

# Report of Test

## LLI-17113-9

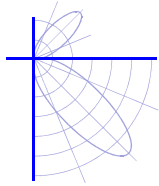
Vantage Lighting - 6" downlight luminaire. Product ID: A6VOFLEDU-5035K-M6060SCL  
Unpainted formed steel housing with specular reflector and no lens.  
80 LEDs in circular array mounted in plastic housing with flat white plastic lens.  
Philips Advance Xitanium LED driver. Model: XI050C140V054DSM1 set to 1400mA.  
Operating at 120 VAC and 60 Hz



### Performance Summary

Total Light Output	4490 lm	Min Power Factor	0.99 @ 277 V
Luminaire Power	58.3 W	Max THD(i)*	2.9 % @ 277 V
Luminous Efficacy	77.0 lm/W		
CCT	3460 K		
CIE(x,y) 1931	(0.408, 0.393)		
CRI	84		

**PREPARED FOR : Lexington Lighting Group, East Providence, RI**



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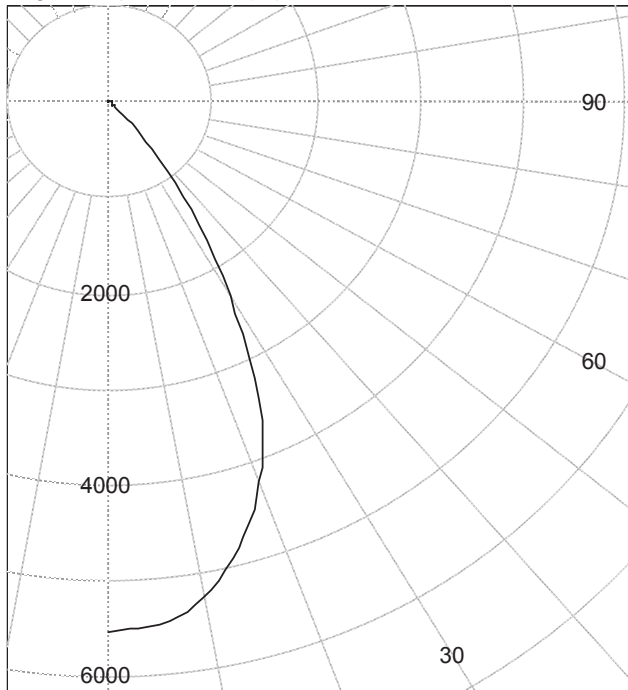
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Legend: All planes - Solid (cd)



(Rotational symmetry)

### INTENSITY SUMMARY (cd)

Gamma	All Planes	Flux (lm)	Gamma	C0	Flux (lm)
0	5525		90	0	
5	5471	516	95	0	0
10	5265		100	0	
15	4823	1344	105	0	0
20	4230		110	0	
25	3411	1525	115	0	0
30	2324		120	0	
35	1376	864	125	0	0
40	637		130	0	
45	181	179	135	0	0
50	59		140	0	
55	37	34	145	0	0
60	24		150	0	
65	16	17	155	0	0
70	11		160	0	
75	7	8	165	0	0
80	5		170	0	
85	2	2	175	0	0
90	0		180	0	

### ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	%Lamp	%Luminaire
0-30	3386	N / A	75.4
0-40	4250	N / A	94.6
0-60	4463	N / A	99.4
0-90	4490	N / A	100.0
40-90	241	N / A	5.4
60-90	27	N / A	0.6
90-180	0	N / A	0.0
0-180	4490	N / A	100.0

Total Light Output = 4,490 lm

Signed:

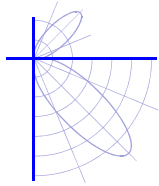
*Ryder Tunney*

Ryder Tunney  
Authorized Signatory

Date of test 5-May-2017  
Date of report 19-May-2017

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RT



## Test Report No. LLI-17113-9

Vantage Lighting - 6" downlight luminaire. Product ID: A6VOFLEDU-5035K-M6060SCL

Unpainted formed steel housing with specular reflector and no lens.

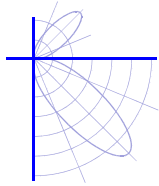
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Operating at 120 VAC and 60 Hz

### Intensity (cd) and Flux (lm) data

Gamma	Intensity	Flux	Gamma	Intensity	Flux
0.0	5525		90.0	0	
2.5	5512		92.5	0	
5.0	5471	516	95.0	0	
7.5	5395		97.5	0	0
10.0	5265		100.0	0	
12.5	5066		102.5	0	
15.0	4823	1344	105.0	0	
17.5	4544		107.5	0	0
20.0	4230		110.0	0	
22.5	3867		112.5	0	
25.0	3411	1525	115.0	0	
27.5	2857		117.5	0	0
30.0	2324		120.0	0	
32.5	1824		122.5	0	
35.0	1376	864	125.0	0	
37.5	979		127.5	0	0
40.0	637		130.0	0	
42.5	367		132.5	0	
45.0	181	179	135.0	0	
47.5	87		137.5	0	0
50.0	59		140.0	0	
52.5	47		142.5	0	
55.0	37	34	145.0	0	
57.5	30		147.5	0	0
60.0	24		150.0	0	
62.5	20		152.5	0	
65.0	16	17	155.0	0	
67.5	14		157.5	0	0
70.0	11		160.0	0	
72.5	9		162.5	0	
75.0	7	8	165.0	0	
77.5	6		167.5	0	0
80.0	5		170.0	0	
82.5	3		172.5	0	
85.0	2	2	175.0	0	
87.5	1		177.5	0	0
90.0	0		180.0	0	



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### LM-79 Performance Data

<b>Spectral</b>	CIE 1931 (x, y) <sup>(1)</sup>	(0.408, 0.393)
	CIE 1976 (u', v') <sup>(1)</sup>	(0.237, 0.513)
	Correlated Color Temperature (CCT) <sup>(1)</sup>	3460 K
	Spatial Δ (u', v') Uniformity <sup>(2)</sup>	0.0013
	Color Rendering Index (Ra) <sup>(1)</sup>	84.2
	Special CRI 9 (R <sub>9</sub> ) <sup>(1),(3)</sup>	15.2
	Distance from Planckian Locus (Duv) <sup>(1),(3)</sup>	0.0003
	Scotopic/Photopic Ratio <sup>(1),(3)</sup>	1.55

<b>Electrical</b>	Voltage	120.0 V	(Setpoint 1)
	Frequency	60.0 Hz	
	Current	0.487 A	
	Power	58.3 W	
	Power Factor	0.997	
	Current THD	0.9 %	
	Voltage	277.0 V	(Setpoint 2)
	Frequency	60.0 Hz	
	Current	0.209 A	
	Power	57.2 W	
	Power Factor	0.987	
	Current THD	2.9 %	

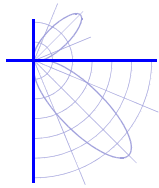
Performance data in accordance with IESNA LM-79-08. Spectral calculations are for a CIE 2° observer

Photometric and spectral values were measured at Setpoint 1

(1) Value is computed from the weighted average of the spatial measurements

(2) Value is the maximum deviation of the spatial u' and v' measurements from the weighted average

(3) Quantity is in addition to the scope of IESNA LM-79-08



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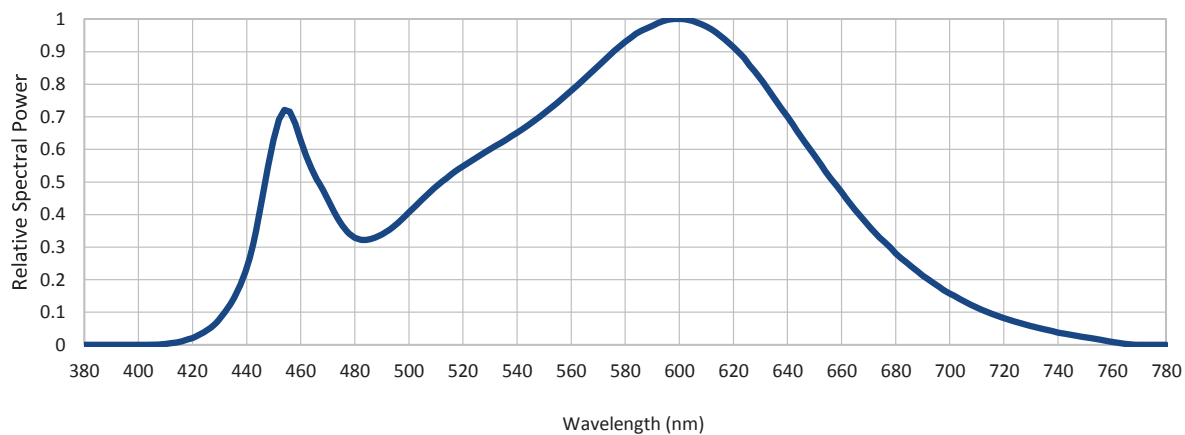
Philips Advance Xitanium LED driver. Model: XI050C140V054DSM1 set to 1400mA.

Operating at 120 VAC and 60 Hz

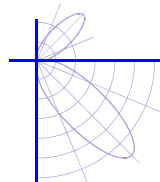
### LM-79 Performance Data

#### Summary relative spectral irradiance distribution (wavelength – nm, irradiance – relative to peak = 1)

380	0.000	480	0.329	580	0.930	680	0.281
385	0.000	485	0.323	585	0.959	685	0.246
390	0.000	490	0.339	590	0.979	690	0.212
395	0.000	495	0.368	595	0.996	695	0.184
400	0.000	500	0.407	600	1.000	700	0.158
405	0.000	505	0.447	605	0.994	705	0.135
410	0.003	510	0.486	610	0.977	710	0.115
415	0.009	515	0.518	615	0.950	715	0.097
420	0.021	520	0.548	620	0.914	720	0.082
425	0.043	525	0.575	625	0.868	725	0.069
430	0.080	530	0.600	630	0.817	730	0.058
435	0.140	535	0.625	635	0.758	735	0.048
440	0.237	540	0.651	640	0.701	740	0.038
445	0.414	545	0.680	645	0.639	745	0.031
450	0.630	550	0.711	650	0.582	750	0.024
455	0.719	555	0.744	655	0.522	755	0.016
460	0.628	560	0.780	660	0.469	760	0.009
465	0.524	565	0.818	665	0.415	765	0.003
470	0.448	570	0.856	670	0.366	770	0.000
475	0.372	575	0.894	675	0.322	775	0.000
						780	0.000



The relative spectral power distribution combines the weighted spectral power distributions of all spatial measurements.



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### LM-79 Performance Data

#### Spatial measurements

Vert. angle (°)	CIE 1976 (u',v') coordinates	
	Horiz. 0° plane	Horiz. 90° plane
0.0	( 0.237, 0.513)	( 0.237, 0.513)
5.0	( 0.237, 0.513)	( 0.237, 0.513)
10.0	( 0.237, 0.513)	( 0.237, 0.513)
15.0	( 0.237, 0.513)	( 0.237, 0.513)
20.0	( 0.237, 0.513)	( 0.237, 0.513)
25.0	( 0.237, 0.513)	( 0.237, 0.513)
30.0	( 0.236, 0.513)	( 0.236, 0.512)
35.0	( 0.236, 0.512)	( 0.236, 0.512)
40.0	( 0.236, 0.512)	( 0.236, 0.512)
45.0	I <= 10% peak	I <= 10% peak

#### Spatial measurements

Vert. angle (°)	CIE 1976 (u',v') coordinates	
	Horiz. 0° plane	Horiz. 90° plane
45.0	I <= 10% peak	I <= 10% peak
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

#### Test procedure

All measurements were performed in an environmentally controlled laboratory employing suitable baffling to minimize stray light. The sample was mounted in its normal operating orientation on a rotating mirror goniophotometer and operated from a stabilized supply. The photometric output was monitored and measurements were performed once stability was achieved.

The goniophotometer was used to measure the spatial distribution of both luminous intensity and, in conjunction with a spectroradiometer, spectral irradiance. The distribution locus comprises points in two or more planes (as indicated in the table above) at no more than 10° vertical intervals. The CIE (x,y) coordinates and other derived metrics (CIE (u', v'), CCT and CRI) are calculated from the weighted sum (weighted for intensity and represented solid angle) of the measured spectral irradiances.

Sample Orientation

Horizontal

Stabilization & total operation time 3.0 / 14.0 hours

#### Equipment and uncertainties

LightLab International R80A C-gamma rotating mirror goniophotometer with a test distance of 8 m.

Luminous Intensity ± 4 %  
Luminous Flux ± 4 %  
Horiz., Vert. Angles ± 0.25°

Temperature ± 1 °C  
Luminous Efficacy ± 4.5 %

PhotoResearch PR-670 spectroradiometer (grating with 380 - 780 nm range, 2 nm / pixel, 5 nm bandwidth, incandescent/halogen calibration source). Measured at a distance from the sample deemed >5 times the maximum observed luminous opening dimension.

CIE (x, y) coordinates ± 0.003  
CIE (u', v') coordinates ± 0.002  
Spatial Δ (u', v') uniformity ± 0.001  
Rel. Spectral Irradiance \* ± 2 %  
Duv \* ± 5E-04

CCT ± 100 K  
CRI (Ra) ± 2  
Scotopic / Photopic Ratio \* ± 0.02  
R9 \* ± 2

Yokogawa WT210 power meter connected in circuit to the sample electrical supply

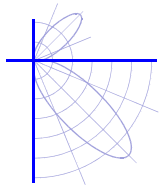
Voltage ± 0.5 %  
Current ± 0.5 %  
Current THD \* ± 3 %  
Frequency \* ± 0.1 Hz  
Power ± 0.5 %  
Power Factor ± 0.02

This report contains data that are not covered by the NVLAP accreditation. Quantities marked with \* are not covered.

Calculator / report version 1.0.7 / 5.7 (30th Jan 2017)

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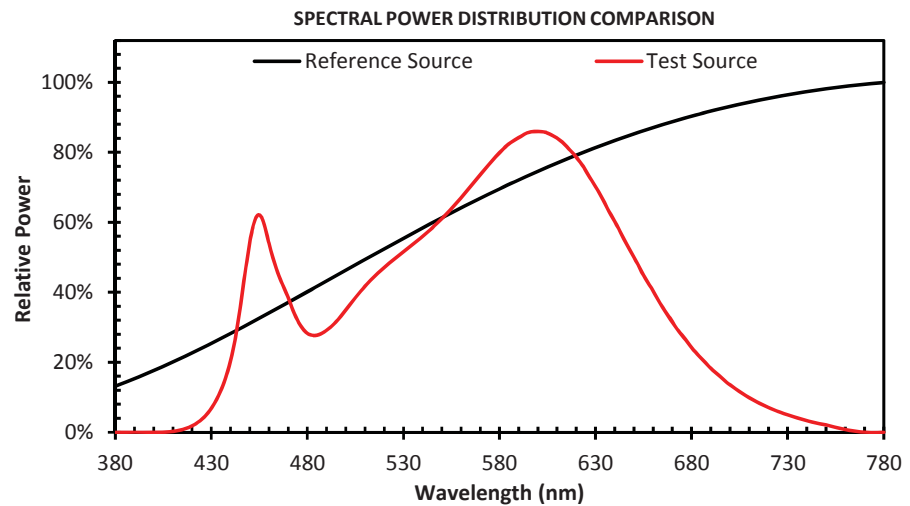
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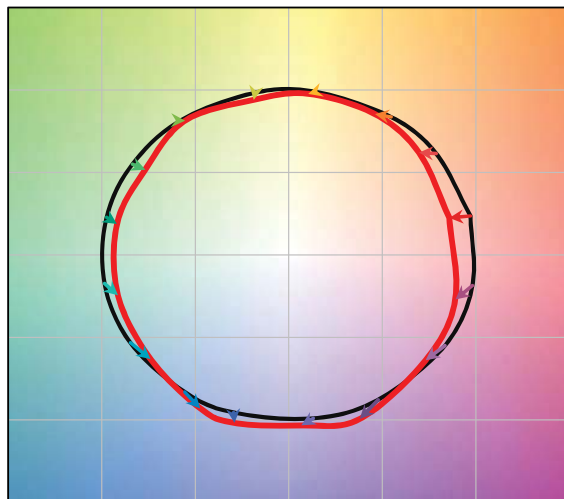
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$R_f$	83
$R_g$	94



**COLOR VECTOR GRAPHIC**

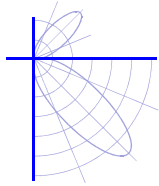


— Reference Illuminant — Test Source

**COLOR DISTORTION GRAPHIC**



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**Test Distance** 8.0 m  
**Test Temperature** 24.8 °C

**Notes** The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-08 (Sec. 12), IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2011, ANSI C82.77:2002.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Gamma coordinate system as defined in CIE publication number 121.

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