Standards and directives

EuP — Ecodesign of Energy-using Products directive
The aim of this directive is to reduce the consumption of natural resources and energy, and to minimise environmental impacts of products across the whole of their life cycle. Manufacturers must practice ecodesign, give instruction on correct and efficient product use and limit power consumption including that by stand-by devices

9.2 Standards

A variety of documents exist to ensure a product conforms to relevant directives and safety requirements. Some of the relevant standards are listed in Table 9.1.

Subject	European Standard	International Standard
Luminaires – General requirements and tests	EN 60598-1	
Luminaires – General types	EN 60598 2-1	IEC 60598-2-1
Luminaires – Recessed	EN 60598 2-2	IEC 60598-2-2
Luminaires – Street lighting	EN 60598 2-3	IEC 60598-2-3
Luminaires – Floodlights	EN 60598 2-5	IEC 60598-2-5
Luminaires – with transformers	EN 60598-2-6	IEC 60598-2-6
Luminaires – Air handling	EN 60598 2-19	IEC 60598-2-19
Luminaires – Emergency	EN 60598 2-22	IEC 60598-2-22
Luminaires Track systems	EN 60570	IEC 60570
Photometric Measurements		CIE 24/CIE 27
Photometry and data transfer	EN 10302-1: 2004	
Photometry for workplace luminaires	EN 10302-2: 2004	
Photometry for emergency luminaires	EN 13032-3: 2007	
EMC Emissions-Lighting	EN 55015	CISPR 15
EMC Immunity-Lighting	EN 61547	IEC 61547
Quality Systems	EN ISO 9000	ISO 9000
Emergency Lighting	EN 1838	
Electronic transformers for lamps	EN 61347-2-2	IEC 61347-2-2
Safety		
Electronic transformers for lamps	EN 61047	IEC 61047
Performance		
Safety isolating transformers	EN 60742	IEC 742
Lighting Columns	EN 40	

Standards and directives

Application		
Lighting of workplaces – indoor workplaces	EN 12464-1: 2003	
Lighting of workplaces – outdoor workplaces	EN 12464-2: 2007	CIE S 015/E:2005
Light and lighting – Sports lighting	EN 12193:1999	
Emergency lighting	EN 1838	CIE S 020/E:2007
Emergency lighting – testing and inspection	EN 50172: 2004	
Road lighting practice	EN 13201-1/4: 2004	
Energy performance of buildings, lighting	EN 15193: 2007	
Radiation exposure limits	EN 14255	
Maintenance of indoor electric lighting		CIE 97.2
Lighting education		CIE 99
Discomfort glare in interior lighting UGR		CIE 117
Obtrusive light		CIE 150
Maintenance of outdoor electric lighting		CIE 154

Table 9.1 Selection of relevant standards

ENEC Marking

For luminaires and lighting components, European harmonisation of national approval marks has been achieved through introduction of the ENEC mark. The ENEC mark may be awarded by any one of the recognised European approval authorities, such as BSI, VDE or SEMKO, in the same way as a national approval mark. ENEC is important however, because it indicates that the product is suitable for use throughout Europe and that all of the most onerous special national conditions of test standards have been complied with.

EN40

When designing an exterior lighting installation it must be ensured that the lighting columns are not only strong enough to support the weight of the equipment attached to them but are also strong enough to withstand the more significant loading effect from wind pressure against the project area of the complete structure. In Europe document EN40 is used to check suitability, allowing the structure to be verified against statistical data for a geographical area and thereby ensuring that the column can withstand the wind conditions. The calculation process takes into account variables such as the height of the site above local ground level, the height above sea level, the distance from the coastline and the degree of shelter provided by local obstructions and features as all of these

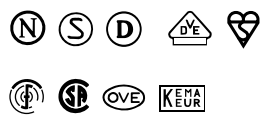
cause variations in the wind pressure at the location. It must be emphasised that the calculation process is for the complete system, including the column and all equipment attached to it (luminaires, brackets, etc.) so a column cannot be certified in isolation. It should also be noted that a CE mark cannot be applied to a column in isolation, but applies to the complete system.

9.3 Quality and safety marks

It is important that a product is suitable for the method of installation, environmental conditions and usage it will encounter. Some safety consideration and markings are given below.

Quality Standard Marks (Kite Marks)

A third party approval is an independent endorsement that product design is in accordance with published standards, and that controls to maintain quality in manufacture are applied. Many products carry European Test House approvals such as those shown. This can assist wider market acceptance in Europe.



Electrical safety classification

Class I

Luminaires in this class are electrically insulated and provided with a connection to earth. Earthing protects exposed metal parts that could become live in the event of basic insulation failure.

Class II

Luminaires in this class are designed and constructed so that protection against electric shock does not rely on basic insulation only. This can be achieved by means of reinforced or double insulation. No provision for earthing is provided.

Class III

Here protection against electric shock relies on supply at Safety Extra - Low Voltage (SELV) and in which voltages higher than those of SELV are not generated (max. 50V ac rms).