Lightshow Winter 2019

LUTRON



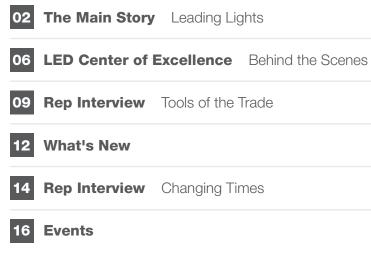
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Lightshow Winter 2019

The Main Story

Leading Lights

Three industry insiders share their thoughts on the state of LED downlights versus LED decorative lights.

As lighting technologies evolve and the guality of LEDs improves, what does that mean for downlights and decorative lights?

We spoke with Keith Danoff, EVP of Product and Marketing for Generation Lighting, Jeff Dross, Corporate Director, Education and Industry Trends for Kichler Lighting, and Lance Smith, Director, Builder Sales and Marketing at Progress Lighting, for their insight.

From your perspective, what is the LED adoption rate like for consumers when it comes to downlights versus decorative fixtures?

Keith: The adoption rate for downlights is significantly higher for a number of reasons, one being that the directional nature of LEDs makes them very well-suited for downlights. This works well for some decorative fixtures, but not all.

The cost differential isn't that high between LED and non-LED in downlights because the light source is quite small. Decorative fixtures may require a substantial number of LEDs, which drives up the cost significantly. In addition, it's more common to use integrated LEDs in downlights, whereas replacement bulbs are quite popular for many decorative fixtures.

Finally, downlights are often left on more hours than decorative fixtures, so the economics of LED downlights make more sense.

Jeff: I see each light source transitioning to LED at its own pace. Initially, landscape lighting flipped from incandescent to LED, and architectural accent and under-cabinet lighting followed soon after. Downlighting is on pace to do the same. I believe that traditional decorative lighting (chandeliers, sconces, etc.) will likely be at the end of the list, although contemporary decorative is already very much settling into LED.

Are the downlights that are available now mostly LEDs (either incorporated into a fixture or being lamped with an LED bulb instead of an incandescent or halogen bulb)?

Lance: Most of what we are seeing are incorporated, however, we still have medium base socket downlights that will accept an LED bulb.

Keith: Yes, I believe for most installations customers are ultimately using an LED source in their downlights via integrated LED, replacement LED bulbs, or retrofit LED solutions.

Keith Danoff

EVP of Product and Marketing Generation Lighting

Jeff Dross

Corporate Director, Education and Industry Trends Kichler Lighting

Lance Smith

Director, Builder Sales and Marketing Progress Lighting











The Main Story

Jeff: I believe downlights are a mix right now, but they're moving to become more integrated. PAR and R LED lamps initially were not engineered for use in recessed applications, so consumers were disappointed with the performance. While there are now downlight-specific LED PAR and R lamps, advances in integrated downlights are surpassing them.

In what rooms/applications are consumers using LED downlights?

Jeff: LED downlights are perfect everywhere and have found themselves in every room in the house. Because of their long life and the lack of maintenance, double-story applications are the most beneficial and most widely used.

Keith: I agree; downlights are ubiquitous throughout though perhaps less popular in bathrooms where the forward throw of a wallmounted fixture is more practical.

Are builders incorporating more LED lighting into their homes?

Jeff: Yes and no. To meet an assortment of energy regulations, LED is finding its way into most new construction, though some states with less restrictive energy codes may find builders still using incandescent and CFL lamping. LED, however, is proving to be preferred by customers, so the CFL option is disappearing. Again, the level of incorporation is based on product types. Many builders are now using integrated LED downlights, undercabinet, and architectural lighting, but preferring LED lamping in conventional chandeliers and pendants.

Lance: I see builders using more surface-mount LEDs in lieu of recessed downlights. Surfacemount LEDs are glary, making them less than ideal for task lighting in kitchens. But builders are installing them there as well as in other areas of the home.

In the past, decorative fixture design needed to account for the bulb socket. Does "designing around a socket" still play a part when it comes to LEDs?

Keith: Integrated LEDs frees up designers to create unique, never-before-possible looks. They're also popular in product categories that lend themselves to LEDs' directional nature and small form factor (like recessed, under-cabinet, bath, and flushmount fixtures). At the same time, designing around standard sockets and replacement bulbs is still extremely prevalent. Replacement bulbs have gotten substantially better in terms of performance and reliability. They also provide more peace of mind to the end-user who knows that if a bulb fails, it can easily be replaced. The costs have also dropped significantly to the point where it is oftentimes less expensive to use replacement lamps than to design a custom solution.

Jeff: The methodology of designing luminaires has changed forever due to LEDs. Lighting can now be more sculptural, without the restrictions of the clunky light bulb and socket. That said, functional parameters still influence the design process. Even designing simpler products now requires a closer working relationship with the engineer than in the past. While the light bulb is gone, heat maintenance, driver location, and lumen directionality have taken its place as developmental concerns.

If "designing around a socket" isn't an issue, has that resulted in more decorative fixture options?

Jeff: Sure. Sockets, light bulbs, and 18-gauge, 150° C-rated wire demanded certain amounts of space in a luminaire. Diffusers needed to be configured to enclose the bulb, cups were needed to conceal the socket and large tubes were required for encasing the wire. With those restrictions gone, designers can express their ideas in very different ways.

What are some design trends when it comes to incorporating LEDs into a decorative fixture?

Lance: "Thin" is one general design trend. LED light engines need to be as thin as possible so we can incorporate them into fixtures with minimal disruption to the desired design. For example, we can install a small light engine into a mounting cup of a bath vanity bar with no distraction from the fixture design.

Jeff: With LEDs, designs can be smaller; the light source can be hidden in previously unimaginable spots on the luminaire. Wiring clusters are disappearing because they are no longer needed. Shapes are more fluid. Lighting can become illuminated sculptures that add elegance to the home along with their now subtler functionality.

In more functional lighting, size is diminishing. Architectural accent lighting was created by 12-gauge wire, in a track with festoon lamps and sockets riding along the track rail. That has been replaced with LED tape that is about 3/8" wide and 1/16" tall. LED downlights are about 6" in diameter and 1" deep. Compare that with a recessed can and the massive metal enclosure previously hidden in the plenum. Lighting no longer needs as much bulk as in the past.



LED Center of Excellence

Behind the Scenes

Find out how LED bulbs make the cut at Lutron's Center of Excellence



We don't have to tell you that dimming LEDs is challenging. That's why we're continually testing screw-in, dimmable LEDs for compatibility with our C-L dimmers, through our LED Center of Excellence. Our goal is to help end users find LEDs that will dim beautifully and reliably. To date, we've tested thousands of bulbs. If a bulb meets our dimming criteria, we add it to our LED Report Card Tool as well as our LED Bulb Compatibility Tool (see page 08).

But how do we determine which bulbs make the cut? Jackson Gehman. Lutron Customer Support Leader, explains what we're testing for, and why.

What makes reliably dimming LEDs so difficult?

Lack of standardized LED designs makes it difficult to design dimmers/controls to work with LEDs. A manufacturer may mark a lamp as "dimmable" but that doesn't necessarily mean "flicker-free" or "noiseless" dimming. While a Lutron C-L dimmer might provide good dimming for higher quality LEDs, the performance of other LEDs might not meet a customer's expectations.

Have any dimming issues improved over the years?

Over the last 3 to 4 years, issues with dimming LEDs have improved, and they continue to get better, but they haven't been eliminated. (Our C·L technology is updated at least annually to improve performance and stay current with the latest LEDs on the market.) Industry standards, such as Energy Star, California Energy Code, and NEMA, have helped establish minimum criteria for the products on the market.

Lutron retail customers are also concerned about performance and are helping by encouraging lamp manufacturers to improve their dimming performance by working with Lutron.

Fortunately, there are manufacturers that work closely with us and with the standards organizations, and we have seen the overall success rate of those manufacturers improving over time.

What are the main concerns today with dimming LEDs?

Customers still expect high performing LEDs that dim well and don't buzz, flicker, or shimmer. Lamp manufacturers continue to update their designs, which makes it difficult to stay on top of which lamps/designs are available, which lamps we've tested, and getting customers to connect the dots between the two.

LED Center of Excellence

What kinds of issues does Lutron test LEDs for?

We're testing for:

- Acoustic noise does the LED produce any buzzing or "ringing" that the customer will hear?
- Flicker do the lights flash?
- Shimmer is the light level stable? Or does the light level flutter around?
- Turn-on time Do the lights turn on within a second?
- Dimming range do the lights dim low enough (to 10%); can the lights be brightened high enough (80%)?
- Complete turn-off do the LEDs completely turn off or do they still glow when you turn the dimmer off?

What dimming criteria do LEDs need to meet to be included in Lutron's bulb compatibility list?

- No visible flicker or shimmer when dimmed
- No noise from 5 feet away
- · Lights need to turn on within 1 second.
- Dims between 10-80% light level
- Electrical and power measurements meet UL standards (For example, a 150W LED dimmer should be able to control 15 10W LEDs. But sometimes certain electrical parameters within an LED may limit the number of bulbs a dimmer can control – say 12 10W LEDS instead of 15. In cases like that, we can't include the product on our tools.)

Who should lighting showroom staff contact if they or their customers have questions about dimming LEDs?

They should visit the Lutron LED website at lutron.com/LEDs

Technical Document	LED Product Selection Tool	4		
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Meet your match

When it comes to choosing an LED/dimmer combo, put our online resources to work for you.

lutron.com/ledtool

Designed for lighting professionals, this tool lets you research LED bulbs that Lutron recommends and get specifications on each bulb's exact lighting performance.

lutron.com/ledfinder

Designed for installers and consumers, this tool helps you find LED bulbs that are compatible with Lutron dimmers. This tool is great for quick reference but doesn't provide full specifications.

Want to facilitate getting a manufacturer's fixture tested for Lutron's high-performance LED fixture list? Ask the manufacturer to make a request through our OEM sales channel via **oemorders@lutron.com**.

Rep Interview

Tools of the Trade

Lutron reps talk about their go-to resources for delivering the best LED dimming experience.

Lutron reps are met with questions about LED compatibility daily, from electrical and A/V contractors, lighting showroom staff, builders, and everyone in between.

Questions range from:

"Aren't all LED lamps the same?" and "What dimmer can I use for 0–10V dimming?"

to: "Why is there a maximum wattage difference between an LED load and an incandescent or halogen load?" and "Is there such as thing as a true universal dimmer?"

We asked three Lutron reps to share with us how they help explain LED/dimmer compatibility, as well as the tools they use to answer questions.

Here's what they had to say.



Matt Larmer

Manager, **Lighting Controls**

Texas Lighting Sales, Inc.

Euless. Texas



Chris Carboni

Lighting Sales Manager

CET & Associates

Denver. Colorado

Brvan Kellv

Residential Sales Manager

Synergy **Electrical Sales**

Fairless Hills, Pennsylvania

Rep Interview

How do you help explain the challenges with dimming LEDs?

Matt: Lutron's white paper on controlling LEDs does a good job of providing a technical explanation of what's important when dimming LEDs. This paper explains the difference between measured and perceived light, the impact that an LED's driver has on dimming performance, and potential issues if you don't use the right control type.

Chris: I regularly cover this topic with new showroom sales staff and A/V contractors by holding a local training about LED dimming technology. After the training we check the compatibility of a selection of popular bulbs that the showroom has on the sales floor using Lutron's mobile-friendly LED finder website.

What tools do you use to help find the best LED/dimmer combination?

Bryan: My favorite tool is the Lutron LED product selection tool, as it gives an in-depth look at how the lamp will perform with each specific dimmer/system family. With this tool, you can have a discussion based on the findings and suggest one dimmer over another. For example, a lamp may dim to only 18% with a Diva dimmer but will dim to 2% with a Caséta dimmer.

If someone is looking for a general understanding of LEDs, I typically direct them to the LED Center of Excellence.

Chris: The LED bulb compatibility tool, which I use every day, is great for finding quick and

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LED product selection tool

general compatibility info for C·L, Caséta, and RA2 Select dimmers.

Sometimes I find that a new model number for a bulb series might not have been tested. In that case, I contact the bulb manufacturer to see if the bulb technology changed between the bulb that was tested by Lutron and the current version of the bulb.

The LED product selection tool is great for pulling up a verified test document (report card) that you can present to a contractor, builder, or even a homeowner.

Matt: I agree; Lutron's LED product selection tool is a good resource, as it provides detailed information on a variety of LED fixtures and lamps as well as control technologies and dimmer types.

The product report cards you can access in this tool give credibility to the recommendations you make for the type of dimmer to be used with an LED source. These report cards also help to set expectations as to what the dimming performance will be when controlled by a specific dimmer.

The high-performance LED fixture list is a good tool when you have a specific application where the lighting is going to be controlled by Lutron, but you're not restricted by a specific fixture manufacturer or product. This tool can help you determine which

fixture manufacturers offer their products with a Lutron driver while also meeting other spec points, such as lumen output and color temperature.

With the LED compatibility tool, you can compare similar products, filter lamp options by brand, type and wattage, as well as email search results to a decision maker. Every stocking distributor and lighting showroom should be familiar with and comfortable using this tool.

Any best practices for determining **LED/dimmer compatibility?**

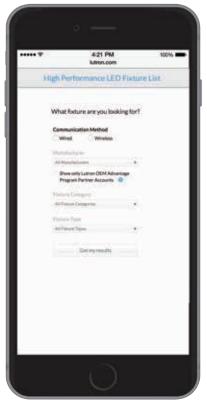
Bryan: If Lutron has not tested the lamp/fixture, I suggest reviewing the lamp/fixture manufacturer specification to see if they recommend a dimmer by model number or at least a description (forward phase, reverse phase, 0–10V, etc.) Although the spec doesn't give us specific performance details, it allows us to make an educated recommendation. In addition, I always recommend doing a mock-up to test performance, no matter what the project size.

Chris: It's important to remember that LEDs vary in performance with Lutron's dimmer product lines. There is no miracle dimmer that will have the same level of performance with every load, every time. Performance is based on how the LED fixtures work together with the dimmer in concert. That's why Lutron employs a full-time staff of engineers to test other manufacturers' product with Lutron devices.

Matt: If Lutron doesn't have the necessary compatibility information, I then turn to the fixture or lamp manufacturer to see if they've tested specific products from Lutron. If that information is not available, then we're left to determine what type of dimming technology the fixture or lamp uses and then pairing the appropriate control type to it. Throughout this process, my goal is to let the customer know what compatibility information is available and who is supplying that information, all in an effort to set proper expectations as to what type of performance we can expect in the field.



LED compatibility tool



High-performance LED fixture list



What's New

Caséta smart fan speed control*

Now you can offer your customers smart home ceiling fan control at the wallbox, courtesy of Caséta. Featuring 4 quiet speeds plus off, the Caséta fan speed control works with the Lutron App and integration partners. LED feedback indicates fan speed setting.

Available in gloss: Black, Ivory, Light Almond, and White Gloss colors

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BL	IV	LA	WH
Black	lvory	Light Almond	White

Pico remote for fans*

Customers can also control ceiling fans with the Pico remote for fans. It works with the new Caséta fan speed control, as well as with the existing fan controls for Lutron systems, including RA2 Select, RadioRA 2, and HomeWorks QS.

Available in gloss: Black, Ivory, Light Almond, and White; matte: Biscuit, Midnight, and Snow

Gloss colors BL WH LA Light White Black lvory Almond Matte Colors SW BI MN Biscuit Midnight Snow

*For fan speed-only controls; these products do not work with light kits

Voice control for shades

Controlling Lutron automated shades with your voice just got easier. Google Assistant users can control their shades with normal commands, such as "Hey Google, open my living room shades," rather than having to remember specific commands.

Compatible with Lutron batterypowered automated shades.



Google Assistant is a trademark of Google L.L.C.

Finiré 3" with Warm Dimming

Customers who want an incandescent dimming experience with LEDs should look to Finiré 3" with Warm Dimming, which delivers exceptional color rendering (including R9 value), color consistency, and dimming performance.

Available in round, square, trimmed, trimless, pinhole, and slotted pinhole options.

Finiré Prime and Finiré Prime with Warm Dimming For Wet Locations

Customers who want to use the Finiré Prime family throughout their homes now have options for wet locations, such as above sinks and showers.

Available in White.



Custom engraved Pico remotes for RA2 Select

Customers with RA2 Select can now personalize Pico 4-button scene controls with different text and icons. to suite their lifestyle and the rooms in their home.

Available in gloss: Black, Ivory, Light Almond, and White; satin: Biscuit, Midnight, and Snow

Gloss colors





A seasoned industry professional shares where the industry has been, and where it's going.



Changing Times

ave Wood, Principal, residential and commercial lighting sales at Saguaro Marketing in Phoenix, considers himself lucky. He's spent 28 years in the electrical/lighting industry, with about 10 years each at a large electrical contractor (as an estimator) and in outside builder sales at a lighting showroom. He says both of those business owners served as mentors, which helped him to move to own agency, where he's been for 8 years.

We asked him about industry challenges, the influence of LED technology, and the keys to a great rep agency/showroom relationship.

How do you personally support the channel? Dave: I'm an active member of the American Lighting Association and the lines I represent are also members.

I think the value of the ALA often gets overlooked. This organization provides a very broad range of training for showroom employees, which includes monthly live webinars, an annual residential lighting course, a library of free training courses for members, live training courses during Lightovation, as well as an online 10-part series covering crucial sales training topics.

The ALA also represents the industry's interests while monitoring and negotiating with legislative and regulatory bodies.

What were lighting showrooms like when you started in the industry and how have they changed over the years?

Showrooms used to be able to stock more products than they do now and could guide a customer to what they had on hand. Showroom challenges used to be knowing what to bring in for display and backstock. I think showrooms have changed as showroom customers have changed.

Customers now can do much more research before they step into a showroom; often they have made up their minds about what they want before they even head to a showroom. This makes it very difficult for a showroom to be able to predict what to keep in stock. Now, manufacturers need to be able to ship quickly, to get the customer what he wants.

What are you/the industry doing to meet customer demands for expediency?

We have to be as quick as possible to respond to all requests from the showrooms. Some manufacturers have adjusted freight terms to help the showroom be able to place smaller orders and avoid freight charges. I even have one that will ship the product directly to the customer for the showroom to help speed up the process.

How has the advent of LED technology affected the channel?

LED technology has made a huge impact on the channel, in the form of fixtures with integrated LEDs and LED lamps. It has changed the way a customer shops for lighting and the way a showroom salesperson sells lighting.

What's tough about LEDs is that the technology changes so often. We're seeing more sleek contemporary fixtures, which can be accomplished only with integrated LED products. But many consumers are still looking

for a fixture that they can change the light bulb in if there is an issue. So the amount of time a salesperson spends with a showroom customer had increased.

What about online shopping?

This one has been tough on the channel in many ways. Lighting showrooms have to adjust the way they do business to compete here. While the showroom still has the advantage of having knowledgeable personnel that can assist the customer, the challenge is keeping the sale at the showroom. They key to that is having well-trained staff who are fully engaged with the customer.

Showrooms are also creating more experiential areas where they can show the difference in color temperatures and dimming capabilities of LED products, which you can't do online.

Where do you see the channel going in the next 5 years?

I believe showrooms will continue to be a viable channel in the next 5 years and beyond, as a very large customer segment still feels more comfortable purchasing from a local retailer. Of course, there will continue to be changes and challenges.

What are your top three pieces of advice for a great rep agency/showroom relationship?

Communication is key, especially with the pace that things are changing. I also think it's important for showroom staff to be able to get ahold of the rep during their business hours, which is why I am available on Saturday/Sunday for questions.

Finally, the showroom staff need to have confidence that the rep is there to help them, whether it be with training, answering questions about pricing, helping with returns, or installing displays.

Events



Lightfair International

May 21-23, 2019 Pennsylvania Convention Center Philadelphia, PA Visit us at booth #1724

Become a Lutron 5-Star Showroom Today!

5-Star Showrooms represent the ultimate Lutron destination. At a 5-Star Showroom you can see, touch, and experience Lutron products and solutions in a fully functional environment. Each 5-Star Showroom is handpicked and certified by Lutron as one of a select number of locations throughout the U.S. and Canada.

5-Star Qualifications

- Provide a working experience destination for Lutron dimmers, light control systems, shades, and fixtures
- Align with certified installers to provide home system and shading solutions
- Host residential influencer events throughout the year to promote light control solutions
- Become fully trained on all Lutron residential solutions

5-Star Benefits

- One-time MDF load of \$2,500
- Annual 5-Star plaque to display in showroom
- Included in exclusive 5-Star showroom promotions
- Supporting materials for residential influencer events
- Opportunity to win a 5-Star Category Award during January Dallas Market
- Noted as an Experience Showroom on lutron.com/wheretobuy website

Contact your local rep for more information or Erik Anderson at 484.809.3867 or eanderson@lutron.com.



RA2 Select Whole home lighting control made simple



SIMPLE. FAST. FLEXIBLE.

Easy app setup

Automated system configuration

Connect up to 100 devices throughout the home

Visit lutron.com/RA2Select to learn more.

