















## What Is IP?

IP stands for ingress protection. It is the technical term used to describe the ability of fittings to stop the entry of dirt and water. It is important to understand the IP rating by which bathroom and outdoor lights are classified to ensure that the correct product for the desired lighting application is safely installed.

IP ratings are usually expressed by the letter's "IP" followed by a number, where the numbers describe the degree of protection. E.g. IP44. The first number describes the degree of protection from solid objects e.g. dust and dirt, the second digit indicates the level of protection against water entering the fitting. See detailed diagram below.

### IP RATINGS CHART

IP	EXAMPLE	SOLID PROTECTION	IP	EXAMPLE	LIQUID PROTECTION
1		Protected against a solid object greater than 50mm, such as a hand	1		Protected against vertically falling drops of water. Limited ingress permitted
2		Protected against a solid object greater than 12.5mm, such as a finger	2		Protected against vertically falling drops of water w/ enclosure tilted 15° from vertical. Limited ingress permitted
3		Protected against a solid object greater than 2.5mm, such as a screwdriver	3		Protected against sprays to 60° from the vertical. Limited ingress permitted
4		Protected against a solid object greater than 1.0mm, such as a wire	4		Protected against water splashed from all directions. Limited ingress permitted
5		Dust Protected. Limited ingress of dust permitted	5		Protected against jets of water. Limited ingress permitted
6		Dust Tight. Zero ingress of dust permitted	6		Protected against strong jets of water. Limited ingress permitted
			7		Protected against the effects of immersion between 15cm and 1m
			8		Protected against long periods of immersion under pressure

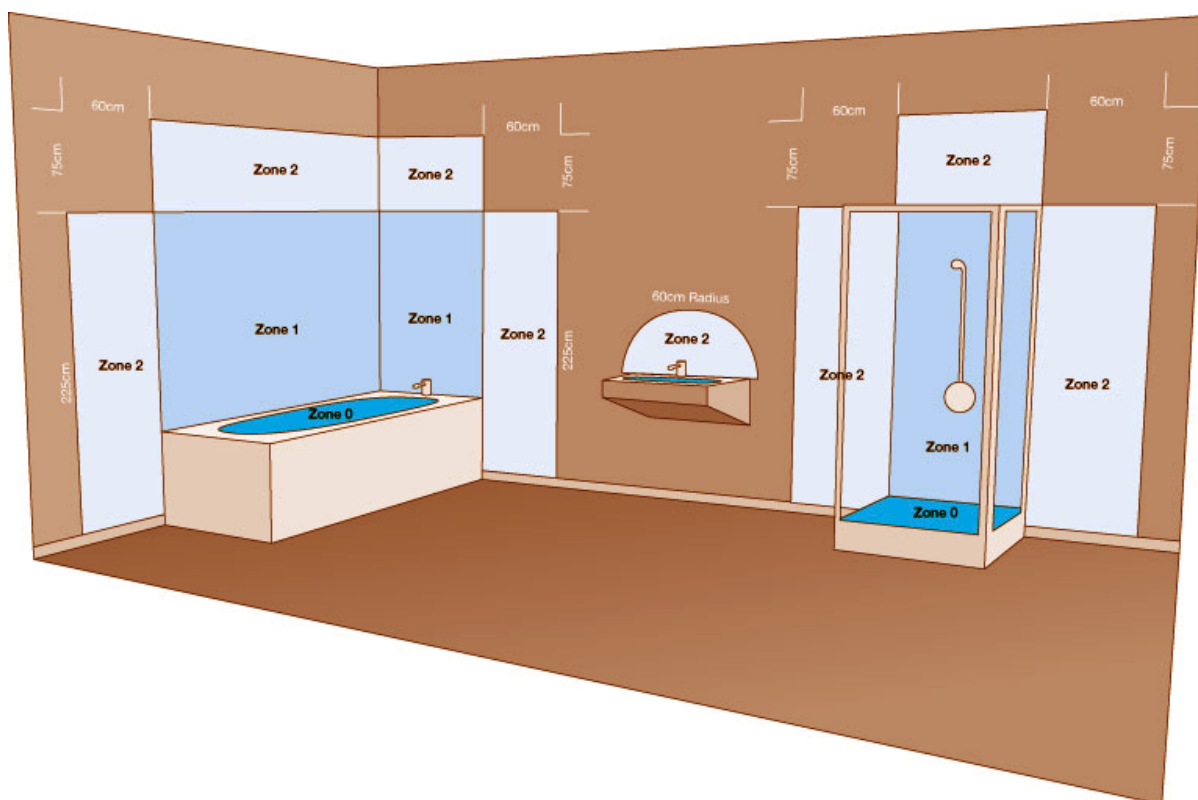
There are four zones to be considered when installing bathroom lighting. I have outlined these below.

**Zone 0** is inside the bath or showers itself. Any fitting used in this zone must be "SELV Safety Extra Low Voltage "and be rated at least IP67 which is total immersion proof.

**Zone 1** is the area above the bath to a height of 2.25m from the floor. In this zone a minimum rating of IP44 is required. If the fitting is 240v a 30ma residual current device (RCD) must also be used to protect the circuit in this zone.

**Zone 2** is an area stretching 0.6m outside the perimeter of the bath and to a height of 2.25m from the floor. In this zone an IP rating of at least IP44 is required. In addition it is good practice to consider the area around a wash basin, within a 60cm radius of any tap to be considered as zone 2.

**Zone 3** is anywhere outside zones 0,1 and 2 (subject to specific limits) and where no water jet is likely to be used. No IP rating is required.



In addition to the above, if there is a likelihood of water jets being used for cleaning purpose in zones 1,2 and 3 a fitting rated a minimum IP65 must be used. Full details can be found in the latest copy of the IEE wiring regulations.

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