Spotlight on Emerging Lighting Technology

It's common industry knowledge that high-quality, energy-efficient lighting can improve productivity and safety as well as reduce energy costs. In the swirls of economic turmoil, the increased need to bump up productivity and hold down costs has sent lighting designers and manufacturers into development overload — and it is the job of specifiers and distributors to keep up with the latest trends and technologies. *Chain Store Age* senior editor Katherine Field talked with Bob Graham, chief sales and marketing officer for Austin, Texas-based Facility Solutions Group, about emerging technologies as well as proven products in the lighting arena.

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If you could isolate a single trend in lighting that has emerged over the last six to 12 months that has had the greatest impact on productivity and cost control, what would it be?

LED lighting continues to be an emerging technology that retailers who desire to reduce long-term maintenance and total ownership costs are embracing. LED's cost impact is primarily due to its broader life expectancy; LEDs last 30,000 to 100,000 hours compared with incandescent or halogen lamps that offer just 2,500 to 5,000 hours in service life. There is some energy savings by incorporating LED, but the larger cost reduction is in the area of maintenance.

Some notable advances have been made in LED technology, as well. Products are getting brighter, which was needed, and the color rendering capabilities are improving. Colors once in the white and blue spectrum are now getting brighter and warmer, which is advantageous for retail applications.

What has driven the new LED technology?

The energy codes are driving both the new LED technology and the push toward ceramic metal halide. Federal law mandates that each state have an energy code and establish minimum requirements for that code. While it is up to each state to implement and enforce its own code, most have adopted either the ASHRAE Standard 90.1 or the International Energy Conservation Code as the basis for their energy code. Both ASHRAE and IECC allow retailers only so many watts per square foot, which affects light levels, lamp types and lighting-equipment efficiency. Initially when the economy took a nosedive, what we saw was fear. Now we are seeing retailers coming out of that state of mind and preparing to unveil who they will be when the economy rebounds.

Continuing to specify the older lighting technology isn't possible with these stricter lighting power densities, so the only way to maintain lighting intensity while remaining code-compliant is to move to LED and ceramic metal halide, or to some of the fluorescent options.

What other types of lighting products available today are succeeding in meeting energy codes while reducing the total cost of ownership of retail lighting systems?

T5HO fluorescent, LED, CMH, reduced-wattage T8 lamps and systems. The T5 product is smaller, so the fixture size can be reduced, which is more aesthetically pleasing and makes it suitable for not only ceiling and slot lighting fixtures but also showcase lighting applications. The product is more efficient, so energy costs are also lower. This is also true of ceramic metal halide, which works well for accent lighting.

What kinds of tax incentives are available for retailers under EPAct with regard to lighting?

The Energy Policy Act of 2005, which created the Energy Efficient Commercial Buildings Deduction, was set to expire in 2008, but has been extended. The deduction amendment allows a tax deduction for the entire cost of a lighting upgrade, subject to a cap of $.60/sq. ft. It is important to understand that we are talking about tax deductions, not tax credits.

Utilities are offering incentives as well, and these are direct cash incentives to upgrade lighting. Combining both — the EPAct tax deductions with the utility cash incentives — will markedly reduce the initial capital cost and also the total ownership cost.

How can retailers best leverage these incentives?

Obviously, these tax deductions are attractive for retailers that are profitable (paying taxes) and want to integrate the new technology. The tax deduction helps, but with the added utility rebates, reduced maintenance costs and, in many cases, better illuminated stores, it makes for a terrific investment opportunity which also can typically increase sales at the same time.