



What Do IP Ratings Reference when speaking about Lighting?

IP ratings are generally better the higher the number – IP is actually treated as 2 digits, the first digit specifying the protection against solid objects such as fingers, wire and tools; the second digit is protection against liquids from splash or spray.

The two-digit IP rating system was established by the International Electrotechnical Commission and is used to identify the level of protection against the ingress (entry) of foreign objects into the light enclosure.

As referenced in IEC/EN 60 529 standards - a product's **ingress protection** is indicated by the two code letters **IP** followed by two numerals, each number then representing different forms of environmental influence. The larger the value of each digit equals the greater the level of protection.

IP TABLE

	First digit: Ingress of solid objects	Second digit: Ingress of liquids
0	No protection	No protection
1	Protected against solid objects over 50mm e.g. hands, large tools.	Protected against vertically falling drops of water or condensation.
2	Protected against solid objects over 12.5mm e.g. hands, large tools.	Protected against falling drops of water, if the case is disposed up to 15 from vertical.
3	Protected against solid objects over 2.5mm e.g. wire, small tools.	Protected against sprays of water from any direction even if the case is disposed up to 60 from vertical.
4	Protected against solid objects over 1.0mm e.g. wires.	Protected against splash water from any direction.
5	Limited protection against dust ingress. (no harmful deposit)	Protected against low pressure water jets from any direction. Limited ingress permitted.
6	Totally protected against dust ingress.	Protected against high pressure water jets from any direction. Limited ingress permitted.
7	N/A	Protected against short periods of immersion in water.
8	N/A	Protected against long, durable periods of immersion in water.

For Example: IP65 rated LED flood light

The two digits represent different forms of environmental influence:

- The first digit (6) indicates protection against the ingress of dust and all other solid objects.
- The second digit (5) indicates protection against low pressure jets of water from any direction.