

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

**Report No** : L15719

**Client:** : Vision Illumination  
Unit 1 Park Court  
9<sup>th</sup> Avenue East  
Team Valley  
Gateshead  
NE11 0EH

**Description** : Lockheed LED Light Engine with Driver

**Manufacturer** : Vision Illumination

**Type/Model** : LOCKHEED12LEDPCB, LOCKHEED21LEDPCB,  
LOCKHEED45LEDPCB, LOCKHEED36LEDPLB,  
LOCKHEED21LEDPLB, LOCKHEED45LEDPLB &  
LOCKHEED36LEDPLB

**Test Specification** : Measurement of power consumption in accordance with the  
'Unmetered Supplies Operational Information Document' –  
Version 14.0 (17/12/2014)

**Date Testing Started** : 11/04/2016

**Conclusion** : Refer to body of report

**Date of Issue** : 15/04/2016

**Date of Expiry** : 14/04/2021

**Tested by:** R.TEELUCKDHAREE  
**Position:** Laboratory Technician



**Approved:** J.ADAMS  
**Position:** Laboratory Supervisor



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## **INTRODUCTION**

Vision Illumination has supplied the product identified in table 1 for measurement of power consumption in accordance with the 'Unmetered Supplies Operational Information Document' – Version 14.0 (17/12/2014).

## **PRODUCT DETAILS**

**Table 1. Test Sample Details**

Product Description	12 LED 350mA Light Engine
Model No.	LOCKHEED12LEDPCB
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	330mm x 72mm
Product Supply Requirement	240V 50Hz
Lamp Type and Power	LED
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 12 LED 350mA Light Engine**

Operating Mode	100%				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	13.71	14.04	13.88	13.74	14.13
220	13.76	14.09	13.93	13.80	14.18
230	13.81	14.14	13.98	13.87	14.24
240	13.89	14.12	14.05	13.96	14.31
250	13.97	14.29	14.12	14.05	14.38
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	15.26	15.72	15.89	15.61	16.24
220	15.51	15.96	16.15	15.89	16.51
230	15.78	16.26	16.45	16.24	16.85
240	16.17	16.65	16.80	16.67	17.25
250	16.62	17.09	17.24	17.14	17.70
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.90	0.89	0.87	0.88	0.87
220	0.89	0.88	0.86	0.87	0.86
230	0.88	0.87	0.85	0.85	0.85
240	0.86	0.85	0.84	0.84	0.83
250	0.84	0.84	0.82	0.82	0.81
Ambient Temperature During Test (°C)			25.0		
PF Leading/Lagging			Leading		

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## **PRODUCT DETAILS**

**Table 3. Test Sample Details**

Product Description	21 LED 350mA Light Engine 26W
Model No.	LOCKHEED21LEDPCB
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	330mm x 72mm
Product Supply Requirement	240V 50Hz
Lamp Type and Power	LED
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 4. Wattage and VA results for 21 LED 350mA Light Engine 26W**

Operating Mode	100%				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	23.14	23.48	23.41	23.01	23.70
220	23.10	23.42	23.36	22.98	23.65
230	23.11	23.45	23.37	23.02	23.66
240	23.17	23.50	23.43	23.09	23.72
250	23.24	23.62	23.49	23.18	23.79
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	23.84	24.26	24.39	23.94	24.79
220	23.93	24.35	24.49	24.06	24.89
230	24.09	24.51	24.65	24.24	25.05
240	24.28	24.70	24.85	24.46	25.48
250	24.50	24.97	25.07	24.72	25.48
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.97	0.97	0.96	0.96	0.96
220	0.97	0.96	0.95	0.96	0.95
230	0.96	0.96	0.95	0.95	0.94
240	0.95	0.95	0.94	0.94	0.93
250	0.95	0.95	0.94	0.94	0.93
Ambient Temperature During Test (°C)			24.0		
PF Leading/Lagging			Leading		

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## **PRODUCT DETAILS**

**Table 5. Test Sample Details**

Product Description	45 LED 700mA Light Engine
Model No.	LOCKHEED45LEDPCB
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	330mm x 72mm
Product Supply Requirement	240V 50Hz
Lamp Type and Power	LED
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 6. Wattage and VA results for 45 LED 700mA Light Engine**

Operating Mode	100%				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	99.73	99.23	98.64	99.49	98.45
220	98.68	98.20	97.59	98.52	97.48
230	98.05	97.57	96.94	97.95	96.88
240	97.72	97.22	96.60	97.68	96.56
250	97.60	97.09	96.45	97.57	96.44
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	100.96	100.66	99.98	100.66	99.60
220	100.14	99.86	99.15	99.90	98.83
230	99.74	99.48	98.75	99.57	98.47
240	99.68	99.42	98.68	99.56	98.41
250	99.83	99.58	98.82	99.73	98.57
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.99	0.99	0.99	0.99	0.99
220	0.99	0.98	0.98	0.99	0.99
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	0.98	0.98	0.98
Ambient Temperature During Test (°C)			26.0		
PF Leading/Lagging			Leading		

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## **PRODUCT DETAILS**

**Table 7. Test Sample Details**

Product Description	LED 700mA Light Engine
Model No.	LOCKHEED36LEDPLB
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	330mm x 72mm
Product Supply Requirement	240V 50Hz
Lamp Type and Power	LED
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 8. Wattage and VA results for LED 700mA Light Engine**

Operating Mode	100%				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	81.25	80.99	80.35	80.66	80.19
220	80.14	79.87	79.24	79.65	79.15
230	79.60	79.34	78.73	79.22	78.68
240	79.84	79.21	78.58	79.10	78.54
250	79.34	79.07	78.44	78.99	78.42
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	82.59	82.53	81.86	81.92	81.43
220	81.70	81.64	80.98	81.13	80.60
230	81.41	81.37	80.72	80.94	80.37
240	81.54	81.52	80.84	81.08	80.49
250	81.65	81.63	80.94	81.20	80.60
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	0.98	0.98	0.98	0.98
240	0.98	0.97	0.97	0.98	0.98
250	0.97	0.97	0.97	0.97	0.97
Ambient Temperature During Test (°C)			25.0		
PF Leading/Lagging			Leading		

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## **PRODUCT DETAILS**

**Table 9. Test Sample Details**

Product Description	21 LED 700mA Light Engine
Model No.	LOCKHEED21LEDPLB
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	330mm x 72mm
Product Supply Requirement	240V 50Hz
Lamp Type and Power	LED
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 10. Wattage and VA results for 21 LED 700mA Light Engine**

Operating Mode	100%				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	48.61	48.01	47.73	48.23	47.88
220	48.32	47.75	47.49	48.00	47.62
230	48.23	47.67	47.42	47.93	47.54
240	48.16	47.60	47.34	47.87	47.46
250	49.30	48.66	48.34	48.63	48.55
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	50.24	49.97	49.60	49.75	49.35
220	50.15	49.94	49.58	49.72	49.28
230	50.29	50.11	49.74	49.87	49.43
240	50.48	50.32	49.95	50.08	49.60
250	51.88	51.69	51.21	51.12	50.96
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.97	0.96	0.96	0.97	0.97
220	0.96	0.96	0.96	0.97	0.97
230	0.96	0.95	0.95	0.96	0.96
240	0.95	0.95	0.95	0.96	0.96
250	0.95	0.94	0.94	0.95	0.95
Ambient Temperature During Test (°C)			25.0		
PF Leading/Lagging			Leading		

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## **PRODUCT DETAILS**

**Table 11. Test Sample Details**

Product Description	45 LED 350mA Light Engine
Model No.	LOCKHEED45LEDPLB
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	330mm x 72mm
Product Supply Requirement	240V 50Hz
Lamp Type and Power	LED
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 12. Wattage and VA results for**

Operating Mode	100%				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	49.29	50.08	49.02	48.83	49.08
220	49.20	49.99	48.92	48.74	49.01
230	49.10	49.95	48.89	48.71	48.98
240	49.20	49.98	48.92	48.74	49.02
250	49.25	50.02	48.96	48.79	49.07
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	49.72	50.53	49.54	49.37	49.59
220	49.79	50.59	49.62	49.47	49.69
230	49.87	50.69	49.80	49.65	49.88
240	50.18	50.85	50.07	49.92	50.13
250	50.42	51.03	50.35	50.19	50.38
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	0.98	0.99	0.98	0.98	0.98
240	0.98	0.98	0.98	0.98	0.98
250	0.98	0.98	0.97	0.97	0.97
Ambient Temperature During Test (°C)			25.0		
PF Leading/Lagging			Leading		

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## **PRODUCT DETAILS**

**Table 13. Test Sample Details**

Product Description	36 LED 350mA Light Engine
Model No.	LOCKHEED36LEDPLB
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	330mm x 72mm
Product Supply Requirement	240V 50Hz
Lamp Type and Power	LED
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 14. Wattage and VA results for 36 LED 350mA Light Engine**

Operating Mode	100%				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	40.49	41.24	40.34	39.92	40.27
220	40.18	40.92	40.02	39.62	39.97
230	40.08	40.81	39.92	39.52	39.87
240	40.02	40.76	39.86	39.46	39.82
250	40.02	40.82	39.86	39.84	39.84
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	41.24	41.97	41.23	40.86	41.10
220	41.17	41.80	41.21	40.85	41.06
230	41.28	41.84	41.36	41.01	41.18
240	41.41	41.94	41.55	41.19	41.34
250	41.61	42.22	41.80	41.42	41.56
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	0.98	0.97	0.96	0.97
240	0.97	0.97	0.96	0.96	0.96
250	0.96	0.97	0.95	0.96	0.96
Ambient Temperature During Test (°C)			25.0		
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;

True Power (W):  $\pm 0.69\%$ , Apparent Power (VA):  $\pm 0.61\%$

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

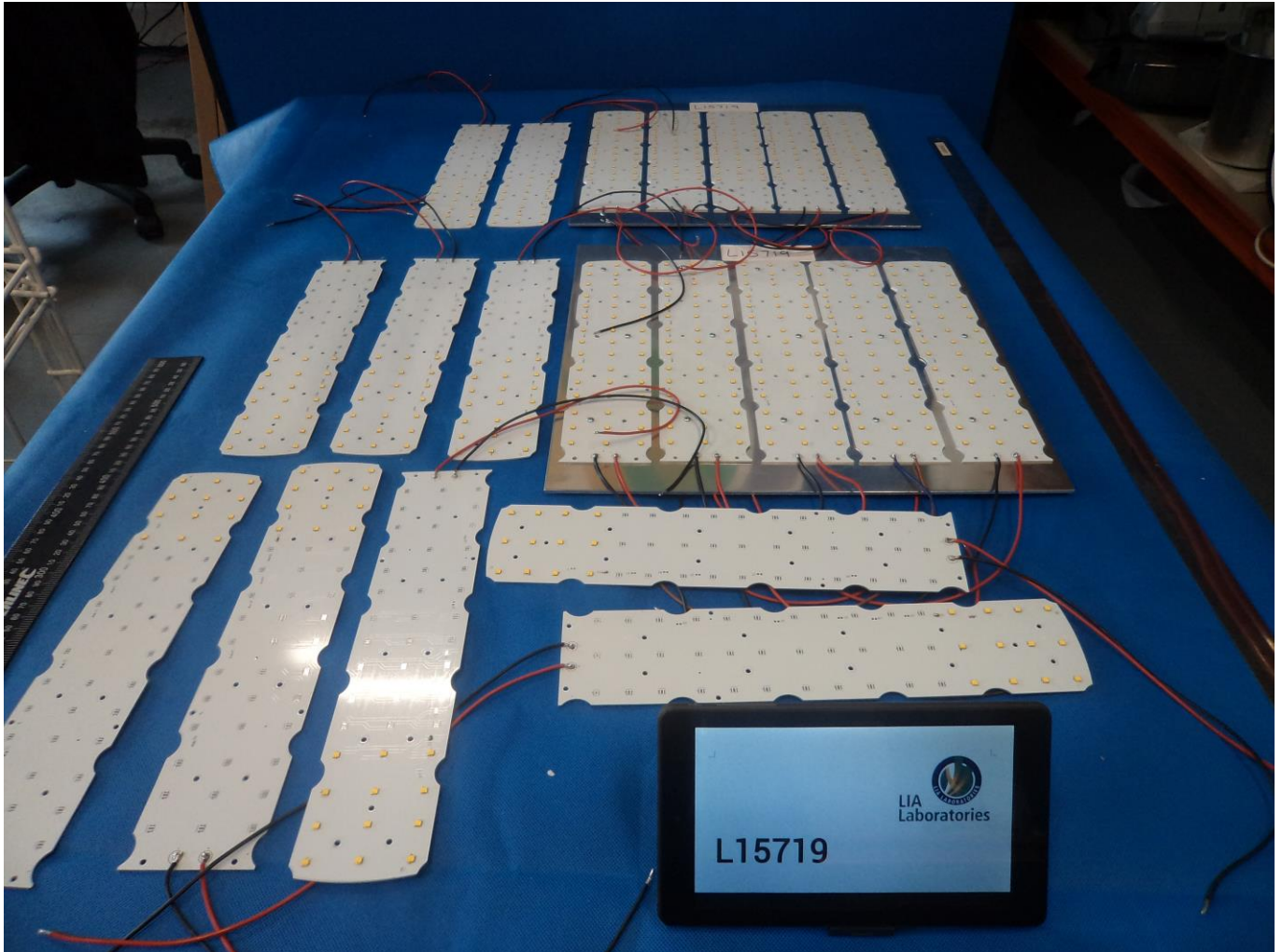


Figure 1. *Product Image*

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Figure 2 *Product Image*

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