

## T e s t R e p o r t

**Report No** : Cer1561-220517A  
**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** : 03/05/2017  
**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	1200mA Drive Current @ 100% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	66.34	67.22	66.61	67.04	66.93
220	66.36	67.24	66.66	67.07	66.9
230	66.39	67.30	66.67	67.08	66.94
240	66.41	67.30	66.71	67.12	66.95
250	66.42	67.34	66.74	67.13	66.98
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	67.82	68.65	68.02	68.45	68.44
220	67.98	68.87	68.43	68.86	68.64
230	68.32	69.24	68.54	69.00	68.77
240	68.65	69.60	68.89	69.36	69.12
250	69.02	70.03	69.27	69.77	69.52
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	0.97	0.97	0.97
230	0.97	0.97	0.97	0.97	0.97
240	0.97	0.97	0.97	0.97	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 3. Wattage and VA results for Street Lights - CoB LED module CX1 1818**

Operating Mode	1200mA Drive Current @ 83% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	55.30	56.03	55.55	55.87	55.66
220	55.34	56.08	55.61	55.93	55.73
230	55.37	56.13	55.64	55.97	55.76
240	55.43	56.18	55.71	56.09	55.86
250	55.43	56.24	55.72	56.10	55.87
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	56.91	57.74	57.12	57.53	57.32
220	57.21	58.09	57.43	57.87	57.66
230	57.51	58.43	57.75	58.21	57.98
240	57.84	58.80	58.33	58.56	58.32
250	58.26	59.27	58.51	59.02	58.76
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.97	0.97	0.97	0.97	0.97
220	0.97	0.97	0.97	0.97	0.97
230	0.96	0.96	0.96	0.96	0.96
240	0.96	0.96	0.96	0.96	0.96
250	0.95	0.95	0.95	0.95	0.95
Ambient Temperature During Test (°C)			25.0		
PF Leading/Lagging			Leading		

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

Operating Mode	1200mA Drive Current @ 67% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	44.10	44.29	43.92	44.01	44.18
220	44.15	44.27	43.94	44.01	44.19
230	44.13	44.27	43.95	44.03	44.18
240	44.13	44.28	43.95	44.04	44.18
250	44.14	44.27	43.96	44.08	44.19
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	45.99	45.99	45.57	45.78	45.57
220	46.22	46.21	45.77	46.00	45.77
230	46.47	46.47	46.01	46.24	46.01
240	46.80	46.57	46.32	46.57	46.33
250	47.02	46.77	46.52	46.77	46.51
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.96	0.96	0.96	0.96	0.97
220	0.96	0.96	0.96	0.96	0.97
230	0.95	0.95	0.96	0.95	0.96
240	0.94	0.95	0.95	0.95	0.95
250	0.94	0.95	0.94	0.94	0.95
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	1200mA Drive Current @ 50% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	32.73	32.84	32.64	32.64	32.76
220	32.77	32.86	32.65	32.67	32.77
230	32.81	32.89	32.69	32.68	32.79
240	32.81	32.91	32.72	32.74	32.81
250	32.85	32.94	32.75	32.75	32.87
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	35.07	34.86	34.86	34.86	34.65
220	35.43	35.21	34.99	35.21	34.77
230	35.66	35.43	35.43	35.43	34.97
240	36.01	35.77	35.77	35.77	35.29
250	36.52	36.27	36.02	36.27	35.77
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.93	0.94	0.94	0.94	0.95
220	0.92	0.93	0.93	0.93	0.94
230	0.92	0.93	0.92	0.92	0.94
240	0.91	0.92	0.91	0.92	0.93
250	0.90	0.91	0.91	0.90	0.92
Ambient Temperature During Test (°C)			24.0		
PF Leading/Lagging			Leading		

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

Operating Mode	1200mA @ Drive Current 33% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	22.18	22.21	22.12	22.11	22.15
220	22.22	22.26	22.17	22.17	22.20
230	22.28	22.31	22.23	22.21	22.24
240	22.33	22.35	22.28	22.23	22.29
250	22.36	22.41	22.32	22.28	22.34
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	25.42	25.00	24.99	25.2	24.57
220	25.75	25.31	25.31	25.53	24.87
230	26.23	25.77	25.77	26	25.31
240	26.65	26.17	26.17	26.41	25.69
250	27.01	26.51	26.52	26.76	26.02
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.87	0.89	0.89	0.88	0.90
220	0.86	0.88	0.88	0.87	0.89
230	0.85	0.87	0.86	0.85	0.88
240	0.84	0.85	0.85	0.84	0.87
250	0.83	0.85	0.84	0.83	0.86
Ambient Temperature During Test (°C)			25.0		
PF Leading/Lagging			Leading		

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

Operating Mode	1200mA Drive Current @ 13% light output				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	10.20	10.28	10.36	10.27	10.32
220	10.23	10.31	10.38	10.28	10.34
230	10.24	10.34	10.4	10.31	10.36
240	10.27	10.38	10.43	10.34	10.39
250	10.32	10.41	10.46	10.37	10.42
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	11.34	11.56	11.55	11.55	11.34
220	11.67	11.67	11.67	11.67	11.67
230	11.97	11.97	11.97	11.96	11.97
240	12.01	12.25	12.25	12.01	12.01
250	12.26	12.51	12.51	12.51	12.26
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.90	0.89	0.90	0.89	0.91
220	0.88	0.88	0.89	0.88	0.89
230	0.86	0.86	0.87	0.86	0.87
240	0.86	0.85	0.85	0.86	0.87
250	0.84	0.83	0.84	0.83	0.85
Ambient Temperature During Test (°C)			24.0		
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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