

Lighting Global Quality Testing: Policy on Similar Products

Version 3

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It is common for off-grid lighting manufacturers to offer multiple product models that are essentially variations on each other. Rather than requiring completely independent testing of each variation, Lighting Global Quality Assurance can accommodate a range of similar products using full test results for at least one product in the series and targeted testing for the variant products. For convenience, in this memo we will refer to the product that is fully tested as “product A” and to a variant as “product B.” It is, of course, possible to have more than one variant product. Each product line is unique; Lighting Global personnel will work with manufacturers on a case-by-case basis to minimize the scope (and cost) of testing the variant products while meeting the following guidelines:

1. The primary product (“A”) must undergo full testing.
2. Test results for the primary product (“A”) may be applied to a variant product (“B”) in cases where the design and specifications of the system with respect to the relevant performance parameter are identical. For example, if products “A” and “B” use the same solar PV module, then test results for the PV module for product “A” may be applied to product “B.”¹
3. New tests are required for product “B” to address differences in design or component specification between products “A” and “B.” Here it is important to consider differences in component specification as well as system level effects. For example, if product “B” has a different battery than product “A” then new tests for battery capacity (component level test) and full-battery run time, solar run time, and lighting service (system level tests) would be required. Depending on the specifics of the product design, additional new tests may also be required.
4. In all cases, test results must be generated that allow for full characterization of the quality and performance of each product. In other words, results for product “B” may be drawn from a combination of results for product “A” (where applicable) and new tests of product “B,” and the sum of these test results must allow for full characterization of product “B” to provide the information required to fill in a Standardized Specifications Sheet and assess whether the product meets the Lighting Global Quality Standards.

¹ Lighting Global reserves the right to carry out a check test of a PV module for product “B” to confirm that the claim that the PV modules are identical is reasonable.

The process for determining the scope of testing required for variations on a similar product is the following:

The manufacturer submits a request for Lighting Global to consider a reduced scope of testing for particular product(s). The request should include a table of product attributes that indicates the degree of similarity (e.g., “identical,” “same supplier but 2x larger,” etc.) for each aspect of the products in question. A template table for reporting similarities and differences is attached. Companies should also include clearly labeled photographic images of the primary product and each of the variants. The photographs should include all product/system components that can be shown without disassembling the respective products.

1. Lighting Global personnel determine which test results are required to produce valid results for multiple product variations. Lighting Global will provide a proposed testing plan and price for the variations. Lighting Global will also specify a sampling plan for the primary and variant products (i.e., Lighting Global will specify the number of samples that must be collected for each product and—where applicable—each product component).
2. Sample collection and testing commence after the manufacturer agrees to the plan and pricing in writing.
3. The test results for each product (primary product plus variations) will be combined into an aggregate test report for the product line.
 - a. If the primary product (“A”) meets the Lighting Global Quality Standards, then the variant products (“B”) may also be in a position to pass, provided—of course—that all new test results for product “B” also meet or exceed the relevant requirements.
 - b. If the claims made by the manufacturer regarding product similarity are reasonably confirmed by testing and other relevant criteria are met, Lighting Global will issue Standardized Specifications Sheets for each of the products that meet the Lighting Global Quality Standards.
 - c. If the claims regarding similarity are dubious, Lighting Africa personnel will issue a full test report for the main product and partial reports for the variations. In that case, further sampling and testing may be required to allow for complete characterizations for each of the variant products.

Element	Primary Product	Variation 1	Variation 2	Variation 3
	[insert name]	[insert name]	[insert name]	[insert name]
Light source				
Type (e.g. high/low power LED, CFL, etc.)				
Number of light sources (e.g. number of LEDs)				
Additional details (e.g. number of settings, optics, etc.)				
Energy Source				
PV Module				
Type (e.g. mono-si, poly-si, amorphous, etc.)				
Rate Specifications (Wp, Isc, Voc at STC)				
Other Energy Source				
Type (e.g. mechanical dynamo, AC grid, etc.)				
Additional details				
Other Energy Source				
Type (e.g. mechanical dynamo, AC grid, etc.)				
Additional details				
Battery				
Chemistry (e.g. SLA, Li-ion, NiMH, etc.)				
Capacity (mAh)				
Nominal voltage (V)				
Additional details				
Electronic Circuits				
Charge controller (description)				
Lamp driver (type)				
High/Low voltage disconnect				
Mobile phone charging				
Other				
Other				
Balance of system components				
Switches				
Cables				
Sockets				
Other				
Other				
Housing				
Material				
Size (dimensions)				
Handle(s) (description)				
Ingress protection (e.g. gaskets, double flange, etc.)				
Other				
Other				
Additional features				
[insert element]				
[insert element]				
[insert element]				