

<b>Report Number</b>	TRN-13458
<b>Customer</b>	LED Roadway Lighting
<b>Contact</b>	Huw Convery
<b>Product Type</b>	Street Light
<b>Test Purpose</b>	UMS Energy Performance Test
<b>Sales Order Ref</b>	Q-LUX2014-1849
<b>Works Order Number</b>	WO-3612
<b>Test Item Reference</b>	TI-3084
<b>LAB Test Method Reference</b>	TES-2012
<b>Test Standards</b>	LM-79-08 and UMS charge code process v4.0
<b>Lab Location Reference</b>	LUX-EPC
<b>Tested by</b>	Steve Hunt
<b>Date of Test</b>	01/04/2014
<b>Analysed by</b>	Steve Hunt
<b>Number of products tested</b>	5

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NXT - 72 - 117W

Date: 01/04/2014

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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

VBV - 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)

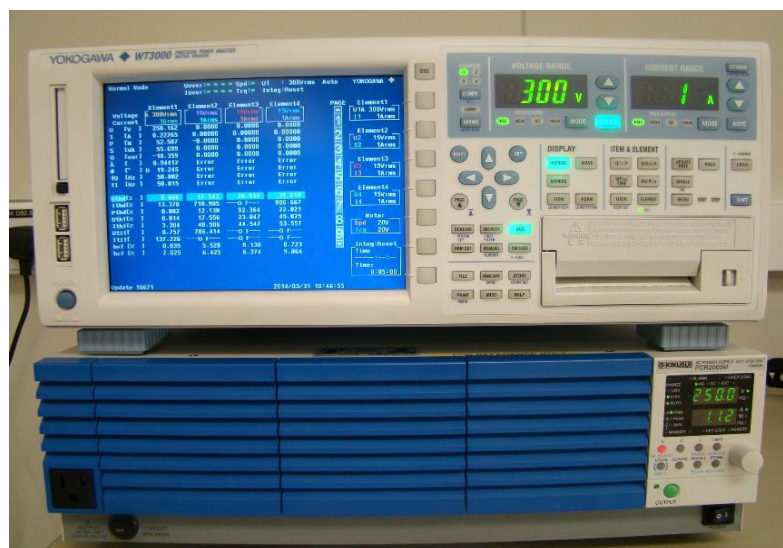
U - Universal Burn (burn can be operated in any position)

## 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



<b>Product Name</b>	NXT - 72 - 117W
<b>Part/Serial Number</b>	N72M2R3HB700GY1GCEXXHPRH3
<b>Type of Product</b>	Street Light
<b>Base Type</b>	N/A
<b>Driver Type</b>	Mains
<b>Driver Model</b>	LRL-66014-SUB-NXTS-525-LF
<b>Operating Orientation</b>	Base Up
<b>Test Orientation</b>	Base Up
<b>Ambient Temperature</b>	25.0°C
<b>Manufacturer</b>	LED Roadway Lighting
<b>Date of Manufacturer</b>	2014
<b>Thermal Management</b>	Passive
<b>Dimmable</b>	Yes
<b>Humidity</b>	<65% RH

Dimension	Sample	Luminous Opening
Diameter/Width	300 mm	198 mm
Length	750 mm	372 mm
Height/Depth	135 mm	0 mm

Test Item	Identifier
TI-3084A	A141001038
TI-3084B	A141001037
TI-3084C	A141001036
TI-3084D	A141001040
TI-3084E	A141001039

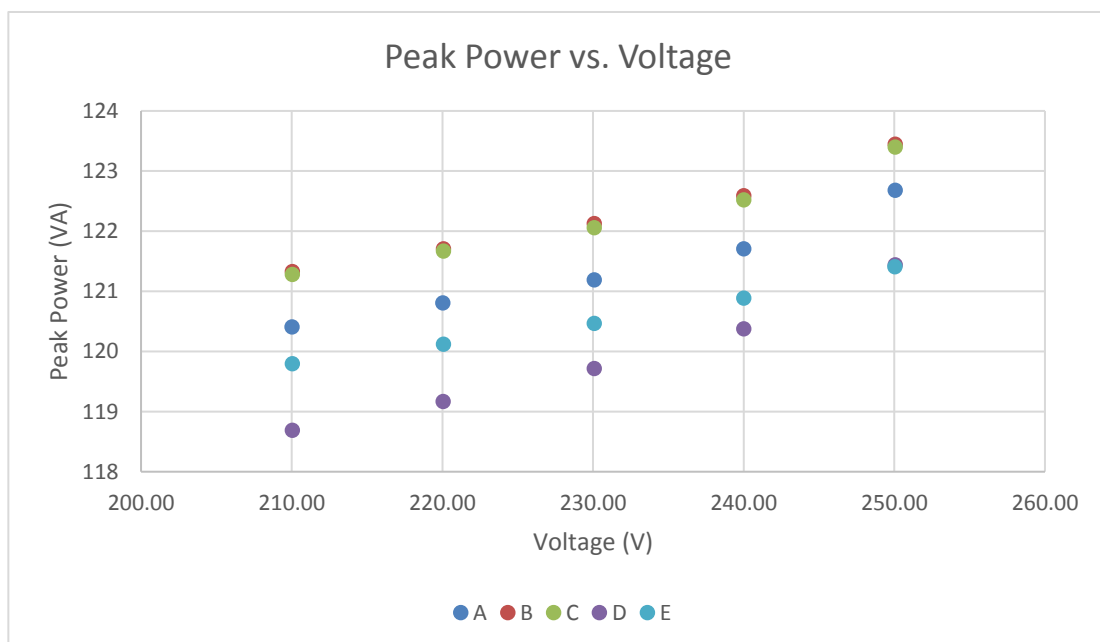
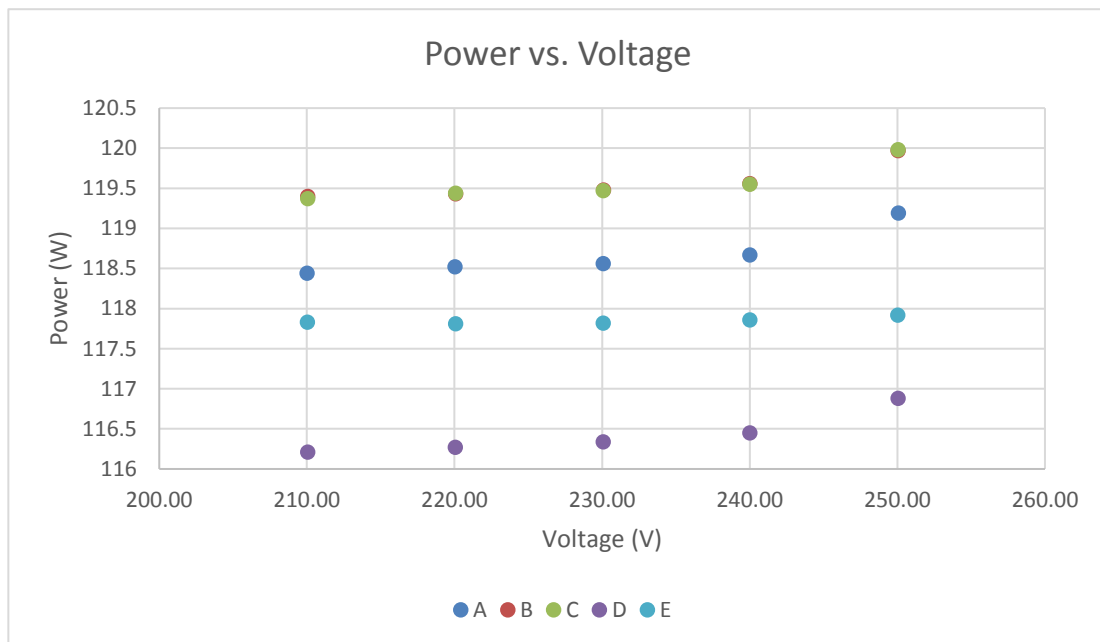
### Test Conditions

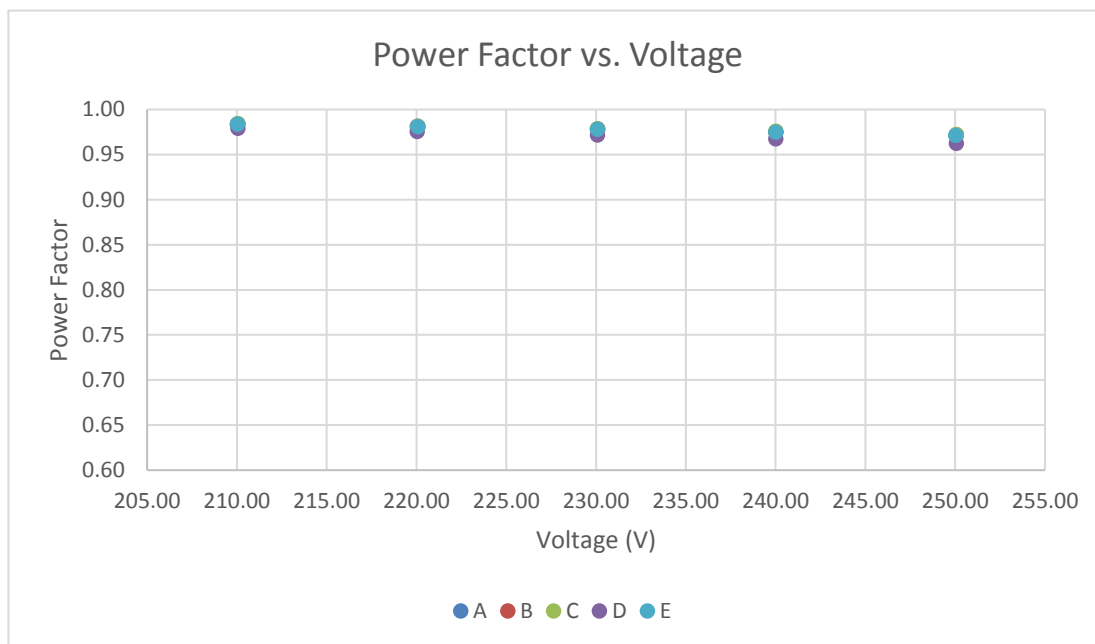
	Before Test	After Test
AC Supply Voltage (V)	250.02V	250.02V
AC Supply Frequency (Hz)	50Hz	50Hz
Voltage RMS Summation of the Harmonic Components (THD)	0.06%	0.06%

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.

#### 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	$\pm 0.0006 \text{ PF}$

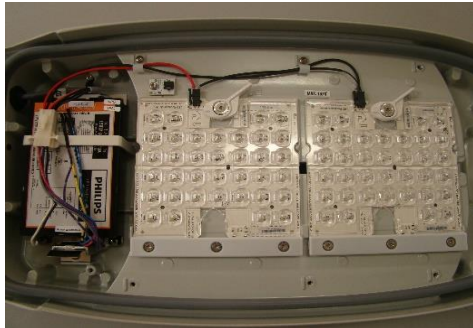
Measurements of power of 0.50W or greater are made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power less than 0.50W are made with an uncertainty of less than or equal to 0.01W at the 95% confidence level.

### Full Test Results

Test Item	Voltage (V)	Current (mA)	Electrical Power (W)	Ambient Temp (°C)	Peak Power (VA)	Power Factor	Leading / Lagging
A	250.07	490.00	119.19	25	122.68	0.972	Leading
B	250.06	493.00	119.97	25	123.45	0.972	Leading
C	250.06	493.00	119.98	25	123.40	0.972	Leading
D	250.06	485.00	116.88	25	121.44	0.962	Leading
E	250.03	485.00	117.92	25	121.41	0.971	Leading
A	240.01	507.00	118.67	25.2	121.71	0.975	Leading
B	240.01	510.00	119.56	25.2	122.59	0.975	Leading
C	240.01	510.00	119.55	25.2	122.52	0.976	Leading
D	240.01	501.00	116.45	25.2	120.38	0.967	Leading
E	240.01	503.00	117.86	25.2	120.89	0.975	Leading
A	230.08	526.00	118.56	25.2	121.19	0.978	Leading
B	230.09	530.00	119.48	25.2	122.13	0.978	Leading
C	230.08	530.00	119.47	25.2	122.06	0.979	Leading
D	230.08	520.00	116.34	25.2	119.72	0.972	Leading
E	230.08	523.00	117.82	25.2	120.47	0.978	Leading
A	220.04	549.00	118.52	25	120.81	0.981	Leading
B	220.07	553.00	119.43	25	121.71	0.981	Leading
C	220.07	552.00	119.44	25	121.67	0.982	Leading
D	220.05	541.00	116.27	25	119.17	0.976	Leading
E	220.07	545.00	117.81	25	120.12	0.981	Leading
A	210.02	573.00	118.44	25	120.41	0.984	Leading
B	210.05	577.00	119.40	25	121.33	0.984	Leading
C	210.05	577.00	119.37	25	121.28	0.984	Leading
D	210.05	565.00	116.21	25	118.69	0.979	Leading
E	210.04	570.00	117.83	25	119.80	0.984	Leading

## Test Item Photographs

### Product Details

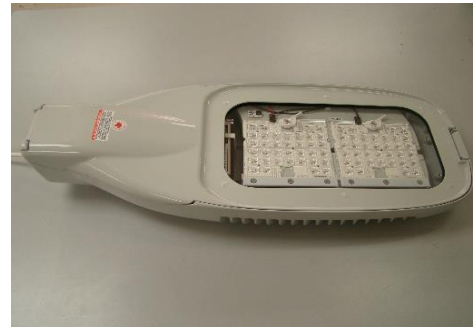


(Driver and LED Module)

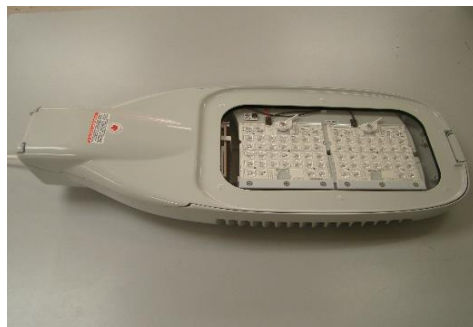


(Label fixture)

### TI-3084A



### TI-3084B





**TI-3084C**



**TI-3084D**

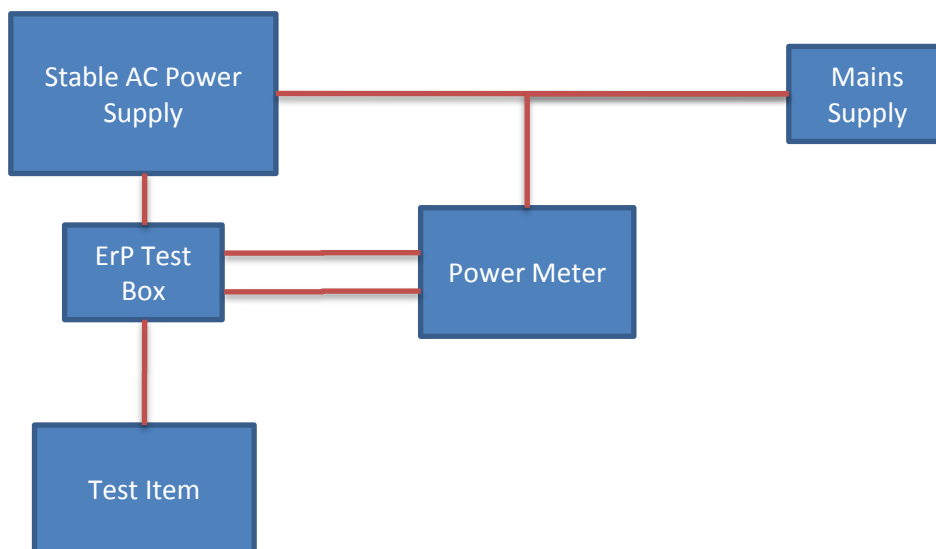


**TI-3084E**





#### Appendix 1: Test item set-up



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