

IllumiNation

JAN - MAR 2023

THE LIGHTING MAGAZINE BY ELCOMA

Signify illuminates the iconic 'Atal Bridge' in Ahmedabad with Color Kinetics



50 Years of Elcoma in India

ELECTRIC LAMP & COMPONENT MANUFACTURERS' ASSOCIATION OF INDIA

www.elcomaindia.com

150 NOT-OUT !

Bajaj Electricals Illuminates Saurashtra Cricket Association Stadium



Bajaj Electricals knocks it out of the park, as they successfully light up their 150th Stadium

Sports stadiums have become an inseparable part of the nation's culture. One such icon the Saurashtra Cricket Association Stadium in Rajkot, is now equipped with the new Amaze Premium LED Flood-lights by Bajaj Electricals. The new 448 double module 1300W LED Flood Light Luminaires are not only more energy efficient, but also are perfect for high quality, HDTV live broadcasts. Despite the stringent ICC guidelines and infrastructure challenges, Bajaj Electricals accomplished this feat on a tight deadline of 60 days. The stadium is now shining bright, poised to host all formats of international cricket.





HAVELLS



GLAMOUR COMES HOME

Havells brings you the stylish range of Glamtubes. Switched on or off, they are always glamorous.

Glamtubes

Glamorous range of the Glamtubes



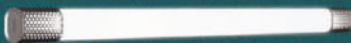
STELLA
Inspired by the galaxy



ATRIA
Inspired by constellations



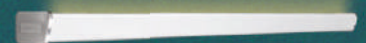
AURORA
Inspired by the Northern Lights



SUPERNOVA
Inspired by a cluster of stars



VANESSA
Inspired by Cosmic Rays



NICOLAUS
Inspired by the 'day-night phase'

CONTENTS



CAPTAIN SPEAKS

- 10** Advancing Light - Mr. Krishan Sujan, Managing Director, LEDVANCE India, on their brand presence in India

CHAT TIME

- 14** Manufacturing Indian Dreams - Mr. Atul B Lal, Vice Chairman and Managing Director of Dixon Technologies about the rise of India's largest EMS



COVER STORY

- 18** Color Kinetics by Signify adds brilliance to the Atal Bridge Across the Sabarmati River



SPECIAL FEATURE - *50 Years of Elcoma in India*

- 22** Bajaj Electricals lights up its 150th Sports Stadium
- 24** Conference for Digital LED held in Delhi
- 26** Global Lighting Leaders visit India
- 42** ams OSRAM spreads light among youth with disabilities and underprivileged
- 43** Signify Illuminates Table Tennis Courts in Odisha Schools

TECH CORNER

- 28** Design Guidelines for Lighting for Football Stadiums
- 32** Responsible Lighting - Respecting the natural habitat

INDUSTRY NEWS

- 34** Surya Roshni appoints Jitendra Agrawal as CEO of Lighting and Consumer Durable Business
- 36** Enforcement of Quality Control Orders by BIS in Western Region of India
- 39** e-Waste Management rules to come into effect in 2023

PRODUCT SHOWCASE

- 44** Signify expands its Philips Smart Wi-Fi lighting range with new portable smart lamps
- 45** Orient Launches Prism COB Downlighters



BIS CARE APP
A tool for Consumer Empowerment **36**

Main features of the App

- Check the authenticity of the product with ISI mark by using 'Verify Licence Details'.
- Check the authenticity of Hallmarked Jewellery items with HUID number by using 'Verify HUID'.
- Select 'Know your Standards' for information on any Indian Standard, licenses against it and Laboratories for this product.
- You can also access products under compulsory certification of BIS & products under simplified procedure of licensing.
- Check the authenticity of electronic products with R-number by using 'Verify R-number under CBS'.
- Register complaints regarding quality of product or misuse of ISI mark by using 'Complaints'.

Download **BIS CARE APP** from Play Store

Bureau of Indian Standards
www.bis.gov.in
Completing 75 years of serving the Nation

IllumiNation

VOL.5 Issue 1, JAN - MAR 2023

PUBLISHER

Shyam Sujan

Electric Lamp and Component Manufacturers' Association of India

122, 1st Floor, DLF Tower-A, Jasola District Centre, Jasola Vihar, New Delhi -110025

Tel: +91-11-41556644/46604947

EDITOR

Shyam Sujan,

Secretary General, ELCOMA

EDITORIAL BOARD

Sudeshna Mukhopadhyay

Amal Sengupta

Krishan Sujan

Natasha Tandon

Jayaganesan K

Pruthwiraj Lenka

Vidyashankar Krishna

Santosh Agnihotri

EDITORIAL CONTACT

info@elcomaindia.com

MARKETING AND ADVERTISEMENT CONTACT

Amal Sengupta

amalsengupta@elcomaindia.com

Printed & Published by Shyam Sujan on behalf of Electric Lamp and Component Manufacturers' Association of India, 122, 1st Floor, DLF Tower-A, Jasola District Centre, Jasola Vihar, New Delhi - 110025, Tel: +91-11-41556644/46604947

The opinions expressed by authors and contributors to IllumiNation are not necessarily those of the editor, editorial board or publisher. All trademarks and trade names mentioned in this magazine belong to their respective owners.

IllumiNation may not be reproduced in whole or in part without prior permission of the publisher. The claims and statements made in the advertisements in IllumiNation are those of the advertisers and are in no way endorsed or verified by IllumiNation, its editor, its editorial board or ELCOMA.

The publisher has made every effort to ensure the accuracy of information contained in this publication, but cannot assume liability for the errors.

Copyright© 2023. All rights reserved throughout the world. Reproduction in any manner prohibited. ELCOMA does not take responsibility for returning unsolicited material/s.

ADVISORY BOARD



Avinder Singh
President, ELCOMA



Anuj Poddar
Vice President, ELCOMA



Nirupam Sahay
Treasurer, ELCOMA



Sunil Sikka
Advisor, ELCOMA

EDITORIAL BOARD



Krishan Sujan



Sudeshna Mukhopadhyay



Natasha Tandon



Vidyashankar Krishna



Jayaganesan K



Pruthwiraj Lenka



Amal Sengupta



Santosh Agnihotri



An Optimistic New Year

2023 is here and the industry expects it to be a year full of optimism, growth and positivity. The spectre of COVID has almost disappeared from our country and despite the challenges faced by resurgence of COVID in other countries, India's preparedness and successful vaccination drive have ensured that the impact on us would be minimal. Airports are choked and flights and hotels are fully booked which leads us to believe that the original 'normal' has returned and life is back once again to what it was several years ago.

All indications seem to point towards enhanced economic activity with production and manufacturing of products to become more prolific than in the past years. With the enhanced economic activity and return of normal, we expect that the Lighting Industry in India will grow at about 10% which is significantly higher than the earlier estimate of 7% for the year 2023.

The government's initiatives of inviting global participation in G20 will be celebrated throughout the year at many places in India. This will provide an ideal opportunity to the industry for export promotion by inviting some of the delegates to special shows/events and visit to factories to showcase the status of lighting industry in India and our capabilities for export. I am confident that we will be able to fully leverage this opportunity of promoting our lighting industry and as a result establish India as the central hub for both manufacturing and exports in the future.

ELCOMA is planning several activities and initiatives during this coming year to promote new technologies and exports. We are planning to organize visits of delegates from other countries to India and also creating special programs for Indian delegates to visit various countries coinciding with travel of personnel from government departments and ministries to those countries.

In every issue of this magazine we carry information on new products being introduced by our member companies in the Indian market. In order to promote more India centric and India made products, ELCOMA is planning an annual award ceremony to honor the best products launched in the year.

In the end, I would like to take this opportunity to wish all our readers a very Happy New Year in 2023 filled with good health and prosperity. I would also like to express my gratitude to all the readers of this magazine who have made this magazine successful and I am sure that we will be able to plan and achieve a lot of new things during the coming year.

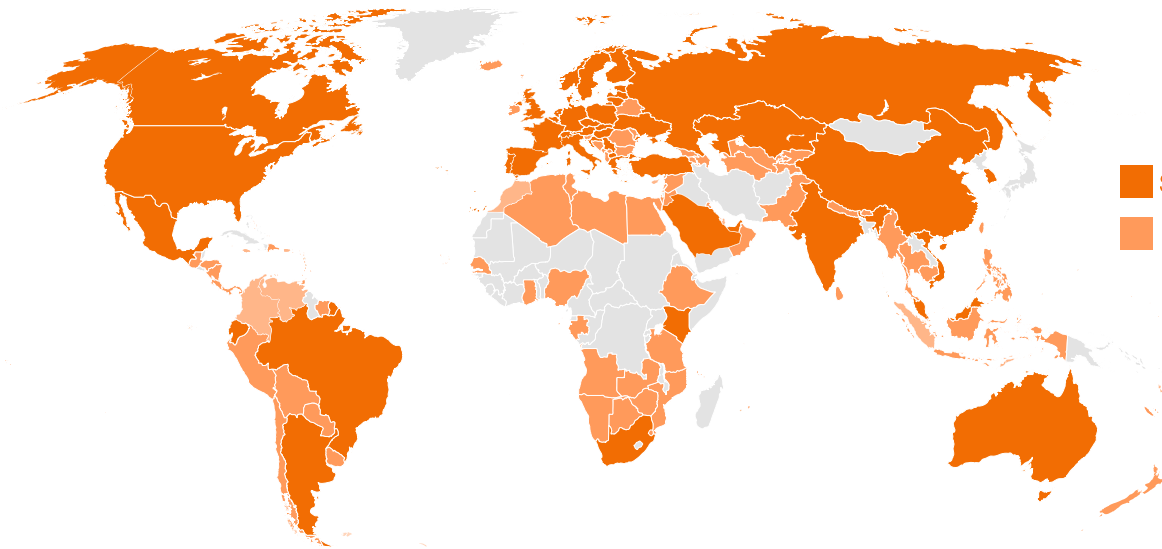
Best Wishes and Happy New Year!

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

SHYAM SUJAN

Secretary General

Electric Lamp and Component Manufacturers Association of India (ELCOMA)



■ Sales & Legal Entities
■ Sales

ROOTED IN GERMANY, ILLUMINATING GLOBALLY



APPLICATION AREAS:



RESIDENCES



HOSPITALITY



RETAIL SPACES



OFFICES



LEDVANCE is the licensee of product trademark OSRAM in general lighting

LEDVANCE PRIVATE LIMITED

1201-1202, 12th Floor, Signature Tower, Tower-A, South City-1, Gurugram-122001, Haryana (India)
 Customer Care: +91-124-4150100 • customercare@ledvance.com • www.ledvance.com



@ledvindia



@ledvindia



New Vision for the New Year

I am happy to inform you that ELCOMA's Vision 2024 programme, which calls for *component manufacturing in India and the promotion of lighting product exports*, is proceeding very well.

Long before the 2024 deadline, we have already found manufacturers who will start producing the desired components in India. In a similar vein, we have already started talking to international organisations about *exports*.

We invited the heads of the Global Lighting Association members from Australia, Japan, the European Union, the United States and Brazil to India for a two-day workshop on export promotion during the first week of November 2022.

These representatives had a thorough discussion about India's readiness and availability of high-quality LED products at the most competitive prices with the ELCOMA secretariat. A few chosen ELCOMA members were invited to introduce their organisations to these delegates and each of these GLA delegates also gave a presentation to everyone in attendance about the state of the lighting industry in their respective nations. Both, the visiting dignitaries and the Indian lighting industry representatives, responded favourably to this intervention.

Encouraged by this, ELCOMA has decided to keep up these efforts and facilitate comparable interactions frequently to advance our goal of turning India into a significant export hub for LED lighting products.

As I mentioned in my previous message, we are planning another road map for the Indian lighting industry, Vision 2030 to foster innovation and learn about new technologies. We have already started moving in this direction, holding our first conference on "*Digital LED Lighting*" in November 2022, which attracted close to 200 delegates and stakeholders. Encouraged by the positive response, in April 2023, a similar conference — *Intelligent and Connected LED Lighting*— is planned in Mumbai.

There are quite a few articles on cutting-edge and future technology in the current issue of *IllumiNation*. I sincerely hope you will enjoy reading them and will find them useful.

I would like to place on record my appreciation to all of those who have supported this publication and have helped it become one of the most widely read journals in the industry. To continually improve, your constructive and positive feedback is solicited.

I also take this opportunity to extend season greetings and best wishes for a happy and prosperous New Year 2023.

AVINDER SINGH
President, ELCOMA



Brightness that lasts on and on | illuminating every corner of your life.



15th Edition
ELECRAMA
Powering the Future of Energy
18-22 FEBRUARY 2023
INDIA EXPO MART
GREATER NOIDA, NCR, INDIA



Visit us at
Hall No. : 7
Stall No. : H7C3



When it comes to LED lighting technology, there is no better alternative than HPL. The most elegant range of LEDs: low on power consumption & low on maintenance

FEATURES:

- SMD LED's for good quality illumination and longer life.
- Constant current drivers.
- Highly efficient metal core PCB.
- Superior quality diffuser for glare free distribution.
- Extruded aluminium heat sinks with specially designed fins.

OTHER LIGHTING PRODUCTS



LED Bulbs & Tubes



Inverter Lamp



COB



LED Lumino



LED Highbay



LED Street Light



HPL Electric & Power Ltd
hpl@hplindia.com | Ph.: +91-120-4656300
Customer Care No. 1800 419 0198

Follow us:

www.hplindia.com



Advancing Light

IllumiNation talks to Krishan Sujan, Managing Director, LEDVANCE India, about the brand and future plans in India

Tell us a bit about the LEDVANCE brand and its presence in India.

LEDVANCE is one of the world's leaders in general lighting for lighting professionals as well as end users, offering a broad variety of LED luminaires, LED lamps, Intelligent networked Smart home and Smart building solutions as well as traditional light sources.

LEDVANCE emerged from the general lighting business of OSRAM and is now owned by MLS, the largest manufacturer of LED packages in the world. We consider ourselves a startup with a heritage of over a century.

Collectively, our company has decades of experience in the general lighting market and a powerful sales and logistics network globally with long-standing customer relationships and strong research and development capabilities. We are active in 140 countries and have business entities in 50 countries across the world.

We have a strong presence in Tier 1 and Tier 2 cities in India and a full coverage in general lighting industry in all product segments and retail channel. We have a high customer loyalty among our partners and strong distribution network with high visibility in hospitality segment.

The Indian Lighting industry has decided to reduce dependency on imports and focus on manufacturing upto 80% of lighting products in India by the year 2024. What are your thoughts on this?

Till a few years ago over 80% of our portfolio was imported from manufacturers abroad. Like a lot of other lighting brands in India, China was our main source of finished goods supply. Since 2019, we have actively worked towards reducing our dependency on imported goods. Today, more than 90% of our portfolio is sourced and manufactured locally and complies to all Indian standards. In fact, a lot of our products are especially hardened to meet

the demands of India's tough power conditions and consumer behaviour.

The Indian government's initiatives for promoting local manufacturing are a very welcome step especially given the challenges with supply of raw materials and goods from China in the last couple of years. With the help of ELCOMA, electronic component manufacturing is also being promoted in India and government initiatives for local fabs for Chip, IC and LED packages manufacturing in India will go a long way in making Indian manufacturing self-reliant.

However, the government will have to do a lot more to really promote manufacturing in India.

The Indian government needs to invest a lot more in Infrastructure for manufacturing. Roads, electricity, water, access to ports, etc are some of the areas where a lot more is to be done to make India a manufacturing hub that exports to the world.

Do you believe that Human Centric Lighting has a market in India? In the future where do you see HCL applications being used?

One of the key areas of innovation for LEDVANCE is Human Centric Lighting (HCL) or the effects of light on humans. Light has a direct or indirect influence on hormones in our body and these hormones in turn affect blood pressure, heart rate, vitality, memory and mood.

Most people know too little about the biological effects of light on the human body. On a sunny day people in the outdoors get 100000 lux and on a cloudy day 10000 lux from the light of the sun. But in this modern world, we spend 90 percent of our time indoors in offices where we get 500 lux or in schools where we receive only 300 lux. HCL can simulate the characteristics of natural daylight and give us lighting that we lack indoors. The right light at the right time helps us to be active and alert during the day, and to relax and sleep

well at night.

The BIOLUX HCL system from LEDVANCE automatically adapts artificial light to changes in daylight thanks to an intelligent, patent-pending algorithm – allowing users to choose the right dynamics for them at any time. The heart of our innovative, biologically effective lighting system is the BIOLUX HCL control unit. In combination with the BIOLUX HCL products, it always provides the right light at the right time of day. To adapt the system even more to your individual needs, you can also choose different lighting mood profiles, such as “RELAX” and “BOOST”.

I believe that HCL has great business possibilities and applications for the entire world and of course in India as well. I am confident that in a few years this will be the default lighting concept/solution in use in all kinds of offices, apartments and indoor spaces and will benefit all of us immensely.

Technologies of the future such as intelligent Lighting are causing the entire industry to change to smart and connected lighting products. What are your plans for such products?

Smart, connected devices that could do your bidding on a voice command were part of fictional stories a few decades ago but are now an integral part of our lives.

Smart solutions in residential applications are a huge trend and an increasing number of customers want to integrate Smart Home Automation functions in their living area including smart lighting that adapts to individual usage behavior and can be flexibly and remotely controlled from anywhere.

In India, LEDVANCE has a very large portfolio of products under our Smart+ Range that offers a combination of innovation, quality, reliability and user friendliness. Our comprehensive residential and professional portfolio consists of lamps, battens, downlights, panels, strips, extension boards,

spotlights and smart plugs. We plan to launch smart ceiling lights and table lamps in the future.

Our Smart+ portfolio supports WiFi, BLE, Beacon and Zigbee protocols. Our products have WiFi and Bluetooth integrated that negate the use of a gateway for voice control and remote access. Our WiFi products in combination with the LEDVANCE SMART+ WiFi app is the perfect solution for anyone who wants to use the fascinating possibilities of smart lighting very simply and intuitively. The LEDVANCE SMART+ WiFi products can also be controlled via compatible speakers such as Google Home/Assistant/Nest, Amazon Alexa/Echo and Samsung Smart Things.

The grey market in Lighting is supposed to be in excess of 25% of the entire industry. How does this impact your brand and what should be done to limit this?

The biggest problem with the grey market is that these products are not compliant to the Indian standards and are not safe for customer use. Any product that fails to meet the standards is a potential risk to those using them. This is the one basic message that consumers should understand about counterfeit, non-compliant and cheap products and the government should pull out all stops to educate consumers about this.

Besides the safety aspect, the products in grey market are not very energy-efficient and consumers don't get any warranty or guarantee on them. Additionally, they also cause a direct loss of GST and income taxes to the government exchequer.

I think that all the organized brands in the Indian Lighting Industry are fully aware that consumers and their safety are our first priority and all brands are fully compliant to all standards and safety norms prescribed by the government agencies for our industry and we are constantly upgrading our products and re-certifying the same to

meet these norms.

The government has taken some steps to curb this menace by introducing CRO, BIS raids, etc but needs to do a lot more to eradicate this from the root itself. More vigilance, more testing and more raids need to be carried out to try to curb this problem.

How has the lighting industry changed in India in the last few years and how has that changed consumer behaviour, products and the sales channel or process?

With the introduction of new technologies, the last few decades have brought about a very significant change in the Lighting industry. From Traditional light sources, we have transformed to CFL and from there to LED Lighting and now to Smart, Connected Lighting all in the space of fifteen or twenty years. The lighting industry has had to adapt and change itself to meet all these innovative and disruptive trends. New technologies have meant new products, new standards and certifications, different manufacturing processes, different quality control parameters and different channels for sales.

Though the introduction of these technologies has been a radical change

in this short period of time, but thankfully the Indian Lighting Industry has met all these the challenges and emerged resilient and stronger. We still continue to manufacture most of the products locally and the industry was able to ramp up its production capabilities very quickly to address large scale requirements of government / EESL initiated LEDification projects and supplied millions of lamps and streetlights without compromising on quality or standards.

With the advent of LED technology, a large number of brands have entered the market since basic trade products have a low entry barrier and little or no differentiating features. As a result, the consumer wants to be able to choose and select among several brands and the retailer/dealer now stocks products of several brands. This has meant a very competitive and price sensitive marketplace where all brands are vying for the same consumer and brand recall and customer service are the only differentiators.

Online sales and E-commerce are also gradually emerging as sales channels but will take quite some time before they become mainstream sources of revenue for brands.

IN A LIGHTER VEIN

Your favourite book?

I mostly read fiction and my favourite author is Louis L'Amour. I also love the classics and the works of Shakespeare, Charles Dickens, Milton and Edgar Allan Poe are the ones that I love to read when I get the time.

What do you do to rejuvenate, to get back in touch with yourself?

I love to spend time with my family. Each day after work I try to spend as much time as possible with them and this is my way of relaxing. I love music and long drives and travel in the mountains always rejuvenates me and helps me recharge my batteries.

What is/are your favourite holiday destination/s?

I love to travel in the Indian Himalayas and hill stations of Himachal and Uttarakhand are my preferred destinations. Istanbul and Lucerne are favourite international holiday destinations.

What kind of food/cuisine do you like?

I am quite adventurous when it comes to food and am ready to try and enjoy any cuisine. However, I am in love with the food in China, especially Cantonese cuisine.

INTERVIEWED BY ILLUMINATION
EDITORIAL TEAM

Lights that bring your home to life



Garnet



Wipro Lighting is proud of being one of the most trusted brands in lighting industry. We have continuously focused on embracing the latest & finest technology to deliver highly efficient products for different lighting application areas & have always believed in offering our customers the best in class, latest design, environment friendly lighting products & solutions. Wipro lighting has introduced IOT based smart connected home lighting solutions that are easy to use and can be controlled through mobile app & Voice control assistant. Wipro Lighting has won several prestigious awards for product design, innovation & quality excellence like the Red dot design awards, Frost & Sullivan award for LED lighting visionary innovation leadership and many more.



- Wide voltage range of 150-300 V
- Anti glare design with deep optics
- Driver with 2.5 kV surge protection
- Good color quality with Ra>80





Manufacturing Indian Dreams

IllumiNation chats with Mr. Atul B Lall, Vice Chairman and Managing Director of Dixon Technologies about the rise of India's largest EMS

Dixon has been manufacturing in India since 1993. Please take us through the journey so far.

Since our inception as a colour television manufacturer, Dixon, today, has evolved into a multi-product manufacturer. We started our journey in 1993, manufacturing CRT televisions from a 10,000 sq. ft. rented plot in Noida. In the last 29 years, we have become the largest Indian EMS company with manufacturing presence in 8 key segments – TV, Lighting, Mobiles, IT products, Wearables & Hearables, Washing machines, Security surveillance and Telecom.

From one manufacturing facility in Noida, today we have grown to 20 manufacturing units across the country. From being an efficient OEM player, we are today a recognized ODM player, with in-house R&D facilities. Our strong in-house R&D team, with proven expertise in developing innovative designs, enables us to address consumer requirements across geographies, introduce new and unique products in the market and enhance existing products using emerging technologies.

Dixon started with manufacturing televisions and then added LED Lighting. You are now manufacturing for several verticals including mobiles. What drove the diversification of Dixon to these different verticals?

We have looked at diversification to achieve 1) Risk mitigation, 2) Top and bottom-line improvement and 3) to stay ahead of competition.

With Electronics manufacturing as our core competency, we've entered into multiple segments where we believe we can add value to our customers. Electronics industry has a wide product range and we defined our diversification/new product entry

strategy looking at 1) Growth potential 2) Operating leverage by building scale 3) higher profitability through backward integration. We have also aligned our resources/teams and acquired capabilities to succeed in our diversification strategy. This helped us in launching multiple segments within a short span and we were able to grow our topline to INR11,000 Cr with a strong balance sheet. For the current year, we are targeting a topline of INR 13000 Cr.

A few years ago the company went public and the issue was well received. What prompted that move and what has changed at Dixon after that?

We have a strong conviction that Dixon will be a top 10 global EMS company in the next few years and we wanted retail investors to benefit from our growth as well. We went public in 2017 and we are proud of the fact that we have created enormous wealth for our shareholders. Our market cap has grown by 10X from the date of listing in a short span and we believe it'll continue perform well in years to come.

Now that ELCOMA has prepared a Vision 2024 plan to make all components in India and also create situation for Export of about 40% of Lighting turnover by year 2024, do you think that in the future Indian Lighting Industry products would be completely "Made in India"? What kind of support does Dixon require to reach the Vision of the Industry?

We strongly believe that India can be competitive in export markets and Dixon is committed to achieve this vision. We believe backward integration, component localization and Innovative solutions through R&D efforts are the key focus areas to realize this vision.

We have received Lighting component PLI last year and we are in the process

Mr. Atul B Lall, is the Vice Chairman and Managing Director of Dixon Technologies (India) Limited. An alumnus of BITS, Pilani, Mr. Lall has been associated with Dixon since inception and is responsible for the company's overall business operations. With nearly three decades of experience in the EMS industry, he has served as a member of the Technical Evaluation Committee for Electronic Manufacturing Services under M-SIPS (Electronic Manufacturing Services- EMS) constituted by the DeitY. He has also authored the book, 'Gita and India Inc.' and was awarded the Man of Electronics Award 2022 by CEAMA.

of setting up a component manufacturing facility. We also ramped up our localization efforts and support domestic suppliers in achieving scale and quality standards. Being an ODM player, we have built a strong R&D setup to offer innovative solutions. We are also collaborating with technology companies to offer smart lighting solutions.

We welcome the Lighting component PLI scheme introduced by GoI and believe the industry is embracing the ELCOMA vision to achieve 100% make in India solutions

LED being easier than CFL to assemble, hundreds of new traders/manufacturers have forayed into manufacturing of LED products. Though ELCOMA has initiated with government to ensure that all products by these manufactured are duly registered under CRO scheme of MietY, without undermining their contribution to the Industry, how else we can engage them to service the industry?

CHAT TIME

It is important to pursue CRO scheme to ensure good quality products for end consumers. We need to run a campaign to create awareness on this point with the trade partners & consumers.

Dixon has played a big role in manufacturing of lighting products under Product Linked Incentive (PLI) scheme. Can you inform the products that you will cover under the scheme and progress made so far.

We have already committed a capex of INR 100 Crores for lighting components under PLI scheme. First phase of investment has already been done and production of components is going to start in current quarter.

Components to be produced are LED drivers, LED Engines, LED modules, Mechanicals- Housing, Wire Wound inductors and LED Light management system (LMS).

IN A LIGHTER VEIN

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

I play golf and I am a voracious reader

What kind of food/cuisine do you like?

My mother's home cooked food. I also enjoy Japanese cuisine

Which book/s have you recently read?

Leadership - Six studies in world strategy by Henry Kissinger
CHIP War by Chris Miller

What is/are your favorite holiday destination/s?

London and Bangalore to be with my grandson

Who is your inspiration in life?

My Father and Warren buffet

Your favorite film actor?

Omar Sharif & Amitabh Bachchan

What kind of music you love to listen?

Hindi Film Music

The movies that you like to see

Doctor Zhivago
Deewar

INTERVIEWED BY ILLUMINATION
EDITORIAL TEAM



ELCOMA

Electric Lamp and Component
Manufacturers Association of India

ELCOMA Conference for 'INTELLIGENT & CONNECTED LED LIGHTING'

13th April 2023

Ramada Hotel, Palm Grove, Juhu Beach, Mumbai

Sponsors:



For registration: log on to www.elcomaindia.com or Contact: Deepak Kumar,
Mob: +91 9818629465, Ph: +91- 11-41556644, Fax: 91-11- 46577582
E-mail: deepakkumar@elcomaindia.com





Be road ready

Dash cameras: Now you can prove it really happened



Life is full of surprises. With our new range of premium quality dash cameras, you can capture them all. Stay focused and enjoy greater peace of mind knowing that no matter what happens on the road, you'll have the evidence to prove it. Monitor and evaluate your driving, settle disputes and claims, and capture all those magical road trip memories in full HD. Prepare for the unpredictable, be road ready.*

Discover our new range of dash cameras at osram.com/dashcams

OSRAM



Color Kinetics by Signify adds brilliance to the Atal Bridge Across the Sabarmati River

The project makes the bridge an urban icon that encourages night tourism at the river promenade and has made it a selfie point for tourists





The Sabarmati River has been the lifeline of Ahmedabad since the time the city was founded in 1411 along the river's bank. Besides being an important river of the region, it also holds immense cultural and historical significance for the entire country. The father of the nation, Mahatma Gandhi set up his ashram along the banks of this river during India's freedom struggle. The Sabarmati Ashram, as it came to be called later, became the hub for India's independence struggle, including the famous Dandi March that was led by the Mahatma from the ashram, that eventually roused the spirit of the entire nation.

The Gujarat government has also been working on developing the Sabarmati riverfront since 2012 and its major objectives are environment improvement, social infrastructure and sustainable development. The promenade has a continuous 11 kms long walkway, that serves as an important recreational hub for the city with facilities for boating, cycling, a marketplace as well as an urban forest. As a part of this project, the Sabarmati Riverfront Development Corporation Ltd (SRFDCL) in 2018 approved a pedestrian bridge to connect both the banks of the Sabarmati River. The Ahmedabad Municipal Corporation named it the Atal Bridge, in honor of the

former Indian Prime Minister Atal Bihari Vajpayee.

The Atal Bridge is a 300-metre-long, pedestrian-only foot over bridge (FOB) that connects the eastern and western ends of the riverfront. This project was completed in June 2022 and inaugurated by Prime Minister Narendra Modi in August 2022.

This iconic bridge is a first-of-its-kind in the country. Its design has been inspired by the famous Kite Festival called Uttarayan, held every year in the city. It is a single span steel truss bridge made with 2600 metric tonnes of steel pipes and glass railings. It can also be accessed from both the lower and upper

COVER STORY

promenades of the riverfront. The cross section of the truss has been designed in a rhombus shape and equipped with colorful fabric panels to resemble a kite.

The bridge has been illuminated by Signify with approximately 200 light points in dynamic colours and 150 light points in Mono color to enhance the beauty of the architectural marvel. The lighting was designed in a manner that would bring out the true colours of the fabric roof which reflect the hues of kites. To illuminate the steel structure, narrow beam lights that could wash along the truss with less spillage were selected and placed just below and above the deck. Lighting fixtures seamlessly integrate and blend in with the steel structure. The bridge also has several landscape areas marked at regular intervals where sufficient illumination was provided to enhance the safety and security of the pedestrians walking on the bridge.

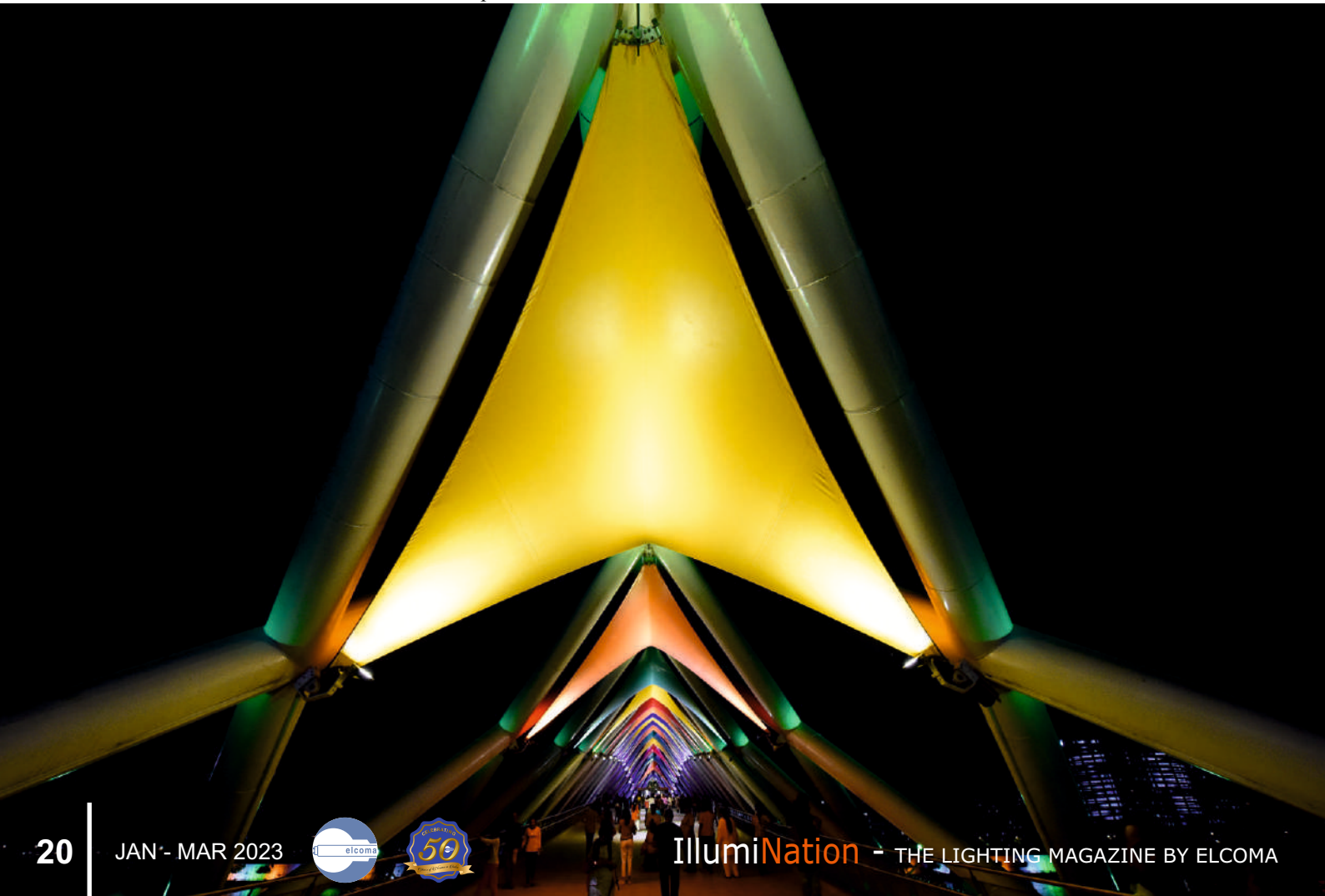


Vishal Nayak, GM Electrical, SRFDCL stated that “The Ahmedabad Municipal Corporation had a vision to create a bridge that would become an urban icon and further enhance the image of the city and encourage night tourism at the river promenade. The lighting of the bridge has played an integral role in realizing this vision. The dynamic effects created by the new LED lighting has made the bridge a centre of attraction and a selfie point for tourists”

The Color Kinetics DMX Ethernet system installed on the foot over bridge enables the management to create stunning dynamic lighting effects to mark national celebrations like the Independence Day, Republic Day amongst other important occasions. The reflection of the light on the water creates a beautiful visual experience for onlookers. The concept was to create a wave effect on the bridge that would also reflect onto the water, following the inspiration drawn from the famous Kite festival. The newly installed LED lights are not only energy efficient, but also more cost effective over the long run due to their lower power consumption and durability, when compared to conventional lighting.

**AUTHOR : SIGNIFY INNOVATIONS
INDIA LIMITED**

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



*Everything
begins with an idea !*



Launched DOB bulb Series

Features



4 Kv Surge Protection



105 Lm/W



440 High Voltage sustain ability



240° Beam Angle

R. K. Group Of Companies

R. K. Lighting Pvt. Ltd. | Radhika Opto Electronics Pvt. Ltd. | Cromlux Engineers Pvt. Ltd.

223, Adhyaru Industrial Estate, Sunmil Compound, Lower Parel Mumbai- 400013

✉ info@rklights.com | ☎ +91-2267124461 | 🌐 www.rklights.com

Bajaj Electricals lights up its 150th Sports Stadium

Saurashtra Cricket Association's Rajkot Cricket Stadium is prepared for HDTV Broadcast by Bajaj Electricals



A modern stadium with good lighting ensures a great viewing experience for sports enthusiasts and enhances the on-field experience for cricketers, umpires, and broadcasters alike. About a decade ago, the Rajkot Cricket Stadium was known as one of the best sports lighting installations, lit up with conventional luminaires. The stadium - also the home of the IPL Franchisee Gujarat Lions - has undergone a significant makeover by Bajaj Electricals Limited with a combination of energy-saving and superior lighting design that supports an International HDTV broadcast. The stadium has hosted multiple

international tournaments with teams from England, South Africa and West Indies playing various game formats. The new lighting installation now primes the Saurashtra Cricket Association as a critical host for all international formats of the game.

The stadium had an infrastructure with four high masts and conventional luminaires, and new installations needed to be done using the existing infrastructure. The key challenge was fulfilling ICC's Guidelines on recommended lighting levels. Another important aspect of the project was to upgrade the lighting using the existing mast structure compelling the project

team to work with a limited selection of luminaires to maintain the structural stability of the high mast structure. Bajaj Electricals is a front-runner in the outdoor lighting space with a diverse portfolio of products and the capability of handling such large illumination projects end-to-end. This makes them the perfect partners to light up world-class sports arenas. Bajaj customized the design to suit the existing infrastructure of the site and selected the Bajaj Amaze Premium series, suitable for high-quality HDTV transmission for the ultimate LIVE telecast experience. Conventional luminaires were replaced with 448 double modules 1300W LED Flood



Light LED Luminaires. In addition to this, Bajaj also successfully upgraded the existing electrical set that is compatible with advanced DMX Control set-ups; thereby making it future ready for various applications. In fact, this efficiently manages the power consumption and achieves a power saving of approximately 400kW.

Bajaj also observed another challenge at the site – the canopy obstruction over the spectator's stand. This was efficiently resolved with the help of Bajaj's skilled and specialized lighting product designers, who achieved excellent results in the field of play (FOP) area, ensuring high-quality HDTV

transmission. The vertical illuminance on air (above the FOP area till the boundary, fencing & spectators stand) provides clear visibility of the ball while it is in the air. This is done with accurate lighting design considering the main and auxiliary cameras. The resolution is a boon for cricket lovers who can enjoy every minor details of the action on the field.

They say behind every well-illuminated stadium is the perfect concoction of a detailed survey, accurate structural design, best-in-class optics in luminaires, superior lighting controls and project execution expertise, followed by a responsible operations and

maintenance team. With the right experience and expertise, Bajaj Electricals achieved the desired results for the Saurashtra Cricket Association and created customer delight by delivering ahead of schedule.

Sports stadiums are now not just a place for playing and viewing the sport but also a landmark and an institution to develop the new talent that will eventually place our country on the world stage. Bajaj Electricals is proud to contribute to the nation's growth story consistently.

AUTHOR : BAJAJ ELECTRICALS LIMITED

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

Conference for Digital LED held in Delhi

A conference for “Digital LED-Future of Lighting”, organized by ELCOMA was held at the India Habitat Centre, New Delhi on 4 November, 2022. Nearly 200 delegates from various organizations from all across the country participated.

After lighting the auspicious lamps by the eminent guests present, the conference was welcomed by Mr. Shyam Sujan, Secretary General, ELCOMA. Mr. Avinder Singh, President, ELCOMA introduced the

theme of the conference and talked to the delegates about the future of Digital LEDs and emerging technologies in times to come. He also touched upon ELCOMA's “Vision 2030” which will define a roadmap for the Indian Lighting Industry in the coming years and will deal with innovation and new technology as its prime drivers for industry growth.

Mr. Anil Kumar Choudhary, Head of Operations at EESL addressed the gathering and informed participants

about EESL's future plans of procuring large quantity of Digital LED streetlights under National Program of Solar Energy for Rural areas.

Ms. Asha Nangia, Senior Director, Ministry of Electronics and Information Technology (MeitY) talked about MeitY's various programs for Electronic Industry including CRO schemes and surveillance programs. She also talked about the success of the Production Linked Incentive (PLI) scheme specific to LED component manufacturing and



Mr. Anil Kumar Choudhary, Head of Operations, EESL, addressed the gathering and informed participants about EESL's future plans



Mr. Shyam Sujan welcoming the delegates



Lighting of Auspicious inaugural Lamps by VIPs



Delegates at the conference

its proposed impact on the industry in the future.

Mr. Maurice Maes, President, Global Lighting Association (GLA), in his presentation, informed the gathering about vision programs for Global Lighting Industry which are directed toward introduction and promotion of new technologies and focus on various environmental issues like Mercury contents and Producers Responsibility for safe disposal of plastics and mercury lamps etc.

Mr. Amal Sengupta, General Manager, ELCOMA gave a vote of thanks for all the VIPs present on the dais, delegates and speakers to the conference. The conference featured presentations and

dialogues by eminent experts on various subjects.

- Embracing and Integrating New Age Lighting Technologies for Sports Stadium by Mr. Shreekant Phanse, National Application Specialist, Signify Innovations India Ltd
- Responsible Lighting - Respecting the natural habitat by Ms. Sudeshna Mukhopadhyay, Vice President Professional Lighting, Havells India
- Horticultural lighting & Marketing Claim Verification by Mr. Satish Kumar, Engineering Manager – Appliances, HVAC, Lighting – SA/MEA UL India
- Enabling Bharat by Mr. Mohit Sharma, SBU Head & Sr. Vice President, Eveready Industries
- Optimal wireless connectivity protocols for Smart Lighting Systems by Mr. Pruthwiraj Lenka, OSRAM Lighting India Ltd
- LED Chip Packaging – Challenges of manufacturing in India by Mr. BS Praveen, President, Uniglobus
- ELCOMA Activities and Future Plans by Mr. Amal Sengupta, GM, ELCOMA
- Challenges to be resolved while designing with LEDs by Mr. Linus Lopez
- Training programs on digital LEDs by Dr. Devraj Singh, Vice President, ESSCI



Mr. Avinder Singh, President, ELCOMA giving key note address



Participants at the conference



Prayer before the inaugural Lighting of Lamps



A view of audience

Global Lighting Leaders visit India

In first week of November, 6 members of Global Lighting Association visited India to participants in various events organized by ELCOMA. During the 4 day program, they held a GLA board meeting on 2nd November 2022. They also participated in the inaugural session of LIGHT+LED EXPO INDIA 2022, had an interactive session with ELCOMA members for export promotion besides visiting 4 monuments in Delhi which were lit-up by ELCOMA member Signify Innovations India Ltd.

Export Promotion

The most important feature of their visit was to understand Indian manufacturing plans, modification of India products to Indian conditions and the most affordable cost of India products for export promotion.

Following members visited to exchange their view with Indian ELCOMA members.

- Ms. Ourania Georgoutsakou, Secretary General, Lighting Europe
- Mr. Simo Pekka Hakkarainen,

National Electrical Manufacturers Association, USA

- Mr. Tomoaki Shikakura / Mr. Tsuyoshi Maeki, Japan Lighting Manufacturers Association, JAPAN
- Mr. Gerald Strickland, Secretary General, Middle East Lighting Association
- Bryan John Douglas, Secretary General, Lighting Council, Australia
- Mr. Maurice Maes, President, Global Lighting Association (GLA)
- Mr. Carlos Saheli, ABILUX, Brazil



Ms. Ourania Georgoutsakou, Secretary General, European lighting association presenting information about Lighting Industry in Europe



Mr. Pekka Hakkarainen, National Electrical Manufacturers Association (NEMA), USA, making a presentation to ELCOMA members



Mr. Nitin Saxena, OSRAM Digital Systems, making a presentation to Foreign delegates



Mr. Nirupam Sahay, Dixon Technologies, making a presentation to Foreign delegates



Mr. Avinder Singh, President, ELCOMA talking about Indian Lighting Industry and its future plans



Mr. Maurice Maes, President, GLA giving Speech to Indian delegates from Lighting Industry



Visit to Taj Mahal by GLA members

Design Guidelines for Lighting for Football Stadiums

A look at the latest FIFA standards for Lighting Systems for Football Grounds

Towards the end of 2022, everyone around the world was focused on one of the greatest sporting events, the FIFA World Cup 2022. Regardless of the time difference, viewers around the world were glued to their couches to watch the broadcast. To bring this amazing experience to the global audience Illumination was a vital aspect for HDTV broadcast.

Lighting has always been one of the prime subjects in which international football federations remain deeply involved. They study and upgrade the illumination standards periodically to provide the finest visual environment and experience to players, spectators and all the football lovers watching televised broadcasts. The upgradation of standards was not always limited to Televised events but also to various levels and classes of plays. Classes would influence the quantity of light, while the quality of light needs to be excellent for all of them.

The requirements of players, umpires/referees, match officials remain critical for each class of event and are guiding factors in selection of lighting solution. The live TV broadcasting of the events has brought in another major angle in designing the lighting system for sports stadiums today. The advancement in broadcasting technology has increased the demand for higher quality Illumination, thus, the international federations for various sports have revised their lighting standards to address these changing needs.

Illumination Standards

FIFA (Fédération International de

Football Association or the International Association Football Federation) is the international governing body of football, beach football and futsal. FIFA has released the revised standard for the earlier prescribed requirements of illumination. The 2020 lighting guide provides requirements, guidance for pitch illumination system for FIFA tournament stadiums and training sites and are globally followed by authorities and football organizations.

The FIFA Lighting Guide provides detailed assistance towards the Lighting obligations (Illuminance parameters), Location of luminaires and masts, measurement of illuminance test procedures for various tournaments. These guidelines are to be adhered to while designing the new stadiums. All venues that are going to host FIFA matches must meet these lighting obligations for stadium lighting.

Existing stadiums need to evaluate the current illumination system, decide how to meet the requirements of relevant level of competition.

FIFA guidelines look after almost all the parameters to ensure that higher lighting standards are maintained, and an excellent visual environment is provided for all categories of events.

The Competition categories are one of the major changes in this updated standard. The 2011 guidelines included five competition categories, two of which were for televised events and the others for non-televised events. The lighting in 2020 standards is classified based on various FIFA competitions. This category is primarily for competition events, such as tournaments. In addition to this for Training three separate categories are considered and accordingly lighting parameters are specified.

FIFA Competition	FIFA Lighting Standard
FIFA World Cup™	Standard A
FIFA Women's World Cup™ Final (semi-finals and opening match by agreement)	Standard A
FIFA Women's World Cup™ Group matches, round of 16 matches and quarter-finals	Standard B
FIFA Club World Cup™	Standard B
FIFA U - 20 World Cup™	Standard B
FIFA U - 20 Women's World Cup™ Final and opening (semi & quarter finals by agreement)	Standard C
FIFA U - 20 Women's World Cup™ Group matches, round of 16 matches	Standard D
FIFA U - 17 World Cup™ Final and Semi-finals	Standard C
FIFA U - 17 World Cup™ Group matches, round of 16 and quarter-finals	Standard D
Olympic Football Tournament (Men's & Women's)	Standard B

Illumination Parameters

Lighting parameter for various categories based on various FIFA competitions

FIFA lighting standard	A	B	C	D
EV 0-90-180-270° (Vertical illumination on X° reference plane)	Minimum > 1,000 lux Average > 1,500 lux	Minimum > 650 lux Average > 1,000 lux	Minimum > 350 lux Average > 700 lux	Minimum > 250 lux Average > 400 lux
Uniformity U1v-x°	> 0.50	>0.40	>0.35	>0.35
Uniformity U2v-x°	> 0.60	>0.50	>0.45	>0.45
Eh (horizontal illuminance)	Minimum > 1,500 lux Average > 2,500 lux	Minimum > 1,200 lux Average > 2,000 lux	Minimum > 800 lux Average > 1,250 lux	Average > 1000 lux
Uniformity U1h	> 0.50	>0.50	>0.40	>0.40
Uniformity U2h	> 0.70	>0.70	>0.60	>0.60
Match continuity mode (MCM)	No disruption to light continuity is permitted	Eh ave > 1000 lux within 3 minutes Eh ave > 2000 lux within 15 minutes	Eh ave > 1000 lux within 3 minutes Eh ave > 1250 lux within 15 minutes	To be determined by FIFA on a case-by-case basis
Flicker factor (FF)	Average < 1% Maximum < 1%	Average < 12% Maximum < 15%	Average < 20% Maximum < 30%	N/A
Minimum adjacent uniformity ratio (MAUR)	> 0.60 ≤ 10 failures	> 0.60 ≤ 30 failures	> 0.50 ≤ 30 failures	N/A
Colour temperature (Tc)	5,000-6,200K	5,000-6,200K	4,200-6,200K	4,200-6,200K
Colour rendering (Ra)	≥ 80Ra	≥ 80Ra	≥ 70Ra	≥ 70Ra
Glare rating (RG)	< 50	< 50	< 50	< 50
Maintenance factor (MF)	0.90 for LED 0.80 for HID	0.90 for LED 0.80 for HID	0.90 for LED 0.80 for HID	0.90 for LED 0.80 for HID

Vertical Illuminance

The concept of Vertical Illuminance towards 'Camera', Fixed camera or Field camera is now changed to vertical illuminance on a Reference plane in four directions. From the table above one can notice this change. Also, the values of minimum and average illuminance level and uniformity for each plane needs to be fulfilled considering the entire FOP.

Minimum Adjacent Uniformity Ratio

Football is a fast-moving game. The increasing skill levels of players makes it faster and more challenging for the camera to capture the scene. It will be highly unrealistic to expect to change the camera settings consistently to shoot the ongoing game. Camera as well as the objects both are moving rapidly which calls for greater consistency for camera exposure. Thus, to support the camera crew by providing greater degree of



VERTICAL ILLUMINANCE TEST

The receptor head of the light meter is mounted perpendicular to the pitch, 1m above the pitch surface. A vertical illuminance reading should be taken at 0°, 90°, 180° and 270° at all 96 points.

Ensure that the meter is always positioned in the same way and is level. This can be achieved with the aid of a spirit level or another such device.

freedom to provide dynamic picture, illuminance levels on the reference points should be uniform, both in horizontal as well as vertical plane.

The difference between the illuminance values of any two adjacent points on any given plane in any direction should be no greater than the permitted level stipulated. The requirement takes the form of a minimum permissible ratio between the two points and assesses illuminance values that are lower or

greater than the primary reference point.

Standard A stadium – Evaluation

For a reference point 28 on horizontal plane if

$$E_h = 2,325 \text{ lux}$$

Then to achieve MAUR > 0.60,

Illuminance values at the secondary reference points 16, 29, 40 and 27 on the horizontal plane must be greater than $2,325 \times 0.60 = 1,395 \text{ lux}$.



Similarly, the illuminance value at these secondary reference points 16, 29, 40 and 27 on the horizontal plane must be lower than $2,325 \times 1.40 = 3,255$ lux.

MAUR calculations should be done for Illuminance values in Vertical plane as well and should be limited to the values indicated in the table given in standard.

Colour Properties

The FIFA Standard clearly states the minimum requirements for the Colour property of luminaires. In addition to that for good Colour HDTV broadcasting conditions luminaires should have required TLCI (Television Lighting Consistency Index) as stipulated by EBU (European Broadcasting Union). For the televised events the value should be more than 80.

Locations and Positions of the Light Points

The essence of stipulating all these conditions is to provide the most comfortable visual environment for players, referees, coaches, and match

officials. Their performance should not be hampered by the lighting system. Spectators at the venue should watch and enjoy the game. TV broadcasters should be able to provide the best quality images to all the viewers. The position of Luminaires in the lighting system has a huge impact on the illuminance conditions at the venue which ultimately decides whether this objective is achieved or not.

The Luminaire mounting system is also worked out in line with the architectural requirements and design aesthetics of stadiums. Stadium architecture and aesthetic appeal challenged the previously employed methods of lighting systems. Lighting systems employed in line with or complimenting the architectural design of stadium also provide excellent lighting environment.

The predominant objective of Luminaire mounting system had been to avoid glare to players, referees, spectators and camera. In addition to that what is expected from the mounting

infrastructure is to achieve as 'soft' shadows as possible. Harsh shadows detract both the spectators and television broadcasters. These hard shadows (generally caused by four mast systems) vary at different areas of the FOP and hence difficult to soften. Thus, installation infrastructure is required to be designed in such a way to have consistently soft shadows.

Calculation and Measurements

FIFA clearly specifies the Grid points where the illumination level is to be measured. Thus, it is important to adhere to the same grid while computing the design calculations. Football fields are measured as 68m x 105m generally, which is divided in 96points. Thus, lighting calculations and hence the measurements at venue must be done for both horizontal and vertical illuminance level. Horizontal Measurement is to be done at 1m above ground with luxmeter facing upwards parallel to pitch. Vertical Illuminance measurement should be done at same grid points with luxmeter perpendicular to the pitch. The meter should be adjusted for each test directions of 0, 90, 180 & 270degrees. Therefore, at each grid point five measurement readings are to be taken.

Pitch orientation and test grid plan

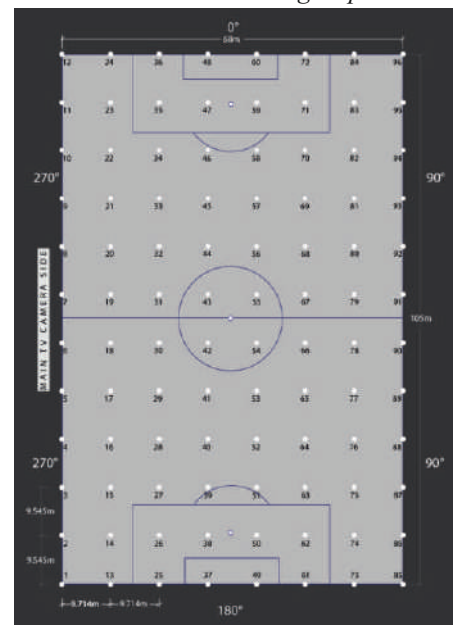


Image demonstrating Hard Shadows



Image that demonstrated Soft Shadow



Lighting Parameters for Training

FIFA has also clearly distinguished three categories as far as Training is concerned as per the table below.

Illuminance requirements	Grade 3 Standard training	Grade 2 Match practice	Grade 1 FIFA World Cup training
EV 0° (Vertical illuminance on 0° reference plane)	Not applicable	Not applicable	Minimum > 350 lux Average > 500 lux
Uniformity U1 v-0°	Not applicable	Not applicable	> 0.30
Uniformity b	Not applicable	Not applicable	> 0.40
EV 90° (Vertical illuminance on 90° reference plane)	Minimum > 150 lux Average > 200 lux	Minimum > 275 lux Average > 400 lux	Minimum > 350 lux Average > 500 lux
Uniformity U1 v-90°	> 0.30	> 0.30	> 0.30
Uniformity U2 v-90°	> 0.40	> 0.40	> 0.40
EV 180° (Vertical illuminance on 180° reference plane)	Not applicable	Not applicable	Minimum > 350 lux Average > 500 lux
Uniformity U1 v-180°	Not applicable	Not applicable	> 0.30
Uniformity U2 v-180°	Not applicable	Not applicable	> 0.40
EV 270° (Vertical illuminance on 270° reference plane)	Minimum > 150 lux Average > 200 lux	Minimum > 275 lux Average > 400 lux	Minimum > 350 lux Average > 500 lux
Uniformity U1 v-270°	> 0.30	> 0.30	> 0.30
Uniformity U2 v-270°	> 0.40	> 0.40	> 0.40
EV ave (average horizontal illuminance)	Average > 300 lux	Average > 500 lux	Average > 750 lux
Uniformity U1h	> 0.40	> 0.40	> 0.40
Uniformity U2h	> 0.60	> 0.60	> 0.60
Flicker factor (FF)	Not applicable	Not applicable	< 1%
Reference grid	40 points	40 points	96 points
Goal line illuminance test	Not applicable	Not applicable	Required
Colour temperature (Tc)	4,200 - 6,200k	5,000 - 6,200k	5,000 - 6,200k
Colour rendering (Ra)	≥ 70 Ra	≥ 70 Ra	≥ 80 Ra
Glare rating (RG)	> 50	> 50	> 50

The first category i.e., 'Grade 1' is for FIFA World cup Training Field. 'Grade 2' is for FIFA Match practices while third one, 'Grade 3' is FIFA standard training category.

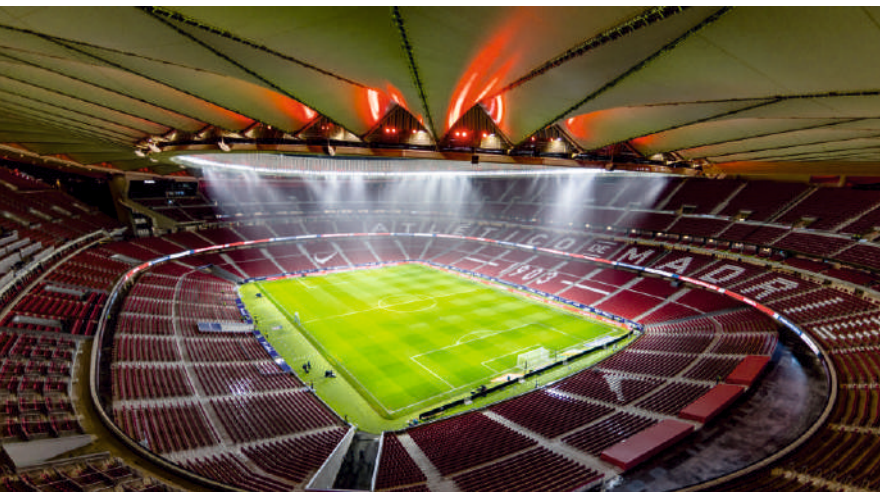
Four, Six or Eight Pole mounting system can be planned however the minimum mounting height of the luminaires shall be more than 15m.

Conclusion - Prepare Facility for International / National Football Events

These guidelines are intended for anyone planning to organize national, international football events (both televised or non-televised), or training grounds. Adopting these guiding principles ensures the best results that can be achieved for Television viewers, Players, Spectators, and the environment. Certain other factors like Glare, Flicker, Color Temperature, Colour Rendering, which have not been discussed in detail above must be considered while selecting the lighting system. These are basic hygiene factors and should be addressed as per the values mentioned in the tables provided. As the broadcasting world is changing fast, catering to four generations of the audience, application of IoT based system coupled with adherence to the Parameters recommended by FIFA would provide Perfect Unique Fan Experience.

AUTHOR : SHREEKANT PHANSE, NATIONAL APPLICATION SPECIALIST SIGNIFY INNOVATIONS INDIA LTD.

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



Responsible Lighting - Respecting the natural habitat

The author highlights the impact of unplanned, uncontrolled light and excess and wrongful usage of Artificial Light at Night (ALAN) on humans and the environment

Urban lighting has long been accepted as a key enabler for attracting tourists, uplifting economic growth and establishing or creating identity or an urban landscape. Rapid urbanization and rural upliftment programs imply increased outdoor lighting. The light/dark cycle of the sun has a powerful effect on the circadian clock of all living organisms and unplanned, uncontrolled light has serious and severe impact on humans and our environment.

To evaluate the impact of excess and wrongful usage of Artificial Light at Night (ALAN), the International Dark Sky Association has published a research report 'Artificial Light at Night : State of the Science 2022'. This article delves into some of the research findings and stresses the need to address the subject of Light Pollution to minimize its adverse impact on well-being and health of humans, animals and plants. Some research findings by leading scientific communities also connect ALAN with the COVID outbreak.

Impact of Artificial Lighting – Research Insights

The impact of ALAN has primarily been on

- Environmental /Nigh Sky
- Plants , Animals , Insects
- Human Health

International Dark Sky (IDA) research, which is substantially evidence based, states in no less words, that the rise of solid-state lighting in rich blue spectrum threatens the dark sky. 24x7 city concept

implies increased exposure to blue spectrum. This impacts the well-being of humans, plant and animals and has the potential to disrupt ecological balance.

Excerpts from the paper “IDA : State of the Science 2022” are reproduced below.

“Almost all living species are impacted by light. The rising and setting of the Sun and moon set the cue for natural activities like finding sources of food, preying and finding mates. Starlight is often used for navigation. This behaviour has been engrained and evolved over billions of years in the presence of only natural sources of light at night. Light has two kinds of effects on plants and animals; Internal - through physiology and External - through interactions with the environment and with other species. Studies have shown that ALAN impacts almost every species and seems to weaken the immune systems of some organisms. There are possibilities that parents may pass that weakness to their offspring. Thus Light at Night exposure may leave some species more vulnerable to both predators and parasites. ALAN is most likely responsible for the death of millions of birds and insects each year.

Most migrating birds navigate by sensing the Earth's magnetic field and many species also rely on light cues in the environment. Artificial light exposure interferes with this behavior. The presence of lit cities along those routes causes birds to fly higher than in rural areas. Bright lighting in cities can become a beacon to some species, drawing them away from their migratory routes. Fixtures emitting light vertically

seem to have the strongest effect, but even 'dark sky friendly' lighting attracts birds at night. The attraction to light can become lethal as it promotes collisions between birds and windows.

Researchers have found that periodically switching powerful light sources off during the night can reduce this effect.

Controlled research has established that exposure to light at inappropriate times delays or prevents the secretion of melatonin that interacts with the immune system. Health practitioners now recognize the roles that light and darkness play in healing from disease and medical procedures.

Epidemiological studies find strong correlations between indications of ALAN from satellite data and the incidence of breast and prostate cancers and delays or prevents recovery from stroke - hardening of the arteries, skin-wounds and whole-body inflammation. Other studies identify ALAN as an influence on the process of normal aging. Nighttime light exposure and frequent disruption of the circadian rhythm relate to mental illness, improper signaling between nerves and the onset of dementia and it may play a role in the incidence of autism and babies born to some pregnant women exposed to ALAN suffer from certain developmental defects. On the other hand, limiting nighttime light exposure — especially blue light — helps maintain abnormal circadian rhythm. It can ward off some abnormalities that may lead to disease. We now understand much about how ALAN interacts with our health.

However, our knowledge is incomplete and more research is needed in this area. International lighting standards often do not clearly establish benchmarks for the amount of light that drivers and pedestrians need at night on the basis of scientific evidence. There are only a few instances in which the issue has been rigorously studied and it is unclear whether the results are universally applicable. Decision makers, from elected officials to lighting designers, often substitute their intuition when guidance is lacking. In a belief that more of something is always better, they often specify too much light relative to actual needs.”

(From Page 7 of the paper “IDA : State of the Science 2022“)

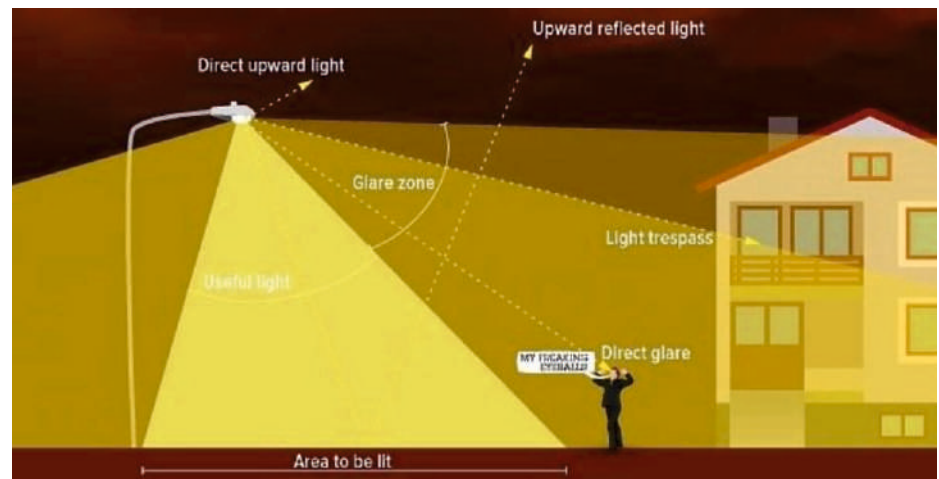
The growth of outdoor lighting may be encouraging the spread of communicable diseases and may also create conditions for new and devastating diseases, such as COVID-19, to emerge as per the recent research on this topic called “Artificial Light at Night (ALAN): A Potential Anthropogenic Component for the COVID-19 and HCoV's Outbreak” by Zeeshan Ahmad Khan, Thangal Yumnamcha, Gopinath Mondal, Sijagurumayum Dharmajyoti Devi, Chongtham Rajiv, Rajendra Kumar Labala, Haobijam Sanjita Devi and Asamanja Chattoraj.

The research has tried to focus on the possible influence of this anthropogenic factor in human coronavirus (HCoV) outbreak. “The relationship between the occurrences of Coronavirus and the ascending curve of the night-light has also been delivered. ALAN influences the physiology and behavior of bat, a known nocturnal natural reservoir of many Corona viridae. The stress exerted by ALAN leads to the impaired body functions, especially endocrine, immune, genomic integration and overall rhythm features of different

physiological variables and behaviors in nocturnal animals. Night-light disturbs “virus–host” synchronization and may lead to mutation in the genomic part of the virus and excessive virus shedding.”

Light Pollution - a factor that needs to be given more attention

It is now fairly evident that indiscriminate overuse of lighting and wrong application of products and usage leads to light pollution, with serious implications to human and ecology health



Some of the components and influencers for Light Pollution are

- Sky Glow
- Light Spill
- Glare
- Light Clutter

Some of the main reasons for such light nuisance are

- Upward Light Ratio
- High mounting height and aiming to maximize spacing and coverage
- High lighting levels owing to indiscriminate and unplanned lighting
- Maximizing luminous efficacy by using 'white light'

Much of these issues are result of low awareness and limited attention to light planning. Very less to no attention is given to light quality parameters and

installations are only evaluated of installed power and luminaire efficacy (lm/W).

Overlighting is also an alarming issue - case in point are the current lighting standards for highways that state a minimum value of 40 lux to be achieved with Emin/Eavg of 0.4 uniformity leading to average between 150 -100 lux. There is no precedence of such high levels, which lead to energy misuse, adaption issues, pollution due to light concentration, glare etc.

Way forward : Need to introduce Light and Dark Strategy – Light where you need when you need and how much you need

The intent of this article is not to dissuade or discourage the use of artificial lighting in outdoor spaces, but to sensitize users, designers and manufacturers to be responsible for human and ecological impact it causes.

Over-emphasis on reducing installed electrical load, lead to sub optimal design practices (For example- high heights, high aiming/tile angle, etc) and non-compliance to standards /design guidelines. This leads to spill light, sky glow and glare.

Regulators should be encouraged to frame specifications beyond “lighting level” and end users and designers need to ensure adherence to such standards. Depending on the environmental

sensitivity and habitat category, lighting standards should address

- Define Light Zones and a lighting policy
- Limitation in upward lighting
- Limiting aiming angle to minimize obtrusive lighting
- Over-lighting control and Dimming during curfew hours
- Appropriate colour temperatures and options of tuning

More attention is needed for defining lighting parameters outside city limits. There are many incidents of wild animals crossing over to city area causing harm to themselves and human

beings. Depending on ecological sensitivity (for example, highways crossing reserved forest area, near seacoast etc), standards should regulate lighting levels, colour temperature, zero upward lighting distribution, obtrusive and spill light etc.

Technology enhancements in lighting is at its best now. There are now many possibilities in Digital Lighting to control light Intensity, spectral distribution, colour temperature and light distribution. Smart Lighting systems should look beyond switching and monitoring and exploit the in-depth potential of digital LED.

In summary, properly designed lighting

that leverages on power of contrast can reduce light pollution and save energy, without compromising on public feelings of safety in outdoor spaces at night. All we need is a collective commitment from manufacturers, designers, policy makers and regulators.

It is time for all stakeholders to be "Responsible" for safekeeping of our habitat.

**AUTHOR : SUDESHNA MUKHOPADHYAY
CONSULTANT AND VICE PRESIDENT,
HAVELLS INDIA LTD**

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

Reference Content and Acknowledgement: IDA : State of the Science 2022

INDUSTRY NEWS

Surya Roshni appoints Jitendra Agrawal as CEO of Lighting & Consumer Durable Business



Surya has appointed Jitendra Agrawal as CEO of the Lighting and Consumer Durable Business. Jitendra, will be responsible for driving profitable growth in all parts of Lighting Business and building of categories

within the Consumer Durable space, the company said in a statement.

Jitendra Agrawal joins Surya from Luminous Power Technology Pvt. Ltd.,(a 100% Subsidiary of Schneider Electric), where he was Sr. Vice President and responsible for their Home Electrical Business. Prior to that, he spent 19 years with Philips India Limited, in his last role there, he was a Senior Director at Philips Lighting.

Jitendra, is the right leader for leading our Lighting and Consumer Durable Business, said Raju Bista, Managing Director of Surya Roshni. Jitendra's extensive and diverse experience in both consumer and professional categories should help strengthen Surya's position in the Lighting market and grow new categories within the consumer durable

space.

"I am very excited to be joining the Surya Roshni team" said Jitendra Agrawal. I believe Surya, a trusted brand, which has invested significantly in distribution and manufacturing excellence is well positioned to capture profitable growth in its existing and large Businesses and grow faster in the newer categories".

Jitendra Agrawal brings with him a rich experience of 27 years in the field of Business and People Management, Business Strategy, Multi Sales Channels, Product Marketing, Marketing Communication, New Business, Research & Development, Quality, and Sourcing. He is an Electrical and Electronics Engineer from Mangalore University.



P-VIP® Original



Fake Lamps



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

Passion creates the show

Enforcement of Quality Control Orders by BIS in Western Region of India

Ensuring Safe and Quality Products to Consumers

We have all come across substandard and unsafe goods in the markets. Such goods impact not only human health and safety, but also animal and plant life or health. Such products are a burden on the country's economy and have a far reaching and irreversible impact on the environment.

A mechanism to curb such goods from entering the market is in place that prescribes the minimum criteria that products are required to meet and such compliance is mandatory. The presence of BIS Standard Mark on a product is an assurance of conformity of the product to the requirements of Indian Standard Specifications. The Conformity Assessment Schemes of BIS provide confidence to consumers about Quality, Safety and Reliability of products and ensures Consumer Protection.

The Government of India on various considerations like public interest, protection of human, animal or plant health, safety of the environment, prevention of unfair trade practices, national security etc. directs mandatory use of Standard Mark under a Licence or Certificate of Conformity (CoC) from BIS through issuance of various Quality Control Orders (QCOs). As on date, products as per 379 Indian Standards have been notified under Scheme-I (ISI mark scheme), 79 product categories under Scheme-II (Compulsory Registration Scheme) and 2 products under Scheme-IV (Certificate of Conformity).

Enhancing Stakeholder Involvement and Awareness

Involvement of stakeholders is an important element for effective implementation of the QCOs. This begins right from the development and revision of standards to their implementation through the various BIS Conformity Assessment Schemes, and reporting of non-adherence to the QCOs. Creating awareness at various levels and multiple stakeholders is a key element towards it. BIS has developed a multipronged approach to ensure this and involves, sensitizes, trains and communicates its QCO program to Industry, Government, Consumers and Educational Institutes.

Provisions of BIS Act in the context of QCOs

The Central Government is empowered through the provisions of the BIS Act 2016 to issue QCOs. After consulting BIS, it publishes QCOs to bring the products under BIS Mandatory Certification. The products under QCOs need to conform to corresponding Indian Standard(s) mentioned in the QCO and should bear the Standard Mark under a Licence or CoC from BIS as per the relevant Scheme of BIS (Conformity Assessment) Regulations, 2018 as notified in the Order. QCOs are issued by various Line Ministries (Regulators) under the Central Government depending upon the product(s)/ product categories being regulated through the

QCOs Pertaining to Lighting Products

- a Electrical Wires, Cables, Appliances and Protection Devices and Accessories (Quality Control) Order, 2003
 - 1 Tungsten filament general service electric lamps as per IS 418,
 - 2 Self Ballasted Lamps for General Lighting Services – Part 1 : Safety Requirements & Part 2 : Performance Requirements as per IS 15111 (Part 1) and (Part 2).
- b Electronics and Information Technology Goods (Requirement for Compulsory Registration) Order, 2021
 - 1 Fixed general purpose luminaires as per IS 10322 (Part 5/Sec 1)
 - 2 Recessed luminaires as per IS 10322 (Part 5/Sec 2)
 - 3 Luminaires for road and street lighting as per IS 10322 (Part 5/Sec 3)
 - 4 Floodlights as per IS 10322 (Part 5/Sec 5)
 - 5 Handlamps as per IS 10322 (Part 5/Sec 6)
 - 6 Lighting chains as per IS 10322 (Part 5/Sec 7)
 - 7 Emergency lighting as per IS 10322 (Part 5/Sec 8)
 - 8 Rope lights as per IS 10322 (Part 5/Sec 9)
 - 9 DC or AC Supplied Electronic Control gear for LED Modules as per IS 15885 (Part 2/Sec 13)

BIS CARE APP


A tool for Consumer Empowerment



Download BIS CARE APP
from Play Store

Main features of the App

- Check the authenticity of the product with ISI mark by using 'Verify Licence Details.'
- Check the authenticity of Hallmarked Jewellery items with HUID number by using 'verify HUID'.
- Select 'Know your Standards' for information on any Indian Standard, licenses against it and laboratories for this product.
- You can also access products under compulsory certification of BIS & products under simplified procedure of licensing.
- Check the authenticity of electronic products with R-number by using 'Verify R-number under CRS'.
- Register complaints regarding quality of product or misuse of ISI mark by using 'Complaints'.



Bureau of Indian Standards
www.bis.gov.in

Completing 75 years of serving the Nation

Order, after having stakeholder consultations. After the date of commencement of the QCO, no person (manufacturer, or importer, or distributor, retailer, seller or lessor of goods or article etc.) shall manufacture, import, distribute, sell, hire, lease, store or exhibit for sale any product(s) covered under the QCO without a Standard Mark except under a valid Licence or CoC from BIS.

For implementation of the provisions of QCO, BIS acts as the Certification Authority and grants Licence or CoC to manufacturers as per relevant Conformity Assessment Scheme. BIS also acts as the Enforcement Authority for the products specified in the QCO.

Enforcement of BIS Act 2016

Effective Implementation of QCOs entails not only awareness on part of the stakeholders, but also that any violations are curbed and actions be taken against the violators as per the provisions of BIS Act 2016..

Violations are being reported to BIS through various means, such as e-mails and letters, or through the BIS Care App. Complaints are also received about sale of products notified under QCOs for

mandatory BIS certification being sold on various e-commerce platform without BIS certification. All the complaints are investigated thoroughly by the Branch Offices of BIS. On receipt of information, search and seizure operations are organised by the BIS Branch Office to establish the violations and collect evidence. Thereafter, prosecution is launched under the provisions of BIS Act, 2016.

Branch offices under the Western Region of BIS have carried out several successful search and seizure operations relating to violation of BIS Act, 2016. These relate to QCOs pertaining to Electronic and IT Goods, Toys, Steel and Steel products, Flux cored welding electrodes, Hallmarking of gold jewellery etc. Prosecution has been launched or is contemplated in these cases.

For the products notified under the Electronics and Information Technology Goods (Requirement for Compulsory Registration) Order, 2021, several successful Search and Seizure operations were carried out during this year (2022)

where violation of BIS Act 2016 could be established.

Wide publicity is given to such raids so that it acts as information to all and a deterrent to those violating the provisions of the QCO.

Penalty for contravention of the provisions of QCO

Any person who contravenes the provisions of the QCO shall be punishable under the provisions of sub-section (3) of section 29 of the BIS Act, 2016. As per this section, violations related to ISI mark and non-implementation of QCO attract a penalty for imprisonment upto two years or fine not less than two lakh rupees for the first contravention and not be less than five lakh rupees for the second and subsequent contraventions but may extend up to ten times the value of goods or articles produced or sold or offered to be sold or affixed or applied with a Standard Mark.

BIS is committed in its efforts to help in creating awareness at all levels so the public can start demanding quality products and the perpetrators of substandard products will have no market. Implementation of QCOs and their enforcement will go a long way in ensuring a robust quality eco-system in the country with only safe and quality products existing in the market.

लाइसेंस बिना उत्पादन, स्टैंडर्ड मार्क रहित दो सौ एलईडी बल्ब किए जबरन असारवा ब्रिज के पास एलईडी बल्ब निर्माता कंपनी पर बीआईएस की दबिश

पत्रिका न्यूज नेटवर्क
potrika.com

अहमदाबाद, भारतीय मानक ब्यूरो (बीआईएस) की आह्वानदाबाद शाखा की टीम ने सोमवार को शहर के असारवा ब्रिज के पास आर्यमंगला एस्टेट में स्थित एक एलईडी बल्ब निर्माता कंपनी पर दबिश दी।

बीआईएस अहमदाबाद के निदेशक व प्रमुख सुमित सेनर के अनुसार दबिश के दौरान की गई जांच में सामने आया कि कंपनी के पास एलईडी बल्ब का उत्पादन करने के लिए जरूरी बीआईएस का मान्य लाइसेंस नहीं था। उसके बावजूद भी कंपनी एलईडी बल्ब का निर्माण कर रही थी, इसकी जांच कर रही थी। इससे जुड़े बिल कंपनी से जबरन किए गए हैं। इसके अलावा टीम ने कंपनी से ब्यूरो के स्टैंडर्ड मार्क बिना के 200 एलईडी बल्ब भी जबरन किए हैं।



ब्यूरो को मिली सूचना के आधार पर यहां दबिश दी गई थी। ब्यूरो के अनुसार एलईडी बल्ब उत्पाद भारत सरकार के सूचित अनिवार्य पंजीकरण के तहत आता है। जिसके तहत कोड भी प्पफि भारतीय मानक ब्यूरो के पास से मानक चिह्न के लिए लाइसेंस लिए बिना उत्पाद का उत्पादन (निर्माण) नहीं कर सकते हैं। ब्यूरो या उसका

संग्रह भी नहीं कर सकता है। मान्य लाइसेंस के बिना उत्पाद का उत्पादन (निर्माण), बिक्री और संग्रह करना ब्यूरो अधिनियम 2016 के अनुच्छेद 17 का उल्लंघन है। ऐसे करना दंडनीय अपराध है, जिसके लिए दो साल तक की कैद और कम से कम दो लाख रुपए तक का आर्थिक दंड अथवा दोनों हो सकते हैं।

Details of some of the successful search and seizure operations carried out by BIS Branch Offices under the Western Region in 2022

Location and Month	Applicable Indian Standard for product seized
Ahmedabad, Gujarat Nov 2022	IS 16102 : Part 1 - 2012 - Self - Ballasted led lamps for general lighting services: Part 1 safety requirements <i>LED lamps were being sold on e-commerce platform without BIS Certification and the product/ packaging did not carry the Standard mark. The seller could be located and found manufacturing LED lamps without holding BIS certification and stock of LED lamps without the mandatory BIS Standard mark was seized.</i>
Palgarh, Maharashtra Aug 2022	IS 10322 (Part 5/Sec 5) : 2013 Luminaires: Part 5 Particular requirements Sec 5 Floodlights <i>Stock of LED floodlighting luminaires, without the mandatory BIS Standard mark was seized. Firm was found manufacturing the product without holding BIS certification.</i>
Vasai East, Maharashtra Aug 2022	IS 10322 (Part 5/Sec 2) : 2012 Luminaires: Part 5 Particular requirements Sec 2 Recessed luminaires <i>Stock of LED recessed luminaires, without the mandatory BIS Standard mark was seized. Firm was found manufacturing the product without holding BIS certification.</i>
Ahmadabad, Gujarat Jul 2022	IS 10322 (Part 5/Sec 3) : 2012 Luminaires: Part 5 Particular requirements Sec 3 Luminaires for road and street lighting IS 10322 (Part 5/Sec 5) : 2013 Luminaires: Part 5 Particular requirements Sec 5 Floodlights IS 15885 (Part 2/Sec 13) : 2012 Safety of lamp controlgear: Part 2 Particular requirements Sec 13 d.c. or a.c. supplied electronic controlgear for LED modules <i>Stock of LED controlgear and LED luminaires for street lighting and floodlighting, without the mandatory BIS Standard mark was seized.</i>
Anand, Gujarat Jun 2022	IS 10322 (Part 5/Sec 3) : 2012 Luminaires: Part 5 Particular requirements Sec 3 Luminaires for road and street lighting <i>Stock of LED street lighting luminaires, without the mandatory BIS Standard mark was seized.</i>
Gandhinagar, Gujarat Jun 2022	IS 10322 (Part 5/Sec 3) : 2012 Luminaires: Part 5 Particular requirements Sec 3 Luminaires for road and street lighting <i>Stock of LED street lighting luminaires, without the mandatory BIS Standard mark was seized.</i>
Nagpur, Maharashtra May 2022	IS 16102 : Part 1 - 2012 - Self - Ballasted led lamps for general lighting services: Part 1 safety requirements, IS 10322 (Part 5/Sec 5) : 2013 Luminaires: Part 5 Particular requirements Sec 5 Floodlights IS 15885 (Part 2/Sec 13) : 2012 Safety of lamp controlgear: Part 2 Particular requirements Sec 13 d.c. or a.c. supplied electronic controlgear for LED modules IS 616 - 2017 - Audio, video and similar electronic apparatus - Safety requirements <i>Stock of LED lamps, flood lighting luminaires, controlgear for luminaires, LED TVs, set-top box, and music systems without the mandatory BIS Standard mark was seized.</i>
Gandhinagar, Gujarat Apr 2022	IS 10322 (Part 5/Sec 3) : 2012 Luminaires: Part 5 Particular requirements Sec 3 Luminaires for road and street lighting <i>Stock of LED street lighting luminaires, without the mandatory BIS Standard mark was seized at two firms.</i>
Ahmedabad, Gujarat Apr 2022	IS 10322 (Part 5/Sec 5) : 2013 Luminaires: Part 5 Particular requirements Sec 5 Floodlights <i>Stock of LED floodlighting luminaires, without the mandatory BIS Standard mark was seized. Firm was found manufacturing the product without holding BIS certification.</i>
Thane, Maharashtra Mar 2022	IS 10322 (Part 5/Sec 2) : 2012 Luminaires: Part 5 Particular requirements Sec 2 Recessed luminaires <i>Stock of LED floodlight luminaires, without the mandatory BIS Standard mark was seized. Firm found manufacturing LED floodlights without holding BIS certification.</i>
Gandhinagar, Gujarat Mar 2022	IS 10322 (Part 5/Sec 2) : 2012 Luminaires: Part 5 Particular requirements Sec 2 Recessed luminaires IS 15885 (Part 2/Sec 13) : 2012 Safety of lamp controlgear: Part 2 Particular requirements Sec 13 D.C. or A.C. supplied electronic controlgear for LED modules <i>Stock of LED luminaires and controlgear, without the mandatory BIS Standard mark was seized. Firm was found manufacturing the product without holding BIS certification.</i>
Gandhinagar, Gujarat Mar 2022	IS 10322 (Part 5/Sec 3) : 2012 Luminaires: Part 5 Particular requirements Sec 3 Luminaires for road and street lighting <i>Stock of LED street lighting luminaires, without the mandatory BIS Standard mark was seized.</i>

**AUTHOR : NISHAT S. HAQUE
SCIENTIST F AND DEPUTY DIRECTOR
GENERAL (WESTERN REGION),
BUREAU OF INDIAN STANDARDS**

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

e-Waste Management rules to come into effect in 2023

The article summarizes the new E-Waste Management rules and their applicability to the Industry

The E-Waste (Management) Rules, 2022 were published by the Government of India in the Ministry of Environment, Forest and Climate Change, through a notification on 19 May, 2022 in the Gazette of India, Extraordinary. These rules will supersede the E-waste (Management) Rules, 2016 and shall come into force from 1 April, 2023.

These rules shall apply to every manufacturer, producer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, refurbishing, dismantling, recycling and processing of e-waste or electrical and electronic equipment, including their components, consumables, parts and spares used to make the product operational but do not apply to

- a Waste batteries as covered under the Battery Waste Management Rules, 2022.
- b Packaging plastics as covered under the Plastic Waste Management Rules, 2016.
- c Micro enterprise as defined in the Micro, Small and Medium Enterprises Development Act, 2006 (27 of 2006); and
- d Radio-active wastes as covered

under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and rules made there under:

Under Schedule I that defines Categories of electrical and electronic equipment including their components, consumables, parts, and spares covered under the rules, identify the following items that are relevant to the Indian Lighting Industry

Consumer Electrical and Electronics and Photovoltaic Panels

- *Fluorescent and other Mercury containing lamps*
- *Solar panels/cells, solar Photovoltaic panels/cells/modules.*
- *Luminaires for fluorescent lamps with the exception of luminaires in households*
- *High intensity discharge lamps, including pressure sodium lamps and metal halide lamps*
- *Low pressure sodium lamps*
- *Other lighting or equipment for the purpose of spreading or controlling light excluding filament bulbs*

Extended Producer Responsibility Framework and Registration

The E- Waste Rules specify that the

following entities need to register on the portal

- (a) Manufacturer (b) Producer (c) Refurbisher and (d) Recycler

If any entity falls in more than one category, then the entity is required to register under those categories separately. No entity identified in these rules is allowed to carry out any business without registration and those entities that are registered under these rules shall not deal with any unregistered manufacturer, producer, recycler and refurbisher.

If any registered entity furnishes false information or willfully conceals information for getting registration or return or report or information required to be provided or furnished under these rules or in case of any irregularity, the registration of such entity may be revoked by the Central Pollution Control Board for a period up to three-years after giving an opportunity to be heard and in addition, environmental compensation charges may also be levied in such cases.

The Central Pollution Control Board may charge a registration fee and annual maintenance charges from the entities seeking registration under these rules based on capacity of e-waste generated or recycled or handled by them as laid down by the Central Pollution Control Board with the approval of the Steering Committee.

Certain categories of lamps such as Mercury, Tri band Phosphor, Lead, Chromium, Cadmium may be exempted from the requirements of these rules.



E- Waste Recycling Targets

The E- Waste Rules identify the year wise targets for those registered under the E-Waste rules as per Schedule III.

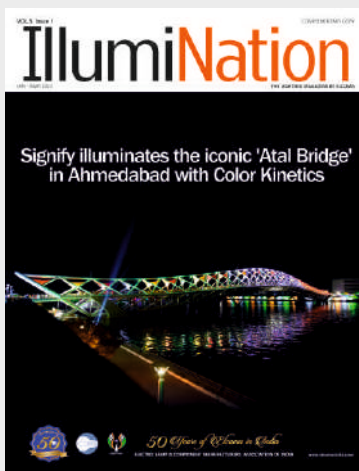
SI. No.	Year (Y)	E-Waste Recycling Target (by weight)
1.	2023 -2024	60% of the quantity of an EEE placed in the market in year Y-X, where 'X' is the average life of that product
2.	2024 -2025	60% of the quantity of an EEE placed in the market in year Y-X, where 'X' is the average life of that product
3.	2025 -2026	70% of the quantity of an EEE placed in the market in year Y-X, where 'X' is the average life of that product
4.	2026-2027	70% of the quantity of an EEE placed in the market in year Y-X, where 'X' is the average life of that product
5.	2027-2028	80% of the quantity of an EEE placed in the market in year Y-X, where 'X' is the average life of that product
6.	2028-2029	onwards 80% of the quantity of an EEE placed in the market in year Y-X, where 'X' is the average life of that product

1. These E-waste recycling targets shall be reviewed and may be increased after the end of year 2028- 2029.
2. The importers of used electrical and electronic equipment shall have 100% extended producer responsibility obligation for the imported material after end of life, if not re-exported.
3. E-Waste recycling targets shall not be applicable from solar photovoltaic modules or panels or cells.

Extended Producer Responsibility targets for producers, who have started sales operations recently, i.e. number of years of sales operations is less than average life of their products mentioned in the guidelines issued by the Central Pollution Control Board from time to time are covered under Schedule IV of the Rules.

SI. No.	Year (Y)	E-Waste Recycling Target (by weight)
1.	2023 -2024	15% of the sales figure of financial year 2021-22
2.	2024 -2025	20% of the sales figure of financial year 2022-23
3.	2025-2026 onwards	20% of the sales figure of the financial year two years back

1. Once the number of years of sales operation equals the average life of their product mentioned in the guidelines issued by Central Pollution Control Board, their extended producer responsibility obligation shall be as per Schedule-III.
2. E-Waste recycling targets shall not be applicable for waste generated from solar photo-voltaic modules or panels or cells.



We value your feedback

We love to hear from you as IllumiNation consistently strives to make its content informative and interesting. Please share your feedback/thoughts/views via mail

For subscription : deepakkumar@elcomaindia.com

For advertisement : amalsengupta@elcomaindia.com

You can also contact us at

Electric Lamp and Component Manufacturers' Association of India
 122, 1st Floor, DLF Tower-A, Jasola District Centre,
 Jasola Vihar, New Delhi -110025
 Tel: +91-11-41556644/46604947



ELCOMA Member's Directory for year 2022-2024 is now released. Interested stake holders may write for a free copy to deepakkumar@elcomaindia.com



List of Authorities and their Duties

Sl. No.	Authority	Coprrresponding Duties
1.	Central Pollution Control Board	<p>(1) Operation and maintenance of Extended Producer Responsibility Portal and monitoring of Extended Producer Responsibility compliance.</p> <p>(2) Coordination with State Pollution Control Boards</p> <p>(3) Prepare and issue guidelines and Standard Operating procedures for collection, storage, transportation, segregation, refurbishment, dismantling, recycling and disposal of e-waste under these rules from time to time, and also issue necessary Forms/ Returns for implementation of these rules.</p> <p>(4) Conduct random check for ascertaining compliance of the e-waste rules and may take help of Customs/State Government or any other agency (ies).</p> <p>(5) Documentation, compilation of data on e-waste and uploading on websites of Central Pollution Control Board.</p> <p>(6) Actions against violation of these rules.</p> <p>(7) Conducting training programmes to develop capacity including State Pollution Control Boards and Urban Local Bodies officials.</p> <p>(8) Conducting awareness programmes on e-waste management, RE/CE label, legislation to make consumers responsible towards product usage and safe disposal.</p> <p>(9) Integrate all stakeholders with the centralized digital system.</p> <p>(10) Submit Annual Report to the Ministry.</p> <p>(11) Enforcement of provisions regarding reduction in use of hazardous substances in manufacture of electrical and electronic equipment.</p> <p>(12) Interaction with IT industry for reducing hazardous substances.</p> <p>(13) Set and revise targets for compliance to the reduction in use of hazardous substance in manufacture of electrical and electronic equipment from time to time.</p> <p>(14) Ensure RoHS compliance and its certifications through a recognized lab and its mandatory checks.</p>
2.	State Pollution Control Boards or Pollution Control Committees of Union territories	<p>(1) Inventorisation of e-waste.</p> <p>(2) Monitoring and compliance of Extended Producer Responsibility as directed by Central Pollution Control Board.</p> <p>(3) Conduct random inspection of recycler and refurbisher and monitoring recycling capacity utilization.</p> <p>(4) Implementation of programmes to encourage environmentally sound recycling.</p> <p>(5) Any other function delegated by the Ministry/ Central Pollution Control Board under these rules.</p>
3.	Responsibilities of Local Bodies (Urban and Rural)	<p>(1) To ensure that e-waste if found to be mixed with Municipal Solid Waste is properly segregated, collected and is channelised to registered recycler or refurbisher.</p> <p>(2) To ensure that e-waste pertaining to orphan products is collected and channelized to registered recycler or refurbisher.</p> <p>(3) To facilitate setting up e-waste collection, segregation and disposal systems.</p> <p>(4) Conducting training sessions to develop capacities of the urban and rural local bodies.</p>
4.	Responsibilities of Port authority under Indian Ports Act, 1908 (15 of 1908) and Customs Authority under the Customs Act, 1962 (52 of 1962).	<p>(1) Verify the import or export with respect to Extended Producer Responsibility under these rules.</p> <p>(2) Inform Central Pollution Control Board of any illegal traffic for necessary action.</p> <p>(3) Take action against importer for violations under the Indian Ports Act, 1908 or the Customs Act, 1962.</p>
5.	Responsibilities of Bureau of Indian Standards/ Ministry of Electronics and Information Technology	To issue standards for refurbished products. Bureau of Indian Standards/ Ministry of Electronics and Information Technology shall also develop guidelines for refurbishers with respect to Compulsory Registration Scheme.

**AUTHOR :SANTOSH AGNIHOTRI,
CHAIRPERSON, ELCOMA TECHNICAL
COMMITTEE AND GENERAL MANAGER-
QUALITY AND TECHNICAL, ORIENT
ELECTRIC LIMITED**

ams OSRAM spreads light among youth with disabilities and underprivileged

CSR program on “LIVELIHOOD SKILL TRAINING” and “JOB FAIR” in association with Samarthanam Trust



Under its CSR initiative, ams OSRAM joined hands with Samarthanam Trust to empower youth with disabilities and distress in socio-economic-cultural fronts through a half year long program called “Livelihood Skill Training Program” which ran from April till

September 2022. A total of 50 people were trained under this program and 60% of them have already got placement. Comprising of both males (36) and females (14), the trainees consisted of 9 Visually Impaired, 17 Speech and Hearing Impaired and 24 Physically Handicapped trainees.



Apart from Skill Training program, an open job fair was also conducted for economically weaker and differently abled people on 24th November 2022 at Vocational Rehabilitation Centre for Handicapped (VRC), Shakarpur Khas, New Delhi. Around 20 renowned corporates participated in this job-fair to select talent from this different but skilled and trained section of the society. Until the last working hour of that day, a record of 397 candidates registered themselves and 41 got final appointment letters.

Inaugurating the job fair, Mr. Avinder Singh, Managing Director, OSRAM Lighting Pvt. Ltd. India said, “It is a great privilege and honor for us to be associated with Samarthanam, who works for the benefit of people with disabilities. We are delighted to support them in their efforts to help such people gain skills, find work, and become financially self-sufficient”

Commenting on the initiative, Dr. Mahantesh G K, Founder Managing Trustee of the Samarthanam Trust said, “Thank you, OSRAM LIGHTING, for being so helpful and supportive and providing a beneficial environment to people with and without Disabilities, from Skills Training to Job Placement. Samarthanam is truly privileged to receive your support, and my vision of making every disabled a taxpayer can be fulfilled with supporters like OSRAM Lighting”

AUTHOR : OSRAM LIGHTING PRIVATE LIMITED

Signify Illuminates Table Tennis Courts in Odisha Schools

Signify partners with Pro Sport Development and International Table Tennis Federation Foundation to illuminate 4 table tennis courts in Bhubaneswar



Enabling a brighter future for India's young sports talent, Signify recently illuminated table tennis courts in 4 schools in Bhubaneswar under its Khel Jyoti CSR Program. The company partnered with Pro Sport Development (PSD) and International Table Tennis Federation (ITTF) Foundation for their community table tennis program focused on school students.

This project will benefit more than 250 students across 4 schools in Bhubaneswar, by providing them an ideal playing experience with certified illumination levels, designed and executed as per the national sports guidelines. The high-quality LED lighting in the courts is powered by solar energy to ensure an uninterrupted power

supply, that is also sustainable in the long run. The company has also installed high mast LED outdoor lights around the school, to make the approach to the courts safer for all young players, including girls, after sunset.

Commenting on the initiative, Sumit Joshi, CEO & MD of Signify, South Asia said, "With more than half of our country's population being under the age of 25, there is a lot of potential for India to leverage its demographic advantage and create its mark at an international level in various sports. Through this partnership with Pro Sport Development, we aim to support the young and upcoming table tennis players by providing them the basic tools and equipment in terms of lighting and giving them a fair opportunity to excel.

We look forward to creating a brighter future for India's young sports talent."

Commenting on the initiative, Suheil Farrell Tandon, Director-Founder of Pro Sport Development said, "Pro Sport Development works towards the development of sports and empowerment of youth at the grassroots in India. We are committed to providing a high-performance training environment to all young athletes and students. Through this partnership with Signify, schools and students will greatly benefit from the installation of the lights, which will allow them to train in different environments and times of the day."

**AUTHOR : SIGNIFY INNOVATIONS
INDIA LIMITED**

Signify expands its Philips Smart Wi-Fi lighting range with new portable smart lamps



Signify has expanded its Philips Smart Wi-Fi lighting range in India with the launch of two new portable smart lamps - Philips Smart LED Squire and Philips Smart LED Hero. These beautifully designed lamps enable users to bring colorful smart light to any corner of their living area. These products can be placed on the bedside, coffee table or bookshelf to cast a soft colorful glow on the wall and create a cozy corner for reading, exercising or just relaxing at home.

With these easy-to-use portable lamps, customers can brighten up their homes with soft light in any color they like or simply apply a dynamic light mode designed for them. Customers can also choose from a wide range of energizing cool white to soft warm white lights, or simply select from the preset modes such as Focus and Relax to create the best ambience for their activities.

The Philips Smart LED Squire and Philips Smart LED Hero have a subtle round-shaped design and a simple plug-and-play operation which makes them easy to use and carry anywhere in the home. While the Philips Smart LED Squire table lamp comes with a dual-zone light effect, the Philips Smart LED Hero table lamp is equipped with a tap sensor control, in addition to app and voice controls.

These smart portable table lamps can be remotely operated from anywhere using the Philips WiZ app or through voice control. They are also compatible with all smart home systems that work via existing Wi-Fi networks. You can also automate these smart lights to follow your daily or weekly routines. Schedule your lights to turn on in the morning or before you arrive home, and to keep them off to save energy, when they are

not necessary.

Commenting on the launch, Sumit Joshi, CEO & Managing Director, Signify South Asia said, “The demand for smart lighting is steadily growing in India, owing to increasing internet penetration and a growing younger audience that prefers lighting that is smart and convenient. We are delighted to announce the expansion of our Philips Smart Wi-Fi lighting range in India with our newly launched portable table lamps— Philips Smart LED Squire and Philips Smart LED Hero. We are confident that users will enjoy the convenience of these plug-and-play portable lamps.”

The Philips Smart LED Squire and Philips Smart LED Hero table lamps are available in white colour and 9W option, on leading e-commerce platforms in India.

Orient Launches Prism COB Downlighters

Orient Electric is expanding its footprints in home décor lifestyle product segment after establishing itself successfully in general purpose lighting products. As COBs are gaining popularity among architects, interior designers and consumers while decorating or designing their homes, Orient has launched a new range of Prism COB Downlighters with gold finish reflectors for that classy and aesthetically premium look to your spaces.

These COB luminaires are available in recess and surface options in various wattages and shapes (round and square)

along with multiple colour options (cool white, natural white, warm white and 3CCT). With these various options, consumers can choose the products that meet their exact requirements.

The beam angle being narrow (40° angle) these products are ideal for use in modern houses, showrooms, art galleries, etc to enhance and focus any corner, wall or space.

With bright glare free lumen output and superior quality, these downlights are Made in India to withstand hard field conditions and have features like 4KV surge and 440 VAC phase voltage.



SUBSCRIPTION FOR ONE YEAR

Quarterly

SUBSCRIPTION ORDER FORM

Magazine -INR 100.00 or USD 7.00 per copy

Normal Rates:

India - 4 issues for Rs. 300 (1 year's subscription) as against Rs. 400
 Overseas - 4 issues for 20.00 USD (1 year's subscription) as against USD 28.00
 Note : extra 18% GST applicable

Name of Organization :
 No of Copies required : Issue start date : Your email address :

Bank Details for Online Payment:

Name : Electric Lamp and Component Manufacturers' Association of India
 Bank Name : Bank of India
 Bank Address : M-78, Main Market, Road Number 10, Block M, Greater Kailash II, New Delhi 110048
 Account No. : 603710110001910, IFSC Code: BKID0006037, MICR Code: 110013009, Branch Code: 006037, Swift Code: BKIDINBBGK2

Details for Free Subscription

Name of Organization :
 Name of CEO : Designation:
 Type of Business :
 Brief detail about your organization :
 Address : City : Pin : Country : Phone:

Please send Free copy at Following address(s)

Name: Designation: Organization :
 Postal Address :
 City : Country : Pin Code : Mobile No :
 Name: Designation: Organization :
 Postal Address :
 City : Country : Pin Code : Mobile No :
 Name: Designation: Organization :
 Postal Address :
 City : Country : Pin Code : Mobile No :
 Date : Signature :

For subscription related queries, get in touch with us Mr. Deepak Kumar
 Electric Lamp and Component Manufacturer's Association of India (ELCOMA)
 122, 1st Floor, DLF Tower-A, Jasola District Centre, Jasola Vihar, New Delhi -110025
 Tel : +91-11-41556644/46604947 Email : deepakkumar@elcomaindia.com

Power gone Light ON

Presenting Orient Electric Emergency LED Lights



Lights will be automatically switched ON to Emergency mode during power cut

Automatically recharges when power is ON

APPLICATIONS



SHOPS



PARKS



STREET VENDORS



RESIDENCES

MADE IN INDIA



FANS • HOME APPLIANCES • LIGHTING • SWITCHGEAR

orient electric Smart Shop | www.orientelectric.com | Follow us on:

Orient helpline no.- 1800 103 7574* (Toll free)

*Applicable for India Only.

SURYA

Smart Lighting

Surya ke naye smart lights

Sabko mood mein le aaye



- Warm to Cool Light
- Control Light Intensity
- Remote Controlled



SURYA ROSHNI LIMITED

E-mail: consumercare@surya.in • www.surya.co.in • Toll Free No.: 1800 102 5657 • Tel.: 011-47108000



surya



surya_roshni



surya.roshni



surya-roshni

PHILIPS

Solar Lighting

A world powered by the sun

Philips Essential SmartBright Solar Lighting series

innovation + you



Streetlight

Wall light

Flood light

Bollard light (Big)

Bollard light (Small)

Bollard spike light

Garden spike spot

Gate top light

Up and down wall light

Flame light

Indoor suspended light

Solar lighting is sustainable, green and clean



Significant energy savings



Environment friendly



Less dependence on grid



Low maintenance



No cables



Safer, no risk of electrical hazards



Easy to install