



## LIGHTING

# IK & IP Testing for Lighting Products

Ratings that demonstrate the degree of Impact Protection (IK) and Ingress Protection (IP) are critical for street, roadway and other lighting products. IP ratings are required per IEC/EN 60598-2-3 for all roadway and street applications. IK ratings are required in specific applications when high impact glass provides protection for the enclosed lamp.

### Standards

IEC 62262 specifies the way enclosures should be tested for IK ratings which are defined as the level of protection the enclosures provided against external mechanical impacts.

IEC 60598-1 (IEC 60529) specifies the test method used to classify and rate the degree of protection an enclosure provides against intrusion of various sized solid objects from fingers and hands to fine dust and the protection against water intrusion from falling drops to a high pressure water jet.

IEC 60598-2-3 is the International Standard for Luminaires for Road and Street Lighting.

### UL offers complete testing and certification services for street and roadway luminaires to IEC 60598-2-3

IK ratings are defined as IKXX, where “XX” is a number from 00 to 10 indicating the degrees of protection provided by electrical enclosures (including luminaires) against external mechanical impacts. The IK rating scale identifies the ability of an enclosure to resist impact energy levels measured in joules (J). IEC 62262 specifies how the enclosure must be mounted for testing, the atmospheric conditions required, the quantity and distribution of the test impacts and the impact hammer to be used for each level of IK rating.

Degrees of protection against external mechanical impacts									
IK00	IK02	IK03	IK05	IK06	IK07	IK08	IK09	IK10	
Non-protected	0.2J	0.35J	0.5J	0.7J	1J	2J	5J	10J	20J

IP ratings are defined as IPXX where the first X indicates the degree of protection against solid objects and the second X indicates the degrees of protection against water. A luminaire or lighting component with a rating of IP66 is dust-tight and protected against powerful water jets as described in IEC 60598-1 (IEC 60529).

Degrees of protection against solid objects	
IP0X	Non-protected
IP1X	50mm diameter and greater
IP2X	12.55mm diameter and greater
IP3X	2.5mm diameter and greater
IP4X	1.0mm diameter and greater
IP5X	Dust-protected
IP6X	Dust-tight

Degrees of protection against water	
IPX0	Non-protected
IPX1	Vertically falling water drops
IPX2	Vertically falling water drops with enclosure tilted
IPX3	Spraying water
IPX4	Splashing water
IPX5	Water jets
IPX6	Powerful water jets
IPX7	Temporary immersion
IPX8	Continuous immersion



For more information or to request a quote, contact UL at [LightingQuote@UL.com](mailto:LightingQuote@UL.com) or visit [UL.com](http://UL.com)