

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: P331539-935

Luminaire Tested: **S122DIW-S675D970U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331539-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S675D970U935-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5648.5 lumens
Efficiency: N/A
Efficacy: 107.4 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: Semi-Indirect

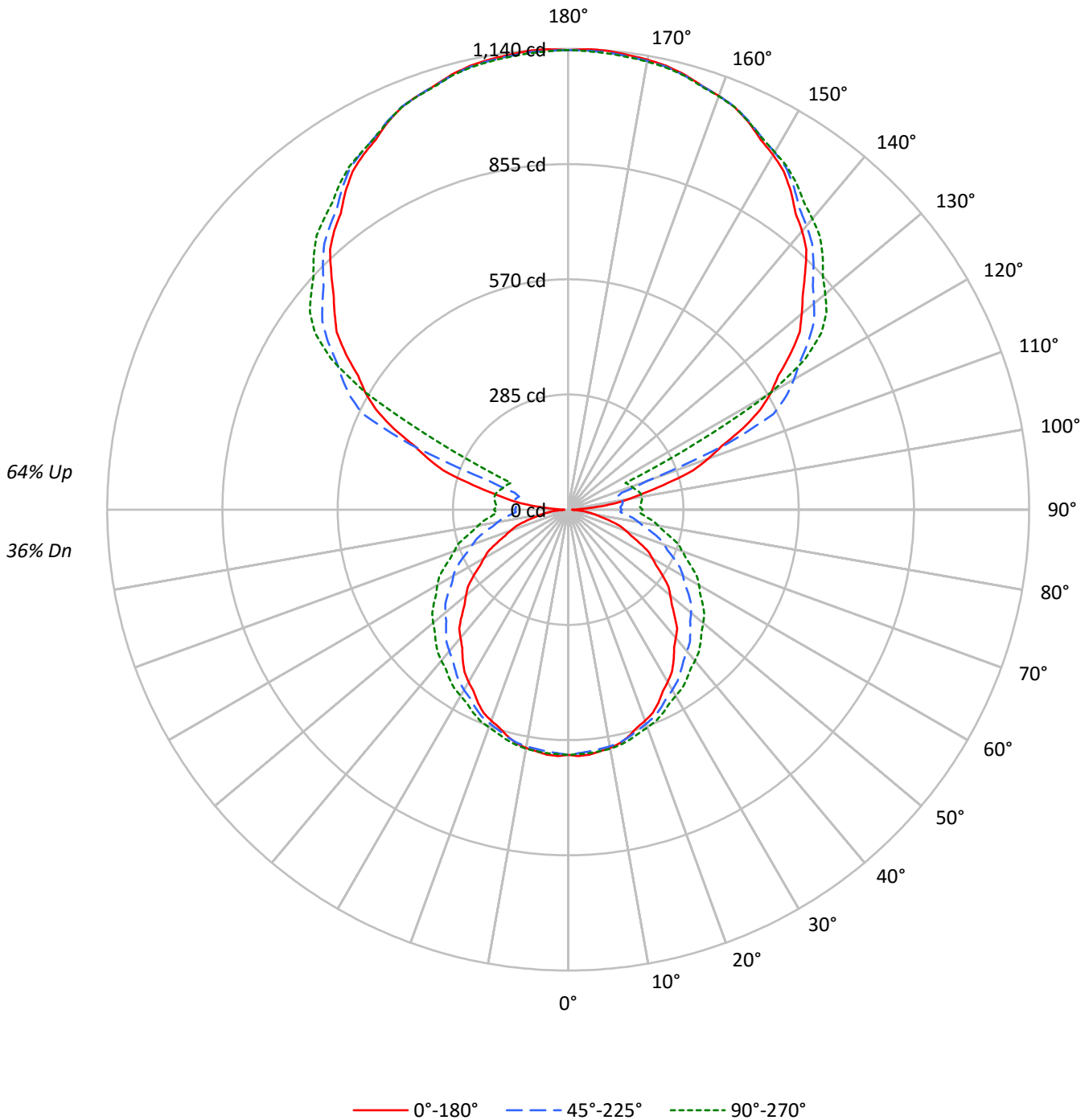
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36
1	94	89	85	81	84	80	77	74	65	62	60	50	48	47	37	36	35	28
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	20	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	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°	9792	9792	9792
5°	9839	9426	9390
10°	9778	9148	9044
15°	9643	8853	8681
20°	9473	8536	8331
25°	9305	8231	8014
30°	9067	7919	7694
35°	8828	7615	7468
40°	8576	7358	7243
45°	8334	7127	7051
50°	8078	6920	6861
55°	7810	6696	6668
60°	7480	6465	6465
65°	7135	6192	6222
70°	6751	5899	5960
75°	6257	5612	5720
80°	5488	5319	5476
85°	4743	5064	5286



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.5	1.0
10°-20°	164.8	2.9
20°-30°	249.7	4.4
30°-40°	304.2	5.4
40°-50°	327.2	5.8
50°-60°	317.8	5.6
60°-70°	277.5	4.9
70°-80°	213.6	3.8
80°-90°	146.2	2.6
90°-100°	136.7	2.4
100°-110°	211.2	3.7
110°-120°	419.4	7.4
120°-130°	640.3	11.3
130°-140°	663.8	11.8
140°-150°	608.6	10.8
150°-160°	487.7	8.6
160°-170°	314.3	5.6
170°-180°	108.2	1.9
0°-30°	472.0	8.4
0°-40°	776.1	13.7
0°-60°	1421.1	25.2
0°-90°	2058.4	36.4
90°-120°	767.3	13.6
90°-150°	2680.0	47.4
90°-180°	3590.0	63.6
0°-180°	5648.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	608	605	600	605	605	58
15°	580	582	582	589	589	163
25°	527	534	541	552	555	242
35°	454	469	486	505	512	284
45°	373	397	427	453	463	288
55°	286	318	363	394	406	255
65°	195	239	290	325	338	194
75°	108	158	214	250	263	114
85°	32	86	142	178	192	34
90°	10	70	132	170	184	8
95°	60	77	133	169	180	71
105°	254	292	126	164	179	272
115°	477	502	560	223	156	469
125°	671	683	725	754	765	598
135°	828	842	858	883	890	640
145°	960	960	973	984	985	601
155°	1057	1051	1060	1064	1058	487
165°	1114	1109	1112	1117	1112	315
175°	1139	1134	1135	1140	1133	108
180°	1137	1137	1137	1137	1137	



TEST NUMBER: P331539-935

CATALOG NUMBER: S122DIW-S675D970U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5
2.5°	610.0	609.5	609.1	608.6	608.1	607.3	606.2	605.1	604.1	603.0	603.7
5°	608.2	607.6	607.1	606.5	605.9	605.0	603.8	602.7	601.5	600.3	601.5
7.5°	602.8	602.4	602.0	601.6	601.2	600.5	599.7	598.7	597.9	597.0	598.4
10°	598.6	598.1	597.8	597.4	597.0	596.5	595.9	595.4	594.8	594.2	595.7
12.5°	591.5	591.6	591.7	591.8	591.9	591.7	591.2	590.8	590.4	590.0	591.5
15°	580.1	580.5	580.9	581.3	581.7	581.9	581.9	581.9	581.9	581.9	583.6
17.5°	565.3	566.2	567.0	567.8	568.6	569.4	570.0	570.6	571.2	571.9	573.7
20°	555.5	556.5	557.4	558.4	559.4	560.3	561.0	561.9	562.7	563.4	565.6
22.5°	544.9	546.0	547.3	548.4	549.5	550.6	551.7	552.8	553.9	555.0	557.2
25°	527.4	528.7	530.1	531.5	532.9	534.4	536.1	538.0	539.7	541.4	543.8
27.5°	506.3	508.5	510.7	513.0	515.2	517.4	519.4	521.5	523.6	525.6	528.6
30°	492.2	494.7	497.3	499.8	502.4	504.9	507.5	510.0	512.6	515.1	518.1
32.5°	476.7	479.6	482.4	485.3	488.2	491.1	494.1	497.1	500.1	503.1	506.7
35°	454.4	457.7	461.1	464.3	467.7	471.2	474.9	478.6	482.3	486.0	490.3
37.5°	430.2	434.0	437.8	441.6	445.5	449.8	454.6	459.4	464.2	469.0	473.8
40°	414.0	418.3	422.6	426.9	431.2	435.9	441.3	446.5	451.8	457.0	462.1
42.5°	398.6	402.8	407.1	411.4	415.7	420.9	427.0	433.0	439.0	445.1	450.6
45°	372.6	378.0	383.2	388.5	393.7	399.8	406.7	413.5	420.3	427.1	433.3
47.5°	347.2	352.9	358.7	364.4	370.1	377.0	385.0	393.0	401.1	409.1	415.4
50°	329.6	335.7	341.7	347.8	353.8	361.3	370.1	378.8	387.6	396.4	403.0
52.5°	312.7	319.1	325.5	331.8	338.2	346.0	355.2	364.5	373.8	383.1	389.9
55°	285.7	292.7	299.7	306.8	313.7	322.4	332.5	342.7	352.8	363.0	370.1
57.5°	258.9	266.9	274.8	282.8	290.7	299.8	310.1	320.5	330.9	341.2	348.8
60°	240.0	248.3	256.8	265.2	273.5	283.4	294.5	305.6	316.7	327.9	335.3
62.5°	223.1	231.8	240.5	249.2	258.0	267.9	279.0	290.1	301.3	312.4	320.3
65°	195.1	204.7	214.3	223.9	233.4	243.9	255.5	267.0	278.5	290.1	298.1
67.5°	169.4	179.4	189.5	199.5	209.5	220.3	232.1	243.9	255.7	267.5	275.6
70°	151.2	161.4	171.5	181.7	191.8	202.9	215.1	227.1	239.3	251.4	259.8
72.5°	134.3	144.7	155.2	165.7	176.2	187.5	199.8	212.1	224.4	236.6	244.9
75°	108.1	119.1	130.0	140.9	151.9	163.6	176.1	188.6	201.0	213.6	222.0
77.5°	82.8	94.3	105.7	117.1	128.5	140.7	153.3	166.1	178.7	191.4	199.8
80°	66.0	77.8	89.7	101.7	113.6	125.9	138.6	151.3	163.9	176.7	184.9
82.5°	51.8	63.6	75.3	87.1	98.9	111.2	124.1	136.9	149.7	162.6	170.8
85°	31.7	43.7	55.9	67.9	80.1	92.4	104.9	117.4	129.9	142.4	150.6
87.5°	17.4	29.4	41.5	53.6	65.6	78.0	90.7	103.6	116.3	129.2	137.3
90°	9.6	23.0	36.3	49.6	62.9	76.6	90.6	104.5	118.5	132.5	141.2
92.5°	24.7	35.0	45.5	55.8	66.1	77.7	90.5	103.2	116.0	128.8	136.9
95°	60.5	63.6	66.8	69.9	73.1	81.2	94.2	107.2	120.2	133.2	141.5
97.5°	112.3	103.4	94.6	85.8	76.9	79.6	93.8	108.1	122.3	136.5	144.4
100°	151.8	134.0	116.1	98.3	80.5	78.6	92.6	106.7	120.7	134.8	143.4
102.5°	194.5	195.8	197.1	198.4	199.7	192.7	177.3	162.0	146.5	131.2	140.2
105°	254.5	265.6	276.8	287.9	299.1	284.8	245.0	205.3	165.6	125.8	134.7
107.5°	323.9	332.9	341.8	350.8	359.7	339.1	289.0	238.9	188.7	138.6	143.2
110°	368.0	375.7	383.5	391.2	399.0	381.2	337.9	294.6	251.4	208.1	196.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	410.1	416.8	423.4	430.2	436.9	438.2	434.2	430.3	426.4	422.4	362.0
115°	476.6	481.8	487.1	492.3	497.6	506.9	520.3	533.6	547.0	560.3	481.6
117.5°	535.1	540.0	544.8	549.7	554.7	562.7	573.9	585.2	596.5	607.8	593.1
120°	578.5	582.0	585.6	589.1	592.6	599.9	611.1	622.2	633.3	644.4	652.0
122.5°	615.4	618.6	621.8	625.0	628.2	635.2	646.2	657.1	668.0	679.0	685.6
125°	670.6	673.0	675.4	677.8	680.1	686.2	695.9	705.6	715.3	725.0	731.6
127.5°	721.4	723.9	726.3	728.8	731.2	736.2	743.9	751.6	759.1	766.8	773.5
130°	753.7	756.5	759.1	761.9	764.7	769.0	775.2	781.3	787.4	793.5	800.2
132.5°	786.6	788.9	791.2	793.5	795.8	799.5	804.7	809.9	815.0	820.2	826.5
135°	828.5	831.5	834.4	837.3	840.2	843.5	847.1	850.7	854.3	857.9	863.8
137.5°	871.8	873.8	875.8	877.8	879.9	882.2	884.9	887.7	890.4	893.1	898.5
140°	900.1	901.4	902.7	903.9	905.2	907.0	909.4	911.8	914.2	916.6	921.4
142.5°	923.8	924.9	926.0	927.1	928.2	930.1	932.4	934.8	937.2	939.5	943.6
145°	960.1	959.9	959.8	959.6	959.4	960.9	964.0	967.1	970.2	973.3	975.7
147.5°	992.6	991.8	991.1	990.4	989.7	990.9	994.0	997.0	1000.1	1003.2	1004.4
150°	1013.6	1012.3	1011.0	1009.8	1008.5	1009.3	1012.2	1015.1	1018.0	1021.0	1022.1
152.5°	1031.4	1029.9	1028.5	1027.1	1025.6	1026.3	1029.1	1031.9	1034.7	1037.4	1038.5
155°	1057.2	1055.5	1053.9	1052.2	1050.6	1050.9	1053.1	1055.2	1057.5	1059.6	1060.8
157.5°	1077.5	1076.1	1074.6	1073.2	1071.9	1071.9	1073.5	1075.0	1076.5	1078.1	1079.3
160°	1089.3	1088.2	1087.1	1086.0	1084.9	1084.9	1086.0	1087.1	1088.2	1089.3	1090.4
162.5°	1099.8	1098.7	1097.6	1096.5	1095.5	1095.4	1096.3	1097.3	1098.2	1099.2	1100.4
165°	1114.0	1112.8	1111.7	1110.7	1109.6	1109.3	1109.8	1110.3	1110.9	1111.5	1112.8
167.5°	1124.5	1123.3	1122.3	1121.2	1120.1	1119.8	1120.3	1120.8	1121.4	1121.9	1123.1
170°	1130.4	1129.3	1128.3	1127.1	1126.0	1125.7	1126.0	1126.4	1126.8	1127.1	1128.4
172.5°	1134.4	1133.2	1132.1	1131.1	1130.0	1129.6	1130.0	1130.3	1130.7	1131.1	1132.4
175°	1139.4	1138.2	1136.9	1135.7	1134.4	1133.9	1134.3	1134.6	1135.0	1135.3	1136.6
177.5°	1140.3	1139.3	1138.2	1137.2	1136.2	1135.7	1135.9	1136.0	1136.2	1136.3	1137.4
180°	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5
2.5°	604.5	605.3	606.1	606.3	606.0	605.7	605.4	605.1
5°	602.7	603.8	605.0	605.5	605.3	605.1	604.9	604.7
7.5°	599.8	601.2	602.6	603.2	603.0	602.8	602.6	602.4
10°	597.3	598.8	600.5	601.1	600.9	600.7	600.5	600.3
12.5°	593.1	594.6	596.2	596.8	596.7	596.5	596.3	596.1
15°	585.4	587.1	588.9	589.7	589.5	589.3	589.1	588.9
17.5°	575.5	577.4	579.2	580.1	580.1	580.1	580.1	580.1
20°	567.7	569.9	572.0	573.1	573.1	573.1	573.1	573.1
22.5°	559.3	561.5	563.5	564.8	565.1	565.4	565.8	566.0
25°	546.1	548.5	550.8	552.2	552.8	553.5	554.1	554.7
27.5°	531.6	534.5	537.5	539.2	539.6	540.0	540.4	540.9
30°	521.3	524.4	527.5	529.4	530.0	530.6	531.2	531.8
32.5°	510.3	513.9	517.5	519.8	520.9	521.9	523.0	524.0
35°	494.6	498.9	503.3	506.1	507.5	508.9	510.1	511.5
37.5°	478.5	483.3	488.1	491.2	492.7	494.0	495.5	497.0
40°	467.2	472.3	477.3	480.8	482.5	484.3	486.0	487.8
42.5°	456.2	461.8	467.3	471.0	472.7	474.5	476.2	477.9
45°	439.3	445.3	451.4	455.4	457.4	459.3	461.2	463.2
47.5°	421.7	428.1	434.4	438.6	440.7	442.9	445.1	447.2
50°	409.7	416.3	423.0	427.4	429.6	431.7	433.8	435.9
52.5°	396.7	403.5	410.3	414.8	417.1	419.4	421.7	424.0
55°	377.0	384.1	391.2	395.9	398.5	401.0	403.6	406.0
57.5°	356.4	363.9	371.5	376.6	379.2	381.8	384.4	386.9
60°	342.7	350.1	357.6	362.7	365.3	368.1	370.8	373.6
62.5°	328.1	336.0	344.0	349.2	351.7	354.3	356.9	359.5
65°	306.1	314.1	322.1	327.4	329.9	332.4	335.0	337.5
67.5°	283.7	291.8	299.9	305.3	307.9	310.6	313.2	315.9
70°	268.2	276.6	285.0	290.3	292.7	295.1	297.4	299.7
72.5°	253.1	261.3	269.6	275.1	277.9	280.8	283.5	286.4
75°	230.4	238.8	247.2	252.6	255.2	257.7	260.3	262.8
77.5°	208.2	216.5	224.9	230.4	233.2	235.9	238.6	241.3
80°	193.0	201.3	209.5	215.0	217.7	220.4	223.2	225.9
82.5°	179.0	187.2	195.4	200.8	203.4	206.0	208.5	211.1
85°	158.8	167.0	175.2	180.6	183.4	186.1	188.9	191.6
87.5°	145.4	153.6	161.8	167.1	169.7	172.3	174.9	177.5
90°	149.9	158.7	167.4	173.1	175.8	178.5	181.2	183.9
92.5°	145.1	153.2	161.3	166.7	169.2	171.8	174.4	176.9
95°	149.8	158.2	166.5	171.8	173.9	176.1	178.2	180.4
97.5°	152.4	160.3	168.3	173.6	176.1	178.6	181.2	183.7
100°	152.1	160.8	169.5	175.1	177.6	180.2	182.7	185.2
102.5°	149.1	158.1	167.0	172.9	175.6	178.2	180.9	183.6
105°	143.4	152.3	161.2	167.0	169.9	172.8	175.6	178.6
107.5°	147.7	152.2	156.7	160.4	163.2	166.2	169.0	171.9
110°	184.1	172.0	160.0	155.4	158.3	161.2	164.1	166.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	301.5	241.1	180.6	151.8	154.5	157.2	160.0	162.7
115°	402.8	324.0	245.2	200.3	189.2	178.2	167.3	156.3
117.5°	578.4	563.7	549.0	521.0	479.7	438.5	397.2	355.9
120°	659.7	667.4	675.0	667.5	645.1	622.5	599.9	577.5
122.5°	692.2	698.9	705.5	707.3	704.4	701.5	698.4	695.5
125°	738.2	744.8	751.3	755.7	758.0	760.3	762.7	764.9
127.5°	780.2	787.0	793.7	797.9	799.7	801.6	803.4	805.2
130°	806.9	813.6	820.3	824.3	825.7	827.1	828.5	829.8
132.5°	832.8	839.0	845.2	849.0	850.4	851.8	853.2	854.5
135°	869.8	875.6	881.6	885.2	886.4	887.6	888.7	889.9
137.5°	903.9	909.2	914.6	917.7	918.4	919.1	919.8	920.5
140°	926.2	930.9	935.7	938.2	938.5	938.7	939.0	939.3
142.5°	947.5	951.6	955.5	957.6	957.7	957.8	957.9	958.0
145°	978.2	980.6	983.1	984.3	984.4	984.5	984.6	984.6
147.5°	1005.4	1006.5	1007.6	1008.1	1007.7	1007.5	1007.1	1006.9
150°	1023.2	1024.2	1025.4	1025.5	1024.6	1023.6	1022.7	1021.8
152.5°	1039.7	1040.7	1041.8	1041.8	1040.6	1039.4	1038.2	1037.0
155°	1061.9	1062.9	1064.0	1063.9	1062.4	1060.9	1059.5	1058.0
157.5°	1080.6	1081.8	1083.1	1083.0	1081.5	1080.1	1078.7	1077.3
160°	1091.5	1092.5	1093.6	1093.6	1092.3	1091.0	1089.8	1088.5
162.5°	1101.6	1102.9	1104.1	1104.0	1102.3	1100.8	1099.2	1097.7
165°	1114.0	1115.3	1116.6	1116.6	1115.3	1114.0	1112.8	1111.5
167.5°	1124.4	1125.7	1127.0	1126.8	1125.2	1123.5	1121.9	1120.2
170°	1129.7	1130.9	1132.2	1132.0	1130.4	1128.8	1127.1	1125.5
172.5°	1133.6	1134.9	1136.2	1136.0	1134.4	1132.7	1131.1	1129.5
175°	1137.9	1139.2	1140.5	1140.2	1138.3	1136.5	1134.7	1132.9
177.5°	1138.4	1139.4	1140.4	1140.3	1138.9	1137.6	1136.3	1135.1
180°	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0

(END OF REPORT)