



# QUV Accelerated Weathering Tester

## QUV Overview

Sunlight and moisture cause millions of dollars of material damage every year. The QUV® Accelerated Weathering Tester tests materials by exposing them to alternating cycles of UV light and moisture at controlled, elevated temperatures. In a few days or weeks, the QUV tester can reproduce the damage that occurs over months or years outdoors. With thousands of testers in service worldwide, the QUV weathering tester is the world standard for accelerated laboratory weathering.

## Features

See QUV Brochure LU-0801 for a full discussion of capabilities and LU-8012 for a list of standards met by the QUV Tester. All testers include: Programmable Microprocessor Controller; Automatic Fault Recognition and Alarms; Automatic Shut-down Timer; Ethernet-based datalogging with separate software.

**Size (all models):** 54" width x 21" depth x 53" height (137 x 53 x 135 cm)

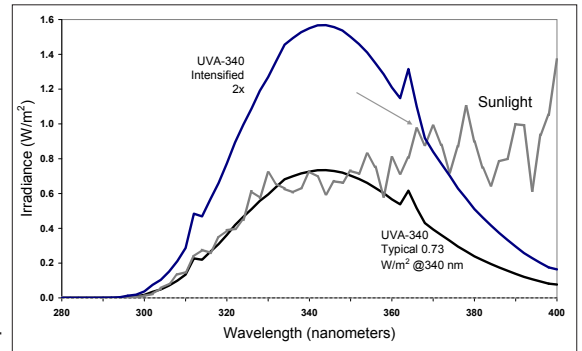
**Weight (all models):** Equipment weight - 300 lbs (136 kg); Shipping weight - 400 lbs (181 kg)

Model Number:	QUV/basic	QUV/se	QUV/spray	QUV/cw
UV Exposure	•	•	•	cool white fluorescent
Condensation	•	•	•	1
Irradiance Control		•	•	•
Water Spray			•	
ISO Calibrations		•	•	•

<sup>1</sup> The QUV/cw model is able to perform condensation cycles; however, this is not usually applicable for testing indoor materials.

## Irradiance Control

The SOLAR EYE® irradiance controller continuously monitors and precisely maintains irradiance by adjusting power to the lamps. This compensates for variations such as lot-to-lot differences in lamps, ambient temperature changes and lamp aging. Irradiance control is very important because changes in intensity may affect both speed and type of material degradation.



Models with the SOLAR EYE Irradiance Controller feature programmable irradiance set-points.

For example, with UVA-340 lamps, an irradiance of 0.73 W/m<sup>2</sup>@340nm is a good match with noon summer sunlight. For faster results, the QUV tester can be programmed to operate at an irradiance that is double that of noon summer sunlight (see spectral power distribution, right). An Irradiance Set Point Guide is available in the QUV Operating Manual.

## ISO Calibrations

SOLAR EYE irradiance controller calibrations with the CR-10® radiometer are traceable to the U.S. National Institute of Standards and Technology and comply with ISO 9000 requirements. Each CR-10 radiometer is set at the factory to measure both UV-A and UV-B lamps. A separate radiometer is required for cool white lamps.



To ensure ISO compliance, the CR-10 radiometer must be returned every year for re-calibration. Q-Lab's Calibration Labs are ISO 17025 accredited.



## QUV Tester Operating Specifications:

Model Number:	QUV/basic	QUV/se	QUV/spray	QUV/cw
<b>Temperature Ranges:</b> Light Cycle Temp.* Condensation Cycle Temp.	45°C-80°C 40°C-60°C	45°C-80°C 40°C-60°C	45°C-80°C 40°C-60°C	35°C-80°C -
<b>Specimen Capacity:</b>	50 Specimens (75 x 150 mm)	48 Specimens (75 x 150 mm)	48 Specimens (75 x 150 mm)	48 Specimens (75 x 150 mm)
<b>Electrical:</b>	120/60, 14A; or 230/50, 7A; or 230/60, 7A (1800 W maximum)	120/60, 16A; or 230/50, 8A; or 230/60, 8A (1800 W maximum)	120/60, 20A; or 230/50, 9A; or 230/60, 9A (1800 W maximum)	120/60, 16A; or 230/50, 8A; or 230/60, 8A (1800 W maximum)
<b>Water:</b> Condensation (tap or DI): Spray (DI WATER ONLY):	8 liters/day -	8 liters/day -	8 liters/day 7 liters/minute	- -
<b>Specimen Exposure Area:</b>	20 x 50 cm x 2 exposure areas front; 20 x 108 cm x 1 exposure area rear (4160 cm <sup>2</sup> )	20 x 50 cm x 2 exposure areas/side (4000 cm <sup>2</sup> )	20 x 50 cm x 2 exposure areas/side (4000 cm <sup>2</sup> )	20 x 50 cm x 2 exposure areas/side (4000 cm <sup>2</sup> )
<b>Power:</b> Transformer kits available for 100 V or 200 V operation	120 V ± 10%, 1-Phase, 60 Hz, 14 A -or- 230 V ± 10%, 1-Phase, 50/60 Hz, 7 A	120 V ± 10%, 1-Phase, 60 Hz, 16 A -or- 230 V ± 10%, 1-Phase, 50/60 Hz, 8 A	120 V ± 10%, 1-Phase, 60 Hz, 16 A -or- 230 V ± 10%, 1-Phase, 50/60 Hz, 8 A	120 V ± 10%, 1-Phase, 60 Hz, 16 A -or- 230 V ± 10%, 1-Phase, 50/60 Hz, 8 A
<b>Lamps:</b> Quantity 8 x 40 Watt T12 x 121cm long (Maximum Irradiance**)	UVA-340 (n/a***) UVA-351 (n/a***) UVB-313EL (n/a***) QFS-40 (n/a***)	UVA-340 (1.55 W/m <sup>2</sup> ) UVA-351 (1.55 W/m <sup>2</sup> ) UVB-313EL (1.23 W/m <sup>2</sup> ) QFS-40 (0.86 W/m <sup>2</sup> )	UVA-340 (1.55 W/m <sup>2</sup> ) UVA-351 (1.55 W/m <sup>2</sup> ) UVB-313EL (1.23 W/m <sup>2</sup> ) QFS-40 (0.86 W/m <sup>2</sup> )	Cool White (20 k-lux)
<b>Lamp Life:</b>	1600 hours (avg)	5000 hours (avg)	5000 hours (avg)	5000 hours (avg)

\*Minimum and maximum cycle temperatures are dependent on irradiance settings and ambient temperatures.

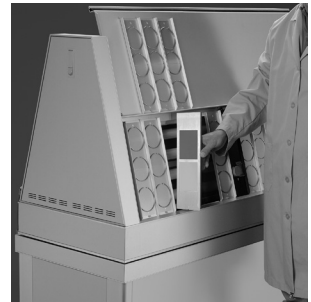
\*\*Higher irradiance may be possible, but lamp life may not be acceptable.

\*\*\*QUV/basic model does not allow for irradiance control. All other models feature SOLAR EYE irradiance control.

### Test Specimen Mounting

The standard test specimen holder accommodates 2 panels, 3" x 6" (75 mm x 150 mm). The test panels are actually the side wall of the chamber. To properly seal the chamber, it is important to have every panel holder filled with specimens or blank panels, and to have all panel holders in place.

Odd shaped and thicker specimens can be mounted in a QUV tester as well. Information is available in Technical Bulletin LU-8001, Specimen Mounting.



### Warranty

The QUV Accelerated Weathering Tester is guaranteed against defects in workmanship or materials for one year. Liability is limited to replacing or repairing any part or parts which are defective in materials or workmanship and are returned to our factory, shipping costs prepaid. Liability in all events is limited to the purchase price paid. Damage due to accident or abuse is not covered. Labor cost is not covered. Q-Lab Corporation makes no other warranties, including implied warranties of merchantability or fitness for a particular purpose, except as may be expressly provided by Q-Lab Corporation in writing. Q-Lab Corporation shall not be liable for any incidental, consequential, special, or contingent damages arising out of the sale or use of any product.

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