

LightLab
INTERNATIONAL



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Accreditation No. 2258.

Report of Test

LL24071

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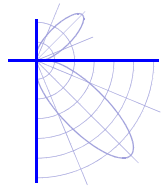


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Test Report Number LL24071

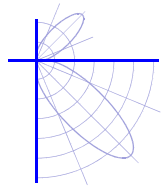
| | |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Client | Empyrean Lighting |
| Contact | Brock Shakespeare |
| Address | Level 2, 11/9 Capital Place. Birtinya. QLD 4551. |
| Devices Tested | 10 x LED Streetlights. Identified by LightLab as Sample A to J (also identified with test number). Empyrean Lighting – Andromeda-C-PoleMS-30-LK30B The samples comprise a plastic and cast aluminium body with black finish, array of 11 LEDs, each with a complex domed lens and one Empyrean Lighting AndromedaA-30W-800mA driver. |
| Nature of Tests | To determine the total bulk power usage (known as Unmetered Market Load) of 10 supplied LED streetlights with driver combination while operating under standard laboratory conditions with the supply set to 250 V 50 Hz. Performance data in accordance with IESNA LM-79-08. |
| Sample Selection | This laboratory has not exercised control over the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent to which the test samples are representative of production units. |
| Procedure | The samples were tested in free air with luminous opening horizontal and face down in a draft free room. The supply voltage and frequency to the control gear was set according to the values in Table 1 and the sample was operated for a minimum of 2 hours till photometric and electrical stability prior to recording measurements. The relevant measurements are recorded in Table 1. |

All measurements were performed in a controlled environment of 25 ± 1 ° Celsius.

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Photographs

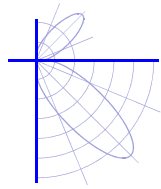
(Sample 'F' shown)



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Test Results

| Sample ID | Supply voltage (Vac) | Supply frequency (Hz) | Supply current (A) | Supply Power (W) | Power Factor | Voltage THD (%) |
|-----------|----------------------|-----------------------|--------------------|------------------|--------------|-----------------|
| LL24071A | 250 | 50 | 0.125 | 30.4 | 0.97 | 0.06 |
| LL24071B | 250 | 50 | 0.125 | 30.4 | 0.98 | 0.06 |
| LL24071C | 250 | 50 | 0.125 | 30.4 | 0.98 | 0.05 |
| LL24071D | 250 | 50 | 0.124 | 30.2 | 0.97 | 0.06 |
| LL24071E | 250 | 50 | 0.123 | 30.0 | 0.98 | 0.05 |
| LL24071F | 250 | 50 | 0.123 | 30.1 | 0.97 | 0.05 |
| LL24071G | 250 | 50 | 0.123 | 30.0 | 0.98 | 0.07 |
| LL24071H | 250 | 50 | 0.124 | 30.3 | 0.97 | 0.06 |
| LL24071I | 250 | 50 | 0.123 | 30.0 | 0.97 | 0.05 |
| LL24071J | 250 | 50 | 0.123 | 29.8 | 0.97 | 0.05 |

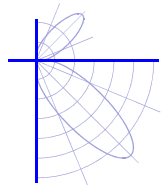
Table 1 – Measurements

| Equipment Used | Asset# | Calibration Due Date |
|------------------------------------|--------|----------------------|
| Electrical | | |
| Keysight AC6804A AC Source | B0553 | n/a |
| YEW WT210 | B0138 | 03/02/2023 |
| Environmental | | |
| YEW 7563 Thermometer | B0260 | 18/10/2022 |
| Photometry (stability only) | | |
| Keithley 6485 Picoammeter | B0425 | 13/01/2025 |
| LMT V Lambda Cell | B0250 | 13/01/2025 |

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Uncertainties

When calculated at the 95% confidence interval with coverage factor $k = 2$, the estimated uncertainties are:

| | |
|-------------------------|--------------------------|
| Temperature | $\pm 1^{\circ} \text{C}$ |
| Electrical Power (ac) | $\pm 0.4\%$ |
| Electrical Voltage (ac) | $\pm 0.3\%$ |
| Electrical Current (ac) | $\pm 0.3\%$ |
| Frequency (Hz) * | $\pm 0.1\%$ |
| Power Factor | ± 0.01 |

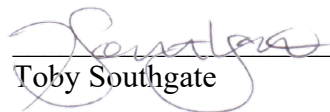
* NATA accreditation does not cover the performance of this service.

Laboratory

Measurements were performed at the LightLab International Brisbane Laboratory.

Date of Test 22-Apr-2022 to 27-Apr-2022
Date of Report 29-Apr-2022

Authorised Signatory


Toby Southgate

B3067 - ESC Report , Version 1.3, 11th Apr 2022

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