

CIE2012 Workshop on

Building Energy Regulations and their Influence on Achieving Good Lighting Quality in Buildings

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Abstract

Building energy regulations have evolved from building thermal performance regulations to now embrace the energy efficiency of other building services such as lighting. Typically very basic and blunt metrics are being utilised such as installed lighting power density with possibly some concessions for controls. These rudimentary metrics remove flexibility in lighting design and its application and has been mooted around the globe as compromising lighting quality creating a focus on low powered generic designs solutions. Such designs potentially limit the opportunity for efficient energy use within lighting by limiting the flexibility and variety of lighting technologies installed.

The implementing of basic lighting regulations insinuates that the science of lighting design and associated human factors are not advanced or mature enough to ascertain an annual lighting usage and consequently an energy budget for a lighting application pattern for an occupied building. Whereas other building elements such as thermal envelope performance which rely on annual predictive weather patterns and human factors (such as blind usage, and door and window closures) are deemed to be competent and sufficiently accurate for use in similar energy use determinations.

This workshop will explore these topics in detail with a view to developing a paper on the competencies and capabilities of the lighting industry to address lighting quality in buildings while supporting the globally acknowledged priorities of sustainability and energy efficiency.

Issues to debate:

1. Are current building regulations influencing the opportunity to achieve good lighting quality in buildings?
2. Do we understand enough about
 - a. human factors in lighting
 - b. lighting technologies
 - c. lighting control systems
 - d. building performance and operationto calculate a building's annual lighting energy budgets with sufficient accuracy?

3. If so, what energy and light technical metrics should be explored?
4. And, do we have sufficient competent lighting professionals to deliver such a building energy assessment with a lighting design to meet the market needs?

If you would like to give a brief presentation, or other contribution, during this session, please contact the workshop convenor, Steve Coyne (steve@lightnaturally.com.au).