

Lighting Global Product Testing Verification Sun King Boom

Expiration Date: August 31, 2019¹
Verify here: www.lightingglobal.org/products/glp-skboom

This verifies that the Sun King Boom was tested according to the Quality Test Method stipulated in the latest edition of IEC 62257-9-5² and complied with the Lighting Global Quality Standards.³



Testing Details:

Product Name: Sun King Boom
Model Number: SK321
Company Name: Greenlight Planet, Inc.; Greenlight Planet Hong Kong Ltd.
Country of Origin: China
Company Contact: Ben Mathew, sales@greenlightplanet.com
Original QTM Sample Size: n=6
Renewal Test Conducted: n/a
Sample Procurement Method: Random warehouse sampling
Testing Laboratory: Shenzhen Academy of Metrology and Quality Inspection, Shenzhen, Guangdong, China

Documentation:

Specifications sheet with verified test results and original version of this verification:
www.lightingglobal.org/products/glp-skboom



Russell Sturm
Global Head, Energy Access
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¹ Lighting Global requires re-testing every two years or upon major product revisions, and in special cases reserves the right to grant an extension on results validity.

² www.lightingglobal.org/quality-assurance-program/

³ www.lightingglobal.org/quality-assurance-program/our-standards/

Type Approval

Sun King Boom

Expiration Date: August 31, 2019¹

Verify here: www.lightingglobal.org/products/glp-skboom

Category	Quality Standard	Verdict
Truth In Advertising	Manufacturer accurately specified	Pass
	Product Name and Model Number accurately specified	Pass
	Performance and Component Ratings accurately specified. Any description of the product that appears on the packaging, inside the package and in any media shall be truthful and accurate. No statements shall mislead buyers or end users about the utility of the product. Numeric ratings must deviate no more than 15% from actual performance (note that it is acceptable for actual performance to exceed advertised performance).	Pass
Lumen Maintenance	Average relative light output $\geq 85\%$ of initial light output at 2,000 hours with only one sample allowed to fall below 75% OR All 6 samples maintain $\geq 95\%$ of initial light output at 1,000 hours	Pass
AC-DC Charger Safety	Any included AC-DC charger carries approval from a recognized consumer electronics safety regulator	n/a
Battery Composition	No battery may contain cadmium or mercury at levels greater than trace amounts	Pass
Battery Protection	Protected by an appropriate charge controller that prolongs battery life and protects the safety of the user. 5 out of 6 samples must meet the requirements outlined in Lighting Global Quality Standards.	Pass
Battery Durability	The average capacity loss of 6 samples must not exceed 25% and only one sample may have a capacity loss greater than 35% following the battery durability storage test as defined in IEC/TS 62257-9-5 Annex BB* *This product also meets the Battery Longevity requirement described in KS 2542:2014: the measured capacity after storage is at least 80% of the measured capacity before storage; no more than 1/6 samples fail	Pass
Physical Ingress Protection	IP2X for all products, IP3X (or 2X + circuit protection) for PV modules, IP5X for fixed outdoor products	Pass
Water Ingress Protection	Degree of protection required is based on product type: Fixed separate (indoor): No protection required Portable separate: Occasional exposure to rain Portable integrated: Frequent exposure to rain Fixed integrated (outdoor): Permanent outdoor exposure PV modules: Outdoor rooftop installation	Pass

Type Approval Continued

Sun King Boom

Verify here: www.lightingglobal.org/products/glp-skboom

Category	Quality Standard	Verdict
Drop Test	Fixed separate (indoor): No requirement All other products: 5 out of 6 samples are functional after drop test; none result in dangerous failures	Pass
Soldering and Electronics Workmanship	The system and any included appliances must be rated “Good” or Fair” for workmanship quality as defined in Annex F of IEC/TS 62257-9-5. At most, one sample may fail to function when initially evaluated.	Pass
Mechanical Durability	6 samples are functional after Switch, Connector, Gooseneck and Strain Relief tests; none result in dangerous failures	Pass
Minimum Warranty Terms	Accurately specified and consumer-facing; minimum coverage of at least one year on manufacturing defects under normal use, including the battery. Detailed requirements are specified in the Lighting Global Quality Standards	Pass
Performance Reporting	Light output and the corresponding solar run time are reported on the product packaging for at least the brightest setting.	Pass
	Impact of mobile phone charging on product performance is qualitatively described on packaging.	Pass

Additional details on the requirements listed above are provided in the Lighting Global Quality Standards, available here:
www.lightingglobal.org/quality-assurance-program/our-standards/

All Quality Standards are evaluated based on test methods described in the latest edition of IEC/TS 62257-9-5.

Lighting Global Product Testing Verification

Sun King Home Family

Expiration Date: November 30, 2019¹

Verify here: www.lightingglobal.org/products/glp-skhomefamily

This verifies that the Sun King Home Family product family was tested according to the Quality Test Method in the latest edition of IEC 62257-9-5, or the Lighting Global Quality Assurance Protocols for Solar Home System Kits, as applicable.² The product family **met** the Lighting Global Quality Standards.³ The product family includes the following kits:

SK-403, SK-405, SK-406, SK-407, SK-408, SK-409, SK40x*(-XXXXXXXX**)-(BP***), SK409-0041000, SK403-2001000, SK405-1001100, SK-409-2011000, SK-409-0040001, SK-409-2100000-CC, SK405-2010000-6A, SK403-3000100-6A



Test details:

Product Name: Sun King Home Family
Model Number: See list above
Company Name: Greenlight Planet, Inc.; Greenlight Planet Hong Kong Ltd.
Country of Origin: China
Company Contact: Ben Mathew, sales@greenlightplanet.com
Original QTM Sample Size: n=4 or 6, as required by the applicable test method
Renewal Test Conducted: n/a
Sample Procurement Method: Random warehouse sampling
Testing Laboratory: Shenzhen Academy of Metrology and Quality Inspection, Shenzhen, Guangdong, China

Documentation:

Specifications book with verified test results and original version of this verification:

<http://www.lightingglobal.org/products/glp-skhomefamily>

Specifications sheets with verified test results for selected systems within this product family:

<http://www.lightingglobal.org/products/glp-skhome>



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² www.lightingglobal.org/quality-assurance-program/

³ www.lightingglobal.org/quality-assurance-program/our-standards/

Type Approval

Sun King Home Family

Expiration Date: November 30, 2019¹

Verify here: www.lightingglobal.org/products/glp-skhomefamily

Category	Quality Standard	Verdict
Truth In Advertising	Manufacturer accurately specified	Pass
	Product Name and Model Number accurately specified	Pass
	Performance and Component Ratings accurately specified. Any description of the product that appears on the packaging, inside the package and in any media shall be truthful and accurate. No statements shall mislead buyers or end users about the utility of the product. Numeric ratings must deviate no more than 15% from actual performance (note that it is acceptable for actual performance to exceed advertised performance).	Pass
Lumen Maintenance	Average relative light output \geq 85% of initial light output at 2,000 hours with only one sample allowed to fall below 75% OR All 6 samples maintain \geq 95% of initial light output at 1,000 hours	Pass
AC-DC Charger Safety	Any included AC-DC charger carries approval from a recognized consumer electronics safety regulator	n/a
Battery Composition	No battery may contain cadmium or mercury at levels greater than trace amounts	Pass
Battery Protection	Protected by an appropriate charge controller that prolongs battery life and protects the safety of the user. 5 out of 6 samples must meet the requirements outlined in Lighting Global Quality Standards.	Pass
Battery Durability	The average capacity loss of 6 samples must not exceed 25% and only one sample may have a capacity loss greater than 35% following the battery durability storage test as defined in IEC/TS 62257-9-5 Annex BB* *This product also meets the Battery Longevity requirement described in KS 2542:2014: the measured capacity after storage is at least 80% of the measured capacity before storage; no more than 1/6 samples fail	Pass
Physical Ingress Protection	Minimum IP2X for all products, IP3X for PV modules, and IP5X for fixed integrated outdoor products	Pass
Water Ingress Protection	Degree of protection required is based on product type: Fixed separate (indoor): No protection required Portable separate: Occasional exposure to rain Portable integrated: Frequent exposure to rain Fixed integrated (outdoor): Permanent outdoor exposure PV modules: Outdoor rooftop installation	Pass

Type Approval Continued

Sun King Home Family

Verify here: www.lightingglobal.org/products/glp-skhomefamily

Category	Quality Standard	Verdict
Drop Test	Fixed separate (indoor): No requirement All other products: 5 out of 6 samples are functional after drop test; none result in dangerous failures	Pass
Soldering and Electronics Workmanship	Pass soldering and electronics inspection; the maximum prevalence of bad solder joints, poor wiring or overall workmanship failure is 1 out of 6 samples in each category	Pass
Mechanical Durability	5 out of 6 samples are functional after Switch, Connector, Gooseneck and Strain Relief tests; none result in dangerous failures	Pass
Minimum Warranty Terms	Accurately specified and consumer-facing; minimum coverage of at least one year on manufacturing defects under normal use, including the battery. Detailed requirements are specified in the Lighting Global Quality Standards	Pass
Performance Reporting	Light output and the corresponding solar run time are reported on the product packaging for at least the brightest setting	Pass
	Impact of mobile phone charging on product performance is qualitatively described on packaging	Pass

Additional details on the requirements listed above are provided in the Lighting Global Quality Standards, available here:

www.lightingglobal.org/quality-assurance-program/our-standards/

All Quality Standards above are evaluated based on test methods described in the latest edition of IEC/TS 62257-9-5 for kits in the product family with peak power ratings less than or equal to 15 W.

Kits in the product family with peak power ratings greater than 15 W are evaluated based on the Lighting Global Quality Assurance Protocols for Solar Home System Kits and found to meet the Lighting Global Quality Standards for SHS Kits.

Lighting Global Product Testing Verification Sun King Pro 400

Expiration Date: November 30, 2019¹
Verify here: www.lightingglobal.org/products/glp-skp400

This verifies that the Sun King Pro 400 was tested according to the Quality Test Method stipulated in the latest edition of IEC 62257-9-5² and complied with the Lighting Global Quality Standards.³



Testing Details:

Product Name: Sun King Pro 400
Model Number: SK334
Company Name: Greenlight Planet, Inc.
Country of Origin: China
Company Contact: Ben Mathew, sales@greenlightplanet.com
Original QTM Sample Size: n=6
Renewal Test Conducted: n/a
Sample Procurement Method: Random warehouse sampling
Testing Laboratory: Shenzhen Academy of Metrology and Quality Inspection, Shenzhen, Guangdong, China

Documentation:

Specifications sheet with verified test results and original version of this verification:
www.lightingglobal.org/products/glp-skp400



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³ www.lightingglobal.org/quality-assurance-program/our-standards/

Type Approval

Sun King Pro 400

Expiration Date: November 30, 2019¹

Verify here: www.lightingglobal.org/products/glp-skp400

Category	Quality Standard	Verdict
Truth In Advertising	Manufacturer accurately specified	Pass
	Product Name and Model Number accurately specified	Pass
	Performance and Component Ratings accurately specified. Any description of the product that appears on the packaging, inside the package and in any media shall be truthful and accurate. No statements shall mislead buyers or end users about the utility of the product. Numeric ratings must deviate no more than 15% from actual performance (note that it is acceptable for actual performance to exceed advertised performance).	Pass
Lumen Maintenance	Average relative light output $\geq 85\%$ of initial light output at 2,000 hours with only one sample allowed to fall below 75% OR All 6 samples maintain $\geq 95\%$ of initial light output at 1,000 hours	Pass
AC-DC Charger Safety	Any included AC-DC charger carries approval from a recognized consumer electronics safety regulator	n/a
Battery Composition	No battery may contain cadmium or mercury at levels greater than trace amounts	Pass
Battery Protection	Protected by an appropriate charge controller that prolongs battery life and protects the safety of the user. 5 out of 6 samples must meet the requirements outlined in Lighting Global Quality Standards.	Pass
Battery Durability	The average capacity loss of 6 samples must not exceed 25% and only one sample may have a capacity loss greater than 35% following the battery durability storage test as defined in IEC/TS 62257-9-5 Annex BB* *This product also meets the Battery Longevity requirement described in KS 2542:2014: the measured capacity after storage is at least 80% of the measured capacity before storage; no more than 1/6 samples fail	Pass
Physical Ingress Protection	IP2X for all products, IP3X (or 2X + circuit protection) for PV modules, IP5X for fixed outdoor products	Pass
Water Ingress Protection	Degree of protection required is based on product type: Fixed separate (indoor): No protection required Portable separate: Occasional exposure to rain Portable integrated: Frequent exposure to rain Fixed integrated (outdoor): Permanent outdoor exposure PV modules: Outdoor rooftop installation	Pass

Type Approval Continued

Sun King Pro 400

Verify here: www.lightingglobal.org/products/glp-skp400

Category	Quality Standard	Verdict
Drop Test	Fixed separate (indoor): No requirement All other products: 5 out of 6 samples are functional after drop test; none result in dangerous failures	Pass
Soldering and Electronics Workmanship	The system and any included appliances must be rated “Good” or Fair” for workmanship quality as defined in Annex F of IEC/TS 62257-9-5. At most, one sample may fail to function when initially evaluated.	Pass
Mechanical Durability	6 samples are functional after Switch, Connector, Gooseneck and Strain Relief tests; none result in dangerous failures	Pass
Minimum Warranty Terms	Accurately specified and consumer-facing; minimum coverage of at least one year on manufacturing defects under normal use, including the battery. Detailed requirements are specified in the Lighting Global Quality Standards	Pass
Performance Reporting	Light output and the corresponding solar run time are reported on the product packaging for at least the brightest setting.	Pass
	Impact of mobile phone charging on product performance is qualitatively described on packaging.	Pass

Additional details on the requirements listed above are provided in the Lighting Global Quality Standards, available here:

www.lightingglobal.org/quality-assurance-program/our-standards/

All Quality Standards are evaluated based on test methods described in the latest edition of IEC/TS 62257-9-5.