Light Emission Distribution Laboratory
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Test Report: 210819LCP

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

For Ozlite LED13 Decorative LED Streetlight

Type of product: Decorative LED streetlight

Model Numbers: SWOZ13T – Top Entry (sample tested), SWOZ13S – Side Entry

Prepared for: Streetworx Pty Ltd

Description: 13W top entry LED decorative streetlight. Features spun aluminium reflector, 12x 4000K LEDs with individual LEDIL lenses and clear plastic visor, driven from Meanwell LED driver (model no. LPF-25D-12). The sample tested is representative of both model numbers as they are electrically identical and only differ in the mounting (top or side entry)

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 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 Wattmeter for their twenty readings.

Client

Contact Joe Calvi, Streetworx Pty Ltd, 185 Liverpool Rd, Kilsyth, Victoria 3137, Australia

Conclusions

The Average Load (W) is 13.04W at 0.834 Power Factor.

Tested by: Adrian Gagla 20/08/2021

Authorised Signatory Alain Yetendje Date: 30/08/2021

Results

Time till stabilisation: 2h

Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.906	0.063	13.068	0.831
Min	249.760	0.063	13.064	0.830
Max	250.130	0.063	13.070	0.831
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**249.97**	**0.063**	**13.07**	**0.831**

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.920	0.063	13.056	0.834
Min	249.680	0.063	13.054	0.834
Max	250.120	0.063	13.059	0.835
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**249.98**	**0.063**	**13.06**	**0.834**

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.046	0.064	13.273	0.835
Min	249.910	0.064	13.270	0.834
Max	250.180	0.064	13.275	0.835
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**250.11**	**0.064**	**13.27**	**0.835**

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.985	0.062	12.806	0.830
Min	249.740	0.062	12.801	0.830
Max	250.380	0.062	12.809	0.831
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**250.05**	**0.062**	**12.81**	**0.830**

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.023	0.062	12.922	0.833
Min	249.830	0.062	12.920	0.832
Max	250.180	0.062	12.926	0.833
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**250.08**	**0.062**	**12.92**	**0.833**

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.946	0.063	13.198	0.838
Min	249.740	0.063	13.195	0.837
Max	250.120	0.063	13.201	0.838
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**250.01**	**0.063**	**13.20**	**0.838**

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.967	0.062	12.812	0.832
Min	249.630	0.062	12.809	0.831
Max	250.200	0.062	12.814	0.832
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**250.03**	**0.062**	**12.81**	**0.832**

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.968	0.063	13.169	0.840
Min	249.820	0.063	13.165	0.840
Max	250.090	0.063	13.171	0.841
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**250.03**	**0.063**	**13.17**	**0.840**

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.019	0.063	12.991	0.831
Min	249.860	0.063	12.990	0.831
Max	250.220	0.063	12.993	0.831
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**250.08**	**0.063**	**12.99**	**0.831**

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.972	0.062	13.067	0.837
Min	249.670	0.062	13.063	0.837
Max	250.240	0.062	13.073	0.838
Calibration correction (see Newton 4th calibration report 2020002794)	1.00025	1.00059	1.00010	1.0000
Instrument impedance correction (N4)		0.00024	0.0576	
Final value	**250.03**	**0.062**	**13.07**	**0.837**

Table 1. Electrical operating parameters of

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	249.97	0.063	13.07	0.831
Sample 2	249.98	0.063	13.06	0.834
Sample 3	250.11	0.064	13.27	0.835
Sample 4	250.05	0.062	12.81	0.830
Sample 5	250.08	0.062	12.92	0.833
Sample 6	250.01	0.063	13.20	0.838
Sample 7	250.03	0.062	12.81	0.832
Sample 8	250.03	0.063	13.17	0.840
Sample 9	250.08	0.063	12.99	0.831
Sample 10	250.03	0.062	13.07	0.837
Average	**250.04**	**0.063**	**13.04**	**0.834**

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. 1086110-0.1°

General Photographs

Photo 1. Luminaire.

Photo 2. Luminaire.

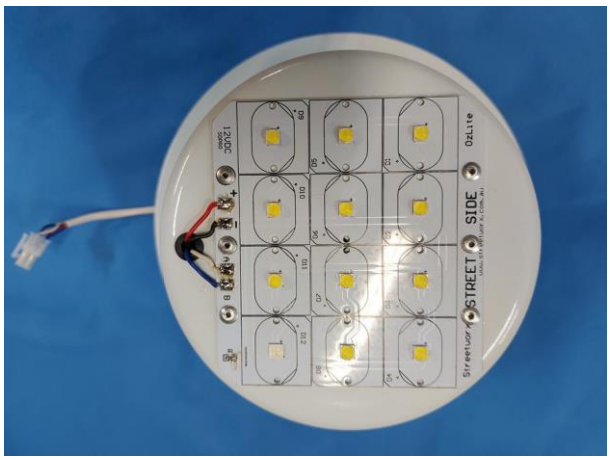

Photo 3. LED module.

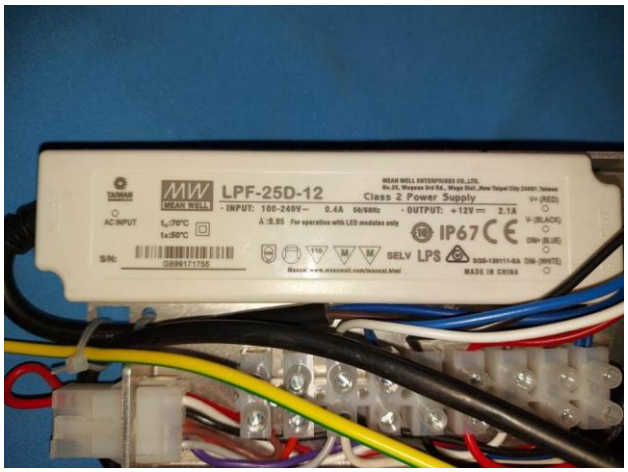

Photo 4. LED driver.

Photo 5. Luminaire during test.

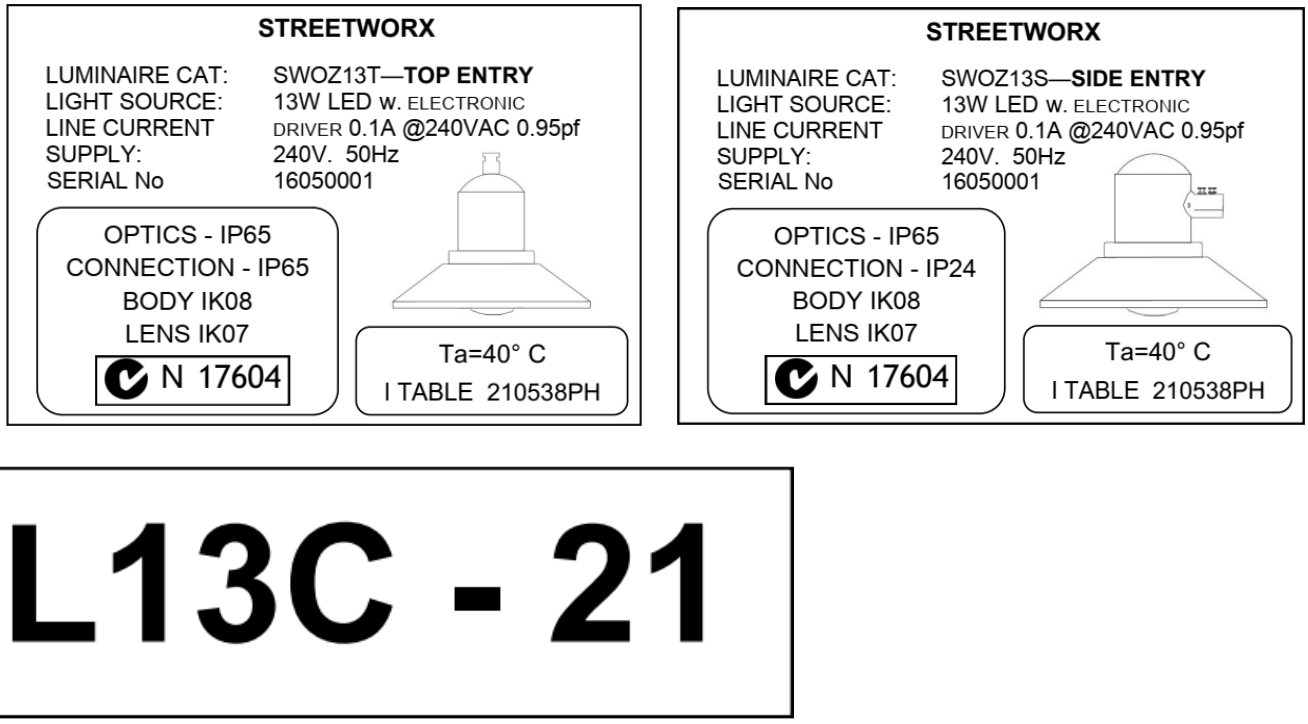

Photo 6. Luminaire labels.