

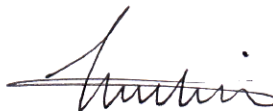
T e s t R e p o r t

Report No : Cer1561-220517B
Client: : DW Windsor Ltd
Pindar Road
Hoddesdon
Herts
EN11 0DX
Description : Street Lights - CoB LED module CX1 1818
Manufacturer : DW Windsor Ltd
Type/Model : CoB LED Engine CX1
Test Specification : Measurement of power consumption in accordance with the
'Unmetered Supplies Operational Information Document' –
Version 16.0 (15/06/2016)
Date Testing Started : 05/04/2017
Conclusion : Refer to body of report
Date of Issue : 02/06/2017
Date of Expiry : 01/06/2022

Reviewed by: J. ADAMS
Position: Accreditation &
Certification Officer



Approved by: T. MALIK
Position: Operations Manager



INTRODUCTION

The products identified in Table 1 was tested at the premises of DW Windsor Ltd for measurement of power consumption in accordance with the “Unmetered Supplies Operational Information” document – Version 16.0 (15/06/2016).

PRODUCT DETAILS

Table 1. Test Sample Details

Product Description	Street Lights - CoB LED module CX1 1818
Model No.	CoB LED Engine CX1
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	440mm x 440mm x 833mm
Product Supply Requirement	240V AC 50 Hz
Lamp Type and Power	LED, Variable power
Sampling Method: Test samples selected and supplied by client, no sampling method specified by client.	

The customer has declared that the equipment load does not vary with ambient temperature.

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RESULTS

Table 2. Wattage and VA results for Street Lights - CoB LED module CX1 1818

Operating Mode	1500mA Drive Current @ 100% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	83.80	84.36	83.14	84.31	83.24
220	83.85	84.32	83.13	84.34	83.25
230	83.80	84.25	83.15	84.27	83.15
240	83.91	84.50	83.31	84.49	83.38
250	83.90	84.50	83.26	84.45	83.35
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	85.01	85.65	84.38	85.63	84.38
220	85.13	85.78	84.69	85.79	84.70
230	85.33	86.00	84.87	86.01	84.87
240	85.90	86.40	85.19	86.40	85.19
250	86.01	86.76	85.51	86.76	85.51
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.99	0.98	0.99	0.98	0.99
220	0.98	0.98	0.98	0.98	0.98
230	0.98	0.98	0.98	0.98	0.98
240	0.98	0.98	0.98	0.98	0.98
250	0.98	0.97	0.97	0.97	0.97
Ambient Temperature During Test (°C)			24.0		
PF Leading/Lagging			Leading		

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Table 3. Wattage and VA results for Street Lights - CoB LED module CX1 1818

Operating Mode	1500mA Drive Current @ 83% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	69.75	70.21	69.26	70.17	69.22
220	69.74	70.23	69.28	70.17	69.24
230	69.76	70.22	69.28	70.21	69.25
240	69.75	70.31	69.29	70.21	69.21
250	69.81	70.26	69.31	70.24	69.23
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	71.17	71.59	70.74	71.6	70.54
220	71.29	71.94	70.84	71.72	70.84
230	71.54	72.22	71.08	72.23	71.07
240	72.01	72.48	71.52	72.49	71.52
250	72.28	72.77	71.76	72.77	71.76
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.98	0.98	0.98	0.98	0.98
220	0.98	0.98	0.98	0.98	0.98
230	0.98	0.97	0.97	0.97	0.97
240	0.97	0.97	0.97	0.97	0.97
250	0.97	0.97	0.97	0.97	0.96
Ambient Temperature During Test (°C)			26.0		
PF Leading/Lagging			Leading		

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Table 4. Wattage and VA results for Street Lights - CoB LED module CX1 1818

Operating Mode	1500mA Drive Current @ 67% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	55.10	55.44	55.05	55.38	54.95
220	55.11	55.43	55.04	55.4	55.01
230	55.08	55.44	55.02	55.37	54.98
240	55.08	55.42	55.02	55.39	54.97
250	55.08	55.40	55.02	55.38	55.02
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	56.69	56.9	56.70	56.89	56.27
220	56.77	56.98	56.76	57.2	56.33
230	57.05	57.28	57.04	57.28	56.58
240	57.12	57.36	57.12	57.6	56.64
250	57.51	57.76	57.52	57.77	57.02
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.97	0.97	0.97	0.97	0.98
220	0.97	0.97	0.97	0.97	0.98
230	0.97	0.97	0.96	0.97	0.97
240	0.96	0.97	0.96	0.96	0.97
250	0.96	0.96	0.96	0.96	0.96
Ambient Temperature During Test (°C)			25.0		
PF Leading/Lagging			Leading		

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Table 5. Wattage and VA results for Street Lights - CoB LED module CX1 1818

Operating Mode	1500mA Drive Current @ 50% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	41.54	41.53	41.48	41.53	41.61
220	41.49	41.46	41.43	41.46	41.52
230	41.42	41.39	41.36	41.40	41.47
240	41.37	41.45	41.30	41.34	41.42
250	41.41	41.33	41.26	41.32	41.38
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	42.00	42.00	42.00	42.00	42.00
220	41.81	42.03	42.03	42.03	42.02
230	41.87	41.87	41.87	41.87	41.86
240	42.01	42.01	42.01	42.01	42.01
250	43.26	42.02	42.02	42.26	42.01
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.99	0.99	0.99	0.99	0.99
220	0.99	0.99	0.99	0.99	0.99
230	0.99	0.99	0.99	0.99	0.99
240	0.98	0.99	0.98	0.98	0.99
250	0.96	0.98	0.98	0.98	0.99
Ambient Temperature During Test (°C)			26.0		
PF Leading/Lagging			Leading		

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Table 6. Wattage and VA results for Street Lights - CoB LED module CX1 1818

Operating Mode	1500mA Drive Current @ 33% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	27.73	27.72	27.70	27.73	27.77
220	27.71	27.71	27.70	27.70	27.75
230	27.69	27.68	27.68	27.68	27.72
240	27.66	27.67	27.66	27.67	27.71
250	27.67	27.65	27.65	27.65	27.69
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	28.14	28.35	28.35	28.35	28.35
220	28.17	28.39	28.39	28.39	28.39
230	28.30	28.29	28.53	28.30	28.29
240	28.32	28.57	28.57	28.57	28.56
250	28.51	28.51	28.51	28.51	28.51
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.99	0.98	0.98	0.98	0.98
220	0.98	0.98	0.98	0.98	0.98
230	0.98	0.98	0.97	0.98	0.98
240	0.98	0.97	0.97	0.97	0.97
250	0.97	0.97	0.97	0.97	0.97
Ambient Temperature During Test (°C)			26.0		
PF Leading/Lagging			Leading		

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Table 7. Wattage and VA results for Street Lights - CoB LED module CX1 1818

Operating Mode	1500mA Drive Current @ 13% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	12.22	12.20	12.19	12.19	12.19
220	12.23	12.21	12.20	12.20	12.21
230	12.25	12.22	12.22	12.22	12.22
240	12.27	12.25	12.24	12.24	12.24
250	12.29	12.28	12.27	12.27	12.27
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	13.02	13.23	13.23	13.23	13.23
220	13.20	13.43	13.43	13.43	13.43
230	13.34	13.57	13.81	13.58	13.58
240	13.68	13.93	13.92	13.92	13.68
250	13.76	14.01	14.26	14.01	14.01
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.94	0.92	0.92	0.92	0.92
220	0.93	0.91	0.91	0.91	0.91
230	0.92	0.90	0.88	0.90	0.90
240	0.90	0.88	0.88	0.88	0.89
250	0.89	0.88	0.86	0.88	0.88
Ambient Temperature During Test (°C)			26.0		
PF Leading/Lagging			Leading		

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DEVIATION(S) FROM TEST STANDARD

No reported deviations from test standard.

MEASUREMENT UNCERTAINTY

The following expanded uncertainties apply to the measurements shown in the results;

For power range 5W to 50W

True Power (W): $\pm 0.25\%$, Apparent Power (VA): $\pm 0.39\%$

For power range 50W to 100W

True Power (W): $\pm 0.25\%$, Apparent Power (VA): $\pm 0.36\%$

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

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ILLUSTRATION



Figure 1. *Product image*

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