





The following symbols are used throughout the catalogue to depict specific technical characteristics of the luminaire giving guidance on how it may be utilised:


**CE** CE mark – all electrical equipment must bear the CE mark as made mandatory on the 1<sup>st</sup> January 1997. Products must be tested by an independent body and conform to safety requirements.


 Class I – the luminaire is insulated and earthed. If the insulation protection ceases to be effective, accessible metal parts of the fitting will be protected by the earth. In case of fault: protection by power supply switch-off by overcurrent protection devices.


 Class II – these luminaires offer higher standards of electrical safety. With reinforced or double insulation, they do not need earth protection. In case of fault: the added insulation provides double protection for exposed metal parts.


 Class III – the luminaire is intended for use with low voltages, max 50v in conformity with SELV (Safety Extra Low Voltage). In case of fault: protection due to the voltage of 12v being, in effect, not dangerous.


 F Mark – luminaire suitable for direct mounting on combustible/flammable surfaces.

 3 hour self contained maintained/non-maintained emergency lighting gear. Emergency options are shown in green throughout the catalogue.

 Minimum distance – minimum distance between the luminaire and lit object.

 Internal ignitor – luminaire has no ignitor therefore requires an ignitor built in to the lamp, ensure lamps display this symbol.

 External ignitor – luminaire has an ignitor incorporated within, ensure lamps display this symbol.

 Besa box mounting

 850°C hot wire test

 Horizontal rotation

 Vertical tilt

 Vertical double tilt

 IK rating (see right for explanation)









 IP rating (see right for explanation)

 Cut out

 Energy efficiency scale

## IP Ratings (Ingress Protection)

The IP rating system provides a means of classifying the degrees of protection from water and dust afforded by electrical equipment and enclosures. The system is recognised in most European countries and is set out in IEC529 (BS EN 60529: 1992) Degrees of Protection provided by Enclosures (IP code).

First Number – Solid		Second Number – Liquid	
IP0X	Not Protected	IPX0	Not protected
IP1X	Protected against solid objects over 50mm, e.g. accidental touch by hand	IPX1	Protected against vertically falling drops of water
IP2X	Protected against solid objects over 12mm diameter, not exceeding 80mm long, e.g. fingers	 IPX2	Protected against direct sprays of water up to 15° from the vertical
IP3X	Protected against solid objects over 2.5mm, e.g. tools and wires	 IPX3	Protected against sprayed water at up to 60° from the vertical
IP4X	Protects against solid objects over 1.0mm, e.g. small wires	 IPX4	Protected when sprayed from any direction - limited ingress allowed
 IP5X	Protected against dust, limited ingress (no harmful deposit)	 IPX5	Protected against low pressure jets, from all directions - limited ingress allowed
 IP6X	Dust tight. Totally protected against dust	IPX6	Protected against strong jets of water with limited ingress allowed
		 IPX7	Protected against temporary immersion between 15cm and 1m for up to 30 minutes
		 IPX8	Protected against long periods of immersion under pressure

## IK Ratings (Impact Protection)

The IK rating indicates a luminaires degree of protection against mechanical impact.

IK rating	IK01	IK02	IK03	IK04	IK05	IK06	IK07	IK08	IK09	IK10
Impact energy (joules)	0.15	0.23	0.35	0.5	0.7	1	2	5	10	20

## Bathroom Lighting Specification Guidelines

The following information is intended as a specification guide for bathroom light fittings only. It is not an installation guide. For full installation details we recommend you consult a qualified electrician to ensure wiring and supply are protected in accordance with IEE Wiring Regulations.

For the purposes of the above, the bathroom is divided into 4 zones, with specific requirements in each zone as shown in the table below.

Zone	Location	Restrictions
0	This is the interior of the bath tub or shower tray.	Only SELV, not exceeding 12v ac nominal voltage. Transformers must be sited outside Zones 0, 1 & 2. IP rating of at least IPX7
1	This is the area directly above the bath or shower tray, to a height of 2.25m above the floor.	IP rating of at least IPX4 (splash proof) for normal domestic use.
2	a) The area over the bath tub or shower tray above zone 1 b) The area external to Zone 1 extending on the vertical plane 0.6m external to Zone 1 to a height of 2.25m.	IP rating of at least IPX4 (splash proof) for normal domestic use.
3	a) The area above Zone 2 (see diagram) b) The area external to Zone 2 to a distance of 2.4m from Zone 2 and height above the floor of 2.25m.	All luminaires must have a minimum protection of IP20.

This does not apply to communal baths and showers where jets of water are used for cleaning purposes. Further information can be found on the Institute of Electrical Engineers (IEE) website: [www.tee.org.uk](http://www.tee.org.uk)

