

LIF Technical Statement No. 47

Definition for Ultra Efficient Lighting (UEL)

Introduction

Over the last year or so there have been many references to Ultra Efficient Lighting (UEL). There has also been some confusion over the use of the term e.g. does it relate to LEDs only or should it be a more general definition of what should constitute ultra efficient lighting at any point in time?

The Lighting Industry Federation (LIF) Technical Board and LED Application Panel have developed a LIF view of the definition of UEL based on it being independent of any technology and phrased in such a way that it is reasonably well future-proofed, as it naturally embraces more energy efficient technologies as they come along i.e. it is based on the top 20% energy efficient products at any time.

Like all documents of this nature, LIF will continue to update and improve the content as more information becomes available and in that context, comments are always welcome and should be sent to uel@lif.co.uk

LIF definition for **Ultra Efficient Lighting (UEL)** as at 24th March 2010

It is well known that for ultimate energy efficient lighting we need the right light in the right place at the right time by the right lighting system. This means having the right lighting scheme design for the place, and installed and operated by the right lighting system. Accepting this leads to the following definitions:

Ultra efficient lighting (UEL) – means the **Lighting Scheme Design** needed to fulfil the lighting requirements specified in the relevant lighting application standard and the resulting installed scheme to use an energy efficient **Lighting System** consisting of lamps*, ballasts, luminaires and lighting controls to deliver the scheme lighting requirements. To qualify as UEL the energy efficiency of the system shall be in the top 20% of the range of the lighting energy efficiency ratings of installations made in accordance with BSEN 15193 LENI estimation (measured in units of kWh/m²/year).

Lighting Scheme Design – means a design process in which the lighting designer selects the lighting criteria for the place of work, chooses the lighting solution (including the use e.g. of day-lighting where appropriate), makes lighting calculations, configures the layout, produces drawings of the lighting scheme and specifies the operating functions of the **lighting system**, ensuring it is fully compliant with all Regulations and Standards current at any time.

Lighting system – means the lighting equipment or lighting solution (lamps*, ballasts, luminaires and lighting controls) required for the lighting scheme, its installation and operation during the life of the scheme

LENI – means Lighting Energy Numeric Indicator (see BSEN 15193)

*For lamps please also read light-sources

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