

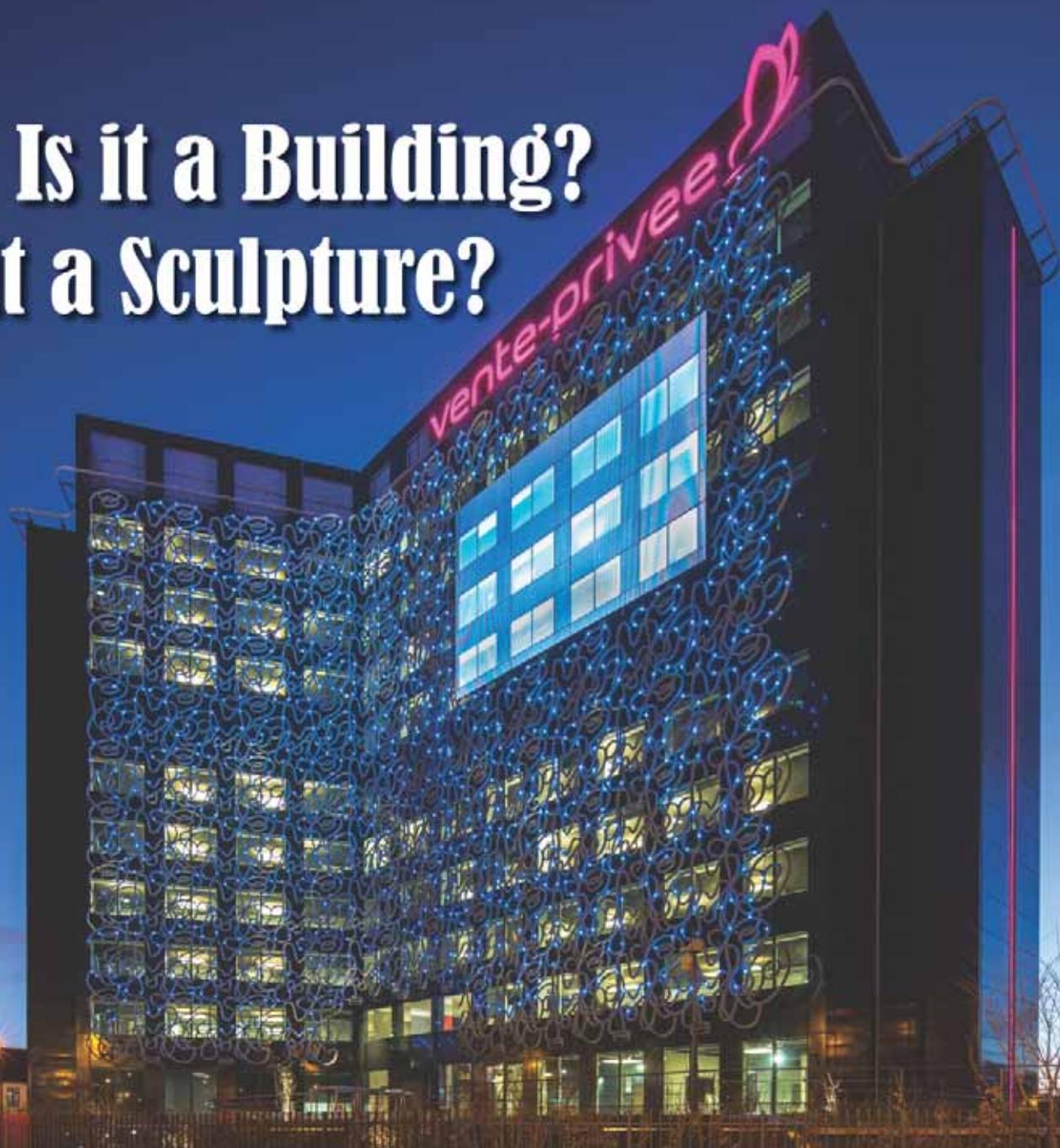
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Lighting India

Vol. 11 No. 3

May-June 2016

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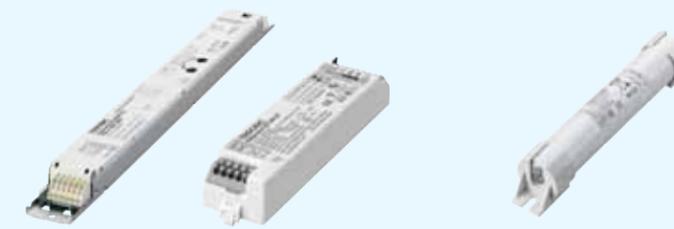
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PUBLISHER'S LETTER



Mahadevan Iyer
Editor-in-Chief

We often talk about LED lamps replacing CFLs or GLS lamps, however, these semiconductor-based light sources are striding fast to replace even the High Intensity Discharge (HID) lamps. Almost all major lighting companies have already rolled out their LED lamps to replace HID lamps. In HID lamps, the light is produced by the arc discharge between two closely spaced electrodes, which are hermetically sealed within a glass capsule. LEDs are basically diodes, when in circuits, they produce electroluminescence.

Although yet to gain much wider popularity, LED lamps are continuously in active role to replace the traditional HID lamps. Recently in the race, Michigan-based EarthTronics has released their products. As per the company, their high lumen, high efficiency LEDs are an energy-efficient solution for replacing HID lamps for interior and exterior applications in parking garages, site and security lighting, high bay warehouse fixtures and post lights.

They also inform that these commercial quality lamps feature high-power LED, durable construction and advanced electronic drivers that provide extended performance life and full omni-directional light output. This is just an example, as I have mentioned earlier, there are many other companies offering their products in the same line to replace HID lamps.

So, LEDs are advancing fast in the mission to replace HID lamps. Still there is a 'but,' a section of the lighting community still believes that side-emitting lights from HID lamps are easy to focus compared to front-emitting light from LED lamps. Will LED lamp developers be able to address this aspect soon to expand their areas of application where still HID lamps are preferred (mostly owing to their beaming angle advantage), for example in the field of diving?

Do send in your comments at miyer@charypublications.in

Mahadevan

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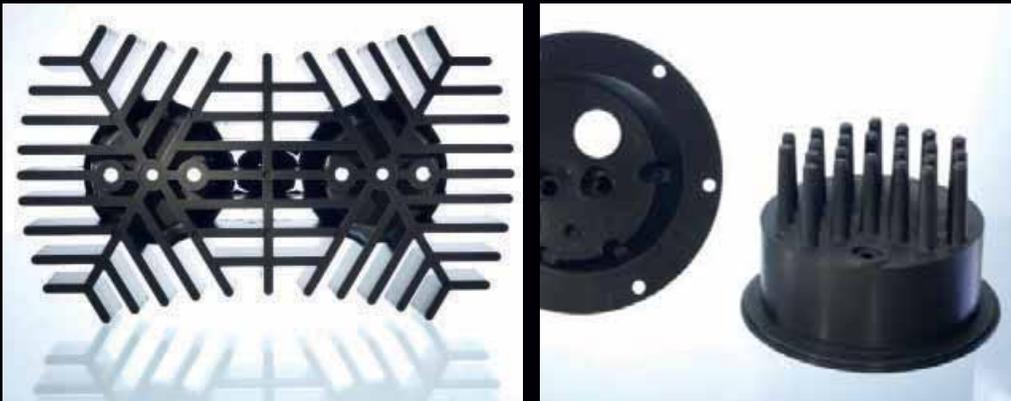
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LED luminaires

Optimizing the lifetime



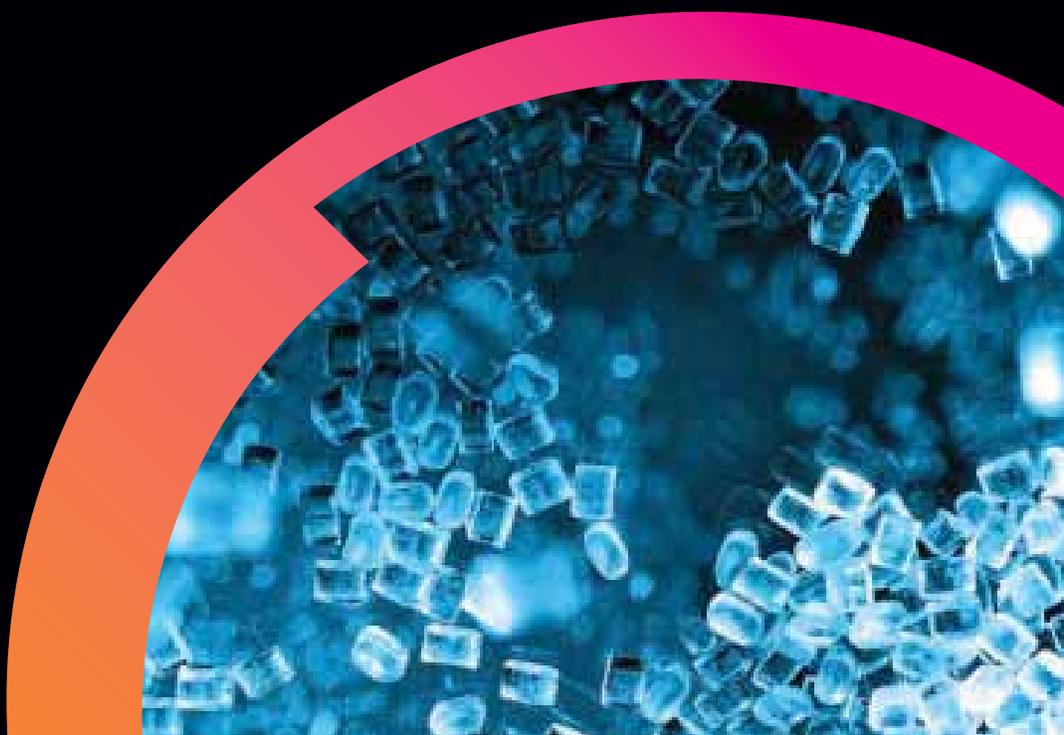
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Vice President
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Editor: P K Chatterjee

EDITORIAL



LED Lighting: Today & Tomorrow

Although it will not be right to say that development of LED has apparently reached its saturation point, today with the available state of the LED light technology – globally the focus is mostly concentrating on LED lights' artful and purpose-oriented applications. With the enormous development in their control technology, now we can exercise control on each and every LED in the (addressable) strip. That is a big boon to the designers and users. With this technology in hand – now the lighting designers are empowered enough to challenge many traditional practices.

The present level of LED light technology is quite efficient to address the energy saving issue that is not only acute in developing countries but also equally important to the developed nations, owing to their targets for carbon footprint reduction. Moreover, considering their drastic form-factor reduction potential, embracing LED lighting technology makes it possible to illuminate areas that were earlier mostly left as dark spots in interior design. Low power requirement of LED lights also opens up the yet-not-fully-explored potential of using renewable (especially solar) energy, particularly at the residential sector. All these are showing glimpses of a not-so-far completely different era where cost of illumination will come down drastically, safety will be manifold and changing lighting schemes will be just a click away.

However at this juncture, standardisation is absolutely important as far as hardware and software for LED-based lighting applications are concerned. The government of India has made BIS certificate mandatory for LED lights for custom clearance for goods imported. This will definitely help the end-users enjoy good quality lighting at good price level. However, the power of import or production should not concentrate only in few big hands.

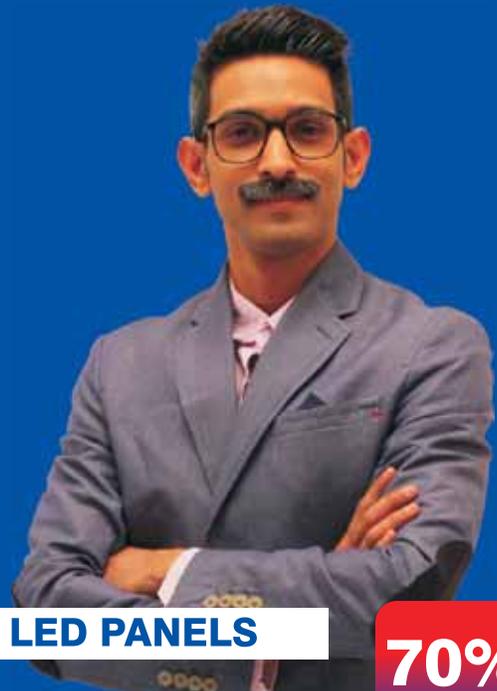
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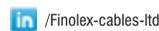
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BEL targets aggressive growth in the luminaires business

Bajaj Electricals Limited (BEL) is now targeting aggressive growth in the luminaires business for the FY 16-17 through LEDs (Light Emitting Diodes). Announcing a wide range of innovative LED lighting systems for commercial and industrial segments, the company has recently hinted at a



(L2R) R Sundararajan and Shekhar Bajaj, Chairman & MD, BEL

strong growth in the lighting business this financial year. Introducing its sub-brand – .nxt upgrade, BEL has showcased its new range of technologically advanced and highly efficient range of LED luminaires for the applications like IT / ITES, Modern work spaces, Pharmaceuticals, Retail, Industrial and Smart City Lighting.

Bajaj is driving the UPGRADE programme that will help customers upgrade to the .nxt LED products. As per the company, these cutting edge technology products, which are made in India, are to bring a digital revolution in the lighting solutions.

R Sundararajan, President of Luminaires Segment of BEL and Director of Hind Lamps Limited, said, "The lighting division of BEL expects a strong growth momentum with its new range of products and lighting systems that cover not just commercial and home lighting but also street lighting systems. Maharashtra has always been a high potential market for us and we'll continue to expand our network here and introduce new and world-class products. We are also enthusiastically participating in the smart city projects." ■

Havells explores untapped business opportunities

Leading Fast Moving Electrical Goods company, Havells India Limited has proclaimed its venture into the fast growing segment of 'Integrated Automation and Control Solutions.' The new series is expected to be launched under its premium brand 'Crabtree' in alliance with one of world's leading automation company HDL Automation. The premium brand will offer customised automation solutions for home, commercial, hotel and public utility segments.

The automation industry is basically driven by four major parameters (convenience, style, energy efficiency and security). Havells is all set to tap into unexplored opportunities along with Automation Solution business. The company will look to tie up with architects, consultants, builders and developers and offer its scale of products and services, besides offering the entire automation range to individual customers.

Vivek Yadav, Vice President, Havells India Limited, speaking about the launch of the new integrated automation solutions business said, "The launch of Crabtree integrated automation and control solutions comes at an opportune time when India is expected to witness rapid upgrade of urban infrastructure enabled by widespread use of Information Technology. With improved market sentiments we expect demand from both developers/commercial users as well as individual home owners growing rapidly."



Vivek Yadav

"The launch also marks a quantum leap for the company as it aims to significantly leverage technology to attract customers who are looking for a blend of comfort, convenience, and elegance at a touch of a button. With this launch, we are planning to capture 10% market share of the Automation Solution Industry and expect revenues of Rs. 100 crore by 2020," he further added. ■

U.S. Consulate General Mumbai acknowledges 'Pride Month' with Rainbow Lights

The month of June has been declared by President Barack Obama as Lesbian, Gay, Bisexual, and Transgender Pride Month. This year in his declaration, he addressed the people of United States of America (USA) to eradicate the prejudice that existed everywhere and to commemorate the enormous diversity of the American people. In the United States and around the world at American embassies and consulates American people showcased their support for diversity and the human rights of Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) individuals.

U.S. Consulate General Mumbai on the 13th June, 2016 lighted the Consulate façade in the rainbow colours of the Pride flag in honour of LGBTI Pride Month, and in memory of the victims of the tragic shooting in Orlando, Florida. The coloured light would remain at the Consulate until the end of June. The U.S. Embassy New Delhi and other U.S. Consulates around India are also acknowledging Pride Month through various displays and activities. ■



U.S. Consulate General Mumbai celebrates 'Pride Month' with rainbow colours...

Image Courtesy: U.S. Consulate General Mumbai

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Cairo Stadium selects lighting system from Philips Lighting's portfolio

Cairo Stadium; an indoor sports complex that comprises four Olympic-standard, multi-use sporting arenas with a capacity of 120,000 spectators; chose Philips Lighting to install its ArenaVision LED pitch lighting system. It was the first location in Africa to use Philips



A view of Cairo Stadium...

ArenaVision LED lighting, which equipped it with the flexibility needed as a multi-purpose venue. This lighting supports high definition, super slow-motion replays, avoiding the flicker synonymous with conventional lamps. The first event to benefit from the Philips ArenaVision LED pitch lighting was the 2016 African Men's Handball Championship.

Tamer Abol Ghar, Philips Lighting's General Manager for Africa and Country Manager Egypt, said, "The Cairo Stadium is the one of the largest stadiums in Africa and is leading the way in using digital LED lighting to cater for multi-purpose venues – from behind the scenes precision lighting for maintenance to show stopping lighting that captures action on the pitch or at concerts for broadcasters."

"As one of the key markets in Africa, Egypt was selected to introduce the Philips ArenaVision LED lighting system to support the Egyptian Government's strategy to reduce energy consumption," he added further.

Yasser Abdolmoneim Aly, Cairo Stadium Covered Halls Complex Manager said, "The new Philips LED lighting system can be used for entertainment shows, exhibitions, as well as opening ceremonies of international sporting events." ■

Miraflores de la Sierra hosts a conference on light pollution

Miraflores de la Sierra; a beautiful city situated 50 km north of Madrid; of late held the First Conference on Light Pollution. It took place at the Guadarrama National Park. The entire event was organised by the city, the Department of Astrophysics and Atmospheric Science from the Complutense University of Madrid (UCM), the Sierra de Guadarrama National Park in collaboration with the members of the Spanish Network of Studies on Light Pollution (REECL).



A view of the night sky from the Sierra de Guadarrama National Park...

The conference was achievable due to Julio Vias, the environment councilman of the City of Miraflores de la Sierra, who explained in his blog his concern about light pollution. STARS4ALL and its Light Pollution Initiatives at the conference were presented by Jaime Zamorano, Jesús Gallego, Carlos Tapia and Lucía García. ■

Groundbreaking OSQ Series of Cree plays a vital role

To deliver up to 58% additional efficacy on existing lumen packages at up to 136 Lumens-Per-Watt (LPW) for increased energy savings, Cree Inc. extends the groundbreaking performance of its well known OSQ Series Area and Flood LED luminaires.

Currently, the series offers a new OSQ 28L Outdoor Area and Flood LED luminaire option, delivering up to 28,285 lumens and enabling the alternative of HID fixtures up to 1000W. Basically, it results in a better light for more applications, including open parking, walkway and common area within commercial, residential, healthcare, campus and municipal environments.

David Elien, Cree's Senior Vice President, Lighting, said, "The unmatched performance of the OSQ Series is another example of Cree's commitment to providing better light that goes beyond the industry standard for our customers."

"The new OSQ 28L Outdoor Area and Flood LED luminaire helps customers reduce energy usage by up to 80% when replacing outdated HID fixtures up to 1000W to deliver vastly improved light experiences," he revealed.

The OSQ Series blends extreme optical control, advanced thermal management and modern, clean aesthetics to dramatically reduce maintenance and energy costs for a rapid return on investment, utilising Cree's cutting-edge technology. The OSQ Area and Flood LED luminaires are backed by Cree's industry-leading 10-year warranty. It is available in 3000K, 4000K and 5700K colour temperatures with a 100,000-hour rated lifetime. ■



Cree's OSQ Series outdoor area luminaires...

Image Courtesy: Cree Inc.



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Martin by HARMAN introduces new creative tool for large venues

Martin by HARMAN recently introduced a new creative tool for lighting designers who work with facades and several outdoor spaces. The new creative tool, Exterior Dot-HP is a powerful outdoor-rated creative LED video fixture. It is considered perfect for creating low-resolution video content on large buildings and structures.

It is also known for its full RGB color mixing dot that allows for long fixture runs with variable pixel pitches. This new addition is quite an



Exterior-Dot-HP..

admirable fixture to the existing Martin VC-Dot series and Exterior Pixline products.

Robert Svensson, Product Manager, Large Venue, HARMAN Professional Solutions said, "The Exterior Dot-HP is rugged and super bright, offering lighting designers an impactful way to incorporate low-resolution creative LED into large scale structures like stadiums, arenas, hotels, bridges and landmarks."

"This product enables our customers to create huge video mapping projects with viewing distances of at least 300 metres. And because the DOT-HP is so bright, it can be used in indoor spaces with high ambient light levels like shopping malls and transportation terminals," he described.

The Exterior Dot-HP offers exceptional brightness of up to 100 lumens. It is exclusively designed for large, permanent, no-maintenance-required installations with long fixture runs. It is an autonomous fixture that can simply swap, (if essential) it is constructed with a robust, convection-cooled; IP-66 rated aluminium body.

The Exterior Dot-HP comes in a number of variants contributing two light engines (RGB or cold white), three fronts (clear front, diffused dome or narrow beam lens) and a flexible mounting system, so customised solutions can effortlessly be designed. ■

Osram casts its spell on Noma Earth Tubes

The Noma Earth Tubes heightened 5.60 metres are parts of the 80,000 square metre Noma municipal refurbishment project in the north of Manchester. The three towers supply fresh air to the co-op support centre that is located beneath the centre of the upgrading zone. These 'climate towers' also fulfil an aesthetic task, making the public space much more attractive for both visitors and residents. Osram has been chiefly responsible for the state-of-the-art LED lighting solutions.

The lighting is subdivided into three elements (ribs, covers and crown). Traxon (product spectrum) supplies RGB LED lines according to customer requirements. A custom-made, all-round cylindrical media screen shell has been created for each tube for this purpose, consisting of 5,760 individually controllable LED light points per tube. A round media screen has been created for the upper side of the ventilation towers using Traxon RGB Media Tube LED modules.

By four different methods of lighting, (organic video, motion tracking, gesture control and twitter mode) the flexibility of the Osram solution is exhibited. All of these give the respective towers their own identity and facilitate complete interaction with passers. It's a creation by Project partner Lighting designer: Cundall, UK; and Architectural lighting specialist: StudioTech, UK. ■



Noma Earth Tubes...

Image Courtesy: Osram

Blue Wolf receives an award contract from General Dynamics Land Systems

Blue Wolf's newest award will focus on manufacturing various quantities of NVIS Round Dome lights, NVIS Gooseneck Map Light and Emergency Medical Clamp-on Gooseneck Lights. These interior lights are specifically designed for illuminating steps, instrumentation, or small cargo service areas such as those found in aircraft, tanks, boating vessels, or other special Military Night Vision use applications.

Over the past two years, Blue Wolf developed these new NVIS/NVG vehicle lights, so they can withstand the extreme conditions, vibrations, and temperatures these lights go through within LAV's lifespan. In addition to being machined from durable-grade aluminium and being IP67 water rated, the 28VDC electronics provide constant light output, transient, and over-voltage protection, full 0 to 100% PWM dimming ability, tactile feedback on the dimming knobs of the map lights, and an LED life span of more than 40,000 hours.

These lights are compact and light-weight in design, durable, and require very little space to install in OEM vehicles. They have been tested to MIL-STD-810G and can be easily installed while performing any new NVIS/NVG upgrades or standard lighting additions. With a low-power consumption of less than 2.8 Watts per unit, the lights can be connected to the 28VDC battery bus with no concerns of heavy power use. Additionally, no wires are visible with the thin NVIS Round Dome light, as the three wires pass through the back center of the light, making this installed light clean and professional looking in any panel or wall-mounted solution. ■



Blue Wolf's NVIS round dome light...

Image Courtesy: www.bluewolfinc.com

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FEC Heliports launches a portable landing light system

FEC Heliports Worldwide Limited has launched their MIL-Star portable battery powered LED helipad lighting system, which has been designed primarily for rapid deployment and use by advancing military forces in temporary and emergency situations – to provide safe and effective marking at designated or ad-hoc helicopter landing areas and for tactical airborne and air drop operations.



MIL-Star Portable Tactical Helipad Lighting System...

The English registered company was formed in 2007 to market FEC Heliports products and services internationally. Their MIL-Star is a versatile man portable landing light system that allows fixed and rotary wing aircraft to identify landing areas or drop zones at night at distances of up to 10 Miles (16 kms).

Able to support non-overt, covert and FLIR operations, the system contains up to 8 landing lights, each weighing less than 1 kg. A fully populated case of 8 lights weighs only 10.6 Kg. MIL-Star is capable of showing, at programmable intensities, red, blue, green, white visible LEDs and infra-red or a combination of a visible colour and infra-red to support pilots wearing Night Vision Goggles (NVG's). The light can be easily programmed to flash warning, location beacon or Morse Code and has the ability to detect light levels for automatic sunset and sunrise switching.

Portable in cases of up to 8 lights and rechargeable in its case via mains at 100-240V AC, vehicles at 13.5-28VDC, solar or wind power, the MIL-Star landing light system is recharged via the drop in charger cradle located in the carrying case, which accepts either AC or DC input. ■

Oxley's new range of LED indicators to help military vehicle drivers

Oxley, the company that manufactures Night Vision Goggles (NVGs), has come out with the Oxley LED indicator range. The range of NVG compatible lamps has been designed for use as caution, warning and indicator switches in areas where an operator is wearing night vision goggles (NVG). This is particularly relevant in aircraft cockpits and military vehicles.



Oxley LED indicators...

The Oxley LED indicator range has been specifically designed for the most demanding of military applications. The rugged LED lamps have ingress protection up to IP68 and offer high reliability with an MTBF in excess of 90,000 hours and an operating temperatures from -40 to +85 °C.

Oxley has a unique modular design that allows a wide range of colours, termination and voltage options to be incorporated into the lamp. There are also a range of special options available such as night vision compatibility, EMI shielding and sunlight viewing capability.

Unfiltered light from an indicator lamp on a control panel can blind the wearer of NVGs to everything but the strong light source. The use of the correct lamp is vital for crew safety – and the team of Oxley optical engineers can assist in specifying the correct solution. ■

India advances towards Light-Emitting Diode-based lamps

According to the latest Research and Markets report, India is one of the largest 'Smart Lighting' markets in Asia Pacific. In a couple of years it is predicted that the investments in 'Smart Lighting' will twofold in the country and around 27.5 million street lamps will be replaced with Light-Emitting Diode (LED) lamps. One of the prime reasons for replacing the traditional High-Intensity Discharge lamps (HID) is that they consume a lot of energy and generate a lot of heat. Therefore, with the increasing awareness and to diminish the carbon footprints, the government has started replacing the 'Traditional Street Lights' with 'Smart Street Lights'.

Andhra Pradesh (AP) and Himachal Pradesh (HP) by now have commenced their work on these smart street lighting projects. Through the smart devices, the smart street lighting poles can be turned 'ON' or 'OFF'. Most of the smart poles are enabled with motion sensors that turn 'ON' whenever there is a movement near the pole.

As per the research, the 'Smart Street Lighting Market in India' will grow at an approximate Compound Annual Growth Rate (CAGR) of 42.2% during the forecast period 2016-2022. The key players are GE Lighting, Philips Lighting, Acuity Brands, Osram Licht, Eveready Industries India, Bajaj Electricals, Havells India and SYSKA LED Lights. ■



A view of an LED street lamp from Bajaj Electricals...

Image Courtesy: Osram



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K3 Start & Finish On A High Note



In front of the heart was a set of steps down onto the stage, fitted with custom medium resolution architectural LED strips, and for the larger shows on the tour – including the Lotto Arena - two side IMAG screens were added...

All Photos by Louise Stickland



What is now known as 'the old K3' exited their career as the most successful girl band in the history of Benelux finishing a 122-date sold-out concert tour that finished on 8th May at Antwerp's Lotto Arena, having sold over 450,000 tickets in 6 months ... complete with lighting design and video content delivered by leading Belgian visual design practice, Painting with Light, led by Luc Peumans.

Concluding a remarkable 17 year career of music, TV, movies, musicals and numerous other associated projects, Karen Damen, Kristel Verbeke and Josje Huisman double headlined the show with ... 'the new K3' - Marthe De Pillecyn, Hanne Verbuggen and Klaasje Meijer - who were selected by a national TV competition in Belgium in late 2015 to ensure that the K3 concept, managed by production company Studio 100, continues to thrill and delight their enthusiastic audiences.

Luc and his team have been involved in the visual presentation of K3's

upbeat, high energy live shows for around 12 years and have refined the task of combining high production and entertainment values with perfectly presented bubble-gum pop.

The set for the 'K3 presents K3' tour was designed by Stefaan Haudenhuyse from Studio 100 and took K3's heart-shaped branding as a starting point, with a massive scenic heart onstage, which at Luc's suggestion, was developed into a light box.

Built by Amsterdam based Invent Design, multiple pixel controlled LED strips were fitted inside making it very versatile and able to change colour, texture and appearance. With this being a tour, Luc also made sure that it was practical to build, break-down and transport.

"K3 play a lot of live shows, so it was important to keep all scenic and technical aspects of the current design straightforward, quick and easy to rig and move and also fit expediently into the truck," elucidates Luc.

Lighting and video equipment were supplied by PRG and all of the production including set, sound, staging, wardrobe, etc. travelled in six trucks.

Upstage of the heart-shaped light box was a large 10mm LED video screen that opened in the middle for entrances and exits.

In front of the heart was a set of steps down onto the stage, fitted with custom medium resolution architectural LED strips, and for the larger shows on the tour - including the Lotto Arena - two side IMAG screens were added.

"It was all about introducing subtle depths to the performance space and making it look classy but with a distinctive K3 aesthetic," explained Luc.

Traditionally, K3 has always appealed primarily to pre-adolescent children, and this has been reflected in



the look and feel of the show since Painting with Light has been involved. However, this time, with the changeover, and to evolve the whole K3 phenomenon further, the brief was to make it more stylish and mature ... but without losing any of the playfulness and fun!

This was something that could be influenced directly by choices made in the lighting and video content and treatment.

Painting with Light and Studio 100 collaborated closely to ensure the video content had a certain presentational style and flow as well as being harmonious and consistent with this more streamlined vibe.

Being a farewell tour, a lot of playback video on the screen highlighted K3's career highs including excerpts from their movies and top rated TV show. All of the historical footage and special new custom motion graphics and material created by Jos Claesen for Painting with Light for the tour was stored on one of Painting with Light's Coolux Pandora's Box media servers and programmed / operated by Katleen Selleslagh and Jeroen Opsteyn.

Lighting was designed by Luc and directed on the road by Niels Huybrechts.



Using around 90 moving lights – a mix of PRG Best Boys, Clay Paky Sharpy Washes and Vari*Lite VL3500 Q-Spots – were installed on a series of overhead trusses, and the approach was to mix the disciplines of live show and TV lighting, with lots of drama, colour and excitement helping in delivering a great looking show for the increasingly diverse and mixed audience of K3 fans - old and new.

Twenty-four SGM Q7 RGBW LED strobes and 25 Chauvet STRIKE-4 LED

blinders were dotted around in the roof for audience illumination.

“The Strikes replaced my traditional blinder fixtures,” explained Luc. “As the girls have a lot of interaction with the audience during the performance, the Strike 4s provided perfect audience ‘blinding’ when required for the back and forth dialogue.”

He adds that the Strike 4 offers many extra possibilities over and above conventional audience blinders, “They bring an extra dimension to the overall look of the stage, and with each cell individually controllable there are many possibilities for the lighting design as a whole. I also like using the strobe feature and there are plenty of different looks to play with.”

Two Concept Vi-Count hazers were also run by Niels via his grandMA2 full size console, supplied to the production by Painting with Light.

The lighting picture was completed with three Robert Juliat Victor 1800W follow spots located in the house positions.

“It’s always great fun working on K3 shows,” says Luc. “Studio 100 is committed to providing excellent production values and we really enjoy being part of something which is a lot of young people’s introduction to live performance. This tour was especially interesting and a departure from previous ones, moving K3 into a new era, and we are all looking forward to the future”. ■



Louise Stickland
Freelance Journalist working with Loosplat company, UK.

Adam, Jager join Recolight as its Board Directors



Andreas Adam



Martin de Jager

Recolight; the leading UK WEEE compliance scheme for the lighting industry; has appointed two new board directors. Andreas Adam, Senior Director at OSRAM AG joins the Recolight board to replace Julian Schaub, who retains other responsibilities within OSRAM.

"Their wide ranging experience of both WEEE and lighting will be invaluable to us," said Nigel Harvey, Chief Executive, Recolight...

Andreas has considerable knowledge of the WEEE directive and its implementation in a number of other EU Member States.

Martin de Jager, International Board Member of Philips Lighting has re-joined the Recolight board after 18 months' absence. He replaces Maurice Looschilder who now heads up the

Philips Lighting sustainability team, having served as Recolight Chair for 18 months.

Martin has been in the lighting industry for over thirty six years, and also has EU-wide WEEE expertise.

Andreas Adam will take on the role of Recolight Chair for two years, with Martin de Jager taking on the role till 2018.

Announcing the news, Recolight Chief Executive, Nigel Harvey said: "We are delighted that Martin and Andreas have joined the board. Their wide ranging experience of both WEEE and lighting will be invaluable to us. The combined board has the breadth of experience to support the continued growth of Recolight, and the standards on which our reputation is founded." ■

Richard Robert becomes new Sales Director for Freeman Audio Visual



Richard Robert

Robert has 29 years of experience in airline corporate and agency sales, global travel...

Richard Robert has been appointed as Director of Sales for Freeman Audio Visual, Ottawa. "Richard Robert is a dynamic sales leader who is already familiar to many of our customers in the Ottawa Region. He will play a key role as we deepen our existing client relationships and build new ones," said Kevin Wolfe, General Manager, Freeman Audio Visual, Ottawa.

Robert brings 29 years of experience in airline corporate & agency sales, global travel, international development & procurement. He is well known for his business development skills and maintaining national association industry relationships.

"I am excited about taking on a new challenge with Freeman Audio Visual and look forward to

working with its experienced and well known sales team. My goal is to focus on business development while enhancing customer relations through attendee engagement and meaningful experiences," said Robert.

As part of the world's largest brand experience organization, Freeman Audio Visual uses the power of technology to make meaningful connections with a multitude of audiences through the production of meetings, conventions, special events and trade shows. Freeman invests heavily in maintaining and growing its stable of state-of-the-art technology around the world. Freeman Audio Visual provides a full range of services to support the way audiences engage with content as the landscape continues to change. ■

Peter Scott takes over as President of Lighting Industry Association, UK



Peter Scott

"It is a great honour to have been elected President of the LIA and I am committed to building on the successes," said Scott...

Peter Scott, CEO of Fern-Howard Lighting has been appointed as Lighting Industry Association (LIA) President during the LIA's Annual Lunch held on 10th May 2016. He was grateful to Alasdair McRury, the former President on behalf of all members for his contribution during one of the most successful and progressive periods in the Association's history.

In order to support its members and United Kingdom (UK) lighting industry, Scott would be serving the LIA and take care of its continued developments.

Scott said, "It is a great honour to have been elected President of the LIA and I am committed to

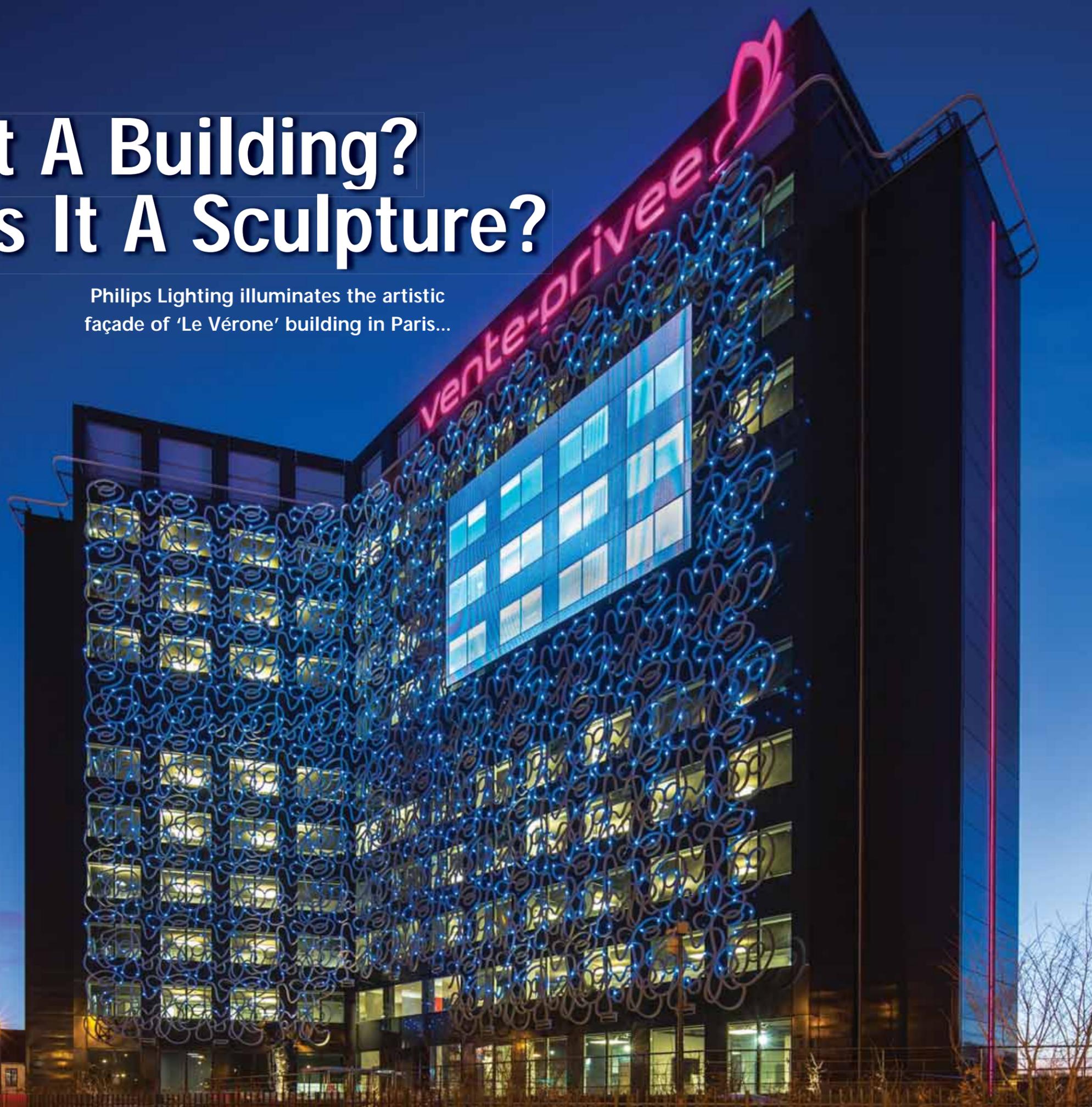
building on the successes and continued good works laid down by the LIA Council of Management and retiring President, Alasdair McRury."

"Coming from the modest size lighting company of Fern-Howard, reaffirms that the LIA can be represented by any size company and from any segment of the lighting industry," he further added.

He concluded by saying, "Access and delivery of exceptional learning programs and the official opening of the Lighting Industry Academy are my objectives during 2016, along with encouraging all LIA Members to get involved with us and their association". ■

Is It A Building? Is It A Sculpture?

Philips Lighting illuminates the artistic façade of 'Le Vérone' building in Paris...



Philips Lighting; a Royal Philips company that is globally well known for lighting; has illuminated the most recent addition of Paris' world famous skyline, the façade of the 'Le Vérone' building, the headquarters of the vente-privee e-commerce company in Saint-Denis, Paris, France.

Facing the Stade de France, the new building – Le Vérone – is an office block with a difference where art meets digital on the banks of the river Seine. The architectural creation was designed by Pucci de Rossi, a renowned Italian artist and designer, and draws attention thanks to its intricate mesh façade that is covered with 1,950 LED light points.

The concrete mesh sculpture has been positioned at a distance of 1 metre from the façade of the building.

To create an impression of a 'galaxy of lights', the custom-made façade



mesh modules incorporate 1,950 LED light points using iColor Flex LMX gen2 from Philips Color Kinetics. The flexible form factor of iColor Flex LMX gen2 allowed de Rossi enhance the perception of depth and three-dimensionality by mounting the light points both facing out, and toward the glass windows to create reflections.

The façade mesh intricacy is further enhanced by additional layer of light washing the entire structure with ColorReach Compact Powercore from Philips Color Kinetics. The dynamic lighting harmonizes with the images on a high resolution screen and can be programmed to change color and intensity for many effects, including vente-privée's signature color pink.

The light points are small in size and unobtrusive during daytime in order not to affect the appearance of this work of art but bright enough at night to create a strikingly lit façade that can be seen from a long distance.

"Art needs to be at the center of the suburbs, where open spaces allow exposure to monumental pieces for all to see. Le Vérone, with its mesh façade which represents the calligraphy initials of vente-privée, VP.com, is the incarnation of this wish.

The projections on its high-resolution screen, and the animation of the LEDs of this concrete mesh façade, will be seen daily by many residents and drivers on the main road leading to the Charles de Gaulle airport," explains Jacques-Antoine Granjon, CEO and Founder of Vente-privée.

"Vente-privée wanted to be able to customize the lighting to specific events – and so we programmed a set of sequences, which may be easily modified at any time by the technicians at vente-privée," explained Richard Brousse, Application Specialist at Philips Lighting.

With its Pucci de Rossi masterpiece and the exciting and spectacular lighting design created and implemented by Philips Lighting, Le Vérone has become the first private building in France to fuse connected lighting with architecture and art. ■

Architect Jean-Michel Wilmotte

Electrical contractor Citeos Avignon

Designer-creator Pucci De Rossi

Engineering consultants Guillaume Lamoureux and Romain Ricciott

Casino Pride Ship

Five years ago, AHL Lighting Technology Limited made 2-facade mesh screens for the ship, even today those screens are attracting business...



The Casino Ship...
This photo is from Pride Group

A view of the Casino Pride Ship at night...



The Casino Pride Ship in daylight...



In 2011, The Pride Group, which owned the Casino Pride Ship – India (Goa), wanted to build two screens on both sides of the ship that could show advertising videos to attract customers, without sacrificing the view of the people sitting inside the ship, also the screen had to be waterproof.

AHL Lighting Technology Limited accepted the challenge. They made 2-facade mesh screens hang on both sides of the PRIDE casino ship with 11,200 pcs of (product model) SC50-B6, pitch 100 mm and using steel

wire connection, which could meet the customer's requests of the watch distance, even people could see it from the land. Steel wire installation was half-transparent, light-weight and easy for installation. Additionally, all the components and LED pixels are IP67 rated waterproof. This could show animation videos while people gambling in the famous casino.

The Pride Group is quite satisfied with the project. Five years have passed, the screen is still functioning well on the ship and helping in attracting business.

Other photos but the first one are by AHL Lighting Technology Limited.

A view of the facade mesh screen...





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**“At Tridonic,
we are right
in the middle of
a new industrial
revolution...”**

Austria-based Tridonic, which is part of the Zumtobel Group, develops innovative lighting solutions related to LEDs and connected lighting technologies.

Sietze Jongman, who is its Vice President for Product Management and Research & Development, explains how the company is positioned to play a decisive role in leveraging lighting as a key enabler and important infrastructure for connected lighting...

What is your vision for 2025? What role will light play in the Internet of Things?

I am convinced that by the year 2025 light will play a key role in the Internet of Things. A lighting-related infrastructure will be the backbone and the strongest motor for an extremely efficient and effective Internet of Things.

Why? What are the drivers for this development?

There are several factors that are driving this development forward. Wherever there are people, there is light – in buildings and on the streets. There are billions of light sources, a dense network of luminaires. And there is plenty of room inside these luminaires for integrated sensors and communication equipment, particularly as these are getting smaller and smaller thanks to advances in microelectronics. A factor that should not be overlooked is that these luminaires are already in locations that are ideal for sensing and communicating – on ceilings, on walls and above pavements and roads. Even more important is the fact that they already have power supplies that they can share with the devices in the Internet of Things. No separate cabling is needed and no batteries, and communication can be either wired or wireless. Since light emitting diodes are controlled digitally it is a simple matter to integrate other digital elements such as presence sensors, thermostats and signal transmitters.

In short, the luminaires can also serve as hubs for sensor data of all kinds and as the backbone for smart devices in the Internet of Things. This will considerably reduce the level of complexity and costs and can open up completely new applications and services – and at Tridonic we are right in the middle of this new industrial revolution.

But new luminaires and new hardware and software will be needed to leverage this added value. What do you think will be the first areas in which the Internet of Light will be used?

Initially it will all be about building automation, in other words about using data which is already being collected – such as presence data for room occupancy – not only for automating light but also making the data available for other services such as heating, ventilation, security and room management. Today such data is often collected multiple times with separate presence sensors for each application. Many office buildings and shops have already made the switch to LEDs but because of the high return on investment we expect high demand for renovations and new installations. The first major installations are also to be expected in the industrial sector, for example in warehouses, because the move to LEDs is already happening there and the Internet of Light can be integrated at the same time with a high level of future-proofing. With the Internet of Light we are more or less where we were ten years ago with LEDs, in other words still in the starting blocks but at Tridonic we have already taken the first steps on this journey and with net4more we are able to enter into the new era together with our customers.

Can you name some applications where the Internet of Light will be particularly worthwhile?

One of the important applications will be room management that I mentioned just now. Presence sensors in luminaires will provide information as to how well or otherwise offices, meeting rooms and communal areas are used, and building operators will then be able to use this data to optimise the usage of the building and make considerable savings in costs. It will pay for itself very quickly, particular in buildings in major cities. Remote monitoring, remote maintenance and remote software upgrading are also good examples. If the sensors and communication elements are integrated in the luminaires it will be very easy to reset parameters or start up equipment via mobile devices and apps. Indoor navigation in large buildings is another good example. If there are Bluetooth transmitters in the luminaires they can be used in conjunction with a smartphone app to pinpoint your location to within a few meters. It will be much easier to find your way in airports or hospitals, and customers in shopping centres or supermarkets will be able to find what they're looking for much sooner – and perhaps can benefit from personal offers sent to their smartphones. For operators, too, these are completely new services that create added value, quite apart from the fact that they can use the data to make their premises more customer-friendly. Within the

Zumtobel Group, we have established an interdisciplinary team to bring together all these new ideas, customer requirements and application know-how and to implement pilot projects that will reveal what ultimately will deliver the greatest benefit for customers.

And what exactly can Tridonic offer as solutions?

With net4more we have developed an innovative lighting system for the Internet of Things that enables us to turn any luminaire into a device with an Internet address and provide gateway-free communication. A particularly important point to note is that we believe that only open systems have a future. net4more is an open platform. It is flexible, scalable and future-proof, based on international standards such as the IPv6 Internet Protocol. It is a modular toolbox comprising hardware and software elements which offer customers easy migration. Our partners can equip net4more with their own special sensor elements and write their own software applications.

So does that mean customers are not tied to Tridonic?

No, and that's where our crucial advantage lies over many competitor solutions. Our customers and partners can integrate net4more in their own environments, or integrate net4more in their solutions, whether hardware or software – just as they please.

If so much data is being collected, exchanged and analysed what are you doing about security and privacy?

These are questions that are always uppermost in our thoughts. We are using the latest security technologies such as encryption with rotating keys which is virtually impossible to hack. Besides, the data we generate on the light network is anonymised. Unlike cameras, presence sensors do not deliver any personal data. What's more, we can place the entire infrastructure and data storage in the hands of our customers, if they so wish. It is even possible for the cloud, where the data is stored and evaluated, to exist purely as an intranet solution and have no connection whatsoever to the Internet. And last but not least, we will have our systems scrutinized by external experts, known as security auditors.

What are the next steps you have planned?

With net4more we now have a future-proof, flexible, open and scalable platform. We are currently building up a partner network and implementing initial pilot projects in readiness for our solutions to be launched in the spring of 2017. There is much work still to be done. We have extensive expertise in LEDs for general illumination, in electronics, sensor technology and software but the new services that go beyond lighting applications are new territory for us. The important thing here is to find the right partners and develop new business models together. When all is said and done, however, we are convinced that we have a pioneering vision for the Internet of Light and that we are on the right path to turning this vision into reality. ■



Lighting For Changing Displays

A flexible lighting concept deploying ERCO LED technology illuminates the different departments and constantly changing luxury products in the store with a maximum of effect...

Colette; founded in 1997 as one of the world's original concept stores on Rue Saint Honoré in Paris; offers a shopping experience of the most eclectic kind. On three levels, covering a total area of 740 square metres, the store's founder, Colette Rousseau, and creative director, Sarah Andelman, present and market collections designed by the most noted international fashion designers, complemented by a selection of shoes, watches, jewellery, bags, cosmetics, perfume, books, magazines, toys and sporting goods, furniture and home accessories, music and techno gadgets.

Noted for its broad range and diversity – with differentiated sales area designs, an integrated gallery for changing art exhibitions, and a small, elegant F&B in the basement, known as the 'Water Bar' – the store keeps in tune with the times, continually expanding and updating its selection, with weekly new displays in the shop windows and redesigned sections inside the store.

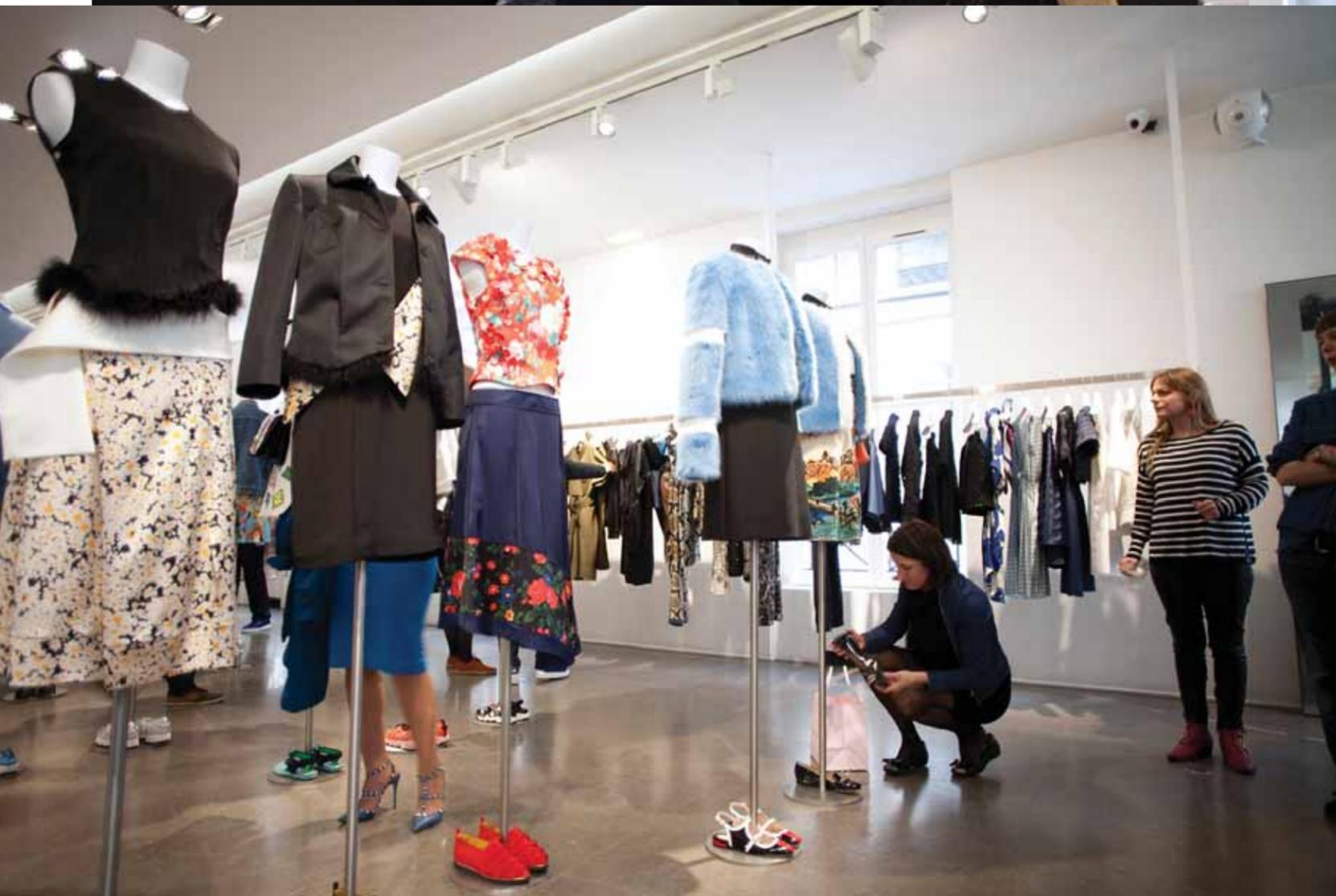
A flexible lighting concept deploying ERCO LED technology illuminates the different departments and constantly changing luxury products in the store with a maximum of effect: excellent colour rendering brings out every nuanced hue of the fashion on display whilst the precise and brilliant light accentuates patterns and materials with a sharp-edged beam for a three-dimensional effect.

The concept takes the same approach that ERCO advises for the museum, born from many years of experience in the field: the selected lighting tools ensure optimum glare control for stylishly presenting the selected lighting tools ensure optimum glare control for stylishly presented accessories,

Project Colette Store, Paris / France

Products Optec, Quintessence

Photo credit ERCO GmbH, www.erco.com,
Edgar Zippel, Berlin / Germany



watches and jewellery on glass shelving and in display cabinets as well as precise illumination of the displayed art.

The ERCO Optec spotlights used in the store are true all-round stars - not least with their capability of offering a range of light distributions that cover every requirement for superb shop lighting.

In the store windows, their high-contrast accent lighting sets off the mannequins as effectively as the shoes and bags arranged on glass shelving; above the product tables in the store's 'hi-techzone' on the ground floor, they provide glare-free light for the watches and techno gadgets.

Optec spotlights combined with Optec lens wallwashers mounted along track on the upper level's window section achieves high visual comfort with uniform ambient lighting for the sales floor, whilst wallwashing gives the space an open and expansive appearance, enhanced by striking accent light on selected garments.

Quintessence lens wallwashers and spotlights round out the concept with scenic illumination of the exhibition section and its changing artwork on the upper level.

Using a variety of different ERCO lighting tools creates separate zones that neatly divide the eclectic world of Colette - thereby facilitating orientation as well as a flexible response to the fast-paced lifestyle of the Parisian fashion temple. ■

Aura Light Stole The Show At San Francisco

Aura Light was awarded the Global Efficiency Medal by the high-level global forum, The Clean Energy Ministerial (CEM) on 2nd June, 2016. It received the Super-efficient Equipment and Appliance Deployment (SEAD) Global Efficiency Medal in the categories for Europe and Australia as well as the overall global prize. In connection with the seventh Clean Energy Ministerial meeting (CEM7), the award ceremony took place in San Francisco.

Martin Malmros, CEO, Aura Light International AB;

who represented the company at the award ceremony; said, "This is an international competition to stimulate the usage of energy-efficient products and we competed against large global lighting companies. This award has opened up new possibilities for us – and we have received a lot of positive attention, especially in the US." ■



Nora Lighting Wins Product Innovation Award

Nora Lighting's lolite modular LED downlight bagged a Product Innovation Award (PIA) from Architectural SSL magazine. Generally, this award honours the most innovative LED/solid-state luminaires and fixtures in the market and at the same time recognise the companies that manufacture these light sources.

Architectural SSL Editor, Jim Crockett said, "The PIA program recognises industry leaders committed to making solid-state lighting a truly sustainable technology."

"Back in 2007, when we started Architectural SSL, it was very difficult to find any LED products. Almost a decade later, the challenge is not finding an LED product, it's identifying the good ones – thus the PIAs, which we hope will help lighting decision-makers everywhere make more informed choices, or at the least, point them in a good direction," he further added.

Fred Farzan, Nora Lighting President and CEO said, "We are very pleased to accept this award. It honours the hard work and dedication of the Nora Lighting team to develop advanced LED products that incorporate both creative technology and viability in the marketplace."

NSpec, the architectural and commercial division of

Nora Lighting launched lolite. It is available with 1", 2" and 4" apertures for a nominal architectural appearance and offers more than 100 design possibilities for general, accent and wall-washing applications. The 4" model can be retrofitted as a modifiable downlight.



Product Innovation Award (PIA) bagged by Nora Lighting for its most innovative LED/solid-state luminaires and fixtures in the market...

Every lolite incorporates a 60° beam spread (installed), with 25° and 40° reflectors. A 15° beam spread is elective and reflectors are field changeable with no tools. lolite's modular design and choice of finish trims, including new matte powder white, permit customisation for any application. ■

Smart Vision Lights Honoured With VSD Innovators Award

Smart Vision Lights, chief designer and manufacturer of high-brightness LED lights popular for industrial applications, including machine vision was acknowledged by the judges of the annual Vision Systems Design Innovators Awards program for its Line High Power (LHP) series of LED lights for line-scan imaging. The judging panel included esteemed experts from system integrator and end-user companies. Their judging criteria was based on originality, innovation, impact on designers, systems integrators and end users, fulfilling a need in the market that has not been addressed and leveraging a novel technology.



Smart Vision Lights honoured with platinum-level award...

The company was honoured with a platinum-level award. The LHP series of LED lights offers the brightest line-scan lights in the market at 5 million lux. The company is the foremost commercial machine vision LED light to use silicone optics. Optical-grade silicone is believed to revolutionise machine vision lighting by enabling injection moulding of complex optical designs that would combine the best properties of glass and plastics, offering excellent light transmission, thermal resistance, and flexibility at a low cost. ■

barco facilitates your creative freedom

Designed for applications in retail, advertising, venues, and visitor attractions, the R-series frees customers from the limitations of traditional LED displays when digitising their visual communication...

Global LED technology company Barco has released its 'digital media canvas,' which, according to the company, is a unique LED screen technology that's radically different from traditional LED displays. These displays have thin, lightweight, and bendable design, the R-series attach easily to virtually any surface – especially on curved surfaces.

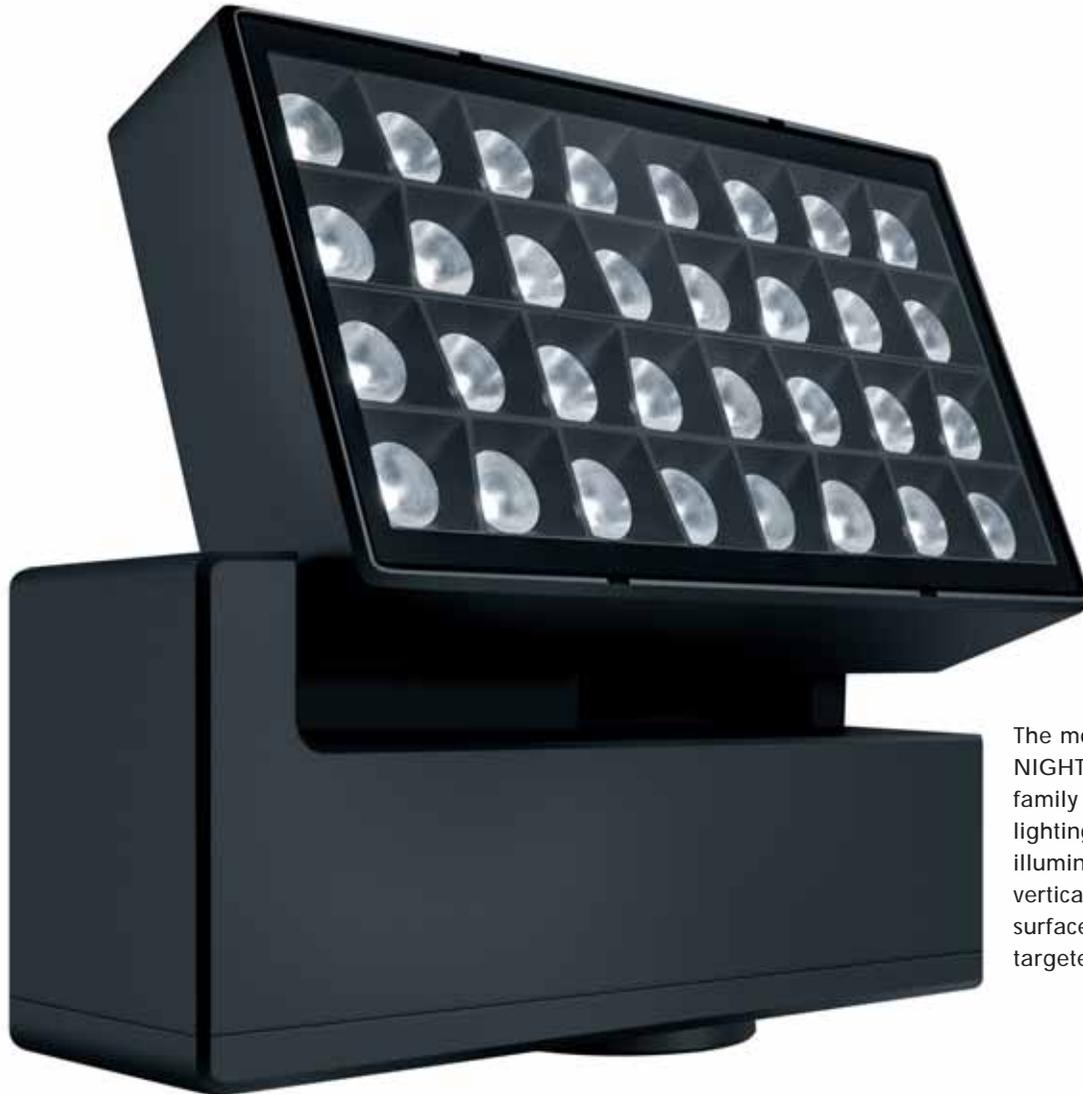
Currently offered with a 10 mm pixel pitch, the outdoor-rated R10 is the first model of the digital media canvas family that's being introduced, and it will be shipping from Q3 2016 onwards.

As per the company, compared to today's LED products, the 'digital media canvas' is the future for more creative freedom, and it greatly reduces setup time and cost. Designed for applications in retail, advertising, venues, and visitor attractions, the R-series frees customers from the limitations of traditional LED displays when digitising their visual communications.

"Venue owners, advertisers, and retailers are faced with the ever-challenging task of catching the attention of consumers and visitors. With our revolutionary R-series digital media canvas, we free designers from the limitations of traditional LED displays, making their message stand out in venues and installations that were impossible before," says Chris Colpaert, VP LED at Barco.

"We are expanding creative possibilities far beyond the traditional LED applications. With the R-series, eye-catching LED visualisation can now be installed in applications and on surfaces that were previously impossible, like curved façades, subway station tunnels or creative stage sets. Its bendable, lightweight, and ultra-thin design ensures smooth and quick installation, driving down setup time and cost," he adds further. ■

A World Of Lighting Experiences In A Night-Time Cityscape



The modular NIGHTSIGHT product family includes all lighting tools for illuminating both vertical and horizontal surfaces, and for setting targeted accents...

With the modular LED outdoor lighting system NIGHTSIGHT, Zumtobel offers the opportunity to brighten up outdoor areas and buildings with well thought-out lighting concepts adjusted to suit the needs of people. The comprehensive portfolio allows lighting planners and architects to plan a lighting solution in a universal manner and opens up a whole new realm of creative freedom for them...

Modern LED outdoor lighting today takes into account all visual levels in an urban space – and is not just limited to a norm-standard level of illuminance to light up those elements of the nocturnal cityscape in focus. Rather, this is about placing emphasis on the needs of people in living spaces at night. It's therefore worth brightening up urban spaces with spherical light components to create centres for human communication, creating visual points of attraction, and improving three-dimensional awareness. Moreover, special architectural features should be highlighted and complex space structures brought to life. This increases recognition value for a region and creates reliable guidance and orientation, even at night. In this way, security and well-being are significantly improved by lighting quality – always without wasting resources or increasing light pollution.

The starting point for such lighting design is always the natural nocturnal situation, the darkness from which the lighting designers design the optimal lighting solution step by step – with only as much light as is necessary. NIGHTSIGHT from Zumtobel as a lighting instrument is predestined to overcome these new challenges. For the development of the modular lighting tool, Zumtobel was working closely with the designers of Ben van Berkel at UNStudio. The aim here was to create a unique lighting environment, with the help of an adaptive lighting system, which increases social value by taking into consideration human activity and needs in the



The Area luminaire with a 'softGlow' look, on the other hand, improve the lighting of spaces and pathways...

different phases of the night, and at the same time maintaining the balance between artificial light and darkness.

With NIGHTSIGHT, the experts succeeded in designing a uniform modular product family with a unique look for various applications in urban lighting. The new application encompasses four different formats in a clear, continuous design with a comprehensive portfolio of looks and installation options. In order to both illuminate vertical and horizontal surfaces homogeneously and to set targeted accents, Zumtobel uses two different types of luminaires: perfected for illuminating façades or highlighting architectural details, the projector luminaire with its 'darkBeam' look, with LED light points arranged in a special sunken honeycomb structure with

Facts and figures for NIGHTSIGHT

- Modular LED product family for multi-faceted urban applications
- Luminous flux: 600 – 7900 lm
- Luminaire efficiency factor: 80-100 lm/W @ 4000K
- Colour temperature: 3000 K or 4000 K, Ra > 80
- Light distribution: 5 projection types, 6 area types (composite beam look)
- Optics: Lens-grid combo and comfort lighting function
- High IP rating: min. 65
- Installation: mast, wall, floor, ceiling – completely rotatable or fixed
- Control: dimmable for DALI/LITECOM or on-board
- Service life: 100,000 hours

their projection lenses meaning side-on glare from the light source is minimised, as are glare effects. Attention is drawn to highlighted objects whilst remaining in the background.

The Area luminaire with a 'softGlow' look, on the other hand, improves the lighting of spaces and paths above all. Targeted lighting angles ensure ideal visual comfort by reducing the brightness contrast between the LED light points and the environment. The additional vertical lighting component ultimately offers visual guidances – and makes it easier for the eye to adjust the brightness level when entering the illuminated area, thereby reducing sensitivity to glare.

With NIGHTSIGHT, Zumtobel offers lighting designers not just a lighting instrument with a convincing lighting effect and consistent design however, as the outdoor lighting system also makes a mark with its simple installation and maintenance. Installation is particularly easy thanks to the Plug&Play connection. The light heads of the individual LED modules can also be easily adjusted to almost any angle. Moreover, various colour temperatures are also available: options with 3000 K and 4000 K place both the historical old town and a

modern skyline in the right light.

Thanks to the targeted use of light and shadow, bright and dark tones, as well as differing light levels, NIGHTSIGHT manages to improve perception of a nocturnal cityscape, highlights special architectural features, creates recognition value, and models spaces – always in harmony with the environment. In this way, both visual comfort and quality of life in an urban outdoor space are improved, whilst the energy consumption of a lighting solution is reduced at the same time. ■

Source:

Zumtobel Lighting GmbH

Surya Roshni Continues Its Lighting Revolution

With its state-of-the-art manufacturing facilities in India and operations spanning over 50 countries, the brand has earned the trust of millions of customers worldwide by providing high-quality, innovative products...

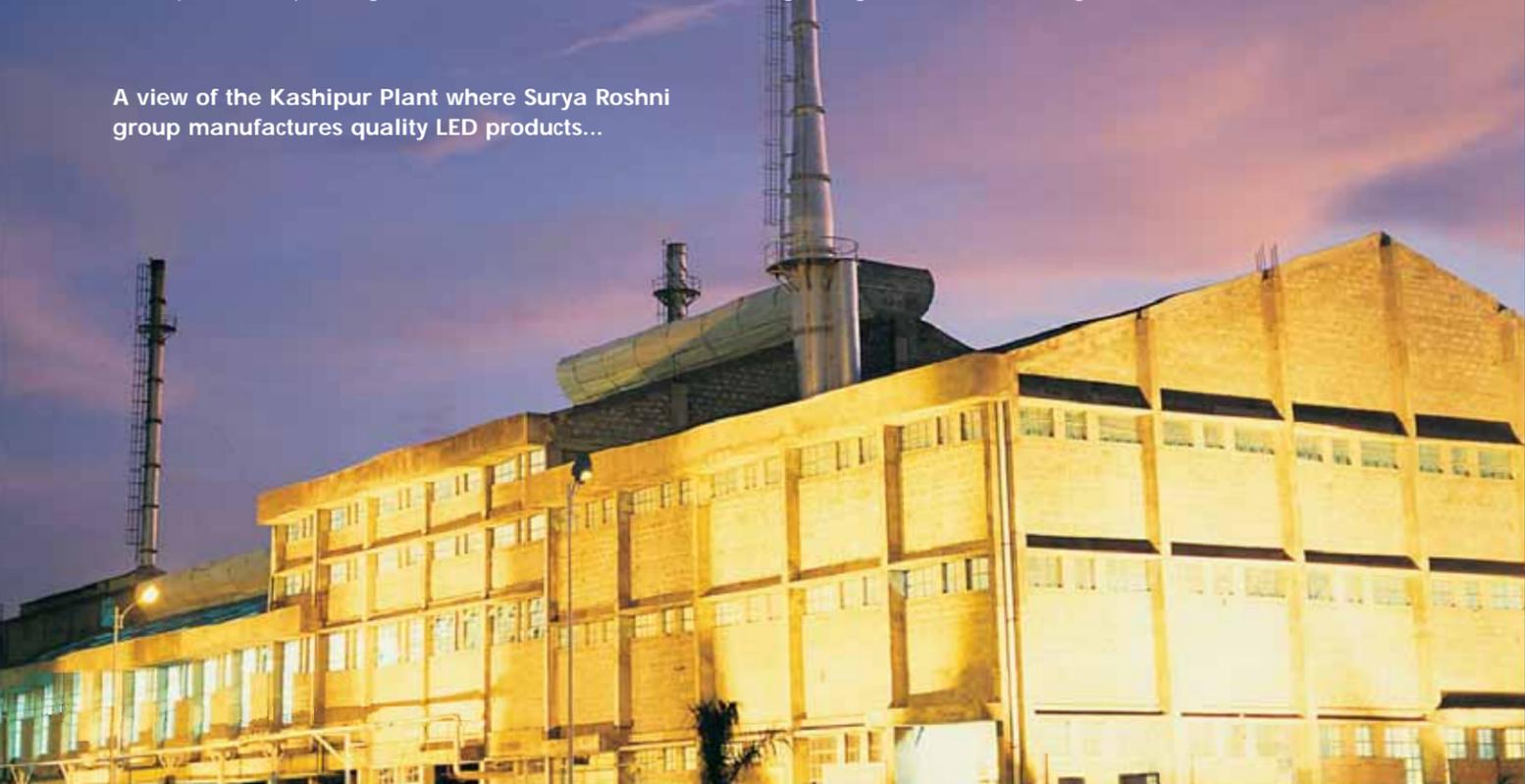
Surya lighting is a leading name in the industry and has a dominant presence both in the retail and commercial space. It offers the latest and finest technology products across numerous lighting application areas. Surya's LED product portfolio offers a wide range of innovative lighting products covering the consumer and professional lighting segments, including home, state-of-the-art office and industrial segments. Besides this, Surya provides outdoor lighting solutions covering street lighting, floodlighting and landscape lighting. In an upcoming range of LED lighting, the company is introducing new Street Lights, Flood Lights, COB Downlighters, Emergency Lights and Torches. The company has developed new products such as Eco Halogen GLS lamps and LED Filament lamps. Surya has taken initiatives with respect to capacity expansion to cater to European and Latin American markets and also installed a separate machine to manufacture these types of lamps in Malanpur production facility.

With its state-of-the-art manufacturing facilities in India and operations spanning over 50 countries, the brand has

earned the trust of millions of customers worldwide by providing high-quality, innovative products. The group manufactures quality LED products with a world class manufacturing infrastructure, at its fully integrated plants in Kashipur (Uttarakhand) and Gwalior (M.P.), supported by Surya Technology and Innovation Centre (STIC) at Noida – an advanced state-of-the-art lighting laboratory and research centre with specific focus on LED. Compulsory Registration Scheme of Deity/BIS for LED products has been started to take care of safety standards of LED products, and the group's all manufacturing plants have CRS approval from BIS. Bureau of Energy Efficiency's star rating plan for LED lamps shall further enhance lumen efficacy of lamps.

The LED market is growing with a swift pace from last half a decade, the country offers a huge potential in the LED industry, especially over the next decade. The adoption of LED lighting is being witnessed across commercial and residential sectors, government projects, and upcoming smart city projects with the swift increase. In addition, growing awareness amongst consumers on account of

A view of the Kashipur Plant where Surya Roshni group manufactures quality LED products...



The Gwalior Plant of Surya Roshni group: yet another place for manufacturing quality LED products...

awareness programs by manufacturers and regulatory bodies is expected to play an important role in shaping the country's LED industry by 2020.

The group MD, B. Raju says, "The 'Make in India' campaign launched by the government shall provide an extra impetus to both Surya Roshni and the LED industry to grow faster. Displaying a firm commitment to stay competitive, we at Surya are committed to the progress of 'Make in India' campaign. At Surya, the LED revolution is strengthened on the fundamentals of cutting-edge technology, pioneering innovations and the 'Make in India' campaign. Our LED range empowers the LED revolution and is designed, manufactured and assembled in-house. Committed to performance, customer satisfaction and superior value, we ensure the quality and cost effectiveness of all Surya LED



B. Raju, Group MD, Surya Roshni



Surya Technology and Innovation Centre (STIC) at Noida...

products. This is the reason that acceptance of our products is increasing day by day, not only in India, but also in other countries where we export."

The company bagged projects from Energy Efficiency Services Limited (EESL). In all, Surya won orders worth Rs 203.5 crore for LED lamps, LED streetlights, and energy-efficient fans to be supplied across the country. Out of the awarded contracts, the company has completed projects worth Rs 122 crore and the remaining are under implementation. The fan project that's worth Rs 58 crore will be started after receiving the letter of award from EESL.

Surya Roshni will continue to adopt the latest technology in LEDs and launch newer products, which meet customer needs both in the consumer and commercial segments. ■



LED Lighting – All Eyes On Flicker

The eye takes in 80% of ambient information. This includes flicker which can have an impact on a person's well-being, depending on his/her sensitivity...

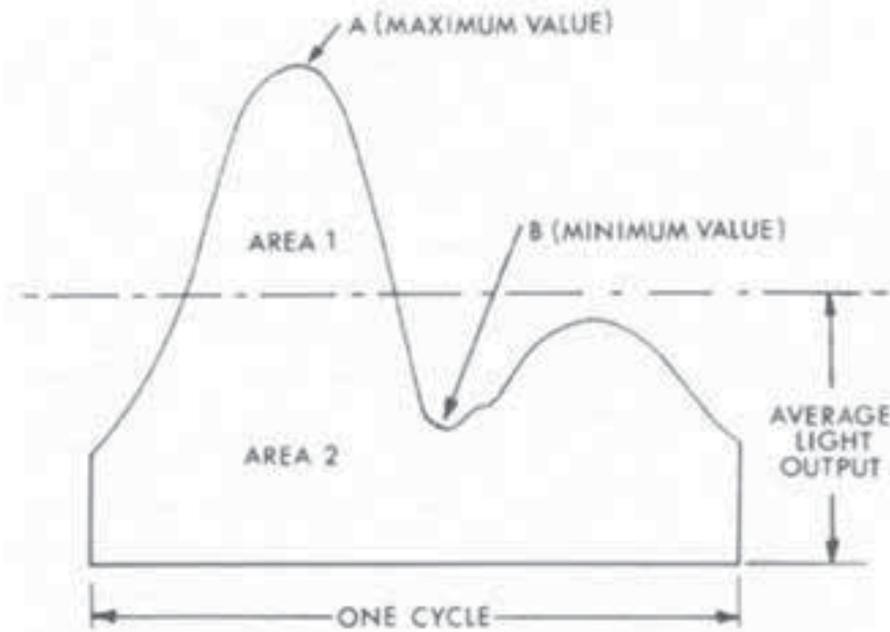
Photo: Thinkstock by Getty Images

Flicker was a familiar problem with early fluorescent lamps. However, increasingly powerful electronic control gear has largely offset these interferences over time, banishing them from current perception. Since LEDs (Light-Emitting Diodes) have become established in all areas of lighting, including general lighting, flicker has reemerged. LED Drivers play a key role in producing light that is as flicker-free as possible...

Energy-efficient LED lighting and increasing demands on the quality of light and lighting comfort are once again focusing attention on flicker and how to avoid it. Flicker can be described as a change in light intensity or brightness over a certain period of time. It occurs in a number of lighting applications, including slow motion shots on TV – in sports broadcasts in particular – tunnel lighting, various areas of general lighting, and workplaces where fast rotating machinery is used. Depending on the frequency and a person's sensitivity, flicker can affect people's well-being. While high frequencies do not have any measurable effects on well-being, lower ones up to 120 Hz often do. This article focuses on this frequency range up to 120 Hz that most people find annoying.

How is flicker created?

There can be various reasons for flicker. For manufacturers of control gear, ripple current is one which plays a major role. Ripple current is a proportion of alternating current that remains after rectification and the output filters. It is superimposed on the direct current and can have a different frequency and curve. This proportion of alternating current leads to power fluctuations at the LED module, which in turn create changes in luminance. The amount of superimposed alternating current and its frequency are deciding factors for



Flicker is calculated using the amplitude difference and the areas above and below the average value... Graphic: Tridonic

According to IEEE 1789-2015, there are now detailed descriptions on known flicker phenomena, their frequency of occurrence and their effect in various frequency ranges, and recommendations for driver design. Depending on whether flicker occurs in the perceptible range up to 70 Hz or the imperceptible range, different limit values apply. While as little as 0.5% of flicker can be perceived in the most sensitive range at around 10 Hz, flicker at 60 Hz needs to be at 60% to be perceived, in other words it needs to be 120 times stronger. Therefore, the limit values are considerably higher in this range.

High-quality drivers can reduce flicker considerably

Due to rectification of the mains voltage – 50 Hz in Europe – there is a high proportion of ripple current in LED Drivers at twice the mains frequency around 100 Hz. What's more, compared to conventional light sources, LEDs immediately convert the operating current to light without the need for any major smoothing effects. To achieve

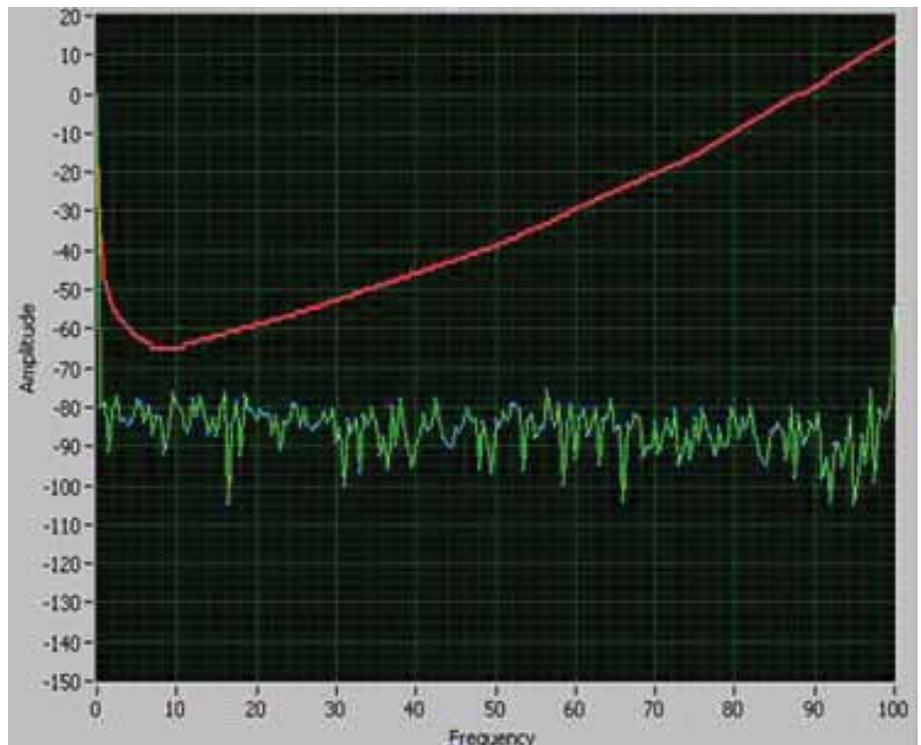
the resulting flicker. The carrier technology used in the LED light source and the luminaire design also play a major role. If, for instance, phosphor is used as a converter material in LED light sources, this layer has a capacitive effect and will eliminate a small portion of the superimposed alternating current.

Individual perception

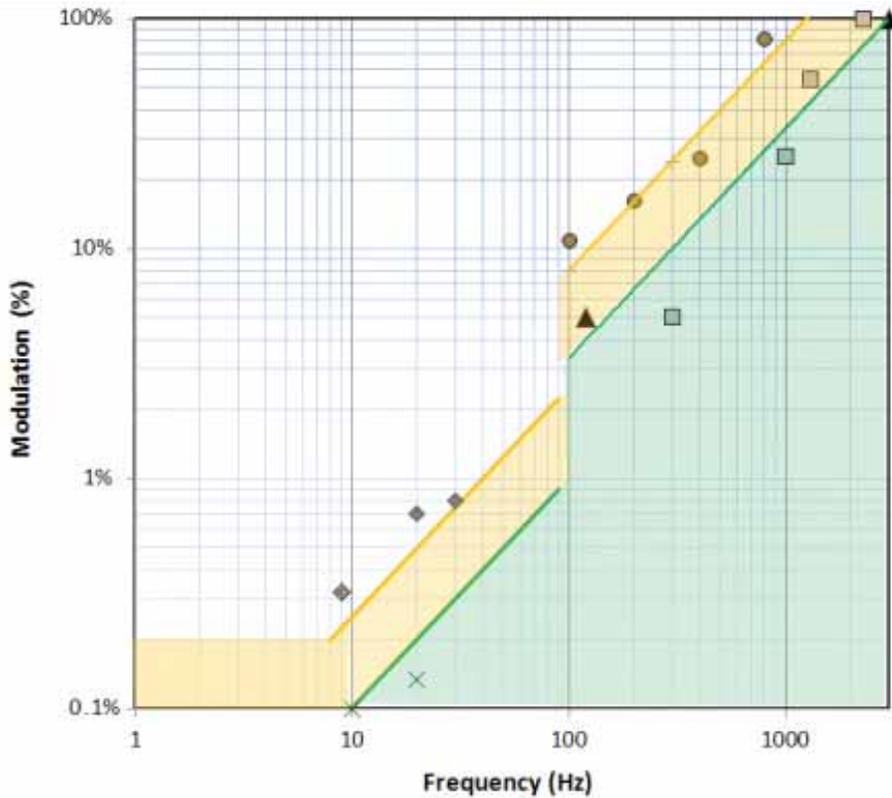
Depending on a person's sensitivity and type of activity, flicker can be intrusive, distracting and can also affect a person's well-being, even if luminance fluctuations are beyond the perceptible threshold (indirect perception). Here, peripheral vision often plays an important role, as it makes all movement seem more intense – no matter whether it is flicker or moving objects.

The extent to which flicker is perceived also depends on personal perception, and is connected to such things as vision, the irritability of the retina in the human eye, and the lighting conditions at the time. The majority of people are most sensitive at frequencies around 10 Hz, whereas most of the time they are no longer consciously aware of changes above 70 Hz. Nevertheless, people sensitive to

light may experience problems such as fatigue and headaches, or there may be irritating stroboscopic effects at higher frequencies.



As routine flicker measurements – in this case via the ripple current – at Tridonic's control gear show, the measured values stay below the relative perception threshold (red curve)... Graphic: Tridonic



Recommended dimming methods

While LEDs themselves carry no risk of flicker, dimming them, especially via pulse width modulation, can exacerbate flicker or even cause it in the first place. To avoid flicker, other dimming methods such as analog dimming are preferable. To compensate for the disadvantages of analog dimming at low dimming values, hybrid methods are becoming established.

Conclusion

Data on ripple currents in drivers provide a first indication of the risk of flicker. More reliable information for an informed decision can be obtained from data for the whole luminaire. Luminaire manufacturers can provide detailed information on the control gear used, the amount of superimposed alternating current, the dimming method and the frequency curves. Especially frequency curves between 0 and 120 Hz give an indication of how likely flicker is. The range between 10 and 70 Hz deserves special consideration – because in this range flicker has the greatest impact on well-being. What’s more, avoiding PWM dimming entirely will ensure largely flicker-free ambient conditions. ■

For the first time, the 1789-2015 IEEE standard provides comprehensive recommendations for reducing the health risk for people. The graph shows limit curves for flicker across the frequency range with low or no visible risk (green area) to people’s health...
Graphic: IEEE

operation that is as flicker-free as possible, a high-quality LED Driver and compatibility between the driver, dimmer and LED module are crucial. The information in data sheets often provides an approach for rating control gear, for instance under “Output current ripple” or “Superimposed alternating current.” The values indicated usually refer to 100 Hz. The lower the values, the lower the risk of flicker.

Modern high-quality control gear such as Tridonic’s LED Drivers minimise

ripple at the output and operate with perfectly matched components. High-quality components with clearly defined parameters, which are constantly checked in the lab are used.

The manufacturer particularly focuses on the critical frequency range around 10 Hz. Tridonic is looking to define new market standards here. Older generation devices with high ripple are now only recommended for applications that do not require persons to be permanently present.



Stefano Rosa
Global Channels Director
Tridonic

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Illuminating Historical Artworks



The Panorama Museum of the Sacred Defense in Iran is dedicated to the Iran-Iraq war that took place from 1980 to 1988.

The historical artworks are highlighted through the minimalistic ARCOS spotlight. The museum is due to open very soon...



Architect Sina Ahmadi

Photographer Milad Payami

Lighting solution partner Pars Idea Stack

Lighting solution ARCOS

Consultant Dayereh Consulting Engineers Co.

Contractor Azaran Industrial Structures Co.



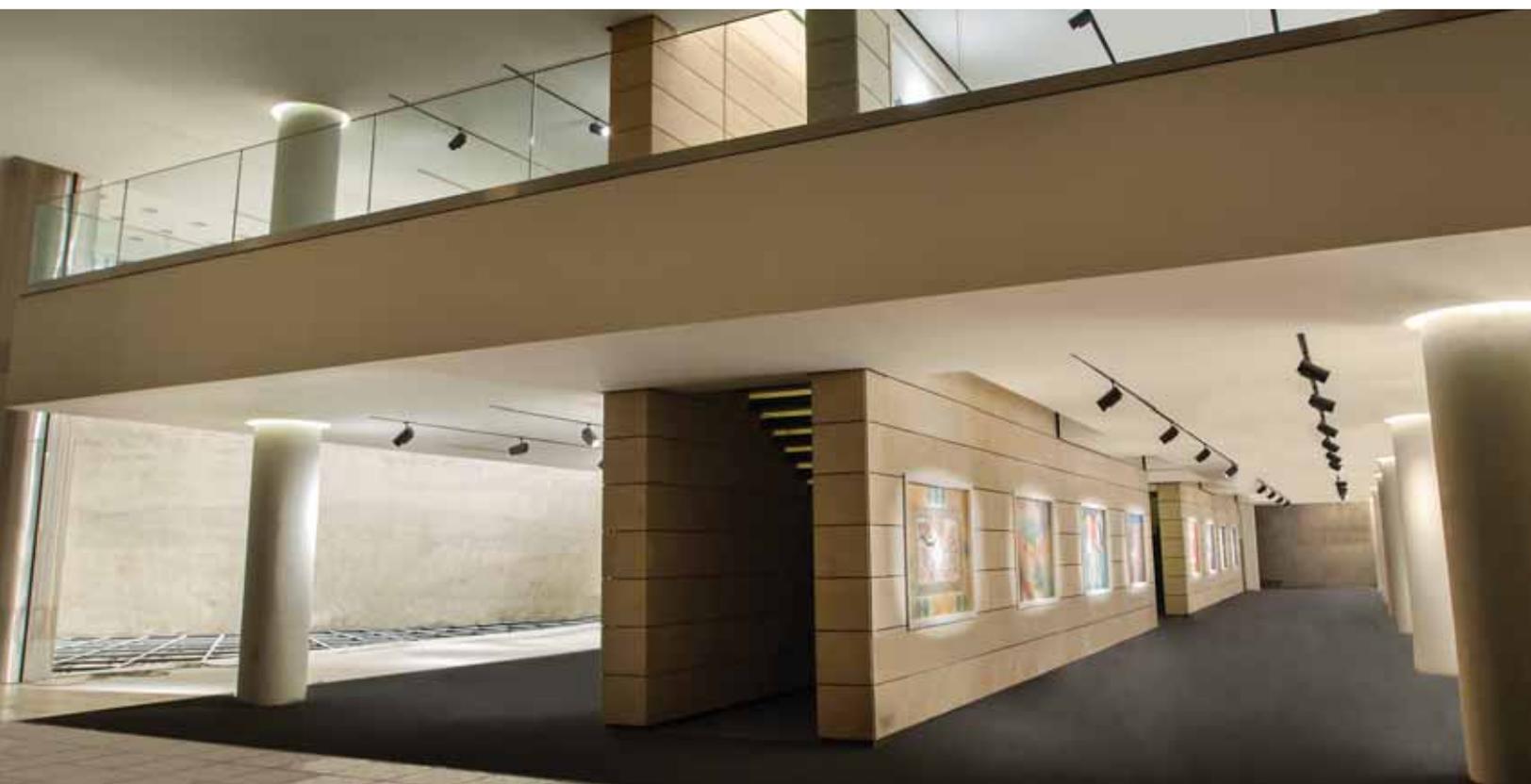
The spherical shape of the building conveys a three-dimensional understanding from a two-dimensional image. Despite all the complexities and the various different sections of the building, which are all located underground, the outside of the museum appears to form a hemisphere in the middle of the water. The reflections from the water and the sky give the impression that the architecture is

suspended from the sky. Around 1900 square metres are used for the art galleries situated inside the main dome, which include a rich collection of paintings, photos and artistic volumes.

It was a natural decision for the lighting solution partner Pars Idea Stack to propose the minimalistic ARCOS spotlight for the illumination of the important artworks. The combination of pinpoint accent lighting and wide-area

illumination ensures that a special focus is placed on the exhibits. The UV-free and IR-free light is not only gentle on the exhibits but also helps in considerably reducing energy consumption when compared to conventional solutions.

"We wanted to create a product together that would not only be installed by museum directors for high-quality exhibition spaces but by ourselves as well," says David Chipperfield of David Chipperfield Architects...



Glimpses Of Beaming Rays From China



Guangzhou International Lighting Exhibition 2016 presented various new concepts that were amazing. Think Light, Think Design, Think Technology, and Think Market were the buzzwords around the exhibition venue....

All photos by the author

Guangzhou International Lighting Exhibition 2016 (GILE 16) that took place between 9 to 12th June, 2016, at Guangzhou in China truly turned into a great global gathering for the lighting community that included business decision makers, lighting experts, architects, lighting designers and other lighting enthusiasts.

According to Dr. Pan Wenbo, Director Guangzhou Guangya Messe Frankfurt, "This year the Guangzhou International Lighting Exhibition celebrated its 21st edition with the Guangzhou Electrical Building Technology's 13th edition. The exhibition opened and welcomed over 2,500 exhibitors from 23 countries and regions. Throughout 19 halls spanning over 195,000 sqm, the fairs displayed solutions ranging from energy efficient components to advanced applications."

He also added, "The fair remained a breeding ground for fresh market ideas. The newly launched 'THINKLIGHT' event programme urged participants to explore the vast possibilities of lighting. On offer were over 100 events categorised into three tracks: 'THINK TECHNOLOGY', 'THINKMARKET' and 'THINKDESIGN.'"



(L2R) Dr. Pan Wenbo, Director Guangzhou Guangya Messe Frankfurt; and Lucia Wong, Deputy General Manager of Messe Frankfurt Shanghai...

As fusion of different technologies is a very common phenomenon to enrich any particular technology further – after it attains a certain level, the same thing is prevalent in the field of lighting too. GILE 16 echoed the fact presenting

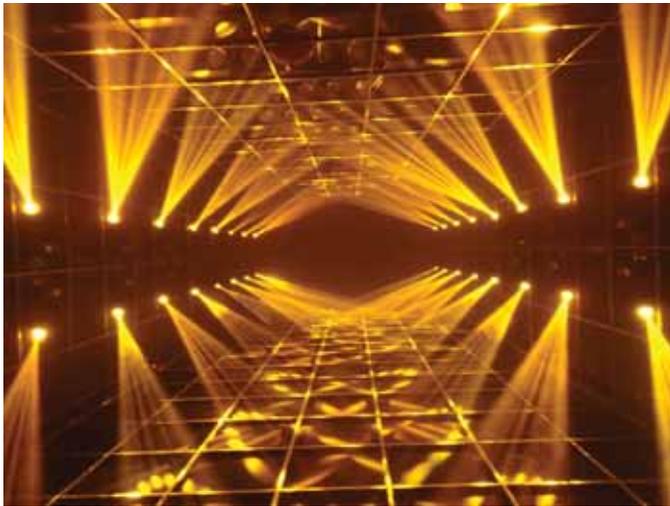
different lighting control systems based on Internet, Infra-red, Bluetooth and other wireless control systems. Thus, various modern ways of communication (for control) constituted a significant area to witness in the exhibition.

Lighting is a big subject today, where if we very vaguely observe, we find technologies and their adept & artistic applications are simultaneously striding abreast towards attaining the same goal of illuminating the world in the easiest and the most economic way – enhancing the aesthetic aspect of each and every object with justified foci on their visibility. From that point of view, the Guangzhou International Lighting Exhibition 2016 presented various new concepts that were amazing.

Think Light, Think Design, Think Technology and Think Market were the buzzwords around the exhibition venue.... Whether light is visible or not that debate was cornered inside the booth marked INESA Feilo. In a number of stalls, beautiful ceiling lights & chandeliers and their soothing rays not only enticed the visitors but also elevated many minds to a higher plane of ecstasy.



On offer were over 100 events categorised into three tracks: 'THINK TECHNOLOGY', 'THINKMARKET' and 'THINKDESIGN'...



Lighting is beyond just illumination:
A view of the booth marked INESA Feilo...



On display, hardware for combining influence of light and sound on our spirit...



Beautiful ceiling lights & chandeliers and their soothing rays...



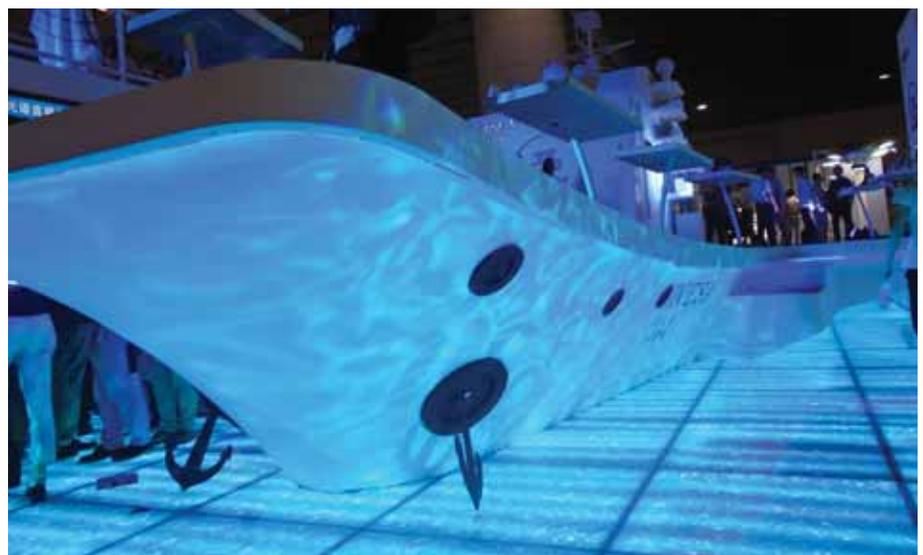
Combined influence of light and sound on our spirit is well acclaimed; the hardware for the same experience was also present in GILE 2016.

Think Light

Light is no longer just a form of energy which when falls on an object makes that visible, it is a means for value addition.

This was visibly proved by multiple companies through their solutions that enhanced the aesthetic value of objects through effective utilisation of light rays.

The play with light and shadow can change the environment with appealing ambience – at times it is exciting again often it's relaxing.



The play with light and shadow can change the environment with appealing ambience...



Light is no longer just a form of energy, at times it is exciting again often it's relaxing...



GILE 2016 presented enough lighting hardware coupled by controlling software...

Think Design

Lighting accounts for about 20% of global building electricity consumption, thus the entire world is after reduction of energy for lighting; GILE 2016 presented enough lighting hardware coupled by controlling software for the inquisitive lighting professionals not only to address their need for excellence through economy – but also to quench their thirst for the state-of-the-art prototypes.

Think Technology

Application of motion control through remote devices was on display in many stalls. Effective light control includes: colour, focus, intensity and beam control, which are possible



GILE 2016 presented enough lighting hardware coupled by controlling software...



GILE 2016 displayed many pleasant luminaires for garden illumination...

through marvelous software and hardware combination. GILE 2016 hosted several companies presenting such solutions. Also, switching is a big area, which includes effective contribution from latest sensors.

Think Market

Globally growing appetite for aesthetics of both inner and outer spaces dragged lighting community members from various parts of the world to GILE 2016. Some had priority for garden illumination, others came to gather ideas for street lighting, there were customers for wall washers too. Under water lighting devices were also on display.



GILE 2016 displayed many pleasant luminaires for garden illumination...



Beautiful Pendant lights with innovative materials are on display in GILE 2016...



GILE 2016 had accommodated some under water lighting fixtures too...



GILE 2016 hosted several companies presenting effective switching solutions...

As far as indoor lighting is concerned, modern users are quite aware of their needs, and although the topmost priority is energy saving – there is always a good scope for aesthetics of the lighting fixtures, and priority often hovers around price level of the luminaire. So, in the tussle, usually wins the purpose. From that angle, many innovative fixtures, luminaires and other accessories were also displayed in the four-day-long trade fair.

Conclusion

Wonders will never cease! It has been once again proved by the Chinese Lighting Manufacturers in GILE 2016. Globally the new wave of standardisation

is upbeat, and considering this perhaps a few big players were absent this time to gear up to counter the new wave, even then the trade fair successfully presented the revolutionary growth of the small and medium industries.

Quality talks were organised in the seminars. This time, the seminars were mostly focused on emerging issues of smart buildings and cities.

Wireless and battery-less control technologies, evolutionary Bluetooth technology and their application, application and standardisation of Internet of Things (IoT) were among some major topics that were dealt with in the seminars.

GILE 2016 portrayed an exhaustive view of the trends of today's smart-lighting era. Messe Frankfurt, the organiser of the event, left no stones unturned to offer a well-managed event with an all comprehensive content.

The next trade fair, i.e., Guangzhou International Lighting Exhibition 2017 will take place from 9 to 12th June 2017. Let's meet there again! ■



P K Chatterjee
Editor
Lighting India



A Platform for Turning Ideas Into Applications

The Indian government has been putting special emphasis in promoting LED-based lighting systems everywhere in the country. Under such circumstances, LED Expo 2016 created a great and timely platform to facilitate knowledge exchange among the people from various walks of life...

LED Expo, India's largest and the only exhibition for LED Lighting, products and technologies, which was opened on 12th May 2016 in Mumbai, hosted over 160 exhibitors from six countries. The exhibition covered all aspects of LED lighting and applications that serve the cause of promoting LED and energy efficient, environment-friendly and cost-saving technologies in India.

Day two of the fair hosted the LED Summit, which provided a project update on government schemes, LED lighting standards and certification as well as initiatives, policies and programmes supporting energy efficiency through Bureau of Energy Efficiency's experience in 2015.

The exhibition came at an important juncture. Now the Indian government is aggressively pushing LEDs for all street lamps, residential and public space lighting. The Maharashtra State Electricity Distribution Company, Pune zone has recently launched a scheme to distribute one crore LED bulbs to

domestic consumers as part of its energy conservation plan. Various products concerning power-saving technologies and advanced lighting systems were launched or introduced for the first time at the three-day fair.

Various technologies like LED Emergency Bulbs, Intelligent Smart Bulbs, LED Rechargeable Flood Lights, 24 x 7 Light and Solar Lanterns, Soft Strip Lights, Industrial Tube Light Fitting, Award winning and Patented LED Driver Technology and many light and colour changing energy-efficient lighting technologies for commercial spaces were displayed at the fair.

The LED Summit shared light on Emerging Markets and the opportunities before the Indian LED industry. S. K Marwah, Director, Department of Electronics and Information Technology, Ministry of Communication & Information Technology (DeitY) gave a special address on Policy Initiatives for Promoting Electronics Manufacturing in India. While speaking in his address he shared, "The current market size of LED Manufacturing is 1.8 billion USD and this is slated to reach at 3.6 billion USD by the year 2020. The focus is on Indian Manufacturing and 90% will be Domestic manufacturing."

One more interesting sessions on LEDification & its Impact was conducted by Satyabrata Chakraborty, Head of Technology & VP, Bajaj Electricals Ltd.



Minister for New & Renewable Energy, Maharashtra, Chandrashekhar Bawankule is lighting the lamp during inauguration of the LED Expo 2016...

He said, "The Challenge is to converge all three major factors Cost, Capability and Creativity. These are some major glitches and we see them getting resolved in next five years. The best is yet to come."

Yogesh Gupta, Panchvaktra Power Ltd spoke about LED applications in various fields and the innovation. The event also hosted a panel discussion on 'The future of Lighting lies in LED' and a session on Street Light National programme (SLNP).

Addressing the industry at the inauguration of this illustrious industry

event, Energy Minister, Maharashtra, Chandrashekhar Bawankule said on the Day 1, "The Government of Maharashtra aims to reduce energy consumption by 35 to 50%. To achieve this aim the state will charge Rs 85/- for each LED bulb – price of which is Rs 450 in the market."

"Equally appreciative is Messe Frankfurt India's effort in bringing-the brightest LED innovators and entrepreneurs from across the globe on one common platform. By bringing together all the stakeholders, the platform will allow sector players to be



(L) S Narayanan, Head Commercial and International Operations, FIEM Industries is demonstrating their products...

(R) A view of the stall of FIEM Industries in the LED Expo...



Visitors are busy in gathering information on latest products...



Soft LED Lighting range by Stanjo...

more vocal about the challenges in their industry and bring relevant products, advancements and expertise together to accelerate adoption of this path-breaking technology," he added.

The show was strongly supported by the Department of Electronics and Information Technology, Ministry of Communications, Government of India; Department of Industrial Policy And Promotion (DIPP), Ministry of Commerce & Industry, Government of India; Maharashtra Energy Development Agency (MEDA); Brihanmumbai Electric Supply & Transport Undertaking (BEST); Electric Lamp and Component Manufacturers' Association of India (ELCOMA); Indian Building Congress (IBC) and Solar Energy Society of India (SESI).

Shyam Sujan, Secretary General, ELCOMA testifies, "The LED Expo & Summit has played a very significant role in creating awareness & promoting usages of LED products in India. The lighting industry in the country has been growing at nearly 17 to 18% annually over the past few years. Although the overall lighting market growth is going to be slower, the LED lighting market offers a very high growth opportunity.

Several new products were launched during the event; such as: Stanjo launched their Soft LED Lighting range, which is quite within the affordable pricing range.

In the words of S Narayanan, Head Commercial and International Operations, FIEM Industries Limited, "We have launched two products

here, namely Smart Intelligent Bulb and Emergency Bulb. Basically it is a Bluetooth Bulb. We have put the application in Google. Just download; with the App you can control 10 bulbs at a time. Whichever colour you choose, it will turn that on. Also, you can increase or decrease the intensity of each bulb, and switch off the bulbs that are not required at a particular time. Within an area of 10 metres, these bulbs can be placed in different rooms. Colour may be set to change as per music or as per dance sequences. Our Emergency Bulb has been designed in such a way that when the supply power on, it will start getting charged. After the power supply disconnects, it will glow for 3 to 3.5 hours." ■



Stanjo launched their Soft LED Lighting range in the LED Expo...



Motwane displayed their latest products in the LED Expo...

UMI Lighting offers varieties of Ceiling Lights



Beside other products, Guangdong Province-based Zhong Shan UMI Lighting Technology CO., LTD. offers a variety of ceiling light fixtures.

Their products are well conceived and designed for different tastes. Designs, size, light intensity etc. suits different moods.

The company's decorative ceiling light fixtures may be used in

bed rooms, dining rooms, halls, personal chambers, kitchens, reading rooms, restaurants, hotels, bars, offices, guest houses, shops, dressing rooms and many other places.

UMI manufactures products to create ambience, transform moods, inspire and break monotony. Whether it is a place for activities of serious nature or an area to relax, the company's catalogue holds something for the site. ■

Website: www.umilighting.com

DZ Lighting presents ultrathin Flood Lights



China-based DZ lighting offers ultrathin Flood lights. According to the company, they use pure aluminium for manufacturing their products. They import their LED Chips from Seoul, Korea. Regarding quality of the products, they say it is quite stable.

The bodies of the flood lights are quite light. They are available in 30W (weight: 560g), 50W (weight: 620g) and 100W (weight: 1520g) with power source for 220V. ■

E-mail: litemail23@163.com

EME Lighting offers customised Lighting Fixtures



EME Lighting (Zhongshan) Co., Ltd., is a professional lighting enterprise. The company offers beautiful Chandeliers, Pendant lights, Table lamps, Wall scones, Ceiling lights, Floor lamps, Arcgitectural lighting and Serii lights.

The company, with 3C and CE certifications, is mainly focused on decorative and customised lights. They have ALB-focus on architecture light and AURA-lighting design with designers from Italy, HK and India.

As per the company, their technical team has more than 20 years experience in lighting production. They have standardised production their procedure, and offer products according to the international standards. ■

Website: www.emelighting.com

Tridonic combines normal, emergency lighting modes for LED Luminaires



The EM powerLED 45 W LED Drivers in PRO DIM and SELV versions from Tridonic combine normal and emergency lighting modes for LED luminaires in one unit. The compact housings of the installation version save space in the luminaire. The modest space requirements of these combination devices provide greater

freedom for luminaire designers.

The combination LED Drivers provide an output of 45 W in normal operation, and the integrated battery system produces up to 4 W of emergency lighting power. In normal operation EM powerLED PRO DIM 45 W can be dimmed via DALI, switchDIM or the corridorFUNCTION and is prepared for ready2mains.

Emergency light functionality is monitored centrally via DALI. One DALI address is sufficient for performing lighting control, dimming and the prescribed emergency lighting tests and for documenting them centrally – for example via connecDIM or the x/e-touchPANEL. The devices are compatible with the EXCITE series of LED Drivers from Tridonic and can be easily integrated in any installation. ■

Website: www.tridonic.com

LeKise Lighting presents LeKise T5 energy saving lights

LeKise Lighting Co., Ltd. is a Thai provider of energy saving solutions in the field of Fluorescent, LED and Solar lighting products. The company was inaugurated in 2007, under the name of LKS Electrical Products (Thailand) Co., Ltd. and in 2010 renamed as LeKise Lighting Co., Ltd. This is a subsidiary of LeKise Group, which has been in lighting industry for more than 46 years (since 1968).



The company has been presented with manufacturing of Compact Fluorescent Lamps under energy label no. 5 campaign initiated by Electricity Generating Authority of Thailand (EGAT). A year later, the company launched T5 fluorescent lamps with energy label no. 5 certified in collaboration with EGAT to replace T8 fluorescent lamps in nationwide, which made LeKise Lighting the biggest T5 lamps manufacturer in Thailand.

As per the company, LeKise T5 StarBrite is the optimum choice for energy saving programme to replace the traditional T10/T8 fluorescent lamp. With triphosphate coated technology giving the high light output and excellent color. T5 StarBrite is more 40%* energy efficient than T8 lamp. Smaller lamp profile of T5 StarBrite allows for more aesthetic fixtures.

Website: www.lekise.com

GVS offers Smart Home Control System

Guangzhou Video-star Electronics Industrial Co., Ltd., presents Smart Home (Bedroom) Control System. They have following latest items:

Scene Switching: As long as users touch the panel, the scene will be switched to another, such as get-up mode, reading mode, night mode, relaxing mode, TV mode, sleep mode, etc.



Lighting and Device Control: KNX Intelligent push button can control the ON/OFF and brightness of all lights, ON/OFF of air conditioner and channel and volume switching of TV. Curtain Control: In the morning, the curtains will be opened automatically according to the sunlight and pre-set get-up mode; at nightfall, curtains will be opened automatically at pre-set time, and meanwhile allow users to open or close the automation control. Temperature Regulation: The bedroom will be kept in most comfortable temperature by temperature regulation with mobile phone, pad, etc. Fresh Air Control: With the carbon dioxide detector, it detects the indoor carbon dioxide concentrations, which exceeding, it automatically enables the fresh control to keep indoor air fresh. Background Music: The misc. sounds at pre-set time to wake up people from dreams. Mobile Terminal Control: People can control scenes switching and other devices with Android/iOS Smart Phone or Pad, even when sleeping in bed.

Website: www.video-star.com.cn

DXS LED lighting offers varieties of lighting devices

LED Panel Light, LED Downlight, LED Bulb, LED Tube & Tri-proof Light, LED Ceiling Module, LED Spot Light, LED Flood Light, LED Street Light, LED Strip Light, LED Ceiling Light and so on.

DXS or Ding Xin Si Co., Ltd., is a professional and internationally well known brand, engaged in LED commercial lighting and lanterns product research and development, design, system development, manufacturing and engineering operations.

Their factory is located in Xiaolan Town, Zhong Shan City, China. They specialize in Panel lights, Down lights, Tubes, Bulbs, and other LED products.



Website: www.dxs-led.com

Megaman provides energy saving solutions for public places

The MEGAMAN GENOA provides a total energy saving solution for general lighting with wide beam optics of 90°. It works perfectly with the TECOH CFx LED light engine to provide high efficiency light output to replace CFLni downlights. The MEGAMAN GENOA offers high uniformity soft light with low glare. It has a 20° shielding angle, which is ideal for general lighting applications, such as hotel lobbies, restaurants, supermarkets and reception areas.



The company's F25245RC is available with maximum wattage of 30. Its light source is TECOH CFx CF0112, CF0112d, CF0120, CF0120d, and PHJ65d-2. Colour is White (WH21), Silver (SV26), Black (BK21) and material used is aluminium.

The product may be used in Corridors, Hotel Lobbies, Reception Areas, Restaurant, Shopping Malls and Supermarkets.

Website: www.megaman.cc

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Osram's connected Lighting Module to help OEMs

The Connected Lighting Module (CLM) is a key component in a Light Management System (LMS). It enables luminaires to be connected to the LMS that are based on ZigBee communication protocols.



Individually addressable, the CLM enables each luminaire to be independently controlled and configured to best meet the needs of the facility.

Integrating the CLM with the OSRAM award-winning OPTOTRONIC Linear Programmable LED Drivers allows OEMs to take full advantage of system compatibility and maximise performance.

Key advantages: Empowers OEMs to convert their existing luminaires to be wireless ready, Leverages a robust and interoperable network solution to unlock new and exciting consumer-focused lighting applications, Customises lighting scenes for tailored experiences and tasks, Adjusts light levels dynamically to respond to variable lighting requirements, The 0-10V dimming interface allows control of single or multiple luminaires in a single space, Unique form factor is intended for installation into a standard ½" knockout present on virtually every luminaire, Wireless range— 150' line of sight; 50' through standard walls and Dedicated IEEE 802.15.4 code of each module makes the commissioning and deployment process easy and efficient. ■

Website: www.sylvania.com

Lumileds instigates new product line of business

Lumileds has launched its second generation LUXEON CoB Compact Range LEDs. These second generation LEDs have an efficacy and output boost of up to 16% over its prior generation arrays. The new invention reinforces Lumileds leading position in chip on board technology. As per the company, it enables the most cost effective solid state PAR, GU-10 and MR-16 lamps for retail, hospitality and home lighting applications.



Because of the common Light Emitting Surface (LES) of 6.5mm across the LUXEON CoB Compact Range Gen 2 LEDs, diverse power series directional lamps such as a 35W-equivalent and a 50W-equivalent MR-16 lamp can use the same optic, minimising design and system cost. The enhanced arrays also achieve unsurpassed centre beam candlepower (CBCP) or 'punch.' At 1,500 lumens, the LUXEON CoB 209 reaches 76,000 candelas at a 10° beam angle. ■

Website: www.lumileds.com

eldoLED launches LightShape for smart dynamic white lighting

eldoLED has introduced its latest product innovation 'LightShape,' at the Lightfair International 2016 held at San Diego, CA in the month of April 2016. This recent innovation of the company has unraveled the designs and control behind dynamic white light systems. This product eliminates the need for fanatical, programmable controls by embedding the colour tuning intelligence into the driver and by means of industry standard control (0-10VDC and DALI) to provide an effortless interface to CCT selection and intensity.



The product allows fixture designers to effortlessly set-up and fine tune the driver and LED module for dynamic white lighting, as a feature update on existing eldoLED drivers. All the colour tuning parameters are set on the driver, by means of eldoLED's software application. In order to set colour temperature and intensity for tunable white or a single slider for warm dimming, the installation can be simplified to a dual slider. ■

Website: www.eldoled.com

Eaton rolls out LED Lighting Series to benefit sport fields

Eaton- Power Management Company recently launched the Ephesus All Field Light-Emitting Diode (LED) Series. This product is the company's first LED fixture that is designed to effortlessly retrofit into existing sports lighting infrastructure with its multiple mounting options, low weight and low Effective Projected Area (EPA). Moreover, the product's easily deployed lighting control system and self-reliant electrical junction box works in favour to reduce installation costs. This LED solution would be highly beneficial for high schools, colleges, municipalities and other venues as it would serve as a high-quality, cost-effective, resourceful and controllable outdoor LED sports lighting solution.



The improved engineered optics of the product efficiently delivers uniform light on the field – and extensively reduces unnecessary light spill and sky glow. Besides, the competence of the product allows for a dramatic reduction in fixtures versus other field lighting solutions. The products' 750 and 550 models offer good controllability with communication technology – frequently used in the Wi-Fi and cellular market. The fixtures provide two-way communication with the capacity to self-monitor and report performance and wellness data from each fixture. ■

Website: www.eaton.in

K-Lite Industries

Rolls Out New Architectural Lights

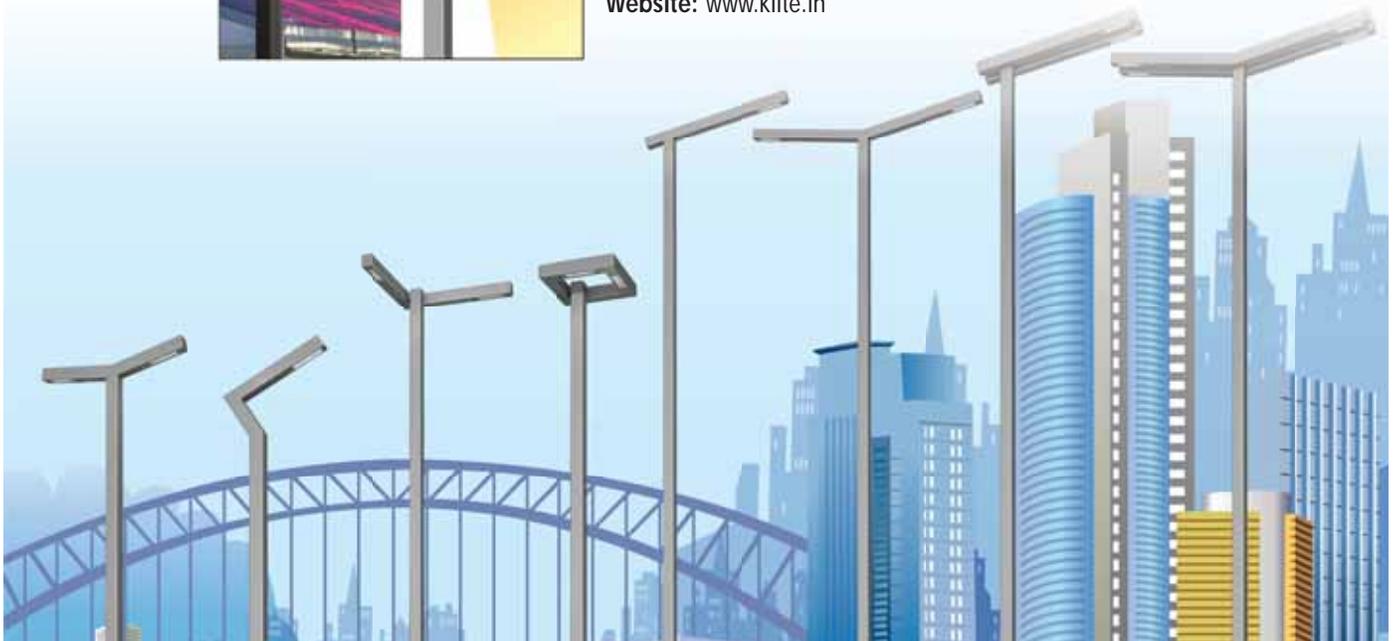
The solutions offered are backed by extensive understanding of illumination in urban spaces and the expertise gained over a period of three decades...

K-LITE INDUSTRIES; an ISO company, manufacturing indoor and outdoor luminaires; has launched a new series of LED Architectural Lighting. Being the trend setters in outdoor lighting and inspired by the 'Make in India' vision, K-LITE, through its innovative outlook, has showcased an all new product portfolio under Architectural Lighting. The application includes Facade Lighting, Pathway Lighting, In-ground Luminaire, Uplighter, Up-down Lighting, Billboard Lighting, Vertical Light Bars, Wall Washers, Area Lighting poles and above all popular sleek polar lighting solutions.

The solutions offered are backed by extensive understanding of illumination in urban spaces and the expertise gained over a period of three decades. The fixtures are designed to provide value technology, ideally suited to Indian Conditions. The LEDs used comply to LM 80 testing requirements and from internationally reputed makes such as Nichia / CREE. The luminaires are RoHS, LM 79 and CE certification compliant. The luminaire efficacy (lumens/per watt) is much above 100 for all luminaires. Varied optical options for lighting distribution and Correlated Colour Temperature (CCT) for cool white, neutral white or warm white are available to suit specific requirements.

The outstanding item of the series viz., the Sleek Polar Lighting Solutions is a contemporary design that is both timeless and unique in its impression. Compact without visible mounting equipment and optimised integration, Polar Lighting is in perfect continuity with the geometric lines of the square column. These assemblies are ideal for surroundings of contemporary architectural constructions. ■

Website: www.klite.in



G-Lights launches Firefly Lamp with fibre optic material

G-Lights (Zhongshan G-Lights Lighting Factory) has R&D for nice fibre optic decoration lighting for outdoor decoration, this creative, beautiful and soft light brings new vitality in public decoration and holiday element lighting project. Great point is that fibre optic lighting has fixed the troubles in complicated installations, disturbing water-proof issue, nagging public safety issue and costly maintenance charge.

G-Lights makes everything ready when you receive the light. Each fibre optic light has a spike in the bottom, just



insert to the ground, save time even in home project. Then turning on the LED light engine is the last thing. Light engine is IP65, other lighting parts and



material is totally water-proof and insulated. You don't need to consider the electric shock hazard. One LED light engine works for 50-100pcs lights, if the light does not work, you only need to check the light engine. All the light parts are easy to replace, any adult can take charge of the maintenance and replacement.

G-Lights is located in Lighting capital of the world, Guzhen town, Zhongshan city, Guangdong province, China. Over the past 10 years, G-Lights has been keeping focus on lighting projects. Their service includes R&D, lighting solution, consultancy, production and installation support.

Website: www.glights.cn

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verb

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noun

1. An act or process through which better becomes excellent .

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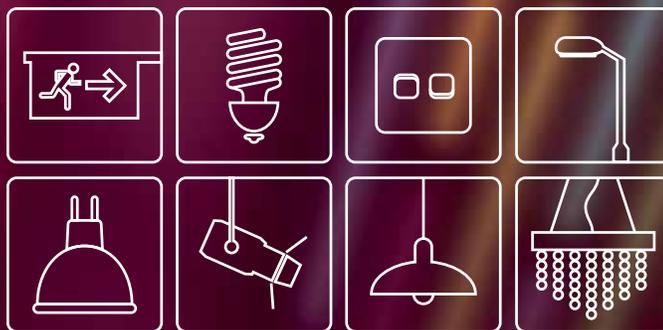
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