

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: P332655-940

Luminaire Tested: **SA4XXDIP-C1020D1035U940-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332655-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1020D1035U940-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

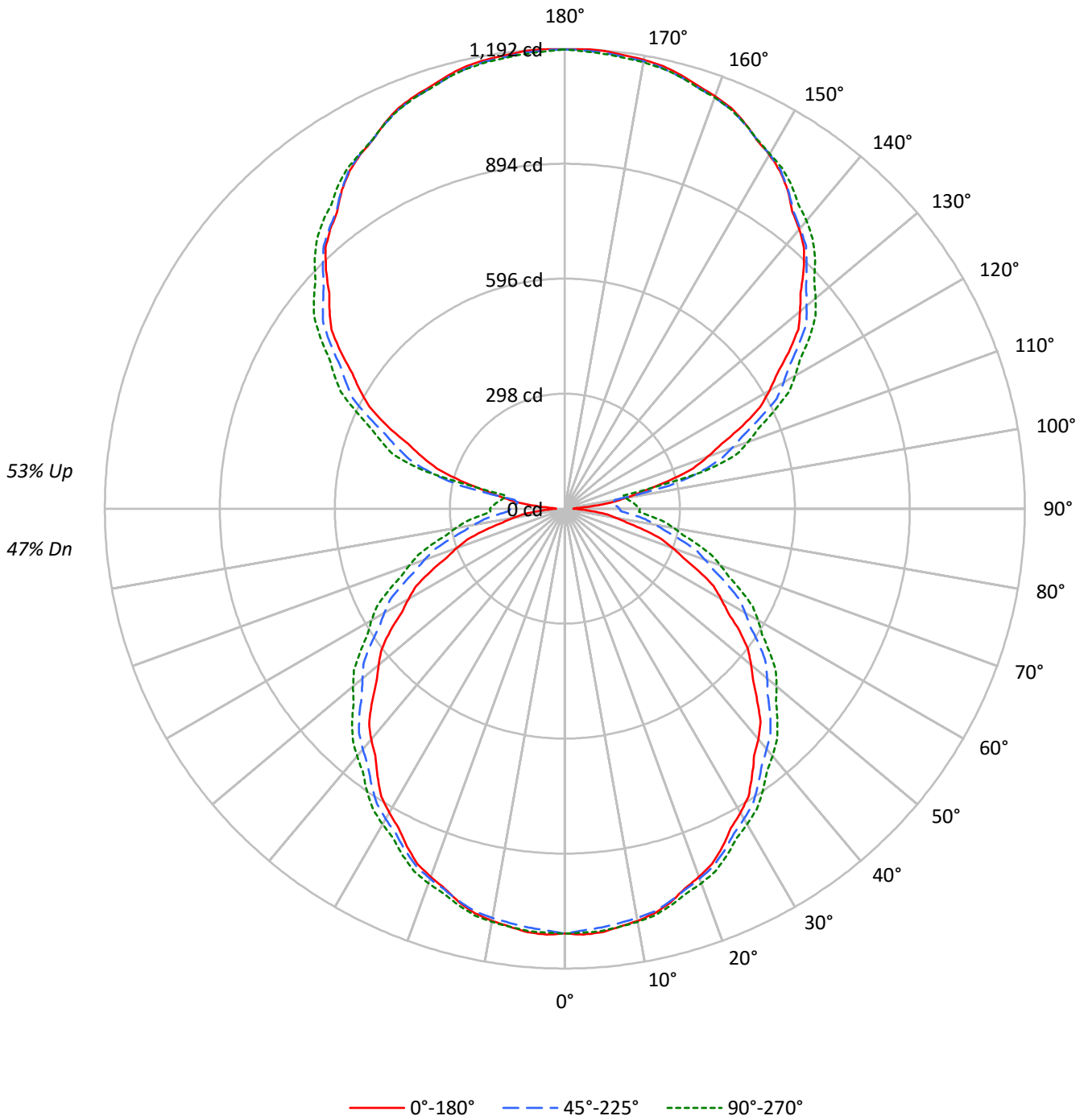
Lumens per Lamp: N/A  
Luminaire Lumens: 7438.0 lumens  
Efficiency: N/A  
Efficacy: 122.9 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 60.5  
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





TEST NUMBER: P332655-940

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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	81	81	81	67	67	67	53	53	53	47
1	96	91	87	83	88	84	80	77	70	67	65	57	55	54	45	44	43	37
2	87	79	73	67	80	73	67	62	61	57	53	50	47	44	39	37	35	31
3	79	69	62	56	72	64	57	52	53	48	44	44	40	37	35	32	30	25
4	72	61	53	47	66	56	49	43	47	42	37	39	34	31	31	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	28	24	22	18
6	61	49	40	34	56	45	37	32	38	32	28	31	27	23	25	22	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	14	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	15	12	10

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

	0°	45°	90°
0°	8888	8888	8888
5°	8916	8686	8711
10°	8861	8544	8538
15°	8782	8380	8334
20°	8662	8198	8135
25°	8527	7995	7918
30°	8381	7793	7693
35°	8216	7585	7497
40°	8083	7388	7292
45°	7887	7207	7117
50°	7721	6996	6931
55°	7549	6799	6714
60°	7282	6547	6515
65°	6989	6278	6271
70°	6633	5968	5986
75°	6136	5628	5730
80°	5588	5302	5476
85°	4893	5013	5328



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.3	1.4
10°-20°	298.7	4.0
20°-30°	451.7	6.1
30°-40°	546.5	7.3
40°-50°	577.7	7.8
50°-60°	543.7	7.3
60°-70°	451.1	6.1
70°-80°	316.9	4.3
80°-90°	182.6	2.5
90°-100°	147.1	2.0
100°-110°	338.3	4.5
110°-120°	549.3	7.4
120°-130°	660.1	8.9
130°-140°	687.2	9.2
140°-150°	633.2	8.5
150°-160°	508.5	6.8
160°-170°	328.0	4.4
170°-180°	113.0	1.5
0°-30°	854.6	11.5
0°-40°	1401.1	18.8
0°-60°	2522.6	33.9
0°-90°	3473.2	46.7
90°-120°	1034.7	13.9
90°-150°	3015.2	40.5
90°-180°	3965.0	53.3
0°-180°	7438.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1101	1101	1101	1101	1101	
5°	1102	1098	1090	1099	1098	105
15°	1057	1058	1054	1065	1064	298
25°	967	974	978	991	992	445
35°	846	860	873	889	894	529
45°	705	729	752	772	779	545
55°	552	579	615	639	647	492
65°	382	422	464	493	504	379
75°	212	258	309	343	355	226
85°	65	117	173	208	222	70
90°	22	82	142	181	194	15
95°	65	78	127	164	178	76
105°	279	310	359	395	376	293
115°	508	523	560	588	598	500
125°	708	712	740	765	774	632
135°	875	875	886	907	917	674
145°	1007	1008	1008	1017	1024	629
155°	1103	1104	1101	1104	1102	508
165°	1163	1159	1159	1165	1158	329
175°	1190	1185	1186	1193	1183	113
180°	1190	1190	1190	1190	1190	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0
2.5°	1104.9	1104.3	1103.6	1103.0	1102.2	1101.1	1099.3	1097.6	1095.8	1094.0	1095.6
5°	1102.2	1101.4	1100.5	1099.7	1098.9	1097.5	1095.6	1093.7	1091.8	1089.8	1092.1
7.5°	1092.8	1092.3	1091.8	1091.4	1090.8	1089.8	1088.2	1086.6	1085.0	1083.4	1085.9
10°	1084.9	1084.7	1084.4	1084.1	1083.9	1083.0	1081.6	1080.3	1078.9	1077.5	1080.0
12.5°	1074.1	1074.1	1074.0	1073.9	1073.9	1073.4	1072.5	1071.5	1070.6	1069.6	1071.9
15°	1056.6	1056.9	1057.1	1057.4	1057.7	1057.4	1056.6	1055.8	1054.9	1054.1	1056.6
17.5°	1032.7	1033.5	1034.3	1035.1	1036.0	1036.3	1036.1	1036.0	1035.8	1035.6	1038.1
20°	1015.9	1016.7	1017.5	1018.3	1019.2	1019.8	1020.0	1020.3	1020.6	1020.8	1023.6
22.5°	997.1	998.2	999.3	1000.3	1001.3	1002.1	1002.6	1003.1	1003.5	1004.1	1006.8
25°	966.6	968.2	969.8	971.5	973.1	974.4	975.2	976.1	976.9	977.7	980.7
27.5°	932.6	935.0	937.4	939.8	942.2	944.1	945.3	946.6	947.8	949.0	951.9
30°	909.9	912.0	914.3	916.4	918.6	920.7	922.6	924.5	926.4	928.4	931.4
32.5°	885.2	887.9	890.5	893.1	895.7	898.1	900.3	902.4	904.6	906.7	910.1
35°	845.8	849.1	852.3	855.6	858.9	861.9	864.7	867.4	870.1	872.9	876.7
37.5°	806.0	809.9	813.6	817.4	821.2	824.7	828.1	831.5	835.0	838.4	842.2
40°	780.4	784.0	787.6	791.1	794.7	798.3	802.2	806.0	809.9	813.7	817.8
42.5°	750.8	754.8	758.8	762.9	766.8	771.1	775.5	780.1	784.5	789.1	793.6
45°	705.2	710.4	715.6	720.9	726.0	731.2	736.5	741.6	746.8	752.1	756.7
47.5°	661.6	666.9	672.3	677.7	683.1	688.8	694.7	700.8	706.9	712.8	717.6
50°	630.0	636.1	642.0	648.1	654.1	660.1	666.2	672.2	678.2	684.2	689.7
52.5°	598.4	604.5	610.5	616.5	622.6	629.0	635.9	642.8	649.7	656.7	662.1
55°	552.3	558.1	563.8	569.6	575.3	582.3	590.6	598.8	607.0	615.2	620.7
57.5°	500.8	507.9	515.1	522.2	529.3	536.9	545.1	553.3	561.4	569.6	576.1
60°	467.3	474.4	481.5	488.7	495.8	503.8	512.9	521.9	530.9	540.0	546.3
62.5°	434.7	442.5	450.3	458.1	465.8	474.2	483.3	492.3	501.4	510.4	516.7
65°	382.2	390.9	399.8	408.5	417.2	426.3	435.6	445.0	454.2	463.6	470.4
67.5°	331.6	341.0	350.3	359.6	368.9	378.5	388.5	398.5	408.5	418.5	425.4
70°	297.1	306.5	315.8	325.0	334.4	344.3	354.6	365.1	375.5	385.9	393.3
72.5°	263.6	273.1	282.7	292.2	301.8	312.0	323.1	334.1	345.3	356.3	363.5
75°	212.0	222.2	232.3	242.5	252.6	263.4	274.9	286.4	297.9	309.4	317.1
77.5°	164.0	174.7	185.5	196.2	207.0	218.3	230.4	242.5	254.5	266.5	274.3
80°	134.4	145.3	156.3	167.3	178.3	189.8	201.8	213.8	225.9	237.9	246.2
82.5°	104.8	116.2	127.6	139.0	150.3	162.1	174.2	186.2	198.3	210.4	218.7
85°	65.4	76.9	88.4	99.9	111.4	123.3	135.6	147.9	160.2	172.6	180.8
87.5°	37.0	48.6	60.3	71.9	83.5	95.4	107.7	120.1	132.4	144.7	152.9
90°	22.4	35.5	48.7	61.8	74.9	88.2	101.6	114.9	128.3	141.6	150.8
92.5°	30.0	39.9	49.9	59.9	69.9	81.6	94.9	108.3	121.6	135.0	143.9
95°	65.0	67.3	69.6	72.0	74.3	81.1	92.6	104.0	115.4	126.8	135.5
97.5°	118.5	130.5	142.5	154.4	166.4	166.9	156.0	145.0	134.1	123.1	130.5
100°	159.5	170.2	180.9	191.6	202.3	199.3	182.7	166.1	149.5	132.9	136.9
102.5°	206.5	215.4	224.3	233.1	242.0	249.9	256.7	263.7	270.5	277.5	248.3
105°	279.0	285.7	292.4	299.1	305.7	314.6	325.7	336.9	347.9	359.1	367.7
107.5°	348.4	353.5	358.6	363.6	368.7	376.7	387.7	398.6	409.6	420.5	428.1
110°	394.4	398.9	403.2	407.7	412.1	419.7	430.5	441.3	452.1	462.8	469.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	439.0	443.4	447.9	452.4	456.8	464.0	473.7	483.4	493.0	502.7	508.8
115°	507.7	510.8	513.8	516.8	519.9	525.8	534.3	542.9	551.4	560.0	566.4
117.5°	570.6	572.9	575.2	577.5	579.7	585.1	593.7	602.4	610.9	619.6	625.2
120°	612.3	613.9	615.6	617.2	618.8	623.5	631.2	639.0	646.8	654.5	660.4
122.5°	652.3	652.9	653.5	654.2	654.8	659.0	666.8	674.6	682.3	690.2	695.9
125°	708.2	708.6	709.2	709.7	710.2	713.7	720.1	726.7	733.1	739.5	745.3
127.5°	762.1	762.0	761.9	761.8	761.7	764.8	771.0	777.1	783.3	789.4	794.2
130°	795.9	795.9	795.8	795.8	795.7	798.1	803.1	808.1	813.1	818.0	823.1
132.5°	828.0	828.0	828.1	828.2	828.3	830.5	834.7	839.0	843.3	847.6	852.5
135°	874.9	874.6	874.4	874.2	874.1	875.3	878.0	880.7	883.4	886.1	890.9
137.5°	917.4	917.2	916.9	916.8	916.6	917.4	919.2	921.0	922.8	924.6	929.1
140°	945.1	945.3	945.4	945.5	945.7	946.0	946.7	947.4	948.1	948.7	952.9
142.5°	969.1	969.7	970.4	971.1	971.7	972.1	972.1	972.2	972.3	972.4	976.0
145°	1007.1	1007.5	1007.7	1008.1	1008.4	1008.5	1008.5	1008.5	1008.5	1008.5	1010.4
147.5°	1037.6	1038.4	1039.2	1040.1	1040.9	1041.3	1041.0	1040.8	1040.6	1040.4	1040.8
150°	1059.6	1060.2	1060.7	1061.2	1061.7	1061.8	1061.7	1061.5	1061.3	1061.0	1061.0
152.5°	1077.2	1077.7	1078.3	1078.9	1079.5	1079.6	1079.2	1078.9	1078.5	1078.2	1078.5
155°	1103.0	1103.1	1103.3	1103.5	1103.7	1103.5	1103.0	1102.3	1101.7	1101.2	1101.9
157.5°	1124.8	1124.7	1124.5	1124.4	1124.4	1123.9	1123.3	1122.6	1122.0	1121.2	1122.3
160°	1137.6	1137.0	1136.5	1135.9	1135.2	1134.9	1134.7	1134.4	1134.3	1134.1	1135.2
162.5°	1149.1	1148.3	1147.5	1146.7	1146.0	1145.6	1145.3	1145.1	1145.0	1144.8	1145.9
165°	1163.4	1162.4	1161.5	1160.5	1159.5	1159.0	1159.0	1159.0	1159.0	1159.0	1160.6
167.5°	1174.8	1173.8	1172.8	1171.8	1170.7	1170.2	1170.0	1169.9	1169.8	1169.7	1171.4
170°	1181.2	1180.1	1178.8	1177.7	1176.5	1176.0	1176.2	1176.4	1176.6	1176.8	1178.4
172.5°	1185.5	1184.4	1183.1	1182.0	1180.8	1180.3	1180.4	1180.7	1180.9	1181.1	1182.7
175°	1190.2	1189.0	1187.8	1186.6	1185.4	1184.9	1185.1	1185.4	1185.5	1185.7	1187.5
177.5°	1192.3	1191.1	1190.1	1189.0	1187.8	1187.5	1187.8	1188.1	1188.4	1188.7	1190.0
180°	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0
2.5°	1097.2	1098.7	1100.2	1100.8	1100.6	1100.4	1100.2	1100.0
5°	1094.2	1096.4	1098.7	1099.6	1099.3	1099.0	1098.8	1098.5
7.5°	1088.4	1090.8	1093.3	1094.4	1094.1	1093.9	1093.6	1093.3
10°	1082.4	1084.9	1087.4	1088.5	1088.2	1088.0	1087.7	1087.4
12.5°	1074.2	1076.4	1078.6	1079.8	1079.7	1079.6	1079.6	1079.5
15°	1059.1	1061.5	1064.0	1065.1	1064.8	1064.5	1064.3	1064.0
17.5°	1040.6	1043.2	1045.7	1046.9	1046.6	1046.4	1046.2	1046.0
20°	1026.3	1029.0	1031.8	1033.1	1033.1	1033.1	1033.1	1033.1
22.5°	1009.5	1012.3	1015.0	1016.6	1017.1	1017.4	1017.9	1018.3
25°	983.7	986.7	989.7	991.4	991.7	991.9	992.2	992.5
27.5°	954.7	957.4	960.3	961.8	962.2	962.5	962.8	963.1
30°	934.4	937.4	940.4	942.2	942.7	943.3	943.9	944.4
32.5°	913.6	917.0	920.5	922.5	923.0	923.5	924.1	924.7
35°	880.6	884.4	888.2	890.6	891.4	892.2	893.0	893.9
37.5°	846.1	850.1	853.9	856.3	857.2	858.1	858.9	859.8
40°	821.9	826.0	830.2	832.8	833.8	834.9	836.1	837.1
42.5°	798.2	802.7	807.3	809.9	810.8	811.7	812.6	813.4
45°	761.3	766.1	770.7	773.7	775.1	776.4	777.8	779.2
47.5°	722.5	727.3	732.2	735.4	737.0	738.7	740.3	742.0
50°	695.2	700.7	706.1	709.7	711.4	713.0	714.6	716.3
52.5°	667.6	673.1	678.6	682.1	683.8	685.4	687.1	688.7
55°	626.2	631.7	637.1	640.7	642.3	644.0	645.6	647.3
57.5°	582.6	589.2	595.7	599.7	601.2	602.8	604.3	605.8
60°	552.6	558.9	565.2	569.4	571.7	573.8	576.0	578.2
62.5°	523.0	529.3	535.7	539.8	542.1	544.2	546.4	548.7
65°	477.2	484.1	491.0	495.5	497.7	499.9	502.0	504.3
67.5°	432.4	439.3	446.3	450.8	453.0	455.1	457.3	459.4
70°	400.6	408.0	415.4	420.2	422.0	424.0	425.9	427.8
72.5°	370.7	377.8	385.0	389.7	391.8	394.0	396.1	398.2
75°	324.8	332.4	340.1	345.2	347.7	350.2	352.6	355.1
77.5°	282.1	289.9	297.7	302.9	305.5	308.2	310.8	313.4
80°	254.4	262.6	270.8	276.0	278.2	280.4	282.6	284.8
82.5°	227.2	235.7	244.1	249.5	251.9	254.3	256.7	259.1
85°	189.0	197.2	205.5	211.0	213.7	216.4	219.2	221.9
87.5°	161.0	169.2	177.5	182.8	185.3	187.8	190.3	192.7
90°	159.9	169.1	178.2	184.0	186.6	189.2	191.8	194.4
92.5°	152.8	161.8	170.7	176.3	178.5	180.8	183.1	185.3
95°	144.0	152.6	161.2	166.8	169.4	172.1	174.8	177.5
97.5°	137.7	145.0	152.3	157.2	159.8	162.4	164.9	167.5
100°	141.0	145.0	149.0	152.0	154.2	156.3	158.5	160.5
102.5°	219.3	190.2	161.0	147.6	149.8	151.9	154.2	156.3
105°	376.4	385.0	393.6	395.5	390.6	385.6	380.7	375.8
107.5°	435.7	443.4	450.9	456.1	458.8	461.5	464.3	467.0
110°	476.3	483.0	489.6	494.4	497.1	500.0	502.7	505.5





TEST NUMBER: P332655-940

CATALOG NUMBER: SA4XXDIP-C1020D1035U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	514.8	520.8	526.8	531.3	534.2	537.2	540.1	543.1
115°	572.8	579.3	585.7	589.9	591.7	593.7	595.6	597.5
117.5°	630.8	636.4	642.0	645.9	648.0	650.1	652.2	654.3
120°	666.2	672.1	678.0	681.8	683.6	685.5	687.2	689.0
122.5°	701.6	707.3	713.0	716.7	718.3	719.8	721.4	723.0
125°	751.1	757.0	762.8	766.5	768.4	770.3	772.0	773.9
127.5°	799.1	803.9	808.7	812.0	813.7	815.4	817.1	818.8
130°	828.2	833.4	838.5	841.9	843.6	845.2	846.9	848.5
132.5°	857.4	862.3	867.2	870.4	871.8	873.3	874.9	876.3
135°	895.7	900.4	905.3	908.7	910.7	912.8	914.8	916.9
137.5°	933.4	937.9	942.4	945.2	946.5	947.7	949.0	950.2
140°	957.0	961.2	965.4	968.2	969.7	971.3	972.9	974.5
142.5°	979.5	983.0	986.6	989.0	990.2	991.4	992.6	993.7
145°	1012.3	1014.1	1015.9	1017.6	1019.0	1020.6	1022.1	1023.6
147.5°	1041.2	1041.5	1042.0	1042.7	1043.7	1044.8	1045.9	1047.0
150°	1061.0	1061.0	1061.0	1061.1	1061.4	1061.6	1061.8	1061.9
152.5°	1078.8	1079.1	1079.4	1079.5	1079.4	1079.3	1079.1	1079.1
155°	1102.7	1103.5	1104.3	1104.4	1103.8	1103.2	1102.6	1102.1
157.5°	1123.3	1124.4	1125.3	1125.3	1124.4	1123.3	1122.3	1121.2
160°	1136.5	1137.6	1138.8	1138.8	1137.6	1136.5	1135.2	1134.1
162.5°	1147.1	1148.3	1149.5	1149.4	1148.1	1146.7	1145.4	1144.1
165°	1162.2	1163.8	1165.3	1165.2	1163.4	1161.6	1159.8	1158.1
167.5°	1173.1	1174.9	1176.6	1176.5	1174.6	1172.6	1170.5	1168.6
170°	1180.0	1181.5	1183.1	1182.9	1181.0	1179.0	1177.0	1175.0
172.5°	1184.3	1185.8	1187.4	1187.1	1185.0	1182.9	1180.7	1178.6
175°	1189.3	1191.1	1192.8	1192.5	1190.2	1187.8	1185.4	1183.0
177.5°	1191.2	1192.5	1193.8	1193.5	1191.6	1189.7	1187.8	1185.9
180°	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2	1190.2

(END OF REPORT)