



## Light Emission Distribution Laboratory

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Accreditation No. 19541

# Test Report: 180448BLCP

**Note: This test report supersedes TR 180448ALCP and contains additional information**

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

for SastaLED maXimus 150W, SastaLED Sekurit 150W Model Nos. SL99Q45L150, SL99Z43L150 & SL99Z55L150

Type of product: LED Floodlight

Prepared for: Gerard Lighting Pty Ltd, 96-112 Gow St, Padstow NSW 2211 Australia - Project Number: PTR 5693A

Model numbers: SL99Q45L150, SL99Z43L150 & SL99Z55L150

Description: *Sylvania SastaLED maXimus 150W 4K X T PEB7 9007 DI, Sylvania SastaLED maXimus 150W 4K X T PES7 CO 9007, Sylvania SastaLED Sekurit 150W 4K B T PES7 CO 9007* Floodlights with die cast aluminium body and RAL9007 finish. SL99Q45L150 & SL99Z43L150 have asymmetric throw while SL99Z55L150 has a bi-symmetric throw. The report covers all model numbers as they are electrically identical; they only differ in their beam distribution and in the fact that SL99Q45L150 is double insulated and SL99Z43L150 is not.

## 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 Mitchell Whittaker

## Conclusion

**The Average Load (W) is 150.3 W at 0.98 Power Factor.**

Tested by: David Orwin

On 10/05/2018

Authorised Signatory

Date: 06/12/2018



Re-issued: 04/02/2019

Alain Yetendje

## Results

Time till stabilisation: 4h

## Electrical Measurements

| Sample 1  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------|----------------------|-----------------|--------------|
| Average   | 250.459               | 0.611                | 150.431         | 0.983        |
| Min   | 249.790               | 0.609                | 150.420         | 0.983        |
| Max   | 251.400               | 0.613                | 150.460         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.43                | 0.6107               | 150.35          | 0.983        |
| Sample 2  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average   | 250.377               | 0.612                | 150.784         | 0.983        |
| Min   | 249.790               | 0.610                | 150.760         | 0.983        |
| Max   | 251.280               | 0.614                | 150.810         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.35                | 0.6120               | 150.70          | 0.983        |
| Sample 3  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average   | 250.346               | 0.613                | 150.889         | 0.983        |
| Min   | 249.620               | 0.610                | 150.860         | 0.983        |
| Max   | 251.740               | 0.615                | 150.930         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.31                | 0.6126               | 150.80          | 0.983        |

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| Sample 4  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------|----------------------|-----------------|--------------|
| Average   | 250.467               | 0.611                | 150.302         | 0.982        |
| Min   | 249.300               | 0.608                | 150.270         | 0.982        |
| Max   | 251.700               | 0.614                | 150.330         | 0.982        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.44                | 0.6108               | 150.22          | 0.982        |
| Sample 5  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average   | 250.381               | 0.608                | 149.613         | 0.983        |
| Min   | 249.500               | 0.605                | 149.540         | 0.983        |
| Max   | 251.510               | 0.610                | 149.660         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.35                | 0.6073               | 149.53          | 0.983        |
| Sample 6  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average   | 250.604               | 0.612                | 150.828         | 0.983        |
| Min   | 249.880               | 0.610                | 150.800         | 0.983        |
| Max   | 251.240               | 0.614                | 150.860         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.57                | 0.6117               | 150.74          | 0.983        |

## LEDLab Test Report: 180448BLCP

| Sample 7  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|---|-----------------------|----------------------|-----------------|--------------|
| Average   | 250.284               | 0.609                | 149.907         | 0.983        |
| Min   | 249.880               | 0.608                | 149.880         | 0.983        |
| Max   | 250.910               | 0.610                | 149.940         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.25                | 0.6089               | 149.82          | 0.983        |
| Sample 8  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average   | 250.275               | 0.612                | 150.645         | 0.983        |
| Min   | 248.870               | 0.610                | 150.610         | 0.983        |
| Max   | 251.100               | 0.616                | 150.680         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.24                | 0.6120               | 150.56          | 0.983        |
| Sample 9  | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average   | 250.435               | 0.609                | 150.051         | 0.984        |
| Min   | 249.340               | 0.607                | 150.020         | 0.983        |
| Max   | 251.350               | 0.612                | 150.070         | 0.984        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.40                | 0.6088               | 149.97          | 0.984        |
| Sample 10   | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
| Average   | 250.083               | 0.612                | 150.391         | 0.983        |
| Min   | 248.950               | 0.609                | 150.370         | 0.983        |
| Max   | 251.460               | 0.614                | 150.420         | 0.983        |
| Calibration correction (see Newton 4 <sup>th</sup> calibration report NC17.36115) | 0.9999                | 0.9999               | 0.9998          | 1.0000       |
| Instrument impedance correction (N4)  |                       | 0.00024              | 0.0576          |              |
| Final value   | 250.05                | 0.6114               | 150.31          | 0.983        |

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## Electrical operating parameters of SastaLED 150W

| Sample No.     | Supply Voltage (Vrms) | Input Current (Arms) | Input Power (W) | Power Factor |
|----------------|-----------------------|----------------------|-----------------|--------------|
| Sample 1       | 250.459               | 0.611                | 150.348         | 0.983        |
| Sample 2       | 250.346               | 0.612                | 150.700         | 0.983        |
| Sample 3       | 250.315               | 0.613                | 150.805         | 0.983        |
| Sample 4       | 250.435               | 0.611                | 150.218         | 0.982        |
| Sample 5       | 250.350               | 0.607                | 149.529         | 0.983        |
| Sample 6       | 250.573               | 0.612                | 150.744         | 0.983        |
| Sample 7       | 250.253               | 0.609                | 149.824         | 0.983        |
| Sample 8       | 250.244               | 0.612                | 150.561         | 0.983        |
| Sample 9       | 250.403               | 0.609                | 149.967         | 0.984        |
| Sample 10      | 250.051               | 0.611                | 150.307         | 0.983        |
| <b>Average</b> | <b>250.34</b>         | <b>0.61</b>          | <b>150.30</b>   | <b>0.98</b>  |

*Illustration 1: Electrical operating parameters of SastaLED maXimus 150W, SastaLED Sekurit 150W*

## 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

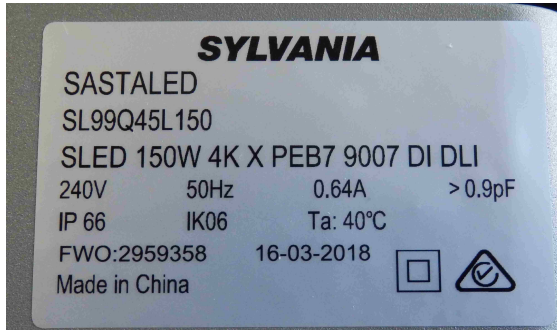
*Power meter:* Newton 4<sup>th</sup> Power Analyser KinetiQ Model PPA2520 SN 133-00467

*Power meter integration time (s):* 5

*Calibration Report:* Ausgrid NC17.36115

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

## General Photographs



*Illustration 3: Luminaire label (maXimus)*



*Illustration 2: Surge protector*



*Illustration 4: Luminaire label (Sekurit)*



*Illustration 5: Luminaire (Sekurit)*



*Illustration 6: Luminaire (sample tested)*



Illustration 7: Control gear



Illustration 8: LED driver

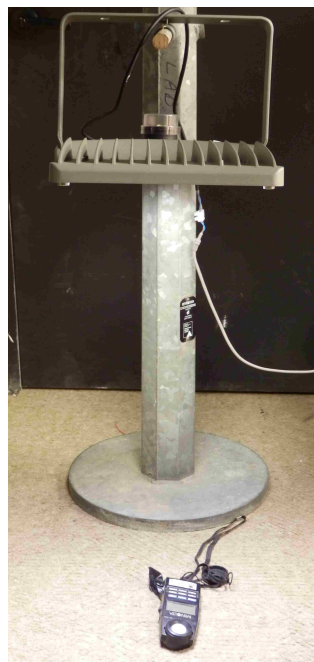


Illustration 9: Setup

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