



**LUMILEDS**

# Entertainment Lighting Solutions

*Make it spectacular.*



**Entertainment lighting** is lighting that makes creative imagination a reality for productions and shows. The main objective is to either create spectacular effects to make the artist or audience stand out or provide the high quality lighting conditions for scenes and broadcasting.

The entertainment lighting market includes club/DJ, touring, stage, theater, film, studio and TV.

Today, entertainment lighting can be either traditional or LED lighting. Traditional lighting includes tungsten halogen, high-intensity discharge (HID) lights and linear fluorescent lamps (LFLs). The penetration of LED lighting is already high with exception of those applications where very high intensity, narrow beam angles are required.



### Architainment: theatrical lighting that brings landmarks to life

Architainment is a burgeoning industry that integrates dynamic lighting effects into architectural settings. From breathing new life into iconic structures to producing captivating retail settings and impactful themed environments, LEDs are the clear choice for achieving one-of-a-kind illumination.

### Global LED Stage Lighting Package Revenue



Source: LEDinside

*Together with our customers, Lumileds is making the world better, safer, more beautiful—with light. At Lumileds we're collaborating with our customers to push the boundaries of light. We have an ambitious vision for the future of light, and we're taking the lead. The best innovation happens when great minds work together—when we act with integrity as trusted partners to our customers, honoring commitments, offering deep expertise, and going the extra mile. Because it's only together that we can make the world better, safer, more beautiful—with light.*

*For companies who require innovative lighting solutions, Lumileds is a global leader employing more than 9,000 team members operating in over 65 countries. Lumileds partners with its customers to push the boundaries of light.*

### LUXEON LEDs: Transforming entertainment experiences.

As entertainment productions become increasingly sophisticated, Lumileds is answering the call for more inspired illumination with Entertainment Lighting Solutions. By ensuring strict adherence to optical and electric specifications, these advanced lighting products—available as LEDs or preconfigured using Lumileds Matrix Platform—are ideal for large entertainment venues and installations that demand absolute precision.



### Lumileds Entertainment Lighting Solutions take performances to breathtaking levels.

As far back as 2,500 years ago, the Greeks understood the importance of theater lighting—constructing amphitheaters that optimized available sunlight.

In the 1500s, candles were the illumination standard for indoor performances, giving rise to the luminous-intensity measurement known as candlepower. Fast forward to today and lighting plays a more notable role than ever in elevating entertainment experiences—creating unforgettable effects in clubs, concert halls, broadcast studios and theatrical venues. To maximize innovation, more and more entertainment luminaire manufacturers and designers are selecting LEDs as their go-to entertainment lighting source.

The demand for programmable stage lights has increased significantly over the last two decades.<sup>1</sup>

This significant increase in demand is thanks to the rising usage of such lights across the world for music events, stage shows, live in concerts, premier clubs, conference rooms, bars, theme parks, shops, and architectural environments.<sup>1</sup>

LED lights have been reporting a higher demand than any other type of programmable stage light and are expected to continue on the same path over the next few years. Strip lights have surfaced as the most favored product in this market and are projected to remain so in the years to come.

The global LED stage lighting market increased by 14% to USD 745 million in 2017. By 2020, the estimated market size is likely to surpass USD 1 billion.<sup>1</sup>

The global stage light source market has reached a size of USD 382 million, among which a share of approximately USD 150 million is contributed by LED light sources, based on an LED penetration rate at 39%.<sup>1</sup>

There's no doubt that performers are central to making a concert or theatrical production memorable, but amazing effects created by well-designed lighting can elevate the experience even further. Whether it's a large-scale musical event or a contemporary drama set in an intimate theater, there's an excellent chance that today's most stunning lighting effects are created by LEDs.

<sup>1</sup> LEDinside, 2017 Stage Lighting, Filament, and OLED Lighting Market Trend, July 28, 2017

LEDs are being used across the entertainment industry for a few very important reasons. From an artistic and aesthetic point of view, only LEDs offer full spectrum, high-quality direct color light. And on a practical level, LEDs are far more rugged than conventional lamps—making them ideal for multi-city tours that require building and breaking down stages night after night.

At Lumileds, we've been instrumental in establishing LEDs as the go-to entertainment lighting source with our Entertainment Lighting Solutions, a portfolio of innovative LEDs that are a testament to our commitment to making the world safer, better and more beautiful. Add to this our relentless pursuit of innovation, unwavering quest to deliver flawless light in every application and staunch dedication to environmentally friendly practices, and you have a partner ready to address your boldest lighting challenges—whether in entertainment or any other industry sector.

### LUXEON LEDs earn a starring role.

Working closely with leading entertainment lighting manufacturers, designers and technicians, Lumileds has developed a range of state-of-the-art Entertainment Lighting Solutions. These advanced LEDs optimized for floodlights and spotlights at large concert venues, theaters and television production facilities—represent the industry's most comprehensive portfolio of direct color LEDs. The powerful LUXEON LED lineup delivers the exact same light focal point as well as unsurpassed performance in output, punch and quality of light.

To achieve the consistent lighting that is critical for performance applications, Lumileds offers world-class, in-house phosphor capabilities that provide vivid colors and superior color matching. And for large-scale, more complex deployments, Lumileds Matrix Platform ensures manufacturers have access to LUXEON LEDs as a fully preconfigured system solution that meets the exacting specifications.

By creating a forward-thinking roadmap and maintaining a steadfast commitment to R&D, Lumileds will continue to play a critical role in transforming entertainment lighting and bringing the never-before possible within reach.

### The lighting choice that ensures the show always goes on.

The popularity of LEDs in entertainment lighting is based on several distinct benefits—including:

**Light Quality**—Unlike conventional white lamps with color filters that lose as much as 40% of passing light, LEDs deliver a wide range of crisp, vivid direct color light

**Durability**—Lamp breakage from rough handling and frequent set ups and tear downs has long been the bane of the entertainment industry; semiconductor-based LEDs are built to withstand even the roughest handling without damage

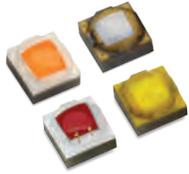
**Energy-Efficiency**—Compared to traditional lighting, LEDs consume less energy and have a much longer life, lowering both power and maintenance costs



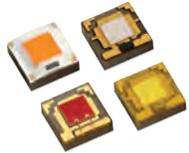


## Products – Top picks from our portfolio that add the best value.

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**LUXEON C Color Line:** With an advanced portfolio of color and white LEDs, this innovative line is designed for flawless color mixing. By featuring a single focal length for all colors, LUXEON C Color Line provides consistent radiation patterns from secondary optics and maximizes optical efficiency. Along with a low dome design that keeps the effective light source small while improving light extraction, these LEDs are optimal for the most demanding entertainment applications.



**LUXEON CZ Color Line:** Delivering up to 48% higher “punch” and available in 21 color options, these high performance solutions eliminate crosstalk and ensure a true color point when LEDs are closely packed. Created with the same robust building blocks as the award-winning LUXEON C Color Line, these powerful products feature identical focal length in an undomed design—enabling superior color mixing in stage and studio lighting.



**LUXEON 2835 Color Line:** LUXEON 2835 Color Line is a complete color portfolio in an industry standard footprint, offering design flexibility for the dynamic needs of entertainment applications.

## What makes Lumileds solution better and different?

- Full color gamut, all with the exact same light focal point and industry leading performance in output, punch and quality of light
- World-class, in-house phosphor capabilities delivering vivid colors and superb color matching for perfectly consistent scenes and effects

## About Lumileds

Companies developing automotive, mobile, IoT and illumination lighting applications need a partner who can collaborate with them to push the boundaries of light. With over 100 years of inventions and industry firsts, Lumileds is a global lighting solutions company that helps customers around the world deliver differentiated solutions to gain and maintain a competitive edge. As the inventor of Xenon technology, a pioneer in halogen lighting and the leader in high performance LEDs, Lumileds builds innovation, quality and reliability into its technology, products and every customer engagement. Together with its customers, Lumileds is making the world better, safer, more beautiful—with light.

To learn more about our lighting solutions, visit [lumileds.com](http://lumileds.com).



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