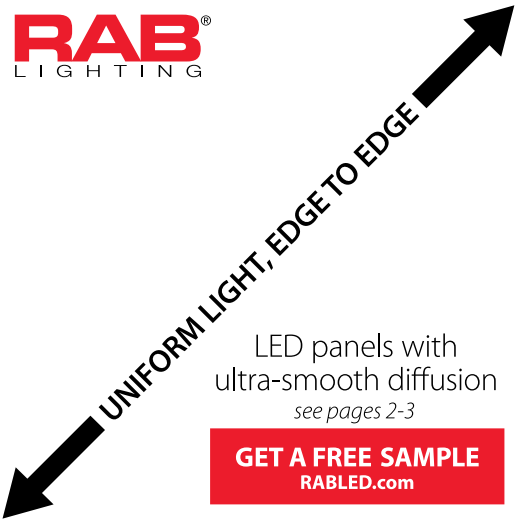


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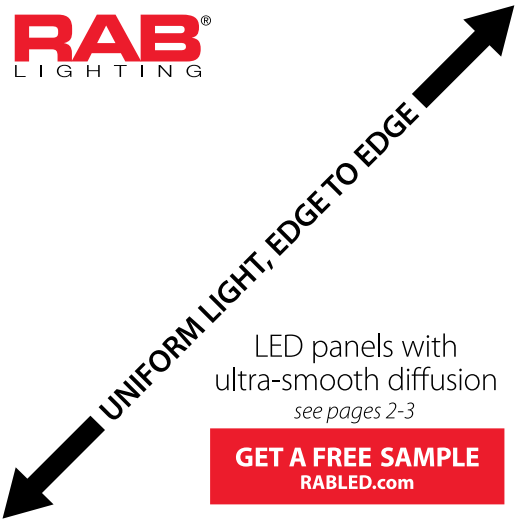


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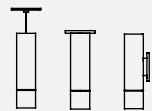
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


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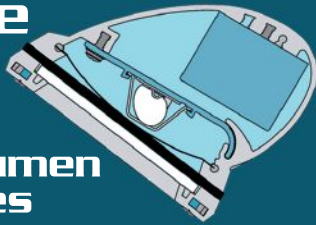


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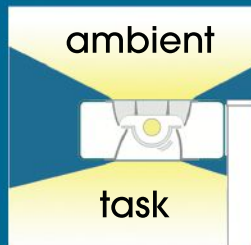
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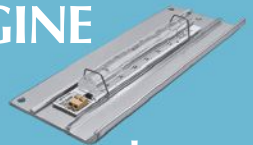
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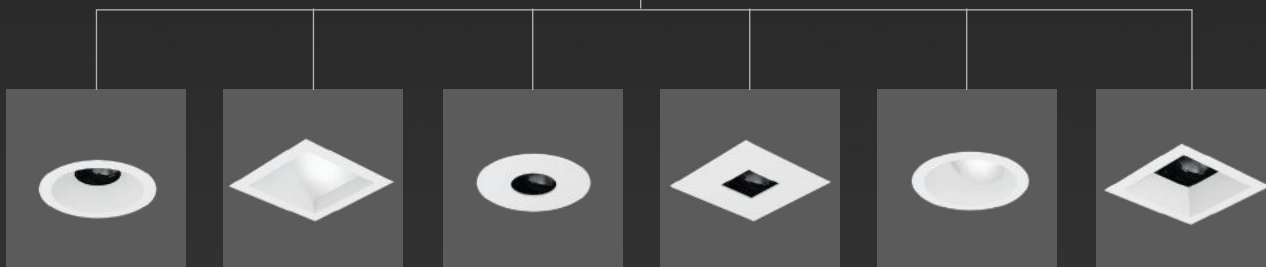
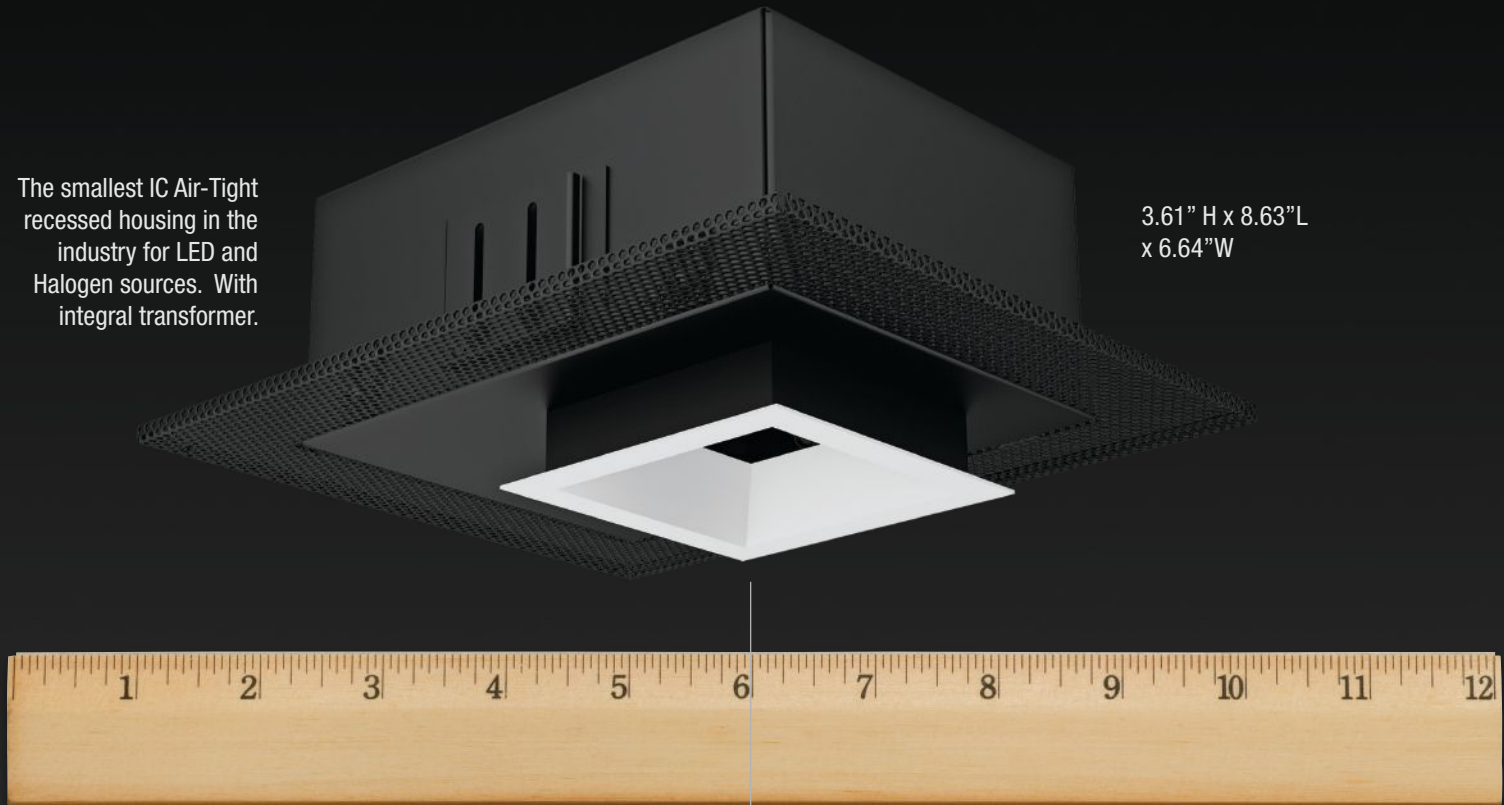
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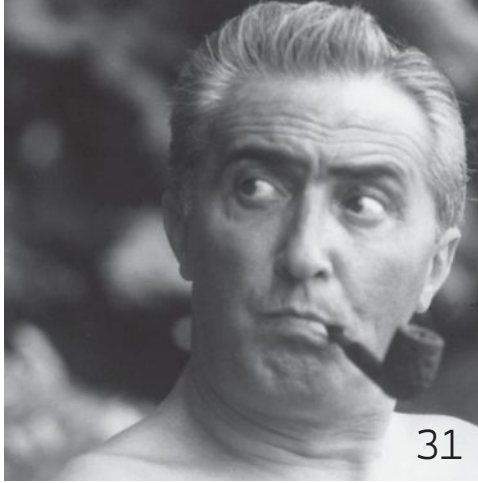


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As always, check out our website for expanded article content, news, and calendar listings. Also, subscribe to our email newsletter, AL Notes, and find a link to ARCHITECTURAL LIGHTING's digital edition.

Cover: Tapio Rosenius of Madrid-based lighting studio Lighting Design Collective  
Photo by Luis Diaz Diaz

Clockwise: Courtesy Jake Dyson; Courtesy Archivio Storico FLOS; George Gruel

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**“It’s one thing to see a fixture on display at a trade show or read a product spec sheet and think you understand the functionality behind the fixture, but that all changes when you’ve actually had to stake a fixture in the ground—and in the dark—or explain to an arborist dangling 60 feet in the air where you’d like a luminaire positioned.”**

## LEARNING BY DOING

In October, I had the great privilege of participating in the International Landscape Lighting Institute Workshop ([illionline.org](http://illionline.org)) offered by lighting designer Jan Lennox Moyer at Saluki Park, the property she and her husband George Gruel, also a photographer, own in Brunswick, N.Y., a short drive from Albany. I was invited to attend the class by Jan and institute board member John Tremaine. They were keen to have an editor experience the workshop, and I was keen to put down my pen, get back to some hands-on design, and have the opportunity to actually work with luminaires. The experience exceeded my expectations in every way.

Although I have been writing about lighting design for the past decade and have seen my fair share of product demonstrations, nothing compares to working with light fixtures and testing lamps, color temperatures, and beam spreads in real time on real objects. Add to the mix an incredibly diverse group of professionals, brought together because of their shared interest in landscapes and light, and you have an unprecedented opportunity to learn and trade ideas.

I came away from the experience not only with an entirely new set of colleagues but with an even greater appreciation for lighting—both in terms of what lighting designers do and the nuances specific to landscape lighting design. It’s one thing to see a fixture on display at a trade show or read a product spec sheet and think you understand the functionality behind the fixture, but that all changes when you’ve actually had to stake a fixture in the ground—and in the dark—or explain to an arborist dangling 60 feet in the air where you’d like a luminaire positioned, as I had the opportunity to do at Saluki Park.

This hands-on experience has given me a new perspective on the stories we cover, both in print and online, particularly when it comes to product write-ups. While I believe ARCHITECTURAL LIGHTING has always done a thorough job of culling out the salient features of a luminaire in our product coverage, the workshop experience has reinforced for me

that there are entirely different sets of criteria specific to fixture types and categories. The features that are important for a landscape lighting luminaire are different from those of, say, an interior downlight or a wallwasher. Even within the larger category of outdoor lighting, it is clearer to me than ever that landscape lighting is something very specific, with its own set of issues and product requirements distinct from other exterior lighting applications, such as façade lighting or street and area roadway lighting.

Read the story, which starts on page 24. But what I learned at the workshop is larger than the pages of this issue can hold, so I invite you to also visit our website where you’ll find a behind-the-scenes look at the class, a discussion of the evolution of Moyer’s seminal text (*The Landscape Lighting Book* [Wiley, 2013]) newly released in a third edition, and the series of articles written by Moyer (in 1989–90) pulled from our archive.

To Jan and her entire team at Jan Moyer Design, her husband, ILLI board member John Tremaine, all my fellow ILLI classmates, the team mentors, the subject-matter experts (who knew how cool pruning could be!), the ILLI manufacturer sponsors who lend their support and their equipment, and the past workshop attendees who provide additional team support: Thank you. Thank you for sharing your time, your knowledge, your perspective, and your ideas. The experience has made me a better designer—and, even more importantly, a better editor.

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## IES FELLOWS ANNOUNCED



*Lighting educators and researchers Kevin Houser and Mariana Figueiro have been recognized by the Illuminating Engineering Society and elected as Fellows.*

text by Elizabeth Donoff

The Illuminating Engineering Society (IES) announced the elevation of two of its members to the status of Fellow. This year's recipients are Mariana Figueiro and Kevin Houser. The IES Fellow designation is given to a member of the IES "for valuable contribution to the technical activities of the Society; to the art or science of illumination; or to the related scientific or engineering fields." Figueiro and Houser join more than 400 colleagues who have received this honor since the 1940s.

Figueiro is the light and health program director at the Lighting Research Center (LRC) and an associate professor of architecture at Rensselaer Polytechnic Institute (RPI), both in Troy, N.Y. Figueiro has been recognized by the IES for her ongoing contributions in research on the topic of light and health and her particular area of expertise—circadian cycles and human productivity. The author of more than 60 scientific papers, her work has been funded by many institutions including the National Institutes of Health.

Houser, professor of architectural engineering at Pennsylvania State University, in University Park, Pa., is the other 2013 IES Fellow in recognition of his contributions in teaching, education, research, and publication. He has authored 27 technical publications, served as one of four editors for the 10th Edition of the *IES Lighting Handbook* (2011), and is the current editor-in-chief of *Leukos, the Journal of the Illuminating Engineering Society*.

In 2007, Houser launched Project CANDLE (Create an Alliance to Nurture Design in Lighting Education), with funding from the IALD Education Trust's Grant to Enhance that focuses on strengthening industry-university partnerships to increase the number of lighting students and create an educational curriculum that is responsive to industry issues. "I've had the good fortune to work in supportive environments with wonderful colleagues and students," Houser says. "It's truly an honor and privilege for me to receive this recognition, even knowing that it's for collaborative work that I've done with others." •

## NUCKOLLS FUND AWARDS FIVE GRANTS

*The Nuckolls Fund for Lighting Education has awarded \$70,000 in grants and scholarships for 2013.*

text by Elizabeth Donoff

As part of its mission to promote and advance lighting education initiatives in North America, the Nuckolls Fund for Lighting Education has awarded five prizes totaling \$70,000 for 2013. Three \$20,000 Nuckolls Fund Grants were given to academic institutions for the development of dedicated lighting courses, and two \$5,000 awards were given to students.

The University of Michigan will use its Nuckolls Fund grant to establish a new class: "Virtual Lighting Design and Analysis." The University of Minnesota will launch a course in lighting design for undergraduate interior design students. Carnegie Mellon University will use the grant support to set up a series of five workshops to assist schools of architecture in either developing new courses in lighting design or expanding already established in-house lighting programs.

The Jonas Bellovin Scholar Achievement Award was given to Anthony Pualani, a student at the University of Colorado Boulder. The Jules Horton International Student Achievement Award was presented to Minchen Wei, a Ph.D. student at Pennsylvania State University.

Named in honor of the late lighting designer and educator, James L. Nuckolls, the fund has awarded \$845,000 over the past 24 years. The 2014 RFP deadline is Feb. 7, [nuckollsfund.org](http://nuckollsfund.org). •





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## REPORT

# AFTER THE RECESSION, THE RESTRUCTURING

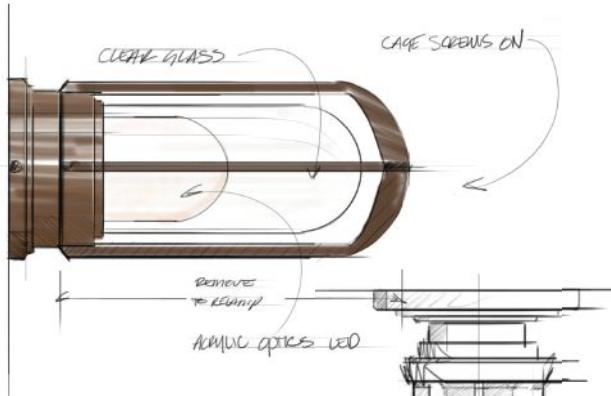
*The economic crash put architects out of work, with consequences for lighting designers. Now, with the economy regaining steam, there are changing expectations and unprecedented opportunities.*

text by Bill Millard

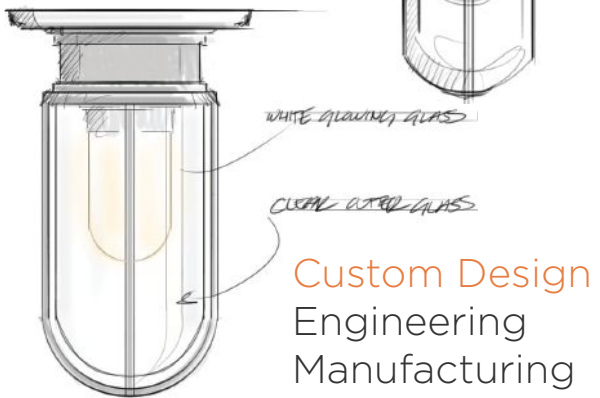
illustration by Jason Ratliff

**An accelerated pace of work** and a steep learning curve have become common practice for contemporary lighting designers. These demands are only partly the result of new technology, say longtime observers of the lighting and architectural fields. The aftershocks of the Great Recession that resulted from the 2007–08 mortgage and financial crises involved more than a halt to the construction boom of the mid-2000s. In the lighting industry, the lingering recession and slow recovery have also generated a series of transformations in the talent pool, the distribution of responsibility, and the distinctive lines of communication.





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The architecture profession endured a massive increase in unemployment after 2008. If architects serve as coal-mine canaries for the broader design and construction sectors, or even the economy as a whole, then their gradually improving work climate has encouraging implications. The American Institute of Architects' Architecture Billings Index, which uses a score of 50 as a steady state of billings—anything lower is contraction, anything higher is expansion—indicates that there has been a return to growth in construction activity and demand for design services since 2012. Last year was the first year since 2007 in which the monthly billings' score was above 50 more often than below. This year, so far, has fared even better, with only one month, April, coming in under 50.

The 2012 Compensation & Workforce Study published by the International Association of Lighting Designers (IALD) tells another part of the story. From 2008 to 2010, revenue declined in nearly 70 percent of the companies sampled. (The median net drop was 10.4 percent.) The 2012 figures bounced back, though not as high as 2008 levels, with a particularly sharp increase in gross revenue per full-time employee (measured as either staff in general or lighting designers in specific). Firms responded to the decline with variations on a theme of doing more with less: reducing staff, leaving vacated positions unfilled, cutting compensation, performing tasks in-house that would previously have been outsourced, and either gradually broadening their revenue base beyond architectural lighting design or shifting the project sector mix.

These figures and patterns, the IALD report's authors stipulate, call for cautious interpretation, because the sample size was relatively small (182 respondents, not all of whom completed all of the survey questions), a lower number than in the 2006, 2008, and 2010 reports. Nevertheless, these statistics bolster commentators' anecdotal impressions that the configuration of the workforce is changing as the overall economic climate improves.

Tom Warton, principal and president of Vode Lighting in Sonoma, Calif., says he's hearing from colleagues that they are experiencing an upturn in business. Vode's sales figures back up the reported buzz. "Our quotes at this time of this year," he says, "are double what they were last year. We're seeing a lot of traction in new LED products, but we think it's mostly coming out of the recession and seeing more activity."

Derek Porter, who is both principal designer of New York-based Derek Porter Studio and director of the Master of Fine Arts Lighting Design program in the School of Constructed

Environments at Parsons The New School for Design, corroborates the sense of acceleration from the academic and mentoring perspective. "Today," he says, "virtually all of our students have jobs lined up before they graduate."

As work increases, firms are not simply picking up where they left off. Combined with three important developments—the rapid advance of LEDs and other technology, the rise of sustainable design from a niche market to often being incorporated in codes, and the burgeoning international construction market—the reanimation of the design and construction industries is taking place under changed conditions. There has been a perfect storm of rapid changes, veteran lighting professionals comment, that have resulted in disruptions that are beneficial to some careers, detrimental to others, and conducive to exaggerated expectations on the part of many clients. When work was scarce and architects were taking jobs at cost (or even below) just to stay active, owners and institutions took advantage and developed unreasonable expectations about budgets and schedules. Now that work volume is returning, those expectations remain in place, and not just for architects.

"It's what all of my colleagues are talking about right now," reports Paul Zaferiou, a principal at Lam Partners in Cambridge, Mass. "We go to the first meeting, and it's like the train has left the station moving 30 miles per hour, and we have to run down the tracks to grab onto the caboose."

#### THE GUTTING OF THE MIDDLE

During the dry years, says Zaferiou, cutbacks were unevenly distributed across different levels of seniority. In firms of any size, he says, "you have principals at the top who are stakeholders and you have a lot of young people at the bottom who are coming up. Then you have this wonderful middle body of people who have been there for 10, 12, 15 years, who are the real backbone of these firms. They have the institutional knowledge. They've been through a lot of jobs. They've seen the construction. They know the pitfalls. They have great communication skills. [But] those are the people, in most cases, that had to be let go."

Zaferiou is not alone in this observation. "Prior to the recession," Porter says, "the economy [was] running at 1,000 miles per hour. ... If you were searching for somebody who had more senior-level experience and could oversee operations for a team of individuals and take on management of larger, more complex projects that an entry-level person could not do, then those people were hard to find, because they were usually pretty well-rooted within the companies." When projects became scarce,



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As less-experienced personnel assume more responsibility, important aspects of institutional memory have sometimes vanished with laid-off mid-level personnel, such as how to bring in projects on time and on budget.

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PHOTO: MATTHEW MILLMAN

however, management often saw these specialists' salaries as expendable.

With that pivotal segment of the workforce trimmed, younger professionals not long out of school began rising faster within organizations. Their technical knowledge, Zaferiou and others observe, is sharp, a good fit for a field undergoing the technological revolution of LEDs, solid-state controls, and building information modeling software. The digital-native generation has precocious aptitude for the use of complex new analytic tools. But familiarity with working procedures often takes longer to develop, as does a mature design sensibility.

"I think that more is expected of them. There's a certain amount of, 'You don't know what you don't know,' as a new person coming into a job," says Scott Hershman, executive vice president of design and product development at the newly established lighting manufacturer LightForms based in Chatsworth, Calif., and co-chair of the Lighting Industry Resource Council (LIRC). (The LIRC was established in 1996 as an affiliate of the IALD and is open to lighting equipment and component manufacturers.)

"You have emerging designers who are completely facile with Revit and using state-of-the-art software," Hershman says, "but it doesn't necessarily mean they know what to do with it in terms of design. It's a tool; they're very good at using the tool. They don't necessarily have the experience to know what to do with the tool."

The unique complexity of lighting's supply chain and specification procedures, Hershman adds, where designers are "asking for something that's going to be purchased by another party, installed by a third party, and supplied by a fourth party," means that someone who has only been on the job a short time may be unaware of "all the other people that are involved in a process [who] can assist you—or derail the project."

#### WHIZ KIDS IN THE SHARK TANKS

"These are students that have a maturity about them," Porter says. "They're organized, and they're articulate ... able to take on a lot very quickly." One of his former students, some five years after graduation, is a rising star in the lighting group at Arup's New York office while still in her 20s. Another, he recalls, only two years removed from school, casually mentioned that he was headed to China for a client meeting on a major urban development. "I'm thinking, 'You're going to China to meet with a client? On a project of that scale? And what kind of experience do you have?'" Porter says. "On one level I think it's nuts; on another level I think it's quite extraordinary."

Still, as less-experienced personnel assume more responsibility, important aspects of institutional memory have sometimes vanished with laid-off mid-level personnel, such as how to bring in projects on time and on budget and how to balance beautiful and functional design with control of specifications in an atmosphere where short-term value engineering can nibble away at

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the essential aspects of a project. Relations with both architects and clients, Zaferiou observes, increasingly include a component of technical education, an area where the “middle” excelled.

“On many projects we help the architect design the daylighting component for the building, because architects are not really trained in that aspect,” Zaferiou says. “Most architects think more daylight is better, and in fact it’s often the opposite. Most architects often over-glaze.” The case for investment in upgraded daylighting involves both lighting metrics and estimates of effects on human well-being. “You can look at kilowatt-hours and how much energy you’re saving, and if you invest \$100,000 to improve the daylighting system, the payback in architectural dollars is really hard to justify. But [if] you increase productivity by 1 percent in a big office environment, you will pay for any significant architectural upgrades and lighting upgrades 10 times faster. ... The labor force is your biggest capital investment.” Attrition among professionals with the experience and authority to make these long-range, nuanced arguments can erode a firm’s ability to add value to a project, or to persuade clients about the value their expertise will add.

“We’re not only designing and documenting a lighting design, but we have to re-educate a whole client base on why we’re doing this, why we’re using LEDs in this case over fluorescent, or why

fluorescent is the most appropriate for this job,” Zaferiou says. “It’s a huge education, but we’ve always prided ourselves in educating our clients.”

Lam Partners, which has a diverse portfolio of commercial, cultural, civic, academic, scientific, and medical projects, managed to weather the post-2008 storm without losing staff. Zaferiou attributes this enviable situation partly to the philosophy established by founder William Lam, a hands-on, full-service approach that relies heavily on the firm’s team chemistry and offers ample in-house incentives for professional development. The trade-offs for keeping everyone on board were difficult austerity measures: reduced hours and benefits, a period of four-day weeks, and, thanks to an uncommonly farsighted landlord, a renegotiated lease lowering their rent. “In order to be competitive,” Zaferiou adds, “we’ve had to take jobs at ridiculously low fees, and so you have to learn to scale the scope of services, which is the hardest challenge for us, because we love to do the soup-to-nuts thing.”

Not every firm was in a similar position. Conversations with colleagues at industry conferences provide a snapshot of his peers. “The ones that are really busy and thriving,” Zaferiou says, “are the ones that have gotten away from the old pyramidal scheme of having the principals at the top, a group of people in the middle, and a big base. Maybe it’s an evolution from the ‘gutting

of the middle’ situation, but what they’ve done is they’ve expanded the middle. ... They’ve taken the young people in the firm and they’ve really thrown them tremendous challenges.”

Brett Andersen, principal at New York-based Focus Lighting, has worked in the field for 17 years and identifies with the expanding component of the profession. “My contemporaries are the folks that have worked their way up through firms, and for some of them, they’re now out on their own and starting their own firms,” he says. “The newer generation of lighting professionals has ... a sense of comfort with the fast-paced change of technology. I think the core experience and what makes a lighting designer successful hasn’t changed a whole lot—that’s pretty consistent between generations. But the newer ones have had to be comfortable with this constant seeking for new information and new technology.”

#### FIRST THE HYPE, THEN THE REALITY

The recession may have leveled the playing field between senior and junior designers, but advances in digital technology, sustainable design, and global markets have raised the stakes for those at every level. After an early phase that Zaferiou and his colleagues refer to as “the myths and marvels of LEDs,” the LED market has somewhat stabilized in terms of product specifications. Nevertheless, with advances in

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modules and heat sinks occurring roughly every six months, there remain too many new products of which architects and lighting designers can keep abreast. The energy-performance calculations necessary for LEED certification and increasingly stringent codes make lighting designers' expertise even more essential. New construction in China, India, and the Middle East is also expanding demand for both design services and contractors.

An attenuation of professional experience and a breakneck pace can be a troubling combination. "The construction schedules are so rushed," Zaferiou says, "you barely have time to review the submittals to make sure that the fixtures you're getting are correct. There's a tremendous opportunity for mistakes to happen or people to get sloppy."

Lighting design is a much smaller field than architecture, Porter notes, and if "the architecture industry was humming at a good speed" before the collapse, "let's say 80 percent capacity, [then] the lighting industry was probably running at 120 percent capacity just to keep up with the architectural need. ... If we look at where we are today, if the architecture world's at 50 percent capacity ... then the lighting profession is probably running at 80 or 90 percent capacity." If the demand for services continues to rise and many downsized senior

colleagues do not return, the rising generation will need to be at the top of its game.

"The risk comes when all of the lighting designers are viewed by an architect or an owner as being equal," Andersen observes. "A small startup firm just can't have the same collective experience as firms that have been around the block for a couple decades, and without that wealth of knowledge to draw on, to back up the many critical recommendations a lighting designer has to make, it's a huge risk to the client: a financial risk, a liability risk, and a risk to the overall success of a design and of a project." He advises clients to look beyond "pretty pictures" and do their homework to evaluate a firm, talking with owners and architects from previous projects about their performance in design collaboration, project management, and budgeting.

Younger lighting designers in new positions of responsibility are injecting energy into the IALD community, aided by the three-year-old Emerging Lighting Design Professionals Initiative, notes LightForms' Hershman. Through this IALD and LIRC effort, which supports professional development of lighting designers in their first five years of practice, both Hershman and Vode Lighting's Warton have contact with young designers. And, since IALD membership is required, the program is

bringing fresh blood into the association. It's a win-win arrangement for the organization and for the "emergers" who need to leaven their academic, theoretical, and technical strengths with the practical experience that older mentors can share. The Illuminating Engineering Society is also mindful of its need to reach out to younger constituents and has initiated its own outreach program with a day-long workshop as a precursor to its annual conference.

Today's market is "a wild ride," Zaferiou says, making every day an adventure for those prepared to work harder than ever. He advises younger lighting designers who are assuming new business responsibilities to innovate in ways that save energy, save money, and prevent problems—and to anticipate the forces that clash with the reasons they may have had for entering the profession. "Don't compromise your principles just because the owner or the contractor wants to cut corners," he says. "The contractor gets to the owner and says, 'You know, we can save you \$50,000 if you use these cheaper fixtures.' At some point you have to draw the line and say, 'What you're asking me to do is below what I think [are] acceptable standards.' It's really hard to do that when you're younger, and you're hungry, and you want to get that job. But you have to be able to fight for quality the best you can." •



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*This intensive five-day workshop explores all facets of landscape lighting design and gives attendees an unprecedented foundation for this specific area of lighting design.*

text by Elizabeth Donoff

photos by George Gruel



**Each fall**, lighting designer Jan Lennox Moyer and her husband, photographer George Gruel, open their property in Brunswick, N.Y.—Saluki Park—and host a landscape lighting workshop. Moyer first taught this class at the University of California, Berkeley in the 1980s. In 1997, she moved east to Rensselaer Polytechnic Institute in Troy, N.Y., and taught the class there. In 2006, she began offering the class directly on her property, and here it has been held ever since.

Moyer, an internationally recognized lighting designer, is the founder of the International Landscape Lighting Institute (ILLI), a nonprofit established to disseminate and preserve information about landscape lighting. (The institute was previously called the Landscape Lighting Resource.) She has worked tirelessly over the past several years, alongside the institute's board of directors, so that ILLI could achieve nonprofit status. The five-day workshop is an integral part of the institute's mission.

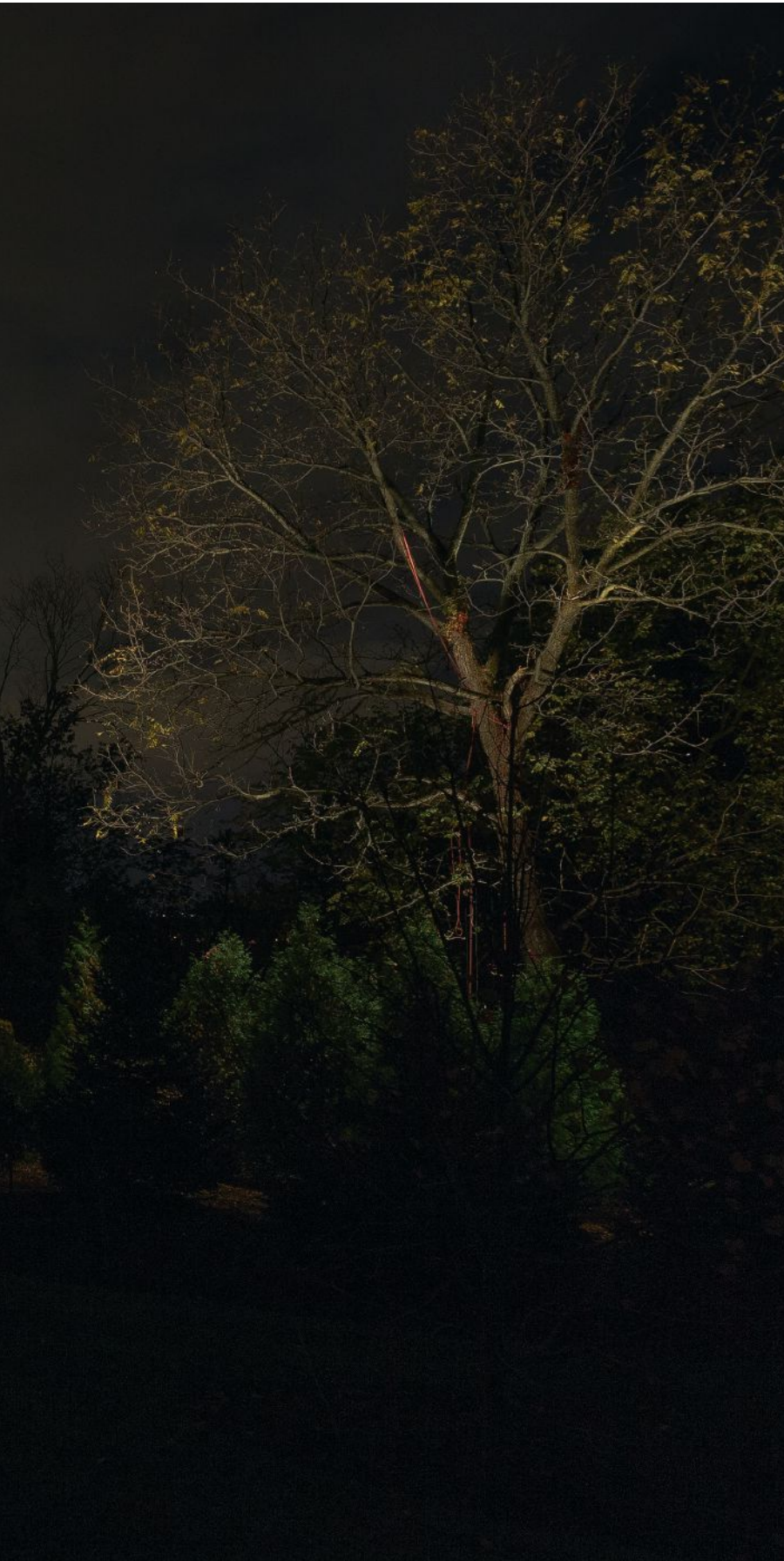
Participants hail from all over the United States and other countries. The 2013 class numbered 18 and represented a diverse range of professionals, including lighting designers, landscape architects, landscape contractors, educators, manufacturer product engineers, and myself. (See my editor's comment on page 10 for more on how I was invited to participate in the workshop.)

Not a minute is wasted during the course, as Moyer shares the wealth of knowledge she has accumulated during her 30-plus-year career. The long days—8:00 a.m. starts and 10:30 p.m. finishes—allow time for classroom lectures, on-site demonstrations given by Moyer and a team of experts, and experimentation with the vast array of equipment that has generously been donated by landscape lighting companies. This is an unprecedented access to luminaires.

Each team selects an area of Saluki Park that will serve as the test site for their group's lighting design project. The designs are created and executed over the short span of two and half days and then they're presented on the final evening—when Saluki Park is opened to the public for one night. The following day they are disassembled. Here in print, ARCHITECTURAL LIGHTING presents an overview of this year's three landscape lighting installations. Continue reading online at [archlighting.com](http://archlighting.com) for a behind-the-scenes look at the workshop experience.







#### GROUP 1—"BURN PILE" (THIS PAGE)

This quarter-acre area was formerly the burn pile for the property. Recognizing this, the team selected the young maple tree (*Acer rubrum* 'Brandywine'), which was planted on the actual burn pile site, as the main focal point. A series of integrated LED floodlights, staked in the ground, were used to uplift the tree and draw out the red tone of the leaves. A trio of Spruce (*Picea*) in the background was lit with a secondary layer of light to provide an appropriate backdrop. On the right-hand side of the site, a large Black Walnut (*Juglans nigra*) tree—which was actually just over the fence on the neighboring property—was key to filling out the scene. With permission from these neighbors, the tree was lit using a mix of LED and halogen sources and included four uplights to highlight the tree canopy and branching structure and three downlights to highlight the tops of the hedge of Western Cedar (*Thuja plicata*) below. The scene is completed with the lighting of another group of Spruces on the far left and a young Ginkgo as a secondary focal point in the foreground.

**Mentor Team:** Ken Martin, Booth Hemingway, and Katie Wilsey

**Attendees:** Joe Daubel, Ramona Dimon, Elizabeth Donoff, Rene Gingras, Kris Horner, and Matt Moore

#### GROUP 2—"POND" (PREVIOUS SPREAD)

This team wanted to create a lighting scheme that would convey the sense of a moonlit night as well as take advantage of the reflections that the lighting would make in the water. The Sumac (*Rhus*), Spruce (*Picea*), and Willow (*Salix*) trees that form a triad grouping to the left of the site were illuminated using metal halide floodlights with spread lenses. Light levels were balanced with the Black Walnut from Group 1's scene, which is also visible from this vantage point. To the far right of the pond, the grove of Birch (*Betula*) trees were uplit and downlit with a combination of LED and halogen sources. Careful attention was paid to highlighting the bark texture. The Blue Heron metal sculpture in the birch grove was a particular challenge to light, and blue lenses and filters were used for this. To the right of the birches, the large Spruce was illuminated with LED fixtures, and the night orbs in the pond add a final accent of color to the overall composition.

**Mentor Team:** Chris Mitchell, Rita Koltai, and Cory MacCallum

**Attendees:** Matt Bullard, Tommy Herren, Mike Holmes, Laurel Madden, Jill Mulholland, and Scott Wilson

### GROUP 3—“SOUTH END OF CENTRAL FOREST”

For this area, the team wanted to create two different focal points to provide a sense of depth for this area that has a pathway running through it. The first focal point is the Colorado Blue Spruce (*Picea pungens* 'Glauca') in the center of the scene. The second focal point is the small Weeping False Cypress (*Chamaecyparis nootkatensis* 'Pendula') at the end of the forest trail and which is framed by a pair of flower planters at the start of the walk. Rounding out the entire scene is the illumination of the large Honeylocust (*Gleditsia triacanthos* 'Inermis') to the far left of the site. Its canopy and branching structure are illuminated with a series of fixtures positioned on the ground and in the tree. This helps cast a wash of light on the young birch tree below as well as the ground plantings. Anchoring the far right-hand side of the site are a series of White Pine trees (*Pinus strobus*). Finally, the path was downlit for a natural effect, and the front ribbon of low plantings were illuminated to tie the whole scene to the ground plane.

**Mentor Team:** Bob Tubby, Kathryn Toth, and Jim Ply  
**Attendees:** Carol Aronson, Matthew Broyles, Susan Leaming, Scott Shadwick, Jeremy Sviben, and Corey Yourkin







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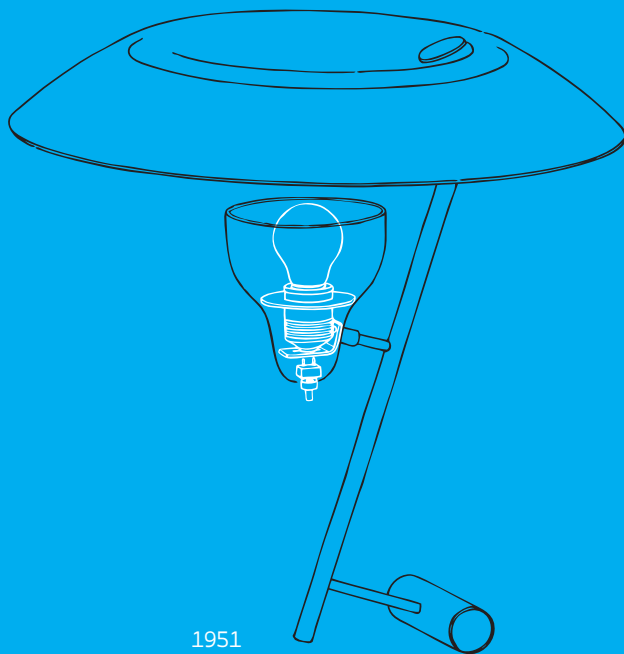
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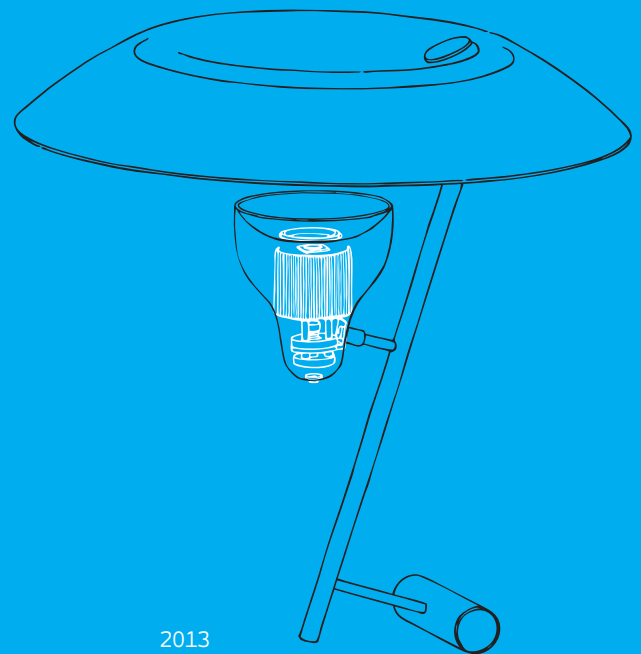
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1951



2013

## TECHNOLOGY

# LIGHT-EMITTING DYNASTY

*Flos has re-engineered some of Gino Sarfatti's classic luminaires to accept LEDs.*

text by Aaron Seward

archival photos courtesy Archivio Storico FLOS  
2013 luminaire photos by Fränk Hülsbömer

By all accounts, the designer Gino Sarfatti was a functionalist. Even a cursory review of the classic luminaires he designed with the company Arteluce he founded in 1939 confirms this categorization. The wonderfully strange forms of the more than 600 lamps and light fittings that he developed are each derived from the technical requirements of the light sources he employed, the lighting effect he wished to create, and nothing more. There is no wasted volume in his designs, no elaborate decorative styling. Every stand, housing, shade, and connection is held to its barest minimum, doing its job in the most efficient way possible. This direct simplicity is the key to the understated beauty of Sarfatti's creations. It is why his luminaires are cherished gallery pieces that

fetch high prices from reverent collectors, and it is why many consider him to be Italy's greatest lighting designer.

So it is a bit strange that Flos, which purchased the rights to Arteluce's collection in 1973, has gone through the trouble of re-releasing some of Sarfatti's designs outfitted with LED sources, instead of using the original lamp types that gave them their form in the first place. Piero Gandini, Flos' chairman, admits as much. "It was a bit perverse," he says. "Sarfatti, when you read his interviews, was, from a theoretical point of view, a functionalist. He was always starting from a source, and designing around that source. But many of the sources available to Sarfatti are not available now, or soon will not be. We had to re-edit and



1971



2013

Gino Sarfatti's luminaire designs on display in the Arteluce showroom in Milan, 1953 (above). This year, Flos, which first purchased the rights to Arteluce's collection in 1973, has re-released five of Sarfatti's designs under the title Edition No. 1. The halogen-sourced Model 607 table lamp Sarfatti originally designed in 1971 (left), was the most natural to re-engineer for LEDs. The new version uses the luminaire's large fixture head as the heat sink for the 15W LEDs that now serve as the illumination source. The drawing on the previous page shows how Model 548, a table lamp, was re-engineered to incorporate the heat sink and LED module where the original incandescent lamp had been positioned.

take responsibility to be a modern lighting company. So we were fitting LEDs into shapes and design pieces that were designed around different sources. In a certain sense, we were not respecting Sarfatti. If he was here, he would do something different for LED."

But Sarfatti is gone, having died in 1985. And who could resist turning contemporary consumers and design aficionados on to his marvelous creations? The gallery market is a fine place to buy iconic 20th century designs, including light fixtures if you can afford it, but how else could one expect to preserve Sarfatti's legacy for a future generation that might not

even know what an incandescent lamp looks like? Last year, Flos gave a similar treatment to the esteemed Arco luminaire, designed by Achille and Pier Giacomo Castiglioni in 1962, re-engineering the fixture to function with LEDs in celebration of the fixture's 50th anniversary. For the Sarfatti collection, the company carefully selected specific Sarfatti fixtures that had at least some functional relationship to the operating requirements of LEDs. Or, in Gandini's colorful words, "We decided to select products that, because of the shame we felt, it was possible to keep the original design untouched, but make it work for LED."



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Sinfatti's design for Model 2129 (this page) originally used an E27 100W incandescent lamp. The new version uses 15W 2700K LEDs and positions the heat sink, the circuit board, and the diffuser inside, and at the top of, the shade. For the two floor lamps—Model 1063 (opposite, top) and Model 1095 (opposite, bottom)—the switch to LED was also an easy transition, as the existing power supplies were re-engineered to accommodate the LED drivers.

**The collection**, released this year under the name Edition No. 1, includes five classic Sinfatti fixtures—models 1063, 1095, 607, 548, and 2129. (Even in the names, you can see Sinfatti's utilitarian approach.) In some, the transition from original source to LED was quite straightforward. In others, the engineers were challenged to design components that worked in the existing forms. In so doing, some look the same as before, but imbued with added functionality and improved performance characteristics only possible with LED technology.

The most natural, and easiest, transition from the original source to LED came with Model 607, a table lamp with a slanted parallelepiped aluminum base, the front of which features a switch/dimmer, and a rather large aluminum diffuser in a truncated cone shape. Sinfatti designed this fixture for a 55W halogen source. "I think he did such a big surface to stay a bit cool," Gandini says. "If you touch the head you are not offended with your hand. Also, he was transferring a big spread of light on the table." This large diffuser worked perfectly as a heat sink for the 15W LED lamp that the company specified.

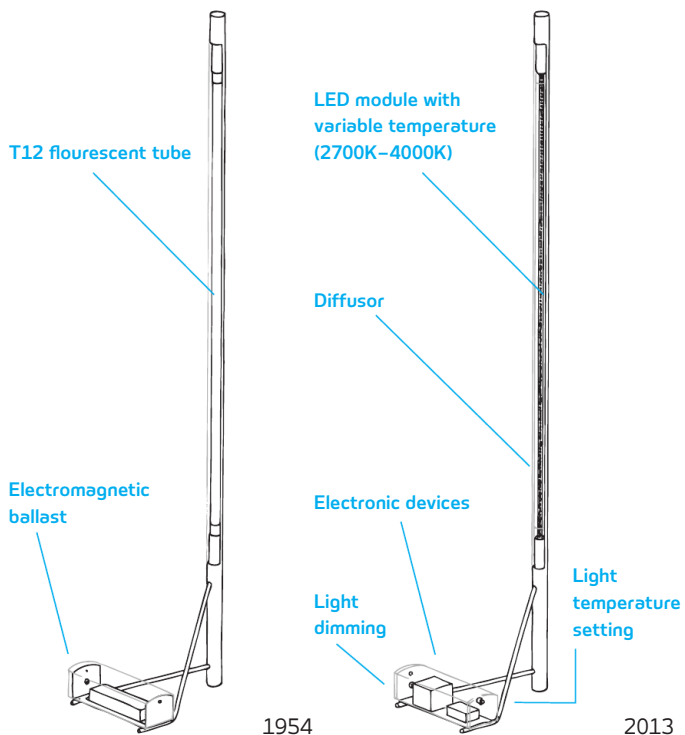
Model 1063 was another of the easier fixtures to reimagine technology-wise, but it was also one in which Flos's design team was able to add new means of control. The original fixture consists of a vertical aluminum tube that houses a 100W T12 fluorescent lamp, emitting either direct or indirect light through an aperture that runs up the side of the shaft. The base, which is meant to sit on the floor, is a rounded aluminum rectangular box housing the power supply, which is connected to the shaft via two steel rods. Flos replaced the fluorescent tube with a 35W LED strip, which fit handily within the aluminum tube. Similarly, the electronics that drive the LED array easily fit within the aluminum box that had held the fluorescent source's electromagnetic ballast.

As the Flos team continued their work of re-engineering this selection of Sinfatti luminaires, they had an epiphany. They knew that the primary function of Sinfatti's fixtures were, as Gandini says, "to project light against a wall." But why stop there? So the Flos team began to explore how they might incorporate dimming as well as control of color temperature.

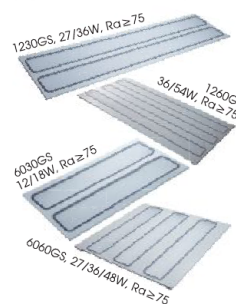
Adding this sort of functionality, however, meant putting switches or dials somewhere on the luminaire and altering its minimalist appeal. Luckily, in the original Model 1063, two screws were visible on the aluminum box housing. Flos turned these into controls, which allow the lamp to be dimmed and the color temperature to be adjusted from 2700K to 4000K.

The most challenging of the luminaires that Flos re-engineered is Model 1095, an indirect

## Model 1063



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### LED Tubes



### LED Grille Down Lights



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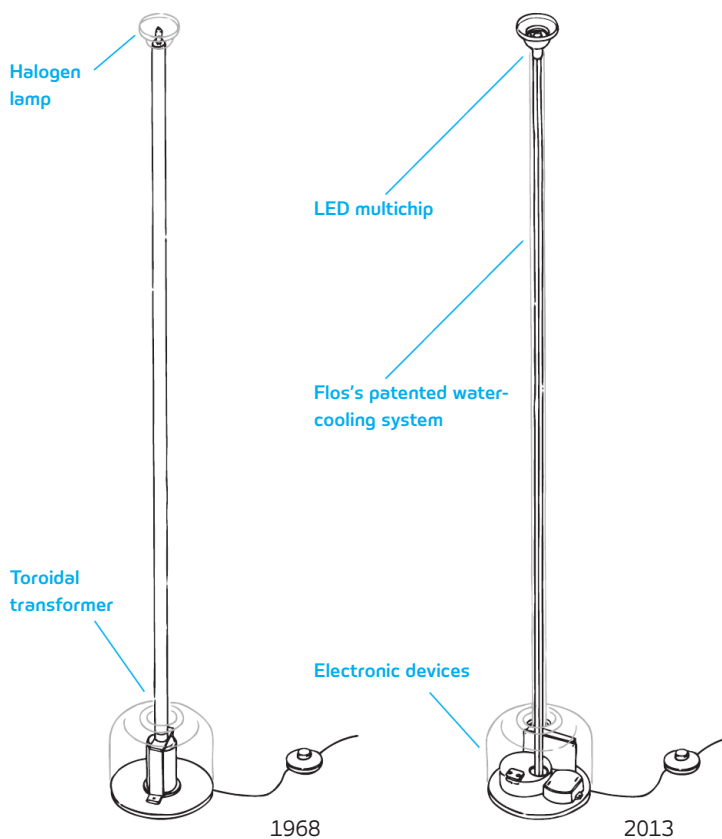
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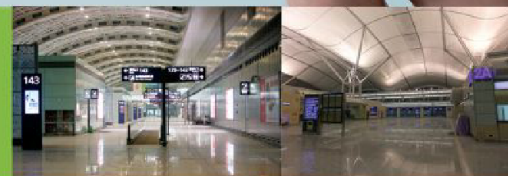
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inches are optional .

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“When I looked at this proposal, I asked the engineer, ‘What did you smoke?’ But after thinking about it for a while I came back to him and said, ‘Give me one of your cigarettes, this is interesting!’”

—Piero Gandini, chairman, Flos

floor lamp that is the combination of a small aluminum cup reflector at the top, an aluminum tube shaft in the middle, and a large aluminum base that resembles a squat old-fashioned milk jug. Sarfatti originally designed this fixture for a 55W halogen source, but the small aluminum cup reflector was a natural carriage for the 25W 2700K LED lamp that Flos specified.

The hitch in this beautiful arrangement arose when the team tried to figure out how to fit a heat sink into the small head that would keep the LED source running at a reasonable temperature. For this, the engineers came up with a solution that is as ingenious as it is unexpected. In the original design, the lamp base housed a toroidal transformer for the halogen lamp. The electronics that drive the LED source left enough room inside this capacious housing for additional equipment, specifically a closed-circuit water-cooling system. “When I looked at this proposal, I asked the engineer, ‘What did you smoke?’” says Gandini. “But after thinking about it for a while I came back to him and said, ‘Give me one of your cigarettes, this is interesting!’”

**Flos isn’t the only** Italian lighting company reviving classic fixtures for the contemporary market by redesigning them to use LEDs. This year, Foscarini released LED versions of four of its all-time best sellers: Caboche by Patricia

Urquiola and Eliana Gerotto, Twiggy and Tress by Marc Sadler, and Big Bang by Enrico Franzolini and Vicente Garcia Jimenez. As with Flos’s Edition No. 1, Foscarini did not just switch out the light sources, but undertook a complete redesign of the fixtures to make them perform as well as, if not better than, before, all while preserving their original aesthetics. “For us, the main challenge was to replicate the light effect,” says Foscarini co-owner Carlo Urbinati. “We sell a kind of lighting that has emotion. To replicate that with an LED source is very hard. It’s not just replacing one bulb with another.”

Foscarini’s engineering team developed proprietary LED boards for these fixtures that replicate the same warm light produced by the original designs. They tackled the heat problem by using more LEDs per board and running less electricity through them, thus lowering junction temperatures.

Whether or not the reissue of these classic designs constitutes an improvement on the originals is an open question. In his day, Sarfatti remained on the cutting-edge of technology, working with many light sources—such as halogen and fluorescent—just as they were being released onto the market. Who can say what sort of fixtures he would have designed around LEDs? We’ll never know. But meanwhile, we will be able to enjoy his unique designs well into the future. •



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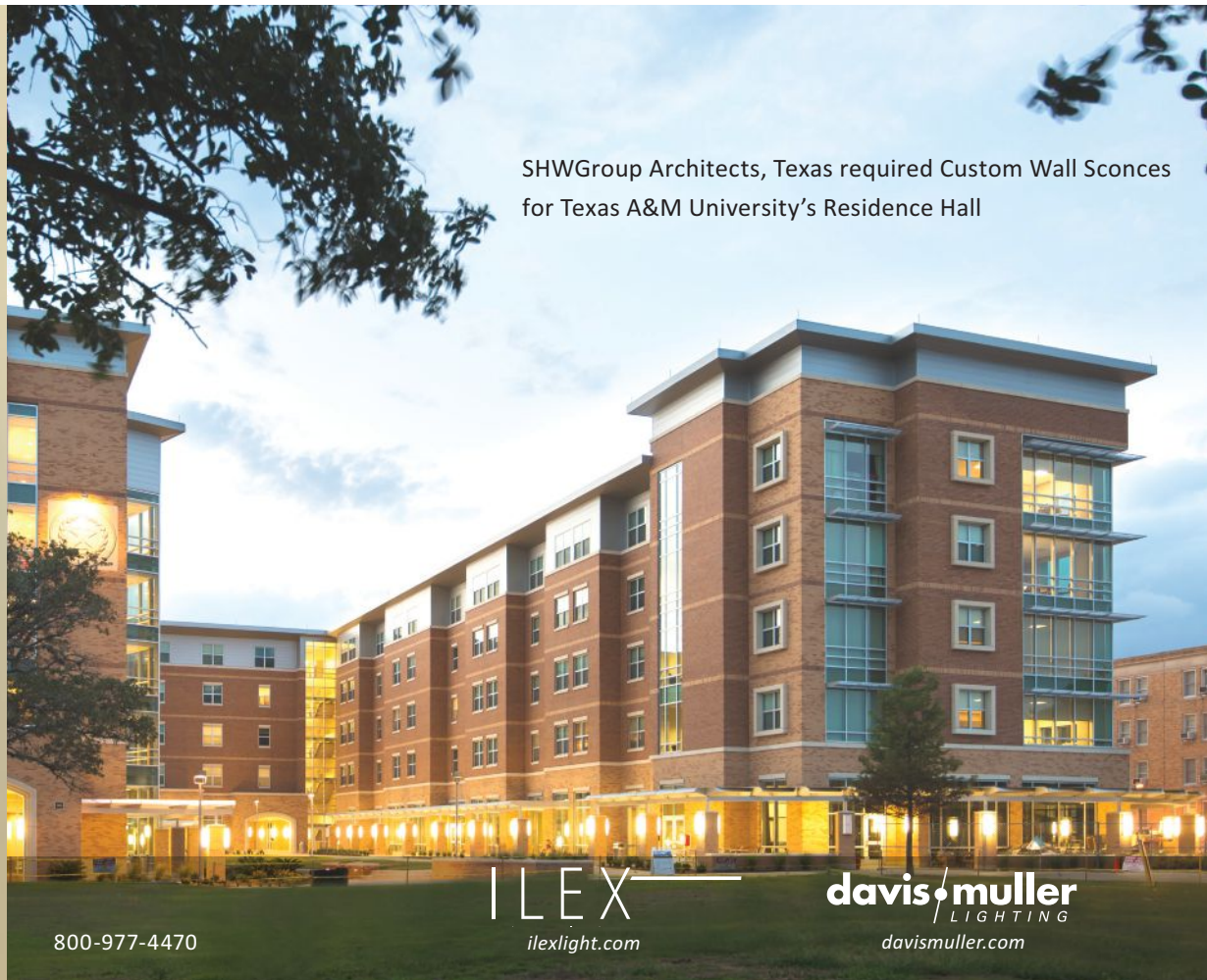
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Courtesy Foscarini



Foscarini has redesigned several of its best-selling luminaires to incorporate LEDs, including Caboche designed by Patricia Urquiola and Eliana Gerotto. To maintain the light quality associated with the original design, Flos's engineers developed proprietary LED boards that use more LEDs per board but run on less electricity and subsequently lower the junction temperature and replicate the look of a warmer color temperature.



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# SUBLIME LIGHTS

A sample of the latest designs in decorative lighting, many of which were showcased at ICFF in New York this past spring.

text by Hallie Busta

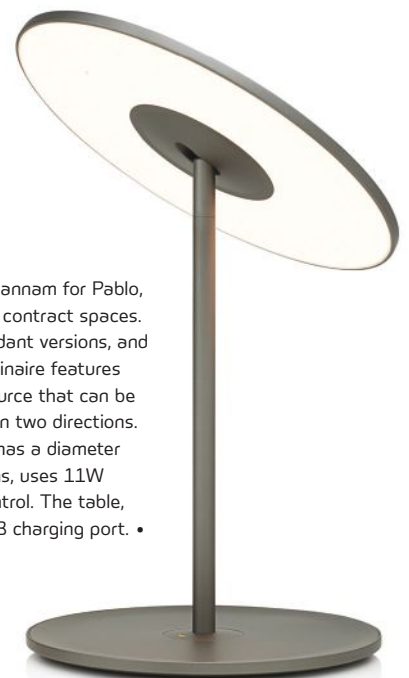


**Albedo, FontanaArte** • The weightless appearance of Albedo, a decorative pendant available in three sizes that is designed by Studio Drift for FontanaArte, is based on the studio's original design for their installation *Shylight* (read our story on Studio Drift at [bit.ly/19dRYHt](http://bit.ly/19dRYHt)). The white fabric shade conceals either 20W dimmable fluorescent or 33W fluorescent lamps and aids in casting an ambient glow. Designed for use indoors, the fixture's metal structure is suspended from a white canopy with steel cables. • [fontanaarte.com](http://fontanaarte.com)

**Carbon Light, Tokio** • Tokio's Carbon Light is a modular suspension fixture available in five different armature formations. The luminaire is lamped with 6W LEDs available in 3000K and 4000K with spot, medium, or wide optics. Configurations of two, four, six, eight, and 12 LEDs are offered with lumen outputs of 1,940 lumens for the four-LED version and 5,820 lumens for the 12-LED version. The fixture is made from carbon fiber and is offered in matte and glossy finishes. • [tokiotokio.com](http://tokiotokio.com)



**Circa, Pablo** • Circa, designed by Dana Cannam for Pablo, provides ambient lighting for residential and contract spaces. Available in floor, table (shown), wall, or pendant versions, and in two finishes—white or graphite—the luminaire features a 12" flat-panel 2700K, 85 CRI LED light source that can be rotated 360-degrees and tilted 45-degrees in two directions. (The fixture head on the floor lamp version has a diameter of 16".) Circa has a light output of 35 lumens, uses 11W of power, and offers four-stage dimming control. The table, floor, and wall versions have an optional USB charging port. • [pablodesigns.com](http://pablodesigns.com)

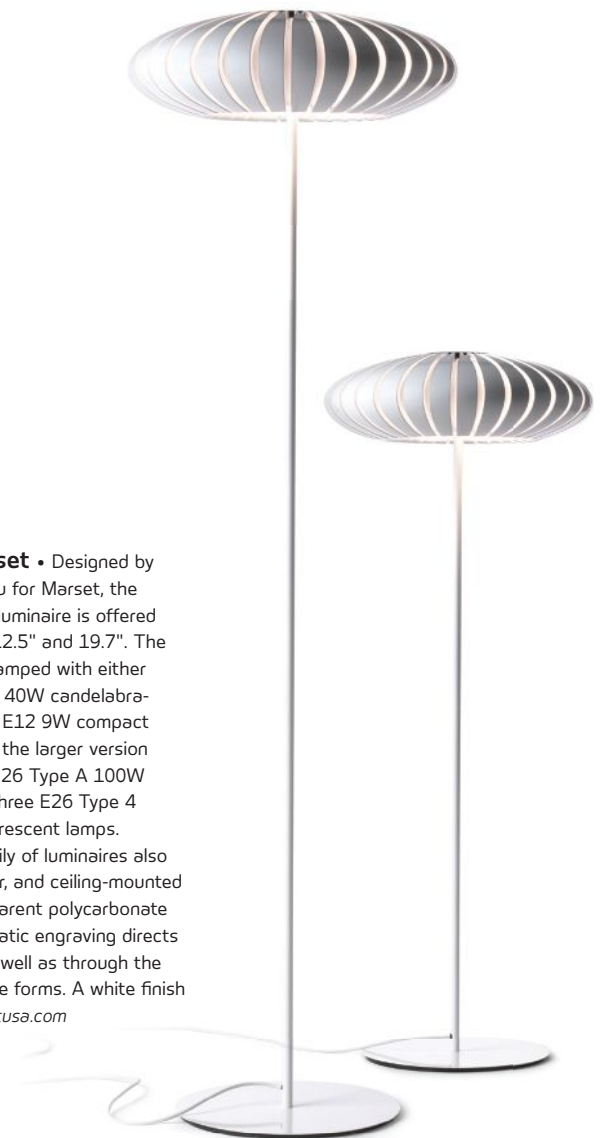




**Gala Chandelier, Rich Brilliant Willing** • Inspired by the organic forms of ripe fruit hanging from a tree, Rich Brilliant Willing's Gala Chandelier features hand-blown frosted glass diffusers suspended from a black-anodized aluminum rod. The glass diffusers are available in three shapes and sizes, and they connect to the rod using basket-like handles made of anodized aluminum. Power is supplied via airplane cables that connect the fixture to the ceiling and run discretely through the rod to the glass vessels. Five chandelier models are available (Gala 11410 shown) based on the three offered rod lengths: 42", 72", and 114". Gala is lamped with dimmable (zero to 100%), warm-white 2700K, 95 CRI, high-output remote phosphor LEDs, which produce 8W per diffuser. Custom configurations as well as custom finishes are also available. • [richbrilliantwilling.com](http://richbrilliantwilling.com)

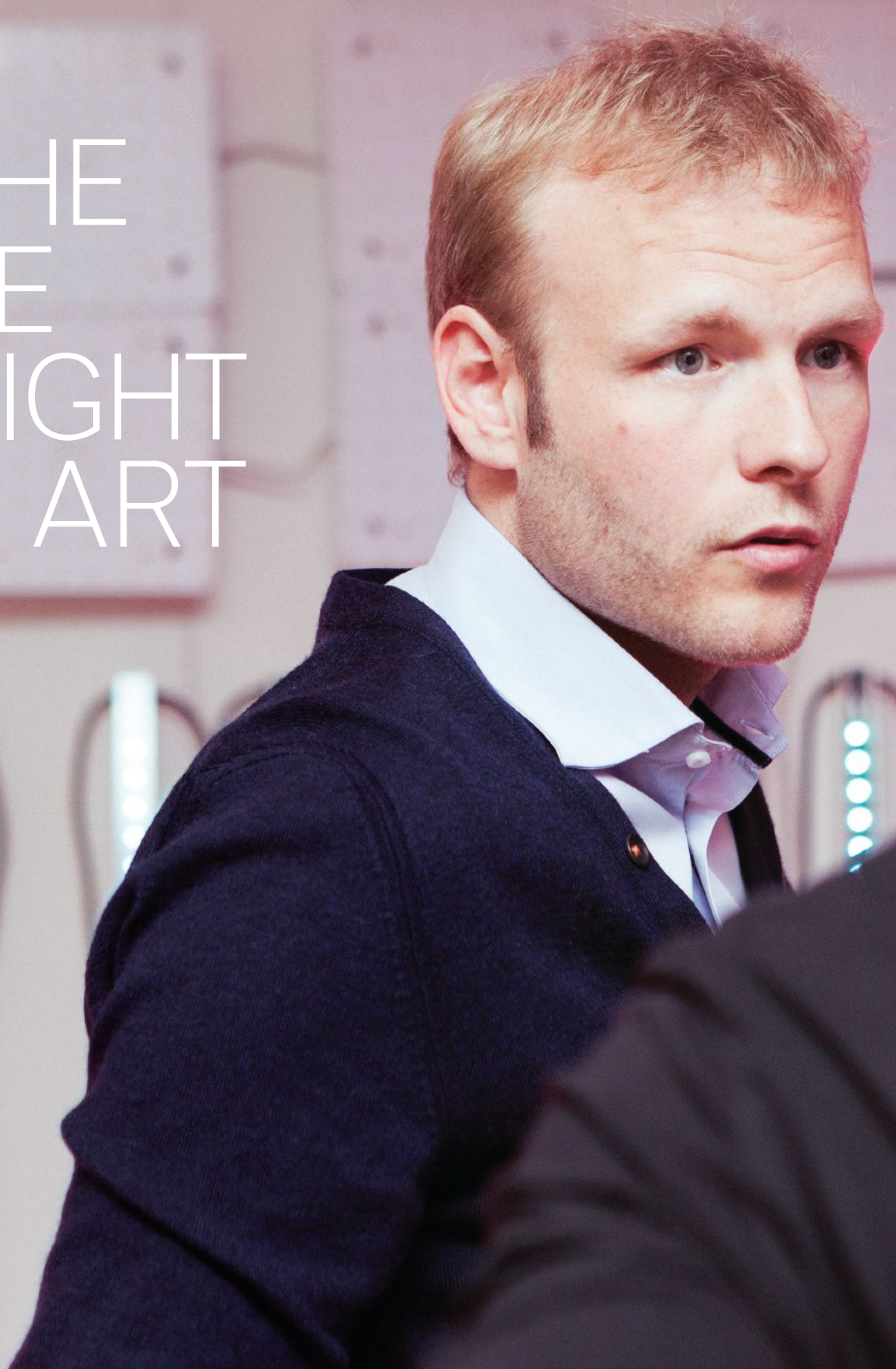


**Cigar, LA2 by LightArt** • A fully integrated solid-state lighting system lamps this decorative pendant. Cigar's single-wall shade construction uses 3form's 1/16"-thick Varia Ecoresin fabric and is available in three lengths: 36", 48", and 72". The stainless steel canopy mounts directly to the ceiling and the luminaire can be suspended via cable in lengths ranging from 24" to 96". The 10"-diameter fixture also offers 120V to 277V dimming. • [lightart.com](http://lightart.com)



**Maranga, Mørset** • Designed by Christophe Mathieu for Mørset, the Maranga pendant luminaire is offered in two diameters: 12.5" and 19.7". The smaller version is lamped with either two E12 Type B10 40W candelabra-style lamps or two E12 9W compact fluorescents, while the larger version uses either three E26 Type A 100W incandescents or three E26 Type 4 20W compact fluorescent lamps. (The Maranga family of luminaires also includes table, floor, and ceiling-mounted versions.) A transparent polycarbonate diffuser with prismatic engraving directs light downward as well as through the shade's 32 slice-like forms. A white finish is offered. • [mørsetusa.com](http://mørsetusa.com)

AT THE  
EDGE  
OF LIGHT  
AND ART





*With his firm, Lighting Design Collective, Tapio Rosenius wants to expand the possibilities for lighting the built environment.*

**For Tapio Rosenius**, who grew up in northern Finland near the Arctic Circle, light—or the lack of it—has always been a defining element of his life. The 38-year-old founder and director of Madrid-based Lighting Design Collective (LDC) may live in Spain now, but it was the experience of the Nordic region, with its feast and famine of light, that put him on the path to architectural lighting design.

“Growing up, it was extremely dark during the winter, and winter lasts eight months,” Rosenius says. “In summer, we had eight to nine weeks where the sun doesn’t go down at all.”

That intense seasonal cycle was something Rosenius loved, in part because the Finnish culture is extremely connected to nature, even during the winter when “you do a lot of fishing and skiing,” and in part because of the special qualities of that light. “Winter is dark, but it’s not a black darkness,” Rosenius says. “There’s reflection from snow and the way the daylight behaves, you have an extremely prolonged sunrise, a blue moment that lasts over an hour.”

Explorations in light and nature very much inform the work coming out of LDC, which Rosenius opened in 2009 and now includes seven staff members and a roster of international consultants. He left a plum

text by Elizabeth Evitts Dickinson  
photos by Luis Díaz Díaz



Lighting Design Collective has established a practice that develops both built and conceptual work. Aava Isla (left) is a theoretical design for a floating venue that would house deep-sea diving events. The glass façade's patterning relies on natural light during the day to provide a play of light and shadow. At night, it would play a programmed light show inspired by the movement of schools of swimming fish.

position as the director for Maurice Brill Lighting Design in London, where he had been for many years. (Before that he was with Kevan Shaw Lighting Design in Edinburgh.) The decision to move and start his own business was a tough one. "Maurice was influential to me as a designer and I learned how a design office runs working there," Rosenius says. Then he and his wife, who is from Madrid, had the first of their two children. "I was professionally set up, but we had a little baby, and I took one look at the baby and thought: I don't want this kid to grow up in London. It's an intense urban environment."

From the get-go, he understood that his young firm needed to offer a unique perspective in order to survive. "I knew there was no point as a one-man band to start competing against Kevan or Maurice," he says. "It had to be something new, it had to be different, and it had to resonate honestly with my background and my skills. Since then, and to this day, it has been a big topic: What is our design approach? Who are we? What do we do? What is new that we can bring in?"

For Rosenius, it meant building a practice that straddles the line between art and experience, and that offers more than simple design delivery or consulting. "We don't design a piece here [in the studio] that gets shipped somewhere afar," he says. "We always design for the context. We tackle projects with a very analytical approach combined with something that is borderline artistic."

Rosenius and LDC earned international attention in 2011 for that approach when they won a competition to create a permanent urban light-art piece in Helsinki, called Silo 468. Here, an abandoned oil silo near the seaside was turned into a civic space where 1,250 white LEDs, controlled by software, flow across the surface as if they were birds in flight.

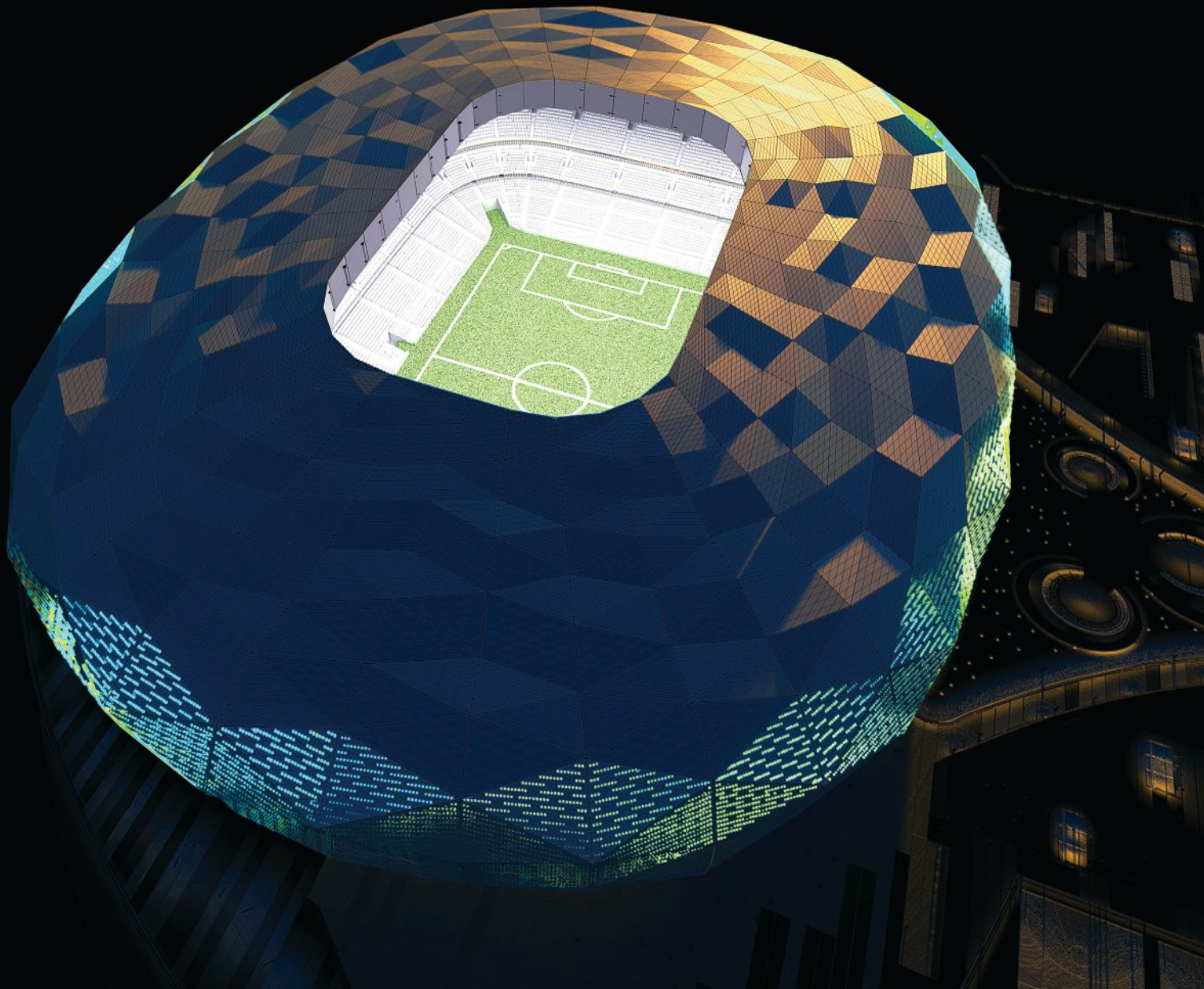
Rosenius and the LDC team have since developed increasingly complex projects that blend art, light, and technology to create interactive environments that evoke the place they exist. Take Aava Isle, a conceptual plan for a floating building that would house deep-sea diving events. (Imagine a structure put out to sea and designed to turn diving into a spectator sport.) For this theoretical project, LDC has developed both the underwater lighting for the diving shows as well as an interactive exterior façade. During the day, the entirely glass structure would use daylight to reflect the water and to "pick up every twinkling surface," Rosenius says.

At night, the façade would feature a moving light show built using an algorithm that mimics schools of swimming fish. The algorithms are open-source and originally written for gaming technology, but Rosenius and his coders have customized them for projects such as this. "We're much more the chef than the farmer," he says. "We didn't make the code, but we mess around to create new applications."

Rosenius frequently incorporates technology to create in-the-moment experiences for clients. For the Qatar Foundation Stadium in Doha,



Lighting Design Collective is currently working on an interactive façade for the Qatar Foundation Stadium in Doha, which will commence construction in 2016. The façade will use a lighting interface that employs haptic technology to enable the crowd's responses to be monitored and reported in real time via color and pattern change on the façade's surface.





scheduled for construction in 2016 for the World Cup, Rosenius designed an interactive, 360-degree exterior façade controlled by the world's first haptic computing lighting interface. Haptic technology creates tactile feedback, and for the Doha project it will allow activities happening inside the stadium to register on the outside of the building via a control table that Rosenius has designed incorporating the technology. During a soccer match, for example, the team colors can be used on the exterior façade. When someone scores a goal, the person monitoring the game inside the stadium can manipulate the control table and trigger the façade to register what's just happened by changing the façade color.

"We are putting in an infrastructure that is high-tech, yet extremely simple," Rosenius says. The LED lights that make up the façade, for example, are reliable and unchanging, but the interface allows the design to evolve. "The physical structure housing the light is static, but what you do with those lights is infinitely malleable," he says. "If they [the client] get bored with it, it's a flick of the switch from the Madrid office and you have this whole new palette in your hands."

It wasn't always clear that Rosenius would become an architectural lighting designer. Before cutting his teeth working for lighting designers in Scotland and England, Rosenius originally went to college to study photography. Later, he studied the art and science of lighting for theater and film. "I would say deep in my heart I'm more driven by the theater and

film lighting approaches because I believe that's where lighting is truly used as an expressive tool and [where] it's extremely sophisticated," he says.

On stage, light needs to convey atmosphere and intent, something Rosenius tries to bring to architecture. "With light always comes information, and when you do lighting in [the] theater, you are doing it for information," he says. "You suggest the time of day, the location, the internal emotions of the actor. It can be quite abstract, but still understandable."

Rosenius rejects architectural lighting as a fixed element. "Natural light is in constant movement; it's diffuse and then direct, it changes with planetary alignment. There is no such thing as static natural light," he says. "So why on Earth are we doing artificial lighting for our living environments that is completely static? Isn't that the most unnatural thing that you can think of?"

For the atrium of UPM-Kymmene, a Finnish pulp, paper, and timber company, Rosenius beamed light through the five-story space to evoke the sensation of sunshine filtering through a forest. "A big part of what we're doing is exploring ways of bringing some of that natural movement of light into the context of the built environment in an acceptable way so that it doesn't look like some artificial installation," he says.

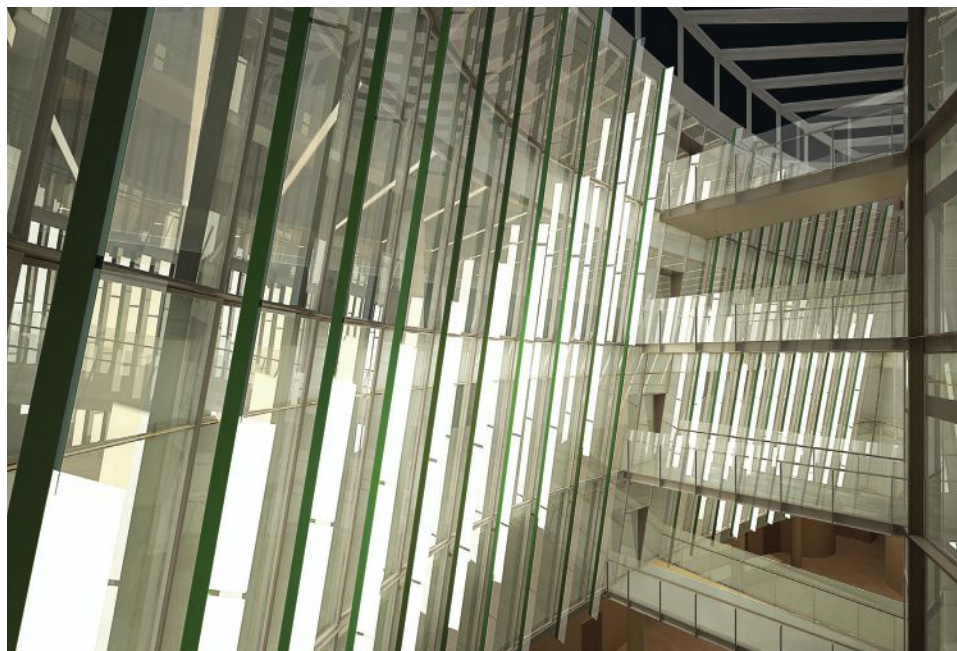
Looking ahead, he hopes to inject even more novel approaches into lighting the built environment. "I see anything that emits or reflects light as lighting design," he says. "We need to invent new roles for light. It is [a] fundamentally underutilized tool in every context." •





This Page: Courtesy Lighting Design Collective

Explorations in light and nature are at the heart of Lighting Design Collective's (LDC) work, where Tapio Rosenius and his colleagues (facing page, bottom) explore the natural world alongside new lighting and programming technologies. LDC received significant worldwide recognition for its award-winning scheme for Silo 468 (facing page, top and middle), an abandoned oil tank transformed into a permanent art installation. (Silo 468 won an AL Design Award this year, see [bit.ly/HRPx55](http://bit.ly/HRPx55).) *Reflexions* (above), is a light-art piece for a school in Finland near the Arctic Circle. The lighting design plays with available natural light and the building's density usage to create a light patterning unique to the project. For the atrium in the headquarters of UPM-Kymmene, a Finnish paper company, light is projected through the five-story space to mimic the feel of light filtering through trees (right).





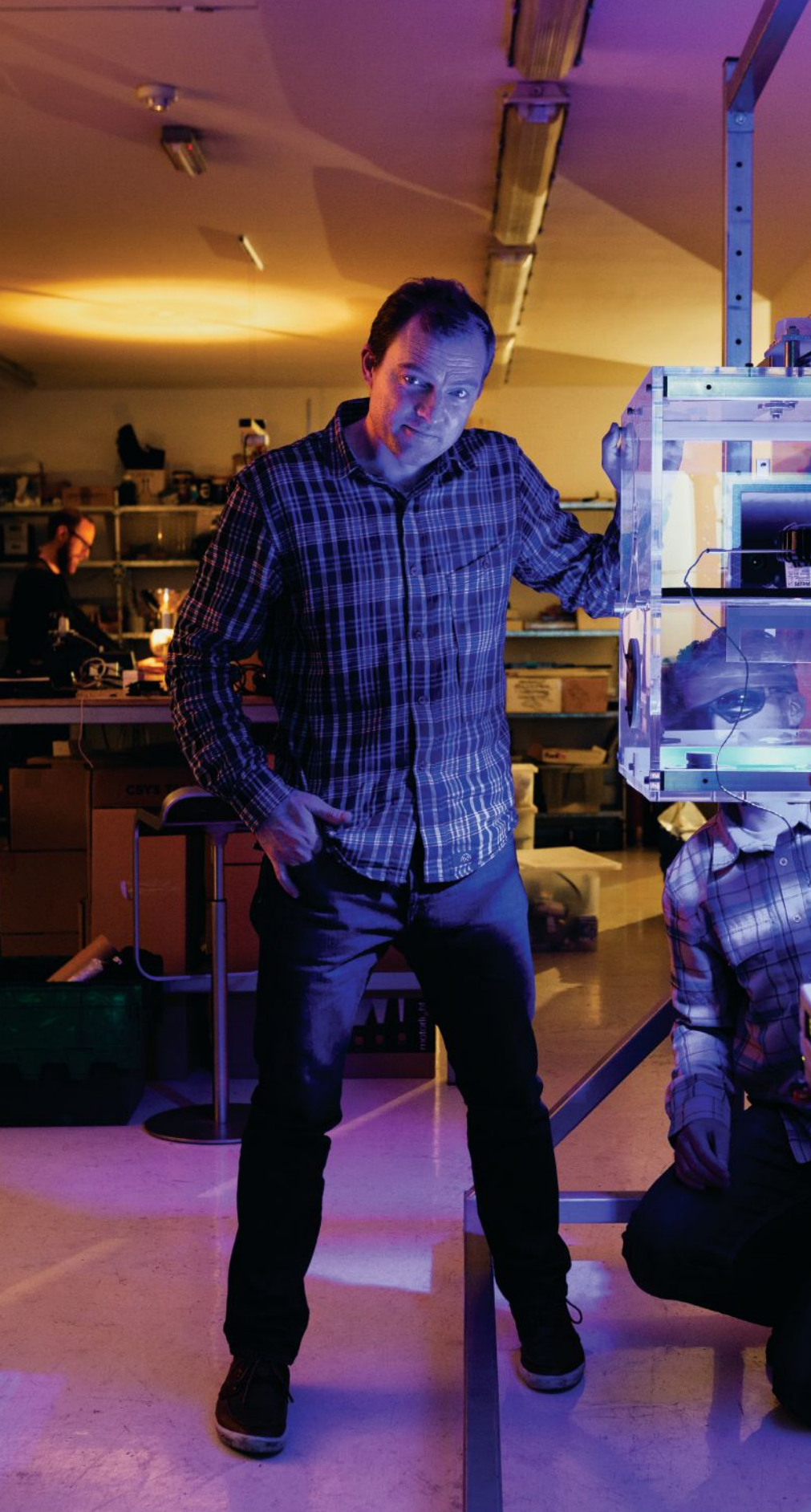
# LIGHT MECHANIC

*Jake Dyson's research-oriented and technical approach to product design has produced unique luminaires of mechanical beauty and remarkable performance.*

text by Aaron Seward  
photos by Charlie Clift

**The first thing to say** about Jake Dyson is that he is not his father, James Dyson, the British inventor and industrial designer made famous by his innovative vacuum cleaner and other consumer electronic household products. But a close look at the light fixtures—the Motorlight wall and floor uplight and the CSYS desk and floor tasklight—that the junior Dyson has designed with his company, Jake Dyson Products, shows a close kinship to the obsessive process, mechanical acuity, and adaptation of seemingly tangential technologies that his father has employed to create appliances that are superior to their predecessors.



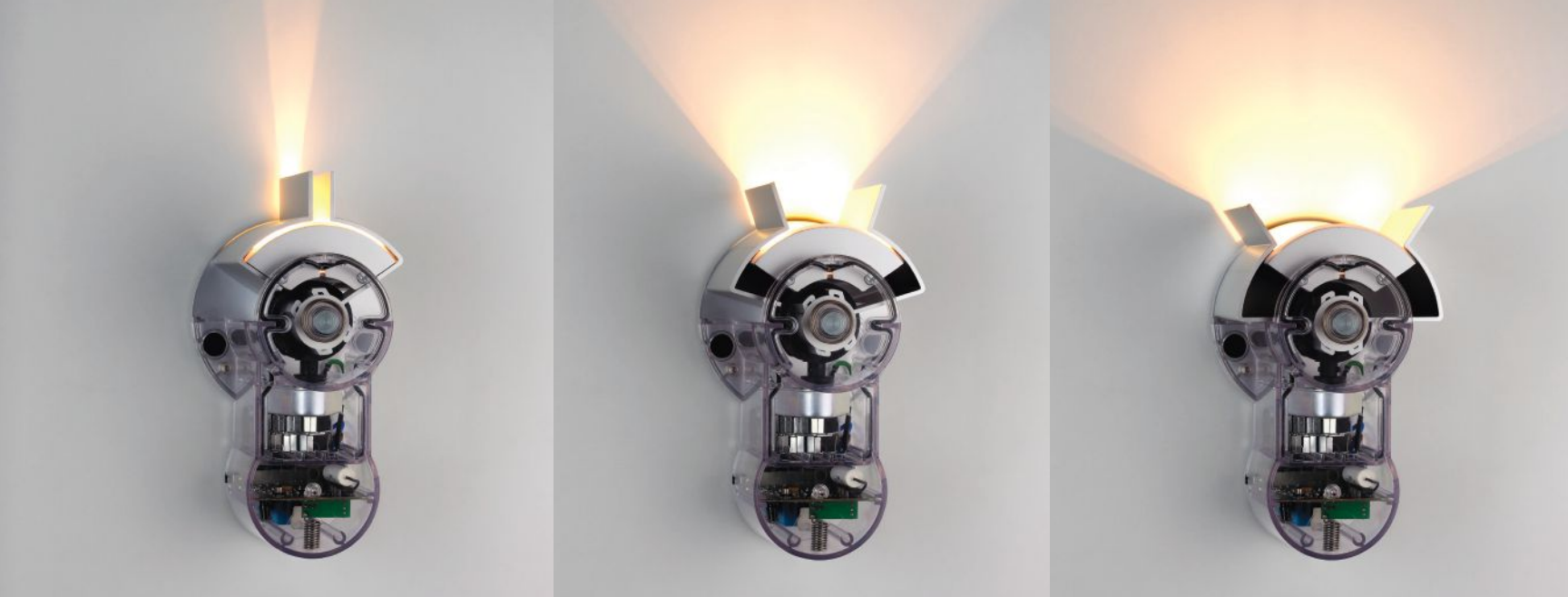


Nonetheless, Jake is a bit dismissive of his lineage. “Dad and I don’t talk that much,” he says. He does, however, concede one important lesson that he learned from his father’s example: “I was brought up in a house where he was building a vacuum for 15 years. Seeing him gruelingly, doggedly work, year after year, on one product, to make it work and make it perfect and not give up ... it’s something that was instilled in me.” James Dyson famously created 5,127 prototypes of his vacuum cleaner before deciding it was ready for market.

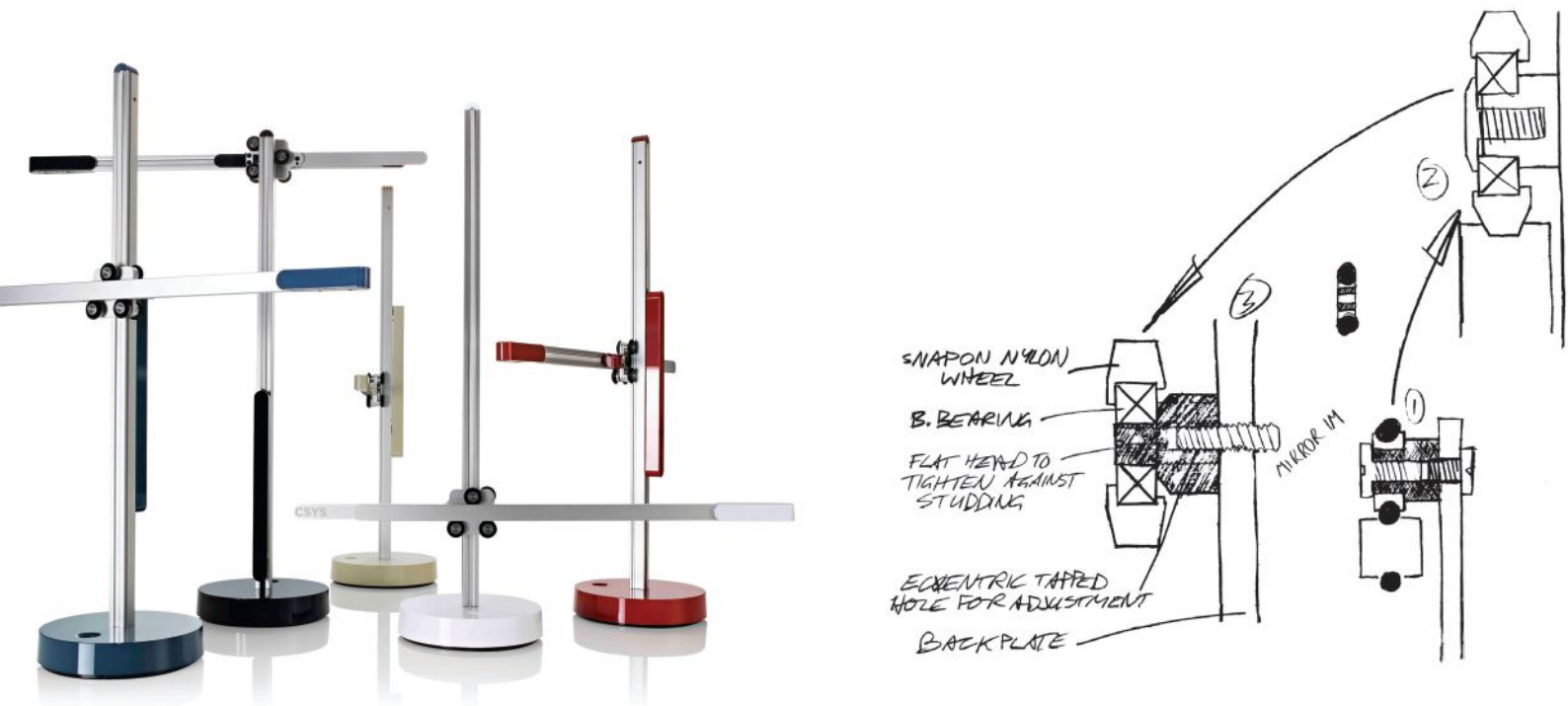
Jake Dyson’s tendency to put engineering first and then work on the aesthetics emerged while he was still in college, working on a degree in product design at Central Saint Martins in London. “For my senior project I did a water power generator that attached to drain pipes, so [that] when it rains or you use your plumbing, you produce energy,” he says. “I built one and it worked pretty well, but I couldn’t get around the issue of solids in the toilet. It was fun nonetheless. My teachers were a bit pissed that I didn’t turn in this slick showpiece.”

After graduating, Dyson got a job as an interior designer, mostly working on cafés and bars. His specialty was not in selecting wall and floor coverings but in designing interactive mechanical furniture. It was during this period that his attention first turned to light fixtures, as he observed noticeable gaps in the market for available luminaire offerings. “I noticed that the big Italian lighting companies spent a lot of effort designing pretty objects out of most forms of lighting except uplighters [uplights],” he says. “For uplighters people stuck lights in tubes and hid them behind plants and couches. Coupled with that, I recognized that people weren’t making mechanical, functional features in fixtures. Just pretty pieces.”

So Dyson decided to make an uplight that is capable of providing a variety of beam angles—the world’s first, according to his website—allowing users to dial in the effect of their choice. The result is the Motorlight. Outfitted with a 100w halogen capsule source, the luminaire can be adjusted to any beam angle between 8 degrees and 60 degrees, from a tight spot to a wide



The CSYS Task and the Motorlight Floor luminaires on display in the Jake Dyson workshop (opening spread). Jake Dyson working in the studio's workshop (opposite). The Motorlight Wall (above) and the Motorlight Floor (left and right) were Dyson's first foray into lighting. The design combines function with aesthetics to produce a range of beam spreads in a single fixture.



flood. True to its name, a motor drives the mechanism that adjusts the angle of the beam. It also rotates an aluminum wheel at the front of the fixture, highlighting that the mechanics of the piece are its prime aesthetic expression. The motor can be paused, via a switch at the back, to set a particular angle, or left on to create a wavering mood lighting effect.

Subsequent to the release of the floor-positioned Motorlight, Dyson developed a smaller version that can be mounted on a wall. Powered by two AAA batteries and outfitted with a G9 halogen capsule, Motorlight's wall beam angle can be adjusted from 10 to 120 degrees. The wall-mounted variety does not have an aluminum wheel, but instead reveals the inner workings of the machine. The luminaire can be used by itself or in a series, and it is operated with a remote. *[Note: At press time, the wall fixture was no longer being produced.]*

Not long after Dyson produced the Motorlights, much of the post-industrial world began to consider legislation that would limit if not outright ban the use of incandescent and halogen lamps. The options for replacement came down to CFLs or LEDs. For Dyson, the choice was a clear one. "I have a massive hatred of CFLs," he says. "They're un-environmental, ugly, and the quality of light they produce is very unpleasant." Luckily, LEDs were becoming much better, more efficient, and capable of producing more pleasant color temperatures.

Following the compulsion of his usual technological curiosity, Dyson and his engineers began to research the relationship between junction heat and LED lifespan, and they discovered that the cooler an LED remains while working, the longer it maintains its color and brightness. This led the Dyson team to study how

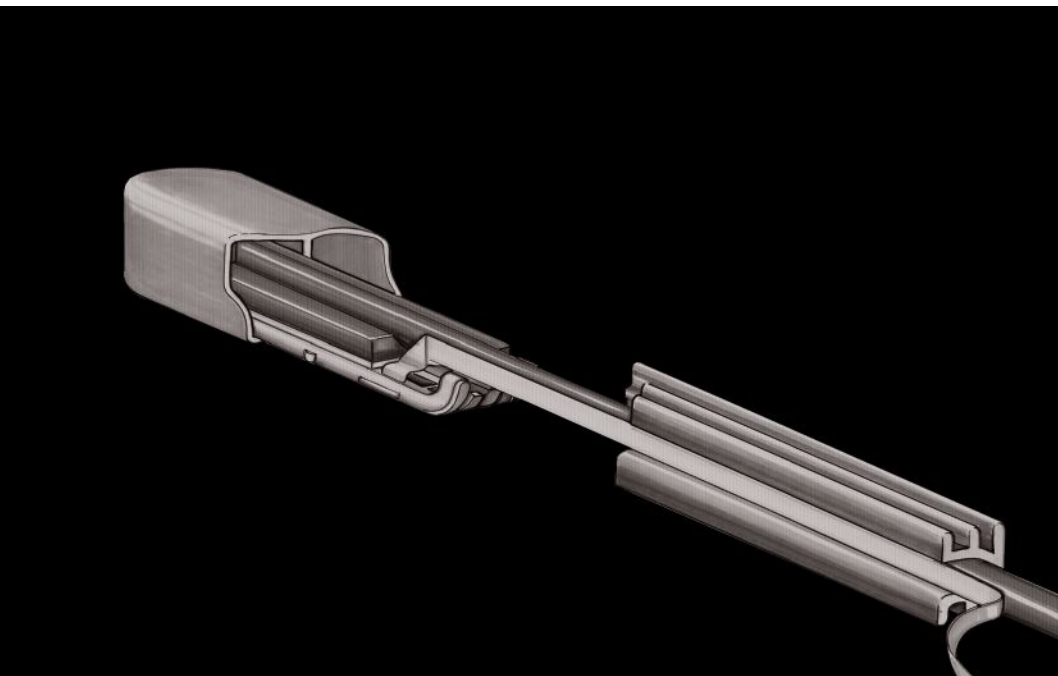
semiconductors are cooled in computers and satellites. What they concluded was to use heat-pipe technology: Heat pipes are essentially vacuum tubes containing drops of water capable of moving heat away from a source very quickly.

Combining this cooling strategy in a consumer LED-equipped luminaire resulted in the CSYS series of tasklights. The deceptively simple fixture—which comes in variants that can be placed on a desk, clamped to a table, or rested on the floor—consists of a single vertical rail and a single cross rail joined by a wheeled mechanism that allows both easy vertical and horizontal adjustment and 360-degree rotational movement. In computers, fans are added to augment heat pipes, but for CSYS, the engineers found that drilling holes along the cross rail provided ventilation sufficient to maintain an operating junction temperature of 65 C. (Most LED fixtures operate at around 140 C.) This drastic reduction in heat gives the CSYS LEDs an astounding 160,000 hours of life, or roughly 37 years of operation at 12 hours per day. Considering the fact that most people only use a tasklight about half as many hours as that per day, the light source could literally last a lifetime.

Dyson and his 10-person design studio continue to develop new luminaires and are on schedule to launch a new prototype in Frankfurt this year. While he won't reveal much about it until its debut, Dyson does admit that his new product will be more powerful than the CSYS light and run at even cooler junction temperatures. At this rate, it's imaginable that one day we'll be passing down Dyson luminaires to our children as family heirlooms, without ever having had to change the lamp. •

Dyson's desire for the various components of his designs to have a mechanical articulation can be seen in his sketches of the slide mechanism for the CSYS luminaire (above). The CSYS Task luminaire is available in various color options (top left), as is the CSYS Tall, a floor model, which comes in black or silver (opposite, top). The luminaire features a heat-pipe cooling technology for LEDs typically found in computers. Incorporating this technology into the luminaire enabled a drastic reduction in heat gain and longer lamp life. A diagram of the technology illustrates how vacuum tubes containing drops of water are capable of moving heat away from a source very quickly (opposite, bottom).

This Spread: Courtesy Jake Dyson



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# JEREMY YON

interview by Elizabeth Donoff

photo by Adam DeTour

“Now that I’m working on the product side of lighting—luminaire design—it’s about moving away from using the tools to being the toolmaker. You’re building tools for people to use. I don’t really look at myself as a lighting designer now because the products that we create are intended to try and meet a need that is applied by a lighting designer, architect, or interiors person. I think that’s an important mindset to have when you go into this aspect of work.”

**Jeremy Yon’s interest in lighting** stems from his curiosity to understand how things work. A self-professed tinkerer, Yon is equally as interested in the process of creating as the finished outcome. “I like to break things down, see how they work—and to see how they will fail,” he says.

It’s this approach to problem solving that led Yon, who is presently manager of product innovation at Massachusetts-based lighting manufacturer Litecontrol, to move from lighting design to luminaire design. After graduation, Yon worked for lighting design firm Schuler Shook in its Minneapolis office from 2000–2004. In February 2004 he made the move to Litecontrol as a product designer. Because of his background, Yon understands the creative process in both areas and now has a hand in creating a generation of products that marry technical achievement with design ingenuity.

**When you were in school, were you aware of the different career avenues in lighting?**

I think students are aware of lighting in terms of design or manufacturing, but I’m not sure they are aware of product design as a career path.

**Best advice you’ve received about lighting?**

It’s not advice but something to be mindful of when you are working: lighting is only noticed when it goes wrong. I always have that in mind.

**Biggest misconception about luminaire design?**

People are forced into this mindset that there are only two types of lights: commodity and custom. But there’s a middle ground where you can innovate and collaborate with people.

**How do you start your design process?**

It’s very nonlinear. We don’t try to design the product upfront and constrain it before we’ve even had a chance to speak with people. If you predefine what you want to solve, then you only end up doing what you set out to do.

**With so much of the industry’s focus on LEDs, is there a lighting technology being overlooked?**

There’s a difference between product promotion and product development. Companies focus on certain product messaging, but that doesn’t mean other things aren’t in development.

**What represents innovation in lighting?**

Innovation is courage. It takes courage to launch a product and to figure out how to mitigate the risk. It’s about finding the balance between creativity and business.

**What advice would you give a student or designer newly entering the profession?**

Challenge the lighting industry more. If you want to change the world, let’s work together. •

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