

Report Number	TRN-13446
Customer	LED Roadway Lighting
Contact	Huw Convery
Product Type	Street Light
Test Purpose	UMS Energy Performance Test
Sales Order Ref	Q-LUX2014-1849
Works Order Number	WO-3600
Test Item Reference	TI-2994
LAB Test Method Reference	TES-2012
Test Standards	LM-79-08 and UMS charge code process v4.0
Lab Location Reference	LUX-EPC
Tested by	Steve Hunt
Date of Test	31/03/2014
Analysed by	Steve Hunt
Number of products tested	5

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NXT - 36 - 52W

Date: 31/03/2014

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Nomenclature

Lamp Orientation described below relates to the position in which a lamp is designed to operate for maximum performance and safety, these include:

BD - Base Down (bulb is vertically positioned with the metal base at the bottom, glass up)

BU - Base Up (bulb is vertically positioned with the metal base at the top, glass hanging down)

HBD - Horizontal +15° to Base Down

H45 - Horizontal to -45° only

VBU - Vertical Base Up ±15°

VBD - Vertical Base Down ±15°

HBU - Base Up +/- 90° (bulb can be operated in a base up or horizontal position)

HOR - Horizontal Burn (bulb is positioned with the metal base parallel to the ground)

H75 - Horizontal +/- 75° (bulb should not be operated within 15° of vertical)

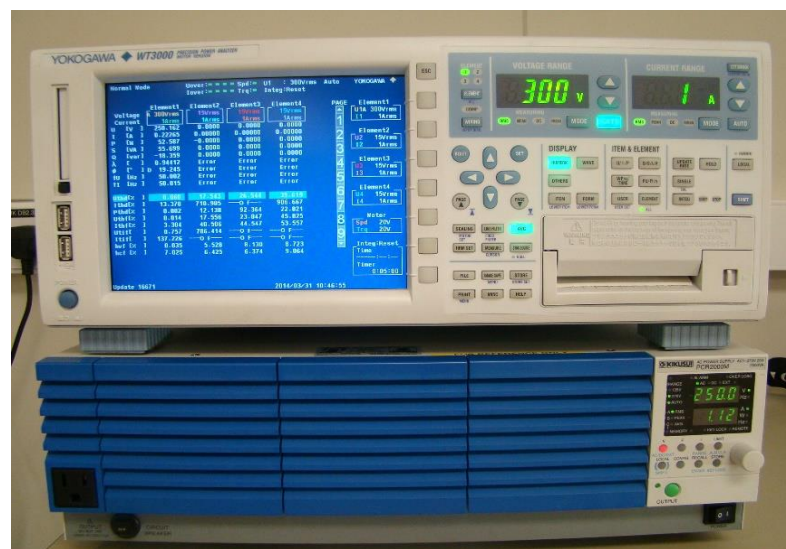
U - Universal Burn (burn can be operated in any position)

Test Conditions

Measurements were made with an ambient temperature of 25°C +/- 1°C. Measurements were taken only after sufficient time for thermal stabilisation has been allowed.

Test Equipment

Yokogawa WT3000 Precision Power Analyzer. Kikusui PCR2000M Stable AC Power Supply



Product Name	NXT - 36 - 52W
Part/Serial Number	N36S0R3LB350GY1GULXXHPKH3
Type of Product	Street Light
Base Type	N/A
Driver Type	Mains
Driver Model	LRL-65634-SUB-NXTS-450-LF
Operating Orientation	Base Up
Test Orientation	Base Up
Ambient Temperature	24.5°C
Manufacturer	LED Roadway Lighting
Date of Manufacturer	2014
Thermal Management	Passive
Dimmable	Yes
Humidity	<65% RH

Dimension	Sample	Luminous Opening
Diameter/Width	285 mm	198 mm
Length	589 mm	215 mm
Height/Depth	155 mm	0 mm

Test Item	Identifier
TI-2994A	A133900729
TI-2994B	A133900723
TI-2994C	A133900722
TI-2994D	A133900730
TI-2994E	A133900728

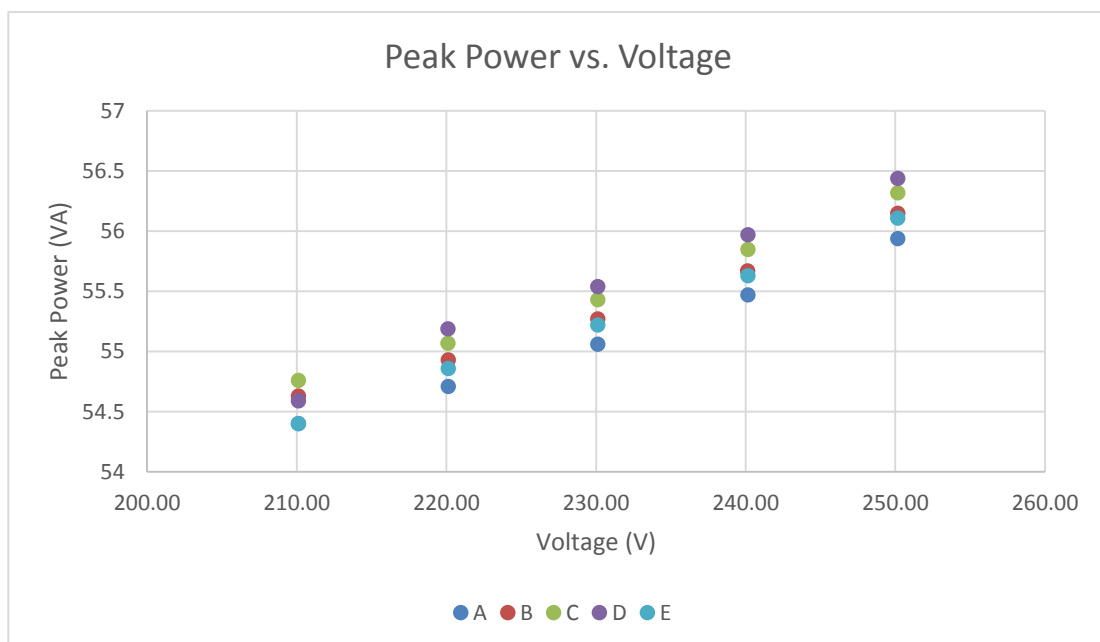
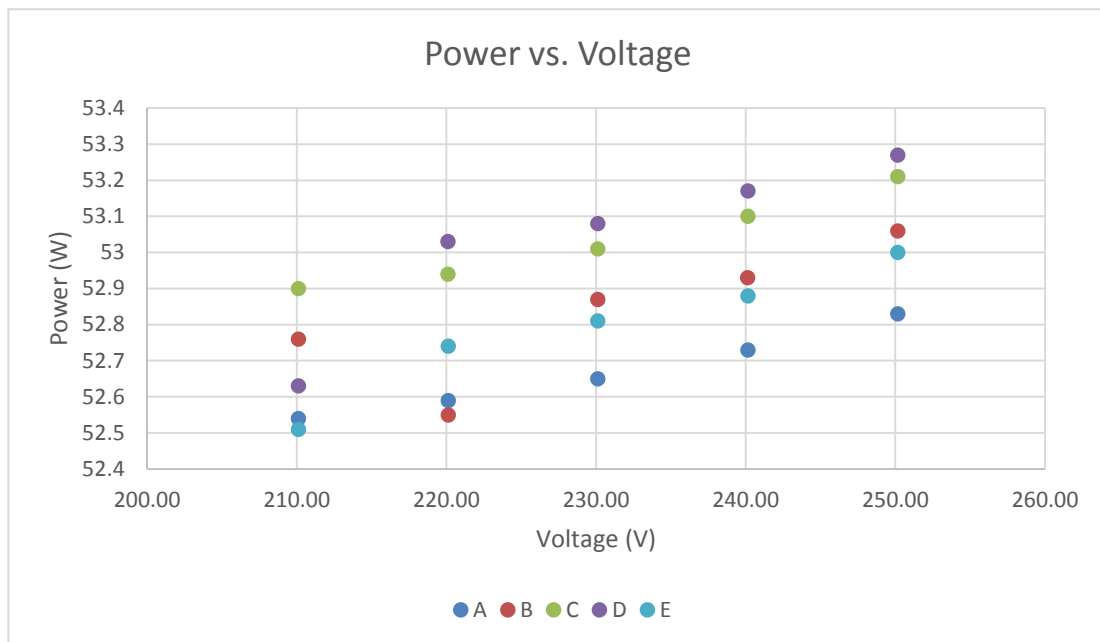
Test Conditions

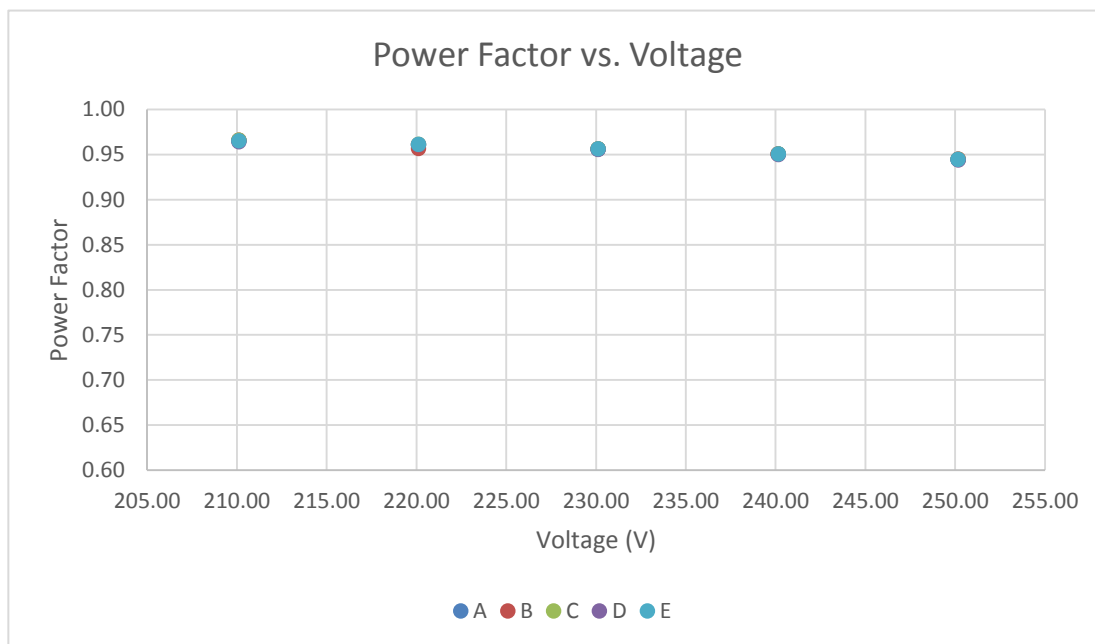
	Before Test	After Test
AC Supply Voltage (V)	250.17	250.16V
AC Supply Frequency (Hz)	50Hz	50Hz
Voltage RMS Summation of the Harmonic Components (THD)	0.06%	0.06%

The test items were stabilised according to the electrical power stability of LM79-08. Stabilization is achieved when the difference in electrical power measurement is less than 0.5%. Each test item was stabilised at 250V.

Test Results Summary

There are the summary graphs of the test results for all products tested. The raw results are on page 6 of this test report.





All power factors measured have a Leading phase angle and therefore the driver has capacitive properties.

Measurement Uncertainty

Parameter	Uncertainty
Voltage (300 V, 50/60 Hz)	$\pm 0.061 \text{ V}_{\text{rms}}$
Current (200 mA, 50/60Hz)	$\pm 0.07 \text{ mA}_{\text{rms}}$
Current (0.5 A, 50/60Hz)	$\pm 0.16 \text{ mA}_{\text{rms}}$
Current (5 A, 50/60Hz)	$\pm 0.0016 \text{ A}_{\text{rms}}$
Power (300 V, 200 mA, 50/60 Hz)	$\pm 0.032 \text{ W}_{\text{rms}}$
Power (300 V, 0.5 A, 50/60 Hz)	$\pm 0.09 \text{ W}_{\text{rms}}$
Power (300 V, 5 A, 50/60 Hz)	$\pm 0.0009 \text{ kW}_{\text{rms}}$
Frequency (50/60 Hz)	$\pm 0.001 \text{ Hz}$
Power Factor	$\pm 0.0006 \text{ PF}$

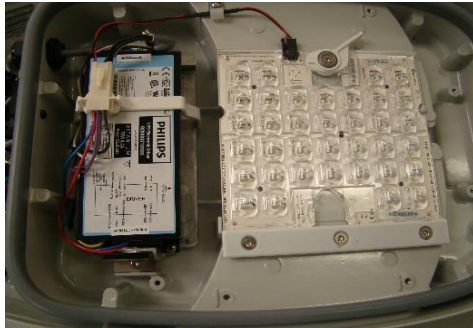
Measurements of power of 0.50W or greater are made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power less than 0.50W are made with an uncertainty of less than or equal to 0.01W at the 95% confidence level.

Full Test Results

Test Item	Voltage (V)	Current (mA)	Electrical Power (W)	Ambient Temp (°C)	Peak Power (VA)	Power Factor	Leading / Lagging
A	250.16	223.00	52.83	25	55.94	0.945	Leading
B	250.17	224.00	53.06	25	56.15	0.945	Leading
C	250.17	225.00	53.21	25	56.32	0.945	Leading
D	250.17	225.00	53.27	25	56.44	0.944	Leading
E	250.16	224.00	53.00	25	56.11	0.945	Leading
A	240.15	231.00	52.73	25.1	55.47	0.951	Leading
B	240.14	231.00	52.93	25.1	55.67	0.951	Leading
C	240.15	232.00	53.10	25.1	55.85	0.951	Leading
D	240.15	233.00	53.17	25.1	55.97	0.950	Leading
E	240.15	231.00	52.88	25.1	55.63	0.951	Leading
A	230.12	239.00	52.65	25	55.06	0.956	Leading
B	230.12	240.00	52.87	25	55.27	0.956	Leading
C	230.12	240.00	53.01	25	55.43	0.956	Leading
D	230.12	241.00	53.08	25	55.54	0.956	Leading
E	230.12	239.00	52.81	25	55.22	0.956	Leading
A	220.12	248.00	52.59	25	54.71	0.961	Leading
B	220.12	249.00	52.55	25	54.93	0.957	Leading
C	220.11	250.00	52.94	25	55.07	0.961	Leading
D	220.11	250.00	53.03	25	55.19	0.961	Leading
E	220.12	249.00	52.74	25	54.86	0.961	Leading
A	210.11	258.00	52.54	25	54.40	0.966	Leading
B	210.11	260.00	52.76	25	54.63	0.966	Leading
C	210.11	260.00	52.90	25	54.76	0.966	Leading
D	210.11	259.00	52.63	25	54.59	0.964	Leading
E	210.11	258.00	52.51	25	54.40	0.965	Leading

Test Item Photographs

Product Details



(Driver and LED Module)



(Label fixture)

TI-2994A



TI-2994B



TI-2994C



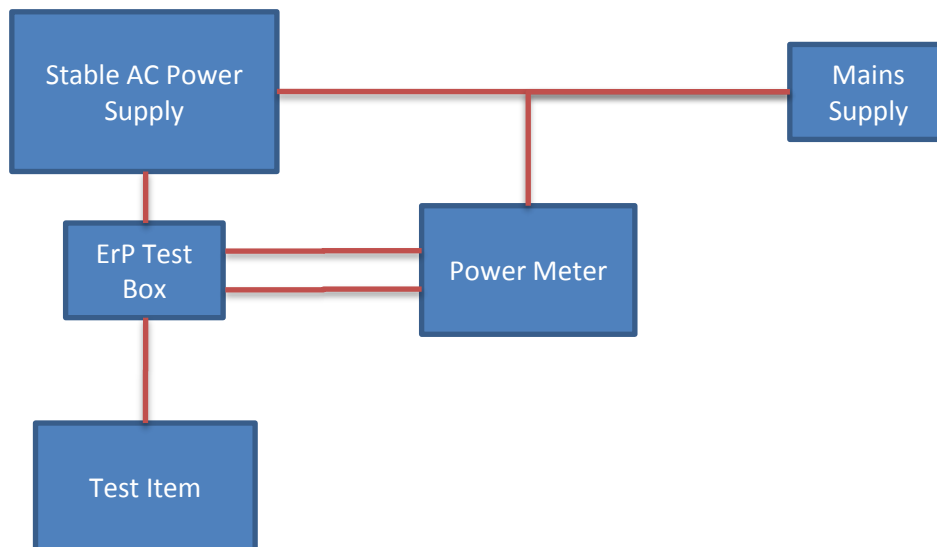
TI-2994D



TI-2994E



Appendix 1: Test item set-up



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