eldoLED®
Empowering Your Vision
At eldoLED®
Light is Our Passion

eldoLED is the world leader in the design and manufacture of intelligent drive solutions for digital lighting systems. Being the leader is a reflection of our passion for making lighting that is more than simply efficient. Our lighting systems create beautiful, comfortable and predictable performance in the spaces that people live, work and learn.

eldoLED is the driver technology of choice for hundreds of luminaire manufacturers worldwide – leading the lighting industry with superior system performance, innovative features and the widest range of power levels available.
The LED driver is at the heart of your lighting design

Achieving the optimal performance from a digital lighting system begins with using a high quality LED driver. Like the processor in a computer, the driver is the heart of a digital LED system, determining how a luminaire performs. It regulates the signal used to control and dim the LED. Being able to specify its performance puts the power for perfection in your hands.

Emulating the most desirable characteristics of natural and artificial light sources – such as smooth, stable and deep dimming, color consistency and the ability to tune – is critical to enhance your ability to create a superior visual experience – all while minimizing energy consumption.
What is Natural Dimming?


Nature provides us with a beautiful example of how light should be experienced. The transition from light to dark as day turns into night is a simple, yet awe-inspiring experience.

Within the built environment, we often rely on artificial light sources to supplement natural light and enhance visibility. The capability to change light levels in interior spaces is critical for optimal productivity, efficiency and beauty. LED technology expands our horizons of what is possible and with eldoLED, visual and performance attributes of lighting are never compromised.
Natural dimming is characterized by the attainment of stable, deep dimming and smooth, flicker-free performance. These capabilities give you the confidence to specify a dimming system, knowing that it will perform as you expect – consistently and naturally.

Stable, Deep Dimming

- Hybrid Hydradrive technology enables stable, deep dimming to extremely low light levels – emulating the natural dimming effects of traditional light sources.

- The patented digital topology of Hybrid Hydradrive ensures that the specified chromaticity achieved at maximum light output is maintained consistently throughout the dimming range.

Smoothness

- eldoLED increases the resolution from 16 bit rate (65k steps over the dimming range) to 20 bit rate (over 1.2 million steps) – providing unparalleled performance in masking visual perception of discreet step changes.

Flicker-free

- Throughout the dimming range, Hybrid Hydradrive dimming intelligence continuously varies the operating frequency between 1.3kHz and 30kHz to remain above the visual threshold of both perceptible and stroboscopic flicker (ref. IEEE PAR 1789).

- Variable operating frequency enables compatibility with HD video equipment.

LED drivers utilize either Current Reduction or Pulse Width Modulation for dimming an LED. When used alone, these technologies lack the ability to deliver a complete, natural dimming experience – while maintaining color consistency over the entire dimming range.

eldoLED’s patented Hybrid Hydradrive utilizes an innovative combination of both techniques with adaptive intelligence to optimize performance.
You Have
The Power!

Specify the best solution for your project

With eldoLED, you have the power to optimize performance for your specific project needs. Regardless of control network, luminaire type or energy budget, you can tailor the dimming experience for your application.
Specify Your Dimming Curve

As light levels dim, the human eye adjusts to maintain optimal visual acuity. This is why we do not perceive light level changes in a linear or proportional manner across the dimming range. Today’s lighting controls have a built-in dimming curve, which compensates for the eye’s adjustment and creates an intuitive relationship between the dimming input and perceived light levels. However, these dimming curve functions are not consistent across manufacturers of dimming controls.

eldoLED gives you the power to specify the driver dimming curve that best complements the control in order to deliver the resulting dimming effect that you desire. To achieve the most predictable dimming experience, a linear curve paired with a logarithmic curve is recommended.

Pairing linear and logarithmic dimming curves enable an accurate correlation of dimming input to visual perception. Additionally, it gives you more granular control at low light levels making it easier to select the exact light for your space.

Using two linear dimming curves is most common but not as accurate of an experience because our visual perception is skewed to a steep decline at low light levels.

A logarithmic curve paired with another logarithmic or square curve is rarely recommended because it gives you little control at light levels greater than 20%.

Specify Your Lumen Output

eldoLED drivers have the flexibility to be tuned to the finest of degrees. Through tuning of the output current, it is possible to find an optimized balance between delivering proper lumen output and meeting the most rigorous energy targets.

Most LED luminaires come with standard lumen packages and have very limited flexibility for deviation. Now with eldoLED, the luminaire can be specified and rated to deliver a reduced maximum lumen output with a corresponding reduction of power consumption.
Specify Your Low-end Light Level

eldoLED is known for achieving the highest levels of lighting system performance – while supporting the specific needs of your application.

<table>
<thead>
<tr>
<th>100%</th>
<th>1.0%</th>
<th>0.1%</th>
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</table>

Select SOLOdrive for beautiful, deep dimming-to-dark (0.1%).
Select ECOdrive to achieve high-quality dimming to 1% without the cost premium common for this level of performance.

Specify Your Control Protocol

Whether you want simple analog control via 0-10V or more advanced digital control with nLight, DALI or DMX, you will get the same great dimming performance regardless of control signal, luminaire type or power level selected. This is what we do at eldoLED. We remove any concerns or issues that constrain the application of LED. We seek to deliver unmatched driver performance that enables you to provide your clients with a truly unique visual experience.
A high quality LED driver is essential to achieving a successful design outcome. The unique advantages of the eldoLED driver technology are at the heart of Acuity Brands® A+ Certified lighting solutions.

eldoLED’s product offering and openness to control systems facilitate a complete lighting solution that ties together the diversity of multiple luminaire types and delivers a cohesive experience.
The A+ Certified logo symbolizes Acuity Brands’ confidence and commitment to delivering solutions that simply work. The A+ Certified program is the first comprehensive testing and certification of lighting system interoperability that allows you to select, configure and specify lighting systems that are both functionally compatible and visually consistent – quickly and confidently.
Scalable

Acuity Brands provides you with all the products necessary to control and illuminate a single room or an entire campus.

Demand for energy savings has fueled the acceleration of LED lighting adoption. While an economic payback is attractive to anyone designing or specifying lighting, it is designing with light – enhancing architecture or making the visual environment truly unique – that captures the imagination and stirs passion.
<table>
<thead>
<tr>
<th>Location</th>
<th>System 1</th>
<th>System 2</th>
<th>System 3</th>
<th>System 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conference Room</strong></td>
<td>SOLOdrive</td>
<td>Fresco</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Natural Dimming capability</td>
<td>• Touch screen control user interface</td>
<td></td>
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<tr>
<td></td>
<td>• Dimming-to-dark, 0.1%</td>
<td>• 36 zones of control</td>
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<tr>
<td></td>
<td>• Works with nLight, 0-10V and DALI controls</td>
<td>• Integral astronomical clock</td>
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<tr>
<td><strong>Open Office</strong></td>
<td>ECOdrive</td>
<td>nLight Wallpod</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>• Natural Dimming capability</td>
<td>• Communicates with nLight</td>
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<tr>
<td></td>
<td>• Premium dimming to 1% without the cost</td>
<td>• Simple push button dimming and presets</td>
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<tr>
<td></td>
<td>• Works with nLight, 0-10V and DALI controls</td>
<td>• Optional integrated occupancy sensor</td>
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<tr>
<td><strong>Lobby</strong></td>
<td>POWERdrive</td>
<td>Graphic Wallpod</td>
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<tr>
<td></td>
<td>• Natural Dimming capability</td>
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<td>• Touch screen control user interface</td>
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<td></td>
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<tr>
<td></td>
<td>• Works DMX and DALI controls</td>
<td>• Provides System time clock, stores time-based profiles</td>
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<tr>
<td><strong>Parking Garage</strong></td>
<td>ECOdrive</td>
<td>XPoint Wireless</td>
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<td></td>
<td>• Natural Dimming capability</td>
<td>• Reliable wireless network with no repeater or gateway required</td>
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<tr>
<td></td>
<td>• Premium dimming to 1% without the cost</td>
<td>• Local devices store schedules and group information</td>
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<tr>
<td></td>
<td>• Works with nLight, 0-10V and DALI controls</td>
<td>• On-board monitoring and reporting</td>
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</table>
Quality Inputs Create Superior Outcomes

Rely on Acuity Brands as your partner for delivering lighting solutions that empower your design.

- We concentrate on the smallest details so you can focus on your project.
- Our design and quality assurance processes begin by visualizing the luminaire and controls functioning as a system in projects you design.
- Designs are validated by our rigorous product development process assuring performance and interoperability – far beyond traditional requirements.
- A comprehensive North American manufacturing and logistical network enables our unique capabilities to vertically integrate critical components into the lighting system.
- We support you with local service and technical resources.

Combined, these INPUTS create a superior experience for you – and support you in delivering a superior OUTCOME to your clients.

Quality Inputs Provide You with Superior Outcomes

- Technology Roadmap
- Thoughtful Design
- Vertical Manufacturing
- Validation Testing
- Single Point Service
- Future-proofing, Interoperability
- Consistent Appearance, Performance
- Process & Results: Backed by Acuity Brands
- Exceptional Results
- Ease of Use
- Assurance & Confidence
Write and Control Your Specifications With These eldoLED Advantages

Natural Dimming
- To ensure a continuous perceived change of brightness between minimum dimming level and 100%, a minimum of 65,536 steps (16 bits) is needed.
- Flicker-free: driver/luminaire to be free from objectionable flicker as prescribed in IEEE PAR1789.
- Over the entire range of available drive currents, driver shall provide step-free, continuous Dimming-to-dark from 100% to 0.1% and 0% relative light output.

You Have the Power!
- Driver must be capable of configuring a linear or logarithmic dimming curve, allowing fine grained resolution at low light levels.
- Adjustment of led current from 150mA to 30mA^2/S at the 100% control input point in increments.

Lighting Solutions that Simply Work
- 4-Wire (0-10V dc voltage controlled) dimming drivers, must meet IEC 60929 annex e for general white lighting LED drivers.
- Digital (DALI low voltage controlled) dimming drivers, must meet IEC 62386.
- Digital multiplex (DMX low voltage controlled) dimming drivers, must meet DMX / RDM: USITT DMX512a and ANSI e1.20 (Explore & address).
- System must interface directly with intelligent led luminaires such that only Cat-5 cabling is required to interconnect luminaires with control components such as sensors and switches.
- 7" full-color multi-touch capacitive touchscreen for controlling lighting and system components.

Important Electrical Specs
- Driver may be remote mounted up to 300 ft. (100 m) depending on power level and wire gauge.
- Driver to meet or exceed 30mA^2/S at 277 VAC for up to 50 watts of load and 75A at 240μs at 277 VAC for 100 watts of load.
- Total harmonic distortion less than 20% and meet ANSI c82.11 maximum allowable THD requirements at full output.
Light is our Passion
Partner with Acuity Brands

Select the driver that delivers natural, predictable and a comfortable lighting experience – Choose eldoLED from Acuity Brands!

With more than 100 years of lighting experience, Acuity Brands is today’s proven leader in smart luminaires, embedded controls, daylighting and networked systems. Our lighting solutions maximize lighting performance, enhance visual environments and reduce energy-related operating costs.

Visit www.eldoled.com today.