

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: P331600-935

Luminaire Tested: **S122DIW-S1005D970U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331600-935
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-S1005D970U935-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 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: 6367.2 lumens
Efficiency: N/A
Efficacy: 94.5 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

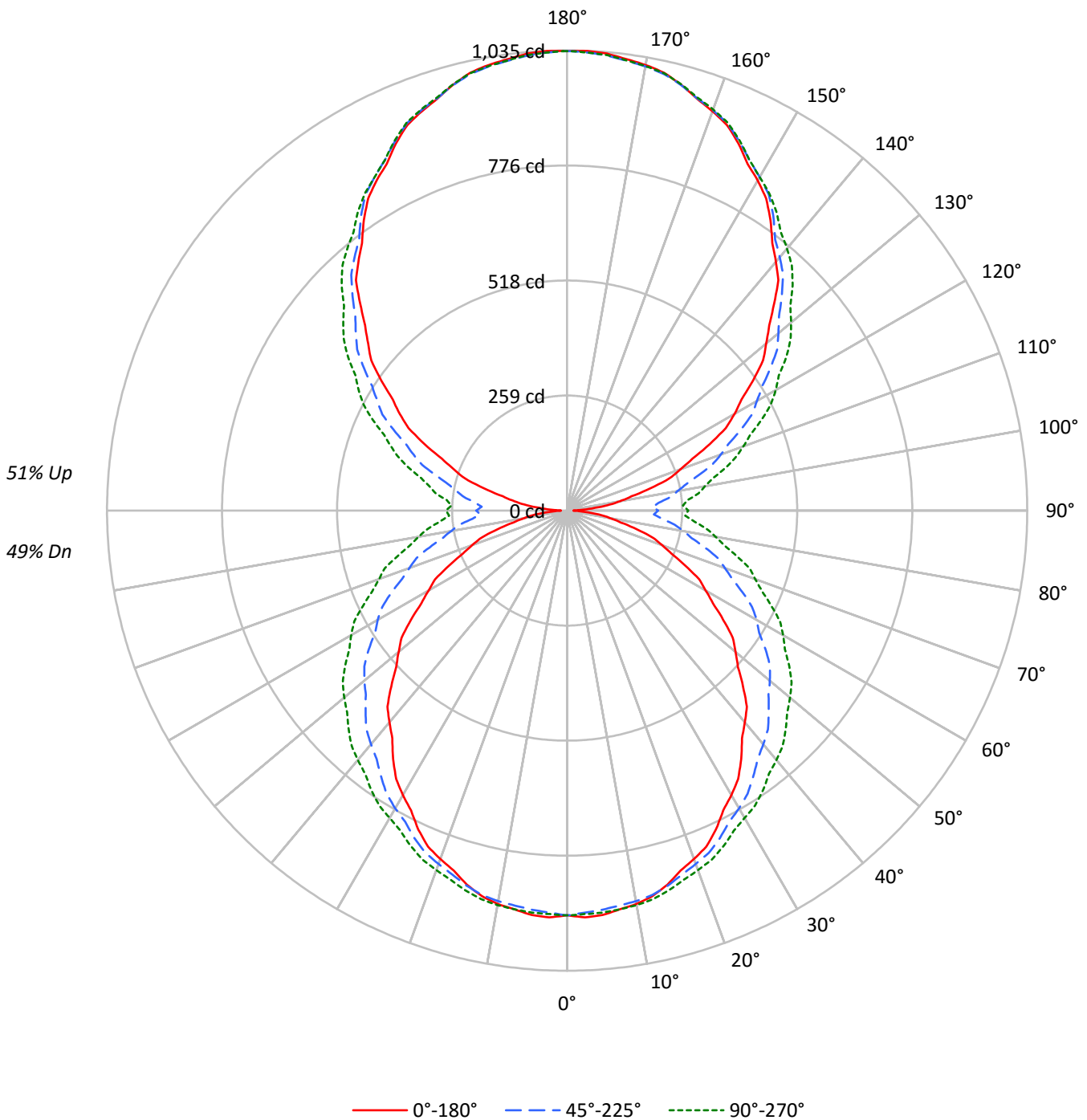
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	96	91	87	83	88	84	80	76	70	67	65	58	56	54	46	45	43	38
2	87	79	72	66	79	72	67	62	61	56	52	50	47	44	40	37	35	31
3	79	69	61	55	72	63	56	51	53	48	43	43	40	36	35	32	29	25
4	72	60	52	46	66	56	48	43	47	41	37	38	34	31	31	28	25	21
5	66	54	45	39	60	49	42	36	42	36	31	34	30	26	28	24	22	18
6	61	48	39	33	55	44	37	31	37	31	27	31	26	23	25	21	19	16
7	56	43	35	29	51	40	33	27	34	28	24	28	23	20	23	19	17	14
8	52	39	31	26	47	36	29	24	31	25	21	26	21	18	21	17	15	12
9	48	36	28	23	44	33	26	21	28	23	19	23	19	16	19	16	13	11
10	45	33	25	20	41	30	24	19	26	20	17	22	17	14	18	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14699	14699	14699
5°	14772	14150	14097
10°	14679	13733	13578
15°	14477	13289	13032
20°	14222	12815	12506
25°	13968	12358	12028
30°	13612	11889	11549
35°	13253	11434	11211
40°	12874	11047	10874
45°	12515	10702	10584
50°	12128	10388	10300
55°	11724	10052	10011
60°	11226	9702	9705
65°	10711	9294	9342
70°	10136	8856	8949
75°	9394	8423	8587
80°	8224	7984	8220
85°	7107	7603	7937



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.3	1.4
10°-20°	247.4	3.9
20°-30°	374.9	5.9
30°-40°	456.6	7.2
40°-50°	491.2	7.7
50°-60°	477.0	7.5
60°-70°	416.5	6.5
70°-80°	320.7	5.0
80°-90°	219.3	3.4
90°-100°	213.7	3.4
100°-110°	311.6	4.9
110°-120°	419.1	6.6
120°-130°	497.1	7.8
130°-140°	529.8	8.3
140°-150°	506.0	7.9
150°-160°	422.0	6.6
160°-170°	279.9	4.4
170°-180°	97.8	1.5
0°-30°	708.5	11.1
0°-40°	1165.2	18.3
0°-60°	2133.4	33.5
0°-90°	3090.0	48.5
90°-120°	944.5	14.8
90°-150°	2477.5	38.9
90°-180°	3277.0	51.5
0°-180°	6367.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	913	909	901	909	908	87
15°	871	873	874	885	884	245
25°	792	801	813	828	833	364
35°	682	705	730	758	768	426
45°	560	596	641	681	695	432
55°	429	478	545	591	610	383
65°	293	358	435	488	507	291
75°	162	237	321	375	394	172
85°	48	129	214	267	288	51
90°	14	102	205	254	272	11
95°	56	127	208	256	272	60
105°	194	237	305	351	368	206
115°	354	376	431	469	482	350
125°	510	520	558	589	602	456
135°	658	668	682	708	717	508
145°	797	803	808	817	820	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°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	915.8	915.1	914.3	913.6	912.9	911.7	910.1	908.4	906.8	905.2	906.4
5°	913.1	912.2	911.4	910.4	909.6	908.3	906.5	904.7	903.0	901.2	903.0
7.5°	904.9	904.3	903.7	903.2	902.6	901.6	900.3	898.9	897.6	896.2	898.3
10°	898.6	898.0	897.4	896.8	896.2	895.5	894.7	893.7	892.9	892.0	894.3
12.5°	888.0	888.1	888.3	888.4	888.5	888.2	887.6	886.9	886.3	885.6	888.0
15°	870.9	871.5	872.0	872.6	873.2	873.5	873.5	873.5	873.5	873.5	876.2
17.5°	848.7	850.0	851.2	852.4	853.6	854.7	855.7	856.6	857.6	858.5	861.3
20°	834.0	835.4	836.9	838.4	839.8	841.1	842.3	843.4	844.6	845.8	849.0
22.5°	818.1	819.8	821.5	823.2	824.9	826.6	828.2	829.8	831.5	833.1	836.4
25°	791.7	793.8	795.8	797.9	800.0	802.3	804.9	807.5	810.2	812.8	816.3
27.5°	760.0	763.4	766.7	770.1	773.4	776.6	779.7	782.8	785.9	789.1	793.5
30°	738.9	742.7	746.6	750.4	754.1	758.0	761.8	765.6	769.4	773.3	777.9
32.5°	715.7	720.0	724.3	728.6	732.8	737.2	741.8	746.2	750.8	755.3	760.7
35°	682.2	687.2	692.2	697.2	702.1	707.4	713.0	718.5	724.1	729.7	736.2
37.5°	645.8	651.5	657.3	663.0	668.7	675.2	682.4	689.7	696.9	704.1	711.3
40°	621.5	627.9	634.4	640.8	647.3	654.4	662.4	670.3	678.2	686.1	693.8
42.5°	598.3	604.7	611.1	617.6	624.1	631.8	640.9	650.1	659.1	668.2	676.5
45°	559.5	567.4	575.3	583.2	591.2	600.2	610.5	620.8	631.0	641.3	650.4
47.5°	521.2	529.9	538.5	547.1	555.7	566.0	578.1	590.0	602.1	614.1	623.6
50°	494.8	503.9	513.0	522.1	531.2	542.3	555.5	568.7	581.9	595.1	605.1
52.5°	469.5	479.1	488.6	498.2	507.7	519.4	533.3	547.3	561.1	575.1	585.2
55°	428.9	439.4	450.0	460.5	471.1	484.0	499.2	514.4	529.7	544.9	555.5
57.5°	388.7	400.6	412.5	424.5	436.4	450.0	465.6	481.1	496.7	512.2	523.6
60°	360.2	372.8	385.5	398.0	410.7	425.3	442.0	458.7	475.4	492.1	503.3
62.5°	334.9	347.9	361.0	374.1	387.2	402.1	418.8	435.5	452.3	469.0	480.8
65°	292.9	307.3	321.7	336.0	350.4	366.3	383.6	400.8	418.1	435.4	447.5
67.5°	254.4	269.4	284.4	299.5	314.4	330.8	348.5	366.3	383.9	401.7	413.8
70°	227.0	242.2	257.4	272.7	287.9	304.6	322.9	341.0	359.2	377.4	389.9
72.5°	201.6	217.3	233.1	248.7	264.5	281.5	300.0	318.4	336.8	355.2	367.6
75°	162.3	178.7	195.1	211.5	228.0	245.6	264.3	283.1	301.9	320.6	333.2
77.5°	124.3	141.5	158.7	175.8	193.0	211.1	230.2	249.3	268.3	287.4	300.0
80°	98.9	116.8	134.7	152.7	170.5	189.0	208.0	227.1	246.2	265.2	277.5
82.5°	77.8	95.5	113.1	130.8	148.4	166.9	186.2	205.5	224.8	244.1	256.4
85°	47.5	65.7	83.9	102.0	120.2	138.7	157.5	176.2	195.0	213.8	226.1
87.5°	26.0	44.0	61.9	79.9	97.8	116.6	136.2	155.8	175.5	195.0	207.0
90°	14.0	33.4	52.7	72.1	91.4	112.6	135.6	158.6	181.7	204.7	216.0
92.5°	27.6	45.2	62.8	80.2	97.8	116.1	135.2	154.3	173.3	192.4	204.0
95°	55.9	71.6	87.3	103.1	118.8	135.6	153.6	171.6	189.6	207.6	218.7
97.5°	92.0	106.1	120.0	134.0	147.9	163.8	181.3	199.0	216.6	234.2	245.0
100°	120.0	132.4	144.8	157.2	169.6	184.3	201.3	218.3	235.3	252.3	263.1
102.5°	148.3	159.4	170.6	181.7	192.9	206.7	223.4	240.1	256.8	273.5	284.3
105°	194.1	203.2	212.2	221.4	230.4	242.8	258.4	274.1	289.7	305.3	316.0
107.5°	241.6	249.3	256.9	264.6	272.2	283.4	298.0	312.5	327.2	341.8	351.8
110°	271.3	278.3	285.3	292.3	299.4	310.0	324.4	338.8	353.2	367.6	376.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	304.7	310.8	316.9	323.0	329.1	338.9	352.4	365.9	379.4	393.0	401.8
115°	354.1	358.5	362.9	367.3	371.7	380.2	393.0	405.9	418.7	431.4	440.1
117.5°	402.0	405.6	409.3	412.9	416.6	424.0	435.1	446.3	457.4	468.5	476.6
120°	434.7	437.5	440.2	442.9	445.7	452.1	462.3	472.4	482.7	492.8	501.0
122.5°	464.8	467.1	469.4	471.7	474.1	480.2	490.2	500.1	510.1	520.0	527.4
125°	510.1	512.0	513.7	515.4	517.1	522.5	531.2	540.0	548.8	557.7	565.0
127.5°	555.7	557.6	559.6	561.5	563.4	567.7	574.6	581.5	588.3	595.2	601.8
130°	584.3	586.5	588.8	591.0	593.2	597.2	603.0	608.7	614.5	620.3	627.0
132.5°	616.4	618.2	619.9	621.6	623.5	626.7	631.5	636.4	641.2	646.0	652.0
135°	658.0	660.1	662.3	664.3	666.5	669.3	672.5	675.9	679.2	682.5	688.5
137.5°	703.2	704.8	706.5	708.3	709.9	711.6	713.4	715.2	717.0	718.8	724.1
140°	730.4	731.8	733.2	734.7	736.2	737.7	739.3	740.8	742.4	743.9	748.6
142.5°	758.3	759.7	761.2	762.6	764.1	765.2	765.9	766.7	767.5	768.3	772.2
145°	797.0	798.4	799.8	801.2	802.5	803.7	804.9	806.1	807.3	808.4	810.4
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°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	907.5	908.7	909.9	910.2	909.7	909.3	908.8	908.4
5°	904.7	906.5	908.3	909.0	908.7	908.4	908.1	907.8
7.5°	900.4	902.6	904.7	905.6	905.3	905.0	904.7	904.4
10°	896.6	899.1	901.4	902.4	902.1	901.8	901.6	901.2
12.5°	890.4	892.7	895.0	896.0	895.8	895.4	895.2	894.9
15°	878.8	881.4	884.1	885.3	884.9	884.7	884.3	884.1
17.5°	864.0	866.8	869.5	870.9	870.9	870.9	870.9	870.9
20°	852.2	855.5	858.7	860.3	860.3	860.3	860.3	860.3
22.5°	839.6	842.8	846.0	847.9	848.3	848.9	849.3	849.8
25°	819.8	823.4	826.9	829.1	830.0	830.9	831.7	832.6
27.5°	798.0	802.5	806.9	809.4	810.1	810.7	811.4	812.0
30°	782.6	787.3	792.0	794.8	795.7	796.5	797.5	798.3
32.5°	766.1	771.5	776.9	780.3	782.0	783.5	785.1	786.7
35°	742.6	749.1	755.5	759.7	761.8	763.9	765.9	767.9
37.5°	718.4	725.6	732.7	737.4	739.5	741.8	743.9	746.1
40°	701.4	709.0	716.6	721.8	724.4	727.0	729.7	732.4
42.5°	684.8	693.2	701.5	707.0	709.6	712.3	714.9	717.6
45°	659.4	668.6	677.6	683.6	686.6	689.5	692.4	695.3
47.5°	633.1	642.6	652.1	658.5	661.7	665.0	668.1	671.4
50°	615.0	625.0	635.0	641.6	644.8	648.0	651.3	654.4
52.5°	595.5	605.6	615.9	622.7	626.1	629.6	633.1	636.5
55°	566.1	576.6	587.2	594.3	598.1	602.0	605.8	609.6
57.5°	535.0	546.4	557.8	565.3	569.2	573.1	577.0	580.8
60°	514.4	525.6	536.7	544.4	548.5	552.6	556.7	560.8
62.5°	492.7	504.5	516.3	524.2	528.1	531.9	535.8	539.7
65°	459.5	471.5	483.5	491.5	495.2	499.0	502.9	506.7
67.5°	425.9	438.1	450.2	458.3	462.3	466.2	470.3	474.2
70°	402.6	415.2	427.8	435.8	439.4	442.9	446.4	450.0
72.5°	380.0	392.4	404.7	413.0	417.2	421.5	425.7	429.9
75°	345.9	358.4	371.1	379.3	383.1	386.9	390.7	394.5
77.5°	312.5	325.0	337.6	345.9	350.0	354.1	358.3	362.3
80°	289.8	302.2	314.5	322.7	326.8	330.9	335.0	339.1
82.5°	268.7	281.0	293.3	301.4	305.3	309.2	313.1	316.9
85°	238.4	250.7	263.0	271.2	275.3	279.5	283.5	287.7
87.5°	218.9	230.7	242.6	250.5	254.3	258.0	261.8	265.6
90°	227.4	238.8	250.0	257.6	261.3	265.0	268.7	272.4
92.5°	215.5	227.1	238.7	246.2	249.8	253.4	256.9	260.5
95°	229.8	241.0	252.1	259.2	262.4	265.5	268.6	271.8
97.5°	255.9	266.7	277.6	284.7	288.2	291.6	295.1	298.4
100°	274.0	284.8	295.7	302.6	305.7	308.7	311.8	314.8
102.5°	295.1	305.8	316.6	323.5	326.5	329.6	332.6	335.6
105°	326.7	337.3	347.9	354.9	358.1	361.4	364.5	367.7
107.5°	361.8	371.8	381.8	388.0	390.3	392.6	394.9	397.4
110°	386.3	395.7	405.1	411.0	413.7	416.4	419.0	421.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	410.8	419.7	428.6	434.5	437.3	440.1	442.9	445.7
115°	448.7	457.3	465.9	471.5	474.2	476.8	479.5	482.1
117.5°	484.9	493.1	501.3	506.6	509.0	511.4	513.8	516.3
120°	509.3	517.5	525.6	531.1	533.7	536.4	539.0	541.7
122.5°	535.0	542.5	550.0	554.9	557.2	559.6	561.9	564.2
125°	572.3	579.6	586.9	591.9	594.3	596.8	599.2	601.7
127.5°	608.4	614.9	621.6	625.8	627.8	629.7	631.7	633.6
130°	633.6	640.2	646.9	651.0	652.6	654.1	655.7	657.3
132.5°	658.0	663.9	669.9	673.6	675.5	677.2	678.9	680.6
135°	694.5	700.4	706.4	710.2	712.0	713.8	715.5	717.3
137.5°	729.3	734.5	739.8	743.0	744.2	745.5	746.7	747.9
140°	753.3	757.9	762.7	765.5	766.5	767.5	768.4	769.5
142.5°	776.1	780.0	783.9	786.3	787.0	787.7	788.5	789.3
145°	812.4	814.2	816.2	817.5	818.2	818.9	819.6	820.3
147.5°	845.0	845.6	846.3	846.6	846.5	846.5	846.5	846.4
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)