

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT



Test Report Number : CPRI BLRERED20T0114 **Date:** 23 October 2020

Name and address of the Customer : M/s. Spectrum Techvision Pvt. Ltd.
No. 96, 2nd Floor, Petechennappa Industrial Estate,
Magadi Main Road, Kamakshipalya,
Bengaluru-560 079.

Name and address of the Manufacturer : M/s. Spectrum Techvision Pvt. Ltd.
No. 96, 2nd Floor, Petechennappa Industrial Estate,
Magadi Main Road, Kamakshipalya,
Bengaluru-560 079.

Particulars of the sample tested : LED 110W AC Street Light (with 10kV SPD)
Type : Outdoor Light
Description of test sample : LED 110W AC Street Light (with 10kV SPD)
Serial number : SL110W1020S001
Number of sample tested : One
Date(s) of Test(s) : 21 October 2020
CPRI Sample code Number(s). : ERED20S0519

Particulars of the test conducted : IES LM-79-08 Approved Method: Electrical and
Photometric Measurements of Solid-State Lighting Products

Test accordance with Standard/Specification : IES LM-79-08 Approved Method: Electrical and
Photometric Measurements of Solid-State Lighting Products

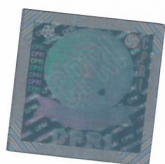
Sampling Plan : NA
Customer's Requirement : Nil
Deviations if any : Nil

Name of the witnessing persons
Customer's representative : Mr. Vinay Bangera, QA, M/s. Spectrum Techvision Pvt Ltd.
Other than Customer's representatives : Nil
Test subcontracted with
Address of the laboratory : Nil

Documents constituting this report (in words)
Number of Sheets : Ten
Number of Oscillogram(s) : Nil
Number of Graph(s) : Two (Two Sheets)
Number of Photograph(s) : Three (One Sheet)
Number of Test Circuit Diagram(s) : Nil
Number of Drawing(s) : Nil


(Raghu R)

Test Engineer





(R. Sudhir Kumar)

Head of Division

Approved by

CENTRAL POWER RESEARCH INSTITUTE

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Description of sample tested (Ratings as assigned by the manufacturer)

Tested sample	LED 110W AC Street Light (with 10kV SPD)
Description of test sample	LED 110W AC Street Light (with 10kV SPD)
Model Number	STV-13-LSL-110W-L-CW
Serial Number	SL110W1020S001
Rated Power	110 W
Rated voltage and frequency	240V AC and 50 Hz
No. of LED's	24 No's
Make of the LED	M/s. Osram* As per LM 80 report submitted by the manufacturer


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SUMMARY OF TESTS CONDUCTED

1. Test conducted : As per IES LM79-08
2. Rating of which tested : LED 110W AC Street Light (with 10kV SPD)
3. Schedule of tests

Tests Conducted	Clause Number	Sheet
Seasoning of the SSI Product	4.0	Sheet 4 of 10
Stabilization of SSI Product	5.0	Sheet 4 of 10
Operating Orientation	6.0	Sheet 4 of 10
Electrical Instrumentation	8.0	Sheet 4 of 10
Photometric Measurements using Integrating Sphere with a spectroradiometer (Sphere- spectroradiometer system)	9.1	Sheet 5 of 10 Sheet 6 of 10
Luminous Efficacy	11.0	Sheet 5 of 10
Colour Characteristics of SSL Products using a sphere-spectroradiometer system	12.1	Sheet 5 of 10 Sheet 6 of 10

4. Oscillogram Numbers : Nil
5. Graph Numbers : CPRI BLRERED20T0114G01 &
CPRI BLRERED20T0114G02
6. Photograph Numbers : Nil
7. Test Circuit Diagram Numbers : Nil
8. Drawing Numbers : Nil


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1. Measurement of electrical parameters.

Test procedure:

Input voltage is applied across the input terminals of the test equipment and following parameters are measured as shown in the test result table.

Test conditions

Source 0-280 V AC

Test details

- | | |
|--|--------------------|
| 1. Input voltage applied | 240 V AC |
| 2. Stabilization of SSL product | 30 Minutes |
| 3. Total operating time of the product | 90 Minutes |
| 4. Seasoning of the SSL product | No Seasoning |
| 5. Operating orientation | Fixed Horizontally |
| 6. Ambient temperature | 25°C ±1°C |

TEST RESULTS

Sl. No.	Measured Parameters	Values Recorded
01	Input Current	0.47 A
02	Power Factor	0.99
03	I_{thd}	8.04 %
04	V_{thd}	1.45 %
05	Output Voltage	146.33 V
06	Output Current	0.70 A
Calculated Parameters		
07	Input Power	111.67 W
08	Output Power	102.43 W
09	Efficiency	91.73 %


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TEST RESULTS

2. Total luminous flux measurement using Spectro-radiometer.

Photometric characteristic results

Parameter	Scan 280
Date/Time	21-10-2020 12:01
Radiant Flux (W)	38.39
Luminous Flux (lm)	12815.08
Scotopic Luminous Flux (lm)	23888.26
Chromaticity x coordinates	0.33
Chromaticity y coordinates	0.35
Chromaticity u coordinates	0.20
Chromaticity v coordinates	0.32
Delta uv	0.0046
Chromaticity u' coordinates	0.20
Chromaticity v' coordinates	0.48
Peak Wavelength (nm)	450.56
Center Wavelength (nm)	449.73
Centroid Wavelength (nm)	542.63
Dominant Wavelength (nm)	549.00
Spectral Locus Purity (%)	4.40
Correlated Colour Temperature (K)	5537.00
Input Power During Efficiency Test (W)	111.67
Luminous Efficacy (lm/W)	114.76
Colour Rendering Index Average (RA)	70.56


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Photometric characteristic results

CRI_R1	67.31
CRI_R2	75.57
CRI_R3	80.72
CRI_R4	70.91
CRI_R5	68.44
CRI_R6	66.35
CRI_R7	80.61
CRI_R8	54.60
CRI_R9	-41.84
CRI_R10	41.08
CRI_R11	66.99
CRI_R12	39.89
CRI_R13	68.56
CRI_R14	89.09
CRI_R15	60.43


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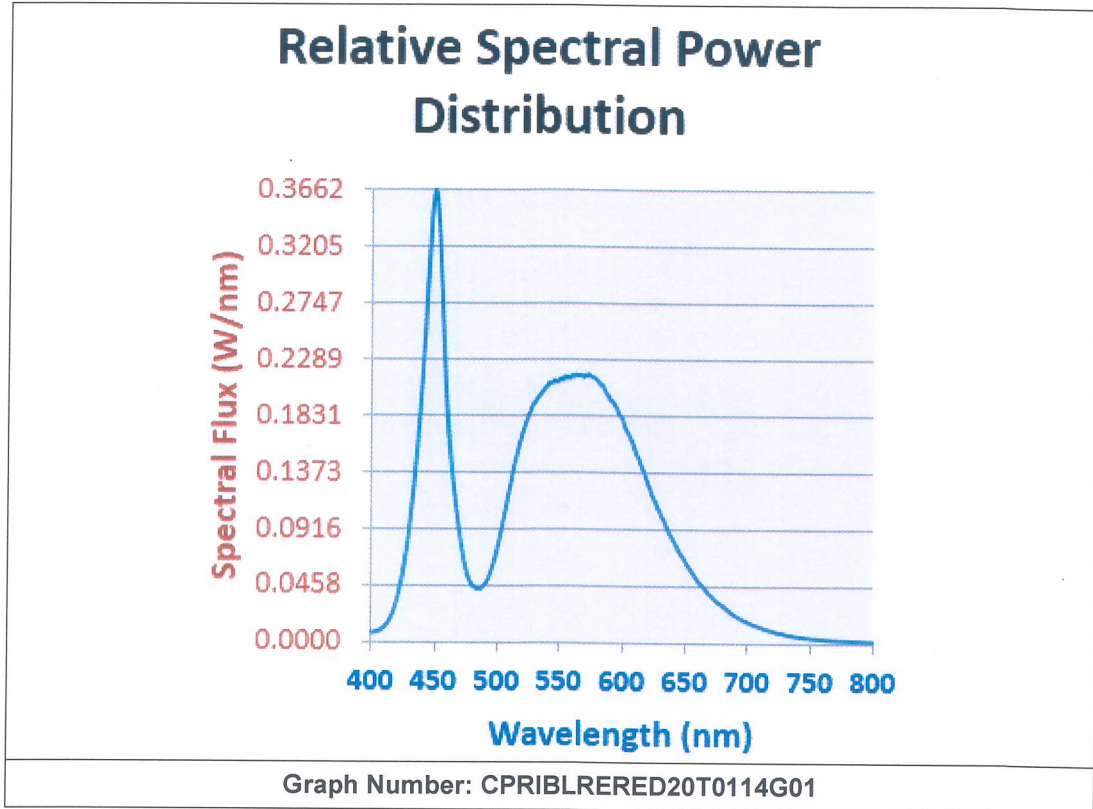


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TEST RESULTS

Spectral Flux Graph



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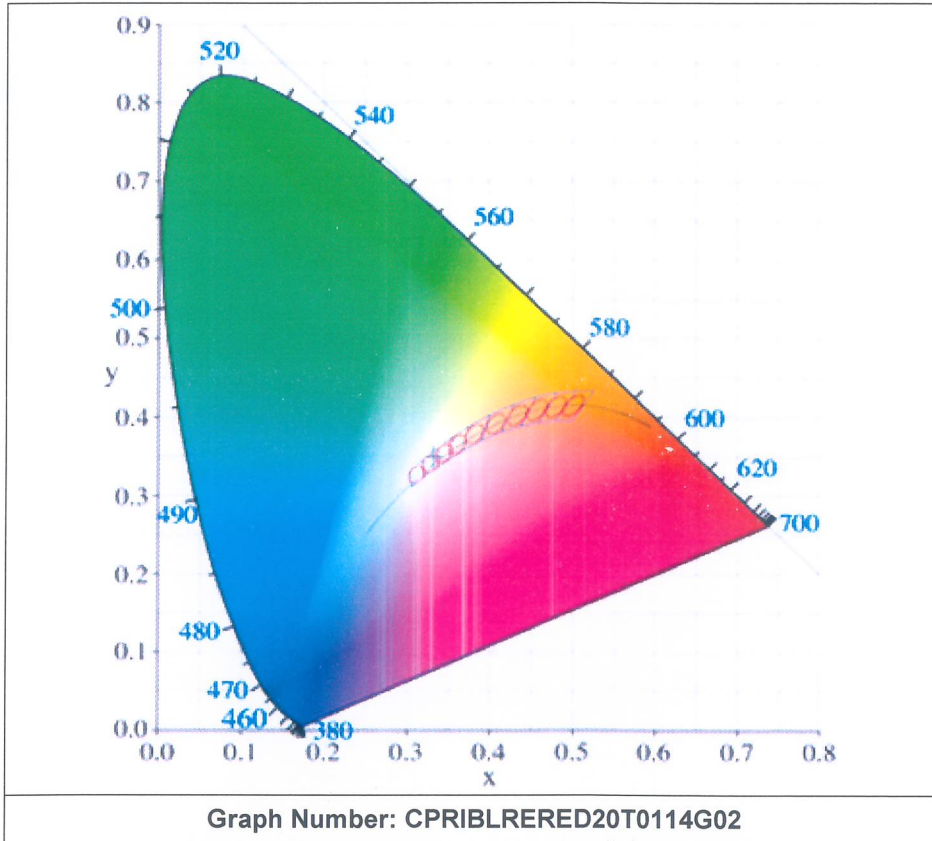


Test Report Number: CPRIBLRERED20T0114

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Chromaticity Diagram




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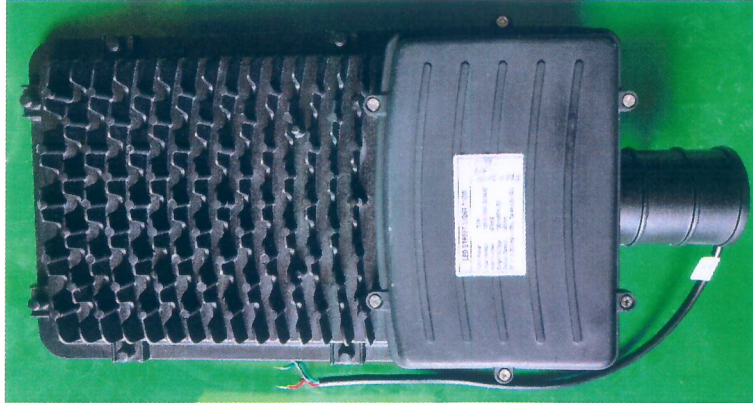
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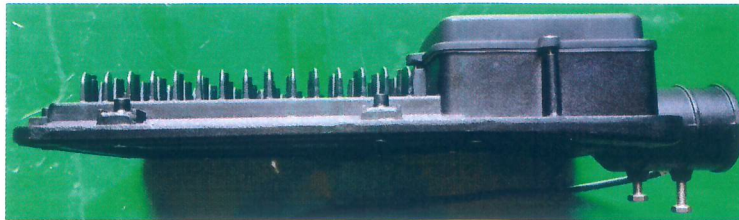
Photos of test equipment (LED 110W AC STREET LIGHT)



Photograph Number: CPRIBLRERED20T0114P01



Photograph Number: CPRIBLRERED20T0114P02



Photograph Number: CPRIBLRERED20T0114P03


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NOTE

- The test results are only to the sample(s) tested.
- Publication or reproduction of the Test Report in any form other than by complete set of the whole Test Report and in the language written is not permitted without the written consent of CPRI.
- Any corrections/erasure invalidates the Test Report.
- NABL has accredited this laboratory as per ISO/IEC17025:2017 standard, vide certificate No.TC- 5452 tests carried out.
- Any anomaly/discrepancy in the Test Report should be brought to the notice of CPRI within 45 days from the date of issue.


(Raghu R)
Test Engineer