



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: CY4436		Driver Details: CY2023	
DUT Lab ID	SRIS 2823-12	Seasoning	0 Hour	Type	LED Power Supply
Lamp Type	LED/SSL	Test Product	SPO-P-A-C-VA-120	Manufacturer	Bulbrite
Current Mode	AC	Manufacturer	Bulbrite	Catalog No.	Integrated LED Driver
Test Report	S2008133-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	14.73 W

Luminaire Data

General Information		Optics		Aperture (feet)	
Manufacturer	ANDlight	Reflector	Vanilla Spun Aluminum	X	-0.8750
Name	SPOT LIGHT VOLUMES	Housing	Shades (A-C) Aluminum Profile	Y	-0.8750
Catalog No.	SPO-P-A-C-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



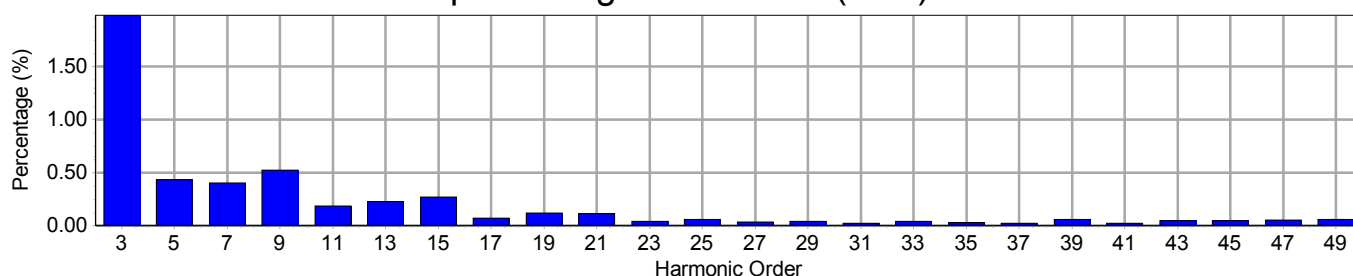
Lab Code: 200899-0

Electrical Measurements

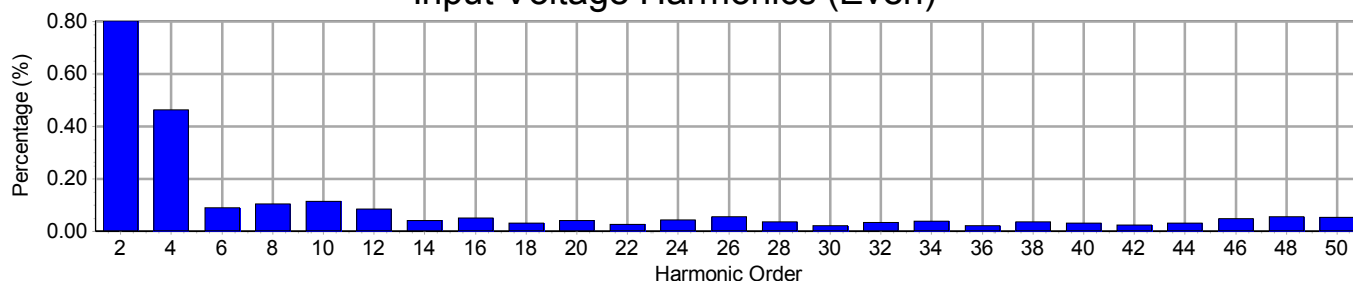
Input

Frequency	60 Hz	Active Power	14.73 W	THDV [ANSI]	2.38 %
Voltage	120.1 V(rms)	Apparent Power	15.92 VA	THDA [ANSI]	38.09 %
Current	0.1325 A(rms)	Power Factor	0.926	Max. Harmonic At	3rd order

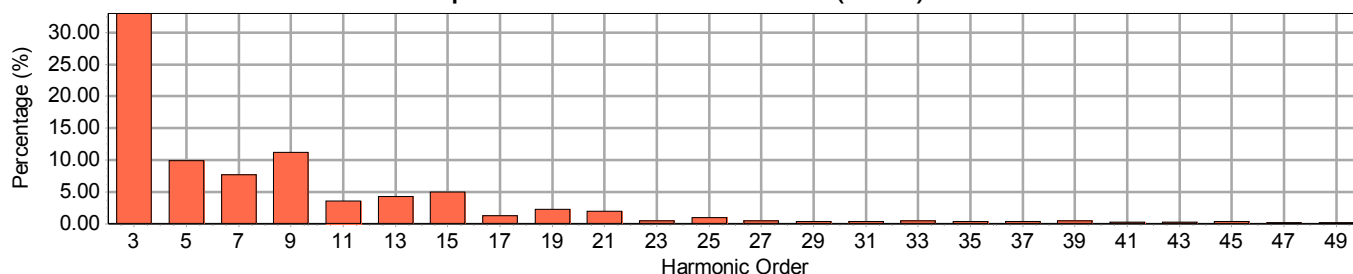
Input Voltage Harmonics (Odd)



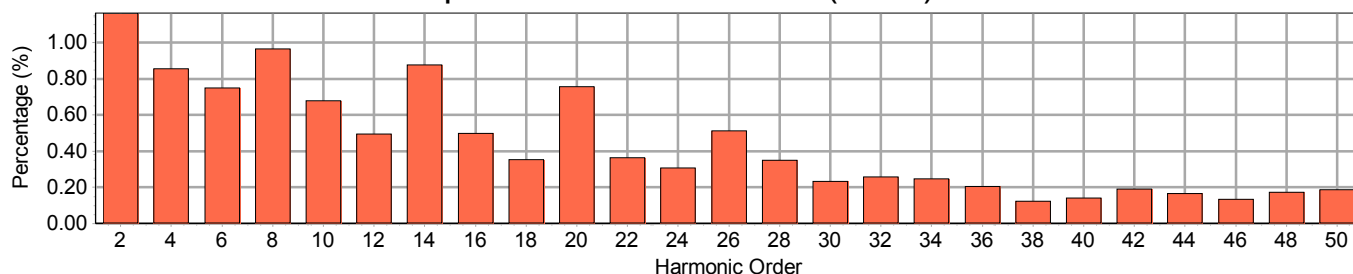
Input Voltage Harmonics (Even)



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	0.804	1.166
3	180	1.986	33.046	4	240	0.464	0.857
5	300	0.429	9.935	6	360	0.089	0.748
7	420	0.402	7.682	8	480	0.103	0.966
9	540	0.522	11.221	10	600	0.114	0.679
11	660	0.184	3.564	12	720	0.084	0.494
13	780	0.226	4.232	14	840	0.040	0.878
15	900	0.267	4.981	16	960	0.051	0.498
17	1020	0.067	1.272	18	1080	0.030	0.352
19	1140	0.116	2.255	20	1200	0.039	0.756
21	1260	0.109	1.922	22	1320	0.025	0.363
23	1380	0.040	0.450	24	1440	0.042	0.307
25	1500	0.060	0.943	26	1560	0.054	0.513
27	1620	0.035	0.434	28	1680	0.034	0.350
29	1740	0.039	0.368	30	1800	0.020	0.231
31	1860	0.021	0.331	32	1920	0.033	0.257
33	1980	0.038	0.459	34	2040	0.038	0.246
35	2100	0.029	0.365	36	2160	0.020	0.204
37	2220	0.021	0.338	38	2280	0.035	0.122
39	2340	0.058	0.477	40	2400	0.030	0.140
41	2460	0.020	0.284	42	2520	0.023	0.189
43	2580	0.047	0.235	44	2640	0.031	0.166
45	2700	0.044	0.334	46	2760	0.048	0.131
47	2820	0.051	0.175	48	2880	0.055	0.172
49	2940	0.056	0.126	50	3000	0.052	0.186



Spectra Lux

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



Photometric Report: S2008133-R1

Prepared for: ANDlight · Test Date: 13 August 2020

Luminaire: SPOT LIGHT VOLUMES · Lumcat: SPO-P-A-C-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		118	118	118	118	111	111	111	111	105	105	105	105	93	93	93	72	72	72				68
1		108	102	97	93	101	97	92	89	95	91	88	84	81	78	76	63	62	60				56
2		98	88	81	75	92	84	77	71	86	79	73	68	70	66	62	55	52	50				46
3		89	77	68	61	83	73	65	58	78	69	62	56	61	56	51	48	44	41				38
4		81	68	58	51	76	64	55	49	71	60	53	47	54	48	43	42	38	35				32
5		74	60	50	43	69	57	48	41	65	54	46	40	48	41	36	38	33	30				27
6		68	53	44	37	64	51	42	36	60	48	40	34	43	36	31	34	29	26				23
7		63	48	39	32	59	46	37	31	55	43	35	30	39	32	27	31	26	23				20
8		58	43	34	28	54	41	33	27	51	39	32	26	35	29	24	28	24	20				18
9		54	40	31	25	51	38	30	24	48	36	28	23	32	26	22	26	21	18				16
10		50	36	28	23	47	35	27	22	45	33	26	21	30	24	19	24	20	16				14

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0 - 10	13	1.95	1.95
10 - 20	36	5.50	5.50
20 - 30	55	8.31	8.31
30 - 40	69	10.49	10.49
40 - 50	80	12.14	12.14
50 - 60	84	12.70	12.70
60 - 70	68	10.26	10.26
70 - 80	36	5.37	5.37
80 - 90	7	0.99	0.99
90 - 120	26	3.99	3.99
90 - 130	53	7.94	7.94
90 - 150	132	19.97	19.97
90 - 180	214	32.29	32.29
0 - 180	662	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: 662

Measured Input Power: 14.73 W

Total Luminaire Efficiency: N/A

Luminaire Luminous Efficacy: 44.9 lm/W

Luminaire Spacing Criterion (0 Degree): 1.2261

Luminaire Spacing Criterion (90 Degree): 1.2261

Category: Up and Down



Photometric Report: S2008133-R1

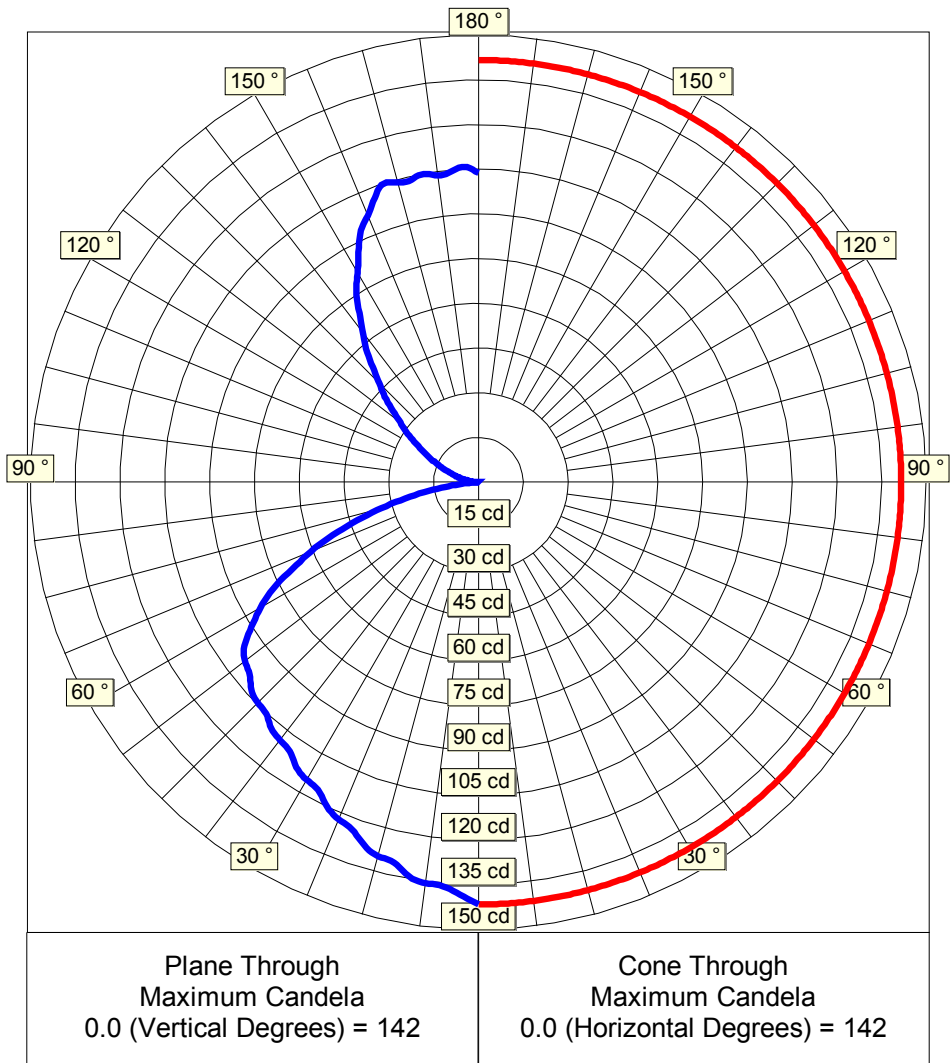
Prepared for: ANDlight · Test Date: 13 August 2020

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

Luminous Intensity - Polar Curve for each Plane(1)

Plane
Angles

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	2
97.5	3



Cone
Angles

Cone Angles	Candela Values
0.0	142

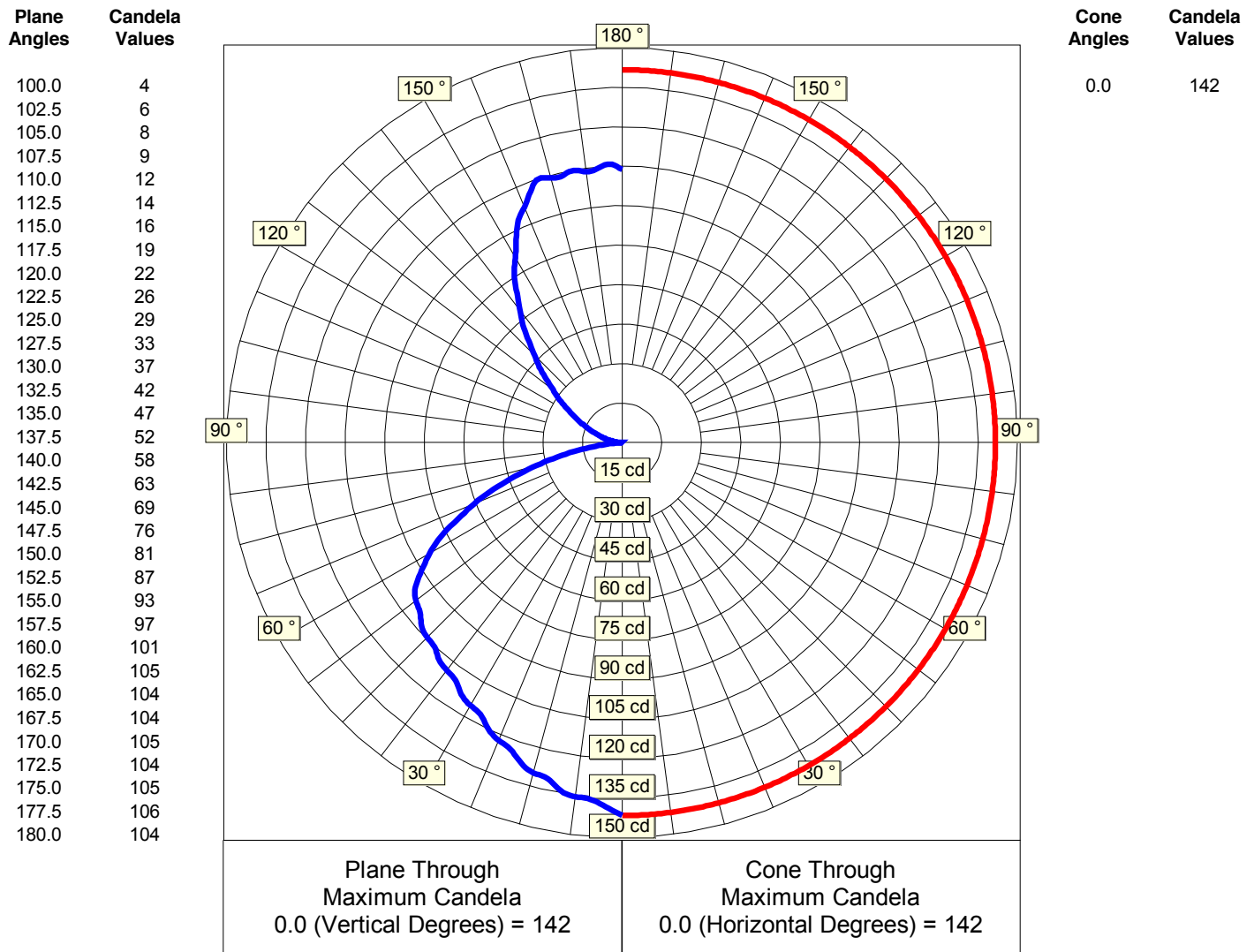


Photometric Report: S2008133-R1

Prepared for: ANDlight · Test Date: 13 August 2020

Luminaire: SPOT LIGHT VOLUMES · Lumcat: SPO-P-A-C-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] S2008133-R1
[MANUFAC] ANDlight
[LUMCAT] SPO-P-A-C-VA-120
[LUMINAIRE] SPOT LIGHT VOLUMES
[LAMP] (2)BulBrite G25 Frosted LED 7W Bulb c/w Integrated LED Driver @ 120.00V
[_BURNING] Vertical Base Up & Down (662 Luminaire Lumens)
[_REFLECTOR] Vanilla Spun Aluminum
[_LENS] None
[_HOUSING] Shades(A-C)- 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
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