

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: P332702-930

Luminaire Tested: **SA4XXDIP-C1195D1035U930-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332702-930  
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-C1195D1035U930-4F0-1E-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: 6978.4 lumens  
Efficiency: N/A  
Efficacy: 104.5 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

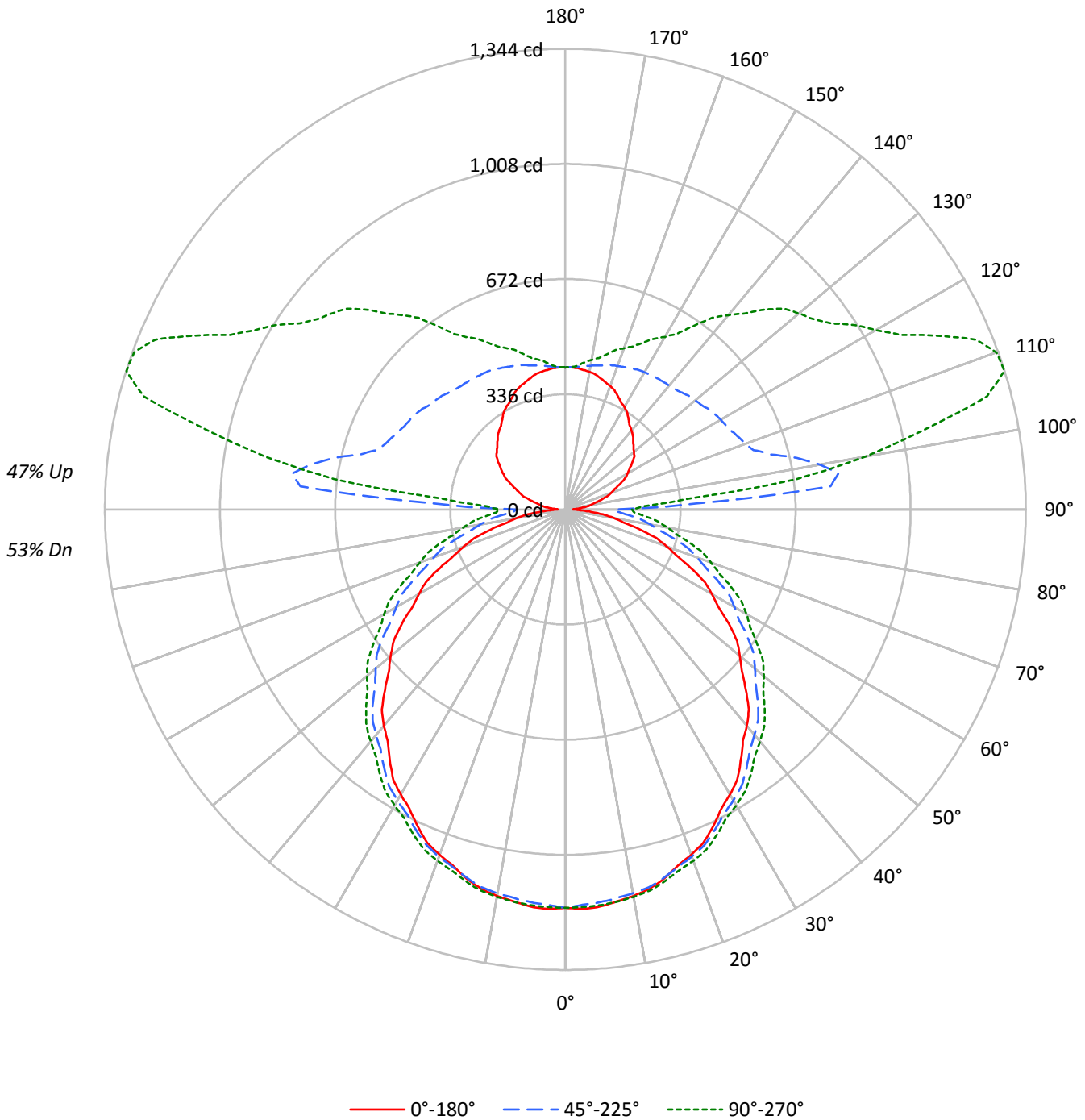
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.1	1.6
10°-20°	315.4	4.5
20°-30°	477.0	6.8
30°-40°	577.1	8.3
40°-50°	610.1	8.7
50°-60°	574.2	8.2
60°-70°	476.4	6.8
70°-80°	334.6	4.8
80°-90°	191.4	2.7
90°-100°	411.5	5.9
100°-110°	705.9	10.1
110°-120°	613.6	8.8
120°-130°	500.7	7.2
130°-140°	404.8	5.8
140°-150°	301.6	4.3
150°-160°	210.1	3.0
160°-170°	123.6	1.8
170°-180°	40.2	0.6
0°-30°	902.5	12.9
0°-40°	1479.6	21.2
0°-60°	2663.8	38.2
0°-90°	3666.2	52.5
90°-120°	1731.1	24.8
90°-150°	2938.3	42.1
90°-180°	3312.0	47.5
0°-180°	6978.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	22	80	144	181	194	15
95°	44	145	777	476	359	44
105°	107	177	620	1267	1274	115
115°	176	232	537	1004	1199	175
125°	239	283	510	839	946	213
135°	280	334	481	723	825	217
145°	321	366	467	590	654	202
155°	364	393	454	514	536	168
165°	396	409	436	461	468	112
175°	413	414	418	423	422	39
180°	414	414	414	414	414	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	38.7	50.8	63.1	75.1	87.1	99.3	112.9	125.6	138.6	151.6	159.8
90°	21.6	34.8	48.8	61.2	73.6	85.6	103.0	115.4	129.5	143.6	151.1
92.5°	29.1	43.7	61.8	82.1	104.4	132.8	186.5	262.2	336.1	380.8	345.8
95°	43.8	55.8	73.5	93.6	122.7	167.5	250.2	395.6	601.9	776.6	803.2
97.5°	63.5	71.7	87.0	104.9	130.0	168.6	234.9	356.8	561.9	803.9	969.6
100°	76.1	83.7	96.9	114.2	137.2	172.7	232.0	335.2	512.5	753.3	969.5
102.5°	89.2	97.1	108.8	124.4	145.9	179.4	233.9	325.9	478.3	692.8	915.3
105°	107.0	115.2	125.1	140.6	161.0	192.9	242.6	320.9	445.6	619.9	818.4
107.5°	129.1	135.5	144.3	159.5	178.2	209.0	254.9	326.5	434.0	575.8	739.1
110°	143.1	148.8	156.9	170.7	189.4	218.5	264.4	331.5	431.1	559.3	698.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	156.4	161.6	169.9	182.6	200.8	229.4	273.6	337.0	430.3	548.2	673.0
115°	175.5	180.5	188.8	199.6	217.6	245.6	287.4	345.4	430.4	537.4	646.3
117.5°	196.7	200.6	207.2	217.7	233.7	261.6	301.2	354.7	431.2	528.7	629.7
120°	210.0	212.5	219.1	228.9	243.6	271.0	310.3	361.0	432.1	523.5	619.6
122.5°	223.0	224.8	230.6	239.1	254.5	280.6	319.5	367.1	433.2	517.6	609.2
125°	238.8	241.7	246.4	255.0	270.2	296.4	333.0	377.6	436.2	510.1	593.8
127.5°	253.7	256.0	261.5	271.5	287.4	312.9	346.8	386.7	437.1	500.6	574.1
130°	261.1	264.1	270.3	282.2	297.4	323.2	355.5	391.8	438.0	494.7	561.7
132.5°	269.5	271.9	280.1	291.3	307.8	331.8	363.2	397.9	439.3	489.9	550.8
135°	280.1	283.4	291.6	305.4	322.5	344.6	373.6	404.9	440.3	481.4	533.2
137.5°	292.0	294.8	303.5	316.4	333.9	354.4	380.4	408.8	439.4	475.2	518.4
140°	300.5	302.6	311.3	324.9	341.7	361.2	385.9	412.2	440.2	471.4	510.2
142.5°	308.6	311.0	319.2	332.3	348.7	367.5	391.1	415.0	441.2	469.4	503.7
145°	321.1	323.3	331.2	342.3	357.4	375.2	396.4	418.3	442.0	467.2	495.0
147.5°	335.7	336.1	343.1	354.5	367.0	383.0	402.9	422.1	442.8	464.2	487.5
150°	344.8	345.3	351.6	361.0	372.9	388.2	406.2	424.0	442.8	462.3	482.7
152.5°	352.2	352.3	358.7	367.8	378.6	392.8	408.8	425.3	441.5	459.0	477.4
155°	363.8	364.6	369.5	377.6	386.6	398.8	412.6	426.5	439.5	454.2	469.6
157.5°	375.4	375.4	379.9	386.3	394.1	403.7	415.4	426.5	437.4	449.1	461.6
160°	382.5	382.5	385.8	391.5	398.0	407.0	416.7	426.5	435.5	445.2	455.8
162.5°	389.1	388.4	391.0	396.1	401.9	409.0	418.0	426.5	433.5	441.3	450.6
165°	396.4	396.4	398.0	402.1	406.2	411.0	418.3	424.9	429.7	435.5	442.0
167.5°	403.7	402.9	403.7	406.8	409.1	412.8	418.2	422.9	425.8	429.6	434.1
170°	407.0	406.2	407.0	409.4	411.0	413.4	417.5	421.6	423.2	425.7	428.9
172.5°	410.2	409.4	409.5	411.3	412.3	414.1	416.9	420.3	420.6	421.8	424.4
175°	413.4	412.6	412.6	413.4	414.3	414.3	415.9	418.3	417.5	417.5	419.1
177.5°	414.9	414.3	413.6	414.3	414.3	414.3	414.9	416.2	414.9	414.9	415.6
180°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	168.4	176.9	185.5	190.9	193.6	196.4	198.8	201.3
90°	160.3	169.5	178.7	184.1	187.2	190.4	191.8	194.1
92.5°	298.8	267.4	250.9	239.9	232.7	230.6	230.2	232.4
95°	732.0	613.7	512.4	438.6	401.4	378.8	366.7	358.7
97.5°	1011.5	972.2	900.1	820.2	764.2	717.7	695.8	681.3
100°	1096.2	1120.2	1088.2	1032.8	964.1	916.5	894.1	889.6
102.5°	1085.9	1174.3	1193.4	1173.2	1132.0	1098.3	1074.8	1071.9
105°	1011.9	1160.0	1247.8	1286.0	1289.9	1285.7	1276.7	1274.1
107.5°	911.3	1068.3	1188.9	1266.1	1308.4	1329.0	1339.2	1343.5
110°	850.2	997.6	1122.3	1216.3	1276.4	1312.9	1329.9	1339.5





TEST NUMBER: P332702-930

CATALOG NUMBER: SA4XXDIP-C1195D1035U930-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	803.5	934.4	1052.4	1146.2	1214.1	1257.8	1280.7	1294.9
115°	754.4	860.8	962.5	1044.7	1111.1	1162.0	1190.0	1198.6
117.5°	725.7	814.6	895.4	965.9	1023.0	1066.3	1095.0	1102.4
120°	710.9	792.4	863.2	925.1	973.8	1011.9	1035.4	1046.7
122.5°	697.9	776.7	841.8	896.3	937.7	970.4	990.3	1001.4
125°	677.4	752.9	814.6	863.0	897.2	922.6	939.8	946.4
127.5°	652.7	724.9	786.0	832.2	866.8	889.8	904.8	911.7
130°	634.5	704.0	764.6	811.2	846.3	868.4	883.1	889.7
132.5°	616.2	681.6	740.6	787.1	821.6	846.3	860.4	867.0
135°	589.1	646.6	700.9	744.8	779.1	803.6	818.4	825.0
137.5°	565.2	614.2	660.2	699.9	731.7	755.7	767.8	775.2
140°	551.4	593.4	633.8	670.6	700.5	719.8	732.7	740.7
142.5°	539.2	576.3	611.0	642.9	669.3	687.1	698.4	704.2
145°	522.8	552.2	578.3	602.6	624.0	639.0	648.3	653.5
147.5°	509.2	531.3	551.1	569.6	585.5	598.3	605.4	607.8
150°	502.2	520.9	537.2	551.9	564.8	575.4	580.3	581.1
152.5°	495.0	511.1	526.1	538.2	549.3	557.8	560.8	561.6
155°	484.3	497.3	509.5	519.3	527.4	533.9	536.4	536.4
157.5°	472.7	483.6	493.9	501.7	507.8	512.7	514.2	514.2
160°	465.5	474.5	483.5	490.0	494.9	499.8	500.6	500.6
162.5°	458.4	466.0	473.0	478.9	482.5	487.4	488.2	487.5
165°	448.5	453.4	459.0	463.1	466.4	469.6	468.8	468.0
167.5°	438.9	442.6	447.2	449.6	451.3	453.4	453.2	452.6
170°	433.0	435.5	438.7	441.2	442.8	443.6	442.8	442.8
172.5°	427.8	429.6	431.5	433.3	434.3	435.1	434.3	433.0
175°	420.8	421.6	423.2	423.2	423.2	424.9	423.2	421.6
177.5°	416.2	416.9	416.9	417.5	416.9	417.5	416.2	414.9
180°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3

(END OF REPORT)