

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: P331684

Luminaire Tested: **SA2XXRDIP-C675D530U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331684
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C675D530U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

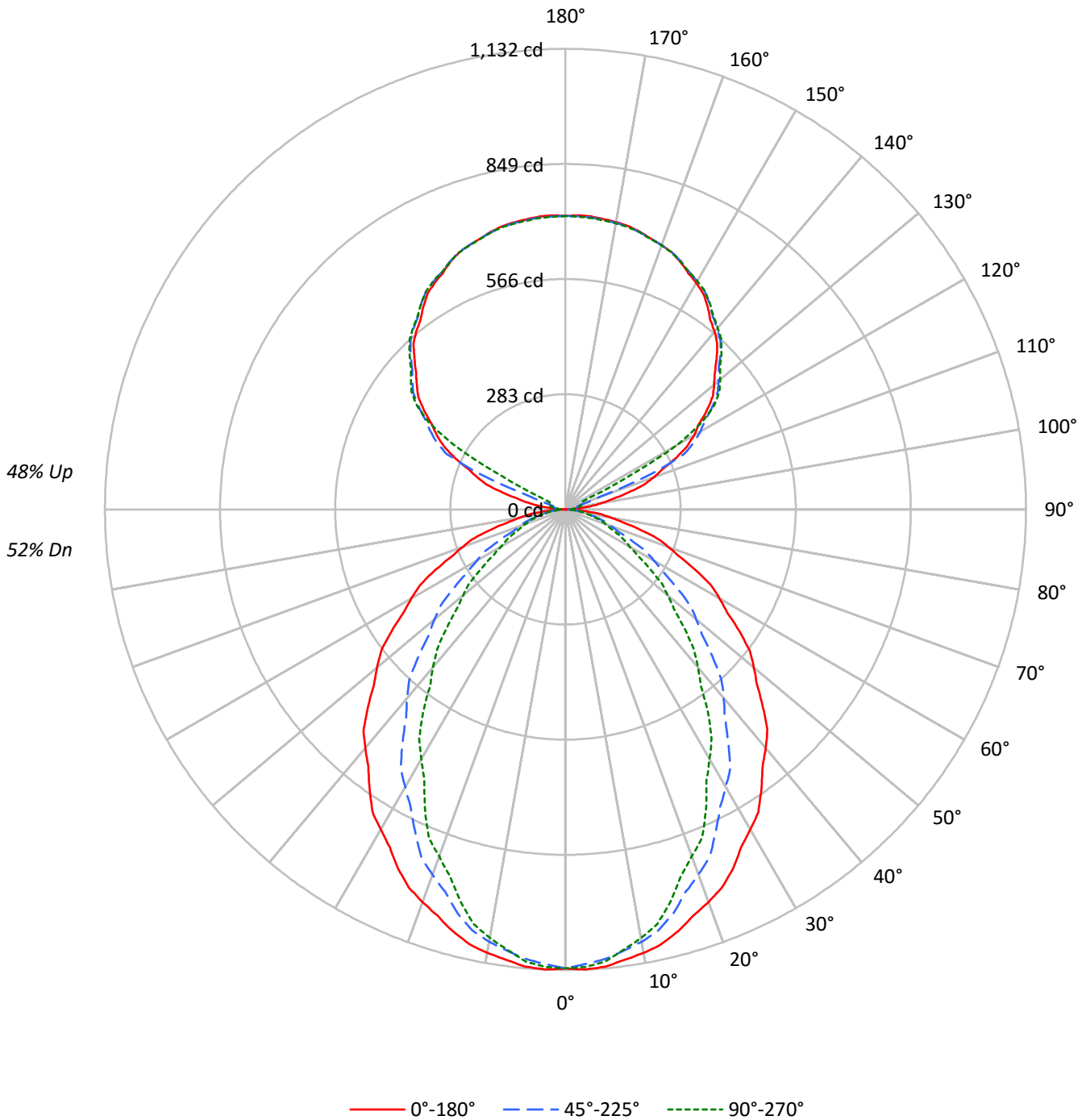
Lumens per Lamp: N/A
Luminaire Lumens: 4435.4 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 40.3
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	50	30	10	0	
RCR																						
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52				
1	99	95	91	88	91	88	85	82	75	73	71	63	62	60	52	51	50	45				
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	47	45	43	39				
3	83	74	67	61	76	69	62	57	59	54	50	50	47	44	42	39	37	33				
4	76	65	58	52	70	61	54	49	53	47	43	45	41	38	38	35	32	29				
5	70	59	51	45	65	55	48	42	47	42	38	41	36	33	34	31	29	26				
6	65	53	45	39	60	49	42	37	43	37	33	37	33	29	31	28	25	23				
7	60	48	40	35	55	45	38	33	39	34	29	34	29	26	29	25	23	20				
8	56	44	36	31	52	41	34	29	36	30	26	31	27	23	26	23	21	18				
9	52	40	33	28	48	37	31	26	33	28	24	29	24	21	24	21	19	17				
10	49	37	30	25	45	35	28	24	30	25	22	26	22	19	23	19	17	15				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18213	18213	18213
5°	18282	17985	18084
10°	18143	17690	17539
15°	17934	17167	16672
20°	17646	16417	15593
25°	17350	15567	14549
30°	16940	14693	13209
35°	16539	13742	12033
40°	16136	12760	10671
45°	15664	11654	9439
50°	15179	10540	8231
55°	14686	9340	7068
60°	14108	8076	5867
65°	13456	6785	5345
70°	12675	5589	4914
75°	11715	5097	4585
80°	10349	4556	4175
85°	8133	3594	3594



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.6	2.4
10°-20°	289.9	6.5
20°-30°	407.1	9.2
30°-40°	443.9	10.0
40°-50°	408.2	9.2
50°-60°	320.6	7.2
60°-70°	209.0	4.7
70°-80°	107.8	2.4
80°-90°	29.7	0.7
90°-100°	24.1	0.5
100°-110°	88.2	2.0
110°-120°	235.8	5.3
120°-130°	389.3	8.8
130°-140°	414.0	9.3
140°-150°	384.8	8.7
150°-160°	309.4	7.0
160°-170°	199.4	4.5
170°-180°	68.6	1.5
0°-30°	802.6	18.1
0°-40°	1246.6	28.1
0°-60°	1975.3	44.5
0°-90°	2321.9	52.3
90°-120°	348.1	7.8
90°-150°	1536.2	34.6
90°-180°	2114.0	47.7
0°-180°	4435.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1128	1122	1110	1118	1116	107
15°	1073	1060	1027	1008	997	302
25°	974	939	874	833	817	448
35°	839	785	697	635	610	525
45°	686	615	510	441	413	529
55°	522	440	332	273	251	466
65°	352	269	178	145	140	349
75°	188	118	82	75	74	199
85°	44	23	19	19	19	52
90°	0	6	10	13	14	3
95°	34	18	20	23	22	41
105°	159	166	32	37	40	170
115°	300	309	322	92	43	295
125°	424	431	441	444	446	378
135°	525	533	538	543	542	405
145°	609	609	617	621	618	381
155°	671	666	672	675	671	309
165°	707	704	705	708	705	200
175°	723	719	720	723	719	69
180°	721	721	721	721	721	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1132.1	1131.2	1130.3	1129.4	1128.5	1127.0	1125.0	1123.0	1121.1	1119.1	1120.9
5°	1128.0	1126.9	1125.8	1124.6	1123.5	1121.5	1118.5	1115.6	1112.6	1109.7	1111.7
7.5°	1116.4	1115.0	1113.6	1112.2	1110.8	1108.3	1104.9	1101.5	1098.0	1094.6	1095.1
10°	1106.6	1105.0	1103.4	1101.8	1100.2	1097.2	1092.6	1088.1	1083.6	1079.0	1078.4
12.5°	1094.3	1092.4	1090.4	1088.5	1086.5	1082.7	1076.9	1071.1	1065.2	1059.4	1058.2
15°	1072.9	1070.4	1067.9	1065.4	1062.9	1057.8	1050.1	1042.4	1034.7	1027.0	1022.7
17.5°	1046.6	1042.8	1039.0	1035.1	1031.3	1024.5	1014.6	1004.7	994.8	984.9	979.8
20°	1027.0	1022.4	1017.9	1013.4	1008.8	1000.9	989.5	978.2	966.9	955.5	949.8
22.5°	1005.7	1000.7	995.6	990.5	985.4	976.5	963.7	950.9	938.1	925.3	918.0
25°	973.9	966.6	959.4	952.1	944.9	933.7	918.8	903.8	888.8	873.8	864.5
27.5°	935.5	927.6	919.7	911.8	903.9	891.5	874.7	857.8	840.9	824.0	813.2
30°	908.6	899.9	891.3	882.7	874.1	860.7	842.5	824.4	806.2	788.1	776.5
32.5°	882.4	872.3	862.3	852.2	842.1	827.8	809.3	790.8	772.3	753.8	740.6
35°	839.1	827.6	816.0	804.4	792.9	777.1	757.1	737.2	717.2	697.2	682.9
37.5°	795.9	783.1	770.4	757.7	745.0	728.0	706.8	685.5	664.2	642.9	627.2
40°	765.6	752.0	738.4	724.8	711.2	693.4	671.4	649.4	627.4	605.4	589.3
42.5°	734.6	720.3	705.9	691.6	677.3	658.7	636.0	613.3	590.5	567.8	551.1
45°	686.0	670.8	655.6	640.4	625.2	605.7	581.9	558.1	534.2	510.4	494.3
47.5°	638.6	622.5	606.4	590.3	574.2	553.9	529.3	504.7	480.1	455.5	439.5
50°	604.3	588.2	572.1	556.0	539.9	519.4	494.4	469.5	444.5	419.6	403.9
52.5°	570.9	554.0	537.2	520.4	503.5	482.9	458.5	434.1	409.7	385.3	370.2
55°	521.7	504.0	486.3	468.6	450.9	429.8	405.3	380.8	356.3	331.8	318.2
57.5°	471.2	453.1	434.9	416.8	398.6	377.8	354.2	330.7	307.1	283.6	271.1
60°	436.9	418.8	400.6	382.5	364.3	343.6	320.2	296.8	273.5	250.1	238.5
62.5°	403.4	385.3	367.1	349.0	330.8	310.6	288.4	266.1	243.8	221.5	210.5
65°	352.2	333.8	315.4	297.1	278.7	259.3	238.9	218.5	198.0	177.6	169.9
67.5°	302.8	284.5	266.3	248.1	229.8	211.5	193.1	174.8	156.4	138.0	134.5
70°	268.5	250.8	233.1	215.4	197.7	181.0	165.4	149.7	134.1	118.4	116.1
72.5°	235.8	218.8	201.9	184.9	167.9	153.2	140.6	128.0	115.5	102.9	101.0
75°	187.8	172.0	156.1	140.2	124.3	112.5	104.8	97.1	89.4	81.7	80.1
77.5°	140.7	126.7	112.8	98.9	85.0	76.1	72.4	68.7	65.0	61.3	60.3
80°	111.3	99.7	88.1	76.6	65.0	58.1	55.8	53.5	51.3	49.0	48.1
82.5°	84.3	75.3	66.3	57.2	48.2	42.9	41.4	39.8	38.3	36.8	36.2
85°	43.9	39.1	34.4	29.6	24.8	22.1	21.4	20.8	20.1	19.4	19.4
87.5°	13.2	12.0	10.8	9.6	8.4	7.9	8.1	8.2	8.4	8.6	8.6
90°	0.5	1.8	3.1	4.3	5.6	6.7	7.7	8.6	9.5	10.4	11.0
92.5°	10.5	10.4	10.3	10.2	10.1	10.3	10.7	11.2	11.6	12.1	12.4
95°	33.9	30.1	26.3	22.4	18.6	17.1	17.9	18.7	19.5	20.4	20.9
97.5°	67.3	56.5	45.8	35.0	24.2	19.7	21.6	23.5	25.4	27.2	27.7
100°	92.4	76.5	60.6	44.7	28.8	21.9	23.8	25.8	27.8	29.7	30.7
102.5°	119.9	116.6	113.2	109.8	106.5	96.5	80.1	63.6	47.1	30.6	31.8
105°	158.6	162.1	165.6	169.1	172.6	158.5	126.8	95.2	63.5	31.8	33.1
107.5°	202.8	205.6	208.4	211.2	214.0	196.4	158.5	120.5	82.5	44.6	43.3
110°	231.2	233.6	236.1	238.5	240.9	225.4	191.9	158.4	124.8	91.3	79.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	257.9	260.1	262.2	264.4	266.5	263.5	255.2	246.9	238.6	230.4	188.0
115°	300.1	302.0	304.0	306.0	308.0	310.4	313.3	316.2	319.1	322.0	268.3
117.5°	337.8	340.0	342.2	344.4	346.6	348.7	350.7	352.7	354.7	356.6	343.7
120°	365.3	367.0	368.8	370.5	372.3	374.2	376.3	378.4	380.4	382.5	383.9
122.5°	388.7	390.5	392.4	394.2	396.0	398.1	400.3	402.6	404.9	407.2	408.0
125°	424.3	425.8	427.3	428.8	430.3	432.2	434.4	436.6	438.8	441.0	441.8
127.5°	456.5	458.2	459.9	461.5	463.2	464.9	466.5	468.2	469.8	471.5	472.6
130°	477.0	478.8	480.7	482.6	484.4	486.0	487.3	488.5	489.8	491.1	492.4
132.5°	497.9	499.4	501.0	502.6	504.2	505.6	506.9	508.2	509.4	510.7	511.8
135°	525.0	526.9	528.7	530.6	532.4	533.9	534.9	536.0	537.0	538.0	539.2
137.5°	552.5	553.7	555.0	556.3	557.6	558.9	560.1	561.3	562.4	563.6	564.8
140°	570.4	571.3	572.3	573.2	574.1	575.2	576.5	577.8	579.0	580.3	581.4
142.5°	585.4	586.3	587.1	587.9	588.8	589.9	591.4	592.8	594.3	595.8	596.7
145°	609.0	608.9	608.8	608.7	608.6	609.5	611.5	613.4	615.4	617.4	618.2
147.5°	629.6	629.1	628.7	628.3	627.8	628.6	630.5	632.5	634.4	636.4	637.0
150°	642.9	642.1	641.3	640.5	639.7	640.2	642.1	643.9	645.8	647.6	648.3
152.5°	654.2	653.3	652.4	651.5	650.6	651.0	652.8	654.6	656.3	658.1	658.8
155°	670.6	669.6	668.5	667.5	666.4	666.6	668.0	669.4	670.8	672.2	672.9
157.5°	683.4	682.6	681.7	680.8	679.9	680.0	680.9	681.9	682.9	683.9	684.6
160°	691.0	690.3	689.6	688.9	688.2	688.2	688.9	689.6	690.3	691.0	691.7
162.5°	697.6	696.9	696.2	695.5	694.9	694.8	695.4	696.0	696.6	697.2	698.0
165°	706.6	705.9	705.2	704.5	703.8	703.7	704.0	704.3	704.7	705.0	705.9
167.5°	713.3	712.6	711.9	711.2	710.5	710.3	710.6	711.0	711.3	711.6	712.4
170°	717.0	716.4	715.7	715.0	714.3	714.0	714.3	714.5	714.7	715.0	715.8
172.5°	719.6	718.9	718.2	717.5	716.8	716.5	716.8	717.0	717.2	717.5	718.3
175°	722.8	722.0	721.2	720.4	719.5	719.3	719.5	719.7	719.9	720.2	721.0
177.5°	723.3	722.7	722.0	721.4	720.7	720.4	720.5	720.6	720.7	720.8	721.5
180°	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1122.7	1124.5	1126.3	1127.0	1126.7	1126.3	1126.0	1125.6
5°	1113.7	1115.8	1117.8	1118.5	1117.8	1117.1	1116.5	1115.8
7.5°	1095.7	1096.3	1096.9	1096.6	1095.4	1094.3	1093.1	1091.9
10°	1077.7	1077.0	1076.3	1075.3	1073.9	1072.6	1071.2	1069.8
12.5°	1057.0	1055.8	1054.5	1052.8	1050.5	1048.3	1046.0	1043.7
15°	1018.4	1014.0	1009.7	1006.4	1004.2	1001.9	999.6	997.4
17.5°	974.7	969.5	964.4	959.9	956.0	952.1	948.2	944.3
20°	944.2	938.5	932.8	927.5	922.5	917.5	912.5	907.5
22.5°	910.7	903.4	896.1	890.6	886.8	883.1	879.4	875.7
25°	855.2	845.9	836.6	830.3	826.9	823.5	820.1	816.7
27.5°	802.3	791.5	780.7	772.5	767.1	761.7	756.3	750.9
30°	765.0	753.4	741.8	733.0	726.8	720.7	714.6	708.5
32.5°	727.4	714.2	701.0	691.5	685.7	680.0	674.2	668.5
35°	668.7	654.4	640.1	630.4	625.4	620.4	615.5	610.5
37.5°	611.4	595.7	580.0	569.2	563.5	557.8	552.1	546.4
40°	573.1	557.0	540.9	529.9	524.0	518.1	512.2	506.3
42.5°	534.5	517.8	501.2	490.0	484.3	478.6	472.9	467.1
45°	478.2	462.1	446.0	435.2	429.8	424.3	418.9	413.4
47.5°	423.5	407.5	391.4	381.0	376.0	371.1	366.1	361.2
50°	388.3	372.6	357.0	346.7	342.0	337.2	332.5	327.7
52.5°	355.1	339.9	324.8	315.1	310.7	306.3	301.9	297.5
55°	304.6	290.9	277.3	268.4	264.1	259.7	255.4	251.1
57.5°	258.6	246.2	233.7	225.6	222.0	218.4	214.7	211.1
60°	227.0	215.4	203.8	196.2	192.6	189.0	185.3	181.7
62.5°	199.5	188.4	177.4	170.8	168.6	166.5	164.3	162.1
65°	162.2	154.5	146.8	142.6	141.9	141.2	140.5	139.9
67.5°	130.9	127.4	123.9	121.7	121.0	120.3	119.6	118.8
70°	113.9	111.6	109.3	107.8	106.8	105.9	105.0	104.1
72.5°	99.1	97.2	95.3	94.1	93.5	93.0	92.4	91.9
75°	78.5	76.9	75.3	74.4	74.2	74.0	73.7	73.5
77.5°	59.4	58.5	57.6	57.0	56.6	56.3	55.9	55.5
80°	47.2	46.3	45.4	44.9	44.9	44.9	44.9	44.9
82.5°	35.7	35.1	34.6	34.3	34.3	34.3	34.3	34.3
85°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
87.5°	8.5	8.4	8.4	8.3	8.4	8.4	8.5	8.5
90°	11.6	12.2	12.8	13.2	13.4	13.6	13.9	14.1
92.5°	12.7	13.0	13.3	13.5	13.7	13.8	14.0	14.1
95°	21.5	22.1	22.7	22.9	22.8	22.7	22.6	22.4
97.5°	28.2	28.6	29.1	29.4	29.5	29.7	29.8	30.0
100°	31.6	32.5	33.5	34.0	34.3	34.5	34.7	35.0
102.5°	33.0	34.2	35.4	36.2	36.5	36.8	37.1	37.5
105°	34.4	35.7	36.9	37.8	38.3	38.7	39.2	39.7
107.5°	42.0	40.7	39.4	39.0	39.4	39.9	40.3	40.8
110°	68.1	56.5	44.9	39.4	39.8	40.3	40.8	41.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	145.7	103.4	61.1	40.2	40.5	40.9	41.3	41.6
115°	214.6	160.9	107.2	76.2	67.8	59.5	51.1	42.8
117.5°	330.7	317.7	304.7	284.5	257.0	229.6	202.2	174.7
120°	385.3	386.7	388.1	381.0	365.3	349.7	334.0	318.3
122.5°	408.8	409.7	410.5	409.4	406.4	403.3	400.3	397.2
125°	442.6	443.4	444.2	444.8	445.2	445.5	445.9	446.2
127.5°	473.8	475.0	476.2	476.8	476.9	477.0	477.0	477.1
130°	493.6	494.9	496.2	496.8	496.6	496.5	496.4	496.3
132.5°	512.9	514.0	515.1	515.5	515.4	515.3	515.2	515.1
135°	540.4	541.5	542.7	543.2	542.9	542.7	542.5	542.2
137.5°	565.9	567.0	568.2	568.5	568.1	567.7	567.4	567.0
140°	582.4	583.4	584.5	584.7	584.1	583.6	583.0	582.4
142.5°	597.7	598.6	599.6	599.8	599.2	598.6	598.0	597.4
145°	619.0	619.8	620.6	620.7	620.2	619.6	619.0	618.4
147.5°	637.6	638.2	638.8	638.8	638.4	637.9	637.4	636.9
150°	649.0	649.7	650.4	650.5	649.9	649.3	648.7	648.2
152.5°	659.5	660.2	660.9	660.8	660.1	659.3	658.5	657.8
155°	673.6	674.3	675.0	674.8	673.9	673.0	672.1	671.1
157.5°	685.4	686.2	687.0	687.0	686.0	685.1	684.2	683.3
160°	692.3	693.0	693.7	693.7	692.9	692.1	691.2	690.4
162.5°	698.8	699.6	700.4	700.3	699.3	698.3	697.3	696.3
165°	706.7	707.5	708.3	708.3	707.5	706.7	705.9	705.0
167.5°	713.2	714.1	714.9	714.8	713.7	712.7	711.6	710.6
170°	716.6	717.4	718.2	718.1	717.0	716.0	715.0	713.9
172.5°	719.1	719.9	720.7	720.6	719.6	718.5	717.5	716.4
175°	721.8	722.6	723.4	723.3	722.1	720.9	719.8	718.6
177.5°	722.1	722.8	723.4	723.3	722.5	721.6	720.8	720.0
180°	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2

(END OF REPORT)