

## Role of Luminaires in Energy Efficient Lighting

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### What is a Luminaire ?

We generally believe that it is **ONLY** the Lamp that is important for Energy saving

Typical Perception : Luminaire? - A holder for a lamp???

Luminaires or light fixtures meet the following basic requirements

- Provide **electrical control gear** and connection to the lamps  
Physical protection: IP 20- IP 68  
Thermal Protection
- **Optical Control-distribution of light-distribution of luminance**  
Provide light where and how you want  
Shield the lamps from view – avoid producing glare

### Classification of Luminaires

#### Based on Application

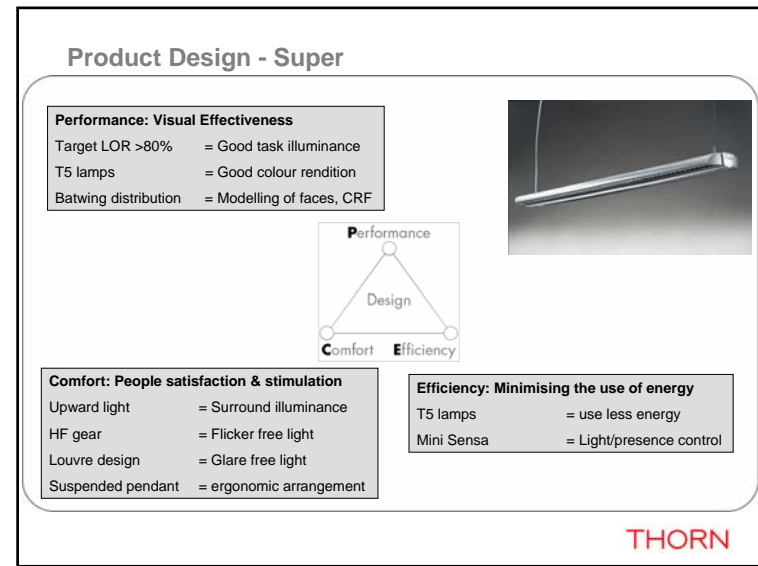
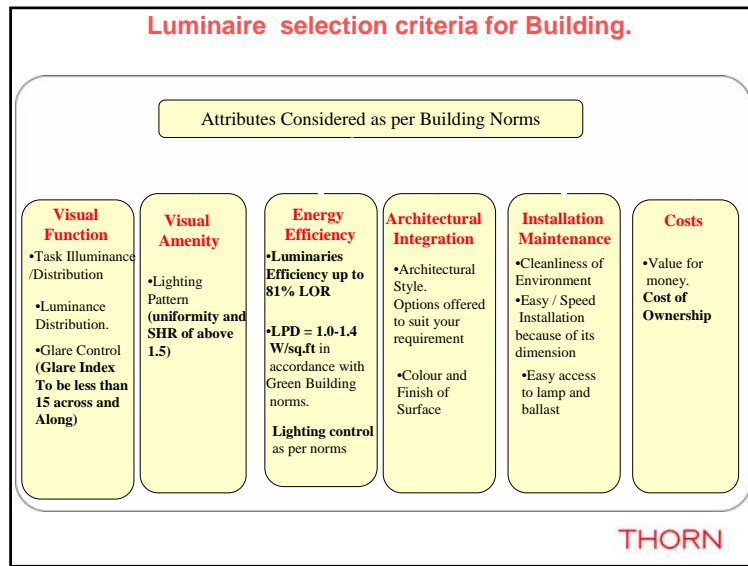
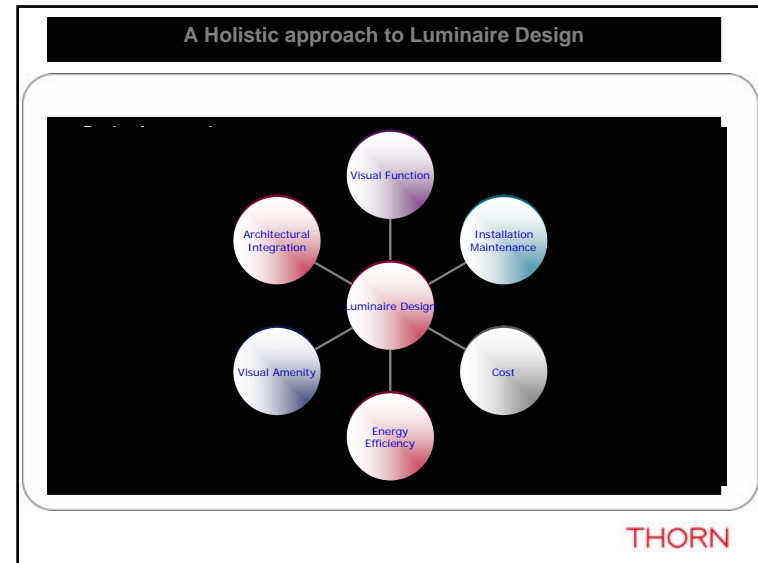
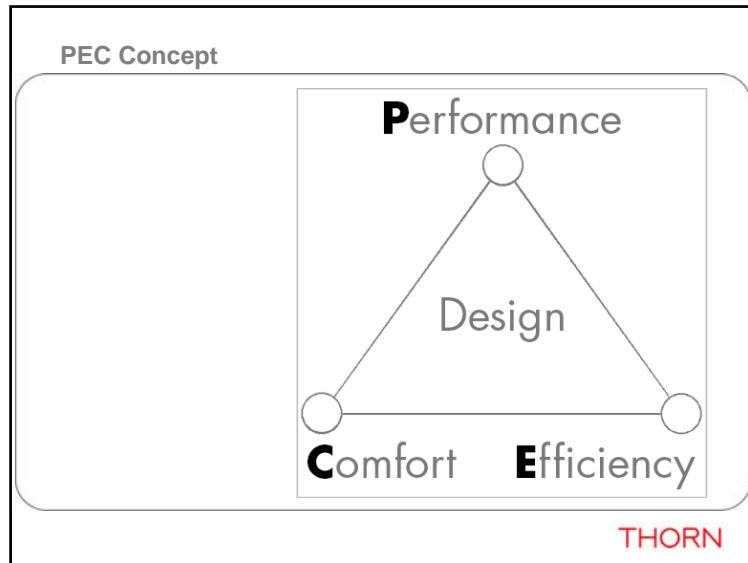
- Consumer
- Industrial
- Commercial Indoor
- Flood lighting
- Road lighting
- Retail
- Sports

### ENERGY

- An Energy Efficient building, also known as a sustainable building, is a structure that is designed, built, renovated, operated, or reused in an ecological and resource-efficient manner.
- Such buildings are designed to meet certain objectives such as,
  - Protecting occupant health; ----- Comfort
  - Improving employee productivity; ----- Performance
  - Using energy, water, and other resources more efficiently; ----- Efficiency
  - Reducing the overall impact to the environment.

--- Lighting Power Density (LPD unit-w/sq ft) should be between 1w/sqft to 1.4w/sqft based on the application areas.






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**Applied PEC**



**Realisation of Performance Efficiency Comfort**




Cat 2. Luminaires giving dark ceilings and walls  
Result - Depressive and dull appearance

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**Realisation of Performance Efficiency Comfort**




Cat 2. Luminaires plus highlighting of planter and picture  
Result - Increased visual interest

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**Realisation of Performance Efficiency Comfort**



Cat 2. Luminaires plus highlighting of planter, picture and the addition of wall mounted uplights  
Result - A productive and visually stimulating interior

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### Realisation of Performance Efficiency Comfort



Uplight/downlight luminaires  
Result - A productive comfortable and pleasant interior

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### Applied PEC

**Performance** – Meets EN12464  
**Efficiency** – 1.36 W/sq.ft.  
**Comfort** – Gloomy, depressing

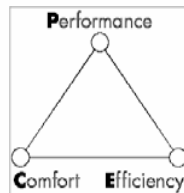
**Performance** – Meets EN12464  
Excellent CRF, modelling  
**Efficiency** - 1.184 W/sq.ft.  
**Comfort** - Wouldn't you rather work here?!!



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### Lighting in today's world

The latest in luminaire technology development provides means to realise Performance, Efficiency and Comfort giving a holistic approach to the lighting designer -- USER



LIGHTING PEOPLE AND PLACES

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