Lighting Global Webinar: Submission of Quality Standards to the IEC

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Lighting Global Quality Assurance
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Lighting Global Quality Assurance
Primary Program Elements

Lighting Global QA Framework

Test methods and standards
- QTM
- quality
- n=6
- Technical Specification 62257-9-5, Ed. 3.0
- Quality Standard

Testing, Verification, & Surveillance
- ISO 17025 accredited labs for QTM testing
- Intertek
- teri

Communicating Quality to Market
- Consumer Awareness Campaigns
- www.lightingglobal.org/products
- market check test labs

Stakeholder Engagement
- Off-Grid Solar Sector
- Development Agencies
- Governments

ISO 17025 accredited labs for QTM testing

www.lightingglobal.org/products
Lighting Global Quality Assurance
Primary Program Elements

Lighting Global QA Framework

Test methods and standards

- QTM
- quality
- IEC

Technical Specification 62257-9-5, Ed. 3.0

Quality Standard

ISO 17025 accredited labs for QTM testing

Off-Grid Solar Sector

Development Agencies

Governments
Pico products must be:
- tested to the latest edition of IEC TS 62257-9-5
- by a test lab that is ISO 17025 accredited for IEC TS 62257-9-5

QTM test results are required for Lighting Global's assessment to meet the Quality Standards:
- n=6 for pico products ($\leq 10 - 15 \, W_p$)
- 3.5% of the warehouse stock for Pico-QTM ($\geq 500$ units); random sampling used

Purchase document from IEC Webstore; 75% “discount” available for eligible stakeholders
SHS products must be:

- tested to the latest edition of the Lighting Global Solar Home System Test Methods
- by a test lab that is approved by Lighting Global to conduct the SHS tests

SHS-QTM test results are required for Lighting Global's assessment to meet the SHS Quality Standards

- \( n=4 \) for SHS products
  - \( \geq 10 \, W_p \) and \( \leq 350 \, W_p \)
- 8% of warehouse stock for SHS-QTM
  - \( \geq 150 \) units

The Lighting Global SHS test methods can be obtained from the Lighting Global QA team upon request.
Test Methods & Standards

Lighting Global
Pico-Solar Quality Standards

(≤ 10-15 W_p)

Lighting Global
SHS Kits Quality Standards

(11 W_p - 350 W_p)

https://www.lightingglobal.org/quality-assurance-program/our-standards/
Revision of the IEC Test Methods

• New revision approved by the IEC on December 15, 2017
• Expect the new version to be published in the next few months
• This version includes the methods to test SHS kits, enabling all products to be tested according to the same test methods
• Changes for pico-product testing include assessing run time using the “energy service calculations” and some basic assessments of output ports (USB, 12 V or similar)
Test Methods & Standards after IEC 62257-9-5 ed.4 is published

Pico-Solar Products AND SHS Kits will use same IEC 62257-9-5 test methods

Edition 4.0 2018-05(?)

Lighting Global Pico-Solar Quality Standards

(≤ 10 W_p)

Lighting Global SHS Kits Quality Standards

(11 W_p - 350 W_p)

https://www.lightingglobal.org/quality-assurance-program/our-standards/
Test Methods & Standards
if Quality Standards are submitted to IEC

IEC Pico-Solar Quality Standards
(\leq 10 \text{ W}_p)

IEC 62257-13-1

IEC SHS Kits Quality Standards
(11 \text{ W}_p - 350 \text{ W}_p)

IEC 62257-13-2
Lighting Global Quality Assurance
Primary Program Elements

Test methods and standards

- **QTM**
- **quality**
- n=6

**Test Methods**
62257-9-5, Ed. 4.0

**Quality Standards**
- Pico-Solar: 62257-13-1
- SHS Kits: 62257-13-2

ISO 17025 accredited labs for QTM testing

**Consumer Awareness Campaigns**

www.lightingglobal.org/products

Consumer market check test labs

**Off-Grid Solar Sector**

**Development Agencies**

**Governments**

**Stakeholder Engagement**

**Lighting Global QA Framework**

- Testing, Verification, & Surveillance
- Communicating Quality to Market
- Stakeholder Engagement

**ISO 17025** accredited labs

**SCHATZ ENERGY RESEARCH CENTER**

**Intertek**

**teri**

**SHS Standards**
Submitting the Quality Standards for pico-products to the IEC

• Goal is to submit a draft in April in advance of the JWG1 meeting on 2 May 2018
• Will likely take 8 – 12 months to be published
• Will continue to collect feedback on the Quality Standards that can be incorporated into future versions. Input can also be provided directly through the IEC review process after the draft has been submitted.
Submitting the Quality Standards for pico-products to the IEC

• Plan to make a few changes prior to submitting, including:
  – Accepting IEC 61427-1 certificates in lieu of battery durability tests for lithium batteries
  – Updating the eligibility criteria for AVM to enable more companies to access the pathway
  – Discontinuing the “limited-stock” option for random sampling
  – Adding standards for ports and lithium batteries
  – Raising the lumen maintenance threshold from 85% to 90%
Plan to submit the Quality Standards for SHS kits to the IEC

• Similar motivations as considered for pico-solar standards:
  – Increase the stature of the global quality standards and thereby reduce the risk of countries adopting divergent standards;
  – Provide a formal process for obtaining input from national governments, private sector companies, and other stakeholders; and
  – Enable national governments to easily keep their standards harmonized with the global standards (by referencing the IEC technical specification without referencing a particular edition/version).
Plan to submit the Quality Standards for SHS kits to the IEC

• Potential drawbacks:
  – Moderately long timeline to update the standards
  – Access to standards requires payment
  – Translation of the standards more limited
  – Unequal stakeholder influence
  – National standards can still fall out of harmonization
  – Governments may adopt even if not prepared to enforce
Plan to submit the Quality Standards for SHS kits to the IEC

- Same timeline as standards for pico-solar products:
  - Goal is to submit a draft before the JWG1 meeting on 2 May 2018
  - Will likely take 8 – 12 months to be published
  - Input can still be provided directly through the IEC review process after the draft has been submitted
Plan to submit the Quality Standards for SHS kits to the IEC

- Changes to standards prior to submission:
  - Accepting outside certificates in lieu of battery durability tests for lithium batteries
  - Considering requiring IEC 62133-2:2017 and/or UL 1642 in lieu of UN 38.3 for lithium battery safety
  - Discontinuing the “limited-stock” option for random sampling

- Need to decide whether to enable SHS kits to use the AVM pathway
Thank you for participating!

Questions?
Comments?
Thank You!

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