

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: P331415-940

Luminaire Tested: **SA2XXDIP-C865D1080U940-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331415-940
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-C865D1080U940-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

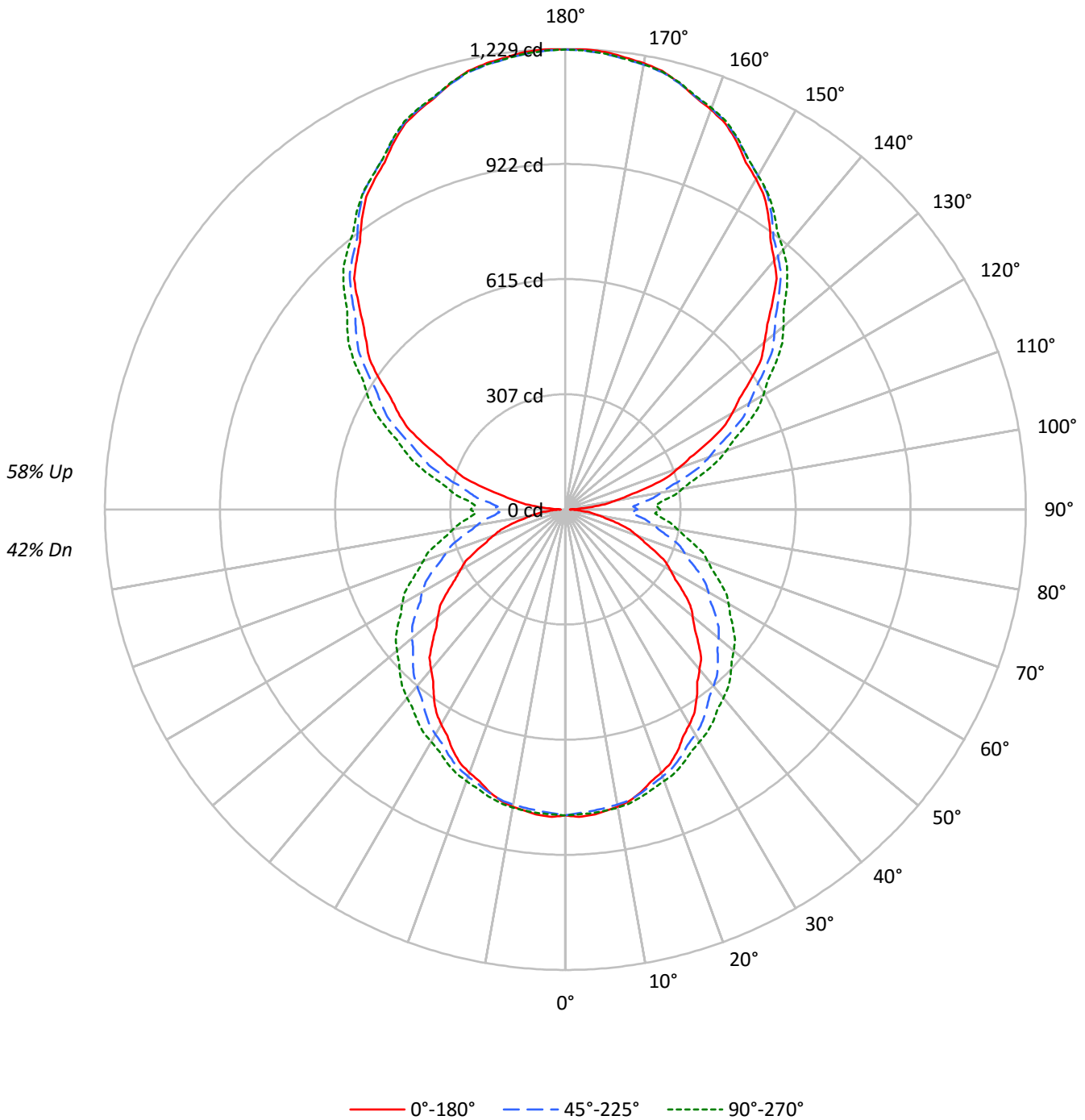
Lumens per Lamp: N/A
Luminaire Lumens: 6551.8 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 65.4
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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	95	90	86	82	86	82	78	75	67	65	62	54	52	50	41	40	39	33
2	86	78	71	66	78	71	65	60	58	54	50	46	43	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	31	29	26	22
4	71	60	52	45	64	55	47	42	45	40	35	36	32	29	28	25	22	18
5	65	53	45	38	59	49	41	36	40	34	30	32	28	25	25	22	19	16
6	60	47	39	33	54	43	36	31	36	30	26	29	25	21	22	19	17	14
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12
8	51	39	31	25	46	35	28	24	29	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	1.2
10°-20°	221.8	3.4
20°-30°	336.2	5.1
30°-40°	409.5	6.2
40°-50°	440.5	6.7
50°-60°	427.8	6.5
60°-70°	373.5	5.7
70°-80°	287.6	4.4
80°-90°	197.9	3.0
90°-100°	210.7	3.2
100°-110°	338.6	5.2
110°-120°	477.0	7.3
120°-130°	578.8	8.8
130°-140°	624.4	9.5
140°-150°	600.2	9.2
150°-160°	501.2	7.7
160°-170°	332.4	5.1
170°-180°	116.2	1.8
0°-30°	635.4	9.7
0°-40°	1044.8	15.9
0°-60°	1913.1	29.2
0°-90°	2772.1	42.3
90°-120°	1026.4	15.7
90°-150°	2829.8	43.2
90°-180°	3780.0	57.7
0°-180°	6551.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	13	95	192	236	253	11
95°	63	130	202	246	260	69
105°	229	268	330	371	386	242
115°	419	440	490	522	534	414
125°	605	616	649	677	688	541
135°	781	793	806	829	837	604
145°	947	954	960	968	970	591
155°	1082	1086	1089	1093	1091	498
165°	1178	1177	1177	1183	1179	332
175°	1225	1222	1220	1227	1221	116
180°	1227	1227	1227	1227	1227	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.4	39.6	55.8	72.1	88.3	105.3	123.1	141.0	158.8	176.6	187.3
90°	12.8	30.9	48.9	66.9	84.9	104.9	126.8	148.6	170.6	192.4	202.5
92.5°	29.3	45.6	61.8	78.0	94.3	111.0	128.4	145.8	163.2	180.6	191.0
95°	63.3	78.0	92.6	107.3	122.0	137.4	153.6	169.9	186.1	202.3	212.3
97.5°	106.6	119.7	132.7	145.7	158.7	173.3	189.3	205.3	221.3	237.4	247.1
100°	139.8	151.4	163.0	174.5	186.1	199.6	215.0	230.4	245.8	261.3	271.0
102.5°	173.7	184.0	194.4	204.7	215.2	227.9	243.1	258.2	273.4	288.6	298.3
105°	228.6	236.9	245.2	253.6	261.9	273.1	287.2	301.4	315.5	329.7	339.3
107.5°	285.2	292.2	299.3	306.5	313.6	323.7	336.8	349.9	363.0	376.0	385.1
110°	320.7	327.3	333.9	340.5	347.2	357.0	369.9	382.7	395.7	408.5	417.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	360.4	366.2	372.0	377.8	383.6	392.5	404.7	416.7	428.7	440.9	448.7
115°	419.0	423.3	427.6	431.9	436.1	444.0	455.3	466.7	478.0	489.5	497.1
117.5°	476.3	480.0	483.8	487.5	491.2	497.9	507.6	517.2	526.8	536.5	543.8
120°	515.2	518.1	521.0	523.9	526.8	532.6	541.3	549.9	558.7	567.3	574.6
122.5°	550.9	553.5	556.2	558.7	561.4	567.0	575.6	584.2	592.8	601.4	608.0
125°	605.2	607.3	609.3	611.4	613.5	618.4	626.1	633.8	641.6	649.3	655.7
127.5°	659.2	661.6	664.0	666.4	668.7	672.9	678.9	684.7	690.7	696.7	702.4
130°	693.2	696.0	698.7	701.4	704.2	708.0	713.1	718.2	723.3	728.3	734.1
132.5°	731.4	733.5	735.8	737.9	740.0	743.3	747.7	752.1	756.3	760.7	765.8
135°	781.1	783.6	786.2	788.7	791.3	794.1	797.2	800.2	803.3	806.5	811.7
137.5°	834.8	836.8	838.8	840.9	842.8	844.7	846.5	848.3	850.0	851.8	856.4
140°	867.1	868.9	870.8	872.5	874.3	876.1	877.8	879.4	881.1	882.8	887.0
142.5°	900.3	902.1	903.8	905.7	907.5	908.8	909.7	910.6	911.5	912.4	916.0
145°	946.7	948.3	949.9	951.5	953.1	954.7	956.0	957.4	958.8	960.2	962.0
147.5°	989.2	991.1	993.0	995.0	996.9	998.4	999.3	1000.2	1001.1	1002.0	1002.7
150°	1018.2	1019.6	1020.9	1022.3	1023.7	1024.8	1025.8	1026.7	1027.6	1028.6	1029.2
152.5°	1043.8	1045.3	1046.6	1048.0	1049.4	1050.6	1051.8	1052.8	1054.0	1055.1	1056.0
155°	1082.4	1083.1	1083.8	1084.5	1085.2	1085.8	1086.5	1087.3	1088.0	1088.6	1089.8
157.5°	1115.4	1115.8	1116.2	1116.7	1117.2	1117.6	1118.0	1118.5	1118.8	1119.3	1120.9
160°	1135.2	1135.7	1136.1	1136.6	1137.1	1137.4	1137.6	1137.9	1138.1	1138.4	1139.7
162.5°	1153.4	1153.5	1153.6	1153.7	1153.9	1154.0	1154.2	1154.4	1154.7	1154.9	1156.5
165°	1177.7	1177.5	1177.2	1177.0	1176.8	1176.7	1176.7	1176.7	1176.7	1176.7	1178.3
167.5°	1198.0	1197.3	1196.6	1196.0	1195.2	1194.9	1194.8	1194.8	1194.7	1194.7	1196.3
170°	1208.8	1208.1	1207.4	1206.7	1206.0	1205.6	1205.3	1205.1	1204.9	1204.6	1206.2
172.5°	1216.2	1215.6	1214.9	1214.2	1213.4	1213.0	1212.8	1212.5	1212.3	1212.1	1213.7
175°	1225.4	1224.7	1224.0	1223.2	1222.6	1222.0	1221.6	1221.1	1220.7	1220.1	1221.8
177.5°	1229.0	1228.5	1228.0	1227.4	1226.9	1226.4	1226.0	1225.7	1225.3	1224.9	1226.0
180°	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	198.0	208.6	219.3	226.2	229.7	233.1	236.5	239.9
90°	212.6	222.6	232.6	239.4	242.8	246.2	249.6	253.0
92.5°	201.4	211.8	222.2	229.0	232.2	235.4	238.6	241.8
95°	222.4	232.4	242.4	248.7	251.4	254.0	256.7	259.5
97.5°	256.8	266.5	276.3	282.7	285.7	288.7	291.9	294.9
100°	280.7	290.4	300.1	306.4	309.1	311.7	314.3	317.0
102.5°	308.0	317.7	327.4	333.6	336.3	338.9	341.6	344.3
105°	348.9	358.6	368.3	374.6	377.5	380.3	383.3	386.1
107.5°	394.1	403.1	412.1	417.6	419.4	421.2	423.1	424.9
110°	425.3	433.7	442.2	447.5	449.7	451.9	454.1	456.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	456.6	464.4	472.3	477.4	479.8	482.1	484.6	487.0
115°	504.8	512.5	520.0	525.0	527.2	529.4	531.6	533.9
117.5°	551.0	558.2	565.4	570.1	572.0	574.0	576.0	578.0
120°	582.0	589.4	596.7	601.5	603.7	605.9	608.1	610.4
122.5°	614.6	621.2	627.8	632.0	634.0	636.0	637.9	639.9
125°	662.1	668.5	674.9	679.2	681.4	683.5	685.6	687.8
127.5°	708.1	713.7	719.4	723.1	724.7	726.2	727.8	729.4
130°	740.0	745.8	751.7	755.2	756.4	757.6	758.8	759.9
132.5°	770.9	776.0	781.0	784.3	785.7	787.0	788.5	789.8
135°	817.0	822.3	827.6	831.0	832.4	833.7	835.2	836.6
137.5°	861.1	865.8	870.4	873.2	874.1	874.9	875.7	876.6
140°	891.2	895.5	899.6	902.1	902.7	903.4	904.0	904.6
142.5°	919.5	923.0	926.6	928.6	929.1	929.5	930.0	930.4
145°	963.8	965.6	967.4	968.5	968.9	969.3	969.7	970.1
147.5°	1003.4	1004.2	1004.9	1005.1	1004.9	1004.7	1004.4	1004.2
150°	1029.9	1030.6	1031.4	1031.4	1030.6	1029.9	1029.2	1028.6
152.5°	1056.9	1057.7	1058.5	1058.5	1057.7	1056.9	1056.0	1055.1
155°	1090.9	1092.1	1093.2	1093.4	1092.8	1092.1	1091.4	1090.7
157.5°	1122.4	1124.0	1125.5	1125.8	1124.6	1123.6	1122.5	1121.3
160°	1141.1	1142.5	1143.9	1144.1	1143.2	1142.3	1141.3	1140.4
162.5°	1158.1	1159.6	1161.2	1161.4	1160.3	1159.2	1158.1	1157.0
165°	1179.9	1181.5	1183.1	1183.3	1182.2	1181.1	1179.9	1178.8
167.5°	1197.9	1199.5	1201.1	1201.3	1200.2	1198.9	1197.7	1196.6
170°	1207.8	1209.4	1211.0	1211.2	1209.8	1208.4	1207.0	1205.7
172.5°	1215.3	1216.9	1218.5	1218.6	1217.3	1215.8	1214.5	1213.1
175°	1223.4	1225.0	1226.6	1226.7	1225.4	1224.0	1222.6	1221.2
177.5°	1227.2	1228.2	1229.3	1229.3	1228.2	1227.2	1226.0	1224.9
180°	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4

(END OF REPORT)