

EU Directives, Standards And Marks – lighting products and practice

EU DIRECTIVES AND NATIONAL LEGISLATION

Member states of the European Union (EU) agree on Directives, after discussion. In accordance with Directives, Governments introduce national legislation (e.g. a Statutory Instrument in the UK) to bring the measures into effect.

The principal Directives for electrical products are the Electro-Magnetic Compatibility (EMC) Directive and the Low Voltage (LV) Directive, summarised for lighting products in Table 1. The LV Directive requires products put on the EU market to be safe: products complying with specified Euro Norm (EN) Safety standards are presumed to comply. (Similarly for the EMC Directive). Compliance of products with EN Performance standards is optional, but could be a marketing advantage.

EN standards are based upon existing international standards, e.g. an IEC standard. For a list of current EN standards relevant to lighting products see Tables 2 and 3 (EMC and Safety), and Table 4 (Performance). In most instances, there is an equivalent British Standard (BS), known as a BS EN. (*For established products a compatible BS may still be used, but preference should be given to the EN*).

Electrical EN standards are issued by the EU sponsored organisation CENELEC (Comm. Eur. Norm. Electrotech). They are type tests, and manufacturers are required to associate them with controls for conformity of production.

Responsibility for compliance of a product with Directives and with the specified EN standards rests on the person putting the product on the EU market, usually the manufacturer. A signed Declaration of Conformity and documentary evidence of compliance must be kept for ten years, and must be made reasonably available to the enforcing authorities. Individuals have personal responsibility.

The chief benefits of the Directives are:

- *Requirements for products to be safe (and EMC compliant) are now backed by uniform legislation.*
- *The criteria for compliance are uniform throughout the EU, removing technical barriers to trade.*

It is likely that the products of most EU manufacturers already comply with the specified EN standards. The main impact will be on unsafe goods, especially attempted imports from non-EU countries with inadequate controls.

Table 1. EU Directives and lighting products.

EMC DIRECTIVE	LV DIRECTIVE
From 1 January 1996	From 1 January 1997
Applies to (see Table 2)	Applies to Luminaires Lighting components Lamps
EN standards Table 2	EN safety standards Table 3
UK enforcing authorities Trading Standards Officers HM Customs and Excise	

THE CE MARK

The EMC and LV Directives, in conjunction with the CE Marking Directive, require complying products to be accompanied by the CE Mark (as shown). CE represents Conformity European. The CE Mark should preferably be on both product and packaging; and should be on the documentation, especially for export. There is no requirement to mark standard numbers.

The CE Mark indicates to enforcing authorities that the product complies with all relevant Directives. Responsibility for marking rests on the person putting the product on the EU market.



The benefit of the CE Mark is as a certificate for sale of a product within the EU, including crossing internal EU borders.

The CE Mark applies to products of all makes, and promotional material in the EU should not claim it as a distinguishing advantage. Equally, purchasers should not specify a CE Mark, or compliance with Directives or obligatory EN standards.

- Notes:
- i) *CE Marks on components do not imply that a luminaire complies. The luminaire as a whole must comply and carry the CE Mark.*
 - ii) *If a luminaire is modified for use in the EU (e.g. with emergency lighting) the modifier takes over responsibility and must make a new CE Mark.*
 - iii) *A lighting product outside the LV Directive (e.g. an ELV product) comes under the General Products Safety Directive.*

THE ENEC MARK

The ENEC Mark (as shown) indicates independent confirmation that the product complies with all relevant EN Safety standards and, where available, EN Performance standards. ENEC represents Euro. Norm. Electrotech. Certification. (*Note: the ENEC Mark is not applicable to lamps or emergency luminaires*).



The ENEC Mark is not obligatory. After approval, the ENEC Mark may be affixed to the product (and preferably also to its packaging) by the person putting the product on the EU market. There is no requirement to mark standard numbers.

Testing and approval are carried out by national Certification Bodies, e.g. in the UK by BSI. The XX in the diagram is replaced by a number from 01 to 17, e.g. 12 for the UK. The ENEC Mark of each of the Certification Bodies is valid throughout the EU.

The benefit of the ENEC Mark is that retailers and consumers can see whether claims of compliance with relevant EN standards have been independently confirmed. Also, the time and cost for obtaining approval are reduced because only one Certification Body is involved.

The ENEC Mark may be treated as a marketing advantage. Purchasers may specify the ENEC Mark.

- Notes:
- i) *ENEC Marks on components do not imply that a luminaire has an ENEC Mark.*
 - ii) *If a luminaire is modified the modifier must remove the ENEC Mark.*

Table 2 EN standards and lighting products – CE Mark – EMCD

Product	EN	BS EN	CE Mark
Disturbance in supply system			
Luminaires with control gear	EN 60555-2		M
Control gear	EN 61000-3-2	BS EN 61000-3-2	M
Lamps with integral control gear			M
Radio frequency interference (up to 30 MHz)			
Luminaires with control gear	EN 55015	BS EN 55016	M
Control gear			M
Lamps with integral control gear			M
Immunity			
Luminaires with electronic control gear	EN 50081 & 2		M
Control gear with electronics	EN 61547		M
Lamps with integral electronics			M
<i>(electro-magnetic control gear deemed to comply)</i>			

M = CE Mark obligatory – EMC Directive

Table 3 EN Safety standards for lighting products – CE Mark – LVD

Product	EN	BS EN	Compat. BS	CE Mark	ENEC Mark
LUMINAIRES					
Track systems	EN 60570	BS EN 60570	–	M	S
Street lighting	EN 60598-2-3	BS EN 60598-2-3	–	M	S
Emergency	EN 60598-2-22	–	BS 4533-102-22	M	n/a
Others (see X)	EN 60598-2-X	BS EN 60598-2-X	–	M	S
X	1 General purpose 2 Recessed 4 Portable 5 Floodlights	6 With transformer 7 Portable – garden 8 Handlamps 9 Photo – amateur	17 Stage & studio 18 Swimming pools 19 Air-handling 20 Lighting chains		
BALLASTS					
For fluorescent – <i>Safety</i>	EN 60920	BS EN 60920	–	M	SP
For discharge – <i>Safety</i>	EN 60922	BS EN 60922	–	M	SP
DC electronic – <i>Safety</i>	EN 60924	BE EN 60924	–	M	SP
AC electronic – <i>Safety</i>	EN 60928	BS EN 60928	–	M	SP
TRANSFORMERS					
Electronic stepdown – <i>Safety</i>	EN 61046	BS EN 61046	–	M	SP
Isolating	EN 60742	BS EN 60742	–	M	S
Neon	EN 61050	–	–	M	S
Starters/Ignitors					
Electronic starters – <i>Safety</i>	EN 60926	BS EN 60926	–	M	SP
Glow starters	EN 60155	–	BS 3772	M	S
CAPACITORS					
For lamp circuits – <i>Safety</i>	EN 61048	BS EN 61048	–	M	SP
LAMP HOLDERS					
Edison screw	EN 60238	BS EN 60238	–	M	S
Fluorescent lamp & starter holders	EN 60400	BS EN 60400	–	M	S
Bayonet	EN 61184	BS EN 61184	–	M	S
Lamp caps and holders	EN 60838	BS EN 60838	–	M	S
Lamp caps and holders V	EN 60061	BS EN 60061	–	M	S
LAMPS					
GLS	EN 60432-1	BS EN 60432-1	–	M	n/a
Tungsten halogen – Domestic	EN 60432-2	BS EN 60432-2	–	M	n/a
Double capped fluorescent	EN 61195	BS EN 61195	–	M	n/a
Single capped fluorescent	EN 61199	BS EN 61199	–	M	n/a
CFL Integral – <i>Safety</i>	EN 60968	–	BS 7173	M	n/a
High pressure sodium	EN 60662	BS EN 60662	–	M	n/a
Low pressure sodium	EN 60192	BS EN 60192	–	M	n/a
High pressure mercury	EN 60188	–	BS 3677	M	n/a
Metal halide	EN 61167	BS EN 61167	–	M	n/a
Double capped fluorescent V	EN 60081	BS EN 60081	–	M	n/a
Single-capped fluorescent V	EN 60901	BS EN 60901	–	M	n/a

Notes for Tables 3, 4

M = CE Mark obligatory - LV Directive

S = ENEC Mark optional (Safety standard only available)

SP = ENEC Mark optional (to Safety Standard and Performance standard)

V = Older standard, still valid

n/a = Not applicable

Associated standards: BS EN 40 Lighting columns; BS EN 60730-2-3 Thermal protectors for ballasts.

The EN standards are based on IEC standards, and their numbers are the IEC numbers plus 60,000: for example EN 60570 = IEC 570. BS EN standards have the EN number.

(Editorial note 2001: international standards from ISO and IEC now have the full five or six digit numbers used by CEN and CENELEC.)

BS EN 60598-2 is linked to BS EN 60598-1

Table 4 EN Performance standards and lighting products

See Notes under Table 3

Product	EN	BS EN	Compat. BS	ENEC Mark
LUMINAIRES				
<i>No Performance standard at present</i>				
<i>Photometry – see BS 5225</i>				
BALLASTS				
For fluorescent – <i>Performance</i>	EN 60921	BS EN 60921	–	SP
For discharge – <i>Performance</i>	EN 60923	BS EN 60923	–	SP
DC electronic fluorescent – <i>Performance</i>	EN 60925	BS EN 60925	–	SP
AC electronic fluorescent – <i>Performance</i>	EN 60929	BS EN 60929	–	SP
TRANSFORMERS				
Electronic stepdown – <i>Performance</i>	EN 61047	BS EN 61047	–	SP
STARTERS/IGNITORS				
Electronic starters – <i>Performance</i>	EN 60927	BS EN 60927	–	SP
CAPACITORS				
For lamp circuits – <i>Performance</i>	EN 61049	BS EN 61049	–	SP
LAMPS				
GLS	EN 60064	BS EN 60064	<i>BS 161</i>	n/a
Tungsten Halogen (non-vehicle) V	EN 60357	BS EN 60357	<i>BS 1075</i>	n/a
CFL Integral – <i>Performance</i>	EN 60969	BS EN 60969	–	n/a

HELP FOR LUMINAIRE MAKERS

The ways of complying with the Directives (*including the alternative Technical Construction File route of the EMC Directive*) can be complicated. Technical assistance and supporting documentation are usually available from makers of lamps and control gear to luminaire makers incorporating their products. This can considerably reduce the time and cost for complying with the Directives.

Information is also available from BSI and DTI.

EN QUALITY ASSURANCE STANDARD FOR ORGANISATION

The Quality Assurance standard for organisation is EN 29000, based on ISO 9000. The equivalent BS is BS EN ISO 9000. (-00 here represents -00/01/02). The standard is supported by the EU. It applies not only to manufacturers, but also to providers of services, including lighting design services. The standard is the basis for an independent check on the competence of an organisation, especially in controlling the quality of its products or services. There are appointed approving authorities, e.g. in the UK the BSI.

EN 29000 is not a product standard. Products must not be claimed to comply with this standard and must not be marked with it. Compliance is stated in text in standard terms. Compliance is not obligatory, and may be treated as a marketing advantage for an organisation. (*The highest level of assurance is the ENEC Mark on products combined with EN 29000 approval for the*

organisation.)

The main benefit is for professional purchasers. There is an increasing trend for them to make EN 29000 approval a condition of supply. There is also the public benefit of a general rise in product quality and service.

Issued on behalf of Lighting Division Technical Committee.

Note: *This is not a Government statement of the legal requirements, and CIBSE cannot accept responsibility for its use.*

Author: *J. C. Procter MA FCIBSE*

Acknowledgments: *Drafting A. E. T. Glenny; Comments C. Maidment (BSI), A. Lloyd (DTI)*

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