



Moving Mirror Goniophotometer Test Report

Standard(s): IES LM-63, IES LM-79, ANSI C82.77

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

General Information		Lamp Details: CY4565		Driver Details: CY2024	
DUT Lab ID	SRIS 3049-6	Seasoning	0 Hour	Type	LED Power Supply
Lamp Type	LED/SSL	Test Product	VIN-W	Manufacturer	Shenzen Mailing Technologies
Current Mode	AC	Manufacturer	Shenzen Mailing Technologies	Catalog No.	Integrated LED Driver
Test Report	S2011203-R1	Lamp Catalog No.	(2) G9-A-45 LED Bulbs	Maximum Power	6 W
Test Date	20 November 2020	Drive Current	N.K.	Input Voltage	120.00 V
Report Date	23 November 2020	Nominal Color	3000 K	Operating Frequency	60 Hz
Ambient	24.4 °C	Burning Position	Junction Axial	Input Power	5.47 W

Luminaire Data

General Information		Optics		Aperture (feet)	
Manufacturer	ANDlight	Reflector	None	X	1.3750
Name	VINE	Housing	Formed Metal	Y	1.3750
Catalog No.	VIN-CW (Wall Mounted)	Lens	(2) Opalin Globes	Z	0.6562

Stabilization Time: 1 hour 15 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).





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Electrical Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Power Supply	iRDC	CIF-3000A	974997	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	2020/09/05	2021/09/05

Environment Equipment

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



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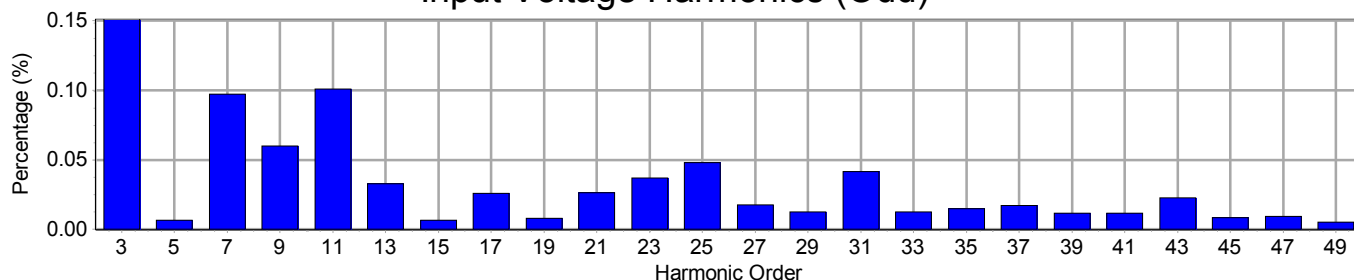
Lab Code: 200899-0

Electrical Measurements

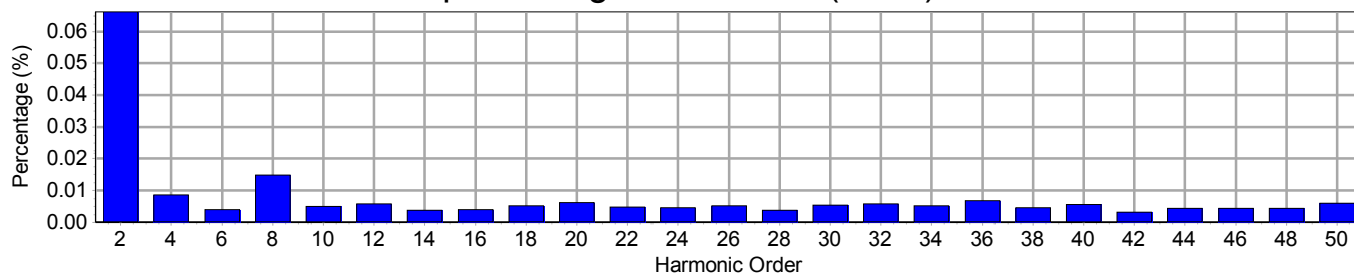
Input

Frequency	60 Hz	Active Power	5.47 W	THDV [ANSI]	0.25 %
Voltage	120.4 V(rms)	Apparent Power	5.79 VA	THDA [ANSI]	33.89 %
Current	0.0481 A(rms)	Power Factor	0.943	Max. Harmonic At	3rd order

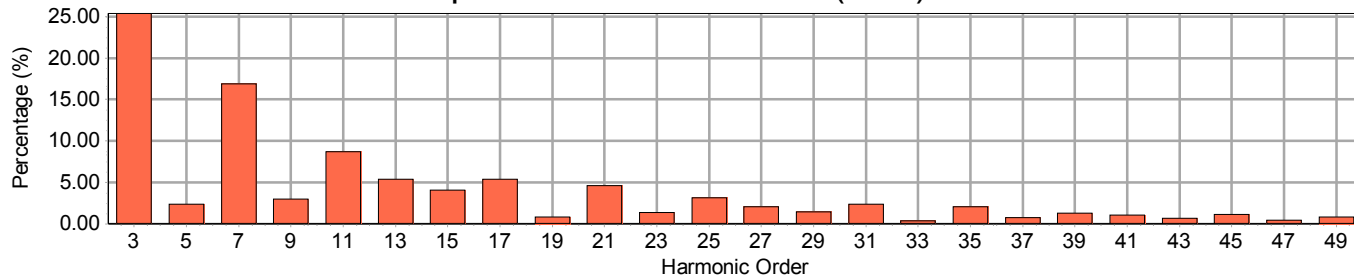
Input Voltage Harmonics (Odd)



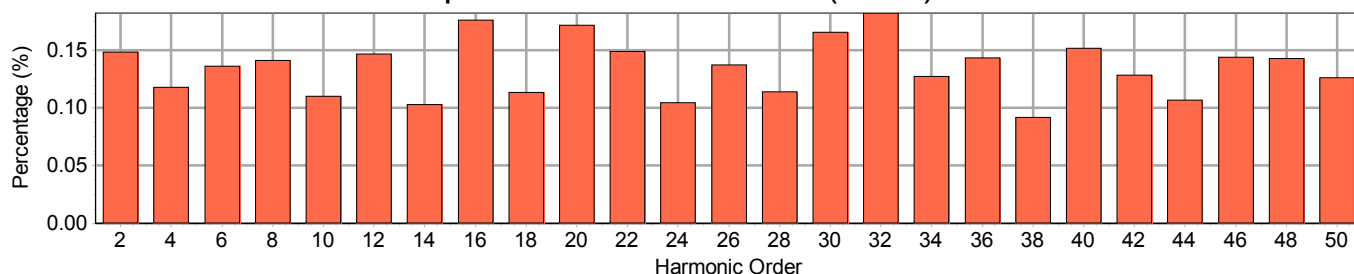
Input Voltage Harmonics (Even)



Input Current Harmonics (Odd)



Input Current Harmonics (Even)





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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	0.066	0.149
3	180	0.151	25.420	4	240	0.009	0.118
5	300	0.007	2.379	6	360	0.004	0.136
7	420	0.097	16.920	8	480	0.015	0.141
9	540	0.060	2.938	10	600	0.005	0.110
11	660	0.101	8.680	12	720	0.006	0.146
13	780	0.033	5.382	14	840	0.004	0.103
15	900	0.007	4.058	16	960	0.004	0.176
17	1020	0.026	5.401	18	1080	0.005	0.113
19	1140	0.008	0.785	20	1200	0.006	0.171
21	1260	0.026	4.589	22	1320	0.005	0.149
23	1380	0.037	1.329	24	1440	0.005	0.105
25	1500	0.048	3.101	26	1560	0.005	0.137
27	1620	0.018	2.072	28	1680	0.004	0.114
29	1740	0.013	1.405	30	1800	0.005	0.166
31	1860	0.041	2.330	32	1920	0.006	0.182
33	1980	0.013	0.377	34	2040	0.005	0.127
35	2100	0.015	2.012	36	2160	0.007	0.144
37	2220	0.017	0.768	38	2280	0.005	0.092
39	2340	0.012	1.274	40	2400	0.006	0.152
41	2460	0.012	1.066	42	2520	0.003	0.128
43	2580	0.023	0.673	44	2640	0.004	0.107
45	2700	0.008	1.106	46	2760	0.004	0.144
47	2820	0.009	0.411	48	2880	0.004	0.143
49	2940	0.006	0.806	50	3000	0.006	0.126



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Lab Code: 200899-0

Photometric Report: S2011203-R1

Prepared for: ANDlight · Test Date: 20 November 2020

Luminaire: VINE · Lumcat: VIN-CW (Wall Mounted)

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
0		116	116	116	116	107	107	107	107	99	99	99	99	83	83	83	56	56	56	50
1		102	95	88	83	93	87	82	77	85	80	75	71	66	63	59	43	41	39	33
2		91	80	71	64	83	74	66	59	76	68	61	55	56	50	46	35	32	29	24
3		82	69	59	51	75	64	55	47	68	58	50	44	48	42	37	30	26	23	19
4		75	60	50	42	68	55	46	39	62	51	42	36	42	35	30	26	22	19	15
5		68	53	43	35	62	49	39	33	56	45	36	30	37	30	25	23	19	16	12
6		62	47	37	30	57	43	34	28	52	40	32	26	33	26	21	21	17	13	10
7		57	42	32	26	52	39	30	24	48	36	28	22	30	23	19	19	15	12	9
8		53	38	29	22	49	35	27	21	44	32	25	19	27	21	16	17	13	10	8
9		49	34	25	20	45	32	24	18	41	29	22	17	24	18	14	16	12	9	7
10		46	31	23	17	42	29	21	16	38	27	20	15	22	17	13	14	11	8	6

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0 - 10	2	0.53	0.53
10 - 20	8	1.90	1.90
20 - 30	15	3.52	3.52
30 - 40	21	4.98	4.98
40 - 50	26	6.18	6.18
50 - 60	31	7.21	7.21
60 - 70	34	8.07	8.07
70 - 80	37	8.66	8.66
80 - 90	38	8.94	8.94
90 - 120	110	25.68	25.68
90 - 130	140	32.88	32.88
90 - 150	188	44.04	44.04
90 - 180	213	50.00	50.00
0 - 180	427	100.00	100.00

Average Luminance (Cd/m²)

Angle	0 Degree	45 Degree	90 Degree
45.0	291	350	366
55.0	354	436	458
65.0	472	598	634
75.0	771	983	1047
85.0	2304	2923	3105

Luminaire Luminous Flux: 427

Measured Input Power: 5.47 W

Total Luminaire Efficiency: N/A

Luminaire Luminous Efficacy: 78.0 lm/W

Luminaire Spacing Criterion (0 Degree): 1.9302

Luminaire Spacing Criterion (90 Degree): 2.2434

Category: Up and Down

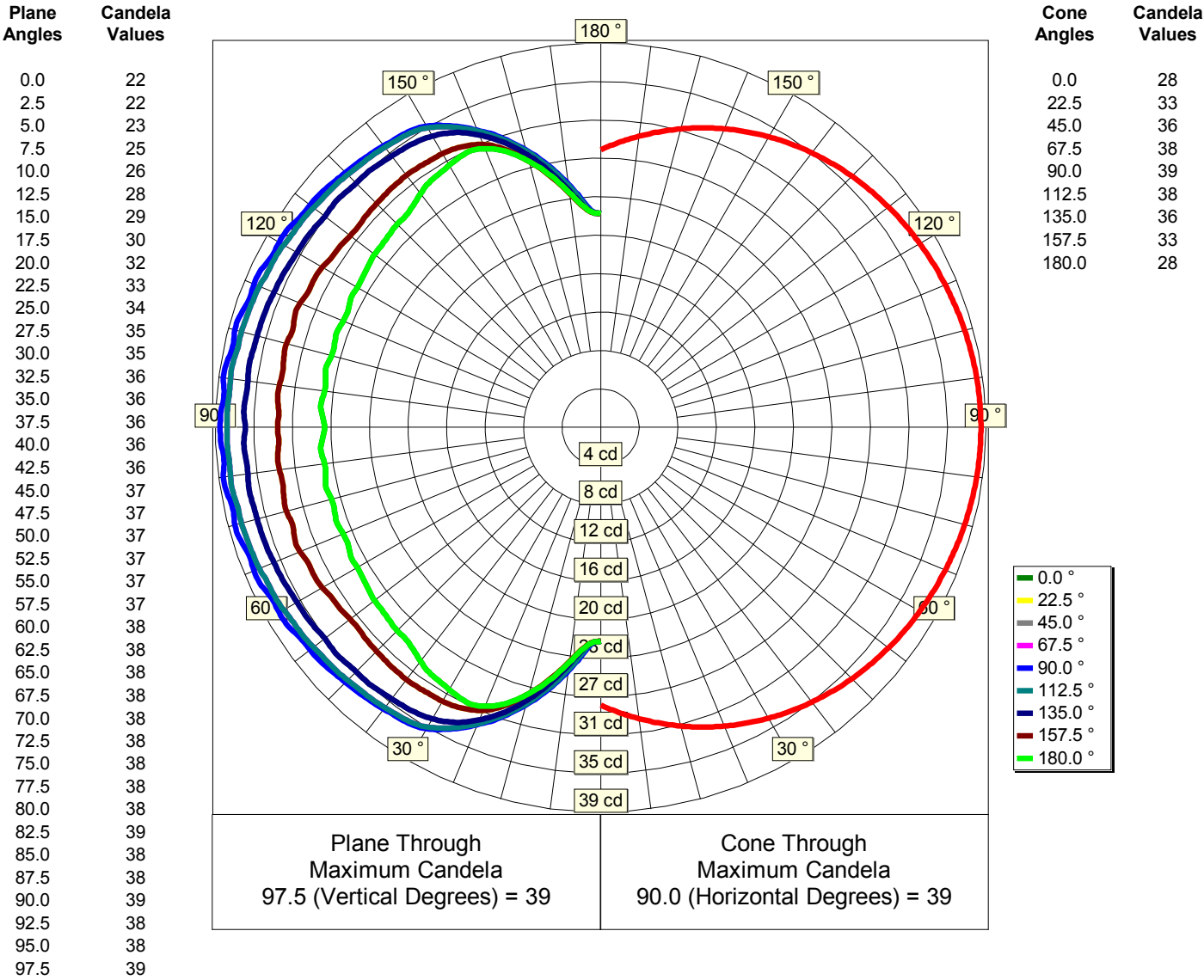


Photometric Report: S2011203-R1

Prepared for: ANDlight · Test Date: 20 November 2020

Luminaire: VINE · Lumcat: VIN-CW (Wall Mounted)

Luminous Intensity - Polar Curve for each Plane(1)



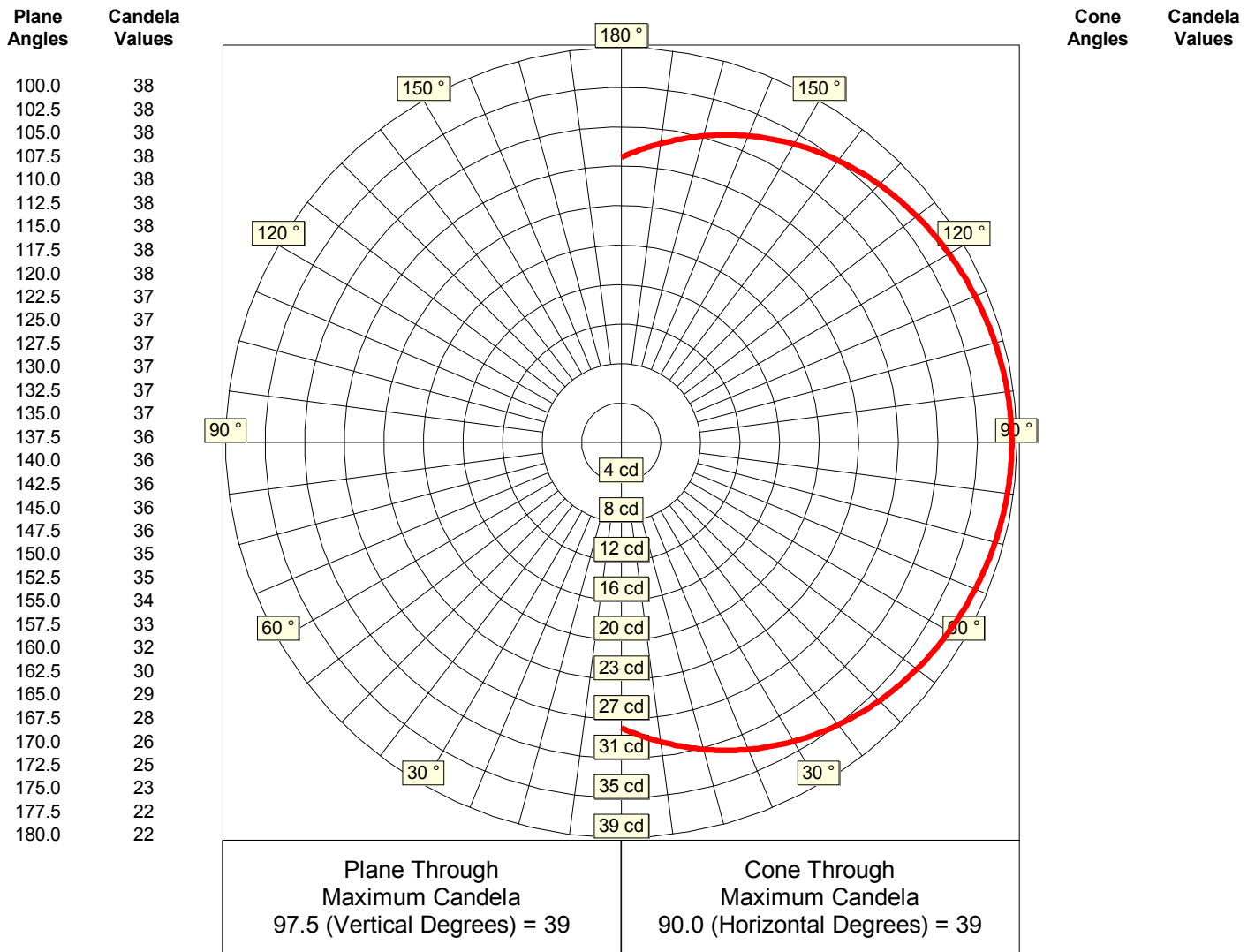


Photometric Report: S2011203-R1

Prepared for: ANDlight · Test Date: 20 November 2020

Luminaire: VINE · Lumcat: VIN-CW (Wall Mounted)

Luminous Intensity - Polar Curve for each Plane(2)





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IES File Headers

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IESNA:LM-63
[ISSUEDATE]      20 November 2020
[TESTLAB]        Spectra Lux
[TEST]           S2011203-R1
[MANUFAC]        ANDlight
[LUMCAT]          VIN-CW (Wall Mounted)
[LUMINAIRE]       VINE
[LAMP]           (2)G9-A-45 LED Bulbs c/w Integrated LED Driver @ 120.00V
[_BURNING]        Axial (427 Luminaire Lumens)
[_REFLECTOR]      None
[_LENS]           (2) Opalin Globes
[_HOUSING]        Formed Metal
[_NOMINAL COLOR] 3000 K
[_DRIVE CURRENT] N.K.
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Candela Table

Lateral Angles

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
V e r t i c a l	0.0	22	22	22	22	22	22	22	22
	2.5	22	22	22	22	22	22	22	22
	5.0	23	23	23	23	23	23	23	23
	7.5	24	24	24	25	25	24	24	24
	10.0	25	25	26	26	26	26	25	25
	12.5	27	27	27	28	28	27	27	27
	15.0	28	28	29	29	29	29	28	28
	17.5	29	29	30	30	30	30	29	29
	20.0	30	30	31	31	31	31	30	30
	22.5	31	31	32	33	33	32	31	31
	25.0	31	32	33	34	34	33	32	31
	27.5	31	32	34	34	34	34	32	31
	30.0	31	32	34	35	35	34	32	31
	32.5	30	32	34	35	35	34	32	30
	35.0	30	32	35	36	36	35	32	30
	37.5	30	32	35	36	36	35	32	30
	40.0	29	32	35	36	36	35	32	29
	42.5	29	32	35	36	36	35	32	29
	45.0	29	32	35	36	37	35	32	29
	47.5	29	32	35	36	37	35	32	29
A n g l e s	50.0	29	32	35	36	37	35	32	29
	52.5	29	32	35	37	37	35	32	29
	55.0	29	32	35	37	37	35	32	29
	57.5	28	32	35	37	37	35	32	28
	60.0	28	32	35	37	38	35	32	28
	62.5	28	33	36	37	38	36	33	28
	65.0	28	33	36	37	38	36	33	28
	67.5	28	33	36	37	38	36	33	28
	70.0	28	33	36	37	38	36	33	28
	72.5	28	33	36	38	38	36	33	28
	75.0	28	33	36	38	38	36	33	28
	77.5	28	33	36	38	38	36	33	28
	80.0	28	33	36	38	38	36	33	28
	82.5	28	33	36	38	39	36	33	28
	85.0	28	33	36	38	38	36	33	28
	87.5	28	33	36	38	38	36	33	28
	90.0	28	33	36	38	39	36	33	28



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Lateral Angles

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	
V e r t i c a l	92.5	28	33	36	38	38	38	36	33	28
	95.0	28	33	36	38	38	38	36	33	28
	97.5	28	33	36	38	39	38	36	33	28
	100.0	28	33	36	38	38	38	36	33	28
	102.5	28	33	36	38	38	38	36	33	28
	105.0	28	33	36	38	38	38	36	33	28
	107.5	28	33	36	38	38	38	36	33	28
	110.0	28	33	36	37	38	37	36	33	28
	112.5	28	33	36	37	38	37	36	33	28
	115.0	28	33	36	37	38	37	36	33	28
	117.5	28	33	36	37	38	37	36	33	28
	120.0	28	32	35	37	38	37	35	32	28
	122.5	28	32	35	37	37	37	35	32	28
	125.0	29	32	35	37	37	37	35	32	29
	127.5	29	32	35	37	37	37	35	32	29
	130.0	29	32	35	36	37	36	35	32	29
	132.5	29	32	35	36	37	36	35	32	29
	135.0	29	32	35	36	37	36	35	32	29
A n g l e s	137.5	29	32	35	36	36	36	35	32	29
	140.0	29	32	35	36	36	36	35	32	29
	142.5	30	32	35	36	36	36	35	32	30
	145.0	30	32	35	36	36	36	35	32	30
	147.5	30	32	34	35	36	35	34	32	30
	150.0	31	32	34	35	35	35	34	32	31
	152.5	31	32	34	34	35	34	34	32	31
	155.0	31	32	33	34	34	34	33	32	31
	157.5	31	31	32	33	33	33	32	31	31
	160.0	30	30	31	31	32	31	31	30	30
	162.5	29	29	30	30	30	30	30	29	29
	165.0	28	28	29	29	29	29	29	28	28
	167.5	27	27	27	28	28	28	27	27	27
	170.0	25	25	26	26	26	26	26	25	25
	172.5	24	24	24	25	25	25	24	24	24
175.0	23	23	23	23	23	23	23	23	23	
177.5	22	22	22	22	22	22	22	22	22	
180.0	22	22	22	22	22	22	22	22	22	