

LIGHTING

# IK and IP Testing for Lighting



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 that are defined by 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.

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).

### Access to IK, IP and Salt Spray Testing for Lighting Products available in multiple laboratories around the world

UL has a worldwide network of lighting laboratories. UL’s Abu Dhabi laboratory in the United Arab Emirates is the latest location to expand accreditation to include:

- Salt Spray testing for Street and Roadway Luminaires per ASTM B117, IEC 60068-2-11 and ISO9227 for NaCl.
- Evaluating Degree of Rusting in Painted Steel Surfaces as per ASTM D610-08.

### Why UL?

Our experts and engineers offer flexible solutions, and the ability to develop customized performance and reliability test plans to meet your specific needs.

UL, the global safety science leader, is a knowledgeable partner, with state-of-the-art lighting performance testing laboratories around the world. Our experienced engineers guide you through the process, giving you unmatched access to our technical expertise.

Our experts understand your organization’s needs by assisting with our international presence and local expertise in the local language across your target markets.

Degrees of protection against external mechanical impacts	
IK00	Non-protected
IK03	0.2J
IK04	0.35J
IK05	0.5J
IK06	0.7J
IK07	1J
IK08	2J   5J
IK09	10J
IK010	20J

Degrees of protection against solid objects	
IP0X	Non-protected
IP1X	50mm diameter and greater
IP2X	12.5mm 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, visit [UL.com/lighting](https://www.ul.com/lighting) or contact your local team:

Americas: [LightingInfo@UL.com](mailto:LightingInfo@UL.com)

Europe: [AppliancesLighting.EU@UL.com](mailto:AppliancesLighting.EU@UL.com)

GC: [GC.LightingSales@UL.com](mailto:GC.LightingSales@UL.com)

ANZ: [CustomerService.ANZ@UL.com](mailto:CustomerService.ANZ@UL.com)

ASEAN: [UL.ASEAN.AHLSales@UL.com](mailto:UL.ASEAN.AHLSales@UL.com)

Japan: [ULJ.AHL@ul.com](mailto:ULJ.AHL@ul.com)

Korea: [Sales.KR@UL.com](mailto:Sales.KR@UL.com)

MEA: [UL.MEA@UL.com](mailto:UL.MEA@UL.com)



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