

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: P331721-830

Luminaire Tested: **SA2XXRDIP-C865D725U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331721-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C865D725U830-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

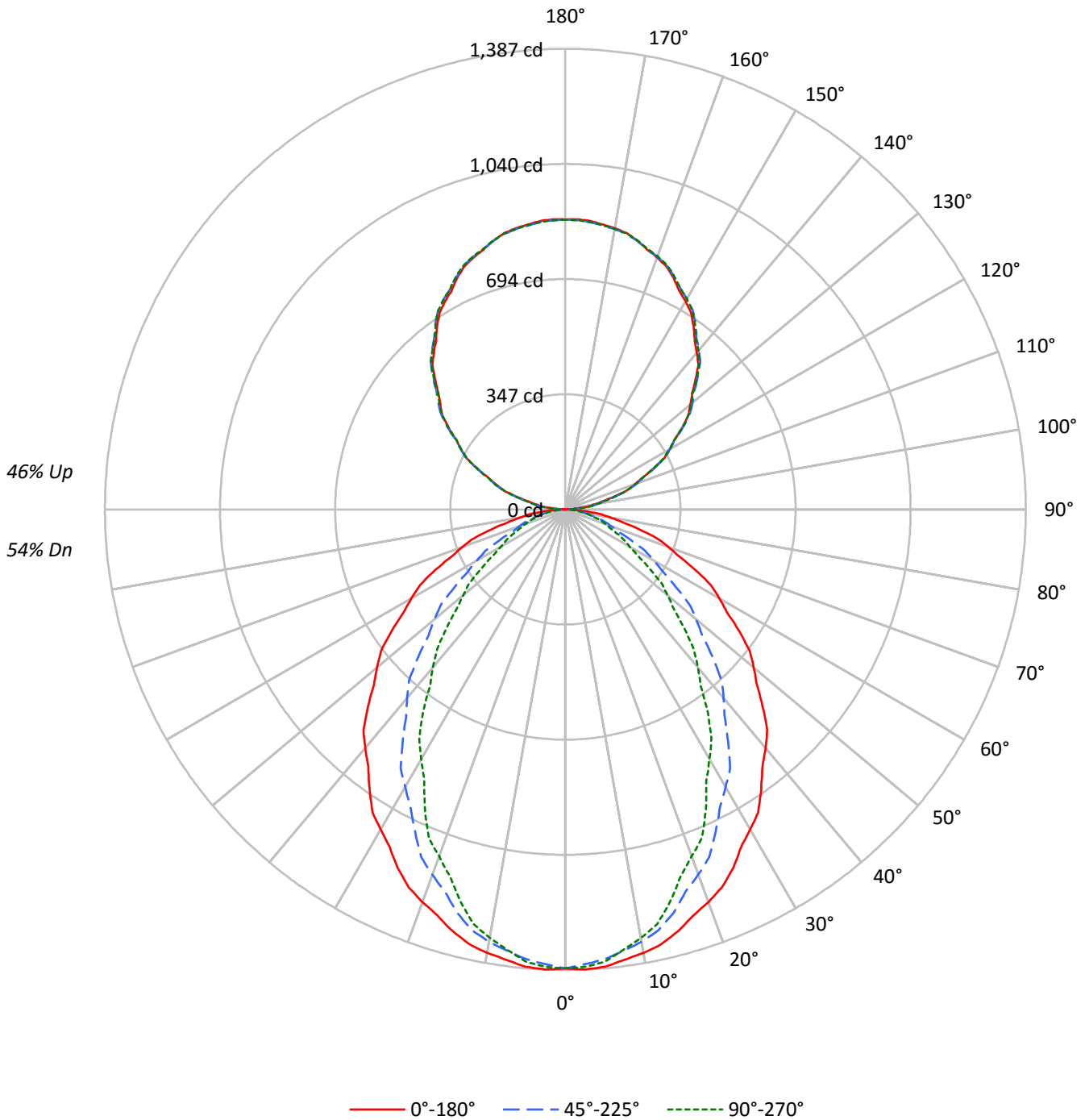
Lumens per Lamp: N/A  
Luminaire Lumens: 5287.1 lumens  
Efficiency: N/A  
Efficacy: 97.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 54.4  
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	50	30	10	0	
RCR																						
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54				
1	99	95	91	88	92	88	85	82	76	73	71	64	62	61	53	52	51	46				
2	91	84	78	73	84	78	73	68	67	63	60	57	54	52	48	46	44	40				
3	83	74	67	61	77	69	63	58	60	55	51	51	47	44	43	40	38	34				
4	76	66	58	52	71	61	55	49	53	48	44	46	42	38	39	36	33	30				
5	70	59	51	45	65	55	48	43	48	42	38	41	37	34	35	32	29	26				
6	65	53	45	39	60	50	43	37	43	38	34	37	33	30	32	29	26	23				
7	60	48	40	35	56	45	38	33	40	34	30	34	30	27	29	26	23	21				
8	56	44	36	31	52	41	34	30	36	31	27	31	27	24	27	24	21	19				
9	52	40	33	28	48	38	31	27	33	28	24	29	25	22	25	22	19	17				
10	49	37	30	25	45	35	28	24	31	25	22	27	23	20	23	20	18	16				

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

	0°	45°	90°
0°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.4	2.4
10°-20°	355.2	6.7
20°-30°	498.8	9.4
30°-40°	543.9	10.3
40°-50°	500.1	9.5
50°-60°	392.8	7.4
60°-70°	256.1	4.8
70°-80°	132.0	2.5
80°-90°	37.7	0.7
90°-100°	55.3	1.0
100°-110°	171.8	3.2
110°-120°	293.7	5.6
120°-130°	386.2	7.3
130°-140°	433.5	8.2
140°-150°	425.0	8.0
150°-160°	356.5	6.7
160°-170°	236.5	4.5
170°-180°	82.6	1.6
0°-30°	983.3	18.6
0°-40°	1527.2	28.9
0°-60°	2420.1	45.8
0°-90°	2846.0	53.8
90°-120°	520.8	9.9
90°-150°	1765.5	33.4
90°-180°	2441.0	46.2
0°-180°	5287.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	1	10	26	24	25	4
95°	38	45	47	47	46	44
105°	158	161	162	163	164	167
115°	295	299	298	297	295	291
125°	429	435	433	431	430	383
135°	555	562	564	564	561	428
145°	673	678	683	683	681	421
155°	770	772	774	778	776	354
165°	838	837	837	842	838	236
175°	872	869	868	872	869	83
180°	873	873	873	873	873	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.1	14.8	13.4	12.0	10.7	10.3	11.0	11.7	12.4	13.2	12.9
90°	0.8	2.7	4.7	6.6	8.6	11.4	15.0	18.6	22.1	25.8	25.4
92.5°	13.1	14.5	16.0	17.4	18.9	20.0	20.8	21.7	22.6	23.5	23.5
95°	38.3	40.0	41.6	43.3	44.9	45.8	46.2	46.5	46.8	47.1	47.1
97.5°	70.0	71.4	72.9	74.3	75.8	76.8	77.4	78.0	78.6	79.3	79.3
100°	93.6	94.9	96.1	97.5	98.8	99.7	100.2	100.7	101.1	101.7	101.7
102.5°	118.3	119.3	120.5	121.5	122.5	123.4	123.9	124.6	125.2	125.8	125.9
105°	158.4	158.9	159.4	159.9	160.3	160.8	161.1	161.5	161.7	162.1	162.4
107.5°	198.8	199.5	200.2	201.0	201.6	202.0	202.0	202.0	202.0	202.0	202.2
110°	224.7	225.6	226.7	227.6	228.7	229.1	229.1	229.1	229.1	229.1	229.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	253.0	254.0	255.0	255.9	256.9	257.3	257.2	257.1	256.9	256.8	256.5
115°	294.7	295.7	296.6	297.7	298.6	299.0	298.6	298.3	297.9	297.7	297.5
117.5°	336.2	337.5	338.8	340.2	341.5	341.7	340.7	339.9	338.9	338.0	337.6
120°	363.9	365.2	366.6	367.9	369.2	369.2	367.9	366.6	365.2	363.9	363.9
122.5°	389.3	390.9	392.5	394.0	395.6	395.9	395.0	394.1	393.1	392.2	391.8
125°	428.8	430.3	431.7	433.2	434.7	435.2	434.7	434.1	433.7	433.2	432.7
127.5°	467.2	469.1	471.0	472.9	474.7	475.3	474.8	474.2	473.5	473.0	472.4
130°	491.4	493.5	495.7	497.8	499.9	500.8	500.5	500.1	499.8	499.5	499.2
132.5°	518.5	520.3	522.0	523.7	525.5	526.3	526.4	526.5	526.5	526.6	525.9
135°	554.8	556.6	558.4	560.2	561.9	563.0	563.4	563.6	564.0	564.3	564.2
137.5°	593.0	594.4	595.9	597.4	598.8	599.7	600.2	600.6	601.1	601.4	601.3
140°	616.0	617.4	618.9	620.3	621.8	622.9	623.8	624.6	625.4	626.2	626.2
142.5°	639.5	640.9	642.4	643.9	645.4	646.4	647.0	647.5	648.1	648.7	648.8
145°	673.4	674.5	675.7	676.8	678.0	679.0	680.0	681.0	681.9	683.0	683.2
147.5°	703.6	704.9	706.3	707.7	709.1	710.1	710.8	711.4	712.1	712.8	713.0
150°	724.2	725.2	726.1	727.2	728.1	729.0	729.6	730.3	730.9	731.6	732.1
152.5°	742.4	743.5	744.4	745.5	746.4	747.2	748.1	748.9	749.6	750.5	751.0
155°	769.9	770.3	770.9	771.4	771.8	772.3	772.8	773.4	773.8	774.3	775.1
157.5°	793.3	793.6	794.0	794.3	794.7	794.9	795.2	795.5	795.8	796.1	797.2
160°	807.5	807.8	808.1	808.4	808.8	809.0	809.2	809.4	809.5	809.6	810.7
162.5°	820.4	820.5	820.6	820.6	820.7	820.8	821.0	821.1	821.3	821.4	822.6
165°	837.6	837.5	837.4	837.2	837.0	836.9	836.9	836.9	836.9	836.9	838.1
167.5°	852.1	851.6	851.1	850.6	850.2	849.9	849.9	849.8	849.8	849.7	850.9
170°	859.8	859.3	858.8	858.3	857.8	857.4	857.3	857.1	857.0	856.8	858.0
172.5°	865.1	864.6	864.1	863.6	863.1	862.8	862.6	862.4	862.3	862.1	863.3
175°	871.6	871.1	870.5	870.1	869.6	869.2	868.8	868.6	868.2	867.9	869.0
177.5°	874.2	873.8	873.5	873.0	872.6	872.3	872.0	871.8	871.5	871.3	872.0
180°	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	12.6	12.3	12.0	11.9	11.9	12.0	12.0	12.0
90°	25.2	24.8	24.5	24.4	24.6	24.7	24.9	25.1
92.5°	23.6	23.7	23.7	23.8	23.8	23.8	23.8	23.8
95°	47.1	47.1	47.1	47.0	46.7	46.4	46.0	45.7
97.5°	79.3	79.3	79.3	79.3	79.3	79.2	79.2	79.1
100°	101.7	101.7	101.7	101.6	101.4	101.2	101.1	100.9
102.5°	126.1	126.2	126.4	126.3	126.2	126.0	125.8	125.6
105°	162.8	163.1	163.4	163.5	163.5	163.5	163.5	163.5
107.5°	202.3	202.4	202.6	202.3	201.5	200.8	200.0	199.3
110°	229.1	229.1	229.1	228.8	228.4	227.9	227.4	226.9





TEST NUMBER: P331721-830

CATALOG NUMBER: SA2XXRDIP-C865D725U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	256.0	255.6	255.2	254.9	254.5	254.1	253.8	253.4
115°	297.3	297.2	297.0	296.6	296.1	295.7	295.2	294.7
117.5°	337.2	336.9	336.4	336.0	335.5	335.0	334.5	334.0
120°	363.9	363.9	363.9	363.7	363.2	362.7	362.2	361.7
122.5°	391.4	391.1	390.7	390.3	389.9	389.6	389.2	388.9
125°	432.3	431.7	431.2	430.9	430.7	430.6	430.5	430.3
127.5°	471.8	471.2	470.6	470.0	469.6	469.0	468.5	468.0
130°	498.9	498.5	498.2	497.7	497.0	496.4	495.8	495.1
132.5°	525.2	524.4	523.8	523.1	522.5	522.1	521.5	521.0
135°	564.0	563.8	563.6	563.4	562.9	562.4	561.8	561.4
137.5°	601.2	601.1	601.0	600.6	599.9	599.3	598.6	597.9
140°	626.2	626.2	626.2	625.8	625.3	624.6	624.0	623.3
142.5°	648.8	649.0	649.1	648.8	648.2	647.5	647.0	646.3
145°	683.2	683.4	683.6	683.3	682.7	682.0	681.4	680.7
147.5°	713.4	713.8	714.2	714.1	713.4	712.8	712.2	711.5
150°	732.5	733.0	733.6	733.6	733.0	732.5	732.1	731.6
152.5°	751.7	752.3	752.9	752.9	752.3	751.7	751.0	750.5
155°	775.9	776.7	777.6	777.8	777.2	776.7	776.3	775.8
157.5°	798.3	799.5	800.6	800.7	799.9	799.2	798.3	797.6
160°	811.6	812.7	813.6	813.8	813.1	812.5	811.8	811.2
162.5°	823.7	824.8	826.0	826.0	825.3	824.5	823.7	822.9
165°	839.2	840.4	841.5	841.7	840.8	840.0	839.2	838.4
167.5°	852.1	853.2	854.3	854.5	853.7	852.8	852.0	851.1
170°	859.1	860.3	861.4	861.5	860.5	859.5	858.6	857.5
172.5°	864.4	865.5	866.7	866.8	865.8	864.8	863.8	862.9
175°	870.2	871.3	872.4	872.5	871.6	870.5	869.6	868.6
177.5°	872.8	873.6	874.4	874.4	873.6	872.8	872.0	871.3
180°	873.0	873.0	873.0	873.0	873.0	873.0	873.0	873.0

(END OF REPORT)