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

Test Report: 216189

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

for RoadLED 275W 4000K Category V Luminaire

Project No. PTR 4782

Type of product: Category V Street Light

Prepared for: Gerard Lighting Pty Ltd

Description: RoadLED 275W 4000K Category V luminaire. Horizontal spigot street light with two part cast Aluminium housing. The top part of the housing contains 4x Samsung LED modules with 38xLH351B 4K COB with heatsink fins above. The lower part of the housing is hinged and latched and contains the visor. The spigot end contains 2 Inventronics LED drivers model EUD-200S140DV programmed at 1190mA.

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 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:

Gerard Lighting Pty Ltd contact Vishal Galchar, 96 Gow St, Padstow, NSW 2211

Tested by: Alain Yetendje On 25/08/2016 Authorised Signatory Date: 25/08/2016

Alain Yetendje

Conclusions

Test results are given in following Tables.
The Average Load (Watts) is 275.08W at 0.948 Power Factor.

Results

Time till stabilisation: 8h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.612	1.155	274.161	0.947
Min	250.380	1.154	274.220	0.947
Max	250.920	1.156	274.100	0.947
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.56	1.1551	274.08	0.947

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.010	1.158	274.176	0.947
Min	249.320	1.155	274.200	0.947
Max	250.680	1.160	274.150	0.948
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.96	1.1573	274.10	0.947

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.344	1.156	274.161	0.947
Min	250.120	1.156	274.200	0.947
Max	250.440	1.157	274.140	0.947
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.29	1.1561	274.08	0.947

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.263	1.169	277.343	0.948
Min	249.980	1.168	277.370	0.948
Max	250.480	1.170	277.300	0.948
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.21	1.1689	277.26	0.948

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.193	1.170	277.346	0.948
Min	250.010	1.169	277.380	0.948
Max	250.390	1.170	277.310	0.948
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.14	1.1692	277.27	0.948

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.034	1.170	277.349	0.948
Min	249.760	1.169	277.380	0.948
Max	250.260	1.171	277.310	0.948
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	249.98	1.1698	277.27	0.948

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.213	1.156	274.329	0.949
Min	249.950	1.155	274.420	0.948
Max	250.470	1.157	274.270	0.949
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.16	1.1553	274.25	0.949

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.293	1.155	274.248	0.949
Min	250.100	1.154	274.270	0.948
Max	250.480	1.156	274.230	0.949
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.24	1.1547	274.17	0.949

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.415	1.155	274.222	0.948
Min	250.220	1.154	274.240	0.948
Max	250.560	1.155	274.210	0.949
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.36	1.1542	274.14	0.949

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.257	1.156	274.308	0.949
Min	250.040	1.155	274.420	0.948
Max	250.470	1.156	274.210	0.949
Calibration correction (see Newton 4th calibration report 221983)	0.9998	0.9998	0.9999	1.0001
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	250.21	1.1551	274.23	0.949

Electrical operating parameters of RoadLED 275W 4000K

Sample No.	Supply Voltage (Vrms)	Input Current (mArms)	Input Power (W)	Power Factor
Sample 1	250.56	1.155	274.080	0.947
Sample 2	249.96	1.157	274.095	0.947
Sample 3	250.29	1.156	274.080	0.947
Sample 4	250.21	1.169	277.262	0.948
Sample 5	250.14	1.169	277.266	0.948
Sample 6	249.98	1.170	277.269	0.948
Sample 7	250.16	1.155	274.249	0.949
Sample 8	250.24	1.155	274.167	0.949
Sample 9	250.36	1.154	274.142	0.948
Sample 10	250.21	1.155	274.227	0.949
Average	**250.21**	**1.160**	**275.084**	**0.948**

Illustration 1: Electrical operating parameters of RoadLED 275W 4000K

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: ± 0.05

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: Ausgrid 221983

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs

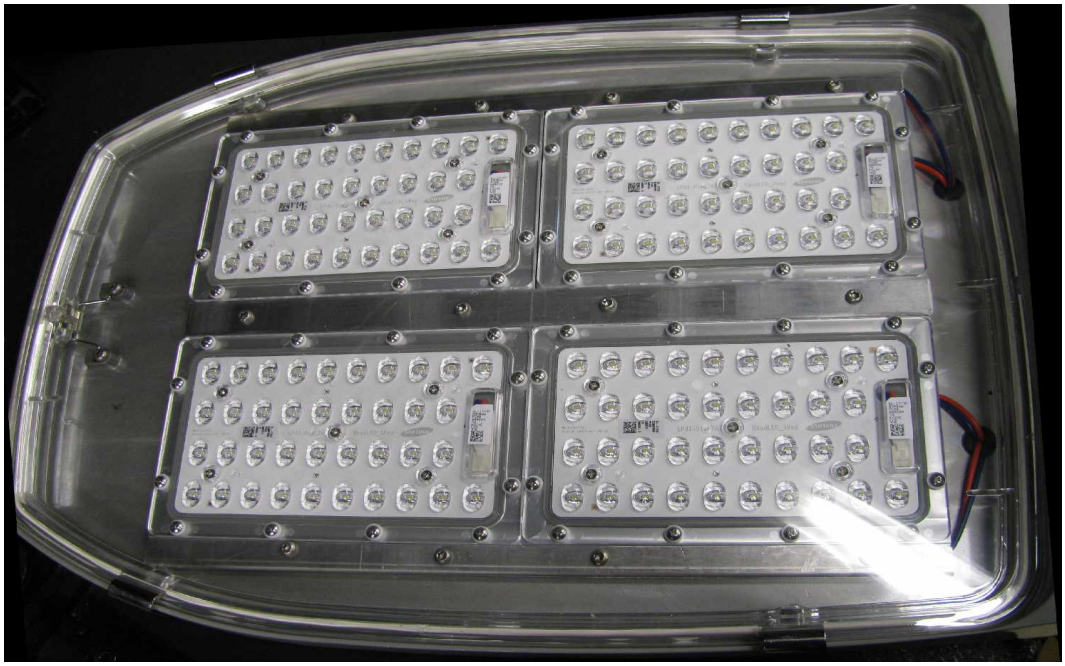

Illustration 2: Optical opening

Illustration 3: Inventronics LED driver programmed at 1190mA (2 off)

Illustration 4: Luminaire setup on a pole