



# Light Emission Distribution Laboratory

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## Test Report: 201162LCP

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

for Sylvania KANON 180W

*Type of product:* LED Area Light

*Prepared for:* Sylvania Schröder, Bldg 4A, Parklands Estate, 21-23 South Street, Rydalmere NSW 2116 Australia

*Model number:* KN140Z11L180 (sample tested), KN140E11L180

*Description:* Sylvania KANON 180W Circular LED Floodlight. Features die-cast aluminium housing with powder coated finish, PMMA lens, tempered glass visor, an LED board driven from 1x Tridonic LED driver (model number LCO 200/200-1050/355 o4a NF C EXC3). This test report covers both model numbers as they are electrically identical, the only difference being the type of terminal block.

### 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 contact:** Swati Dhembre

### Conclusion

**The Average Load (W) is 183.54W at .98 Power Factor.**

Tested by: David Orwin On 24/11/2020 Authorised Signatory

Date: 07/12/2020

Alain Yetendje

## Results

Time till stabilisation: 3h

### Electrical Measurements

|   | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------|----------------------|-----------------|--------------|
| <b>Sample 1</b>   |                       |                      |                 |              |
| Average   | 250.184               | 0.742                | 182.604         | 0.984        |
| Min   | 249.920               | 0.741                | 182.580         | 0.984        |
| Max   | 250.450               | 0.742                | 182.630         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                            |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.25                | 0.7411               | 182.56          | 0.984        |
| <b>Sample 2</b>   |                       |                      |                 |              |
| Average   | 250.287               | 0.744                | 183.104         | 0.983        |
| Min   | 250.010               | 0.743                | 183.090         | 0.983        |
| Max   | 250.710               | 0.745                | 183.120         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                            |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.35                | 0.7436               | 183.06          | 0.983        |
| <b>Sample 3</b>   |                       |                      |                 |              |
| Average   | 250.119               | 0.742                | 182.743         | 0.984        |
| Min   | 249.680               | 0.742                | 182.720         | 0.984        |
| Max   | 250.450               | 0.744                | 182.780         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                            |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.18                | 0.7419               | 182.70          | 0.984        |

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|   | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------|----------------------|-----------------|--------------|
| <b>Sample 4</b>   |                       |                      |                 |              |
| Average   | 250.216               | 0.746                | 183.349         | 0.983        |
| Min   | 249.770               | 0.745                | 183.330         | 0.982        |
| Max   | 250.440               | 0.747                | 183.390         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibræ) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                        |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.28                | 0.7452               | 183.31          | 0.983        |
| <b>Sample 5</b>   |                       |                      |                 |              |
| Average   | 250.081               | 0.742                | 182.647         | 0.984        |
| Min   | 249.740               | 0.741                | 182.630         | 0.984        |
| Max   | 250.470               | 0.743                | 182.660         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibræ) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                        |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.14                | 0.7418               | 182.61          | 0.984        |
| <b>Sample 6</b>   |                       |                      |                 |              |
| Average   | 250.089               | 0.749                | 183.996         | 0.983        |
| Min   | 249.930               | 0.748                | 183.980         | 0.983        |
| Max   | 250.240               | 0.749                | 184.020         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibræ) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                        |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.15                | 0.7482               | 183.96          | 0.983        |

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|   | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------|----------------------|-----------------|--------------|
| <b>Sample 7</b>   |                       |                      |                 |              |
| Average   | 250.123               | 0.757                | 186.232         | 0.983        |
| Min   | 249.960               | 0.757                | 186.200         | 0.983        |
| Max   | 250.380               | 0.758                | 186.260         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibre) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                        |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.18                | 0.7567               | 186.19          | 0.983        |
| <b>Sample 8</b>   |                       |                      |                 |              |
| Average   | 250.178               | 0.743                | 182.802         | 0.984        |
| Min   | 249.820               | 0.742                | 182.790         | 0.984        |
| Max   | 250.410               | 0.744                | 182.820         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibre) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                        |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.24                | 0.7422               | 182.76          | 0.984        |
| <b>Sample 9</b>   |                       |                      |                 |              |
| Average   | 250.195               | 0.746                | 183.684         | 0.984        |
| Min   | 249.930               | 0.746                | 183.650         | 0.983        |
| Max   | 250.530               | 0.747                | 183.730         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibre) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                        |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.26                | 0.7459               | 183.64          | 0.984        |
| <b>Sample 10</b>  |                       |                      |                 |              |
| Average   | 250.097               | 0.751                | 184.659         | 0.983        |
| Min   | 249.860               | 0.750                | 184.640         | 0.983        |
| Max   | 250.430               | 0.752                | 184.670         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibre) | 1.00025               | 0.99958              | 1.00010         | 1.0000       |
| Instrument impedance correction (N4)                        |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.16                | 0.7504               | 184.62          | 0.983        |

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## Electrical operating parameters of Sylvania KANON LED Floodlight 180W

| Sample No.     | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|----------------|-----------------------|----------------------|-----------------|--------------|
| Sample 1       | 250.184               | 0.741                | 182.564         | 0.984        |
| Sample 2       | 250.287               | 0.744                | 183.064         | 0.983        |
| Sample 3       | 250.119               | 0.742                | 182.703         | 0.984        |
| Sample 4       | 250.216               | 0.745                | 183.308         | 0.983        |
| Sample 5       | 250.081               | 0.742                | 182.607         | 0.984        |
| Sample 6       | 250.089               | 0.748                | 183.956         | 0.983        |
| Sample 7       | 250.123               | 0.757                | 186.192         | 0.983        |
| Sample 8       | 250.178               | 0.742                | 182.762         | 0.984        |
| Sample 9       | 250.195               | 0.746                | 183.644         | 0.984        |
| Sample 10      | 250.097               | 0.750                | 184.619         | 0.983        |
| <b>Average</b> | 250.16                | <b>0.75</b>          | <b>183.54</b>   | <b>0.98</b>  |

*Illustration 1: Electrical operating parameters of Sylvania KANON 180W*

## 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. 2020002794

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



Illustration 3: Luminaire



Illustration 2: Setup



Illustration 4: LED driver

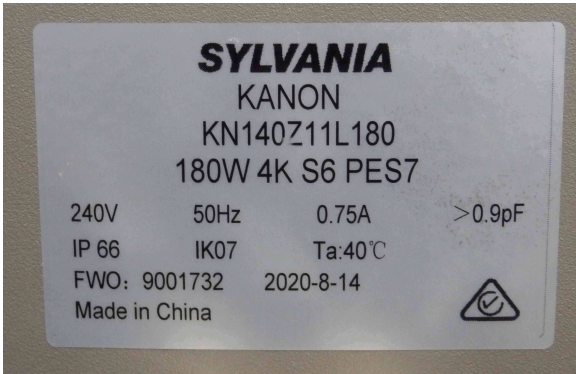
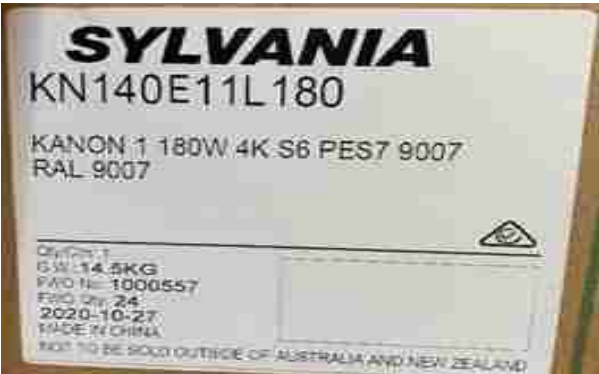


Illustration 5: Luminaire label



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