

UL Rain Test Spray Nozzle

Precision Spray Nozzle for UL Rain Test and Water Spray Test Systems (UL60507 / CSA 4.3)



Standards: UL60507-ENGL 1999, ANSI Z21.58, CSA 4.3-2004 (compatible with UL 1598)

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1. Product Overview

The KingPo UL Rain Test Spray Nozzle is a precision spray nozzle accessory designed for UL rain test and water spray test systems. It is manufactured in accordance with UL 60507-ENGL 1999 (Figure 38.1 & 38.2), ANSI Z21.58, and CSA 4.3-2004, and is compatible with UL 1598 for wet location testing of luminaires and electrical products.

This nozzle is suitable for lighting manufacturers, testing laboratories, and certification bodies as a replacement accessory in existing UL rain test apparatus. It delivers controlled water spray to simulate rain and sprinkler conditions for evaluating water ingress and sealing performance of luminaires, self-ballasted lamps, electrical cabinets, and other products intended for wet or damp locations.

2. Key Advantages

- Designed for UL 60507 / CSA 4.3 Rain and Spray Test Requirements**
Engineering: Precision-engineered spray orifice manufactured to UL60507-ENGL 1999 Figure 38.1 & 38.2 specifications for consistent and repeatable spray patterns at 34.5 kPa per spray head.
Benefit: Enables standardized simulation of rain and sprinkler conditions for reliable evaluation of water ingress in wet/damp location products.
- UL Spray Nozzle and UL Sprinkler Nozzle Configurations**
Engineering: Available in both upper spray nozzle and lower sprinkler nozzle types to support complete rain simulation and sprinkler test setups in UL test systems.
Benefit: Provides flexibility to configure test systems for both rain simulation (upper) and sprinkler (lower) positions as required by various UL test procedures.
- Standard Thread Connection for Easy Replacement**
Engineering: Standard thread interface allows quick and easy installation or replacement in existing UL rain test apparatus without custom modifications.
Benefit: Minimizes downtime and simplifies maintenance or upgrades in busy testing laboratories.
- Durable Construction for Repeated Laboratory Use**
Engineering: High-quality construction designed to maintain consistent spray performance over extended testing cycles under repeated high-pressure use.
Benefit: Reduces replacement frequency and ensures long-term reliability and cost efficiency in laboratory environments.

3. Technical Specifications

3.1 Performance Parameters

Parameter	Specification	Remark / Notes
Applicable Standards	UL60507-ENGL 1999, ANSI Z21.58, CSA 4.3-2004	Compatible with UL 1598 wet location testing
Nozzle Type	UL spray nozzle / UL sprinkler nozzle	Upper spray and lower sprinkler positions
Water Pressure	34.5 kPa per spray head	Standard operating pressure for UL rain testing
Spray Pattern	Controlled water spray as per UL requirements	Consistent and repeatable distribution
Interface	Standard thread connection	Easy integration and replacement
Material	High-quality construction	Durable under repeated high-pressure use
Test Configuration	Upper spray section + lower sprinkler section	Supports rain simulation and sprinkler tests

4. Testing Principle

The nozzle directs controlled water spray onto test samples to simulate rain and sprinkler conditions as defined in UL standards. Water is delivered at the specified pressure (34.5 kPa per spray head) through precision

orifices to assess water ingress and sealing performance of luminaires and electrical products intended for wet or damp locations.

The test evaluates whether water can penetrate critical compartments (such as ballast or lampholder areas) under defined spray conditions, ensuring electrical safety and compliance with wet location requirements.

5. Best Practices

1. Keep the nozzle orifice clean and free from blockage to maintain consistent spray patterns.
2. Maintain stable water pressure at 34.5 kPa per spray head.
3. Ensure correct installation and alignment in the test system.
4. Use the appropriate nozzle type (spray or sprinkler) for the specific test position (upper or lower).
5. Regularly inspect for wear or damage, especially in frequent laboratory use.

6. Typical Applications

- Lighting manufacturers — Replacement nozzle for wet location luminaire testing
- Testing laboratories — Component in UL 60507 and related water spray test setups
- Certification bodies — Supports standardized wet location compliance testing
- Electrical equipment manufacturers — Product development and quality control for wet location products
- Research institutions — Custom rain test systems for studying water ingress behavior

7. Supply Options & Support

Technical support is available for compatibility verification, installation guidance, and UL test method application.

8. Compliance & Manufacturer

This nozzle is designed and manufactured to meet UL60507-ENGL 1999 (Figure 38.1 & 38.2), ANSI Z21.58, and CSA 4.3-2004 specifications. It is compatible with UL 1598 for wet location product testing.

Manufactured under ISO 9001, ISO 14001, and ISO 45001 certified management systems. CE, RoHS, PSE, and SGS documentation can be provided upon request according to the applicable equipment configuration.

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