



# Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

## Moving Mirror Goniophotometer Test Report

**Standard(s):** IES LM-79:2019, ANSI C82.2:2002, ANSI C82.77-10:2021

**Customer** ANDlight, 1951 Franklin St., Vancouver, British Columbia , Canada, V5L 0C7

General Information		Lamp Details: CY5356		Driver Details: CY2510	
<b>DUT Lab ID</b>	SRIS 3143-1	<b>Seasoning</b>	0 Hour	<b>Type</b>	LED Power Supply
<b>Lamp Type</b>	LED/SSL	<b>Test Product</b>	LOB-P-A-SL-B-CL	<b>Manufacturer</b>	Ever Shining Optotech
<b>Current Mode</b>	AC	<b>Manufacturer</b>	CREE	<b>Catalog No.</b>	LD018D-CU03054-M18
<b>Test Report</b>	S2208291-R1	<b>Lamp Catalog No.</b>	Xd16	<b>Maximum Power</b>	16.2 W
<b>Test Date</b>	29 August 2022	<b>Drive Current</b>	300mA	<b>Input Voltage</b>	120.00 V
<b>Report Date</b>	30 August 2022	<b>Nominal Color</b>	2700 K	<b>Operating Frequency</b>	60 Hz
<b>Ambient</b>	24.9 °C	<b>Burning Position</b>	Junction Vertical Base Up	<b>Input Power</b>	9.11 W

### Luminaire Data

General Information		Optics		Aperture (feet)	
<b>Manufacturer</b>	ANDlight	<b>Optics</b>	Opalin Dome c/w Diffuse Cylinder	<b>X</b>	-0.2500
<b>Name</b>	LOBE	<b>Housing</b>	Ovular Shape Cylinders	<b>Y</b>	-0.2500
<b>Catalog No.</b>	LOB-P-A-SL-B-CL	<b>Lens</b>	None	<b>Z</b>	0.0000

Stabilization Time: 45 minutes

**Approved Signatory: Chrisnel Blot**

**Signature:**



## Luminaire Test Method

Precise installation and alignment of the luminaire to the rotation axis of the photometer is governed by a servomotor controlled via a microcontroller. A laser is used to validate the luminaire positioning. Before photometric measurements are taken, luminaire is operated long enough to reach stabilization and temperature equilibrium.

All movement commands issued to the photometer axes are mediated by the software to ensure the motion is within the limits of operation. The photometric detector used is a silicon detector corrected to closely match the spectral luminous efficiency photopic curve with a quality index less than 1.5%. Proper shielding is incorporated to the photometric test bench such that only the light from the unit under test is measured.

Luminous intensity measurements are performed at a distance great enough so that the inverse-square law applies. During each measurement the computer records the luminous intensity associated to the corresponding angles of radiation, as well as input electrical operational parameters and temperature measurements. Candela values are reported in IES format as per LM-63.

Equipment, reference standards are traceable to National Institute of Standards and Technology (NIST) and National Research Council of Canada (NRC).





## Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

### Electrical Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Power Supply	Adaptive Power System	FC-200	2300319	N.P.C.R.	N.P.C.R.
Input Power Meter	Yokogawa	WT210	27E116584	2021/09/20	2022/09/22
Output Power Meter	N/A	N/A	N/A	N.P.C.R.	N.P.C.R.

### Photometric Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Photometer	N/A	N/A	N/A	N.P.C.R.	N.P.C.R.
Photodetector	INPHORA	IPR-PDET 19	110802	2021/09/05	2022/09/05

### Environment Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Temperature Humidity Sensor	Omega	HH311	120504176	2021/07/13	2023/07/13

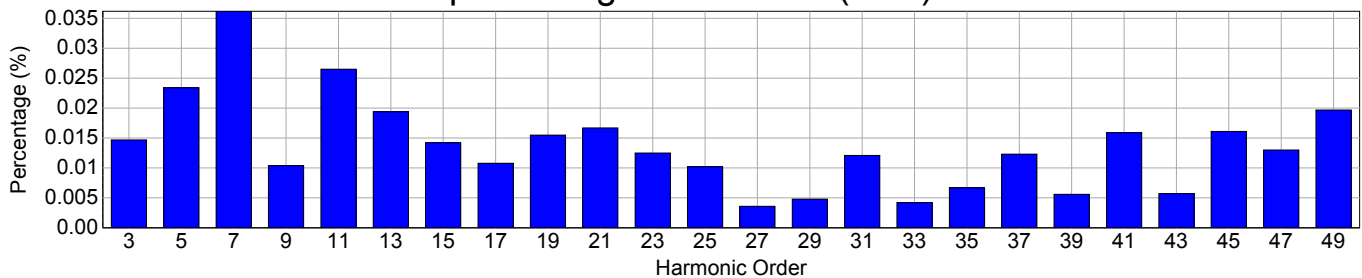


## Electrical Measurements

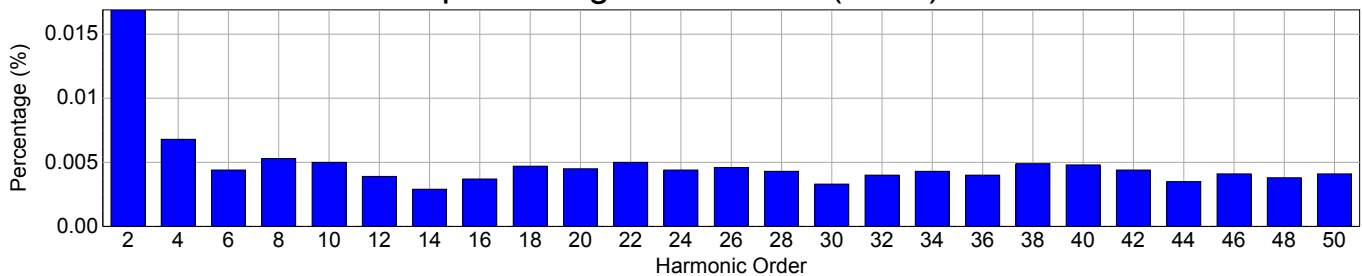
### Input

Frequency	60 Hz	Active Power	9.11 W	THDV [ANSI]	0.07 %
Voltage	120.0 V(rms)	Apparent Power	10.55 VA	THDA [ANSI]	14.25 %
Current	0.0879 A(rms)	Power Factor	0.864	Max. Harmonic At	3rd order

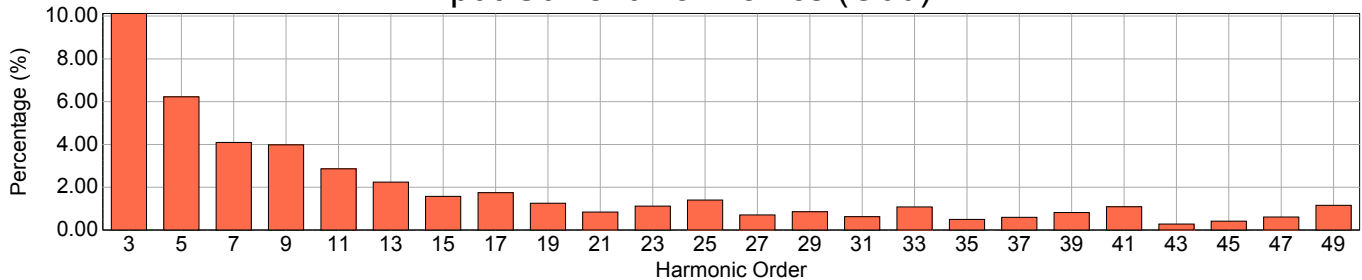
### Input Voltage Harmonics (Odd)



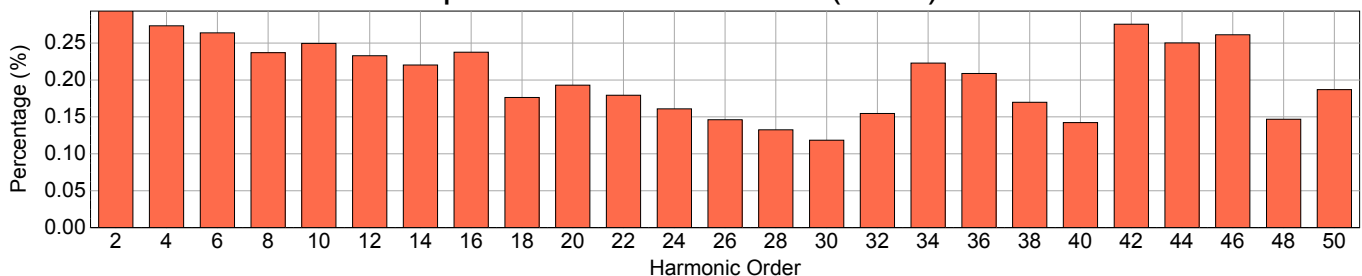
### Input Voltage Harmonics (Even)



### Input Current Harmonics (Odd)



### Input Current Harmonics (Even)





## Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

### Harmonic Measurements

Odd Harmonics				Even Harmonics			
Harmonic Order	Frequency (HZ)	Voltage Harmonics (%)	Current Harmonics (%)	Harmonic Order	Frequency (HZ)	Voltage Harmonics (%)	Current Harmonics (%)
1	60	100.000	100.000	2	120	0.017	0.293
3	180	0.015	10.126	4	240	0.007	0.273
5	300	0.023	6.227	6	360	0.004	0.264
7	420	0.036	4.094	8	480	0.005	0.237
9	540	0.010	3.981	10	600	0.005	0.250
11	660	0.027	2.858	12	720	0.004	0.233
13	780	0.019	2.240	14	840	0.003	0.220
15	900	0.014	1.578	16	960	0.004	0.238
17	1020	0.011	1.745	18	1080	0.005	0.176
19	1140	0.016	1.254	20	1200	0.005	0.193
21	1260	0.017	0.840	22	1320	0.005	0.179
23	1380	0.013	1.117	24	1440	0.004	0.161
25	1500	0.010	1.403	26	1560	0.005	0.146
27	1620	0.004	0.710	28	1680	0.004	0.133
29	1740	0.005	0.859	30	1800	0.003	0.118
31	1860	0.012	0.625	32	1920	0.004	0.155
33	1980	0.004	1.082	34	2040	0.004	0.223
35	2100	0.007	0.500	36	2160	0.004	0.209
37	2220	0.012	0.597	38	2280	0.005	0.170
39	2340	0.006	0.822	40	2400	0.005	0.142
41	2460	0.016	1.088	42	2520	0.004	0.276
43	2580	0.006	0.281	44	2640	0.004	0.250
45	2700	0.016	0.418	46	2760	0.004	0.261
47	2820	0.013	0.610	48	2880	0.004	0.147
49	2940	0.020	1.154	50	3000	0.004	0.187



# Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

## Photometric Report: S2208291-R1

Prepared for: ANDlight · Test Date: 29 August 2022

Luminaire: LOBE · Lumcat: LOB-P-A-SL-B-CL

### Coefficients of Utilization - Zonal Cavity Method

RCR	RC				0.9				0.8				0.7				0.5			0.1			0
	RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
0		122	122	122	122	119	119	119	119	116	116	116	116	111	111	111	102	102	102	102	102	102	100
1		113	109	105	101	110	106	103	99	108	104	101	98	100	97	95	92	91	89	92	91	89	87
2		104	96	90	84	101	94	88	83	99	92	87	82	89	84	80	83	80	77	83	80	77	75
3		96	85	77	71	93	84	76	71	91	82	75	70	79	73	69	74	70	66	74	70	66	64
4		88	76	68	61	86	75	67	61	84	74	66	60	71	65	60	67	62	58	67	62	58	56
5		82	69	60	53	79	68	59	53	77	66	59	53	64	58	52	61	55	51	61	55	51	49
6		76	62	53	47	74	61	53	47	72	60	52	47	59	52	46	55	50	46	55	50	46	44
7		70	57	48	42	69	56	48	42	67	55	47	42	54	47	41	51	45	41	51	45	41	39
8		66	52	44	38	64	51	43	38	63	51	43	38	49	42	37	47	41	37	47	41	37	35
9		62	48	40	34	60	47	40	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32
10		58	44	37	31	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0 - 10	13	4.42	4.42
10 - 20	39	13.52	13.52
20 - 30	50	17.30	17.30
30 - 40	50	17.27	17.27
40 - 50	52	18.18	18.18
50 - 60	48	16.56	16.56
60 - 70	26	8.91	8.91
70 - 80	10	3.38	3.38
80 - 90	1	0.45	0.45
90 - 120	0	0.00	0.00
90 - 130	0	0.00	0.00
90 - 150	0	0.00	0.00
90 - 180	0	0.00	0.00
0 - 180	287	100.00	100.00

### Average Luminance (Cd/m<sup>2</sup>)

Angle	0 Degree	45 Degree	90 Degree
45.0	20839	20839	20839
55.0	20807	20807	20807
65.0	13277	13277	13277
75.0	7366	7366	7366
85.0	1604	1604	1604

Luminaire Luminous Flux: 287

Measured Input Power: 9.11 W

Total Luminaire Efficiency: N/A

Luminaire Luminous Efficacy: 31.5 lm/W

Luminaire Spacing Criterion (0 Degree): 1.1123

Luminaire Spacing Criterion (90 Degree): 1.1123

Category: Downlight

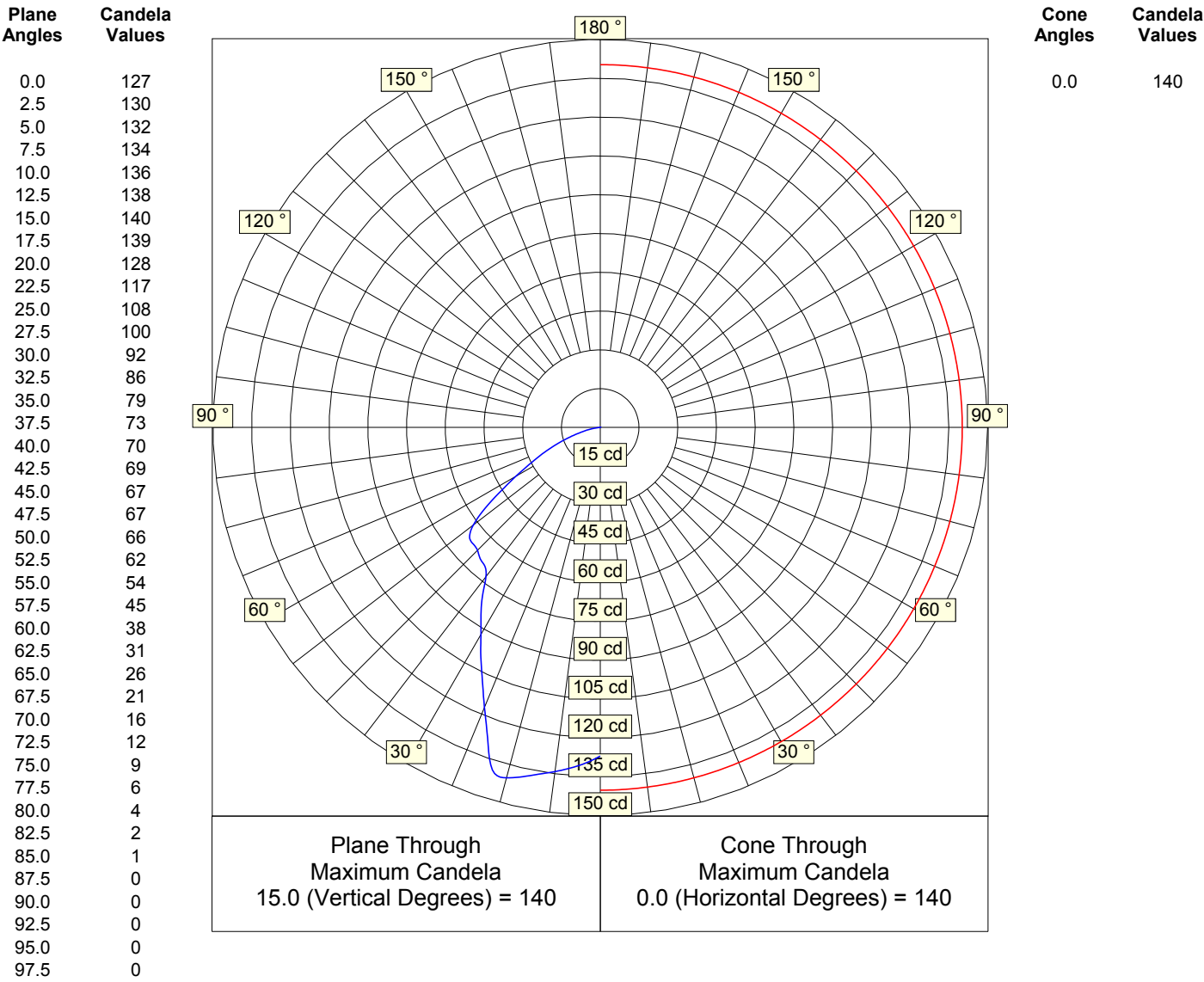


Photometric Report: S2208291-R1

Prepared for: ANDlight · Test Date: 29 August 2022

Luminaire: LOBE · Lumcat: LOB-P-A-SL-B-CL

Luminous Intensity - Polar Curve for each Plane(1)





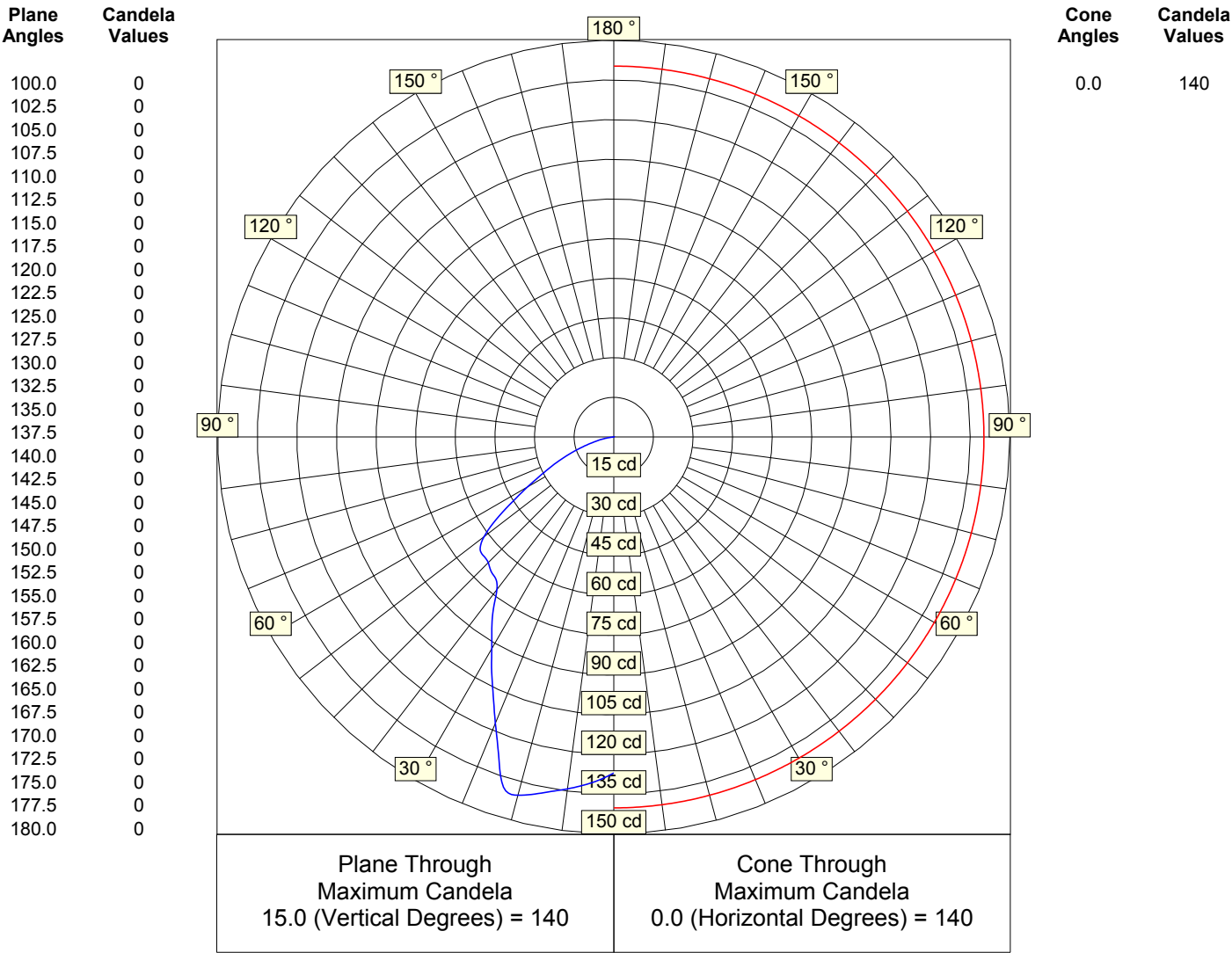


Photometric Report: S2208291-R1

Prepared for: ANDlight · Test Date: 29 August 2022

Luminaire: LOBE · Lumcat: LOB-P-A-SL-B-CL

Luminous Intensity - Polar Curve for each Plane(2)







# Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



## IES File Headers

IESNA:LM-63  
[ISSUEDATE] 29 August 2022  
[TESTLAB] Spectra Lux  
[TEST] S2208291-R1  
[MANUFAC] ANDlight  
[LUMCAT] LOB-P-A-SL-B-CL  
[LUMINAIRE] LOBE  
[LAMP] Clusters of CREE Xd16 LEDs c/w Ever Shining Optotech Driver LD018D-CU03054-M18 @ 120.00V  
[\_BURNING] Vertical Base Up (287 Luminaire Lumens)  
[\_OPTICS] Opalin Dome c/w Diffuse Cylinder  
[\_LENS] None  
[\_HOUSING] Ovular Shape Cylinders  
[\_NOMINAL COLOR] 2700 K  
[\_DRIVE CURRENT] 300mA

## Candela Table

### Lateral Angles

	0.0
V e r t i c a l	0.0 127
	2.5 130
	5.0 132
	7.5 134
	10.0 136
	12.5 138
	15.0 140
	17.5 139
	20.0 128
	22.5 117
	25.0 108
	27.5 100
	30.0 92
	32.5 86
	35.0 79
	37.5 73
	40.0 70
A n g l e s	42.5 69
	45.0 67
	47.5 67
	50.0 66
	52.5 62
	55.0 54
	57.5 45
	60.0 38
	62.5 31
	65.0 26
	67.5 21
	70.0 16
	72.5 12
	75.0 9
	77.5 6
	80.0 4
	82.5 2
	85.0 1
	87.5 0
	90.0 0



# Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)



Lab Code: 200899-0

## Lateral Angles

	0.0
	92.5
	95.0
	97.5
	100.0
	102.5
	105.0
	107.5
	110.0
	112.5
V e r t i c a l	115.0
	117.5
	120.0
	122.5
	125.0
	127.5
	130.0
	132.5
	135.0
	137.5
A n g l e s	140.0
	142.5
	145.0
	147.5
	150.0
	152.5
	155.0
	157.5
	160.0
	162.5
	165.0
	167.5
	170.0
	172.5
	175.0
	177.5
	180.0