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and again.

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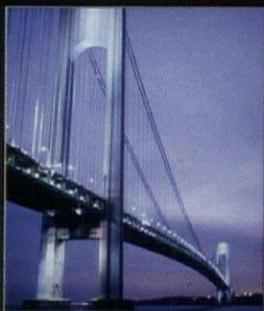
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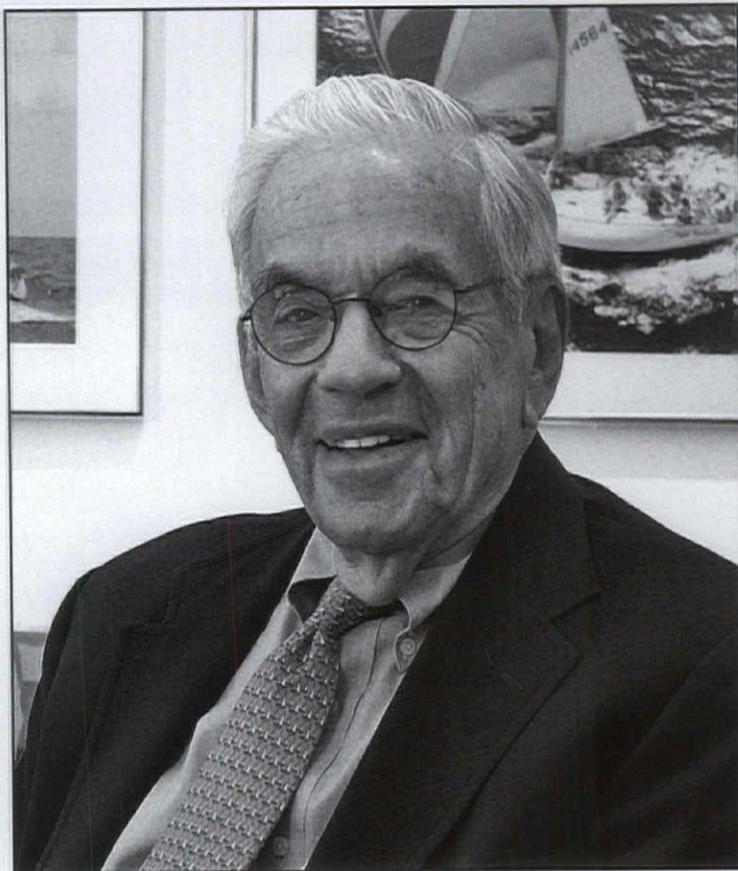


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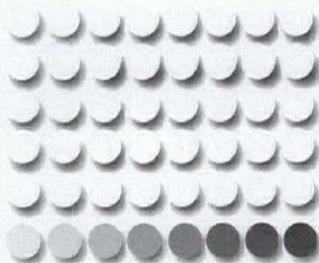


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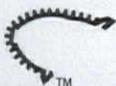
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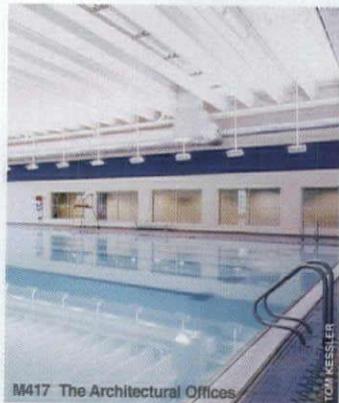
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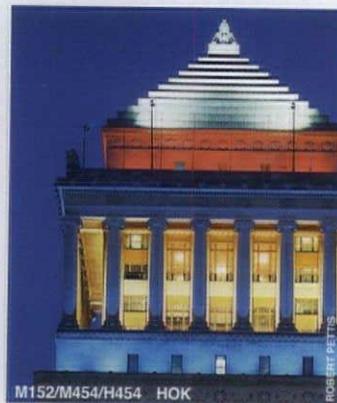
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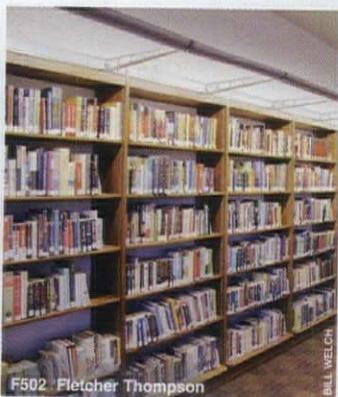
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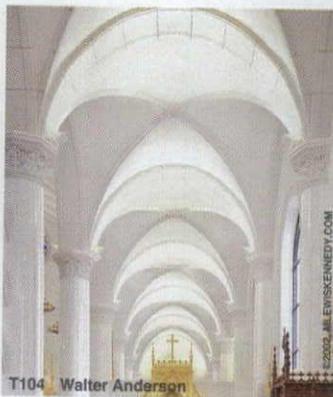
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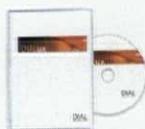
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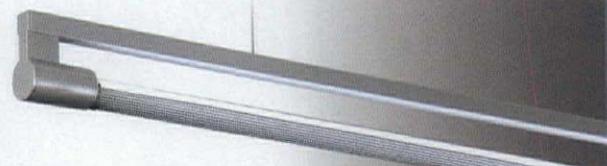


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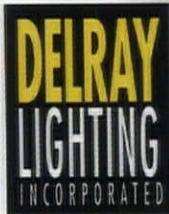
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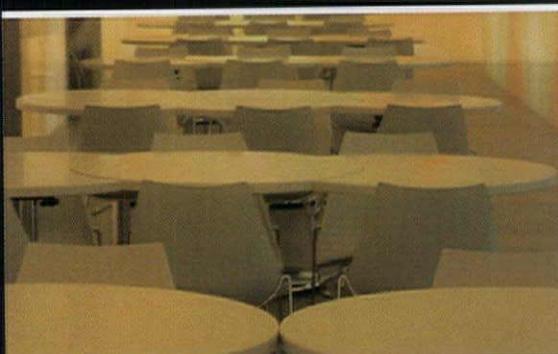
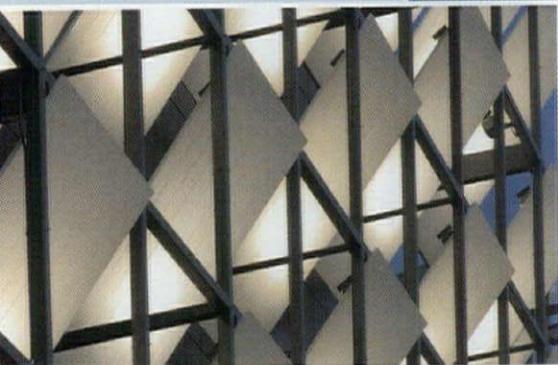
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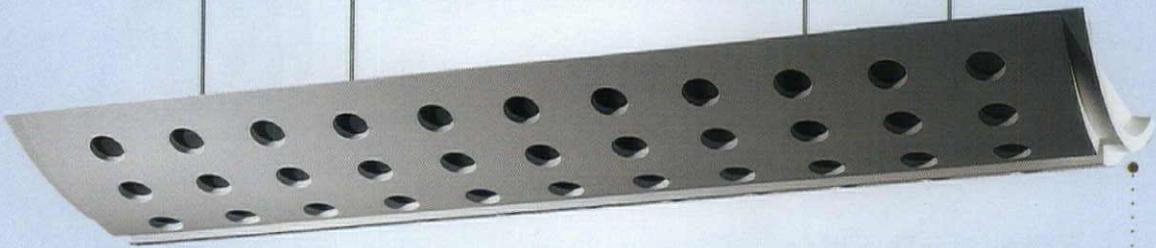
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Falling off the grid?

THIS SUMMER MARKS AN INTERESTING juxtaposition of two anniversaries—the 30th anniversary of the

New York City Blackout of 1977 and the fourth anniversary of the Blackout of 2003, which left 50 million people from New York to Ohio and north to Toronto in the dark for upward of several days. These anniversaries are significant for several reasons. From a social and cultural viewpoint, the response to each was strikingly different, particularly in New York City—rampage and looting in 1977, calm questioning in 2003. But then again, New York in the summer of 1977 was a very different place, a city beset by economic turmoil and crippled by fear of a serial killer known as Son of Sam. And while I can not speak firsthand to the events of 1977 (I was only 10 at the time), I do distinctly remember where I was and what I was doing when the “lights went out” on Aug. 14, 2003—I was at work at 770 Broadway, the then editorial office location of *Architectural Lighting* magazine. In retrospect, given the all-too-recent reminder of Sept. 11, we stayed in our offices too long; we should have been out of there, but it was not really clear if it was just a local power outage confined to our Manhattan neighborhood or something much larger. Little did we know.

In the days and months that followed the 2003 blackout there was a lot of finger pointing between politicians and utility companies: How did this happen? Whose fault was it? Could this happen again, and what steps needed to be taken to prevent that from happening? Most significantly, we were reminded that our once-robust infrastructure system was sadly in need of major overhaul, as we were once again most unfortunately reminded Aug. 1 by the devastating failure and collapse of the I-35W bridge in Minneapolis.

Four years later, the question remains: What is the state of the U.S. electric grid? In June, the U.S. Department of Energy announced it would provide up to \$51.8 million for projects dedicated to modernizing the country’s electricity system, projects that will include research and development of high-temperature superconductors, which “have the potential to alleviate congestion on an electricity grid that is experiencing increased demand from consumers.” This kind of funding is critical in allowing private and public partnerships to address the nation’s electricity issues as demand continues to increase at an exceedingly fast pace. Joint ventures between the Lighting Research Center, the U.S. Department of Energy, the New York State Energy Research and Development Authority, the California Energy Commission, Connecticut Light and Power, and lighting manufacturers are well under way to create simple and cost-effective load-shedding systems for use at critical demand times.

In *Architectural Lighting’s* March 2007 issue, Gregg Ander, Southern California Edison’s chief architect, discussed some of the current “demand response” issues—smart metering and communication protocols—in his article “Connectivity for Smart Buildings.” And while there is a substantial amount of research and development underway, change will not happen overnight. The key is for architects, lighting designers, and engineers to work with utility companies in understanding how these smart technologies can be used and creating the right interface between the infrastructure system and individual buildings. There are still several weeks of summer and potentially uncomfortable temperatures awaiting us. We can’t afford to let this issue—the health of the nation’s electricity infrastructure—fall off the grid again.

ELIZABETH DONOFF
EDITOR

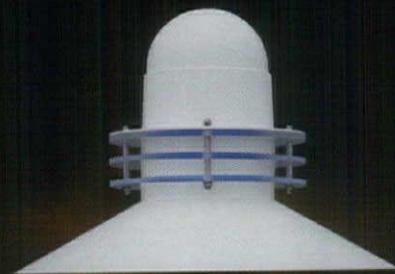
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AND THE WINNERS ARE....

A HIGHLIGHT OF THE SPRING CONFERENCE / TRADESHOW SEASON WAS THE ANNUAL ANNOUNCEMENT of the lighting industry's design award programs recognizing professional work. Awards were presented at different venues during the week of Lightfair, held in New York City this year. A summary of the award-winning projects from the IALD, GE Edison, Lumen, and Cooper Lighting SOURCE Awards follows below. Full details can be found at the respective award program websites. **AJL**

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→ PARK HYATT PHILADELPHIA AT THE BELLEVUE, PHILADELPHIA

→ TEMPLE EMANU-EL, NEW YORK

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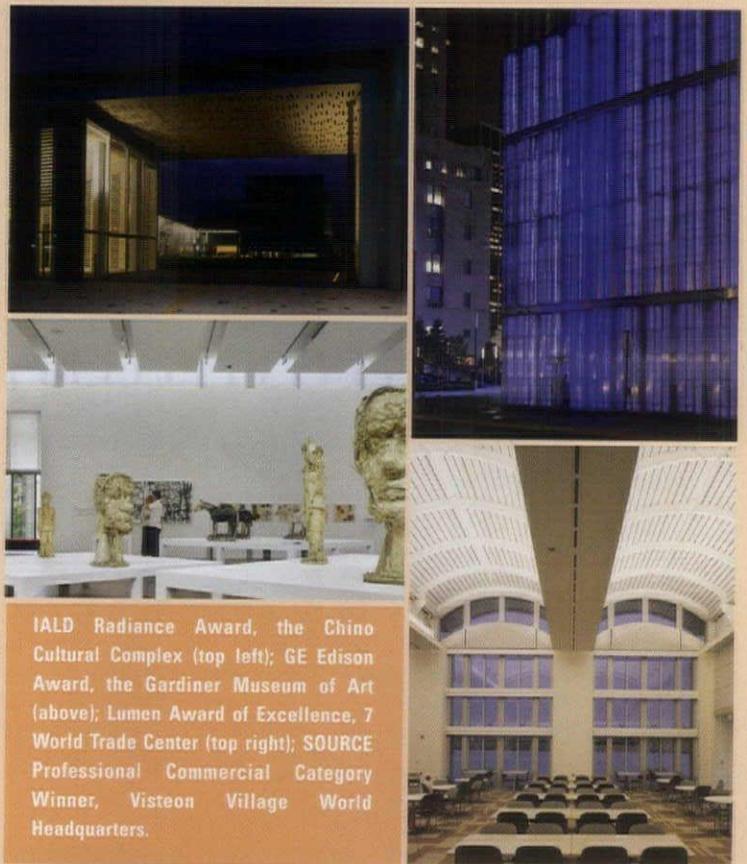
→ NEW POLY PLAZA, BEIJING

→ PARK HYATT PHILADELPHIA AT THE BELLEVUE, PHILADELPHIA

→ PAYLESS SHOESOURCE PROTOTYPE STORE, NEW YORK

2006 GE EDISON AWARDS FOR SUSTAINABLE DESIGN

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IALD Radiance Award, the Chino Cultural Complex (top left); GE Edison Award, the Gardiner Museum of Art (above); Lumen Award of Excellence, 7 World Trade Center (top right); SOURCE Professional Commercial Category Winner, Visteon Village World Headquarters.

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MERIT AWARDS

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LIGHTING COMMUNITY LOSES SYLVAN R. SHEMITZ (1925-2007)

INTERNATIONALLY KNOWN LIGHTING DESIGNER, INVENTOR, ENTREPRENEUR, AND academic, Sylvan R. Shemitz, known to friends and colleagues as Sy, died on July 5, 2007, while sailing his boat, the Light Fantastic, on Long Island Sound.

Part of the generation of designers who established architectural lighting as a professional discipline, Shemitz founded his own firm—New Haven, Connecticut based-Sylvan R. Shemitz Associates in 1963. As a lighting designer, he worked on such signature projects as the original lighting of the Jefferson Memorial in Washington D.C., and the façade lighting for Grand Central Terminal in New York City. In the 1980s Shemitz worked with architect Helmut Jahn on the United Airlines Terminal at Chicago's O'Hare Airport, synthesizing daylighting and nighttime illumination that was integral to the architecture. The resulting glowing glass-shed was a modern interpretation of a grand European rail station and became a landmark heralding the future of transportation terminal design. Other major projects in Shemitz's portfolio included the Children's Medical Center of Israel, the Yale Law Library, and the CN Tower in Toronto.

As founder and CEO of architectural lighting manufacturer, Sylvan R. Shemitz Designs Inc., he held over 30 patents for major innovations in asymmetric lighting under the company's elliptipar brand formed in 1976, and fea-



tured most recently in the addition for the Nelson-Atkins Museum of Art in Kansas City, Missouri. As the inventor and proponent of task/ambient office lighting, known to the industry as Tambient, Shemitz lit workplaces for major companies including 3M, IBM, and Bell Atlantic.

A graduate of the University of Pennsylvania, Wharton School, and fellow of the Illuminating Engineering Society of North America, Shemitz was known for his passion for lighting and mentoring of lighting professionals and students alike; he was a visiting lecturer on several architecture school faculties including Yale, Princeton, Tulane, and Penn.

A U.S. Navy veteran of World War II, Shemitz had a lifelong love of sailing. A competitive yacht racer, he was particularly proud of his sailing accomplishments; he competed in the Newport-Bermuda race 12 times.

A member of *Architectural Lighting's* 2002 Hall of Fame, when asked what would be his advice to those entering lighting manufacturing, he replied, "Do something unique to advance the art, not the same old thing and cheaper." Transition details regarding the company are forthcoming, but according to spokesperson Suzanne Carroll, it is the family's intention to continue to operate Sylvan R. Shemitz Designs Inc. as a private, independent manufacturer. **AJL**

PHOTO COURTESY OF SYLVAN R. SHEMITZ DESIGN



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HUBBELL'S NEW HOME

MEMBERS OF THE MEDIA WERE INTRODUCED TO HUBBELL LIGHTING'S NEW CORPORATE HEADQUARTERS in Greenville, South Carolina during a two-day press event in early July. The 185,000-square-foot building gathers the administrative and sales offices of Hubbell's 16 brands under one roof for the first time in the company's history, and also features in-house laboratory testing areas and an educational facility—the Lighting Solutions Center.

Situated on a prominent site overlooking Interstate 85, the building reinforces Hubbell's choice of Greenville as its new home, and in turn its commitment to the area—a fast-growing corporate business corridor located halfway between Charlotte, North Carolina and Atlanta, and home to an international roster of companies such as German automaker BMW. The four-story headquarters also reinforces Hubbell's and group vice president Scott Muse's commitment to architecture, lighting, and the environment. The \$41 million project is seeking a silver LEED rating.

Designed by Spartanburg, South Carolina-based architects McMillan Smith & Partners and lighting design firm Visual Terrain of Van Nuys, California, the new facility draws on a material palette of stone, steel, glass, and light, in a clean, contemporary style that showcases the collaboration between architect and lighting designer. One of the major challenges for lighting designer Dawn Hollingsworth was finding ways to incorporate each of the luminaire brands into a flexible, articulate, energy-efficient design. The result is a project that showcases exemplary lighting design without going overboard.

And just as the entire new facility acts as a real-world laboratory for lighting applications, so too will the Lighting Solutions Center, under the direction of Mark Lien. Five demonstration areas addressing current lighting issues of import, such as daylighting and solid-state lighting, will serve as an educational resource to Hubbell staff as well

as architects and lighting designers. A full schedule of seminars and online offerings are being developed for 2008. **ELIZABETH DONOFF**



A separate entry area greets visitor's to Hubbell's new Lighting Solutions Center (above).

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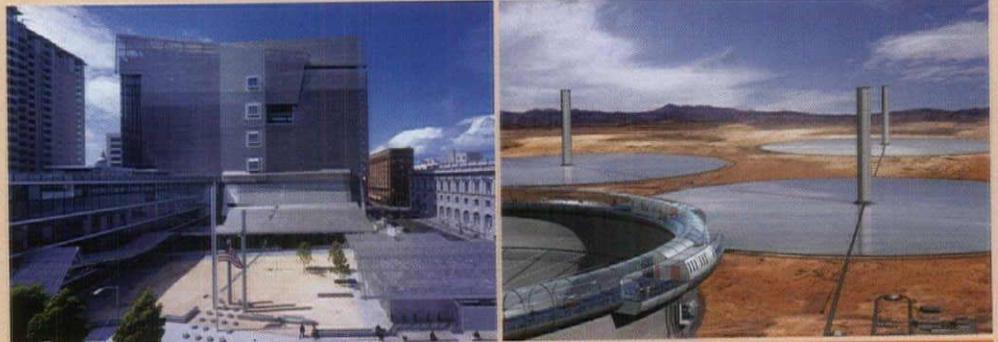
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ZUMTOBEL GROUP INAUGURATES NEW AWARD PROGRAM

AUSTRIAN-BASED ZUMTOBEL GROUP, PARENT COMPANY OF Zumtobel and Thorn Lighting and Tridonic.Atco, has created an international architecture award program designed to promote sustainable and humanitarian solutions in the built environment—the Zumtobel Group Award.

In June the awards' inaugural winners were announced. Santa Monica, California-based Morphosis Architects received the award in the "Built Environment" category for its naturally ventilated high-rise San Francisco Federal Office Building. Schlaich Bergermann Solar of Stuttgart, Germany, won the "Research and Initiative" category for its design of the Solar Updraft Tower in Australia—an alternative power plant that generates electricity through air convection.

Honorable mentions were also given to four projects in each category, including Kieran Timberlake Associates' Sidwell Friends Middle School addition in Washington, D.C. (See "Stewards of the Earth," June 2007), and



Morphosis' San Francisco Federal Office Building (left) forgoes mechanical air conditioning in 70 percent of the work area in favor of natural ventilation. In Schlaich Bergermann Solar's updraft tower (right), air is heated by solar radiation under a low circular translucent roof.

Architecture for Humanity's Open Architecture Network website.

An awards ceremony will be held September 14, 2007, at the Kunsthau Brengenz art museum in Brengenz, Austria, designed by Swiss architect

Peter Zumthor. The awards program is curated and organized by Berlin architecture gallery Aedes Architecture Forum. For more information on the award program visit: www.zumtobel-group-award.com. **STEPHANI L. MILLER**

IMAGES PROVIDED COURTESY THE ZUMTOBEL GROUP AWARD



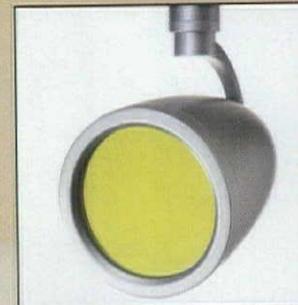
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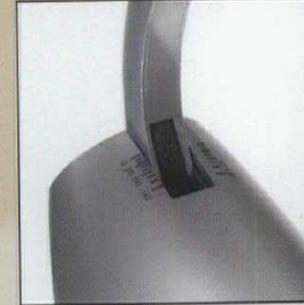
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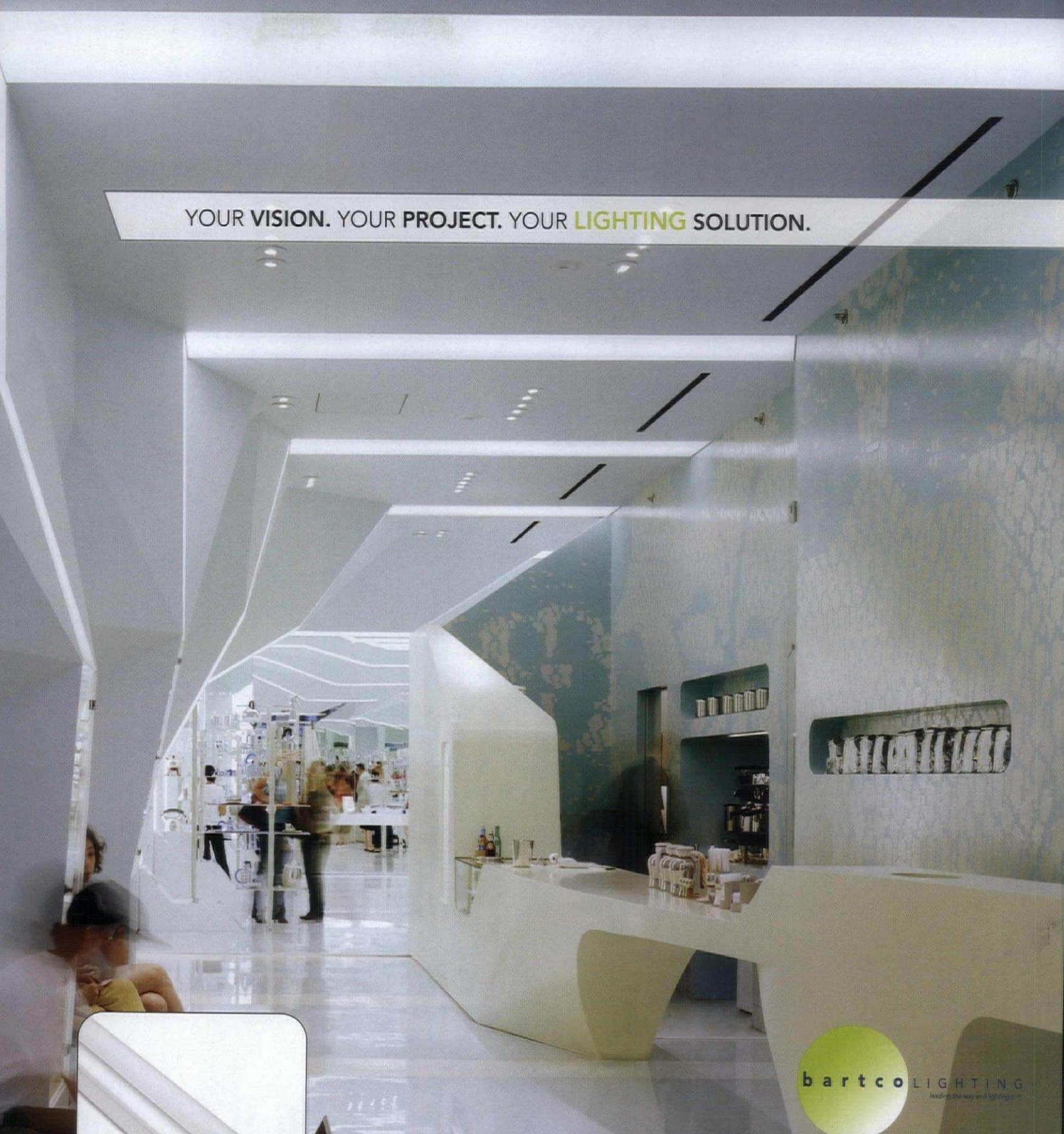
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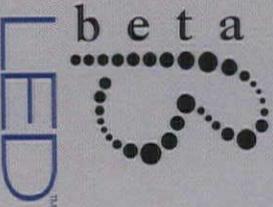
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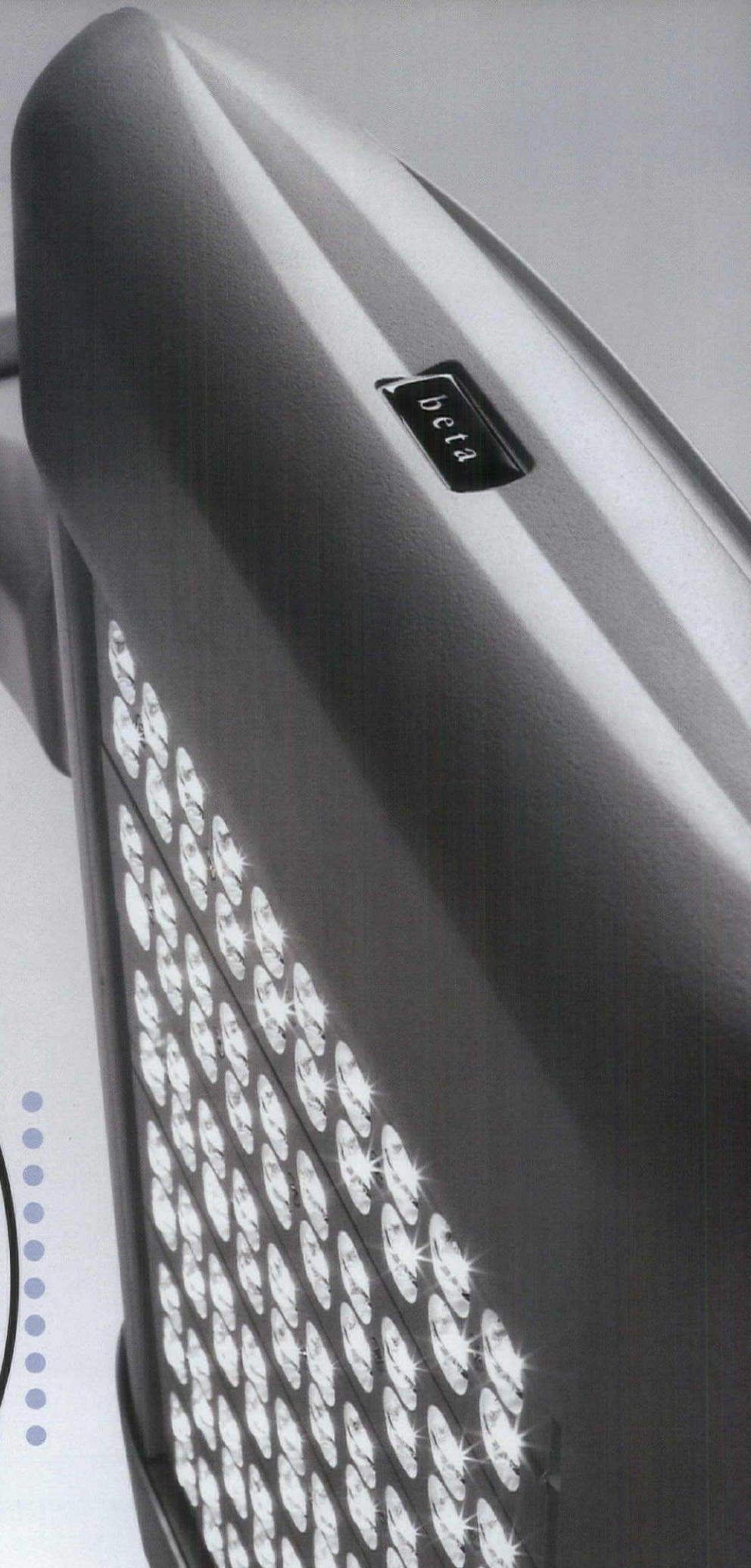
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Sustainability and Lighting: AIA Roundtable

IN KEEPING WITH ARCHITECTURAL LIGHTING'S EDITORIAL MISSION to promote discussion on key issues facing architecture and lighting design today, the magazine held two roundtable discussions during the spring conference season, one at the American Institute of Architects (AIA) National Convention in San Antonio, Texas, and another at Lightfair International in New York City. Picking up on this year's AIA Convention theme—*Growing Beyond Green*—the topic at hand was sustainability. Two diverse groups, composed of design practitioners and manufacturers, met to discuss the issue of sustainability. The conversations were different, yet similar, and the opportunity for colleagues to meet and exchange ideas a welcome opportunity.

Moderated by editor Elizabeth Donoff, the AIA discussion participants included: **Jim Benya**, *Principal*, Benya Lighting Design, West Linn, Oregon; **Michael Garrison**, *Professor*, The University of Texas at Austin, School of Architecture, Austin, Texas; **Bruce Lindsey**, *Professor & Dean*, College of Architecture & Graduate School of Architecture & Urban Design, Washington University in St. Louis; **Gilbert Mathews**, *President*, Lucifer Lighting, San Antonio, Texas; and **Robert Shemwell**, *Principal*, Overland Partners, San Antonio, Texas. A portion of the discussion follows. A full transcript is available online at www.archlighting.com.

WHERE DOES SUSTAINABILITY START?

GM: The push that I wanted to start with is from the 40,000 foot view looking down. There are nuances of natural light and artificial light and I think it's helpful to start with considerations of daylight and then electric light. Jim has done a lot of thinking about this.

JB: I got extremely interested in pursuing daylight years ago. It's been a personal interest of mine. Seventy years ago we were given air conditioning and fluorescent lighting and it sort of made the discipline of daylight diminish very rapidly. Fenestration turned more to fashion and style. We have a lot of things we have to learn and unlearn. Daylighting is struggling to find a home in terms of which discipline it does or does not belong to. The real question is if it isn't the most integrated of things we have, I'd be very surprised. But I'd actually like to hear from the others at the table.

RS: It's a mind set and a heart set. What the environmental community has done a really bad job of is casting these issues in a deficiency mentality, that you have to do without something rather than positioning it in an abundance mentality—if we do this we have more vital communities and we have more wonderful spaces to

learn and to live in. Isn't that something that you'd want? We need to turn the discussion around; it's a shared process. You have to stop and rethink the internal relationship of all the components within the building.

MG: There is a renewed awareness of global warming and issues of resource scarcity. The majority of the public thinks the majority of these issues are associated with the automobile industry, what is not on the radar screen just yet is the real issue that buildings are responsible for 40 percent of the energy we use, and 28 percent of the greenhouse gases. It appears to me that the public is going to be demanding that our buildings be far more efficient in the very near future.

RS: Where you make a difference, that happens at concept, not the technologies—they become incremental.

BL: The book *In the Bubble* makes the argument that 80 percent of the issues of sustainability are impacted in the design phase. By contrast Anthony Fry of the Eco Foundation in Australia suggests that architects in the scheme of things are at the back-end of the cycle. It's a kind of 80-20 rule. His suggestion is that development, social practices, and building product manufacturing and their attitudes toward sustainability come before architects. If that is true, and 80 percent of that work in sustainability happens before the 20 percent that the architect does, but in design 80 percent is related to sustainability through the design phase and 20 percent is related to sustainability after the design phase—it's an interesting way to see the answer to that question.

RS: It also puts the onus on the manufacturers of the world because a lot of that is happening "upstream." I think that the whole question and challenge for manufacturing is, even if you assemble something in a very sustainable way, all your suppliers back upstream—what process are they following? What resources are they using? It's a long, complicated chain. I think that is one of the reasons people have been intimidated by sustainable design, especially early on. Now there are a lot of resources, components, and consultants that are becoming a new system and a new standard. There is great benefit in the LEED certification process, because what it's doing is allowing people to aggregate toward standards. If you have standards in green practices it makes them more accessible to a greater number of people.

WHAT ARE YOU LOOKING TO AS A MANUFACTURER IN TERMS OF RESOURCES AND INSPIRATION?

GM: The lighting community is international, it's not just

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not done well.

RS: I totally agree. It's systems-based design. The components are only as good as the system they go into. It's a new attitude in architecture. We are still stuck, and you see it a lot with kids coming out of school—what's the hip idea? The fashion aspect is a difficult hurdle to get over.

MG: A good example of that is Louis Kahn and the Kimbell Art Museum. He used the daylight to enhance the experience. There must be the understanding that there is a collaboration in terms of the idea that is being pursued in the design, and how both the natural light and the architectural lighting need to work together to achieve that goal.

WHAT ARE SOME OF THE WAYS WITHIN ARCHITECTURE PROGRAMS THAT LIGHTING DISCUSSIONS CAN BE INCORPORATED?

RS: Our own media celebrates the personality-based, singular genius. I think we need to start celebrating the genius of teamwork. When you're talking about sustainability, it's got to be the group. Sustainability is a fantastic form and meaning giver. I think sustainability can recast what the profession can be. If we don't grab hold of it, we are missing a huge opportunity from the professional side to reinsert ourselves into the critical issues of the day.

BL: Students see it as a way that they can impact the social good of the world. It's pretty inspiring. That's a change from five years ago when students wanted to be star designers, now they want to have their work be

relevant to them and to others, and they want to make a difference in that regard. Sustainability is a disciplinary distinction. I believe the goal of sustainability is the equitable distribution of resources, the fundamentally better quality of life, and the relationship that we have with our environment. We are realizing how buildings can be a part of that. The difference in system thinking from 10 years ago is that we now know that the system of the building includes the systems of the environment, and that the building is actually a part of those systems. Ironically, buildings have always separated us from our environments. I think students are tapped into this.

RS: There is a social awareness that's really coming back.

MG: There's something about teaching light that goes back to fundamentals. Most of what we try and achieve in lighting we observe in nature. We are trying to have the students begin to become better observers, to understand that you can design in light, giving the student that kind of foundation so that they have a better idea of what they are trying to achieve. Going beyond sustainability—a kind of regenerative architecture.

RS: We are so far away from the goals of sustainability, it's almost a fallacy. You have the leading edge, then you have the bulk of the profession. This is about getting the best ideas to as many people as possible. You have to arm people to make incremental differences on normal off-the-shelf projects. We have to circle back and arm people with information, people who are not going to have this discussion but want to make a difference. You have to give them the basic tools.



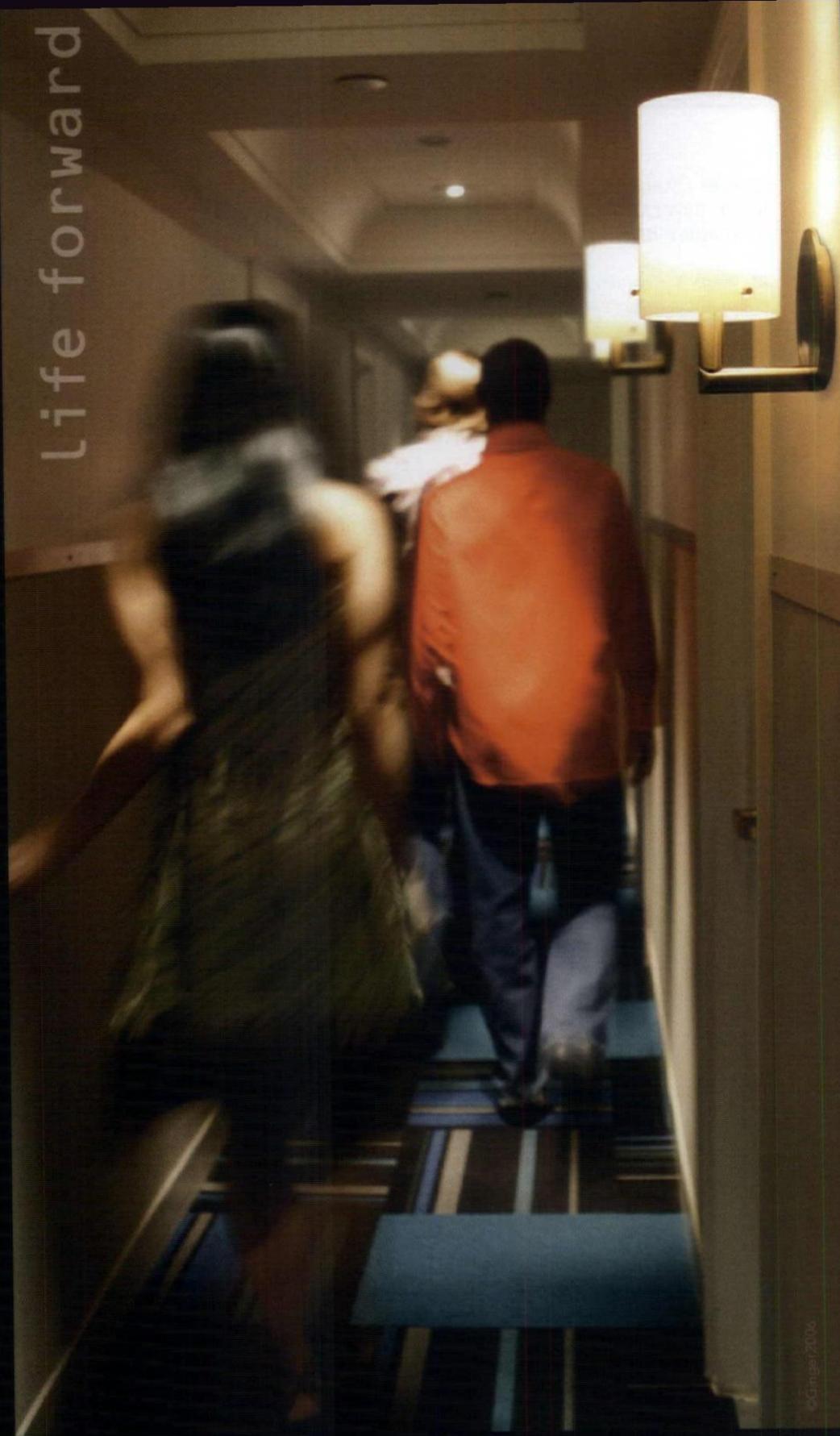
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WE KEEP COMING BACK TO QUALITY OF LIGHT AND QUALITY OF ENVIRONMENTS. HOW CAN YOU COMBINE SOME OF THESE AESTHETIC ISSUES WITH TECHNOLOGY INNOVATIONS?

JB: There is a certain value in our society that it is o.k. to be wasteful. We've got to reverse some fundamental things about our culture in order to achieve the type of culture that it takes to support conservation.

RS: Goes back to the perception that sustainability means you have to give up something. If you don't change "hearts and minds" you don't change anything.

JB: One way is to get rid of uniformity—combining texture with individuality. People, given the opportunity, will take out light bulbs to personalize an environment. We don't build in that capability as designers. We build systems, but one size doesn't fit all.

RS: People want less light. So much light today is coming from other places—computer screens and cell phones.

GM: Manufacturers need to go back to component vendors—lamp companies—and push them to develop sources to provide more pleasing colors. The design community can push back on people who make sources.

ED: The design community needs to take an even more active role in pushing the manufacturing side of things?

GM: Yes.

RS: Our clients are demanding this. As a designer you need to be able to say to a manufacturer: If you can't supply this, then I'll have to go somewhere else.

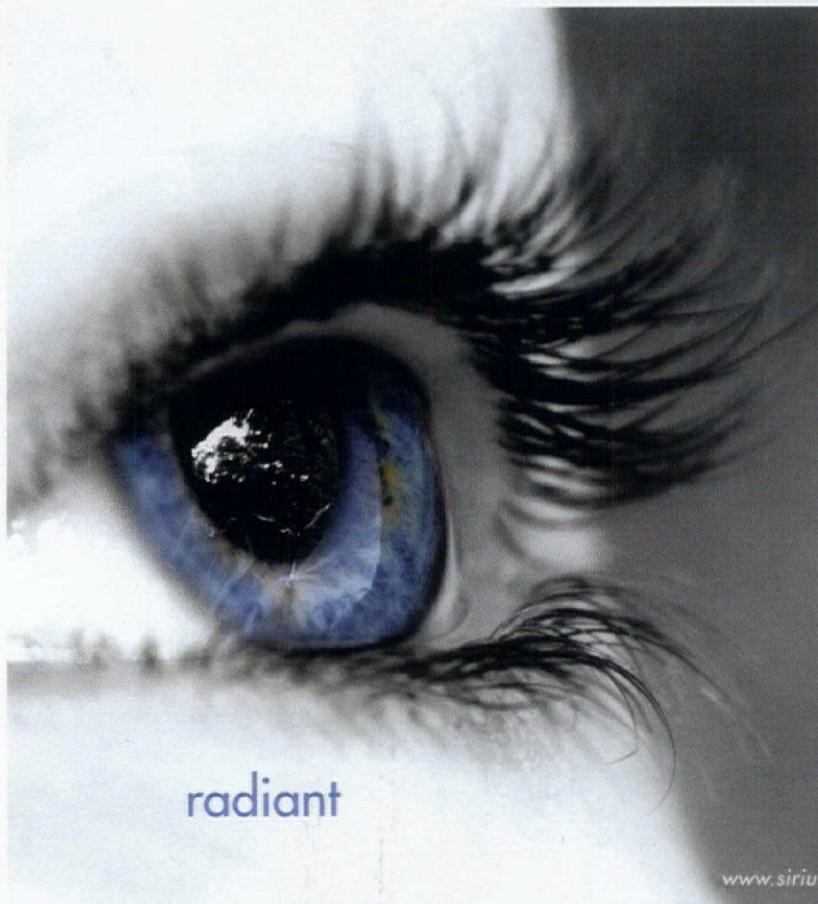
ED: Final thoughts?

RS: Hire good consultants.

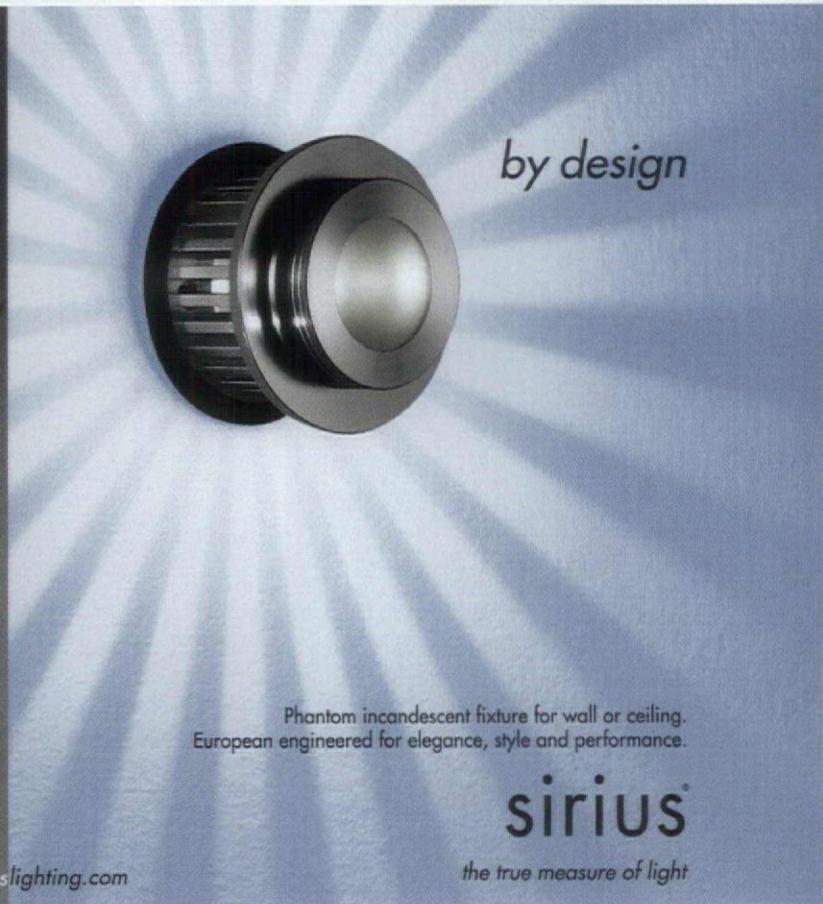
JB: After you hire good architects. Demand team collaboration and performance. Expect it from people. We're too compartmentalized.

RS: Celebrate collaboration. Get the academic community involved. The genius is if can you get a group of people to work together. Collaboration across the disciplines. It's never generic, it's always changing.

GM: The collaboration is also with the design community, in design development of fixtures. The collaboration can extend beyond the design team.



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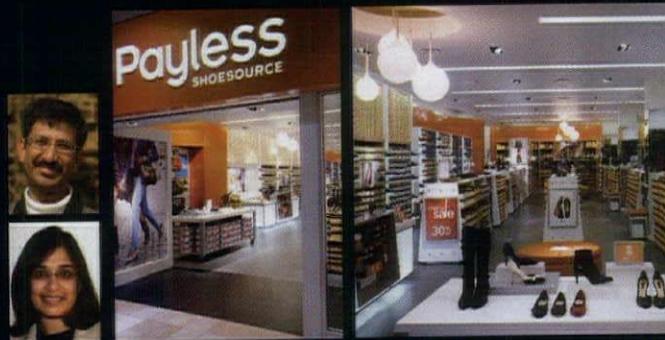
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Residential Project Winner: Melissa A. Conchilla
MAC Design Group, LLC, Harrisburg, Pennsylvania
Photography: Bob Bullock, Bob Bullock Photography



Commercial Project Honorable Mention: Archit Jain and Insiya Divan
Lighting Design Alliance, Signal Hill, California
Photography: Chris Eden, Callison



Residential Project Honorable Mention: Robert Singer & Justin Streeb
Robert Singer & Associates Inc., Basalt, Colorado
Photography: Nick Tininenko Photography

the Students



Student Winner:
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The Art Institute of Atlanta
Project: Lorenc + Yoo Design Office



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Sustainability and Lighting: Lightfair Roundtable

BUILDING ON THE SUSTAINABILITY AND LIGHTING DISCUSSION STARTED AT the American Institute of Architects National Convention in San Antonio, Texas, another roundtable was held at Lightfair International in New York City. Here too the conversation was organized around the topic of sustainability, but the fluidity of the discussion saw many other topics introduced as well. Moderated by editor Elizabeth Donoff, the AIA discussion participants included: **Mark Loeffler**, *Associate Director*, Atelier Ten, New Haven, Connecticut; **Sean O'Connor**, *Principal*, Sean O'Connor Associates, Los Angeles and Philadelphia; **Jonathan Speirs**, *Principal*, Speirs and Major Associates, Edinburgh, Scotland, and London; **Linnaea Tillett**, *Principal*, Tillett Lighting Design, Brooklyn, New York; **Tom Warton**, *President*, Vode Lighting, Sonoma, California; **Bill Warren**, *Lighting and Energy Consultant*, Willard L. Warren Associates, New York; and **Scott Yu**, *Principal, Chief Creative Officer*, Vode Lighting, Sonoma, California. A full transcript is available online at www.arch-lighting.com.

WHERE DOES SUSTAINABILITY START IN THE DESIGN PROCESS AND THE MANUFACTURING PROCESS? IS THERE SOMETHING THAT ALREADY HAS TO BE INHERENT IN OUR MIND SET OR IS IT SOMETHING THAT IS SO FUNDAMENTAL AND INTEGRATED IT SHOULDN'T BE A DIFFERENT CONSIDERATION, BUT INHERENT TO THE WAY WE APPROACH OUR WORK?

BW: I've come to the conclusion that our friends in Europe are considered store keepers and Americans are score keepers. Nobody was paying any attention to this subject until LEED came out. Too many people are focusing on a much larger conceptual image. I hear the word "planet" used a lot. I'd like to see the concept change a little bit so that everyone feels personally involved.

ML: The fundamentals have to do with durability and simplicity. Not just having the right materials, but making sure that the building design holds up over time. We need to be designing as they did hundreds of years ago, for buildings that are permanent and have delight built into them, so people don't feel they need to churn through a new design or renovation every 10 years, but instead think in terms of 50–100 year horizons. I think the real shift right now is not the adoption of a scorecard method, but the recognition that you really don't have to do without. I think for those of us in the lighting industry it's about the visual environment and the durability of that, and what we do—not just with the selection of fixtures to make the place look pretty, but how it's controlled to reinforce the perception of the building as durable. It's just thoughtful design. "Sustainable" or "green" is just branding.

SY: I come from the product side, and 70 percent of ener-

gy and materials are used before we actually get our hands on the product itself. It's already spent and done—machinery, melting the plastic, all that infrastructure is there before we do anything. Then there is a lifetime of energy uses after the consumer. I've been very interested in trying to find out how we can make that a real part of our consideration because the real impact is before we even get the product, all the transportation and packaging.

SO WHAT IS IT YOU'RE TRYING TO CORRECT?

SY: It's a bit of a comparison. I used to work with Apple and HP. What we found was that most of the products are on the shelf for about six months, when they actually have a useful life span of a year. Most of that goes to China as cyber waste—there's really no recycling in this country. Everything gets shipped over to China and melted down. At Vode we want to use the best materials, like aluminum, which is 97 percent recycled material.

TW: Our goal is to talk about these things so that designers influence those people who are competing with us on product design. I'm surprised when we go to China, where our product is made—the influence that these companies could have. On the lighting design side, it's just good design. If we can get that influence to go back "upstream" to the people that really have an impact on the manufacturing process, force those people who aren't really thinking about product design as well as they should, that would have a great impact.

ML: I get in trouble with some of my fancier designer friends when I say that I'm ultimately an energy and environmental investment advisor. Yes, I'm going to make a beautiful space, but really energy costs and installation costs have an environmental impact. It's up to me to give them the best lighting approach that is integrated well with the building system so that it's using the lowest energy and will have the greatest impact and the greatest prospect for visual success over the long term. The more I know what is available out there to me, the better. We walk around the tradeshow collecting materials about the clever things companies are doing, big and small, and who is exhibiting environmental responsibility, and we give them preference in our specification to make sure that it's understood as part of the ethic of sustainable design.

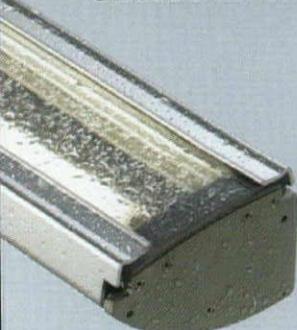
LT: I think there is a way of framing the problem in terms of technology that supports companies like Wal-Mart saying, "Here is the green answer." But there is a certain level of reorganization of values and a certain loss when in fact the most energy-efficient thing we can do is turn the lights off. If you use less of them, you'll have less of a recycling

"It's clear that lighting designers are not just lighting designers anymore, were environmental designers. We may have a specialty in the visual environment, but we have to be conversant in all these other issues."

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problem. That is a direction toward the consumer and consumption level, not the building level, and not even the power distribution level. It's about saying yes, you are going to have to reshuffle your priorities and think about this differently.

ML: Lighting design is about control. We're controlling the impression of the visual environment by the way we light it, what we light. The code folks have heard us loud and clear—it's not the lighting density but how you control the lighting you install so that you increase its life and durability, less frequently change lamps, and so on. We have a challenge, it's less about the incremental technology.

LT: There is a remarkable article I'd recommend in the *Harvard Design Review*, "No Building Is An Island," which is just shocking. They are saying that 25 percent of energy use in buildings, which are not meeting all of LEED but at least some of LEED criteria, comes from people massing in atria with their computers and cell phones and actually raising the energy consumption of the building. As lighting designers there are some elements that we can address—this idea of education and how you teach students to think about it: You can create a very well-lit space, a very beautiful space, and that may have the implication that more people use it and more people bring their computers. There is an education level for the consumer at a much broader level that makes an intervention make sense. I'm not saying that we have to take that on individually, but that does seem to go to the education issue.

ML: To the issue of education, I think it's clear that lighting designers are not just lighting designers anymore; we're environmental designers. We may have a specialty in the visual environment, but we have to be conversant in all these other issues. Most of us take it as we need to defend our practice—why do you need good lighting? We should not be having to defend ourselves, but by being able to explain this is an intrinsic part of a successful, durable, sustainable built environment. It's really incumbent upon us to teach designers coming up, who I think are absolutely responsive to this. We know that our students are hungry for this information about: What is sustainable design? How does building-skin design affect my ability to perfectly size a lighting system? What does that mean for the controls so that a building is a living, breathing machine? And yes, it does mean that the most delightful, sustainable buildings are going to draw a crowd because everybody would rather be there than sitting in their not-sustainable home or apartment.

TW: Hopefully the use of electricity itself at

some point will not be a bad thing if the source is clean.

LT: Which speaks to the production end of it—it's production and consumption.

BW: Or something in the middle called transmission congestion. It's what happened to Astoria for nine days last year. ConEd and every other utility is now choking with use. All of these residential users are using a lot more electricity. That's your 25 percent relating to LEED. What we're finding in energy conservation in high-rise apartment houses is that if you separately meter every tenant, you are guaranteed a minimum of 25 percent reduction in energy usage.

ML: We're going to have work with the control industry.

DO THE DISCIPLINE OF ARCHITECTURE AND THE DISCIPLINE OF LIGHTING COMMUNICATE SUFFICIENTLY TO BEGIN FINDING SOLUTIONS FOR THESE SUSTAINABLE ISSUES?

JS: We find, in terms of the environmental issues, clients will just pay lip service to it. The reality is that we have the material and construction being shipped in from the other side of the planet. All of these things are just a whole lot of nonsense. The thing that still surprises me, when you look to North America and other parts of the world, is that there are some architects who are absolutely doing a fantastic job working with daylight and natural lighting in buildings, and how that is delivered, and then there are other architects who don't have a clue. I'm sure we've all worked with architects on both sides of that, but what I think the lighting design profession needs to really push harder in is using daylighting. We try very hard to involve ourselves in all these daylighting issues and the clients tend not to be interested, questioning if they have to pay more money, and then thinking it's something they can get the engineers to do. If the architect doesn't have the education in daylighting then the building is not going to come out right. We're trying very hard to push the natural impact, but it obviously depends on where you are on the planet; in certain parts of the world you don't want to have the sun coming in.

We work a fair amount in the Middle East, and just in general terms of trying to educate the clients it's really tough. In Dubai, for instance, they are one of the largest users of oil-per-barrel-per-head-of-population in the world. Trying to get them to see that there are opportunities to actually harvest the energy of the sun, and actually provide power to at least avoid burning oil, is really tough. At the moment they don't seem to care. There's a lack of wanting to be a member of

the lifeboat; we're trying, but we're getting bloody faces.

ML: There is a market transformation that I do think is happening, and that is driven substantially by LEED. We were just invited to look at a building in Dubai that wants to be the first LEED residential building. It's a different kind of snob appeal. LEED has done some really interesting things. It's not changing the course of building yet, outside of the U.S., but in the U.S. every single building we're touching is affected by it.

DO YOU THINK LIGHTING BENEFITS FROM LEED?

ML: There is an element of it that does. I don't see this to be fashion, I see it as our responsibility to help save the planet because we actually know things. We've integrated the way we've thought about them. It really puts us in a position where we have to exert leadership whether we like it or not, and stop pretending that we are in an industry that is always reactive.

TW: You're talking about getting your client to try and understand you, but a manufacturer would never do that to you. When you talk about influence, clients don't know or care how a product is manufactured, but you can care and the manufacturer will be fighting for what it is you care about. I think designers have to realize where their influence is, talking about it in a real way, and just start demanding it.

LT: It can't just be product related, and so long as people understand it that way, then you get this consumer approach—just don't buy more. In Dubai I walked away having had only one conversation—I said, it's just too much. In China I'm finding a very different experience, and I think that partly because—and these are gross simplifications—it's not a well-lit country. It's a really poorly lit country, it's positively dark, as it was in East Germany, as it is in Cuba. Lighting was not an important distribution point for energy, so in working with China what we're saying is, we're going to use the fewest pieces of equipment we can, and we're going to ask you to help us with the servicing. In a weird way we're getting very positive responses because they are saying, "You mean you're going to use less, so it's going to cost us less in equipment, but you're asking us if we can have slightly reflective walls." Yes, we can do that, and they like it. It has been a very different experience. If what is starting to happen in China—this idea of what good lighting is—comes back up to the western model we're utterly lost, because then it's consumption.

SO: It's an interesting segue back to: Does lighting benefit the LEED certification process? I

think the answer is yes and no. Architects opt for the design choices that give them points and not necessarily what creates a better environment, and at the same time there is still something that is trendy about the design that is beyond what is required from a daylighting standpoint or from an architectural standpoint. In the right hands though, you can create great buildings with LEED. It's harder to do great building with less. LEED is only measuring data, but there's nothing about the design.

ML: Absolutely right, it's a quantifier. It makes it easy for Americans to buy into it. Its real benefit has been to encourage a collaborative process, so you can raise all of these issues at the beginning of the design process.

HOW DO YOU AVOID THE PITFALL OF DESIGNING TO A SCORECARD?

SO: At a certain point a person has to judge the project with their eyes, and not the trophies.

SY: I'm not a proponent for a lot of legislation, but it does seem that every time we clamp-down on energy consumption we seem to be doing much more creative things.

ML: It encourages creativity.

SO: The only problem is that technologies are not moving as fast.

TW: How the lighting experts are viewed outside the lighting world suggests that the lighting authorities aren't really authorities the way they are in other industries. The signage guys have more influence.

SO: I think we have as much power as we want to have, the choice is that we're not taking it.

ML: Sustainability is just a fundamental attribute to any good building.

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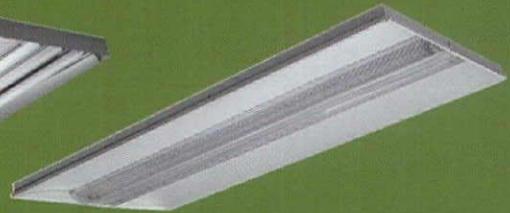
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THE 2007 LIGHTFAIR

innovation awards

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Formerly known as the "New Products Showcase", the **Lightfair Innovation Awards** is a longstanding Lightfair tradition.

Renamed and redesigned this year to focus on more innovative lighting technologies and products, the competition is sponsored by ARCHITECTURAL LIGHTING (A|L) and elumit.com.

Innovation Award entries are evaluated and judged by a panel of lighting industry professionals. Eligible products must have come to market during the 12 months prior to Lightfair.

Awards are given in four main categories:

- Most Innovative Product of the Year Award
- Technical Excellence Award
- Design Excellence Award
- Best of Category Awards

The following pages highlight in detail two of the cutting edge products entered in the 2007 Innovation Awards.

We invite your review this section. If one of the featured products piques your interest, please contact the manufacturer directly or use the reader service card to request more information.



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LIGHTFAIR

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Product: 4426 Series Dynamic Color LED Underwater Luminaire

Category: Landscape, Pool: Fountain

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- 60-watt color-changing LED luminaire for fountain and swimming pool applications
- RGB LED array creates DMX-controlled dynamic color
- Sensory thermal management yields a lamp life of up to 50,000 hours
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Contact Information

Address: 12881 Bradley Avenue | Sylmar, CA 91342
 Web Site: www.hydrel.com | email: custserv@hydrel.com
 Phone:Toll Free: 800.750.9773 | Fax: 818.362.6548



Circle No. 02

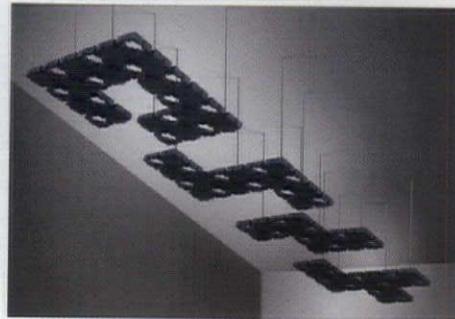
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Product: Marrakech

Category: Interior Luminaires

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Contact Information

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655 North Central Avenue, 17th Floor | Glendale, CA 91203
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Actual size

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Evoke downlights. Achieving exactly the look you want just became kid stuff.



OUTSTANDING ACHIEVEMENT

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Cline Bettridge Bernstein Lighting Design
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Arup Lighting

COMMENDABLE ACHIEVEMENT

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Morris Sato Studio
- 42 **alesi flagship store**
Tillotson Design Associates
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Boora Architects

BEST LIGHTING DESIGN ON A BUDGET

- 58 **temporary event complex**
Boora Architects

THE BAR CONTINUES TO BE RAISED. EACH YEAR THE A|L LIGHT & ARCHITECTURE design awards grow steadily, and with it the range and caliber of lighting design work. Now, only in its fourth year, the program received 81 project submissions, and because of the program's structure, which enables projects to be submitted in multiple categories, there were actually 98 project reviews. The jury was busy. There were no easy "dismissals" and an equal amount of invested time was spent discussing projects that were and were *not* moving on to the next round of review.

Besides the sense of accomplishment these numbers signal for the A|L Light & Architecture Design Awards program, are their confirmation of the critical role lighting plays in architecture and design. The 11 projects presented on the following pages represent work that has found new ways to respond to challenging sites and programs, to explore new technologies, and to strive for design excellence no matter the project brief or budget. In turn these projects represent a commitment to the craft of architectural lighting. As one jury member stated, "The criteria for excellence is excellence." And that certainly holds true for these projects, which pursue this line not only through the resultant work, but through the discussions they generate about the very nature of lighting design itself. **A|L**

jury

ROBERT COLE

PRINCIPAL, COLEPRÉVOST, WASHINGTON, D.C.

ANDREA HARTRANFT

SENIOR ASSOCIATE, C. M. KLING & ASSOCIATES, ALEXANDRIA, VIRGINIA

NELSON JENKINS

PRINCIPAL, LUMENARCH, NEW YORK

DEREK PORTER

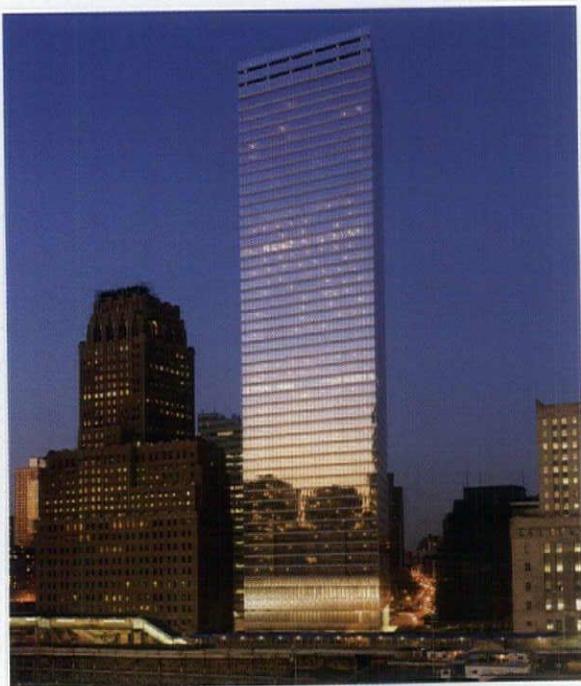
DIRECTOR, MFA LIGHTING PROGRAM,
PARSONS THE NEW SCHOOL FOR DESIGN, NEW YORK
PRINCIPAL, DEREK PORTER STUDIO, KANSAS CITY, MISSOURI

GARTH ROCKCASTLE

PROFESSOR AND DEAN, SCHOOL OF ARCHITECTURE, PLANNING, AND
PRESERVATION, UNIVERSITY OF MARYLAND, COLLEGE PARK, MARYLAND

7 World Trade Center

ENTRANT CLINE BETTRIDGE BERNSTEIN LIGHTING DESIGN



BEFORE DESIGN BEGAN ON 7 WORLD TRADE CENTER, ARCHITECT DAVID CHILDS OF SKIDMORE, Owings & Merrill (SOM) outlined a daunting task for his team. The project, he said, should set the bar for design and technical considerations—environmental sustainability, urban sensitivity, construction detailing, and security—for all future buildings to rise at Ground Zero and the surrounding area. As part of their response to this directive, the architects pulled 7's footprint 115 feet back from the original eastern site boundaries, restoring the path of Greenwich Street through lower Manhattan, and in turn creating a triangular-shaped public plaza. The tradeoff to restoring this piece of the city's fabric was the resulting smaller footprint and the necessity for the 10 Con Edison transformer vaults programmed for the site to occupy a larger portion of the building's base. In this configuration, the first 80 feet of the 741-foot-tall structure was consigned to a windowless concrete block, above which the tower's glass curtain wall begins (left).

SOM's concept envisioned a cube of light embedded within the concrete box that would first appear in the lobby, then bleed out through the walls of the windowless base, and shine up into the curtain wall, linking podium and tower. The architects called on Cline Bettridge Bernstein Lighting Design (CBBLD), who could take SOM's concepts and make them work fixture to fixture, and James Carpenter Design Associates (JCDA), whose expertise lies in controlling light with surface and material. In collaboration with JCDA, the architects developed a cladding surface for the Con Edison vaults that interacts with electric as well as natural light—a screen-wall system composed of 5-foot-wide modular panels of varying height that incorporate two surfaces (interior and exterior) of vertically strung stainless-steel bars. During the day, sunlight plays across this patterned surface in much the same way that it moves across the slightly reflective coating on the low-E glass of the curtain wall. At night, the inner screen layer takes over, acting as a reflective backdrop to a customized LED lighting feature designed by CBBLD (facing page, bottom).

Inside, the light feature takes the form of a point-supported-glass-clad box, which fills the upper portion of the double-height lobby volume. While the architects decided on blue as the color of the curtain wall light feature for its peaceful, calming effect, its lobby counterpart, which serves practical lighting purposes during the day, had to glow white (facing page, top). As daylight wanes the lobby volume transforms into a violet-glowing space. Then, at twilight, the lobby transitions to a cool blue color. Rather than flip a switch at an appointed hour to go between day and night modes, CBBLD created a smoother transition by throwing a bit of red into the mix. They also chose fluorescent lamps for the interior instead of LEDs. Hidden behind the glass, which has a light-diffusing interlayer, the fluorescent fixtures are composed of three-lamp strips on dimming ballasts that control each lamp separately. Each fixture holds three T5s with color in the phosphor—one blue, one red, and one white. This avoided the dimming effects of colored gels and allowed for an even tone of light.

The designers' challenge was to find a way to fuse the structure into a cohesive architectural experience. Their solution was light; a testament to what can be achieved when lighting and architecture become one. **AJL**

jury comments

A sophisticated, elegant solution that in its constraint is extremely compelling. ||| Integral to the design concept, colored light is used in a meaningful way to create a mood, yet the project's identity and success is not solely based on the color.

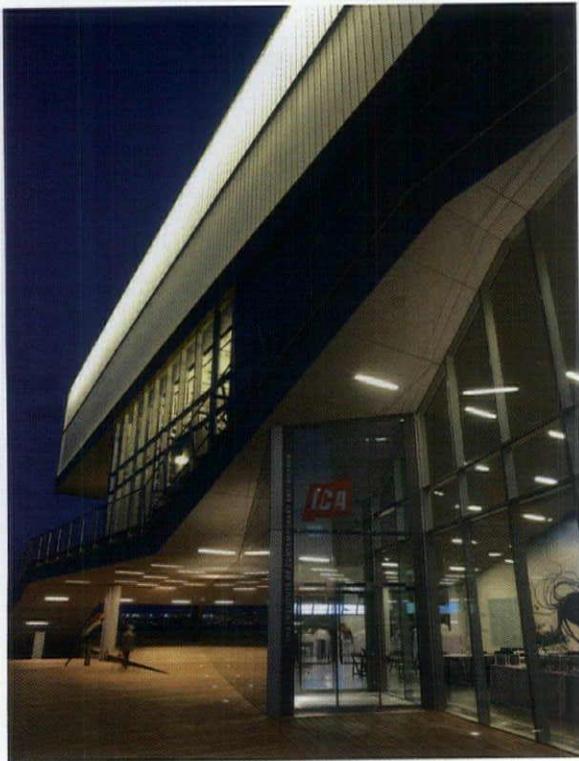
details

Project Location: New York **Developer/Owner:** Silverstein Properties, New York **Architect:** Skidmore, Owings & Merrill, New York **Lighting Designer:** Cline Bettridge Bernstein Lighting Design, New York **Collaborating Artists:** James Carpenter Design Associates, New York (podium screen wall); Jenny Holzer, New York (art wall installation in lobby); Kinecity, Fair Haven, New Jersey (motion camera for podium screen wall) **Landscape Designer:** Ken Smith Landscape Architect, New York **Photographer:** David Sundberg/Esto **Project Size:** 1.7 million square feet **Watts per Square Foot:** Gold LEED certified **Manufacturers:** for building: Cathode Lighting Systems, Design Plan, Edison Price, Kim Lighting, LED Effects, Legion Lighting, Lighting Services Inc., Lightolier, Linear Lighting, NeoRay, Osram Sylvania, Specialty Lighting Industries, Venture Lighting; for Triangle Park: B-K Lighting, Drama Lighting, Lumenyte, Selux



institute of contemporary art

ENTRANT ARUP LIGHTING



IT IS NOT OFTEN THAT AN INSTITUTION IS ABLE TO COMPLETELY REINVENT ITSELF, BUT THAT IS exactly what the Institute of Contemporary Art (ICA) in Boston has been able to do, and with it, set a new tone for the city's art and museum scene. Due in large part to the efforts of museum director Jill Medvedow, ICA has garnered itself an architecturally-prized new home and its own permanent collection—the first time in the museum's 70-year-history it has actually been able to amass artwork.

Chosen in 1999 to be the "cultural cornerstone" of the 20-plus acre site of Boston's Fan Pier waterfront development project, New York-based Diller Scofidio + Renfro (DS+R) were selected in 2001 as the building architects. Known for their museum installations and multi-media projects, ICA is DS+R's first built commission, and the first new museum to be built in Boston in more than 100 years.

The project's main architectural gesture is a metal and wood "ribbon" that folds back on itself, organizing the sectional separation between the upper level galleries, the glass-enclosed theater, the ground floor lobby, museum shop, and café, and the museum's waterfront seating area and promenade (left). The extensive use of translucent and transparent glass, blurs the edge between interior and exterior, as visitors are provided different environments in which to engage the art, the building, the view, and the city (facing page, bottom left).

Overseen by New York-based Arup Lighting, the building's lighting scheme takes a systematic approach in order to address the diversity of spaces. "We focused on using a common set of economical tools," explains lighting designer Brian Stacy. "Yet, it still allowed us a highly-integrated lighting design." That integration is most acutely seen in the windowless main galleries, which receive light through an adjustable skylight system, concealed by a grid of scrim-wrapped ceiling panels. Tracklights with PAR38 lamps are integrated into the ceiling grid's structural seams and provide ambient lighting (facing page, top left). The result is a serene and luminous space with balanced light. At night, the exterior of this gallery "box," which cantilevers 80 feet to the water's edge, glows from within.

The building's other primary spaces—the theater and Mediatheque—offer a contrasting engagement with the site and with lighting. Whereas the Mediatheque, offers a contemplative space in which to think about art (facing page, top right), the theater, with its two glass walls is an active space, which invites visitors to physically engage with the building, the water, and the city. An integrated shading system within the curtain wall allows the auditorium to go from full blackout to completely translucent, allowing for a variety of functions and performance types. In certain areas, such as the four-story interior staircase, the lighting, practical in its solution—28W T5 fluorescent lamps—takes on a sculptural quality in its vertical arrangement (facing page, bottom right).

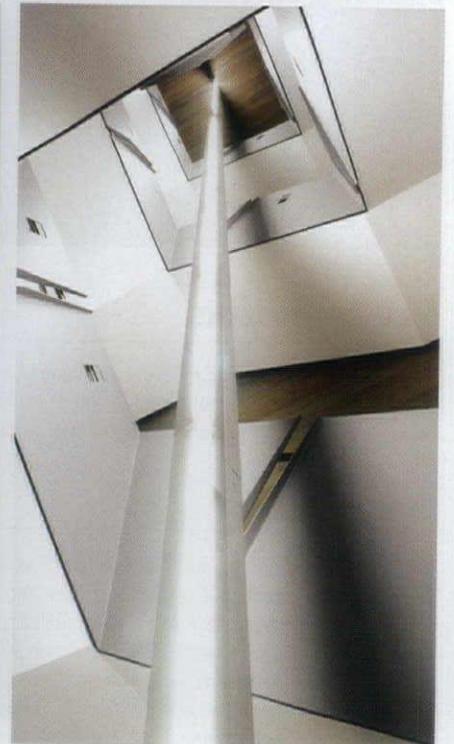
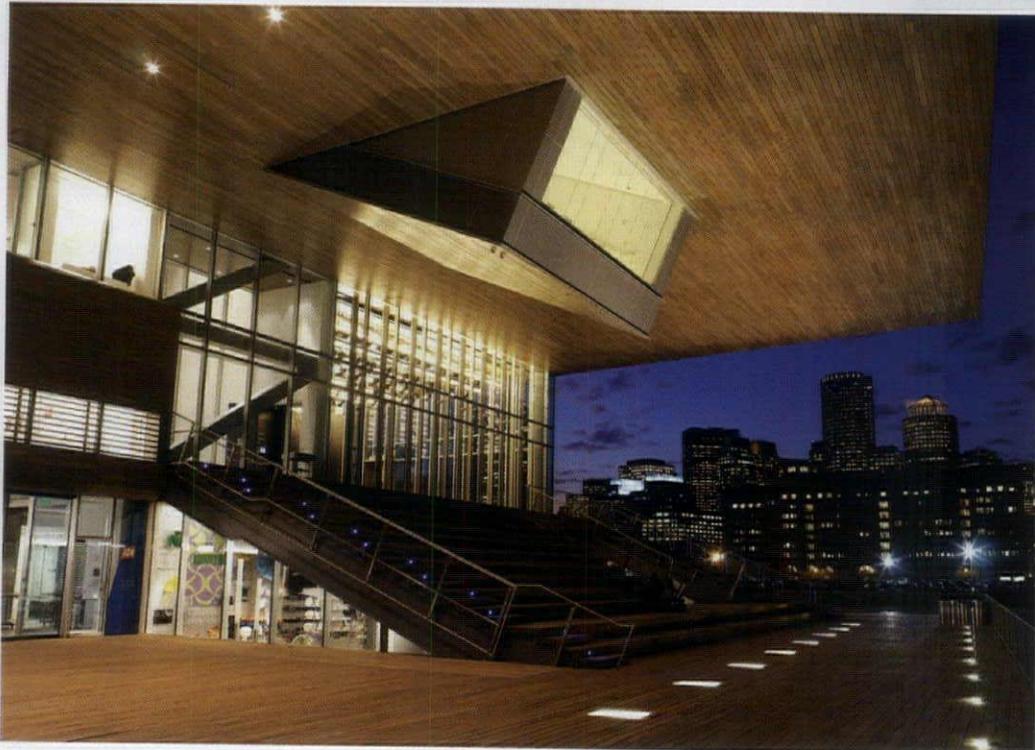
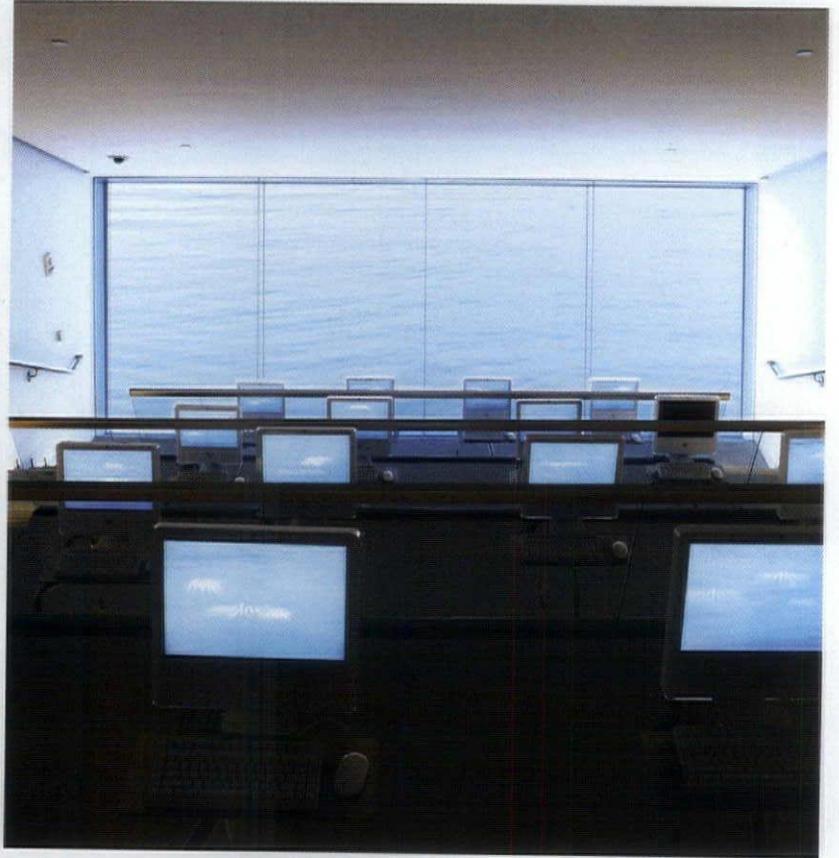
ICA offers a dynamic museum-going experience, the likes of which Boston has not seen, and one that rivals other prominent collections in the United States. A destination worth traveling to, the new ICA encourages visitors to reimagine the museum's potential as a thought-provoking cultural experience. **A|L**

jury comments

An elegant design that doesn't falter. ||| Uses conventional products to create unconventional solutions. ||| The gallery spaces are inviting while being art-friendly. ||| A project that chooses to celebrate its sculptural qualities.

details

Project Location: Boston **Design Architect:** Diller Scofidio + Renfro, New York **Architect of Record:** Perry Dean Rodgers|Partners Architects, Boston **Lighting Designer:** Arup Lighting, New York **Structural, M/E/P Engineers and Controls:** Arup, New York **Theater Consultant:** Fishers Dachs Associates, New York **Photographer:** Andy Ryan, Cambridge, Massachusetts **Project Size:** 65,000 square feet **Total Building Cost:** \$32 million (including site) **Lighting Cost:** \$1.4 million **Watts per Square Foot:** 1.3 **Manufacturers:** Bega, Belfer, Columbia, Elliptipar, Erco, Kurt Versen, Light Controls and Design, Lithonia, Litelab, Louis Poulsen, Lutron, Selux, Sistemalux, Sterner



LightShowers & ICFF DuPont Corian Surfaces Booth

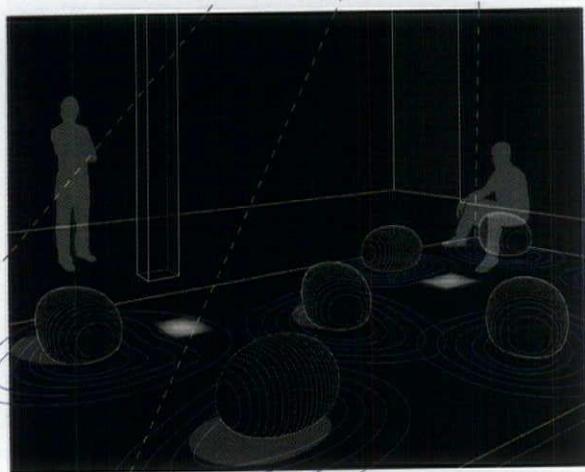
ENTRANT MORRIS SATO STUDIO

A MULTI-DISCIPLINARY PROJECT THAT UTILIZES SEVERAL MEDIUMS, LIGHTSHOWERS DEFIES CLASSIFICATION. Described by its creators, New York City-based architects Michael Morris and Yoshiko Sato, as an "installation," the combination of built components coupled with projected video imagery and lighting elements creates a unique environment, which explores themes of light and water "as sustainable and conceptual resources" (left). Explains architect Michael Morris, "We drew our inspiration for LightShowers from conversations Yoshiko had with physicians and complimentary care giver's at New York's Columbia Presbyterian Hospital who have been researching and developing biofeedback techniques as a means to assist in the recovery and preventive care of their patients." Recognizing the potential that this research might have in a design context, Morris Sato Studio pursued the idea. "We immediately saw greater potential as to how we as architects and designers can contribute something meaningful and useful to people's well being," Morris states.

The result of this research and design takes the form of a "meditative environment." A constructed platform raised a few inches off the ground has seven sculptural seating elements referred to as "stones." When a person sits on one of the "stones" a sensor is triggered and acknowledges the person's presence "by activating delicate arrays of 100 gently-pulsing blue LEDs embedded underneath the platform's surface." In turn the LEDs are programmed to pulse every seven seconds, synchronized with the rhythm of human breath as well as the video imagery being projected onto the surface of the platform and stones. Three video monitors dispersed across and recessed into the platform allow visitors to view the video at a smaller scale and without any projected abstraction (facing page, top right and bottom).

The 25-minute-long video, filmed by artist Paul Ryan, entitled, *Stationed on a Stone II*, was compiled from 3 hours of footage of flood tides at Halibut Point near Boston. For LightShowers, "the video was edited and reversed as a negative color to produce an abstract x-ray-like image increasing the visible concentration of water patterns," explain the designers. Maintaining the ephemeral quality of the piece, the sitting "stones" are fabricated out of Corian in a color called Glacier White using a CNC (computer numerical controlled) process and then hand finished. The material was selected for its durability, its color, and its material qualities.

After showings at the Delaware Center for the Contemporary Arts in Wilmington, and the Lucas Schoormans Gallery in New York City, Morris Sato Studio were invited to incorporate LightShowers into the design of Corian's booth for the International Contemporary Furniture Fair (ICFF) in May 2007. With a new family of white Corian colors—the Illumination (translucent) Series—the architects were able to continue exploring themes of light, water, and reflection. Three sides of the booth's exterior showcase the Corian color palette, while the fourth side is a series of CNC panels fabricated from the new white Corian colors (facing page, top left). Merging equal parts art, architecture, light, material, and technology, LightShowers is an all-encompassing visual and visceral experience. **A|L**

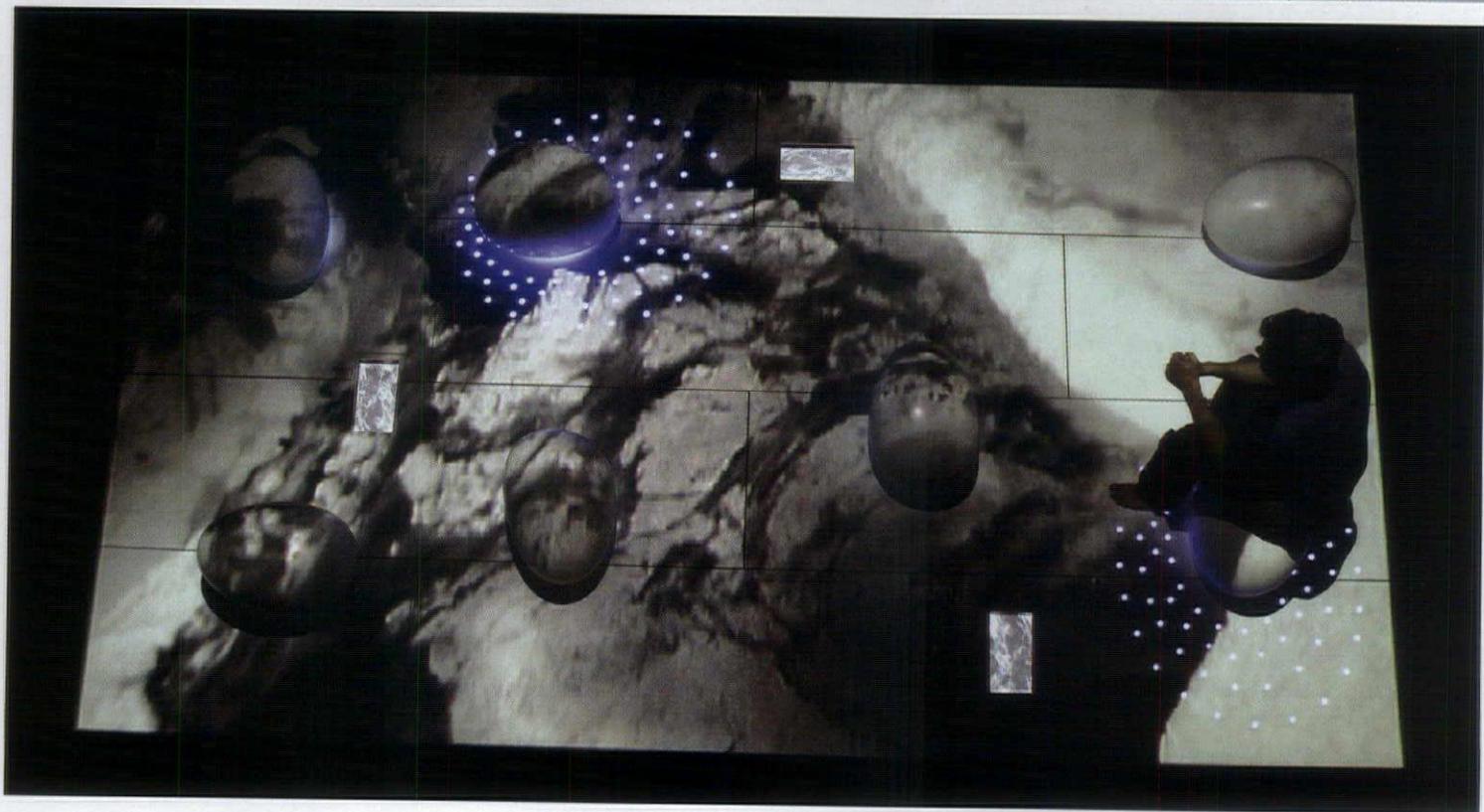
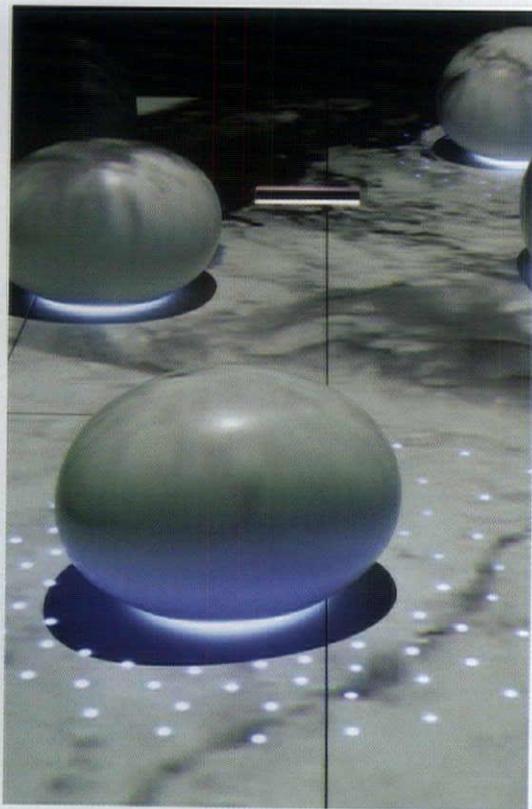


jury comments

Explores the interaction of different mediums to create new spatial environments and in turn a new kind of experience. **|||** Uses technology to further explore light's material qualities.

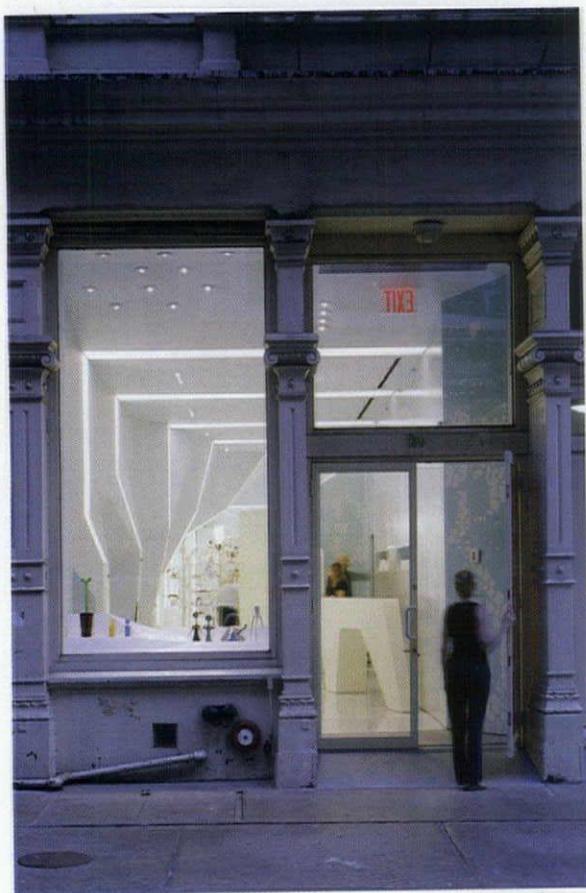
details

Project Location: New York **Video Artist:** Paul Ryan, New York
Technical Consultant: SGF Associates, New York **Photographer:** Carson Zullinger Photography, Wilmington, Delaware **Project Size:** LightShowers: 144 square feet; ICFF DuPont Corian Surfaces Booth: 560 square feet **Manufacturers:** LightShowers: Coby DVD, LED Effects, Nichia, Omron, Panasonic, Saunter, Sharp; ICFF DuPont Corian Surfaces Booth: CeeLite, SGF Associates, Panasonic, Westinghouse



alessi flagship store

ENTRANT TILLOTSON DESIGN ASSOCIATES



ALESSI'S FLAGSHIP STORE IN NEW YORK CITY'S SOHO HAS SETTLED INTO ITS NEW HOME WITH great ease—as if it has always existed at its Greene Street location (*left*). Designed by New York City-based architecture firm Asymptote, the architects faced the challenge of a tight asymmetrical site, along with the task of creating a fresh identity for the Italian housewares manufacturer, yet one that would also be in keeping with its SoHo surroundings. To that end Alessi executive vice president Jan Vingerhoets drafted a program that included retail functions for Alessi's products, as well as an espresso bar—the first in any Alessi store worldwide (*facing page, top left and top right*). In turn, the architects had to find a way to keep these two programmatic components, each with different hours of operation, distinct. Lighting proved to be the element that provided for visual continuity throughout the space, while allowing the coffee bar and retail areas their unique identities.

"Nine luminous stripes of light articulate the undulating space, giving it both structure and the illusion of vastness," explains Suzan Tillotson, whose firm, New York-based Tillotson Design Associates was called upon for their lighting expertise. The successive 18-inch-wide bands of white light run vertically up the store's north wall and continue horizontally across the ceiling plane within suspended geometrical boxes of varying shapes and sizes. Coupled with a mirrored rear wall in the retail area, surface geometries are reinforced, while creating an infinite sense of space. Additionally, these "light boxes" can be individually dimmed to distinguish the functions of each space. Constructed from medium-density fiberboard (MDF) and stretched Barrisol fabric, the boxes conceal T5 fluorescent fixtures, three per vertical wall element and three per horizontal ceiling element. Rather than use dimmers, which would have exceeded the project's budget, the lighting designers set each fixture on an individual switch. Standard 37W halogen MR16 recessed downlights with custom snoots, arranged in clusters of five, four, and two, make up the remainder of the store's general illumination. "The predominant use of reflective surfaces demanded a very controlled use of pin spots to highlight the products without glare," explains Tillotson. Over 20 individual aiming angles were plotted to respond to the complex angles of the architecture (*facing page, bottom*).

To showcase Alessi's products, Asymptote teamed with furniture manufacturer Vitra to design a modular shelving unit, with built-in accent lighting. Fabricated from bent, white-painted steel, the shelves feature a band of three, two-inch-diameter "eyeball" fixtures, each directing the light of a single 2W white LED onto the housewares (*facing page, top center*). The architects specifically chose a cool white LED for its sparkle and bluish tone to compliment Alessi's stainless-steel-dominated product line.

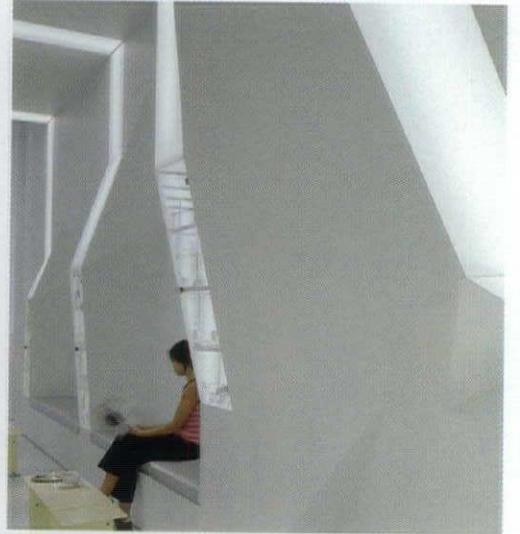
The success of Alessi's SoHo flagship store illustrates the strength in a single idea's ability to inform an overall design concept down to each individual detail. In turn, light, as both a tool and a material distinguishes the space's architectural elements while simultaneously unifying them. **A|L**

jury comments

Takes one idea and builds the project design around it. **|||** The project has a strong, clear visual identity. **|||** A clean aesthetic that responds to the program and the products.

details

Project Location: New York **Architect:** Asymptote, New York **Lighting Designer:** Tillotson Design Associates, New York **Photographer:** Elizabeth Felicella Photography, New York **Project Size:** 1,650 square feet **Watts per Square Foot:** 7 **Manufacturers:** Bartco, Con-Tech



condé nast cafeteria

ENTRANT ARUP LIGHTING

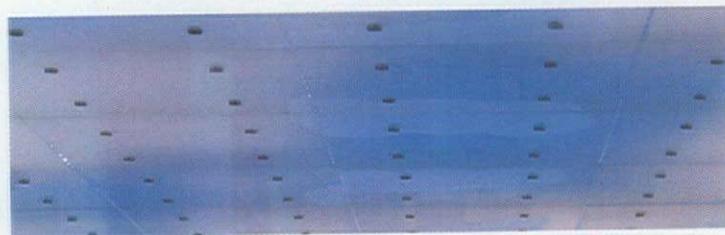


WHEN THE TEAM AT ARUP LIGHTING'S NEW YORK CITY OFFICE WAS ASKED TO DESIGN A cafeteria for a large media company based in midtown Manhattan, the designers saw an opportunity to do the unexpected—to create a flexible space where employees could take refuge from the fast-paced, high-stress work environment, anytime, not just during lunch hours. The result is a dynamic, fluid space, which marries technology with artistic capabilities.

Because the space, a nondescript New York City office building presented several challenges—low-ceiling heights in particular—the lighting designers, Brian Stacy and Matt Franks, began by setting up a set of self-imposed “rules” to tackle the design. The primary “rule” the designers adhered to was: no visible luminaires. This enabled the lighting designers to imagine the space as an environment, where luminous planes create the “architectural motif” (*left, top*). To achieve this, the ceiling and wall surfaces are lined with a low-iron, two-lite glass with an internal diffusing layer, measuring only 3/32” thick. Over 270,000 red, green, and blue LED nodes, uniformly spaced, are attached to the glass from behind (*left, bottom*). Equipment closets for the LED control gear are integrated into the room, but hidden from occupant sight.

Once the technological solution presented itself, the lighting team had to define how it would be used, particularly the play of color. As lighting designer Brian Stacy explains, “To make full use of the system a highly customized computer program was required, beyond the industry standard playback controllers.” So Stacy called on a group of programmers and the technical assistance of the LED manufacturer to create a custom computerized lighting authoring and control system. For this installation “each LED node is programmed into the system, allowing patterns, abstract images, or any conceivable input to morph to the shape of the space, spanning the ceilings and walls” (*facing page, bottom right*). As a result, the custom programmability allows the space to be continuously updated with new color combinations and graphics. During normal lunch hours, the space is illuminated with colors in a muted “white” range providing 10 footcandles for a comfortable spa-like feeling (*facing page, top and bottom left*). In the evening, or for special events, the lighting system can be programmed to include any effect.

The versatility of the space and the programming system make it a particularly attractive canvas for artists looking to work in a new medium, and is certainly in keeping with the fast-paced, working environment of this media-savvy client. Lighting is transformed into an interactive experience. Lunch will never be the same. **A|L**

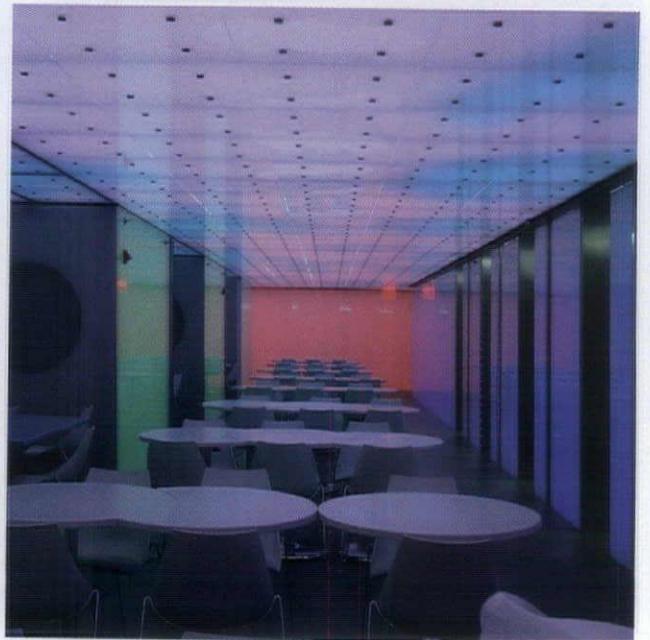


jury comments

Architecture is transformed into surface. ||| Through the use of lighting, a social and immersive environment is created. ||| The space provides a new artistic venue for other creative people.

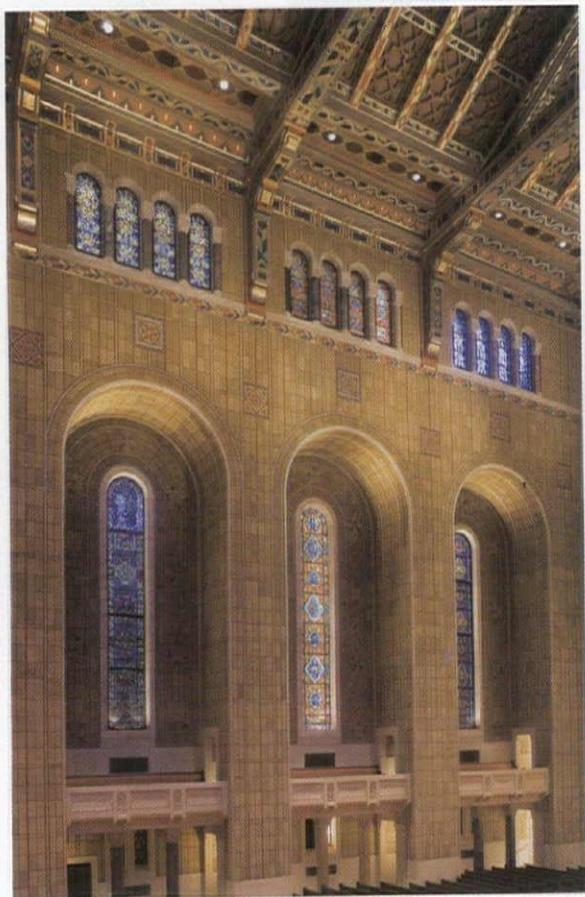
details

Project Location: New York **Architect:** Skidmore, Owings & Merrill, New York **Lighting Designer:** Arup Lighting, New York **Photographers:** Brian Stacy and Matt Franks, Arup Lighting, New York **Project Size:** 12,000 square feet **Watts Per Square Foot:** .8 (architectural); 6 (LED art component) **Lighting Installation Cost:** \$900,000 **Manufacturers:** Color Kinetics, Gammalux



temple emanu-el

ENTRANT SACHS MORGAN STUDIO



jury comments

The lighting responds to an extraordinary space with an acute sense of appropriateness. III Celebrates the spectacle of light. III Layering of light is well done.

details

Project Location: New York **Architect:** Beyer Blinder Belle Architects and Planners, New York **Consulting Architect:** James Rhodes Preservation Design, Croton-on-Hudson, New York **Lighting Designer:** Sachs Morgan Studio, New York **Photographers:** Samuel Morgan Photography, New York **Project Size:** 22,654 square feet **Watts Per Square Foot:** 2.36 **Lighting Installation Cost:** \$2.5 million **Manufacturers:** Electronic Theater Controls (ETC); Lighting Services Inc.; Litemakers; TIR Systems

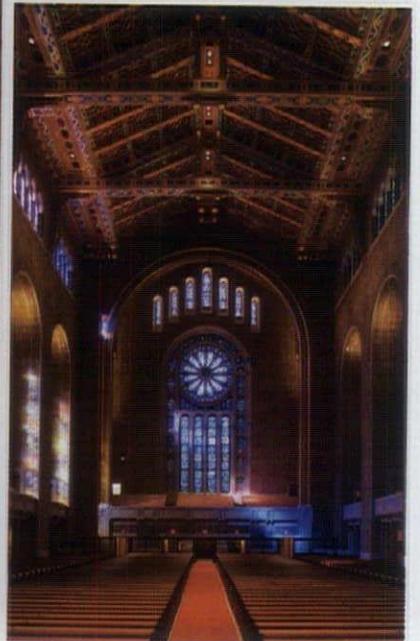
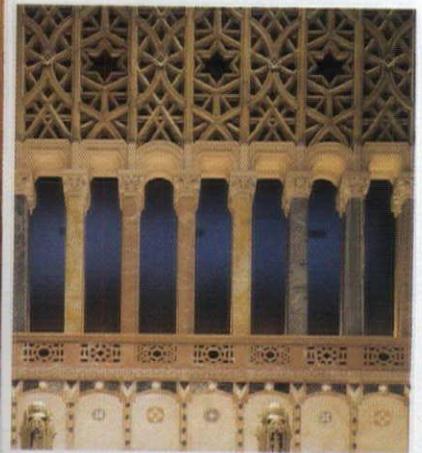
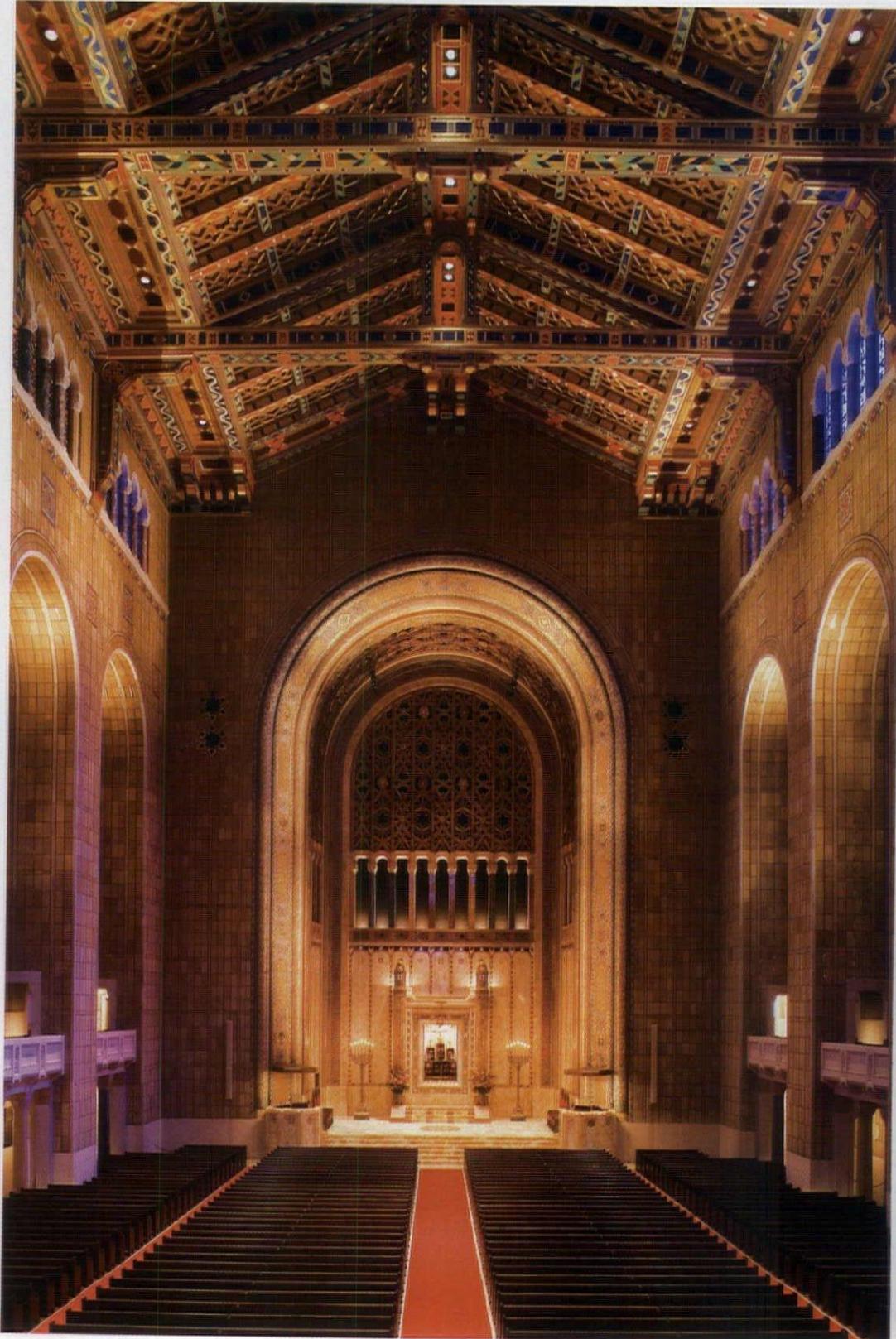
WITH A GREAT SENSE OF RESPECT AND RESTRAINT, THE LIGHTING DESIGN FOR TEMPLE EMANU-EL, a prominent New York City synagogue located on Fifth Avenue overlooking Central Park, the adage “less is more” certainly holds true. The challenge for New York-based lighting firm Sachs Morgan Studio, noted for their theatrical lighting work, was to celebrate the architecturally significant features of the building, originally designed in 1927. This included an ornate polychrome Lombardian ceiling with Gustavino tiles, and stained glass windows (*facing page, right, bottom*).

To begin, the client, along with the architect, New York City firm Beyer Blinder Belle, had determined that the visual focus of the space needed to remain on the *Bimah*—the podium area at the front of the synagogue from where the Torahs are read—and the *Ark*—the enclosed niche which houses the Torahs (*facing page, left*). Additionally, as the lighting designers explain, “no intrusive objects or instruments could be added to the space, and all the lighting fixtures had to be easy to access and maintain.” The solution then “illuminates the boundaries of the space, highlights the historic features, and provides ample lighting for modern day use.”

At the front of the sanctuary, an arch frames the *Bimah*. To illuminate the area, the lighting designers installed two motorized lighting battens at the top of the arch—70 feet above the *Bimah*. The battens are fitted with 750W theatrical PAR downlights, and can be lowered to within four feet of the *Bimah* floor for maintenance. Above the *Bimah* and *Ark* is the choir area. Here the designers created a fadeout effect to highlight the choir’s blue ceiling (*facing page, right, top*). Using compact fluorescent fixtures the designers front lit, from the bottom, a theatrical scrim, while ceiling uplights from behind are allowed to show through at the top of the scrim.

A series of three stained glass windows, each 33-feet-tall, line both sidewalls of the sanctuary. Halogen MR16 lamps are discretely located at the base of each window and project light from one side of the space to the ceiling and walls on the opposite side—approximately 85 feet. To recreate the feeling of daylight for one of the stained glass windows that had been “blacked-out” due to exterior construction, the window was backlit with light pipes outfitted with metal halide sources (*left*). This window is only electrically illuminated when the other stained glass windows are naturally illuminated by daylight.

Transitioning older spaces to adhere to current-day light levels is often a situation encountered on preservation projects. To provide illumination to seated congregants, light was originally projected through tiny holes in the ceiling. Chandeliers were not allowed, as they were deemed “intrusive objects.” By increasing the overall light levels via lamp selection, the designers were able to meet contemporary lighting requirements without adding new ceiling slots or visible fixtures. A testament to the considered and thoughtful use of lighting in the renovation of this historic structure, many congregants remarked that it was like seeing the space for the first time, unaware of the extraordinary architectural details surrounding them. **A|L**



haus im haus

ENTRANT BEHNISCH ARCHITEKTEN



IT SEEMS ONLY FITTING THAT HAUS IM HAUS (A HOUSE IN A HOUSE), A PROJECT DESIGNED TO PROVIDE new business service facilities for the Hamburg Chamber of Commerce, should be located inside the Börsehalle, the city's historic stock exchange building built in 1841 and long-time central meeting place of Hamburg's business world. Designed by Stuttgart-based Behnisch Architekten, the new, five-story, 15,000-square-foot structure accommodates meeting rooms, workspace for start-up business, private dining rooms, a restaurant, a bar, a lounge, and exhibition space (left).

Originally a commission won via an architectural competition in 2003, one of the project's greatest challenges was constructing a new structure within the confines of the historic building while respecting the existing conditions. Exploring themes of "lightness," the architects devised a structure which "unfolds in layers and planes made of different materials." Organizing the new structure in response to functional requirements also enabled a variety of interesting spatial configurations (facing page, bottom).

In keeping with the theme of "lightness" the new structure sits off the existing building's ground plane via a series of steel beams. For the lighting, only one source is used—solid-state lighting. Working with Stuttgart luminaire manufacturer Nimbus Design, the architects designed square LED modules, which are integrated throughout the project under the glass floors of each level of the new structure. The glass floors allow light to transmit from one level to the next (below). Over 160,000 LEDs used on the project, chosen in part for their lower energy consumption, and lower heat generation, as compared to traditional lamp sources. Although extremely luminous, glare is prevented by way of "400 holes in each module that limit the emission angle to 90 degrees." All the lighting throughout the project can be dimmed.

Haus im Haus also relies upon daylight as an illumination source. The upper two levels of the Börsehalle have arched windows allowing for a generous amount of natural light to enter the hall. Aluminum screens in the new structure capture the daylight and reflect the light into the new spaces. The combination of vertical aluminum fins and horizontal plane of the LED modules embedded in the glass floors creates a dynamic spatial interaction within the new structure itself and between the new structure and its existing surroundings (facing page, top). Exploring the "balance of history and modernity" Haus im Haus transforms the architectural design concept into built reality with the aid of new lighting technologies. The result is a refreshing take on the classic "intervention-in-historic-structure" scenario. **A|L**

jury comments

A rigor and consistency to this intellectually sharp project that explores the "old/new" architectural dialectic. ||| An intriguing space that you actually want to see in person. ||| Uses lighting technology to create architectural space.

details

Project Location: Hamburg, Germany **Architect:** Behnisch Architekten, Stuttgart, Germany **Lighting Designers:** Behnisch Architekten, Stuttgart, Germany and Nimbus Design, Stuttgart, Germany **Photographer:** Landes Fotografie, Dortmund, Germany **Project Size:** 15,000 square feet **Watts Per Square Foot:** 2.2 **Project Cost:** \$4.7 Euro (approximately \$6.3 million) **Lighting Installation Cost:** \$150,000 Euro (approximately \$201,448) **Manufacturers:** Nimbus





casa cubos

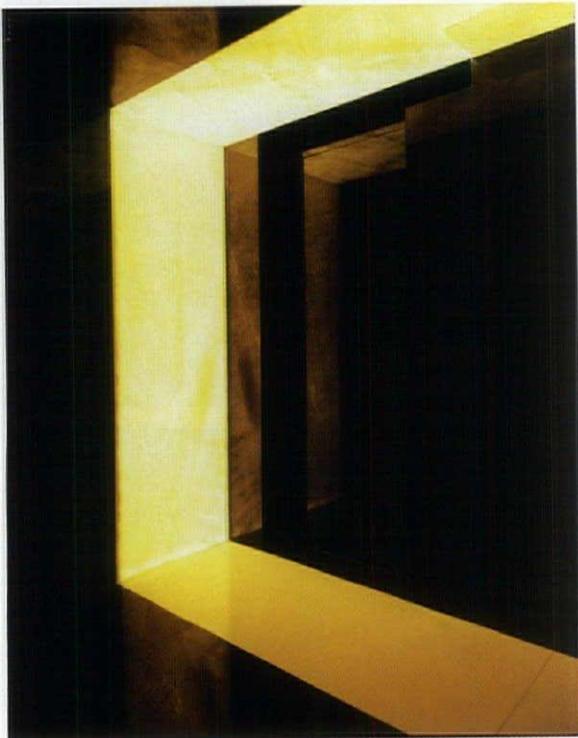
ENTRANT LIGHTTEAM

DRAWING INSPIRATION FROM ITS SURROUNDINGS—THE SUN, THE LANDSCAPE, AND THE color palette of Mexico—Casa Cubos is a project uniquely rooted in its surroundings. For this design, architect Miguel Angel Aragonés' own home, the colors of a Mexican sunset shape the contemporary interior and exterior spaces creating a dynamic yet contemplative space. Color along with a material palette rich in stone and glass add to the ambiance of the home's different spaces.

The main entry is distinguished by a band of translucent marble on three sides, like an abstracted doorframe, head, and jamb. With great drama the moment of arrival is celebrated. During the day sunlight illuminates the marble band, while at night 70W metal halide lamps seek to emulate the same light quality (left).

Furnishings and surfaces are all white in order to "reflect" and interact with the specific colors chosen for each space. At night the façade is bathed in cool blue tones, and when coupled with the glow from the interior lighting in yellows and oranges, it is easy to see the palette of the Mexican sunset take shape (facing page, left). Custom onyx luminaries accent the home's main façade. By day they glow a soft gold, and at night they take on a richer hue of amber as a wash of orange light highlights the façade (facing page, bottom right).

In the living room (below), AR111 lamps in combination with a linear array of white LEDs are integrated into the window mullion structure highlighting the horizontal and vertical members. The stairway (facing page, top right), takes on sculptural qualities with its handrail of steel cables and amber LED cove-light. With an acute awareness of how color and form interact, the designers have created a residential environment that is uniquely Mexican in its interpretation of house and home. **A|L**

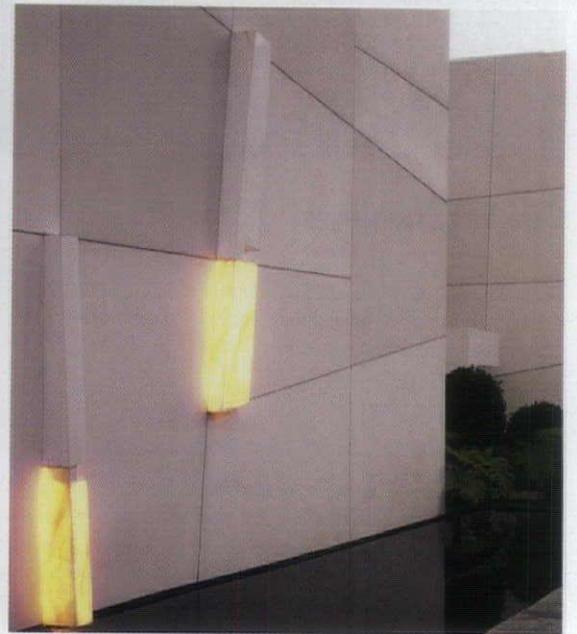
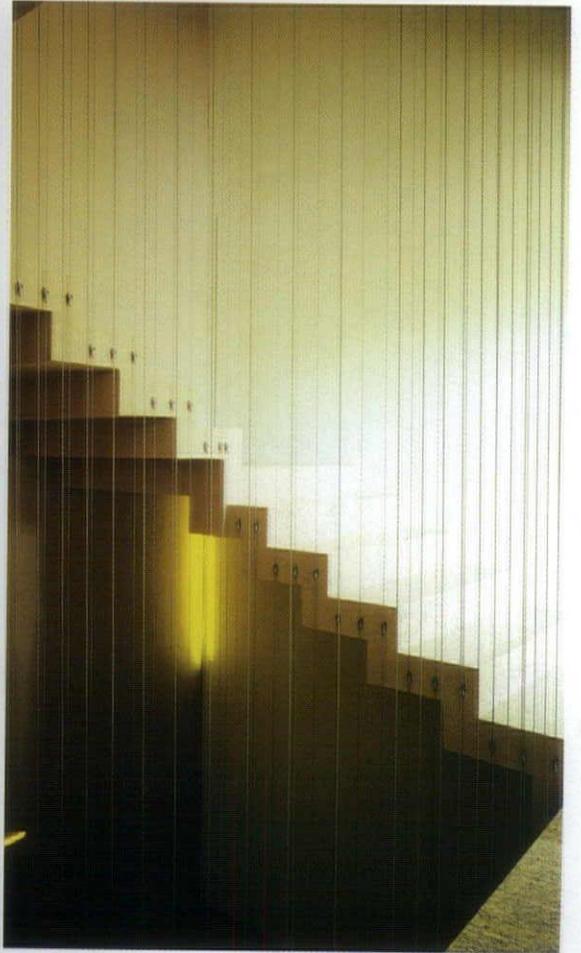
**jury comments**

A striking design that highlights a regional sensibility. ||| A lot of skill and thought in the lighting approach. ||| Raises interesting points about the use of colored lighting in a residential setting.

details

Project Location: Mexico City **Architect:** Miguel Angel Aragonés, Mexico City **Lighting Designer:** Lightteam, Mexico City **Photographer:** Nicola Larouso, Mexico City **Project Size:** 2,138 square meters (approximately 23,000 square feet) **Watts Per Square Meter:** 5 **Project Cost:** \$45,510 **Lighting Installation Cost:** \$5,084 **Manufacturers:** Artemide, Brilliant, Construlita, DeltaLight, Erco, Martin Architectural, MP Lighting, Olo, Reggiani, Targetti





the morgan library

ENTRANT ARUP LIGHTING

WITH A PROJECT BRIEF THAT DEMANDED NO LESS THAN UNIFYING THREE ARCHITECTURALLY DIVERSE buildings, strict lighting criteria for priceless artworks and manuscripts, and the creation of new daylit public spaces, the renovation/addition to the Morgan Library is not your average project. But, in the hands of architect Renzo Piano and the team at Renzo Piano Building Workshop along with the expertise of Arup Lighting, this was another museum challenge to add to an already highly successful portfolio of collaboration that includes the Nasher Sculpture Center in Dallas and the High Museum in Atlanta.

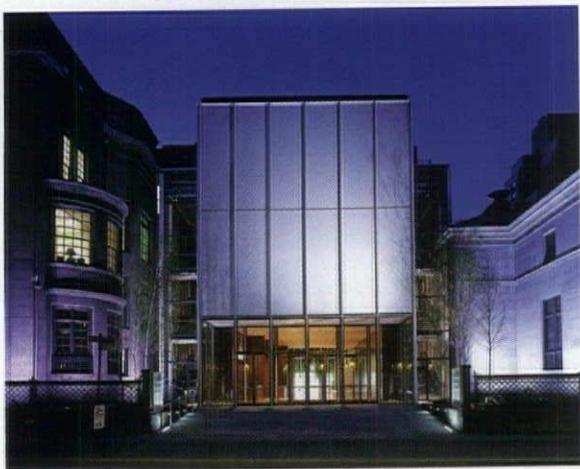
The solution to this architectural puzzle, a glass and steel structure, which forms the museum's new entry (*left*) and ground floor "piazza," deftly knits together the diverse surroundings of the original mid-19th century Morgan house, existing galleries, and the McKim, Mead & White-designed Morgan library, without calling attention to itself. To manage the abundance of light entering the space, a custom sunscreen is outfitted for the glass and steel enclosure. As the Arup Lighting team describes, "The screen allows partial views out to the sky, blocking direct sun where required." The open feeling of the piazza is an intentionally created counterpoint to the more monolithic adjacent architecture and its dark interiors. The façade lighting also acknowledges the juxtaposition of old and new—4200K ceramic metal halide asymmetrical adjustable floodlights highlight the architectural details of the existing masonry buildings and the metal panels of the new structure (*left*).

Throughout the museum, the balance of light—both natural and electric sources—is essential in creating a warm and inviting environment that responds to the scale of the different galleries and public spaces. A family of track and pendant-mounted fixtures, designed by Piano, are used throughout the project, providing visual continuity. In the piazza these fixtures are outfitted with dimmable 35 and 70W T6 ceramic metal halide lamps. Additionally, the piazza's vertical glass surfaces have motorized blinds connected to a building lighting control system (*facing page, left*).

Because the program brief discouraged a tall structure, several of the new spaces are below grade, including the auditorium, open to the public and the reading room, accessible only to library staff and visiting scholars. To compliment the mahogany wood-paneled auditorium (*facing page, top right*), MR16 lamps are used for the wall sconces and downlights, PAR38 lamps are used for the stage lights, and dimmable LEDs for the steplights.

The signature feature of the double height reading room (*facing page, bottom right*) is a luminous ceiling. As the Arup team explains, "The daylight is modulated for book conservation by continually adjusting the motorized louvers above the scrim, acoustically isolated from the primary space." Two separate layers of glass have UV blocking interlayers for additional UV protection. Custom dimmable linear fluorescent fixtures with UV-protecting sleeves are positioned at the top of the perimeter built-in shelving units on both levels of the reading room, and provide an additional source of illumination for the collection. Reading lamps on the desks provide tasklighting.

Throughout the sectionally challenging addition of 77,000 square feet, and the diverse grouping of existing buildings, layers of light unify this museum and library collection into a comprehensive whole. In turn a wonderful sense of light and lightness contribute to create an open and spacious center for the building, and a unique public/private setting amidst the density of Manhattan. **AL**

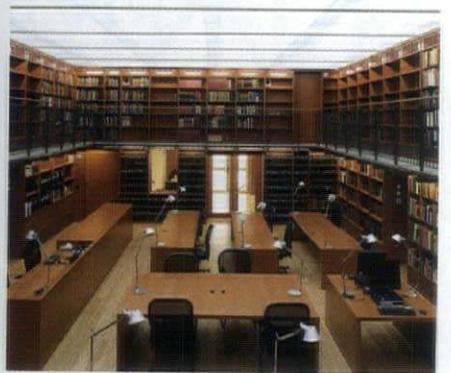
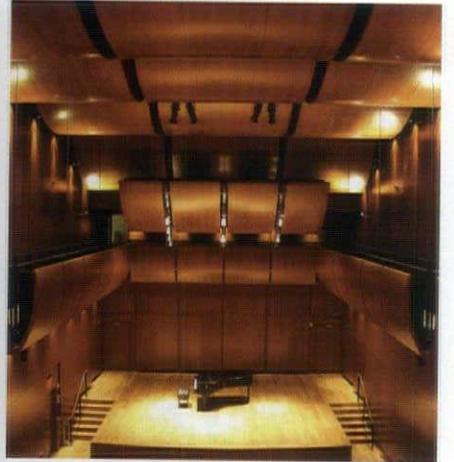
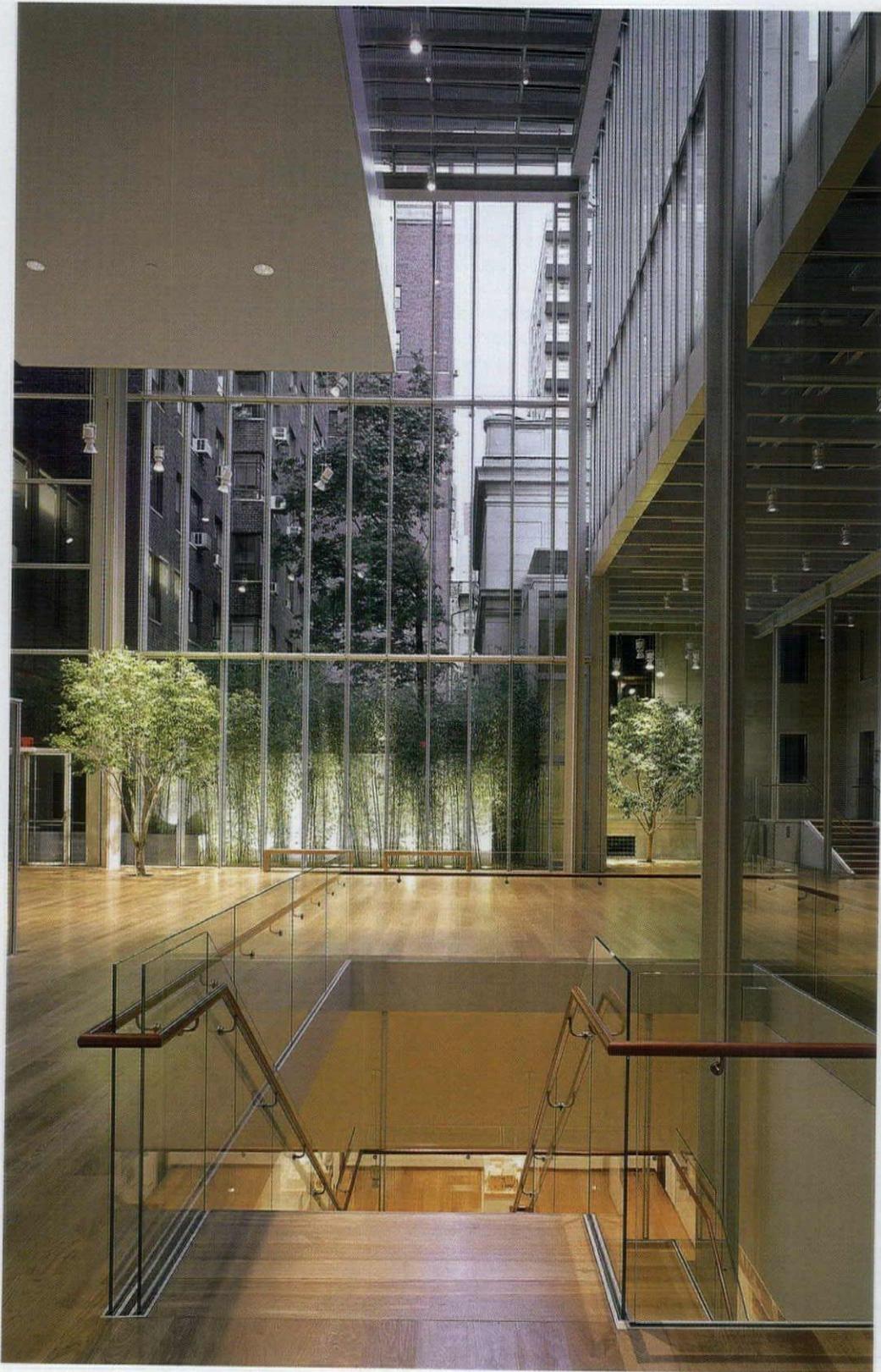


jury comments

Throughout the whole building there is a nice composition with the integration of daylighting and the dimming systems. **|||** Technically challenging solution.

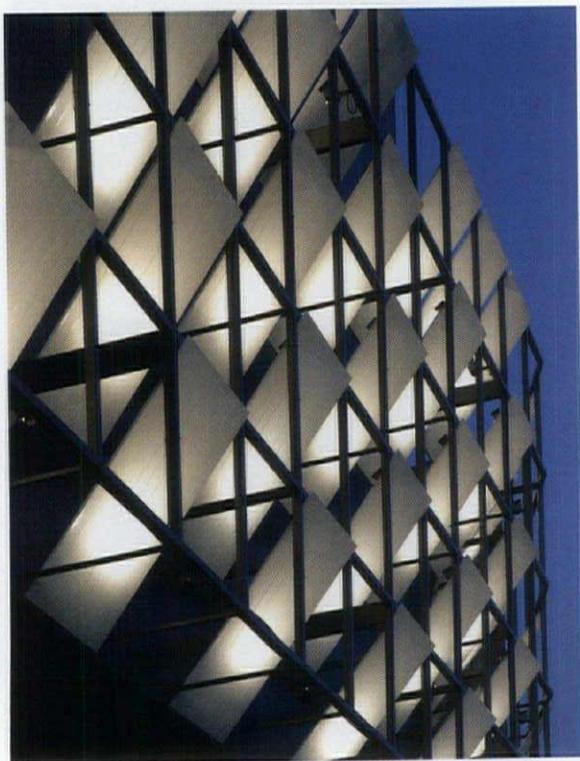
details

Project Location: New York **Architect:** Renzo Piano Building Workshop, Genoa, Italy **Lighting Designer:** Arup Lighting, New York **Photographer:** Richard Cadan Photography, Brooklyn, New York **Project Size:** 77,000 square feet **Watts Per Square Foot:** .9 **Project Cost:** \$67 million **Lighting Installation Cost:** \$1.25 million **Manufacturers:** Bartco, Elliptipar, Erco, iGuzzini, Louis Poulsen



cincinnati convention center renovation & expansion

ENTRANT HORTON LEES BROGDEN LIGHTING DESIGN



"OUTREACH TO COMMUNITIES NEAR AND FAR," WAS THE CONCEPT FOR THE EXPANSION AND renovation of the Cincinnati Convention Center, which overlooks the nearby Ohio River. Using a "sculptural" super-graphic, the project succeeds in doing just that. A series of 10-foot-square white metal panels canted at an approximate 45-degree angle supported by an architectural superstructure on the building's exterior (*left*), form the word "Cincinnati." The panels are illuminated by 150WT6 metal halide lamps integrated into the architectural support structure, and the result is a new visual "interactive urban icon" for the city of Cincinnati (*below*).

The convention center's expansion takes the form of a glass circulation spine running the length of the building. It also acts as the physical link between exterior and interior, as the dynamic exterior lighting element is carried into the convention center's public interiors. A multi-colored super-graphic of square blocks painted on the ceiling and ceiling soffit of the circulation spine (*facing page*) echoes the exterior superstructure housing the Cincinnati sign. The same 150WT6 metal halide lamps are used to illuminate this feature.

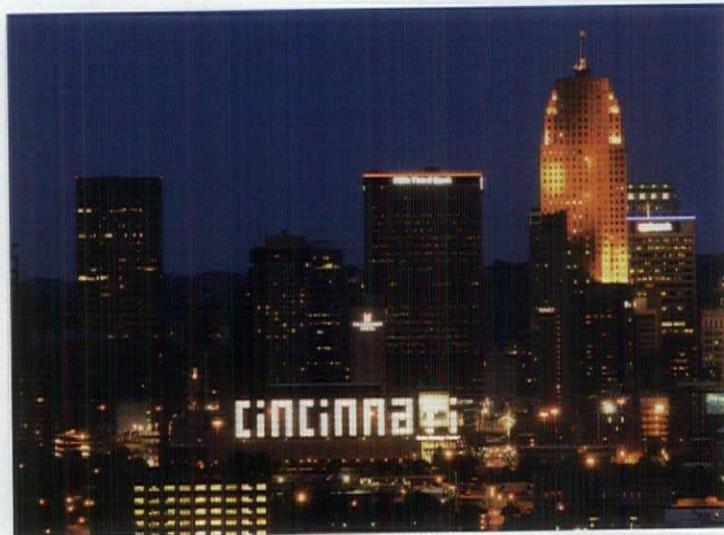
As the circulation spine turns the corner of the building, the colorful interior graphics, all in cool tones, continue in an abstracted homage to the Ohio River and are lit with a combination of T8 fluorescent cove fixtures and 150W T6 metal halide washlights. The ceiling is highlighted by 150W T6 metal halide uplights. One of the challenges for the lighting design team was the "consistency of effect and source color match" because "the architectural conditions varied causing 10- to 40-foot setbacks." Simple yet effective, the billboard-like quality of this three-dimensional illuminated façade creates an entirely new feature for the Cincinnati skyline. **AJL**

jury comments

Lighting as a "super-graphic" – it create a singular, recognizable identity for the project. **|||** Lighting carries the load for this project and brings together the aesthetically divergent interior venues.

details

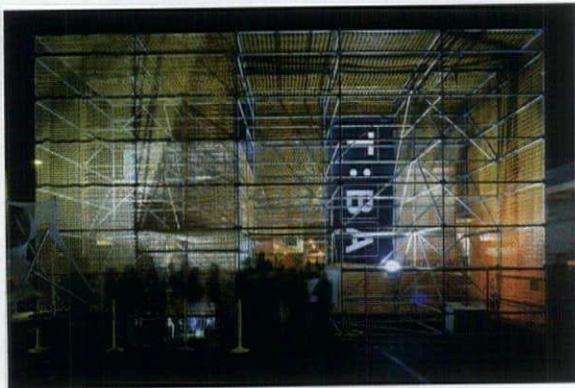
Project Location: Cincinnati **Architect:** LMN Architects, Seattle
Lighting Designer: Horton Lees Brogden Lighting Design (Los Angeles office), Culver City, California **Associate Architect:** Cincinnati Architects Collaborative, Cincinnati **Graphics and Interior Design:** Sussman/Prejza & Company, Culver City, California **Photographers:** Wolf Photographic Arts, Cincinnati **Project Size:** 200,000 square feet (expansion); 530,000 (renovation) **Watts Per Square Foot:** 1.2 **Project Cost:** \$135 million **Lighting Installation Cost:** \$8/square foot
Manufacturers: Day Brite, Elliptipar, Indy Lighting, Insight Lighting, Kim Lighting, Leucos, Lutron, Prescolite, Prudential, Shaper Lighting, Tokistar





temporary event complex

ENTRANT BOORA ARCHITECTS



DESIGNED FOR THE PORTLAND INSTITUTE FOR CONTEMPORARY ART'S 10-DAY TIME-BASED ART (TBA) festival, like the event itself, this project takes creative risks exploring light and material to create an engaging series of spaces and structures. Showcasing performances in theater, dance, media, and music, the festival draws an international audience. One of the event's signature aspects is that it serves as a "social gathering space." After the evening's scheduled performances, festival-goers spill out into the numerous café and seating areas, extending the performance-like atmosphere late into the evening hours.

For the 2005 TBA festival, the event organizers chose a complex of vacant warehouses, light industrial buildings, and an asphalt service yard, wanting the event to interact with the surrounding neighborhood. The design team organized the event program, which had to incorporate a lounge for video art, a cabaret, a restaurant/café, a theater-in-the-round, and an outdoor garden, using the existing assembly of buildings and supplementing these spaces with temporary scaffold structures to create a series of outdoor rooms. Wrapped in orange construction fencing and illuminated from within by metal halide construction lights, the scaffolds quickly transformed into a bold architectural statement, what the designers refer to as "urban lanterns" (*facing page, top*). The first of these structures served as the festival entrance and ticket area, while another of the scaffold pavilions acted as the covered garden/concert area with projection screens and café (*left, top and bottom*).

Using the existing buildings to house some of the festival functions, the architects commissioned the warehouse loading dock to become the cabaret space (*below*). Inside, the loading docks were transformed into a restaurant-like space with pendant luminaries created out of plastic baskets (*facing page, bottom left*). Across the festival site, in what was once a printing press building, a ring of translucent drapery and adjustable theatrical lighting created a theater venue (*facing page, bottom right*).

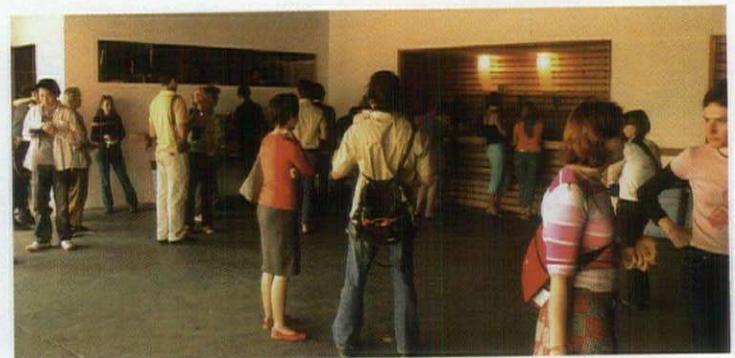
In keeping with the festival's theme of communal participation and artistic exploration, the design team worked in a pro-bono capacity to lend their architectural and lighting expertise. The result is "a design that itself became time-based art." The project reflects the process of collective input and inventive solutions, fusing new life into everyday materials and transforming them into an artistic palette. **A|L**

jury comments

A fresh take on how lighting can be used no matter how diverse the architectural venue or event. ||| Transcends the normal recognition of the materials. ||| Gets the spirit of "budget."

details

Project Location: Portland, Oregon **Client:** Portland Institute for Contemporary Art (PICA), Portland, Oregon **Architect:** Boora Architects, Portland, Oregon **Lighting Designer:** Candela, Seattle **Landscape Designer:** Alison Rouse, Portland, Oregon **General Contractor:** Anderson Construction, Portland, Oregon **Photographers:** Sally Schoolmaster, Portland, Oregon **Project Size:** 14,700 square feet **Watts Per Square Foot:** 1.2 **Project Cost:** \$15,000 **Lighting Installation Cost:** all materials, equipment, and time donated **Lighting Equipment:** Exterior, exterior bar, and theater lighting all supplied by PICA; cabaret stage lighting supplied by TC Smith of Production Services and Lyndsay Hogland; cabaret drink lighting designed by Sierra Woods of Boora Architects; dining room lighting designed by Jorg Jakoby of PICA





temporary event complex

ENTRANT BOORA ARCHITECTS



CENTRAL TO THE UNIQUE NATURE OF THE EVENT AND PROGRAM REQUIREMENTS FOR WHICH THIS project was designed, the Portland Institute for Contemporary Art's (PICA) 10-day Time-based Art (TBA) festival, are issues of budget. The festival, in keeping with PICA's mission to "acknowledge and advance new developments in contemporary art while fostering the creative explorations of artists and audiences" has always sought to reinterpret the conventional approaches to the experience and display of art.

In an effort to reach the greatest audience and provide the widest range of programming on a "not-for-profit" budget of \$15,000, the festival organizers looked to find creative solutions to facilitate the event's existence. One step toward achieving this goal is relying on the use of a free venue, the generosity of design professionals who work in a pro-bono capacity, as well as manufacturers who lend equipment and materials. In turn, because of the "temporary" nature of the festival—10 days—the time frame has a great influence on the approach to the actual design: The project had to be easily constructed and disassembled, while minimizing waste.

What some would consider project constraints, instead served as the impetus for creative material investigations, the primary of which was the use of scaffolding and orange construction netting to create a series of structures and outdoor rooms (*facing page*). The material palette was also in keeping with the industrial nature of the site, a complex of vacant warehouses, small-scale industrial buildings, and an asphalt service yard (*left, top and bottom*).

In addition to their design services, team members also helped construct the venue, and assisted in answering questions for other volunteer builders. Some team members also had a chance to flex their creative muscle in the creation and assembly of some of the decorative-style luminaries—pendant-like fixtures made from plastic baskets wired together to form a globe shape. When the festival's run was completed, design team members were on site to "deconstruct, recycle, and return all equipment and materials used to create the venue."

More than any other project submitted in the Budget category, the jury felt that this work, in both its approach and result, addressed the issue head on. Rather than be hindered by the limited budget, the design team embraced the possibilities it offered, and in turn arrived at a clever and refreshing solution in keeping with the festival's mission. In a short period of time a great number of people were able to experience an event and a place, proving that you can accomplish a lot with very little. **A|L**



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postscript

COLOR HAS LONG PLAYED AN IMPORTANT ROLE IN ARCHITECTURE AND LIGHTING, DEFINING SPACE and articulating depth of surface planes. With the creation of the AJL Virtuous Achievement Award (ALVA) categories—Best Use of Color, Best Incorporation of Daylight, and Best Lighting Design on a Budget—the editors sought to recognize issues of notable importance in today's practice of lighting design, and design techniques particular to lighting. Over the past four years, a variety of projects have been submitted in the AJL Light & Architecture Design Award ALVA color category. Some projects have used color to create a mood. Other work has used color as a signature design element in creating a project's identity, and still yet other projects have used color to showcase recent technologies and color changing capabilities. Color is one topic that has not disappointed in producing submissions or discussion among jury members, and this year is no exception. In fact, there has been significant consensus among the architecture and lighting professionals who have served on the AJL Light & Architecture Design Award juries that for a project to be recognized in the color category the use of color must have meaning and purpose and not be used in a gratuitous manner. To that end, Best Use of Color has only been awarded once in the award program's history—to the Morongo Casino Resort and Spa (see July/Aug 2005, p. 38-39)—an indication of the juries' seriousness in evaluating this topic.

This year, two projects—7 World Trade Center and the Condé Nast cafeteria—which won in their main categories, were also submitted for color.

Although these projects did not receive specific recognition for their use of color alone, they are important to mention, because they represent two completely opposite approaches to the use of color in lighting. Whereas color is an *extension* of the project concept at 7 World Trade Center, in the Condé Nast cafeteria color is the project's *foundation*.

At 7 World Trade Center, the site conditions and program requirements challenged the design team to find a way to unify the building's dense concrete base with its glass-clad upper volume. The result is a design concept that treats the building as "a cube of light." Working in concert with the building's exterior, the lobby interior morphs from cool white during the day, to violet at dusk, and then to blue at night, echoing the ever-changing color and quality of light so elegantly reflected and refracted on 7's glass and metal skin. Defined by light, but not by specific colors alone, color is the finishing touch at 7 World Trade Center.

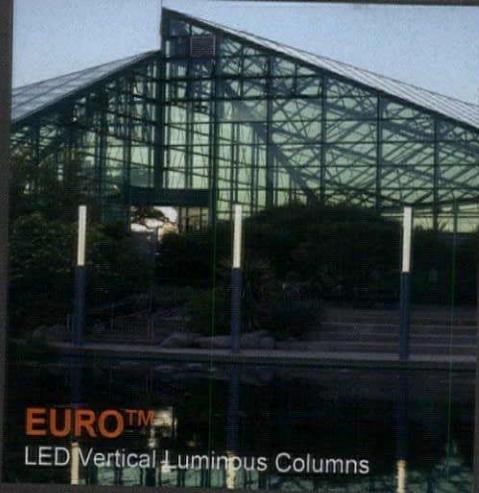
Color, at the Condé Nast cafeteria, explores light as surface. With no direct elements dictating a specific design response, the lighting designers had to construct their own parameters, which in this context, lead to an environment that is completely self-generated. Color imparts limited information—a white palette represents lunch hours, but with an endless variety of color programming capabilities all connection to real-time based events ends there. A dynamic space, the Condé Nast cafeteria provides a canvas for creative individuals to further explore color, surface, and image.

Color is a complex design element, and as each of these projects illustrate, is as diverse in purpose and meaning as the nuances of the color palette itself. **AJL**

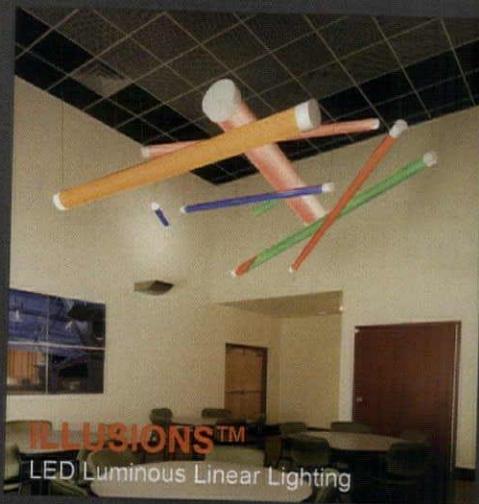


A juxtaposition of color, 7 World Trade Center (above) and the Condé Nast cafeteria (below) represent the range of color explorations in architectural lighting design today.

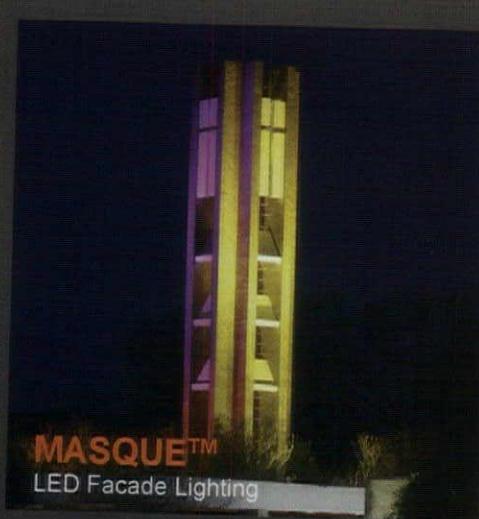




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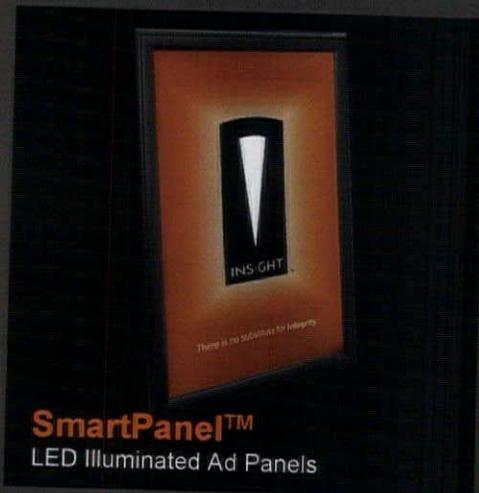
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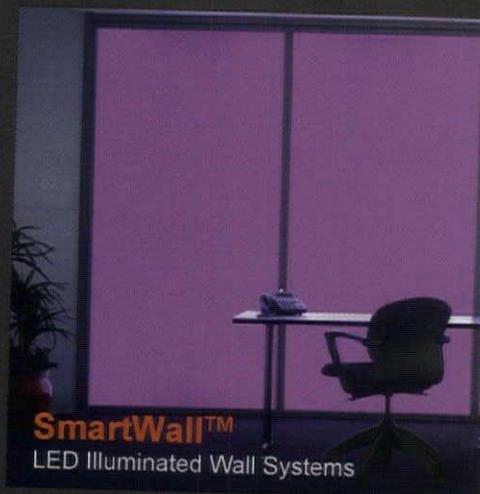
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Preparing Design Award Submissions

BY ELIZABETH DONOFF

WHAT ARE THE ISSUES TO CONSIDER WHEN SUBMITTING PROJECTS

DESIGN AWARD PROGRAMS AND COMPETITIONS HAVE LONGED PLAYED AN INTEGRAL ROLE IN THE architecture and lighting design professions. Recognition of one's work, whether by professional organizations and/or peers, is an important measure for both individual professional development and collective growth of these design disciplines. But the decision to submit a project (or projects) is not a casual endeavor. Numerous resources, primarily time and money, go into each project submission, and there is no guarantee that the effort will be rewarded.

For the purposes of this discussion, it is important to note a definition difference between design award programs and design competitions. An award program is generally evaluating work already completed, whereas a competition is usually asking for a design problem to be solved and a new project design and proposal submitted.

MAKING AN ASSESSMENT

When embarking on the preparation of a design award entry package several items should be considered. First, the firm or individual must determine which design award programs they are interested in submitting their work to, and should consider if these are programs recognized as important and recognizable within the specific design discipline. In the lighting design profession the major design award programs are generally considered to be the International Association of Lighting Designers (IALD) International Lighting Design Awards, the GE Edison Awards, the Cooper Source Awards, this publication's program, the A|L Light & Architecture Design Awards, and the Illuminating Engineering Society's (IES) International Illumination Design Awards (IIDA). With the IIDA program several local programs, such as the IES New York Chapter's Lumen Awards feed into the international program. There is also a United Kingdom-based national lighting award program, The Lighting Design Awards, which recognizes work by U.K. lighting designers.

Next, one needs to consider the cost associated with the entries. Besides the actual entry fees, there are the monies to be spent on the materials and reproduction services (i.e. photography, color xeroxes) needed to produce the actual project entry. Finally, one must consider how much time can be devoted to preparing the materials. Then and only then, can one fairly be able to assess the workload, the cost associated with the process, and what will be of greatest reward for one's efforts. Sometimes determining how many projects a designer will submit can be as straightforward as which projects have been completed in a calendar year, meet award program guidelines, and have the supporting materials, namely finished photography available and ready to go. For an individual or a small

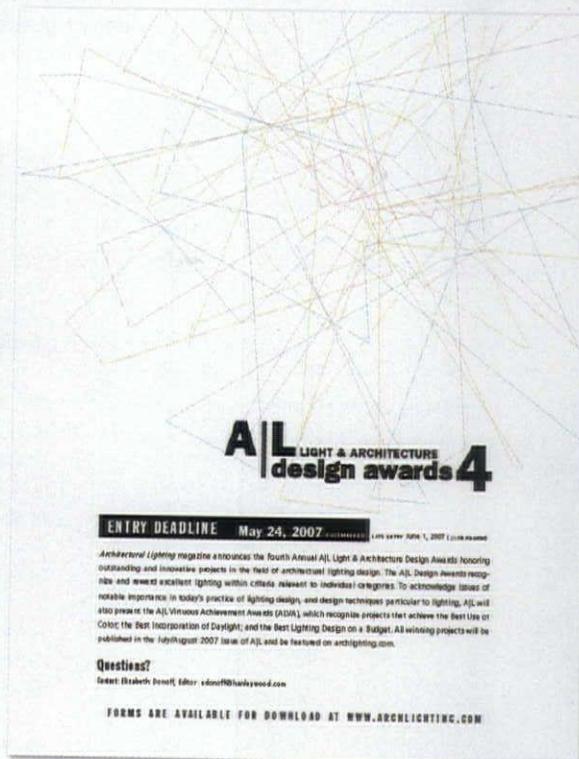
firm, between one and six project submissions per year is a manageable amount. For larger firms with dedicated marketing staffs the number can grow much higher. According to Anna Baranczak at Cambridge, Massachusetts-based Lam Partners, who oversees the firm's marketing efforts, given the amount of detail required for each of the entries it's easier to focus on a limited number; one entry can easily take 20 hours to assemble and coordinate all the components.

THE MATERIALS

Each design award program has ever so slightly different requirements, but generally all require the work to be supported by two basic types of information—text and graphics. The challenge for the applicant is not necessarily drafting the actual text, although that certainly has its own share of difficulties, but rather condensing a project description to meet various word count requirements while still communicating all the key project details and information. One approach to tackling the managing of this information is to have two types of documents at the ready, one, a project detail list with basic project information including the project team, manufacturer list, square footage, costs, and so on. Second, is to have a descriptive project account, one that includes the project concept and calls out the important design details. Nothing is worse than sitting down to prepare a design award submission only to find the basic information has not been gathered, pre-empting one's real focus on the specific entry at hand.

PHOTOGRAPHY

In a profession that relies so heavily on visual communication, across the board architects and lighting designers alike will tell you that the most critical component of the design award submission is good photography. "If there isn't sufficient visual documentation, it just doesn't make sense to submit a project," says Baranczak. Describing a project via images is difficult enough, condensing work that has taken years, into 6 to 12 images. Telling the lighting story is even more difficult since often the images acquired by the lighting designer are originally commissioned by the architect or client and probably do not have the lighting design on their agenda. To combat this problem, some lighting design firms are setting aside the resources to directly commission their own photography. For others it is a matter of establishing working relationships with architectural photographers who are familiar with their work, and who are developing an awareness of how to photograph a project with the lighting design in mind. Particularly if a project entry does not allow room for lengthy text, then the images must do double duty in describing the work.



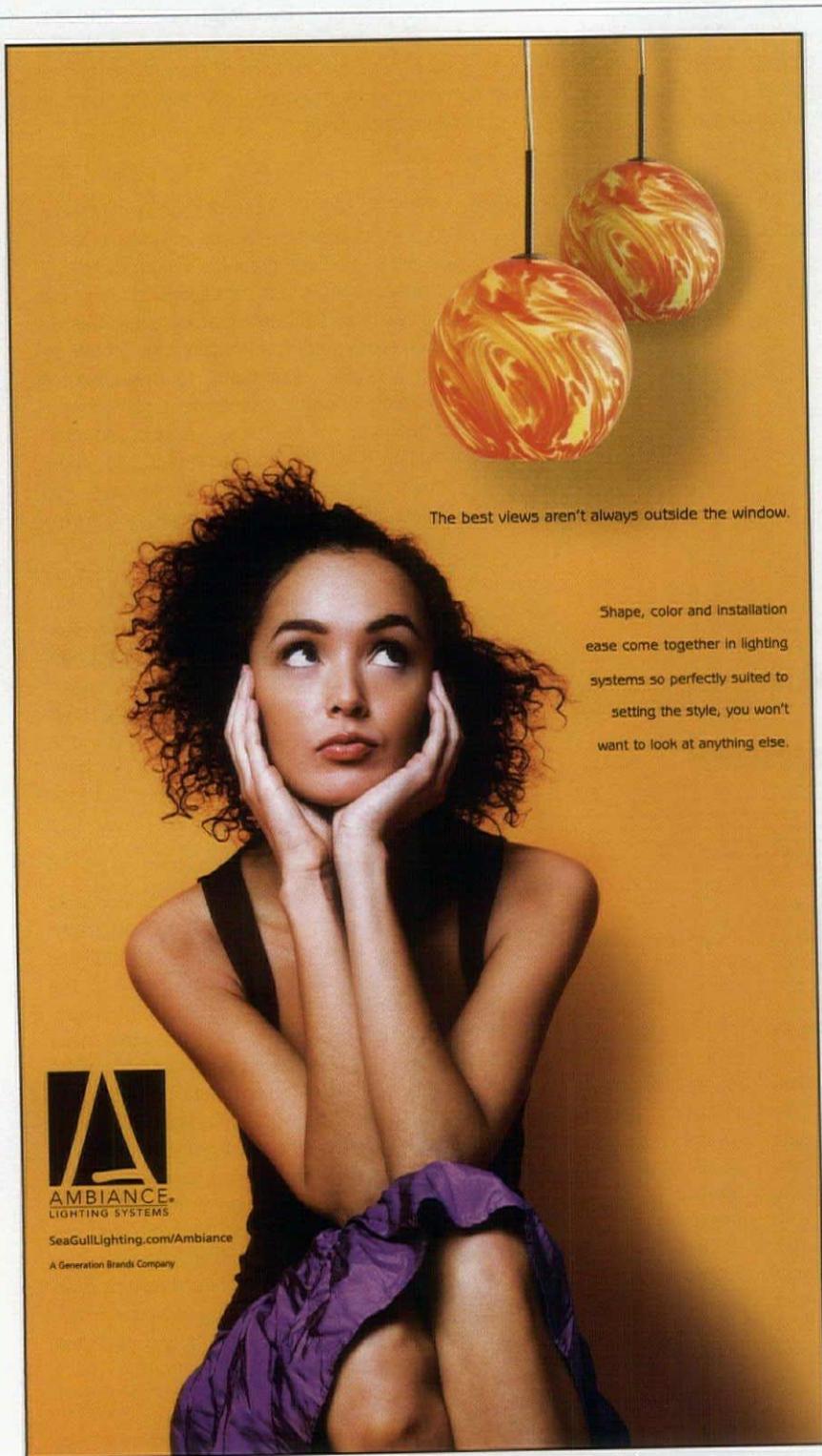
The advent of digital photography has made it significantly easier in documenting projects and in turn producing materials for project entries. But with this new technology also comes issues of corrections and modifications. And, on the one hand while it can be argued that the image is already an interpretation of the project, anyone assessing an image should be mindful that a minimum amount of adjustment, for example color correction or cropping has probably occurred to some extent. But the underlying issue remains—nothing replaces good quality project photography.

Submitting one's work for design award programs is an important part of design practice, a way to gage one's work. Depending on whether one is

the entrant, the jury member, or the design award program administrator, there are different items of importance as materials are prepared. For instance, entrants are looking for clear instructions on the entry form and a contact person to call if they have questions. A jury member, on the other hand is looking for sufficient materials to evaluate the project, including good project photography that is clear and coordinates with the accompanying text. Meanwhile, a design award program administrator is looking to make sure the proper materials have been submitted for fair and impartial evaluation. And there is one basic don't. Don't xerox entry forms and text descriptions written for other design award programs and submit them in

lieu of using the entry form for the specific program you are entering. Nothing is more aggravating for an award program administrator, and it doesn't reassure the jury evaluating the project that you sat down and spent some time thinking the submission through.

Finally, with so much invested in the design award submission process, look over your project entry as if you were on the design award jury. Have you provided all the required information? Is it clearly presented in a way that enables evaluation? Thinking in those terms will contribute to a fluid review process and ultimately afford the project entry a greater chance for review and discussion, hopefully leading to recognition.



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Amazing Glass: Part One

BY JAMES R. BENYA

This is the first in a three-part series about the most important light-managing medium, glass. Part one examines conventional building glass, particularly as it affects daylight and daylighting; part two will look into glass as a medium for lighting and lighting effects; and part three will explore the artistic opportunities of some new and exciting glass types.

ENERGY GURUS AND PASSIVE SOLAR GEEKS ASIDE, MOST OF US have historically paid little attention to glazing other than how it looks. If anything, most want it to be as transparent as possible. However, since the Leadership in Energy and Environmental Design (LEED) program and energy efficiency demand more efficient use of natural light, many architects, lighting designers, and engineers are now scrambling to master the technical side of this material as well.

GLASS TERMS

Most practical uses of glass in buildings are for windows, clerestories, and skylights. *Windows* are defined as glass that is mounted more or less in the vertical plane with the intent to be looked at or through. *Clerestories* are defined as windows mounted above eye level whose primary purpose is to introduce daylight into a space. *Skylights* are generally defined as glass installed in a more or less horizontal plane. *Glazing* is a generic term that can include glass, plastic, or other light-transmitting materials as well as combinations of them. Within the last two decades, *coatings* have been developed to change the optical properties of glass; today, they are essential in achieving desirable performance values. *Films* can be applied to glazing to change properties as well.

GLAZING FOR GEEKS

While single-pane glazing is sometimes used in very benign climates, in order to provide insulation and protect special coatings most buildings use multilayer assemblies of glazing to create windows and skylights. For practical purposes, the following principal characteristics are used to evaluate alternatives.

- **Visible Light Transmission (VLT or Tvis)**

The percentage of visible light that is transmitted through the glazing assembly. This is the essential characteristic for daylighting calculations. A perfectly clear window would have a VLT of 100 percent. Most practical assemblies for architectural use are between 35 and 80 percent.

- **Solar Heat Gain Coefficient (SHGC)**

The percentage of total solar radiant energy that is transmitted through the assembly. This is the essential characteristic for solar gain calculations. For ordinary windows without special coatings, the SHGC and the VLT are the same and sometimes called the shading coefficient (SC). However, with modern coated windows, the SHGC is almost always lower than the VLT. Such window systems are generically referred to as *low-emissivity* or *low-E* and are used in most commercial construction.

- **U-factor**

U-factor is the rate of heat loss through the window and its frame. This is the essential characteristic for heat gain and loss other than solar. The lowest practical U-factor is preferred when the building is exposed to extreme cold or heat.

While these characteristics are usually applied to clear glazing, they can also be applied to glazing that is diffuse or translucent (like white acrylic) or refracting (like obscure glass or prismatic acrylic), or that has any combination of refractive and diffusing effects.

In choosing a glazing system, a primary objective is usually to employ a window glass system that allows the transmittance of the most possible

visible light (maximum VLT) while minimizing the solar gain (minimum SHGC). The ratio of VLT to SHGC is sometimes called the light-to-solar-gain ratio or LSG. Most typical window glass systems have an LSG between 1.2 and 1.4. In other words, to have high visible light transmission, it is necessary to allow in quite a bit of solar gain. However, a "dream glass" is now available using a special combination of low-lead glass and state-of-the-art coatings that achieve an LSG as high as about 2.4. When designing ultra-efficient buildings, having relatively clear windows (VLT .7 or more) with an SHGC less than .30 can be the magic combination, especially in cooling-dominated climates.

THE INTERACTION OF GLAZING AND LIGHT

While the big numbers above (VLT, SHGC, and U) are principal factors in building design, there are several other issues to consider. These include:

COLOR

By definition, the color of daylight is essentially perfect, with a color rendering index (CRI) of 100. However, almost every glazing system has a color characteristic, from very subtle hints of tint to strong variations of green, gray, bronze, aqua, and blue. Remember, just like any filter, the transmitted color is the opposite of the color that is most

WHEN DAYLIGHT ISN'T ITSELF

Daylight is the perfect-color light source. Even though the color temperature changes due to weather, time of day, and time of year, for all practical purposes the color rendering index (CRI) of daylight is 100, and color evaluations are often best made outdoors. With single-pane clear window glass, the CRI may drop a little (98+), but overall the color quality is close to perfect. However, when using multilayer glazing assemblies—and especially with tinted and low-E glass—daylight is altered. Here are a couple of interesting examples.

PINK LIGHTS

In an office building with dark-green tinted glass, electric lights in the core areas were described as "pink" even though they were actually modern 3500K T8 lamps. Upon inspection, workers in office areas near the windows had become adapted to green daylight with a CRI of about 55, worse than old-fashioned "cool white"

fluorescent. When they left the area and entered the core of the building, they experienced transient color adaptation, which occurs when a viewer who is fully adapted to viewing a saturated color of light (green) will, upon entering a white light environment, see objects tinted to the color wheel opposite (magenta) until readapted to white light. Nothing could be done about it.

DAYLIGHTING FOR A DENTAL CLINIC

Housed in a modern medical office building with dark-bronze tinted glass, dentists and dental technicians complained about the color of daylight, which is important in the matching of crowns and cosmetic dental work. The approximate CRI of the filtered daylight was determined to be about 68 with a distinct greenish-brown tint. Although some energy efficiency was lost, the glass was replaced with clear glass, and the problem was solved. *J.B.*

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absorbed. Blue glass, for example, absorbs yellow light. While the color impact is often slight, a heavily tinted glass will cause the perceived color of daylight to change considerably, reducing the CRI of daylight considerably. For example, some green-glass systems have a CRI of 60, about as poor as old-fashioned "cool white" fluorescent.

An important, but far more subtle, color effect occurs in glazing with spectrally selective coatings, which is how low-E glazing is made. The purpose of these coatings is to cause the glazing to reflect infrared energy away from the building while permitting visible light into the building. If a glazing system has $LSG > 1.0$, then it has a low-E coating. The challenge of low-E coatings is to pass visible red without passing invisible infrared energy. The wavelengths are nearly the same; the better the infrared heat rejection ($LSG > 1.0$), the more likely that the low-E coating will also reject some visible red light. In other words, in order for a glazing system to have very high performance, it must, by nature, appear to be at least slightly bluish. When comparing glazing assemblies, do not be surprised that the highest performing products, even if sold as "clear," lack the warmth of glazing systems with $LSG < 1.2$.

CLARITY

The lack of coloration combined with a high VLT results in windows that appear especially clear. Premium, low-lead glass is used, usually as part of an assembly that includes coatings to reduce reflectance and solar heat gain. The key trait of low-lead glass is that it lacks the greenish tint of typical window glass, with results that are often considered spectacular and worth the extra cost. The key benefit is apparent sharpness and color dynamics; with minimum tendency to impart its own coloration, the color rendering of light is almost unaltered.

The larger question of whether a window appears adequately clear is often debated. In addition to low-lead glass, for clarity a high VLT is preferred. From my 30-plus years of work experience, I find that most architects feel that a minimum VLT of 50 percent is required for a window to appear adequately clear; personally, I believe the threshold is lower, with an absolute minimum of 35 percent before the window's sense of clarity is lost. So among the challenges of choosing glazing, one is typically faced with choosing the highest possible VLT for clarity while keeping the lowest possible VLT for energy efficiency. A related consideration is brightness; even the brightest computer screen is less bright than the darkest window by day, and there is a genuine concern that windows that are too clear will affect office work, especially on sunny days.

Risking both significant solar gain and brightness problems, the new *New York Times* headquarters in New York City is clad in glass with VLT over 70 percent in order to achieve "transparency," a key design statement of the building. The project relies heavily on interior shading systems to help control both heat and glare problems. Given the amount of publicity on the design of this critically important project, I hope that post-occupancy evaluations will test both energy and brightness aspects of the glazing system to help better understand the functional implications of high-clarity glazing.

REFLECTANCE

All glass reflects at least some amount of light. With typical window glass, the reflectance is often about 5 to 10 percent. Especially if the space behind the glazing is relatively dark, such reflectance appears as a mirror, defeating the sense of transparency. If the glass itself is also dark ($VLT < .50$), the effect is increased.

Glass can be coated to increase or decrease its reflectivity. Most architects and lighting designers are familiar with highly reflective glass used to create dramatic curtain walls; the reflectivity can also take on a tint to give the building a distinctive color. However, highly reflective coatings dramatically reduce the sense of transparency. Anti-reflective coatings, on

the other hand, can be employed to decrease reflectivity to about 2 percent. Under almost any conditions, this glass tends to appear clearest.

IRIDESCENCE

Iridescence is a quality associated with glass coatings, anodizing, and other special materials in which slight "rainbowing" or other three-dimensional color effects are seen, usually as a function of the viewing angle. In glazing, iridescence is caused by low-E coatings. Low-E is actually a dichroic coating, designed to reflect both long-wave (infrared) and short-wave (ultraviolet) light while passing the visible spectrum. As with any dichroic coating, there is a range of optimal angles, beyond which incident light can be reflected with secondary dichroic effects. When combined with reduced VLT, iridescence can cause strange three-dimensional reflectance, resulting in a glazing situation that feels more like a fishbowl than a window.

FRITTING

For use as a solar gain control element, frits are a pattern of white reflective shapes embedded into the interior surface of the exterior pane of a glazing system. Typically made of ceramic, their purpose is to reduce the transmission of the glazing by reflecting a desired percentage of total light away from the building. Frit patterns can be as simple as dots, or they can be elaborate works of art. Because frits reflect light, they can serve as an important solar gain control method. Note that frits are not diffusing, like frosting or acid-etching, which are generally used on interior glass to make the panes translucent. Rather, frits simply reduce the effective size of the glazing system, allowing larger actual panes of glass that optically behave like smaller panes.

A variation of fritting is to employ photovoltaic (PV) cells. In addition to reducing the amount of transmitted light, the PV cells generate electricity. For south-facing windows and clerestories, PV frits are a good way to get significant double benefit from a single investment. The Lillis Business Complex at the University of Oregon in Eugene is one such example of a project where photovoltaic cells were used as a fritting device. (See "Daylighting Gets to Work," Jan/Feb 2005.)

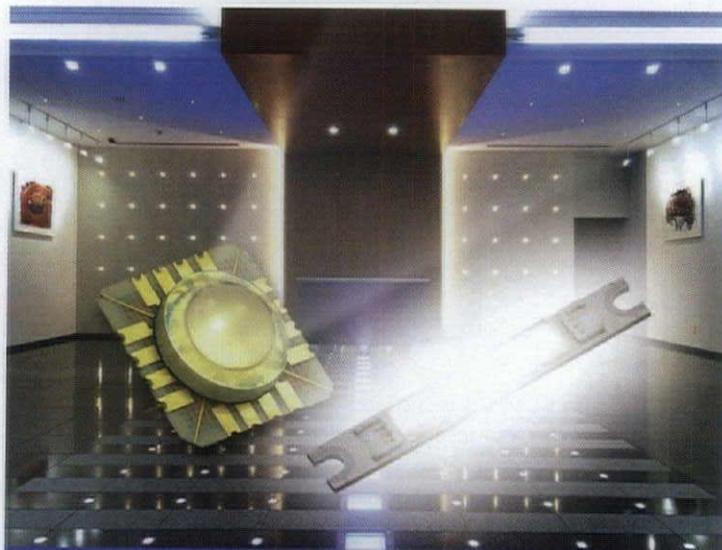
RESOURCES

Since the 1970s, Lawrence Berkeley National Laboratories (LBNL) Windows and Daylighting group has been leading the field with innovations in research, product concepts, design assistance, and software. Those interested in working at a detailed level with glazing systems should consider becoming familiar with lab's numerous publications and software provisions. Start by downloading Window 5.2 (current version) and Optic 5.1 (current version) from the LBNL website, www.windows.lbl.gov. To support these important software systems, LBNL also maintains a database for a wide range of products, including windows, assemblies, coatings, and films, allowing complete analysis of glazing assemblies for their thermal as well as optical qualities.

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As we start designing more daylighting into buildings, many of the 20th century's bad habits, such as overglazing and careless glazing orientation, will creep into designs. The tendency to favor style and view over solar concerns will continue to challenge architects and lighting designers, but going forward we must have better solutions and creative alternatives. Mastering the ability to address the many principles and side effects of glazing is new to most of us, but it can't be for long.

In part two, (Sept/Oct 2007), the many alternatives to regular windows and skylights will be explored, including a wide range of concepts from distorting and diffusing panels to refracting and embedded optics.



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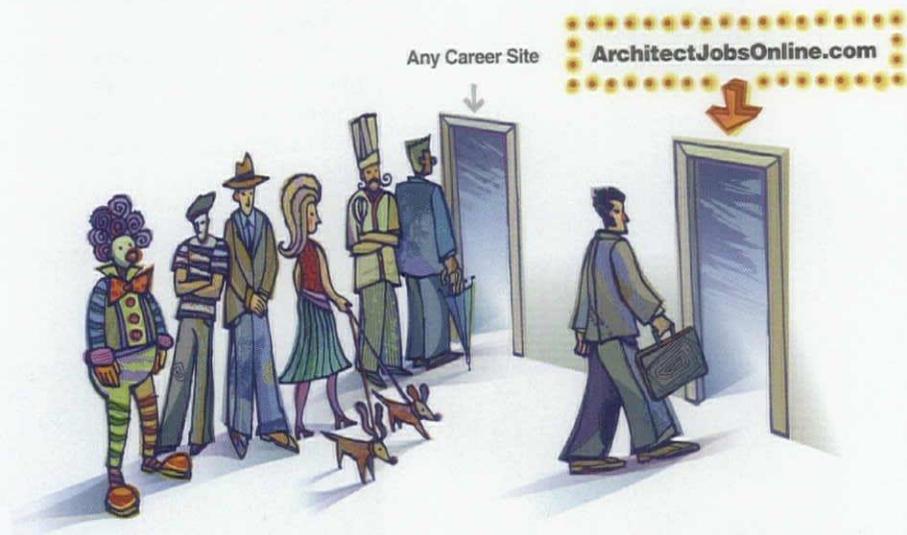
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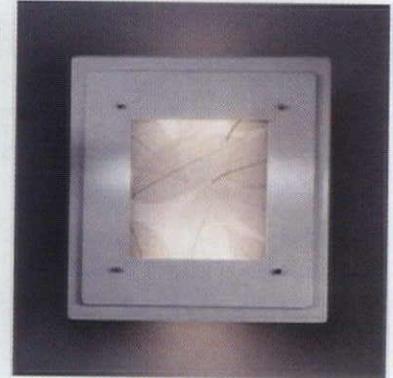
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How does the design process “start”?

In the opening sequence of the 2006 documentary film, *Sketches of Frank Gehry*, director Sydney Pollack asks Frank Gehry, “Is starting hard?” Gehry replies, “You know it is.” He pauses then continues, “I don’t know what you do when you start, but I clean my desk, I make a lot of stupid appointments that I make sound important. Avoidance. Delay. Denial. I’m always scared that I’m not going to know what to do. It’s a terrifying moment. And then when I start I’m always amazed—so that wasn’t so bad.”

For this issue, *Architectural Lighting’s* annual Light & Architecture Design Awards, the lighting designers and architects behind this year’s

winning projects share their thoughts on the “starting process.” The topic posed is: How do you start the design process? Is there a clear moment of “beginning”? What did you do to set about creating a working environment that led to this award-winning work? A sampling of excerpted responses follows below. All responses are available online at www.archlighting.com.

Readers are always welcome to comment on Exchange topics. Replies can be submitted directly to exchange@archlighting.com or edonoff@hanleywood.com.

GUSTAVO AVILÉS, PRINCIPAL | LIGHTTEAM, CASA CUBOS, P. 72

Starting in design means to touch the process as a non-time entity.

Design means being aware at all times.

Starting is not hard.

Stopping is impossible.

The process has no limit entity.

It is a matter of survival in terms of a dream.

MICHAEL TINGLEY, PRINCIPAL | BOORA ARCHITECTS, TEMPORARY EVENT COMPLEX, P. 57

Whenever I’m given the opportunity to design a new project, it always invokes a period of anticipation alternating with trepidation. The central question for each project is finding what the project itself wants to be. What are its unique and essential driving impulses? Initially, I try to educate myself on critical new and innovative ways to approach the building’s program and use, while at the same time considering the client’s background, personality, and vision of the project.

I then begin a period of research and dreaming long before pencil meets paper. I like to spend time on the site, imagining the presence the project may have. How does the site’s character shape the building? How does the building’s character affect the site? How will the qualities of each change through the day? I also gather imagery that acts as inspiration for the project. These images might be found objects, artwork, technical solutions, material samples, or other architectural spaces.

Slowly but firmly, the more intangible qualities of a project’s character evolve out of this meditation on the client, desired experiential qualities of the program, and site impacts.

This gestation leads eventually to sketches, diagrams and the beginning of a singular and evocative language for the project. Every choice simultaneously makes the project materialize while closing the door on other possibilities. It is a process of adding ideas and editing impulses, seeking clarity in the developing design, and finding what emerges as essential. This is the core that will hold the project together as it faces functional, technical and budgetary constraints. If the project is successful, the final form will feel like it was an obvious solution, simple but rich in content and true to those initial ideals.

MARTIN HAAS, PRINCIPAL | BEHNISCH ARCHITEKTEN, HAUS IM HAUS, P. 48

First there is the design brief to which we respond. The Hamburg Chamber of Commerce had initially envisioned only a three-story inner extension of the original structure, yet the dimensions of this would have covered the hall’s entire ground floor surface area. We concluded in the course of the architectural design competition, launched in 2003, that such a broad three-story structure would considerably detract from the hall’s overall appearance. Therefore we proposed a five-story structure with a much smaller footprint, which would instead exploit the hall’s height.

The winning proposal’s core concept was to create a predominantly transparent structure with a large surface area. In the course of elaborat-

ing the design it became evident, however, that various technical requirements would hamper its realization. The original building rests on oak piles and this necessitated a number of security measures, including more comprehensive fire prevention. The client furthermore wished that “business as usual” continue unimpeded throughout the construction phase, which meant that numerous elements would have to be prefabricated and discreetly delivered to the site in manageable dimensions.

Transparency could consequently have been attained only in certain parts of the structure. Only by further revising the concept was it possible to achieve the desired impression of lightness. We therefore abandoned this concept and switched over to “immateriality.”

ROGER MORGAN, PRINCIPAL | SACHS MORGAN STUDIO, TEMPLE EMANU-EL, P. 46

Inspiration can’t be summoned or predicted. It often appears while I sit staring at the walls or the floor.

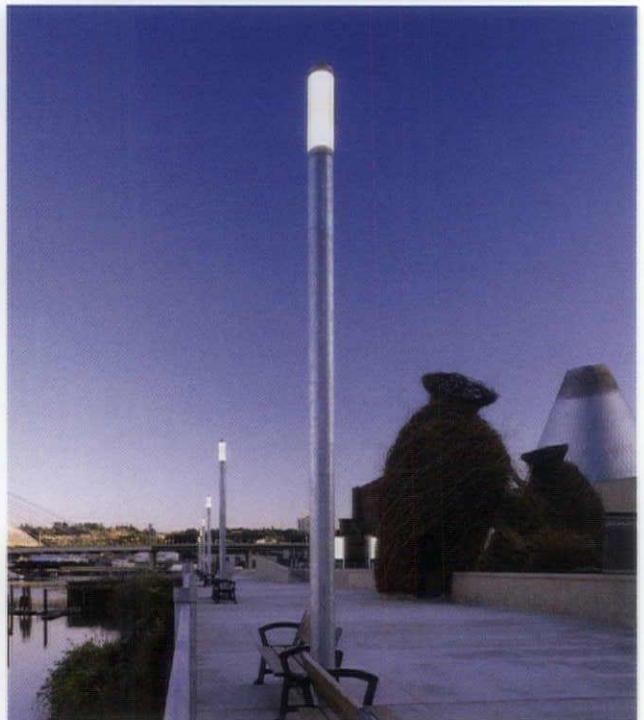
I enjoy restoration projects, especially large and expressive buildings such as churches and temples and theatres. Having a building that’s standing there right from the first day is a real benefit. It may be filthy, decrepit, rundown, and perhaps crumbling, but there it is. After 50 or 75 years of accumulation, dirt and dust camouflage the good stuff; but it hides there, under the grime.

Inspiration often comes after I have spent many hours just being in the room, quietly looking, listening and running my hands over its objects and surfaces. That’s when the building talks to me. It doesn’t speak in pungent prose, but it’s a language I know. It just takes a little time to hear it. Shapes, patterns, motifs emerge out of the dun. Colors slowly appear. Sometimes days go by before I see things that were there all along. Eventually inspiration comes. Little ideas emerge.

At Temple Emanu-El I sat gazing with the architect. The sanctuary was very dark—about 5 footcandles with the lights full. Colored sun-spears moved across the walls. We noticed that Guastavino blocks facing the huge walls were darkest near the floor and became shades lighter higher up. The polychrome ceiling was dingy and muted, but it had been brighter. After cleaning, it would shine all by itself. Fresh upholstery, clean limestone, and polished marble would contribute reflections. With all those surfaces several steps lighter, the room would emerge in the glow of those reflections. The room was beginning to speak to us, and we were listening.

With courage, and plenty of trust in those who lighted the place in 1929, we decided to keep it simple. Out of respect for their building, the Temple leaders didn’t want to change anything. Beyer Blinder Belle felt the same way. As I became increasingly familiar with the room, I lost the urge to add or change things.

I knew that once old surfaces were restored like new, old lighting fixtures would do a fine job. There would be no need to shoot a lot of new ‘modern’ lights at the walls. Maybe that was inspiration. Sometimes inspiration is knowing when to eliminate options. Or, as the director said to the method actress, “Don’t just do something, stand there.”



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