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Accredited for compliance with ISO/IEC 17025 – Testing. Accreditation No. 19541

# Test Report: 221222LCP

## Testing of Road Light Power for AEMO's NEM Load Table for Unmetered Loads on Road lighting luminaires

### for GreenVision Xceed Gen2 150W LED Streetlight

*Type of product:* LED Streetlight

*Model Number:* BRP383 LED199/NW 150W 220-240V DWV P7 HP

*Prepared for:* Signify

*Description:* 150W LED Streetlight. 220-240V~, 50/60Hz, PF: 0.95, 0.68A, IP66, IK08, Ta 40°C, Class I luminaire. Features die-cast aluminium housing and polycarbonate optical cover and lens. 3x custom LED board driven from 1x Philips LED driver (model no. Xi SR 150W 0.2-0.7A SNEMP 230V S240 sXt).

## Test objective

Determination of the luminaire supply operating parameters Voltage, Current, Power and Power Factor when tested at nominal test voltages of 250V. By the method of LEDLab Electrical Parameter Determination and AEMO Unmetered_Load_Guideline_v2_0.

## Test configuration

The ten luminaires were operated at 25°C ambient temperature in their normal operational orientation at 250VAC, 50Hz, until the monitored luminaire stabilised as defined in IES LM79. Twenty readings were taken and the average found. The average value is multiplied by the Calibration Correction given in the latest NATA endorsed calibration report then has Voltmeter losses subtracted based on Watt-meter input impedance and test voltage. The other nine luminaires having operated for the same or more time are switched one by one to Wattmeter for their twenty readings.

## Client

Contact Jacek Lipiec, Signify Australia Ltd, 65 Epping Rd, North Ryde NSW 2113, Australia.

## Conclusions

**The Average Load (W) is 148.45W at 0.978 Power Factor.**

| Tested by: | 11/01/2023 | Authorised Signatory | Date: 11/01/2023 |
|---|---|---|---|
| Adrian Gagla | | David Ford | |

The data specified in this report relates to the sample measured as received from the client under standard conditions specified in the Test Specification and may not necessarily relate to other similar luminaires or other operating conditions. The tests and measurements covered by this document are traceable to Australian national standards of measurement. This report shall only be reproduced in full unless approved in writing by Light Emission Distribution Laboratory (LEDLab). The test was performed at Hornsby Laboratory, Unit 4, 140 George St., Hornsby, NSW 2077, Australia.

## Results

Time till stabilisation: 2h

## Electrical Measurements

| Sample 1 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 249.900 | 0.609 | 148.961 | 0.979 |
| Min | 249.770 | 0.609 | 148.930 | 0.979 |
| Max | 250.110 | 0.610 | 148.980 | 0.979 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **249.96** | **0.609** | **148.97** | **0.979** |

| Sample 2 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 249.969 | 0.608 | 148.919 | 0.979 |
| Min | 249.890 | 0.608 | 148.880 | 0.979 |
| Max | 250.160 | 0.609 | 148.960 | 0.979 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **250.03** | **0.608** | **148.93** | **0.979** |

| Sample 3 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 249.933 | 0.602 | 147.250 | 0.978 |
| Min | 249.760 | 0.602 | 147.210 | 0.978 |
| Max | 250.060 | 0.603 | 147.290 | 0.978 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **249.99** | **0.602** | **147.26** | **0.978** |

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| Sample 4 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 249.999 | 0.606 | 147.795 | 0.976 |
| Min | 249.760 | 0.605 | 147.760 | 0.976 |
| Max | 250.120 | 0.606 | 147.830 | 0.976 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **250.06** | **0.605** | **147.81** | **0.976** |

| Sample 5 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 250.028 | 0.606 | 148.147 | 0.977 |
| Min | 249.870 | 0.606 | 148.120 | 0.977 |
| Max | 250.220 | 0.607 | 148.180 | 0.978 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **250.09** | **0.606** | **148.16** | **0.977** |

| Sample 6 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 249.882 | 0.606 | 148.187 | 0.979 |
| Min | 249.610 | 0.605 | 148.160 | 0.979 |
| Max | 250.110 | 0.607 | 148.220 | 0.979 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **249.94** | **0.606** | **148.20** | **0.979** |

| Sample 7 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 249.915 | 0.610 | 148.961 | 0.978 |
| Min | 249.620 | 0.609 | 148.940 | 0.978 |
| Max | 250.280 | 0.610 | 148.980 | 0.978 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **249.98** | **0.609** | **148.97** | **0.978** |

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| Sample 8 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 249.990 | 0.609 | 149.033 | 0.979 |
| Min | 249.910 | 0.609 | 149.000 | 0.979 |
| Max | 250.050 | 0.609 | 149.060 | 0.979 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **250.05** | **0.609** | **149.05** | **0.979** |

| Sample 9 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 249.943 | 0.608 | 148.687 | 0.978 |
| Min | 249.870 | 0.608 | 148.650 | 0.978 |
| Max | 250.000 | 0.609 | 148.720 | 0.978 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **250.00** | **0.608** | **148.70** | **0.978** |

| Sample 10 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Average | 250.065 | 0.606 | 148.381 | 0.979 |
| Min | 249.690 | 0.606 | 148.340 | 0.979 |
| Max | 250.210 | 0.607 | 148.420 | 0.979 |
| Calibration correction (see Newton 4th calibration report 2020002794) | 1.00025 | 0.99962 | 1.00010 | 1.0000 |
| Instrument impedance correction (N4) | 0.000 | 0.00024 | 0.0576 | |
| **Final value** | **250.13** | **0.606** | **148.40** | **0.979** |

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Table 1. Electrical operating parameters of BRP383 LED199/NW 150W 220-240V DWV P7 HP

| Sample No. | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|---|---|---|---|
| Sample 1 | 249.96 | 0.609 | 148.97 | 0.979 |
| Sample 2 | 250.03 | 0.608 | 148.93 | 0.979 |
| Sample 3 | 249.99 | 0.602 | 147.26 | 0.978 |
| Sample 4 | 250.06 | 0.605 | 147.81 | 0.976 |
| Sample 5 | 250.09 | 0.606 | 148.16 | 0.977 |
| Sample 6 | 249.94 | 0.606 | 148.20 | 0.979 |
| Sample 7 | 249.98 | 0.609 | 148.97 | 0.978 |
| Sample 8 | 250.05 | 0.609 | 149.05 | 0.979 |
| Sample 9 | 250.00 | 0.608 | 148.70 | 0.978 |
| Sample 10 | 250.13 | 0.606 | 148.40 | 0.979 |
| **Average** | **250.02** | **0.607** | **148.45** | **0.978** |

## Uncertainties

At a Confidence Level of 95% with a Coverage Factor of 2:

*Supply Voltage:* ± 0.07%
*Supply Current:* ± 0.14%
*Supply Power:* ± 0.19%
*Power Factor:* ± 0.005
*Ambient Temperature:* ± 1°C

## Test Equipment Used

*Power meter:* Newton 4th Power Analyser KinetiQ Model PPA2520 SN 133-00467
*Power meter integration time (s):* 5
*Calibration Report:* PlusEs report no. 2020002794
*Luminaire thermometer:* AMA S No. 1086110-0.1deg

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## General Photographs

*Photo 1. Luminaire.*

*Photo 2. Luminaire.*

*Photo 3. LED board.*

*Photo 4. Gear tray.*

*Photo 5. LED driver.*

*Photo 6. Luminaire label.*

*Photo 7. Luminaire during test.*

*Photo 8. Marking.*

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