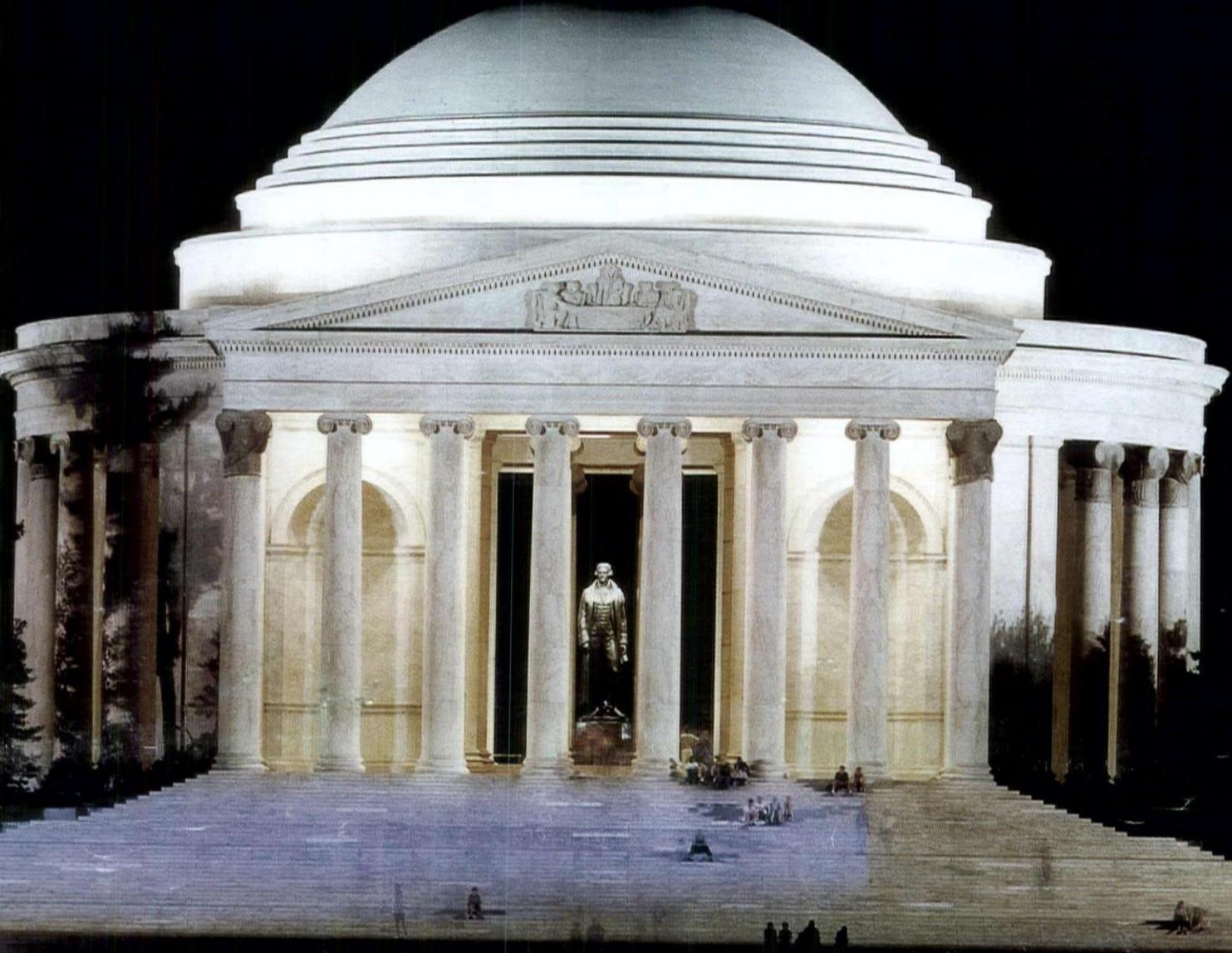


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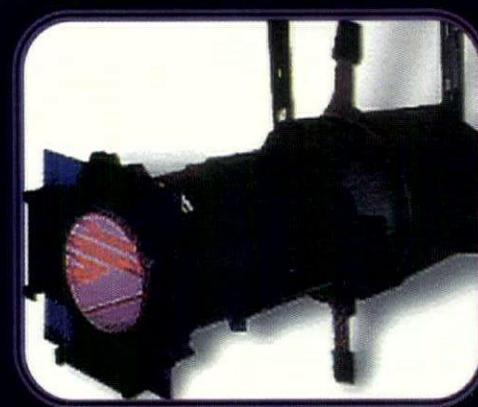
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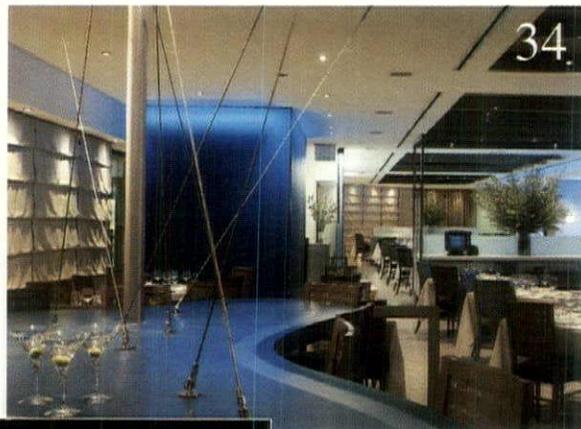
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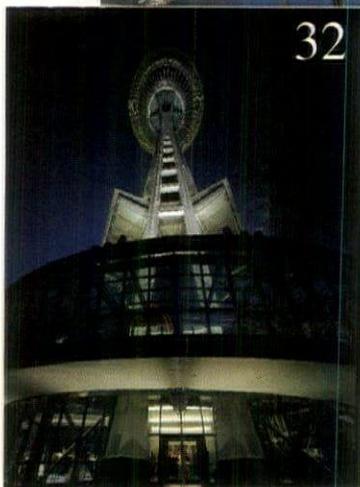
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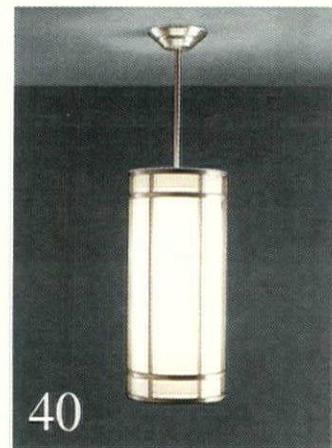
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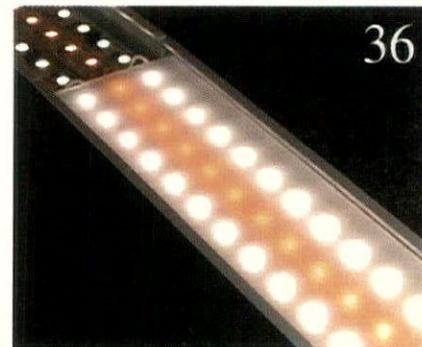
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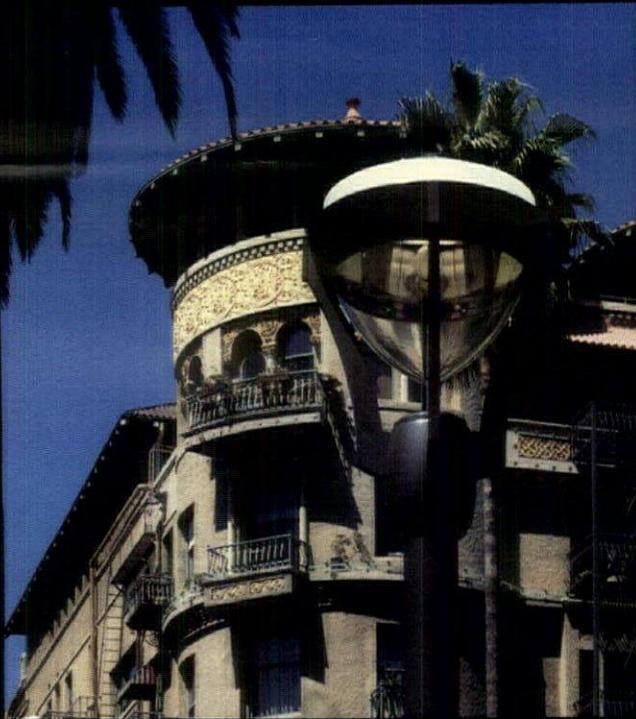
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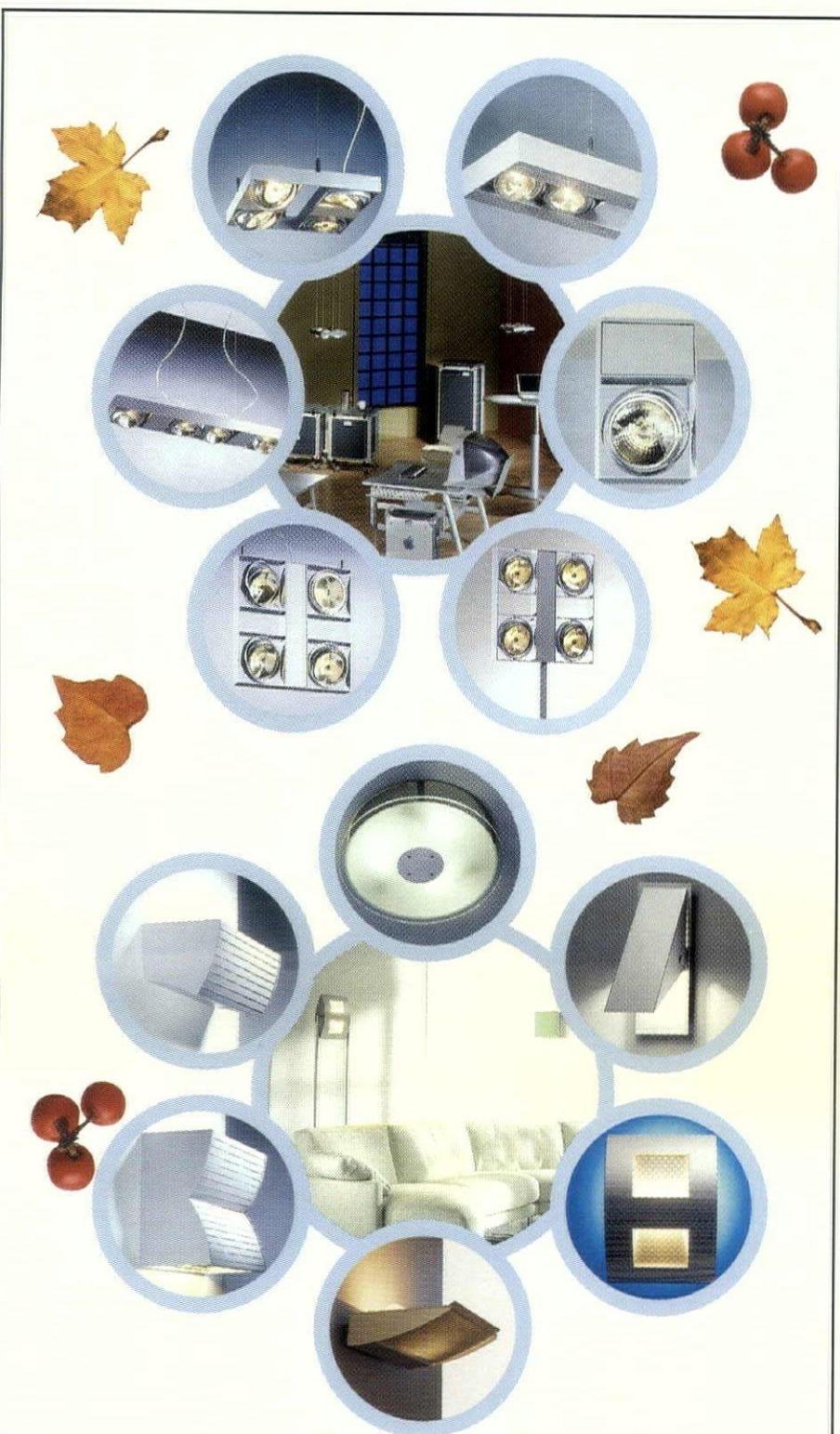
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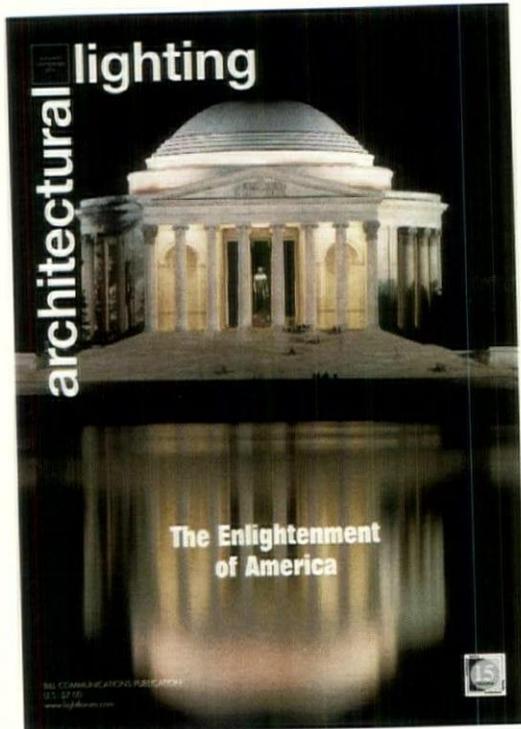
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VARIATIONS ON A THEME

In putting together this issue, which, since 1999, we've called our annual "Applications Issue," we've tried to include a wide variety of applications that reflect the range of projects our readers



Cover Photo: © Peter Aaron/Esto

are involved in. And while each project featured on the following pages is certainly different in type—retail, institutional, hospitality—and scope—a tony Manhattan eatery to a U.S. Memorial—the editors of *Architectural Lighting* saw a common theme emerging amongst the projects in this issue: The restoration and "modernization," if you will, of famous and established national icons to their original glory and the preservation of their architectural dignity. And in the process of these aesthetic improvements, the designs have often taken on energy-efficient story lines, proving what is often difficult to communicate—quality can coexist with conservation. "Saving" does not necessarily translate to sacrificing.

Take, for instance, Yale University, the Seattle Space Needle and the Jefferson Memorial. These are all names familiar to almost any American. And each of these has recently—and in the case of the Jefferson Memorial, *very* recently—been transformed through lighting to reveal the inherent beauty of the project or to enhance its visual presence and honor its history. These are lighting designs that address function, add impact, introduce drama—yet recognize the need to reduce energy consumption—and responsibly and creatively do so. But this is not the case only in the aforementioned projects.

Look at Bergdorf Goodman (story on page 28),

another name familiar to many: A cosmetics department most certainly requires good (and flattering) lighting—as it mediates the interaction between the customer and items that are exceptionally visual. And though it primarily uses energy-efficient sources, it's so successful in its approach. Or the Jefferson Memorial: 30 percent more of the Memorial is

lighted using 20-percent fewer fixtures and an 80-percent reduction in energy. And it's stunningly beautiful.

On that note, I just want to say how excited and honored we are to have been given this famous historic landmark as our cover story—a project that has already captured tremendous national interest in the public media. It has been an exemplary collaborative effort on the parts of all involved from start to finish. *Architectural Lighting* is grateful to have been presented with the exclusive opportunity to tell this amazing story. So, read on ... the feature articles begin on page 18.



Christina Trauthwein,
Editor-in-Chief

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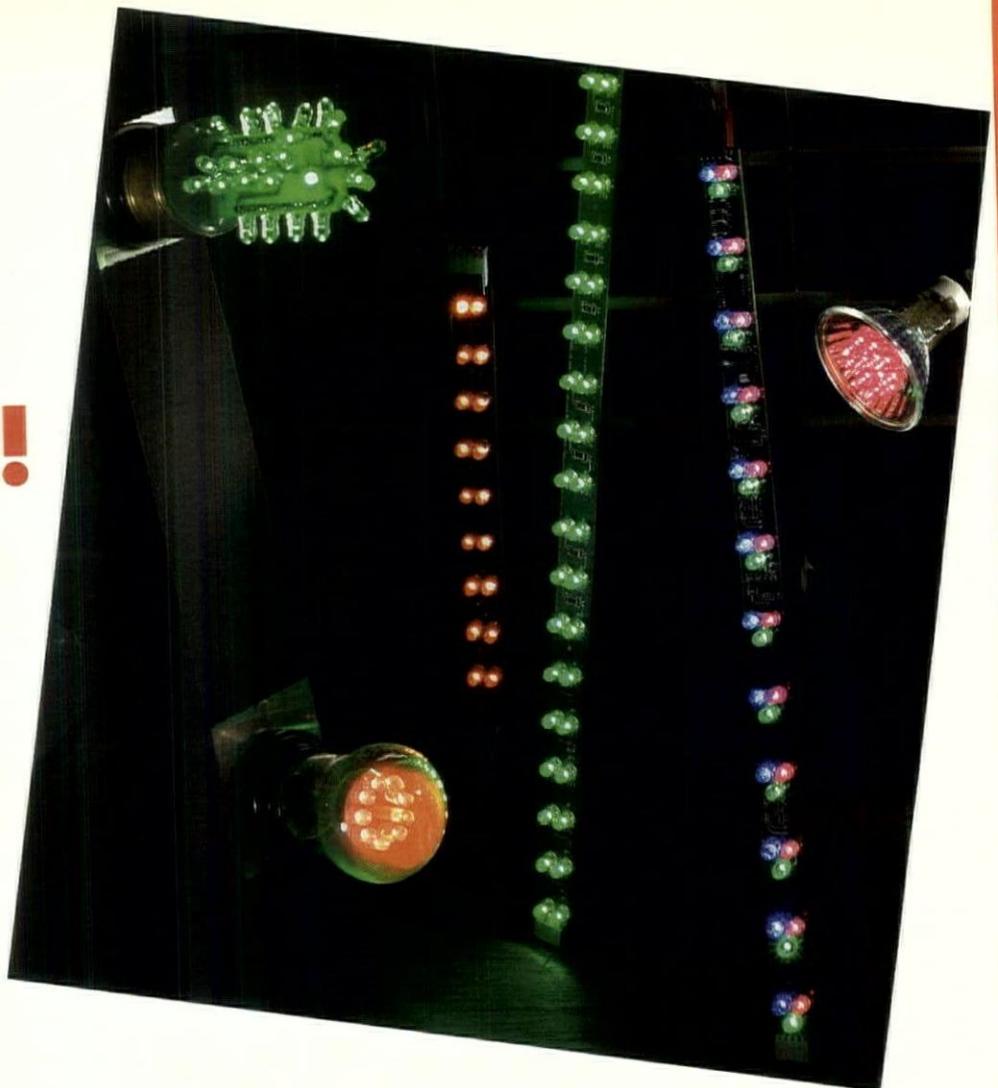
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LED 2001 EXPLORES EMERGING OPPORTUNITIES

Intertech is holding its second annual conference on LEDs October 17-19, 2001 at the Hyatt Islandia Hotel in San Diego, CA. This year's conference will feature more than 25 expert speakers who will discuss the opportunities and obstacles in existing and new markets for high-brightness LEDs in illumination applications. Co-chairs for LED 2001 are Kathryn Conway, principal of LED Consulting and M. "Chips" Chipalkatti, marketing and technical manager at Osram Sylvania/Opto Semiconductors, Inc.

Two pre-conference workshops will also be offered on October 17. "Codes, Standards, Testing and Nomenclature for LEDs" will be led by Angelo Arcelli of Labsphere and Carolyn Jones, LED Consultant. Andrew Lipman of Norlux Corp. will lead the workshop, "LEDs: What Lighting Designers and Manufacturers Need to Know."

Architectural Lighting is the exclusive media sponsor. For more information, call Jonathan Olmstead at (207) 781-9615, fax (207) 781-2150 or email: Jonathan@Intertechusa.com.

IALD AND ELDA WILL NOT MERGE

The International Association of Lighting Designers (IALD) has announced that its membership has voted against the proposed union with the European Lighting Designers Association (ELDA). The two associations will remain separate organizations, but will continue to work together to support mutual goals. "Despite certain concerns that our members had about some details of the proposal to form the association, the IALD leadership and members are committed to maintaining close ties with ELDA and other designers around the world to serve the international lighting community," said JoAnne Lindsley, FIALD, president of the IALD. "We want to move ahead with a number of joint activities planned with ELDA."

MERGERS & ACQUISITIONS

Varon Lighting, Inc. has announced the acquisition of Beacon Products Inc., a manufacturer of outdoor commercial lighting fixtures and outdoor site furniture. The third acquisition by Varon Lighting in the last eight months, Beacon will serve as the cornerstone in forming the Varon Outdoor Group, which is headed by president Perry Romano. Michael A. Imparato, founder of Beacon Products, will stay on as president of Beacon Products. To contact Beacon Products, phone (941) 755-6694 or fax (941) 751-5535. Varon Lighting can be reached by phone at (847) 487-8203 or fax at (847) 526-9259.

Advanced Lighting Systems, Inc. (ALSI) has purchased NitenDay Industries, a fiber-optic lighting company based in Dallas. Following the acquisition, ALSI will change its corporate name to Advanced NitenDay, Inc. Operations of the combined companies will be based at ALSI's headquarters in Sauk Centre, MN. ALSI manufactures fiber-optic cable as well as fiber-optic components. For more information, visit www.advancedlighting.com and www.nitenday.com.

ON THE MOVE

Cooper Lighting has completed the relocation of its division headquarters to Peachtree City, GA. The move will allow the uniting of its sales, customer service, distribution, marketing, accounting, engineering, information technology and administrative departments into one central location. Originally the site of its 485,000-sq.-ft. Customer First Center, which opened in 1997, the Peachtree City location now includes a 65,000-sq.-ft. addition that will also house Cooper Lighting's educational facility, the Source. For more information, contact Cooper Lighting at 1121 Highway 74 South, Peachtree City, GA 30269 or visit www.cooperlighting.com.

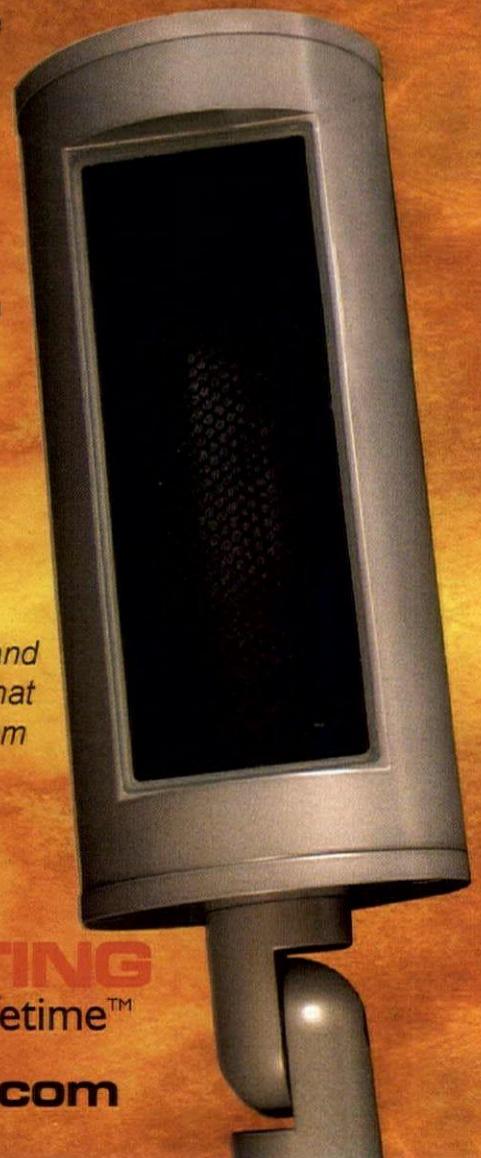
TSAO Designs, Inc. has moved its plant and offices to a newer and larger facility at 570 Barnum Avenue, Bridgeport, CT 06608. To contact the company, phone (877) 966-9559/(203) 335-4337, fax (203) 335-4277 or visit www.tsaolighting.com.

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IES ANNOUNCES 28TH IIDA AWARD WINNERS

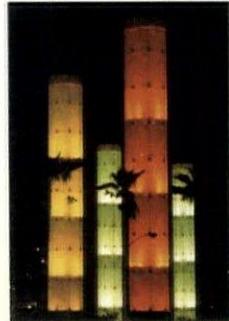
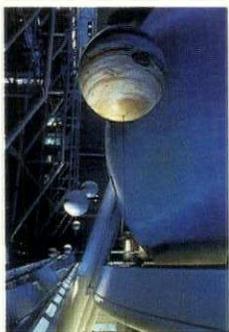
The Illuminating Engineering Society of North America has announced the winners of the 2001 International Illumination Design Awards. The awards were presented at a luncheon held August 7 during the IES Conference in Ottawa Canada.

This year, the Edwin F. Guth Memorial Award of Excellence for Interior Lighting Design was presented to Fisher Marantz Stone for the American Museum of Natural History Rose Center for Earth and Space. A special citation was given to Johnson Schwinghammer for Pod Restaurant and to Matsushita Electric Works, Ltd. for Palulu Plaza Chiba (elevator hall on the 9th floor).

Winners of the Paul Waterbury Awards of Excellence for Outdoor Lighting Design include: Domingo Gonzalez Associates for the George Washington Bridge Tower; Ross De Alessi Lighting Design for the Seattle Space Needle (see story on page 32); and Moody Ravitz Hollingsworth for the LAX Gateway Enhancement. Awards of Distinction were presented to Tanteri & Associates for the Light Threshold and Vortex Lighting for the New 42nd Street Studio Building Facade.

The Aileen Page Cutler Memorial Award and the Award for Energy Efficiency in Lighting for Commercial Buildings were not awarded this year.

Judges for the 2001 competition were Gary Steffy, Gary Steffy Lighting Design; Lesly Wheel; Gary Wigglesworth, MagneTek; Linda Cummings; Thomas Krob, TJ Krob Consulting Engineers Inc.; Reginald L. Head, Langdon Wilson Architects; and Melinda Morrison, Melinda Morrison Lighting Design.



IESNY ANNOUNCES STUDENT DESIGN WINNERS

The Illuminating Engineering Society of New York has announced the winners of its 2001 Student Design Competition. They are: Giselle Mercado, who received \$1,000 for first place; second place winners, Eri Kosuge and Kanlaya Leehanantakul, who were each awarded \$750; and Stasa Celigoj, who received honorable mention and \$500. All are students at Parsons School of Design.

Now in its second year, the competition was designed to inspire students from New York City design schools who are interested in pursuing a career in architectural lighting. Participants are challenged to create an environment within an 18-in. cube that, through the addition of texture, shape and character, demonstrates a study of light onto objects. The winning boxes were displayed at the Lumen Awards banquet, which was held June 18 at Chelsea Piers in New York City.

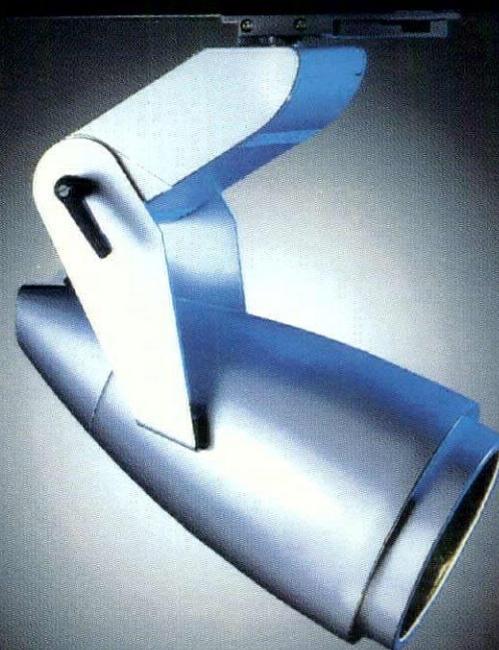
Judging for the competition was held May 19 at the School of Visual Arts. This year's judges included Richard Anuskiewicz, an independent artist; Frank Conti of Enterprise Lighting; JoAnne Lindsley of Lindsley Consultants; and Christina Trauthwein of *Architectural Lighting*.

LIGHTOLIER TEAMS WITH LRC IN STUDENT LIGHTING COMPETITION

Lightolier Inc. and the Lighting Research Center (LRC) have announced the Student Luminaire Design Competition, which will be offered at more than 150 colleges and universities starting August 2001. Titled, "Packaged Daylight: an Integrated Daylight/Electric Light Fixture," the competition will challenge students to design an integrated product that delivers both daylighting and electric lighting to an interior building space.

This competition was developed as a result of a common lighting industry problem. In current building practice, an architect, engineer or designer selects skylights or other mechanisms to bring daylight into a building, while electric lighting fixtures are selected by another building specifier. This standard practice often leads to inconsistencies and prevents these two key building components from working well together.

Eligible applicants must be full-time students in an undergraduate or graduate program in architecture, engineering, interior design, product design, industrial design, optics, building sciences or other related disciplines. Entries will be accepted through April 15, 2002 and the winners will be announced in May 2002. First prize is \$5,000, second prize is \$2,000 and third prize is \$1,000. Winners will also be offered a design internship at Lightolier during the summer of 2002. For more information, contact Earl Print at Lightolier at (508) 646-3103, email eprint@genlyte.com or visit www.lightolier.com or www.lrc.rpi.edu.



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COLOR KINETICS JOINS SMITHSONIAN

Color Kinetics Inc.'s intelligent LED-based lighting technology has been added to the permanent collections of the Smithsonian's National Museum of American History, Behring Center in Washington, D.C. The donation includes the first prototypes of several different LED-based lighting fixtures that incorporate the company's patented Chromacore digital lighting technology as well as a detailed timeline of milestones in the company's history.



Developed in 1997, Chromacore uses microprocessor-controlled multi-colored LEDs to generate millions of colors and a variety of dynamic lighting effects. The idea was conceived by Color Kinetics co-founders George Mueller and Dr. Ihor Lys, while they were engineering students at Carnegie Mellon University. For more information, contact Color Kinetics at (617) 423-9999.

LIGHTOLIER HOSTS NEW SEMINARS

Lightolier is hosting a new series of lighting systems technology seminars. Targeted to the lighting end-user, facility managers, architects, engineers, interior designers and lighting specifiers, these intermediate-level courses are registered with the American Lighting Association (ALA) and the American Institute of Architects (AIA) for accreditation. Topics covered include lighting systems technology for retail spaces and office environments as well as fiber-optic system specification, application and installation. All programs will be held at the Lightolier TechCenter in Fall River, MA.

For more information, contact Earl R. Print, LC, director of sales development and lighting education, at Lightolier, 621 Airport Road, Fall River, MA 02720; phone (508) 646-3103. The registration fee is \$250 for each seminar.

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RSA LIGHTING ANNOUNCES RELEVANCE AWARD WINNERS

RSA Lighting announced the winners of its first annual Relevance Award competition. The program was created to recognize lighting designs that use RSA products in applications that demonstrate relevance to the environmental and architectural challenges of the task that it illuminates.

This year's first-place winner is the Brookstone Store in Las Vegas, which was illuminated by Josh Feinstein, formerly of the Lighting Design Group and now at the helm of Sladen Feinstein Integrated Lighting. Second place went to Darrell Hawthorne for his lighting of Gordon Biersch's Henderson, NV restaurant. Third place was shared by Michael Gehring of Kaplan Partners Architectural Lighting for his work on the TakuMaku Restaurant and Mario Echeverria of Echeverria Design Group for Jeweler's project. Cash prizes were awarded and winning projects appear on RSA's website at www.rsalighting.com.

LEED ADDRESSES SAVINGS IN EXISTING BUILDINGS

Recognizing that the 4.5 million existing buildings in the U.S. can achieve a 20- to 30-percent reduction in energy use, the U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy (DOE) and the U.S. Green building Council (USGBC) have announced a partnership between Energy Star and LEED to help ease the nation's energy crunch by introducing LEED for existing buildings.

LEED, which stands for Leadership in Energy and Environmental Design, is the USGBC's sustainable building rating system for certifying green design and construction in new buildings, which has already been adopted by several private and public concerns for new construction projects. During the past year, the USGBC has been developing green building standards for existing-building upgrades and operations. The standards include making green improvements to building core, shell and roof systems; central mechanical, electrical and plumbing systems; and building operations. The first draft of the standards is being reviewed by an advisory group of experts, including the EPA and DOE, and will be piloted in about 50 building projects. The official launch date of a fully approved version is anticipated for 2003. For more information, visit www.usgbc.org.

ON THE WEB

Fibre Light U.S., LLC has announced the launch of its website at www.fibrelightUS.com. Designed to present information about the company and fiber-optic lighting in a format that is easily navigated, the site categorizes product information by application rather than by product and features a sales rep locator, as well as a literature request section. Fibre Light U.S., LLC, a division of Genlyte Thomas, is headquartered in Union, NJ.

GE Lighting has introduced a new GE Lighting China website at www.gelighting.com/cn/business/index.html. The website is fully translated into Mandarin Chinese and replaces a previous website maintained in English by GE for its Chinese customers. The new site will be equipped with the same navigation features as the GE Lighting North America website with resources for both home and business lighting as well as information on the GE Lighting Institute.

CORRECTIONS

On page 23 of the June/July issue of *Architectural Lighting Magazine*, two people in a photo that accompanied an IALD scholarship announcement were incorrectly identified. In fact, the people appearing in the photo are (left to right): Scholarship winner Nandini Mukherjee; Justin T. Brown of Lam Partners; Thanthip Rukkulchon, a student at Parsons; and scholarship winner, Kanlaya Leehanantakul.

Also from June/July, Wide-Lite was omitted from the list of lighting manufacturers involved with the Raleigh/Durham Airport Parking Structure project, an IALD Award of Merit Winner, that appeared on page 31 and the cover.

Architectural Lighting regrets the errors.

REMEMBERING ABE

In response to an article on Abe Feder, which appeared in *Architectural Lighting Magazine's* March "Hall of Fame" issue, New York artist Valerie Markwood sent in this portrait that she had painted of the legendary lighting designer and the following words:



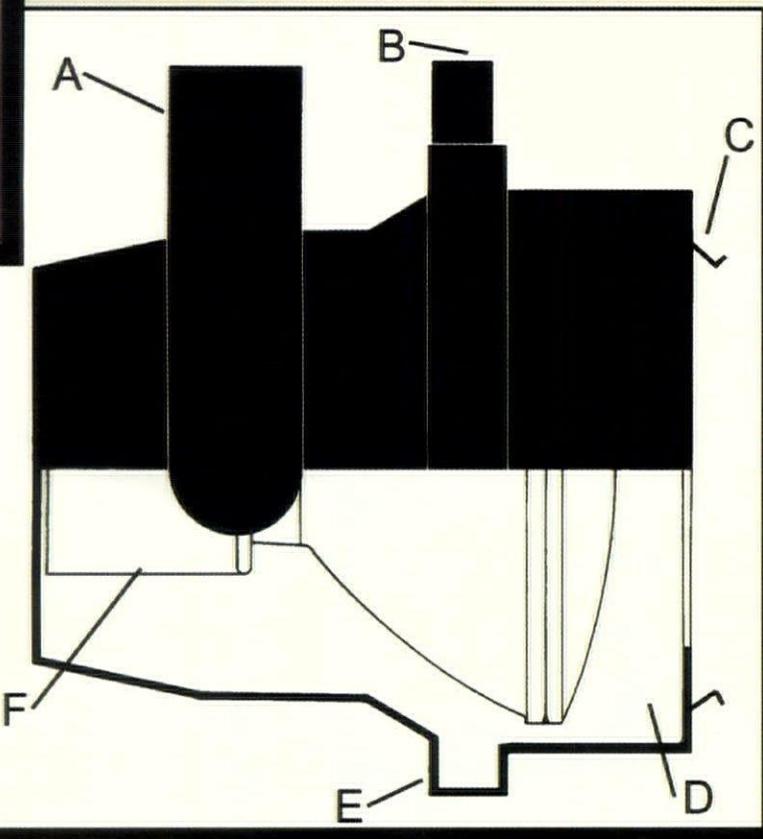
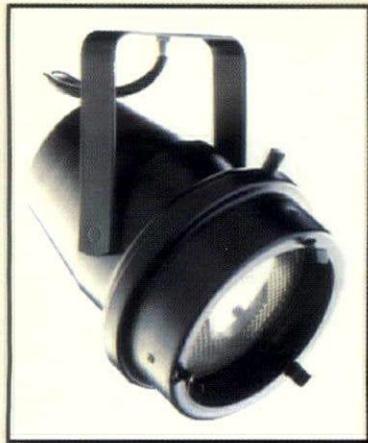
Lighting by Feder, 2001. Dry pigment, graphite on paper, 22 1/2 in. x 30 in.

Abe Feder was the creative director and lighting designer for the restoration and renovation of my studio-resident-triplex in the legendary Hotel des Artistes in New York City from 1974 to 1976. The neo-Gothic space had long been empty and neglected. The space had been the long-time home of the popular writer and personality, Fanny Hurst. The job was so successful that upon completion, a magazine rushed to do a lead spread on it.

My relationship with Abe was both professional and one of friendship that continued until his death in 1997, though he continues to inspire even now. In what was to be his last year, I decided to paint his portrait to pay tribute and perhaps, in the doing, to gain greater insight into his gigantic talent. I worked on the painting on and off for several years and recently completed it. The name that I gave it was Abe's professional name, "Lighting by Feder." When I showed the work to LaVerne Roston, Abe's long-time colleague and devoted keeper of his flame, she referred to something that he once said that I found intriguing: "Someday we will light the very air around us. There will be no wires." LaVerne felt that I had embodied the spirit of this idea in the portrait. I was honored by her words.

I am currently at work on a series of paintings entitled, "At the Beauty Parlor" at my West 64th Street studio. I only wish that Abe was still there. Who knows? Maybe in some way he still is.—Valerie Markwood

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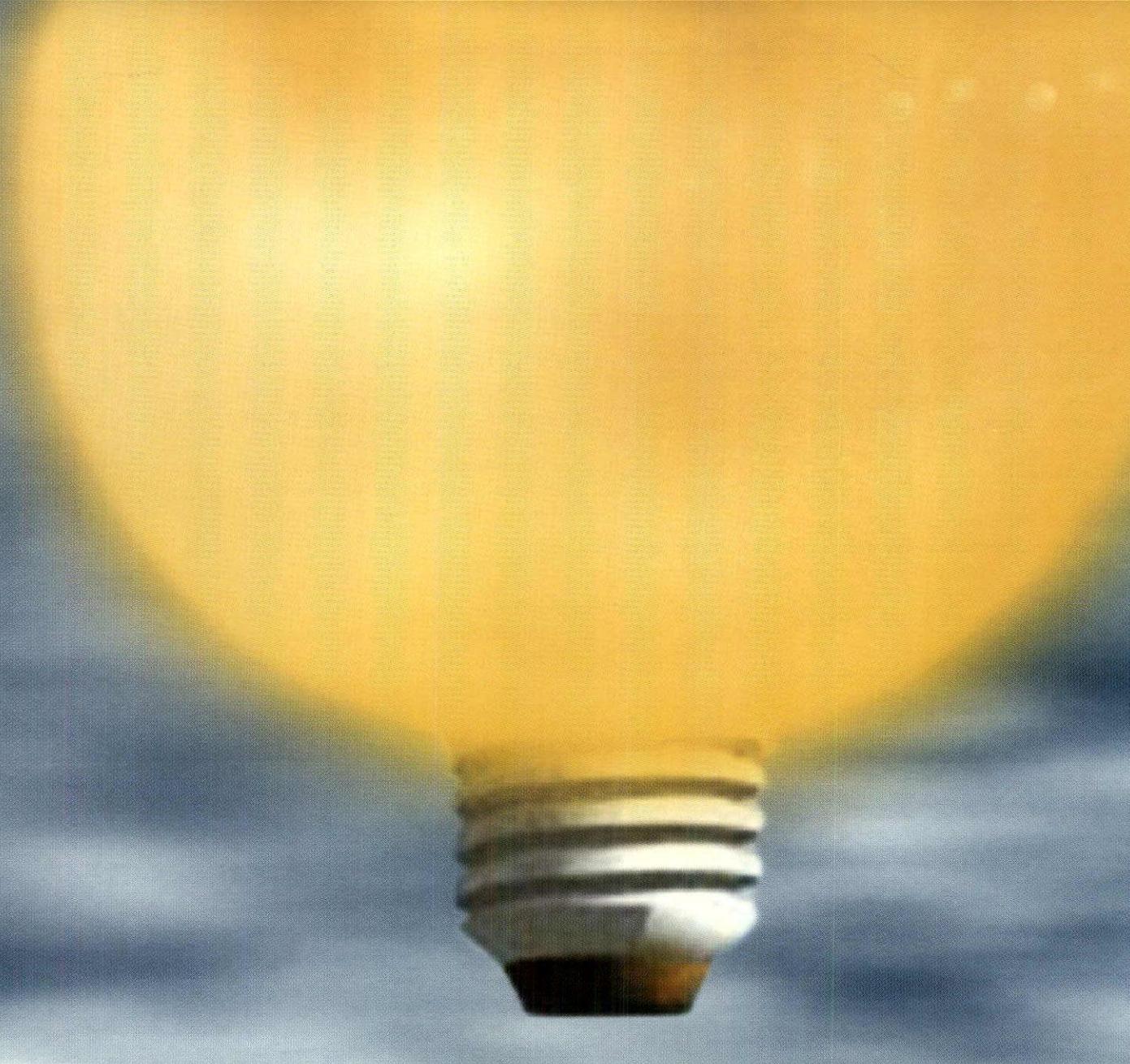
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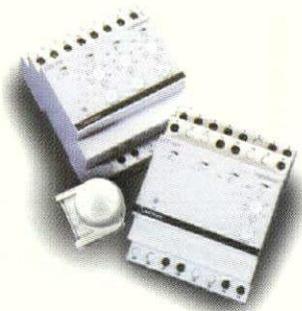
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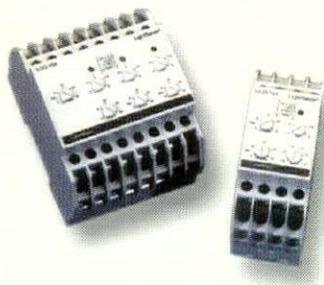
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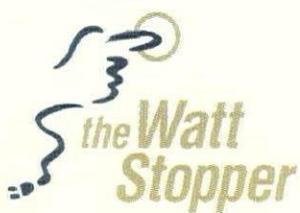
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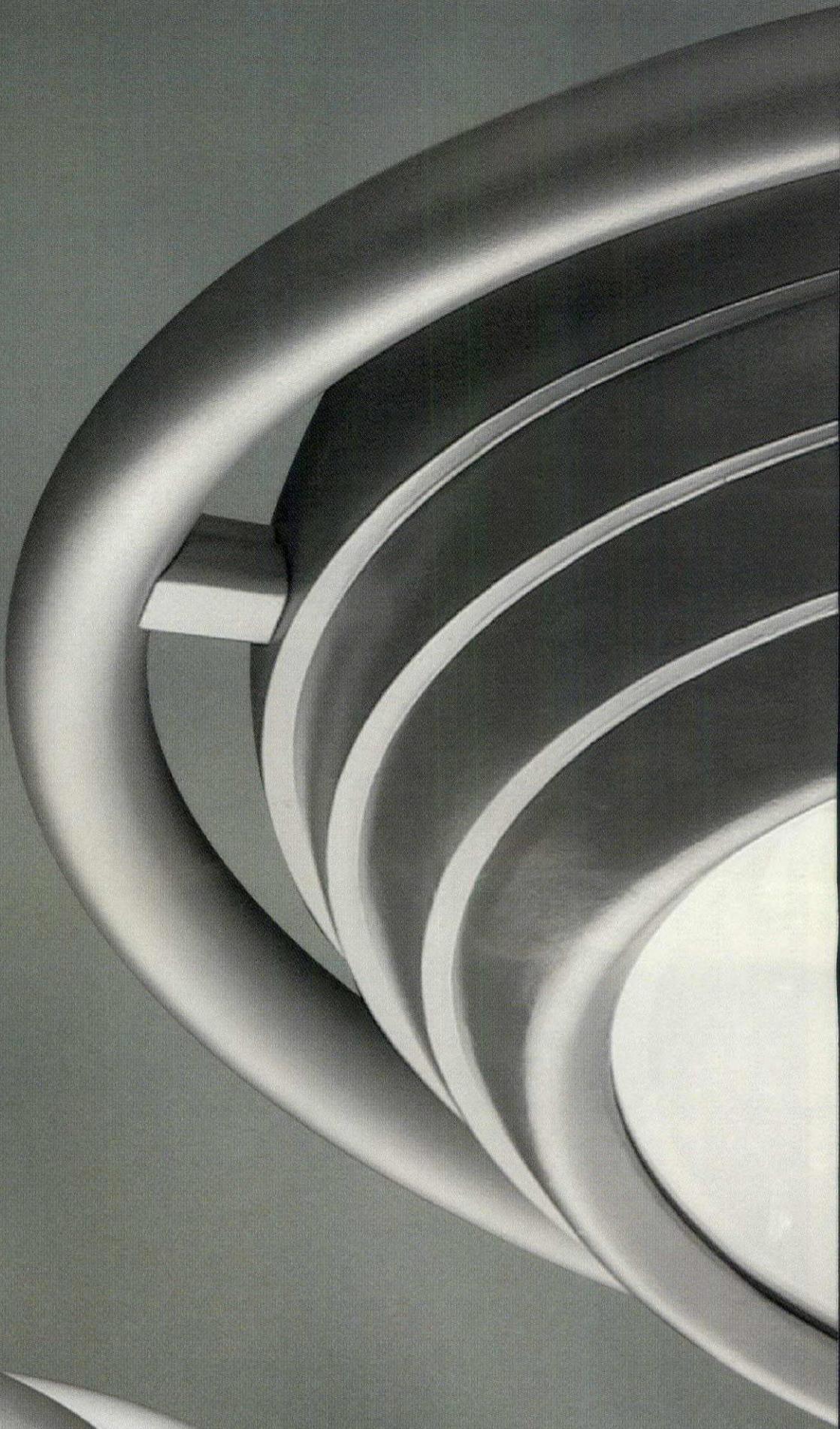


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NEW FACILITIES AND A NEW FIRM

Meyda Tiffany has completed a major expansion of its 144,000-sq.-ft. international manufacturing operations, distribution and warehousing facilities, corporate headquarters and new factory showroom. A ribbon-cutting ceremony was held June 8 to celebrate the grand opening. The corporate facility is located at Meyda Tiffany, One Meyda Fine Place, 55 Oriskany Boulevard, Yorkville, NY 13495; phone (800) 222-4009, fax (315) 768-1428.

Hubbell has opened a new distribution/sales facility in Ontario, CA. The new location boasts a 146,000-sq.-ft. warehouse and a 10,000-sq.-ft. office and training facility. For more information, call Hubbell at (540) 382-6111 or fax (540) 382-1526.

Lutron has unveiled a new training facility to support its Latin American and Florida-based market. The 6,000-sq.-ft. facility is located in the Jacaranda Professional Park in Plantation, FL and will host advanced-level training sessions on Lutron products. Courses will be taught in Spanish, Portuguese and English. For more information, visit www.lutron.com.

William Leddy, Marsha Maytum and Richard Stacy have announced the formation of **Leddy Maytum Stacy Architects**. The 18-person firm is located at 444 Spear Street, Suite 201 in San Francisco. For more information, phone (415) 495-1700.

NEW APPOINTMENTS

Charles Jerabek has been named president and a board member of Osram Sylvania. Effective October 1, Jerabek will succeed **Dean T. Langford**, who will retire in September as the longest-sitting president since the lighting company adopted Sylvania as its principal name in 1942.

As part of a broad reorganization of its divisions and subsidiaries into four business groups, JJI Lighting Group has promoted **James F. Haworth** to group VP for indoor lighting; **Ian R. Ibbitson** to group VP for outdoor lighting; and **Robert N. Haidinger, Jr.** to group VP for architectural/decorative lighting. **Markus Hoffmeister**, general manager of the Hoffmeister Co., will head the JJI European Lighting Group. In related news, the company has also named **Charles J. Florio** VP, CFO for JJI and **Heinz K. Filzer** VP of product development.

Pamela K. Horner, manager of General Lighting education at Osram Sylvania, has been elected president by the Illuminating Engineering Society of North America (IESNA). Her one-year term as president became effective on July 1, 2001.

Cooper Lighting has appointed **Michael Moore** VP of marketing; **Robert W. Shea** has been named VP, Cooper Canada.

Prescolite has promoted **Renee Green** to director of marketing.

Rosemarie L. Allaire, IALD has joined the Los Angeles office of Horton Lees Brogden Lighting Design.

Speirs and Major Ltd., the London-based office of the Lighting Architects Group, has named **Claudia Clements** an associate.

Robert E. Weinburg has been named senior VP at Lutron Electronics.

Matthew Tanteri has joined Ann Kale Associates Inc. as senior associate

Stone Mountain Lighting Group (SMLG) has announced the addition of Brent Shelly, LC to the firm's design team.

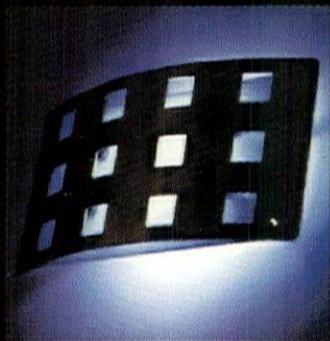
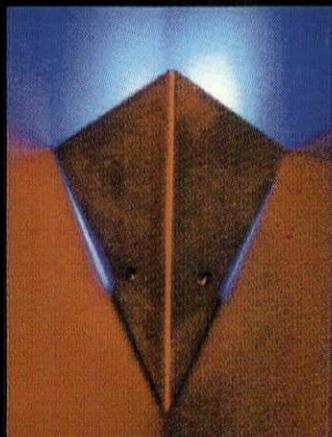
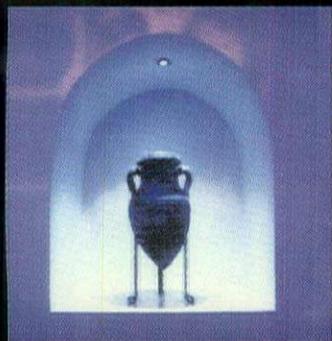
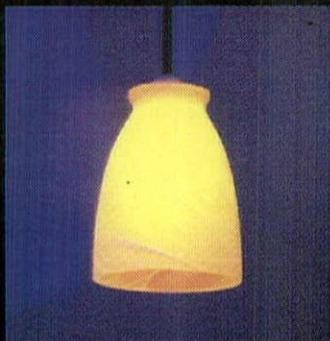
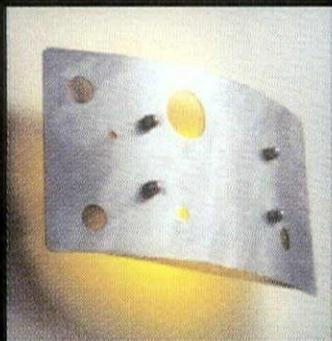
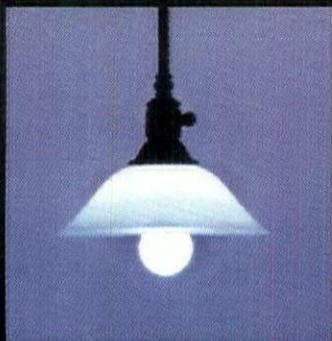
Jacqueline Lavigne has joined HOK Chicago as project development director.

Retail Planning Associates has appointed **Diane Perduk Rambo** partner and **Peter G. McIlroy** partner, international services.

Albert Kahn Associates, Inc. has promoted firm president, **Stephen Q. Whitney, FAIA**, to CEO.

Patrick Mackey has joined A.L.P. Components, Inc. as controller.

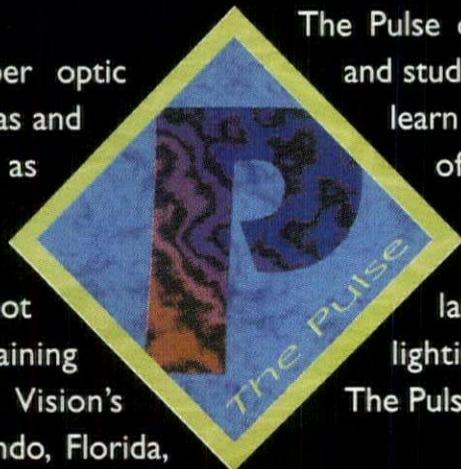
David E. Keiser, AIA, ACHA and **Bernard Kummer, AIA** have been named associates at SmithGroup.



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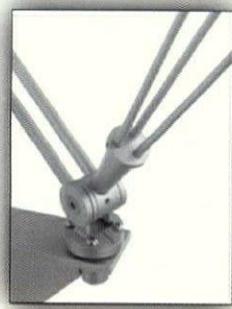
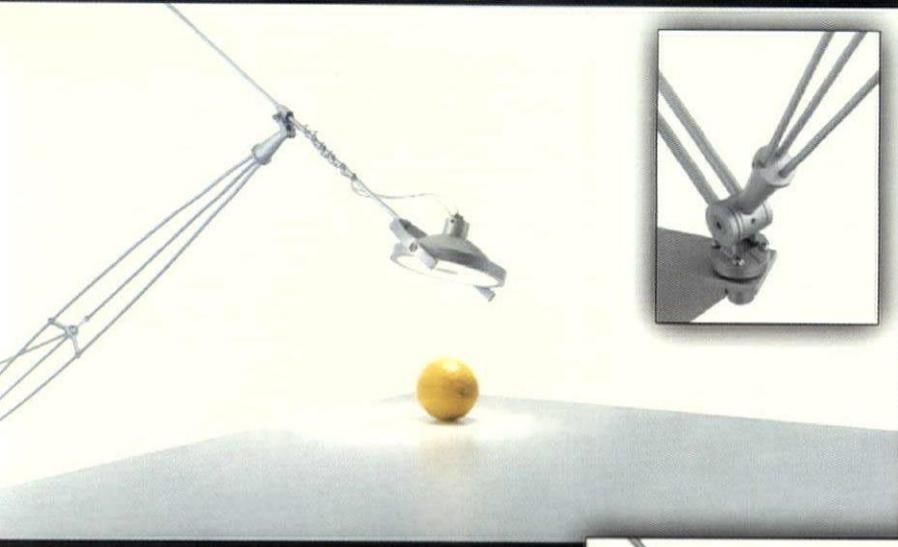
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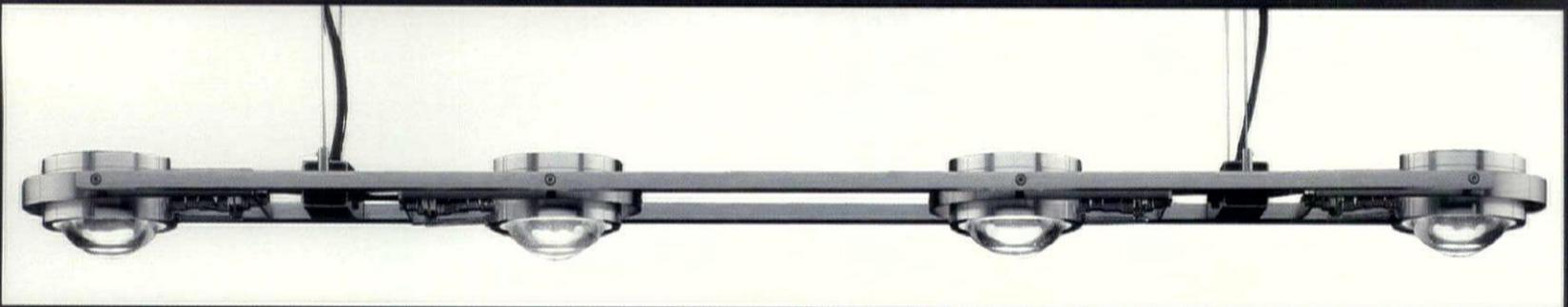
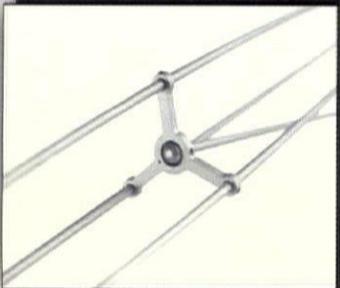
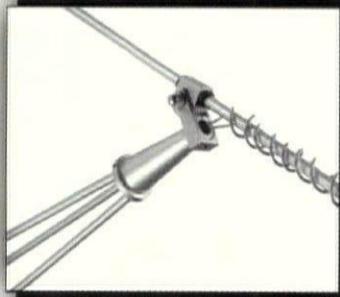
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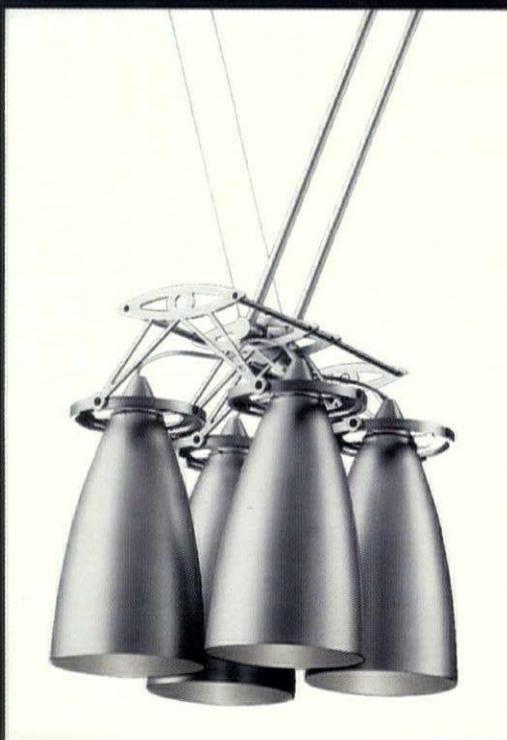
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2001-2002 SCHEDULED EVENTS

October 1 Designers Lighting Forum of Los Angeles: Leisure & Light—Hotel Lighting, Department of Water & Power Building, Los Angeles. Contact: (310) 535-0105, www.DLFLA.org.

October 2-3 The Leading Edge: Lighting Exhibition and Educational Seminars, Metropolitan Pavilion, New York. Contact: Ron Slater at (212) 414-2803, email ron@internationallights.com.

October 3-5 Light 2001: IX International Fair of Lighting Equipment and Electric Fittings, Warsaw, Poland. Contact: (48 22) 649 76 69, 649 76 71, fax (48 22) 649 76 83, 651 00 58.

October 10 IESNY Program: The Meaning of Life, Con Edison, New York. Contact: (718) 951-6773, www.iesny.org.

October 14-17 IESNA Street & Area Lighting Conference, Orlando, FL. Contact: Valerie Landers at (212) 248-5000, ext. 117.

October 17-19 LED 2001, Hyatt Islandia Hotel, San Diego, CA. Contact: Jonathan Olmstead at (207) 781-9615, email Jonathan@Intertechusa.com

October 31-November 1 NeoCon New York, Jacob K. Javits Convention Center, New York. Contact: (800) 528-8700.

November 1-2 Fundamentals of Energy Management, Atlantic City, NJ. Contact: (770) 925-9633, fax (770) 381-9865.

November 2-4 LDI2001: 14th Annual Lighting Dimensions International, Orlando, FL. Contact: (800) 288-8606.

November 5 Designers Lighting Forum of Los Angeles: "Annual Landscape Lighting Showcase," Department of Water & Power Building, Los Angeles. Contact: (310) 535-0105, www.DLFLA.org.

November 14 IESNY Program: "The State of Energy," New York. Contact: (718) 951-6773, www.iesny.org.

November 27-28 Fundamentals of Energy Management, Orlando, FL. Contact: (770) 925-9633, fax (770) 381-9865, www.aeccc.org.

November 28-29 32nd IALD Annual Meeting and 2nd Educational Conference, Loews Hotel, Philadelphia. Contact: (312) 527-3677.

November 29-30 NeoCon West, Los Angeles Convention Center, Los Angeles. Contact: (800) 528-8700, www.merchandisemart.com.

2002 Events

January 7 Designers Lighting Forum of Los Angeles: "Theme Park Magic," Department of Water & Power Building, Los Angeles. Contact: (310) 535-0105, www.DLFLA.org.

January 9 IESNY Program: "Construction Today," New York. Contact: (718) 951-6773, www.iesny.org.

February 13 IESNY Program: "Color and Light," New York. Contact: (718) 951-6773, www.iesny.org.

March 4 Designers Lighting Forum of Los Angeles: "Historic Design & Restoration Lighting—Revitalizing a Landmark," Department of Water & Power Building, Los Angeles. Contact: (310) 535-0105, www.DLFLA.org.

March 13 IESNY Program: "Total Control," New York. Contact: (718) 951-6773, www.iesny.org.

April 1 Designers Lighting Forum of Los Angeles: "Annual Student Design Awards Scholarship Competition," Department of Water & Power Building, Los Angeles. Contact: (310) 535-0105, www.DLFLA.org.

April 10 IESNY Program: "Recommended Practices Revisited," New York. Contact: (718) 951-6773, www.iesny.org.

April 14-18 Light+Building, Frankfurt am Main, Frankfurt, Germany; (770) 984-8016, fax (770) 984-8023.

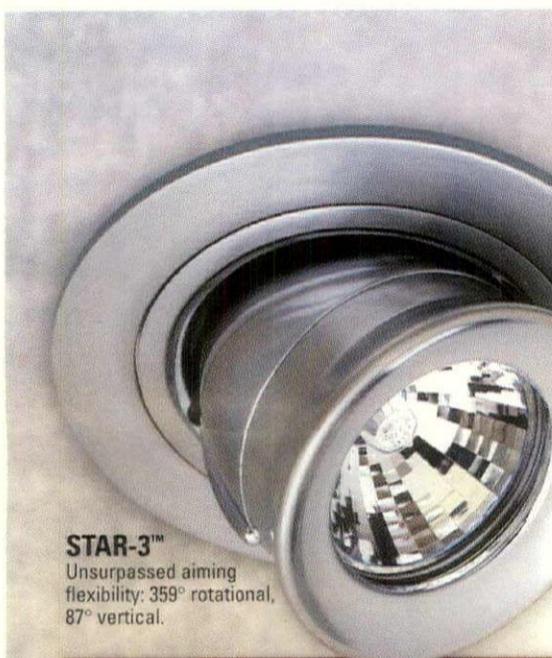
May 6 Designers Lighting Forum of Los Angeles: "Light Dining—Restaurant Lighting Design," Department of Water & Power Building, Los Angeles. Contact: (310) 535-0105, www.DLFLA.org.

May 8 IESNY Program: "Lighting for Video Conferencing," New York. Contact: (718) 951-6773, www.iesny.org.

June 2-5 Lightfair International, Moscone Center, San Francisco. Contact: (404) 220-2221, www.lightfair.com.

June 10 Designers Lighting Forum of Los Angeles: "Light as Art & Annual Mixer," Museum of Neon Art, Los Angeles. Contact: (310) 535-0105, www.DLFLA.org.

June 19 Lumen Awards Banquet, New York. Contact: (718) 951-6773, www.iesny.org.



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- Advanced Commercial Seminar: **October 4-5, November 1-2.**
- Global Training Sessions: **October 15-19.**
- Latin America Seminars: **November 12-16.**
- Grafik 6000 Contractor Training: **November 5-6.**

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- Lighting Design & Applications: **October 1-3.**

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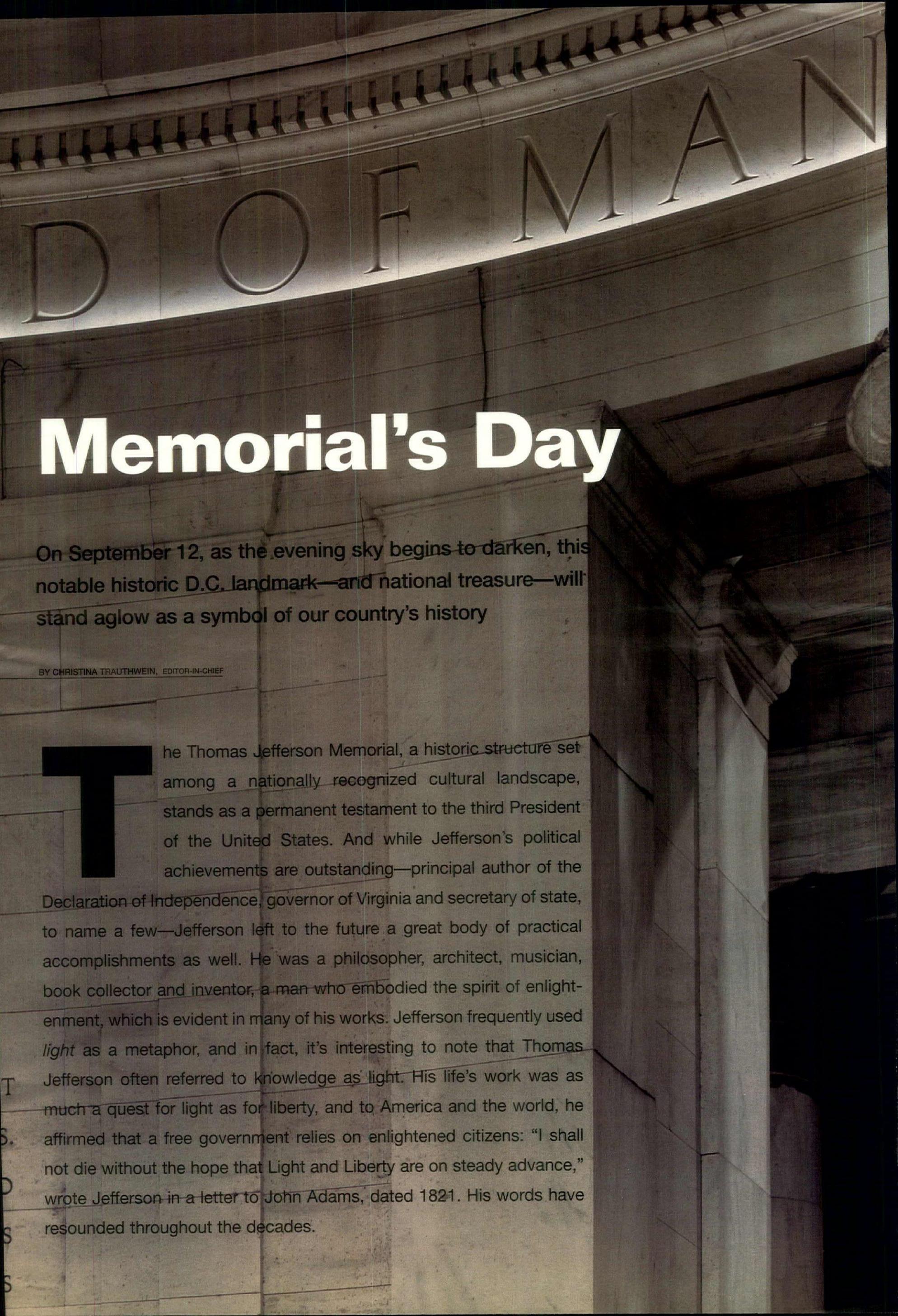
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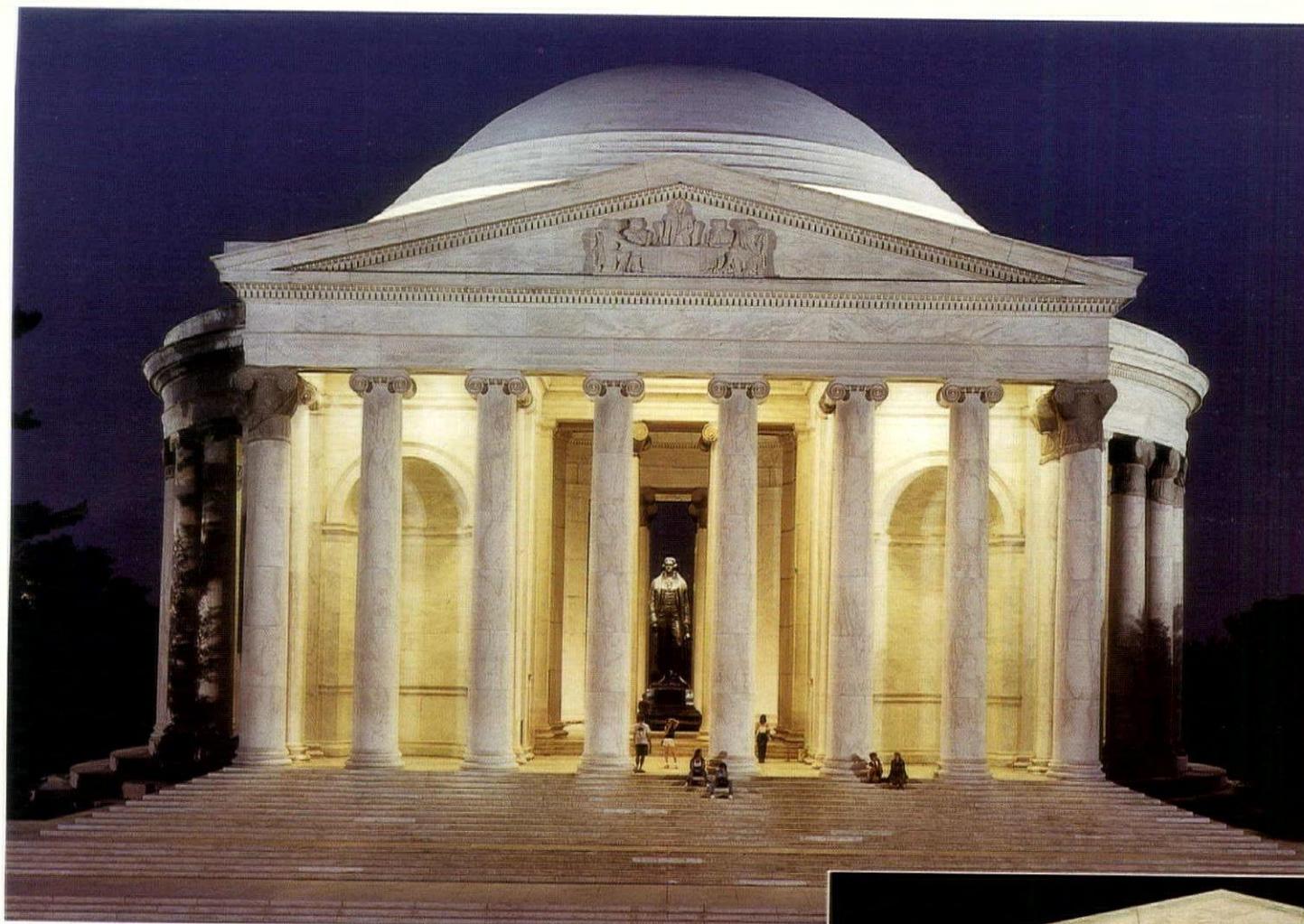


Memorial's Day

On September 12, as the evening sky begins to darken, this notable historic D.C. landmark—and national treasure—will stand aglow as a symbol of our country's history

BY CHRISTINA TRAUTHWEIN, EDITOR-IN-CHIEF

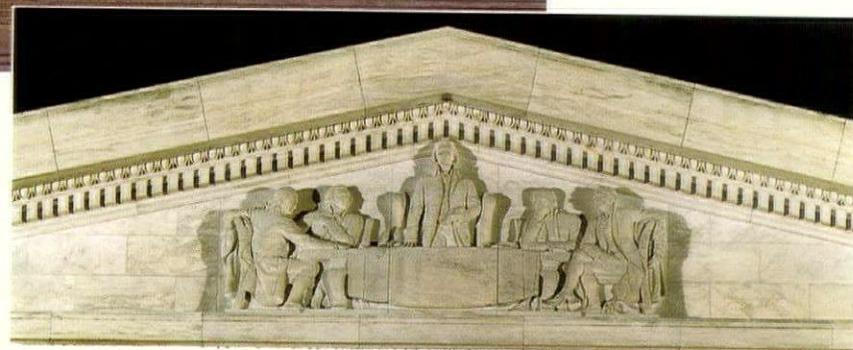
The Thomas Jefferson Memorial, a historic structure set among a nationally recognized cultural landscape, stands as a permanent testament to the third President of the United States. And while Jefferson's political achievements are outstanding—principal author of the Declaration of Independence, governor of Virginia and secretary of state, to name a few—Jefferson left to the future a great body of practical accomplishments as well. He was a philosopher, architect, musician, book collector and inventor, a man who embodied the spirit of enlightenment, which is evident in many of his works. Jefferson frequently used *light* as a metaphor, and in fact, it's interesting to note that Thomas Jefferson often referred to knowledge as light. His life's work was as much a quest for light as for liberty, and to America and the world, he affirmed that a free government relies on enlightened citizens: "I shall not die without the hope that Light and Liberty are on steady advance," wrote Jefferson in a letter to John Adams, dated 1821. His words have resounded throughout the decades.



In a letter proposing his own epitaph, Jefferson writes: "Author of the Declaration of American Independence, of the Statute of Virginia for religious Freedom and Father of the University of Virginia—By these, as testaments that I have lived, I wish most to be remembered..." Jefferson continues to live, not only in the history books and minds of Americans, but as remembered by this white marble memorial, dedicated on April 13, 1943, the 200th anniversary of Jefferson's birth, four years after President Franklin Roosevelt laid the cornerstone.

In the photo left, the luminous glow in the 62-ft.-high portico area is achieved with downlights lamped with 100,000-hour induction sources. The cool, crisp light of metal halide bathes the facade and steps, creating a striking presence in the D.C. skyline.

The intricate relief on the north facade's pediment (below) can now be viewed at night. Designed by Adolph A. Weinman, it depicts Jefferson standing before the committee appointed by the Continental Congress to write the Declaration of Independence.



It is particularly fitting then, that as the year 2001 marks the 200th anniversary of Thomas Jefferson's presidential inauguration, the majestic white marble structure, built in his memory, be illuminated as never before, securing its nighttime presence along the capital city's Tidal Basin. And this year also marks another place in time: It is the 100th anniversary of the Sylvania lighting business. A perfect match, thought the Danvers, MA-based lamp manufacturer, D.C.-based National Park Service and its official non-profit partner, the National Park Foundation, who, in a team effort saw the coincidence of these two occasions as an opportunity to further enhance the picturesque Jefferson Memorial—with its classical architectural detailing and monumental sculpture of Jefferson—with new, energy-efficient lighting, designed in collaboration with New York City lighting design firm The Mintz Lighting Group Inc. And energy-efficient it is: the project realizes a savings of some 80 percent.

The new lighting for the Jefferson Memorial, Osram Sylvania's "birthday gift to America," according to president and CEO Dean Langford, is valued in excess of \$800,000. "I believe that in honor of our centennial celebration, it's important for our company to give something back to the country that has allowed us to flourish for 100 years," said Langford. This philanthropic donation is one to benefit the thousands of residents and visitors who travel to the landmark site each day by enriching their experiences. "You'll be able to see the Memorial as you've never seen it," said Langford. "If all of America's memorials, monuments, museums and national parks could be brought up to this level of beauty, it would be a great message to all of our citizens that we have a great country, great history...and we're proud of it."

Explained Langford, "We chose the Jefferson Memorial because it is a perfect example of being able to improve quality of life and to do it by using new technology and much less energy. There seems to be a general belief in this country that anything you do in terms of conservation will sacrifice quality." In fact, this landmark will be more beautiful than ever before, yet will use fewer lamps and fixtures and use about 100,000 fewer watts. "If every school, office building and federal and state building would follow these kinds of programs—not just in lighting but also in energy savings—we could save an incredible amount of energy in this country, preserve the fossil fuel that we have and, at the same time, cut down on emissions," noted Langford.

And while the National Park Service is pleased with the beautification of one of its memorials, the organization is particularly encouraged by the energy efficiency of the new lighting system. "The former system, when it was designed 30 years ago, was state of the art; we're bringing back what that means in 2001 terms," said Lisa Mendelson-Ielmini, special assistant for partnerships with the National Park Service, which cares for more than 380 special places saved by the American people so that all may experience their heritage. "Reducing energy consumption, increasing public safety, increasing attention to architectural details, preserving the historic landscape, increasing sustainability and decreasing our maintenance needs ... it's truly phenomenal. Being able to achieve what we did will serve as a model for—and has already sparked interest in—how we do things at other places whether at the memorials in D.C. or across the country. This project has definitely increased the level of appreciation for what good design can do." Added Mendelson-Ielmini, "It couldn't have been achieved without the tremendous collaborative effort of an extraordinary project team. From the National Park Foundation to Osram Sylvania to The Mintz Lighting Group to Sylvania Lighting Services, who installed the systems, there's been outstanding communication and responsiveness to our design goals."

SITE TO BEHOLD

Jefferson's prominence as one of the great figures in our nation's history demanded a memorial site of stature—equal to that occupied by the Washington Monument and the Lincoln Memorial. Placing the Jefferson Memorial on the Tidal Basin, directly south of the White House achieved this; for these monuments, the White House and the Capitol

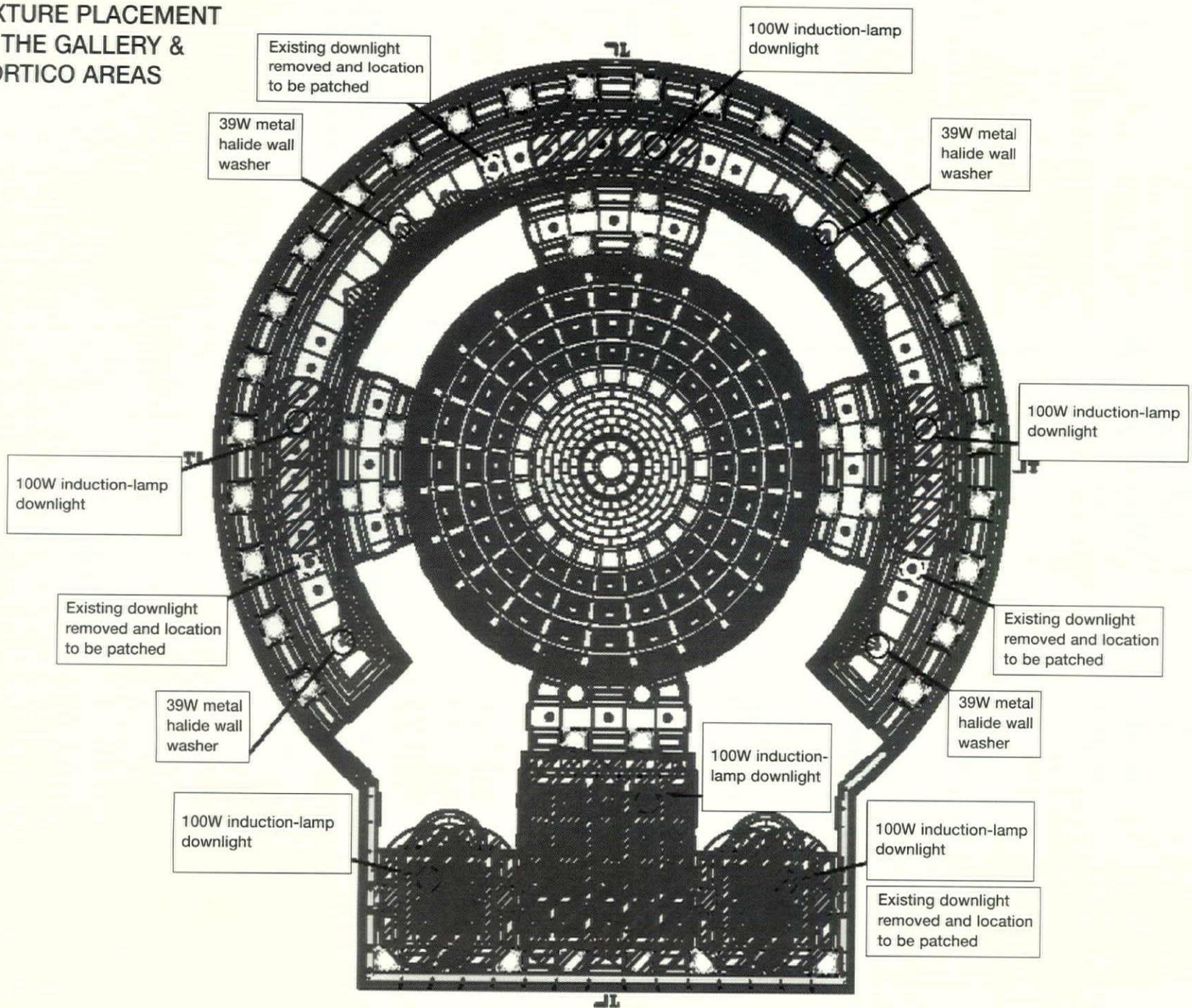
completed the east-west axis and its complementary north-south alignment, creating an architectural heart of the city. In designing the plan for the Jefferson Memorial, American architect John Russell Pope was clearly influenced by Jefferson's taste, as expressed in his writings and demonstrated by his works. The circular colonnaded structure is modeled after the Pantheon in Rome and is an adaptation of the classical style that Jefferson introduced into the country.

Designed and built between 1939-1943, the Memorial was opened to the public in 1943 and is visited by more than two million people each year. The original design contained no exterior lighting. During the late 1960s-early '70s, a lighting system consisting primarily of high-wattage incandescent and HPS lamps was designed and installed. While the fixture locations and light sources were technologically appropriate in their era, these solutions are considered excessive in energy consumption and maintenance requirements by today's standards—as there have certainly been significant developments in lighting technology since then. The new lighting for the 129-ft.-tall, 32,000-ton Memorial illuminates the structure from its sheer volume to its most intricate details. And paramount to developing and implementing the new lighting solutions were the desire—and directive—to remain sensitive to the historic fabric and cultural landscape.

"We realized early on that the scope of this project and its high-profile nature necessitated a lighting design that would honor the architectural integrity of the Memorial," said Dwight Kitchen, manager of commercial engineering at Osram Sylvania, who has been instrumental in seeing the project from conception to completion. "To that end, this project required the professional expertise and services of a well-respected and established lighting design firm." The client invited The Mintz Lighting Group Inc. and primarily, principals David Mintz and Ken Douglas, to join the project team and retained their services to create collaborative solutions to the lighting



FIXTURE PLACEMENT IN THE GALLERY & PORTICO AREAS



challenges and to develop concepts for illuminating aspects of the Memorial that had not previously been lighted.

The Commission of Fine Arts in Washington, D.C. was greatly supportive of the Park Service's desire to update and improve the lighting of the city's monuments and memorials. However, it was requisite that approval for the lighting concept be granted by the committee before the lighting plan could be installed. After detailed presentations and extensive mock-ups—which were more multi-day, full-scale events than the simple undertaking that word might imply—the Commission reviewed and approved the proposed interior and exterior lighting scheme for the Jefferson Memorial. “They’re a very prestigious, aesthetically astute and authoritative group who collectively possess a tremendous amount of knowledge,” commented lighting designer David Mintz. “And I think their concerns and comments were well-received by all involved.”

The lighting designers devised a lighting plan that now provides the Jefferson Memorial with appropriate light levels, both interior and exterior, resulting in a visually stimulating and aesthetically pleasing environment. Simultaneously, by reducing both the quantity of fixtures used and increasing their efficiency, the amount of energy used by the lighting system is reduced significantly, as is the amount of time and effort needed to maintain the system. So while the lighting has been upgraded with newer technology and new illumination has been added both internally and externally as an aesthetic upgrade, it's significant to underscore the fact the

total wattage of the new lighting system is 27,893, versus the original 125,840 watts—and is able to light about 30 percent more of the Memorial with 20-percent fewer fixtures. Now that's a story in itself.

OUTWARD APPEARANCE

“The exterior of the building had previously been lighted with incandescent sources,” noted Mintz. “Since the building is white marble, we thought it should be illuminated with cooler sources to complement the stonework. Consequently, we chose to use 4000K metal halide, which, in addition to its long life, enhances the appearance of the building by making it cleaner, crisper.”

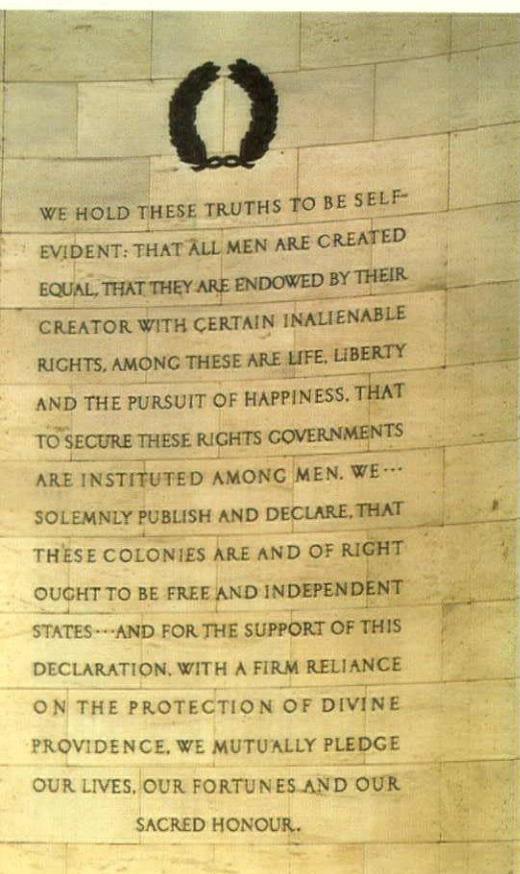
The 400W metal halide floodlights, which bathe the facade and exterior dome in a more uniform wash of light, are mounted on 45-ft. poles placed *inside* the line of trees that surround the Memorial. The Memorial had been renovated several times, and about 20 years ago, its grounds were restored to the original plan laid out by Frederic Law Olmsted Jr. (who, incidentally, designed New York City's Central Park) and the foliage grew to obscure the lighting, producing uneven effects on the Memorial. Said lighting designer Ken Douglas, “The new pole locations are somewhat isolated and somewhat hidden by the trees, but functionally separate from them so that the vegetation will not be able to grow in front of them in the future.” Additional fixtures, equipped with 39W ceramic metal halide lamps and neutral density filters to balance brightness, are mounted on the vertical-surface ledges that surround the base of the dome.

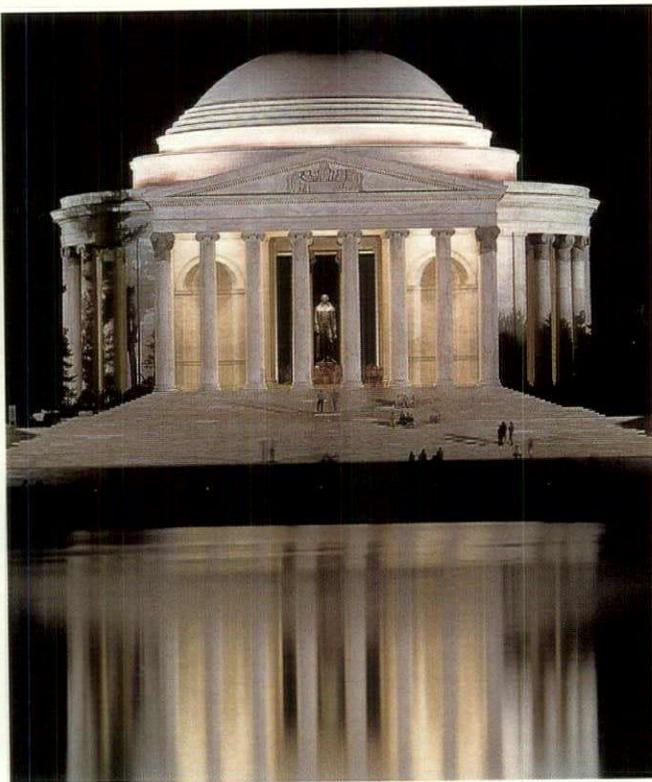
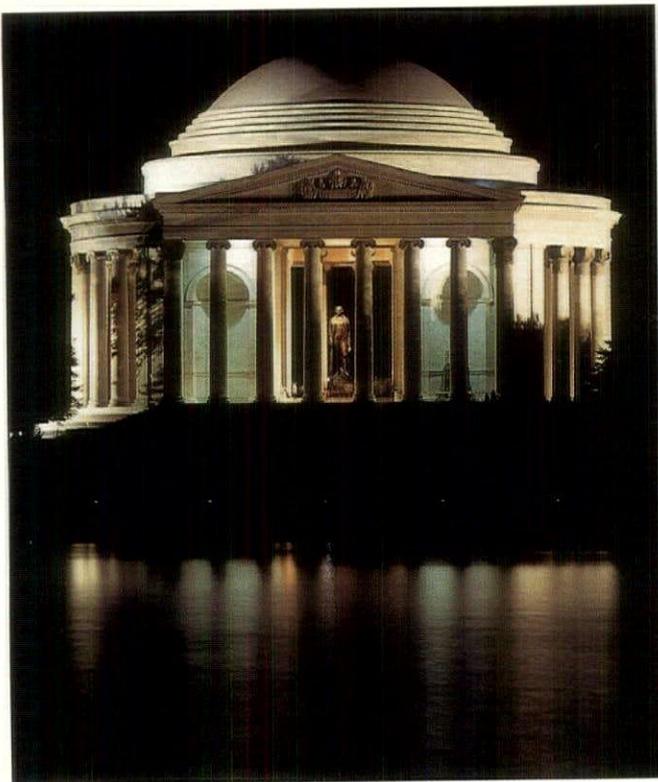
In addition to the facade, the lighting designers met the Park Service's goal to light the steps that lead up from the Tidal Basin and, for the first time, light the columns in the front of the building, also with 400W metal halide fixtures. “The lighting is now more even, and yet it is designed to reveal the architecture,” said Mintz. “For example, the columns on the front facade are illuminated and the walls behind them are also lighted. This enables the viewer to see the depth of the building and, by a series of controlled brightnesses, see their way into the chamber so that layer upon layer of interest and architectural detail is revealed.” Furthermore, the lighting of the steps, aside from increasing visitor safety, gives the Memorial a visual foundation by grounding it, strengthening its solid, monumental form.

“Aside from the physical enhancements, we made a very interesting psychological discovery during the mock-up stages,” said Douglas. “Before the lights would come on at night, people would come and go in to look at the statue and then leave. When we turned on the lights, the visitors came, sat on the steps either looking at the view or talking; tour groups would sit together and sing songs. It's amazing. You can turn the lights on and in 10 minutes you have 200 people sitting on the steps. You turn them out and in 10 minutes, they're all gone.”

Opposite: The statue of Jefferson in the center of the chamber is lighted to reveal the details and dimension of the bronze casting. The figure stands below the dome, which is lighted for the first time, articulating its form, height and architectural nuances. Thousands of LEDs are used to illuminate the text—a quote by Thomas Jefferson—that encircles the base of the dome. Jefferson, a proponent of new inventions and improvements and probably the most modern of our forefathers, would certainly have been intrigued by the architectural application of these miniature light sources. And because they are semi-conductor light sources, they require no maintenance and are extremely long lasting.

This text panel (left) is one of four at the Jefferson Memorial. Prior to the installation of the new lighting system, the panels were lighted unevenly. Now, they are comfortably legible, subtly bathed in light.





While the classical style and reverent atmosphere of the Jefferson Memorial is strikingly beautiful in its own right, the 129-ft.-high Memorial with its 54 Ionic columns is even more breathtaking now that it stands aglow along the Tidal Basin. Prior to the new design (left), the original lighting of the Memorial (far left), while perfectly adequate and suitable for its time, did not render the magnificent structure to its fullest potential.

“We proposed and implemented uplighting the dome, which adds a whole new scale to the space,” said Mintz. The interior, or chamber, which had virtually disappeared, is now strikingly noticeable. And while uplighting the dome with 175W metal halide fixtures not only emphasizes its depth, it also unveils to the nighttime visitor the architectural details. For the first time in the Memorial’s history, visitors will be able to better appreciate the mosaic expanse of stone that stretches across the marbled rotunda nearly 92 ft. above.

Four text panels are located inside the chamber—on the southwest, northwest,

northeast and southeast walls. Each panel is an inscription, whether from the Declaration of Independence or the Virginia Statute of Religious Freedom, for example, that either introduces to visitors—or reminds them of—some of Jefferson’s most notable thoughts. The panels are now subtly illuminated to reveal the late President’s words; careful consideration was taken to avoid hard edges of light around the text or what can be thought of as a “poster” effect. The 150W ceramic metal halide fixtures are fitted with theatrical dampers to achieve the soft glow on the panels. “The effect is so successful in its apparent simplicity,” said Mintz. “They’re easy to read and you almost don’t realize that they’re lit, unless those lights are turned off, in which case the panels would appear flat.”

And when it comes to details, even the more subtle ones are enhanced. One of the most exciting elements of the lighting design is the use of light-emitting diodes (LEDs), which up until now have been limited mostly to indicator lights on telecommunications and other high-tech equipment and to center, high-mounted brakelights on the backs of autos. Tremendous advances in technology have taken place over the last 10 years so that LEDs are rapidly becoming acceptable light sources for general lighting applications. Three rows of more than 17,000 LEDs (250 linear ft.) are installed in custom fixtures and mounted unobtrusively on a 3-in.-wide ledge that encircles the base of the dome. The mix of white and yellow sources creates a warm glow that illuminates the text frieze—a famous Jefferson quotation—and makes it legible, enabling nighttime viewers to read from 50 ft. below Jefferson’s words on independence and freedom, which had been penned in a letter to Benjamin Rush: “*I have sworn upon the altar of God eternal hostility against every form of tyranny over the mind of man.*” And a particularly remarkable benefit to using LEDs is that they require minimal servicing—a 100,000-hour rated life translates to 22+ years at 10 hours per day.

EASY ACCESS

The installation of new control gear is significant to this project—and important to the Park Service in helping them to maintain the lighting through a monitoring system that alerts personnel when lamp outages occur. Knowing when lamps burn out—always a challenge to any maintenance team—is a task now simplified with the addition of a revolutionary new web-based lighting control product. The system offers the Park Service features and benefits they always wanted but up until now, never thought possible. The system can be accessed from remote locations, allows continuous monitoring of lighting and will automatically send a message to a facility manager or other users when a problem arises. “The system detects when there is a change in the load—more than 20 percent up or down—on any given circuit,” explained Mintz. “When this happens, an automatic email is sent to maintenance headquarters or personnel saying that the load is out of range on a particular circuit.” Moreover, according to Douglas, “the system can be programmed as one would program a standard preset dimming system. It is an extremely flexible system enabling the staff to program the Memorial on a daily basis for normal usage, to give them the opportunity to make a special set if needed for a one-time-only basis—and best of all, literally tells them when to perform maintenance.”

“We’re so pleased that this project provides the National Park Service with such a state-of-the-art controls system,” said Mintz. “They’ve been amazing to work with—from shepherding us through a sometimes lengthy and difficult bureaucratic process, to working in top-notch form under all conditions and at all hours, to remaining positive and excited about the completed project—and they take enormous pride in both the appearance and performance aspects of the job. If this can facilitate maintenance for them—and it will—I’m glad we’re a part of making it happen.”

Turn to page 36 for information on fixtures and sources specified on this project.

HIGHLIGHTS ...

Here’s a quick, concise overview of the lighting design plan by The Mintz Lighting Group Inc. The project is divided into two main areas—exterior floodlighting and interior accent lighting.

EXTERIOR FLOODLIGHTING

- All existing exterior floodlighting poles and fixtures were removed.
- New exterior floodlighting poles and energy-efficient metal halide floodlights are placed at locations specifically selected to ensure that the new fixtures will not be obscured by future foliage growth. Locations were selected to complement the historic vegetation plan and result in a more uniformly illuminated Memorial with increased visitor safety.

- Floodlights are also located on the northeast and northwest edges of the Tidal Basin to provide for exterior floodlighting of the Memorial’s north facade and steps from the Tidal Basin plaza area with energy-efficient and long-life fixtures.

- All existing incandescent floodlights that were mounted on the first- and second-tier dome ledges were replaced with fewer, new, low-wattage, energy-efficient and longer-life metal halide floodlights.

INTERIOR ACCENT LIGHTING

- Existing HPS floodlights that illuminated the statue of Jefferson were replaced with fewer metal halide floodlights.

- Existing high-wattage incandescent theatrical spotlights that lighted the text panels were replaced with new low-wattage metal halide spotlights.

- Existing low-voltage incandescent downlights located in the gallery and portico were replaced with new induction-lamp downlights.

- Existing incandescent wall washers were replaced with fewer metal halide wall washers in the gallery.

- Metal halide fixtures now uplight the interior dome.

- Low-profile LED fixtures provide subtle lighting of the text frieze around the interior of the chamber.

INSIDE STORY

The interior lighting plan provides a replacement for the existing lighting equipment, a restatement of existing themes and enhancements to the outdated lighting scheme, which in combination, improve the appearance and architectural interest of the Memorial. It is important to note, however, that the lighting designers were required to “support the historic fabric of the landmark structure.” Fixture locations could not be added nor holes punched; the lighting designers were to work under the boundaries of existing locations, often using custom fixtures to accomplish this charge. “Just as a side note,” said Douglas, “The Park Service is coming back to work on repairing some of the marble and part of that process will be to fill in some of the hole locations that were abandoned on this project. It’s nice to know that our lighting design has helped to restore the architectural integrity of the structure.”

The 19-ft.-tall, five-ton statue of Thomas Jefferson, designed by American sculptor Rudolph Evans, stands under the center of a coffered dome, voluminous in its expanse yet graceful in its design. The immense bronze figure, which faces the White House across the Tidal Basin, had been bathed in the yellowish hue of sodium light for years, and now, with the addition of 400W metal halide fixtures with amber filters, even the finer details of the statesman are punctuated. Furthermore, the base upon which Jefferson stands is now illuminated, allowing visitors to read his name, birth and death dates, which are applied to the 6-ft.-high pedestal. A little aside for the history buffs: Jefferson died on July 4th, the 50th anniversary of the signing of the Declaration of Independence, a few hours before John Adams.

“The Jefferson Memorial is staffed 8 am-midnight, 364 days a year,” noted Douglas. “If you were a casual observer entering the site during the night hours, you’d see the statue but your eyes would not have been drawn upwards. It truly felt as if there was a low roof overhead. We’ve enhanced the space and ultimately, the experience by bringing your attention to the coffered ceiling.”

DETAILS

PROJECT Jefferson Memorial **LOCATION** Washington, D.C. **CLIENT** National Park Service, National Park Foundation and Osram Sylvania Partnership **ARCHITECT** John Russell Pope **LIGHTING DESIGNER** The Mintz Lighting Group Inc.—David Mintz, FIALD, FIESNA, LC and Ken Douglas, IALD, LC **PHOTOGRAPHER** Peter Aaron/Esto **LIGHTING MANUFACTURERS** Osram Sylvania; Winona Lighting; North Star Lighting; Indy Lighting; ETC; Valmont Industries; Lutron; Special FX; Wybron



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Revisionist History

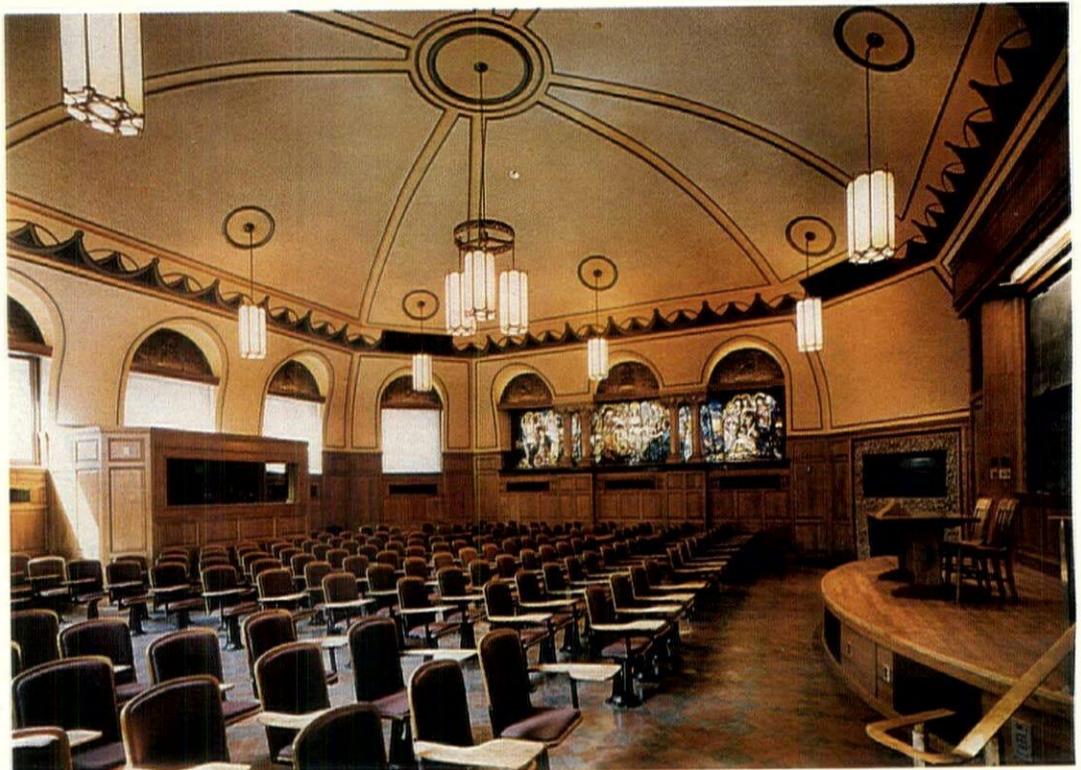
The design team for this New England institution put forth an Ivy-League effort to return the hallowed halls of Yale to its former glory

Photo: ©Steve Rosenthal

BY ALICE LIAO, SENIOR EDITOR

Even its motto, “For God, for country, for Yale,” resonates with the arrogance of a proud history and august age. Founded in 1701 as the Collegiate School and rechristened after a generous donation from Elihu Yale of nine bales of goods, 417 books and a portrait and arms of King George I, Yale University is currently 300 glorious years old. And yet, as the school nears the end of its year-long tercentennial celebration, only now, with the rollout of a series of anniversary renovations, is that sense of tradition being reinstated in such venerable structures as Old Campus’ Linsly-Chittenden Hall and the Sterling Law School.

In illuminating both buildings, lighting designer Jeffrey Berg of Berg/Howland Associates applied a theme of “going back to the future.” “We went back into Yale’s past to revive older elements and then combined them with new light sources,” he explained. “The result is that we were able to achieve higher light levels with greater efficiency and good color rendering in a traditional setting.” Old photographs and the richness of decorative motifs available on campus informed the choice of fixtures and the design of custom pendants. Compact fluorescent lamps ensured that contemporary lighting requirements were met. “In working on this project, I realized the



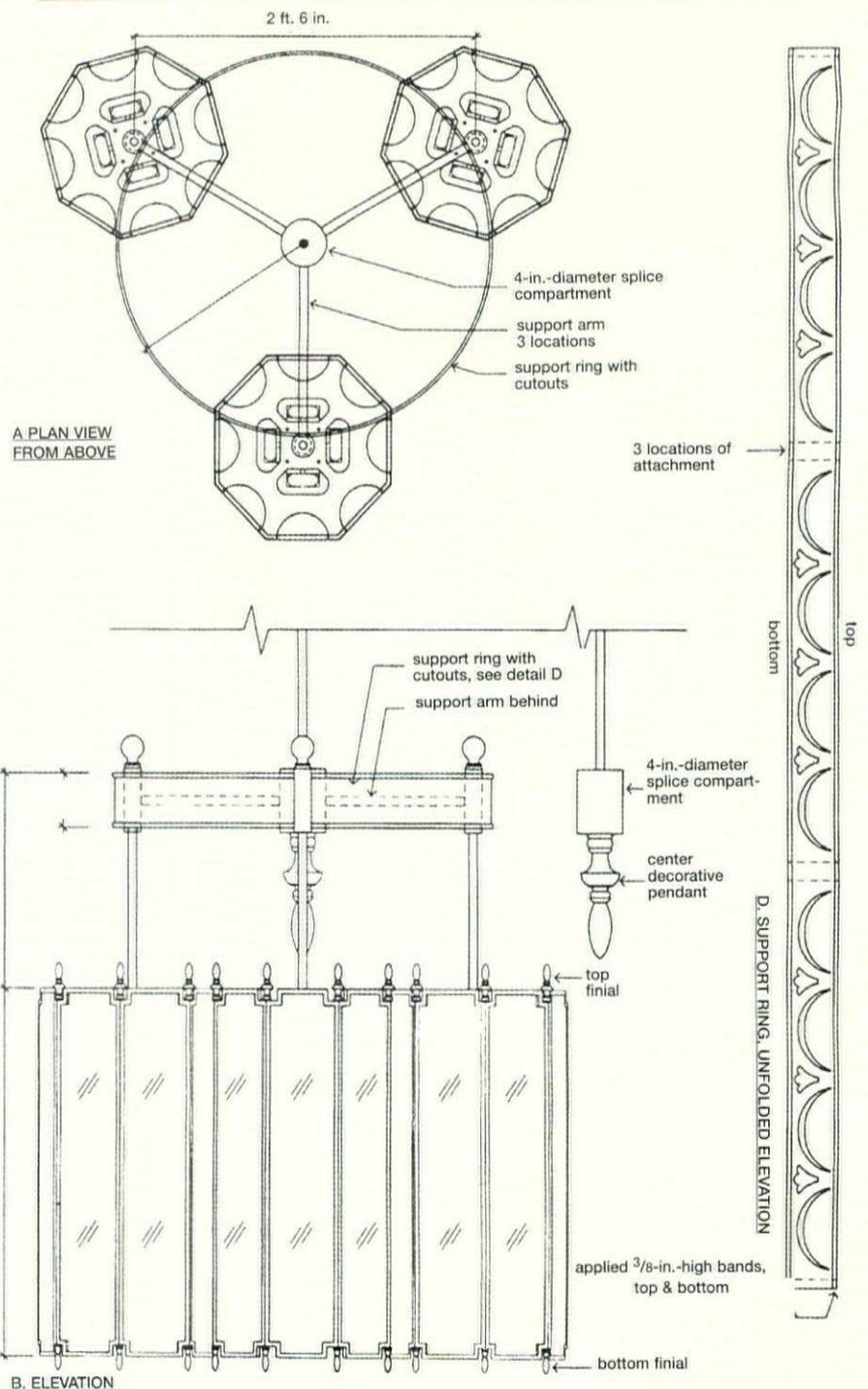
The renovation of Linsly-Chittenden Lecture Room 102 replaces 1950s'-style linear fluorescents with custom pendants sympathetic to the building's architecture, highlights details such as an original Tiffany stained-glass mural and reinstates the former beauty of the space.

potential of compact fluorescents in a historic setting,” said Berg. “They really allowed us to bring back some traditional elements.”

Comprised of two buildings interconnected by a stairway and constructed at separate times—Chittenden Hall was built in 1890 and Linsly Hall in 1907—Linsly-Chittenden served as the Yale Main Library until 1930, when the Sterling Memorial Library was completed and the collections were relocated. Lecture Room 102, originally a reading room, was converted into a classroom with fixed seating and pendant fluorescent strips. “Everything was done in a 1950s’ style and the lighting was pretty awful,” said architect Victor Ortale of Goody, Clancy & Associates. “So the challenge for us was two-fold: The first, which was most important to the school, was to turn the space into a state-of-the-art lecture room and the other was to bring back some of the former glory of the room and its original design.”

The reparation of the dome-shaped ceiling, which had once boasted decorative stenciling but was repaved in the 1930s with a herringbone pattern of acoustical tiles, figured prominently in the room’s renovation. Although Ortale and his team had sought to restore the pattern, the tiles were no longer commercially available. “We knew we needed some form of acoustical treatment on the ceiling and discussed a spray-on material, but none of us was really happy with only using that,” said Ortale. “So we added wood and then made plaster casts to mimic the old stenciling.”

To supply ambient lighting, a pendant scheme initially incorporating standard catalog fixtures was developed in conjunction with the ceiling restoration. “During construction, however, the decision was made to use a custom fixture,” said Berg. “We did a lot of the fixture design during construction, but the architect was more involved in its final detailing.” Because the space was originally a reading room illuminated solely with gas and electric table lamps, the design team turned elsewhere in the building for inspiration. Said Ortale “The reading rooms didn’t have lights in the ceiling, so we didn’t have a precedent for the room.” Their search led them to a little-used lobby where they found an octagonal pendant with a milk-glass shade. Photos were





Above: Previously illuminated with furniture-mounted uplights, the main reading room of the Sterling Law Library now boasts custom pendants lamped with fluorescent sources and task lights at reading tables and in carrels. Right: A series of double-height windows provides natural daylight to the stacks on the upper levels. Undershef fixtures and downlights in the carrels enable students to study in comfort.

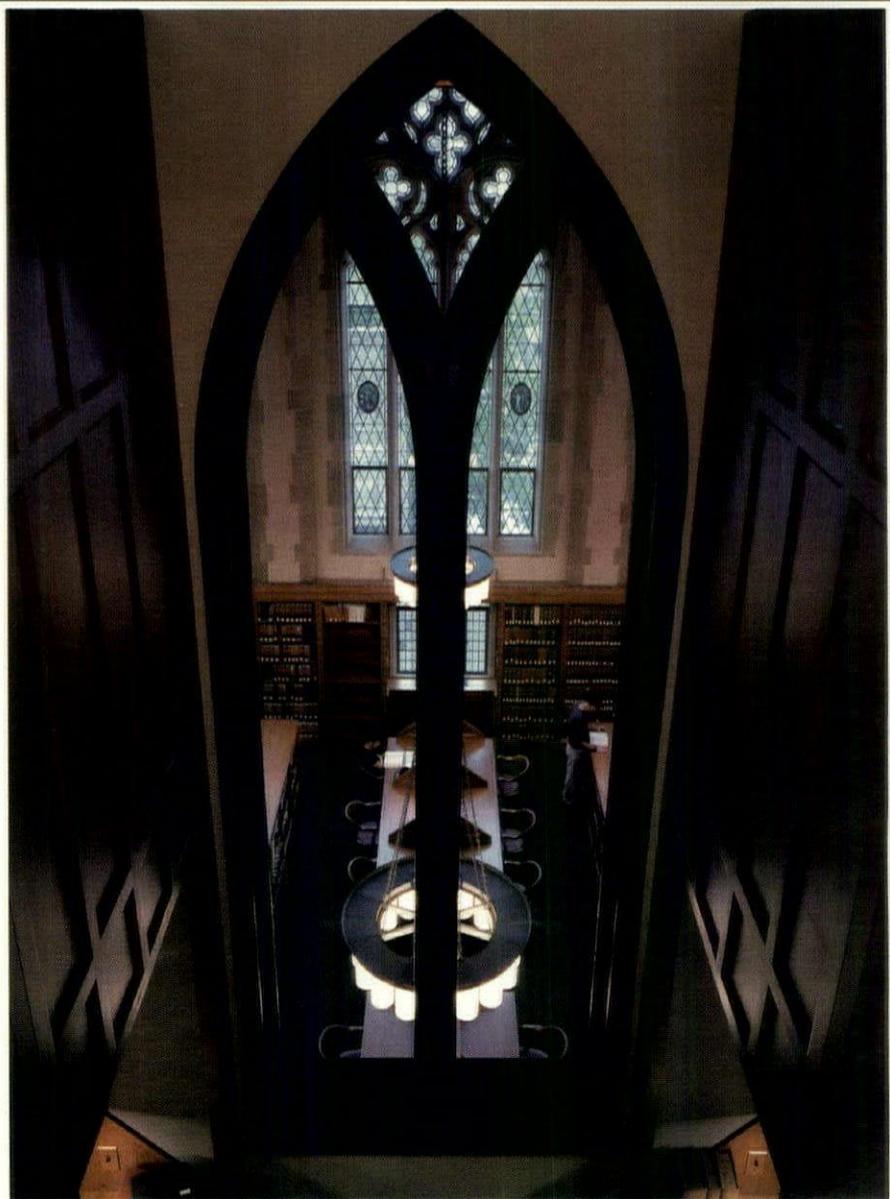
taken of the fixture, which then served as a basis for the custom fixture design. Because, as Berg noted, “the idea was to have the ‘historic’ fixtures provide most of the ambient lighting in the room,” drawings, physical and computer models were constructed of the pendants inside the space to pinpoint light levels, fixture location, scale and size.

The resulting solution situates eight single pendants along the perimeter of the space in medallions painted on the ceiling—thus reinforcing the room’s octagonal configuration—and suspends a trio of ganged fixtures in the center. The fixtures are each lamped with fluorescent sources for even, diffused light and PAR sources for accent downlighting. The white acrylic diffusing panels are tinted yellow for added warmth and a fleur-de-lis punch-out in the bottom of the fixtures partially conceals the lamps while contributing sparkle.

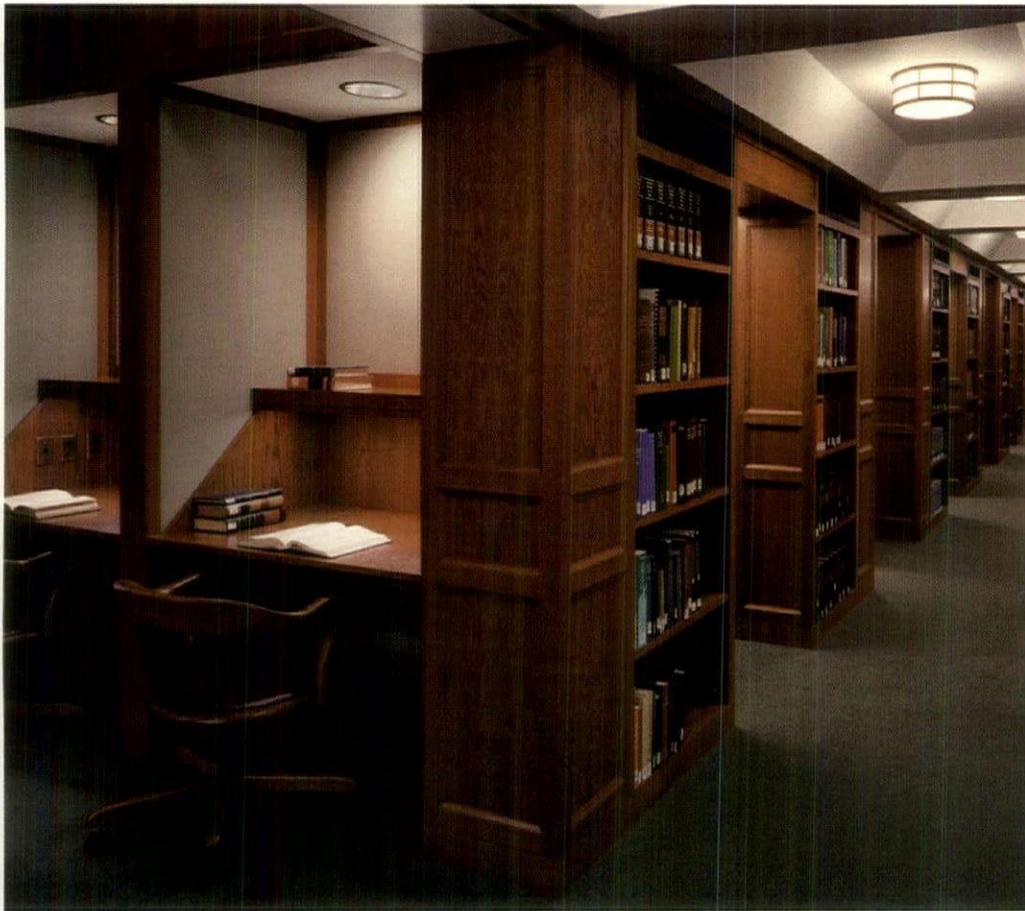
Other features of the lighting design accentuate architectural details and update the space’s function as a classroom. In an original Tiffany stained-glass mural illuminated with halogen uplights concealed behind columns, more than 20 figures representing religion, science, music and art leap to life to illustrate the importance of virtue in one’s life. The columns subdivide the mural into three panels, which are now visible from both inside and out. Rescued from obscurity, sculpted transom panels over the windows are rendered with fluorescent striplights tucked above valences, while at the front of the room, a fluorescent wall washer improves visibility at the chalkboard and recessed adjustable PAR fixtures accent class instructors. All of the lighting is controlled through a preset scene system, for, as Ortale noted, “in any classroom situation, the important thing is to build in flexibility.”

STERLING SUCCESS

Although similar challenges defined the lighting of the Sterling Law School’s High Street Wing, issues of contrast were key in shaping the final solution. “We were more concerned here than in the Lecture Room with changing the distribution of the light,” said Berg. “In the law school, the light sources tended to be the brightest things in view. There was glare as well as a somewhat gloomy effect, because all of the surfaces in the rooms appeared dark by comparison.” As with Linsly-Chittenden, Berg applies a blend of direct/indirect lighting and accent downlighting to minimize contrast and improve light distribution. Compact fluorescent sources replace old fluorescent lamps to increase energy efficiency and to better render the oak, stone and yellow-brick finishes of the interiors. “The occupants hated the yellow-brick, which in the old fluorescent light, became a sickly green similar to that of hospital wards in horror movies,” said Theodore



Photos this page: ©Robert Benson



A gradation in fixture type occurs as one moves from public spaces to the internal life of the building. Fixture shapes are limited to the omni-directional—circles, disks, octagons and short and long cylinders. In the stack areas (left), decorative fixtures with customized banding are mounted in coffered ceilings to supply diffused ambient light. Student and faculty lounges (below) feature cylindrical pendants detailed to echo the patterning of leaded windows. Representing the internal life of the school, classrooms (bottom left) are lighted with simple disk-shaped pendants. All use compact fluorescent sources for energy efficiency.



lighting at the tables and in carrels. To design the custom fixtures, he consulted old photographs of the original space lighted by chandeliers and visited the Sterling Memorial Library across the street. "Between the photos and the pendants in the undergraduate library, we came up with a design that was sympathetic to the room and similar to what had been there," said Berg. Lamped with compact fluorescent sources, the pendants fill the room with soft ambient light and achieve an illuminance of roughly 20-25 fc. "We looked for light levels similar to what we would put in a modern facility or maybe a little lower," said Berg. "However, in lighting the room, we weren't so much concerned with the fact that the room was dark as it was uncomfortable." Table lamps at reading tables and undercabinet lighting in the carrels provide task lighting.

Described by Szostkowski as a "coffin of books," the stack areas were extended and refurbished to accommodate the move to an open stack policy and to furnish students with comfortable study areas. Daylight was introduced by removing a corridor at one of the end of the space and at the other, replacing a blind wall with a series of double-height windows. "The windows allow the carrel galleries on levels four and five to look into the reading room and through to the outside," said Szostkowski. "This was a theme of our renovation. We wanted to have spaces relate to one another in a modern way, by looking into and down into each other and overlapping in section—creating transparencies." The daylight is supplemented with stacklights in the aisles and decorative fixtures in ceiling coffers. "The coffered ceilings were a motif that we found elsewhere in the building," Berg said. "They were installed to reduce contrast and diffuse the light." Carrels are equipped with undershelf lighting for task lighting and where needed, fluorescent wall-wash downlights for added ambient light. Switches allow for individual control.

Comprising the "internal life" of the building, the classrooms are lighted with simple disk-shaped pendants lamped with compact fluorescent sources. The pendants replace linear fluorescent fixtures that, according to Szostkowski, had been suspended haphazardly with little aesthetic continuity from room to room. "They began to corrode the room visually, and from the exterior, it was like seeing the worst kind of speculative office building, where every client could do his/her own lighting," he said. "One of the first decisions we made was that there would be no linear fixtures visible from the exterior or interior, except in the stack areas." Suffusing the classrooms with a soft glow, the pendants also provide downlighting to accent surfaces and boost light levels. Wall-wash downlights are recessed in the ceiling for additional ambient lighting.

The respect paid to Gamble Rogers' design is evident in other parts of the High Street Wing. In the student and faculty lounges as well as hallways and offices, lensed circular downlights, short cylinders and long cylindrical pendants echoing motifs in leaded glass windows remain faithful to his vision, while the diffused light of compact fluorescent sources reflects the subtle touch of modernity and lend new life to the restored interiors. Multiple-level switching is used throughout to provide flexibility and increase energy efficiency. ■

Turn to page 40 for information on fixtures and sources specified on this project.

Szostkowski of Kallmann, McKinnell & Wood Architects, the firm responsible for renovating the High, Grove and Wall Street wings of the law school. "One of the benefits of the renovation is simply in incorporating new technology. It enhances and restores the richness of the color palette in the original building."

According to Szostkowski, who was involved in the project for nearly 13 years, the law school is considered "one of the signature buildings at Yale" and was designed by then campus architect James Gamble Rogers in the late 1920s. "The law school was not the largest, but probably one of Gamble Rogers' best in terms of richness and humor," said Szostkowski. "It reflects a range of architectural investigations and materials, but within a witty recollection of a variety of Gothic styles." This wit and range also extend to the lighting, which, in Gamble Rogers's vision, evolved in type as one moved from the public areas to the internal life of the building. "The fixtures, as far as we could determine, shifted from being very historically influenced to more functional," said Szostkowski. The lighting solution recaptures that hierarchy, but does so with a limited palette of circular, cylindrical or octagonal fixtures—again a nod to Gamble Rogers. "The fixtures in his design had at least two axes or more of orientation, which meant that in an irregular room, they didn't compete with the geometry of the room," said Szostkowski. "and appeared to float."

At the heart of the academic program, the High Street wing encompasses major social spaces for the school, classrooms, offices and the Sterling Law library. The library, expanded in the renovation, boasts a multilevel stack area and a main reading room where a plaster ceiling painted to resemble wood towers at 37 ft. Originally illuminated with chandeliers that have since been lost or destroyed, the space has witnessed several different lighting schemes, ranging from square fluorescent pendants to the pairing of furniture-mounted uplights with fixtures positioned atop bookcases that line the perimeter of the space. "That was in some ways more sympathetic to the room than the previous renovation, but it produced a furnishing pattern that the school eventually wanted to change," said Berg. "Part of the reason for the renovation and the change in lighting was also a change in use. The school wanted to make the room more accessible, which meant exchanging the closed, private carrels for reading tables. So that removed the lighting scheme for the most part and left the room essentially empty."

Berg chose to illuminate the space with a combination of custom pendants and task

DETAILS

PROJECT Linsly-Chittenden Hall, Lecture Room 102; Sterling Law School High Street Wing, Yale University **LOCATION** New Haven, CT **OWNER** Yale University **ARCHITECT** Goody, Clancy & Associates (Linsly-Chittenden Hall); Kallmann, McKinnell & Wood Architects (Sterling Law School High Street Wing) **LIGHTING DESIGNER** Berg/Howland Associates **PHOTOGRAPHER** Steve Rosenthal (Linsly-Chittenden Hall); Robert Benson (Sterling Law School High Street Wing) **LIGHTING MANUFACTURERS** Custom Metalcraft; Belfer Lighting; Elliptipar; Visa Lighting; Shaper Lighting; Kurt Versen; Alkco; Litecontrol; GE Lighting

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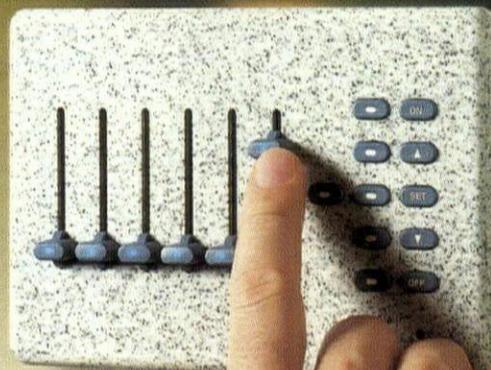


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Cosmetic Improvement

Special treatments such as thematic elements & luminous niches provide a beauty foundation for this Manhattan retail application

BY ALICE LIAO, SENIOR EDITOR

By all accounts, the move was a bold one. Relocating a profitable cosmetics department from a double-height space on the ground floor of a luxurious townhouse to a windowless basement that had served as storage was unprecedented and seemed at best, a gamble. However, when New York City's Bergdorf Goodman looked to expand its bustling cosmetic business, facilities manager Christine Nakaoka suggested the move. "Christine really had her battle cut out for her in convincing store management that this was a good idea," said lighting designer Emily Monato of Cooley Monato Studio. "Cosmetics to a department store is like a bar to a restaurant—that's where they make their money. Situating it in a space that nobody might go to is very risky." To ensure the success of the move, Cooley Monato Studio transformed the subterranean storage room into an elegant and luminous space ideal for showcasing product and sufficient in ambient light for makeup application.

"As inspiration, the facilities people showed us a photograph of Takashimaya cosmetics on Fifth Avenue," said Monato. "When we saw the picture, we just said, 'We know what it takes to make a space look like that, because that's our project.'" However, Monato

acknowledged, the challenges of any space are defined by its restraints. At Bergdorf Goodman, the lighting designers contended with a limited ceiling height of 11 ft. and a HVAC restriction that was only discovered after an initial design had been completed. "We had to revisit our entire design and eliminate fixtures," said Monato. "We cut out 40 percent of the power consumption by switching from the standard 50W lamp to more energy-efficient MR16s." Equipped with IR technology for energy efficiency, the MR16s are combined with fluorescent sources, which predominate in the lighting design, to fulfill the 7W/sq. ft. requirement. "That may seem high, but in retail, it often exceeds 10W/sq.ft.," said Monato. "And in this case, 7W/sq. ft. includes everything—anything that gets plugged in and powered."

Subtly distinguishing one vendor from the next within a unified aesthetic was also key to shaping the final solution. "Typically in department stores, each vendor designs its own shop within the store," said lighting designer Renee Cooley. "In this case, Bergdorf Goodman oversaw and executed the design of all of the vendor spaces through interior design firm Yabu Pushelberg." The close collaboration between Yabu Pushelberg and

Photos: ©David Joseph





The close collaboration between Bergdorf Goodman, interior designer Yabu Pushelberg and Cooley Monato Studio established a sense of continuity throughout the space and between the ground and plaza levels. Individual vendors are distinguished by a host of architectural details which, according to Monato, "took us a *long* time to work out." In the Opticians' area (left), floating mirrors and luminous display cases work with dark finishes to bring drama to the selection and purchase of fashionable eyewear. "Two lighting fixtures were used to achieve this floating and glowing appearance," said Monato. For linear situations or in places where heat was a concern, fluorescents strip-lights concealed in tight coves call attention to architectural elements while contributing to the overall glow. Xenon festoon lamps illuminate heat-tolerant displays and curved niches. "Most of the objects within the space are held back from the wall in order to accommodate lighting," said Monato. "Unlike a lot of the lighting in stores and hospitality where the light is on the bottom by the toekick, we chose to encircle the tops and sides of everything. The lighting actually bleeds out from behind and forms halos." Again, custom pendants punctuate the space to add "punch."



Opposite: A central cosmetics area is ringed with fluorescent light. The source, staggered strips lamped with 3000K T8 fluorescents, is concealed in the cove that delineates the ceiling cutout and contributes ambient illumination to the individual vendor islands below. Drum-shaped pendants integrated with a bas-relief ceiling motif supplement the ambient glow while adjustable accentlights containing energy-efficient MR16s accent countertop displays throughout the store.

Glowing acrylic panels (above) arranged in a graphic composition help draw customers to the Prescriptives station. The panels and display shelf are backlit with T8 fluorescent lamps concealed in a shallow 9-in. pocket. "In lighting this area, I was concerned about lamp image," said Cooley. "I wanted the light to be smooth so that the panels appeared as if glued together by light."

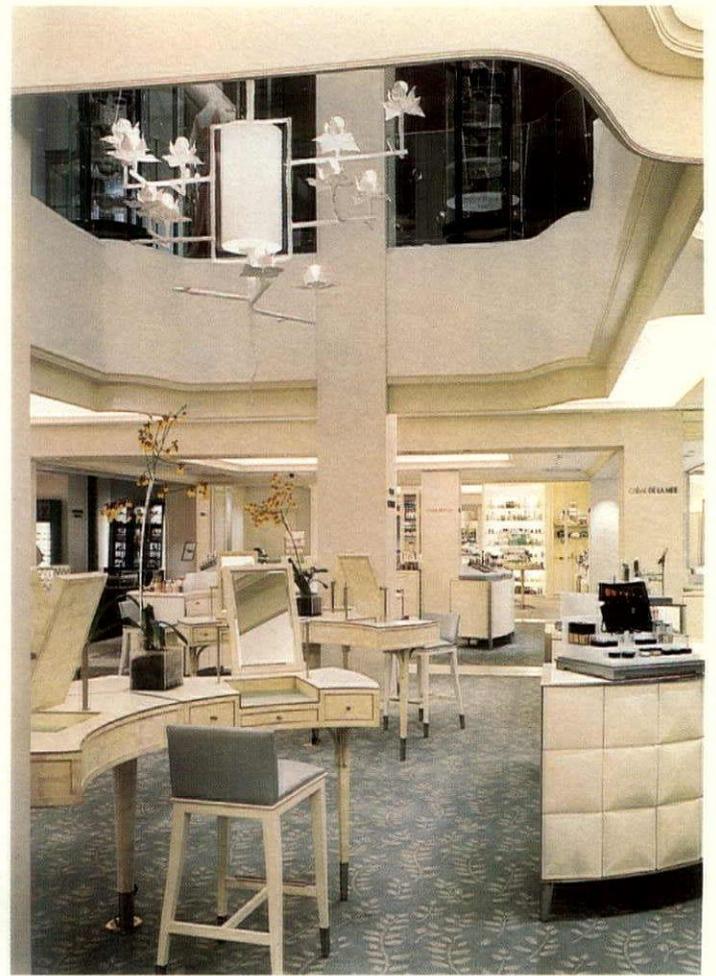
Bergdorf establishes a sense of continuity within the space, as well as from the "plaza level" to the ground floor. The lighting solution reinforces this continuity by articulating architectural themes, but also lends each vendor a separate identity by highlighting a myriad of details—66 in total. "It was a challenge to work out each detail and to make sure that they were balanced," said Cooley. "We wanted all of the vendors to be equally well represented but still maintain their own take on the overall design."

DOWN UNDER

The descent into the plaza level is eased by an initial impression of bright and airy interiors. Here, the grandeur of the ground floor, its soaring 20-ft. ceilings and distinctive architecture is reinterpreted and expressed with sleek finishes, a richness of materials and an all-embracing ethereal glow. "We wanted the first impression to be of a bright, air-filled space that isn't disjointed from the rest of the store and that carries a little of the grandeur of the ground floor," said Monato. "By using primarily concealed sources, we were able to achieve a cleaner aesthetic that 'floats and glows.'" The decision to fill the space with diffused, even light came only after an initial concept of a living room was abandoned. "They wanted it to look like somebody just happened to come by with these cosmetics while you're sitting comfortably in your living room," said Monato. "We told them that in all of our previous experiences with retail, you really need to pump light into the space in order to soften shadows on the face and also highlight product."

To provide that shadowless light and create the "float and glow" feel of the plaza level, the lighting solution relies in part on an array of ceiling coves and wall slots equipped with 2700K and 3000K fluorescent lamps. The niches help to delineate key areas of the space, visually expand its perimeters and contribute ambient light. Above a central cosmetics area, a raised ceiling is ringed with fluorescent light emanating from an architectural cove. Illuminated with staggered strips lamped with T8 sources, the glowing cove forms a halo around the series of vendor islands below, supplying them with ambient light and helping to create a sense of increased verticality by drawing one's eye upward. "We felt that the diffused light over the center section needed to be supplemented with pendant fixtures, so we discussed with Yabu Pushelberg what those should be, the kind of lamping needed and gave them a diagram for a skeletal lamping armature," said Cooley. "And they actually designed them." The result, drum-shaped pendants integrated with a bas-relief pattern of ripple-like circles punctuate the ceiling to supplement the cove-lighting and further draw attention to the upper ceiling plane. Recessed in ceiling cavities and lit with incandescent sources, the pendants appear in other areas of the plaza level requiring added definition.

Along perimeter walls, fluorescent light from a continuous wall slot located 6 ft. above the floor grazes the upper quarter of the space, adding visual lift to the ceiling and ambient glow. "The slot is a continuing theme in about 90 percent of the space," said Cooley. "The indirect light it produces is meant to open the space and compensate for the absence of daylight." Measuring a mere 2 3/4 in. deep, the slot contains striplights lamped with T5 sources selected for their extremely low profile, substantial light output and good color rendering. "We were pushing the envelope as far as lighting the coves and getting that smooth, shadowless wash of light," noted Cooley. The tight combo of T5 fixtures and shallow coves also frees up floor space critical to retail situations. "For details like this where you're losing valuable floor space that can be used to display product, bumping out a wall three inches can really make a difference," said Monato. "With the traditional T8, we would have had to increase the slot to at least six inches. And while a T5 may not sound like much, when you're looking at an overall floorplan and you start stealing three inches here and there, suddenly your casework is six inches shorter—that's enough for a bottle of lotion."



To compensate for the absence of daylight within the plaza level, the lighting solution incorporates a series of architectural themes that are designed to visually expand the windowless basement and create the impression of a bright, "air-filled" space. Above: In the foreground, a ceiling is indirectly lit by T8 fluorescents concealed in a cove. Behind, a perimeter wall is grazed by a continuous cove located 6 ft. above the floor. Measuring only 2¾ in. deep, the coves contain T5 fluorescent strip fixtures, which uplight the walls and form a subtle ring of light around the perimeter.

A double-height atrium (above right) boasting an artist-designed chandelier serves as a visual connection between the ground floor and plaza level. To illuminate displays in the plaza level, accentlights lamped with metal halide PAR20 sources are recessed in the upper ceiling.

Above the Osmotics display (right), a rounded cove containing compact fluorescent strips bathes the ceiling in white light and provides ambient glow. Below, a vertical display case of opal blue glass is internally lit from below with halogen uplights mounted inside the counter. The fixtures can be accessed via panels in the millwork. In the foreground, compact fluorescents contained in the base of a frosted glass counter create an appearance of weightlessness. "The ring of compact fluorescents is important for aesthetic purposes," said Monaco. "What lights the products are definitely the spot MR16s in the ceiling."

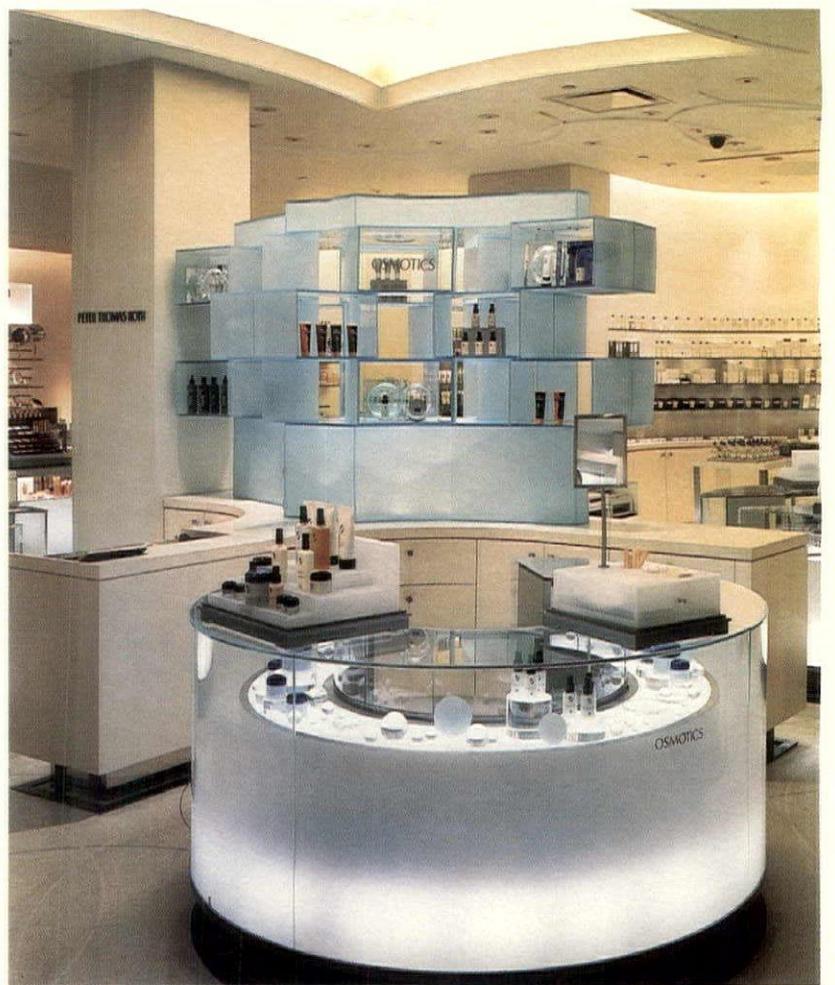
Although precisely locating the MR16 accent lights in relation to the counters and each other was critical to the overall success of the lighting solution, according to Cooley, final aiming plays a critical role as well. "We feel that it is very important that the lighting consultants be involved through post construction in the aiming of fixtures," said Cooley, "because their usefulness is not truly realized until the fixtures are aimed properly."

OPPOSITE ATTRACTION

While resolving architectural issues, the lighting design also responds to challenges related to cosmetics retail—challenges which, according to Monaco, are consistent for any vendor and involve two opposing lighting theories. "First, to illuminate products, the light needs to be contrasting: bright, bright, bright light on product and then a muted surround to make the product stand out," said Monaco. "That, however, is the worst kind of lighting for makeup application. In order to sell cosmetics, the customer needs to look good and that requires a very diffused ambient light." By visually elevating ceilings and expanding the space with brightness, the glowing architectural coves and niches also supply the even ambient light required for makeup application.

For product displays, the solution employs a series of adjustable downlights recessed in the ceiling and lamped with MR16 sources. Arranged in arcs that echo the curved counters below, the fixtures highlight the countertop groupings of bottles and jars, modeling form and adding "pop." "Laying out the MR16 fixtures was a bit of a challenge," said Cooley. "We wanted to make sure that the light hit the counters and that we maintained consistency with the design in the ceiling, but we also wanted to locate the fixtures so that they were not aimed at more than a 35-degree angle off vertical to prevent glare." Compact fluorescent sources contained at the bottom of display counters and concealed by hand-sandblasted glass fascias add some light to the products displayed inside, but primarily serve to lend the vendor islands a quality of weightlessness.

Other features of the lighting design also contribute to the overall glow and otherworldliness of the plaza level, while highlighting architectural details and illuminating product displays. Xenon festoon lamps light many of the built-in display cases as well as curved details that distinguish the individual vendor areas. "We had to be careful about where we put most of the lighting within the built-in cases, because the lamps, though low-wattage, can work up some heat," said Cooley, "and cosmetics, after all, are made of wax and alcohol, which don't mix well with heat." Compact fluorescent strips are also used in rounded coves to light raised ceilings while tighter niches are equipped with T5 lamps. According to Cooley, because of budget restrictions, 25 percent of the details in the original design were eliminated, including a vanity area where customers could see makeup in different light sources and color temperatures. However, those that did make it are many, and perfecting each one and balancing them within the total vision of the space required much time and patience. Commented Monaco, "We basically built mockups for everything."



The effort now seems well worth it. While Cooley credits Yabu Pushelberg for their role in the success of the project and the lighting solution—"Our work can't look good unless the interior design looks good"—Cooley Monaco Studio's work on Bergdorf Goodman received a 2001 Lumen Feltman Award for Retail Lighting Design. In addition, since the move to the plaza level, cosmetics sales have increased. "From what I've heard," Monaco said, "The space is more than paying for itself." ■

Turn to page 42 for information on fixtures and sources specified on this project.

DETAILS

PROJECT Bergdorf Goodman Plaza Level **LOCATION** New York, NY **OWNER** Neiman Marcus Group Inc. **INTERIOR DESIGNER** Yabu Pushelberg—George Yabu, Glenn Pushelberg, Polly Chan, Christina Gustavs, Mary Mark, Gary Chan **LIGHTING DESIGNER** Cooley Monaco Studio—Emily Monaco, Renee Cooley, IALD, IES Ray Chen, Theresa Mongelli, Ran Troim **ENGINEER** Avcon Design Group **PHOTOGRAPHER** David Joseph **LIGHTING MANUFACTURERS** Legion Lighting; C.J. Lighting; Ardee; Reggiani; AFT; B-K Lighting; Bartco Lighting; Belfer Lighting; Cooper Lighting; Litelab; Lightolier; Modular; Edison Price; Color Kinetics; Osram Sylvania; Luminary Tools; Unique Store Fixtures (display cases)

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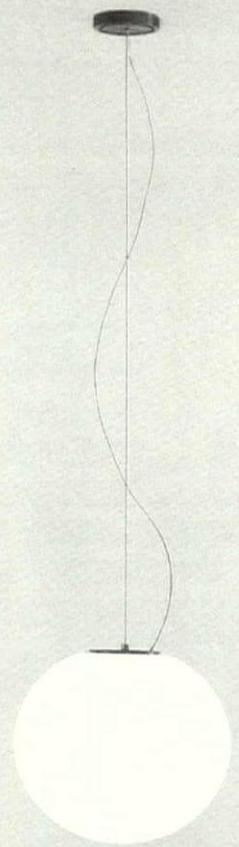
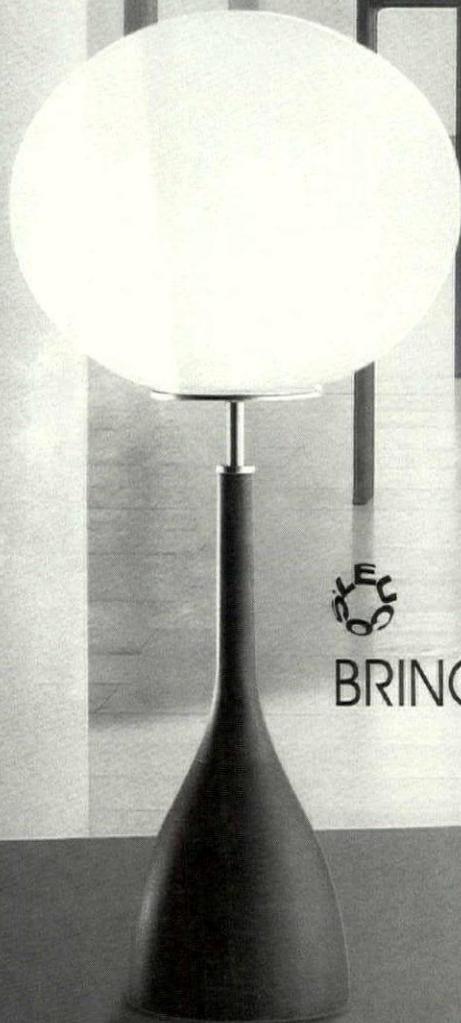
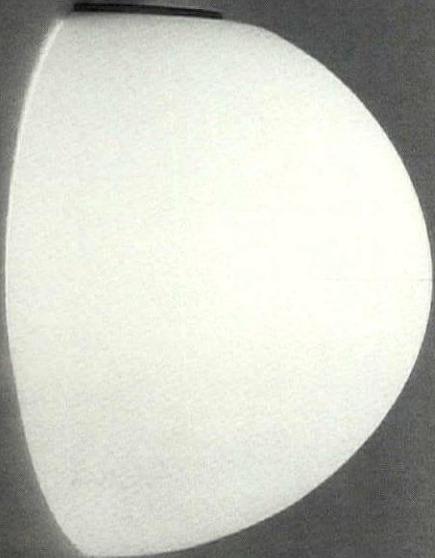
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Pacific Height

After 40 years as Seattle's most recognizable icon, the towering Space Needle is relighted to update the original concept—an icon of the future

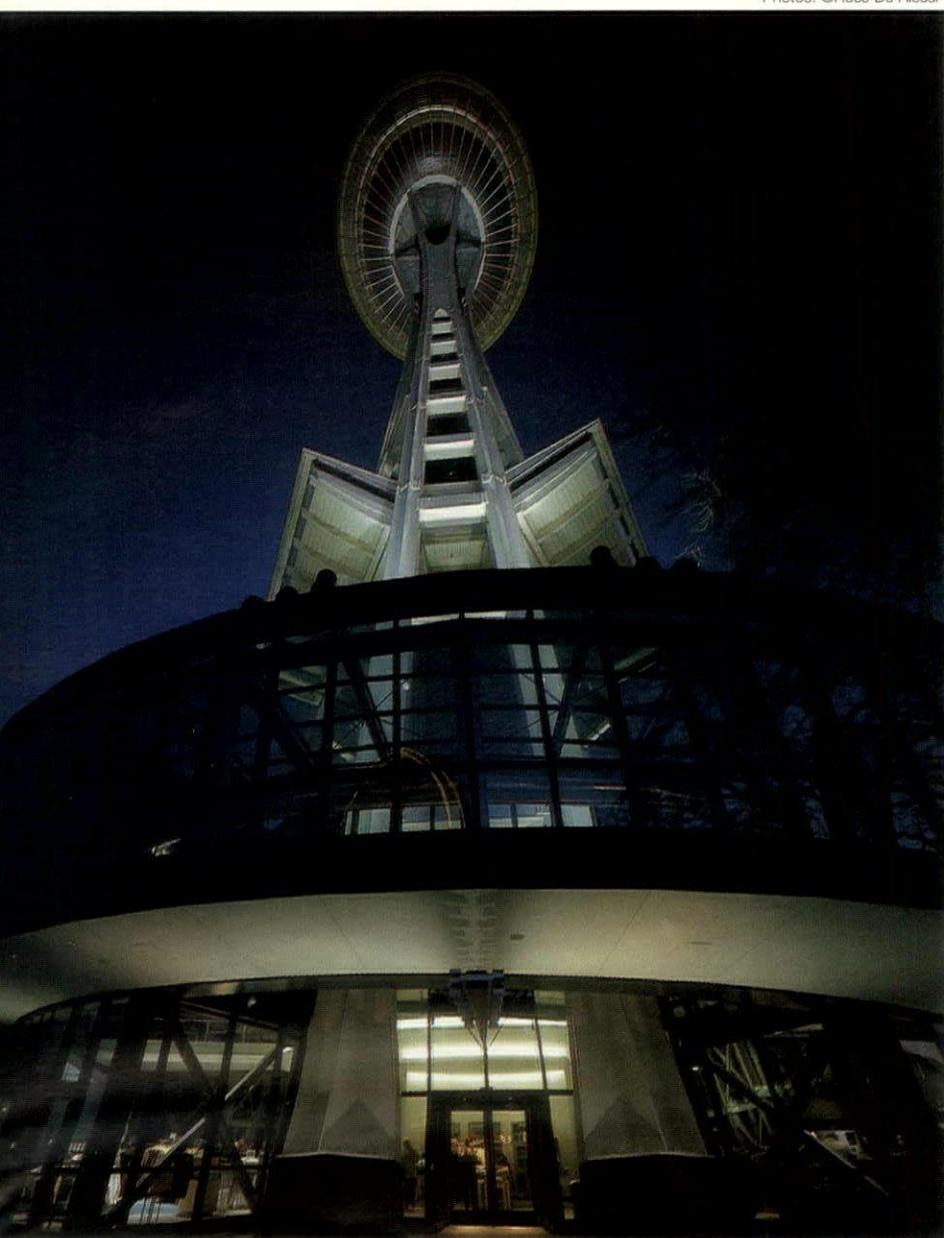
BY MARK A. NEWMAN, CONTRIBUTING EDITOR

New York City has the Empire State Building. San Francisco has the Golden Gate Bridge. And Seattle has the Space Needle, a 604-ft. spire that pierces the calm Pacific Northwest sky and takes its place proudly among the mountains that surround the "Emerald City."

Created as part of the 1962 World's Fair, the Space Needle was built to symbolize the far-off and mysterious 21st Century that, at the time, was so many decades into the future. What started out as a doodle on a restaurant placemat in 1959 started to take shape in many unique ways—other ideas included a giant tethered balloon and a flying saucer. (What would TV's Frasier Crane think as he looked out his elegant penthouse to see a giant tethered balloon bobbing about the Seattle skyline?)

The project was almost abandoned when the land search proved unfruitful, until at the last minute, the current site on what was once a fire alarm station was chosen. Construction was completed in December 1961 for a mere \$4.5 million. When it finally opened on April 21, 1962, the Space Needle was the tallest structure west of the Mississippi River.





When the Space Needle's new lighting was unveiled on New Year's Eve 1999, the sky was set ablaze by three powerful 7000W xenon skybeams (opposite). The new plaza building at the base of the Needle welcomes visitors with a curvilinear steel and glass entry (above). This new addition gently touches the three towering legs and radiates light without obscuring the historic structure. The metal halide glow is a nice complement to the direct lighting from external signage and internal retail displays. Home to a revolving restaurant and observation deck, the "top house" crowns the Space Needle in a golden glow (below). The surrounding ring is illuminated by triphosphor high-output fluorescent backlights and metal halide lamps fitted with pale amber dichroic lenses.

Since then, much taller buildings have been built and the real 21st Century has arrived. However, when the once-distant millennium dawned two years ago, it was obvious that the landmark needed updating. The most obvious way to "re-think" this unique structure was with light. Although the Space Needle's exterior lighting had been adjusted and tweaked throughout the years, there had never been a full-scale effort to show it in a "whole new light," so to speak. That's where Seattle-based, award-winning firm Ross De Alessi Lighting Design came onto the scene.

The entire Needle was going through complete restoration, according to Ross De Alessi, principal of Ross De Alessi Lighting Design. "It really needed some work," he said. "You could sit in the restaurant and see the rust on the outside. It was a shame to see the kind of shape the Needle was in. When we were approached to take it on, we decided that we were going to light it like it had never been lighted before."

De Alessi and his team, which included Cathy Woods and Brent Medsker, sought to relight both the interior and exterior. There was even more pressure on the designers than usual, as the Space Needle's new lighting scheme was to be the focal point of Seattle's millennium celebration when 1999 evolved into 2000.

The new exterior lighting was to highlight, as well as embrace, the monument and render it in an updated and reverential glow that would laud its history. This would be the first time that the entire Space Needle would have permanent exterior lighting, top to bottom. Another consideration for the designers was to be mindful of the observation deck and the rotating restaurant in the "top house," the uppermost portion of the structure. While the new exterior lighting had to fully illuminate the structure, it could not impede the views of those looking out at the magnificent vistas, which include the Olympic and Cascade Mountain Ranges, Elliott Bay, Mount Rainier and the Seattle skyline.

BOTTOM UP

Lighting was not the only new addition to the Space Needle; there was also a plaza building added at the base. Designed by Callison Architecture, this new structure not only serves as a sleek welcome to tourists entering the landmark, but it also updates the futuristic look and adds a touch of "retro" pizzazz. The new two-story building replaces the ground-level retail, ticketing and lobby area and subtly wraps around the Space Needle's three legs, only tangentially touching the structure.

Appearing to float around the Needle's base, the glass-enclosed plaza building marks a graceful entry into a cherished part of Seattle's history. "We wanted the plaza building to radiate so that it appeared to bathe the rest of the structure in light," De Alessi said. "Also the Landmark Preservation Board mandated that the ramp had to be 'transparent' so that none of the actual Space Needle was obscured."

The ramp is elegantly awash in the glow from uplights imbedded in-ground and containing 70W to 100W ceramic metal halide louvered fixtures, contrasting the more direct lighting of the exterior signage and focal lighting emanating from the interior displays. The plaza building is also the new home for all of the retail spaces that were once contained on the observation deck. The lighting of the new retail areas was also designed by De Alessi.

Moving up, the next lighting step would be to cast the Space Needle's spindly legs in a stark white glow from the earth to the saucer-like "top house" 600 ft. above. De Alessi used 1000W metal halide fixtures mounted on the leg cross-ties at the 200-ft. level of the legs. Again, the new plaza building comes in handy as the designers placed a dozen 1000W standard metal halide spotlights on the building's roof as well as on custom poles.

"We trained the lights at the radial veins on the underside of the 'top house,' which resulted in a nice even glow that makes the underside appear to be equipped with its own fixtures," De Alessi explained, "but actually, all the light is being trained from the fixtures on the plaza building and adjacent poles. Looking back, the legs were the simplest part; it was getting the light to hit at the precise locations underneath the 'top house' that proved to be the most challenging."

GOLD RING

Surrounding the "top house," which contains the revolving restaurant and the observation deck, is an illuminated ring of decorative grillwork referred to as the "halo ring," which crowns the top of the Space Needle. Lighting this feature was essential to the success of the new exterior lighting scheme.

"The ring was festooned with lights and looked bad," De Alessi lamented. "It was also hard to maintain. We decided to try something completely different so that we could use light to bring the ring to life and reveal its shape and color, which had never been done before."

To give the "halo ring" the most striking appearance from all angles and distances, De Alessi chose to both backlight and uplight it. Fifteen 1000W standard metal halide spotlights fitted with pale amber dichroic lenses uplight the golden halo from mountings on the plaza building and adjacent poles. The other nine fixtures were mounted on the cross-ties of the connector ring located 200 ft. up the Space Needle's legs. Due to the slope and arch of the legs, the designers could not mount all of the fixtures at this level without casting unwanted shadows.

To further enhance the view of the Needle from greater distances and at night, De Alessi chose to illuminate the wall directly behind the ringed grid. This was achieved with sign lights configured in a continuous row and fitted with triphosphor 4000K high-output lamps. The result is a striking silhouette that further enhances the "top house's" graceful appearance against the night sky.

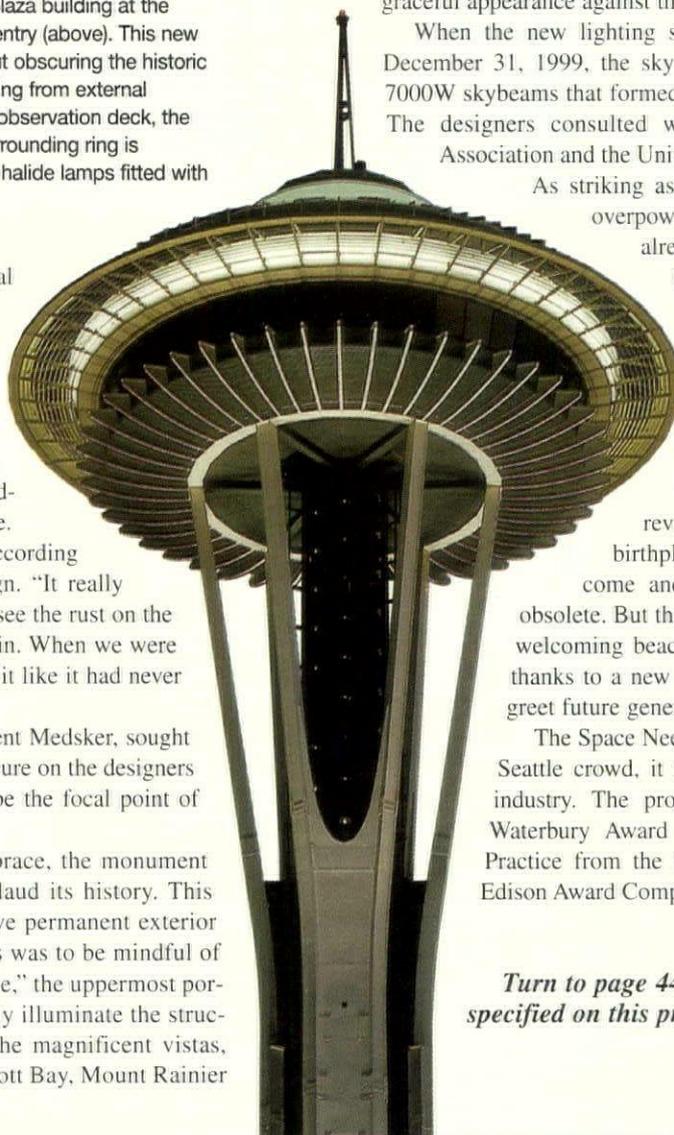
When the new lighting scheme was finally unveiled at midnight on December 31, 1999, the sky was illuminated by the Legacy Light, three 7000W skybeams that formed a beam of light that shot up into the heavens. The designers consulted with the FAA, the International Dark Sky Association and the University of Washington's astronomy department.

As striking as the beam appeared, it was important not to overpower the natural beauty of the celestial bodies already in place. It was agreed that the Legacy Light would only be switched on for national holidays and five special occasions per year.

While some may scoff at the Space Needle as a quixotic attempt to envision the future, there is no mistaking that it is the single-most recognized symbol of the Pacific Northwest. Seattle is a beautiful city that has found itself at the epicenter of musical revolutions, technological innovations and the birthplace of the Starbucks generation. Fads may come and go; technologies may advance or become obsolete. But the Space Needle will remain the sole constant, a welcoming beacon to travelers and residents alike. And now, thanks to a new adornment of light, this icon will shine on to greet future generations.

The Space Needle's relighting has not only been a hit with the Seattle crowd, it has also received accolades from the lighting industry. The project received the IESNA's IIDA 2001 Paul Waterbury Award of Excellence, The Compendium of Good Practice from the IALD and an Award of Excellence from the Edison Award Competition sponsored by General Electric. ■

Turn to page 44 for information on fixtures and sources specified on this project.



DETAILS

PROJECT The Space Needle **LOCATION** Seattle, WA **LIGHTING DESIGNER** Ross De Alessi Lighting Design—Ross De Alessi, Cathy Woods, Brent Medsker
ARCHITECT Callison Architects **PHOTOGRAPHER** Ross De Alessi **LIGHTING MANUFACTURERS** Columbia; Greenlee; Xenotech; Bega; GE Lighting; Special FX; B-K Lighting



Photo: Elliott Kaufman

Grill to Perfection

With a rich lighting palette and tasteful decor, this upscale midtown eatery is surely a place to dine for ...

BY JEAN GORMAN, CONTRIBUTING EDITOR

Given the abundance of restaurants in New York and the fickleness of tough-to-please New Yorkers exposed to continuous openings of new venues with star-powered chefs all over town, it's a serious accomplishment when a Manhattan restaurant can appeal to consistent crowds—particularly when the economy is in the doldrums. This is especially true in midtown, where there are no residential buildings and the retailers shut down in the evening. And, over the past decade, as younger New Yorkers have headed downtown where there's plenty of life at night, keeping a flourishing business in the heart of the city has become even more difficult.

The Sea Grill, an upscale seafood restaurant that opened in Rockefeller Center about 10 years ago, is one place that's managed to successfully weather the changes in the midtown scene. Even so, when Rockefeller Center began undergoing a rehab a few years ago, the Sea Grill's owners saw an opportunity to refresh the restaurant's appeal to New Yorkers, who've always enjoyed the restaurant at lunchtime. At the same time, they wanted to attract out-of-towners, who regularly visit Rockefeller Center, one of the city's most-frequented tourist destinations, both day and night. To energize the Sea Grill's image while preserving its sophistication, they called upon New York architect/designer, Adam Tihany.

As owner of New York's popular restaurant, Remi, and as designer of some of the best-loved dining establishments in the country, Tihany has mastered the elements of successful restaurant design. "The two most important things to keep in mind are first, the customer and second, the food," he explained. "Both need to look very good—the better they look, the more successful the restaurant is." Tihany also pointed out that one of the most effective routes to achieving these ends is with a well-designed lighting scheme. "After the food, comes the light," he said. "It plays a crucial role, in my opinion, in setting the mood and the tone. It's really the most important control element."

Tihany collaborated with New York lighting designer Ann Kale of Ann Kale Associates to develop a lighting plan that addressed architectural and design issues as well illumination needs. According to Tihany and Kale, the lighting challenges in this space were both plentiful and daunting. "Usually when we work with Adam, we talk about the possibilities; with this project, we were forced to talk about limitations," said Kale. For starters, the restaurant is located in the lower concourse below street level. The ceiling height in the space was only 8 ft. 8 in. tall, very low for a restaurant of this size. "We had to figure out how we could make the space seem taller, and with all the ductwork, structure and pipes that had to be worked in, finding space to recess fixtures became a nightmare," said Kale.

Opposite: A low ceiling and glass walls in the Sea Grill at Rockefeller Center presented challenges for lighting designer Ann Kale. But new small-aperture, wide-beam recessed fixtures and custom illuminated architectural features, such as the illuminated edge of a curving table, designed in collaboration with architect Adam Tihany, make the space a fresh, inviting place to dine.



Above: A suspended glass bottle display is highlighted with a series of recessed MR16 spot downlights, calling attention to the bar.

Above right: A custom illuminated curtain, made from 6-ft.-tall chemical pipes wrapped with sheer, blue fabric, provides a low level of ambient light and privacy from the concourse beyond. Bronze cups at the top of each tube drop for easy access to lamps. The coatroom, surrounded by a wall of 2-in.-thick blue resin, becomes a focal point when rear-illuminated with blue cold cathode lamps and MR16 monopoints.

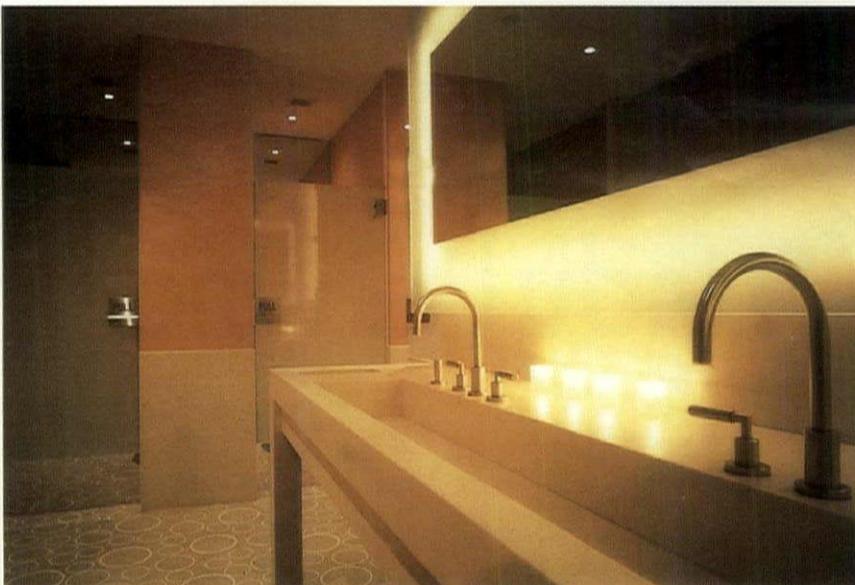
The walls, or lack thereof, presented another challenge. "Basically, the restaurant is in a glass box," said Tihany. "There are no solid walls at all because floor-to-ceiling glass walls separate the restaurant from the plaza on one side and the concourse on the other." The lighting designer needed to introduce fixtures that could balance the excessive sunlight at lunchtime and be dimmed to comfortable levels at dinner as the atmosphere changes from daylight to night. "This is not a restaurant like Daniel or Le Cirque, where there are no windows and where from a lighting standpoint, you have full control," said Tihany. Furthermore, he pointed out that the flavor of the restaurant also changes dramatically from season to season. "To boot, there's a skating rink right outside in winter that's lit with giant projectors. And when the Zamboni comes out to clean the rink, it's not like watching a winter wonderland; instead, all you're thinking about is whether this big tractor is going to come through the window as you're being served a \$150 meal," he said.

MIXING & BLENDING

To address these issues, the designer and lighting designer introduced a mixture of fixtures and custom-designed light features that enhances the space and the diner's experience. "The more you mix, the better you can influence the atmosphere," said Tihany, who likes to use a considered blend of architectural, decorative and display lighting elements in his environments. To integrate the primary ambient light in the low, complicated ceiling, Kale chose small-aperture recessed downlights. "This was our salvation," she said. "It's the smallest recessed fixture that I know of." Fitted with 55-degree, 50W MR16s that are dimmed way down and covered with frosted lenses, the fixtures, with their wider-than-average beam spread, were installed in a 6-ft.-x-6-ft. grid pattern and provide soft illumination that lets crystal and silver glitter and glow without casting harsh shadows on diners' faces.

After he uses light to make the food and people look good, Tihany said he employs it to shape and define the room and to create theatrical drama with pockets of light and shadow. Tihany transformed the Sea Grill into a clean, sophisticated, contemporary setting with glass and resin architectural features, terrazzo floors, Corian surfaces, bleached mahogany furnishings and beachy palette of soft blues and sandy shades. The most dominant architectural use of light is a 22-ft.-long illuminated curtain wall, which shields diners from the view of the concourse. Composed of about 30 sandblasted borosilicate chemical pipes that are woven with gauzy blue fabric, suspended from the ceiling and illuminated with 12-degree MR16 spots, the light wall serves the same purpose as a cafe curtain, albeit with modern panache. It's also easy to maintain. "Adam is extremely concerned about maintenance," said Kale. "Owning a restaurant makes him astutely aware of how difficult it is to properly maintain the lighting." Each of the 30 lamps in this fantastic fixture can be changed simply by lowering a bronze cup mounted at the top of each pipe with a twist and lock mechanism.

Light also features prominently as an architectural focal point at the bar and near the reception area, where it sets aglow a curvaceous, blue, cast-resin wall that conceals a coat closet. Above the bar, a floating rectangular bottle display case made of clear and frosted



In the women's restroom, above, a mirror rear-illuminated with xenon striplights appears to float away from the wall and creates excitement. "There are two things you can do in a bathroom," said Kale. "One is to make people look good, the other is to make it dramatic. Ideally, you accomplish both if you can and this lighting solution does that."

glass panels is highlighted from above with a series of 20W recessed MR16 downlights. "I like these downlights because they have a trim ring of brushed stainless steel that allows the lamp to sit above the ceiling by 3/8 in., which cuts the glare and keeps them from looking as raw as fixtures with lamps that are flush with the ceiling," said Kale. She also noted that the light from these fixtures shines through the frosted portions of the display case like a glowing lantern and refracts through the glassware to create sparkle. "It provides a focal feature that you need at a bar, but the light is also flattering for people," Kale said.

Nearby, the undulating edge of a cable-suspended table, reminiscent of an ocean shore, glows with a ribbon of blue light created with a strip of 12V xenon festoon lamps concealed within blue cast resin. This flowing blue wisp also leads the eye to the dramatic blue wall of the coatroom. Rear-illuminated with blue cold cathode and MR16 monopoints, this perfunctory space is transformed into a beacon of soothing blue light. It no doubt also played a strong role in convincing a jury to give this project a well-deserved Lumen Citation Award. ■

Turn to page 46 for information on fixtures and sources specified on this project.

DETAILS

PROJECT The Sea Grill **LOCATION** New York City **OWNER/CLIENT** Restaurant Associates **LIGHTING DESIGNER** Ann Kale Associates **ARCHITECT/DESIGNER** Adam D. Tihany International **MEP ENGINEERS** Atkinson Koven Feinberg **PHOTOGRAPHER** Peter Paige; Elliott Kaufman **LIGHTING MANUFACTURERS** Lutron; Light Solutions; Luminary Tools; Lucifer Lighting; Belfer Lighting; Ardee; GE Lighting

Osram Sylvania's Tru-Color Metalarc family of ceramic metal halide lamps is used both on the exterior and interior of the Jefferson Memorial. Outside, 39W T6 G12 lamps are used with Winona fixtures to illuminate the vertical surfaces below the dome. Inside, 150W T6 G12 lamps are used with ETC fixtures to highlight the four side-wall text panels. This Sylvania family of ceramic metal halide lamps combines the attributes of conventional pulse starting (good efficacy and long life) with innovative "bulgy" ceramic arc-tube designs for improved lamp-to-lamp color consistency and a high CRI (80-94). Compared to conventional quartz metal halide products, these metal halide lamps exhibit less color variation and higher efficacy, according to the company. Most Metalarc ceramic lamps incorporate Pro-Tech technology, in which a protective shroud around the arc tube enables use in open fixtures. Both mean lumens and color stability are further enhanced when operated with the new electronic HID ballast, Sylvania Quicktronic MH. The lamps are available in wattages from 39W to 250W, and lamp configurations include E-17, PAR20, PAR30, PAR38, BT28 and G12/T6 lamp types. **Circle No. 50**

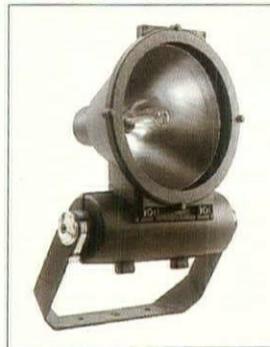


Eight round tapered steel poles from Valmont Industries are located around the exterior of the Jefferson Memorial and are equipped with North Star floodlight fixtures to illuminate the facade. Each pole is 45 ft. high and painted with a special color over a galvanized steel finish. The poles are specifically engineered for side-mount fixtures. Valmont Industries designs and manufactures steel and aluminum structures for lighting, traffic and utility markets. Structures include street, highway and decorative lighting, traffic signals, sports lighting, sign structures and electric utility installations, which are available in a variety of shapes and sizes ranging from 10ft. to 250 ft. **Circle No. 51**

The architectural Dichro•X lens from Special FX was specified to be used on the North Star Thorn 400W round Contrast floodlight with an accessory filter holder. The colors used match Gam 1514, Gam 1515 and Lee 443. The Dichro•X lens, invented by the company in 1998, is a hybrid dichroic and borosilicate color-bonded glass. Dichro•X may be used in the hottest instruments in permanent installations with no fading. Also from Special FX is the Fade•Not architectural lens, which was fitted to the Winona Type C, Type C1 and Type C2 asymmetrical 39W ceramic metal halide fixtures to match Lee 203 and Gam 1514. An accessory filter holder was also used with this instrument. The Fade•Not architectural lens was tested and guaranteed for this installation. **Circle No. 52**

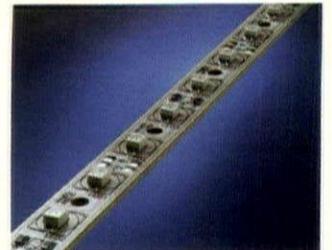


North Star Lighting's Thorn 400W round Contrast floodlight (CONR2400MH) is used to illuminate the exterior of the Jefferson Memorial and inside to illuminate the statue of President Jefferson. Discreetly highlighting those important elements while providing some general area illumination without flooding the entire venue was a design parameter. The North Star Thorn Contrast Series offers a 400W narrow beam floodlight with an architectural Dichro•X colored lens to produce the proper intensity with the right color. North Star also redesigned and modified the fixtures that needed to be concealed in the ceiling to illuminate the statue. The Contrast Series of architectural floodlights is available in either a round or rectangular shape to enable design flexibility. Three sizes, a wide array of HID lamp options, popular and unique optics—along with many options including fixed and adjustable louvers and colored lenses. **Circle No. 53**

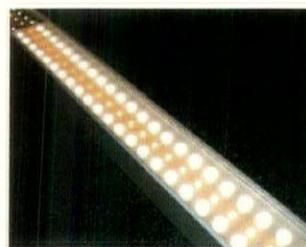


Indy Lighting modified its 100W Sylvania Icetron induction fixture to fit into existing 500W PAR56 mounting frames installed in the 12-in.-thick concrete portico and gallery ceilings of the Jefferson Memorial. The fixture also provides for top access and is supplied with a wire mesh to prevent birds from entering. The 12-in.-diameter fixtures have a system life of 100,000 hours and provide energy-efficient, maintenance-free ambient light for the landmark building. **Circle No. 54**

At the Jefferson Memorial, approximately 17,000 Osram Sylvania LEDs, housed in Winona fixtures, are used to illuminate—for the first time—Jefferson's famed quote that encircles the inside of the rotunda at the base of the dome. Light-emitting diodes (LEDs) are being used in an increasingly wide range of applications as a cutting-edge alternative to conventional lamps. Compared to other lighting technologies, LEDs use much less energy, have an extremely long life of up to 100,000 hours, are shock-resistant and are available in a range of colors (red, green, blue and yellow) plus white. With current efficacies of 10 percent and more, LEDs of only a few tenths of a millimeter in size efficiently convert electrical energy into light. **Circle No. 55**



Thousands of individual LEDs (5,504 yellow and 11,008 white) illuminate 172 18-in. modules. The modules are placed end-to-end to form a continuous 360-degree ring of light. To house the LEDs, Winona Lighting created a two-part system. The first part is a 1-in.-x-1 3/4-in. aluminum base extrusion that is attached to the stone ledge via a silicone adhesive. The second component supports the LED boards and provides attachment to the base extrusion. A top lens, constructed of heavily frosted clear acrylic, provides a diffuser surface to help mix the LED color. Eight power sources (four yellow and four white) provide both power and color mixing control. These color-mixing controls are required to achieve the desired warm tone and the overall output. **Circle No. 56**



(Jefferson Memorial products continued on page 38)

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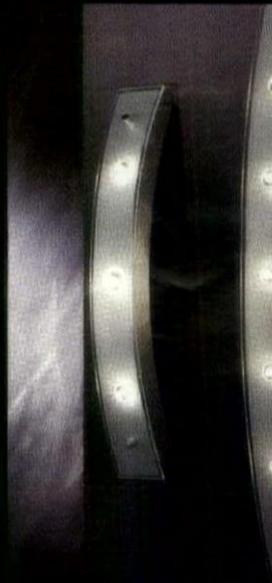
SERVICE



"bach" 12+6+6 24x20W/12V d48" h120"



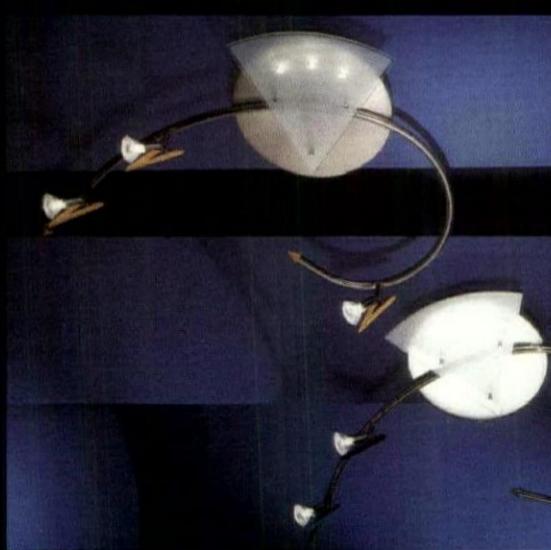
"luna" 629 w10" h11"



"arcus" 103
h16" w4" e3.5" h22.5"



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"arte" 601/605 L34" w28"

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Osram Sylvania's 100W Icetron lamps and ballasts are used at the Jefferson Memorial in Indy Lighting's downlight fixtures to

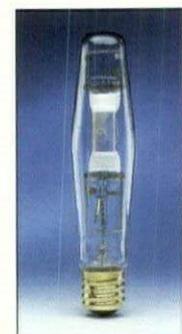
illuminate the portico area and the columned walk around the structure, providing improved visibility and safety at night. This inductively coupled electrodeless lamp uses magnetic-induction technology instead of an electrode at each end of the fluorescent tube to generate light. The absence of electrodes means there is nothing in the lamp that can wear out, which boosts average lamp life up to 100,000 hours, the equivalent of more than 10 years of continuous operation. Icetron lamps are ideally suited for applications where relamping is inconvenient or expensive such as areas with high ceilings or 24-hour activity, street lighting, parking lots and tunnels. **Circle No. 57**



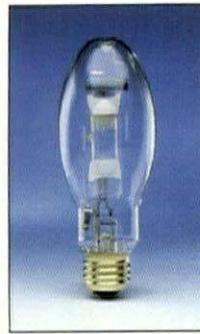
Lighting the numerous monuments and memorials in Washington, D.C. has traditionally been one of the National Park Service's biggest challenges, and the Jefferson Memorial project was no different. However, this time around, the park

service officials had access to Digital MicroWATT from **Lutron Electronics**, a new web-based lighting control product that can be accessed from remote locations, allows continuous monitoring of lighting and will automatically send an email to a facility manager or other users when a problem arises. Suited for relatively any commercial or institutional application—from the monuments in Washington to office buildings, schools and hospitals worldwide—Digital MicroWATT is the industry's first Integrated Lighting Automation System, according to the company. It provides automated on/off light switching, full-range dimming capability, precise real-time monitoring of a building's entire lighting system and load shedding for peak demand reduction. It combines cutting-edge lighting control technology with a unique, web-based software design that easily integrates with building automation and management systems and works seamlessly with card access and security products. **Circle No. 59**

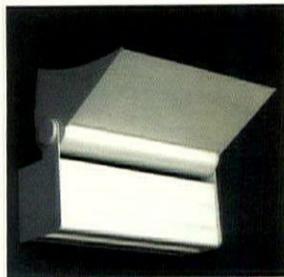
Eclipse Dowsers from **Wybron** are used to help soften the edges of light on the text panels. The Eclipse is a DMX-controlled dowsner that does mechanically what cannot be done electronically: dim HMI and other "non-dimmable" lamps. The Eclipse Dowsner gives designers the ability to dowsne light while leaving power on—there's no need to wait for a restrike. The dowsners, which mount on the front of a lamp much like a color scroller, use a series of metal shutters to partially or completely block the light source. Eclipse can perform a cross-fade of up to 60 seconds, a fast cut of 200 milliseconds, as well as a strobe effect. **Circle No. 60**



Metalarc compact jacketed 400W metal halide lamps from **Osram Sylvania** (left) are being used with North Star's floodlight fixtures to illuminate the exterior of the Jefferson Memorial, including the facade and steps. In addition, these 400W lamps and fixtures light the statue of Jefferson inside the Memorial's chamber. Metalarc 175W medium-base compact jacketed metal halide lamps (right) are used in Winona fixtures to uplight the interior of the dome. This family of lamps is available in smaller outer jacket sizes to operate in a reduced fixture profile and to increase system efficiency. A broad range of these energy-efficient, high-color-rendering lamps is offered in a variety of wattages, and they're available in universal, horizontal or vertical operating positions. **Circle No. 61**

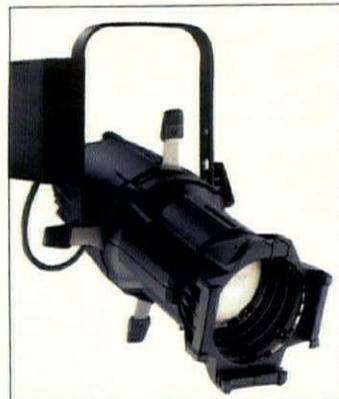


Winona Lighting's Windirect fixtures are used to illuminate both the interior and exterior of the Jefferson Memorial. A total of 75 Type C (shown) and Type C1 asymmetric 39W ceramic metal halide light fixtures are used outside to illuminate the vertical surfaces below dome; eight Type C2 asymmetric 39W ceramic metal halide wall-wash fixtures are surface-mounted to provide additional light to the exterior perimeter. All Type C, C1 and C2 fixtures required two color filters incorporated into the gasketed lens design. Additionally,



there are four Type B asymmetric 175W metal halide fixtures that incorporate custom shielding by way of a special-combination horizontal/vertical blade baffle and extendable cut-off visor installed inside the rotunda space to uplight the domed ceiling, which had not been lighted in the past. Windirect is a specification-grade asymmetric lighting system available in a wide range of HID, tungsten halogen and fluorescent light sources. The reflector is constructed of high-purity aluminum alloy and is shaped to provide a directed concentration of light to uniformly illuminate any target surface. Windirect offers three adjustable standard-mount style options, three standard visor options and two standard lens options. The fixtures are UL-listed for indoor and outdoor applications. **Circle No. 58**

Source Four HID fixtures from **ETC** are used inside the rotunda space to illuminate the four text panels that feature selected inscriptions from Jefferson documents. Source Four HID's long-life 9,000-hour lamp means low maintenance, which is ideal for locations that can't be reached often or easily. Source Four HID provides the level of performance of a 2,000-hour 575W Source Four spotlight but with 7,000 additional hours, with a cool beam, crisp pattern projection and bright, even field. The fixture



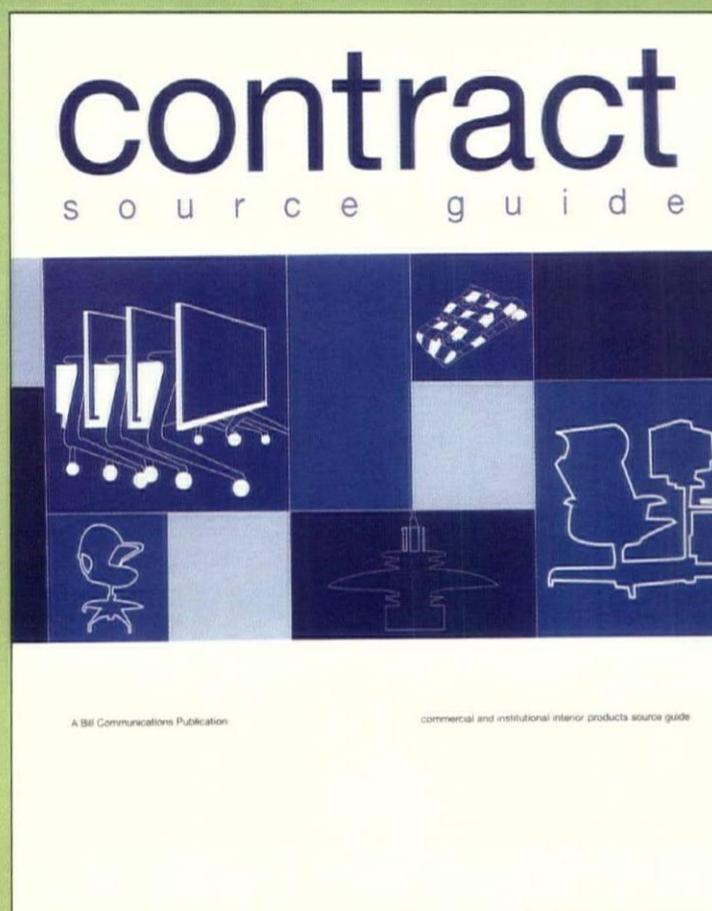
uses a 150W metal halide lamp, in this case, Osram Sylvania's Metalarc ceramic metal halide, and a 150W electronic ballast with a power factor of greater than 95 percent. Source Four HID is available in 5-, 10-, 19-, 26-, 36- and 50-degree field angles. It is yoke-mounted and features a multi-faceted glass reflector, interchangeable lens tubes, rotating barrel, rugged die-cast aluminum construction and a three-plane, stainless-steel shutter blade assembly. **Circle No. 62**

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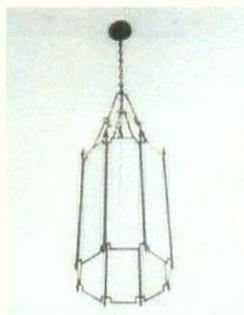
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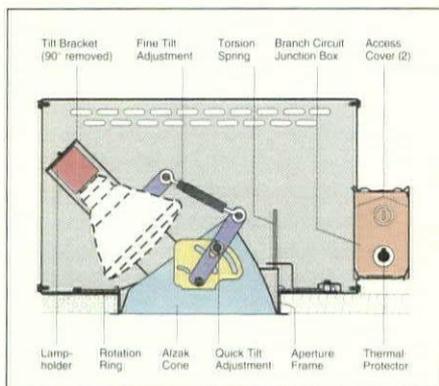
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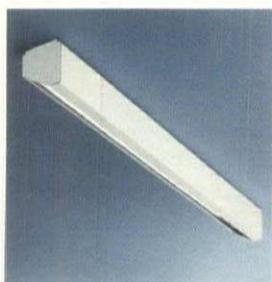


Inspired by a fixture found elsewhere in the building, the custom pendants that supply ambient lighting to Lecture Room 102 in Linsly-Chittenden Hall were designed by Ortale and Berg and manufactured by **Custom Metalcraft**. The octagonal fixtures are made from formed and laser-cut steel parts and feature opal acrylic diffusers. The acrylic was sprayed with a tinted lacquer to add warmth. Illumination is provided by four FB031 fluorescent lamps and one PAR38 lamp, which supplies downlight. The fixtures were placed on dimming ballasts. **Circle No. 65**

Tucked above valences, 2552 Modulens T8 fluorescent enclosed modules from **Belfer Lighting** highlight the carved transom panels. Constructed of extruded aluminum with anodized satin aluminum finish, fixtures are offered in 25 in. for use with 17W T8, 37 in. for use with 25W T8 and 49 in. for use with 32W T8 fluorescent lamps. Lens is extruded, high-impact acrylic. Ballast options include high-power factor and electronic ballasts. Optional 120V Rocker Switch is also available. **Circle No. 64**



Kurt Versen's Model C7311 adjustable downlights are recessed in the ceiling of Lecture Room 102 to accent class instructors at the front of the room. The lamp assembly rotates 360 degrees and tilts to 45 degrees. Friction locks maintain focusing position during relamping. The standard cone is for aiming angles from 0-30 degrees, while a special cone is available for angles from 30-45 degrees. A shallower straight top cone is also available. Specular clear Alzak cones are standard. Optional colors are available. Housing and structural parts are painted optical matte black to suppress stray light leaks. Illumination is provided by 45-250W PAR38 fluorescent sources. **Circle No. 66**



Elliptipar's Style 110 wall washer illuminates a chalkboard in Linsly-Chittenden's Lecture Room 102. The fixture can be mounted to the ceiling individually or joined together in a continuous row. When mounted in a row, joiner/reveal plates align and screw together. Style 110 is available for cantilever and pendant mounting. The fixture is equipped with a semi-gloss white housing, decorative end plates and black joiner/reveal plates. The reflector is formed of extruded, high-purity aluminum with clear anodized finish. Lamping options include T8 and T5 fluorescent sources. **Circle No. 67**

In the Sterling Law Library, **Litecontrol** Stacklights are located in aisles to light the bookshelves in the stack area. Fixtures can be surface-mounted or suspended by stem or aircraft cables. Steel splines also enable fixtures to be aligned in continuous rows. Housings are die-formed and welded 20-gauge steel. Providing lengthwise shielding, baffles are die-formed, 20-gauge steel finished in matte white. Side shields are also available for use in open spaces. Illumination is provided by T8 fluorescent lamps. Baffles are hinged to facilitate relamping. **Circle No. 68**

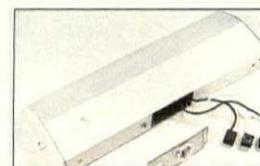


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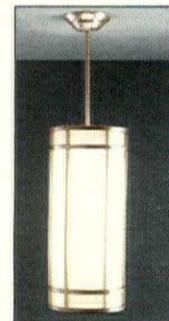


Also from **Litecontrol**, the Tasksa Lab & Desk Light is mounted in carrels in the High Street Wing to provide task lighting. Constructed of 20-gauge steel, it can be installed with its flat front surface flush with the front of the shelf or cabinet or recessed behind the lip of the cabinet. The fixture offers two high-quality, non-yellowing lenses. The KSH25B ribbed acrylic lens reduces veiling reflections and the XA lens, composed of hexagonal prisms, provides a smooth distribution of light. Both are easy to install to facilitate relamping. Illumination is provided by T8 fluorescent lamps. Electronic ballast is provided. **Circle No. 69**

QuickInch from **Alko** supplies undershelf task lighting to carrels in the High Street Wing of the Sterling Law School. The fixture features a rear wiring access panel that eliminates the need to open the wireway during installation. A push-in Romex fitting and push-in electrical connectors also facilitate wiring. QuickInch is equipped with factory-installed T5 lamps and a ribbed, translucent Alkocrylic light diffuser that remains pliable and color-stable for the life of the fixture. Construction is durable extruded aluminum housing with matching injection-molded polycarbonate end caps. Standard housing finish is white polyester-resin powder coat with matching white end caps. **Circle No. 70**



Pendants from **Visa Lighting's** Cylinder series illuminate student lounges in the High Street Wing. Fixtures provide diffused, ambient light, but also feature a separately wired, optically-controlled downlight component. The downlight is equipped with a black baffle reflector to reduce glare and uses a 150W PAR38 lamp. Measuring 42 in. high (including stem) and 11 1/4 in. wide, Model 3320 is available for use with 60W A19 incandescent sources or 24W T8 medium-base U-lamps. Standard finishes include brushed solid aluminum, brushed solid brass, polished solid brass and painted. **Circle No. 71**



In the classrooms, **Shaper Lighting's** 404 (shown) and 415 pendants replace a haphazard arrangement of linear fluorescents. Both models are offered with a choice of 28-in., 36-in. and 42-in.-diameter diffusers and incandescent and fluorescent lamping. Model 415 also includes a downlight component that uses one compact fluorescent or halogen lamp. Bowls are finished in white acrylic. Sanded and hand-painted faux alabaster finishes are optional. "Glass-green" acrylic is also available by special order. Various finishes are available for metal components. **Circle No. 72**



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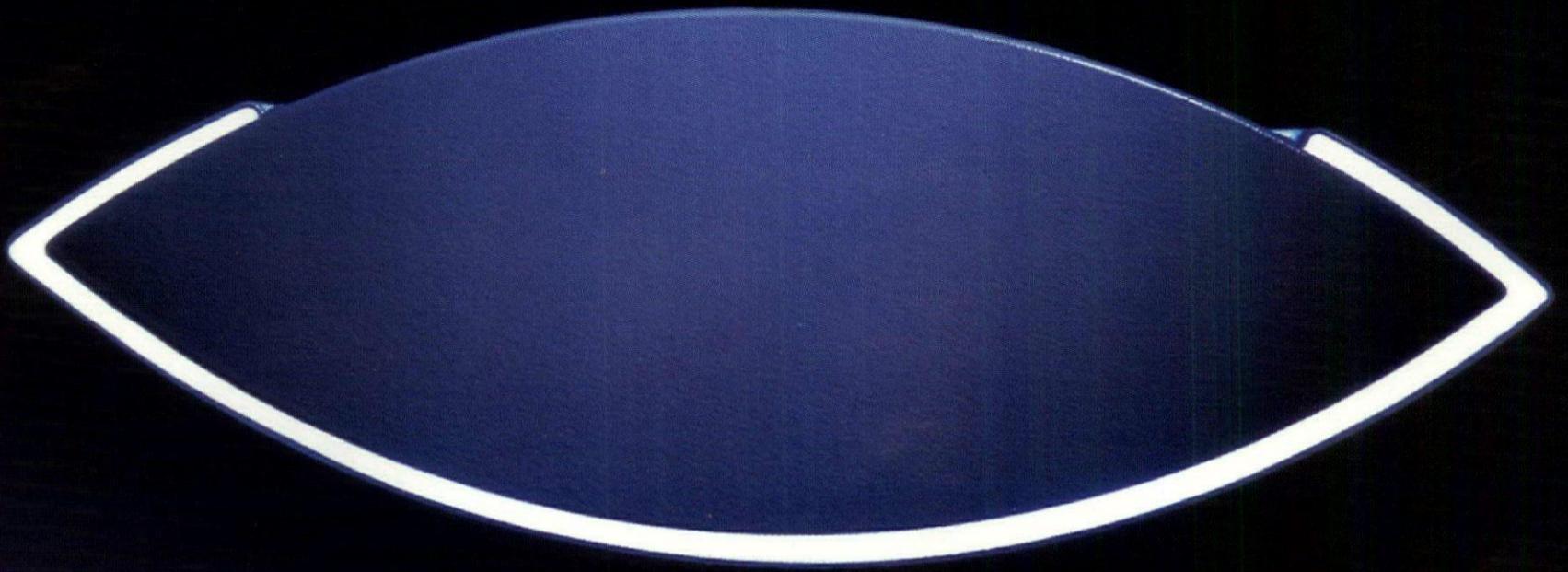
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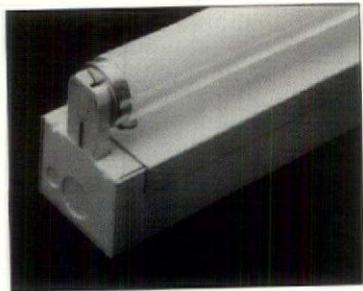
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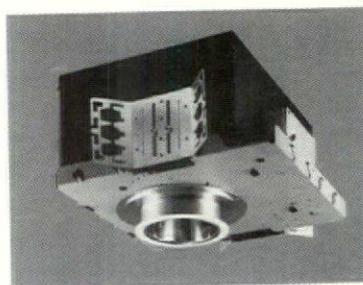
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Circle No. 25 on reader service card or visit lightforum.com/marketplace



Hidden in ceiling coves in various areas of the store, **Legion Lighting's** Series 300 fluorescent strips provide ambient light and visual lift to the ceiling. Series 300 strips can be installed flush with the ceiling surface or stem-mounted singly or in continuous rows. For continuous mounting, end knockouts may be removed and units joined together. Die-

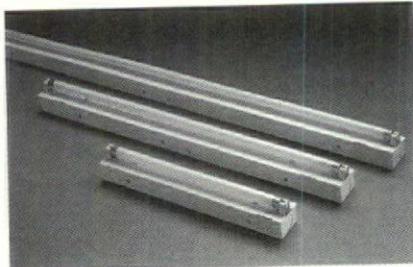
formed of 20-gauge, cold-rolled steel, fixtures are protected against rust and discoloration by an Anchored Process and coated with 365-degree-sprayed baked white synthetic enamel. A range of types and lengths is available. **Circle No. 73**



Recessed in the ceiling, Portfolio HA3MR adjustable downlights from **Cooper Lighting** illuminate products in display cases. A low-brightness accent fixture, HA3MR uses MR16 lamps, features a 3 1/2-in. aperture and is equipped with a lamp aiming and locking mechanism that allows for 361-degree rotation and 45-degree elevation adjustment. Top-accessible housing is 18-gauge cold-rolled steel painted optical matte black to eliminate

stray light. Reflector is spun 0.04-in. aluminum finished in low-iridescent clear, haze, straw, wheat and specular black Alzak. **Circle No. 74**

Bartco Lighting's BFL280 Series low-profile T5 fluorescent fixtures in wall slots situated 6 ft. off the finished floor uplight the upper quarter of the space and visually lifts the ceiling. Fixtures are available for T5 lamps in 8W, 13W, 14W, 21W, 28W or 35W and T5/HO lamps in 24W, 39W and 54W. The fully assembled 20-gauge reflector housing is constructed of 20-gauge steel finishing in a high-reflectance white powder coat. Custom finishes are also available. In-line 120V electronic ballast is included. Various options are offered. BFL280-54 is available with optional dimming ballast. **Circle No. 75**



Accenting products in freestanding display cases, recessed adjustable downlights are equipped with **Osram Sylvania's** Tru-Aim IR MR16 lamps, which feature an ellipsoidally shaped quartz capsule coated with a multilayer thin film. The coating transmits visible light but reflects IR energy back to the filament. Capturing the IR head within the lamp capsule reduces the energy input required to bring the lamp up to its optimal operating temperature, increasing operating efficiency. Tru-Aim IR is available in 37W and 50W versions and is rated at 4,000 hours. **Circle No. 76**



Recessed in a continuous wall slot located 6 ft. above the floor, fluorescent channel strips are equipped with Silhouette T5 lamps from **Philips Lighting**. Silhouette features a slim profile and is offered in 14W, 21W, 28W and 35W. Lamps have a CRI of 85 in 3000K, 3500K and 4100K, boast a 97-percent lumen maintenance and operate on a programmed-start electronic ballasts. Rated life is 20,000 hours. A variety of sizes is available. **Circle No. 77**



Recessed in a double-height ceiling to illuminate a chandelier, **Edison Price Lighting's** Arclite 20/4AA adjustable accent lights feature a 4-in. aperture and are designed for use with Philips' 30W PAR20 metal halide lamps. The fixture provides 358-degree horizontal rotation and 0-45-degree angular adjustment with lockable focus. Reflectors are available in clear

(natural aluminum), semi-specular etch clear or champagne gold Alzak with Color Check anodizing or in black Alzak. Other finishes are also available on special order. **Circle No. 79**

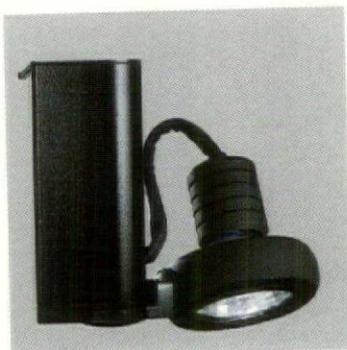
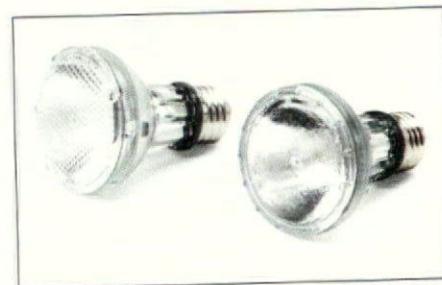
Belfer Lighting's Ramp Series 2855 compact fluorescent fixtures are tucked in curved ceiling coves to provide indirect illumination. The series offers straight and field-curved systems that feature overlapping lamps for shadowless illumination of linear, rounded and contoured coves. Available in various lengths, fixtures use 29W, 40W and 50W lamps as well as 9W and 13W twin-tube compact fluorescents. **Circle No. 78**



Ardee's Klikstrip low-voltage light strips illuminate product displays in millwork. Klikstrip may be specified in any length or lamp spacing and with colored lights. Halogen inserts allow MR11 and MR16 lamps to be used in place of or in combination with incandescent, argon or xenon festoon lamps from 3W to 6W. Klikstrip CLK and CRK are powered by small junction boxes for use with transformers up to 1000W. Available in foot or half-meter increments, CLX models are powered by small-dimension terminal blocks for use with transformers up to 3000W. Construction is high-temperature polyethersulfone with a white finish for maximum reflectance. Black may also be specified. **Circle No. 80**



Downlights lighting a chandelier in a double-height atrium space are equipped with MasterColor ceramic metal halide PAR lamps from **Philips' Lighting**. The series includes PAR20, PAR30 and PAR38 spot and flood lamps in 39W, 70W and 100W. CRI is 82-85 for 3000K and 90-93 for 4000K. Lamps can operate on existing ballasts and have a lamp life of up to 12,500 hours. **Circle No. 81**



Ceiling-mounted to highlight displays or graze walls, **Lightolier** Lytespan 6000 Series of low-voltage units features die-cast elements combined with silicone rubber components and a narrow vertical electronic transformer for a compact look. The electronic transformer offers silent dimming with Lightolier QE dimmers. Fixtures are available in both open-back and fully enclosed versions. Painted finishes include matte white, matte black and new aluminum. Model 6275B-WH is an open-ring MR16 fixture finished in matte white. **Circle No. 82**

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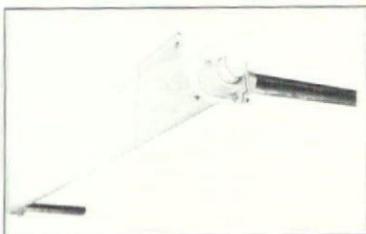
.... spot light



.... dual light

The revolutionary multifunctional downlight.

Utilizing the new T5-circular compact fluorescent leaves a free space in the center of the luminaire for additional components and eliminates ceiling congestion.



The upper portion of the Space Needle, the "top house," was originally designed to be futuristic, much like a space ship. Since its construction in 1962, it has been a major draw for tourists and residents alike. The revolving restaurant alone is reason

enough to make the trek to Seattle's City Center. Ross De Alessi delighted in being able to illuminate this part of the Needle in a way that had never been done before. He chose to highlight the "halo ring" around the "top house" and make it stand out. To do this, he used both uplights and backlights, which create a spectacular glow. **Columbia SLA** sign lights are mounted in a continuous row on the wall immediately behind the "halo ring." These sign lights are specified for wet-location mounting and can be rotated 360 degrees. Its asymmetrical reflector provides distribution for a crisp, clean appearance. The result is a sight that won't soon be forgotten in Seattle's nightscape. **Circle No. 83**



To light the Space Needle's spindly, arching legs, the designers used **Bega** metal halide spotlights on the roof of the plaza building as well as mounted on adjacent poles. These custom-color, surface-mounted exterior floodlights have 4-degree symmetrical spot photometrics at 50-percent-maximum candlepower for 175W medium-base clear metal halide lamps.

The lamp enclosure is a one-piece aluminum frame that also has internal draining slots, which will come in handy during Seattle's elongated rainy season. **Circle No. 84**

When the Space Needle's new lighting design was unveiled on New Year's Eve 1999, not only was the structure itself aglow, but so was the sky above Seattle. Three **Xenotech-Strong International Brightlights Architectural Systems BL 7000W** spotlights on the roof of the "top house" sent their light beams upward to herald the new millennium. These yoke-mounted searchlights have a 28-in. diameter and a 32 1/4-in. height and house a 7kW xenon lamp with a 5600K color temperature. The fixture is corrosion-resistant. **Circle No. 85**



The addition of the plaza building provided the Space Needle with a modern entry that complemented the structure's "neo-retro" look. The new plaza building is nestled at the base of the legs and is awash in metal halide illumination from lamps concealed in in-ground, 13-in. **Greenlee** fixtures with variable spot distribution. The tempered, heat-resistant lens is made of borosilicate glass with a slight crowing to aid in drainage. Two different Greenlee fixtures were used: The RDB-175MH-SPV fixture (pictured) was selected due to its variable beam spread optics, 25-degree tilt and 360-degree rotation that allowed for angle intensity and

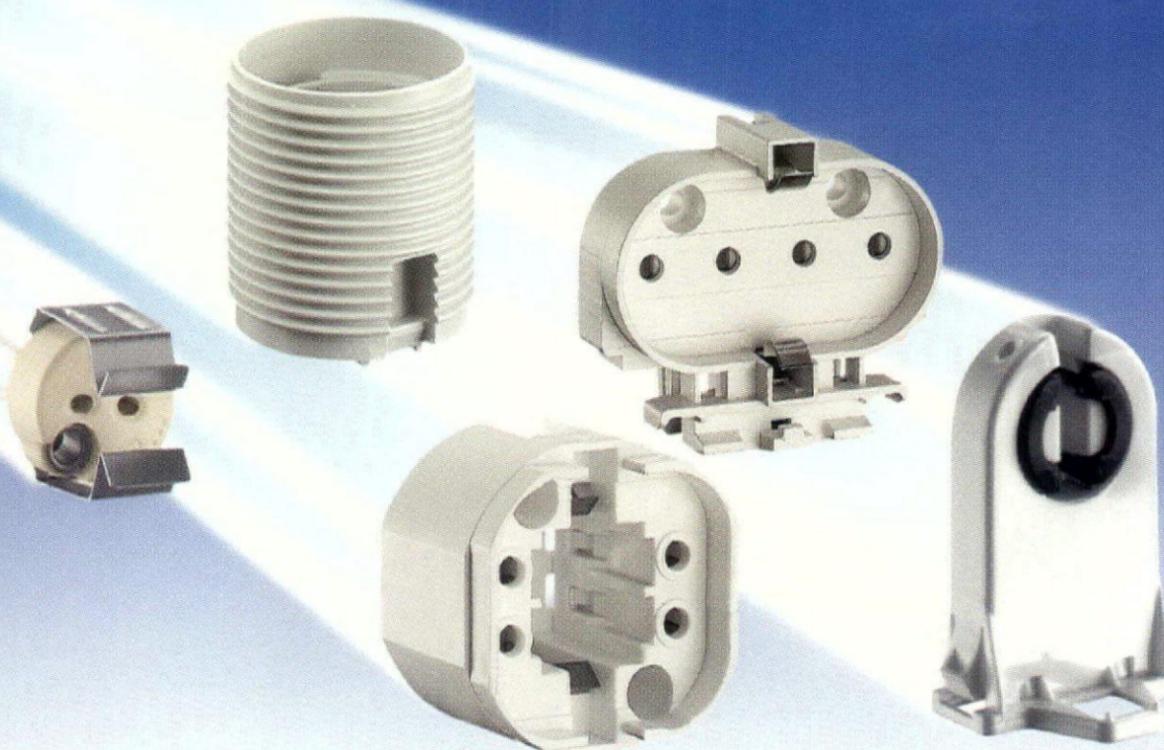
beam spread to be fine-tuned at the job site. The RDS-70MH-RFL fixture was selected based on its compact size, corrosion resistance and its ability to house ceramic metal halide PAR lamps. Both of these fixtures are from Greenlee's RD Series, which features corrosion-proof composite housings, drive-over capability and variable beam spread reflectors. **Circle No. 86**

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While the Space Needle itself was the focus of attention by the designers, architects and tourists alike, the surrounding fauna certainly could not be ignored. De Alessi used **B-K Lighting's** K2 surface-mounted bullet fixtures to uplight the surrounding trees. Equipped with metal halide lamps, these fixtures are tamper-proof with a clear tempered, factory-sealed lens and a honeycomb baffle. **Circle No. 87**

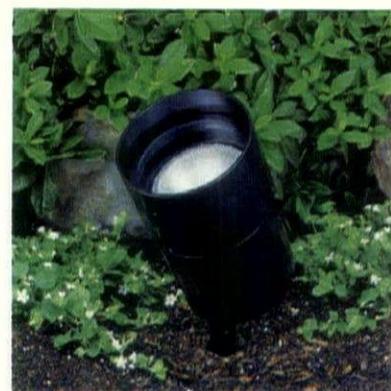
Achieving just the right color temperature to accent the "halo ring" could not be done with metal halides alone. The fixtures were outfitted with pale amber dichroic filters from **Special FX**. The Dichro•X and Fade•Not architectural lenses are permanent color-tempered, bonded and completely waterproof. These lenses helped the 1000W standard metal halide spotlights achieve the appropriate glow for this unique architectural feature. The Dichro•X lens is a hybrid dichroic and borosilicate color-bonded glass. It is often specified by designers who want the rich dichroic look without the edge distortion. The Dichro•X lenses can be used in the hottest instruments in permanent installations without fading in the future. The Fade•Not coating technology permanently colors translucent or transparent substrates including most types of glass, plastic, or acrylic typically used in lighting. **Circle No. 89**



The beacon that is the Space Needle's "top house" welcomes visitors and residents alike to the Emerald City, all the while basking in its own new wash of light. Much of this light is from **General Electric** high-output fluorescent lamps like the F96T12/HO/WM, which offers 45 percent more light than standard F96T12 lamps, according to the company. The lamp's

Watt-Miser technology provides 14-percent energy savings over the standard F96T12/HO lamp. This product is available with high-CRI triphosphor. For an additional 40 percent energy savings, GE also has an array of lamps including the newest T8 (pictured) Ultra Watt-Miser products. **Circle No. 88**

When the tourists line up to journey up to the top of the Space Needle, they buy tickets at the ticket booth at the ground level. Providing light for this integral spot is **B-K Lighting's** LA, a surface-mounted adjustable fixture for 75W PAR30 halogen lamps. This fixture is equipped with the Posilock Knuckle to ensure that it maintains its vertical, horizontal and rotational aiming integrity. **Circle No. 90**



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You find paintings lit with 1" x 1" bars hidden behind decorative molding and downlights so small that they vanish inside brass rosettes in the ceiling. But they put out perfect circles of white light and beautifully frame individual items on a mantle across the room.

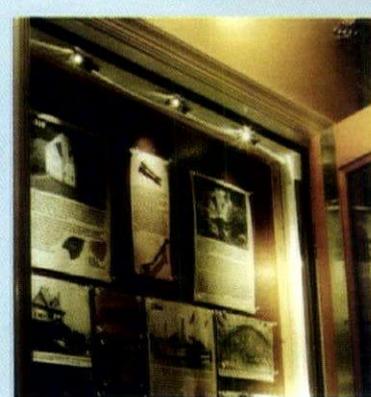
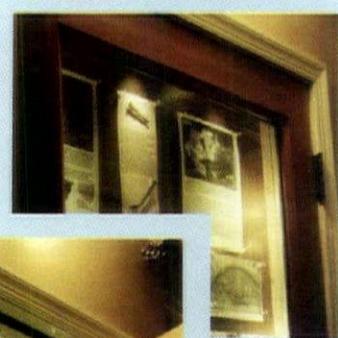
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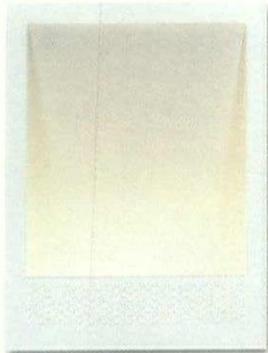
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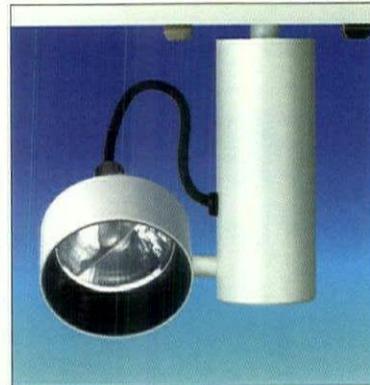
Recessed in the grid pattern to provide ambient light, **Light Solutions'** #10006-BA-13SS/70RD-MAG50-C is a fixed-position downlight featuring a 2³/₄-in.-diameter trim. Equipped with optical matte black regressed baffle, the fixture uses MR16 lamps and accepts multiple lens and louver media. For the Sea Grill, the trim is finished in satin chromium finish and accessorized with a Solite lens. The housing contains an integral 50VA transformer. The fixture is dimmable and accessible via the 2³/₈-in.-diameter aperture. **Circle No. 91**



From **Edison Price Lighting**, Autotrak ATBT Track is used to light the Raw Bar. A line-voltage flangeless track, Autotrak features a single-circuit design that facilitates control over a lighting program and reduces the possibility of overloading a circuit; 50-amp circuit capacity for longer circuits; and factory-cut track lengths for dimension control and cleaner splice details. Custom-designed mounting accessories and options for hard-wired track fixtures containing emergency lighting, movement sensors, cameras, etc. are also available. **Circle No. 92**



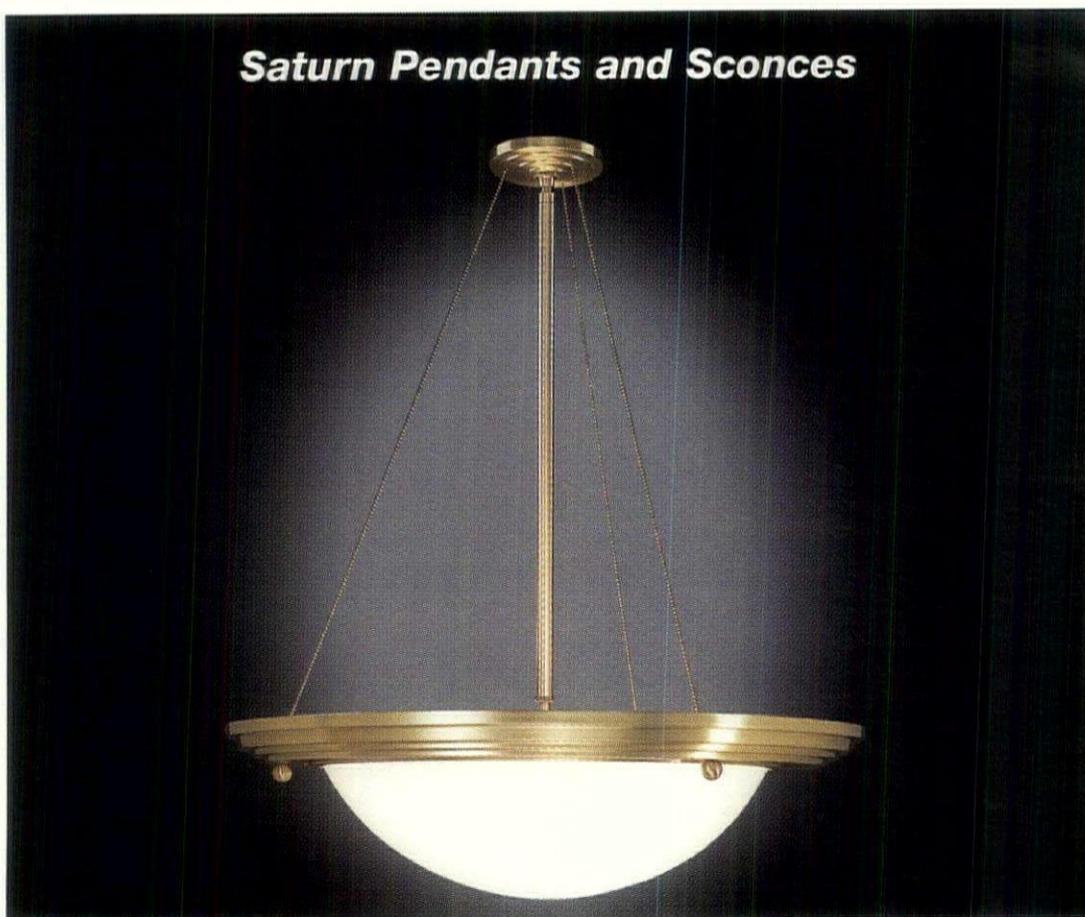
Belfer Lighting's 1310 Reflex fixtures are recessed in a series of walls for additional ambient light and visual interest. The series is comprised of wall-mount indirect and ceiling-mount wall wash fixtures equipped with tempered glass lens and reflectors offered in high-reflectance matte white, gloss white, satin anodized aluminum, stainless steel and stain horizontal ribbed. Illumination is provided by a 100W (max.) quartz halogen lamp. A variety of trim accessories is available. **Circle No. 93**



The flangeless track (above) is equipped with **Magic Wand AR** low-voltage accent lights from **Edison Price Lighting**. Designed for use with Osram Sylvania's AR70 spot or flood lamps, Magic Wand AR features a specular black reflector, measures only 4 in. high and is capable of 350-degree horizontal rotation and 180-degree vertical tilt. An integral electronic transformer is concealed inside the aluminum housing. Magic Wand AR is part of the Magic Wand series, which includes fixtures designed for MR16 and MR11 lamps as well as Philips' ALR12 and ALR18 lamps. A variety of optical accessories is available. **Circle No. 94**



In the restroom, **Lucifer Lighting's** Series 200 Light Strips create a glowing ring around a mirror. Light Strip accommodates straight or radius installations and is available in 12V or 24V systems utilizing 2,000-hour halogen, 4000-hour incandescent or 20,000-hour xenon light sources. Lamp options include 3W, 5W, 10W and 20W lamps that can be inserted at 2-in. increments along its length. The Series 2000 Light Strip is UL-Class-I-listed for dry and damp locations. **Circle No. 96**

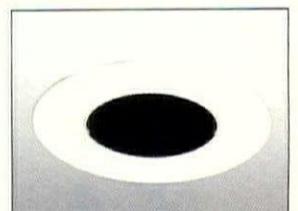


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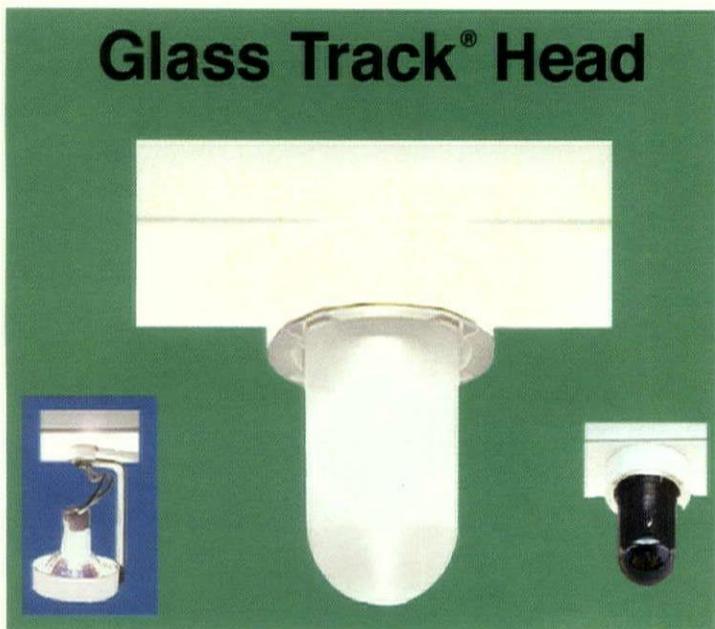
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DL2RX-Round adjustable downlights from **Lucifer Lighting** provide additional lighting in the Sea Grill restaurant. A low-voltage fixture with an expanded, turned up trim plate, the downlight uses a 12V MR16 halogen lamp and features a round opening that is adjustable 45 degrees from vertical. Various optional effects devices can be used with the fixture to limit glare, spread or soften the light and change color. Standard finishes include a granulated powder coat in white and black and plating in chrome and brass. Trims are field-paintable. Custom finishes are available upon request. **Circle No. 97**

Adaptations Co.

Introducing the G-Track linear low-voltage lighting system by Adaptations Company. The G-Track system comprises: a selection of Glass Track fixture heads; the G-Track surface track; and the Pro Power Supply. A typical installation will include up to 100 fixtures, 100 ft. of track and one remote power supply.



For more information contact, Adaptations Company at (781) 326-9890. Visit: www.adaptlight.com or email: sales@adaptlight.com.

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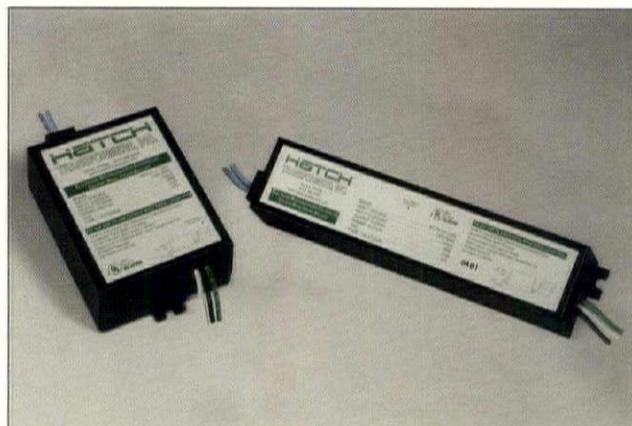
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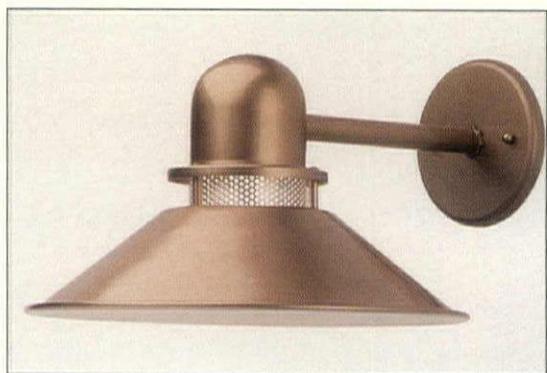
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