



Battery run time Marketing Claim Verification for photovoltaic lighting



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Photovoltaic lighting needs in the industry

The photovoltaic (PV) lighting market is often used as a representative category for clean energy lighting. Over the years, advancements in the technologies of LEDs and lithium batteries have changed the field of PV lighting from short-time auxiliary lighting products (such as garden lights) to a wider range of product categories such as streetlights, pedestrian walkway lights and other outdoor lighting in off-grid areas.

The light output run-time of a solar LED light is a key parameter since products that do not provide enough run-time have limited value to consumers, manufacturers and specifiers.

Testing for battery run time

PV safety standards such as IEC 62257-9-5 and UL 8801, the Standard for Photovoltaic (PV) Luminaire Systems, do not currently include unified testing methods and national standards for energy utilization. The UL Solutions Marketing Claim Verification (MCV) program introduces reliability testing specifications to verify run-time claims.

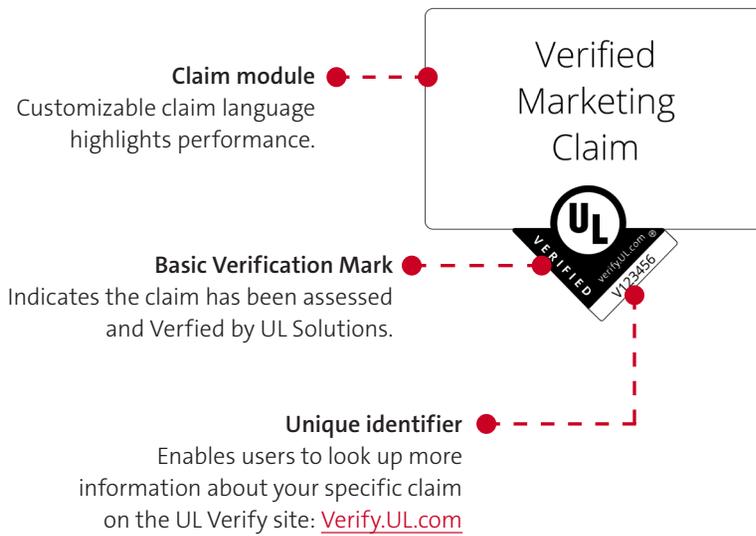
The testing method, auditing and inspection for the “Over XX hours of full-battery run time” claim verifies the run time of a fully-charged PV lighting product using the standards, clauses and references of IEC TS 62257-9-5:2018, Recommendations for renewable energy and hybrid systems for rural electrification – Part 9-5: Integrated systems – Laboratory evaluation of stand-alone renewable energy products for rural electrification and Annex M – Full battery run-time test.

The test begins with a fully charged battery and runs at the highest setting until the light output has decreased to 70%.

A DC power supply is used to simulate the output voltage and current of the solar panel under normal conditions, and an integrating sphere and power analyzer are used to continuously monitor the light output of the solar light until the light output stops.

By calculating the total run time of the light output and the change of the total luminous flux, we can verify the claimed value of the run time.





What does the Marketing Claim Verification include?

Manufacturers who achieve Marketing Claim Verification receive the UL Verified Mark with the supporting test/audit/inspection report and a Marketing Claim Verification certificate. Manufacturers may add the UL Verified Mark on their product packaging to differentiate their products in the marketplace. This UL Mark on advertising collateral and product packaging benefits consumers, workers and building owners because it indicates our independent third-party verification of the manufacturer's claim.

To end users, the benefits of seeing the UL Verification rating label include:

- Confidence that UL Solutions, a trusted, unbiased, third-party testing, inspection and certification provider, has verified the manufacturers' performance claims
- Guidance to aid product choices for photovoltaic lighting



Why choose UL Solutions for Marketing Claim Verification?

Consumers worldwide demand transparency from the brands they choose. As a global safety science leader, UL Solutions applies deep technical expertise, creates customized offerings and delivers objective product performance assessments. We help elevate your brand above competitors, so you can build credibility and quickly bring innovative products to market by leveraging a Mark recognized worldwide with tools that build trust and confidence.

- We work with our customers at every step of the process and everywhere in the world, thanks to a global network of testing laboratories, partners and experts.
- We have an online, consumer friendly UL Verify database of UL Verified marketing claims to help differentiate and promote your brand's achievements.
- An independent, objective, science-based assessment verifies marketing claims' accuracy.
- The presence of a UL Verified Mark makes consumers' decisions easier and demonstrates reliability, performance or feature benefits to customers and end consumers.
- UL Marks appear on tens of billions of products, and 66% of U.S. retailers prefer the UL Mark over other testing, inspection and certification (TIC) marks, according to a recent U.S. Value Chain study.
- The UL Verified Mark helps customers create a premium offer and avoid market commoditization.



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