



Light Emission Distribution Laboratory

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Accreditation No. 19541

Test Report: 190604LCP

Testing of Road Light Power for AEMO's NEM Load Table and other tests on optical systems

for Sylvania Modular Parkville 80W

Project number: PTR 6267

Type of product: LED Streetlight

Prepared for: GLG, 96-112 Gow St, Padstow NSW 2211 Australia

Model number: NX99Z01L80

Description: 80W 4000K heritage style LED Roadway Luminaire. Features die-cast aluminium body with spun aluminium canopy, 2x Samsung LED module (model number SL-I7T5F83MBWW) driven from an Inventronics LED driver (model number EUD-096S070DVA) set at 693mA.

Test objective and Method

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_v1_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 ten seconds apart 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 Watt-meter for their twenty readings.

Client: GLG, 96-112 Gow St, Padstow NSW 2211 Australia contact Swati Dhembre

Conclusion

The Average Load (W) is 81.52W at .97 Power Factor.

Tested by: David Orwin On 13/06/2019 Authorised Signatory

Date: 17/06/2019

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Results

Time till stabilisation: 3h

Electrical Measurements

| Sample 1 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------|----------------------|-----------------|--------------|
| Average | 250.251 | 0.341 | 82.665 | 0.969 |
| Min | 249.880 | 0.341 | 82.656 | 0.969 |
| Max | 250.590 | 0.341 | 82.672 | 0.969 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 250.22 | 0.3407 | 82.59 | 0.969 |
| Sample 2 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average | 250.133 | 0.334 | 81.155 | 0.973 |
| Min | 249.390 | 0.333 | 81.138 | 0.973 |
| Max | 250.540 | 0.335 | 81.172 | 0.973 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 250.10 | 0.3333 | 81.08 | 0.973 |
| Sample 3 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average | 250.445 | 0.335 | 81.603 | 0.972 |
| Min | 249.890 | 0.335 | 81.594 | 0.972 |
| Max | 250.840 | 0.336 | 81.612 | 0.972 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 250.41 | 0.3349 | 81.53 | 0.972 |

| Sample 4 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------|----------------------|-----------------|--------------|
| Average | 250.403 | 0.333 | 81.155 | 0.973 |
| Min | 249.680 | 0.332 | 81.145 | 0.972 |
| Max | 251.690 | 0.334 | 81.164 | 0.973 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 250.37 | 0.3330 | 81.08 | 0.973 |
| Sample 5 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average | 250.129 | 0.336 | 81.744 | 0.972 |
| Min | 249.610 | 0.334 | 81.730 | 0.972 |
| Max | 251.640 | 0.337 | 81.757 | 0.973 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 250.10 | 0.3358 | 81.67 | 0.972 |
| Sample 6 | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average | 249.971 | 0.334 | 81.202 | 0.973 |
| Min | 249.070 | 0.333 | 81.187 | 0.972 |
| Max | 250.790 | 0.335 | 81.210 | 0.973 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 249.94 | 0.3338 | 81.13 | 0.973 |

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| | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------------|----------------------------|--------------------|--------------|
| Sample 7 | | | | |
| Average | 250.050 | 0.334 | 81.146 | 0.973 |
| Min | 249.720 | 0.333 | 81.136 | 0.973 |
| Max | 250.660 | 0.334 | 81.156 | 0.973 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 250.02 | 0.3334 | 81.07 | 0.973 |
| | | | | |
| | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Sample 8 | | | | |
| Average | 250.075 | 0.335 | 81.533 | 0.972 |
| Min | 249.560 | 0.335 | 81.520 | 0.972 |
| Max | 250.600 | 0.336 | 81.547 | 0.972 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 250.04 | 0.3352 | 81.46 | 0.972 |
| | | | | |
| | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Sample 9 | | | | |
| Average | 250.140 | 0.335 | 81.514 | 0.973 |
| Min | 249.440 | 0.335 | 81.499 | 0.972 |
| Max | 250.490 | 0.336 | 81.526 | 0.973 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 250.11 | 0.3348 | 81.44 | 0.973 |
| | | | | |
| | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Sample 10 | | | | |
| Average | 249.964 | 0.338 | 82.246 | 0.972 |
| Min | 249.030 | 0.338 | 82.234 | 0.972 |
| Max | 250.480 | 0.340 | 82.253 | 0.973 |
| Calibration correction (see Newton 4 th calibration report NC17.36115) | 0.9999 | 0.9999 | 0.9998 | 1.0000 |
| Instrument impedance correction (N4) | | 0.00024 | 0.0576 | |
| Final value | 249.93 | 0.3381 | 82.17 | 0.972 |

The tests and measurements covered by this document are traceable to Australian national standards of measurement.

This report only applies to the items tested and shall only be reproduced in full unless approved in writing by Light Emission Distribution Laboratory (LEDLab).

Electrical operating parameters of Sylvania Modular Parkville 80W

| Sample No. | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|----------------|-----------------------|----------------------|-----------------|--------------|
| Sample 1 | 250.251 | 0.341 | 82.593 | 0.969 |
| Sample 2 | 250.101 | 0.333 | 81.083 | 0.973 |
| Sample 3 | 250.414 | 0.335 | 81.531 | 0.972 |
| Sample 4 | 250.372 | 0.333 | 81.083 | 0.973 |
| Sample 5 | 250.098 | 0.336 | 81.672 | 0.972 |
| Sample 6 | 249.940 | 0.334 | 81.131 | 0.973 |
| Sample 7 | 250.019 | 0.333 | 81.074 | 0.973 |
| Sample 8 | 250.044 | 0.335 | 81.462 | 0.972 |
| Sample 9 | 250.109 | 0.335 | 81.443 | 0.973 |
| Sample 10 | 249.933 | 0.338 | 82.174 | 0.972 |
| Average | 250.13 | 0.34 | 81.52 | 0.97 |

Illustration 1: Electrical operating parameters of Sylvania Modular Parkville 80W

Uncertainties

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

Supply Voltage: $\pm 0.07\%$

Supply Current: $\pm 0.14\%$

Supply Power: $\pm 0.19\%$

Power Factor: ± 0.005

Ambient Temperature: $\pm 1^\circ\text{C}$

Test Equipment Used

Power meter: Newton 4th Power Analyser KinetiQ Model PPA2520 SN 133-00467

Power meter integration time (s): 5

Calibration Report: Ausgrid NC17.36115

Luminaire thermometer: AMA S No. 1086110-0.1deg



Illustration 2: Luminaire



Illustration 3: Samsung LED modules



Illustration 5: Luminaire Setup
(mounted on a pole with spigot)



Illustration 4: LED driver



Illustration 6: LED
module label



Illustration 7: Luminaire label