

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: P332219-927

Luminaire Tested: **S123DIW-S1165D755U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332219-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1165D755U927-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5917.5 lumens
Efficiency: N/A
Efficacy: 99.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

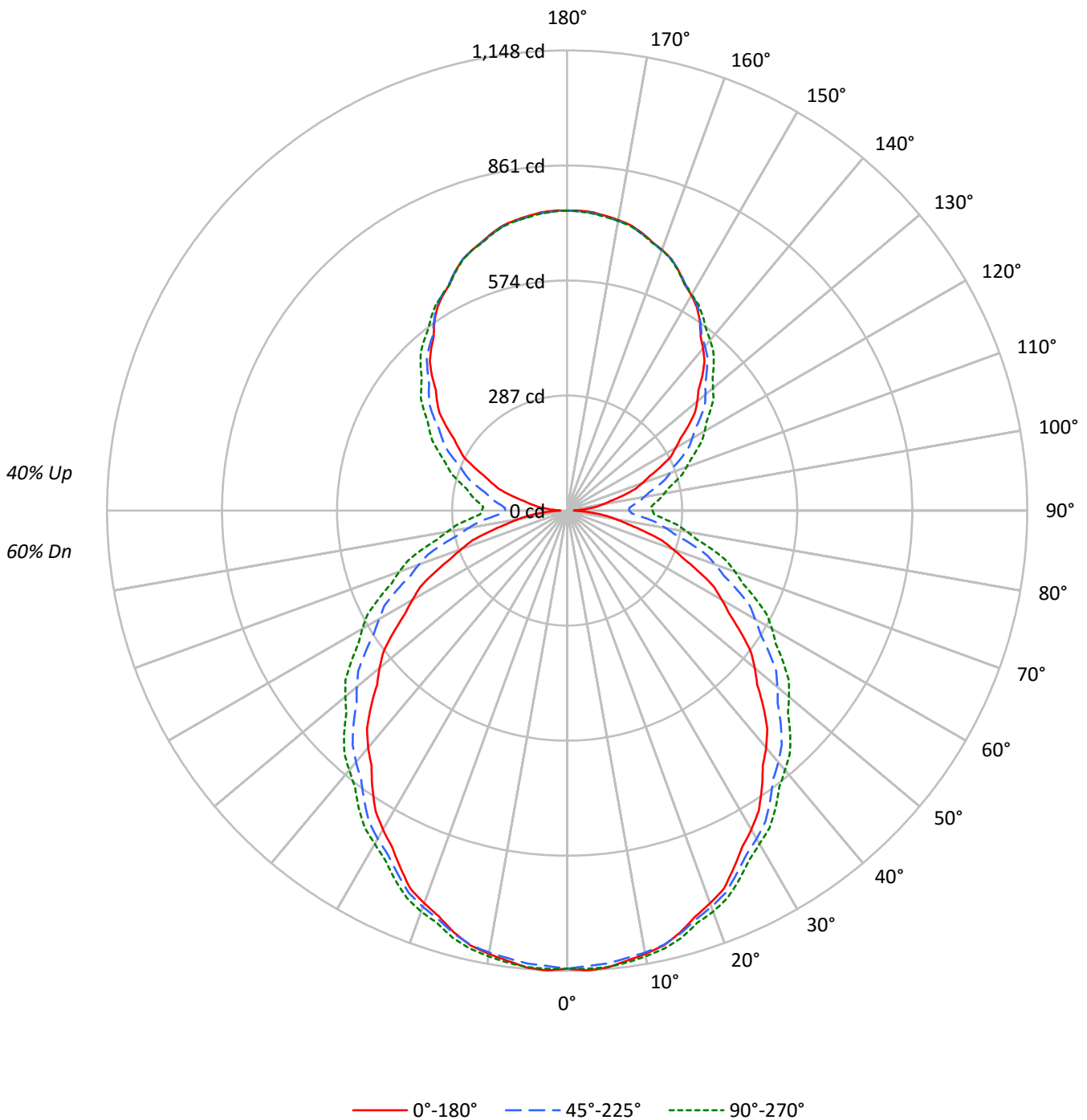
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	99	94	89	85	92	87	84	80	76	73	70	65	63	61	55	54	52	48
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	45	43	39
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36	32
4	74	63	54	48	69	59	51	45	51	45	40	44	39	35	37	34	31	27
5	68	56	47	41	63	52	44	39	46	39	35	39	34	31	34	30	27	24
6	63	50	41	35	58	47	39	33	41	35	30	36	30	27	30	26	23	21
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21	18
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	25	21	18	16
9	50	37	29	24	47	35	28	23	31	25	21	27	22	19	23	20	17	14
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12304	12304	12304
5°	12343	11994	12001
10°	12232	11718	11659
15°	12075	11405	11287
20°	11849	11047	10876
25°	11571	10634	10444
30°	11287	10264	10006
35°	10967	9871	9658
40°	10663	9514	9284
45°	10325	9172	8985
50°	9990	8832	8655
55°	9622	8486	8359
60°	9263	8134	8056
65°	8896	7758	7694
70°	8341	7336	7323
75°	7640	6853	6946
80°	6835	6380	6515
85°	6085	6053	6268



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.4	1.8
10°-20°	308.9	5.2
20°-30°	462.0	7.8
30°-40°	551.8	9.3
40°-50°	577.3	9.8
50°-60°	541.7	9.2
60°-70°	452.5	7.6
70°-80°	323.7	5.5
80°-90°	195.3	3.3
90°-100°	169.9	2.9
100°-110°	235.0	4.0
110°-120°	307.7	5.2
120°-130°	360.5	6.1
130°-140°	382.2	6.5
140°-150°	364.0	6.2
150°-160°	303.7	5.1
160°-170°	202.2	3.4
170°-180°	70.8	1.2
0°-30°	879.3	14.9
0°-40°	1431.1	24.2
0°-60°	2550.1	43.1
0°-90°	3521.5	59.5
90°-120°	712.5	12.0
90°-150°	1819.3	30.7
90°-180°	2396.0	40.5
0°-180°	5917.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1144	1142	1134	1144	1143	108
15°	1090	1093	1092	1104	1103	307
25°	984	996	1000	1015	1016	453
35°	847	866	883	901	906	529
45°	692	722	753	776	787	534
55°	528	569	614	646	658	473
65°	365	414	468	504	518	360
75°	198	257	319	358	375	212
85°	61	124	189	230	244	64
90°	17	84	155	198	213	13
95°	48	102	167	206	220	50
105°	142	175	232	266	279	152
115°	256	274	316	346	356	254
125°	370	373	406	429	436	330
135°	477	480	492	512	518	367
145°	577	577	579	588	591	360
155°	659	659	660	662	658	303
165°	718	716	716	719	716	202
175°	747	745	744	748	744	71
180°	748	748	748	748	748	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1148.1	1147.5	1146.8	1146.1	1145.4	1144.2	1142.5	1140.7	1138.9	1137.2	1138.9
5°	1144.4	1143.8	1143.3	1142.7	1142.2	1141.1	1139.4	1137.7	1136.1	1134.4	1136.6
7.5°	1133.1	1133.3	1133.4	1133.5	1133.6	1132.9	1131.2	1129.7	1128.1	1126.4	1129.2
10°	1123.2	1123.8	1124.3	1124.9	1125.5	1125.0	1123.6	1122.2	1120.9	1119.4	1122.2
12.5°	1111.3	1112.0	1112.8	1113.6	1114.4	1114.3	1113.3	1112.4	1111.4	1110.5	1113.0
15°	1089.6	1090.4	1091.2	1092.1	1092.9	1093.2	1092.9	1092.7	1092.3	1092.1	1094.9
17.5°	1062.2	1063.8	1065.5	1067.1	1068.8	1069.6	1069.5	1069.4	1069.3	1069.1	1071.7
20°	1042.3	1043.9	1045.6	1047.3	1048.9	1050.0	1050.6	1051.1	1051.7	1052.3	1054.7
22.5°	1021.4	1023.0	1024.7	1026.4	1028.0	1029.2	1030.0	1030.8	1031.5	1032.3	1035.5
25°	983.7	986.5	989.3	992.0	994.8	996.6	997.4	998.2	999.1	999.9	1003.5
27.5°	945.9	949.0	952.2	955.4	958.5	961.0	962.7	964.5	966.3	968.0	971.1
30°	919.0	922.6	926.1	929.8	933.3	936.3	938.5	940.7	942.9	945.2	948.5
32.5°	889.1	893.1	897.1	901.2	905.2	908.7	911.6	914.5	917.3	920.2	923.8
35°	846.8	851.2	855.6	860.1	864.5	868.5	872.1	875.7	879.2	882.9	887.0
37.5°	801.9	806.9	811.9	816.9	821.9	826.6	831.0	835.4	839.9	844.3	849.0
40°	772.1	777.1	782.0	787.0	791.9	797.3	802.8	808.3	813.8	819.4	824.1
42.5°	739.2	745.3	751.4	757.4	763.5	769.4	775.2	780.9	786.7	792.5	797.6
45°	692.4	699.0	705.6	712.3	718.9	725.7	732.6	739.5	746.5	753.4	758.6
47.5°	643.3	650.8	658.3	665.9	673.4	681.1	689.0	697.0	704.9	712.8	718.7
50°	611.4	619.2	626.9	634.6	642.4	650.5	659.2	667.7	676.3	684.8	691.3
52.5°	577.6	585.7	593.9	602.1	610.3	619.2	628.6	638.0	647.5	657.0	663.6
55°	528.0	537.1	546.2	555.4	564.5	574.0	584.0	594.0	604.0	613.9	621.4
57.5°	479.7	489.2	498.7	508.2	517.8	528.0	538.8	549.8	560.6	571.6	579.1
60°	445.8	455.7	465.7	475.7	485.6	496.3	507.6	519.0	530.4	541.7	549.5
62.5°	413.9	424.1	434.3	444.5	454.6	465.7	477.8	489.7	501.8	513.8	521.5
65°	364.9	375.7	386.4	397.2	408.1	419.5	431.7	443.9	456.1	468.2	476.5
67.5°	315.1	326.5	337.9	349.4	360.8	372.8	385.2	397.6	410.0	422.4	431.4
70°	280.2	292.1	304.0	315.8	327.8	340.4	353.6	366.9	380.2	393.5	402.3
72.5°	248.3	260.2	272.1	284.0	295.9	308.7	322.4	336.1	349.9	363.6	372.7
75°	198.0	211.0	224.0	237.0	250.0	263.4	277.3	291.1	304.9	318.8	327.9
77.5°	154.2	167.3	180.4	193.5	206.6	220.1	234.1	248.0	262.0	275.9	285.6
80°	123.3	136.8	150.4	164.0	177.5	191.5	205.9	220.3	234.6	249.1	258.5
82.5°	96.4	110.2	124.0	137.8	151.5	165.7	180.3	195.0	209.5	224.1	233.5
85°	61.0	74.9	88.7	102.5	116.4	130.6	145.3	159.9	174.6	189.3	198.7
87.5°	33.3	47.3	61.3	75.3	89.4	103.6	118.1	132.5	147.0	161.4	171.0
90°	16.8	31.6	46.5	61.4	76.2	91.6	107.4	123.2	139.0	154.8	164.8
92.5°	29.4	42.5	55.7	68.8	81.9	95.9	110.7	125.6	140.5	155.3	164.9
95°	48.4	60.1	71.8	83.5	95.2	108.4	122.9	137.6	152.2	166.8	175.9
97.5°	73.8	84.2	94.7	105.1	115.5	127.5	141.2	155.0	168.7	182.4	191.2
100°	91.2	100.8	110.4	120.1	129.8	141.2	154.6	168.0	181.4	194.8	203.2
102.5°	111.4	119.8	128.3	136.7	145.1	156.0	169.4	182.8	196.1	209.5	217.7
105°	142.3	149.2	156.1	163.0	169.8	179.8	192.9	206.0	219.1	232.2	239.9
107.5°	177.0	182.8	188.6	194.4	200.2	209.0	220.7	232.5	244.2	256.0	263.9
110°	198.6	203.8	209.1	214.3	219.5	227.8	239.2	250.5	261.8	273.1	280.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	222.0	226.3	230.6	234.9	239.1	246.5	257.2	267.9	278.6	289.3	296.9
115°	256.1	259.8	263.6	267.3	271.0	277.7	287.4	297.1	306.8	316.5	323.3
117.5°	291.4	293.7	296.0	298.3	300.6	306.3	315.3	324.3	333.4	342.3	348.9
120°	312.5	314.7	316.9	319.0	321.2	326.5	334.9	343.4	352.0	360.4	366.6
122.5°	335.6	336.8	338.1	339.5	340.7	345.5	353.9	362.3	370.6	379.0	384.8
125°	369.5	369.9	370.3	370.7	371.1	375.1	382.9	390.6	398.4	406.2	411.5
127.5°	402.0	402.5	403.1	403.6	404.2	407.6	414.0	420.3	426.7	433.0	437.8
130°	423.6	424.3	425.1	425.9	426.7	429.6	434.7	439.9	445.0	450.2	454.9
132.5°	444.2	445.2	446.2	447.2	448.1	450.8	454.9	459.0	463.1	467.3	471.7
135°	477.0	477.5	478.0	478.6	479.0	480.8	483.6	486.6	489.5	492.4	496.9
137.5°	507.3	507.8	508.2	508.6	509.1	510.3	512.4	514.4	516.4	518.5	522.4
140°	527.5	528.1	528.8	529.5	530.1	530.9	531.9	532.8	533.8	534.7	538.8
142.5°	546.8	547.2	547.6	548.1	548.5	548.9	549.3	549.7	550.1	550.6	554.1
145°	576.9	576.9	576.9	576.9	576.8	577.0	577.4	577.8	578.2	578.6	580.7
147.5°	602.0	602.5	602.9	603.4	603.9	604.3	604.7	605.0	605.4	605.8	606.4
150°	620.4	620.6	620.8	621.2	621.4	621.6	621.9	622.2	622.4	622.7	622.7
152.5°	635.4	635.7	636.1	636.5	636.8	637.1	637.2	637.4	637.5	637.7	637.9
155°	659.2	659.2	659.2	659.2	659.2	659.2	659.3	659.5	659.6	659.7	660.3
157.5°	679.4	679.2	679.1	678.9	678.7	678.7	678.8	678.9	679.1	679.1	679.7
160°	692.1	691.8	691.6	691.3	691.0	690.9	690.9	690.9	690.9	690.9	691.6
162.5°	703.4	703.0	702.6	702.3	701.9	701.8	701.9	702.0	702.1	702.2	702.8
165°	718.0	717.6	717.2	716.8	716.4	716.1	716.1	716.1	716.1	716.1	716.9
167.5°	729.6	729.0	728.6	728.0	727.5	727.3	727.4	727.5	727.6	727.7	728.5
170°	736.2	735.6	735.1	734.6	734.0	733.8	733.8	733.8	733.8	733.8	734.7
172.5°	741.3	740.8	740.3	739.7	739.3	738.9	738.9	738.9	738.9	738.9	739.8
175°	746.7	746.2	745.7	745.2	744.7	744.4	744.4	744.4	744.4	744.4	745.2
177.5°	749.0	748.5	748.1	747.7	747.3	747.1	747.1	747.1	747.1	747.1	747.7
180°	748.5	748.5	748.5	748.5	748.5	748.5	748.5	748.5	748.5	748.5	748.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1140.7	1142.5	1144.2	1145.0	1144.8	1144.5	1144.3	1144.1
5°	1138.8	1141.1	1143.3	1144.2	1144.0	1143.7	1143.4	1143.1
7.5°	1131.9	1134.7	1137.5	1138.8	1138.4	1138.0	1137.7	1137.4
10°	1125.0	1127.8	1130.5	1131.6	1131.1	1130.5	1130.0	1129.4
12.5°	1115.6	1118.2	1120.7	1121.7	1121.1	1120.5	1120.0	1119.4
15°	1097.6	1100.3	1103.1	1104.4	1104.1	1103.8	1103.6	1103.3
17.5°	1074.1	1076.7	1079.1	1080.1	1079.8	1079.4	1079.0	1078.6
20°	1057.2	1059.7	1062.2	1063.6	1063.8	1064.1	1064.4	1064.7
22.5°	1038.6	1041.8	1044.9	1046.4	1046.2	1046.1	1045.9	1045.8
25°	1007.1	1010.7	1014.3	1016.1	1016.1	1016.1	1016.1	1016.1
27.5°	974.2	977.3	980.4	982.1	982.3	982.5	982.8	983.0
30°	951.8	955.1	958.4	960.0	960.0	960.0	960.0	960.0
32.5°	927.3	930.9	934.4	936.5	937.2	937.9	938.5	939.1
35°	891.2	895.3	899.4	902.1	903.2	904.4	905.5	906.5
37.5°	853.7	858.4	863.1	865.9	866.8	867.7	868.5	869.4
40°	828.8	833.5	838.2	841.1	842.2	843.3	844.4	845.5
42.5°	802.8	807.9	813.1	816.4	817.9	819.5	821.0	822.6
45°	763.9	769.1	774.4	778.2	780.4	782.6	784.8	787.0
47.5°	724.6	730.6	736.5	740.3	742.0	743.7	745.4	747.1
50°	697.6	704.0	710.3	714.5	716.4	718.4	720.3	722.2
52.5°	670.2	676.8	683.3	687.9	690.2	692.6	695.0	697.4
55°	628.8	636.3	643.8	648.6	650.9	653.1	655.3	657.5
57.5°	586.6	594.1	601.7	606.7	609.3	612.0	614.6	617.1
60°	557.1	564.9	572.7	578.1	581.1	584.2	587.2	590.3
62.5°	529.3	537.0	544.8	550.1	552.9	555.7	558.6	561.3
65°	484.8	493.1	501.5	506.9	509.7	512.5	515.2	518.0
67.5°	440.5	449.6	458.7	464.4	466.8	469.1	471.3	473.7
70°	411.2	420.1	428.9	434.7	437.5	440.3	443.0	445.8
72.5°	381.8	390.9	399.9	405.8	408.6	411.4	414.2	416.9
75°	337.1	346.2	355.3	361.6	364.9	368.2	371.5	374.8
77.5°	295.2	304.8	314.5	320.5	323.1	325.7	328.2	330.7
80°	267.8	277.3	286.7	292.8	295.6	298.3	301.1	303.8
82.5°	243.0	252.4	261.7	267.8	270.6	273.4	276.2	278.9
85°	208.1	217.5	226.9	233.0	235.8	238.5	241.3	244.1
87.5°	180.5	190.0	199.6	205.7	208.5	211.4	214.1	217.0
90°	174.7	184.6	194.6	201.1	204.1	207.1	210.1	213.2
92.5°	174.5	184.1	193.8	199.7	202.2	204.5	206.9	209.3
95°	185.0	194.1	203.2	209.1	211.9	214.7	217.5	220.2
97.5°	200.1	209.0	217.8	223.6	226.3	229.0	231.7	234.4
100°	211.6	220.0	228.5	234.2	237.2	240.2	243.3	246.3
102.5°	225.9	234.1	242.2	247.7	250.4	253.2	255.9	258.6
105°	247.6	255.4	263.2	268.4	271.2	273.9	276.6	279.4
107.5°	271.7	279.5	287.3	292.4	294.7	297.0	299.2	301.5
110°	288.6	296.3	304.0	308.9	310.8	312.8	314.7	316.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	304.5	312.0	319.6	324.6	327.0	329.5	331.8	334.2
115°	330.0	336.8	343.6	348.0	350.1	352.1	354.3	356.3
117.5°	355.5	362.0	368.6	372.7	374.5	376.4	378.1	379.9
120°	372.9	379.1	385.3	389.3	390.9	392.7	394.3	396.0
122.5°	390.5	396.3	402.2	405.8	407.4	409.0	410.6	412.1
125°	416.8	422.0	427.3	430.7	432.1	433.5	434.9	436.3
127.5°	442.5	447.3	452.0	455.0	456.3	457.6	458.9	460.2
130°	459.6	464.4	469.1	471.8	472.6	473.3	474.0	474.8
132.5°	476.1	480.5	484.9	487.7	488.9	490.0	491.2	492.4
135°	501.3	505.7	510.2	513.0	514.1	515.2	516.3	517.5
137.5°	526.2	530.0	533.8	536.1	537.0	538.0	538.8	539.7
140°	542.8	546.8	550.8	553.1	553.6	554.1	554.5	554.9
142.5°	557.7	561.3	564.8	567.0	567.7	568.3	569.0	569.7
145°	582.7	584.9	586.9	588.3	588.8	589.4	590.0	590.6
147.5°	607.0	607.8	608.4	608.9	609.0	609.3	609.5	609.7
150°	622.7	622.7	622.7	622.6	622.3	622.1	621.9	621.6
152.5°	638.2	638.3	638.6	638.4	637.8	637.2	636.7	636.1
155°	660.8	661.3	661.8	661.6	660.7	659.8	658.9	658.0
157.5°	680.2	680.8	681.4	681.2	680.5	679.8	679.1	678.3
160°	692.2	692.8	693.5	693.6	693.1	692.5	692.0	691.5
162.5°	703.5	704.2	704.8	704.7	703.9	703.1	702.2	701.3
165°	717.7	718.5	719.3	719.2	718.4	717.4	716.5	715.6
167.5°	729.3	730.2	730.9	730.9	730.2	729.3	728.5	727.7
170°	735.6	736.6	737.4	737.4	736.6	735.6	734.7	733.8
172.5°	740.6	741.4	742.2	742.2	741.2	740.4	739.4	738.6
175°	746.0	746.7	747.5	747.5	746.6	745.6	744.7	743.8
177.5°	748.4	749.0	749.6	749.6	748.8	748.1	747.3	746.6
180°	748.5	748.5	748.5	748.5	748.5	748.5	748.5	748.5

(END OF REPORT)