

# The Demise of the Lighting Degree

I often get calls from clients regarding a search for a technical position in lighting. A lighting fixture manufacturer may seek a director of applications engineering, or perhaps a design firm is looking for a senior lighting designer. As we discuss the specific requirements of the position, one criteria may be a candidate who has a B.S. in Architectural Engineering with an illumination emphasis. The problem is, I see very few candidates these days coming out of school with this degree. It got me to thinking how many more candidates I used to see 10 to 15 years ago (coming out of schools like University of Colorado, Kansas and Penn State) with B.S. degrees in Architectural Engineering focused on lighting, and how in demand they were. Some changes are barely perceptible, and this gradual but persistent evaporation of candidates with a professional four-year lighting degree has apparently occurred without many people in our industry noticing.

With a substantial decline in the number of professionals with lighting degrees, where will the industry draw talented technical professionals in future years? Granted, we have some great training programs within certain lighting fixture and lamp manufacturers, but they can't match the depth and breadth of education that a B.S. in Architectural Engineering/Lighting can offer.

To gain more insight, I spoke with a cross section of industry leaders from manufacturing, design and academia. They are

David DiLaura (formerly of the University of Colorado at Boulder, now with Acuity Brands Lighting); Kevin Houser (formerly at University of Nebraska, now with Penn State); Jim Benya (Benya Lighting Design), Phil Gabriel (Gabriel Design), Fred Oberkircher (Texas Christian University) and Mark Roush (Acuity Brands Lighting). Here's a synopsis of their thoughts on several key topics.

## SALARIES AND COMPETITION VS. OTHER A/E DISCIPLINES

**Fred Oberkircher:** The problem is the lack of students with graduate degrees. Wages seem to be higher in other fields. If a graduate student is interested in pursuing a career in lighting, and he or she looks at the opportunities in, say, HVAC, there's no comparison in those two areas. HVAC just offers higher pay. So students have to ask themselves why go into lighting when the wages are higher in HVAC or electrical.

**Mark Roush:** There's not a great degree of well-educated graduates entering, or they're not seen as valuable enough to be compensated in some form that makes them want to come into our profession. I was very lucky, and quite by accident, that my first job out of school paid me as a top-level graduating engineer. There ought to be a salary war for these people. If people really want valued contributors, one would think they're paying them well—and they're not.

## THE IMPACT OF RESEARCH FUNDING

**Oberkircher:** There's research support in HVAC and electrical, but there's a lack of it in lighting. The double whammy for the kids is, they're not getting research support and they're not getting equivalent pay—so they lose twice.

**Kevin Houser:** In the past, the industry has provided resources for lighting research, primarily money. Now, there's just very little. The well is dry for lighting research dollars, at least in the architectural engineering area. I think there's a lot of vision research through the National Eye Institute. The Department of Energy is funding a lot of product development research on increasing the luminous efficiency, for example. But there's not a whole lot of sponsored research on lighting in the architectural interiors area.

**David DiLaura:** By the end of World War II, the industry had for decades conducted its own research. As research was needed, it was done by the lighting companies—75 percent related to lamps, the rest to luminaires. They didn't farm it out to universities, so academia never gained significant traction from the lamp or luminaire companies as far as conducting research. We, as lighting educators, are outside of the mainstream relationship between industry and education. We've got our nose to the glass looking in.

## THE SHRINKING NUMBER OF LIGHTING PROGRAMS

**Roush:** These are all one-man shows with very rare exceptions: RPI, Nebraska and now Penn State. With the commitment Penn State has made, it has the ability to regain the prominence it once had as a

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provider of graduates within the industry.

**Houser:** There are fewer professors involved in lighting education in architectural engineering programs than in the last decade. There's been a slow attrition. I think there becomes a tipping point where you can't restock the pond. Where will the next group of lighting faculty come from if there are no mentors to educate and inspire people?

**DiLaura:** And now we're paying for it. How many lighting programs are there?

**Phil Gabriel:** There are a couple of new schools; Parsons has improved, and the two schools in Germany are just a couple of years old. We've had interns that have come out of there that have been very well-educated and well-rounded. Penn State is growing, but the rest of the schools are struggling for their lives. You have to realize how small these departments are. For example, Colorado for the past 20 years has been a source of students that many lighting design firms and manufacturers have hired people from. And now Dave [DiLaura] is gone. So when a DiLaura leaves, it's easy for a school to say, "Well, let's just stop this program." I know that Nebraska is strong, but Kansas doesn't have lighting anymore. There were at least three engineering schools that had lighting degrees that are gone now. There's no place in California to get a lighting education, which is really wild. The furthest west are Denver and Omaha.

**Houser:** In order to become a professor in an architectural engineering program you have to first be a Ph.D. In order to earn a Ph.D., the student has to do a dissertation. A dissertation is a research activity that requires funding. Therefore, if

the manufacturing and design communities want to make a long-term investment in their industry, they need to support lighting research more than they are currently. [The challenge is] we don't have that many graduates in positions of power who make funding decisions. None of them have backgrounds in architectural lighting, [so] they tend to fund things that they're familiar with.

**Jim Benya:** I'm concerned that we're losing lighting educators and programs. It seems we've relied on individual superhuman efforts from a few people; these individual have been superstars. Not just good educators, but inspired to create something out of nothing. Other industries don't have to do that. For example, with Dave's [DiLaura] recent retirement from Colorado and Bob Davis taking a post in manufacturing, we lost about 25 percent of the nation's senior lighting educators and arguably the most influential and important lighting educators in history. Fortunately, the program will survive, but it will take some time to regain the same strength and prominence. There is also a crisis in leadership. Were it not for the emergence of a couple of rising lighting educator stars like Kevin Houser and [Mike] Siminovitch, I wonder who would be teaching our next generation. We can't rely solely on volunteers and the occasional professor of architecture who happens to like lighting.

#### LOOKING FORWARD

**Gabriel:** We need schools that teach three things: illuminating engineering, artistic/theatrical aspects and architecture, as well as some courses

in psychology and human behavior—those are just part of being a good architect. If you don't have it coming into your first job, you need to learn it.

**Houser:** The evolution of any industry is dependent upon the education of people using the products. A more educated specifier is more likely to specify high-quality products than low-quality products—there definitely is a case to be made for this. There should be a greater sharing of expenses and the the benefits associated with education. People who hire graduates with a lighting education benefit from the skill set that those former students, now employees, bring, and it allows those companies to grow and prosper. I said to some people who come to our program and try to hire our graduates, "If you want to fish in our pond, you need to stock it with fish! Don't just show up and take graduates away and make no investments in it." It really needs to be a shared investment.



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