

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: P331370-840

Luminaire Tested: **SA2XXDIP-C675D1080U840-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331370-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C675D1080U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6606.2 lumens
Efficiency: N/A
Efficacy: 116.1 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: Semi-Indirect

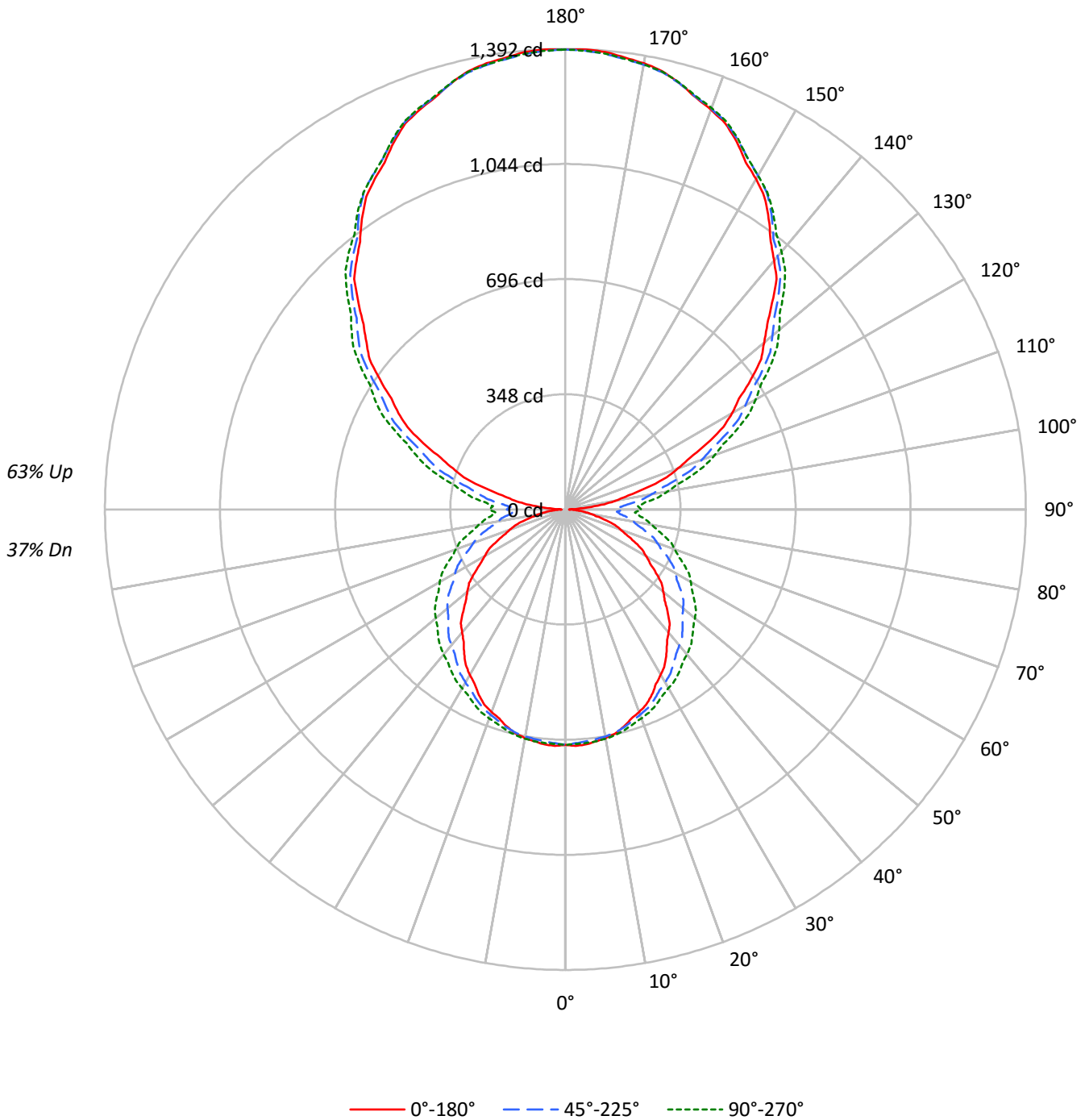
Input Watts (W): 56.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	59	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	21	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11485	11485	11485
5°	11541	11055	11013
10°	11469	10729	10608
15°	11310	10384	10181
20°	11112	10013	9772
25°	10913	9655	9399
30°	10635	9288	9023
35°	10355	8933	8760
40°	10057	8630	8496
45°	9777	8361	8270
50°	9476	8116	8048
55°	9160	7855	7822
60°	8770	7583	7583
65°	8367	7262	7299
70°	7917	6920	6990
75°	7339	6581	6708
80°	6436	6238	6424
85°	5566	5939	6199



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	1.0
10°-20°	193.3	2.9
20°-30°	292.9	4.4
30°-40°	356.7	5.4
40°-50°	383.8	5.8
50°-60°	372.7	5.6
60°-70°	325.4	4.9
70°-80°	250.5	3.8
80°-90°	173.7	2.6
90°-100°	203.9	3.1
100°-110°	358.1	5.4
110°-120°	523.5	7.9
120°-130°	646.1	9.8
130°-140°	703.3	10.6
140°-150°	679.0	10.3
150°-160°	567.6	8.6
160°-170°	376.5	5.7
170°-180°	131.6	2.0
0°-30°	553.6	8.4
0°-40°	910.3	13.8
0°-60°	1666.8	25.2
0°-90°	2416.5	36.6
90°-120°	1085.6	16.4
90°-150°	3114.0	47.1
90°-180°	4190.0	63.4
0°-180°	6606.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	713	710	704	710	709	68
15°	680	682	682	691	691	192
25°	618	626	635	647	651	284
35°	533	551	570	592	600	333
45°	437	465	501	532	543	337
55°	335	373	426	462	476	299
65°	229	280	340	381	396	227
75°	127	185	250	293	308	134
85°	37	101	167	209	225	40
90°	12	86	177	215	230	10
95°	69	130	194	231	243	76
105°	257	292	347	384	396	272
115°	473	493	536	564	573	468
125°	685	696	725	748	757	612
135°	884	897	910	930	935	683
145°	1072	1080	1087	1094	1095	670
155°	1226	1229	1233	1238	1235	564
165°	1334	1333	1333	1340	1335	376
175°	1388	1384	1382	1389	1383	132
180°	1390	1390	1390	1390	1390	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	715.5	714.9	714.4	713.8	713.3	712.4	711.0	709.7	708.5	707.2	708.1
5°	713.4	712.7	712.1	711.3	710.6	709.6	708.2	706.9	705.5	704.1	705.5
7.5°	707.0	706.5	706.1	705.6	705.2	704.4	703.4	702.3	701.3	700.2	701.9
10°	702.1	701.6	701.1	700.6	700.2	699.6	698.9	698.3	697.6	696.9	698.7
12.5°	693.8	693.9	694.0	694.1	694.2	694.0	693.5	693.0	692.5	692.0	693.8
15°	680.4	680.9	681.4	681.8	682.3	682.5	682.5	682.5	682.5	682.5	684.5
17.5°	663.1	664.1	665.0	666.0	666.9	667.8	668.5	669.2	669.9	670.8	672.9
20°	651.6	652.7	653.8	655.0	656.1	657.1	658.0	659.0	659.9	660.9	663.4
22.5°	639.1	640.5	641.9	643.2	644.5	645.8	647.1	648.3	649.6	651.0	653.5
25°	618.5	620.2	621.8	623.4	625.0	626.8	628.8	631.0	633.0	635.0	637.8
27.5°	593.8	596.4	599.1	601.7	604.3	606.8	609.3	611.7	614.1	616.5	620.0
30°	577.3	580.3	583.3	586.2	589.3	592.2	595.2	598.1	601.2	604.1	607.7
32.5°	559.2	562.5	565.8	569.2	572.6	576.0	579.6	583.0	586.5	590.1	594.3
35°	533.0	536.8	540.8	544.6	548.6	552.7	557.0	561.4	565.7	570.1	575.1
37.5°	504.5	509.1	513.5	518.0	522.5	527.6	533.2	538.9	544.4	550.1	555.7
40°	485.5	490.6	495.6	500.7	505.7	511.3	517.6	523.7	529.9	536.0	542.0
42.5°	467.5	472.4	477.5	482.5	487.6	493.6	500.8	507.9	514.9	522.1	528.6
45°	437.1	443.3	449.5	455.7	461.8	469.0	477.0	485.0	493.0	501.0	508.2
47.5°	407.2	413.9	420.7	427.4	434.1	442.2	451.6	461.0	470.4	479.8	487.3
50°	386.6	393.7	400.8	407.9	415.0	423.7	434.0	444.3	454.6	464.9	472.7
52.5°	366.8	374.3	381.7	389.2	396.7	405.9	416.7	427.6	438.4	449.3	457.3
55°	335.1	343.3	351.5	359.8	368.0	378.1	390.0	401.9	413.8	425.8	434.0
57.5°	303.7	313.1	322.3	331.6	340.9	351.6	363.8	375.9	388.1	400.2	409.1
60°	281.4	291.2	301.1	311.0	320.8	332.3	345.4	358.4	371.4	384.6	393.2
62.5°	261.7	271.9	282.1	292.3	302.6	314.2	327.2	340.2	353.4	366.4	375.7
65°	228.8	240.0	251.4	262.6	273.8	286.1	299.6	313.2	326.7	340.2	349.6
67.5°	198.7	210.5	222.3	234.0	245.7	258.4	272.3	286.1	299.9	313.8	323.3
70°	177.3	189.2	201.2	213.1	225.0	238.0	252.3	266.4	280.6	294.9	304.7
72.5°	157.5	169.8	182.1	194.4	206.6	219.9	234.4	248.7	263.2	277.5	287.2
75°	126.8	139.7	152.5	165.3	178.1	191.9	206.5	221.2	235.8	250.5	260.3
77.5°	97.1	110.6	124.0	137.3	150.8	165.0	179.9	194.8	209.6	224.5	234.4
80°	77.4	91.3	105.2	119.3	133.2	147.6	162.6	177.4	192.3	207.2	216.8
82.5°	60.8	74.6	88.4	102.2	116.0	130.4	145.5	160.6	175.6	190.8	200.4
85°	37.2	51.3	65.5	79.7	93.9	108.4	123.0	137.6	152.4	167.0	176.6
87.5°	20.4	34.7	49.0	63.3	77.6	92.6	108.5	124.2	140.1	155.8	165.1
90°	11.5	27.9	44.3	60.7	77.2	95.5	115.9	136.3	156.7	177.1	185.8
92.5°	30.4	45.0	59.7	74.3	89.1	104.1	119.6	135.0	150.5	165.9	175.0
95°	69.3	82.6	96.0	109.4	122.7	136.5	150.9	165.1	179.4	193.6	202.4
97.5°	118.7	130.6	142.4	154.3	166.1	179.2	193.4	207.5	221.8	235.9	244.4
100°	156.2	166.7	177.3	187.8	198.4	210.6	224.1	237.7	251.4	265.0	273.5
102.5°	194.8	204.2	213.6	223.0	232.5	243.9	257.3	270.7	284.2	297.7	306.2
105°	257.3	264.8	272.3	279.6	287.1	297.0	309.4	321.8	334.3	346.7	355.3
107.5°	321.4	327.9	334.4	340.8	347.3	356.2	367.6	379.0	390.4	401.8	409.8
110°	361.9	368.1	374.2	380.3	386.5	395.2	406.4	417.6	428.9	440.1	447.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	407.0	412.3	417.8	423.2	428.6	436.6	447.0	457.5	468.0	478.4	485.1
115°	473.3	477.5	481.5	485.5	489.7	496.7	506.4	516.1	525.9	535.7	542.4
117.5°	538.5	542.2	545.9	549.7	553.4	559.3	567.3	575.4	583.5	591.6	597.7
120°	582.6	585.6	588.5	591.6	594.6	599.7	606.7	613.8	620.9	627.9	634.4
122.5°	622.9	625.8	628.6	631.6	634.4	639.4	646.6	653.7	660.9	668.0	673.7
125°	684.8	687.1	689.4	691.9	694.2	698.6	705.2	711.8	718.2	724.8	730.2
127.5°	746.0	748.7	751.4	754.3	757.0	760.8	765.8	770.7	775.8	780.7	785.5
130°	784.5	787.6	790.8	794.0	797.1	800.8	805.2	809.4	813.7	818.0	822.9
132.5°	827.7	830.2	832.7	835.3	837.8	840.9	844.8	848.6	852.4	856.3	860.4
135°	884.3	887.2	890.1	892.9	895.9	898.7	901.4	904.2	907.1	909.9	914.4
137.5°	945.1	947.4	949.7	952.0	954.3	956.2	958.0	959.7	961.4	963.0	967.0
140°	981.7	983.8	985.9	988.1	990.2	992.1	993.9	995.6	997.3	999.2	1002.8
142.5°	1019.3	1021.4	1023.5	1025.6	1027.7	1029.3	1030.3	1031.2	1032.2	1033.2	1036.3
145°	1072.2	1074.0	1075.8	1077.6	1079.4	1081.2	1082.7	1084.3	1085.8	1087.4	1089.0
147.5°	1120.2	1122.5	1124.6	1126.8	1129.0	1130.6	1131.7	1132.8	1133.8	1134.8	1135.6
150°	1153.1	1154.7	1156.2	1157.8	1159.3	1160.6	1161.7	1162.8	1163.8	1164.9	1165.6
152.5°	1182.1	1183.8	1185.3	1186.9	1188.4	1189.8	1191.1	1192.3	1193.7	1194.9	1195.9
155°	1225.9	1226.6	1227.4	1228.2	1229.0	1229.7	1230.5	1231.3	1232.1	1232.8	1234.2
157.5°	1263.1	1263.6	1264.1	1264.7	1265.3	1265.7	1266.2	1266.7	1267.1	1267.6	1269.4
160°	1285.7	1286.2	1286.7	1287.2	1287.8	1288.1	1288.4	1288.7	1288.9	1289.2	1290.7
162.5°	1306.3	1306.4	1306.5	1306.6	1306.8	1306.9	1307.2	1307.4	1307.7	1308.0	1309.7
165°	1333.7	1333.5	1333.2	1332.9	1332.7	1332.6	1332.6	1332.6	1332.6	1332.6	1334.4
167.5°	1356.8	1355.9	1355.1	1354.4	1353.6	1353.2	1353.1	1353.1	1353.0	1353.0	1354.8
170°	1369.0	1368.2	1367.4	1366.5	1365.8	1365.3	1365.0	1364.7	1364.5	1364.2	1366.0
172.5°	1377.4	1376.6	1375.8	1375.0	1374.2	1373.7	1373.5	1373.2	1372.9	1372.7	1374.5
175°	1387.8	1386.9	1386.1	1385.3	1384.6	1383.9	1383.4	1382.9	1382.4	1381.8	1383.7
177.5°	1391.9	1391.3	1390.7	1390.1	1389.5	1388.9	1388.5	1388.1	1387.7	1387.3	1388.5
180°	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	709.0	709.9	710.8	711.1	710.7	710.4	710.0	709.7
5°	706.9	708.2	709.6	710.2	709.9	709.7	709.5	709.2
7.5°	703.5	705.2	706.8	707.5	707.3	707.0	706.8	706.6
10°	700.5	702.4	704.3	705.0	704.8	704.6	704.4	704.1
12.5°	695.6	697.4	699.3	700.0	699.8	699.6	699.4	699.1
15°	686.6	688.6	690.7	691.7	691.5	691.2	690.9	690.7
17.5°	675.0	677.2	679.3	680.4	680.4	680.4	680.4	680.4
20°	665.9	668.4	670.9	672.2	672.2	672.2	672.2	672.2
22.5°	656.0	658.5	661.0	662.5	662.8	663.2	663.6	663.9
25°	640.6	643.3	646.0	647.7	648.4	649.1	649.8	650.6
27.5°	623.5	626.9	630.5	632.4	632.9	633.4	633.9	634.4
30°	611.5	615.1	618.7	621.0	621.7	622.4	623.0	623.7
32.5°	598.5	602.8	606.9	609.7	611.0	612.2	613.4	614.6
35°	580.2	585.2	590.3	593.6	595.2	596.8	598.3	600.0
37.5°	561.3	566.8	572.5	576.1	577.8	579.5	581.2	582.9
40°	548.0	553.9	559.9	563.9	565.9	568.0	570.1	572.2
42.5°	535.0	541.6	548.1	552.4	554.4	556.5	558.6	560.6
45°	515.2	522.3	529.5	534.1	536.4	538.8	541.0	543.3
47.5°	494.6	502.1	509.5	514.4	516.9	519.5	522.0	524.5
50°	480.5	488.3	496.1	501.3	503.8	506.3	508.8	511.3
52.5°	465.2	473.2	481.2	486.6	489.2	491.9	494.6	497.4
55°	442.2	450.5	458.8	464.3	467.4	470.3	473.3	476.3
57.5°	418.0	426.9	435.8	441.7	444.7	447.8	450.8	453.8
60°	401.9	410.6	419.4	425.4	428.5	431.7	434.9	438.2
62.5°	384.9	394.2	403.4	409.6	412.5	415.6	418.6	421.6
65°	359.0	368.4	377.8	384.0	387.0	389.9	392.9	395.9
67.5°	332.8	342.2	351.7	358.1	361.1	364.3	367.4	370.5
70°	314.6	324.4	334.3	340.5	343.3	346.1	348.8	351.5
72.5°	296.9	306.5	316.2	322.7	326.0	329.3	332.5	335.9
75°	270.2	280.0	289.9	296.3	299.3	302.3	305.3	308.2
77.5°	244.2	254.0	263.8	270.2	273.5	276.7	279.8	283.1
80°	226.4	236.1	245.7	252.2	255.3	258.5	261.8	265.0
82.5°	210.0	219.5	229.2	235.5	238.5	241.6	244.6	247.6
85°	186.2	195.9	205.5	211.9	215.1	218.3	221.6	224.7
87.5°	174.3	183.6	192.8	198.9	201.9	204.9	207.8	210.9
90°	194.4	203.1	211.7	217.5	220.6	223.6	226.6	229.5
92.5°	184.1	193.2	202.3	208.2	211.1	213.9	216.6	219.4
95°	211.1	219.7	228.4	233.9	236.1	238.3	240.7	242.9
97.5°	252.9	261.4	269.8	275.4	278.0	280.6	283.4	286.0
100°	282.0	290.4	298.9	304.3	306.5	308.7	311.0	313.3
102.5°	314.7	323.2	331.6	337.1	339.3	341.5	343.9	346.1
105°	363.9	372.3	380.9	386.4	388.9	391.4	393.9	396.5
107.5°	417.7	425.6	433.4	438.1	439.4	440.7	442.0	443.3
110°	454.7	462.1	469.4	473.9	475.6	477.4	479.2	480.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	491.8	498.6	505.2	509.6	511.5	513.4	515.4	517.4
115°	549.0	555.6	562.2	566.4	568.2	569.9	571.6	573.3
117.5°	603.9	610.1	616.2	620.1	621.7	623.2	624.7	626.3
120°	640.8	647.2	653.6	657.6	659.4	661.2	662.9	664.6
122.5°	679.2	684.9	690.4	694.1	695.6	697.2	698.8	700.3
125°	735.6	741.0	746.4	750.0	751.8	753.7	755.4	757.2
127.5°	790.2	795.0	799.7	802.6	803.9	805.1	806.2	807.4
130°	828.0	832.9	837.9	840.8	841.6	842.3	843.1	843.9
132.5°	864.5	868.7	872.9	875.5	876.5	877.5	878.5	879.5
135°	919.0	923.5	928.1	930.9	931.9	933.0	934.0	935.1
137.5°	971.1	975.0	979.1	981.3	981.8	982.4	982.9	983.4
140°	1006.4	1010.2	1013.8	1015.8	1016.1	1016.4	1016.8	1017.1
142.5°	1039.5	1042.6	1045.7	1047.3	1047.5	1047.6	1047.8	1047.9
145°	1090.7	1092.3	1094.0	1094.8	1094.9	1095.0	1095.1	1095.2
147.5°	1136.3	1137.1	1137.8	1138.0	1137.5	1137.1	1136.7	1136.2
150°	1166.4	1167.2	1168.0	1168.0	1167.2	1166.4	1165.6	1164.9
152.5°	1196.9	1197.8	1198.8	1198.8	1197.8	1196.9	1195.9	1194.9
155°	1235.5	1236.8	1238.1	1238.3	1237.6	1236.8	1236.0	1235.2
157.5°	1271.1	1272.9	1274.7	1275.0	1273.6	1272.4	1271.2	1269.9
160°	1292.3	1293.8	1295.5	1295.7	1294.6	1293.6	1292.5	1291.5
162.5°	1311.5	1313.2	1315.0	1315.2	1314.0	1312.8	1311.5	1310.3
165°	1336.3	1338.1	1339.9	1340.1	1338.9	1337.6	1336.3	1334.9
167.5°	1356.7	1358.5	1360.3	1360.5	1359.2	1357.8	1356.5	1355.1
170°	1367.9	1369.7	1371.5	1371.7	1370.1	1368.6	1367.0	1365.4
172.5°	1376.3	1378.2	1380.0	1380.1	1378.6	1377.0	1375.4	1373.8
175°	1385.5	1387.4	1389.2	1389.3	1387.8	1386.1	1384.6	1383.0
177.5°	1389.8	1391.0	1392.2	1392.2	1391.0	1389.8	1388.5	1387.3
180°	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1	1390.1

(END OF REPORT)