

Light Emission Distribution Laboratory

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Test Report: 180743LCP

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

for Modular Parkville 155W Model No. NX99201L155

Type of product: LED Floodlight

Prepared for: Gerard Lighting Pty Ltd, 96-112 Gow St, Padstow NSW 2211 Australia - Project Number: PTR 5805

Model numbers: NX99201L155

Description: 155W 4000K heritage style LED Roadway luminaire. Features pressure die-cast aluminium body with spun aluminium canopy, 3x Samsung LED modules (SL-I7T5F83MBWW) driven from an Inventronics LED driver (model number EUD-150S105DVA) programmed at 882mA.

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: Gerard Lighting Pty Ltd, 96-112 Gow St, Padstow NSW 2211 Australia contact Jonas Olander

Conclusion

The Average Load (W) is 153.32W at 0.98 Power Factor.

Tested by: Alain Yetendje

On 25/07/2018

Authorised Signatory

Date: 26/07/2018

Alain Yetendje

Results

Time till stabilisation: 3h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.086	0.623	152.901	0.981
Min	249.440	0.622	152.880	0.981
Max	250.470	0.625	152.920	0.981
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	250.05	0.6229	152.82	0.981
Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.186	0.628	154.135	0.981
Min	249.620	0.626	154.100	0.981
Max	250.810	0.629	154.160	0.982
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	250.15	0.6275	154.05	0.981
Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.912	0.620	152.058	0.981
Min	249.050	0.618	152.030	0.981
Max	250.720	0.622	152.070	0.982
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	249.88	0.6198	151.97	0.981

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

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Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.078	0.626	154.130	0.984
Min	249.360	0.625	154.110	0.984
Max	250.510	0.628	154.150	0.985
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	250.05	0.6258	154.05	0.984
Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.278	0.623	153.314	0.984
Min	249.780	0.622	153.300	0.984
Max	250.680	0.624	153.320	0.984
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	250.25	0.6222	153.23	0.984
Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.388	0.625	153.915	0.984
Min	249.930	0.623	153.910	0.984
Max	250.860	0.626	153.930	0.984
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	250.36	0.6243	153.83	0.984

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	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 7				
Average	250.207	0.628	154.755	0.984
Min	249.380	0.627	154.710	0.984
Max	250.590	0.630	154.790	0.985
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	250.18	0.6280	154.67	0.984
Sample 8				
Average	250.159	0.616	151.629	0.984
Min	249.640	0.615	151.610	0.983
Max	250.530	0.618	151.640	0.984
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	250.13	0.6160	151.54	0.984
Sample 9				
Average	250.307	0.621	152.670	0.982
Min	249.920	0.621	152.660	0.982
Max	250.610	0.622	152.680	0.982
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	250.28	0.6209	152.59	0.982
Sample 10				
Average	250.112	0.628	154.525	0.984
Min	249.130	0.627	154.500	0.984
Max	250.480	0.630	154.540	0.984
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	250.08	0.6276	154.44	0.984

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Electrical operating parameters of Modular Parkville 175W

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	250.086	0.623	152.817	0.981
Sample 2	250.155	0.628	154.051	0.981
Sample 3	249.881	0.620	151.974	0.981
Sample 4	250.047	0.626	154.045	0.984
Sample 5	250.246	0.622	153.230	0.984
Sample 6	250.357	0.624	153.830	0.984
Sample 7	250.175	0.628	154.670	0.984
Sample 8	250.127	0.616	151.545	0.984
Sample 9	250.275	0.621	152.586	0.982
Sample 10	250.081	0.628	154.440	0.984
Average	250.14	0.62	153.32	0.98

Illustration 1: Electrical operating parameters of Modular Parkville 155W

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: TR Calibration NC17.36115

Luminaire thermometer: AMA S No. 1086110-0.1deg

General Photographs

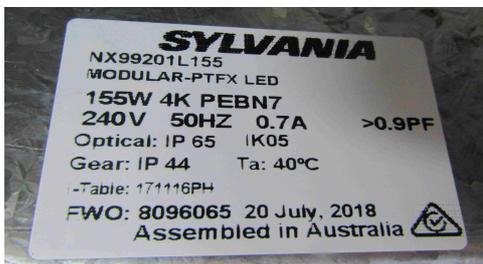


Illustration 3: Luminaire label (sample tested)

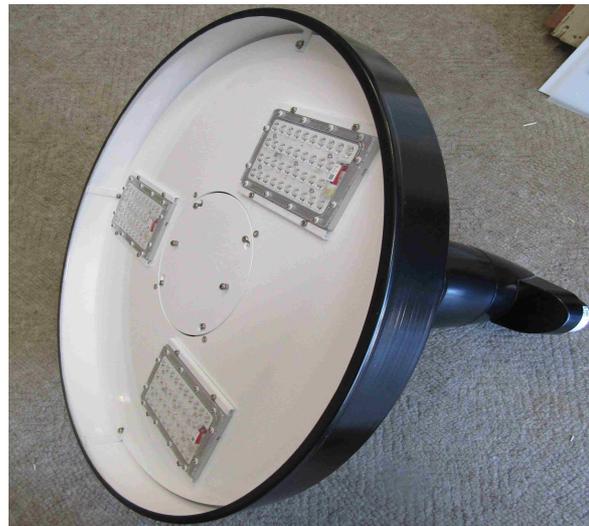


Illustration 2: Luminaire

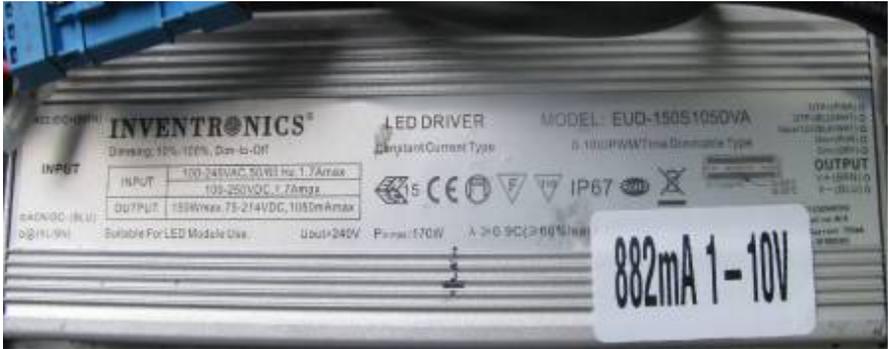


Illustration 4: LED driver



Illustration 5: Setup