

Test Report No. 103/2415/2015/1/1/SLS

National Institute of Solar Energy  
(An Autonomous Institute of Ministry of New & Renewable Energy)  
P.O. & Village Gwalpahari, Distt. Gurgaon  
Haryana, India

2015-2016

PERFORMANCE TEST REPORT ON  
LED BASED SOLAR STREET LIGHTING SYSTEM

The Industry is the manufacturer of electronics for LED Based Solar Street lighting system

Sample ID No: 103/2415/LED

Manufactured by: M/s. Su-Kam Power Systems Ltd., Gurgaon.

M/s. Submitted by: M/s. Su-Kam Power Systems Ltd., Gurgaon.

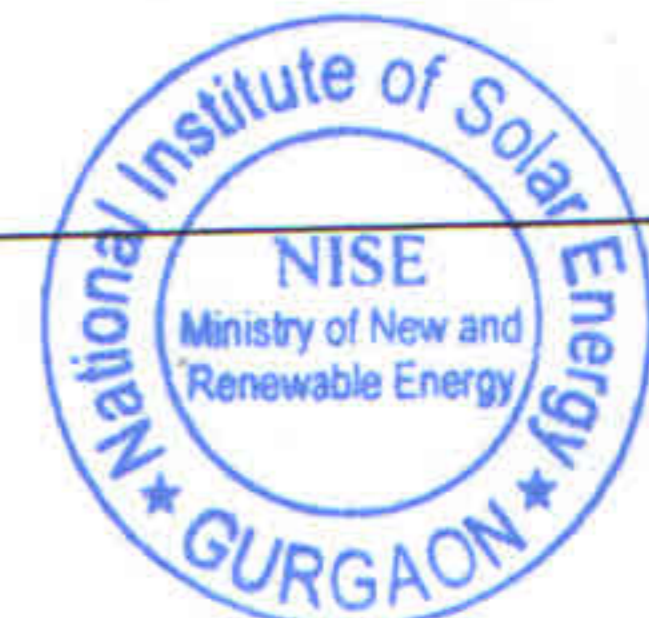
Note

This is a report on measurements carried out on the LED based Solar Street Lighting system submitted at National Institute of Solar Energy as per **MNRE specifications**. The data reported in this TEST REPORT are valid at the time of and under the stipulated conditions of measurement and the test results are applicable to this sample only and do not apply to other Solar Street Lighting systems even though declared to be identical. The data contents in this report do not constitute a qualification test certificate. NISE does not accept any liability for any consequences including commercial or otherwise arising out of the utilization of the information contained in the report.

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*Rajesh Kumar*  
*6/2/15*

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S N	Description of components	MNRE Specifications	Manufacturer Claim	NISE Observations	Remarks
1	<b>PV Module</b> i. a) Name of Manufacturer or Company Logo b) Model or Type No. c) Serial No. d) Year of Make ii Module Wattage at 16.4V or any other suitable voltage under STC iii. Type of Module iv. Module Efficiency v. Voc of PV Module	Should be provided  Should be provided Should be provided Should be provided 40 W at 16.4V  Crystalline silicon 12 % 21.0 V	Ms. ACCESS SOLAR  ASL-S4012 ASL001533B05A004344 Yr-2015 40 W  Multi crystalline Si	Ms. ACCESS SOLAR  ASL-S4012 ASL001533B05A004344 Yr-2015 40.06W  Multi crystalline Si 13.20 % 22.46 V	
2	<b>LOAD/LIGHT (White LED based Light)</b> i. Make/Origin of LED ii. No. of LEDs iii. Light output (in lux) from 4 meter height a) at centre b) 1.0M dia c) 2.0M dia d) 4.0M dia	Should be mentioned Should be mentioned Should be mentioned          15 Lux	PHILIPS 6 Nos.          15 Lux	PHILIPS 6 Nos.       52.00Lux 50.13 Lux 46.00 Lux 24.37 Lux	
3	<b>Battery</b> i. Make and type of Battery   ii. Voltage iii. 100% capacity at C/10 or suitable Discharge rate. iv. %Capacity between fully charged and load cut-off condition.	Should be provided.   12V 40Ah  80%	M/s. HBL Power System Ltd., Tubular plate lead acid 12 V 40 Ah  Comply	M/s. HBL Power System Ltd., Tubular plate lead acid   12 V 44.65 Ah  Comply	
4	<b>Electronic DC -DC converter</b> a. Parameter at 12 V i) Input power ii) Output power iii) Efficiency iv) Variation of output current with input voltage	Should be mentioned Should be mentioned 85% No variation in output current with input voltage	No variation	6.84 W 6.09 W 89.03 % No variation	

Prepared by: *Arvind*

Approved by: *Rajesh Kumar*  
*6/11/15*

Issued By: *Shweta Soam*  
*7/10/2015*

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S.N.	Test Description	Requirement as MNRE Specifications	Manufacturer Claim	NISE Observations	Remarks
5	<b>Protections</b> a) No Load protection b) Battery Protection c) Low voltage cut-off d) Load reconnect e) Over charge cut-off(V) f) No load current g) Idle current h) Temperature compensation	Should be required Should be required Should be required Should be required Should be required Less than 20mA Less than 5mA Should be required	Provided Provided Provided Provided Provided  Provided	Provided Provided 10.95V 12.58V 14.48V 5.35mA 00 mA Provided	
6.	<b>Other features</b> Duty cycle /autonomy Blocking Diode Reverse Polarity Fuse Indicator	Required to qualify Should be provided Should be provided Should be provided Should be provided	<b>Qualify</b> Provided Provided Provided Provided	<b>Qualify</b> Provided Provided Provided Provided	

**Note:** Based on the testing conducted at NISE the system MEETS the performance requirement as per the latest MNRE Specifications.

Prepared by:

*Anurag*

Approved by:

*P. Jai Kumar*  
6/11/15

Issued By:

*Shweta Soam*  
7/10/20



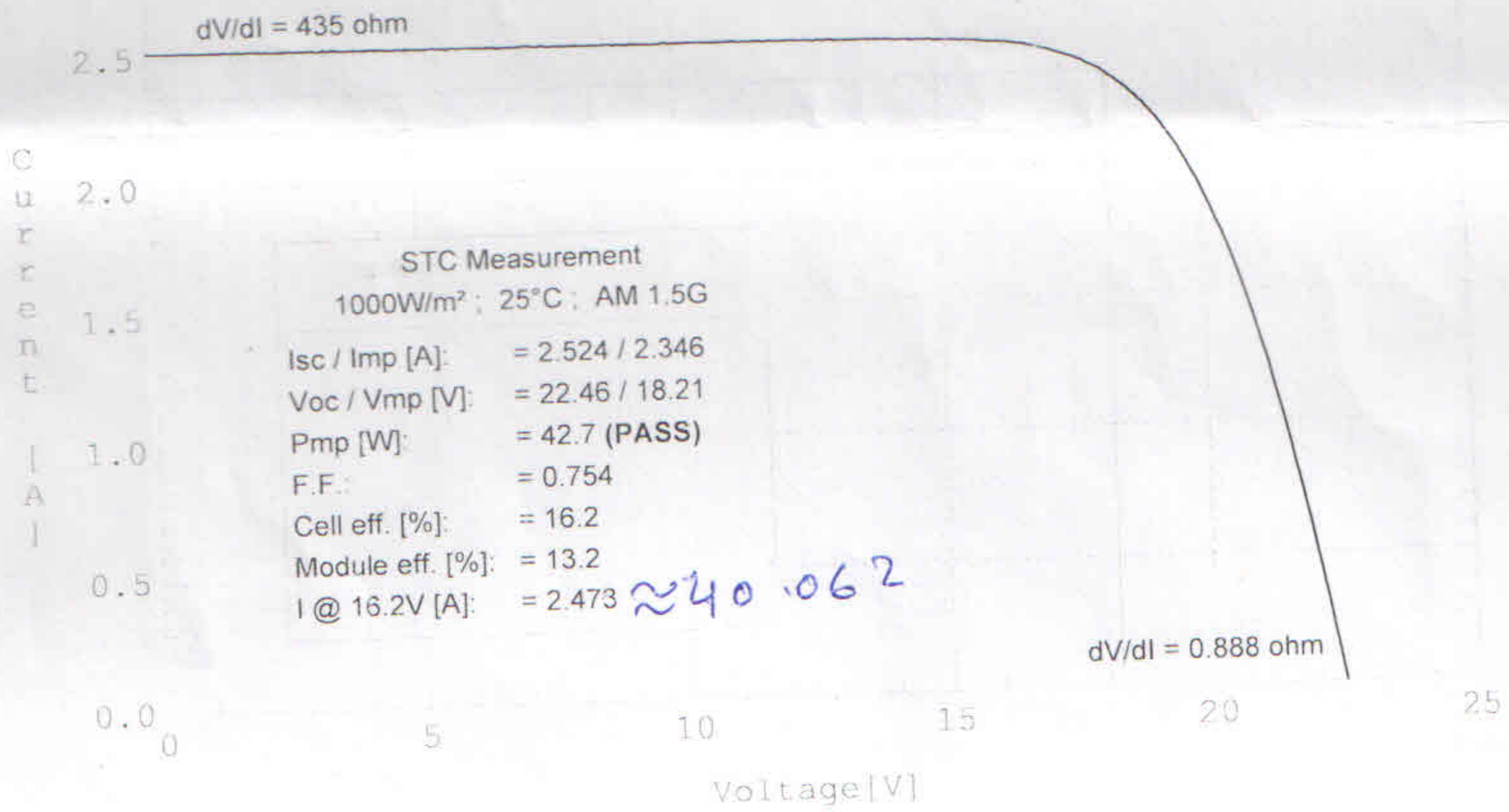
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Solar Energy Centre

File: Unnamed  
Module name: Multi C-Si 103/2415

QuickSun Flash Tester  
Version 5.18.19

Print Date: 28/08/2015



Module:	1	Operator:	JRS( GANESH)
Name:	Multi C-Si 103/2415	#:	ASL-S4012
Bin #:	Yr-2015		
Manufacturer:	ACCESS SOLAR	Product ID:	ASL001533B05A004344
Current temp. coeff. (microA/cm <sup>2</sup> /°C):	20.00	Voltage temp. coeff. (mV/cell/°C):	-2.10
Curve correction fac. (mOhm/cell/°C):	0.00	Series resistance. (mOhm/cell):	8.80
Cell area (cm <sup>2</sup> ):	73.32	Module area (m <sup>2</sup> ):	0.323312
Cells parallel:	1	Cells serial:	36
Ambient temp. (°C):	24.4	Sensor temp. (°C):	25.3
Irradiance (W/m <sup>2</sup> ):	1000	Corrected temp. (°C):	25.0
Isc (A):	2.524	Imp (A):	2.346
Voc (V):	22.46	Vmp (V):	18.21
Pmp (W):	42.7	F.F.:	0.754
Cell eff. (%):	16.2	Module eff. (%):	13.2
Est. shunt resistance: (ohm)	435	Est. series resistance: (mohm)	888



Notes:

*Good Kunal*  
*28/08/2015*

*Anugosh*

*Rajendra Kumar*  
*6/8/15*