

# Technical Lighting Regulations

All installations must comply to guidelines which are based on a zonal concept. The colour coded diagram below illustrates this concept and must be followed to ensure the safe installation of bathroom lighting. These regulations apply to domestic installations only.



| ZONE 0                                                                                                                                                                                       | ZONE 1                                                                                                                          | ZONE 2                                                                                                                                                   | OUTSIDE ZONE                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| refers to any area that will be completely submerged, in the bath, sink or on a shower floor. This zone requires a fixture with a minimum rating of IPX7 (usually IP67) and a maximum of 12V | refers to the area above the bath or shower up to a height of 2.25 metres and requires a minimum rating of IPX4 (splash-proof). | covers an area 0.6 metres wide immediately next to, and all round zone 1. Wash basins should also be treated as zone 2. The minimum rating here is IPX4. | has no special requirements, unless water jets are likely to be used for cleaning purposes. |

## IP Ratings Regulations



The IP (Ingress Protection) standard describes a uniform system for classifying the degrees of protection provided by the enclosures of electrical equipment.

This bathroom light is rated IP65 which means:



- 6 Protected against dust - limited ingress permitted (no harmful deposit).
- 5 Protection against water jets. Water projected by a nozzle from any direction under stated conditions shall have no harmful effect.

**First Numeral:** Protection against ingress of foreign bodies e.g. tools, dust, fingers, etc.

| 0             | 1                                                                                                      | 2                                                                 | 3                                                   | 4                                                       | 5                                                                       | 6                               |
|---------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------|
| No protection | Protected against solid objects with a diameter of 50mm and over (e.g. accidental insertion of hands). | Protected against solid objects over 12mm (e.g. jointed fingers). | Protected against solid objects over 2.5mm (tools). | Protected against solid objects over 1mm (small wires). | Protected against dust- limited ingress permitted (no harmful deposit). | Totally protected against dust. |

**Second Numeral:** Protection against ingress of liquids

| 0             | 1                                                                                                                           | 2                                                                                                                                                                     | 3                                                                                                                                                      | 4                                                                                              | 5                                                                                                                                   | 6                                                                                                                                               | 7                                                                                                                                              | 8                                                                                                                                     |
|---------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| No protection | Protected against drops of condensed water. Drops of condensed water falling on the enclosure shall have no harmful effect. | Protection against drops of liquid. Drops of falling liquid shall have no harmful effect when the enclosure is tilted at an angle up to 15 degrees from the vertical. | Protection against rain. Water falling in rain at an angle equal or smaller than 60 degrees with respect to the vertical shall have no harmful effect. | Protection against splashing. Liquid splashed from any direction shall have no harmful effect. | Protection against water jets. Water projected by a nozzle from any direction under stated conditions shall have no harmful effect. | Protection against conditions on ship decks (deck equipment). Water from heavy seas shall not enter the enclosures under prescribed conditions. | Protection against immersion in water. It shall not be possible for water to enter the enclosure under stated conditions of pressure and time. | Protection against indefinite immersion in water under specified pressure. It shall not be possible for water to enter the enclosure. |