

Light is OSRAM

LIGHTFAIR® International
2013



OSRAM

SYLVANIA

ENCELIUM

traxone:cue
AN OSRAM BUSINESS

OSRAM
Opto Semiconductors

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OSRAM SYLVANIA welcomes you to LIGHTFAIR® International 2013.

OSRAM, OSRAM SYLVANIA, OSRAM Opto Semiconductors and Traxon Technologies take pride in understanding the market and, more importantly, the needs of end users, lighting designers and project managers. We offer fully integrated solutions across the entire lighting value chain to best meet the needs of our customers. We possess a deep knowledge of each critical interface, from chips and light engines to luminaires. Today, we manufacture and sell a variety of energy-saving lighting products and systems for commercial, residential and OEM customers, marketed under the brands OSRAM, SYLVANIA, Traxon & e:cue and ENCELUM®

Through all of the lighting regulations and changes, we remain committed to leading the industry with products, tools, training, solutions and support. It is an exciting time to be in lighting and we are excited to lead the industry into a new age of lighting possibilities.

We are focused on providing complete systems and solutions to our customers. We offer a full portfolio of products available for today's lighting applications, each one designed and manufactured to the highest possible standards.

Over this past year, our Solid State Lighting business expanded in both Canada and the United States. Our LED retrofit products continue to show growth and our product positioning separates us from the competition. We have introduced innovative lighting solutions that improve the quality of life, reduce the impact on our environment and provide significant cost and energy savings.

Take advantage of our integrated lighting expertise and our promise of quality and innovation.

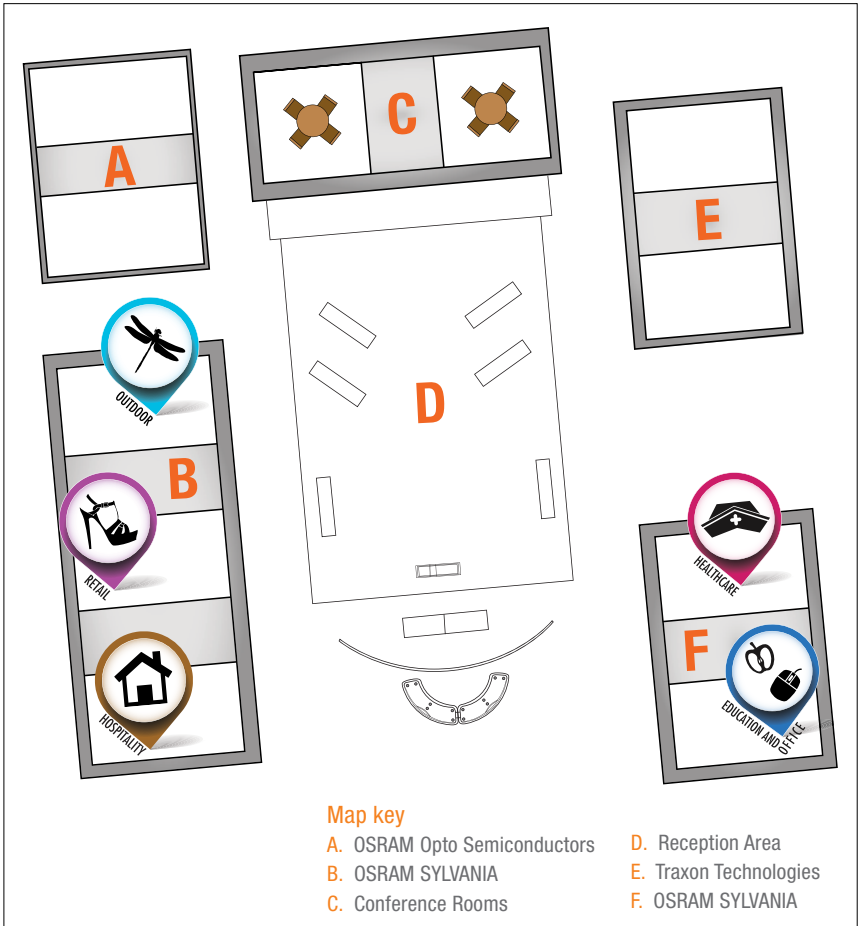
We invite you to visit our booth at LIGHTFAIR International 2013. You will discover a comprehensive portfolio of fully integrated lighting products and services. We look forward to demonstrating the latest in lighting technology and solutions.

Thank you and enjoy the show.



Richard D. Leaman
President and CEO
OSRAM SYLVANIA

Exhibit Map



We gratefully acknowledge the following OEM partners who donated luminaires and materials.

Acuity Brands
 Birchwood Lighting
 Electric Mirror
 Elite Lighting

Engineered Lighting Products
 ESCO Lighting
 1st. Source Lighting
 Gammalux

Intense Lighting
 Litecontrol
 Spectrum Lighting

OSRAM is proud to offer an innovative selection of advanced lighting technologies and energy-saving products, systems and services. Our products are marketed under our family of brands: OSRAM, SYLVANIA, Traxon & e:cue and ENCELUM®

Because our focus is on lighting, we provide the solutions that meet the needs of all our customers. Our products are designed to save energy, improve the quality of light and meet sustainability goals. The right lighting solution can make people more comfortable, more productive and feel safer. Whatever the need—from retail to entertainment lighting, depend on us for the ideal lighting solution to meet your requirements and to help make your company more efficient and productive.

Our Brands

Our family of brands:



OSRAM branded products are known worldwide for their high quality and advanced technology. Featuring energy-saving solutions for any application, the OSRAM brand is one of the most respected in lighting.



SYLVANIA branded products have signified lighting innovation for more than a century. Innovation, quality and dependability are why the SYLVANIA brand name is the name you can trust. The complete line of SYLVANIA products deliver unparalleled levels of performance to any modern lighting application.



The Traxon & e:cue portfolio of sustainable and reliable turnkey lighting solutions is designed to meet every demand. Traxon & e:cue LED lighting and control systems offer sophisticated RGB and white options for the architectural, hospitality, healthcare, retail and entertainment industries. These innovative solutions apply the benefits of LEDs as a highly-efficient, long-lasting and environmentally-safe light source by combining state-of-the-art technology with award-winning designs.



The ENCELIUM® brand and Energy Management System from OSRAM offers some of the most brilliant tactics in the industry to combat the problem of escalating energy costs. The solution was the Energy Management System (EMS), the most advanced lighting control solution on the market. EMS is an intelligent, integrated lighting control and energy management solution that uses the collaborative power of addressable networking technology in conjunction with advanced control hardware and software. Proven solutions have been utilized in hundreds of new and retrofitted buildings around the globe.

We are also proud to have two technologically-advanced businesses in our OSRAM family.



OSRAM Opto Semiconductors represents innovative, trendsetting LED technologies for illumination, visualization and sensing applications, and is one of the world's leading manufacturers of optoelectronic semiconductors. As a wholly-owned subsidiary of OSRAM GmbH, OSRAM Opto Semiconductors offers semiconductor components and support for system solutions based on innovative semiconductor light sources.



SYLVANIA Lighting Services (SLS), a subsidiary of OSRAM SYLVANIA, is the industry leader in turnkey energy-management solutions and preventive maintenance.

With over 40 years of experience, SLS is the largest national lighting service provider with branches across the United States and Canada. Our U.S. lighting technicians are certified through NALMCO®. We provide audit and survey capabilities, lighting design and project management, utility rebate management, recycling, turnkey solutions for EV charging and more, all with one point of contact.

As our business partner, you will benefit from the strength of our company, the versatility of our brands and our commitment to cutting-edge lighting technologies and services. We provide customized solutions to help you achieve your objectives, thus strengthening your bottom line and improving the light around you.

Living and Complying with Today's Lighting Regulations

OSRAM SYLVANIA is committed to the quality of our lighted environment. Our team of knowledgeable and dedicated individuals inform and represent the interests of the lighting community. Communicating government and industry activities that impact the art and science of lighting is critical to our customers' success. Throughout the year, documents are produced and presentations provided to help prepare for upcoming changes. A few of the key industry issues we are working on now are noted below.

Efficacy standards and the phase-out of incandescent lamps

Although federal agencies may not currently use funds to enforce existing incandescent lamp legislation, all provisions of the law remain in effect.

Regulations

California was the first state to restrict standard 60 watt incandescent lamp sales on January 1, 2013 by mandating higher efficacy. Federal requirements for the 60 watt general service incandescent lamp take effect on January 1, 2014.



The California Title 24 energy code for buildings has just been revised, with an effective date of January 1, 2014. A centerpiece of the revised regulations is controllable lighting. In most new or major retrofit non-residential interior spaces, dimmable lighting or multi-switched lighting will be required. The California Energy Commission has also adopted a voluntary lighting quality specification for LED replacement lamps. The new standard requires LED lamps to meet specific performance criteria to qualify for utility incentive programs.

DesignLights Consortium® (DLC)

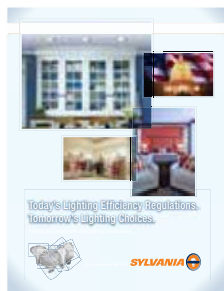
The DLC is a collaboration of utility companies and regional energy efficiency organizations that qualifies LED lamps and luminaires for commercial lighting programs. Rebates are often dependent on the lighting product being on the qualified product list. In September of 2012, the DLC added 11 new categories of products that can be qualified for inclusion. Landscape and architectural flood and spot lighting, stairwell and passageway and 8 new retrofit kit categories were added. The retrofit categories now cover interior troffers, high bay and low bay, parking garage, wall-mounted types and more. There are almost 20,000 DLC qualified products.

Lighting Systems

Regulations have favored efficiency levels for components. Conventional ballasts and lamps are mature technologies. Further efficiency restrictions on these will be incremental as our industry shifts to Solid State Lighting (SSL) for the promise of improved efficiencies. SSL is increasingly integrated with chips, drivers, sensors and controls merged together. Maximum efficiencies will be achieved by addressing lighting systems rather than components. Application based (retail, office, warehouse, etc.) standards such as ASHRAE/IES/ANSI 90.1 for lighting systems further refine the requirements and improve effectiveness by addressing specific building needs.

SYLVANIA has also created a number of brochures that illustrate your replacement options:

- Fluorescent Replacement Pocket Guide
- Energy Independence & Security Act of 2007
- New standards affecting the lighting industry
- EISA Pocket Guide



Sustainability is our continuing story, a long-standing practice that inspires our vision of the future and our progress as a company.



Global Care

Global Care represents our commitment to social and environmental responsibility worldwide. As a leader in innovative lighting solutions, we are dedicated to products and processes that contribute to solving global sustainability challenges, address economic needs and protect the environment for today and for the future.

We are using fewer natural resources, saving energy for our customers, reducing our carbon footprint and facilitating the recycling of lamps and other materials to avoid millions of pounds of waste in landfills.



OSRAM SYLVANIA

Leads Sustainability in Lighting

Recognized for our achievements:



20% absolute corporate greenhouse gas emissions reduction in 5 years (exceeded 10% goal)



12.5% product energy intensity reduction in 5 years



10-year ENERGY STAR® Partner of the Year



Member of National Clean Fleets Partnership



Member of USGBC since 2003



Member of EPA SmartWay™ Transport Partnership since 2008



Platinum Sponsor of Green Parking Council since 2012

OSRAM SYLVANIA is a sustainability leader, focusing on reducing environmental impact of products and processes for our company and for our customers.

Lead-Free Manufacturing

- Fluorescent manufacturing in Versailles, Kentucky
- HID manufacturing in Manchester, New Hampshire
- Electronic ballast manufacturing

Made in the U.S.A.

- OSRAM SYLVANIA operates 12 manufacturing facilities in the United States
- 2/3 of our products are manufactured in the United States
- All NAFTA facilities ISO 14001 certified

www.sylvania.com/sustainability



SYLVANIA and OSRAM Products and the IESNA Progress Report

A proud legacy of achievement

Each year, the Progress Committee of the Illuminating Engineering Society of North America (IESNA) solicits the lighting industry for product submissions. If accepted, these submissions are featured in the committee's Progress Report that is published in the IESNA's publication, *LD+A*. The mandate of the Progress Committee is "to keep in touch with developments in the art and science of lighting throughout the world and prepare a yearly review of achievements for the Illuminating Engineering Society of North America." Submissions are organized into one of seven categories: light source, accessory, luminaire, research, application, publication and design tool. They are evaluated for their design, engineering characteristics, installation features and overall uniqueness. The 30-member committee of industry experts votes on up to 200 product submissions annually.

Over the years, many SYLVANIA and OSRAM branded products have been accepted for the Progress Report. An itemized list of our lamps and ballasts is included in the tables that follow along with their significant features. For detailed descriptions and specifications, please visit www.mySYLVANIA.com.

2012 Progress Report

OSRAM SYLVANIA LIGHTING
SUBMISSIONS ACCEPTED BY THE
IESNA PROGRESS COMMITTEE

SIGNIFICANCE TO THE LIGHTING INDUSTRY*

OSRAM ITOS® LED Retrofit Lamp	ITOS 0-03100 LED lamp has >25,000 hour life vs. typical 20 hours life for halogen lamp
Halogen A-Line Modified Spectrum	First EISA compliant Modified Spectrum Halogen A-line Lamp Family with 2000 hour average rated lifetime, available in 28, 43, 53, and 72 watts
ULTRA LED B10 Lamp	LED B10 lamps with a 2500K color temperature; emit an aesthetically pleasing, warm, incandescent-like glow
ULTRA LED PAR 38 Sunset Effects Lamp	Dimming mimics the incandescent lamp by lowering the color temperature (3000K to 2000K) as the lamp dims
ULTRA LED R20 Lamp	LED R20 lamp with the highest efficacy in the industry; energy saving replacements for 30W R20 incandescent lamps
ULTRA LED RT6 Gimbal Retrofit Kit	Six-inch, fully integrated, adjustable LED downlight retrofit, with glare-free optics and 35° tilt feature
ULTRA LED RT6 Retrofit Kit 900 Lumens	High-efficiency, six-inch LED recessed downlight retrofit kit with 900 lumens, 80° beam angle for low glare and dimmability to 20%
ULTRA LED RT6 Retrofit Kit 1400 Lumens	Industry's highest lumen output, six-inch LED recessed downlight retrofit kit with 1400 lumens, 80° beam angle for low glare and dimmability to 20%
OCTRON® eXtended Value SUPERSAVER® T8 Family	Exclusive high-quality T8 lamps utilizing an optimized rare-earth phosphor blend at reduced powder weight for lower cost without sacrificing long life
PENTRON® PREMIER XP® T5 Lamps	Premier T5 lamps provide increased lumen output, the highest in the industry, with an astonishing 111 lamp lumens per watt
PENTRON SUPERSAVER T5 Lamps	Energy-saving T5 linear fluorescent lamps available in four, three and two foot, providing up to 14% energy savings over full wattage lamps
QUICKTRONIC® QHE 2X39-24T5HO/UNV PSN	High-efficiency, UL type CC, low-profile (0.87" high) ballasts for T5HO two and three foot lamps providing full lumen output and optimal system performance
QUICKTRONIC T8 PSX Family	Lowest-power, high-efficiency, UL type CC parallel circuitry T8 ballast with extra low 0.71 ballast factor in micro can size (9.5" L x 1.30" W x 1.00" H)
OPTOTRONIC® OT60W 12V DIM LED Power Supply	Smallest 60W constant voltage LED power supply with integrated dimming; unique dual-tap output for simultaneous dimmable and non-dimmable wiring
OPTOTRONIC OT96W Corded LED Power Supply	Industry-exclusive, fully-connected LED power supply: AC-Plug and DC Connector; smallest 96W LED power supply in its class
OPTOTRONIC OT100W Euro Multi-Channel LED Power Supply	Industry-exclusive, multi-channel 100W constant current LED power supply with four independent and configurable output channels. The output current can be configured to a wide range of values with tight tolerance. It is the slimmest 100W power supply in the industry with a profile measuring <1" height and <1.2" width
HF² NS Seamless Linear LED Module	Compact, high-Intensity LED module offering uniform non-pixelated continuous line of light; three different lengths can be driven from one end and connected end-to-end up to six feet
OPTOTRONIC PRO-Flex LED Driver	Drivers are powered by a 24VDC Emerge ceiling grid and are constant current drivers with adjustable output current (300mA thru 1500mA); they offer a choice of three user-interfaces (Wireless, Analog and DALI)
OSRAM 2X2 LED Retrofit Solution Kit	Retrofit Kit is ideal for retrofitting existing recessed troffers with the latest LED technology to yield up to 30-50% energy savings when compared to traditional fluorescent 2x2 systems
ProPoint™ LED Industrial Linear Luminaire	Remote phosphor light systems allow design freedom to achieve illuminance levels equal or greater than MH or HPD options at up to 45% lower wattage
OSRAM RLC22 LED 2X2 Luminaire	Round aperture of the fixture offers an architecturally pleasing alternative with up to 87 LPW efficacy and 50,000 hours life at L ₈₅
Traxon Butler XT2	Built-in web server connects directly to iPhone® or iPad® via (external) W-Lan Access Point. Provides near-unfettered access to a myriad of combinations of scenes without a complex or expensive server running in the background

*Based on 2012 IESNA Progress Committee Review

SYLVANIA Lighting Solutions to Meet Legislation

DOE 2009 Rule for Incandescent Reflector (IRL) Lamps



DOE efficiency standards went into effect on July 14, 2012 requiring Incandescent Reflector Lamps to meet minimum lumen per watt (LPW) requirements. Products that no longer meet the minimum LPW requirements can no longer be produced or imported.

OSRAM SYLVANIA has introduced a new line of halogen PAR lamps that meet these LPW requirements and offer a choice of extended life ratings. In addition, OSRAM SYLVANIA offers a wide variety of LED PAR lamps to choose from that provide energy savings and long life benefits.

CAPSYLITE® Halogen PAR

- More than 20% energy savings over pre-IRL reflectors
- Choice of life: 1500, 3000 and 4500 hours
- Dimmable
- Natural, pleasing, warm white light
- Offered in PAR38, PAR30LN, PAR30, PAR20, PAR16 and PAR14

ULTRA LED PAR

- Up to 78% energy savings over halogen PARs
- Long life: up to 50,000 hours
- Dimmable
- Color temperatures: warm 2700 and 3000K
- CRI: 80+
- Offered in PAR38, PAR30LN, PAR30 and PAR20

ULTRA HD LED PAR

- Energy savings up to 80% over halogen PARs
- Long life: up to 50,000 hours
- Dimmable
- Color temperature: warm 3000K
- CRI: 90+
- Offered in PAR38, PAR30LN, PAR30 and PAR20

SYLVANIA Lighting Solutions to Meet Legislation

Energy Independence and Security Act of 2007



OSRAM SYLVANIA is committed to educating and supporting our customers through the new, energy-efficiency lamp legislation that affects many popular lamp types. Beginning January 2012, EISA legislation began phasing out inefficient incandescent lamps resulting in significant national energy savings and a much reduced carbon footprint. This includes many screw-base general service and decorative lamps.

OSRAM SYLVANIA is helping to make this transition an easier one by offering a variety of lamps to choose from—halogen, compact fluorescent or LED.

Solutions for Today and Tomorrow—EISA Compliant A-lamps

Halogen Classic

- Energy savings up to 33% over incandescent
- Up to 3x the life
- Dimmable
- Natural, pleasing, warm white light
- CRI: 100

Compact Fluorescent

- Energy savings up to 77% over incandescent
- Up to 15x the life
- Variety of color temperatures
- CRI: 82

ULTRA LED

- Energy savings up to 84% over incandescent
- Up to 25x the life
- Dimmable
- Warm 2700K
- CRI: 80+

Replacements for 100W Incandescent A-lamp

Product Description	Watts	Average Rated Life (hrs.)	Energy Savings per Year*	Life in Years
Halogen Classic Triple Life	70	3,000	\$3.61	2.7
Compact Fluorescent	23	10,000	\$9.27	9.1
ULTRA LED	20	25,000	\$9.64	22.8

*Energy savings based on \$0.11, operating 3 hrs. per day

DOE 2014 Rule Fluorescent Ballast

QUICKTRONIC® fluorescent ballasts meet requirements

The Department of Energy (DOE) 2014 ruling applies to fluorescent ballasts manufactured on or after November 14, 2014 that operate at an input voltage at or between 120 and 277 and operate at 60Hz line frequency. This rule also establishes a new ballast efficiency measurement metric known as Ballast Luminous Efficiency (BLE) as a measurement of lamp arc power. DOE 2014 requires ballasts to meet minimum performance criteria:

- Must be $>.90$ power factor for commercial or $>.50$ power factor for residential
- Residential ballasts must meet FCC 47 CFR part 18 consumer limits and be designed, labeled, and marketed only for use in residential applications
- Sign ballasts must meet UL Type 2 rating and be designed, labeled and marketed for use in outdoor signs

Exceptions to the rule:

- Dimming ballasts that dim to 50% or lower in output power
- Low frequency ballasts (magnetic) operating T8 lamps which are designed and labeled for EMI sensitive areas and are shipped in 10 or less packs
- Programmed rapid start ballasts that operate 4' bi-pin T8 lamps operating $<140\text{mA}$



Currently more than 98% of QUICKTRONIC ballasts comply with the DOE 2014 rule. All models have been tested under the guidelines. Products that do not comply are being re-engineered. All future model designs will be designed to qualify for the DOE 2014 rule.



New Global OSRAM Branding for QUICKTRONIC® Electronic Ballast

SYLVANIA branded ballasts are transitioning to the OSRAM brand to better serve our customers globally. The transition has already started and is expected to take 6 to 12 months. The same high-quality, QUICKTRONIC electronic ballasts will be manufactured and sold through the normal distribution channels.



The System “continues” to be the Solution

OSRAM SYLVANIA is the global leader in lighting systems. Our global network of design and manufacturing brings ballast and lamp knowledge together to produce innovative and cost-effective energy-saving systems. We offer both instant and programmed rapid start ballasts ranging from high to extreme low-ballast factors, as well as a full line of controllable ballasts. OSRAM SYLVANIA has an electronic lamp and ballast system to meet all your needs. The industry’s original and most comprehensive system warranty, the QUICK 60+® System Warranty covers the OSRAM QUICKTRONIC ballasts and the SYLVANIA lamps they power.

High Efficiency Electronic Ballast Offering

High efficiency ballasts save up to an additional 6% over standard electronic ballasts. Our OSRAM QUICKTRONIC QHE product line includes:

- QUICKTRONIC Instant Start and PROStart® T8
- QUICKTRONIC PROStart T5 and T5HO
- QUICKTRONIC Instant Start DL
- QUICKTRONIC High Intensity Discharge DIM
- QUICKTRONIC QUICKSTEP®, POWERSENSE®, and DALI T5, T5HO, T8
- QUICKTRONIC PowerSHED™ Instant Start and Relay

For information on the entire OSRAM QUICKTRONIC product offering go to <http://www.sylvania.com/en-us/products/ballasts>



SYLVANIA Lighting Services

Solutions that lead to better lighting



SYLVANIA Lighting Services (SLS), a subsidiary of OSRAM SYLVANIA, is the industry leader in turnkey energy management solutions and preventive maintenance. With over 40 years of experience, we are the largest national lighting service provider with branches across the United States and Canada. Our U.S. lighting technicians are certified through NALMCO®. Here are some of the energy-saving solutions SLS has to offer:

- Total turnkey lighting solutions
- Turnkey LED retrofit solutions
- Retrofit and relamp projects
- Energy and lighting audits
- National project management services
- Financing programs
- Warranty programs
- Lighting maintenance programs
- One point of contact
- Utility rebate management
- Recycling/sustainability programs
- Complete energy-management solutions
- Lighting system controls integration and monitoring
- 24-hour bilingual customer service
- Turnkey solutions for electric vehicle charging stations

For more information, visit us at www.sylvania.com/sls



SYLVANIA Lighting Services

Turnkey solutions for electric vehicle charging stations

From start to finish and beyond, SLS helps your company get your new EV infrastructure up and running, and helps keep it running with a cohesive, cost-effective plan designed to keep your charging systems in optimum operating condition. SLS handles everything including:

Commissioning:

- An onsite visit and evaluation is done to determine best location for EV Charging Stations
- SLS works directly with its engineering group to determine required specifications

Engineering:

- Engineering drawings provided for approval
- SLS obtains all local permits
- SLS makes sure you have the right power requirements

Installation:

- SLS conducts a thorough analysis of high traffic areas
- Analysis helps determine best location for units

Full Project Management:

- Our Project Management Team is fully prepared to execute both small and national scale projects
- Our internal processes, capabilities and national coverage allows SLS to execute your EV Charging Station infrastructure

Maintenance/Monitoring:

- Once installed, SLS can also monitor and maintain your stations
- With more than 850 service technicians throughout the U.S. and Canada, count on SLS to be there when you need us

Customer Service:

- National Customer Service Center is available 24/7

Plug into SLS today for all your EV Charging Station needs.
For more information, visit www.sylvania.com/parking



ENCELIUM[®]

Energy Management System

The ENCELIUM Energy Management System (EMS) was designed from the ground up as a software-based integrated-lighting control and energy management system that dynamically responds to the changing characteristics of a building by providing the right amount of light when and where required. The ENCELIUM system is ideal for both new construction and retrofit projects focused on the mid-to large-scale spaces, starting with 15,000 square feet or larger.

In a traditionally hardware-centric industry, the ENCELIUM Energy Management System is a software-focused system that:

- Reduces lighting energy consumption by 50–75%
- Controls through front-end software and can integrate with existing building automation systems
- Is easily scalable and can quickly accommodate future upgrades to new, more efficient lighting technologies, such as LED fixtures and ballasts
- Brings control point down to the individual fixture level via unique address

EMerge Alliance Compatible Installations

Through the use of EMerge Alliance Registered interface modules, ENCELIUM lighting control systems may be integrated into any DC microgrid installation, enabling exemplary control and scene flexibility that eliminates inefficiencies of multiple AC to DC power conversions.



Innovative communication technology

ENCELIUM® GreenBus II™ Communication Network

A flexible system with integration capabilities



Features:

- Individual dimming control of thousands of fixtures
- Provides low-voltage power to all devices on the network
- Network created through pre-terminated 18 AWG 'click and go' connectors
- Agnostic of third-party ballasts or sensors
- Combines convenience of Class 2 wiring with capability of Class 1

Benefits:

- Eliminates the need for external power supplies and power packs
- Offers easy integration with other building automation systems, such as HVAC, fire and security
- Incorporates 0–10V dimming ballasts and DALI-based systems on the same platform
- Automatically detects and isolates breaks or faults in wiring
- Integrates occupancy sensors, photo sensors and relay-based controls into a complete, programmable lighting control system

Applications:

- Daylight harvesting
- Load shedding
- Occupancy sensors
- Personal control
- Smart time scheduling
- Task tuning

Suggested Literature:

- LMS048
- LMS066
- LMS075



Lighting control for the smart building

ENCELIUM® Energy Management System Hardware Overview



Innovative technology for lighting efficiency

Features:

- Luminaire Control Module
 - Brings addressable controls to each fixture, supports dimming and switching of both lighting and non-lighting loads
- Sensor Interface Module
 - Powers industry-standard sensors through the ENCELIUM GreenBus II™ network and establishes two-way communication between the Energy Control Unit and itself
- Wall Stations
 - Provide flexible user input in the place of existing wall switch
- Energy Control Unit (ECU)
 - Collects signal information and controls up to 800 nodes (typically one ECU covers 40,000 sq. ft.)
- Touch Screen Panel
 - The ENCELIUM Touch Screen Panel provides the ability to recall multiple lighting scenes for a given zone with an interactive 7" flush-mount LCD touch screen display

- Area Lighting Controller (ALC)
 - Switches a single-wired zone of multiple luminaires while setting the zone's overall light level with a 0–10V dimming output
- EnOcean® Wireless Gateway
 - Integrates EnOcean-compliant wireless sensors, switches and control modules with the ENCELIUM EMS via the ENCELIUM GreenBus II Communication Network

Applications:

- Daylight harvesting
- Load shedding
- Occupancy sensors
- Personal control
- Smart time scheduling
- Task tuning

Suggested Literature:

- LMS048-LMS051
- LMS053
- LMS054
- LMS056
- LMS063
- LMS075
- LMS088
- LMS089



Industry-leading lighting control and energy-reporting software

ENCELIUM® Polaris 3D™ Software and Advanced Energy Reporting Module

The next generation of lighting control software



Features:

- Offers a single 360° three-dimensional navigation of a building in a multi-floor view
- Allows for easier navigation to a desired control zone
- Gives users the ability to view an entire facility in a convenient 3D snapshot
- Enables various reporting features through the ENCELIUM Advanced Energy Reporting Module
- Uses Microsoft® Silverlight® technology to enable access through a web browser in a secure IT environment

Benefits:

- Intuitive, user-friendly software that shows an interactive 3D building view
- Generates real-time energy savings data in a variety of easy-to-understand graphical formats
- Provides users with the ability to easily adjust lighting layouts without physical rewiring of your multi-facility campus
- Change set points and time schedules for multiple zones as desired right from your web browser

- Easy detection of lighting status, consumption and energy trends from colorized lighting system data representation

Applications:

- Daylight harvesting
- Load shedding
- Occupancy sensors
- Personal control
- Smart time scheduling
- Task tuning

Suggested Literature:

- LMS006R1
- LMS019R1
- LMS055
- LMS064
- LMS075



Lighting Control Solutions

OSRAM SYLVANIA offers a variety of control solutions for simple occupancy sensing, personal control and daylighting for both traditional and LED lighting technologies. High-efficiency QUICKTRONIC® POWERSENSE® fluorescent dimming ballasts for T5, T5HO and T8 lamps and QUICKTRONIC MH dimming ballasts for high intensity discharge lamps are available. Integrated controls in many OSRAM LED luminaires enable choice of standard 0-10V dimming, more sophisticated addressable lighting control with the ENCELUM® Light Control module for seamless integration into the ENCELUM Energy Management System as well as EMerge registered luminaires compatible with 24V DC micro grids.

Incorporation of a lighting control strategy will provide the greatest overall energy savings. Additionally, lighting controls will be necessary to meet Energy Codes in the future. Maximum Lighting Power Densities (LPD) have become more stringent with each version of ASHRAE 90.1 and additional auto-controls requirements were added to ASHRAE 90.1-2010. The DOE has also ruled that states must review their Energy Codes and certify that their Energy Codes meet or exceed ASHRAE 90.1-2010 by October 18, 2013. Alterations affecting 10% or more of the lighting in a space must conform to the LPD and the control requirements.

OSRAM SYLVANIA can help you specify the right lighting control solution and provide everything you need including installation by SYLVANIA Lighting Services.



Luminaire control option

OSRAM Luminaires and Lighting Control Solutions



We offer a growing portfolio of LED luminaires, with a variety of control options for indoor and outdoor applications, to meet ASHRAE 90.1-2010 control requirements. The entire luminaire offering is controls ready and several luminaires are available with integrated controls for ease of installation. All control solutions have been compatibility tested to ensure smooth and flicker-free dimming.

Product Offering

Integrated sensors:

- ProPoint™ Medium Round Canopy
- ProPoint Medium Square Canopy
- ProPoint Wall Pack
- PermaLED™ Low Profile Canopy

Integrated ENCELIUM® Luminaire Control Module (LCM):

- RLC22 2x2
- RLS22 2x2

Controls ready (0-10V):

- Indirect 2x2
- Retrofit and fixture 1x4, 2x2, 2x4
- RLC22 2x2
- RLS22 2x2
- RLD Downlights
- ProPoint Outdoor
- PermaLED Outdoor
- ReliaSys™ Retrofit Solutions
- LEDstixx® for Display & Refrigeration

As an established and respected lighting manufacturer, we have brand recognition, lighting expertise, and quality products with performance warranty ensuring our luminaires can be specified with confidence. Our lighting experts can assist you with choosing the best control options, and SYLVANIA Lighting Services offers turnkey solutions including system installation, commissioning and maintenance.



Member since 2008

EMerge Alliance Partnership

Founding and governing member



The Alliance is an open-industry association developing standards leading to the rapid adoption of DC power distribution in commercial buildings.

These innovative standards integrate interior infrastructures, power, controls and devices in a common microgrid platform to facilitate the hybrid use of AC and DC power throughout buildings for unprecedented design and space flexibility, greater energy efficiency and improved sustainability.

The Alliance will simplify and accelerate market adoption of EMerge Alliance standards and will ensure that its standards deliver:

- Required solutions based on market requirements and ecosystem approval
- Buyer assurance with products evaluated against our standards and registered for public view
- Increased supply choices in the value chain that spans the needs of different commercial interiors

EMerge Registered Products:

- RLC22/RLS22
- ENCELIUM® - ECU
- ENCELIUM - LCM
- OPTOTRONIC® OT DIM
- Pro-Flex LED Driver
- Exterior Light Engine
- HF² Chain LED Module
- HF² Narrow Stick LED Module

Applications:

- Commercial buildings
- Healthcare
- Office
- Retail

Suggested Literature:

- LED254R2, LMS049, LMS053, LED085, LED123, LED043



Industry exclusive

QUICKTRONIC® POWERSENSE®

High-efficiency dimming systems



Features:

- Options for T5, T5HO and T8
- Combines 0–10V and 2-wire dimming in one ballast
- High efficacy systems up to 101 LPW
- Dimming range
 - 100%–5% for T8
 - 100%–1% for T5 & T5HO
- Universal Voltage 120-277V

Benefits:

- Dimming solutions for popular lamp types
- Industry's most adaptable dimming ballast

- Energy savings from system and controllable lighting strategies
- Use for daylighting and energy management
- QUICK 60+[®] system warranty when paired with SYLVANIA lamps

Applications:

- Educational and healthcare facilities
- Hospitality lighting
- Office and retail spaces

Suggested Literature:

- ECS436, ECS437, ECS438

Product Offering

Product Family	Product Description	Lamp Type
QUICKTRONIC POWERSENSE T5	QHE1x28T5/UNV DIM QHE2x28T5/UNV DIM	FP28T5, FP26T5HO/SS, FP35, FP21, FP19SS, FP14, FP13SS
QUICKTRONIC POWERSENSE T5HO	QHE1x54T5HO/UNV DIM QHE2x54T5HO/UNV DIM	FP54T5HO, FP50T5HO/SS, FP47T5HO/SS, FT55DL, FPC55, L58T8
QUICKTRONIC POWERSENSE T8	QHE1x32T8/UNV DIM QHE2x32T8/UNV DIM QHE3x32T8/UNV DIM QHE4x32T8/UNV DIM	F032, FB032, FB030/SS, F028/SS, F025/SS, F017, FB024, FB016



Industry's most adaptable ballast

QUICKTRONIC® MH Metal Halide Dimming Systems

Electronic, controllable lighting systems



Features:

- Bi-level 100%–50% or continuous 0–10V dimming
- Ballast efficiency up to 94%
- One piece vs. four-piece design
- Suitable for quartz and ceramic metal halide lamps

Benefits:

- Ideal for energy management
- Energy savings over magnetic ballasts
- Easier installation than magnetic ballasts
- QUICK 60+® system warranty when paired with METALARC® lamps

Applications:

- High bay
- Low bay

Suggested Literature:

- ECS448

Product Specifications

Product Description	Lamp ANSI Code	Lamp Watts	Input Voltage	System Efficacy (lm/w)	QUICK 60+® Warranty
QHE1x200MH	M136/C190	200	208-277V	98	Up to 2 years on lamp and 5 years on ballast
QHE1x250MH	M138/M153/C153	250	208-277V	90	
QHE1x320MH	M132/M154/C154	320	208-277V	109/110	
QHE1x350MH	M131	350	208-277V	88/89	
QHE1x400MH	M135/M155	400	208-277V	98/99	





LIGHTFAIR® 2011 Innovation Award Winner

QUICKTRONIC® MH Outdoor Metal Halide and High Pressure Sodium Dimming Systems



Electronic, controllable systems for exterior lighting

Features:

- Designed to meet UL type 2 wet location listing
- Meets IEEE/ANSI C62.41 CAT. C line transient protection
- Bi-level 100%–50% or continuous 0–10V dimming
- One piece vs. four piece design
- Operates metal halide or high-pressure lamps

Benefits:

- Outdoor use and no additional surge protection needed
- Ideal for energy management
- Energy savings over magnetic ballasts
- Easier installation than magnetic ballasts

- QUICK 60+® system warranty when paired with METALARC® and LUMALUX® lamps

Applications:

- Outdoor signage
- Parking lots
- Roadway
- Street and area lighting

Suggested Literature:

- ECS447

Product Specifications

Product Description	Lamp ANSI Code	Lamp Type	Input Voltage	System Efficacy (lm/w)	QUICK 60+® Warranty
QT01x100MH UNV DIM	M90/M140/C90 C140/C191	100W MH	UNV 120-277V	90/91	Up to 2 years on lamp and 5 years on ballast
QT01x150MH UNV DIM	M102/C102/C142 M102/C102/C142/S56	150W MH 150W HPS	UNV 120-277V	96/97 99/100	
QT01x200MH UNV DIM	C190 C190/S66	200W MH 200W HPS	UNV 120-277V	99/100 101/103	

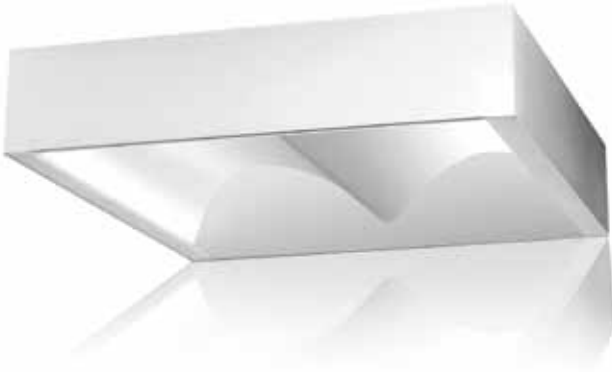




LED Luminaires

OSRAM SYLVANIA offers an expanded portfolio of energy-efficient LED luminaires for commercial and residential use. Featuring high-efficacy Solid State Lighting (SSL) Sources and streamlined design, the product line includes luminaires for indoor and outdoor applications with energy savings up to 80% over luminaires using traditional light sources. The portfolio of SSL luminaires includes new 1x4, 2x2, 2x4 troffers and retrofits, downlights, post tops, canopy and wall pack luminaires. Integrated lighting controls in many of the luminaires are available with 0–10V dimming control, Light Control Module (LCM) compatible with the ENCELIUM® Energy Management System or EMerge 24V micro grid.

Our comprehensive SSL product line also includes modules, light engines, power supplies, retrofits and the number one LED lamps in North America, providing an LED solution for any application. Installation and commissioning of any lighting solution can be done by SYLVANIA Lighting Services.



2013 Innovation Award submittal

OSRAM Indirect 2x2

Recessed LED luminaire with open reflector



Features:

- Open reflector with indirect optics
- High efficiency, up to 90 LPW
- Below plenum serviceability
- Color within a 3-step MacAdam ellipse
- Dimmable down to 10%
- DLC Listed for utility rebates

Benefits:

- Comfortable non-glaring light
- Up to 50% energy savings over fluorescent equivalents
- Easy maintenance, lower labor costs
- Luminaire-to-luminaire color consistency
- Rebates lower initial cost—quick ROI
- Five year warranty

Applications:

- Education facilities
- Offices
- Retail spaces

Suggested Literature:

- LED325

Product Specifications

Product Description	Watts	Initial Lumens	CCT	CRI	Rated Life L ₇₀ (hrs.)
Indirect 2x2 Fixture	33	3000	3000K, 3500K, 4000K	80+	50,000
	39	3500	3000K, 3500K, 4000K	80+	50,000



Next Generation Luminaires™ award winner 2012 (RLC)

OSRAM RLC22 and RLS22

Architectural LED 2x2 luminaires



Features:

- High efficiency, up to 90 LPW
- High quality, architectural look
- Color within a 3-step MacAdam ellipse
- 0–10V dimmable down to 10%
- DLC Listed—qualifies for utility rebates
- EMerge compatible versions

Benefits:

- Energy savings up to 50% over fluorescent equivalents
- Contemporary styling, aesthetically pleasing
- Luminaire-to-luminaire color consistency

- Ability to incorporate energy management and daylighting strategies
- Rebates lower initial cost—quick ROI
- Five year warranty

Applications:

- Corridors
- Education facilities
- Offices
- Retail spaces

Suggested Literature:

- LED254, LED284, LED326

Product Specifications

Product Description	Watts	Lumens	LPW	CCT	CRI	Input Voltage	Rated Life L ₇₀ (hrs.)
RLC22	36	3200	89	3500K, 4000K	80+	120-277V	50,000
RLC22	38	3200	84	3250K	80+	120-277V	50,000
RLC22	40	3500	88	4000K	80+	120-277V	50,000
RLC22	42	3500	83	3500K	80+	120-277V	50,000
RLC22	44	3500	80	3250K	80+	120-277V	50,000
RLS22	–	3000	90	3000K, 3500K, 4000K	85+	120-277V	50,000
RLS22	–	3500	90	3000K, 3500K, 4000K	85+	120-277V	50,000



New construction - existing installation options

OSRAM LED Troffer Luminaire and Retrofit Solutions

Sustainable LED luminaires and retrofit solutions



Features:

- Full family of LED 1x4, 2x2 and 2x4 luminaires and retrofit solutions
- Easy-to-install, sustainable retrofit solution reuses existing housing
- Optical design improves light uniformity
- 0–10V dimmable down to 10%

Benefits:

- Installation of similar luminaires in existing installations and new construction
- Up to 50% energy savings compared to equivalent fluorescent fixtures
- Softly curved, linear diffuser, aesthetically pleasing

- Retrofit option eliminates need to access ceiling plenum
- Improved vertical illuminance eliminates cave effect
- Ability to incorporate energy management and daylighting strategies
- Five year warranty

Applications:

- Education facilities
- Office spaces
- Retail spaces

Suggested Literature:

- LED271, LED320, LED321, LED322, LED323, LED324

Product Specifications

Product Description	Watts	Initial Lumens	LPW	CRI	CCT	Rated Life L ₇₀ (hrs.)
2x2 Retrofit	35	3200, 3400, 3600	Up to 100	85+	3000K, 3500K, 4000K	50,000
2x2 Fixture	35	3200, 3400, 3600	Up to 100	85+	3000K, 3500K, 4000K	50,000
2x4 Retrofit	44	4400	Up to 100	85+	3000K, 3500K, 4000K	50,000
2x4 Fixture	44	4400	Up to 100	85+	3000K, 3500K, 4000K	50,000
1x4 Retrofit	35	3200, 3400, 3600	Up to 100	85+	3000K, 3500K, 4000K	50,000
1x4 Fixture	35	3200, 3400, 3600	Up to 100	85+	3000K, 3500K, 4000K	50,000



Fully integrated, high efficiency

OSRAM RLD LED Recessed Downlights

6" and 8" energy-saving downlight solutions



Features:

- Options provide similar light output to 1x32 CFL, 2x26 CFL and 2x32 CFL
- Easy installation for new construction or remodel
- Glare-free optical design; 45-55° cut off
- Color within a 3-step MacAdam ellipse
- 0-10V dimmable down to 10%
- Alzak specular and semi-specular finishes
- DLC Listed—qualifies for utility rebates

Benefits:

- Dramatic energy savings up to 40% over CFL downlights
- Aesthetically-pleasing light quality
- Luminaire-to-luminaire color consistency

- Ability to incorporate energy management and daylighting strategies
- Integral driver installed on junction box
- Multiple trim options available
- Rebates lower initial cost—quick ROI

Applications:

- Canopy
- Conference rooms
- Corridors
- Lobbies
- Retail spaces

Product Specifications

Product Description	Diameter	Watts	Initial Lumens	LPW	CCT	CRI	Input Voltage	Rated Life L ₇₀ (hrs.)
RLD6	6"	17	1200	71	2700K, 3000K, 3500K, 4000K	80+	120-277V	50,000
		29	2000	69	2700K, 3000K, 3500K, 4000K	80+	120-277V	50,000
RLD8	8"	43	3000	70	2700K, 3000K, 3500K, 4000K	80+	120-277V	50,000



Easy installation

LEDstix[®] Lighting System for Horizontal Refrigeration

High-quality lighting to enhance merchandising appeal



Features:

- Energy-efficient system up to 105 LPW
- Twice the life of standard T8 fluorescent
- Ability to light products from front to back of the shelf
- Adjustable for various shelf settings and aiming positions
- Fluorescent bracket retrofit mount kit available
- Damp location rated

Benefits:

- Save 70% over fluorescent systems
- Reduces maintenance costs
- Uniform, glare-free lighting throughout the case
- Easy installation
- Five year system warranty

Applications:

- Open multi-deck refrigeration coolers
 - Canopy
 - Shelf lighting

Suggested Literature:

- LED313
- LED314

Product Specifications

Product Description	Length (ft.)	Watts	CCT	CRI	Adjustable Aiming	Location Rating
Canopy Luminaire	3	12.9	3000K, 3500K, 4000K, 5000K	80+	+/- 135°	Damp
	4	19.4	3000K, 3500K, 4000K, 5000K	80+	+/- 135°	Damp
Shelf Luminaire	3	4.8	3000K, 3500K, 4000K, 5000K	80+	+/- 135°	Damp
	4	7.2	3000K, 3500K, 4000K, 5000K	80+	+/- 135°	Damp



Lighting and compressor energy savings

LEDstixx[®] Lighting System for Vertical Refrigeration

Reduces costs for freezer and cooler cases



Features:

- Energy-saving replacements for fluorescent systems
- Precise optics for shallow and deep setbacks
- Dimmable down to 1%
- More durable than fluorescent—no tube guards needed

Benefits:

- Reduction of lighting load (up to 70%) and compressor load (up to 40%)
- Uniform light across entire case
- Reduces maintenance cost
- Five year warranty

Applications:

- Glass door cases
 - Beverage coolers
 - Freezer cases
 - Refrigeration cases

Suggested Literature:

- LED192

Product Specifications

Product Description	Setback	Length (ft.)	Center		End		CCT	Rated life L ₇₀ (hrs.)
			Watts	Lumens	Watts	Lumens		
LEDstixx	Shallow 2"-7"	4	12	860	6	460	4000K, 5000K	50,000
Vertical		5	14	1075	8	575	4000K, 5000K	50,000
Refrigeration	Deep 7"-12"	6	17	1290	9	690	4000K, 5000K	50,000
		5	14	1125	8	575	4000K	50,000
		6	17	1410	9	720	4000K, 5000K	50,000



Sleek, slim design

PermaLED™ Low Profile Canopy Luminaire

Low profile parking garage canopy



Features:

- Extremely low profile 2.7" height
- High-efficiency, up to 111 LPW
- Low-glare design
- DLC Listed—qualifies for utility rebates
- IP65 rated optical chamber

Benefits:

- Modern look and less obtrusive
- Reduce energy costs by up to 80%
- Improved visibility for safety and security
- Fast payback and high ROI
- Five year warranty

Applications:

- Entrances
- Parking garages
- Security lighting
- Stairwells

Suggested Literature:

- LED302
- IC PKG GARAGE 0612

Product Specifications

Product Description	Watts	Initial Lumens	CCT	CRI	Distribution Classification	Finish	Rated Life L ₈₀ (hrs.)
PermaLED LPC	40	4500	4000K, 5000K	70+	Type V	White, Silver, Bronze	100,000
	55	6000	4000K, 5000K	70+	Type V	White, Silver, Bronze	100,000



Ideal for main street lighting

ProPoint™ LED Acorn Post Top Series

Classic style on the outside, savings on the inside



Features:

- Excellent luminaire efficiency up to 86 LPW
– Replaces up to 175W HID
- Traditional look and low-glare design
- Up to 5x longer life than metal halide
- DLC Listed—qualifies for utility rebates
- Available in 120-277 and 347-480 universal voltages

Benefits:

- Reduces energy costs by up to 72%
- Improved lighting uniformity and visibility
- Up to 17 years of maintenance-free lighting

- Rebates lower initial cost—quick ROI
- Five year warranty

Applications:

- Downtown areas
- Historic areas
- Parks
- Streetscapes

Suggested Literature:

- LED152
- LED310

Product Specifications

Product Description	Watts	Initial Lumens	CRI	CCT	Distribution Classification	Rated Life L ₇₀ (hrs.)
Acorn Post Top 1	50	3400-3600	80+	3000K	Type III, Type V	70,000
Acorn Post Top 1	50	4200-4500	70+	4000K, 5000K	Type III, Type V	70,000
Acorn Post Top 2	50	3100-3400	80+	3000K	Type III, Type V	70,000
Acorn Post Top 2	50	3800-4100	70+	4000K, 5000K	Type III, Type V	70,000
Acorn Post Top 1	75	4500-4700	80+	3000K	Type III, Type V	70,000
Acorn Post Top 1	75	5400-6000	70+	4000K, 5000K	Type III, Type V	70,000
Acorn Post Top 2	75	3900-4400	80+	3000K	Type III, Type V	70,000
Acorn Post Top 2	75	5000-5300	70+	4000K, 5000K	Type III, Type V	70,000



Improves visibility

ProPoint™ LED Wall Pack

Efficient, quality lighting



Features:

- Energy-saving LED technology
- Low-glare design
- Up to 5x longer life than metal halide
- DLC Listed—qualifies for utility rebates
- Available in 120-277 and 347-480 universal voltages

Benefits:

- Up to 76% energy savings over traditional HID luminaires
- Improves visibility for comfort, safety and security
- Up to 17 years of maintenance-free lighting
- Rebates lower initial cost—quick ROI
- Five year warranty

Applications:

- Entrances
- Exterior
- Industrial outdoor areas
- Outdoor lighting
- Security lighting

Suggested Literature:

- LED328
- LED152

Product Specifications

Product Description	Watts	Initial Lumens	LPW	CCT	CRI	Distribution Classification	IP Rating	Dimensions (LxWxH)	Rated Life L ₇₀ (hrs.)
ProPoint LED	30	2800	Up to 89	4000K	70+	Type V-Cutoff	IP66	16.5" x 9.25" x 7"	65,000
Wall Pack	50	4800	Up to 92	4000K	70+	Type V-Cutoff	IP66	16.5" x 9.25" x 7"	65,000
	85	7300	Up to 84	4000K	70+	Type V-Cutoff	IP66	16.5" x 9.25" x 7"	65,000



Robust design

ProPoint™ Industrial Linear LED Luminaire

Uniform high-quality LED light—where you need it



Features:

- Remote phosphor system
- Durable polycarbonate lens
- Instant on, control-ready
- Robust, low-profile, vibration-resistant, high-tech vent design
- IP66 Rated

Benefits:

- Uniform candela distribution
- Vandal resistant, UV resistant
- Bi-level dimming down to 50%
- Ease of installation and maintenance
- Simple hose down for easy cleaning
- Five year warranty

Applications:

- Architectural
- Elevators
- Outdoor pathways and safety lighting
- Parking garages
- Service station canopy
- Stairwells and low bay applications
- Tunnel/roadway lighting
- Walk-in coolers

Product Specifications

Product Description	Watts	Initial Lumens	LPW	CCT	CRI	Distribution Classification	Rated Life L ₇₀ (hrs.)	Dimensions (LxWxH)
Industrial Linear Luminaire	50	4100	Up to 82	4500K	70+	Lambertian	50,000	24.1" x 4.6" x 1.8"
	100	8200	Up to 82	4500K	70+	Lambertian	50,000	49.1" x 4.6" x 1.8"



Wide product offering

ReliaSys™ D6 LED Retrofit Kit

Small diameter fits most post tops



Features:

- Expanded, energy-saving product offering
 - New 25W, 50W, 75W and 100W
- High efficacy, up to 108
- 0–10V dimmable
- Optimized glare-free optics
- 10kV transient surge protection
- Up to 30 foot pole height—3 mounting positions

Benefits:

- Energy savings up to 77% compared to HID
- Up to 17 years of maintenance-free lighting
- Ability to power down during low-use periods and save additional energy
- Excellent illuminance uniformity and color quality
- Five year warranty

Applications:

- Outdoor pathways and safety lighting
- Street and area lighting

Suggested Literature:

- LED305

Product Specifications

Watts	Initial Lumens	LPW	CCT	CRI	Distribution Classification	Voltage
25	2100-2700	Up to 108	3000K, 4000K, 5000K	70-80+	Type III, Type V	120-277V
50	4150-5400	Up to 104	3000K, 4000K, 5000K	70-80+	Type III, Type V	120-277V, 347-480V
75	5600-7300	Up to 96	3000K, 4000K, 5000K	70-80+	Type III, Type V	120-277V, 347-480V
100	6650-8700	Up to 89	3000K, 4000K, 5000K	70-80+	Type III, Type V	120-277V, 347-480V



High-lumen output

ReliaSys™ D15 LED Retrofit Kit

Long life, energy-saving area lighting replacement



Features:

- High efficiency up to 103 LPW
- 2.5x the life of metal halide lamps
- 0–10V continuous dimming
- 10kV transient surge protection
- Optimized glare-free optics

Benefits:

- Energy savings up to 70% over 400W MH equivalent
- Up to 12 years of maintenance-free lighting
- Lower light levels during off-peak hours and save additional energy with dimming
- Excellent illuminance uniformity and color quality
- Five year warranty

Applications:

- Canopy
- Cobrahead luminaires
- Roadway and area lighting
- Shoebox luminaires
- Wall pack

Suggested Literature:

- LED293

Product Specifications

Product Description	Watts	Initial Lumens	LPW	CCT	CRI	Distribution Classification	Dimensions (L x W x H)	Rated Life L ₇₀ (hrs.)	Voltage Input
ReliaSys D15 LED Retrofit Kit	140	14,500	Up to 103	3500K 4100K 5000K	70+	Type V Medium Type III Medium	12.1" x 10.1" x 3.2"	50,000	120-270V 347V



Fun, flexible and versatile

MOSAIC™ Flexible LED Light

Color-changing accent lighting



Features:

- Lightweight, easy-to-install tape
- Kits include up to 10 feet of LED lighted strips in 2-foot increments
- Three universal flexible connectors included
- Residential-grade kit expandable up to 20 feet
- Commercial-grade kit expandable up to 80 feet
- Controllable by standard remote

Benefits:

- Enhances décor in any room of the house with colorful light
 - Static color or color-changing RGB for effect lighting
- Easy-to-install
 - Complete kit with light strips, connectors, AC/DC adaptor and remote control
 - Cuttable and flexible tape strips allow it to fit and contour around almost any object

Applications:

- Commercial applications
- Dorm rooms
- Homes
- Institutions
- Restaurants
- Retail spaces

Suggested Literature:

- LUMI091

Product Specifications

Product Description	Watts	Lumens	Color	Length (ft.)	Power Supply	Control Options
LEDMOSAIC/FLEXIBLE/LIGHT	24	160	RGB	8	AC/DC Adaptor	Remote
LEDMOSAIC/FLEXLT/STRKIT/COMM	36	250	RGB	10	AC/DC Adaptor	Remote
LEDMOSAIC/FLEXLT/EXPKIT/COMM	36	250	RGB	10	N/A	Remote



Accurate color rendering and energy savings

KREIOS® FL 60W LED Fixture

LED work light for indoor/outdoor use



Features:

- Provides accurate color rendering during set work and rehearsals
- IP65 outdoor rating
- Passive cooling, completely silent
- No UV/IR emissions
- ETL certified/UL1598
- Dimmable to <10%; may not be compatible to all systems

Benefits:

- Lumen output exceeds 300W halogen fixture
- 20x more life using 80% less energy compared to traditional halogen lamp, yielding significant savings in replacement lamp and labor costs
- Black “stealth” body color and silent cooling ensures low profile during use

- Diffused glass reduces glare and provides for a more comfortable workspace
- Gel frame accessory enables quick, easy color changes

Applications:

- General large area illumination
- High bay luminaires
- Outdoor lighting
- Theme parks
- Work light for theatre set creation and rehearsals

Suggested Literature:

- D0019

Product Specifications

Product Description	Watts	Input Voltage	CCT	CRI	Lumens	Rated Life L ₇₀ (hrs.)	Dimmable
KREIOS FL 60W	60	100-277V	3000K	85	3000	40,000	<10%



Accurate color rendering and energy savings

KREIOS® FLx 70W LED Fixture

Dimmable LED work light for indoor/outdoor use



Features:

- Provides accurate color rendering during set work and rehearsals
- Dimmable <10%
- IP65 outdoor rating
- Passive cooling, completely silent
- ETL certified/UL1598

Benefits:

- Lumen output equivalent to 500W halogen fixture
- 20x more life using 80% less energy compared to traditional halogen lamp, yielding significant savings in replacement lamp and labor costs
- Black "stealth" body color and silent cooling ensures low profile during use
- Diffused glass reduces glare and provides for a more comfortable workspace
- Gel frame accessory enables quick, easy color changes

Applications:

- Architectural dimming
- General large area illumination
- High bay luminaires
- Outdoor lighting
- Work light for theatre set creation and rehearsal

Suggested Literature:

- D0019

Product Specifications

Product Description	Watts	Input Voltage	CCT	CRI	Lumens	Rated Life L ₇₀ (hrs.)	Dimmable
KREIOS FLx 70W	70	120/240V	3000K	95	5000	40,000	<10%



Accurate color rendering and energy savings

KREIOS® SL 3200K/60W LED Fixture

Dimmable LED set light



Features:

- 3000 lumen output exceeds a 200W halogen lamp fixture
- 40 to 120° zoom beam angle with locking position ring
- Dimming to <5%
- Barn door assembly, gel frame holder, 24° fixed spot reflector included
- Multiple mounting options
- Two body color options included:
 - black
 - orange and black

Benefits:

- High CRI provides accurate color rendering
- Hi-tech cooling system allows for silent operation
- 20x more life using 70% less energy compared to traditional halogen lamp, yielding significant savings in replacement lamp and labor costs
- Easy-to-install

Applications:

- Accent lighting
- Museums
- Retail displays
- Task lighting for theatre and studio
- Theme parks

Suggested Literature:

- D0021

Product Specifications

Product Description	Watts	Input Voltage	CCT	CRI	Lumens	Rated Life L ₇₀ (hrs.)	Dimmable
KREIOS SL 3200K/60W	60	120/240V	3200K	95	3000	30,000	<5%



Integrated LED Light Sources

Offering the latest in lighting technology, Integrated LED Light Sources provide energy savings, longer life, color quality, reliability and sustainability. These are high-quality lamps for use in either new construction or simple replacements using existing socket specifications.

OSRAM SYLVANIA is proud of our portfolio of ULTRA LED lamps and retrofit kit solutions. First to market with the 100W Omnidirectional A-lamp and winner of several Lighting for Tomorrow Awards, the SYLVANIA ULTRA LED product line provides trusted best-in-class performance.

The expansive offering includes:

- Omnidirectional A-line lamps
- Decorative lamps
- Downlight kits for recessed housings
- Linear (T8) and Circular (T9) lamps
- Directional (PAR, MR, BR, R) lamps

Each lamp type has specific performance features to meet a variety of applications. All our Integrated LED Light Sources are designed to perform better and more efficiently than the technology they replace.



Custom Designed LED Solutions

Be on the leading edge of LED lighting technology by working with the lighting experts at the OSRAM SYLVANIA U DESIGN Lighting Experience Center in Winchester, Kentucky.

- U customize an LED lighting solution that meets your individual requirements by selecting the optics, drivers and LED boards for your specific application.
- U compare beam spread, color temperature, color rendering, optics, and drivers against your existing product.
- U review the ROI for your specific application comparing LED vs. traditional lighting products.

Key Features & Benefits of OSRAM SYLVANIA LED PAR Lamps:

- Two CRI options available—82 and 95
- Excellent color quality within a 2-step MacAdam ellipse
- Assembled in the U.S.A.
- No warm-up time, instant on with full light output and stable color
- Lasts up to 20x longer than comparable PAR lamps
- Reduces energy consumption up to 80%
- UV and IR free
- RoHS compliant
- Dimmable to 10%*
- Mercury and lead free
- Long life—up to 50,000 hours (L₇₀)
- Suitable for damp locations

Please contact your OSRAM SYLVANIA sales professional for more information.

*Performance may vary depending on dimmer used in application.



First to market

ULTRA HO LED PAR38 Lamp

Energy-saving alternative to high-wattage, self-ballasted HID lamps



Features:

- Energy-saving, easy replacement for medium base 24W metal halide PAR lamps
- Instant on/Instant restrike
- Lasts 2x longer than integrated metal halide lamp
- Color consistency within a 4-step MacAdam ellipse
- Better lumen maintenance in comparison to metal halide lamps

Benefits:

- Energy savings up to 37%
- No waiting for warm-up or re-strike like metal halide lamps
- Reduces maintenance
- Unlike metal halide, no color shift over life
- Three to five year warranty

Applications:

- Ambient and accent lighting
- Landscape lighting
- Recessed downlights
- Track lighting

Suggested Literature:

- RETR0037

Product Specifications

Product Description	Watts	Lumens	CBCP (cd)	CCT	CRI	Rated Life L ₇₀ (hrs.)
ULTRA HO LED PAR38 Spot 10°	15	1050	26,000	3000K	82	25,000
ULTRA HO LED PAR38 Narrow Flood 25°	15	1050	5,000	3000K	82	25,000

INTEGRATED LED LIGHT SOURCES



First to market

ULTRA iQ LED Lamp Family

Effortless intelligent lighting



Features:

- Integrated wireless dimming control
- Controllable via smart device
- Dimming 100–5%

Benefits:

- Dims multiple lamps wirelessly
- No external dimmer required
- Control lights from iPad®, iPhone® or other smart devices
- Easily control light levels
- Three to five year warranty

Applications:

- General lighting
- Recessed downlights
- Track lighting
- Wall wash

Suggested Literature:

- RETR0059

Product Specifications*

Product Description	Watts	Lumens	LPW	CCT	CRI	Rated Life L ₇₀ (hrs.)
ULTRA iQ LED RT6	11	700	63	3000K	82	35,000
ULTRA iQ LED BR30	11	650	59	2700K	80	35,000

*Preliminary Data



Create ambiance

ULTRA Sunset Effects LED Lamp Family

Innovative dimming color technology



Features:

- Color temperature dims from 3000K to 2000K
- Energy-saving replacements:
 - SE PAR38 replacement for 60W PAR38 halogen
 - SE PAR30LN replacement for 50W PAR30LN halogen
 - SE A-line replacements for incandescent lamps
 - SE RT6 replacement for 65W incandescent
 - SE BR30 replacement for 65W BR30
 - SE BR40 replacement for 65W BR40
 - SE R20 replacement for 50W R20
- Phase-cut dimmable down to 10%
- No UV or IR
- Environmentally-preferred products—no mercury

Benefits:

- Incandescent-like dimming
- Energy savings up to 78%
- Control energy use and light output
- No fading of materials
- Three to five year warranty

Applications:

- Accent and ambient lighting
- Track lighting
- Wall wash

Suggested Literature:

- RETRO058

Product Specifications*

Product Description	Watts	Lumens	LPW	CCT	CRI	Rated Life L ₇₀ (hrs.)
ULTRA SE LED PAR38 Flood 30	16	950	59	3000K	85	25,000
ULTRA SE LED PAR30LN Narrow Flood 25	14	725	52	3000K	85	25,000
ULTRA SE LED A19 (40W equiv.)	8	450	56	3000K	82	25,000
ULTRA SE LED RT6 (65W equiv.)	10	700	70	3000K	82	35,000
ULTRA SE LED BR30	13	750	57	3000K	80	25,000
ULTRA SE LED BR40	17	950	55	3000K	80	25,000
ULTRA SE LED R20	8	450	56	3000K	80	25,000

*Preliminary Data



Ideal for hospitality market

ULTRA 25 LED Lamp Family

Warm, incandescent-like glow



Features:

- Warm 2500K color temperature
- Full product line for a variety of applications
- Energy-efficient replacements for traditional incandescent/halogen lamps
- Phase-cut dimmable down to 10%

Benefits:

- Inviting color temperature to create a relaxing atmosphere
- Specially-designed color temperature for hospitality applications
- Energy savings up to 86%
- Control light levels and save additional energy

- Three year warranty

Applications:

- Accent and ambient lighting
- Chandeliers
- Recessed downlights
- Wall sconces
- Wall wash

Suggested Literature:

- RETR0031
- RETR0039
- RETR0046
- RETR0049

Product Specifications*

Product Description	Watts	Initial Lumens	LPW	Beam Angle	CCT	CRI	Rated Life L ₇₀ (hrs.)
ULTRA 25 LED BR40	16	1000	62	N/A	2500K	80	25,000
ULTRA 25 LED PAR30	10	675	68	25°	2500K	80	25,000
ULTRA 25 LED PAR20	10	550	55	20°	2500K	80	25,000
ULTRA 25 LED MR16	7	500	71	25°	2500K	80	35,000
ULTRA 25 LED B13	6	330	55	N/A	2500K	80	15,000
ULTRA 25 LED B10	4	200	50	N/A	2500K	78	15,000

*Preliminary Data



First to market 350 lumen lamp

ULTRA LED B13 Lamps

Beautiful sparkle and dimmability



Features:

- Leading industry in lumen output
- Lasts 10x longer than incandescent
- Replaces up to a 40W incandescent B10
- Available in 2500K and 2700K color temperature
- Bent and blunt tip

Benefits:

- Brightest LED incandescent B10 replacement
- Fewer lamp replacements
- Energy savings up to 86%
- Warmer 2500K color temperature provides similar appearance to a dimmed incandescent
- Variety of decorative styles

Applications:

- Chandeliers
- Decorative lighting
- Wall sconces

Suggested Literature:

- RETR0046

Product Specifications

Product Description	Watts	Lumens	LPW	CCT	CRI	Base	Rated Life L ₇₀ (hrs.)
ULTRA LED B13	6	330	55	2500K	80	Candelabra (E12) and	15,000
		350	58	2700K		Medium (E26)	



Innovative optical design

ULTRA HO LED T8 Lamps and Retrofit Kits

High efficacy, energy savings and long life



Features:

- Innovative optic design, directional light output pattern reduces lumen loss from within traditional recessed luminaires
- DLC qualified for utility incentives
- No warm-up time, low temperature start (-4°F)
- Reduces energy consumption up to 35% compared to T8/T12 fluorescent
- Optional 0–10V dimming

Benefits:

- Uniform light distribution
- Reduces initial cost to install
- Applicable for cold or freezer environments
- Lower energy and maintenance costs

Applications:

- Cove lighting
- Display case lighting
- Freezer case lighting
- General illumination
- High bay lighting

Suggested Literature:

- LED299

Product Specifications

Product Description	Watts	Lumens	LPW	CCT	CRI	Rated Life L ₇₀ (hrs.)
ULTRA HO LED T8 – 2 ft.	11	1100	100	3500K, 4100K, 5000K	Up to 88	60,000
ULTRA HO LED T8 – 4 ft.	22	2300	105	3500K, 4100K, 5000K	Up to 88	60,000



LED Light Engines and Modules

OSRAM SYLVANIA offers Solid State Lighting (SSL) modules and light engines that produce high-quality light focused on a broad spectrum of indoor and outdoor lighting applications. Featuring modular designs that are easy for OEMs to integrate into their lighting fixtures, our directional, linear, chain and color-mixing modules are optimally paired with OPTOTRONIC® power supplies to achieve high-quality, well-controlled lighting solutions. New board designs provide equivalent performance to comparable fluorescent luminaires and controllability with up to 145 LPW. Innovative, highly-efficient directional modules and light engines open up additional design opportunities for recessed and track lighting solutions.

With more than a century of experience in general lighting, more than 30 years of experience in LED lighting and an industry-leading product warranty, our OEM partners can be confident in SSL products from OSRAM SYLVANIA.



Compact form factor

Downlight Light Engine

High-efficacy LED light engines for directional fixtures



Features:

- LED light engine with integrated optics
- Compatible with many existing fixture housings
- Similar light output to 1x32W, 2x26W or 2x32W CFL downlights
- Compatible with OPTOTRONIC® constant current power supplies

Benefits:

- Reduces design-in time for luminaire manufacturers

- Energy savings of 45–70% over compact fluorescent
- Reduces maintenance cost
- Five year system warranty when paired with OPTOTRONIC power supplies

Applications:

- Low bay
- Recessed downlights
- Surface mount luminaires
- Wall pack

Product Specifications*

Lumens	CCT	Watts	Module Efficacy	Input Voltage	CRI	Beam Angle	Rated Life L ₇₀ (hrs.)
1100	2700K	13	89	Up to 55V	80+	110°	50,000
	3000K	11	99	Up to 55V	80+	110°	50,000
	3500K	11	103	Up to 55V	80+	110°	50,000
	4000K	10	106	Up to 55V	80+	110°	50,000
2000	2700K	24	85	Up to 55V	80+	110°	50,000
	3000K	22	94	Up to 55V	80+	110°	50,000
	3500K	22	98	Up to 55V	80+	110°	50,000
	4000K	20	101	Up to 55V	80+	110°	50,000
3000	2700K	38	80	Up to 55V	80+	110°	50,000
	3000K	35	87	Up to 55V	80+	110°	50,000
	3500K	35	91	Up to 55V	80+	110°	50,000
	4000K	32	94	Up to 55V	80+	110°	50,000

*Preliminary specifications



Up to 145 LPW

Distributed Array Gen II LED Modules

Higher-efficacy modules



Features:

- Uniform LED grid in a variety of form factors
- High-efficacy modules providing 107–145 LPW*
- Thermally independent
- True parallel board operation
- Poke-in wire connectors that accept 18 AWG wire
- Optimally paired with OPTOTRONIC® single or multi-channel constant current power supplies

Benefits:

- Luminaire design flexibility to meet various application needs

- No additional heat sinking required
- Daisy chaining of multiple boards driven on a single channel
- Connectors eliminate the need for a wiring harness
- Five year system warranty

Applications:

- 1x4, 2x2, 2x4
- General lighting

Suggested Literature:

- LED314

Product Specifications

Product Description	Dimensions (W x L)	Lumens	Watts	Max. Rated Input Drive Current (mA)	CCT	CRI
Linear Modules	1.5" x 9"	1000	8.9	300	3000K, 3500K, 4000K, 5000K	80+
3-Rows of LEDs	1.5" x 11"	1250	10.6	300	3000K, 3500K, 4000K, 5000K	80+
	1.5" x 11.4"	1250	10.7	300	3000K, 3500K, 4000K, 5000K	80+
Linear Modules	1.5" x 11"	1250	10.6	300	3000K, 3500K, 4000K, 5000K	80+
	1-Row of LEDs	0.75" x 11"	1250	10.5	3000K, 3500K, 4000K, 5000K	80+
Area Panel	1.5" x 7"	800	7.1	300	2700K, 3000K, 3500K, 4000K, 5000K	80+
	8" x 8"	1250	10.7	300	3000K, 3500K, 4000K, 5000K	80+
	10" x 10"	2175	17.8	500	3000K, 3500K, 4000K, 5000K	80+

*145 LPW dependent on board length; example – 11" board driven at 150 mA



Your building is your fixture

LINEARlight FLEX®

UL2108 Listed Systems



LINEARlight FLEX modules have been qualified as a Listed System according to the standard for Low Voltage Lighting Systems (UL2108) when used in conjunction with defined power supplies and accessories to comply with building codes.

Benefits:

- No fixture needed
- Customizable for your application
- No Authority Having Jurisdiction (AHJ) inspection required after installation

UL2108 System Components:

Modules – Choice of brightness levels and color

- LINEARlight FLEX Advanced
- LINEARlight FLEX Short Pitch
- LINEARlight FLEX POWER FLEX

- LINEARlight FLEX Colormix Protect

Power Supplies

- OPTOTRONIC® Constant Voltage Power Supplies – OT60, OT96, OT240

Controller Interface (for dimmable system)

- OPTOTRONIC OT DIM with simple slide dimmer

Connectors and Heatsink

- Input connector, board-to-board connectors and mounting track

Product Specifications

Product Description	Length (ft.)	Pitch (mm)	Lumens/ft.	Watts/ft.	LPW	No. of LEDs
Advanced	32.8	16.7	119–129	1.5	81–88	600
Short Pitch	19.7	8	238–258	2.9	81–88	720
POWER FLEX	9.8	25.1	489–566	6.9	70.5–81.5	120
Colormix Protect	13	20	88	5.5	24.2	200
	19.7	30	55	2.0	27.6	

Modules may also be designed into luminaires, which may be listed as end use products.



High-efficacy light engine

DL1100 Gen II Light Engine

High-brightness LED light engine



Features:

- High-efficacy 40 LED light engine—up to 123 LPW*
- Light engine supports a wide range of drive currents
- Tight-color consistency within a 3-step MacAdam ellipse
- Compatible with OPTOTRONIC® constant current programmable power supplies

Benefits:

- Higher LPW over previous generation
- Flexible light output for new luminaire designs
- Same visual appearance allowing running upgrade for luminaire manufacturers

- Good module-to-module color consistency
- Five year system warranty

Applications:

- Accent lighting
- Display lighting
- Downlights
- Task lighting

Suggested Literature:

- LED095

* LPW dependent on drive current

Product Specifications

CCT	Lumens**	Voltage (V _{oc})**	Watts**	LPW**	Current Range	Beam Angle
2700K ¹	1650	16.5	17.2	96	Up to 1200 mA	120°
3000K	1690	16.1	16.1	101	Up to 1200 mA	120°
3500K	1805	16.2	17	107	Up to 1200 mA	120°
4000K	1825	16.5	17.2	106	Up to 1200 mA	120°
5000K	1905	17	17.7	108	Up to 1200 mA	120°

** at 1040 mA

¹ 2700K performance is estimated



Single-board cuttable chain

BackLED Plus & BackLED B

12Vdc LED modules for signage



Features:

- Single-board cuttable chain of LED modules with flexible connection cables
- Various light levels and form factors for a wide selection of letter sizes
- Flat-Ray optical lens on BackLED Plus ensures light uniformity at the sign face
- BackLED B features a tighter beam angle for deeper channel letters
- IP66 rated
- Compatible with OPTOTRONIC® 12Vdc power supplies

Benefits:

- Fast, easy installation—reduces installation time
- No external heat sinking requirements ensures specified performance
- Ideal for outdoor use—easy cleaning with high pressure water jet
- Five year system warranty when paired with OPTOTRONIC power supplies

Applications:

- Box and pylon signs
- Channel letters
- Halo letters

Product Specifications

Product Description	Length (ft.)	No. of Modules	Watts/ft.	Lumens/ft.*	Beam Angle	CCT	Color
BackLED L Plus	21	32	2.8	193	150° Flat-Ray	3000K	White
BackLED M Plus	20	40	1.5	136	150° Flat-Ray	4000K	White
						6500K	Red
BackLED LB	23.7	36	2.6	173	120°	4000K	White
BackLED MB	20	40	1.4	135	120°	6500K	White

*At 6500K



OSRAM SYLVANIA's first double-sided chain module

BoxLED Plus DS

Double-sided white LED modules for box signage



Features:

- Double-sided chain of linear white LED modules
- Optimized elliptical optical lens
- Fully integrated heat sink
- IP66 rated
- Compatible with OPTOTRONIC® 24Vdc power supplies

Benefits:

- Mounting track and accessories available for fast, easy installation
- Uniform illumination of double-sided signs
- Ideal for outdoor use—easy cleaning with high pressure water jet
- Five year system warranty when paired with OPTOTRONIC power supplies

Applications:

- Box and pylon signs
- Indoor signage
- Outdoor signage

Product Specifications*

Length (ft.)	No. of Modules	Lumens/ft.	Beam Angle	CCT	Color
21	16	406	150°	6500K	White

*Preliminary Specifications



New form factors

ORBEOS™ OLED Systems

Extremely thin, lightweight, glare-free OLED light sources and DALI driver



Features:

- Wafer-thin 2mm LED light sources, in round, square and rectangular form factors
- Transparent white diffused or mirrored glass options
- Two installation options—solder or pin connectors
- Instant ON and OFF
- Specially designed OPTOTRONIC® DALI dimmable and standard OPTOTRONIC constant current OLED drivers

Benefits:

- Creates opportunities for unique luminaire designs
- Expands design boundaries
- Allows for easy installation
- No warm-up time
- Ensures a highly efficient system

Applications:

- Decorative lighting
- Architectural lighting
- Mood lighting
- Task lighting

Product Specifications

Product Description	Shape	Dimensions (L x W)	Connector Type	Brightness (cd/m ²)	LPW	CCT	Rated Life L ₇₀ (hrs.)
ORBEOS CDW-030	Round	1.4" x 3.5"	Solderable or Pin & connector	2000	40	3300K	10,000
ORBEOS DW-058	Square	4.7" x 4.7"		2000	40	3300K	10,000
ORBEOS RDW-046	Rectangular	4.9" x 1.9"	Solderable	2000	40	3300K	10,000
ORBEOS Air	Rectangular	5.9" x 1.9"	Pin & connector	2000	33	3300K	10,000





LED Power Supplies

For over a decade, the OSRAM family of OPTOTRONIC® LED Power Supplies has become the industry standard for robust performance, reliability—and peace of mind.

The OPTOTRONIC product line features a complete portfolio of constant voltage, constant current and multiple output power supplies in a variety of standard and custom electrical configurations and form factors to suit every application space and system requirements. New constant current multi-channel, dimmable, programmable power supplies with a wide current range are programmable by the OEM reducing the number of power supplies needed. There is an OPTOTRONIC power supply option to fit your specific application need. All OSRAM LED system components are covered by the industry's finest five year LED Module, OPTOTRONIC Power Supply or Control Warranty.



Widest current range, dimming to 1%

OPTOTRONIC® Programmable Constant Current LED Power Supplies

OEM programmable, compact, dimmable-power supplies



Features:

- OEM programmable constant current power supplies with 1 mA resolution
- Dimming down to 1%
- Compatible with standard 0–10V dimmers
- Wide-output current operating range
- Dual-entry connectors

Benefits:

- Perfectly match the LED load and maximize performance
- Smooth and flicker-free architectural dimming
- Integrate with lighting control strategies for daylight harvesting and energy management

- Powers LED arrays up to 1.4 A
- Familiar standard industry housing simplifies installation and reduces installation time

Applications:

- Downlights
- Recessed troffers
- Spot lighting
- Wall wash

Suggested Literature:

- ECS273

Product Specifications

Max. output power	25W	40W
Output current range	0.35–1.25 A	0.40–1.4 A
Output voltage	10–55V	10–55V
Efficiency	>85%	>85%
Dimming control	0–10V	0–10V
Dimming range	100–1%	100–1%
Dimensions (L x W x H)	5.0" x 2.4" x 1.2"	5.0" x 2.4" x 1.2"



Extremely compact

OPTOTRONIC® 20W Constant Current Phase-Cut Dimmable LED Power Supplies

Compact, phase-cut dimmable-power supplies



Features:

- Available in industry standard output current options
- Dimmable with both trailing and leading edge dimmers
- Universal input voltage
- Compact 1" height

Benefits:

- Allows compatibility with LED load and maximizes performance
- Smooth and flicker-free dimming
- Eliminates "wrong voltage" wiring errors
- Small-form factor allows integration inside or outside of luminaires

Applications:

- Downlights
- Spot lighting
- Track lighting

Product Specifications

Product attributes	OT20
Output power	20W
Input voltage	120-277V
Output current	350, 430, 500, 700 mA
Output voltage	10-55V
Dimming control	Phase-Cut (LE & TE) at 120V only
Efficiency	85%
Dimensions (L x W x H)	3.6" x 1.3" x 1.0"



Optimally designed for ORBEOS™ OLED

OPTOTRONIC® OTi DALI Constant Current LED Power Supply

Multi-channel, dimmable DALI power supply



Features:

- Available in 4 output current options
- Two individually programmable output channels
- Integrated touch DIM functionality requires no software programming
- Self-resetting protection
- Extremely small housing

Benefits:

- Allows compatibility with OLED load and maximizes performance
- Reduces the number of power supplies needed in a fixture
- Installation ease and dimming through the use of DIP switches

- Prevents overload, overheating and short circuits
- Low-profile power supply

Applications:

- Architectural lighting
- Decorative lighting
- Mood lighting
- Task lighting

Product Specifications

Product attributes	OTi DALI 2x300 CS
Output Power	8W-25W
Input Voltage	24/48 VDC
Output Current	100, 115, 285, 300 mA
Dimming	DALI
Dimming Range	100-1%
Dimensions (L x W x H)	6.8" x 1.7" x 0.8"





Wide current range

OPTOTRONIC® Multi-Channel LED Power Supplies

Class 2, dimmable, multi-channel LED power supplies



Features:

- Available in a wide range of current outputs
- Class 2 outputs
- Compatible with standard 0–10V dimmers
- Up to 4 output channels

Benefits:

- Powers LED arrays up to 2100 mA
- Enables high-power Class 2 fixture designs
- Integrate with lighting control strategies for daylight harvesting and energy management
- Reduces the number of power supplies needed in a luminaire
- Five year warranty

Applications:

- Downlight
- High bay
- Low bay
- Pendant

Suggested Literature:

- ECS146
- ECS272

Product Specifications

Max. Output Power	50W	100W	150W
Luminaire applications	Downlight recessed, square	Low profile, linear pendant, indirect/direct	Low/high bay, industrial, area
Multiple output channels	4 channels	4 channels	2 and 4 channels
Output current range	150-350 mA	350-900 mA	1.4-2.1A – 2 channel 700-1050 mA – 4 channel
Max. watts per channel	15	25	40
Dimensions (L x W x H)	6.7" x 3.5" x 1.2"	16.7" x 1.2" x 1.0"	16.7" x 1.7" x 1.18"



Traditional Lighting

Longer life SYLVANIA OCTRON® XP® XL T8, PENTRON® T5 HO XL, DULUX® CFL, ICETRON® induction lamps and LUMALUX PLUS® XL lamps meet today's increasing demands for energy efficiency, reduced maintenance cost, as well as reduced environmental impact and sustainability. SYLVANIA fluorescent lamps are optimally paired with SYLVANIA QUICKTRONIC® high-efficiency instant and programmed, rapid-start ballasts available in a variety of fixed-light output, dimming and bi-level types that comply with the most stringent energy requirements and the DOE 2014 ballast rule requirements.

OSRAM SYLVANIA offers the industry's broadest range of ceramic metal halide lamps and the longest life high pressure sodium lamps. SYLVANIA QUICKTRONIC® HID ballasts feature state-of-the-art electronic design, with a full-line offering, including dimmable systems that provide a choice of 0-10V or bi-level dimming down to 50%. The outdoor version also operates high pressure sodium lamps.

When SYLVANIA lamps and ballasts are specified as a system, the system is covered by the SYLVANIA QUICK 60+® system warranty.



First to market

OCTRON® 800 XP® XL SUPERSAVER® ECOLOGIC® 3 T8 Fluorescent Lamps

Industry's longest life T8 lamp



Features:

- Up to 2.7x longer life than standard T8 lamps
- Up to 2x longer life than OCTRON XP and XV™ lamps
- Dimmable on QUICKTRONIC® POWERSENSE® ballast
- Meets CEE specifications for reduced wattage T8 systems for utility rebates
- Comprehensive QUICK 60+® system warranty
 - Five year OCTRON XP/XL lamp and QUICKTRONIC ballast warranty

Benefits:

- Reduces maintenance costs
- Additional eight years of maintenance-free lighting when upgrading from XP or XV (based on 4,000 hours per year)

- Additional energy savings with dimming ballasts and occupancy sensors to meet stricter energy codes
- Warranty covers occupancy sensor applications down to 10 minutes/start with QUICKTRONIC PROStart® ballast

Applications:

- Cove lighting
- Indirect/direct
- Linear and area luminaires
- Recessed troffers
- Wall wash

Suggested Literature:

- FL083

Product Specifications

Product Description	Watts	Initial Lumens	Mean Lumens	LPW	Average Rated Life (hrs.)* Instant Start	Average Rated Life (hrs.)* Programmed Start	CCT	CRI**
OCTRON 800 XP/XL	32	2950	2830	92	52,000	67,000	3500K, 4100K, 5000K	85
OCTRON 800 XP/XL SS	28	2600	2470	93	75,000	84,000	3500K, 4100K, 5000K	85
OCTRON 800 XP/XL SS	25	2400	2280	96	75,000	84,000	3000K, 3500K, 4100K	85

* @ 12 hrs./start **CRI is 81 for 5000K lamp





Sole USA manufacturer

PENTRON® HO ECOLOGIC® High Output T5 Fluorescent Lamps

Longer life—45,000 hours at 12 hours per start



Features:

- Life improvement of 12.5%
– Increased from 40,000 hours to 45,000 hours on 12 hours per start
- Available in standard and SUPERSAVER® versions
- Small profile lamp
- Dimmable with QUICKTRONIC® POWERSENSE® ballasts down to 1%
- Optimally paired with QUICKTRONIC QHE PROStart® ballasts

Benefits:

- Additional year of maintenance-free lighting (based on 4,000 hours per year)
- Energy savings up to 13% with SUPERSAVER T5HO lamps

- Greater luminaire design flexibility
- Light level control, daylighting possibilities and additional energy savings
- Covered by comprehensive QUICK 60+® system warranty
– Three years on lamps and five years on ballast

Applications:

- Canopy
- Cove lighting
- High bay lighting
- Indirect/direct pendant
- Security lighting
- Signage lighting

Suggested Literature:

- FL081

Product Specifications

Product Description	Watts	Initial Lumens	Mean Lumens	LPW	CCT	CRI	Average Rated Life (hrs.)*
PENTRON HO 54W	54	5000	4650	92	3000K, 3500K, 4100K, 5000K	85	45,000
PENTRON HO SUPERSAVER	50	5000	4650	100	3000K, 3500K, 4100K	85	45,000
PENTRON HO SUPERSAVER	47	4575	4255	97	3000K, 3500K, 4100K	85	45,000

* @ 12 hrs./start





Longest life

DULUX® D/E SUPERSAVER® ECOLOGIC®

Longer life, energy-saving 4-pin double CFL



Features:

- Longer lamp life—up to 67% over standard 12,000 hour lamps
- SUPERSAVER lamp replacements for standard 18W and 26W lamps
- Compatible with 0-10V dimming controls
- Optimally paired with QUICKTRONIC® PROStart® CF or CF DIM ballast

Benefits:

- Additional two years of maintenance-free lighting (based on 4,000 hours per year)
- Energy savings up to 12.5% over standard lamps
- Can integrate with lighting control strategies and energy management systems

- Comprehensive QUICK 60+® system warranty – Two years on DULUX lamp and five years on QUICKTRONIC ballast

Applications:

- Decorative lighting
- Pendant fixtures
- Recessed downlights
- Surface mounted luminaires
- Wall sconces

Suggested Literature:

- CF060

Product Specifications

Product Description	Watts	Initial Lumens	Mean Lumens	CCT	CRI	Average Rated Life (hrs.)*
DULUX D/E SUPERSAVER	15	1125	970	3000K, 3500K, 4100K	82	20,000
DULUX D/E SUPERSAVER	21	1525	1310	3000K, 3500K, 4100K	82	20,000

*On QUICKTRONIC PROStart ballast





Proven long life

ICETRON® ECOLOGIC® Inductively Coupled Fluorescent System

Improved output and lumen maintenance



Features:

- Mean lumen output increased by up to 20%
- Unparalleled lamp life
- Instant-on/Instant restrike
- Remote mounting up to 66 feet
- Low temperature starting (-25°C 40W/70W and -40°C 100W/150W)

Benefits:

- Better life cycle cost than LED
- No delay in switching on lamps
- Applicable for exterior and freezer environments
- Allows for flexible system installation (remote mounting)

- QUICK 60+® system warranty; five year warranty on lamp and ballast

Applications:

- Bridge/tunnel lighting
- Freezers/cold storage lighting
- High bay/low bay lighting
- Indoor/outdoor lighting
- Street and area lighting

Suggested Literature:

- FLO61

Product Specifications

Product Description	System Initial Lumens*	System Mean Lumens*	Lumen Maintenance 60,000 Hours	Lumen Maintenance 100,000 Hours	System LPW	Average Rated Life (hrs.)
ICE70/2P/ECO & QT1X100ICE/UNV-T	6,815	5,645	80%	75%	86/88	100,000
ICE100/2P/ECO & QT1X100ICE/UNV-T	8,600	7,125	80%	75%	82/84	100,000
ICE100/2P/ECO & QT1X150ICE/UNV-T	11,900	9,860	80%	75%	77/80	100,000
ICE150/2P/ECO & QT1X150ICE/UNV-T	13,000	10,775	80%	75%	81/83	100,000

*Lumens for 5000K will be lower





Longest life

LUMALUX PLUS® XL ECOLOGIC®

Longest life, non-cycling, high pressure sodium lamps



Features:

- 100% longer life than comparable HPS PLUS and STANDBY
- Combined non-cycling and instant-hot restrike features
- 15% higher maintained light output
- 90% less mercury than standard HPS
- Made in the U.S.A.

Benefits:

- Xtra Long life—greatly reduces maintenance cost
- Non-cycling—fewer repeat trips and less stress on the ignitor—reduced maintenance and material cost
- Same ballast—minimum cost for double the life
- Instant restrike—providing instant illumination after power outage helps improve safety concerns
- Maintains high efficacy

Applications:

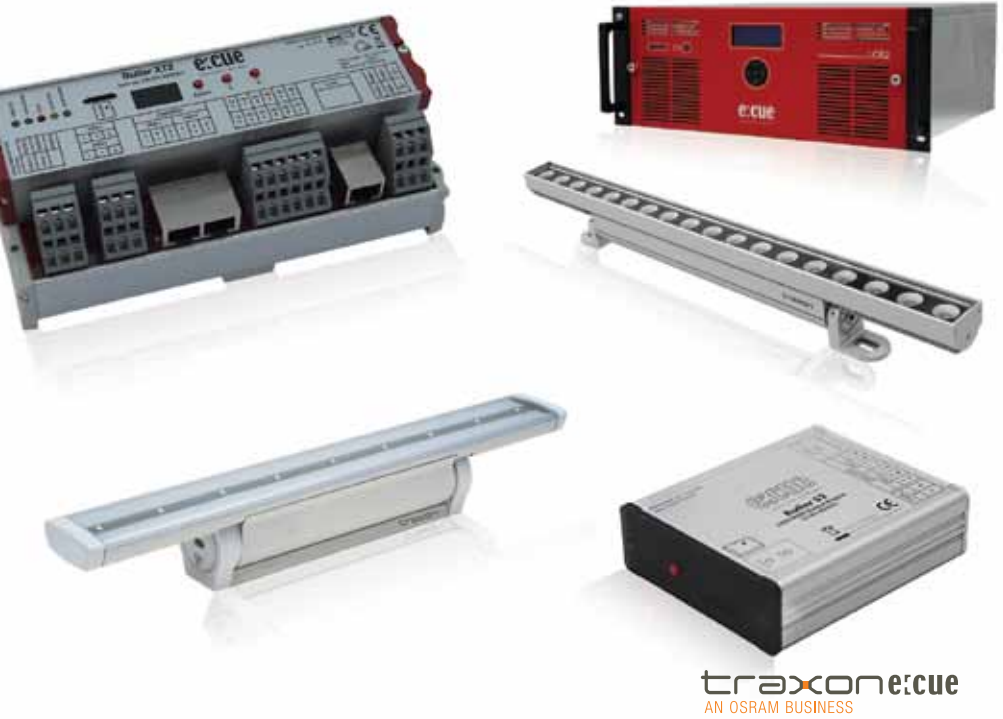
- Cobrahead
- High bay luminaires
- Low bay luminaires
- Shoebox
- Wall mount

Suggested Literature:

- HID073

Product Specifications

Product Description	Watts	Initial Lumens	Mean Lumens	CCT	CRI	Average Rated Life (hrs.)
LUMALUX PLUS XL ECO	100	9,800	7,800	2100K	21	80,000
LUMALUX PLUS XL ECO	150	15,200	12,150	2100K	21	80,000



traxon e:cue
AN OSRAM BUSINESS

Traxon & e:cue

Traxon Technologies & e:cue lighting controls for dynamic lighting and control solutions transform creative visions into unforgettable lighting experiences, redefining architecture and elevating environments around the world. Inspired and driven by flexibility, simplicity, and innovation, Traxon & e:cue products offer powerful, scalable solutions for anything from small to massive applications, adding sophisticated illumination to any design scenario and enhancing features like never before.

New additions to our vast portfolio include:

- Flexible cove lights for general ambiance, architectural and alcove illumination in white or RGB
- Low-profile linear grazing solutions
- Façade cladding systems combine light and media with familiar construction materials
- Powerful, yet compact, control engines and DMX512/RDM output devices that make it easier to access smaller projects, or expand the scale of media displays to near-limitless proportions



Best-in-class efficacy

Cove Light AC HO

Highly-efficacious cove lighting solution



Features:

- Wide variety of CCTs
- Phase-cut dimming 5–100% without flickering
- 180° rotation axis for flexible beam aiming
- Mounting track
- Gently frosted lens

Benefits:

- Best-in-class efficacy (60–69 lm/W)
- Options allow for gentle alcove illumination or high-powered wall grazing
- Easy-to-install
- Multiple mounting options and fixture lengths

Applications:

- Accent and ambient lighting
- Cove/perimeter lighting
- Hospitality
- Lighting applications with high-quality and lifetime requirements
- Offices
- Residential
- Retail

Product Specifications

Product Description	CCT	CRI	System Efficacy (lm/W)	Watts/ft.	Length (ft.)	Distribution
Cove Light AC HO	2700K, 3000K, 3500K, 4000K, 6500K	80	60-69	11	1, 2, 3	120 x 120, 120 x 55, 50 x 10



High-output colored light

Cove Light AC HO RGBW

Full-palette alcove illumination



Features:

- Red, Green, Blue and White sources
- One foot resolution
- Plug'n'Play wiring
- 5° incremental locking rotation
- Mounting track

Benefits:

- White LED allows for pastel and access to a gentle palette illumination
- Dynamic and stunning displays
- Easy-to-install
- Options allow for gentle alcove illumination or high-powered wall grazing

Applications:

- Accent and ambient lighting
- Cove/perimeter lighting
- Hospitality
- Offices
- Retail

Product Specifications

Product Description	Beam Angle	IP Rating	System Efficacy (lm/W)	Watts/ft.	Length (ft.)
Cove Light AC HO RGBW	120° x 120°, 120° x 55°	IP40	33	12	1, 2, 3

Coming Soon



Best-in-class efficacy

Nano Liner Allegro AC XB

Highly-efficacious exterior wall graze



Features:

- Phase-cut, 5–100% flicker-free dimming
- 180° rotation axis for flexible-beam aiming
- Plug'n'Play connection can be daisy-chained
- IP66 rated for wet locations

Benefits:

- Easy-to-install
- Low operating costs for façade washing (11 W/ft.)
- Slim, low profile helps blend into architecture
- Rugged extrusion for variety of installation environments

Applications:

- Ambient and accent lighting
- Architectural façade lighting
- Exterior illumination
- Hospitality
- Lighting applications with high-quality and lifetime requirements
- Offices
- Retail
- Wall washing

Product Specifications

Product Description	CCT	CRI	System Efficacy (lm/W)	Watts/ft.	Length (ft.)	Distribution
Nano Allegro AC XB	3000K, 4000K, 6500K	80	60-84	11	1, 2, 3, 4	50 x 10, 40 x 40



Slim, exterior-accent lighting

Nano Allegro AC XB RGB

Slim, efficacious-exterior façade grazing



Features:

- Thin, low profile
- IP66 rated for wet locations
- 10° x 50° and 40° x 40° optics
- -22°F to 122°F operating temperature

Benefits:

- Low wattage for faster ROI (13 W/ft. RGB)
- Slim profile blends into architecture
- Rugged housing can operate in extreme environments

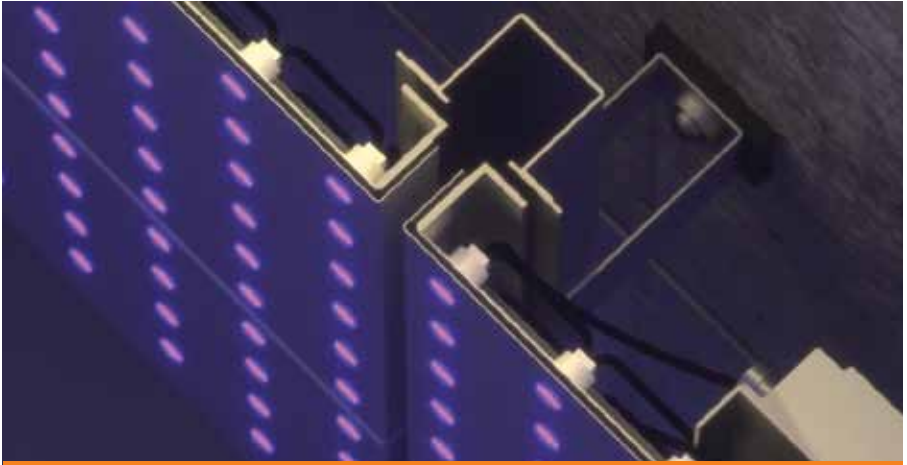
Applications:

- Architectural façade lighting
- Exterior
- Hospitality
- Lighting applications with high quality and lifetime requirements
- Linear and area luminaires
- Offices
- Retail

Product Specifications

Product Description	Beam Angle	IP Rating	System Efficacy (lm/W)	Watts/ft.	Length (ft.)
Nano Allegro AC XB RGB	10° x 50°, 40° x 40°	IP66	23	13	1, 2, 3, 4

Coming Soon



First cassette media façade

ALUCOBOND media[®] Façade Cladding System

Highly-customizable media façade



Features:

- Non-porous façade cassettes
- Cassette system and Traxon Media Dot are easy to maintain
- 50mm, 62.5mm and 125mm pitch available
- Modular system
- Wide variety of surface treatments from anodized to zebrano wood design

Benefits:

- Trusted ALUCOBOND[®] façade cladding system cassettes are streak-free and easy-to-install and maintain
- ALUCOBOND media façade cladding system is easily combined with existing ALUCOBOND façade cladding systems

- -22°F to 122°F operating temperature for most environments
- Wide variety of cassette sizes ensures complete coverage of any installation
- Wide variety of finishes makes ALUCOBOND façade cladding system suitable for interior and exterior applications

Applications:

- Architectural façade lighting
- Office buildings
- Parking garages
- Retail spaces
- Signage, commercial lighting

Product Specifications

Product Description	Pitch (mm)	Dimensions (W x H)	Viewing Angle	Nits (cd/m ²)	IP Rating
ALUCOBOND media	50, 62.5, 125	500mm x 600mm to 300mm x 1800mm	80°h x 50°v	1580 @ 62.5mm	IP67



Easy-to-maintain

IMAGIC WEAVE® HO Transparent Media Façade

Fully-scalable architectural media façade



Features:

- Option to turn the profiles 30° towards the ground available
- THT or SMT configurations
- Three pixel pitches (40mm, 50mm, 62.5mm)
- System is transparent
- e:pix ready

Benefits:

- Patented clipping system provides an easy-to-maintain structure
- Pitch and LED options yield 1,000 to 8,000 nits providing an ideal configuration to suit the environment
- Stainless-steel mesh, tubes and connectors contribute to the system's longevity

- Transparency of the mesh and thinness of the tubes means the view from inside the building is still available
- Architectural mesh displaying media seamlessly blends with non-illuminated architectural mesh

Applications:

- Architectural façade lighting
- Parking garages
- Retail
- Signage, commercial lighting

Product Specifications

Product Description	Pitch (mm)	LED Options	Viewing Angle	Nits (cd/m ²)	IP Rating
IMAGIC WEAVE HO	40, 50, 62.5	THT or SMT	THT: 105° x 50° SMT: 110° x 110°	THT: 3200 – 8000 SMT: 1000 – 2500	IP67



Modular media façade

Façade Panel

Easy-to-install media façade



Features:

- Simple installation
- Universal voltage—100–240VAC
- Extensive accessory range
- Multiple widths—24" to 55"

Benefits:

- Easy-to-maintain low-res media façade solution
- Gapless installation due to various modular sizes
- Accessories accommodate many installation environments

Applications:

- Architectural façade lighting
- Lighting applications with high-lifetime and quality requirements
- Media façade
- Retail

Product Specifications

Product Description	Color	Dimensions (L x W x H)	IP Rating
Façade Panel	RGB	24"-55" x 2.6" x 13.5"	IP40



Control eight zones

Butler S2

Scalable DMX512 output device



Features:

- Two DMX512 universes
- Up to 99 cuelists in stand-alone mode
- Up to eight cuelists played in parallel
- Control of up to 128 DMX512 universes in live mode
- Stand-alone configuration via web browser
- RDM-capable
- Built-in web server

Benefits:

- Easier than ever to configure via web browser
- Works seamlessly with Butler XT2 in stand-alone mode
- Eight zone control means economical use of DMX512 channels

Applications:

- Small to medium stand-alone applications (1-32 DMX512 Universes) with Butler XT2
- Up to 128 DMX512 Universes in live mode using the latest Lighting Application Suite



Control eight zones

Butler XT2

Engine for small stand-alone or complex live DMX512 installations



Features:

- Eight independently controlled zones from one device
- Integral web server for easy configuration
- Action Pad in stand-alone mode accessible by smart phone or tablet
- Scalable up to 65,536 channels
- Connectivity through RS-232, digital dry contact inputs and e:net protocols

Benefits:

- Ideal for small to medium complexity applications in stand-alone mode
- RDM support enables bidirectional communication and access to reports on any installation
- Stand-alone or live mode clustering for economical use of DMX512 channel
- Integrated realtime and astronomical clock allows time and date-controlled triggers
- e:bus interface can connect to e:cue's Glass Touch terminals or e:bus Input Modules for user interaction and control or connection of motion sensors

Applications:

- Small to medium stand-alone applications (1-32 DMX512 Universes)
 - Applications requiring smart phone or tablet interfacing
 - Stand-alone applications where 3rd party device triggering is required
- Up to 128 DMX512 Universes in live mode using the latest Lighting Application Suite



750,000 RGB pixel network

Butler PRO

World's largest capacity DMX512/RDM output device



Features:

- 16 universe output device (8,192 DMX512/RDM channels)
- Network for up to 750,000 RGB DMX512/RDM pixels in one control network
- 20-character display and five surface keys
- 19" rack mountable
- e:pix ready

Benefits:

- Ethernet connection allows devices to be decentralized to reduce cabling needs
- RDM feedback allows instant analysis, reporting and monitoring for any installation
- Designed to control the next generation of intelligent media façades

Applications:

- Massive scale video installations
- Media façades



High-performance servers

Lighting Control Engine 2 (LCE2) and 2 fx (LCE2-fx)

Designed to control large, complex projects



Features:

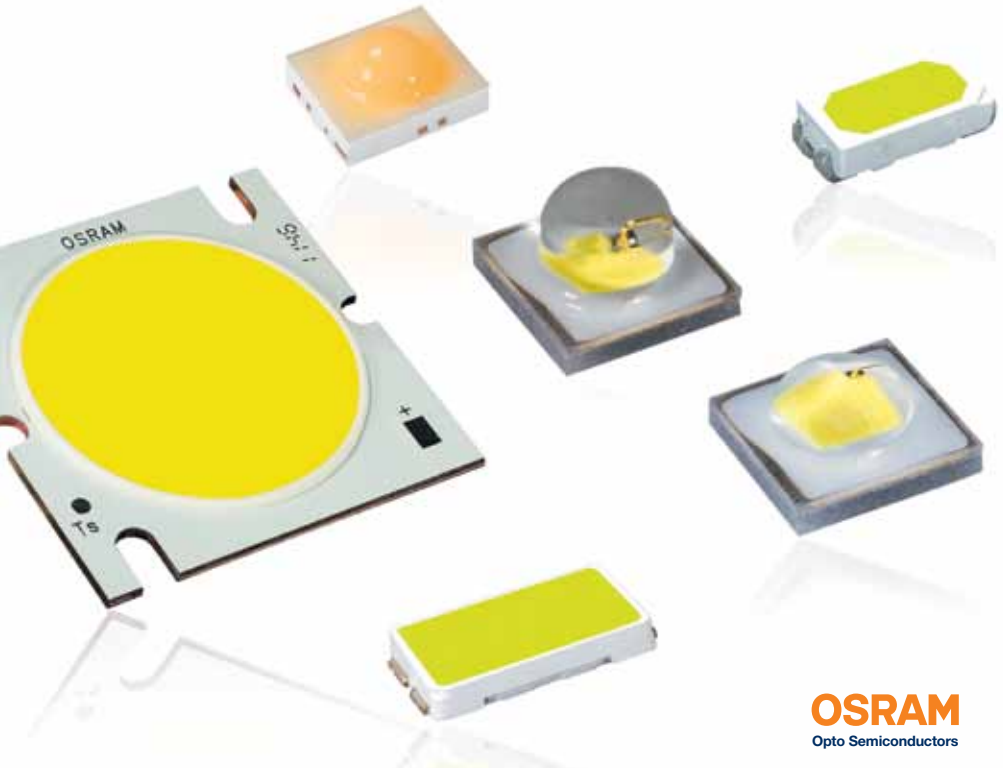
- Two drive bays accessible from front
- Mounts in 19" rack
- Control up to 65,536 DMX512 channels with RDM communication (LCE2)
- Control up to 750,000 DMX512/RDM channels and up to 25,000 RDM devices with bi-directional communication (LCE2-fx)
- Numerous triggering options

Benefits:

- Outputs a variety of ethernet-based protocols to orchestrate wide range of fixtures, devices, technologies and media
- Reliable, uninterrupted operation
- Simple to maintain and upgrade

Applications:

- Any DMX512 installation requiring intelligent control
- Any DMX512 media installation requiring intelligent control (LCE2-fx)



OSRAM Opto Semiconductors

OSRAM Opto Semiconductors stands for innovative, trend-setting LED technologies for illumination, visualization and sensing applications, and is one of the world's leading manufacturers of optoelectronic semiconductors. As a wholly-owned subsidiary of OSRAM GmbH, OSRAM Opto Semiconductors offers semiconductor components and support for system solutions based on innovative semiconductor light sources.

OSRAM Opto Semiconductors – Light the Future!



Highly efficient, cost effective

DURIS® E 3

Small-lumen package for homogeneous illumination



Features:

- Luminous flux: 7.4 lm at 20 mA
- Footprint: 3.0 x 1.4mm² (3014 PLCC package)
- Viewing angle: 120°

Benefits:

- Compact-light source in cost-effective PLCC package
- Stable brightness over lifetime

Applications:

- Low-voltage lighting
- Retrofit (T8/T5/A19) and linear lights
- Signage (e.g., channel letters)

Product Specifications

Type	CCT	Typical CRI	Typical flux @ 20 mA (= grouping current)
LUW JNSH.EC	6500K	85	7.0 lm
LUW JNSH.PC NEW	6500K	72	7.5 lm
	5000K	72	7.4 lm
LCW JNSH.PC NEW	4000K	72	7.3 lm
	3000K	72	6.8 lm
	5000K	85	6.9 lm
	4000K	85	6.5 lm
LCW JNSH.EC	3500K	85	6.3 lm
	3000K	85	6.2 lm
	2700K	85	6.0 lm



Perfectly homogeneous, highly efficient

DURIS® E 5

Medium-lumen package for homogeneous illumination



Features:

- Luminous flux: 45 lm at 120 mA
- Footprint: 5.6 x 3.0mm²
- Viewing angle: 120°

Benefits:

- Medium-lumen package for homogeneous illumination
- Stable brightness over lifetime

Applications:

- Downlights
- Freezer case lighting
- Low-voltage lighting
- Retrofit (T8/T5/A19) and linear lights

Product Specifications

Type	CCT	Typical CRI	Typical flux @ 120 mA (= grouping current)
LUW JDSx.EC	6500K	85	43 lm
	5700K	85	44 lm
	5000K	85	44 lm
LCW JDSx.EC	4000K	85	43 lm
	3500K	85	42 lm
	3000K	85	41 lm
	2700K	85	40 lm
LUW JDSI.PC	6500K	72	46 lm
	5700K	72	47 lm
	5000K	72	47 lm
LCW JDSI.PC	4000K	72	46 lm
	3000K	72	45 lm



Exclusive

DURIS® P 5

High-quality LED with best-in-class corrosion resistance



Features:

- Luminous flux: 36 lm at 100 mA
- Efficacy: 109 lm/W at 5000K, CRI 80
- Footprint: 2.6 x 2.2mm²
- Beam angle: 130°

Benefits:

- Best-in-class corrosion resistance
- Lifetime: $L_{70B_{50}} > 100,000$ hours at high temperature and current operation ($T_j = 125^\circ\text{C}$; $I_f = 200$ mA)

Applications:

- Lighting applications with high quality and lifetime requirements
- Linear and area luminaires
- Signage, commercial lighting

Product Specifications

Type	CCT	Typical CRI	Typical flux @ 100 mA (= grouping current)
GW DASPA1.UC	6000K	68	36 lm
	5000K	82	34 lm
GW DASPA1.EC	4000K	82	33 lm
	3000K	82	31 lm



Maximum flexibility, minimum size

OSRON[®] Square

The most compact, high-power LED in its class



Features:

- Luminous flux: 280 lm at 700 mA
- Efficacy: 119 lm/W at 6000K, CRI 65
- Footprint: 3.0 x 3.0mm²
- Beam angle: 120°
- Chip size: 2mm² (UX:3 chip technology)

Applications:

- Downlights
- Exterior
- LED clusters
- Remote phosphor
- Retrofit lamps and fixtures

Benefits:

- Maximum flexibility, minimum size
- Robust even under the harshest conditions

Product Specifications

Type	CCT	Minimum CRI	Typical flux @ 700 mA (= grouping current)
LUW CQAR	6000K	65	280 lm
	5700K	70	280 lm
LCW CQAR.PC	5000K	70	260 lm
	4000K	70	245 lm
LCW CQAR.EC	5000K	80	235 lm
	4000K	80	220 lm
	3000K	80	200 lm
	2700K	80	188 lm
	2400K	80	175 lm



Now with higher efficacy

OSLON® SSL 80° and 150°

First power duo with sophisticated radiation patterns



Features:

- Luminous flux: 133 lm at 350 mA
- Footprint: 3.0 x 3.0mm²
- Beam angle: 80° or 150°

Benefits:

- Small-size, high-flux LED for slim designs
- 80° version for easy coupling into lens optics
- 150° version for shallow reflector optical design

Applications:

- Flashlights
- Retrofit lamps and fixtures
- Spot and downlights
- Street and outdoor area lighting
- Task and accent lighting

Product Specifications

Type	CCT	Minimum CRI	Typical flux @ 350 mA (= grouping current)
LUW CR7P		70	
LUW CRDP	6000K	70	135 lm
LCW CR7P.PC	5700K	70	135 lm
LCW CRDP.PC	5000K	70	133 lm
	4000K	70	131 lm
	5000K	80	120 lm
LCW CR7P.EC	4000K	80	115 lm
LCW CRDP.EC	3000K	80	109 lm
	2700K	80	104 lm
	4500K	90	93 lm
LCW CR7P.CC	3000K	90	90 lm
LCW CRDP.CC	2700K	90	87 lm



Exclusive

DURIS® P 5 Colors

Mid-power LED with best-in-class corrosion resistance



Features:

- Available in monochromatic colors: Red (625 nm), Yellow (590 nm), Green (525 nm), Blue (470 nm) and Deep Blue (450 nm)
- Footprint: 2.6 x 2.2mm²
- Beam angle: 130°

Benefits:

- Best-in-class corrosion resistance
- Color portfolio offering
- Wide operating range (100 mA–250 mA)

Applications:

- Architectural linear and area luminaires
- Lighting applications with high-quality and lifetime requirements
- Remote phosphor solutions
- Signage, commercial lighting

Product Specifications

Color	Wavelength	Typical flux @ 100 mA (= grouping current)
Amber/ Red	625 nm	16 lm
Yellow	590 nm	14 lm
True Green	525 nm	26 lm
Blue	470 nm	8 lm
Deep Blue	450 nm	150 mW



Easy-to-use modules

SOLERIQ® E

Easy-to-use, high-lumen packages



Features:

- Luminous flux: 2675 lm (600 mA) or 4015 lm (880 mA) @ T_j 85°C
- Footprint: 30.0 x 30.0 x 1.7mm³ or 36.0 x 36.0 x 1.7mm³
- Beam angle: 120°

Benefits:

- Easy-to-use COB LED modules with high luminous efficacy

Applications:

- Downlights
- Outdoor lighting
- Replacement lamps
- Track lighting

Product Specifications

Type	CCT	Typical CRI	Typical flux @ 600 mA and $T_s = 85^\circ\text{C}$ (= application conditions)
GW KAJRB2.EM-TPTR-65H4	6500K	84	2710 lm
GW KAJRB2.EM-TPTR-50H4	5000K	85	2675 lm
GW KAJRB2.EM-TPTR-40H4	4000K	85	2640 lm
GW KAJRB2.EM-SUTQ-30H4	3000K	84	2440 lm
GW KAJRB2.EM-STTQ-27H4	2700K	82	2270 lm
Type	CCT	Typical CRI	Typical flux @ 880 mA and $T_s = 85^\circ\text{C}$ (= application conditions)
GW KALRB3.EM-TUUQ-65H4	6500K	84	4065 lm
GW KALRB3.EM-TUUQ-50H4	5000K	85	4015 lm
GW KALRB3.EM-TUUQ-40H4	4000K	85	3960 lm
GW KALRB3.EM-TSTU-30H4	3000K	84	3660 lm
GW KALRB3.EM-TSTU-27H4	2700K	82	3405 lm

OSRAM SYLVANIA Distinctions and Awards

At OSRAM SYLVANIA, our singular focus is on lighting excellence. You can see it in our products. Our innovative lighting products are driven by unparalleled expertise in all facets of lighting science and technology and, equally important, by the highest levels of customer support and service. We are proud the industry has recognized our efforts.



2013 *Today's Facility Manager*
Readers' Choice Award
OCTRON® XP®XL ECOLOGIC®3



2012 LIGHTFAIR Innovation Award
PRO-Flex LED Dimming Drivers



Next Generation Luminaires Award
OSRAM RLC22 LED 2'x2' Luminaire



reddot design award
winner 2012

Red Dot Award
OSRAM KREIOS® G1 LED Image Projector



Lighting for Tomorrow
SYLVANIA ULTRA RT6 Gimbal LED
Recessed Downlight Kit



2013 *Design Journal* ADEX Awards

LINEARlight FLEX® Advanced LED
Linear Modules – PLATINUM

SYLVANIA ULTRA RT6 Gimbal LED Recessed
Downlight Kit – PLATINUM

EMerge Alliance Registered Version of
OSRAM RLC22 LED 2'x2' Luminaire – PLATINUM
QUICKTRONIC® POWERSENSE® T5HO – PLATINUM
ProPoint™ Industrial Linear LED Luminaire – PLATINUM
OCTRON® 800 XP®XL ECOLOGIC®3 Lamps – PLATINUM

ULTRA LED PAR38 HO – GOLD

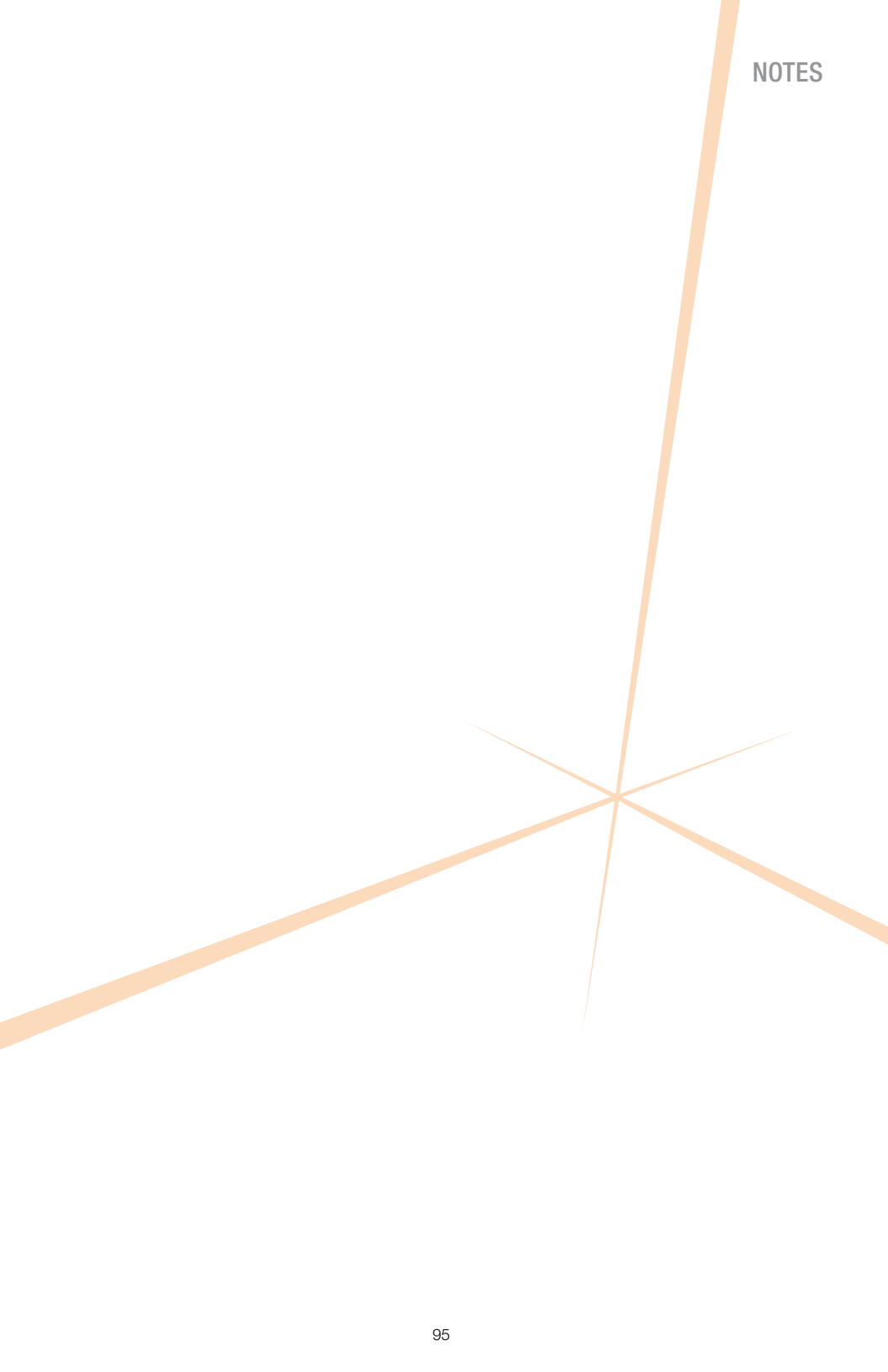
LINEARlight FLEX® POWER FLEX LED
Linear Modules – SILVER



2012 IES Progress Report



Architectural SSL PIA Award
Traxon Cove Light AC Dim



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Fax: 1-855-543-1043

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