

Advanced Course on Sustainable Lighting Practices

Organised by

TERI and PHILIPS Lighting University

Date 18 – 20 February 2013

Venue: Seminar Hall, Ground Floor, TERI, IHC, Lodhi Road, New Delhi

Good lighting aims at illuminating the task effectively and the general surroundings appropriately. Good lighting design enhances architecture but energy-efficient lighting design enhances both the design and the performance of building. Energy-efficient lighting design focuses on methods and materials that improve both quality and efficiency of lighting. A good lighting design should be able to provide desired quantity and quality of light at minimum energy consumption. Lighting contributes to significant energy consumption in buildings. In air conditioned buildings lighting energy consumption may be as high as 20-25% of total energy consumed, whereas in non-air conditioned buildings, share of lighting energy consumption may be as high as 60% of net energy consumption. Hence it is important to design and operate lighting systems efficiently.

PHILIPS is one of prominent leaders in lighting innovations in the industry and TERI has long standing experience in enabling energy efficient lighting solutions for buildings and outdoor applications. PHILIPS Lighting University and TERI have joined hands to offer this unique course on sustainable lighting solutions that shall enable participants understand the tools and techniques of efficient and effective lighting solutions, enable understanding of GRIHA (Green Rating for Integrated Habitat Assessment: The National Rating System for Green Buildings in India) requirement for energy efficient lighting including integration of control strategies as per requirements of the Energy Conservation Building Code of India. The course has balanced content of theory and practical exercises. Participants shall be given exposure to use of software tools for design of efficient lighting systems. Practical training on audit of existing lighting system and derivation of retrofit solutions shall be done. The course shall have emphasis on indoor lighting solutions with choosing a light source and design challenges for Net-Zero Energy buildings.

Energy efficient lighting is also visually pleasing:

The USP of the course is to reinstate the above with suitable examples and cases.

The faculty shall be drawn from renowned lighting professionals from Philips Lighting University and TERI.

From Philips India:

Sudeshna Mukhopadhyay - Director & Head, Philips Lighting University

Kalyan Ray Chaudhuri - Senior Application Specialist, Urban Lighting

Ashish Bahal - Manager, Architect ,Program

Indranil Goswami- Director, Lighting Control Systems

From TERI:

Pradeep Kumar, Senior Fellow and Associate Director, Centre for Research on Sustainable Building Sciences, Sustainable Habitat Division

Mili Majumdar, Director, Sustainable Habitat Division

Rana Pratap Poddar, Research Associate

Ashish Jindal, Research Associate

Who should attend?

Professionals involved in offering sustainable lighting solutions; architects; electrical engineers; interior designers; green building consultants; private users & large government institutions.

Prerequisites:

Professional should have basic understanding of lighting principles, and should be familiar with the lighting terminologies; laptop computer essential for participation in the practical training

Course Fee:

10,950 INR (Inclusive of all taxes)

Agenda (subject to minor modifications)

Timing	Programme
Day 1 : Indoor Lighting Principles & Design as per Codes & Standards	
	Registration 9.00 AM
9.30AM to 5.30PM	Overview of sustainable buildings and relevance of lighting
	Green Building Standards - Introduction to GRIHA & LEED criteria related to lighting system <ul style="list-style-type: none">➤ Inefficiency to efficiency and efficiency to optimized lighting design
	Design Principles, Key Lighting Specification, Photometric Data & Optical Distribution <ul style="list-style-type: none">➤ Lighting Design Trends and Techniques, insight into Glare, Luminance, Spatial Lighting, Light Distribution & Photometric Data , Codes and standards
	Green Products : what does it entail (Cradle to Grave Concept) New Generation Lamps & Gear & Luminaire Trends <ul style="list-style-type: none">➤ Key Performance Specs, New Gen TL Lamps, Luminaire
	Lunch
	"Concept Lighting for Offices : Lighting Concept, Lighting Parameters, Products and a Design Concept" <ul style="list-style-type: none">➤ Case Study & Detailed description
	Choosing a Light Source: Which is best for your application? <ul style="list-style-type: none">➤ Optimization & Tips for effective lighting design
	LED Performance : Myths and fact <ul style="list-style-type: none">➤ LED luminaire design & Industry updates
	What's New in Lamps & Ballasts <ul style="list-style-type: none">➤ For increased energy, operational & Installation savings
	Lighting Retrofits: A better option now than ever before <ul style="list-style-type: none">➤ Common luminaire replacement for energy optimization

Day 2 : Daylight integration with lighting controls & Energy Audit	
9.30AM to 5.30PM	High performance day lighting design & requirement as per GRIHA & LEED <ul style="list-style-type: none"> ➤ Detailed description of GRIHA Criteria-13 & LEED Criteria
	Lighting controls-Products & Technology <ul style="list-style-type: none"> ➤ Fundamentals, Benefits & It's Future
	Lighting control design as per ECBC <ul style="list-style-type: none"> ➤ Standards & Methodology of Controls as per codes
	Lunch
	Lighting controls, Daylight integration & Case studies <ul style="list-style-type: none"> ➤ Day lighting analysis, lighting controls including daylight integration mechanism
	Light ,Perception & Health <ul style="list-style-type: none"> ➤ Effects of Daylight & Electric light on Human Well -Being
	Sustainable Renewable Lighting <ul style="list-style-type: none"> ➤ GRIHA & LEED Criteria & energy efficiency standard ,Integration of solar PV & Case Study
	Energy Audits for facility upgrades <ul style="list-style-type: none"> ➤ Energy audit methodology, Instrumentation, Measurements, Analysis & Evolving energy efficiency measures
Day 3 : Workshop on Sustainable Lighting system design	
9.30AM to 5.30PM	Dialux Training : Indoor Lighting/day lighting/artificial & daylight integration <ul style="list-style-type: none"> ➤ Demonstration of Software, Lighting designing of sample areas with software
	Lunch
	Design of lighting system as per Codes & Standards using Dialux: Practical exercise for participants <ul style="list-style-type: none"> ➤ Participants will present their simulated sample space with final design of lighting system
	Feedback and closure/distribution of certificates

Note: - Tea & Snacks will be offered on every day between Mornings to Lunch & Lunch to Evening session.