



ELECTRONICS TEST AND DEVELOPMENT CENTRE
 (STQC Directorate, Ministry of Communications & Information Technology)
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Report No.: TR/ETL/63575

TEST REPORT

Page No. 01 of 02

1. SCOPE.

| | | |
|-----|---|--|
| 1. | SERVICE REQUEST NUMBER | 63575 |
| 2. | Test Requested by (Name of Organization) | M/s. GK Energy Marketers Pvt. Ltd., Pune |
| 3. | Description of the Equipment | |
| | a). Nomenclature | Solar LED Study Lamp |
| | b). Manufactured by | M/s. GK Energy Marketers Pvt. Ltd., |
| | c). Model No. / Type No. | Luminaire: GK , PV Module: GK |
| | d). No. of Sampled Submitted | 02 Luminaire , 01 PV Module |
| | e). Serial No. | Luminaire : 01 & 02 , PV Module:SS150303100373 |
| 4. | Date of submission of samples | 02/11/2015 |
| 5. | Condition of items on receipt | Good |
| 6. | Test Carried Out at | ETDC Bangalore. |
| 7. | Date of start of tests | 02/11/2015 |
| 8. | Date of completion of test | 03/11/2015 |
| 9. | Applicable test specification | Customer |
| 10. | Test category | Performance |
| 11. | Env. Condition During Measurements | Temperature: 15 - 35 °C; Relative humidity: 45-70% |

2.0 MAJOR EQUIPMENT USED:

| Sl. No. | Nomenclature | Make | Model | Cal. Due |
|---------|-----------------|------------|--------|----------------|
| 1 | LUX meter | Lutron | LX 101 | Sep 2016 |
| 2 | DC Power Supply | HP | 6038A | Used as source |
| 3 | True RMS DMM | KUSAM-MECO | KM869 | Mar 2016 |
| 4 | DMM | Agilent | 34401A | Jan 2016 |
| 5 | DMM | HP | 3478A | Jan 2016 |

This report refers only to the item tested and shall not be reproduced except in full.
Refer to information contained on the cover.



3.0 Test Details and Test Results:

| Test No. | Test Parameter / Conditions | Test Specification/ Requirements | Test Results/Observations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|-------------------------------|---|--|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|--|-----|-----|-----|-----|-----|-----|----|----|----|---|-----|-----|-----|-----|-----|-----|-----|----|----|----|
| 1. | Light Source | White light emitting diode (W-LED) | White LED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | Light output | <p>Horizontally to Centre point of bottom of light source @ Full mode, Lux shall be (in lux):</p> <table border="1"> <tr> <td>1ft</td> <td>2ft</td> <td>3ft</td> <td>4ft</td> <td>5ft</td> </tr> <tr> <td>95</td> <td>16</td> <td>4.5</td> <td>1.5</td> <td>0.5</td> </tr> </table> <p>Vertically to Centre point of bottom of light @ Full mode, Lux shall be:</p> <table border="1"> <tr> <td>1ft</td> <td>2ft</td> <td>3ft</td> <td>4ft</td> <td>5ft</td> </tr> <tr> <td>230</td> <td>85</td> <td>40</td> <td>20</td> <td>12</td> </tr> </table> | 1ft | 2ft | 3ft | 4ft | 5ft | 95 | 16 | 4.5 | 1.5 | 0.5 | 1ft | 2ft | 3ft | 4ft | 5ft | 230 | 85 | 40 | 20 | 12 | <p>Horizontally to Centre point of bottom of light @ Full mode, Lux level (in lux):</p> <table border="1"> <tr> <td>1ft</td> <td>2ft</td> <td>3ft</td> <td>4ft</td> <td>5ft</td> </tr> <tr> <td>169</td> <td>53</td> <td>20</td> <td>10</td> <td>6</td> </tr> </table> <p>Vertically to Centre point of bottom of light @ Full mode, Lux level (in lux)</p> <table border="1"> <tr> <td>1ft</td> <td>2ft</td> <td>3ft</td> <td>4ft</td> <td>5ft</td> </tr> <tr> <td>587</td> <td>189</td> <td>96</td> <td>55</td> <td>36</td> </tr> </table> | 1ft | 2ft | 3ft | 4ft | 5ft | 169 | 53 | 20 | 10 | 6 | 1ft | 2ft | 3ft | 4ft | 5ft | 587 | 189 | 96 | 55 | 36 |
| 1ft | 2ft | 3ft | 4ft | 5ft | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 95 | 16 | 4.5 | 1.5 | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1ft | 2ft | 3ft | 4ft | 5ft | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 | 85 | 40 | 20 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1ft | 2ft | 3ft | 4ft | 5ft | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 169 | 53 | 20 | 10 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1ft | 2ft | 3ft | 4ft | 5ft | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 587 | 189 | 96 | 55 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | Mounting of Light | Base mounted | Base mounted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | PV Module ^{#2} | ≥2Wp under STC | 3.10 W based on IV curve | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | Wattage of Luminaire | ≥1W | 2.23 W (Luminaire having 2 LEDs) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | Battery ^{#1} | Lithium Ion with not less than 2.2Ah capacity and working voltage up to 3.7V to meet desired working hours. | Complies based on customer declaration. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | Electronics | Minimum 85% total efficiency | 90.4 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. | Illumination levels | Two levels of illumination with 100% and 50% of illumination levels | 100% illumination on pressing switch 4 times and 50 % illumination on pressing switch 2 times. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. | Make of LED ^{#1} | Nichia/Osram/Philips/Lumileds/ Cree/Seoul/Everlite | Seoul based on customer declaration. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. | Make of battery ^{#1} | Samsung/LG/Panasonic/ Green power | Samsung | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | Operating hours | 100% illumination: 4 hours 50% illumination: 8 hours | Complies with requirement. Refer Remark. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

#1=> Refer-declaration provided- Annexure A

#2 => Refer IV curve provided- Annexure B

4.0 Remarks: Luminaire of Sl. No. 02 used only for testing of operating hours for 8 hours @ 50 % illumination and other tests (whichever applicable) carried out on Luminaire of Sl. No. 01.

Tested By... *Avinash Mohan*

Approved By... *B. Sathish RAO*
 बि. सतीश राव / B. SATHISH RAO
 निदेशक / Director

Issued By... *[Signature]*



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**CO-ORDINATOR
 TESTING SERVICES,
 I D C., BENGALURU.**