

Report Number	TRN-13444
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-3598
Test Item Reference	TI-2992
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	28/03/2014
Analysed by	Steve Hunt
Number of products tested	5

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NXT - 24 - 46W

Date: 28/03/2014

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Test Report Number: TRN-13444
Test Item: TI-2992

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 Power Analyzer. Kikusui PCR2000M Stable AC Power Supply

Product Name	NXT - 24 - 46W
Part/Serial Number	N36S0R3LB350GY1GULXXHPKH3
Type of Product	Street Light
Base Type	N/A
Driver Type	Mains
Driver Model	LRL-65634-SUB-NXTS-600-LF
Operating Orientation	Base Up
Test Orientation	Base Up
Ambient Temperature	24.4°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-2992A	A133900729
TI-2992B	A133900723
TI-2992C	A133900722
TI-2992D	A133900730
TI-2992E	A133900728

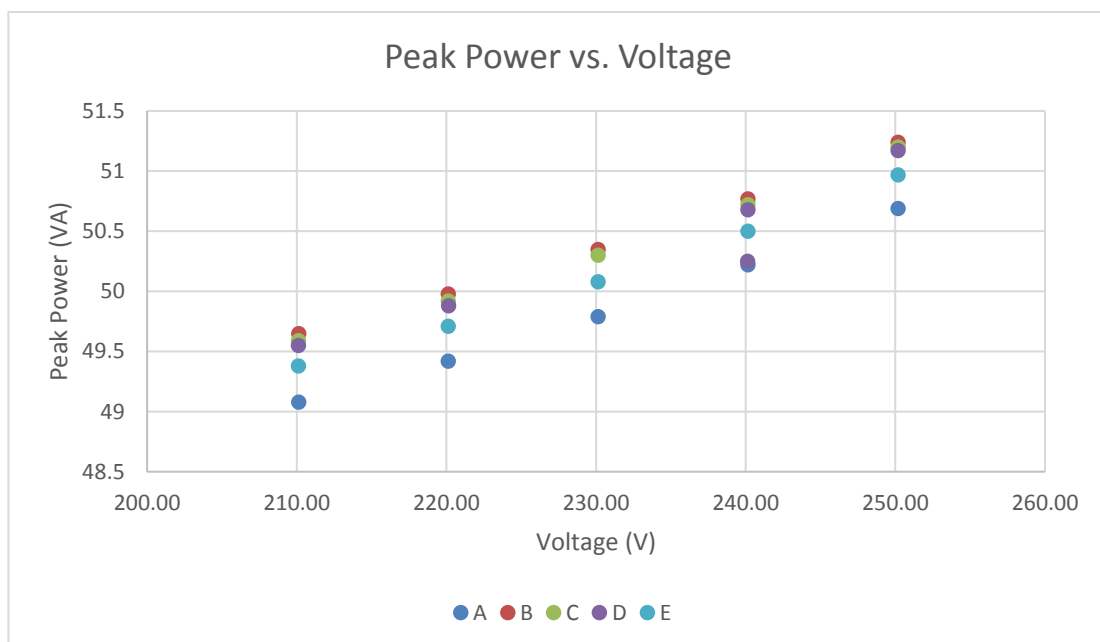
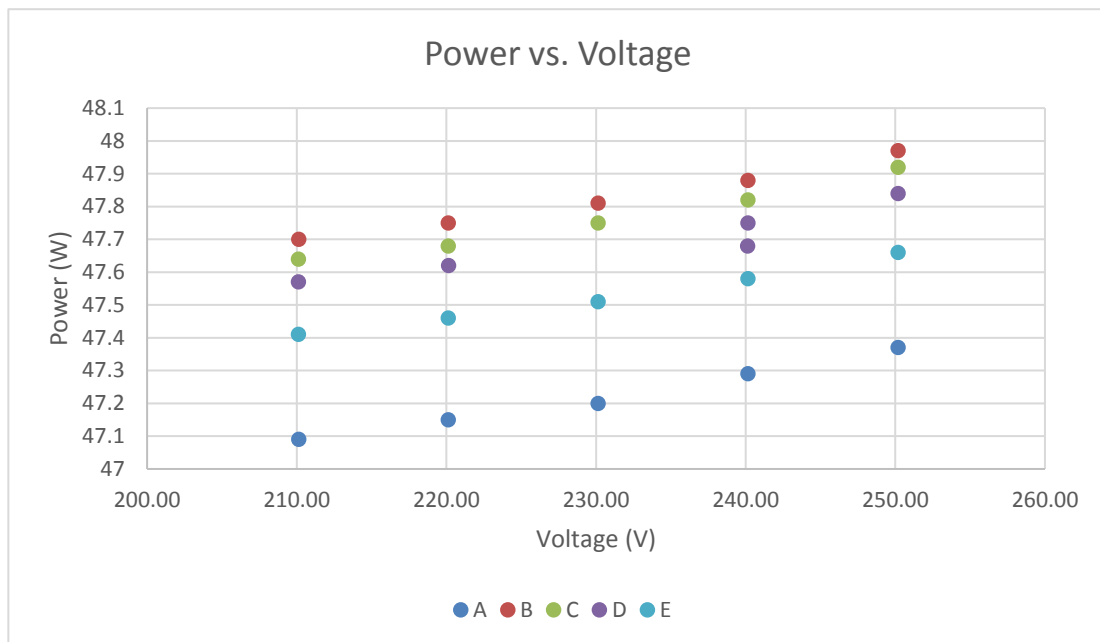
Test Conditions

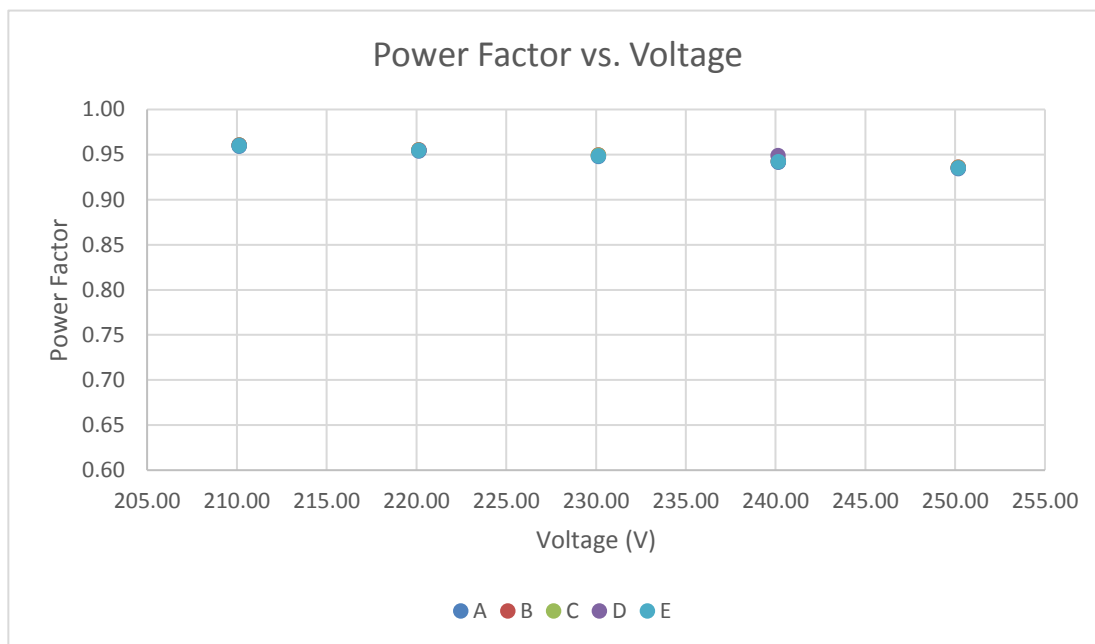
	Before Test	After Test
AC Supply Voltage (V)	250.17	250.27V
AC Supply Frequency (Hz)	50Hz	50Hz
Voltage RMS Summation of the Harmonic Components (THD)	0.06%	0.06%

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	$\pm 0.0006 \text{ PF}$

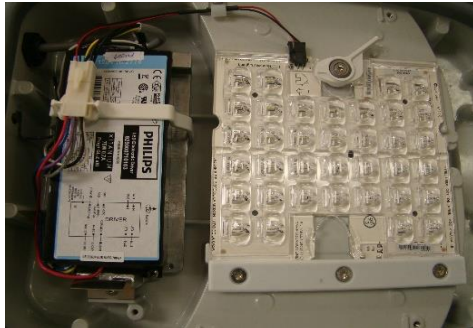
Measurements of power of 0.50W or greater are made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power less than 0.50W are made with an uncertainty of less than or equal to 0.01W at the 95% confidence level.

Full Test Results

Test Item	Voltage (V)	Current (mA)	Electrical Power (W)	Ambient Temp (°C)	Peak Power (VA)	Power Factor	Leading / Lagging
A	250.18	202.00	47.37	24.5	50.69	0.934	Leading
B	250.18	204.00	47.97	24.5	51.24	0.936	Leading
C	250.18	204.00	47.92	24.5	51.20	0.936	Leading
D	250.18	204.00	47.84	24.5	51.17	0.935	Leading
E	250.18	203.00	47.66	24.5	50.97	0.935	Leading
A	240.16	209.00	47.29	24.5	50.22	0.942	Leading
B	240.16	211.00	47.88	24.5	50.77	0.943	Leading
C	240.16	211.00	47.82	24.5	50.72	0.943	Leading
D	240.16	211.00	47.75	24.5	50.68	0.942	Leading
E	240.16	210.00	47.58	24.5	50.50	0.942	Leading
A	230.14	216.00	47.20	24.5	49.79	0.948	Leading
B	230.14	218.00	47.81	24.5	50.35	0.950	Leading
C	230.13	218.00	47.75	24.5	50.30	0.949	Leading
D	240.14	218.00	47.68	24.5	50.25	0.949	Leading
E	230.14	217.00	47.51	24.5	50.08	0.949	Leading
A	220.13	224.00	47.15	24.5	49.42	0.954	Leading
B	220.13	227.00	47.75	24.5	49.98	0.955	Leading
C	220.13	226.00	47.68	24.5	49.92	0.955	Leading
D	220.14	226.00	47.62	24.5	49.88	0.955	Leading
E	220.13	225.00	47.46	24.5	49.71	0.955	Leading
A	210.13	233.00	47.09	24.5	49.08	0.959	Leading
B	210.13	236.00	47.70	24.5	49.65	0.961	Leading
C	210.12	236.00	47.64	24.5	49.59	0.961	Leading
D	210.12	235.00	47.57	24.5	49.55	0.960	Leading
E	210.12	235.00	47.41	24.5	49.38	0.960	Leading

Test Item Photographs

Product Details



(Driver and LED Module)



(Label fixture)

TI-2992A



TI-2992B



TI-2992C



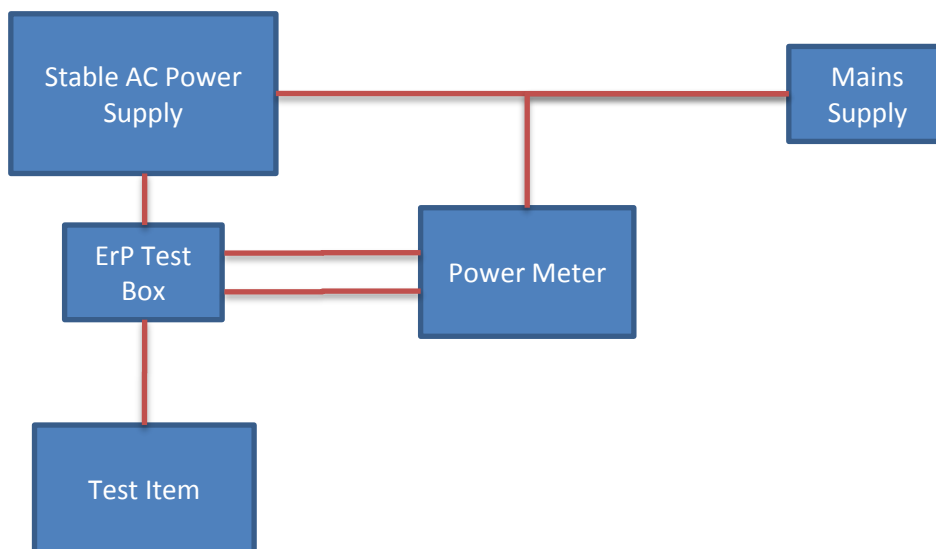
TI-2992D



TI-2992E



Appendix 1: Test item set-up



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