

IllumiNation

JULY - SEP 2023

THE LIGHTING MAGAZINE BY ELCOMA

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IllumiNation

VOL.5 Issue 3, JULY - SEP 2023

PUBLISHER

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India-US Ties Reinvent Industry

Our Prime Minister Narendra Modi recently visited USA and met various business leaders to discuss possibilities leading to development in core sectors like defence and manufacturing as well as trade exchange that would benefit both countries in the long run. Ties between India and the U.S. are at a turning point and the relationship between the two nations have improved in the last decade. Harsh V. Pant, Vice President of Studies and foreign policy at Observer Research Foundation, a Delhi-based think tank believes that “This is a very important visit... it is as much about India reaching out to the U.S., as it is about the U.S. reaching out to India.”

In the backdrop of joint strategic accords in defence, space and semiconductors, came announcements of major investments by American businesses in the coming years. All this means that the opportunities for the Indian Lighting industry will dramatically improve in the near future as a result of this new phase of America-India collaboration.

I am sure that our industry, as always, will live up to the challenge and meet and exceed all expectations of growth in the coming years.

The credit for the success of this magazine lies entirely with its readers. Our sophisticated readers from across the industry - engineers, factory managers, product developers, designers, scientists, architects and management-level professionals have in-depth knowledge of the lighting industry and the technology and applications that enable us to illuminate the lives of millions around the world.

We continue to publish articles on new and emerging technologies so that our readers can remain abreast of the latest developments in our industry. In addition to publishing in-depth articles written by experts from across the world, we also accept articles and columns from our readers that are published after appropriate validation and verification of the authenticity of information and value to our audience.

So please keep reading and giving us your valuable inputs to improve our publication for you.

With Best Wishes

A handwritten signature in black ink that reads "Shyam Sujan".

SHYAM SUJAN

Secretary General

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AI to Revolutionize Lighting Industry

Dear Members,

I hope this message finds you all in good health and high spirits. As we step into the new quarter, I would like to take a moment to reflect on our industry's journey, acknowledge the positive developments, and discuss our collective aspirations for the future.

I am delighted to share that, contrary to the popular view, the Indian economy has shown remarkable resilience and ended the year on a strong growth path for the fiscal year 2022-2023. With the recently released GDP numbers, we surpassed the forecast and ended at 7.2% with the last quarter expanding at nearly 6.1%, which has made it evident that our economy is on a robust path to recovery and prosperity. This positive economic outlook is set to have a positive impact on our lighting industry, specifically in the B2B sector.

The lighting industry plays a critical role in various sectors, ranging from infrastructure and real estate to manufacturing and retail. As the Indian economy expands, the demand for lighting solutions will rise in tandem. We can anticipate an upsurge in construction activities, infrastructure projects, and commercial ventures, which will drive the demand for high-quality lighting products and solutions.

One of the driving forces behind the advancement of our industry is the integration of Artificial Intelligence (AI) and Machine Learning (ML) technologies. AI and ML have revolutionized the lighting sector by enabling intelligent lighting systems, advanced automation, and data-driven decision-making processes. These technologies optimize energy consumption, enhance user experience, and pave the way for smart and sustainable lighting solutions.

By harnessing the power of AI and ML, we can deliver personalized lighting experiences, improve operational efficiency, and offer innovative products and services to our customers. Moreover, these technologies empower us to gather and analyze data, enabling us to make informed decisions, identify market trends, and develop strategies for sustained growth.

In the coming months, we have an exciting period ahead of us with the festive season approaching. Festivals are a significant part of our culture and play a vital role in stimulating economic activities. With the positive economic indicators and renewed consumer confidence, we anticipate a fruitful and productive festive season. It is an opportune time for our members to showcase their offerings, engage with customers, and foster strong relationships within the industry.

In conclusion, I would like to express my sincere appreciation to every member of our association for your unwavering commitment and dedication. Let us embrace the opportunities, leverage technology, and collectively work towards creating a brighter future for our industry.

Thank you for your continued support, and I look forward to a successful festive season together.

Warm regards,



AVINDER SINGH
President, ELCOMA





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MAGIK LIGHTING

Creating Magik

In conversation with Mr Anirudh Kajaria, Business Head,
Century LED Limited, on the core values that define
the brand and their future plans

You have been associated with successes at Century Plyboards and Star Cements Limited but still chose to enter the LED Lighting business by creating a brand and manufacturing products. What prompted you to enter into this very competitive and different product line?

After successfully establishing CenturyPly as the number one plywood company in India and Star Cement, which is the largest cement brand in the Northeast, our group wanted to expand into the electrical trade, another building material industry. We saw an opportunity to cater to the large upcoming demand of LED products as at that time, the existing brands were either of inferior quality or high in price. As a group, we are known for delivering quality and the same vision is followed in launching MAGIK. We want to make quality lighting more affordable for Indian consumers.

When did you start Magik? What was your role and what was the journey like?

In 2015, we decided to embark on this venture and chose the location for setting up a factory. My role initially was to set up the factory, the lab, coin a brand name and logo, and hiring the entire team. Once we had a talented team on board, my role changed more to one of a guide. As we strongly believe that a strong foundation is important for the success of any business, I manage my team so that they can manage the organization well.

What are the core values of Magik?

Manufacturing top quality products is our legacy, and we invest in the latest technology and machines in our state-of-the-art manufacturing facility in West Bengal. Not only are we the largest manufacturer of LED lighting in Eastern

India, but we also have an in-house NABL lab with a full-fledged R&D centre.

What according to you are the reasons why your organization is delivering performance and growth in this competitive Lighting business?

Initially the fact that CenturyPly had tremendous goodwill gave us acceptance in the trade. Over time though, the most important factor for growth would be our focus on quality and providing a vast range of products as per consumer's requirements. Ultimately it is the quality of the product which sets the demand in the market. This has helped us scale up our distribution and presence.

How do you plan to participate in the Government's Atma Nirbhar program where there is a push to enhance the localization of components specifically for the Lighting Industry?

We have always focused on Make in India concept and that's why we set up our own factory right at the outset. Since 2019, our imports of lighting products reduced to a negligible quantity (less than 1%) and in the last few years, we have also been able to develop a large majority of components in India so that our reliance on imports is reduced.

How did you face pandemic period and manage the business?

Like everybody else, the pandemic was a tough period for us. One of the factors that helped us during the pandemic was having our own factory and a robust supply chain. We were able to cater to demand even as imports were disturbed for others. Many brands and businesses selling LED products couldn't survive during that time as they were fully dependent on importing Chinese goods.

How is Century LED gearing up for the next generation of lighting

Century LED Limited was founded by Mr Anirudh Kajaria in 2015. The company has its headquarters at Century House, Kolkata, and its factory at Howrah, West Bengal. The company under the Brand name MAGIK offers 750+ top quality lighting solutions. Within a span of 7 years, Magik has grown into a PAN India brand having a strong presence in Eastern India. According to Mr. Kajaria, "We have an 'Outside-In' approach to business, wherein we understand the needs of our customers and offer solutions that are best-in-class, consumer-centric, and delightful. Each product in our range has been carefully crafted and designed to cater to all kinds of lighting needs in residential, industrial, outdoor, retail, and home automation segments."

products given that the success of LED Lighting business will also depend on a strong R&D setup and capability to develop newer designs with speed?

I personally believe a strong R&D team is the backbone of any Lighting Company. From the beginning, we invested in setting up a robust R&D team comprising of best of the talents. Gone are the days, when 'one size fits all' approach was used to sell; nowadays, consumers require lighting as per their space. We are constantly innovating and improvising on our product line with the help of our R&D team. Just to give some examples: we have the largest T5 LED battens manufacturing in India, our bulb family ranges from 0.5W to 100W, which again is the largest range across the industry. We are into professional lighting like Solar Lighting, Industrial

CAPTAIN SPEAKS

Lighting and Façade Lighting to name a few. Our Smart Lighting series is also an offering for consumers who prefer customized lighting. This is possible as we have a strong R&D team to support us.

These days, LED bulb manufacturers in India are developing products keeping in mind the long-term use for their customers so that their product provides utmost satisfaction along with performance. What are your comments on this?

We have always believed that quality is what wins in the long term. With the advent of LEDs, customers want lights that should last long and not fade away. We have been able to achieve this due to our state-of-the-art manufacturing unit, process control, and the same is also reflected in the trade where our product has a much lower replacement rate compared to the industry standard. A customer who does not have to bother about constantly replacing lights is a happy customer.

In your opinion how has the Lighting industry transformed with regard to consumer utility over the years?

There was a time when lighting was used to serve the basic requirement of simply illuminating a certain space. Over time and with the advent of LED technology in lighting, consumers have started exploring new applications of lighting to enhance their space. It is no more just about illumination, but rather transforming a space to utility as per need of the user. Today lighting is smart and innovative. It is being used to highlight the beautiful structures and bridges, it is being used for providing ambience with multiple colours, it can multiply a room's utility by effortlessly shifting from cool to warm white, it is providing emergency power for safety during blackouts and the list goes on.

We as a brand thoroughly enjoy being part of this consumer journey of creating new products that enhances the customer's life through newer applications.

What are your plans to develop export business?

We feel that quality lighting factories can develop an export clientele as the world looks to India for their needs. We are already working as OEM for some foreign clients as they trust our product quality and quick turnaround time and we are exploring more options to increase this business.

Do you have any plans to expand your present manufacturing facilities?

Our present plant is spread over 85,000 sq. ft. We have already made an expansion three years back to cater to increased demand. While there is no imminent expansion plan, I am quite excited that with the rising demand, we may need to expand our production capacity very soon.

Being one of a handful of manufacturers based in East, what do you think of the advantages of East when compared to Rest of India?

While the East is a relatively smaller market, we are glad to be located here as it allows us to serve this market well and take a dominant position here. Setting up a factory in the East has an inherent advantage of getting high quality talent who otherwise did not have many opportunities to work near their hometowns. We believe that great people make great organizations, and our location has allowed us to attract top talents who have graduated from some of the best academic institutions dedicated to this industry.

What is the current state of the Professional Lighting channel in Magik?

We started as a B2C brand, but have now added focus on the B2B & B2G business with product expansion and by also increasing our footprint in Key Accounts. Having a strong manufacturing base allows us to effortlessly develop complex lighting products that are suitable for projects. We are currently strong in the East in Projects and have expanded to other geographies as well.

How much is the Distribution Network important in the success of your business?

This is the most important factor for any distribution-led business. You can have the best product but unless you have a strong channel you can't market it. So, from the initial days, we were very aggressive in cracking the distribution game and as we belong to the Century group, the trade also showed us quick acceptance. We have become a PAN India brand within such a short period of time by finding the right distribution partners across geographies. We always focus on making our channel happy working with us. They are an extended Magik family.

Smart Lighting is emerging pretty fast, what is your view on this?

Smart Lighting is there in the industry for quite some time now. However, in its current state it is still a niche market. I feel that most of the products are not catering to the audience that is looking for really beautifying their homes. We have launched Magik C'nnect, our range of Smart Lighting that looks to provide high quality lighting in a very large range that is also smart. We are confident that smart lighting will grow fast as the consumer will experience this application.

What is your opinion of the grey-market or non-compliant lighting

Lights that bring your home to life



Garnet



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CAPTAIN SPEAKS

products being sold in the country? What can be done to curb this menace?

As Lighting manufacturing does not have any entry barrier, there are many unorganised players in the country that flood the market with non-compliant products. While the Government agencies are trying to take steps by conducting raids, I think this menace needs a fresh approach. The current safety and performance protocols are only enforced through BIS registration on basis of samples, the authorities should consider registration of manufacturing plants also. This will allow a tighter control on products (as followed in many other industries) without the multiple processes of the current protocols.

ELCOMA has prepared a Vision 2030 to address innovation and new technology. ELCOMA sees that future

businesses will be developed around new technologies like Agriculture, Horticulture, Fisheries, Healthcare, Poultry etc. What is your opinion on this and do you have any plans to enter into these applications?

LED lighting is expected to play a major role in our lives in the future. These will

create great opportunities for the development of the business. Many of these technologies, especially horticulture, poultry, and healthcare, are already in use in various developed countries and it is only a matter of time before they are commercialized in India. We are always on the lookout for opportunities to grow in this space.

IN A LIGHTER VEIN

How do you unwind after a hectic day or week at work?

Apart from spending time with the family, I indulge in Golf.

What is/are your favourite holiday destination/s?

Florence, Italy and Koh Samui, Thailand.

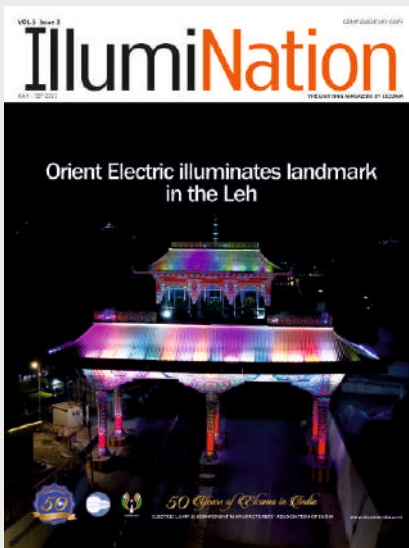
What kind of food/cuisine do you like?

I am a foodie who likes to explore different cuisines. Currently Lebanese, Thai, Japanese and Italian food feature on my favourites.

Who is your inspiration in life?

Steve Jobs & Mr. Sajjan Bhajanka (Chairman Century Plyboard India Ltd.)

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Advocating the Future of Lighting Industry

Illumination chats with Mr. Nitish Poonia,
Head – Public & Govt. Affairs at Signify Innovations India Ltd

Prior to Signify (formerly known as Philips Lighting India Ltd.), you have worked in TERI, a very diverse and innovative organization that works for new challenges in climate change and energy conservation. Tell us about your tenure there.

I started my career at TERI, where I worked on projects related to policy matters and resource and energy efficiency in the built environment. I am particularly proud of two projects.

The first project was to develop a toolkit that would help lending institutions certify energy-efficient apartments and finance them at lower lending rates. This project promoted energy-efficient residential buildings in India. The second project was to study the impact of solar-passive design features and ECBC code recommendations on energy savings potential in new and existing commercial buildings. This project promoted high-energy-performance commercial buildings in India.

I enjoyed working on these projects because they had the potential to make a multiplier impact on the environment.

What prompted you to shift from TERI to Signify?

I am proud of my work at TERI and I believe that my experience there has prepared me for a career in policy and sustainability. While working on building energy optimization projects, I was intrigued by the technological innovations that some of the HVAC and Lighting Industry leaders were constantly bringing to the market. These innovations helped to surpass existing benchmarks for energy performance in the built environment. I wanted to join these pathbreaking journeys and make a positive contribution.

Signify has a long history of innovation in lighting technology and products to shape the market. They are also committed to sustainability, which is a value that I deeply share with this

organization. Signify's achievement of carbon neutrality since 2020 and their ambitious goal of doubling the pace of the Paris Agreement's 1.5°C scenario speaks volumes for their commitment to sustainability.

How is your organization gearing up for the next generation of lighting products given that the success of LED Lighting business will also depend on a strong R&D and Intelligent Lighting and capability to develop newer designs with speed?

Signify's culture is deeply infused with strong R&D and a fast pace of innovation. This is complemented by our strong customer feedback mechanism, which helps us focus on innovations that are truly meaningful to people.

Signify is leading the digitization of the lighting industry, making our world safer, more productive, and smarter. I believe that the cause and vision for which an organization stands for also determines its path to success. Signify's strong commitment to addressing the biggest challenge of our time, climate change, will continue to bring out the best in us as we address this challenge through technological innovations, products, systems, and services. Signify's strategy and actions are already contributing to six priority UN SDGs where we have synergies and where we can be most influential.

If I were to suggest any further diversification from their existing basket of products, it would be in the further improvement of indoor environment quality. Signify already caters to this space through their lighting solutions.

What kind of challenges did you face after joining Signify? What actions did you take to overcome these challenges to fit into the new challenges?

I see my work as a learning opportunity, not a challenge. I had a good foundation in illumination science from my

Mr. Nitish Poonia is currently Head of Public & Government Affairs for Signify Innovations India Ltd (formerly Philips Lighting India Ltd). Prior to Signify, he was employed at TERI (The Energy and Resources Institute) in its Centre for Research on Sustainable Building Science. He is chair of 'Industry Working Group' committee" at ELCOMA and is also a contributing member at the CII committee on electronic manufacturing and FICCI committee on Electronics and White goods manufacturing. He has been playing a leading role in policy and regulatory matters pertaining to the lighting industry, communicating with government officials to discuss problems in the sector and offering workable solutions. He has graduated from IIT Kharagpur and is also a BEE certified Energy Auditor and Energy Manager.

education and my time at TERI but working at this 125+ year-old organization has given me a deeper understanding of light, lighting technologies, and the possibilities with light. I never realized how complex a subject lighting is, and the more I learn, the more fascinating it becomes. My work requires me to be technically proficient in areas such as lighting applications, products, standards, and regulations. I am fortunate to have excellent mentors in the organization, and I also read technical literature regularly to stay up-to-date.

As Chair of ELCOMA's Industrial Working Group, talk us through some of the Industry level policies and issues that you have been participated in.

The Industry Working Group (IWG)

discusses policy and regulatory matters that affect the industry. We always try to identify the root cause of the problem and propose solutions that do not change the intent of the policies or regulations, while also supporting the idea of ease of doing business. Our efforts and work have been well-received by the members, but they are not my individual accomplishments. They are the result of the collective wisdom of our IWG members.

Our work with BIS and MeitY on enforcement of the compulsory registration scheme for LED lighting products is worth mentioning. However, more needs to be done in this area to protect both consumers and businesses from unsafe non-BIS registered LED lighting products being sold through online and offline channels.

Our work with DPIIT on the Production-Linked Incentive (PLI) scheme for LEDs is also worth mentioning. The localization of LED lighting products has always been a top priority for ELCOMA, and the industry's commitment to this goal is evident in the active participation of ELCOMA members in the scheme. This is not only to increase local content, but also to capitalize on the export opportunity from India to the world.

Would you like to comment on the Standards and Labeling programs of BIS and BEE for the Lighting Industry?

BIS and BEE have a broader goal of ensuring that only high-quality, safe, and energy-efficient products reach consumers. These committees typically include distinguished members from a variety of backgrounds, who naturally bring different perspectives and solutions to the same issue. However, because the ultimate goal is to benefit consumers, a consensus can be reached by reasoning and critically evaluating various ideas that would be beneficial to consumers and other stakeholders.

How would you rate our Indian engineers and R&D personnel when compared to international peers? Where do you think our Indian industry needs to improve most to come at par with these international giants?

There is no shortage of talent in India to meet the R&D demands of the industry. However, both the government and the private sector need to focus on creating rewarding and recognized careers for young talents in this field. R&D can be a

long and challenging process, but it is also a rewarding one for those who are passionate about innovation. Signify has large R&D centers based out of India that cater to our global needs, and they are constantly growing in size. This is a testament to the potential that exists in India for R&D. Globally, we are seeing closer collaboration between industry and research institutes to find solutions to real-world industry problems. We also need a stronger intellectual property rights (IPR) framework and its enforcement to support R&D culture.

IN A LIGHTER VEIN

How do you unwind after a hectic day or week at work?

Spending time with my family, learning keyboard tunes with my daughter, and taking a brisk walk under the evening sky helps me unwind

What is/are your favorite holiday destination/s?

I love to visit Udaipur time and again, as it is a city that I always enjoy. It has mountains, a lake and architectural heritage that are an unbeatable combination. I would also like to visit Bhutan again, as I am drawn to the happiness and contentment that its environment and lifestyle offer.

What kind of food/cuisine do you like?

I am a vegetarian and keep trying veggie dishes. Big fan of Andhra and Bengali food recipes, and traditional Rajasthani cuisines.

Which is/are your favourite restaurant/s?

I would give in to the choices and preferences of my wife and daughter when it comes to restaurants. I personally enjoy Oh Calcutta, but I would be happy to go somewhere else if that is what they prefer.

Who is your inspiration in life?

My late grandparents, my parents, and my mentors have been a constant source of inspiration in my life. Their wisdom, guidance, and support have helped me to become the person I am today. I am grateful for their presence in my life and for the lessons they have taught me.

Your favourite books?

Much to my disappointment, I am still not as avid a book reader as I would like, but “राजस्थान की रजत बूंदें” by Anupam Mishra and “Fountain Head” have been good reads so far

Your favourite film actor (male and female)

Bollywood – Farukh Sheikh, Waheeda Rehman; Hollywood – Al-Pacino, Audrey Hepburn

Best film movie that you would like to see several times

It's hard to say one as a favourite, as I've watched many of them multiple times and my mood usually dictates which one I'll watch next. However, I always enjoy watching The Godfather trilogy, the Harry Potter series, Chusme Budoor, Khamoshi, and Sholay.

INTERVIEWED BY ILLUMINATION
EDITORIAL TEAM



Beware of fake P-VIP® projector lamps! Please buy only original

As one of the best-selling OSRAM lamps, counterfeits of P-VIP® projector lamps are seen in market.

- Poor maintenance and reliability of a counterfeit lamp
- Counterfeit lamps have up to 30% less initial brightness
- Counterfeit lamps pale in comparison to OSRAM P-VIP® lamps
- Counterfeit lamps typically have inconsistent light optics across the screen
- Negative effects can be caused by using counterfeit OSRAM P-VIP® lamps
- Test result shows that the electrode gap of counterfeit lamps is larger than OSRAM P-VIP® lamps by 30% on average, which undoubtedly indicates a much lower brightness



amur **OSRAM**

Orient Electric illuminates famous landmarks of Leh with façade lighting





Orient Electric Limited, part of the diversified \$2.8 billion CK Birla Group, has illuminated Leh Main Gate, Shanti Stupa and the gate of Mahabodhi International Meditation Center in Leh, the beautiful capital city of Ladakh. The company has used indigenously developed Façade lighting solutions to light up these sites of cultural and religious significance, bringing out the architectural aesthetics of each structure. All the three sites are among the famous tourist attractions in the region due to their cultural significance, architectural grandeur, and unparalleled scenic views.

Puneet Dhawan, Executive Vice President, Orient Electric Limited said, "We are proud to partner with the Central Public Works Department (CPWD) for the illumination of these prominent sites in Leh, which reflect the region's rich cultural heritage. We hope this will help create a unique visual experience for the visitors and promote night tourism. As a leading player in

Façade lighting, we are closely working with the concerned Government bodies across the country to illuminate iconic buildings and sites, bringing them to life with intriguing lighting effects. It's important to note that execution of façade lighting projects require great technical expertise and architectural design sensibility. The right combination of light fixtures, colours, and effects can add style and character to any building or structure, creating a captivating display that will catch the visitors' attention. We have successfully developed design competencies in façade lighting to deliver exceptional projects, innovations, and experiences for our clients."

The company has used RGBW single chip LEDs of varying lengths to illuminate Leh Main Gate, Shanti Stupa and the gate of Mahabodhi International Meditation Center in Leh, with the option to program lighting levels, colours, and effects through controllers.

In addition to these three sites, Orient

Electric, as part of its initiative #OrientLightsUpIndia, has recently also lit up the famous buildings of Rail Bhawan, Baroda House and Travancore House in New Delhi, Varanasi Cantt Railway Station, Bareilly Junction railway station, Dobra Chanti bridge in Tehri, Rani Kamalapati Railway Station in Bhopal, Ganga Barrage in Kanpur, and Bharathi Park in Pondicherry in Tricolour with its Made-in-India Façade lighting solutions on the occasion of Republic Day. The company refers to these beautifully lit structures as 'Lightstallations'.

Orient Electric offers a wide range of Façade lighting solutions, including LED Linear profiles, Spotlights, Projectors, Uplighters, Underwater lights, Controllers and other accessories.

**AUTHOR : SANTOSH AGNIHOTRI,
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LIMITED**

Views expressed in this article are those of the contributors and do not necessarily reflect those of the editors or publishers

ELCOMA 2nd GB meeting 2023 held in Mumbai

ELCOMA's 2nd Governing Body meeting of 2023 was held on 24 April 2023 at Bajaj Bhavan, Mumbai and was very well represented by industry members. Various agenda items on policy and industry proposit were discussed and debated in the presence of Captains of the Industry and Sh. Shekhar Bajaj.



ELCOMA Conference on intelligent and connected LED lighting held in Mumbai



Dignitaries Lighting the Lamp During the Opening of the Conference



Lighting up the auspicious lamp by VIP Dignitaries

On 25 April, 2023 ELCOMA organized a conference at Hotel Ramada, Mumbai on 'Intelligent and Connected Lighting – Trends and Solutions in Public Infrastructure Lighting.' The conference was well attended by more than 150 delegates from Government departments like PWD as well as representatives from local municipalities, utilities providers, architects, builders and members of the Industry among other stakeholders.

The conference started with the lighting of the auspicious lamp on the dais by the dignitaries present. A well prepared audio video presentation about various activities by ELCOMA entitled 'ELCOMA : 50 Years of Service to the Indian Lighting Industry' was aired and well received by all present.



Mr. Anuj Poddar, Vice President, ELCOMA making the Keynote Address



Mr Anil Kumar Choudhary, Head Operations at EESL making his presentation

In his keynote address, Mr. Anuj Poddar, Vice President, ELCOMA, talked about the importance and future of Intelligent and Connected LED Lighting and its role in our lives in the coming time. Mr. Poddar's address was followed by Mr. Anil Kumar Choudhary, Head Operations, EESL who talked about EESL's Future Plans for Smart Streetlights. He touched upon the successes of EESL's projects like UJALA and SLNP and how the ESCO model has changed the lighting industry as well as what the future plans of EESL are for expanding their Smart Streetlight program.



Display stall of Traxon e:cue



Display stall of Bajaj Electricals



**Mr. Shreekant Phanse,
National Application Specialist,
Signify making a presentation**

Mr. Shreekant Phanse, National Application Specialist at Signify Innovations India Ltd made the first presentation of the day on Road and Tunnel Lighting. With his presentation, he established that the most important and relevant part for lighting of Public Infrastructure was 'Quality' of Illumination. He went on to explain and emphasize on qualitative parameters, in particular the 'Uniformity of Illumination' in Road and Tunnel lighting.

Mr Phanse talked about use of lighting management systems for controlling the quantity and quality of light. He highlighted some projects by Signify where Smart Lighting Control systems have been successfully deployed using IoT platforms and other protocols to manage, monitor and maintain the Lighting assets. He also talked about Signify's IoT platform Interact City, for asset management and controlling light and energy that has been deployed to centrally and remotely manage Street lights, either in groups or individually.

Mr Phanse opined that lighting tools should be chosen based on all of the key criteria, not just a handful and demonstrated that 'Effectiveness' is far more significant than 'Efficiency'. A well-developed infrastructure not only improves the quality of life for residents, but also serves as an attraction to others to settle. This results in higher investments in the city's resources, which increases government revenue.

The Critical Parameters for both applications were examined and described further using examples of road and tunnel installations. Underpass lighting, a frequently overlooked or improperly addressed application, was reviewed, and those present were advised on correct standards to be followed.

Mr. Partha Kamarkar of Havells India was the next speaker who made a presentation titled 'It's Time to Celebrate Darkness' which stressed that it is critical to understand the impact of Over Consumption of Light.

The International Dark Sky Association talks about the rise of blue spectrum from solid state lighting that is a threat to the dark sky. Research says that when we minutely study the impact of Lighting on the environment and ecosystem, it is clear that unplanned and uncontrolled light has severe impact on humans and other organisms.

Research says people are comfortable with remote working and prefer work in a hybrid scenario if the cities become more livable with possibilities of visiting parks and open areas, go shopping and socializing. Surveys also indicate that still some part of the population does not feel safe in the cities.

He urged the industry to develop lighting solutions to ensure dark skies and vibrant cities where health and wellbeing are priorities. He said that in illumination we not only need good lumen output but also appropriate light intensity, spectrum, glare limitation and distribution.



**Mr. Partha Kamarkar,
Havells India with his presentation**



Panelists responding to questions from the audience



Display stall of Traxon e:cue



Mr. Pon Kumarresh of Bajaj Electricals with his presentation at the Conference

Mr Pon Kumarresh, Head, Lighting Design and Application, Bajaj Electricals Limited was the next speaker. In his presentation on Intelligent and connected LED lighting he explained that throughout evolution, humans have created tools and environments that have impacted their behavior and productivity subconsciously. We have become more adept at harnessing the power of the electromagnetic spectrum from the Sun and mimicking nature. Starting from radio to the latest smart phones / cars would not be possible without the EM spectrum. The only issue is that there is always an imbalance where technology wields more power than our biology by driving impulsive behaviors like binge watching and late night browsing the internet etc.

Any technology should elevate human performance, productivity, health, and wellbeing etc. than undermine humans. The awareness that our environment and the tools we use will impact our behaviors, public infrastructure should deploy their

technology to smartly achieve their goals. The smartest move would be to prioritize humans in the design of an environment or deployment of technologies.

There are many examples of public infrastructure facilities which prioritize humans and thereby create better user experience. If the entire infrastructure is filled with smart luminaires and sensors in indoors and outdoors such as Smart poles all connected with multiple smart sensors capable of sensing the public infrastructure environment through presence detectors, CCTV cameras, noise levels detectors, pollution levels sensors, temperature sensors, etc. we can achieve a number services or applications like Crowd Management, Peak / Off-peak demand services, Environment Monitoring, Emergency Response, Speed Limits, Traffic Management, Route Optimization, Parking Management, Indoor Navigation, Passenger Tracking, etc

Mr. Shirish Mathur of Traxon e:cue was the next on the dais and made a presentation entitled 'Can Lighting Create Landmarks?'

According to him, dynamic lighting is an art that deals with psychology and engineering. Traditional façade lighting typically uses flood washers, which ends up being generic and boring.

In his presentation which was appreciated by all present, he opined that creating layers of lighting plays on the psychology of people and improves visibility of the building or location by highlighting key features which are otherwise unseen during the night. He regaled the audience with several diverse examples of this in practices such as a place of worship like Golden temple, the well-lit streets of UNESCO World heritage tagged Jaipur walled city, various buildings lit up to improve night tourism in Gwalior and the Folkart tower, Turkey.

In his summary he said that light attracts, it brings in more people, it can increase foot fall, improve night tourism and also highlight key features of the building.



Presentation by Traxon's Mr. Shirish Mathur about Creating Landmarks using Lighting was appreciated by all present



Mr. Bhavin Soonderji of Tridonic making his presentation at the Conference

Mr Bhavin Soonderjee, MD, ATCO Controls, presented Using Connected Lighting-Users benefits based on international standards Smart Street Lighting

Mr Soonderjee opined that standards are the only way forward to ensure the end users get the best lighting solutions and is not tied to use only one solution. Standardisation helps the entire industry as everyone has to comply to these basic specifications and then the innovation lies in product design, technical solution and not lowest cost.

Some of the key standards for outdoor application lighting that are being followed in the international market but are not yet mandatory in India are Zagher Book 18 Ed2 for connected lighting, DALI2 and Dali for IoT (D4i) compatible LED Drivers, Zagher based lens and reflectors to allow upgrading luminaires in the future.

If these standards can be part of the Indian specifications in the future then they would go a long way to further standardize the solutions across the industry and also address the circular economy aspect of simply changing the LED board and extending the life of the housing and driver. He also touched on some other standards such as LED life, LED Driver specifications and luminaire life of more than 15 years.

He also mentioned that currently the National Lighting Code is not mandated to be compulsory but once it is ready, BIS will try to make it mandatory like other standards

Ms. Neha Agrawal, BIS was the last speaker of the conference and she talked about the importance of standards and standardization.

According to Ms Agrawal, as the world shifts towards connected and modern smart lighting systems that involves advanced technology drivers, it is becoming essential for the lighting industry to deliver advanced and innovative solutions to meet the evolving customer demands. To provide confidence and assurance to customers, it is essential to ensure product safety and quality, and that is where standards become essential.

Bureau of Indian Standards (BIS), as the National Standards Body of India is working for harmonious development of standardisation, marking and quality certification activities and has been promoting the development of robust standards with complete transparency and active participation of the industry.

The availability of standards is one of the key factors that bolster customer confidence in the solutions offered by the industry. With the advent of new technologies and their integration into lighting, it is vital to have a common set of standards in place that address several aspects of design, development, manufacturing, and testing.

The focus of BIS is to ensure uniformity in product quality across various segments of the Industry, in line with global best practices and working towards the betterment of the Industry to deliver products that are both innovative and safe.



Presentation by Ms Neha Agrawal of BIS



Q&A sessions between the audience and those presenting were informative and well received.

Most of the presentations were followed by rounds of intensive questions and answers and participation from those present. The subject matter experts that made the presentations, fielding and responded to all questions to the satisfaction of all present.

The conference was closed with a Vote of Thanks by Mr. Amal Sengupta, General Manager, ELCOMA

AUTHOR : ILLUMINATION EDITORIAL BOARD

Lighting Education and Research – A dire necessity for progress of lighting industry in India

An opinion feature that highlights the lack of structured framework for lighting education in India and what can be done about it

The Lighting world is seeing a silent renaissance. The disruptive technologies which initiated a few years ago with introduction of LED as the preferred source in general lighting, is seeing greater momentum with the rapid and continuous innovations in LED chips, optical materials, electronics, wireless communication technologies and App based controls, etc. Manufacturers, designers, specifiers, installers, users and policy makers now need diverse and new skill sets to meet these operational requirements and challenges.

'Lighting Design' which was earlier a service offered by only manufacturers is a recognized and established independent specialized profession, with close to 60-65 independent practices. This adequately proves that such

specialized knowledge and services are relevant and necessary in the industry.

Many initiatives have been taken by various industry associations like ISLE and leading manufacturers, however the reality is that we still do not have structured framework for lighting education and the study of 'Illumination Engineering' or 'Lighting Design' continues to be a neglected subject in engineering and architectural studies. It is absolutely a dire need to have India specific and accredited educational courses and research programs.

Current Situation

Currently there is only one university of repute, namely Jadavpur University, Kolkata (NIRF India Ranking 2023 : 4th in 'University', 10th in 'Engineering') which offers Illumination Engineering as

an academic curriculum

- 1 Department of Electrical Engineering
 - a Elective in 4th year undergraduate
 - b ME (2 years Full Time)
 - c MTech (3 years Night course)
 - d PhD program
- 2 School of Illumination Sciences and Design (SISED- multidisciplinary school)
 - a MTech (3 years Night course) degree

This is a very successful program in the university, with good student enrolment and high placement not only with large and small manufacturers, large project contractors, consulting houses but also with public and government authorities like PWD, Corporations, Motor Vehicles, Railways, Airport authorities and Testing laboratories. There are several students who have successfully received their PhD and are continuously registered in research projects. This implies that such courses are attractive from the institute and students' point of view.

In addition to Jadavpur University, Goa Polytechnic offers Illumination engineering as an elective in their Diploma course. There are other short term courses/invited lectures being offered (intermittently) by a few other engineering /architectural colleges and polytechnics, industry /designer associations like ISLE, IALD-India,



IIID. Many leading manufacturers also run education programs for practicing professionals.

However, there are no published /accessible learning /event calendars, where one can choose and subscribe to. It is evident that such sporadic courses are not the right path to meet the growing demand of trained lighting professionals and practitioners. There is not much quality control of course content, teaching methodology and no recognized / accredited certification.

Way Forward

The demand of knowledge and skill-sets in lighting, as required by lighting manufacturers, lighting consultants general consultants, testing laboratories, utility bodies, etc are quite varied and specialized. The current focus should be on building a curriculum which is Lighting Centric.

As Lighting is a 'practicing multidisciplinary' field which involves science, engineering, architecture and art, it is important to build university-based curriculum and an outreach and continuing education program.

University Program

It is important to seek out colleges and universities for offering academic courses. For existing universities, a course refurbishment may be required.

- 1 Post graduate programs (18 – 24 months) in Lighting Technology, Engineering and Design
- 2 Post graduate programs (18 – 24 months) in Architectural Lighting Design as part of Architectural / Design Colleges/University.
- 3 Doctoral Research Programs

Outreach and Continuing Education program

- 1 Outreach Program – Short Term academic courses
- 2 Continuing Education Program

These programs, when co- hosted by

Suggested topics of interest for building Lighting curriculum

- i. Technical Lighting Application and Design (Indoor , Road and Tunnel, Area and Sports)
- ii. Architectural Lighting Design
- iii. Urban Lighting
- iv. Lighting Design Software Training
- v. Physics of Light , Radiometry, Photometry, Principles of Vision,
- vi. Non Visual Effect of Light on living beings
- vii. Light sources /drivers/luminaires – Technology Trends
- viii. Product Design - Optical Design – Reflector /Refractor/Lenses , Simulation Software, Advanced Photometry and Instrumentation ,Thermo-mechanics, materials, components
- ix. Energy Management , Simulation , Daylighting , and Sustainability principles- Codes and Regulations
- x. Advanced Photometry , Instrumentation, Quality Testing Procedures
- xi. Lighting Control systems –Programming , Commissioning and Maintenance
- xii. Smart and IOT enabled systems – Wireless protocols , system architecture
- xiii. Building UI/UX for Smart Lighting
- xiv. Building Automation and Lighting Management Systems
- xv. Future Trends-Visible Lighting Communication
- xvi. Energy Management and Sustainability principles, codes and regulation
- xvii. Commissioning Lighting Systems and field measurement of various parameters,
- xviii. How to make Deign Proposals, Bill of material and product specifications
- xix. Lighting codes and regulation – National and Global
- xx. Lighting and Energy Audit principles
- xxi. Germicidal Lighting
- xxii. Horticultural Lighting
- xxiii. Solar Lighting
- xxiv. Light Art / Stage lighting
- xxv. New age technology and applications in creative lighting – projection mapping , lasers , drones, etc
- xxvi. Service and maintenance of products and installation
- xxvii. Networked and Connected Lighting –Integration, Installation, Programming , Maintenance
- xxviii. Recycling and disposal Lighting products
- xxix. Reusable materials in luminaires and 3 D printing



universities/colleges lend credence for students and hirers. As introduction of new courses or programs in Academic Institutions is usually a complex and lengthy process, one must explore the outreach and continuing education programs

Need to establish a National Lighting Academy Council of India

There are currently a few associations for Lighting Professionals

- **ELCOMA** – Manufacturers Association
- **ISLE** – Multi faceted membership from practitioners, designers, students, government and private users, traders. Has experience in conducting training programs since its inception
- **LiDAI** – Lighting Designers Association, IALD-India, Women In Lighting – Association and forum for Lighting Designers (major focus on Architectural Lighting)

There is a strong base of specialists in

the country. Perhaps it is the right time to establish a National Lighting Academy Council, with representation from Lighting Industry Associations, academic institutions and government departments who can develop the Education framework and program. The council could be chartered to develop the program structure, create a road map for future programs, develop course guidelines, assessment and certification, build common learning resources, identify pool of instructors and identify locally relevant research initiatives. Once a framework is prepared, individual associations may deploy the programs in partnership with an academy or by its own. Such an institution would require both seed funding and operational funding and would need support from the Lighting Industry and government institutions/ministries. It would also be possible to make this as a self-sustaining centre within a short period of time.

The India LED Lighting Market size is estimated at USD 4.41 billion in 2023,

and is expected to reach USD 8.52 billion by 2028, growing at a CAGR of 14.10% (source : Mordor Intelligence). To attract bright minds in this field, competent resources is a given necessity to sustain growth and introduce leading technologies for a better world.

Sudeshna Mukhopadhyay has over 35 years of professional experience in Indian subcontinent and globally in senior management positions with leading lighting organizations and is acknowledged widely as a lighting specialist and educator. She is currently, engaged as a Consultant and Vice President with Havells India Ltd.

**AUTHOR : SUDESHNA
MUKHOPADHYAY, LIGHTING
SPECIALIST AND EDUCATOR, VICE
PRESIDENT, HAVELLS INDIA LTD**

The content in this article is solely the opinion of the author and does not necessarily reflect views, opinions, policies, strategy or otherwise of Havells India Ltd or ELCOMA

Surya Roshni illuminates two Holy Shrines



Kedarnath Temple,
Uttarakhand

Jagannath Temple,
Hauz Khas, New Delhi

Recently, Surya was awarded the opportunity to illuminate two revered destinations cherished by every Indian – Shri Jagannath Mandir in Hauz Khas, New Delhi, and the OM statue at Kedarnath Dham. Surya a renowned player in the lighting industry for more than 40 years, rejoices in undertaking illumination projects of holy sites. These two new feathers added in their cap further showcase their track record of successful endeavours.

Embracing the challenge to illuminate the architectural gem of Shri Jagannath Mandir was a remarkable experience for Surya. With meticulous craftsmanship, Surya's range of facade lighting products, featuring specially designed optics, casts a mesmerizing and spiritual aura of colourful lighting effects upon this magnificent structure. The state-of-the-art lighting solutions elevate the visitor experience to unparalleled heights, leaving an indelible impression on all who witness it. Special occasions such as the Rath Yatra, Akshaya Tritiya, Diwali, Navratras and New Year now captivate with dynamic lighting scenes, further enhancing the temple's splendour. Surya's dynamic lighting solution accentuates the temple's beauty

and brings its intricate craftsmanship to life through light. The entirety of the temple comes alive with dynamic and vivid hues, eliciting a profound sense of awe and fascination among its visitors.

In line with Prime Minister Sh Narendra Modi's visionary initiatives to enhance the splendour of Kedarnath Dham, Surya adorned the iconic OM statue at Kedarnath Dham with captivating and eco-friendly illumination, harnessing the power of cutting-edge lighting technology. The temple now comes alive with an array of Surya's attractive and environmentally conscious lights. Notably, Surya has been entrusted with illuminating a magnificent 'OM' statue, installed by the Public Works Department, weighing 60 quintals of the Purest Brass from Germany, at the Dham.

Surya actively collaborated with Architect, INI Designs, Ahmedabad and CraftCult Designs, Vadodara, to seamlessly incorporate specialized linear flexible light fixtures in warm white and RGBW variants. Surya takes immense pride in its association with the supply, installation, testing and commissioning of the lighting for this awe-inspiring architecture. This responsibility also

includes maintaining these illuminations for the next five years, showcasing Surya's dedication to excellence.

Surya's lighting solutions have transformed these revered places into immersive and spiritual experiences, leaving visitors with unforgettable memories.

With each successful project, Surya's legacy of half a century as a leading player in the lighting industry only grows stronger. The company's ability to blend cutting-edge technology with artistic finesse sets them apart and solidifies their position as a reliable and visionary partner for prestigious projects.

As Surya continues to tread on the path of illuminating India's glory, the nation can look forward to more such landmarks and sacred destinations bathed in the splendour of their remarkable lighting solutions. Surya's journey of enlightenment, innovation and excellence continues, leaving an indelible mark on India's cultural and spiritual landscape.

AUTHOR : SURYA ROSHNI LIMITED

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ESSCI Building CUC to Support Electronics Industry

Electronics Sector Skills Council of India (ESSCI) is building a state-of-the-art Common Utility Centre (CUC) at the Electronics Manufacturing Cluster at Bhiwadi, Rajasthan, around 60 KM from New Delhi. The CUC will house Capacity Building and various other facilities for the benefit of Electronics System Design & Manufacturing (ESDM) units existing within the EMC and also for units in the nearby Industrial Areas.

ESSCI, a not-for-profit organization created to provide skilled workforce for the ESDM Industry, is a strong contributor to fulfilling the skilling needs of the vibrant ESDM sector in India, was formed by the six major electronics industry associations representing the ESDM sector – ELCINA, MAIT, IESA, IPCA, CEAMA and ELCOMA

The ESSCI CUC is expected to be a modern three story structure built in an area of 4,200 sqm at ELCINA EMC in Bhiwadi, Rajasthan that will provide all modern facilities for skill development and other services to support the electronics industry by ensuring supply of highly skilled manpower and providing product testing and design services

The vision for ESSCI-CUC is to create a training and development center that will become the Electronics Hub for Industry 4.0 in India by providing leadership, the right platform for learning of best practices, and talent development support.

The ESSCI-CUC will offer courses for capacity building in various futuristic technologies areas such as LED & Solar, AI, Big Data, IoT, Drones, EV's, Semiconductor design, manufacturing, testing, and repair. It will provide workers with exposure to the latest technologies and trends in the industry, allowing them to stay up-to-date with

the latest developments in the field. This will help to create a pool of highly skilled workers who can support the growth and development of the electronics industry in India.

The list of activities proposed at ESSCI CUC are:

- 1 Capacity Building** in Smart Manufacturing (IoT, AI/ML, RPA, Edge Computing, AR-VR etc.) and other emerging job roles in LED & Solar, Semiconductors & Components., Security Surveillance, Consumer Electronics & IT Hardware, E-Mobility & Battery, EMS, Communication & Broadcasting, Renewable Energy, PCB design & Manufacturing.
- 2 Testing, Service & Certification:** The Testing certification proposed at the ESSCI-CUC is KNX certification (BMS), X-ray inspection technology (Reverse engineering), EDA - Design Rule Checker (DRC) & Layout vs. Schematic (LVS), Drone Testing & Service, EV, ECM, Battery Services and product testing for LED and Solar related equipment
- 3 Design Services:** The CUC seeks to develop capability for Solar & LED design and testing, VLSI Design Services (Function, Logic & Circuit Design), IoT design services, EDA Tools related service, PCB design services, 3D modelling services (additive manufacturing).

ESSCI is also planning to collaborate with ELCOMA for including products related to solar and the lighting industry as part of a broader Lighting Demand Side Management institution, aimed at promoting the adoption and



commercialization of energy efficiency technologies and services in India, which would have a direct impact on the reduction in growth of greenhouse gas (GHG) emissions and restrictive use, reuse and disposal of Hazardous Substances. This would thus aim at becoming the key reference and resource institution on energy efficient lighting technologies in India and would be a unique culmination of cutting-edge illumination technology, architecture and design. It would strive to cultivate integrated design practices for high performance lighting applications and improved aesthetics.

According to Dr. Abhilasha Gaur, COO, ESSCI 'The ESSCI CUC will bring a major change in the approach of skill development and product testing in the country and contribute to the Government of India's vision to make India the manufacturing hub for the global market.'



AUTHOR : DR. ABHILASHA GAUR, COO, ESSCI

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The Power of Good Light Indoors: Boosting Sleep, Alertness, Mood and Productivity

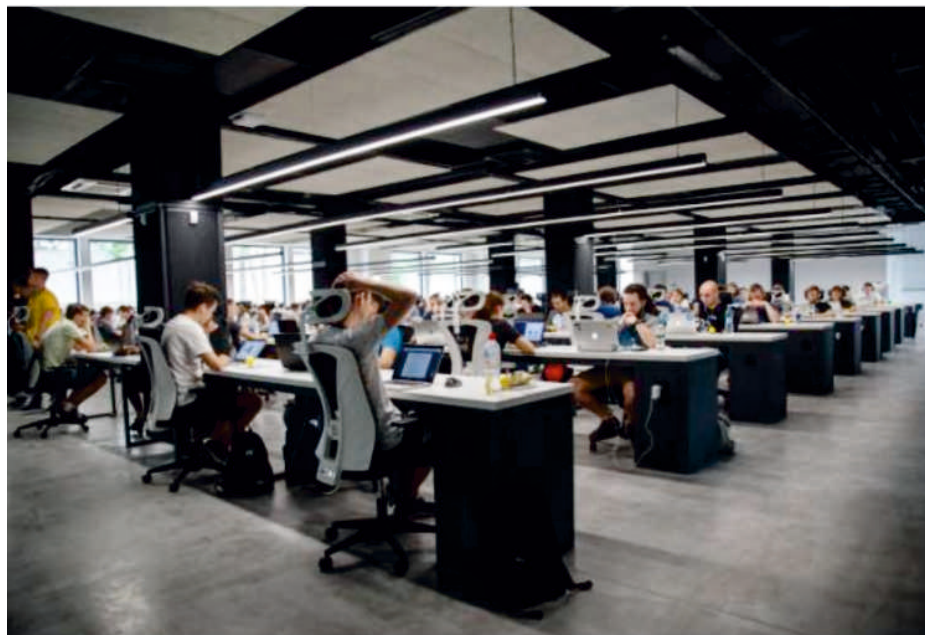
The article highlights the role of lighting in our overall well being

Good indoor lighting is essential for enhancing healthy bodily rhythms, sleep quality, alertness, mood and workplace productivity. Current practices and recommendations for indoor lighting, however, prioritize vision over health, leading to disruptions in our biological clock and alertness. Limited exposure to natural daylight also contributes to this problem. Scientific recommendations for people following regular daytime schedules call for higher light levels during the day and lower levels in the evening and night.

Adopting these good lighting recommendations in norms and regulations will lead to improved indoor lighting and overall well-being for individuals as well as having a significant socioeconomic impact.

The Dark Side of Indoor Lighting: How It's Disturbing Our Biological Clock

In modern times people spend up to 90% of their time indoors, resulting in limited exposure to natural daylight. Unfortunately, indoor lighting practices mainly focus on providing good visual and aesthetic experiences and low energy consumption with little consideration for the health aspects of light. As a result, indoor light intensity is too low during the day and too high in the evening and at night. This interferes with the natural regulation of the biological clock causing disruptions in many areas like our sleep-wake cycle and alertness.



Pic : Light indoors is too dim during the day and too bright in the evening and at night for a healthy and happy life.

Because people spend so much time indoors, indoor lighting should promote the natural regulation of the biological clock and support our sleep-wake cycle, alertness and mood, in addition to providing adequate illumination for visual tasks and ambiance. The field of knowledge on the health effects of light is mainly based on chronobiology. Chrono biologists investigate 24h rhythms, the biological clock and how adaptations of the clock to the environmental light-dark cycle are instrumental for health and well-being. This field received the Nobel Prize in Physiology or Medicine in 2017. Now is the time to implement the insights into daily practice.

Recent scientific recommendations propose that indoor light levels,

necessary for proper adjustment of the biological clock and supporting alertness, should be two to five times higher during the day and much lower in the evening than is currently the case in working and home environments. The technicalities of these recommendations are available in international standards, but they are not yet included in norms or regulations.

Good light indoors provides the right light intensities with the right spectrum, at the right time of day. Implementing regulations for good indoor lighting can support overall health and well-being.

Shedding Light on Better Sleep

Sleep is crucial for overall health and well-being, but up to 20% of the population may experience insufficient



Pic : Unlocking the power of good light can significantly improve sleep quality and promote overall health and wellbeing.

or disrupted sleep, leading to daytime sleepiness and other negative effects.

Good light exposure plays a vital role in regulating the body's biological clock and can improve sleep quality for example by reducing the time needed to fall asleep, increasing deep restorative sleep and increasing the likelihood of waking up feeling more rested in the morning. The improved sleep quality may, in turn, lead to better cognitive function, memory, learning, athletic performance, physical coordination and

a lower risk of accidents, injuries, and occupational errors.

On the other hand, sleep deprivation has been linked to an increased risk of chronic conditions such as obesity, diabetes, and cardiovascular disease.

Light Up the Day to Boost Alertness and Mood

Although a clear dose response curve for immediate effects of daytime light on alertness is not yet established, it is clear that sitting in relative darkness makes

you sleepy. Increasing light intensity in an attractive way can have an immediate alerting effect on the human body, leading to increased alertness, attention, and cognitive performance. It can help reduce fatigue, improve mood, and boost mental acuity, making it an invaluable tool in workplaces where focus and productivity are essential.

Studies have shown that good light exposure can also enhance well-being, alleviate symptoms of depression and anxiety and increase positive emotions. In fact, bright light therapy is a highly effective treatment for seasonal affective disorder (SAD) and related depressive symptoms. If applied early in the development of symptoms, studies have shown that it may prevent the full-blown development of a serious depressive episode.

Bright Idea for Individuals and Society

Investing in good indoor lighting can improve individual health and well-being and has the potential to lower healthcare costs and boost workplace productivity.

Good lighting can reduce the cost of sick leave (absenteeism) and presenteeism, potentially amounting to up to \$410 billion per year, or \$550 per capita for the five major OECD countries.

Optimizing indoor lighting promotes health and well-being of individuals, enhances productivity, reduces healthcare costs and benefits society economically. While the long-term economic impact of good light on health and well-being is yet to be determined, investing in good indoor lighting can definitely benefit individuals, companies, and governments.



Pic : By harnessing the power of good light indoors, we can unlock a whole new level of mental and emotional vitality

For more information on the authors and references for this article please visit https://issuu.com/led-professional/docs/lpr97_full_11819/38

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Light is OSRAM

OSRAM



BEE advisory on Standard and Labelling scheme (S&L)

The Bureau of Energy Efficiency has issued an advisory for all the Manufacturers and Permittees of Self ballasted LED Lamp on 23 June 2023.

Though this notification, all manufacturers/permittees of self-ballasted Light Emitting Diode (LED) lamps registered under the S&L program of BEE were informed that the existing star rating table for LED lamps has been

upgraded by 1 star level with validity period of 3 years (i.e. 1 July, 2023 to 30 June,2026)

As per the advisory the revised energy consumption standard shall commence w.e.f. 1 July, 2023 and all the active star labelled models of self-ballasted Light Emitting Diode (LED) lamp as per existing energy consumption standards will automatically expire on 30th September, 2023.

Every manufacturer/ permittee willing to continue with the existing model, already approved by BEE has to apply for “Continuation option” (degradation option, for eg. 3 star to 2 star) and get its model approved as per the revised energy consumption standards on or before 30 September, 2023 at 10:00 hrs.

The following steps need to be followed for degradation procedure.

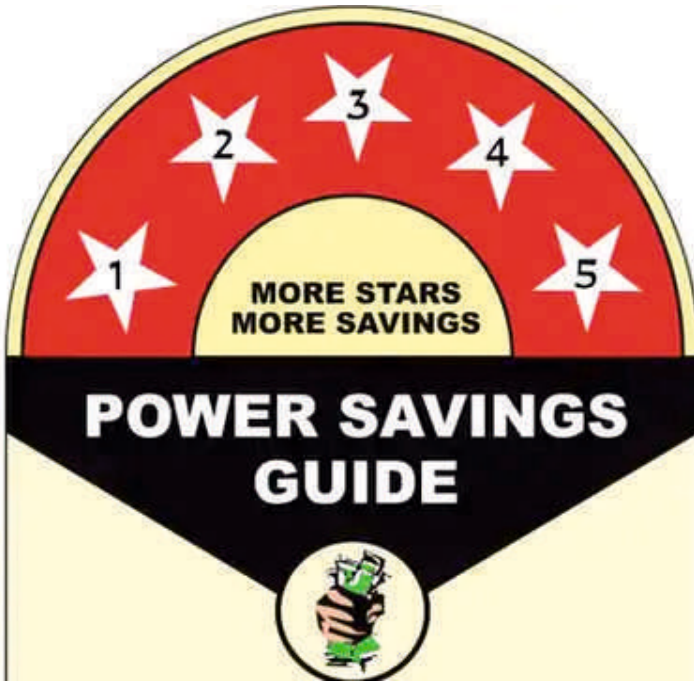
Step 1: Login to the portal to apply for “Continuation of models” and click on link available against each model.

Step 2: Fill in the degradation form for the model that you wish to continue and upload the sample label (as per new standards and label validity period) and previous approval letter issued by BEE for that specific model.

Step 3: Complete the payment process by paying a degradation fee of Rs. 1000/- model.

Star Rating Table

Under S&L scheme the star ratings will be upgraded based on lm/W criteria. The comparative table is given here for ready reference.



Star Rating Band	Applicable till 30th June-2023	Effective from 1st July-2023
	Luminous Efficacy	Luminous Efficacy
1 Star *	≥ 79 and < 90 – Freeze	≥ 90 and < 105
2 Star **	≥ 90 and < 105	≥ 105 and < 120
3 Star ***	≥ 105 and < 120	≥ 120 and < 135
4 Star ****	≥ 120 and < 135	≥ 135 and < 150
5 Star *****	≥ 135	≥ 150



AUTHOR : SANTOSH AGNIHOTRI (CHAIRPERSON, ELCOMA TECHNICAL COMMITTEE), GENERAL MANAGER-QUALITY & TECHNICAL, ORIENT ELECTRIC LIMITED

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CPCB e-waste Portal is Active

CPCB had earlier issued a circular to Customs that they may not hold the import consignments based on the manufacturer's declaration in absence of EPR Authorization till 30 June, 2023 which has now expired.

As per the new rule, no off-line request for authorization would be entertained so all recyclers are required to generate EPR Certificate through EPR Portal.

Now CPCB portal is active for producers to apply for EPR

Authorizations aligned with their end of life.

From 1st April 2023 this rule is already in place and Recyclers and Producers can visit the portal and apply for EPR authorization after Company registration with the submission of IEC/ GST certificate.

The website can be accessed at <https://eprewastecpcb.in>

- 1 For generation of EPR Certificate on the EPR Portal, recyclers are required to maintain records of sales

and purchase of different recovered materials (end Product) and E-Waste through invoices linked to GST respectively.

- 2 The recyclers are henceforth required to have E-Invoices through GST Portal for sale/purchase of different recovered materials (End Product) and E-Waste respectively.
- 3 Producers have to accept sales invoices linked to GST for end products from E-Waste Recyclers as a proof of recycling.

Categories of electrical and electronic equipment	Electrical and Electronic Equipment code	Average Life in Years
Luminaires for fluorescent lamps with the exception of luminaires in households	CEEW15	2
High intensity discharge lamps, including pressure sodium lamps and metal halide lamps	CEEW16	2
Low pressure sodium lamps	CEEW17	2
Other lighting or equipment for the purpose of spreading or controlling light excluding filament bulbs	CEEW18	LED used by Consumers: 4 LED used for Professional purpose: 8



**AUTHOR : SANTOSH AGNIHOTRI
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** For more details on all the categories pls refer to the "Draft Average life proposed for the notified Electrical and Electronic Equipment (EEE) items under the E-Waste (Management) Rules, 2022" published by CPCB.

CDAC Develops Visible Light Communication based LED Lighting Solutions

Centre for Development of Advanced Computing (C-DAC) is an autonomous scientific society of Ministry of Electronics and Information Technology (MeitY), Government of India that is primarily an R&D institution engaged in the design, development and deployment of electronics and advanced Information Technology (IT) products and solutions. Established in 2002, Chennai Centre of C-DAC focuses on three major areas: Free and Open Source Software (FOSS), Ubiquitous Computing and Upskilling / Reskilling. C-DAC Chennai is the National Resource Centre for Free and Open Source Software (NRCFOSS) that is setup with the twin roles of bridging the digital divide as well as strengthening the Indian Software industry.

C-DAC Chennai has built expertise in the latest technologies of Secured Indigenous Operating System, Block chain, Next Generation Cyber security

solutions, Micro services-based Software as service solutions, secure online exam system, Video Analytics, AI & Machine Learning based solutions, Wireless Sensor Networks, IoT (Internet of Things), Visible Light Communication and 5G-SDN (Software Defined Network) Technologies.

C-DAC, Chennai has developed Visible Light Communication based LED Lighting Solutions as part of a Research and Development project funded by the Ministry of Electronics & Information Technology (MeitY), Government of India. Technologies developed under this project are currently available for transfer to industries. C-DAC, Chennai is also inviting competent industrial partners for commercialization of these products and has published Expression of Interest for Transfer of Technology for the same.

CDAC Plans to carry out the technology transfer on a non-exclusive basis. The

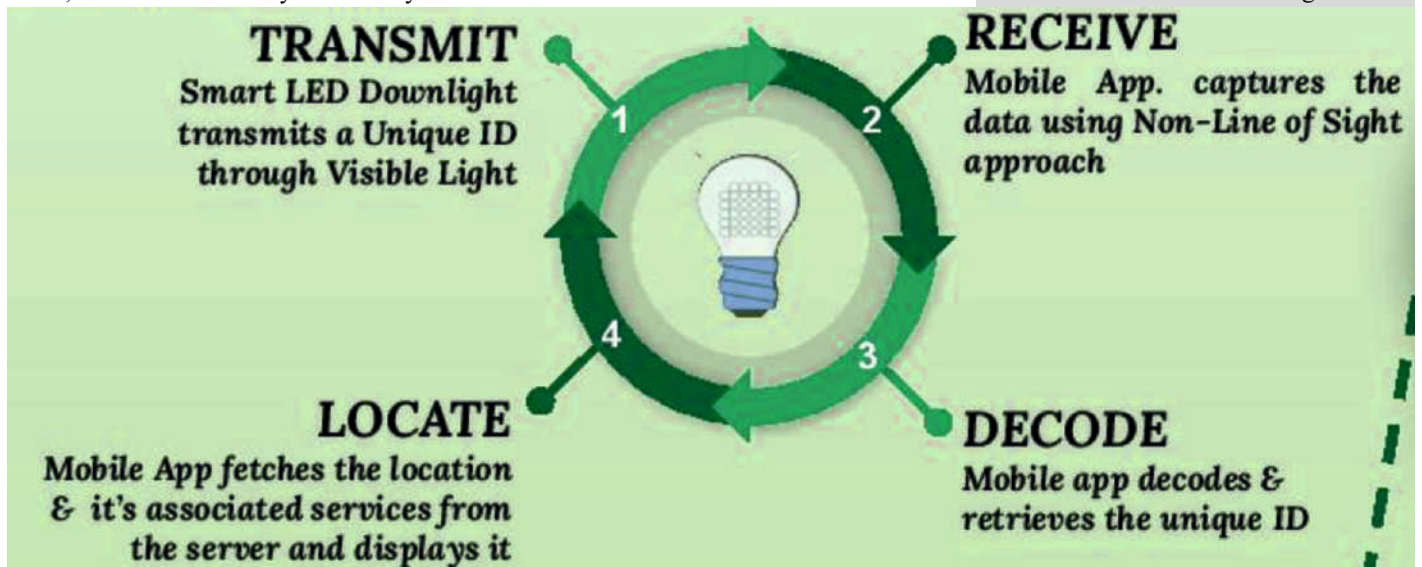
ToT package would contain:

- Production documents (Gerber files, Bill of Materials, Design files - Mechanical)
- Source code of software
- Handholding support for a period of 6 months. If required, handholding period may be extended based on the requirements from ToT partner

As part of MeitY funded project, CDAC has developed 2 solutions based on visible light communication (VLC) technology

- Indoor Positioning System through Visible Light Communication
- Visible Light Communication enabled Smart Indoor Lighting System

Li-Fi, that was invented by German physicist and professor Harald Haas, is a wireless technology that makes use of visible light in place of radio waves to transmit data. It is a Visible Light



CDAC's VLC Based Indoor Positioning System - NLOSVCINITY

Communications (VLC) system that accommodates a photo-detector/image sensor to receive light signals and a signal processing element to convert the data into 'usable' content. Unlike Wi-Fi, which uses radio waves, Li-Fi runs on visible light.

Some of the benefits of Li-Fi are that it is more secure due to shorter range and can overcome some of the existing limitations of RF technologies. It is also touted as a green technology for device-to-device communication in the Internet of Things (IoT)

Indoor Positioning System using Visible Light Communication

CDAC's VLC based indoor positioning system is called NLoS-VICINITY, which is an acronym for “Non-Line of Sight Approach for Visible Light Communication based INdoor PosITioning System”

With the rapid development of wireless communication technologies, positioning the person inside a building and providing various indoor location-based services have gradually penetrated in our daily life. Radio Frequency (RF)

based positioning techniques such as Radio Frequency Identification (RFID), Bluetooth and Wi-Fi play a major role in indoor spaces since GPS is unreliable in interior spaces due to attenuation faced by satellite signals. But RF based solutions require additional devices to position the user which in turn increases the infrastructure cost. Visible Light Communication (VLC) can be an alternative to RF based positioning with little modification in existing lighting infrastructure.

In order to address this problem, a novel solution using Non-Line of Sight (NLoS) approach has been developed to position the user in an indoor environment using VLC.

Such a solution is ideal for Smart Advertising and Location based services.

Visible Light Communication enabled Smart Indoor Lighting System

ILUMINATE - ViSible Light CommUnication enabled SMart Indoor lightiNg And control SysTEM

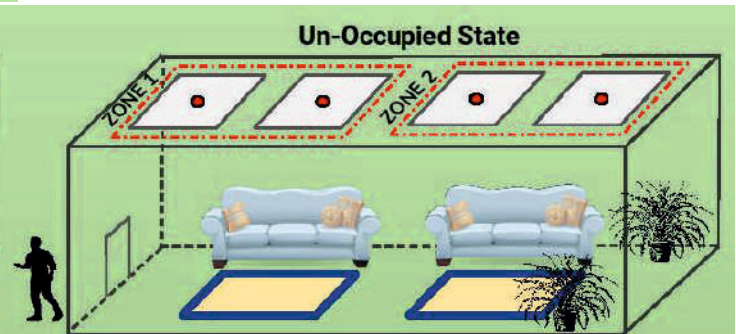
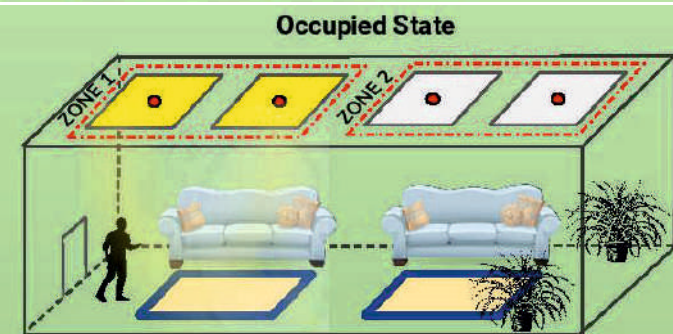
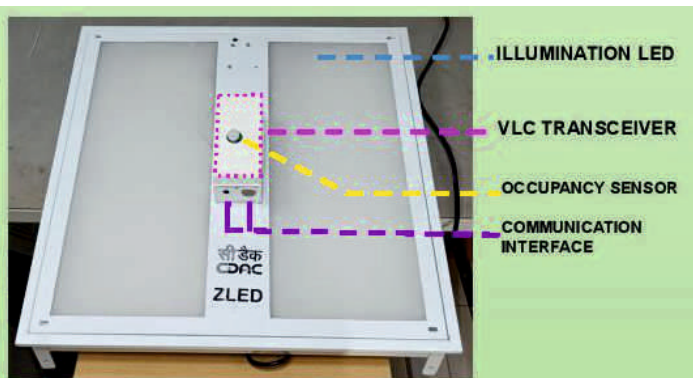
As per the Bureau of Energy Efficiency

(BEE) report for the year 2020-21, building sector contributes to 34% of total electricity consumption and is predicted to rise 3 fold by 2032. Lighting accounts for 20% to 40% of total energy consumption in buildings. Lighting control plays a major role in reducing the energy consumption. Most of the commercial wireless lighting control solutions available in the market use Radio Frequency (RF) for communication.

An indoor lighting control solution using visible light communication technology has been developed for use in RF free zones such as hospitals, industries and airports. This solution uses a Quad-directional Full Duplex VLC Transceiver and features Zone Control to avoid Visual Discomfort. It is suitable for RF Free Zones and provides Distributed Control.

AUTHOR : POONGUZHALI. P, JOINT DIRECTOR, UBICOMP GROUP COORDINATOR, CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING(C-DAC), CHENNAI

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CDAC's VLC enabled smart Indoor Lighting System - ILLUMINATE

BIS again felicitates Surya Roshni for excellent Management Systems

Surya Roshni Limited's Lighting Plant at Malanpur was commended for consistently adhering to all Management Systems on Quality, Environment, Health & Safety as per ISO.



Malanpur was praised for its' consistent compliance with Quality Management System, Environment Management System, Occupational Health & Safety Management System.

While felicitating Surya Roshni on the occasion, Dr R.K.Tyagi, Deputy Director General, Systems Certification Department, Central Regional office, BIS said – “We are delighted to acknowledge all Licensees including Surya Roshni has once again lived up to their name and substantiated their contribution towards quality, environment and safety. It was an honour to felicitate all the Top Performers.”

On being felicitated, Mr. Jitendra Agrawal, CEO - Lighting & Consumer Durables, Surya Roshni said "Being a part of Surya makes me feel proud. The team has always been driven to meet higher standards, while focusing on quality & sustainability. It's a matter of immense pleasure that

my team never ceases to amaze in up keeping the industry benchmarks while keeping society's best interests in mind."

Management Systems Certification department of BIS also appreciated Surya Roshni, Malanpur Factory, for the consistent PDCA Approach and Top Management involvement towards systems compliance.

AUTHOR : SURYA ROSHNI LIMITED

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Surya Roshni Limited's Lighting Plant at Malanpur was felicitated by BIS, Management Systems Certification department, Central Regional Office New Delhi, in a program organized for Management Systems Licensees.

The agenda was to honour businesses across the country that had management systems in place for consistently adhering to international standards like ISO 9001, ISO 14001, and OHSMS

18001. These standards include organizations in a variety of industries. Various organizations across the country participated in this program.

Surya Roshni was the only Lighting factory to receive such a recognition and continually uphold such System Certifications, showing Top Leadership driving the best product Quality, promoting environment, health, employee safety and its esteemed clients. The Lighting factory at

Signify lights up Majuli Island in Assam with solar lighting



Signify has illuminated 43 villages or Majuli Island, Assam, with solar street lighting to enhance the safety of local citizens. The project executed in partnership with Evangelical Social Action Forum (ESAF) is part of the company's Har Gaon Roshan CSR program, that focuses on sustainable rural development.

Majuli is one of the world's largest river islands and is often dubbed the cultural capital of Assam as it is home to many ethnic groups that have lived here for centuries. It is also a natural habitat for rich flora and fauna, harboring many rare and endangered species, especially migratory birds, that make Majuli their home during the cold winters.

But every year, during the monsoons, the swirling waters of the Bramhaputra

river bring life on the island to a standstill, making it inaccessible and cut off from the mainland. After sunset, the island is engulfed in a thick veil of darkness, making it unsafe to venture out or conduct any economic activity.

Keeping in mind these unique challenges faced by the locals, Signify worked closely with ESAF to install 100 solar-powered streetlights to make the streets safer for the citizens after dark. The company also donated 2,000 solar portable lamps to households for indoor lighting, replacing the kerosene lamps that left harmful fumes. According to the project estimates, more than 32,000 people living on the island will benefit from this initiative.

Shri Bhuban Gam, Honorable MLA of Majuli constituency, added, "The

welfare of our people is of utmost importance to us, and this project will significantly impact the lives of people living on the island, providing them with access to clean and affordable energy. We appreciate Signify's efforts towards enhancing the safety of the local people."

Commenting on the project, Natasha Wadhwa, Head – CSR, Signify Innovations India Limited said "By lighting up the lives of more than 32,000 inhabitants of the beautiful Majuli Island with sustainable solar lighting solutions, Signify is not just illuminating the present, but paving the way for a brighter, more sustainable future for generations to come. We are proud to play a part in illuminating the path towards a greener and equitable world."

The 'Har Gaon Roshan' project focuses on promoting rural development by providing solar energy-based lighting facilities in rural villages to enhance the safety of women and children after sunset and extend the working hours of the village, thereby also enabling economic activities after dark.

AUTHOR : SIGNIFY INNOVATIONS INDIA LIMITED

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New Philips Smart WiFi LED downlighter launched

Building on its strong legacy of innovation, Signify, has expanded its Philips Smart WiFi range with the launch of a new smart LED downlighter, powered by WiZ.

The new downlighter is available in a sleek design and two exquisite colour options – Black-Rose Gold and White-Silver, to add a beautiful touch to home interiors. Its premium housing and deep recessed design offer low glare and easy installation, while its minimal trim design lends a bright and focused 36-degree light beam for accent lighting.

Users can easily operate the downlighter using voice control or the WiZ app and choose the perfect white colour ranging from warm white to cool white, to create the right ambience. It also features the latest SpaceSense technology from WiZ,

which is a revolutionary motion detection technology for the lighting system that doesn't require any sensor to be installed. The lights can automatically switch on or off, by sensing motion in the room.

These products are available in 12W and 840 Lumens option, across all small and large format retail stores and e-commerce platforms at an MRP of ₹5,099/-



Orient Electric launches Razor Recess Panels

With rapid urbanization and increase in aspirational needs, LED Panels are becoming the most popular segment among consumers. To fulfill this increasing demand, Orient Electric is expanding its panel range by launching Razor panels with extra sleek and graceful designs. The panels have external driver with a thickness of 2.2 cm suitable to be installed into any false ceiling. The bezel ring design in the front brings aesthetics to the room hence becoming the perfect solution to be used in modern spaces like homes, offices,



showrooms, art galleries and hotels.

These panels are available in 6W/12W/15W and 18W and are suitable for false ceiling with cut-outs from 4 inches to 8 inches to cater the need of every consumer. They are available in with 3 different CCT color options (cool white, natural white and warm white)

and in Round and Square shapes.

With glare free and uniform light spread, these panels have bright light output of more than 80 lm/W and can withstand hard field conditions like 4KV surge and 440 VAC phase voltage hence suitable for all Indian households.

LEDVANCE Launches Rechargeable Table Lamps with Fans

LEDVANCE has launched a range of rechargeable table lamps with integrated personal Fans. Featuring state-of-the-art technology and designed to enhance living spaces with unparalleled convenience and style, these products redefine lighting experience in homes.

The LEDVANCE range of Rechargeable Lamps feature are powered by rechargeable lithium-ion battery technology supported by cutting-edge battery management circuits and ensure uninterrupted lighting, especially during unexpected power outages or emergencies. Each lamp is also engineered with advanced safety mechanisms to protect against overcharging, short-circuiting and overheating.

Besides backup power capability, these products offer easy dimming and tri-

CCT color-changing features enabling a kaleidoscope of lighting options with a single touch. LEDVANCE Table lamps are designed with Flicker free lighting that offer both visual comfort and overall well-being. They not only help reduce eye strain and headaches but also help improve concentration and enhance reading experience.

Some of these lamps are equipped with personal Fans which provide combined lighting and cooling during power cuts particularly in areas with hot and humid climate, making the product portable, versatile and a great space saving solution on workstations and desks.



Luker launches new range of Wall Lights

Luker has recently launched a new range of LED wall lights. Luker LED wall lights are popular lighting solutions that provide numerous advantages across various settings, including homes, offices and retail spaces. They are energy-efficient, long-lasting and come in various designs and colours to enhance the aesthetic of any space by providing energy efficient and cost effective lighting solutions.



Eveready launches Instacharge 9W Emergency Bulb

Eveready Industries India Ltd. has launched its new product in emergency range - Instacharge 9W Emergency LED Bulb. Eveready is one of the first brands in India to launch an Emergency Bulb with a fastest charging time of 4 hours. The Instacharge Emergency bulb not only

gets fully charged in 4 hours but it also comes with a dimmable feature which helps in providing a backup time of upto 14 hours.

This Emergency LED bulb is perfect to be used during long hours of power cuts and gives 50% more lumen output in DC mode.



Magik Lighting Launches 100W Powerplus LED bulb

In the ever-evolving world of lighting, Magik Lighting from the promoters of Century Ply stands out as a beacon of innovation and excellence. With their latest launch of 100W POWERPLUS LED BULB, Magik offers a vast product portfolio in the LED Lamp segment, spanning from a mere 0.5W to an impressive 100W. The product portfolio includes 0.5W Spectrum Series, 0.9W Liliput LED Pygmy Bulb, 5W-9W Maximo Plus Series, 3W- 30W Grande series, 9W & 12W Savio Emergency LED Bulb, 12W T-Lite LED Lamp, 7W Chroma & Glitter in decorative space. Within this range, there is the industry's first 40W LED Flash Bulb. The LED bulbs from Magik, combine energy efficiency with superior brightness, making them the most suitable choice for consumers. All Magik LED bulbs pass through stringent quality checks, making them sturdy and long-lasting. Surge protection up to 4KV and handling a wide voltage protection range (160-440 volts) make them best suited for harsh grid conditions. They use the best-LED chips delivering 100L/M per watt, to give away effective

brightness and comply with all standards. Maintaining power factor and driver efficiency well beyond permissible limits makes the product the best suitable proposition for anyone who

is looking for quality and dependence. A wide range of colors, cap sizes, CCT combinations makes MAGIK LED bulbs just the right fit for residential, office, and commercial spaces.



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*ELCOMA Member's Directory
for year 2022-2023 is now
released. Interested stake
holders may write for a free
copy to
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The advertisement features the ELCOMA logo at the top, with the text 'Electric Lamp & Component Manufacturers' Association of India' and 'MEMBERS' DIRECTORY 2022-23'. Below this is the LEDVANCE logo. The main image shows a modern office interior with a large circular light fixture. Text below the image reads 'LEDVANCE BIOLUX HUMAN CENTRIC LIGHTING' and 'LIGHTING THAT FOCUSES ON WELL-BEING'. At the bottom, there is a QR code and the text 'LEDVANCE PRIVATE LIMITED'.

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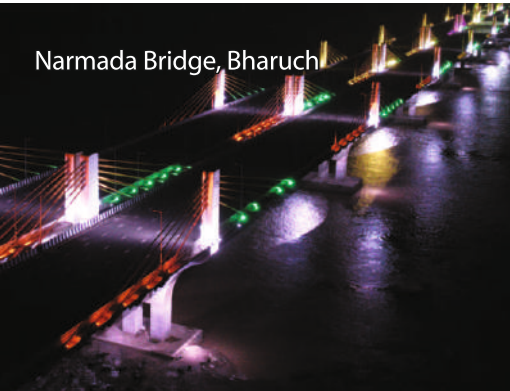
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