

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: P331692-830

Luminaire Tested: **SA2XXRDIP-C675D725U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331692-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C675D725U830-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

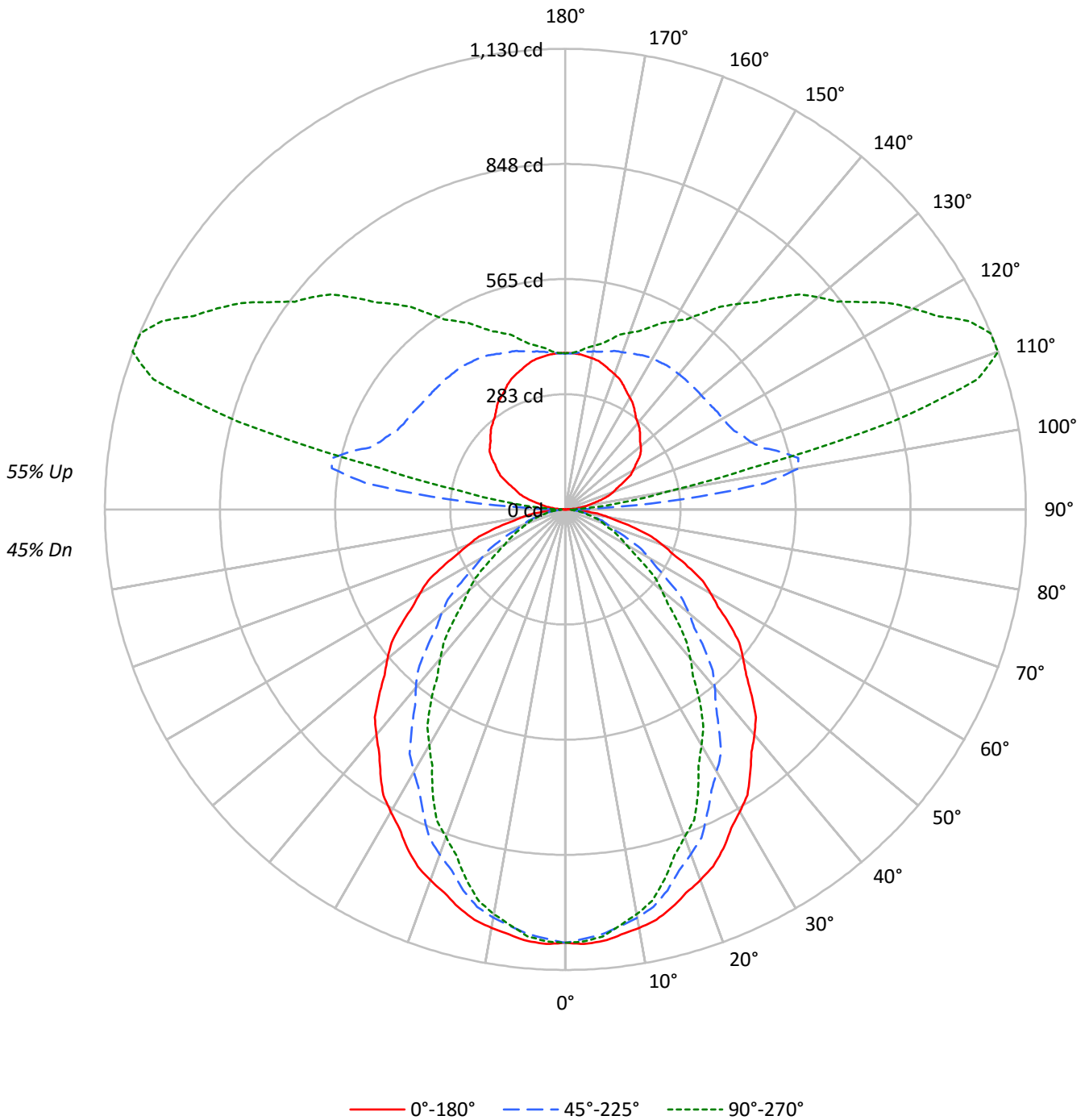
Lumens per Lamp: N/A
Luminaire Lumens: 4856.3 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 45.9
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	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	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39				
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	41	40	38	33				
3	81	72	65	60	74	67	60	56	56	51	48	46	43	40	37	35	33	29				
4	75	64	57	51	68	59	53	47	50	45	41	41	38	35	33	31	29	25				
5	69	57	49	44	63	53	46	41	45	40	36	37	33	30	30	27	25	22				
6	63	52	44	38	58	48	41	36	41	35	31	34	30	27	28	25	22	20				
7	59	47	39	34	54	43	36	32	37	32	28	31	27	24	25	22	20	17				
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16				
9	51	39	32	27	47	36	30	25	31	26	22	26	22	19	22	19	16	14				
10	47	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17166	17166	17166
5°	17232	16951	17045
10°	17100	16674	16531
15°	16904	16181	15714
20°	16632	15474	14698
25°	16352	14672	13714
30°	15966	13848	12450
35°	15589	12952	11341
40°	15209	12026	10058
45°	14764	10985	8896
50°	14307	9934	7759
55°	13841	8802	6663
60°	13298	7611	5532
65°	12684	6395	5039
70°	11948	5268	4631
75°	11042	4803	4323
80°	9754	4296	3933
85°	7669	3390	3390



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.5	2.0
10°-20°	273.3	5.6
20°-30°	383.7	7.9
30°-40°	418.4	8.6
40°-50°	384.7	7.9
50°-60°	302.2	6.2
60°-70°	197.0	4.1
70°-80°	101.6	2.1
80°-90°	29.8	0.6
90°-100°	153.2	3.2
100°-110°	519.8	10.7
110°-120°	552.3	11.4
120°-130°	454.6	9.4
130°-140°	365.1	7.5
140°-150°	275.9	5.7
150°-160°	193.9	4.0
160°-170°	114.1	2.4
170°-180°	37.1	0.8
0°-30°	756.5	15.6
0°-40°	1174.9	24.2
0°-60°	1861.8	38.3
0°-90°	2190.2	45.1
90°-120°	1225.3	25.2
90°-150°	2320.9	47.8
90°-180°	2666.0	54.9
0°-180°	4856.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1063	1058	1046	1054	1052	101
15°	1011	999	968	950	940	285
25°	918	885	824	786	770	422
35°	791	740	657	599	575	495
45°	647	580	481	415	390	499
55°	492	415	313	257	237	439
65°	332	254	167	136	132	329
75°	177	112	77	71	69	187
85°	41	22	18	18	18	49
90°	1	10	25	24	24	3
95°	26	63	289	109	84	27
105°	90	136	546	976	830	96
115°	158	200	457	943	1093	157
125°	221	262	439	764	886	196
135°	259	310	434	642	735	200
145°	296	340	432	536	586	186
155°	337	364	419	474	493	155
165°	367	378	402	426	432	103
175°	382	383	386	391	390	36
180°	383	383	383	383	383	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2
2.5°	1067.1	1066.2	1065.4	1064.5	1063.7	1062.2	1060.4	1058.5	1056.7	1054.8	1056.5
5°	1063.2	1062.2	1061.1	1060.0	1058.9	1057.1	1054.2	1051.5	1048.7	1045.9	1047.8
7.5°	1052.3	1050.9	1049.6	1048.3	1047.0	1044.6	1041.4	1038.2	1034.9	1031.7	1032.2
10°	1043.0	1041.5	1040.0	1038.5	1037.0	1034.2	1029.8	1025.6	1021.3	1017.0	1016.4
12.5°	1031.4	1029.6	1027.7	1026.0	1024.1	1020.5	1015.0	1009.6	1004.0	998.5	997.4
15°	1011.3	1008.9	1006.5	1004.2	1001.8	997.0	989.8	982.5	975.2	968.0	963.9
17.5°	986.5	982.9	979.3	975.6	972.0	965.6	956.3	947.0	937.6	928.3	923.5
20°	968.0	963.7	959.4	955.2	950.8	943.4	932.6	922.0	911.3	900.6	895.2
22.5°	947.9	943.2	938.4	933.6	928.8	920.4	908.3	896.3	884.2	872.1	865.3
25°	917.9	911.1	904.3	897.4	890.6	880.1	866.0	851.9	837.7	823.6	814.8
27.5°	881.7	874.3	866.9	859.4	852.0	840.3	824.4	808.5	792.6	776.7	766.5
30°	856.4	848.2	840.1	832.0	823.9	811.2	794.1	777.0	759.9	742.8	731.9
32.5°	831.7	822.2	812.8	803.2	793.7	780.2	762.8	745.4	727.9	710.5	698.0
35°	790.9	780.0	769.1	758.2	747.3	732.4	713.6	694.8	676.0	657.1	643.7
37.5°	750.2	738.1	726.1	714.2	702.2	686.2	666.2	646.1	626.0	606.0	591.2
40°	721.6	708.8	696.0	683.2	670.3	653.6	632.8	612.1	591.4	570.6	555.4
42.5°	692.4	678.9	665.3	651.9	638.4	620.9	599.5	578.1	556.6	535.2	519.4
45°	646.6	632.3	617.9	603.6	589.3	570.9	548.5	526.0	503.5	481.1	465.9
47.5°	601.9	586.7	571.6	556.4	541.2	522.1	498.9	475.7	452.5	429.3	414.2
50°	569.6	554.4	539.2	524.1	508.9	489.6	466.0	442.5	419.0	395.5	380.7
52.5°	538.1	522.2	506.3	490.5	474.6	455.2	432.2	409.2	386.2	363.2	348.9
55°	491.7	475.0	458.4	441.7	425.0	405.1	382.0	358.9	335.8	312.7	299.9
57.5°	444.1	427.1	409.9	392.9	375.7	356.1	333.8	311.7	289.5	267.3	255.5
60°	411.8	394.7	377.6	360.5	343.4	323.9	301.8	279.7	257.8	235.7	224.8
62.5°	380.2	363.2	346.0	328.9	311.8	292.8	271.8	250.8	229.8	208.8	198.4
65°	332.0	314.6	297.3	280.0	262.7	244.4	225.2	205.9	186.6	167.4	160.1
67.5°	285.4	268.2	251.0	233.8	216.6	199.3	182.0	164.8	147.4	130.1	126.8
70°	253.1	236.4	219.7	203.0	186.3	170.6	155.9	141.1	126.4	111.6	109.4
72.5°	222.3	206.2	190.3	174.3	158.3	144.4	132.5	120.6	108.9	97.0	95.2
75°	177.0	162.1	147.1	132.1	117.2	106.0	98.8	91.5	84.3	77.0	75.5
77.5°	132.6	119.4	106.3	93.2	80.1	71.7	68.2	64.8	61.3	57.8	56.8
80°	104.9	94.0	83.0	72.2	61.3	54.8	52.6	50.4	48.4	46.2	45.3
82.5°	79.5	71.0	62.5	53.9	45.4	40.4	39.0	37.5	36.1	34.7	34.1
85°	41.4	36.9	32.4	27.9	23.4	20.8	20.2	19.6	18.9	18.3	18.3
87.5°	12.4	11.5	10.7	9.7	8.6	8.4	9.1	10.2	11.0	11.1	10.8
90°	0.8	2.9	5.9	7.4	8.9	11.0	14.7	19.9	24.3	25.1	24.3
92.5°	9.0	13.0	18.3	21.5	26.5	33.5	50.1	73.5	94.4	95.8	80.9
95°	25.8	28.7	36.1	42.7	54.5	72.2	106.1	170.2	255.7	288.8	252.7
97.5°	42.0	46.0	53.8	63.8	77.4	97.4	140.0	229.3	371.4	493.0	517.3
100°	56.7	58.9	65.6	77.4	92.1	112.7	151.7	241.7	400.8	582.0	688.2
102.5°	70.3	71.9	78.5	90.3	105.7	126.3	162.4	242.2	389.6	585.0	751.8
105°	89.9	92.8	98.0	109.1	125.3	145.9	180.5	246.1	367.7	545.9	742.0
107.5°	111.1	113.5	118.5	128.7	144.7	165.5	199.1	256.3	356.8	504.1	677.2
110°	125.3	128.2	132.6	142.2	157.7	179.1	211.4	264.5	354.4	484.1	636.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.2	141.2	146.2	155.1	170.0	192.0	223.3	273.3	355.0	471.1	608.3
115°	158.4	162.1	166.5	175.3	190.1	210.0	241.7	286.6	358.1	456.9	573.3
117.5°	179.4	182.3	186.7	194.5	208.7	229.3	258.6	300.8	363.4	449.9	551.1
120°	192.3	195.3	199.6	206.3	221.0	241.7	270.4	310.2	366.9	445.7	539.3
122.5°	204.7	207.1	211.4	218.7	233.4	254.7	281.6	318.5	371.1	443.4	529.3
125°	221.0	223.3	227.6	236.5	251.3	271.8	298.4	331.6	377.2	439.1	515.0
127.5°	234.0	237.0	243.2	252.9	267.0	288.2	314.1	343.7	383.6	436.6	501.7
130°	241.7	244.6	251.9	262.3	277.0	297.7	323.5	351.5	388.3	435.5	492.9
132.5°	248.7	252.3	260.2	271.2	286.4	307.1	331.7	359.1	393.0	434.9	485.9
135°	259.4	262.3	271.2	282.2	299.2	319.8	343.4	369.1	398.6	433.9	476.0
137.5°	269.4	272.9	281.7	293.5	310.4	329.5	352.8	376.8	403.6	433.9	469.0
140°	277.0	279.9	288.8	300.6	316.8	336.0	358.1	380.9	406.0	433.2	465.0
142.5°	284.6	287.1	295.3	307.1	322.7	340.7	362.2	384.5	407.7	433.2	460.8
145°	296.1	299.2	306.5	317.5	332.2	348.5	368.4	389.0	409.6	431.8	455.3
147.5°	308.6	310.8	317.8	328.0	340.3	354.7	373.4	391.5	410.3	429.1	449.8
150°	316.8	319.1	324.9	334.5	345.5	358.8	375.8	392.7	409.6	427.3	445.0
152.5°	325.1	326.1	332.0	340.4	350.8	363.0	378.1	393.3	408.5	424.4	440.9
155°	336.7	337.4	341.9	350.0	358.1	369.1	381.6	394.2	406.7	419.2	433.2
157.5°	346.5	347.1	350.7	357.8	364.3	373.5	384.2	394.2	403.3	414.0	426.0
160°	352.9	353.6	356.6	362.5	368.4	376.5	385.3	394.2	401.5	410.4	420.8
162.5°	359.4	358.9	361.9	366.6	371.9	378.2	386.0	393.6	399.8	407.5	415.9
165°	366.9	366.2	367.7	372.1	375.8	380.2	386.8	392.0	396.4	401.5	408.2
167.5°	373.2	372.2	373.5	376.4	379.0	381.8	386.6	391.0	393.0	396.4	400.5
170°	377.2	375.8	376.5	378.7	380.2	382.4	386.1	389.7	391.2	393.4	396.4
172.5°	379.6	378.7	378.2	380.5	381.4	383.0	385.5	388.0	388.9	389.9	392.3
175°	382.4	381.6	380.9	382.4	382.4	383.1	384.6	386.1	385.3	386.1	386.8
177.5°	383.7	382.6	381.9	383.1	383.1	383.1	383.7	384.9	383.7	383.1	383.7
180°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2
2.5°	1058.2	1059.9	1061.6	1062.2	1062.0	1061.6	1061.3	1060.9
5°	1049.7	1051.7	1053.6	1054.2	1053.6	1052.9	1052.3	1051.7
7.5°	1032.7	1033.3	1033.9	1033.6	1032.5	1031.4	1030.3	1029.2
10°	1015.8	1015.1	1014.5	1013.5	1012.2	1011.0	1009.7	1008.3
12.5°	996.3	995.1	993.9	992.3	990.1	988.1	985.9	983.7
15°	959.9	955.7	951.7	948.6	946.5	944.3	942.2	940.1
17.5°	918.7	913.8	909.0	904.7	901.1	897.4	893.7	890.0
20°	889.9	884.6	879.2	874.2	869.5	864.8	860.1	855.4
22.5°	858.4	851.5	844.6	839.4	835.8	832.4	828.9	825.4
25°	806.1	797.3	788.5	782.6	779.4	776.2	773.0	769.8
27.5°	756.2	746.0	735.8	728.1	723.0	717.9	712.8	707.8
30°	721.0	710.1	699.2	690.9	685.0	679.3	673.5	667.8
32.5°	685.6	673.2	660.7	651.8	646.3	640.9	635.5	630.1
35°	630.3	616.8	603.3	594.2	589.5	584.8	580.1	575.4
37.5°	576.3	561.5	546.7	536.5	531.1	525.8	520.4	515.0
40°	540.2	525.0	509.8	499.5	493.9	488.3	482.8	477.2
42.5°	503.8	488.0	472.4	461.8	456.5	451.1	445.7	440.3
45°	450.7	435.5	420.4	410.2	405.1	399.9	394.8	389.6
47.5°	399.2	384.1	368.9	359.1	354.4	349.8	345.1	340.4
50°	366.0	351.2	336.5	326.8	322.3	317.8	313.4	308.9
52.5°	334.7	320.4	306.1	297.0	292.8	288.7	284.6	280.4
55°	287.1	274.2	261.4	253.0	248.9	244.8	240.7	236.7
57.5°	243.7	232.1	220.3	212.6	209.2	205.9	202.4	199.0
60°	214.0	203.0	192.1	184.9	181.5	178.1	174.7	171.3
62.5°	188.0	177.6	167.2	161.0	158.9	156.9	154.9	152.8
65°	152.9	145.6	138.4	134.4	133.7	133.1	132.4	131.9
67.5°	123.4	120.1	116.8	114.7	114.0	113.4	112.7	112.0
70°	107.4	105.2	103.0	101.6	100.7	99.8	99.0	98.1
72.5°	93.4	91.6	89.8	88.7	88.1	87.7	87.1	86.6
75°	74.0	72.5	71.0	70.1	69.9	69.7	69.5	69.3
77.5°	56.0	55.1	54.3	53.7	53.3	53.1	52.7	52.3
80°	44.5	43.6	42.8	42.3	42.3	42.3	42.3	42.3
82.5°	33.6	33.1	32.6	32.3	32.3	32.3	32.3	32.3
85°	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	10.6	10.1	10.2	10.3	10.3	10.3	10.3	10.3
90°	23.6	22.1	23.6	24.3	24.3	24.3	24.3	24.3
92.5°	64.3	55.1	48.9	44.4	43.7	41.4	42.0	40.8
95°	193.0	148.1	117.2	100.9	91.3	85.5	83.2	84.0
97.5°	450.4	368.5	288.8	235.6	200.4	182.3	171.5	165.3
100°	672.7	581.4	480.4	391.2	330.1	298.4	277.0	263.7
102.5°	818.3	797.7	723.8	629.3	562.9	508.8	482.1	464.2
105°	895.2	978.5	988.1	963.7	918.0	872.3	840.7	830.4
107.5°	839.8	965.2	1041.8	1077.5	1083.3	1080.7	1074.4	1060.6
110°	792.0	924.0	1018.2	1078.6	1110.3	1124.4	1131.0	1130.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	748.5	875.0	975.8	1045.1	1089.1	1112.6	1125.1	1129.1
115°	694.7	808.2	904.7	980.6	1032.9	1066.9	1086.0	1092.7
117.5°	654.4	754.0	841.6	912.8	966.1	1001.9	1022.1	1027.7
120°	634.3	725.8	803.8	870.9	922.5	957.1	978.5	985.8
122.5°	618.5	702.2	776.1	836.7	883.0	917.0	936.0	942.2
125°	595.3	671.2	736.0	791.3	834.1	862.0	880.4	886.4
127.5°	572.5	641.1	702.3	753.3	790.6	816.8	832.7	837.4
130°	557.7	621.1	679.3	727.9	764.0	789.1	803.8	809.7
132.5°	543.6	602.3	655.7	701.4	737.0	762.0	775.5	780.8
135°	523.9	572.5	621.1	662.3	694.1	718.4	731.6	734.6
137.5°	508.1	548.7	587.4	623.3	652.2	673.2	684.8	689.2
140°	498.0	533.5	567.3	599.7	623.3	642.4	653.6	658.0
142.5°	489.8	519.9	549.0	576.2	598.6	616.0	625.8	626.7
145°	478.2	502.5	525.4	546.7	564.4	576.9	584.3	586.4
147.5°	469.2	488.3	506.1	521.8	536.4	546.4	551.4	552.7
150°	462.7	478.9	494.4	507.7	518.7	527.5	532.0	532.7
152.5°	456.2	471.3	484.4	495.9	504.5	512.2	515.5	515.6
155°	447.2	459.0	470.0	478.2	486.3	491.4	494.4	492.9
157.5°	436.8	446.7	455.9	462.2	468.0	472.3	473.6	473.6
160°	430.3	438.4	446.5	451.7	456.9	460.5	461.2	461.2
162.5°	423.8	430.7	437.6	441.7	446.8	449.3	450.1	449.4
165°	414.1	419.2	424.4	427.3	430.3	433.2	433.2	432.5
167.5°	404.8	408.8	412.3	415.0	416.3	417.9	417.7	416.9
170°	400.1	402.3	405.2	406.7	407.5	409.6	408.9	407.5
172.5°	394.7	396.4	398.8	399.6	400.4	401.4	400.7	399.8
175°	389.0	389.7	390.5	391.2	391.2	392.0	391.2	389.7
177.5°	384.9	384.9	385.5	385.5	385.5	385.5	384.9	383.7
180°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1

(END OF REPORT)