

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: P332691-935

Luminaire Tested: **SA4XXDIP-C1195D810U935-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332691-935  
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-C1195D810U935-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

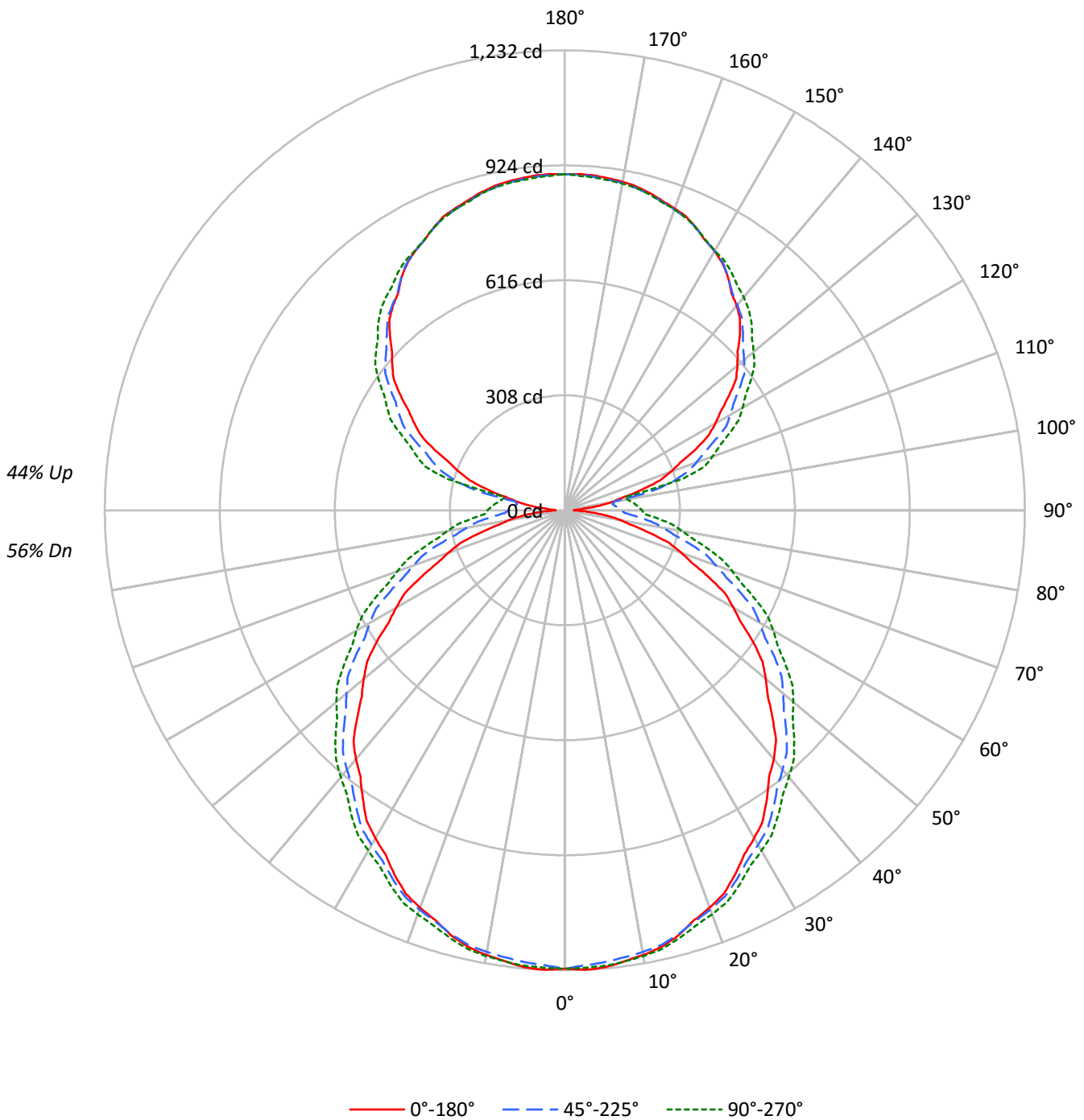
Lumens per Lamp: N/A  
Luminaire Lumens: 6972.0 lumens  
Efficiency: N/A  
Efficacy: 114.9 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 60.7  
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



TEST NUMBER: P332691-935  
CATALOG NUMBER: SA4XXDIP-C1195D810U935-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P332691-935

CATALOG NUMBER: SA4XXDIP-C1195D810U935-4F0-1E-UDD-D

**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	101	101	101	101	86	86	86	73	73	73	61	61	61	56
1	98	93	89	85	91	86	83	79	74	71	69	63	61	59	52	51	49	44
2	89	81	74	68	82	75	69	64	64	60	56	54	51	48	45	43	41	36
3	81	70	63	56	74	66	59	53	56	51	46	48	44	40	40	37	34	30
4	74	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	26
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	32	28	25	22
6	62	49	41	35	57	46	38	33	40	34	29	34	29	26	29	25	22	19
7	57	45	36	30	53	42	34	29	36	30	26	31	26	23	26	22	19	17
8	53	40	32	27	49	38	31	25	33	27	23	28	23	20	24	20	17	15
9	49	37	29	24	46	35	27	23	30	24	20	26	21	18	22	18	16	13
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12

**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



TEST NUMBER: P332691-935

CATALOG NUMBER: SA4XXDIP-C1195D810U935-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.3	1.7
10°-20°	333.1	4.8
20°-30°	503.7	7.2
30°-40°	609.4	8.7
40°-50°	644.3	9.2
50°-60°	606.4	8.7
60°-70°	503.1	7.2
70°-80°	353.4	5.1
80°-90°	202.4	2.9
90°-100°	149.4	2.1
100°-110°	284.1	4.1
110°-120°	434.4	6.2
120°-130°	509.9	7.3
130°-140°	524.4	7.5
140°-150°	479.8	6.9
150°-160°	384.6	5.5
160°-170°	248.0	3.6
170°-180°	85.5	1.2
0°-30°	953.1	13.7
0°-40°	1562.5	22.4
0°-60°	2813.1	40.3
0°-90°	3871.9	55.5
90°-120°	867.9	12.4
90°-150°	2382.0	34.2
90°-180°	3100.0	44.5
0°-180°	6972.0	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°	24	87	151	193	207	16
95°	55	79	134	174	189	62
105°	215	248	301	338	328	226
115°	387	403	444	475	486	381
125°	537	540	572	599	609	480
135°	662	663	674	697	707	511
145°	762	763	763	772	778	476
155°	834	835	833	835	833	385
165°	880	877	876	881	876	249
175°	900	896	897	902	895	86
180°	900	900	900	900	900	



TEST NUMBER: P332691-935

CATALOG NUMBER: SA4XXDIP-C1195D810U935-4F0-1E-UDD-D

**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°	41.1	53.9	66.7	79.5	92.3	105.5	119.1	132.8	146.4	160.0	169.0
90°	24.0	37.9	51.7	65.6	79.5	93.6	107.9	122.3	136.6	150.9	160.7
92.5°	29.4	40.5	51.6	62.7	73.7	86.4	100.8	115.1	129.4	143.8	153.3
95°	54.9	59.9	64.9	69.9	74.9	83.7	96.4	109.1	121.7	134.4	143.5
97.5°	94.9	106.7	118.6	130.4	142.2	146.0	141.7	137.4	133.1	128.9	137.0
100°	125.5	136.1	146.8	157.5	168.1	169.0	160.3	151.5	142.8	134.1	139.8
102.5°	161.1	170.0	178.9	187.9	196.8	205.8	214.7	223.8	232.7	241.7	222.3
105°	215.0	222.1	229.0	236.0	243.1	252.5	264.6	276.6	288.7	300.7	309.8
107.5°	267.3	272.9	278.3	283.8	289.2	297.8	309.5	321.2	332.9	344.7	352.8
110°	301.9	306.5	311.3	316.0	320.7	328.9	340.4	352.1	363.7	375.2	382.5



TEST NUMBER: P332691-935

CATALOG NUMBER: SA4XXDIP-C1195D810U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	335.2	339.8	344.4	349.0	353.6	361.2	371.8	382.5	393.0	403.7	410.4
115°	386.6	389.8	393.0	396.1	399.4	405.8	415.4	425.1	434.7	444.3	451.3
117.5°	434.1	436.4	438.6	440.8	443.1	448.9	458.4	467.8	477.3	486.7	493.0
120°	465.4	466.8	468.4	469.8	471.4	476.5	485.2	494.0	502.7	511.3	517.7
122.5°	495.5	496.0	496.5	497.1	497.7	502.2	510.8	519.4	528.0	536.6	542.9
125°	537.4	537.6	538.0	538.2	538.5	542.3	549.7	557.0	564.3	571.7	577.9
127.5°	578.0	577.8	577.6	577.6	577.4	580.6	587.1	593.7	600.2	606.7	612.2
130°	603.3	603.1	603.0	602.8	602.6	605.3	610.6	616.0	621.3	626.6	632.2
132.5°	627.5	627.5	627.4	627.4	627.4	629.6	634.0	638.5	643.0	647.5	652.9
135°	662.5	662.4	662.2	662.0	661.9	663.2	665.9	668.7	671.4	674.2	679.3
137.5°	694.7	694.4	694.2	694.0	693.7	694.4	696.1	697.8	699.5	701.2	706.0
140°	715.7	715.7	715.7	715.7	715.7	715.9	716.5	717.1	717.7	718.3	722.8
142.5°	733.4	733.9	734.3	734.9	735.3	735.6	735.6	735.6	735.6	735.6	739.3
145°	762.1	762.2	762.4	762.5	762.7	762.8	762.8	762.8	762.8	762.8	764.7
147.5°	785.1	785.7	786.2	786.7	787.2	787.5	787.3	787.1	787.0	786.9	787.2
150°	801.8	802.1	802.4	802.7	803.0	803.1	802.9	802.8	802.6	802.5	802.5
152.5°	814.8	815.1	815.5	816.0	816.4	816.5	816.2	816.0	815.6	815.4	815.6
155°	834.1	834.2	834.4	834.6	834.7	834.6	834.1	833.6	833.2	832.8	833.4
157.5°	850.7	850.6	850.5	850.4	850.3	850.0	849.5	849.0	848.5	848.0	848.8
160°	860.4	859.9	859.5	859.0	858.6	858.2	858.2	858.0	857.8	857.6	858.6
162.5°	869.0	868.4	867.8	867.3	866.7	866.3	866.2	866.1	865.9	865.7	866.7
165°	879.9	879.2	878.4	877.6	876.9	876.5	876.5	876.5	876.5	876.5	877.7
167.5°	888.5	887.7	886.9	886.1	885.4	884.9	884.8	884.8	884.7	884.6	885.9
170°	893.4	892.4	891.6	890.6	889.8	889.4	889.5	889.7	889.8	890.0	891.1
172.5°	896.6	895.7	894.8	893.9	893.0	892.6	892.8	892.9	893.0	893.2	894.4
175°	900.1	899.1	898.3	897.4	896.5	896.1	896.3	896.4	896.6	896.7	898.0
177.5°	901.7	900.9	900.0	899.1	898.4	898.0	898.3	898.5	898.8	899.0	899.9
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1



TEST NUMBER: P332691-935

CATALOG NUMBER: SA4XXDIP-C1195D810U935-4F0-1E-UDD-D

**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°	178.1	187.1	196.1	202.0	204.7	207.5	210.3	213.0
90°	170.5	180.2	189.9	196.2	199.0	201.7	204.4	207.2
92.5°	162.8	172.3	181.8	187.9	190.4	192.9	195.4	197.9
95°	152.7	161.9	171.0	177.0	179.9	182.8	185.7	188.6
97.5°	145.1	153.2	161.3	166.7	169.4	172.2	175.0	177.8
100°	145.5	151.2	157.0	160.9	163.2	165.5	167.8	170.0
102.5°	202.9	183.4	164.0	155.5	157.9	160.3	162.7	165.1
105°	318.7	327.7	336.7	339.8	336.8	333.9	330.9	328.0
107.5°	361.0	369.2	377.4	382.8	385.6	388.3	391.2	393.9
110°	389.9	397.3	404.6	409.7	412.6	415.4	418.4	421.2





TEST NUMBER: P332691-935

CATALOG NUMBER: SA4XXDIP-C1195D810U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	417.2	423.9	430.6	435.4	438.4	441.4	444.4	447.5
115°	458.3	465.4	472.4	477.0	479.1	481.2	483.4	485.5
117.5°	499.3	505.6	511.9	516.2	518.6	521.0	523.3	525.7
120°	524.2	530.5	537.0	541.2	543.4	545.5	547.7	549.8
122.5°	549.1	555.4	561.7	565.8	567.7	569.6	571.5	573.4
125°	584.2	590.5	596.7	600.8	602.8	604.8	606.7	608.7
127.5°	617.6	623.0	628.4	632.1	634.0	636.0	638.0	639.9
130°	637.9	643.5	649.2	652.9	654.8	656.6	658.4	660.3
132.5°	658.3	663.7	669.2	672.7	674.4	676.1	677.9	679.5
135°	684.5	689.7	694.9	698.5	700.7	702.8	705.0	707.1
137.5°	710.8	715.6	720.4	723.5	724.9	726.3	727.8	729.3
140°	727.2	731.6	736.1	739.1	740.8	742.4	744.2	745.8
142.5°	743.2	747.0	750.8	753.4	754.7	756.0	757.3	758.6
145°	766.7	768.7	770.7	772.4	774.0	775.5	777.0	778.5
147.5°	787.6	787.9	788.3	789.0	790.1	791.3	792.5	793.6
150°	802.5	802.5	802.5	802.5	802.7	802.8	803.0	803.1
152.5°	815.9	816.1	816.3	816.4	816.3	816.2	816.1	816.1
155°	834.0	834.6	835.2	835.3	834.7	834.3	833.9	833.4
157.5°	849.5	850.3	851.1	851.1	850.3	849.5	848.8	848.0
160°	859.5	860.4	861.3	861.3	860.4	859.5	858.6	857.6
162.5°	867.5	868.4	869.4	869.3	868.2	867.2	866.3	865.2
165°	878.9	880.1	881.3	881.2	879.9	878.6	877.2	875.8
167.5°	887.3	888.6	889.8	889.8	888.3	886.7	885.3	883.8
170°	892.3	893.5	894.8	894.6	893.1	891.7	890.1	888.6
172.5°	895.6	896.8	898.0	897.8	896.2	894.6	892.9	891.3
175°	899.4	900.8	902.1	901.9	900.1	898.3	896.5	894.7
177.5°	901.0	901.9	902.8	902.6	901.1	899.7	898.3	896.8
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1

(END OF REPORT)