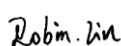




## TEST REPORT

### COMPULSORY SPECIFICATION FOR ENERGY EFFICIENCY AND FUNCTIONAL PERFORMANCE REQUIREMENTS OF GENERAL SERVICE LAMPS (GSLs) -VC 9109

Self-ballasted LED lamps for general lighting services with supply  
voltages > 50 V - Performance requirements- IEC 62612

|                                      |                                                                                                                                                                                                                                                             |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Reference No.</b> .....    | AOC251104034ER                                                                                                                                                                                                                                              |
| Compiled by (print+ signature).....  | Bill Hu                                                                                                                                                                  |
| Approved by (print+ signature).....  | Robin Liu                                                                                                                                                                 |
|                                      | Lab Supervisor                                                                                                                                                                                                                                              |
| Date of issue.....                   | 2025-11-21                                                                                                                                                                                                                                                  |
| <b>Testing Laboratory</b> .....      | Shenzhen AOCE Electronic Technology Service Co., Ltd                                                                                                                                                                                                        |
| Address.....                         | Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China                                                                                                                           |
| Testing location/address.....        | Same as above                                                                                                                                                                                                                                               |
| <b>Applicant's name</b> .....        | Major Tech (Pty) Ltd                                                                                                                                                                                                                                        |
| Address.....                         | T9 Industrial Village, 7 Sam Green Rd, Elandsfontein, South Africa                                                                                                                                                                                          |
| <b>Manufacturer name</b> .....       | Jiangxi Lepeng Electric Appliance Co., LTD.                                                                                                                                                                                                                 |
| Address.....                         | Changjiang Electronic Information Industry Park Changjiang District 333000 Jingdezhen City, Jiangxi Province                                                                                                                                                |
| Test Object.....                     | LED BULBS                                                                                                                                                                                                                                                   |
| Trade Mark.....                      | MAJOR-TECH                                                                                                                                                                                                                                                  |
| Model / Type reference.....          | LHR50E14-5W                                                                                                                                                                                                                                                 |
| Rated voltage (V).....               | 220-240 V~                                                                                                                                                                                                                                                  |
| Rated frequency (Hz).....            | 50/60 Hz                                                                                                                                                                                                                                                    |
| Rated Power (W).....                 | 4.8 W                                                                                                                                                                                                                                                       |
| Rated luminous (lm).....             | 504 lm                                                                                                                                                                                                                                                      |
| Rated color temperature (CCT).....   | 3000K                                                                                                                                                                                                                                                       |
| Rated color tendering (CRI).....     | 80                                                                                                                                                                                                                                                          |
| Rated life (h).....                  | 25000                                                                                                                                                                                                                                                       |
| <b>Test specification:</b>           |                                                                                                                                                                                                                                                             |
| Standard .....                       | COMPULSORY SPECIFICATION FOR ENERGY EFFICIENCY AND FUNCTIONAL PERFORMANCE REQUIREMENTS OF GENERAL SERVICE LAMPS (GSLs) -VC 9109<br>Self-ballasted LED lamps for general lighting services with supply voltages > 50 V - Performance requirements- IEC 62612 |
| Test procedure.....                  | Test report                                                                                                                                                                                                                                                 |
| Non-standard test method.....        | N/A                                                                                                                                                                                                                                                         |
| <b>Test Report Form No.</b> .....    | IECEE TRF No. VC 9109                                                                                                                                                                                                                                       |
| Test Report Form(s) Originator ..... | AOCE                                                                                                                                                                                                                                                        |
| Master TRF.....                      | 2019-11-30                                                                                                                                                                                                                                                  |

| Summary of Testing:                                                                                                                                           |                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tests performed (name of test and test clause):                                                                                                               | Testing location:                                                                                                                                                                         |
| The sample(s) tested complies with the requirements of VC 9109 When determining the test conclusion. The Measurement Uncertainty of test has be enconsidered. | Shenzhen AOCE Electronic Technology Service Co., Ltd<br>Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China |
| Normative References:                                                                                                                                         |                                                                                                                                                                                           |
| Standard reference                                                                                                                                            | Describe                                                                                                                                                                                  |
| IEC / SANS 62612                                                                                                                                              | Self-ballasted LED lamps for general lighting services with supply voltages > 50 V - Performance requirements                                                                             |
| CIE S 025/E:2015                                                                                                                                              | Test Method for LED Lamps, LED Luminaires and LED Modules                                                                                                                                 |
| IEC 63103:2020                                                                                                                                                | Lighting equipment - Non-active mode power measurement                                                                                                                                    |
| CIE 13.3                                                                                                                                                      | Method of Measuring and Specifying Colour Rendering Properties of Light Sources                                                                                                           |
| CIE 84:1989                                                                                                                                                   | Measurement of Luminous Flux (1st Edition).                                                                                                                                               |
| IEC TR 61547-1:2020                                                                                                                                           | Equipment for general lighting purposes - EMC immunity requirements -Part 1: Objective light flickermeter and voltage fluctuation immunity test method                                    |
| IEC TR 63158:2018                                                                                                                                             | Equipment for general lighting purposes - Objective test method for stroboscopic effects of lighting equipment                                                                            |
| Copy of Marking Plate:                                                                                                                                        |                                                                                                                                                                                           |
| N/A                                                                                                                                                           |                                                                                                                                                                                           |

| Type of light source:                                    |                                                              |                                                            |                                        |
|----------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------|----------------------------------------|
| Product type.....                                        | <input checked="" type="checkbox"/> Light source             | <input type="checkbox"/> Separate control gears            |                                        |
| Lighting technology used.....                            | <input checked="" type="checkbox"/> LED                      | <input type="checkbox"/> OLED                              | <input type="checkbox"/> Other         |
| Non-directional or directional.....                      | <input type="checkbox"/> DLS (Directional)                   | <input checked="" type="checkbox"/> NDLS (Non-directional) |                                        |
| Use of lamp.....                                         | <input checked="" type="checkbox"/> Indoor                   | <input type="checkbox"/> Outdoor                           | <input type="checkbox"/> Industry      |
| Light source cap-type (or other electric interface)..... | E14                                                          |                                                            |                                        |
| Mains or non-mains.....                                  | <input checked="" type="checkbox"/> MLS (mains light source) | <input type="checkbox"/> NMLS (non-mains light source)     |                                        |
| Connected light source (CLS).....                        | <input type="checkbox"/> Yes                                 | <input checked="" type="checkbox"/> No                     |                                        |
| Colour-tuneable light source.....                        | <input type="checkbox"/> Yes                                 | <input checked="" type="checkbox"/> No                     |                                        |
| Envelope.....                                            | <input type="checkbox"/> Yes                                 | <input checked="" type="checkbox"/> No                     |                                        |
| High luminance light source.....                         | <input type="checkbox"/> Yes                                 | <input checked="" type="checkbox"/> No                     |                                        |
| Anti-glare shield.....                                   | <input type="checkbox"/> Yes                                 | <input checked="" type="checkbox"/> No                     |                                        |
| Dimmable.....                                            | <input type="checkbox"/> Yes                                 | <input type="checkbox"/> only with specific dimmers        | <input checked="" type="checkbox"/> No |
| Product parameters                                       |                                                              |                                                            |                                        |
| Parameter.....                                           | 220-240 V~, 50/60 Hz, 4.8 W                                  |                                                            |                                        |
| Energy consumption in on-mode (KWh/1000h).....           | 4.8                                                          |                                                            |                                        |
| Energy efficiency class.....                             | See table 7                                                  |                                                            |                                        |
| Beam angle correspondence.....                           | See table 3                                                  |                                                            |                                        |
| Correlated colour temperature (K).....                   | See table 2                                                  |                                                            |                                        |
| On-mode power (W).....                                   | See table 1                                                  |                                                            |                                        |
| Standby power (W).....                                   | See table 1                                                  |                                                            |                                        |
| Networked standby power for CLS (W).....                 | See table 1                                                  |                                                            |                                        |
| Colour rendering index.....                              | See table 2                                                  |                                                            |                                        |
| Colour rendering index range (Minimum).....              | See table 2                                                  |                                                            |                                        |
| Colour rendering index range (Maximum).....              | See table 2                                                  |                                                            |                                        |
| Claim of equivalent power.....                           | <input type="checkbox"/> Yes                                 | <input checked="" type="checkbox"/> No                     |                                        |
| Equivalent power (W).....                                | /                                                            |                                                            |                                        |
| Chromaticity coordinate (x).....                         | See table 2                                                  |                                                            |                                        |
| Chromaticity coordinate (y).....                         | See table 2                                                  |                                                            |                                        |
| PARAMETERS FOR DIRECTIONAL LIGHT SOURCES                 |                                                              |                                                            |                                        |
| Peak luminous intensity (cd).....                        | See table 3                                                  |                                                            |                                        |
| Beam angle (degrees).....                                | See table 3                                                  |                                                            |                                        |
| Beam angle range (Minimum) (degrees).....                | See table 3                                                  |                                                            |                                        |
| Beam angle range (Maximum) (degrees).....                | See table 3                                                  |                                                            |                                        |
| PARAMETERS FOR LED AND OLED LIGHT SOURCES                |                                                              |                                                            |                                        |
| R9 Colour rendering index.....                           | See table 2                                                  |                                                            |                                        |
| Survival factor.....                                     | See table 3                                                  |                                                            |                                        |
| Lumen maintenance factor.....                            | See table 3                                                  |                                                            |                                        |
| PARAMETERS FOR LED AND OLED MAINS LIGHT SOURCES          |                                                              |                                                            |                                        |

|                                                                                                                                                                                                                                      |                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Displacement factor.....                                                                                                                                                                                                             | See table 1                                                                                                                                                       |
| Colour consistency in McAdam ellipses.....                                                                                                                                                                                           | See table 2                                                                                                                                                       |
| Claims that an LED light source replaces a<br>fluorescent light source without integrated ballast of a<br>particular wattage.....                                                                                                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N.A                                                                                              |
| Replacement claim (W).....                                                                                                                                                                                                           | /                                                                                                                                                                 |
| Flicker metric (W).....                                                                                                                                                                                                              | See table 4                                                                                                                                                       |
| Stroboscopic effect metric (W).....                                                                                                                                                                                                  | See table 4                                                                                                                                                       |
| Outer dimensions (Millimetre).....                                                                                                                                                                                                   | Ø50×H82                                                                                                                                                           |
| Spectral power distribution in the range 250 nm to<br>800 nm, at full-load.....                                                                                                                                                      | See table 5                                                                                                                                                       |
| <b>Possible Test Case Verdicts:</b>                                                                                                                                                                                                  |                                                                                                                                                                   |
| Test case does not apply to the test object.....                                                                                                                                                                                     | N/A (Not Applicable)                                                                                                                                              |
| Test object does meet the requirement.....                                                                                                                                                                                           | P (Pass)                                                                                                                                                          |
| Test object does not meet the requirement.....                                                                                                                                                                                       | F (Fail)                                                                                                                                                          |
| Name and address of factory.....                                                                                                                                                                                                     | Jiangxi Lepeng Electric Appliance Co., LTD.<br>Changjiang Electronic Information Industry Park<br>Changjiang District 333000 Jingdezhen City, Jiangxi<br>Province |
| <b>Testing:</b>                                                                                                                                                                                                                      |                                                                                                                                                                   |
| Ambient temperature of tested .....                                                                                                                                                                                                  | 25.0 °C                                                                                                                                                           |
| Test inputs.....                                                                                                                                                                                                                     | 230 V~                                                                                                                                                            |
| Sample size for tested .....                                                                                                                                                                                                         | 10 pcs                                                                                                                                                            |
| Date of receipt of test item.....                                                                                                                                                                                                    | 2024-12-16                                                                                                                                                        |
| Date (s) of performance of tests.....                                                                                                                                                                                                | 2024-12-16 to 2025-11-04                                                                                                                                          |
| <b>General Remarks:</b>                                                                                                                                                                                                              |                                                                                                                                                                   |
| Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Shenzhen AOCE Electronic Technology Service Co., Ltd |                                                                                                                                                                   |
| <b>Note:</b>                                                                                                                                                                                                                         |                                                                                                                                                                   |
| N/A                                                                                                                                                                                                                                  |                                                                                                                                                                   |

| VC 9109                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------|----------------------|------------------------------------------|-----------------------------------|------|-------------------|------|-----------------------------|------|---------------------------------------------------|--|--------------------|------|---------------------|------|----------------------|-------|-----------------------|-------|-----------------------|-------|--|-----|
| Clause                                            | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Result – Remark                             | Verdict |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 4                                                 | EFFICIENCY REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                             | -       |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| a)                                                | GSLs shall comply with the luminous efficacy requirements in Table 1 or Table 2, as relevant:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                             | P       |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|                                                   | <table><tr><td colspan="2">Table 1: Minimum luminous efficacy, phase 1</td></tr><tr><td>Product Type</td><td>Phase 1 Minimum luminous efficacy (lm/W)</td></tr><tr><td>General Service Lamp</td><td>90</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                    | Table 1: Minimum luminous efficacy, phase 1 |         | Product Type         | Phase 1 Minimum luminous efficacy (lm/W) | General Service Lamp              | 90   |                   | P    |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Table 1: Minimum luminous efficacy, phase 1       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Product Type                                      | Phase 1 Minimum luminous efficacy (lm/W)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| General Service Lamp                              | 90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|                                                   | <table><tr><td colspan="2">Table 2: Minimum luminous efficacy, phase 2</td></tr><tr><td>Product Type</td><td>Phase 2 Minimum luminous efficacy (lm/W)</td></tr><tr><td>General Service Lamp</td><td>105</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                   | Table 2: Minimum luminous efficacy, phase 2 |         | Product Type         | Phase 2 Minimum luminous efficacy (lm/W) | General Service Lamp              | 105  |                   | P    |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Table 2: Minimum luminous efficacy, phase 2       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Product Type                                      | Phase 2 Minimum luminous efficacy (lm/W)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| General Service Lamp                              | 105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| b)                                                | Depending on the lamp characteristics, the minimum luminous efficacy values may be decreased by the following correction factors (C):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                             | P       |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|                                                   | <table><tr><td colspan="2">Table 3: Correction factors</td></tr><tr><td>Lamp Characteristics</td><td>C</td></tr><tr><td>Luminous flux Φ (lm) below 400 lm</td><td>-10%</td></tr><tr><td>Directional lamps</td><td>-15%</td></tr><tr><td>Colour-tuneable lamps (CTL)</td><td>-10%</td></tr><tr><td>Connected LED Lamps – rated luminous flux Φ (lm):</td><td></td></tr><tr><td>60 lm ≤ Φ ≤ 300 lm</td><td>-15%</td></tr><tr><td>300 lm &lt; Φ ≤ 650 lm</td><td>-10%</td></tr><tr><td>650 lm &lt; Φ ≤ 1200 lm</td><td>-7.5%</td></tr><tr><td>1200 lm &lt; Φ ≤ 2000 lm</td><td>-5.0%</td></tr><tr><td>2000 lm &lt; Φ ≤ 3300 lm</td><td>-2.5%</td></tr></table> | Table 3: Correction factors                 |         | Lamp Characteristics | C                                        | Luminous flux Φ (lm) below 400 lm | -10% | Directional lamps | -15% | Colour-tuneable lamps (CTL) | -10% | Connected LED Lamps – rated luminous flux Φ (lm): |  | 60 lm ≤ Φ ≤ 300 lm | -15% | 300 lm < Φ ≤ 650 lm | -10% | 650 lm < Φ ≤ 1200 lm | -7.5% | 1200 lm < Φ ≤ 2000 lm | -5.0% | 2000 lm < Φ ≤ 3300 lm | -2.5% |  | N/A |
| Table 3: Correction factors                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Lamp Characteristics                              | C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Luminous flux Φ (lm) below 400 lm                 | -10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Directional lamps                                 | -15%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Colour-tuneable lamps (CTL)                       | -10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| Connected LED Lamps – rated luminous flux Φ (lm): |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 60 lm ≤ Φ ≤ 300 lm                                | -15%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 300 lm < Φ ≤ 650 lm                               | -10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 650 lm < Φ ≤ 1200 lm                              | -7.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 1200 lm < Φ ≤ 2000 lm                             | -5.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 2000 lm < Φ ≤ 3300 lm                             | -2.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                             |         |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 4.2                                               | Displacement Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                             | P       |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|                                                   | Lamp displacement factor (Df) with integrated control gear and integrated luminaires:<br><input type="checkbox"/> P ≤ 2W: no requirement<br><input type="checkbox"/> 2W < P ≤ 5W: Df > 0.4<br><input checked="" type="checkbox"/> 5W < P ≤ 10W: Df > 0.7<br><input type="checkbox"/> P > 10W: Df > 0.9                                                                                                                                                                                                                                                                                                                                                      | See test sheet                              | P       |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 4.2.1                                             | Standby Power for connected lamps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                             | N/A     |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|                                                   | Standby power for lamps shall not exceed 0.5 W.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             | N/A     |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|                                                   | Networked standby power for Connected LED Lamps shall not exceed 0.5 W.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                             | N/A     |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|                                                   | The allowable values for Standby power and networked standby power shall not be added together.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             | N/A     |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
| 4.3                                               | Functional Performance Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                             | P       |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |
|                                                   | Colour Rendering Index (CRI) CRI ≥80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | See test sheet                              | P       |                      |                                          |                                   |      |                   |      |                             |      |                                                   |  |                    |      |                     |      |                      |       |                       |       |                       |       |  |     |

| VC 9109 |                                                                                                                                                                              |                 |         |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause  | Requirement + Test                                                                                                                                                           | Result – Remark | Verdict |
|         | Lumen Maintenance Factor (for LED and OLED):<br>$X_{LMF,MIN}\% = 100 \times e^{\frac{(3000 \times \ln(0.7))}{L_{70}}}$                                                       | See test sheet  | P       |
|         | Survival factor:<br>No less than 90% of sample units should be operational following endurance testing according                                                             | See test sheet  | P       |
|         | Short term flicker indicator ( $P_{stLM}$ ):<br>≤1.0 at full load and a sinusoidal input voltage                                                                             | See test sheet  | P       |
|         | Short term flicker indicator (SVM):<br>≤0.4 at full load and a sinusoidal input voltage                                                                                      | See test sheet  | P       |
|         | Colour consistency:<br>Variation of x,y chromaticity coordinates within a five -step Standard Deviation of Colour Matching (SDCM) or less.                                   | See test sheet  | P       |
| 4.4     | Product Information Requirements                                                                                                                                             |                 | P       |
| 4.4.1   | Lamp information                                                                                                                                                             |                 | P       |
|         | a) Rated power in Watts (mandatory).                                                                                                                                         |                 | P       |
|         | b) Rated operating voltage (mandatory).                                                                                                                                      |                 | P       |
|         | c) Trade name or brand name (mandatory).                                                                                                                                     |                 | P       |
|         | d) Rated initial luminous flux in lumens (mandatory).                                                                                                                        |                 | P       |
|         | e) Rated correlated colour temperature (CCT) in Kelvin (K) (mandatory).                                                                                                      |                 | P       |
|         | f) Beam angle (mandatory for directional lamps).                                                                                                                             |                 | N/A     |
| 4.4.2   | Packaging information                                                                                                                                                        |                 | P       |
|         | a) Rated power in Watts (mandatory).                                                                                                                                         |                 | P       |
|         | b) Rated operating voltage (mandatory).                                                                                                                                      |                 | P       |
|         | c) Rated initial luminous flux in lumens (mandatory).                                                                                                                        |                 | P       |
|         | d) Rated efficacy in lumens per Watt (lm/W) (mandatory).                                                                                                                     |                 | P       |
|         | e) Rated lifetime in hours and L70B50 if longer (mandatory)                                                                                                                  |                 | P       |
|         | f) Rated correlated colour temperature (CCT) in Kelvin (K) combined with a sliding scale: (mandatory).                                                                       |                 | P       |
|         | g) Beam angle (mandatory for directional lamps).                                                                                                                             |                 | N/A     |
|         | h) Statement on Dimmability. Clearly state whether dimmable or not dimmable. If yes, then information on dimmer compatibility, or web link to this information. (mandatory). |                 | P       |

| VC 9109                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|------------------------------------|--|--|-----------------------|----|--|-----|----|--|-----|----|--|-----|----|--|-----|----|--|------|-----|--|------|-----|--|------|-----|--|------|--|-----|
| Clause                       | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Result – Remark                    | Verdict |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
|                              | i) For general service lamps which are, according to paragraph 1.2, exempted from the requirements of paragraph 3, the intended purpose shall be stated on all forms of packaging, product information and advertisement, together with a clear indication in large font on the front of the package that the Lamp is NOT Intended for General Illumination Purposes. (mandatory).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | P       |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
|                              | j) Base type (mandatory).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    | P       |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
|                              | k) Efficiency label compliant with the current version of the Department of Energy guideline for energy efficiency label compliance in South Africa: A Guide for Energy Efficiency Labelling (mandatory).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    | P       |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
|                              | l) Incandescent equivalency claim (optional).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    | N/A     |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
|                              | <p>m) Manufacturers are not required to provide an incandescent equivalency claim (i.e. "This lamp is as bright as a 60W incandescent" or "10W = 60W "). However, if they do, then the equivalency shall be based on the table below which depicts the minimum initial luminous flux that is required to claim a specific incandescent lamp wattage equivalency:</p> <p>Table 6: Incandescent wattage equivalencies for LED lamps</p> <table><tr><th>Incandescent Equivalency [W]</th><th>Wattage</th><th>Minimum Initial Luminous Flux [lm]</th></tr><tr><td></td><td></td><th>Non-directional Lamps</th></tr><tr><td>15</td><td></td><td>150</td></tr><tr><td>25</td><td></td><td>250</td></tr><tr><td>40</td><td></td><td>500</td></tr><tr><td>60</td><td></td><td>800</td></tr><tr><td>75</td><td></td><td>1000</td></tr><tr><td>100</td><td></td><td>1500</td></tr><tr><td>150</td><td></td><td>2500</td></tr><tr><td>200</td><td></td><td>3500</td></tr></table> | Incandescent Equivalency [W]       | Wattage | Minimum Initial Luminous Flux [lm] |  |  | Non-directional Lamps | 15 |  | 150 | 25 |  | 250 | 40 |  | 500 | 60 |  | 800 | 75 |  | 1000 | 100 |  | 1500 | 150 |  | 2500 | 200 |  | 3500 |  | N/A |
| Incandescent Equivalency [W] | Wattage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Minimum Initial Luminous Flux [lm] |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Non-directional Lamps              |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| 15                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 150                                |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| 25                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 250                                |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| 40                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 500                                |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| 60                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 800                                |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| 75                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1000                               |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| 100                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1500                               |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| 150                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2500                               |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| 200                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3500                               |         |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
|                              | Voltage surge and dip immunity claim (optional). Manufacturers are not required to provide a voltage surge and dip immunity claim (e.g. "Withstands Power Surge ", "Power Surge Protected "). However, if they do, then the claim shall meet the EMC immunity requirements for equipment for general lighting purposes as set out in IEC 61547 for conditions in South Africa.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    | N/A     |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| ANNEX B                      | NDURANCE TEST METHOD AND SEQUENCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    | P       |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| B1                           | Ambient conditions and test setup:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | P       |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |
| B1.1                         | The switching cycles are to be conducted in a room with an ambient temperature of 25 ± 10 °C and an average air velocity of less than 0,2 m/s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    | P       |                                    |  |  |                       |    |  |     |    |  |     |    |  |     |    |  |     |    |  |      |     |  |      |     |  |      |     |  |      |  |     |

| VC 9109 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |         |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause  | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Result – Remark | Verdict |
| B1.2    | The switching cycles on the sample shall be conducted in free air in a vertical base-up position. However, if a manufacturer or importer has declared the light source suitable for use in a specific orientation only, then the sample shall be mounted in that orientation.                                                                                                                                                                                             |                 | P       |
| B1.3    | The applied voltage during the switching cycles shall have a tolerance within 2 %. The total harmonic content of the supply voltage shall not exceed 3 %. Standards provide guidance on the supply voltage source.                                                                                                                                                                                                                                                        |                 | P       |
| B2      | Provisional Endurance Test Method                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 | P       |
| B2.1    | Initial flux measurement: measure the luminous flux of the light source prior to starting the endurance test switching cycle.                                                                                                                                                                                                                                                                                                                                             |                 | P       |
| B2.2    | Switching cycles: operate the light source for 1 200 cycles of repeated, continuous switching cycles without interruption. One complete switching cycle consists of 150 minutes of the light source switched ON at full power followed by 30 minutes of the light source switched OFF. The hours of operation recorded (i.e. 3 000 hours) include only the periods of the switching cycle when the light source was switched ON, i.e. the total test time is 3 600 hours. |                 | P       |
| B2.3    | Final flux measurement: at the end of the 1 200 switching cycles, note if any light sources have failed (see 'Survival factor' in Annex IV, Table 6 of this Regulation) and measure the luminous flux of the light sources that have not failed.                                                                                                                                                                                                                          |                 | P       |
| B2.4    | For each of the units in the sample which have not failed, divide the measured final flux by the measured initial flux. Average the resulting values over all the units that did not fail to compute the determined value for the lumen maintenance factor XLMF %.                                                                                                                                                                                                        |                 | P       |



## Test data sheet

**Table 1**

Model No.: LHR50E14-5W

| Sample No.    | Pon(W) | No-load power<br>$P_{no}(W)$ | Standby power<br>$P_{sb}(W)$ | Networked standby<br>power $P_{net}(W)$ | Displacement<br>factor |
|---------------|--------|------------------------------|------------------------------|-----------------------------------------|------------------------|
| S01           | 4.74   | N/A                          | N/A                          | N/A                                     | 0.93                   |
| S02           | 4.77   | N/A                          | N/A                          | N/A                                     | 0.94                   |
| S03           | 4.70   | N/A                          | N/A                          | N/A                                     | 0.96                   |
| S04           | 4.78   | N/A                          | N/A                          | N/A                                     | 0.91                   |
| S05           | 4.79   | N/A                          | N/A                          | N/A                                     | 0.92                   |
| S06           | 4.69   | N/A                          | N/A                          | N/A                                     | 0.94                   |
| S07           | 4.80   | N/A                          | N/A                          | N/A                                     | 0.95                   |
| S08           | 4.73   | N/A                          | N/A                          | N/A                                     | 0.93                   |
| S09           | 4.71   | N/A                          | N/A                          | N/A                                     | 0.94                   |
| S10           | 4.73   | N/A                          | N/A                          | N/A                                     | 0.91                   |
| Average value | 4.74   | N/A                          | N/A                          | N/A                                     | 0.93                   |

**Table 2**

Model No.: LHR50E14-5W

| Sample No.    | Chromaticity Coordinates |        | CCT(K) | CRI  | SDCM | R9 |
|---------------|--------------------------|--------|--------|------|------|----|
|               | x                        | y      |        |      |      |    |
| S01           | 0.4335                   | 0.4043 | 3020   | 81.9 | 4.5  | 3  |
| S02           | 0.4366                   | 0.4070 | 3046   | 82.2 | 3.8  | 3  |
| S03           | 0.4357                   | 0.4053 | 3040   | 81.8 | 3.6  | 3  |
| S04           | 0.4370                   | 0.4068 | 3027   | 81.7 | 3.5  | 2  |
| S05           | 0.4344                   | 0.4048 | 3031   | 82.1 | 4.1  | 2  |
| S06           | 0.4343                   | 0.4045 | 3037   | 81.8 | 4.1  | 3  |
| S07           | 0.4354                   | 0.4045 | 3019   | 82.0 | 3.4  | 3  |
| S08           | 0.4364                   | 0.4057 | 3037   | 81.6 | 3.3  | 3  |
| S09           | 0.4361                   | 0.4054 | 3043   | 82.0 | 3.3  | 2  |
| S10           | 0.4353                   | 0.4068 | 3025   | 81.9 | 4.5  | 3  |
| Average value | 0.4355                   | 0.4055 | 3033   | 81.9 | 3.8  | 3  |

## Test data sheet

**Table 3**

Model No.: LHR50E14-5W

| Sample No.    | Useful luminous flux $\Phi_{use}$ (lm) at 0h | Useful luminous flux $\Phi_{use}$ (lm) at 3600h | Lumen maintenance factor | Survival factor | Beam angle(°) | Peak luminous intensity (cd) |
|---------------|----------------------------------------------|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------|
| S01           | 507.5                                        | 488.7                                           | 96.29%                   | 100%            | N/A           | N/A                          |
| S02           | 518.1                                        | 500.5                                           | 96.59%                   | 100%            | N/A           | N/A                          |
| S03           | 523.1                                        | 504.1                                           | 96.36%                   | 100%            | N/A           | N/A                          |
| S04           | 515.0                                        | 496.8                                           | 96.46%                   | 100%            | N/A           | N/A                          |
| S05           | 508.5                                        | 487.7                                           | 95.90%                   | 100%            | N/A           | N/A                          |
| S06           | 512.6                                        | 492.6                                           | 96.09%                   | 100%            | N/A           | N/A                          |
| S07           | 510.8                                        | 492.0                                           | 96.31%                   | 100%            | N/A           | N/A                          |
| S08           | 513.5                                        | 492.9                                           | 96.00%                   | 100%            | N/A           | N/A                          |
| S09           | 514.6                                        | 496.5                                           | 96.49%                   | 100%            | N/A           | N/A                          |
| S10           | 528.3                                        | 508.7                                           | 96.29%                   | 100%            | N/A           | N/A                          |
| Average value | 515.2                                        | 496.0                                           | 96.28%                   | 100%            | N/A           | N/A                          |

**Table 4**

Model No.: LHR50E14-5W

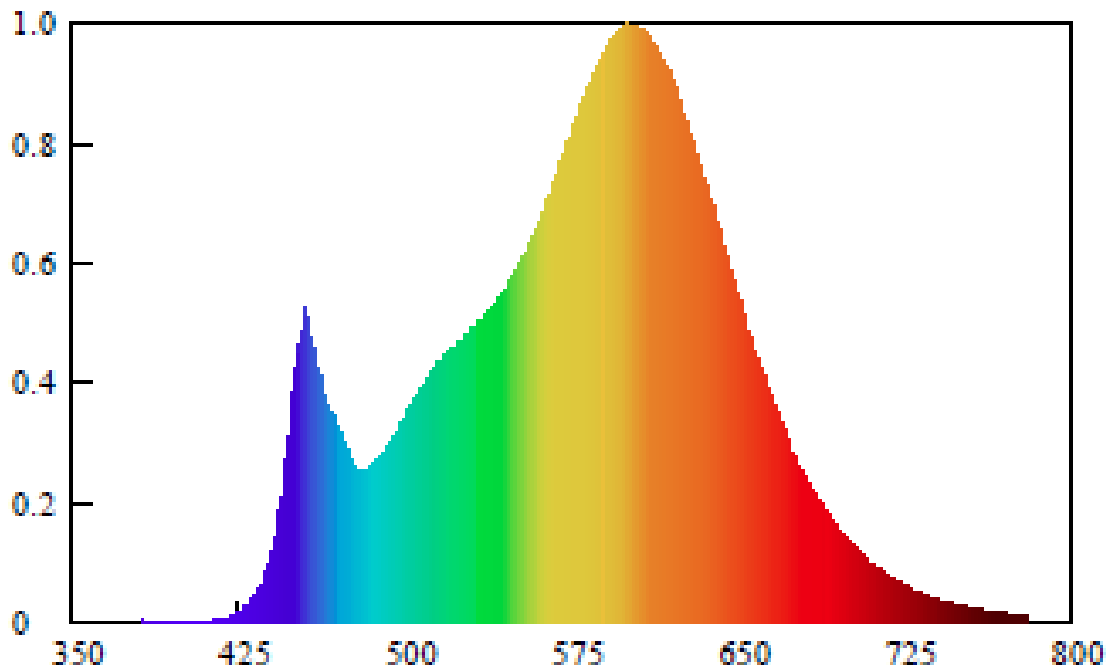
| Sample No.    | Flicker for LED and OLED MLS ( $P_{st} LM \leq 1.0$ ) | Stroboscopic effect for LED and OLED MLS ( $SVM \leq 0.4$ ) |
|---------------|-------------------------------------------------------|-------------------------------------------------------------|
| S01           | 0.307                                                 | 0.059                                                       |
| S02           | 0.348                                                 | 0.047                                                       |
| S03           | 0.313                                                 | 0.052                                                       |
| S04           | 0.390                                                 | 0.055                                                       |
| S05           | 0.357                                                 | 0.054                                                       |
| S06           | 0.414                                                 | 0.051                                                       |
| S07           | 0.395                                                 | 0.055                                                       |
| S08           | 0.334                                                 | 0.050                                                       |
| S09           | 0.324                                                 | 0.054                                                       |
| S10           | 0.336                                                 | 0.052                                                       |
| Average value | 0.352                                                 | 0.053                                                       |

## Test data sheet

Table 5

Model No.: LHR50E14-5W

## Spectral Distribution



## Test data sheet

Table 7

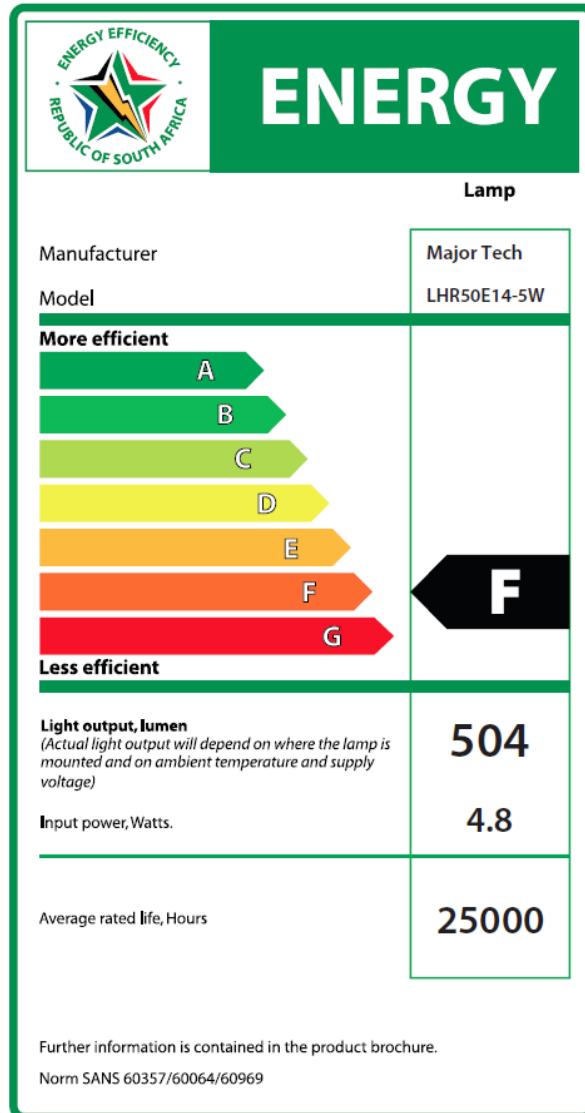
Model No.: LHR50E14-5W

| Energy efficiency classes                  |                                                 |                                                      |                 |                         |
|--------------------------------------------|-------------------------------------------------|------------------------------------------------------|-----------------|-------------------------|
| According to rated value                   |                                                 |                                                      |                 |                         |
| Total mains efficacy<br>$\eta_{TM}$ (lm/W) | Useful luminous flux<br>$\Phi_{use}$ (lm) at 0h | $P_{on}(W)$                                          | Factor $F_{TM}$ | Energy Efficiency Class |
| 105.0                                      | 504.0                                           | 4.8                                                  | 1.000           | F                       |
| Energy efficiency class                    | Total mains efficacy<br>$\eta_{TM}$ (lm/W)      | Factors $F_{TM}$ by light source type                |                 |                         |
|                                            |                                                 | Light source type                                    | Factor $F_{TM}$ |                         |
| A                                          | $210 \leq \eta_{TM}$                            | Non-directional (NDLS) operating on mains (MLS)      | 1,000           |                         |
| B                                          | $185 \leq \eta_{TM} < 210$                      | Non-directional (NDLS) not operating on mains (NMLS) | 0,926           |                         |
| C                                          | $160 \leq \eta_{TM} < 185$                      | Directional (DLS) operating on mains (MLS)           | 1,176           |                         |
| D                                          | $135 \leq \eta_{TM} < 160$                      | Directional (DLS) not operating on mains (NMLS)      | 1,089           |                         |
| E                                          | $110 \leq \eta_{TM} < 135$                      |                                                      |                 |                         |
| F                                          | $85 \leq \eta_{TM} < 110$                       |                                                      |                 |                         |
| G                                          | $\eta_{TM} < 85$                                |                                                      |                 |                         |

| According to measured value                |                                                 |                                                      |                 |                         |
|--------------------------------------------|-------------------------------------------------|------------------------------------------------------|-----------------|-------------------------|
| Total mains efficacy<br>$\eta_{TM}$ (lm/W) | Useful luminous flux<br>$\Phi_{use}$ (lm) at 0h | $P_{on}(W)$                                          | Factor $F_{TM}$ | Energy Efficiency Class |
| 108.7                                      | 515.2                                           | 4.74                                                 | 1.000           | F                       |
| Energy efficiency class                    | Total mains efficacy<br>$\eta_{TM}$ (lm/W)      | Factors $F_{TM}$ by light source type                |                 |                         |
|                                            |                                                 | Light source type                                    | Factor $F_{TM}$ |                         |
| A                                          | $210 \leq \eta_{TM}$                            | Non-directional (NDLS) operating on mains (MLS)      | 1,000           |                         |
| B                                          | $185 \leq \eta_{TM} < 210$                      | Non-directional (NDLS) not operating on mains (NMLS) | 0,926           |                         |
| C                                          | $160 \leq \eta_{TM} < 185$                      | Directional (DLS) operating on mains (MLS)           | 1,176           |                         |
| D                                          | $135 \leq \eta_{TM} < 160$                      | Directional (DLS) not operating on mains (NMLS)      | 1,089           |                         |
| E                                          | $110 \leq \eta_{TM} < 135$                      |                                                      |                 |                         |
| F                                          | $85 \leq \eta_{TM} < 110$                       |                                                      |                 |                         |
| G                                          | $\eta_{TM} < 85$                                |                                                      |                 |                         |

## Test data sheet

## Energy efficiency label:



**Test Equipment List**

| Equipment Name                     | Manufacturer | Model No.      | Reference No. | Calibration Due Date |
|------------------------------------|--------------|----------------|---------------|----------------------|
| 2m Integrating Sphere              | SENSING      | SL-300         | AOC-S-126     | 2026-04-13           |
| Horizontal Distribution Photometer | SENSING      | GMS1800D       | AOC-S-124     | 2026-04-13           |
| Standard Lamp                      | SENSING      | 220V/150W      | AOC-S-156     | 2026-06-05           |
| Digital power meter                | HENGHE       | WT310E         | AOC-S-012     | 2026-04-13           |
| Digital power meter                | SENSING      | UI2008         | AOC-S-123     | 2026-04-13           |
| Digital power meter                | SENSING      | UI2021         | AOC-S-123     | 2026-04-13           |
| DC source                          | OYHS         | OYHS-Z120V-50A | AOC-S-062     | 2026-04-13           |
| Variable frequency power supply    | WOSEN        | BP6005         | AOC-S-129     | 2026-04-13           |
| Variable frequency power supply    | AIPUSI       | KDF-500        | AOC-S-130     | 2026-04-13           |
| Oscilloscope                       | TEKTRONIX    | MDO3012        | AOC-S-028     | 2026-04-13           |

## Product Photo



Fig. 1



Fig. 2

-- End of Report --