



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-63, IES LM-79, ANSI C82.77

Customer ANDlight, 505B Railway Street, Vancouver, BC, Canada, V6A 1A7

General Information		Lamp Details: CY4434		Driver Details: CY2023	
DUT Lab ID	SRIS 2823-10	Seasoning	0 Hour	Type	LED Power Supply
Lamp Type	LED/SSL	Test Product	SPO-P-A-A-VA-120	Manufacturer	Bulbrite
Current Mode	AC	Manufacturer	Bulbrite	Catalog No.	Integrated LED Driver
Test Report	S2008131-R1	Lamp Catalog No.	(2) G25 Frosted LED 7W	Nominal Power	14 W
Test Date	13 August 2020	Drive Current	116.7 mA	Input Voltage	120.00 V
Report Date	15 October 2020	Nominal Color	2700 K	Operating Frequency	60 Hz
Ambient	24.7 °C	Burning Position	Vertical Base Up & Down	Input Power	14.74 W

Luminaire Data

General Information		Optics		Aperture (feet)	
Manufacturer	ANDlight	Reflector	Vanilla Spun Aluminum	X	-0.8750
Name	SPOT LIGHT VOLUMES	Housing	Shades (A-A) - Aluminum Profile	Y	-0.8750
Catalog No.	SPO-P-A-A-VA-120	Lens	None	Z	0.0000

Stabilization Time: 1 hour 15 minutes

Approved Signatory: Chrisnel Blot

Signature:



Spectra Lux

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



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



Electrical Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Power Supply	iRDC	CIF-3000A	974998	N.P.C.R.	N.P.C.R.
Input Power Meter	Yokogawa	WT210	27E116584	2020/07/22	2021/09/22
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	2019/09/05	2020/09/05

Environment Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Temperature Humidity Sensor	Omega	HH311	120504176	2020/07/16	2021/07/16



Spectra Lux

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



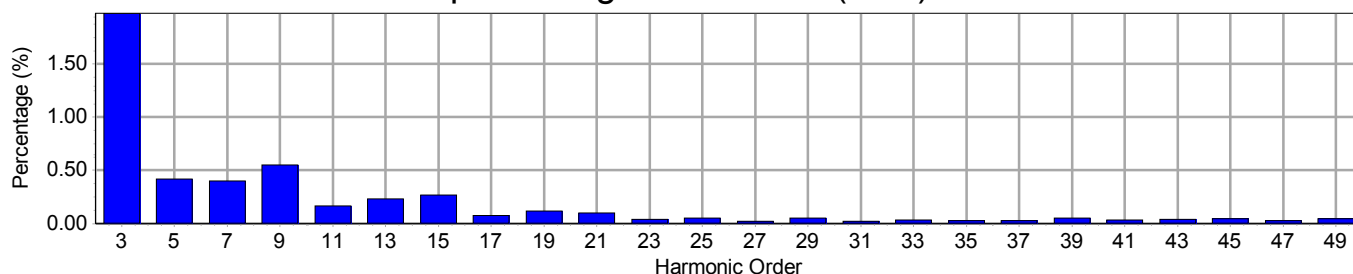
Lab Code: 200899-0

Electrical Measurements

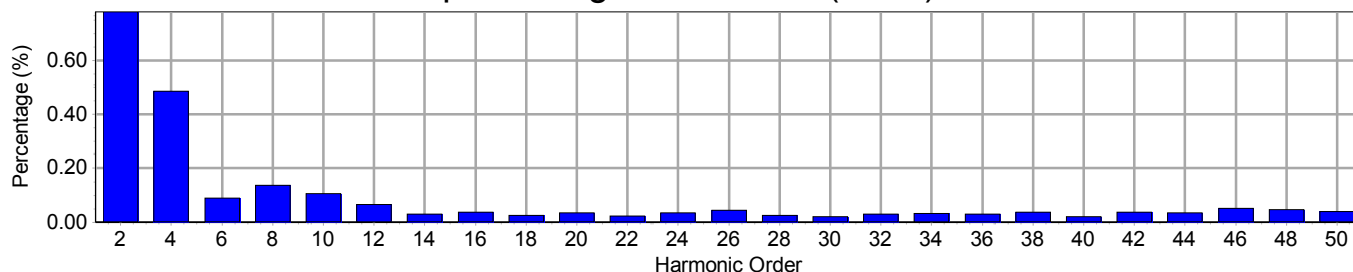
Input

Frequency	60 Hz	Active Power	14.74 W	THDV [ANSI]	2.38 %
Voltage	120.1 V(rms)	Apparent Power	15.92 VA	THDA [ANSI]	37.97 %
Current	0.1326 A(rms)	Power Factor	0.926	Max. Harmonic At	3rd order

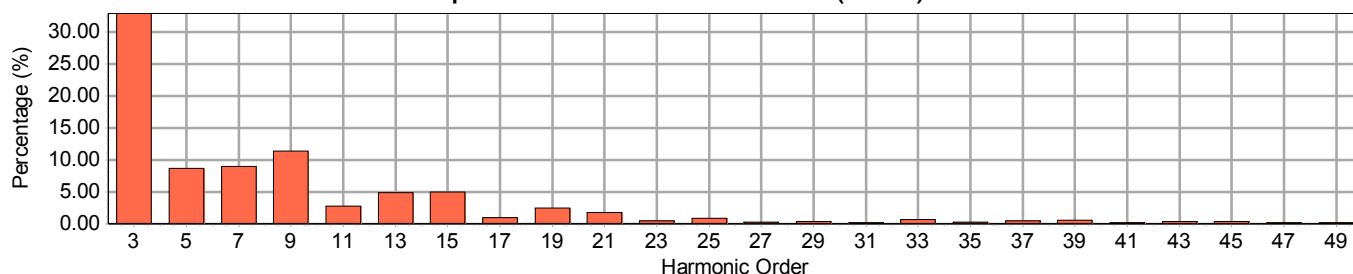
Input Voltage Harmonics (Odd)



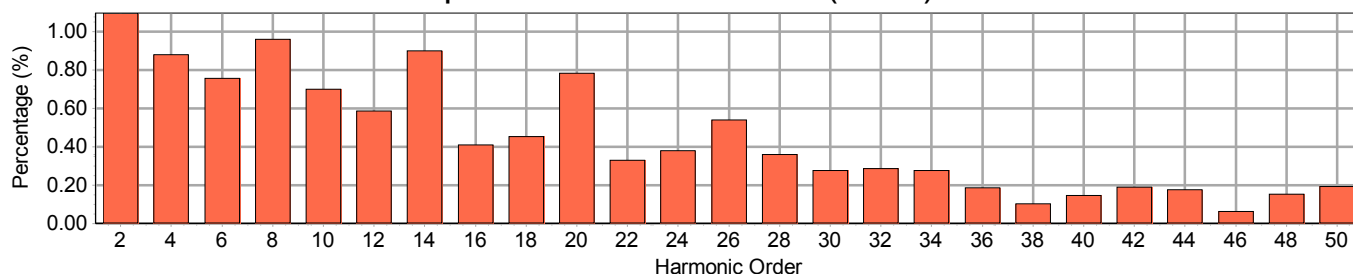
Input Voltage Harmonics (Even)



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	0.783	1.097
3	180	1.979	32.924	4	240	0.487	0.878
5	300	0.415	8.620	6	360	0.089	0.754
7	420	0.397	8.919	8	480	0.136	0.960
9	540	0.550	11.335	10	600	0.106	0.697
11	660	0.168	2.799	12	720	0.067	0.586
13	780	0.234	4.888	14	840	0.031	0.897
15	900	0.266	4.970	16	960	0.038	0.408
17	1020	0.073	0.937	18	1080	0.025	0.451
19	1140	0.118	2.444	20	1200	0.034	0.781
21	1260	0.101	1.714	22	1320	0.023	0.330
23	1380	0.038	0.478	24	1440	0.034	0.377
25	1500	0.053	0.900	26	1560	0.044	0.538
27	1620	0.022	0.229	28	1680	0.026	0.357
29	1740	0.053	0.398	30	1800	0.019	0.274
31	1860	0.019	0.199	32	1920	0.030	0.285
33	1980	0.032	0.608	34	2040	0.033	0.276
35	2100	0.027	0.263	36	2160	0.029	0.186
37	2220	0.030	0.426	38	2280	0.038	0.103
39	2340	0.049	0.558	40	2400	0.020	0.144
41	2460	0.032	0.134	42	2520	0.036	0.190
43	2580	0.036	0.361	44	2640	0.035	0.174
45	2700	0.047	0.340	46	2760	0.052	0.063
47	2820	0.029	0.103	48	2880	0.047	0.152
49	2940	0.046	0.199	50	3000	0.040	0.193



Spectra Lux

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



Photometric Report: S2008131-R1

Prepared for: ANDlight · Test Date: 13 August 2020

Luminaire: SPOT LIGHT VOLUMES · Lumcat: SPO-P-A-A-VA-120

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		116	116	116	116	107	107	107	107	99	99	99	99	83	83	83	56	56	56				50
1		106	100	96	92	97	93	89	85	90	86	82	79	73	70	68	49	48	47				41
2		96	87	80	74	88	81	74	69	81	74	69	64	63	59	55	42	40	38				34
3		87	76	67	60	80	70	63	57	73	65	58	53	55	50	46	37	34	32				28
4		79	67	57	50	73	62	54	47	67	57	50	44	48	43	38	33	30	27				23
5		73	59	49	43	67	55	46	40	61	51	43	38	43	37	33	29	26	23				20
6		67	53	43	37	61	49	40	34	56	45	38	32	39	33	28	26	23	20				17
7		62	47	38	32	57	44	36	30	52	41	33	28	35	29	25	24	20	18				15
8		57	43	34	28	52	40	32	26	48	37	30	25	32	26	22	22	18	16				13
9		53	39	30	25	49	36	28	23	45	34	27	22	29	23	19	20	17	14				12
10		49	35	27	22	45	33	26	21	42	31	24	20	26	21	17	19	15	13				11

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0 - 10	13	1.44	1.44
10 - 20	36	4.06	4.06
20 - 30	55	6.14	6.14
30 - 40	69	7.75	7.75
40 - 50	80	8.97	8.97
50 - 60	84	9.38	9.38
60 - 70	68	7.57	7.57
70 - 80	36	3.97	3.97
80 - 90	7	0.73	0.73
90 - 120	110	12.27	12.27
90 - 130	194	21.65	21.65
90 - 150	344	38.36	38.36
90 - 180	448	50.00	50.00
0 - 180	896	100.00	100.00

Average Luminance (Cd/m²)

Angle	0 Degree	45 Degree	90 Degree
45.0	2647	2647	2647
55.0	2983	2983	2983
65.0	2912	2912	2912
75.0	2318	2318	2318
85.0	966	966	966

Luminaire Luminous Flux: 896

Measured Input Power: 14.74 W

Total Luminaire Efficiency: N/A

Luminaire Luminous Efficacy: 60.8 lm/W

Luminaire Spacing Criterion (0 Degree): 1.2261

Luminaire Spacing Criterion (90 Degree): 1.2261

Category: Up and Down



Photometric Report: S2008131-R1

Prepared for: ANDlight · Test Date: 13 August 2020

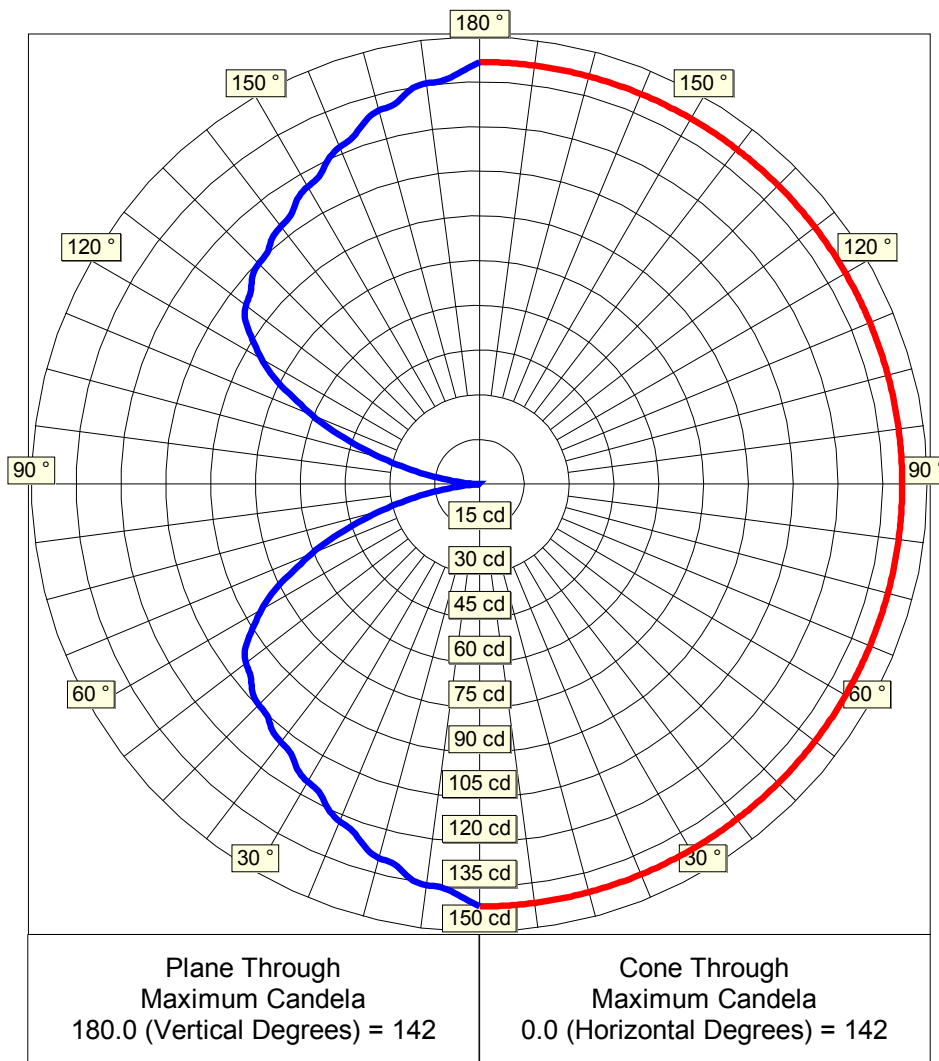
Luminaire: SPOT LIGHT VOLUMES · Lumcat: SPO-P-A-A-VA-120

Luminous Intensity - Polar Curve for each Plane(1)

Plane
Angles

Candela
Values

0.0	142
2.5	138
5.0	136
7.5	136
10.0	134
12.5	131
15.0	130
17.5	128
20.0	124
22.5	122
25.0	120
27.5	116
30.0	115
32.5	113
35.0	110
37.5	109
40.0	108
42.5	105
45.0	105
47.5	103
50.0	100
52.5	99
55.0	96
57.5	90
60.0	84
62.5	77
65.0	69
67.5	61
70.0	52
72.5	42
75.0	34
77.5	25
80.0	17
82.5	10
85.0	5
87.5	1
90.0	0
92.5	1
95.0	5
97.5	10



Cone
Angles

Candela
Values

0.0	142
-----	-----

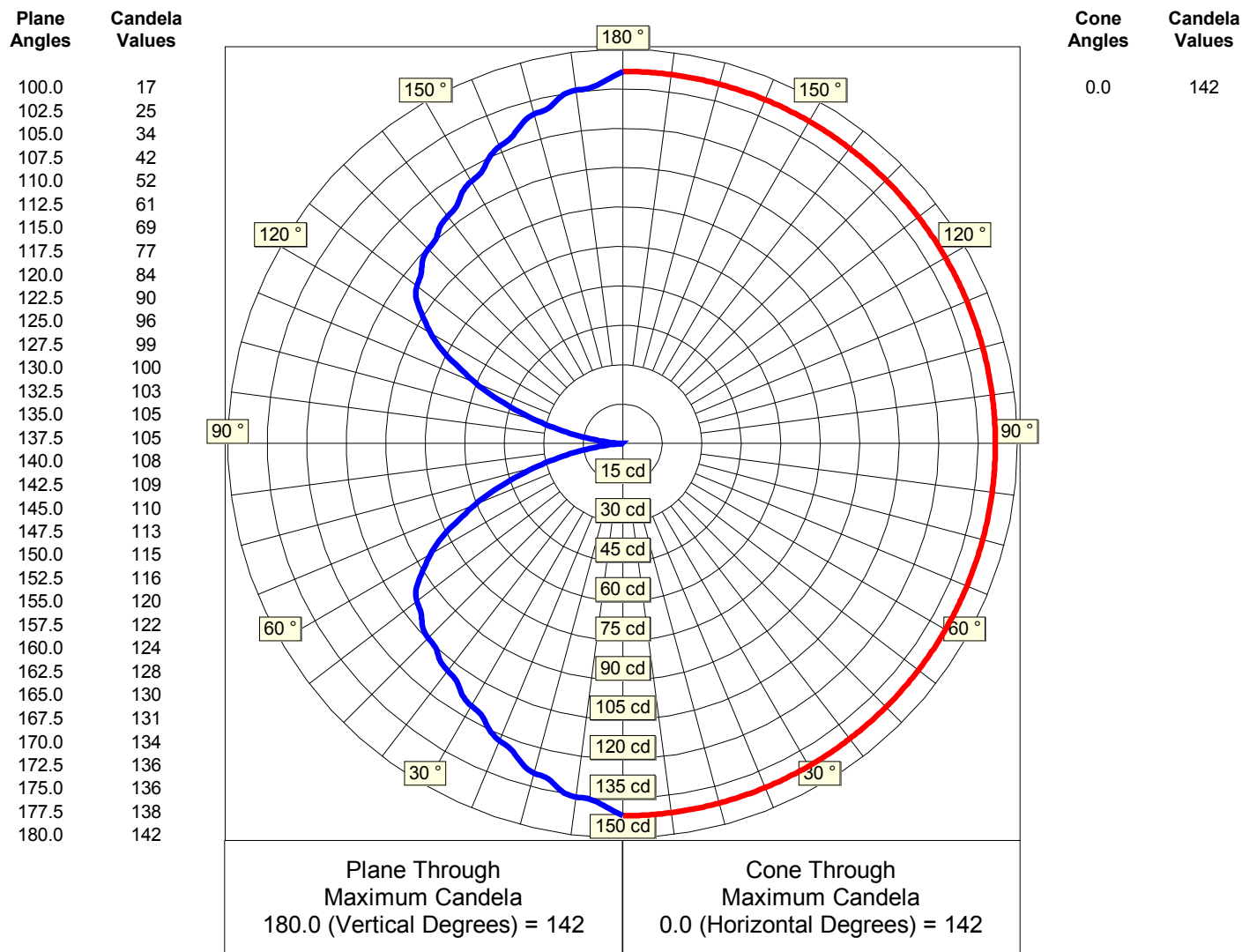


Photometric Report: S2008131-R1

Prepared for: ANDlight · Test Date: 13 August 2020

Luminaire: SPOT LIGHT VOLUMES · Lumcat: SPO-P-A-A-VA-120

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] 13 August 2020
[TESTLAB] Spectra Lux
[TEST] S2008131-R1
[MANUFAC] ANDlight
[LUMCAT] SPO-P-A-A-VA-120
[LUMINAIRE] SPOT LIGHT VOLUMES
[LAMP] (2)BulBrite G25 Frosted LED 7W c/w Integrated LED Driver @ 120.00V
[_BURNING] Vertical Base Up & Down (896 Luminaire Lumens)
[_REFLECTOR] Vanilla Spun Aluminum
[_LENS] None
[_HOUSING] Shades (A-A) - Aluminum Profile
[_NOMINAL COLOR] 2700 K
[_DRIVE CURRENT] 116.7 mA

Candela Table

Lateral Angles

	0.0
	0.0
	2.5
	5.0
	7.5
	10.0
	12.5
	15.0
	17.5
	20.0
V e r t i c a l	22.5
	25.0
	27.5
	30.0
	32.5
	35.0
	37.5
	40.0
	42.5
	45.0
A n g l e s	47.5
	50.0
	52.5
	55.0
	57.5
	60.0
	62.5
	65.0
	67.5
	70.0
	72.5
	75.0
	77.5
	80.0
	82.5
	85.0
	87.5
	90.0



Spectra Lux

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



Lateral Angles

	0.0
	92.5
	95.0
	97.5
	100.0
	102.5
	105.0
	107.5
	110.0
	112.5
	115.0
	117.5
	120.0
	122.5
	125.0
	127.5
	130.0
	132.5
	135.0
	137.5
	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