

1 TEST REPORT Identification

1.1 Test Description

SAFETY TESTS

1.2 Document

Document T1406111A Job J14293	Date of document 23/06/2014
The tester Marco Gori	Approval

1.3 Laboratory

Denomination Celab S.r.l.	Contacts Tel. +39 0773 665421 Fax +39 0773 417534 E-mail: celab@celab.com Web : www.celab.com
Address Via Maira snc, 04100 Latina Italy	

1.4 Customer

Denomination GREENTRONICS S.r.l.
Address Via G. Battista Ruoppolo,105 – 80128 Napoli

1.5 EUT identification

Description / Part number Sistema Smartlight - **
Serial Number ** - **
Manufacturer name if different from customer **
Period of testing 11/06/2014 – 11/06/2014
Date of receipt of EUT or Location of EUT for testing 06/06/2014

1.6 Test result

PASS



All tests are referred to the particular EUT.



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Page 1 of 14

1.7 Index

1	TEST REPORT Identification	1
1.1	Test Description.....	1
1.2	Document	1
1.3	Laboratory	1
1.4	Customer	1
1.5	EUT identification	1
1.6	Test result.....	1
1.7	Index.....	2
1.8	Document distribution list.....	3
1.9	Document revision	3
1.10	Document Security Level	3
1.11	Warnings.....	3
1.12	Changes to EUT for tests.....	3
1.13	Support equipments	3
1.14	Purpose of tests.....	3
1.15	Operative mode of working	3
1.16	Configuration and peripherals	3
1.17	EUT software for testing.....	3
1.18	EUT Photo	4
1.19	Accessories (not tested).....	4
2	TEST	5
2.1	Test EN 60335-1 Safety of household and similar electrical appliances	
	- Part 1: General requirements.	5
2.1.1	Scope of testing	5
2.1.2	Reference Documents	5
2.1.3	Configuration of EUT during testing	5
2.1.4	Procedure	5
2.1.5	Uncertainty	5
2.1.6	List of Equipment used	6
2.1.7	Test environment.....	6
2.1.8	Terminology used in testing.....	6
2.1.9	Pass Condition.....	6
2.1.10	Test Result	6
2.1.11	Annex	7



1.8 Document distribution list

Celab S.r.l., Via Maira snc, 04100 Latina

Customer as indicated in 1.4

1.9 Document revision

Release	Description	Date
A	First release of documents	see 1.2

1.10 Document Security Level

Level	Description
Industry	- Document reserved to list of distribution

1.11 Warnings

Reference norms have been used as guide lines, please consult the paragraphs about single tests for further information.

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Results of testing are referred to the particular sample tested.

1.12 Changes to EUT for tests

None

1.13 Support equipments

None

1.14 Purpose of tests

Verify the compliance between the EUT and the standards

1.15 Operative mode of working

As defined by customer

1.16 Configuration and peripherals

Na





1.17 EUT software for testing

Na



1.18 EUT Photo



		SMARTLIGHT 5	
MODEL: SMARTLIGHT 5 INPUT VOLTAGE: 230Vac 50Hz OUTPUT VOLTAGE: 230Vac 50Hz MAX OUTPUT: 750W		  	
		MADE IN ITALY	

1.19 Accessories (not tested)

**



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Page 4 of 14

2 TEST

2.1 Test EN 60335-1 Safety of household and similar electrical appliances - Part 1: General requirements.

2.1.1 Scope of testing

These tests determine whether the equipment is compliant with EN 60335-1:2012 standard and his amendments.

2.1.2 Reference Documents

Standard Used : EN 60335-1:2012


 *The reference document are used as standard guideline, refer to procedure for more details.*

2.1.3 Configuration of EUT during testing

The EUT was setup in accordance with customer's specifications.


2.1.4 Procedure

- 1) General visual inspection on the EUT
- 2) EUT checked according to procedure in ANNEX chapter.

 *The quality system used for testing is compliant with EN 17025 standards and to CELAB Quality system.*

2.1.5 Uncertainty

Accuracy for Voltage 0,1%; for Current 0,1%; for Temperature 1°C; for Size 1%

 *The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$. It provides a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirement.*

2.1.6 List of Equipment used

Asset	description	pn	sn	cal doc	cal date	due cal
S001	Multimeter HP3440	HP34401	US36018954	V1405036A	05/05/2014	04/05/2015
S080	Temperature probe	PT100	570-170	V1403063A	28/02/2014	27/02/2015
S084	Caliper digital Mi	500-161U	056056	V1401072A	07/01/2014	05/01/2016
S085	Glass tester 10x	S085	80012039	V1211269A	26/11/2012	24/11/2014
S088	Misuratore di isol	16D251	1790	V1311091A	08/11/2013	07/11/2014
S201	Ball test apparatu	BTA	S201	V1303260A	26/03/2013	22/03/2016
S246	Temperature Umidit	T/U 5	005	V1309244A	24/09/2013	23/09/2014
S395	AC withstand volta	5500DT	9021155	V1306280A	28/06/2013	27/06/2014

This test is issued in accordance with the laboratory quality system. It provide traceability of measurement to recognized national and international standard.

2.1.7 Test environment

Temperature : 22°C +/- 4°C
 Humidity : 60%rH +/- 20%
 Pressure : 800-1100mBar
 Environment : Laboratory

Environmental data are registered according to Celab Quality System. Instruments used are defined in internal environment procedures.

2.1.8 Terminology used in testing

EUT Equipment under test
 PASS It means a test passed (note: if flagged together with CST. It means that PASS is related only to checks indicated in 'Test Result' chapter.
 FAIL It means a test Fail
 CST It means that results and interpretation of testing results is responsibility of customer or test complexity requires customer's activities out of laboratory control.
 NA Not available / Not Applicable
 NP Not Performed

2.1.9 Pass Condition

The EUT pass all clause of this standard.

2.1.10 Test Result

✓	PASS	FAIL	CST
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All tests are referred to the particular EUT.

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2.1.11 Annex

EN 60335-1			
Clause	Requirement - Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		P
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		P
6	CLASSIFICATION		P
6.1	Protection against electric shock: Class 0, 0I, I, II, III..... :	Class II	P
6.2	Protection against harmful ingress of water		NA
7	MARKING AND INSTRUCTIONS		P
7.1	Rated voltage or voltage range (V) :	230V	P
	Symbol for nature of supply, or :	Vac	P
	Rated frequency (Hz) :	50Hz	P
	Rated power input (W), or..... :	750W	P
	Rated current (A) :		NA
	Manufacturer's or responsible vendor's name, trademark or identification mark	GREENTRONICS S.r.l.	P
	Model or type reference	smartlight 5	P
	Symbol IEC 60417-5172, for class II appliances		P
	IP number, other than IPX0	<u>IPX0</u>	NA
	Symbol IEC 60417-5180, for class III appliances, unless		NA
	the appliance is operated by batteries only		NA
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose- sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage		NA
7.2	Warning for stationary appliances for multiple supply		NA
	Warning placed in vicinity of terminal cover		NA
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen		NA
	Different rated values marked with the values separated by an oblique stroke		NA
7.4	Appliances adjustable for different rated voltages, the voltage setting is clearly discernible		NA

EN 60335-1			
Clause	Requirement - Test	Result - Remark	Verdict
	Requirement met if frequent changes are not required and the rated voltage to which the appliance is to be adjusted is determined from a wiring diagram		NA
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless		NA
	the power input is related to the arithmetic mean value of the rated voltage range		NA
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		NA
7.6	Correct symbols used		P
	Symbol for nature of supply placed next to rated voltage		P
	Symbol for class II appliances placed unlikely to be confused with other marking		P
	Units of physical quantities and their symbols according to international standardized system		P
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless		NA
	correct mode of connection is obvious		P
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		NA
	- marking of terminals exclusively for the neutral conductor (letter N)		NA
	- marking of protective earthing terminals (symbol IEC 60417-5019)		NA
	- marking not placed on removable parts		NA
7.9	Marking or placing of switches which may cause a hazard		NA
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means ...:		NA
	This applies also to switches which are part of a control		NA
	If figures are used, the off position indicated by the figure 0		NA
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		NA
7.11	Indication for direction of adjustment of controls		NA

EN 60335-1			
Clause	Requirement - Test	Result - Remark	Verdict
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	The instructions state that:		P
	- the appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction		P
	- children being supervised not to play with the appliance		P
	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided		NA
	Instructions for class III appliances state that it must only be supplied at SELV, unless		NA
	it is a battery-operated appliance, the battery being charged outside the appliance		NA
7.12.1	Sufficient details for installation supplied		P
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated		NA
7.12.2	Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules		NA
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected		NA
7.12.4	Instructions for built-in appliances:		P
	- dimensions of space		NA
	- dimensions and position of supporting and fixing		NA
	- minimum distances between parts and surrounding structure		NA
	- minimum dimensions of ventilating openings and arrangement		NA
	- connection to supply mains and interconnection of separate components		P



EN 60335-1			
Clause	Requirement - Test	Result - Remark	Verdict
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless		P
	a switch complying with 24.3		NA
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		NA
	Replacement cord instructions, type Y attachment		P
	Replacement cord instructions, type Z attachment		NA
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard		NA
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed		NA
7.12.8	Instructions for appliances connected to the water mains:		NA
	- max. inlet water pressure (Pa)		NA
	- min. inlet water pressure, if necessary (Pa):		NA
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		NA
7.13	Instructions and other texts in an official language	ITALIAN	P
7.14	Marking clearly legible and durable, rubbing test as specified		P
7.15	Markings on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool		NA
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		P
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		NA
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading		P



EN 60335-1			
Clause	Requirement - Test	Result - Remark	Verdict
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		P
10	POWER INPUT AND CURRENT		P
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1...:		P
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		NA
	the rated power input is related to the arithmetic mean value		NA
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2:		NA
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		NA
	the rated current is related to the arithmetic mean value of the range		NA
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		P
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table: (see appended table)		P
	No breakdown during the tests		P
15.3	Appliances proof against humid conditions		P
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		P
	Detachable parts removed and subjected, if necessary, to the humidity test with the main part	No detachable parts	NA
	Humidity test for 48 h in a humidity cabinet		P
	Reassembly of those parts that may have been removed		NA
	The appliance withstands the tests of clause 16		P
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		P
16.1	Leakage current not excessive and electric strength adequate		P

EN 60335-1			
Clause	Requirement - Test	Result - Remark	Verdict
	Protective impedance disconnected from live parts before carrying out the tests		NA
	Tests carried out at room temperature and not connected to the supply		P
16.2	Single-phase appliances: test voltage 1.06 times rated voltage (V)	244	P
	Three-phase appliances: test voltage 1.06 times rated voltage divided by $\sqrt{3}$ (V)		NA
	Leakage current measurements		P
	Limit values doubled if:		NA
	- all controls have an off position in all poles, or		NA
	- the appliance has no control other than a thermal cut-out, or		NA
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		NA
	- the appliance has radio interference filters		NA
	With the radio interference filters disconnected, the leakage current do not exceed limits specified.....:	(see appended table)	P
16.3	Electric strength tests according to table 7....:	(see appended table)	P
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified.....:	(see appended table)	P
	No breakdown during the tests		P
25.15	For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage		P
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		P
	Pull and torque test of supply cord, values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm)	<1kg 30N 0,1Nm	P
	Cord not damaged and max. 2 mm displacement of the cord		P
25.18	Cord anchorages only accessible with the aid of a tool, or		P

IEC 60335-1						
10.1	TABLE: Power input deviation					P
Input deviation of/at:	P rated (W)	P measured (W)	dP (W, %)	Required dP (W, %)	Remark	
230V	750	500	250W	+20%	P	
					P	
					P	
					P	
					P	
					P	
Supplementary information: 500W LOAD						

10.2	TABLE: Current deviation					NA
Current deviation of/at:	I rated (A)	I measured (A)	dI (A, %)	Required dI (A, %)	Remark	
					P	
					P	
					P	
					P	
					P	
					P	
					P	
Supplementary information:						



EN 60335-1

13.3	TABLE: Electric strength		P
Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)	
IN to EXTERNAL ENCLOSURE	3000	NO	
OUT to EXTERNAL ENCLOSURE	3000	NO	
IN to LIGHT SENSOR	3000	NO	
OUT to LIGHT SENSOR	3000	NO	
IN to MOTION DETECTOR	3000	NO	
OUT to MOTION DETECTOR	3000	NO	
WIRE	1000	NO	
Supplementary information:			

16.2	TABLE: Leakage current		P
	Single phase appliances: 1.06 x rated voltage (V)	244	[
	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V)..... :	-	[
Leakage current between	I (mA)	Max allowed I (mA)	
IN to OUT	<0,25	0,25	
IN to EXTERNAL ENCLOSURE	<0,25	0,25	
IN TO SENSOR	<0,25	0,25	
Supplementary information:			

16.3	TABLE: Electric strength		P
Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)	
WIRE IN to EXTERNAL ENCLOSURE	1750	NO	
WIRE OUT to EXTERNAL ENCLOSURE	1750	NO	
IN to EXTERNAL ENCLOSURE	3000	NO	
OUT to EXTERNAL ENCLOSURE	3000	NO	
IN to LIGHT SENSOR	3000	NO	
OUT to LIGHT SENSOR	3000	NO	
IN to MOTION DETECTOR	3000	NO	
OUT to MOTION DETECTOR	3000	NO	
Supplementary information:			