

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: P332268-935

Luminaire Tested: **S123RDIP-S340D1195U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332268-935
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-S340D1195U935-4F0-1E-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: 4649.6 lumens
Efficiency: N/A
Efficacy: 110.2 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

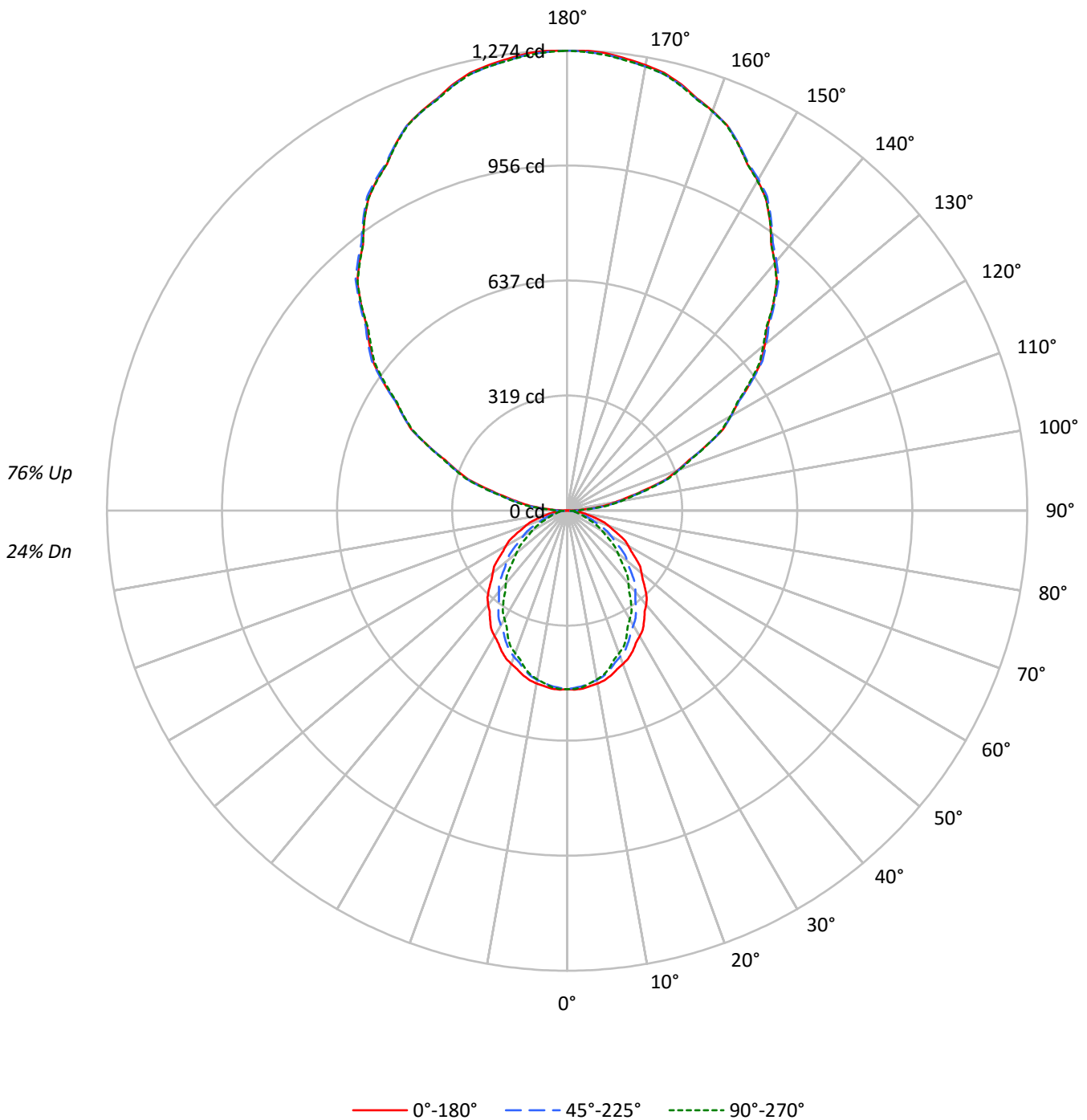
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	5324	5324	5324
5°	5344	5271	5302
10°	5314	5205	5187
15°	5258	5084	5029
20°	5179	4931	4816
25°	5099	4760	4608
30°	4992	4561	4313
35°	4882	4365	4043
40°	4780	4131	3710
45°	4647	3902	3408
50°	4501	3641	3069
55°	4352	3342	2755
60°	4215	3023	2409
65°	4037	2677	2063
70°	3811	2247	1668
75°	3489	1768	1568
80°	3106	1568	1438
85°	2631	1383	1284



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.5	1.0
10°-20°	129.2	2.8
20°-30°	186.1	4.0
30°-40°	209.6	4.5
40°-50°	200.5	4.3
50°-60°	164.2	3.5
60°-70°	110.8	2.4
70°-80°	55.7	1.2
80°-90°	18.5	0.4
90°-100°	83.0	1.8
100°-110°	248.3	5.3
110°-120°	422.3	9.1
120°-130°	555.5	11.9
130°-140°	624.4	13.4
140°-150°	613.8	13.2
150°-160°	516.7	11.1
160°-170°	343.9	7.4
170°-180°	120.4	2.6
0°-30°	361.8	7.8
0°-40°	571.4	12.3
0°-60°	936.2	20.1
0°-90°	1121.2	24.1
90°-120°	753.6	16.2
90°-150°	2547.3	54.8
90°-180°	3528.0	75.9
0°-180°	4649.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	495	495	495	495	495	
5°	495	492	488	491	491	47
15°	472	467	456	454	451	133
25°	429	419	401	393	388	197
35°	372	356	332	315	308	232
45°	305	286	256	234	224	235
55°	232	211	178	156	147	208
65°	158	136	105	86	81	157
75°	84	64	42	39	38	89
85°	21	13	11	10	10	24
90°	1	11	24	28	30	5
95°	59	66	74	78	78	66
105°	225	228	236	236	238	241
115°	425	428	426	427	426	421
125°	622	625	623	619	615	555
135°	807	813	812	808	806	622
145°	979	981	984	983	979	612
155°	1122	1122	1122	1126	1119	516
165°	1222	1219	1218	1224	1218	344
175°	1270	1267	1266	1272	1266	121
180°	1274	1274	1274	1274	1274	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	496.3	495.9	495.7	495.4	495.2	494.6	493.7	492.8	492.0	491.1	491.9
5°	494.6	494.2	493.8	493.4	492.8	492.1	491.0	490.0	488.9	487.8	488.6
7.5°	490.1	489.6	489.1	488.6	488.2	487.2	485.9	484.5	483.0	481.6	482.1
10°	486.2	485.6	485.0	484.4	483.7	482.6	481.0	479.4	477.8	476.2	476.3
12.5°	480.8	480.1	479.4	478.7	478.0	476.6	474.7	472.8	470.8	468.8	468.7
15°	471.8	470.8	469.8	468.8	467.9	466.1	463.6	461.2	458.7	456.2	455.7
17.5°	460.5	459.3	458.2	457.0	455.9	453.7	450.6	447.4	444.3	441.1	440.1
20°	452.1	450.7	449.3	447.9	446.4	444.0	440.7	437.2	433.9	430.5	429.3
22.5°	442.8	441.2	439.5	437.9	436.3	433.7	430.1	426.5	422.8	419.2	417.8
25°	429.3	427.1	424.8	422.6	420.3	417.2	413.1	409.0	404.8	400.8	398.9
27.5°	412.8	410.4	407.9	405.4	402.9	399.5	394.9	390.3	385.7	381.2	378.6
30°	401.6	398.9	396.2	393.6	390.9	387.0	382.0	377.0	372.0	367.0	364.0
32.5°	390.4	387.3	384.3	381.3	378.2	374.1	368.8	363.5	358.3	352.9	349.7
35°	371.5	368.2	365.1	361.9	358.7	354.3	348.8	343.2	337.7	332.2	328.4
37.5°	352.4	348.8	345.3	341.7	338.1	333.4	327.5	321.6	315.7	309.8	305.5
40°	340.2	336.3	332.3	328.5	324.5	319.3	313.1	306.7	300.4	294.0	289.5
42.5°	326.4	322.4	318.6	314.6	310.7	305.5	298.9	292.4	285.9	279.3	274.2
45°	305.3	301.3	297.3	293.3	289.2	283.8	277.0	270.1	263.2	256.3	251.2
47.5°	284.2	279.8	275.3	271.0	266.6	261.0	254.1	247.2	240.4	233.5	228.0
50°	268.8	264.6	260.5	256.2	252.0	246.3	239.1	231.9	224.6	217.4	211.9
52.5°	255.0	250.5	245.9	241.3	236.8	230.9	223.8	216.6	209.5	202.3	196.7
55°	231.9	227.5	223.2	218.8	214.4	208.4	200.9	193.3	185.7	178.1	173.0
57.5°	210.5	205.8	201.0	196.2	191.5	185.3	177.7	170.0	162.5	154.9	150.0
60°	195.8	190.9	186.0	181.1	176.2	170.0	162.6	155.2	147.8	140.4	135.6
62.5°	181.0	176.1	171.2	166.3	161.4	155.2	147.8	140.4	133.0	125.6	121.1
65°	158.5	153.6	148.7	143.8	138.9	132.9	126.0	119.0	112.1	105.1	100.7
67.5°	136.0	131.0	126.0	121.1	116.1	110.3	103.6	96.9	90.2	83.6	80.3
70°	121.1	116.3	111.5	106.7	101.9	96.3	90.1	83.9	77.7	71.4	68.3
72.5°	106.4	101.7	96.9	92.1	87.4	82.2	76.5	70.9	65.2	59.5	57.0
75°	83.9	79.6	75.3	71.0	66.7	62.2	57.3	52.3	47.4	42.5	41.7
77.5°	63.3	59.4	55.5	51.7	47.9	44.3	41.2	38.0	34.9	31.7	31.3
80°	50.1	46.5	42.9	39.2	35.6	32.8	30.9	29.0	27.1	25.3	25.0
82.5°	37.6	34.4	31.3	28.2	25.0	23.0	22.1	21.3	20.4	19.5	19.2
85°	21.3	19.3	17.3	15.4	13.4	12.3	12.1	11.8	11.5	11.2	11.0
87.5°	7.9	7.6	7.2	6.9	6.5	6.6	7.2	7.8	8.4	9.0	9.0
90°	1.0	3.2	5.4	7.7	9.9	12.5	15.3	18.3	21.1	24.0	24.9
92.5°	24.2	25.7	27.2	28.8	30.2	31.9	33.5	35.1	36.8	38.4	39.1
95°	59.1	60.6	62.2	63.7	65.3	66.9	68.7	70.4	72.2	74.0	74.9
97.5°	104.9	106.0	107.2	108.3	109.4	110.7	112.0	113.3	114.5	115.8	116.8
100°	136.0	137.4	138.7	140.1	141.4	142.6	143.7	144.8	145.9	147.1	147.7
102.5°	172.0	172.9	173.7	174.4	175.3	176.4	177.9	179.3	180.8	182.3	183.0
105°	225.1	225.5	226.0	226.4	226.9	228.1	230.1	232.1	234.1	236.1	236.1
107.5°	286.7	287.0	287.2	287.5	287.7	288.3	289.1	289.9	290.7	291.5	292.2
110°	325.1	325.5	326.0	326.5	326.9	327.4	327.8	328.2	328.6	329.2	330.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	365.2	365.4	365.7	365.9	366.2	366.4	366.4	366.5	366.6	366.7	367.8
115°	425.2	425.9	426.5	427.1	427.8	427.9	427.5	427.1	426.6	426.2	426.4
117.5°	485.6	486.0	486.5	486.9	487.3	487.3	486.7	486.1	485.6	485.0	484.9
120°	523.2	524.5	525.9	527.2	528.6	528.7	527.5	526.4	525.3	524.2	524.0
122.5°	562.4	563.4	564.4	565.3	566.4	566.5	565.9	565.3	564.8	564.2	563.6
125°	622.2	622.9	623.5	624.2	624.9	625.0	624.6	624.1	623.7	623.3	622.3
127.5°	677.4	678.9	680.3	681.7	683.1	683.6	683.1	682.6	682.2	681.7	680.4
130°	714.3	716.0	717.8	719.6	721.3	721.9	721.3	720.6	720.0	719.3	718.4
132.5°	751.1	752.9	754.7	756.4	758.2	758.9	758.4	757.9	757.3	756.9	755.8
135°	807.3	808.7	809.9	811.3	812.6	813.2	813.0	812.8	812.5	812.3	811.4
137.5°	859.4	860.4	861.5	862.6	863.8	864.6	865.2	865.7	866.3	866.9	866.0
140°	895.4	896.5	897.6	898.7	899.7	900.4	900.7	900.9	901.1	901.4	901.1
142.5°	928.2	929.3	930.4	931.5	932.6	933.3	933.8	934.2	934.5	935.0	934.7
145°	979.4	979.8	980.2	980.7	981.1	981.7	982.4	983.0	983.7	984.4	984.1
147.5°	1024.2	1025.0	1025.8	1026.6	1027.4	1028.1	1028.7	1029.3	1029.9	1030.6	1030.6
150°	1055.4	1055.8	1056.3	1056.7	1057.2	1057.7	1058.1	1058.5	1058.9	1059.4	1059.4
152.5°	1081.0	1081.7	1082.3	1082.9	1083.5	1083.9	1084.2	1084.5	1084.8	1085.0	1085.4
155°	1121.5	1121.5	1121.5	1121.5	1121.5	1121.5	1121.8	1122.0	1122.2	1122.4	1123.3
157.5°	1155.8	1155.5	1155.3	1155.0	1154.8	1154.7	1154.9	1155.1	1155.3	1155.5	1156.4
160°	1177.4	1177.0	1176.6	1176.1	1175.7	1175.4	1175.4	1175.4	1175.4	1175.4	1176.6
162.5°	1196.6	1196.0	1195.4	1194.8	1194.2	1193.9	1194.1	1194.3	1194.5	1194.6	1195.8
165°	1221.5	1220.8	1220.1	1219.4	1218.8	1218.5	1218.5	1218.5	1218.5	1218.5	1219.8
167.5°	1241.3	1240.4	1239.5	1238.6	1237.7	1237.3	1237.5	1237.7	1237.9	1238.0	1239.4
170°	1252.5	1251.5	1250.7	1249.8	1248.9	1248.4	1248.4	1248.4	1248.4	1248.4	1250.0
172.5°	1261.3	1260.4	1259.5	1258.6	1257.7	1257.3	1257.3	1257.3	1257.3	1257.3	1258.7
175°	1270.5	1269.6	1268.7	1267.8	1267.0	1266.4	1266.4	1266.4	1266.4	1266.4	1267.8
177.5°	1274.3	1273.6	1272.9	1272.1	1271.4	1271.1	1271.1	1271.1	1271.1	1271.1	1272.1
180°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	492.7	493.4	494.3	494.6	494.5	494.3	494.1	494.0
5°	489.5	490.3	491.0	491.4	491.2	491.0	490.9	490.7
7.5°	482.6	483.0	483.5	483.5	483.2	482.9	482.6	482.3
10°	476.4	476.5	476.6	476.4	476.0	475.5	475.0	474.6
12.5°	468.7	468.6	468.6	468.3	467.8	467.3	466.7	466.2
15°	455.2	454.8	454.3	453.8	453.2	452.5	451.9	451.3
17.5°	439.2	438.2	437.3	436.4	435.4	434.5	433.6	432.7
20°	428.2	427.0	425.9	424.7	423.6	422.6	421.5	420.4
22.5°	416.4	414.9	413.5	412.2	411.2	410.3	409.2	408.3
25°	397.0	395.2	393.3	391.8	390.9	389.9	388.9	388.0
27.5°	376.0	373.4	370.8	368.8	367.2	365.8	364.3	362.7
30°	361.0	358.0	355.0	352.8	351.3	349.9	348.4	347.0
32.5°	346.3	343.0	339.7	337.3	335.8	334.3	332.8	331.3
35°	324.5	320.6	316.8	314.1	312.5	310.9	309.3	307.7
37.5°	301.1	296.7	292.4	289.2	287.2	285.2	283.3	281.3
40°	284.8	280.2	275.5	272.2	270.1	268.1	266.0	264.0
42.5°	269.1	264.2	259.1	255.6	253.7	251.9	250.1	248.2
45°	246.2	241.1	236.0	232.4	230.3	228.2	226.0	223.9
47.5°	222.4	216.9	211.4	207.7	205.8	203.9	201.9	200.0
50°	206.4	200.9	195.4	191.6	189.5	187.4	185.4	183.3
52.5°	190.9	185.1	179.4	175.6	173.7	171.9	170.1	168.2
55°	167.8	162.6	157.5	153.9	152.2	150.4	148.6	146.8
57.5°	145.1	140.2	135.3	132.1	130.6	129.1	127.6	126.1
60°	130.8	126.0	121.1	118.0	116.5	114.9	113.5	111.9
62.5°	116.6	112.1	107.5	104.4	102.9	101.3	99.7	98.2
65°	96.3	92.0	87.6	85.0	83.9	83.0	82.1	81.0
67.5°	77.1	73.8	70.5	68.4	67.3	66.3	65.3	64.2
70°	65.2	62.1	58.9	56.9	55.9	54.9	53.9	53.0
72.5°	54.4	51.9	49.3	47.9	47.4	47.0	46.7	46.2
75°	40.7	39.9	38.9	38.4	38.2	38.1	37.9	37.7
77.5°	30.7	30.2	29.8	29.4	29.3	29.1	28.9	28.8
80°	24.7	24.5	24.2	24.0	23.8	23.6	23.4	23.2
82.5°	18.9	18.7	18.4	18.3	18.3	18.2	18.2	18.2
85°	10.8	10.7	10.5	10.4	10.4	10.4	10.4	10.4
87.5°	9.2	9.3	9.4	9.5	9.5	9.5	9.6	9.6
90°	25.8	26.7	27.6	28.2	28.7	29.1	29.5	30.0
92.5°	39.9	40.6	41.2	41.5	41.2	41.0	40.6	40.4
95°	75.8	76.7	77.6	78.0	78.0	78.0	78.0	78.0
97.5°	117.9	118.9	119.9	120.4	120.3	120.2	120.1	120.0
100°	148.4	149.0	149.7	150.2	150.8	151.2	151.6	152.1
102.5°	183.6	184.3	184.9	185.2	185.1	185.0	184.9	184.9
105°	236.1	236.1	236.1	236.3	236.8	237.2	237.6	238.1
107.5°	292.9	293.7	294.4	294.5	294.3	294.0	293.8	293.5
110°	330.9	331.8	332.7	332.9	332.4	332.0	331.6	331.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.9	370.0	371.0	371.5	371.4	371.3	371.3	371.2
115°	426.6	426.8	427.1	427.1	426.8	426.6	426.4	426.2
117.5°	484.9	484.8	484.8	484.5	483.9	483.2	482.6	482.0
120°	523.7	523.6	523.3	523.0	522.5	522.1	521.7	521.2
122.5°	563.1	562.5	561.9	561.3	560.7	560.1	559.4	558.8
125°	621.5	620.6	619.7	618.8	617.9	617.0	616.1	615.3
127.5°	679.2	678.0	676.7	675.5	674.5	673.5	672.4	671.5
130°	717.5	716.6	715.7	714.5	712.9	711.4	709.8	708.3
132.5°	754.8	753.7	752.6	751.5	750.3	749.1	747.9	746.7
135°	810.5	809.6	808.7	808.0	807.6	807.2	806.8	806.3
137.5°	865.0	864.1	863.2	862.3	861.4	860.7	859.8	858.9
140°	900.9	900.7	900.4	899.6	898.0	896.5	894.9	893.4
142.5°	934.5	934.3	934.1	933.3	932.1	930.9	929.8	928.6
145°	984.0	983.7	983.5	982.9	982.1	981.1	980.2	979.4
147.5°	1030.6	1030.6	1030.6	1029.9	1028.6	1027.3	1025.9	1024.6
150°	1059.4	1059.4	1059.4	1058.8	1057.4	1056.1	1054.7	1053.4
152.5°	1085.7	1086.1	1086.4	1086.1	1084.9	1083.7	1082.5	1081.4
155°	1124.2	1125.1	1126.0	1125.7	1124.1	1122.6	1121.0	1119.4
157.5°	1157.3	1158.2	1159.2	1159.0	1157.8	1156.5	1155.3	1154.0
160°	1177.7	1178.8	1179.9	1180.0	1179.1	1178.2	1177.3	1176.5
162.5°	1196.9	1198.0	1199.1	1198.9	1197.5	1196.1	1194.6	1193.3
165°	1221.2	1222.4	1223.8	1223.7	1222.1	1220.6	1219.0	1217.5
167.5°	1240.8	1242.2	1243.5	1243.5	1242.2	1240.8	1239.4	1238.0
170°	1251.5	1253.2	1254.7	1254.7	1253.2	1251.5	1250.0	1248.4
172.5°	1260.1	1261.5	1262.8	1262.7	1261.1	1259.6	1258.0	1256.5
175°	1269.1	1270.5	1271.8	1271.7	1270.1	1268.6	1267.0	1265.5
177.5°	1273.2	1274.3	1275.3	1275.2	1274.0	1272.7	1271.5	1270.3
180°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5

(END OF REPORT)