

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: P332268-927

Luminaire Tested: **S123RDIP-S340D1195U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332268-927
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: S123RDIP-S340D1195U927-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4278.0 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

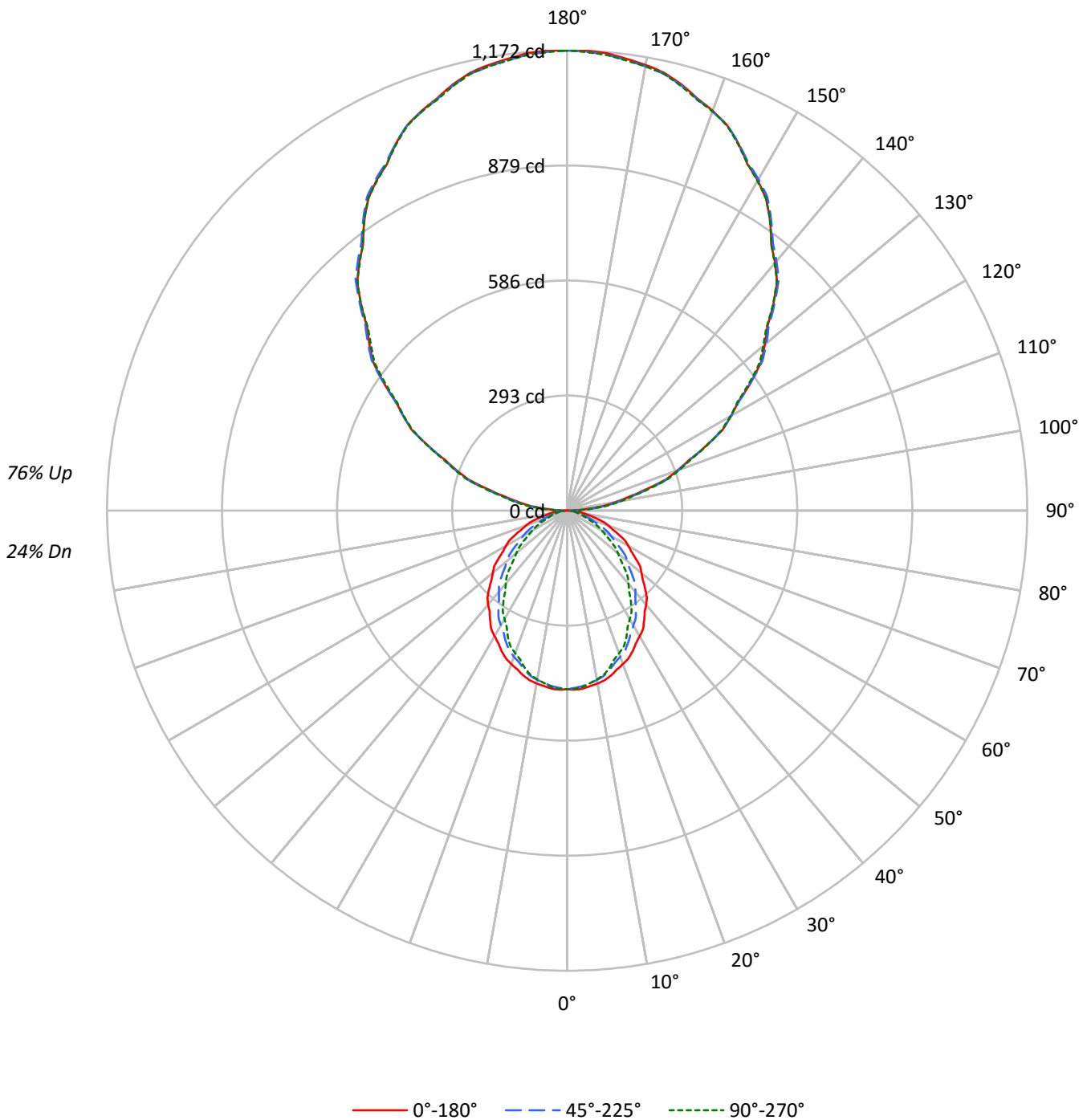
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	92	88	84	81	82	78	75	73	60	58	57	44	43	42	29	28	28	21
2	84	77	71	66	74	69	64	60	53	50	47	39	37	35	25	24	23	17
3	77	68	61	55	68	60	55	50	47	43	40	34	32	30	23	21	20	15
4	70	60	52	47	62	54	47	42	42	37	34	31	28	25	20	19	17	13
5	64	53	46	40	57	48	41	36	37	33	29	27	24	22	18	17	15	11
6	59	48	40	34	52	43	36	31	33	29	25	25	22	19	17	15	13	10
7	55	43	35	30	48	39	32	27	30	26	22	22	19	17	15	13	12	9
8	50	39	31	26	45	35	29	24	27	23	20	21	17	15	14	12	11	8
9	47	35	28	23	42	32	26	21	25	21	17	19	16	13	13	11	10	7
10	44	32	25	21	39	29	23	19	23	19	16	17	14	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4899	4899	4899
5°	4917	4850	4878
10°	4889	4790	4773
15°	4837	4677	4628
20°	4765	4537	4431
25°	4691	4380	4240
30°	4593	4197	3967
35°	4491	4016	3720
40°	4398	3801	3413
45°	4276	3589	3136
50°	4141	3349	2825
55°	4003	3076	2535
60°	3877	2781	2217
65°	3713	2463	1897
70°	3509	2068	1533
75°	3211	1626	1443
80°	2858	1444	1327
85°	2421	1272	1186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.7	1.0
10°-20°	118.9	2.8
20°-30°	171.2	4.0
30°-40°	192.9	4.5
40°-50°	184.5	4.3
50°-60°	151.1	3.5
60°-70°	101.9	2.4
70°-80°	51.3	1.2
80°-90°	17.0	0.4
90°-100°	76.3	1.8
100°-110°	228.5	5.3
110°-120°	388.6	9.1
120°-130°	511.1	11.9
130°-140°	574.5	13.4
140°-150°	564.7	13.2
150°-160°	475.4	11.1
160°-170°	316.5	7.4
170°-180°	110.8	2.6
0°-30°	332.9	7.8
0°-40°	525.7	12.3
0°-60°	861.4	20.1
0°-90°	1031.6	24.1
90°-120°	693.4	16.2
90°-150°	2343.7	54.8
90°-180°	3246.0	75.9
0°-180°	4278.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	455	455	455	455	455	
5°	455	453	449	452	452	43
15°	434	430	420	418	415	122
25°	395	385	369	361	357	182
35°	342	328	306	290	283	214
45°	281	264	236	215	206	217
55°	213	195	164	143	135	191
65°	146	125	97	79	74	144
75°	77	59	39	36	35	82
85°	20	12	10	10	10	22
90°	1	10	22	26	28	4
95°	54	61	68	72	72	61
105°	207	209	217	217	219	222
115°	391	394	392	393	392	387
125°	572	575	574	570	566	510
135°	743	748	747	744	742	572
145°	901	903	906	905	901	563
155°	1032	1032	1033	1036	1030	475
165°	1124	1121	1121	1126	1120	317
175°	1169	1165	1165	1170	1164	111
180°	1172	1172	1172	1172	1172	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
2.5°	456.6	456.3	456.1	455.8	455.6	455.0	454.2	453.4	452.7	451.9	452.6
5°	455.1	454.7	454.3	453.9	453.4	452.8	451.8	450.8	449.8	448.9	449.6
7.5°	450.9	450.4	450.0	449.6	449.2	448.3	447.0	445.8	444.4	443.1	443.5
10°	447.3	446.8	446.2	445.7	445.0	444.0	442.6	441.1	439.6	438.2	438.2
12.5°	442.4	441.7	441.1	440.5	439.8	438.6	436.7	435.0	433.2	431.3	431.3
15°	434.1	433.2	432.3	431.3	430.5	428.9	426.6	424.3	422.0	419.7	419.3
17.5°	423.7	422.6	421.6	420.5	419.5	417.5	414.5	411.6	408.8	405.8	405.0
20°	416.0	414.7	413.4	412.1	410.7	408.5	405.4	402.3	399.2	396.1	395.0
22.5°	407.4	405.9	404.4	402.9	401.4	399.0	395.7	392.4	389.0	385.7	384.4
25°	395.0	392.9	390.9	388.8	386.7	383.8	380.1	376.3	372.5	368.8	367.0
27.5°	379.9	377.6	375.3	373.0	370.7	367.6	363.4	359.1	354.9	350.7	348.3
30°	369.5	367.0	364.6	362.1	359.7	356.1	351.5	346.9	342.3	337.7	334.9
32.5°	359.2	356.3	353.6	350.8	348.0	344.2	339.3	334.5	329.6	324.7	321.7
35°	341.8	338.8	335.9	333.0	330.0	326.0	320.9	315.8	310.7	305.6	302.1
37.5°	324.2	320.9	317.7	314.4	311.1	306.7	301.3	295.9	290.5	285.0	281.1
40°	313.0	309.4	305.8	302.2	298.6	293.8	288.0	282.2	276.4	270.5	266.3
42.5°	300.3	296.7	293.1	289.5	285.9	281.1	275.0	269.0	263.0	257.0	252.3
45°	280.9	277.2	273.5	269.8	266.1	261.1	254.8	248.5	242.2	235.8	231.2
47.5°	261.5	257.5	253.3	249.3	245.3	240.1	233.8	227.4	221.2	214.8	209.8
50°	247.3	243.4	239.6	235.8	231.9	226.6	220.0	213.3	206.7	200.0	195.0
52.5°	234.6	230.4	226.2	222.0	217.9	212.5	205.9	199.3	192.7	186.2	180.9
55°	213.3	209.3	205.3	201.3	197.3	191.8	184.8	177.8	170.9	163.9	159.1
57.5°	193.7	189.3	185.0	180.5	176.2	170.5	163.5	156.5	149.5	142.5	138.0
60°	180.1	175.6	171.1	166.6	162.1	156.5	149.6	142.8	136.0	129.2	124.8
62.5°	166.5	162.0	157.5	153.0	148.5	142.8	136.0	129.2	122.4	115.6	111.5
65°	145.8	141.3	136.8	132.3	127.8	122.3	115.9	109.5	103.1	96.7	92.7
67.5°	125.1	120.5	115.9	111.4	106.8	101.5	95.3	89.2	83.0	76.9	73.9
70°	111.5	107.0	102.6	98.2	93.8	88.6	82.9	77.2	71.5	65.7	62.8
72.5°	97.9	93.6	89.2	84.8	80.4	75.7	70.4	65.2	60.0	54.7	52.4
75°	77.2	73.2	69.2	65.4	61.4	57.2	52.7	48.2	43.6	39.1	38.3
77.5°	58.2	54.7	51.1	47.5	44.0	40.8	37.9	34.9	32.1	29.2	28.8
80°	46.1	42.8	39.5	36.0	32.7	30.2	28.4	26.7	25.0	23.3	23.0
82.5°	34.6	31.7	28.8	25.9	23.0	21.2	20.4	19.6	18.8	17.9	17.7
85°	19.6	17.7	15.9	14.2	12.4	11.3	11.1	10.9	10.6	10.3	10.1
87.5°	7.3	7.0	6.7	6.3	6.0	6.1	6.7	7.2	7.8	8.2	8.3
90°	1.0	2.9	5.0	7.1	9.1	11.5	14.1	16.8	19.4	22.1	22.9
92.5°	22.3	23.7	25.0	26.5	27.8	29.3	30.8	32.3	33.8	35.3	36.0
95°	54.3	55.8	57.2	58.6	60.0	61.6	63.2	64.8	66.5	68.1	68.9
97.5°	96.5	97.5	98.6	99.7	100.7	101.9	103.1	104.3	105.4	106.5	107.5
100°	125.2	126.4	127.6	128.9	130.1	131.2	132.2	133.2	134.3	135.3	135.9
102.5°	158.3	159.1	159.8	160.5	161.3	162.3	163.7	165.0	166.4	167.7	168.3
105°	207.1	207.5	207.9	208.3	208.7	209.8	211.7	213.6	215.4	217.2	217.2
107.5°	263.8	264.0	264.3	264.5	264.7	265.3	266.0	266.7	267.4	268.2	268.9
110°	299.1	299.5	299.9	300.4	300.8	301.2	301.6	302.0	302.4	302.9	303.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	336.0	336.2	336.4	336.7	336.9	337.1	337.2	337.2	337.3	337.4	338.4
115°	391.2	391.8	392.4	393.0	393.6	393.7	393.3	392.9	392.5	392.1	392.3
117.5°	446.8	447.2	447.6	448.0	448.4	448.4	447.8	447.3	446.8	446.2	446.2
120°	481.4	482.6	483.9	485.1	486.3	486.4	485.4	484.3	483.3	482.3	482.1
122.5°	517.5	518.3	519.3	520.1	521.1	521.3	520.7	520.1	519.7	519.1	518.6
125°	572.5	573.1	573.7	574.3	575.0	575.0	574.6	574.3	573.9	573.5	572.6
127.5°	623.3	624.6	625.9	627.2	628.5	629.0	628.5	628.0	627.6	627.2	626.1
130°	657.2	658.8	660.4	662.1	663.7	664.2	663.6	663.0	662.4	661.8	661.0
132.5°	691.0	692.7	694.3	695.9	697.6	698.2	697.8	697.3	696.8	696.4	695.4
135°	742.8	744.0	745.2	746.5	747.7	748.2	748.0	747.8	747.6	747.3	746.6
137.5°	790.7	791.6	792.7	793.7	794.7	795.5	796.1	796.5	797.1	797.6	796.8
140°	823.8	824.8	825.9	826.9	827.8	828.5	828.7	828.9	829.1	829.3	829.1
142.5°	854.0	855.0	856.0	857.1	858.1	858.7	859.1	859.5	859.8	860.2	860.0
145°	901.1	901.5	901.9	902.3	902.7	903.2	903.9	904.4	905.1	905.7	905.5
147.5°	942.3	943.1	943.8	944.5	945.3	945.9	946.5	947.1	947.6	948.2	948.2
150°	971.1	971.5	971.8	972.2	972.7	973.1	973.5	973.9	974.3	974.7	974.7
152.5°	994.6	995.2	995.8	996.3	996.9	997.3	997.5	997.8	998.1	998.3	998.6
155°	1031.8	1031.8	1031.8	1031.8	1031.8	1031.9	1032.1	1032.3	1032.5	1032.7	1033.6
157.5°	1063.4	1063.2	1063.0	1062.7	1062.5	1062.4	1062.6	1062.8	1063.0	1063.1	1064.0
160°	1083.3	1082.9	1082.5	1082.1	1081.7	1081.5	1081.5	1081.5	1081.5	1081.5	1082.5
162.5°	1101.0	1100.4	1099.9	1099.3	1098.8	1098.5	1098.7	1098.8	1099.0	1099.2	1100.2
165°	1123.9	1123.2	1122.6	1122.0	1121.4	1121.1	1121.1	1121.1	1121.1	1121.1	1122.3
167.5°	1142.1	1141.2	1140.4	1139.6	1138.8	1138.4	1138.6	1138.8	1138.9	1139.1	1140.3
170°	1152.4	1151.5	1150.7	1149.9	1149.1	1148.7	1148.7	1148.7	1148.7	1148.7	1150.1
172.5°	1160.5	1159.7	1158.8	1158.0	1157.2	1156.8	1156.8	1156.8	1156.8	1156.8	1158.1
175°	1168.9	1168.2	1167.3	1166.5	1165.7	1165.2	1165.2	1165.2	1165.2	1165.2	1166.5
177.5°	1172.4	1171.8	1171.2	1170.4	1169.8	1169.5	1169.5	1169.5	1169.5	1169.5	1170.4
180°	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
2.5°	453.3	454.0	454.8	455.0	455.0	454.8	454.6	454.6
5°	450.4	451.1	451.8	452.1	451.9	451.8	451.6	451.5
7.5°	444.0	444.4	444.8	444.9	444.6	444.3	444.0	443.8
10°	438.3	438.4	438.5	438.3	437.9	437.5	437.0	436.7
12.5°	431.3	431.2	431.2	430.9	430.4	429.9	429.4	429.0
15°	418.8	418.4	418.0	417.6	417.0	416.4	415.8	415.3
17.5°	404.1	403.2	402.3	401.5	400.6	399.7	398.9	398.1
20°	394.0	392.8	391.8	390.8	389.8	388.8	387.9	386.8
22.5°	383.1	381.8	380.4	379.3	378.3	377.5	376.5	375.7
25°	365.3	363.6	361.9	360.5	359.7	358.8	357.8	357.0
27.5°	345.9	343.6	341.2	339.3	337.9	336.5	335.2	333.7
30°	332.2	329.4	326.6	324.6	323.2	321.9	320.6	319.2
32.5°	318.6	315.6	312.5	310.3	309.0	307.6	306.2	304.8
35°	298.6	295.0	291.5	289.0	287.6	286.1	284.6	283.1
37.5°	277.0	273.0	269.0	266.1	264.3	262.4	260.6	258.8
40°	262.1	257.8	253.5	250.4	248.5	246.7	244.8	242.9
42.5°	247.6	243.0	238.4	235.2	233.5	231.8	230.1	228.4
45°	226.5	221.8	217.1	213.8	211.9	209.9	207.9	206.0
47.5°	204.6	199.6	194.5	191.1	189.3	187.6	185.8	184.0
50°	189.9	184.8	179.7	176.3	174.4	172.5	170.6	168.7
52.5°	175.6	170.3	165.1	161.6	159.9	158.2	156.5	154.8
55°	154.4	149.6	144.9	141.6	140.1	138.4	136.7	135.1
57.5°	133.5	129.0	124.5	121.5	120.2	118.7	117.4	116.0
60°	120.3	115.9	111.5	108.5	107.2	105.8	104.4	103.0
62.5°	107.3	103.1	98.9	96.1	94.7	93.2	91.7	90.3
65°	88.6	84.7	80.6	78.2	77.2	76.4	75.5	74.5
67.5°	70.9	67.9	64.9	62.9	61.9	61.0	60.0	59.1
70°	60.0	57.1	54.2	52.4	51.4	50.5	49.6	48.7
72.5°	50.1	47.8	45.4	44.0	43.6	43.3	42.9	42.5
75°	37.5	36.7	35.8	35.3	35.2	35.0	34.9	34.7
77.5°	28.3	27.8	27.4	27.1	26.9	26.8	26.6	26.5
80°	22.7	22.5	22.3	22.1	21.9	21.7	21.5	21.4
82.5°	17.4	17.2	17.0	16.8	16.8	16.7	16.7	16.7
85°	10.0	9.8	9.7	9.6	9.6	9.6	9.6	9.6
87.5°	8.5	8.6	8.6	8.7	8.7	8.7	8.8	8.8
90°	23.8	24.6	25.3	26.0	26.4	26.8	27.2	27.6
92.5°	36.7	37.3	37.9	38.2	37.9	37.7	37.4	37.2
95°	69.7	70.6	71.4	71.8	71.8	71.8	71.8	71.8
97.5°	108.4	109.4	110.4	110.7	110.7	110.6	110.5	110.4
100°	136.5	137.1	137.8	138.2	138.7	139.1	139.5	139.9
102.5°	168.9	169.5	170.2	170.4	170.3	170.2	170.2	170.1
105°	217.2	217.2	217.2	217.5	217.9	218.2	218.6	219.0
107.5°	269.5	270.2	270.8	271.0	270.8	270.5	270.3	270.1
110°	304.4	305.3	306.1	306.3	305.9	305.5	305.1	304.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	339.4	340.4	341.4	341.8	341.7	341.7	341.6	341.5
115°	392.5	392.7	392.9	392.9	392.7	392.5	392.3	392.1
117.5°	446.2	446.1	446.1	445.8	445.2	444.6	444.0	443.5
120°	481.9	481.7	481.5	481.2	480.8	480.4	480.0	479.5
122.5°	518.1	517.5	517.0	516.4	515.9	515.3	514.7	514.1
125°	571.8	571.0	570.1	569.3	568.5	567.7	566.9	566.1
127.5°	624.9	623.8	622.6	621.5	620.6	619.6	618.7	617.8
130°	660.1	659.3	658.5	657.4	655.9	654.5	653.1	651.6
132.5°	694.4	693.5	692.4	691.4	690.3	689.2	688.1	687.0
135°	745.8	744.9	744.1	743.5	743.1	742.7	742.3	741.9
137.5°	795.9	795.0	794.2	793.4	792.6	791.9	791.1	790.3
140°	828.9	828.7	828.5	827.7	826.2	824.8	823.4	822.0
142.5°	859.8	859.6	859.4	858.7	857.6	856.5	855.5	854.4
145°	905.3	905.1	904.9	904.4	903.6	902.7	901.9	901.1
147.5°	948.2	948.2	948.2	947.6	946.3	945.2	943.9	942.7
150°	974.7	974.7	974.7	974.1	972.9	971.7	970.4	969.2
152.5°	998.9	999.3	999.6	999.3	998.1	997.1	996.0	995.0
155°	1034.4	1035.1	1036.0	1035.7	1034.3	1032.8	1031.4	1029.9
157.5°	1064.8	1065.6	1066.5	1066.4	1065.2	1064.1	1063.0	1061.8
160°	1083.5	1084.6	1085.6	1085.7	1084.9	1084.0	1083.2	1082.4
162.5°	1101.2	1102.2	1103.3	1103.1	1101.8	1100.5	1099.2	1097.9
165°	1123.6	1124.7	1126.0	1125.8	1124.4	1123.0	1121.6	1120.1
167.5°	1141.6	1142.9	1144.1	1144.1	1142.9	1141.6	1140.3	1139.1
170°	1151.5	1153.0	1154.4	1154.4	1153.0	1151.5	1150.1	1148.7
172.5°	1159.4	1160.6	1161.9	1161.8	1160.3	1158.9	1157.5	1156.0
175°	1167.7	1168.9	1170.1	1170.1	1168.6	1167.2	1165.8	1164.3
177.5°	1171.5	1172.4	1173.4	1173.3	1172.2	1171.0	1169.9	1168.8
180°	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7

(END OF REPORT)