

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331570-935

Luminaire Tested: **S122DIW-S865D970U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331570-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D970U935-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5901.2 lumens
Efficiency: N/A
Efficacy: 96.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

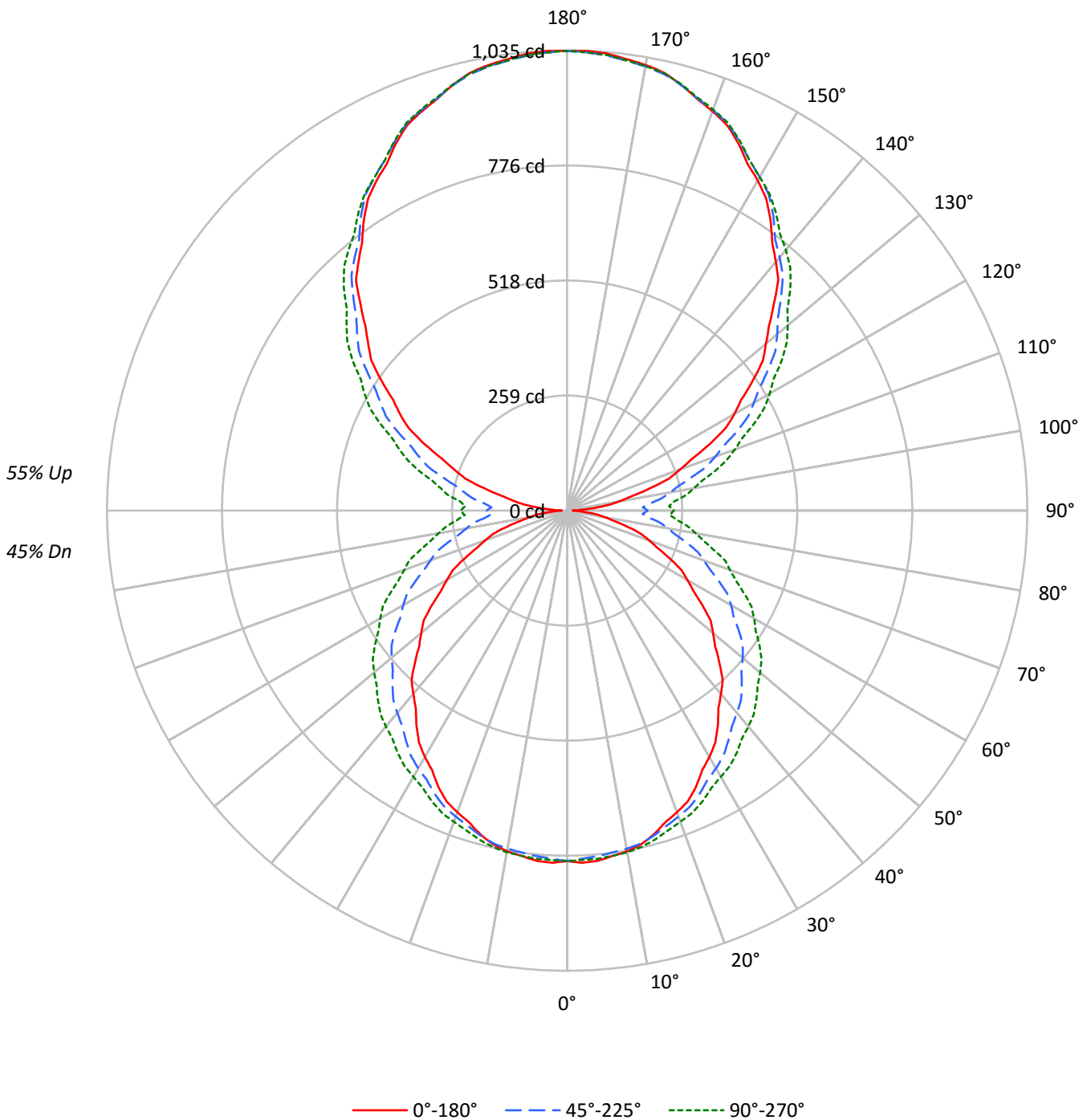
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45
1	95	90	86	82	87	83	79	76	69	66	63	56	54	52	44	42	41	35
2	86	78	72	66	79	72	66	61	59	55	51	48	45	42	38	35	34	29
3	78	68	60	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	60	49	42	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	27	30	25	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	20	16	14	11
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12728	12728	12728
5°	12790	12252	12205
10°	12710	11890	11756
15°	12535	11506	11284
20°	12312	11097	10828
25°	12095	10701	10415
30°	11786	10293	10000
35°	11474	9900	9708
40°	11147	9566	9415
45°	10835	9267	9165
50°	10500	8995	8920
55°	10150	8703	8668
60°	9721	8403	8403
65°	9278	8047	8088
70°	8774	7666	7748
75°	8132	7293	7435
80°	7126	6912	7117
85°	6164	6582	6872



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.7	1.3
10°-20°	214.2	3.6
20°-30°	324.6	5.5
30°-40°	395.4	6.7
40°-50°	425.3	7.2
50°-60°	413.1	7.0
60°-70°	360.7	6.1
70°-80°	277.7	4.7
80°-90°	190.5	3.2
90°-100°	193.9	3.3
100°-110°	297.1	5.0
110°-120°	409.6	6.9
120°-130°	491.7	8.3
130°-140°	527.6	8.9
140°-150°	505.6	8.6
150°-160°	422.0	7.2
160°-170°	279.9	4.7
170°-180°	97.8	1.7
0°-30°	613.5	10.4
0°-40°	1008.9	17.1
0°-60°	1847.2	31.3
0°-90°	2676.0	45.3
90°-120°	900.5	15.3
90°-150°	2425.5	41.1
90°-180°	3225.0	54.6
0°-180°	5901.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	788	788	788	788	788	
5°	791	787	780	787	786	75
15°	754	756	756	766	766	212
25°	686	694	704	717	721	315
35°	591	610	632	656	665	369
45°	484	516	555	589	602	374
55°	371	413	472	512	528	332
65°	254	310	377	422	439	252
75°	140	205	278	325	342	149
85°	41	112	185	231	249	44
90°	12	90	181	224	240	10
95°	54	117	187	229	242	59
105°	193	230	290	330	344	204
115°	353	373	421	453	464	349
125°	510	519	552	579	589	456
135°	658	668	680	703	710	508
145°	797	803	808	816	818	498
155°	911	914	916	920	918	419
165°	992	991	991	996	992	280
175°	1032	1029	1027	1033	1028	98
180°	1033	1033	1033	1033	1033	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	792.9	792.3	791.7	791.1	790.5	789.5	788.0	786.6	785.1	783.8	784.8
5°	790.6	789.9	789.1	788.3	787.6	786.4	784.9	783.3	781.9	780.3	781.9
7.5°	783.5	783.0	782.5	782.0	781.5	780.7	779.5	778.3	777.1	776.0	777.8
10°	778.1	777.6	777.1	776.5	776.0	775.4	774.6	773.9	773.1	772.3	774.4
12.5°	768.9	769.0	769.1	769.2	769.3	769.0	768.5	767.9	767.4	766.8	768.9
15°	754.1	754.6	755.1	755.6	756.0	756.3	756.3	756.3	756.3	756.3	758.6
17.5°	734.9	735.9	737.0	738.0	739.1	740.0	740.9	741.7	742.5	743.3	745.7
20°	722.0	723.3	724.6	725.9	727.1	728.3	729.3	730.3	731.3	732.4	735.1
22.5°	708.3	709.8	711.3	712.7	714.2	715.7	717.1	718.5	720.0	721.3	724.2
25°	685.5	687.3	689.1	690.9	692.6	694.7	696.9	699.2	701.5	703.8	706.8
27.5°	658.1	661.0	663.8	666.8	669.7	672.4	675.1	677.9	680.5	683.2	687.1
30°	639.8	643.1	646.4	649.7	653.0	656.3	659.6	662.9	666.2	669.5	673.6
32.5°	619.7	623.4	627.1	630.9	634.6	638.3	642.2	646.2	650.1	653.9	658.7
35°	590.6	595.0	599.3	603.6	608.0	612.5	617.3	622.2	627.0	631.8	637.4
37.5°	559.1	564.1	569.1	574.0	579.0	584.6	590.9	597.2	603.4	609.7	615.9
40°	538.1	543.7	549.3	554.9	560.4	566.7	573.5	580.4	587.3	594.1	600.7
42.5°	518.0	523.6	529.2	534.8	540.4	547.1	554.9	562.8	570.7	578.6	585.7
45°	484.4	491.3	498.1	505.0	511.9	519.7	528.6	537.5	546.4	555.3	563.1
47.5°	451.3	458.7	466.2	473.7	481.1	490.1	500.5	510.9	521.3	531.8	539.9
50°	428.4	436.3	444.2	452.0	459.9	469.6	481.0	492.4	503.9	515.3	523.9
52.5°	406.5	414.7	423.1	431.4	439.6	449.8	461.8	473.8	485.9	497.9	506.7
55°	371.3	380.5	389.6	398.7	407.9	419.0	432.2	445.5	458.7	471.8	481.0
57.5°	336.6	346.9	357.2	367.5	377.8	389.7	403.1	416.6	430.1	443.5	453.4
60°	311.9	322.8	333.7	344.7	355.6	368.2	382.7	397.2	411.6	426.2	435.8
62.5°	290.0	301.3	312.6	323.9	335.3	348.2	362.7	377.1	391.6	406.0	416.3
65°	253.7	266.0	278.5	290.9	303.4	317.1	332.1	347.1	362.1	377.0	387.4
67.5°	220.2	233.2	246.2	259.2	272.2	286.5	301.8	317.1	332.4	347.8	358.3
70°	196.5	209.7	222.9	236.1	249.3	263.8	279.6	295.2	311.0	326.7	337.7
72.5°	174.6	188.2	201.8	215.4	229.0	243.7	259.8	275.7	291.6	307.5	318.3
75°	140.5	154.7	168.9	183.2	197.4	212.7	228.9	245.1	261.4	277.6	288.5
77.5°	107.6	122.5	137.4	152.2	167.1	182.8	199.3	215.9	232.3	248.8	259.7
80°	85.7	101.2	116.7	132.2	147.7	163.6	180.1	196.7	213.1	229.6	240.3
82.5°	67.4	82.7	98.0	113.2	128.5	144.6	161.3	178.0	194.7	211.4	222.1
85°	41.2	56.9	72.6	88.3	104.1	120.1	136.3	152.6	168.8	185.1	195.8
87.5°	22.6	38.1	53.7	69.4	85.0	101.3	118.4	135.5	152.6	169.7	179.9
90°	12.3	29.4	46.4	63.5	80.5	99.3	119.8	140.3	160.8	181.3	191.1
92.5°	26.0	41.4	56.8	72.2	87.7	103.8	120.4	137.0	153.7	170.3	180.4
95°	54.5	68.4	82.2	96.1	109.9	124.8	140.3	155.9	171.6	187.2	196.8
97.5°	90.8	103.1	115.5	127.8	140.1	153.9	169.3	184.7	200.0	215.4	224.8
100°	118.7	129.7	140.6	151.6	162.6	175.4	190.2	205.0	219.8	234.6	244.0
102.5°	147.1	157.0	166.8	176.6	186.4	198.6	213.2	227.7	242.3	256.8	266.1
105°	193.2	201.1	209.1	217.1	225.0	235.7	249.3	262.9	276.6	290.1	299.4
107.5°	240.7	247.5	254.3	261.0	267.8	277.4	290.1	302.7	315.4	328.0	336.7
110°	270.5	276.8	283.0	289.3	295.5	304.9	317.3	329.8	342.2	354.6	362.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	304.0	309.4	314.9	320.3	325.7	334.3	345.9	357.7	369.4	381.0	388.7
115°	353.4	357.3	361.3	365.2	369.2	376.7	387.8	398.8	409.8	420.9	428.3
117.5°	401.4	404.8	408.2	411.6	414.9	421.4	430.8	440.3	449.8	459.3	466.3
120°	434.2	436.8	439.4	442.0	444.5	450.0	458.7	467.3	475.9	484.5	491.6
122.5°	464.3	466.5	468.7	471.1	473.3	478.6	487.2	495.6	504.0	512.5	518.9
125°	509.8	511.6	513.3	515.1	516.8	521.4	529.0	536.6	544.1	551.6	557.9
127.5°	555.3	557.3	559.2	561.2	563.2	567.1	572.9	578.8	584.6	590.5	596.1
130°	583.9	586.3	588.5	590.7	593.1	596.6	601.6	606.5	611.5	616.4	622.1
132.5°	616.0	617.9	619.7	621.5	623.3	626.2	630.4	634.6	638.8	643.0	648.1
135°	657.8	660.0	662.1	664.2	666.3	668.8	671.8	674.7	677.6	680.5	685.7
137.5°	703.0	704.6	706.4	708.1	709.7	711.4	713.0	714.6	716.3	717.9	722.4
140°	730.2	731.7	733.1	734.7	736.2	737.6	739.1	740.6	742.1	743.6	747.6
142.5°	758.1	759.6	761.0	762.6	764.1	765.2	765.9	766.7	767.5	768.2	771.6
145°	797.0	798.4	799.8	801.2	802.5	803.7	804.9	806.1	807.3	808.4	810.1
147.5°	832.8	834.5	836.1	837.7	839.3	840.5	841.3	842.1	842.8	843.6	844.3
150°	857.2	858.4	859.5	860.7	861.9	862.9	863.7	864.4	865.2	866.0	866.5
152.5°	878.9	880.0	881.2	882.4	883.6	884.6	885.5	886.4	887.3	888.3	889.0
155°	911.3	911.9	912.5	913.1	913.6	914.2	914.8	915.4	915.9	916.5	917.5
157.5°	939.0	939.4	939.8	940.2	940.6	941.0	941.3	941.7	942.0	942.4	943.7
160°	955.8	956.1	956.6	956.9	957.3	957.6	957.9	958.0	958.2	958.4	959.6
162.5°	971.1	971.2	971.3	971.4	971.5	971.6	971.8	972.0	972.2	972.3	973.7
165°	991.5	991.4	991.2	990.9	990.8	990.7	990.7	990.7	990.7	990.7	992.0
167.5°	1008.7	1008.1	1007.5	1006.9	1006.3	1006.0	1006.0	1005.9	1005.9	1005.8	1007.2
170°	1017.7	1017.1	1016.6	1016.0	1015.4	1015.0	1014.8	1014.6	1014.4	1014.3	1015.5
172.5°	1024.0	1023.4	1022.8	1022.3	1021.7	1021.2	1021.1	1020.9	1020.7	1020.5	1021.8
175°	1031.7	1031.0	1030.5	1029.9	1029.3	1028.8	1028.5	1028.0	1027.7	1027.3	1028.6
177.5°	1034.8	1034.3	1033.9	1033.4	1032.9	1032.5	1032.3	1031.9	1031.7	1031.3	1032.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	785.7	786.8	787.8	788.2	787.7	787.3	786.9	786.5
5°	783.3	784.9	786.4	787.0	786.8	786.5	786.3	786.0
7.5°	779.6	781.4	783.3	784.1	783.9	783.6	783.3	783.1
10°	776.4	778.4	780.5	781.4	781.1	780.8	780.6	780.3
12.5°	770.9	772.9	775.0	775.8	775.6	775.3	775.1	774.8
15°	760.9	763.2	765.5	766.5	766.2	765.9	765.7	765.5
17.5°	748.1	750.4	752.9	754.1	754.1	754.1	754.1	754.1
20°	738.0	740.7	743.5	744.9	744.9	744.9	744.9	744.9
22.5°	726.9	729.8	732.5	734.2	734.5	734.9	735.4	735.8
25°	709.9	712.9	716.0	717.9	718.6	719.4	720.1	720.9
27.5°	691.0	694.8	698.6	700.9	701.5	702.0	702.6	703.1
30°	677.6	681.7	685.8	688.2	688.9	689.7	690.4	691.2
32.5°	663.3	668.0	672.6	675.7	677.0	678.4	679.8	681.1
35°	643.0	648.6	654.2	657.8	659.6	661.4	663.1	665.0
37.5°	622.0	628.2	634.4	638.4	640.3	642.2	644.1	646.0
40°	607.3	613.9	620.5	624.9	627.2	629.5	631.8	634.1
42.5°	593.0	600.2	607.4	612.2	614.4	616.7	619.0	621.3
45°	571.0	578.9	586.8	591.9	594.5	597.0	599.6	602.1
47.5°	548.2	556.4	564.6	570.2	572.9	575.8	578.5	581.3
50°	532.5	541.1	549.8	555.5	558.3	561.1	563.9	566.7
52.5°	515.6	524.4	533.2	539.2	542.2	545.2	548.1	551.1
55°	490.2	499.3	508.4	514.6	517.9	521.2	524.5	527.8
57.5°	463.2	473.0	482.9	489.6	492.8	496.2	499.6	502.9
60°	445.5	455.1	464.8	471.3	474.9	478.5	482.0	485.6
62.5°	426.5	436.8	447.0	453.9	457.2	460.5	463.9	467.3
65°	397.9	408.3	418.7	425.5	428.8	432.1	435.4	438.7
67.5°	368.8	379.3	389.9	396.8	400.3	403.7	407.2	410.6
70°	348.6	359.5	370.4	377.4	380.5	383.5	386.6	389.6
72.5°	329.0	339.7	350.4	357.6	361.3	364.9	368.6	372.2
75°	299.5	310.4	321.3	328.4	331.7	335.0	338.3	341.6
77.5°	270.6	281.5	292.3	299.5	303.1	306.6	310.2	313.7
80°	251.0	261.7	272.3	279.4	282.9	286.5	290.1	293.6
82.5°	232.7	243.3	254.0	261.1	264.4	267.7	271.0	274.4
85°	206.4	217.1	227.7	234.9	238.4	241.9	245.5	249.1
87.5°	190.3	200.5	210.9	217.7	220.9	224.2	227.5	230.7
90°	200.9	210.6	220.4	226.9	230.1	233.4	236.6	239.9
92.5°	190.4	200.4	210.4	217.0	220.1	223.2	226.3	229.4
95°	206.5	216.1	225.8	232.0	234.6	237.3	240.0	242.5
97.5°	234.2	243.6	253.0	259.2	262.1	265.1	268.0	271.0
100°	253.4	262.8	272.2	278.2	280.8	283.4	285.9	288.5
102.5°	275.5	284.8	294.2	300.1	302.7	305.4	308.0	310.6
105°	308.7	318.0	327.2	333.2	336.0	338.8	341.6	344.4
107.5°	345.3	354.0	362.7	368.1	370.0	371.9	373.8	375.7
110°	370.8	379.0	387.1	392.3	394.5	396.7	398.9	401.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	396.3	404.0	411.6	416.6	419.0	421.4	423.8	426.1
115°	435.8	443.2	450.6	455.4	457.6	459.8	462.0	464.3
117.5°	473.4	480.4	487.5	492.0	494.0	496.0	498.0	500.1
120°	498.7	505.8	512.9	517.6	519.8	522.0	524.3	526.4
122.5°	525.4	531.8	538.3	542.4	544.4	546.4	548.4	550.3
125°	564.1	570.4	576.7	580.9	583.0	585.0	587.2	589.3
127.5°	601.7	607.3	612.9	616.5	618.1	619.7	621.3	622.9
130°	627.8	633.5	639.2	642.7	643.9	645.2	646.4	647.7
132.5°	653.1	658.1	663.1	666.4	667.8	669.2	670.6	672.0
135°	690.9	695.9	701.1	704.4	705.8	707.3	708.8	710.2
137.5°	726.9	731.4	736.0	738.7	739.7	740.6	741.6	742.5
140°	751.7	755.7	759.8	762.2	762.9	763.7	764.5	765.2
142.5°	775.1	778.4	781.9	783.9	784.4	784.9	785.5	786.0
145°	811.8	813.6	815.3	816.4	816.9	817.3	817.9	818.4
147.5°	844.9	845.5	846.2	846.4	846.3	846.2	846.0	845.9
150°	867.1	867.7	868.3	868.3	867.7	867.1	866.5	866.0
152.5°	889.8	890.5	891.2	891.2	890.5	889.8	889.0	888.3
155°	918.5	919.5	920.4	920.6	920.1	919.5	918.9	918.3
157.5°	945.0	946.3	947.6	947.8	946.9	946.0	945.0	944.1
160°	960.7	961.9	963.0	963.3	962.5	961.7	961.0	960.2
162.5°	975.0	976.3	977.7	977.8	976.9	975.9	975.0	974.1
165°	993.4	994.7	996.1	996.3	995.3	994.4	993.4	992.4
167.5°	1008.6	1010.0	1011.2	1011.4	1010.5	1009.4	1008.4	1007.5
170°	1016.9	1018.3	1019.7	1019.8	1018.6	1017.4	1016.2	1015.1
172.5°	1023.2	1024.6	1025.9	1026.1	1024.8	1023.7	1022.5	1021.4
175°	1030.0	1031.4	1032.7	1032.9	1031.7	1030.5	1029.3	1028.2
177.5°	1033.2	1034.1	1035.0	1035.0	1034.1	1033.2	1032.3	1031.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4

(END OF REPORT)