

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: P332947-940

Luminaire Tested: **SA4XXRDIP-C795D1035U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332947-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C795D1035U940-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 795 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

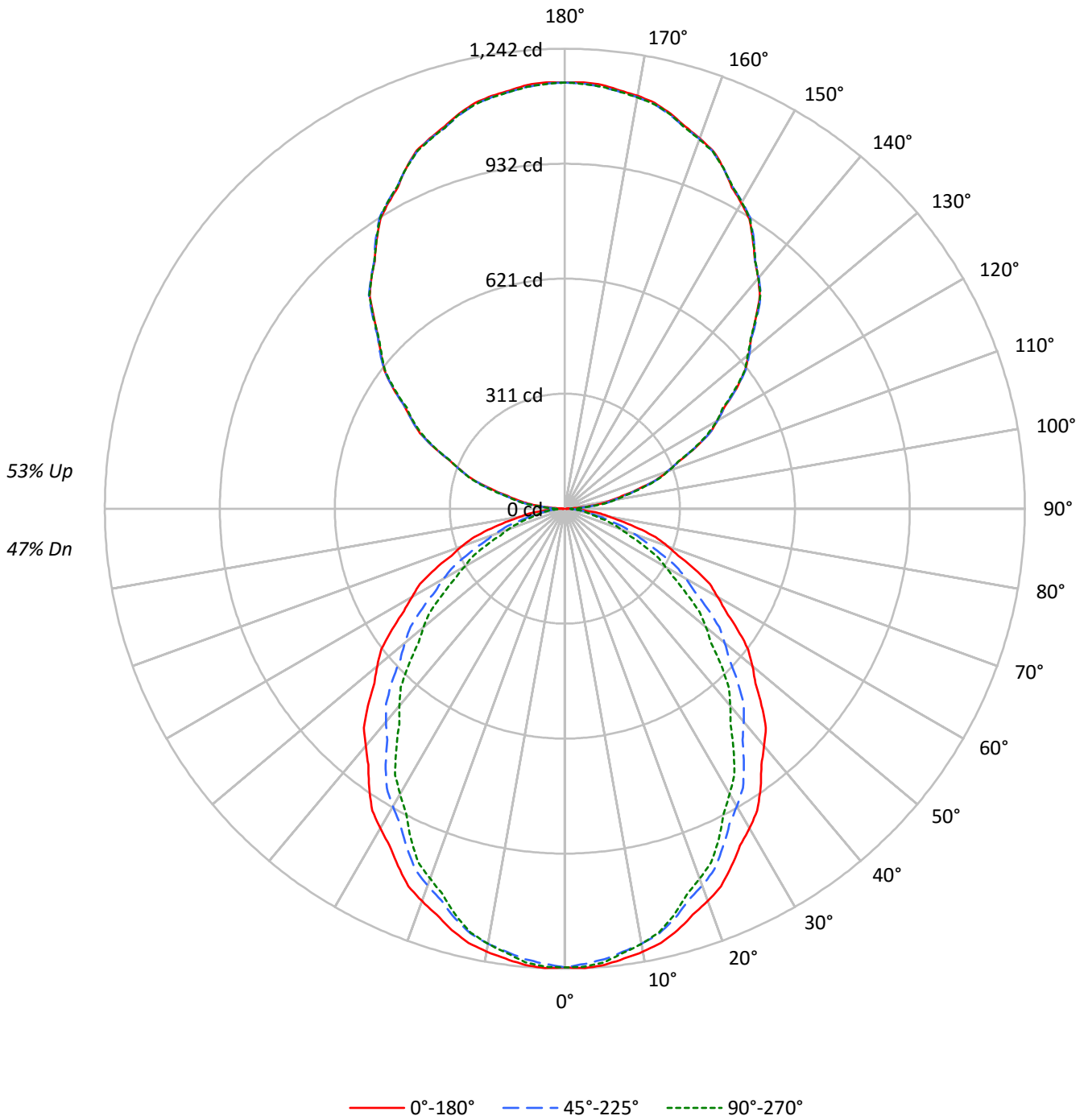
Lumens per Lamp: N/A
Luminaire Lumens: 6058.3 lumens
Efficiency: N/A
Efficacy: 116.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 52
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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	97	93	89	86	89	86	83	80	72	70	68	59	58	56	48	47	46	40
2	89	82	76	71	82	75	70	66	63	60	56	52	50	47	42	41	39	34
3	81	72	65	59	74	66	60	55	56	52	48	47	43	40	38	35	33	29
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25
5	68	57	49	43	63	53	46	40	45	39	35	37	33	30	31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	22	19
7	58	46	38	33	54	43	36	31	37	31	27	31	27	24	25	22	20	17
8	54	42	34	29	50	39	32	27	34	28	24	28	24	21	23	20	18	16
9	50	38	31	26	46	36	29	25	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10001	10001	10001
5°	10023	9900	9961
10°	9960	9781	9781
15°	9845	9576	9504
20°	9688	9306	9135
25°	9487	8989	8761
30°	9292	8655	8294
35°	9077	8310	7824
40°	8816	7917	7317
45°	8576	7526	6801
50°	8303	7076	6253
55°	8010	6608	5661
60°	7689	6095	5054
65°	7393	5454	4458
70°	6963	4747	3784
75°	6419	3936	3075
80°	5602	2999	2822
85°	4742	2723	2547



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.4	1.9
10°-20°	324.5	5.4
20°-30°	468.6	7.7
30°-40°	531.1	8.8
40°-50°	512.9	8.5
50°-60°	426.5	7.0
60°-70°	294.5	4.9
70°-80°	149.3	2.5
80°-90°	41.7	0.7
90°-100°	75.9	1.3
100°-110°	224.9	3.7
110°-120°	381.7	6.3
120°-130°	503.2	8.3
130°-140°	565.2	9.3
140°-150°	555.4	9.2
150°-160°	467.1	7.7
160°-170°	310.8	5.1
170°-180°	108.8	1.8
0°-30°	909.4	15.0
0°-40°	1440.5	23.8
0°-60°	2379.9	39.3
0°-90°	2865.4	47.3
90°-120°	682.4	11.3
90°-150°	2306.2	38.1
90°-180°	3193.0	52.7
0°-180°	6058.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1239	1239	1239	1239	1239	
5°	1237	1233	1222	1230	1229	117
15°	1178	1169	1146	1144	1137	332
25°	1065	1047	1009	993	984	491
35°	921	890	843	812	794	575
45°	751	715	659	614	596	579
55°	569	530	470	422	402	509
65°	387	345	286	246	233	382
75°	206	170	126	105	99	217
85°	51	33	29	28	28	58
90°	3	12	20	25	27	6
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°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8
2.5°	1241.8	1241.1	1240.4	1239.7	1239.0	1237.8	1235.9	1234.1	1232.3	1230.4	1232.3
5°	1236.8	1236.0	1235.1	1234.3	1233.4	1231.8	1229.2	1226.7	1224.1	1221.6	1223.8
7.5°	1225.7	1224.8	1223.9	1223.0	1222.1	1220.0	1216.7	1213.4	1210.1	1206.8	1208.2
10°	1215.0	1214.0	1212.9	1211.8	1210.8	1208.4	1204.6	1200.8	1197.0	1193.2	1194.0
12.5°	1201.3	1200.2	1198.9	1197.7	1196.5	1193.6	1189.2	1184.6	1180.2	1175.7	1176.3
15°	1178.0	1176.2	1174.2	1172.3	1170.5	1166.9	1161.5	1156.3	1151.0	1145.8	1145.3
17.5°	1149.8	1147.0	1144.2	1141.6	1138.8	1134.3	1127.9	1121.6	1115.3	1108.9	1107.8
20°	1127.7	1125.0	1122.3	1119.5	1116.8	1111.9	1104.7	1097.5	1090.3	1083.2	1081.5
22.5°	1103.5	1100.4	1097.3	1094.2	1091.2	1085.7	1078.1	1070.4	1062.7	1055.1	1052.6
25°	1065.1	1061.3	1057.6	1053.7	1050.0	1043.7	1035.1	1026.4	1017.8	1009.1	1005.6
27.5°	1024.9	1020.2	1015.4	1010.7	1005.8	998.9	989.6	980.4	971.2	962.0	957.5
30°	996.8	991.6	986.3	981.1	975.8	968.2	958.3	948.4	938.4	928.5	923.3
32.5°	967.2	961.4	955.4	949.4	943.5	935.4	925.1	914.9	904.6	894.4	888.3
35°	921.0	914.3	907.5	900.7	894.0	885.4	874.9	864.2	853.7	843.2	836.1
37.5°	871.5	864.5	857.6	850.6	843.6	834.4	822.7	811.0	799.3	787.6	779.6
40°	836.6	829.6	822.7	815.7	808.8	799.2	787.2	775.3	763.2	751.2	742.3
42.5°	803.2	795.9	788.6	781.3	774.0	764.1	751.6	739.0	726.6	714.0	705.0
45°	751.2	743.4	735.6	727.8	720.0	709.8	697.1	684.5	671.8	659.2	648.9
47.5°	697.5	689.5	681.4	673.3	665.3	654.7	641.6	628.4	615.3	602.1	591.4
50°	661.1	652.9	644.6	636.4	628.2	617.3	603.9	590.4	576.8	563.4	552.9
52.5°	623.9	615.9	607.8	599.8	591.7	580.8	566.9	553.1	539.3	525.5	514.8
55°	569.1	560.6	552.2	543.8	535.4	524.3	510.6	496.9	483.2	469.5	458.5
57.5°	514.9	506.0	497.3	488.6	479.7	468.6	455.1	441.7	428.2	414.6	403.6
60°	476.2	467.7	459.3	450.8	442.4	431.5	417.9	404.5	391.0	377.5	366.5
62.5°	441.2	432.5	423.7	414.9	406.2	394.8	381.0	367.2	353.4	339.6	329.4
65°	387.0	377.9	368.8	359.8	350.7	339.5	325.9	312.5	299.0	285.5	276.4
67.5°	330.6	322.0	313.3	304.6	295.9	285.3	272.8	260.3	247.7	235.2	227.4
70°	295.0	286.1	277.2	268.4	259.6	249.1	237.1	225.1	213.1	201.1	194.1
72.5°	257.1	249.1	241.0	233.0	225.0	215.3	204.0	192.6	181.3	170.0	164.0
75°	205.8	198.0	190.2	182.4	174.6	165.8	155.9	146.0	136.1	126.2	121.3
77.5°	153.8	147.2	140.6	134.0	127.3	120.0	112.1	104.1	96.0	88.0	85.2
80°	120.5	114.3	108.3	102.1	96.0	89.8	83.5	77.1	70.8	64.5	63.8
82.5°	91.7	86.1	80.4	74.8	69.2	64.6	61.0	57.3	53.7	50.1	49.6
85°	51.2	47.0	42.8	38.6	34.3	31.9	31.3	30.7	30.1	29.4	29.0
87.5°	18.0	17.0	16.1	15.2	14.4	13.9	14.1	14.3	14.4	14.5	14.6
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°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8
2.5°	1234.1	1235.9	1237.8	1238.7	1238.5	1238.3	1238.1	1238.0
5°	1225.8	1228.0	1230.1	1230.9	1230.5	1230.1	1229.7	1229.2
7.5°	1209.5	1210.9	1212.3	1212.5	1211.9	1211.2	1210.6	1209.9
10°	1194.9	1195.7	1196.6	1196.6	1195.7	1194.9	1194.0	1193.2
12.5°	1176.8	1177.2	1177.8	1177.4	1176.3	1175.1	1173.8	1172.7
15°	1145.0	1144.5	1144.1	1143.2	1141.7	1140.1	1138.7	1137.2
17.5°	1106.6	1105.5	1104.2	1102.5	1100.3	1098.1	1095.8	1093.6
20°	1079.8	1078.1	1076.4	1074.2	1071.5	1068.7	1066.0	1063.3
22.5°	1050.1	1047.5	1045.0	1042.6	1040.4	1038.1	1035.9	1033.7
25°	1002.0	998.4	994.9	992.0	989.9	987.8	985.7	983.6
27.5°	953.1	948.7	944.2	940.5	937.5	934.4	931.4	928.4
30°	918.0	912.8	907.5	903.1	899.8	896.4	893.0	889.7
32.5°	882.2	876.1	870.0	865.3	862.1	858.9	855.7	852.5
35°	828.8	821.7	814.6	809.0	805.3	801.5	797.6	793.9
37.5°	771.6	763.6	755.5	749.7	745.9	742.1	738.3	734.5
40°	733.5	724.6	715.8	709.4	705.7	701.9	698.1	694.3
42.5°	696.0	687.0	678.0	671.5	667.4	663.5	659.6	655.6
45°	638.6	628.2	617.9	610.8	607.0	603.2	599.4	595.7
47.5°	580.7	570.0	559.3	551.8	547.7	543.5	539.3	535.1
50°	542.3	531.8	521.2	514.0	510.0	506.0	501.9	497.9
52.5°	504.1	493.4	482.6	475.2	471.0	466.8	462.7	458.5
55°	447.5	436.6	425.7	418.2	414.2	410.2	406.2	402.2
57.5°	392.4	381.3	370.1	363.1	360.1	357.0	354.0	351.0
60°	355.6	344.6	333.7	326.5	323.2	319.8	316.4	313.0
62.5°	319.3	309.2	299.1	292.7	290.0	287.3	284.5	281.9
65°	267.3	258.3	249.2	243.4	240.9	238.4	235.9	233.4
67.5°	219.6	211.9	204.0	198.8	196.0	193.1	190.4	187.6
70°	187.2	180.2	173.3	168.7	166.7	164.5	162.4	160.3
72.5°	158.1	152.1	146.2	142.2	140.4	138.4	136.4	134.5
75°	116.5	111.6	106.7	103.7	102.5	101.2	99.9	98.6
77.5°	82.4	79.5	76.7	75.1	74.7	74.4	74.0	73.6
80°	63.2	62.6	62.0	61.5	61.3	61.1	60.9	60.7
82.5°	49.1	48.7	48.2	47.9	47.7	47.4	47.3	47.1
85°	28.5	28.2	27.7	27.5	27.5	27.5	27.5	27.5
87.5°	14.7	14.7	14.8	15.0	15.2	15.4	15.7	16.0
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



TEST NUMBER: P332947-940

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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)