

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: P332887

Luminaire Tested: **S124RDIP-S350D1035U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332887
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S350D1035U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5012.8 lumens
Efficiency: N/A
Efficacy: 134.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

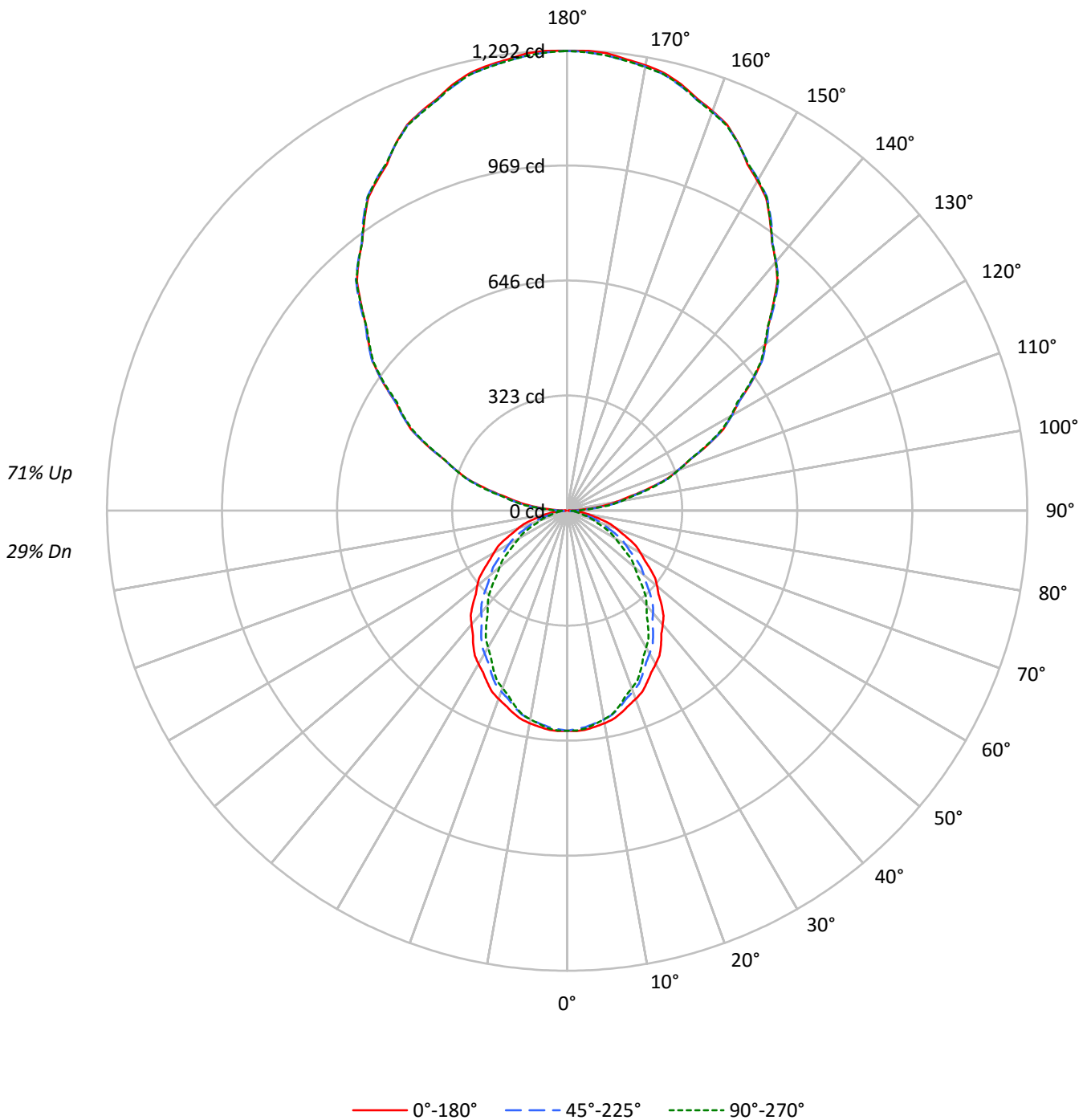
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29
1	93	89	85	82	83	80	77	74	63	61	59	47	46	44	32	32	31	24
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	29	27	26	21
3	77	68	62	56	69	62	56	51	49	45	41	37	34	32	26	24	23	18
4	71	61	53	47	63	55	48	43	43	39	35	33	30	27	23	21	19	15
5	65	54	46	40	58	49	42	37	39	34	30	29	26	24	21	19	17	13
6	60	48	40	35	53	44	37	32	35	30	26	26	23	21	19	17	15	12
7	55	43	36	30	49	39	33	28	31	27	23	24	21	18	17	15	13	10
8	51	39	32	27	46	36	29	25	29	24	20	22	19	16	16	14	12	9
9	48	36	29	24	43	32	26	22	26	21	18	20	17	14	14	12	11	9
10	44	33	26	21	40	30	24	20	24	19	16	19	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4991	4991	4991
5°	5002	4941	4971
10°	4970	4882	4882
15°	4914	4779	4743
20°	4835	4643	4558
25°	4735	4486	4372
30°	4638	4320	4139
35°	4529	4147	3905
40°	4400	3951	3652
45°	4280	3756	3394
50°	4143	3532	3121
55°	3997	3298	2825
60°	3836	3042	2522
65°	3689	2722	2223
70°	3474	2367	1888
75°	3203	1965	1535
80°	2794	1497	1409
85°	2371	1362	1269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.1	1.2
10°-20°	161.9	3.2
20°-30°	233.8	4.7
30°-40°	265.1	5.3
40°-50°	255.9	5.1
50°-60°	212.8	4.2
60°-70°	147.0	2.9
70°-80°	74.5	1.5
80°-90°	23.0	0.5
90°-100°	85.1	1.7
100°-110°	252.2	5.0
110°-120°	428.0	8.5
120°-130°	564.3	11.3
130°-140°	633.8	12.6
140°-150°	622.8	12.4
150°-160°	523.8	10.4
160°-170°	348.5	7.0
170°-180°	122.0	2.4
0°-30°	453.8	9.1
0°-40°	718.9	14.3
0°-60°	1187.7	23.7
0°-90°	1432.1	28.6
90°-120°	765.3	15.3
90°-150°	2586.3	51.6
90°-180°	3581.0	71.4
0°-180°	5012.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	617	615	610	614	613	59
15°	588	583	572	571	568	166
25°	532	522	504	496	491	245
35°	460	444	421	405	396	287
45°	375	357	329	307	297	289
55°	284	264	234	211	201	254
65°	193	172	142	123	116	191
75°	103	85	63	53	49	108
85°	26	16	15	14	14	29
90°	3	14	22	28	30	5
95°	60	69	76	79	79	67
105°	233	234	238	241	244	247
115°	435	435	433	432	431	429
125°	634	634	633	631	629	565
135°	818	823	824	821	818	632
145°	993	997	998	997	994	621
155°	1138	1138	1137	1140	1137	523
165°	1239	1236	1234	1239	1236	349
175°	1289	1284	1283	1289	1283	122
180°	1291	1291	1291	1291	1291	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	619.7	619.3	619.0	618.7	618.3	617.7	616.8	615.9	614.9	614.0	614.9
5°	617.2	616.8	616.4	616.0	615.5	614.7	613.4	612.2	610.9	609.7	610.7
7.5°	611.6	611.2	610.8	610.3	609.9	608.8	607.2	605.5	603.9	602.3	602.9
10°	606.3	605.8	605.3	604.8	604.2	603.0	601.1	599.2	597.3	595.5	595.9
12.5°	599.5	598.9	598.3	597.7	597.1	595.7	593.4	591.2	589.0	586.7	587.0
15°	587.9	586.9	586.0	585.0	584.1	582.3	579.7	577.0	574.4	571.8	571.6
17.5°	573.8	572.4	571.0	569.7	568.3	566.0	562.9	559.7	556.6	553.4	552.8
20°	562.8	561.4	560.1	558.7	557.3	554.9	551.3	547.7	544.1	540.5	539.7
22.5°	550.7	549.1	547.6	546.1	544.5	541.8	538.0	534.2	530.4	526.5	525.3
25°	531.6	529.7	527.8	525.9	524.0	520.9	516.6	512.3	507.9	503.6	501.8
27.5°	511.5	509.1	506.7	504.4	502.0	498.5	493.9	489.3	484.7	480.1	477.8
30°	497.5	494.8	492.2	489.6	487.0	483.2	478.2	473.3	468.3	463.4	460.8
32.5°	482.7	479.7	476.8	473.8	470.8	466.8	461.7	456.6	451.5	446.4	443.3
35°	459.6	456.2	452.9	449.5	446.1	441.8	436.6	431.3	426.1	420.8	417.2
37.5°	434.9	431.4	428.0	424.5	421.0	416.4	410.5	404.7	398.9	393.1	389.1
40°	417.5	414.0	410.5	407.1	403.6	398.9	392.9	386.9	380.9	374.9	370.5
42.5°	400.8	397.2	393.5	389.9	386.3	381.3	375.1	368.8	362.6	356.3	351.8
45°	374.9	371.0	367.1	363.2	359.3	354.2	347.9	341.6	335.3	329.0	323.8
47.5°	348.1	344.1	340.1	336.0	332.0	326.7	320.2	313.6	307.0	300.5	295.1
50°	329.9	325.8	321.7	317.6	313.5	308.1	301.4	294.6	287.9	281.2	275.9
52.5°	311.4	307.3	303.3	299.3	295.3	289.8	282.9	276.0	269.1	262.2	256.9
55°	284.0	279.8	275.6	271.4	267.2	261.6	254.8	248.0	241.1	234.3	228.8
57.5°	256.9	252.5	248.2	243.8	239.4	233.9	227.1	220.4	213.7	206.9	201.4
60°	237.6	233.4	229.2	225.0	220.8	215.3	208.6	201.8	195.1	188.4	182.9
62.5°	220.2	215.8	211.4	207.1	202.7	197.1	190.2	183.3	176.4	169.5	164.4
65°	193.1	188.6	184.1	179.6	175.0	169.4	162.7	155.9	149.2	142.5	138.0
67.5°	165.0	160.7	156.3	152.0	147.7	142.4	136.1	129.9	123.6	117.4	113.5
70°	147.2	142.8	138.4	134.0	129.5	124.3	118.3	112.3	106.3	100.3	96.9
72.5°	128.3	124.3	120.3	116.3	112.3	107.5	101.8	96.1	90.5	84.8	81.9
75°	102.7	98.8	94.9	91.0	87.1	82.7	77.8	72.8	67.9	63.0	60.5
77.5°	76.8	73.5	70.2	66.9	63.6	59.9	55.9	51.9	47.9	43.9	42.5
80°	60.1	57.1	54.0	51.0	47.9	44.8	41.7	38.5	35.3	32.2	31.9
82.5°	45.7	42.9	40.1	37.3	34.5	32.2	30.4	28.6	26.8	25.0	24.8
85°	25.6	23.5	21.4	19.2	17.1	15.9	15.6	15.3	15.0	14.7	14.5
87.5°	9.3	9.1	8.9	8.8	8.6	8.6	8.9	9.2	9.4	9.7	9.9
90°	3.0	5.4	7.9	10.3	12.8	14.9	16.6	18.4	20.2	22.0	23.3
92.5°	21.4	24.2	26.9	29.7	32.5	34.6	35.8	37.0	38.3	39.5	40.3
95°	59.9	61.9	63.9	65.9	67.9	69.6	71.2	72.8	74.3	75.9	76.5
97.5°	104.6	106.2	107.8	109.4	111.0	112.7	114.5	116.3	118.2	120.0	120.8
100°	139.7	140.6	141.5	142.4	143.3	144.7	146.7	148.7	150.7	152.7	153.2
102.5°	176.5	176.8	177.2	177.5	177.9	179.0	180.8	182.6	184.4	186.3	186.9
105°	232.6	232.8	233.0	233.2	233.5	234.0	234.9	235.8	236.7	237.6	238.2
107.5°	291.5	291.7	292.0	292.3	292.5	292.7	292.9	293.0	293.1	293.3	293.9
110°	331.4	331.8	332.3	332.7	333.2	333.3	333.0	332.8	332.6	332.4	331.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	372.9	373.0	373.1	373.2	373.3	373.1	372.7	372.3	371.9	371.5	371.4
115°	435.2	435.2	435.2	435.2	435.2	435.0	434.5	434.1	433.6	433.2	433.0
117.5°	493.9	494.1	494.2	494.4	494.6	494.5	494.2	493.9	493.6	493.3	492.5
120°	533.0	533.9	534.8	535.7	536.6	536.7	536.0	535.3	534.7	534.0	532.9
122.5°	573.7	574.1	574.4	574.8	575.1	575.2	574.9	574.5	574.2	573.9	573.2
125°	633.8	633.8	633.8	633.8	633.8	633.7	633.5	633.3	633.0	632.8	632.4
127.5°	688.3	689.0	689.6	690.3	691.0	691.1	690.8	690.4	690.1	689.7	689.3
130°	726.6	727.3	728.0	728.6	729.3	729.6	729.6	729.6	729.6	729.6	729.2
132.5°	765.8	766.3	766.7	767.2	767.7	767.9	767.7	767.5	767.3	767.2	766.7
135°	817.5	818.8	820.1	821.5	822.8	823.5	823.5	823.5	823.5	823.5	823.0
137.5°	873.8	874.4	875.0	875.6	876.3	876.7	877.1	877.5	877.8	878.2	877.6
140°	911.3	911.7	912.2	912.6	913.1	913.3	913.3	913.3	913.3	913.3	913.1
142.5°	945.6	946.1	946.5	947.0	947.4	947.5	947.4	947.2	947.0	946.8	946.8
145°	993.1	994.0	994.9	995.8	996.7	997.2	997.5	997.7	997.9	998.1	997.9
147.5°	1040.3	1041.3	1042.4	1043.5	1044.5	1045.0	1044.8	1044.6	1044.4	1044.3	1044.1
150°	1069.0	1069.9	1070.8	1071.7	1072.6	1073.0	1073.0	1073.0	1073.0	1073.0	1073.0
152.5°	1096.2	1096.7	1097.2	1097.8	1098.3	1098.6	1098.8	1099.0	1099.2	1099.3	1099.9
155°	1137.9	1137.9	1137.9	1137.9	1137.9	1137.8	1137.5	1137.3	1137.1	1136.9	1137.8
157.5°	1173.0	1172.6	1172.2	1171.8	1171.4	1171.2	1171.1	1171.1	1171.1	1171.0	1171.7
160°	1193.8	1193.5	1193.3	1193.1	1192.9	1192.7	1192.4	1192.2	1192.0	1191.8	1192.4
162.5°	1212.9	1212.4	1211.8	1211.2	1210.6	1210.2	1210.0	1209.8	1209.6	1209.3	1210.5
165°	1238.7	1238.0	1237.4	1236.7	1236.0	1235.5	1235.0	1234.6	1234.1	1233.7	1235.0
167.5°	1258.5	1257.5	1256.6	1255.7	1254.7	1254.3	1254.3	1254.4	1254.4	1254.5	1255.8
170°	1269.6	1268.5	1267.4	1266.3	1265.2	1264.7	1265.0	1265.2	1265.4	1265.6	1267.0
172.5°	1277.6	1276.7	1275.8	1274.8	1273.9	1273.4	1273.5	1273.5	1273.6	1273.6	1275.1
175°	1288.6	1287.5	1286.4	1285.3	1284.2	1283.5	1283.3	1283.0	1282.8	1282.6	1284.2
177.5°	1292.2	1291.3	1290.4	1289.5	1288.6	1288.2	1288.2	1288.2	1288.2	1288.2	1289.4
180°	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	615.9	616.8	617.7	618.1	618.0	618.0	617.9	617.8
5°	611.8	612.8	613.9	614.3	614.1	613.9	613.6	613.4
7.5°	603.6	604.3	605.0	605.1	604.8	604.5	604.1	603.8
10°	596.3	596.7	597.1	597.1	596.7	596.3	595.9	595.5
12.5°	587.2	587.5	587.8	587.6	587.0	586.4	585.8	585.2
15°	571.4	571.2	570.9	570.5	569.7	569.0	568.3	567.5
17.5°	552.2	551.7	551.1	550.2	549.1	548.0	546.9	545.8
20°	538.9	538.0	537.2	536.1	534.7	533.3	532.0	530.6
22.5°	524.0	522.7	521.5	520.3	519.2	518.1	517.0	515.8
25°	500.0	498.3	496.5	495.1	494.0	492.9	491.9	490.8
27.5°	475.6	473.4	471.2	469.4	467.8	466.3	464.8	463.3
30°	458.1	455.5	452.9	450.7	449.0	447.4	445.7	444.0
32.5°	440.3	437.2	434.2	431.8	430.2	428.6	427.0	425.4
35°	413.6	410.1	406.5	403.8	401.9	400.0	398.1	396.2
37.5°	385.1	381.1	377.1	374.1	372.2	370.3	368.4	366.5
40°	366.0	361.6	357.2	354.1	352.2	350.3	348.4	346.5
42.5°	347.3	342.8	338.3	335.1	333.1	331.1	329.1	327.2
45°	318.7	313.5	308.3	304.8	302.9	301.0	299.1	297.3
47.5°	289.8	284.4	279.1	275.4	273.3	271.2	269.1	267.1
50°	270.6	265.4	260.1	256.5	254.5	252.5	250.5	248.5
52.5°	251.5	246.2	240.9	237.1	235.1	233.0	230.9	228.8
55°	223.4	217.9	212.4	208.7	206.7	204.7	202.7	200.7
57.5°	195.8	190.3	184.7	181.2	179.7	178.2	176.6	175.1
60°	177.4	172.0	166.5	162.9	161.2	159.6	157.9	156.2
62.5°	159.4	154.3	149.3	146.1	144.7	143.4	142.0	140.7
65°	133.4	128.9	124.4	121.5	120.2	119.0	117.7	116.4
67.5°	109.6	105.7	101.8	99.2	97.8	96.4	95.0	93.6
70°	93.4	89.9	86.5	84.2	83.1	82.1	81.0	80.0
72.5°	78.9	75.9	73.0	71.0	70.0	69.1	68.1	67.1
75°	58.1	55.7	53.3	51.8	51.1	50.5	49.9	49.2
77.5°	41.1	39.7	38.3	37.5	37.3	37.1	36.9	36.7
80°	31.6	31.2	30.9	30.7	30.6	30.5	30.4	30.3
82.5°	24.5	24.3	24.1	23.9	23.8	23.7	23.6	23.5
85°	14.3	14.0	13.8	13.7	13.7	13.7	13.7	13.7
87.5°	10.1	10.2	10.4	10.6	10.8	10.9	11.1	11.3
90°	24.6	26.0	27.3	28.2	28.6	29.1	29.5	29.9
92.5°	41.1	41.9	42.7	43.3	43.5	43.8	44.1	44.3
95°	77.2	77.9	78.5	78.9	78.9	78.9	78.9	78.9
97.5°	121.6	122.4	123.2	123.6	123.6	123.6	123.6	123.6
100°	153.6	154.0	154.5	154.7	154.7	154.7	154.7	154.7
102.5°	187.5	188.1	188.7	189.1	189.3	189.5	189.7	189.8
105°	238.9	239.6	240.2	240.9	241.5	242.2	242.9	243.5
107.5°	294.5	295.1	295.7	296.0	296.0	295.9	295.9	295.8
110°	331.5	331.0	330.6	330.7	331.4	332.0	332.7	333.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	371.3	371.2	371.2	371.2	371.3	371.4	371.6	371.7
115°	432.7	432.5	432.3	432.1	431.9	431.6	431.4	431.2
117.5°	491.8	491.0	490.3	489.7	489.2	488.8	488.3	487.9
120°	531.8	530.7	529.6	529.2	529.7	530.1	530.6	531.0
122.5°	572.4	571.7	570.9	570.1	569.3	568.5	567.7	566.9
125°	631.9	631.5	631.0	630.6	630.2	629.7	629.3	628.8
127.5°	688.8	688.4	687.9	687.5	687.2	686.8	686.5	686.1
130°	728.8	728.3	727.9	727.2	726.3	725.4	724.5	723.6
132.5°	766.3	765.8	765.4	765.0	764.6	764.3	763.9	763.6
135°	822.6	822.1	821.7	821.1	820.5	819.8	819.1	818.5
137.5°	877.0	876.4	875.9	875.6	875.8	875.9	876.0	876.2
140°	912.9	912.6	912.4	912.2	912.0	911.7	911.5	911.3
142.5°	946.7	946.7	946.7	946.6	946.6	946.5	946.5	946.4
145°	997.7	997.5	997.2	996.8	996.1	995.5	994.8	994.1
147.5°	1043.9	1043.7	1043.5	1043.3	1043.1	1042.9	1042.7	1042.5
150°	1073.0	1073.0	1073.0	1072.9	1072.7	1072.4	1072.2	1072.0
152.5°	1100.4	1100.9	1101.5	1101.5	1100.9	1100.3	1099.7	1099.1
155°	1138.7	1139.5	1140.4	1140.4	1139.5	1138.7	1137.8	1136.9
157.5°	1172.3	1173.0	1173.7	1173.6	1172.9	1172.1	1171.4	1170.6
160°	1193.1	1193.8	1194.4	1194.2	1193.1	1192.0	1190.9	1189.8
162.5°	1211.7	1212.9	1214.1	1214.2	1213.1	1212.0	1210.9	1209.7
165°	1236.4	1237.7	1239.0	1239.2	1238.4	1237.5	1236.6	1235.7
167.5°	1257.1	1258.5	1259.8	1259.8	1258.4	1257.0	1255.6	1254.3
170°	1268.3	1269.6	1271.0	1270.8	1269.3	1267.7	1266.2	1264.6
172.5°	1276.6	1278.1	1279.7	1279.6	1278.1	1276.5	1275.0	1273.4
175°	1285.7	1287.3	1288.8	1288.8	1287.3	1285.7	1284.2	1282.6
177.5°	1290.7	1291.9	1293.2	1293.1	1291.7	1290.2	1288.8	1287.4
180°	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6

(END OF REPORT)