

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: P332887-940

Luminaire Tested: **S124RDIP-S350D1035U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332887-940  
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-S350D1035U940-4F0-1E-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: 4469.9 lumens  
Efficiency: N/A  
Efficacy: 119.8 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

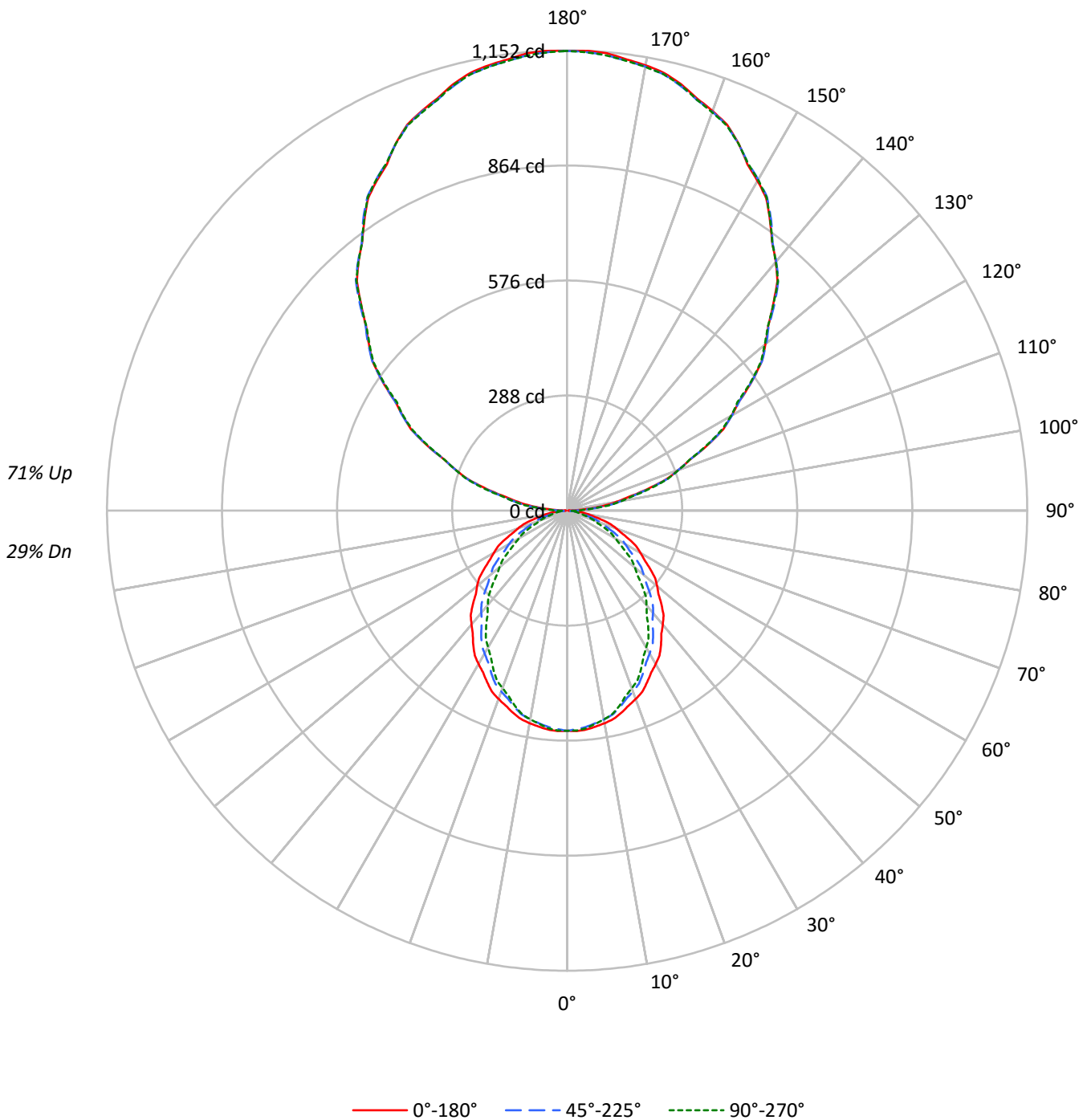
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4451	4451	4451
5°	4460	4406	4433
10°	4432	4353	4353
15°	4381	4262	4229
20°	4312	4141	4064
25°	4222	4000	3899
30°	4135	3852	3691
35°	4039	3698	3482
40°	3923	3523	3256
45°	3817	3350	3027
50°	3695	3149	2783
55°	3564	2940	2519
60°	3421	2713	2249
65°	3289	2428	1983
70°	3099	2110	1683
75°	2857	1753	1369
80°	2492	1334	1255
85°	2112	1213	1130



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.8	1.2
10°-20°	144.4	3.2
20°-30°	208.5	4.7
30°-40°	236.4	5.3
40°-50°	228.2	5.1
50°-60°	189.8	4.2
60°-70°	131.1	2.9
70°-80°	66.4	1.5
80°-90°	20.5	0.5
90°-100°	75.9	1.7
100°-110°	224.9	5.0
110°-120°	381.7	8.5
120°-130°	503.2	11.3
130°-140°	565.2	12.6
140°-150°	555.4	12.4
150°-160°	467.1	10.4
160°-170°	310.8	7.0
170°-180°	108.8	2.4
0°-30°	404.7	9.1
0°-40°	641.0	14.3
0°-60°	1059.1	23.7
0°-90°	1277.0	28.6
90°-120°	682.4	15.3
90°-150°	2306.2	51.6
90°-180°	3193.0	71.4
0°-180°	4469.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	551	551	551	551	551	
5°	550	548	544	548	547	52
15°	524	520	510	509	506	148
25°	474	466	449	442	438	218
35°	410	396	375	361	353	256
45°	334	318	293	273	265	258
55°	253	236	209	188	179	226
65°	172	154	127	110	104	170
75°	92	76	56	47	44	97
85°	23	15	13	12	12	26
90°	3	12	20	25	27	4
95°	53	61	68	70	70	59
105°	207	208	212	214	217	220
115°	388	388	386	385	384	383
125°	565	565	564	562	561	504
135°	729	734	734	732	730	564
145°	886	889	890	889	886	554
155°	1015	1015	1014	1017	1014	467
165°	1105	1102	1100	1105	1102	311
175°	1149	1145	1144	1149	1144	109
180°	1151	1151	1151	1151	1151	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	552.6	552.2	552.0	551.7	551.3	550.8	550.0	549.2	548.3	547.5	548.3
5°	550.4	550.0	549.7	549.3	548.8	548.1	547.0	545.9	544.7	543.7	544.6
7.5°	545.4	545.0	544.7	544.2	543.9	542.9	541.4	539.9	538.5	537.1	537.6
10°	540.6	540.2	539.8	539.3	538.8	537.7	536.0	534.3	532.6	531.0	531.4
12.5°	534.6	534.0	533.5	533.0	532.4	531.2	529.1	527.2	525.2	523.2	523.4
15°	524.2	523.3	522.5	521.7	520.8	519.2	516.9	514.5	512.2	509.9	509.7
17.5°	511.7	510.4	509.2	508.0	506.8	504.7	501.9	499.1	496.3	493.5	492.9
20°	501.9	500.6	499.4	498.2	497.0	494.8	491.6	488.4	485.2	482.0	481.3
22.5°	491.1	489.6	488.3	487.0	485.5	483.1	479.7	476.4	473.0	469.5	468.4
25°	474.0	472.3	470.6	469.0	467.3	464.5	460.7	456.8	452.9	449.1	447.5
27.5°	456.1	454.0	451.8	449.8	447.6	444.5	440.4	436.3	432.2	428.1	426.1
30°	443.6	441.2	438.9	436.6	434.3	430.9	426.4	422.0	417.6	413.2	410.9
32.5°	430.4	427.8	425.2	422.5	419.8	416.3	411.7	407.2	402.6	398.1	395.3
35°	409.8	406.8	403.9	400.8	397.8	394.0	389.3	384.6	380.0	375.2	372.0
37.5°	387.8	384.7	381.7	378.5	375.4	371.3	366.0	360.9	355.7	350.5	347.0
40°	372.3	369.2	366.0	363.0	359.9	355.7	350.4	345.0	339.7	334.3	330.4
42.5°	357.4	354.2	350.9	347.7	344.5	340.0	334.5	328.9	323.3	317.7	313.7
45°	334.3	330.8	327.3	323.9	320.4	315.8	310.2	304.6	299.0	293.4	288.7
47.5°	310.4	306.8	303.3	299.6	296.0	291.3	285.5	279.6	273.8	268.0	263.1
50°	294.2	290.5	286.9	283.2	279.6	274.7	268.8	262.7	256.7	250.7	246.0
52.5°	277.7	274.0	270.5	266.9	263.3	258.4	252.3	246.1	240.0	233.8	229.1
55°	253.2	249.5	245.8	242.0	238.3	233.3	227.2	221.1	215.0	208.9	204.0
57.5°	229.1	225.2	221.3	217.4	213.5	208.6	202.5	196.5	190.6	184.5	179.6
60°	211.9	208.1	204.4	200.6	196.9	192.0	186.0	179.9	174.0	168.0	163.1
62.5°	196.4	192.4	188.5	184.7	180.7	175.8	169.6	163.5	157.3	151.1	146.6
65°	172.2	168.2	164.2	160.2	156.0	151.1	145.1	139.0	133.0	127.1	123.1
67.5°	147.1	143.3	139.4	135.5	131.7	127.0	121.4	115.8	110.2	104.7	101.2
70°	131.3	127.3	123.4	119.5	115.5	110.8	105.5	100.1	94.8	89.4	86.4
72.5°	114.4	110.8	107.3	103.7	100.1	95.9	90.8	85.7	80.7	75.6	73.0
75°	91.6	88.1	84.6	81.1	77.7	73.7	69.4	64.9	60.5	56.2	53.9
77.5°	68.5	65.5	62.6	59.7	56.7	53.4	49.8	46.3	42.7	39.1	37.9
80°	53.6	50.9	48.2	45.5	42.7	39.9	37.2	34.3	31.5	28.7	28.4
82.5°	40.8	38.3	35.8	33.3	30.8	28.7	27.1	25.5	23.9	22.3	22.1
85°	22.8	21.0	19.1	17.1	15.2	14.2	13.9	13.6	13.4	13.1	12.9
87.5°	8.3	8.1	7.9	7.8	7.7	7.7	7.9	8.2	8.4	8.6	8.8
90°	2.7	4.8	7.0	9.2	11.4	13.3	14.8	16.4	18.0	19.6	20.8
92.5°	19.1	21.6	24.0	26.5	29.0	30.9	31.9	33.0	34.2	35.2	35.9
95°	53.4	55.2	57.0	58.8	60.5	62.1	63.5	64.9	66.3	67.7	68.2
97.5°	93.3	94.7	96.1	97.6	99.0	100.5	102.1	103.7	105.4	107.0	107.7
100°	124.6	125.4	126.2	127.0	127.8	129.0	130.8	132.6	134.4	136.2	136.6
102.5°	157.4	157.7	158.0	158.3	158.6	159.6	161.2	162.8	164.4	166.1	166.7
105°	207.4	207.6	207.8	207.9	208.2	208.7	209.5	210.3	211.1	211.9	212.4
107.5°	259.9	260.1	260.4	260.6	260.8	261.0	261.2	261.3	261.4	261.5	262.1
110°	295.5	295.9	296.3	296.7	297.1	297.2	296.9	296.8	296.6	296.4	296.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	332.5	332.6	332.7	332.8	332.9	332.7	332.3	332.0	331.6	331.3	331.2
115°	388.1	388.1	388.1	388.1	388.1	387.9	387.4	387.1	386.6	386.3	386.1
117.5°	440.4	440.6	440.7	440.9	441.0	441.0	440.7	440.4	440.1	439.9	439.2
120°	475.3	476.1	476.9	477.7	478.5	478.6	478.0	477.3	476.8	476.2	475.2
122.5°	511.6	511.9	512.2	512.6	512.8	512.9	512.6	512.3	512.0	511.8	511.1
125°	565.2	565.2	565.2	565.2	565.2	565.1	564.9	564.7	564.5	564.3	563.9
127.5°	613.8	614.4	614.9	615.5	616.2	616.3	616.0	615.6	615.4	615.0	614.7
130°	647.9	648.5	649.2	649.7	650.3	650.6	650.6	650.6	650.6	650.6	650.2
132.5°	682.9	683.3	683.7	684.1	684.6	684.7	684.6	684.4	684.2	684.1	683.7
135°	729.0	730.1	731.3	732.5	733.7	734.3	734.3	734.3	734.3	734.3	733.9
137.5°	779.2	779.7	780.2	780.8	781.4	781.8	782.1	782.5	782.7	783.1	782.6
140°	812.6	813.0	813.4	813.8	814.2	814.4	814.4	814.4	814.4	814.4	814.2
142.5°	843.2	843.6	844.0	844.5	844.8	844.9	844.8	844.6	844.5	844.3	844.3
145°	885.6	886.4	887.2	888.0	888.8	889.2	889.5	889.7	889.8	890.0	889.8
147.5°	927.6	928.5	929.5	930.5	931.4	931.8	931.7	931.5	931.3	931.2	931.0
150°	953.2	954.0	954.8	955.6	956.4	956.8	956.8	956.8	956.8	956.8	956.8
152.5°	977.5	977.9	978.4	978.9	979.4	979.6	979.8	980.0	980.2	980.3	980.8
155°	1014.7	1014.7	1014.7	1014.7	1014.7	1014.6	1014.3	1014.1	1014.0	1013.8	1014.6
157.5°	1046.0	1045.6	1045.3	1044.9	1044.6	1044.4	1044.3	1044.3	1044.3	1044.2	1044.8
160°	1064.5	1064.3	1064.1	1063.9	1063.7	1063.5	1063.3	1063.1	1062.9	1062.7	1063.3
162.5°	1081.6	1081.1	1080.6	1080.0	1079.5	1079.1	1079.0	1078.8	1078.6	1078.3	1079.4
165°	1104.6	1103.9	1103.4	1102.8	1102.2	1101.7	1101.3	1100.9	1100.5	1100.1	1101.3
167.5°	1122.2	1121.3	1120.5	1119.7	1118.8	1118.5	1118.5	1118.6	1118.6	1118.7	1119.8
170°	1132.1	1131.1	1130.2	1129.2	1128.2	1127.7	1128.0	1128.2	1128.4	1128.5	1129.8
172.5°	1139.2	1138.4	1137.6	1136.8	1136.0	1135.5	1135.6	1135.6	1135.7	1135.7	1137.0
175°	1149.1	1148.1	1147.1	1146.1	1145.1	1144.5	1144.3	1144.1	1143.9	1143.7	1145.1
177.5°	1152.3	1151.5	1150.7	1149.9	1149.1	1148.7	1148.7	1148.7	1148.7	1148.7	1149.8
180°	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	549.2	550.0	550.8	551.2	551.1	551.1	551.0	550.9
5°	545.5	546.4	547.4	547.8	547.6	547.4	547.2	547.0
7.5°	538.2	538.9	539.5	539.6	539.3	539.0	538.7	538.4
10°	531.7	532.1	532.4	532.4	532.1	531.7	531.4	531.0
12.5°	523.6	523.9	524.1	524.0	523.4	522.9	522.4	521.8
15°	509.5	509.3	509.1	508.7	508.0	507.4	506.8	506.0
17.5°	492.4	492.0	491.4	490.6	489.6	488.7	487.7	486.7
20°	480.5	479.7	479.0	478.0	476.8	475.5	474.4	473.1
22.5°	467.3	466.1	465.0	464.0	463.0	462.0	461.0	459.9
25°	445.9	444.3	442.7	441.5	440.5	439.5	438.6	437.7
27.5°	424.1	422.1	420.2	418.6	417.1	415.8	414.5	413.1
30°	408.5	406.2	403.9	401.9	400.4	399.0	397.4	395.9
32.5°	392.6	389.9	387.2	385.0	383.6	382.2	380.8	379.3
35°	368.8	365.7	362.5	360.1	358.4	356.7	355.0	353.3
37.5°	343.4	339.8	336.3	333.6	331.9	330.2	328.5	326.8
40°	326.4	322.4	318.5	315.8	314.1	312.4	310.7	309.0
42.5°	309.7	305.7	301.7	298.8	297.0	295.2	293.5	291.8
45°	284.2	279.6	274.9	271.8	270.1	268.4	266.7	265.1
47.5°	258.4	253.6	248.9	245.6	243.7	241.8	240.0	238.2
50°	241.3	236.7	231.9	228.7	226.9	225.2	223.4	221.6
52.5°	224.3	219.5	214.8	211.4	209.6	207.8	205.9	204.0
55°	199.2	194.3	189.4	186.1	184.3	182.5	180.7	179.0
57.5°	174.6	169.7	164.7	161.6	160.2	158.9	157.5	156.1
60°	158.2	153.4	148.5	145.3	143.7	142.3	140.8	139.3
62.5°	142.1	137.6	133.1	130.3	129.0	127.9	126.6	125.5
65°	119.0	114.9	110.9	108.3	107.2	106.1	105.0	103.8
67.5°	97.7	94.3	90.8	88.5	87.2	86.0	84.7	83.5
70°	83.3	80.2	77.1	75.1	74.1	73.2	72.2	71.3
72.5°	70.4	67.7	65.1	63.3	62.4	61.6	60.7	59.8
75°	51.8	49.7	47.5	46.2	45.6	45.0	44.5	43.9
77.5°	36.6	35.4	34.2	33.4	33.3	33.1	32.9	32.7
80°	28.2	27.8	27.6	27.4	27.3	27.2	27.1	27.0
82.5°	21.8	21.7	21.5	21.3	21.2	21.1	21.0	21.0
85°	12.8	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	9.0	9.1	9.3	9.5	9.6	9.7	9.9	10.1
90°	21.9	23.2	24.3	25.1	25.5	25.9	26.3	26.7
92.5°	36.6	37.4	38.1	38.6	38.8	39.1	39.3	39.5
95°	68.8	69.5	70.0	70.4	70.4	70.4	70.4	70.4
97.5°	108.4	109.1	109.9	110.2	110.2	110.2	110.2	110.2
100°	137.0	137.3	137.8	137.9	137.9	137.9	137.9	137.9
102.5°	167.2	167.7	168.3	168.6	168.8	169.0	169.2	169.2
105°	213.0	213.7	214.2	214.8	215.3	216.0	216.6	217.1
107.5°	262.6	263.1	263.7	263.9	263.9	263.9	263.9	263.8
110°	295.6	295.2	294.8	294.9	295.5	296.0	296.7	297.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	331.1	331.0	331.0	331.0	331.1	331.2	331.4	331.4
115°	385.8	385.7	385.5	385.3	385.1	384.9	384.7	384.5
117.5°	438.5	437.8	437.2	436.7	436.2	435.9	435.4	435.1
120°	474.2	473.2	472.3	471.9	472.3	472.7	473.1	473.5
122.5°	510.4	509.8	509.1	508.4	507.7	506.9	506.2	505.5
125°	563.5	563.1	562.7	562.3	562.0	561.5	561.2	560.7
127.5°	614.2	613.9	613.4	613.1	612.8	612.4	612.2	611.8
130°	649.9	649.4	649.1	648.5	647.6	646.8	646.0	645.2
132.5°	683.3	682.9	682.5	682.2	681.8	681.5	681.2	680.9
135°	733.5	733.1	732.7	732.2	731.6	731.0	730.4	729.9
137.5°	782.0	781.5	781.0	780.8	781.0	781.0	781.1	781.3
140°	814.0	813.8	813.6	813.4	813.2	813.0	812.8	812.6
142.5°	844.2	844.2	844.2	844.1	844.1	844.0	844.0	843.9
145°	889.7	889.5	889.2	888.9	888.2	887.7	887.1	886.4
147.5°	930.9	930.7	930.5	930.3	930.1	930.0	929.8	929.6
150°	956.8	956.8	956.8	956.7	956.5	956.3	956.1	955.9
152.5°	981.2	981.7	982.2	982.2	981.7	981.1	980.6	980.1
155°	1015.4	1016.1	1016.9	1016.9	1016.1	1015.4	1014.6	1013.8
157.5°	1045.4	1046.0	1046.6	1046.5	1045.9	1045.2	1044.6	1043.8
160°	1063.9	1064.5	1065.1	1064.9	1063.9	1062.9	1061.9	1061.0
162.5°	1080.5	1081.6	1082.6	1082.7	1081.7	1080.8	1079.8	1078.7
165°	1102.5	1103.7	1104.8	1105.0	1104.3	1103.5	1102.7	1101.9
167.5°	1121.0	1122.2	1123.4	1123.4	1122.1	1120.9	1119.6	1118.5
170°	1131.0	1132.1	1133.4	1133.2	1131.8	1130.4	1129.1	1127.7
172.5°	1138.4	1139.7	1141.1	1141.0	1139.7	1138.3	1136.9	1135.5
175°	1146.5	1147.9	1149.2	1149.2	1147.9	1146.5	1145.1	1143.7
177.5°	1150.9	1152.0	1153.2	1153.1	1151.8	1150.5	1149.2	1148.0
180°	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8

(END OF REPORT)