

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: P332702-935

Luminaire Tested: **SA4XXDIP-C1195D1035U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332702-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1195D1035U935-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7369.6 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

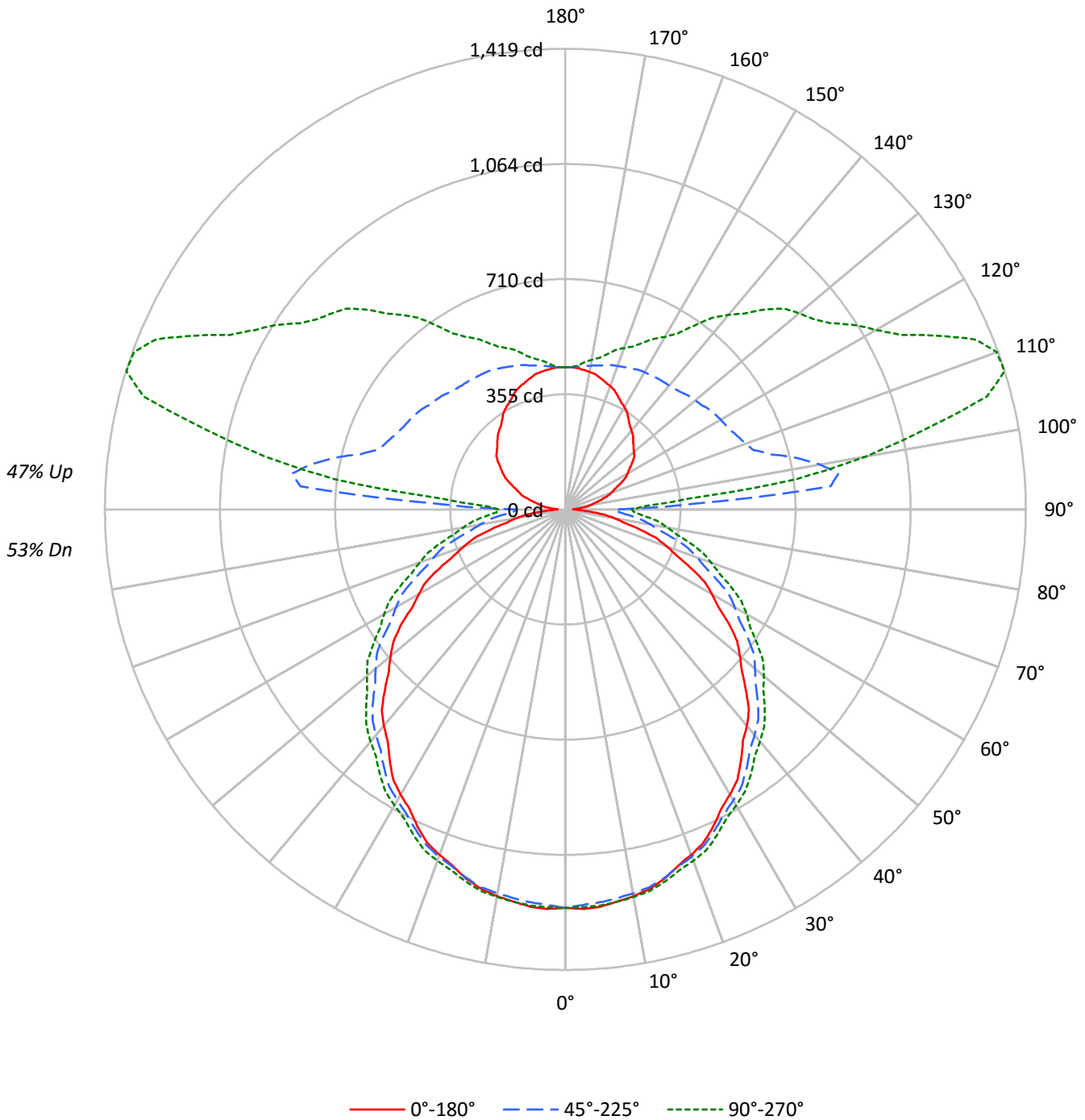
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	53
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	49	47	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	43	41	39	34
3	80	70	62	56	74	65	58	53	55	50	46	46	42	39	38	35	33	29
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	43	38	44	38	33	37	32	28	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	19	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	17	14
9	49	37	29	24	45	34	27	22	30	24	20	25	21	17	21	18	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	20	16	13	11

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9912	9912	9912
5°	9942	9687	9715
10°	9882	9528	9521
15°	9793	9345	9294
20°	9660	9143	9072
25°	9509	8916	8829
30°	9346	8690	8579
35°	9161	8459	8360
40°	9014	8239	8132
45°	8795	8036	7936
50°	8610	7802	7728
55°	8420	7582	7486
60°	8121	7301	7265
65°	7793	6999	6992
70°	7397	6655	6676
75°	6845	6278	6390
80°	6233	5915	6107
85°	5446	5591	5943



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.3	1.6
10°-20°	333.1	4.5
20°-30°	503.7	6.8
30°-40°	609.4	8.3
40°-50°	644.3	8.7
50°-60°	606.4	8.2
60°-70°	503.1	6.8
70°-80°	353.4	4.8
80°-90°	202.2	2.7
90°-100°	434.6	5.9
100°-110°	745.5	10.1
110°-120°	648.0	8.8
120°-130°	528.8	7.2
130°-140°	427.5	5.8
140°-150°	318.6	4.3
150°-160°	221.9	3.0
160°-170°	130.5	1.8
170°-180°	42.5	0.6
0°-30°	953.1	12.9
0°-40°	1562.5	21.2
0°-60°	2813.1	38.2
0°-90°	3871.7	52.5
90°-120°	1828.1	24.8
90°-150°	3103.0	42.1
90°-180°	3498.0	47.5
0°-180°	7369.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1229	1225	1215	1226	1225	117
15°	1178	1179	1176	1187	1186	332
25°	1078	1086	1090	1105	1107	496
35°	943	959	973	992	997	590
45°	786	813	839	861	869	608
55°	616	646	686	712	722	549
65°	426	470	517	550	562	422
75°	236	288	345	382	396	252
85°	73	131	192	232	248	78
90°	23	84	152	192	205	16
95°	46	153	820	502	379	46
105°	113	187	655	1338	1346	121
115°	185	245	568	1060	1266	184
125°	252	299	539	886	999	225
135°	296	352	508	763	871	229
145°	339	387	493	624	690	213
155°	384	415	480	543	566	177
165°	419	432	460	487	494	118
175°	437	438	441	447	445	41
180°	438	438	438	438	438	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1232.2	1231.4	1230.7	1229.9	1229.2	1227.9	1225.9	1224.0	1222.0	1220.0	1221.8
5°	1229.1	1228.2	1227.3	1226.4	1225.5	1223.9	1221.8	1219.6	1217.5	1215.4	1217.8
7.5°	1218.7	1218.1	1217.5	1217.0	1216.5	1215.3	1213.6	1211.8	1210.0	1208.2	1211.0
10°	1209.9	1209.5	1209.3	1208.9	1208.7	1207.7	1206.2	1204.7	1203.2	1201.6	1204.4
12.5°	1197.7	1197.7	1197.7	1197.6	1197.6	1197.0	1195.9	1194.9	1193.9	1192.8	1195.3
15°	1178.3	1178.5	1178.9	1179.1	1179.5	1179.1	1178.3	1177.3	1176.4	1175.5	1178.3
17.5°	1151.6	1152.5	1153.4	1154.3	1155.2	1155.6	1155.5	1155.2	1155.0	1154.9	1157.7
20°	1132.9	1133.8	1134.7	1135.7	1136.5	1137.1	1137.5	1137.8	1138.1	1138.4	1141.4
22.5°	1112.0	1113.1	1114.3	1115.4	1116.6	1117.5	1118.0	1118.6	1119.1	1119.6	1122.7
25°	1077.9	1079.7	1081.6	1083.4	1085.2	1086.6	1087.5	1088.4	1089.3	1090.3	1093.6
27.5°	1039.9	1042.7	1045.3	1048.0	1050.7	1052.7	1054.1	1055.6	1057.0	1058.3	1061.4
30°	1014.6	1017.1	1019.5	1022.0	1024.4	1026.7	1028.8	1031.0	1033.1	1035.3	1038.6
32.5°	987.1	990.1	993.0	995.9	998.8	1001.5	1003.9	1006.3	1008.7	1011.1	1014.9
35°	943.1	946.8	950.5	954.2	957.8	961.1	964.2	967.2	970.3	973.4	977.7
37.5°	898.9	903.1	907.3	911.5	915.8	919.7	923.5	927.3	931.1	934.9	939.3
40°	870.3	874.3	878.2	882.2	886.1	890.3	894.6	898.9	903.1	907.4	912.0
42.5°	837.3	841.7	846.2	850.7	855.1	859.9	864.9	869.9	874.9	879.9	885.0
45°	786.4	792.2	798.1	803.8	809.6	815.5	821.2	827.1	832.8	838.7	843.9
47.5°	737.7	743.7	749.8	755.7	761.7	768.1	774.8	781.5	788.2	795.0	800.3
50°	702.6	709.3	716.0	722.7	729.4	736.2	742.9	749.6	756.3	763.0	769.1
52.5°	667.4	674.1	680.8	687.5	694.2	701.5	709.1	716.9	724.5	732.3	738.4
55°	616.0	622.3	628.8	635.2	641.6	649.4	658.6	667.7	676.9	686.0	692.2
57.5°	558.4	566.5	574.4	582.3	590.2	598.7	607.9	617.0	626.1	635.2	642.5
60°	521.1	529.0	536.9	544.9	552.8	561.9	572.0	582.0	592.1	602.2	609.2
62.5°	484.7	493.4	502.1	510.8	519.4	528.8	539.0	549.1	559.1	569.2	576.2
65°	426.2	436.0	445.7	455.6	465.3	475.4	485.8	496.2	506.5	516.9	524.6
67.5°	369.8	380.2	390.6	401.0	411.4	422.1	433.3	444.4	455.5	466.7	474.4
70°	331.3	341.7	352.1	362.5	372.9	383.9	395.5	407.1	418.7	430.3	438.6
72.5°	293.9	304.5	315.2	325.8	336.5	347.9	360.3	372.6	385.0	397.4	405.4
75°	236.5	247.8	259.1	270.4	281.7	293.8	306.6	319.4	332.3	345.1	353.6
77.5°	182.9	194.8	206.8	218.8	230.7	243.5	256.9	270.4	283.8	297.2	305.9
80°	149.9	162.0	174.3	186.5	198.7	211.5	225.0	238.5	251.9	265.4	274.5
82.5°	116.8	129.6	142.3	155.0	167.7	180.8	194.2	207.7	221.1	234.5	243.9
85°	72.8	85.7	98.5	111.3	124.2	137.5	151.2	165.0	178.7	192.5	201.6
87.5°	40.9	53.6	66.6	79.3	92.0	104.9	119.2	132.7	146.4	160.1	168.8
90°	22.8	36.8	51.6	64.7	77.7	90.4	108.7	121.8	136.7	151.6	159.5
92.5°	30.7	46.1	65.3	86.7	110.3	140.3	197.0	276.9	355.0	402.2	365.2
95°	46.2	58.9	77.6	98.8	129.6	176.9	264.2	417.8	635.7	820.1	848.2
97.5°	67.1	75.8	91.9	110.8	137.2	178.1	248.1	376.8	593.4	848.9	1024.0
100°	80.4	88.4	102.4	120.6	144.9	182.4	245.0	354.0	541.2	795.6	1023.8
102.5°	94.2	102.5	114.9	131.4	154.0	189.5	247.0	344.1	505.1	731.6	966.6
105°	113.0	121.7	132.1	148.4	170.0	203.7	256.2	338.9	470.5	654.6	864.3
107.5°	136.4	143.1	152.4	168.4	188.2	220.7	269.1	344.8	458.3	608.1	780.5
110°	151.1	157.1	165.7	180.3	200.0	230.7	279.2	350.1	455.3	590.6	737.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.1	170.7	179.4	192.9	212.1	242.3	289.0	355.9	454.4	578.9	710.8
115°	185.3	190.6	199.4	210.8	229.8	259.3	303.5	364.8	454.5	567.5	682.5
117.5°	207.8	211.8	218.8	229.9	246.8	276.3	318.1	374.6	455.4	558.4	665.0
120°	221.8	224.4	231.4	241.7	257.3	286.2	327.7	381.3	456.3	552.8	654.4
122.5°	235.5	237.4	243.6	252.5	268.7	296.4	337.4	387.7	457.4	546.6	643.3
125°	252.2	255.3	260.2	269.3	285.3	313.1	351.6	398.8	460.6	538.7	627.1
127.5°	267.9	270.4	276.2	286.7	303.5	330.5	366.3	408.4	461.6	528.7	606.3
130°	275.8	278.9	285.4	298.0	314.1	341.3	375.4	413.8	462.5	522.5	593.2
132.5°	284.6	287.1	295.8	307.6	325.0	350.4	383.6	420.3	463.9	517.4	581.7
135°	295.8	299.3	307.9	322.5	340.5	363.9	394.5	427.6	464.9	508.3	563.1
137.5°	308.4	311.3	320.6	334.2	352.6	374.3	401.7	431.7	464.0	501.9	547.4
140°	317.4	319.6	328.7	343.1	360.8	381.4	407.5	435.3	464.9	497.8	538.8
142.5°	325.9	328.4	337.1	350.9	368.2	388.1	413.0	438.2	465.9	495.7	531.9
145°	339.1	341.5	349.7	361.4	377.5	396.2	418.6	441.8	466.7	493.4	522.7
147.5°	354.5	355.0	362.3	374.4	387.6	404.5	425.5	445.7	467.6	490.3	514.8
150°	364.1	364.6	371.3	381.3	393.8	410.0	429.0	447.8	467.6	488.2	509.7
152.5°	372.0	372.0	378.8	388.4	399.8	414.8	431.7	449.2	466.2	484.7	504.2
155°	384.2	385.0	390.2	398.8	408.3	421.2	435.8	450.4	464.2	479.7	495.9
157.5°	396.4	396.4	401.2	407.9	416.2	426.4	438.7	450.4	461.9	474.3	487.5
160°	404.0	404.0	407.4	413.5	420.3	429.8	440.1	450.4	459.9	470.2	481.4
162.5°	410.9	410.2	412.9	418.3	424.5	431.9	441.4	450.4	457.8	466.1	475.9
165°	418.6	418.6	420.3	424.6	429.0	434.0	441.8	448.7	453.8	459.9	466.7
167.5°	426.4	425.5	426.4	429.6	432.0	435.9	441.6	446.6	449.7	453.7	458.5
170°	429.8	429.0	429.8	432.4	434.0	436.6	440.9	445.2	446.9	449.5	453.0
172.5°	433.2	432.4	432.5	434.4	435.4	437.3	440.2	443.8	444.2	445.4	448.2
175°	436.6	435.8	435.8	436.6	437.5	437.5	439.2	441.8	440.9	440.9	442.6
177.5°	438.2	437.5	436.8	437.5	437.5	437.5	438.2	439.5	438.2	438.2	438.9
180°	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1223.5	1225.2	1226.9	1227.6	1227.4	1227.1	1226.9	1226.7
5°	1220.3	1222.7	1225.1	1226.2	1225.9	1225.6	1225.3	1225.0
7.5°	1213.8	1216.5	1219.3	1220.5	1220.1	1219.9	1219.5	1219.3
10°	1207.1	1209.9	1212.6	1213.8	1213.6	1213.2	1212.9	1212.6
12.5°	1197.8	1200.3	1202.8	1204.1	1204.0	1203.9	1203.9	1203.9
15°	1181.0	1183.8	1186.5	1187.7	1187.4	1187.1	1186.8	1186.5
17.5°	1160.5	1163.3	1166.1	1167.4	1167.2	1166.9	1166.7	1166.4
20°	1144.5	1147.5	1150.6	1152.1	1152.1	1152.1	1152.1	1152.1
22.5°	1125.8	1128.9	1131.9	1133.7	1134.2	1134.6	1135.1	1135.7
25°	1097.0	1100.4	1103.7	1105.5	1105.9	1106.1	1106.5	1106.7
27.5°	1064.6	1067.7	1070.8	1072.5	1073.0	1073.3	1073.7	1074.0
30°	1042.0	1045.3	1048.7	1050.7	1051.3	1051.9	1052.5	1053.2
32.5°	1018.7	1022.6	1026.5	1028.7	1029.3	1029.9	1030.5	1031.1
35°	982.0	986.2	990.5	993.1	994.0	995.0	995.8	996.8
37.5°	943.6	947.9	952.3	954.9	955.9	956.8	957.9	958.8
40°	916.5	921.2	925.7	928.7	929.9	931.1	932.3	933.5
42.5°	890.0	895.1	900.2	903.2	904.2	905.2	906.1	907.1
45°	849.0	854.3	859.5	862.8	864.4	865.8	867.4	868.9
47.5°	805.7	811.1	816.5	820.0	821.9	823.7	825.5	827.4
50°	775.2	781.4	787.5	791.4	793.3	795.1	796.9	798.7
52.5°	744.5	750.6	756.6	760.7	762.5	764.3	766.1	768.0
55°	698.3	704.4	710.5	714.5	716.3	718.2	720.0	721.8
57.5°	649.7	657.0	664.3	668.7	670.5	672.2	673.9	675.6
60°	616.2	623.3	630.3	635.0	637.5	639.9	642.4	644.8
62.5°	583.2	590.3	597.3	602.0	604.5	606.9	609.3	611.8
65°	532.2	539.8	547.5	552.5	555.0	557.4	559.9	562.3
67.5°	482.2	489.9	497.7	502.7	505.1	507.5	509.9	512.3
70°	446.9	455.0	463.3	468.6	470.6	472.8	474.9	477.1
72.5°	413.4	421.4	429.4	434.5	437.0	439.3	441.7	444.1
75°	362.2	370.7	379.3	385.0	387.7	390.5	393.2	396.0
77.5°	314.6	323.3	331.9	337.8	340.7	343.6	346.6	349.5
80°	283.7	292.8	302.0	307.8	310.2	312.7	315.1	317.6
82.5°	253.4	262.8	272.2	278.3	280.9	283.6	286.3	289.0
85°	210.8	220.0	229.1	235.2	238.3	241.3	244.4	247.5
87.5°	177.8	186.8	195.9	201.6	204.5	207.4	209.9	212.6
90°	169.3	179.0	188.7	194.4	197.7	201.0	202.6	205.0
92.5°	315.6	282.4	265.0	253.4	245.7	243.5	243.1	245.5
95°	773.0	648.1	541.1	463.2	423.9	400.0	387.3	378.8
97.5°	1068.2	1026.7	950.5	866.2	807.0	757.9	734.8	719.5
100°	1157.6	1183.0	1149.2	1090.7	1018.1	967.9	944.2	939.4
102.5°	1146.8	1240.1	1260.2	1239.0	1195.5	1159.9	1135.1	1132.0
105°	1068.7	1225.0	1317.8	1358.1	1362.2	1357.8	1348.2	1345.5
107.5°	962.3	1128.2	1255.5	1337.0	1381.7	1403.5	1414.3	1418.8
110°	897.9	1053.5	1185.2	1284.5	1348.0	1386.5	1404.5	1414.6





TEST NUMBER: P332702-935

CATALOG NUMBER: SA4XXDIP-C1195D1035U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	848.5	986.8	1111.4	1210.5	1282.2	1328.4	1352.5	1367.4
115°	796.7	909.0	1016.4	1103.3	1173.4	1227.1	1256.7	1265.8
117.5°	766.4	860.2	945.6	1020.0	1080.4	1126.1	1156.4	1164.2
120°	750.7	836.8	911.6	977.0	1028.4	1068.7	1093.5	1105.4
122.5°	737.0	820.3	889.0	946.6	990.2	1024.8	1045.9	1057.5
125°	715.4	795.1	860.2	911.4	947.5	974.3	992.5	999.4
127.5°	689.3	765.5	830.1	878.8	915.4	939.7	955.5	962.8
130°	670.1	743.5	807.4	856.7	893.7	917.1	932.6	939.6
132.5°	650.7	719.8	782.1	831.2	867.6	893.7	908.6	915.6
135°	622.1	682.9	740.2	786.5	822.8	848.7	864.3	871.2
137.5°	596.8	648.6	697.2	739.1	772.7	798.1	810.9	818.6
140°	582.3	626.6	669.3	708.2	739.8	760.2	773.8	782.2
142.5°	569.5	608.6	645.2	678.9	706.8	725.7	737.5	743.6
145°	552.1	583.2	610.7	636.4	659.0	674.9	684.7	690.2
147.5°	537.7	561.1	582.0	601.6	618.4	631.9	639.4	641.9
150°	530.4	550.1	567.3	582.8	596.5	607.7	612.9	613.7
152.5°	522.8	539.8	555.6	568.3	580.1	589.1	592.2	593.1
155°	511.4	525.2	538.0	548.4	557.0	563.9	566.5	566.5
157.5°	499.2	510.7	521.6	529.9	536.3	541.5	543.0	543.0
160°	491.6	501.1	510.6	517.5	522.6	527.8	528.7	528.7
162.5°	484.1	492.1	499.6	505.8	509.5	514.7	515.6	514.9
165°	473.6	478.8	484.7	489.0	492.5	495.9	495.1	494.2
167.5°	463.5	467.4	472.3	474.8	476.6	478.8	478.6	477.9
170°	457.3	459.9	463.3	465.9	467.6	468.5	467.6	467.6
172.5°	451.8	453.7	455.7	457.6	458.7	459.5	458.7	457.3
175°	444.4	445.2	446.9	446.9	446.9	448.7	446.9	445.2
177.5°	439.5	440.2	440.2	440.9	440.2	440.9	439.5	438.2
180°	437.5	437.5	437.5	437.5	437.5	437.5	437.5	437.5

(END OF REPORT)