# 2022 IES PROGRESS REPORT

The IES Progress Committee's mission is to keep in touch with developments in the art and science of lighting throughout the world and prepare a yearly report of achievements for the Society. Acceptance is based on an impartial judging process used by the committee to evaluate each submission on its uniqueness, innovation and significance to the lighting industry. There were 125 submittals in 2022; 81 were accepted into the report.

## IES PROGRESS COMMITTEE

**Shaun Fillion, LC, IALD**
*Chair*
RAB | NYSID

**Tejal Thakur**
*Vice-Chair*
Lightspek

**Gregory Adams, LC, Assoc. IALD**
*Secretary*
BCER

**Mark Benguerel**
Independent

**Kristin Bernick**
Diversified Lighting

**Rob Cilic, LC**
Independent

**Boyd Corbett**
COR Lighting Technology

**Jay Eissner, P.E., LC**
Manning Lighting

**Rachel Fitzgerald**
Stantec

**John Green, P.E., LC, Fellow IES**
Lambda 530 Consulting

**Ted Hayes**
RAB Lighting

**AC Hickox**
Domingo Gonzales Associates

**Rick Leeds**
Bover

**Howard Lewis**
Spectro Lume, LLC

**Mark Lien, LC**
IES/Augmented Illumination, LLC

**Michael Lunn**
Cooper Lighting Solutions

**Michelle Prew**
Cooper Lighting Solutions

**Edwin Rambusch**
Rambusch Decorating Co.

**Dyke Riffle**
Riffle & Associates

**Kenneth Schutz**
Focus Lighting

**Shelli Sedlak, LC, LEED AP**
Independent

**Anthony Serres, LC**
Independent

**Jane Slade**
Speclines

**Aaron Smith**
Finelite, Inc.

**Sandra Stashik, P.E., Fellow IES**
Selux

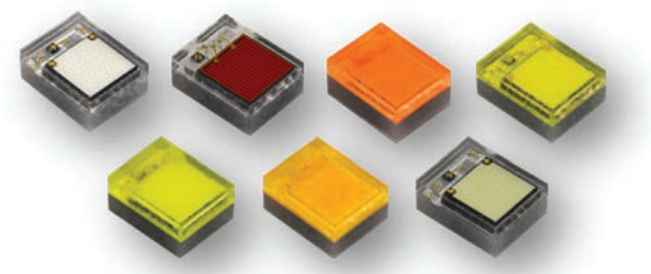
**Jered Widmer, IALD**
The Lighting Practice

**Paula Ziegenbein, LC, Assoc. IALD**
Hartranft Lighting Design

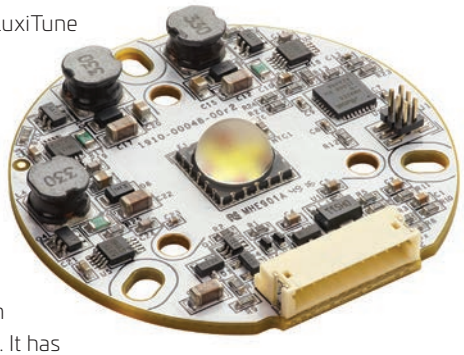
**Ardra Zinkon, CLD, IALD**
Zinkon Creative Studio

# 2022 PROGRESS REPORT

## LED CHIPS AND MODULES



**Cree's** new Xlamp Element G LEDs offer a new performance class for color LEDs with a range of 17 colors, which enables up to three times the output and nine times the lumen density of the closest competitive offering. Intended for color mixing applications at high current and temperature, the result is smaller light-emitting surface designs using small, tightly packed discrete LEDs. Combining this wide range of both colored and white LEDs results in new levels of spectral control for general and specialty lighting applications.



**ams OSRAM's** LuxiTune blackbody curve, tunable-white LED module is recognized for being the first three-channel LED light engine offering a CCT range from 1800K to 6500K. It has more accurate tracking on the blackbody curve with less than a two MacAdam ellipse deviation over the full color range. When paired with LuxiTune drivers and daughter boards, dimming down to 0.5%, and interoperability with wired and wireless controls, is possible.

## LED REPLACEMENT LAMPS



**Green Creative's** new Pin Fit PL Omni lamps are the first to incorporate a removable modular socket design which facilitates easy, in-field switching from a 4-pin G24q to a 2-pin G24d configuration. These lamps also feature an embedded universal driver suitable for electronic ballasts, magnetic ballasts or ballast bypass, and an omni-directional light distribution similar to compact fluorescent lamps. With lumen output ranging from 720 to 1,100 lumens, in color temperatures ranging from 2700K to 4000K, they are claimed to replace up to 26-W CFLs with up to 65% energy savings and 50,000 hours life.





The SELECTDRIVE PAR38 HO 277V Series from **Green Creative** are the industry's first PAR38 lamps with three output options of 12, 18 and 24 watts, delivering 2,550 lumens and up to 8,160 or 3,570 center beam candlepower with a 25- or 40-deg beam angle, respectively. Available in CCTs of 2700K and 3000K, with 25,000 hours life, they claim to replace up to 250-W halogen lamps and are compatible with line voltages ranging from 120 to 277 volts.

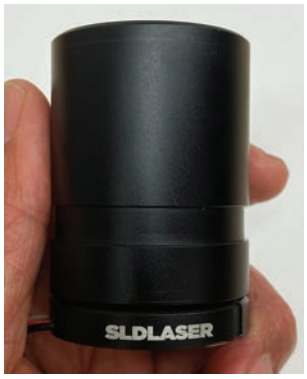


**GE Current's** Type B double-ended, plastic sleeved glass CovRguard XL lamps are the first Type B T8 LEDs to incorporate a polycarbonate, NSF food-zone rated sleeve, eliminating the need for field-installed sleeves or fixture guards. As a fluorescent retrofit, they can be used with shunted and non-shunted sockets, directly wired to input power by bypassing the ballast. They have an internal safety switch providing protection for the installer, and internal misapplication circuitry that protects the lamp if it's placed in a ballasted fixture.



**GE Current's** hazardous-location LED replacement lamps are the industry's first LED types to offer a retrofit option for Class 1 Division 2 hazardous location luminaires. These lamps conform to the National Electrical Manufacturers Association NEMA-LL202. They meet minimum replacement lumen requirements for up to 400-W metal halide, and up to 310-W high-pressure sodium lamps, allowing for significant energy savings without having to replace the entire fixture.

## LASER SOURCE




**Kyocera SLD Laser** introduces the LaserLight MicroSpot W-I, a first of its kind dual emission, colinear, individually addressable white and infrared laser spot module. Delivering the highest candela at 275,000, and the highest infrared radiant intensity at 160 watts per steradian from a compact spot module, it is ideally suited to enable outdoor lighting with night vision for applications including security, inspection, search and rescue.

## LED - OTHER



**Elco's** Koto series tunable-white modules were accepted for having the largest range of controls connectivity options, including multiple line- and low-voltage wired control compatibility, and numerous Bluetooth wireless options. When paired with Elco's twist-lock trims, they provide contractor-friendly 2-, 3- and 4-in. recessed, round downlight options.

## LUMINAIRES - DOWNLIGHTS



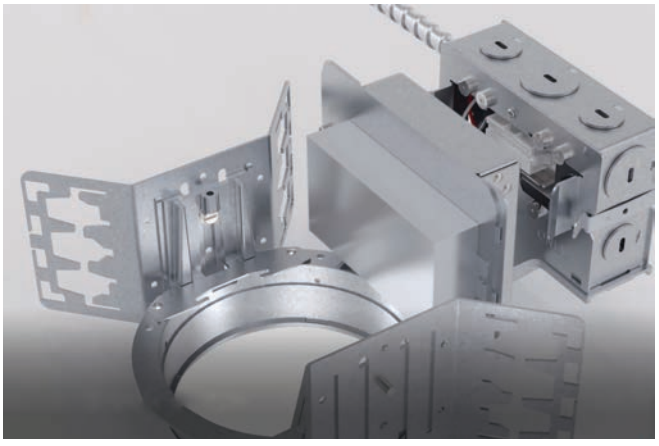
**Cooper Lighting Solutions'** HALO RL Night Light is the first featuring two modes: downlight mode for general area illumination and night light mode for a gentle glow illuminating the acrylic trim. Modes are changed by toggling the on/off switch. The downlight mode features five-color selectable CCT ranging from 2700K to 5000K, while the night light mode offers a warm 2000K glow. This canless direct-mount downlight does not require a housing for installation. The design fits in 2-by-4 construction or ultra-shallow plenum spaces.



The RL Canless Slope Ceiling Direct Mount luminaire from **Cooper Lighting Solutions** is the first non-gimble style adjustable slope-mount downlight that does not require a recessed housing and supports ceiling pitches from 9 to 45 deg without breaking the ceiling plane. Available in 900-lumen (4-in.) and 1,500-lumen (6-in.) apertures, both models feature five selectable CCTs and are airtight and IC rated. Tilt-angle adjustment is handled by a tool-less adjustment mechanism.



The Novation Ultra Shallow Downlight from **PreciseLED** is the industry's shallowest recessed downlight at 1.5 in. deep. This IC-rated fixture also provides the highest wattage and lumen output in its class by utilizing a patented heat pipe bridge which uses water cooling to distribute the heat from the LED toward the sides of the fixture. An innovative sliding mechanism within the fixture allows the LED module to slide away from the aperture, exposing the driver for easy removal and replacement.



Portfolio Performance 4- and 6-in. downlights from **Cooper Lighting Solutions** feature an innovative magnetic attachment of the power supply that facilitates easy field installation. The magnetic guidance system is unique to the industry and allows the power supply to be replaced from below the ceiling.

# 2022 PROGRESS REPORT

## LINEAR



The MICRO 5 by **Q-Tran**, Inc. is claimed to be the industry's smallest profile encapsulated tapelight product with multiple flex directions. At 3000K, the tiny tapelight can deliver over 320 lumens at 4 watts per ft. As with other flexible and rigid fixtures, many lumen outputs and color temperatures are available, including RGB, static white and dynamic white. Each fixture utilizes tightly-binned LED chips mounted on a narrow 5-millimeter PCB delivering at 1, 2 or 4 watts per ft.



**Edison Price Lighting** has introduced Easy-Link, a modular lighting system that is the first to include a 5-conductor quick connector that allows 360-deg light rotation and can be assembled with in-line, T, X and U connectors with no visible hardware. Honeycomb or louvered baffles reduce glare while providing typical light output up to 2,900 lumens in a 36-W, 4-ft section. Easy-Link can be suspended, mounted on walls or ceilings, attached to tables or floor-mounted with a weighted base.



Forum Onyx, by **Current**, is a completely configurable blackout luminaire system. The unique Black Out lens conceals the internal white reflector when the fixture is in the OFF state, essentially causing the fixture to disappear from view. It is the highest efficacy linear system utilizing lens technology at 44 lumens per watt that is also available in custom curved lengths. The lens material uses a special pigment formulation, providing higher efficacy than an applied film. It is available in continuous straight runs and custom curves allowing for seamless patterns.

## WALL-WASH LUMINAIRES



The Weiss Wall by **Scout Lighting** is recognized as a line extension from last year incorporating unique, rigid plug-and-play connectorized LED modules, cuttable to ½-in. segments. The modules can be applied in a suspended and wall-mounted linear housing that can be configured in patterns and fitted with flat, graze and asymmetric optics. Wall washing is also possible with a 1-ft set back.



Similarly accepted for its use of a module is **Scout Lighting's** LightSlice luminaire, an in-wall/ceiling fixture designed to fit in ⅝- or ⅞-in. sheet rock with auto adjusting spring clips to maintain hold. It is available in lengths as short as 4 in. or continuous end-to-end lengths of 12 ft. LightSlice can be installed in a wall to light the ceiling, flipped as a corridor light, or installed in a ceiling as a wall wash. Smaller sections can be used as step lights.



**Cooper Lighting Solutions** Portfolio Performance Rotatable Lensed Wall Wash luminaires use a unique, 360-deg rotating lens to provide even wall washing and vertical illumination. Field issues such as incorrectly installed housings and uniquely shaped interior spaces are diminished.



**Finelite's** HP2 Perimeter LED slot luminaire is the first in the industry that can be installed post ceiling installation via wall and threaded-rod mounting options. Additionally, the product is the first to offer pre-built, fully illuminated inside and outside corners taking up exactly 24 in. of wall length. It is also the first of its type to be enrolled in the Living Future Institute's Declare 2.0 program, and is third-party verified receiving Red List Approved and Red List Declared status.

## TRACK

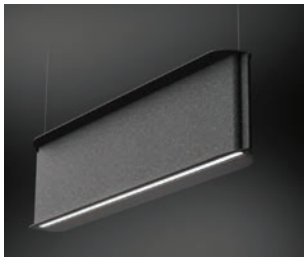


**Cooper Lighting Solutions** introduced Halo 809 High Contrast Track Lighting. It's a first of its kind to significantly reduce the field angle and spill light by 10 to 15% compared to others in the market. The 809 includes multiple optics, and the highest lumen output and lumens per watt when compared to similar beam angles and wattages on the market. The chip-on-board LED combined with Xact Beam Advance High Performance Optics delivers a high center beam candlepower.

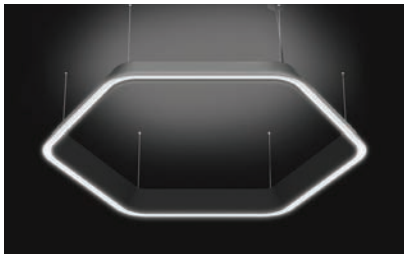


A line-voltage track system has been released by **Axis Lighting.** The StencilFlex is the first flexible architectural line-voltage, configurable lighting system on the market, offering the widest variety of fixture options, ability to integrate low-voltage power supplies within the track profile, and the ability to add third-party fixture mountings.

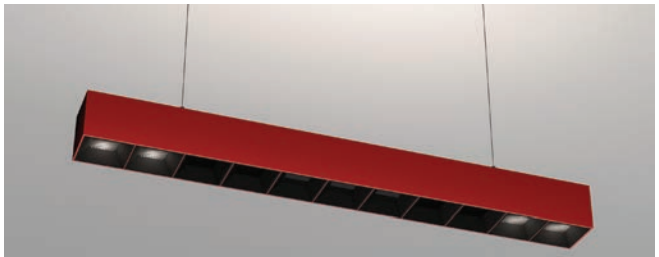
## SUSPENDED LUMINAIRES



The Absorb-I from **A-Light** is the only vertical acoustic system with custom corners and joiner capabilities that connect individual fixtures for endless patterns. It provides an indirect output up to 1,154 lumens per ft, and has the most indirect light options in a compact acoustic light fixture. This luminaire includes multiple batwing as well as asymmetric indirect distributions.



**A-Light** also introduced the Relay luminaire, which is a configurable direct/indirect solution with the highest lumen output on the market. The Relay includes a direct output of 1,297 lumens per ft and indirect output of 1,383 lumens per ft, with a 106 lumen-per-watt efficacy. The indirect portion of the luminaire includes batwing and asymmetric distributions. The Relay can be configured into multiple shapes with fully illuminated corners.



**Zaniboni Lighting's** Omni QP is the first of its kind suspended pendant that is fully configurable, providing multiple 4-in. openings that can be populated with a variety of options. Each 4-in. opening in the Omni QP can support any of the following: daylight sensor, motion sensor, camera, air-quality sensor, music speaker, sound-masking speaker or light fixture, making this one of the most versatile fixtures on the market.



The EnviroPro IN9 Series natatorium luminaire from **Kenall Manufacturing** provides durability in chlorinated environments by including a uniform material specification for all provided housing and structural components. All materials of the luminaires are manufactured with consistent materials to prevent galvanic corrosion. The luminaire includes a galvanically isolated and field-replaceable light engine assembly, and has an efficacy of up to 156 lumens per watt.



**Finelite, Inc.** now has the HP-2 C, or High Performance 2-in. aperture, circle collection of luminaires. The HP-2C collection contains the first and only circle LED luminaires to be enrolled into the International Living Future Institute's Declare 2.0 Program. This collection has been third-party verified and received both Red List Approved and Red List Declared status.

# 2022 PROGRESS REPORT

## SURFACE MOUNT



**Spectrum Lighting's** CR2 cylinder downlights are being recognized for delivering the highest lumen output available in a 2-½ in. outside diameter cylinder with integral LED power supply. This performance is supported in an extruded aluminum housing with machined bezel trims, eliminating visible hardware. It is available with field-interchangeable optics from 12 to 60 deg and wall-wash options.



The **Elco Lighting** Koto Sylo cylinder luminaire utilizes the Koto module discussed earlier in the Report. It is the first 2-in. cylinder submitted to the Progress Report with an adjustable 18- to 50-deg zoom focus and a field-selectable CCT. The luminaire is available in a variety of mounting options, including suspended, surface mount, track head and monopoint.

## COVE LUMINAIRES



The Elliptipar S320 Cove luminaire from **The Lighting Quotient** is the first fully adjustable and interlocking linear cove luminaire for use with 5-in. prefabricated cove framing. It offers adjustable aiming with an interlocking feature to aim and align the entire row at once. The S320 also has a locking feature to secure the fixture after properly aimed.

## UNDER CABINET



The Moon luminaire from **Liteline Corporation** connects to the LiteLine OnCloud/WiZ ecosystem of WiFi controls. Each fixture can be individually addressed making it the first undercabinet wall-wash style fixture with individual wireless control. It can also be installed in a wall with tension clips to angle lighting down for hallways or steps to create unique designs with light on the wall.

## HIGH BAY LUMINAIRES

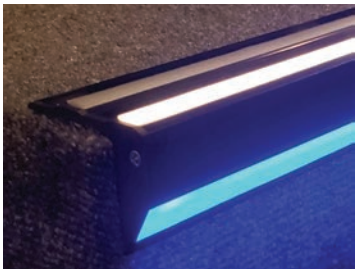


**RAB Lighting** is introducing the L34 linear high bay luminaire which boasts the narrowest profile of a high bay on the market with adjustable optics. The L34 has a minimum width of 2.6 in., and a maximum width of 8 in. while providing 20,000 lumens. The adjustable optics have a tilt range of 190-deg left to right. The packaging is also 65% smaller than similar wattage luminaires.

## OTHER INDOOR



Submitted by **Liteline Corporation,** the OnCloud Color Tape Kit is claimed to have the industry's highest output RGBWW tapelight. With an output of up to 503 lumens per ft, the tape is comparable to 4- or 6-in. downlights, which allows linear runs of OnCloud to be utilized for general illumination.



**Current** has introduced Forum riZer, claimed as the industry's first linear step light available in RGBW with straight and curved form factors. The riZer is a linear and curvilinear bi-directional, wayfinding step illumination system, that offers independently controllable illuminated up and down apertures. It is available with white CCTs and saturated colors to help move occupants safely through environments with little to no ambient sources.

## OUTDOOR BOLLARDS



Line by **Selux Corporation** is in the Report as the slimmest light column coupled with performance. Line is available with lumen packages from 960 to 8,544 lumens, an efficacy of 89 lumens per watt and mounting height of 10 to 18 ft. To meet different applications, four module sizes are available with light outputs scaled accordingly.

## ROADWAY



**Signify's** new RoadFocus Plus Cobrahead is the first Zhaga D4i certified roadway luminaire in the U.S. market. It offers optional DALI drivers, a Zhaga book 18 socket, an outdoor multi-sensor and connected lighting nodes. It is available with efficacies up to 200 lumens per watt.

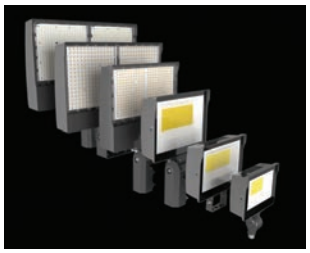
## FLOODLIGHTS



Manufactured by **Signify Color Kinetics,** the ReachElite High Output Powercore offers the industry's highest architectural efficacy RGBW floodlight under 300 watts at 20,000 lumens. It offers full color-changing efficiencies up to 87 lumens per watt at full power.



**RAB Lighting** introduced its FFLED Field Adjustable Floodlight, which offers the industry's highest efficacy for field-selectable CCT and field-selectable output at 161 lumens per watt. It also leads the industry with the lowest lumen output option for a field-adjustable CCT and CRI floodlight. FFLED is available in 3000K, 4000K and 5000K.



Also by **RAB Lighting,** the X17 Field Adjustable Flood offers the industry's largest selection of field-selectable lumen outputs and CCTs. It offers 24 output options ranging from 2,200 to 62,900 lumens, as well as a 250/350/450-W field-selectable option and a built-in on/off photocell.



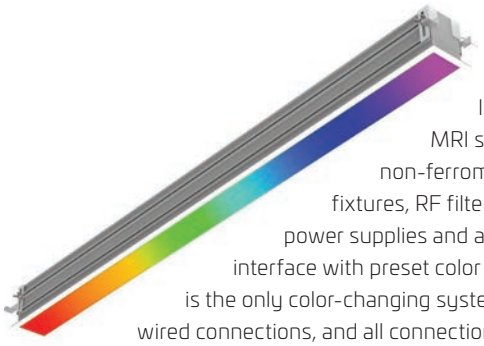
The FXLED Field Adjustable Floodlight by **RAB Lighting** has the industry's highest field-selectable lumen output at 72,600 lumens. It offers one of the industry's highest efficacy ratings for a field-adjustable floodlight with up to 152 lumens per watt. FXLED also offers selectable color temperatures of 4000K and 5000K.

## OUTDOOR - OTHER



**Traxon e:cue** has introduced an updated version of the Allegro Dot system, which was previously accepted by the Committee. It is the first in the industry to offer four standard mounting installation options, including individual surface-mount clips, DIN rail-track clips, stainless-steel wire clips and stainless-steel mesh grids of varied resolutions. Each system is driven by the PXL Distributor Pro 8 which integrates power and data into one unit, reducing the space required for installation components.

## HEALTHCARE



**Kirlin Lighting's** MRL-2 is the first complete RGBW lighting system for MRI suites. It includes non-ferromagnetic RGBW fixtures, RF filters, remote DMX power supplies and a DMX control interface with preset color scenes. The MRL-2 is the only color-changing system with no hard-wired connections, and all connections using plug-and-play RJ45 connections with shielded cables.

# 2022 PROGRESS REPORT

**GERMICIDAL —** Germicidal ultraviolet products require professional site design and installation to be safe and effective.



Whisper with Care222 technology from **Acuity Brands** is a troffer luminaire with a filtered 222-nanometer spectrum. It reduces active pathogens on non-porous surfaces using Ushio Care222 far-UV-C disinfection technology. WHSPR features a mercury-free far-UV-C excimer lamp that contains a short-pass filter for a narrow-band 222-nanometer emission. It offers eight output options ranging from 2,000 to 8,500 lumens with a color variation of no greater than 2.5-step MacAdam ellipse along the blackbody locus.



**Acuity Brands** introduces EVO downlights and cylinders with Care222 technology. They are the first of this luminaire type to incorporate filtered 222-nanometer far-UV-C technology without compromising the need for visible light. The system allows occupants to be present in the space while pathogen control treatment is occurring, when installed and used in accordance with factory specifications and instructions. This disinfection technology is evaluated per UL 8802, and the luminaires are listed as UV Germicidal Equipment for Occupied Space and Risk Group Exempt per IEC 62471.



The Neo-Ray Define UV-C Series from **Cooper Lighting** is a linear ambient hybrid with upper-air UV-C disinfection. These are the first hybrid continuous-run luminaires combining UV-C upper-air disinfection at 254 nanometers with the aesthetics and flexibility of architectural linear lighting. The top portion of the luminaire is specifically designed for horizontal distribution of UV-C energy for upper-air disinfection.

## POWER SUPPLIES AND DRIVERS



The OPTOTRONIC by eldoLED Dual Dim LED Driver from **Acuity Brands** is the smallest footprint programmable dual-dim LED driver with a temperature rating up to 80-deg C. It is compatible with both standard 0-10-V and phase-cut dimming systems and supports an output current of up to 500 milliamps.

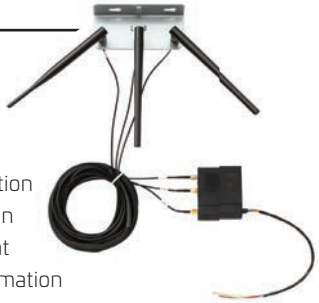


**Acuity Brands** also introduced the eldoLED SOLOdrive 22-W small form-factor LED driver. The small footprint programmable, two-channel LED driver provides dimming down to 0.1%. It includes human-centric lighting dim-to-warm capabilities, and supports the DALI two-wire interface communication protocol.

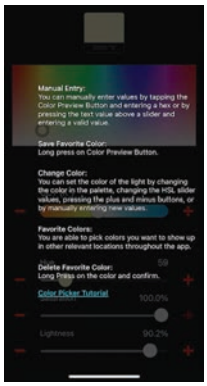
## CONTROLS




**Current Lighting** introduced NXP2 Lighting Control Panels. They can operate as a stand-alone product or as an NX-networked device. This is the first panel that can interface with wired, wireless and Bluetooth connections. The panel features mechanically latching relays and 0-10-V dimming channels that can be controlled individually or in groups by any input, schedule, preset or building automation system.



CLAIRITY Link from **Acuity Brands Lighting** is a new cellular and Ethernet router for remote, secure access. Custom software encrypts data that flows from a user's workstation to the portal, protecting in-transit data. A built-in firewall whitelists communication, ensuring that the CLAIRITY Link router only exchanges information with trusted sources. Lighting-only information that is stored in the cloud is protected via AES 256-bit encryption.



From **BubblyNet** is the first Bluetooth-qualified mesh software that can match the CCT of multiple RGBW LED sources. The user chooses the RGBW source in their application by selecting from an array of LED chip profiles available via a drop-down menu in the software. Available profiles are complete with pre-mapped CCT ranges to most closely match the blackbody curve.



The TruBlu Bluetooth mesh fixture controller with long range IP65 antenna from **McWong International** features an 800-ft range. The ability of the controller to be used for either zone or luminaire-level lighting control provides flexibility for outdoor control applications. It works with any Bluetooth-SIG qualified device or fixture. This controller is programmable via smartphone app and web-based design portal, but does not require Internet connectivity for network functionality.

**Acuity Lighting Inc** introduced their SensorSwitch SSW Series sealed wall plates. This accessory allows cleaning of wall-switch lighting control devices. It includes a clear silicone rubber layer for direct damp spray-on cleaning with an IP54 rating that protects the wall-switchlighting control device from liquid intrusion and device damage.





The series includes an option for a standard wall switch that covers the entire device, or a sealed wall plate designed for a wall switch with occupancy detection by including a window for the occupancy sensor.

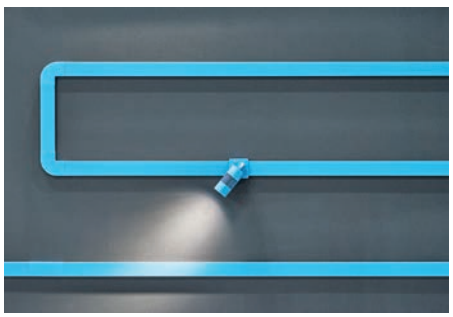


A new control solution that allows users to achieve their desired dim-to-warm settings via software comes from **BubblyNet.** It is the first Bluetooth-qualified mesh software that can match or create custom dim-to-warm curves. It refines the CCT range on a 2-channel tunable-white source, then selects from an array of available dim-to-warm curves via pull-down menu in software. Desired color temperature per intensity is easily achievable from a 2-channel source now behaving as a single-channel dim-to-warm solution.

## LIGHTING SYSTEMS



The Lightcloud Blue wireless control system has been introduced by **RAB Lighting.** It is the first Bluetooth system that includes downlights, lamps, troffers and devices. The Lightcloud Blue also offers PIR and microwave sensors and rapid device detection. It includes control solutions at the lamp level for residential and commercial luminaires.



**Juniper Design's** Multiverse System is the industry's lowest profile flat appearance magnetic track system with two circuits. Innovative voltage-drop auto-calibration allows for up to 150-ft runs from a single 96-W, class 2 power supply without loss of output from spotlights. A magnetic connector system combines with a mechanical mounting clip to provide easy installation and retrofit power distribution.



The Omni LT, a 4-in. recessed linear trimless system by **Zaniboni Lighting,** offers the largest number of lighting and component options in the industry. It is a recessed sensing system autonomously perceiving natural daylight, noise level and air quality while adapting to desired levels of light, sound, temperature and oxygen based on human preference and presence in a space. All services are integrated into a single solution requiring simply a line-voltage connection for installation.

# 2022 PROGRESS REPORT




The **Bodine** DALI Connected Emergency Lighting Suite is the first DALI-approved and DALI-compatible emergency lighting system. The DALI compliance means this product is universally applicable to any DALI network. The system includes exit signs, emergency LED drivers, emergency lights and remotes, with all providing bi-directional communications.




The ELI-S-250, also from **Bodine,** combines common features and requirements expected with emergency lighting with Bodine's auto dimming feature. This feature will reduce the connected load during an emergency condition from the 800-W maximum connected load to 250 volt-amps. It provides all of these features and more in a compact size, with a two-hour run time for special occupancy requirements.

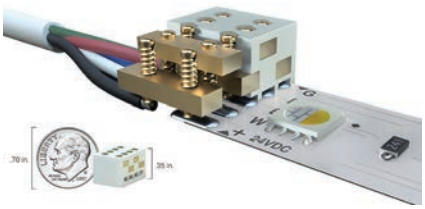



**Bodine** introduces the ELI-S-400, a 400 volt-amp inverter that uses the same chassis as the ELI-S-250 making it the smallest 400 volt-amp inverter on the market. It allows connected fixtures to be on, off, switched or dimmed without affecting emergency operation. The ELI-S-400 provides emergency power to the connected lighting load for a minimum of 90 minutes.

## ACCESSORIES



**Cudoform** has introduced their line of Stamped Metallic Optical Reflectors for ultraviolet LEDs. Their unique manufacturing process provides better control, higher performance and is cost effective to produce. The reflectors offer unique beam shaping and directionality control for creating more efficient, efficacious, and safe use of germicidal radiation outputs from UV-C LEDs.




The AmpChamp RGB and RGBW terminal connectors by **Alloy LED** offer the industry's most robust connection for tapelights. Their terminal-style staggered and stacked design allows for use with smaller tape lights as narrow as 0.4 in., and supports the highest number of connections within the smallest space.



**Able Power Products, Inc**. has introduced their Receptacle-based Surge Protection Device. It is the first surge protective device with a unique plug-in connector that offers surge protection and a photosensor. It installs outside the fixture and is modular, replaceable and accessible. The system uses the highest level of surge protection and has a grounded 3-pin or 7-pin receptacle to provide a path to ground for the surge away from the critical equipment.



HALO QuickLink Systems by **Cooper Lighting Solutions** is the industry's first low-voltage downlighting system that features tool-less connection to self-healing cable, a single driver for multiple fixtures and support for 0-10-V and phase-cut dimming. The system is targeted for the residential and hospitality markets, and is reported to reduce installation time by up to 84% over traditional canless fixtures.

## LIFE SAFETY




The smallest 10-W emergency LED driver on the market is brought to us by **Bodine.** The BSL10T3 provides a very small form factor as well as a rich feature set including automatic self-testing. This LED driver provides up to 90 minutes of power to the LED driver in the fixture.



**IOTA's** ILB CP10 HE AELR is the first 10-W emergency driver with the capability to wirelessly communicate compliance status of the self-testing emergency driver to an end user's connected mobile device. The data can be viewed, stored and exported from the mobile device to easily fulfill code requirements for maintaining written test records. The 10-W constant power output provides undiminishing output resulting in no degradation of footcandles during the full duration of the emergency runtime. The driver provides the full performance for any class 2 LED loads between 10- and 60-V DC.




**Assurance Emergency Lighting** introduced the Si-200-PST, which is the first 200-W universal input/output micro-inverter in a compact size weighing only 9 pounds. It has an operating temperature range of 0- to 50-deg C by using high temperature and high-capacity lithium-ion batteries, and exceeds the operating temperature of all other mid-size inverters.



**Current's** ELSS Life Safety System is a unique central battery system designed to run multiple exit signs with the highest lumen output LED-based remotes. It is for use in new construction or retrofit installations with a central battery that can supply up to 100 watts, and remotes can be installed up to 150 ft away.

## RESEARCH



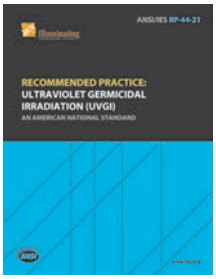

A new whitepaper from **Luma Lighting Design,** titled *Light on Waste: Evaluating the Environmental Impacts of LED Lighting,* speaks to new and developing approaches of looking at LED lighting through a different lens. The construction and design industries are at a turning point in the transition to sustainable, low-impact building materials and processes. This research dives into the current sustainability challenges and lack of life-cycle transparency in lighting manufacturing, materials and processes, demonstrating that the lighting industry still has work to do.



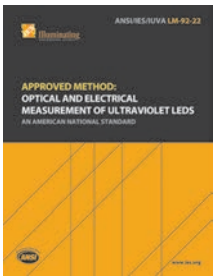

From **Sladen Feinstein Integrated Lighting** comes research titled *Material Transparency Adaptation & Trend Forecasts.* They authored a sustainable lighting design advocacy letter and sent it to individual lighting manufacturers to begin a dialogue, stating their commitment to prioritizing specification of the most responsible lighting products available on the market based on human, climate and social health. The letter included a link to a 10-minute survey to collect data on manufacturers' current familiarity with sustainable manufacturing initiatives, as well as future plans for upcoming product development.

# 2022 PROGRESS REPORT

## PUBLICATIONS




The **IES** announced four new ANSI standards this year. Two are recommended practices and two are lighting measurement methods. ANSI/IES RP-44-22, *Recommended Practice: Ultraviolet Germicidal Irradiation (UVGI),* addresses the use of germicidal ultraviolet radiation for disinfection of room air and surfaces, potential dangers for humans, potential effects on materials and plants, UVGI technologies, and safety measures and precautions. It includes new guidance and is the most current standard on this important and timely topic.




ANSI/IES LM-92-22, *Approved Method: Electrical and Optical Measurements of Ultraviolet LEDs,* describes the procedures to be followed and precautions to be observed in performing measurements of total radiant power, electrical power and wavelength characteristics of ultraviolet LEDs.




The new ANSI/IES RP-43-22, *Recommended Practice: Lighting Exterior Applications,* document provides ground-breaking pedestrian-oriented illumination recommendations for the reassurance, safety, comfort, amenity and enjoyment of people in outdoor environments in lighting zones LZ-1 through LZ-4.

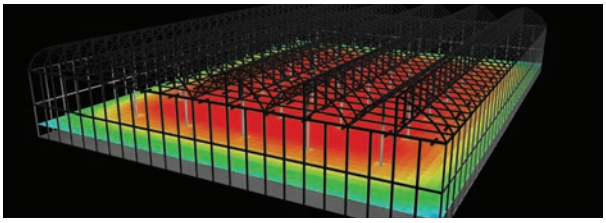



The **Design Lights Consortium** has published a white paper titled *Non-White Light Sources for Nighttime Environments*. It delivers a timely summary of worldwide light pollution guidelines and requirements for non-white light sources. It also demonstrates the technical performance variability for, and resulting market confusion about, non-white light products for outdoor applications, such as amber LED luminaires.




Also from the **DLC** is their publication of the *LUNA Technical Requirements V1.0.* It provides a single set of performance requirements for common or popular categories of non-residential outdoor LED luminaires to minimize light pollution and energy use. It is for lighting decision makers to identify products that meet requirements for community nighttime lighting ordinances and energy-efficiency rebate programs.

## DESIGN TOOLS



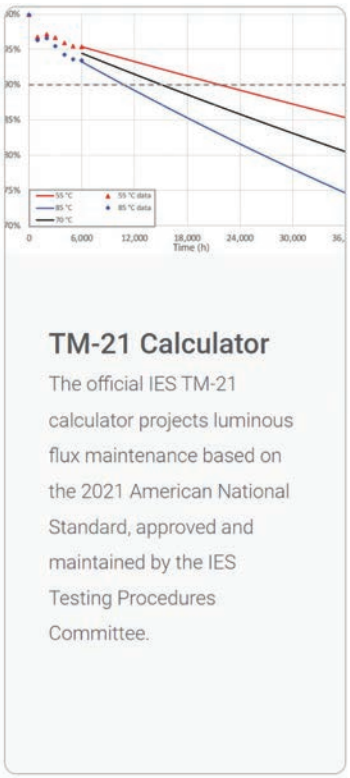
**HelioSol's** Cerise 365+GreenHouseDesigner lighting calculation software was developed specifically for the horticultural market and includes built-in templates for typical greenhouse spaces that can easily take into account both electric and daylight contribution. One of the unique features allows modeling of individual trays in vertical farms taking into account specific light levels impacted by stacking.



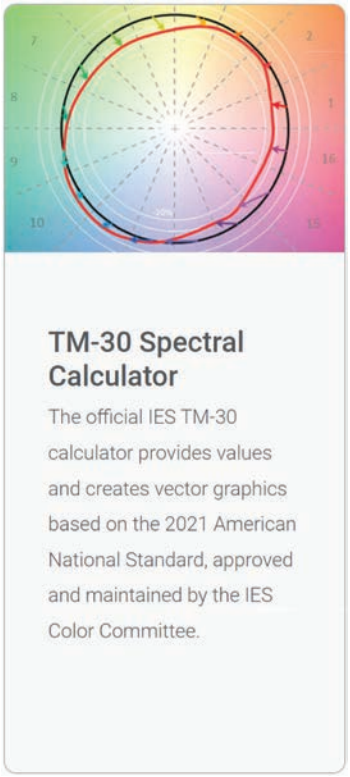
Also from **HelioSol** is Cerise Docs, a software subscription service for managing photometric and ANSI/IES TM-33 luminaire optical data files, including photon-based horticultural luminaires with spectral data. Files can be made confidential for internal use or public for ease of customers.



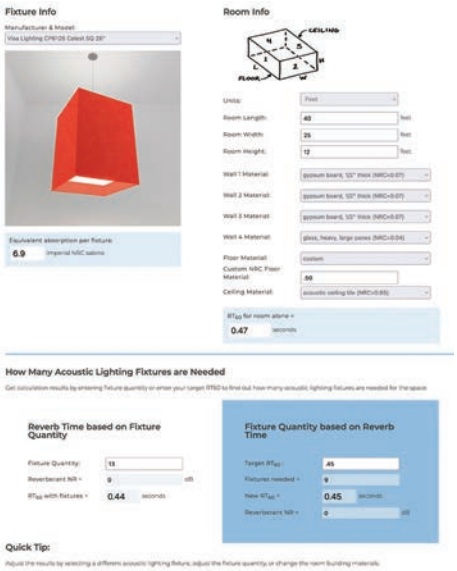

**Parspec, Inc.** has launched a new lighting submittal software tool that leverages artificial intelligence to enable lighting reps and distributors to assemble submittal packages with higher accuracy in shorter time-periods, with an 80% faster solution than traditionally built submittal packages. In today's challenging market, this tool has the ability to ensure quicker turn-arounds within the construction administration phase.



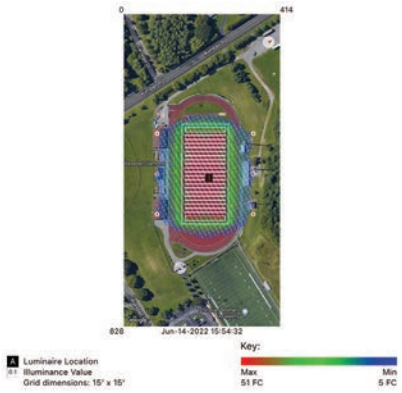

Two new online calculation tools from the **IES** were also introduced this year. The TM-21-21 Calculation Tool is an innovative web-based calculator that projects luminous flux maintenance based on IES TM-21-21. It accepts ANSI/IES LM-80 data for luminous, photon or radiant flux at up to 16 different combinations of case temperature and drive current.




The **IES** TM-30 Calculation Tool is also a web-based calculator. It provides values and generates vector graphics based on IES TM-30-21. This tool imports and exports spectral data and reports in a variety of formats and increments.




New from **Visa Lighting** is their online Acoustic Calculator. The web-based tool provides a quick overview of the acoustics in a room by entering the room data, including measurements and materials, then selecting the acoustic light fixture to be incorporated. The acoustics calculator generates the initial reverberation time of the space, and the reverberation time and reverberant noise reduction after adding in acoustic lighting. The tool also allows incorporation of third-party acoustical fixtures.




**Cooper Lighting** introduces the Light ARchitect-Sports Lighting Application. This design tool has been accepted as the first sports lighting design application software that quickly calculates sports lighting designs. The market expectation for photometric design previously was much longer. Most sports lighting design projects can be supported by Light ARchitect.