



## Test Report: 230895LCP

### Testing of Road Light Power for AEMO's NEM Load Table for Unmetered Loads on Road lighting luminaires for Thorlux Lighting's BRISA BRLCN47L

*Type of product:* LED streetlight

*Model Number:* BRISA BRLCN47L tested. Also covers BRLCN47LN & BRLCN47LNC2

*Prepared for:* Thorlux Lighting Australasia

*Description:* 47W LED Streetlight. 220V-240V, 50/60Hz. Class I or II luminaire. Features die-cast aluminium housing and glass visor and lens. 2x custom LED board driven from 1x Philips LED driver (model no. XiFP 75W 0.2-0.7 SNLDAE 230V C133 sXt). Note: Safety Class, and addition of SPD or NEMA socket have no effect on Power.

#### 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 Remco Diaz, 31 Cross St, Brookvale NSW 2100 Australia

#### Conclusions

**The Average Load (W) is 43.63W at 0.967 Power Factor.**

Tested by:  
Adrian Gagla

28/08/2023

Authorised Signatory

David Ford

Date: 29/08/2023



## Results

Time till stabilisation: 4h

### Electrical Measurements

Sample 1	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.971	0.181	43.867	0.968
Min	249.860	0.181	43.864	0.968
Max	250.090	0.181	43.875	0.968
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>249.99</b>	<b>0.181</b>	<b>43.86</b>	<b>0.968</b>

Sample 2	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.060	0.179	43.425	0.968
Min	249.860	0.179	43.422	0.967
Max	250.190	0.180	43.427	0.968
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>250.08</b>	<b>0.179</b>	<b>43.41</b>	<b>0.968</b>

Sample 3	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.003	0.180	43.553	0.967
Min	249.770	0.180	43.549	0.967
Max	250.280	0.180	43.558	0.967
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>250.03</b>	<b>0.180</b>	<b>43.54</b>	<b>0.967</b>



Test Report: 230895LCP

Sample 4	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.053	0.179	43.316	0.967
Min	249.860	0.179	43.310	0.967
Max	250.160	0.179	43.322	0.967
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>250.08</b>	<b>0.179</b>	<b>43.30</b>	<b>0.967</b>

Sample 5	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.982	0.183	44.334	0.968
Min	249.780	0.183	44.329	0.968
Max	250.260	0.183	44.343	0.968
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>250.01</b>	<b>0.183</b>	<b>44.32</b>	<b>0.968</b>

Sample 6	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.116	0.180	43.490	0.967
Min	249.860	0.180	43.485	0.967
Max	250.300	0.180	43.497	0.967
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>250.14</b>	<b>0.180</b>	<b>43.48</b>	<b>0.967</b>

Sample 7	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.838	0.181	43.662	0.967
Min	249.640	0.181	43.660	0.967
Max	250.030	0.181	43.665	0.967
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>249.86</b>	<b>0.181</b>	<b>43.65</b>	<b>0.967</b>



Test Report: 230895LCP

Sample 8	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.032	0.180	43.617	0.967
Min	249.890	0.180	43.612	0.967
Max	250.200	0.180	43.620	0.967
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>250.05</b>	<b>0.180</b>	<b>43.61</b>	<b>0.967</b>

Sample 9	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	250.011	0.180	43.514	0.968
Min	249.900	0.180	43.511	0.968
Max	250.120	0.180	43.518	0.968
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>250.03</b>	<b>0.180</b>	<b>43.50</b>	<b>0.968</b>

Sample 10	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Average	249.954	0.180	43.611	0.968
Min	249.870	0.180	43.607	0.968
Max	250.030	0.180	43.616	0.968
Calibration correction (see Newton 4th calibration report 2020002794)	1.00009	0.99982	0.99974	1.0000
Instrument impedance correction (N4)	0.000	0.00024	0.0576	
<b>Final value</b>	<b>249.98</b>	<b>0.180</b>	<b>43.60</b>	<b>0.968</b>

Table 1. Electrical operating parameters of BRISA BRLCN47L

Sample No.	Supply Voltage (Vrms)	Input Current (Arms)	Input Power (W)	Power Factor
Sample 1	249.99	0.181	43.86	0.968
Sample 2	250.08	0.179	43.41	0.968
Sample 3	250.03	0.180	43.54	0.967
Sample 4	250.08	0.179	43.30	0.967
Sample 5	250.01	0.183	44.32	0.968
Sample 6	250.14	0.180	43.48	0.967
Sample 7	249.86	0.181	43.65	0.967
Sample 8	250.05	0.180	43.61	0.967
Sample 9	250.03	0.180	43.50	0.968
Sample 10	249.98	0.180	43.60	0.968
<b>Average</b>	<b>250.02</b>	<b>0.180</b>	<b>43.63</b>	<b>0.967</b>

## 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:*  $\pm 0.005$

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

## Test Equipment Used

*Power meter:* Newton 4<sup>th</sup> Power Analyser KinetiQ Model PPA2520 SN 133-00467

*Power meter integration time (s):* 5

*Calibration Report:* PlusEs report no. 2023003140

*Luminaire thermometer:* AMA S No. 1086110-0.1deg



General Photographs



Photo 1. Luminaire.



Photo 2. Luminaire.



Photo 3. LED board.



Photo 4. LED driver.



Photo 5. Luminaire's label.



Photo 6. Luminaire's label.

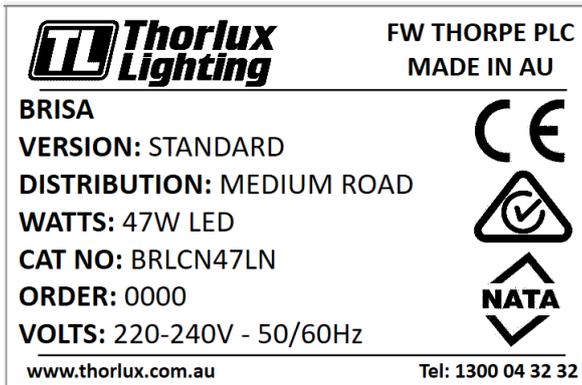


Photo 7. Luminaire label of model with SPD and NEMA socket

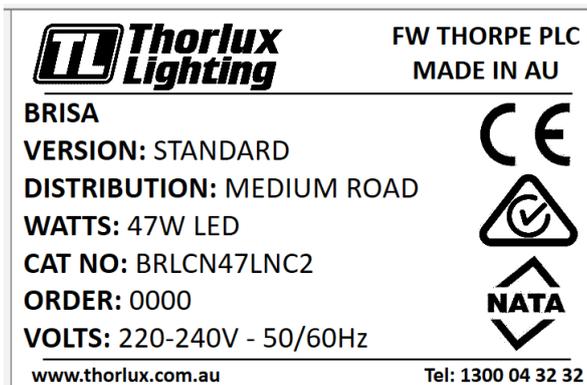


Photo 8. Class II Luminaire label of model with SPD and NEMA socket



Photo 9 Luminaire with NEMA socket and shorting cap