

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: P331752-940

Luminaire Tested: **SA2XXRDIP-C1005D725U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331752-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C1005D725U940-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5631.4 lumens
Efficiency: N/A
Efficacy: 92.8 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

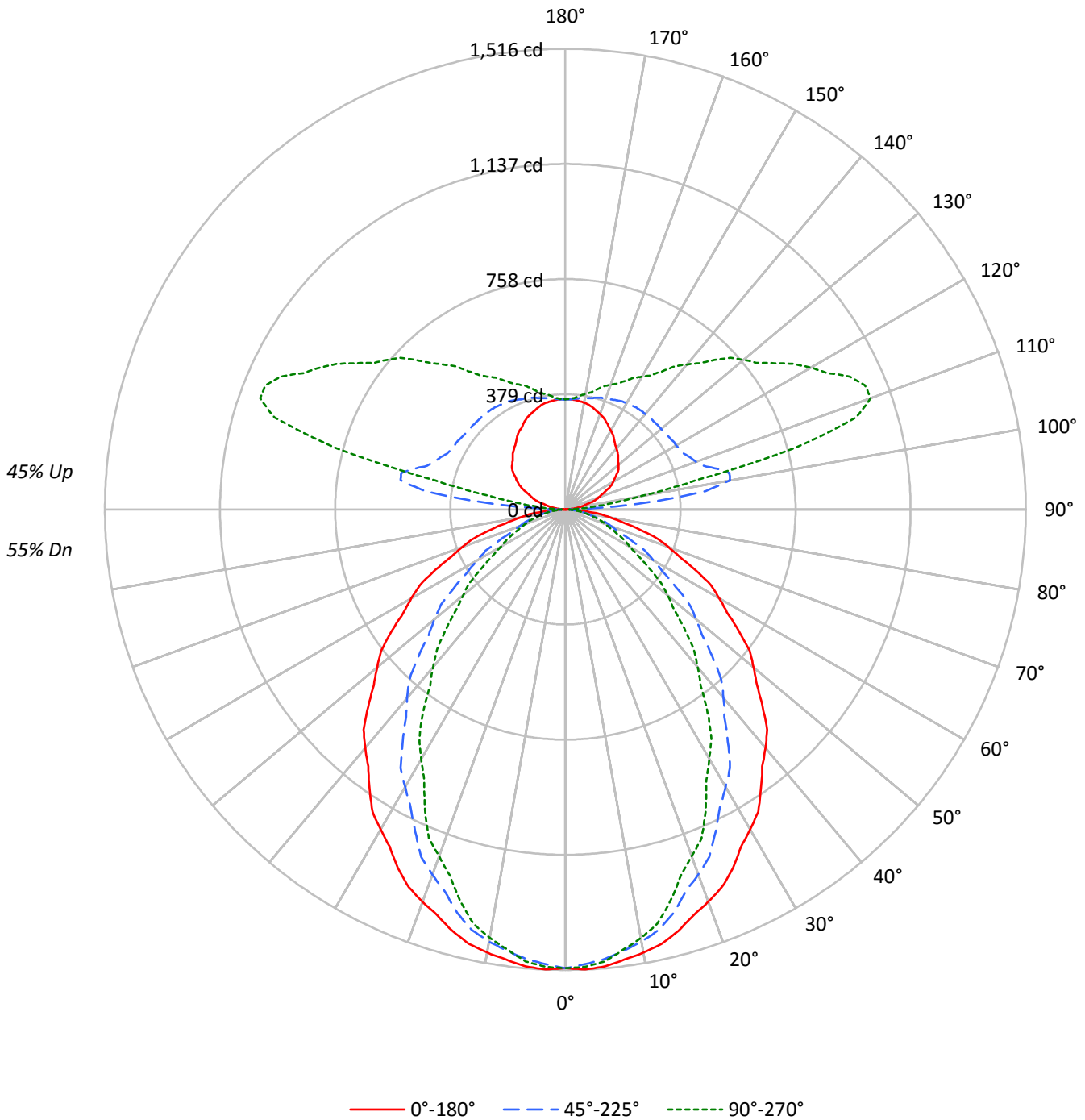
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	92	88	92	89	86	83	76	74	72	65	63	62	55	54	52	48
2	91	84	78	73	84	78	73	69	68	64	60	58	55	53	49	47	45	41
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	41	39	35
4	77	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	31
5	70	59	51	45	65	55	48	43	48	43	39	42	38	34	36	33	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	34	30	33	29	27	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	27	24	21
8	56	44	36	31	52	41	35	30	37	31	27	32	28	24	28	24	22	19
9	52	40	33	28	49	38	31	27	34	28	24	30	25	22	26	22	20	18
10	49	37	30	25	46	35	29	24	31	26	22	27	23	20	24	20	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	24380	24380	24380
5°	24473	24076	24209
10°	24287	23682	23481
15°	24008	22980	22318
20°	23622	21978	20874
25°	23225	20838	19475
30°	22676	19669	17682
35°	22141	18398	16109
40°	21602	17081	14286
45°	20970	15602	12638
50°	20321	14109	11017
55°	19657	12504	9464
60°	18887	10811	7857
65°	18010	9085	7156
70°	16966	7482	6581
75°	15689	6818	6138
80°	13845	6100	5588
85°	10893	4798	4798



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.3	2.5
10°-20°	388.1	6.9
20°-30°	545.0	9.7
30°-40°	594.3	10.6
40°-50°	546.4	9.7
50°-60°	429.2	7.6
60°-70°	279.8	5.0
70°-80°	144.3	2.6
80°-90°	40.7	0.7
90°-100°	144.9	2.6
100°-110°	491.8	8.7
110°-120°	522.5	9.3
120°-130°	430.1	7.6
130°-140°	345.4	6.1
140°-150°	261.0	4.6
150°-160°	183.4	3.3
160°-170°	108.0	1.9
170°-180°	35.1	0.6
0°-30°	1074.4	19.1
0°-40°	1668.7	29.6
0°-60°	2644.3	47.0
0°-90°	3109.1	55.2
90°-120°	1159.2	20.6
90°-150°	2195.7	39.0
90°-180°	2522.0	44.8
0°-180°	5631.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1510	1510	1510	1510	1510	
5°	1510	1503	1486	1497	1494	143
15°	1436	1419	1375	1350	1335	404
25°	1304	1257	1170	1116	1093	599
35°	1123	1051	933	850	817	703
45°	918	824	683	590	554	709
55°	698	589	444	365	336	624
65°	471	360	238	194	187	467
75°	252	158	109	100	98	266
85°	59	31	26	26	26	69
90°	1	9	24	23	23	4
95°	24	60	273	103	80	26
105°	85	128	516	923	786	90
115°	150	189	432	892	1034	149
125°	209	247	415	722	839	186
135°	245	293	410	607	695	190
145°	280	322	408	507	555	176
155°	318	344	397	449	466	147
165°	347	358	380	403	409	98
175°	362	362	365	370	369	34
180°	362	362	362	362	362	



TEST NUMBER: P331752-940

CATALOG NUMBER: SA2XXRDIP-C1005D725U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1515.6	1514.3	1513.1	1511.9	1510.6	1508.7	1506.0	1503.4	1500.7	1498.1	1500.5
5°	1510.0	1508.5	1507.0	1505.5	1504.0	1501.3	1497.3	1493.3	1489.4	1485.5	1488.2
7.5°	1494.5	1492.6	1490.8	1488.8	1486.9	1483.7	1479.1	1474.4	1469.9	1465.3	1466.1
10°	1481.4	1479.3	1477.1	1475.0	1472.8	1468.7	1462.7	1456.6	1450.5	1444.5	1443.6
12.5°	1465.0	1462.3	1459.7	1457.1	1454.6	1449.3	1441.5	1433.8	1426.0	1418.3	1416.6
15°	1436.3	1432.9	1429.6	1426.2	1422.9	1416.0	1405.8	1395.4	1385.1	1374.8	1369.0
17.5°	1401.0	1395.9	1390.8	1385.7	1380.6	1371.5	1358.2	1345.0	1331.7	1318.5	1311.6
20°	1374.8	1368.7	1362.6	1356.6	1350.5	1339.9	1324.6	1309.5	1294.3	1279.1	1271.5
22.5°	1346.3	1339.5	1332.8	1326.0	1319.1	1307.2	1290.0	1272.9	1255.8	1238.7	1228.9
25°	1303.7	1294.0	1284.2	1274.5	1264.8	1250.0	1229.9	1209.9	1189.8	1169.7	1157.4
27.5°	1252.3	1241.8	1231.2	1220.7	1210.1	1193.5	1170.9	1148.3	1125.7	1103.1	1088.6
30°	1216.3	1204.7	1193.2	1181.6	1170.1	1152.2	1127.8	1103.6	1079.3	1055.0	1039.5
32.5°	1181.2	1167.8	1154.3	1140.9	1127.3	1108.2	1083.4	1058.6	1033.8	1009.1	991.4
35°	1123.3	1107.9	1092.3	1076.8	1061.4	1040.3	1013.5	986.9	960.1	933.4	914.3
37.5°	1065.4	1048.4	1031.4	1014.3	997.4	974.6	946.1	917.7	889.1	860.7	839.6
40°	1024.9	1006.7	988.5	970.3	952.1	928.2	898.8	869.3	839.8	810.4	788.8
42.5°	983.4	964.2	945.0	925.8	906.6	881.8	851.4	820.9	790.5	760.1	737.8
45°	918.4	898.0	877.6	857.3	837.0	810.8	778.9	747.1	715.2	683.3	661.7
47.5°	854.9	833.4	811.8	790.2	768.7	741.5	708.6	675.6	642.7	609.8	588.4
50°	809.0	787.5	765.9	744.3	722.7	695.3	661.9	628.5	595.0	561.7	540.7
52.5°	764.2	741.6	719.2	696.6	674.0	646.5	613.8	581.1	548.4	515.8	495.5
55°	698.3	674.7	650.9	627.2	603.6	575.3	542.5	509.7	477.0	444.2	425.9
57.5°	630.8	606.5	582.2	557.9	533.6	505.7	474.2	442.6	411.2	379.6	362.9
60°	584.9	560.6	536.3	512.0	487.7	459.9	428.6	397.3	366.0	334.8	319.3
62.5°	540.1	515.8	491.5	467.2	442.9	415.8	386.0	356.1	326.4	296.6	281.8
65°	471.4	446.8	422.3	397.7	373.1	347.1	319.8	292.5	265.1	237.8	227.5
67.5°	405.3	380.9	356.5	332.1	307.6	283.1	258.6	234.0	209.4	184.8	180.0
70°	359.4	335.7	312.0	288.4	264.7	242.4	221.4	200.5	179.5	158.5	155.5
72.5°	315.7	292.9	270.3	247.5	224.8	205.0	188.2	171.4	154.5	137.8	135.2
75°	251.5	230.2	208.9	187.7	166.4	150.6	140.3	130.0	119.7	109.3	107.2
77.5°	188.3	169.7	151.1	132.4	113.7	101.9	96.9	91.9	86.9	82.0	80.8
80°	148.9	133.5	118.0	102.5	87.0	77.8	74.7	71.7	68.7	65.6	64.4
82.5°	112.9	100.8	88.7	76.6	64.6	57.4	55.4	53.3	51.3	49.2	48.5
85°	58.8	52.3	46.0	39.6	33.3	29.6	28.7	27.8	26.8	25.9	25.9
87.5°	17.7	16.1	14.7	13.0	11.4	10.9	11.5	12.5	13.4	13.5	13.1
90°	0.7	2.8	5.6	7.0	8.4	10.4	13.9	18.8	23.0	23.7	23.0
92.5°	8.5	12.3	17.3	20.3	25.1	31.7	47.4	69.6	89.3	90.6	76.5
95°	24.4	27.2	34.2	40.4	51.5	68.3	100.4	161.0	241.9	273.2	239.1
97.5°	39.8	43.5	50.9	60.4	73.2	92.1	132.4	217.0	351.3	466.5	489.4
100°	53.7	55.7	62.1	73.2	87.1	106.6	143.6	228.6	379.2	550.6	651.0
102.5°	66.5	68.0	74.3	85.4	100.0	119.5	153.6	229.2	368.6	553.5	711.2
105°	85.1	87.8	92.7	103.2	118.5	138.0	170.8	232.8	347.9	516.5	702.0
107.5°	105.1	107.4	112.1	121.7	136.9	156.6	188.3	242.5	337.5	476.9	640.7
110°	118.5	121.3	125.5	134.6	149.2	169.4	200.0	250.2	335.3	458.0	602.3



TEST NUMBER: P331752-940

CATALOG NUMBER: SA2XXRDIP-C1005D725U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.7	133.6	138.3	146.8	160.9	181.6	211.2	258.6	335.8	445.7	575.5
115°	149.9	153.4	157.6	165.9	179.9	198.7	228.6	271.2	338.8	432.2	542.3
117.5°	169.7	172.5	176.6	184.0	197.4	217.0	244.7	284.5	343.8	425.6	521.4
120°	181.9	184.8	188.9	195.2	209.1	228.6	255.8	293.5	347.1	421.7	510.2
122.5°	193.7	195.9	200.0	206.9	220.8	240.9	266.4	301.3	351.1	419.5	500.8
125°	209.1	211.2	215.3	223.7	237.7	257.2	282.3	313.7	356.9	415.4	487.2
127.5°	221.4	224.2	230.1	239.2	252.6	272.7	297.1	325.2	362.9	413.0	474.7
130°	228.6	231.4	238.4	248.2	262.1	281.6	306.0	332.5	367.4	412.0	466.4
132.5°	235.3	238.7	246.2	256.5	271.0	290.5	313.8	339.7	371.8	411.4	459.7
135°	245.4	248.2	256.5	267.0	283.0	302.6	324.9	349.2	377.1	410.5	450.3
137.5°	254.9	258.2	266.5	277.7	293.6	311.7	333.8	356.5	381.8	410.5	443.7
140°	262.1	264.8	273.2	284.4	299.7	317.9	338.8	360.3	384.1	409.8	439.9
142.5°	269.3	271.6	279.4	290.5	305.3	322.4	342.7	363.7	385.8	409.8	436.0
145°	280.2	283.0	290.0	300.4	314.3	329.7	348.6	368.0	387.5	408.5	430.8
147.5°	291.9	294.0	300.7	310.3	321.9	335.6	353.3	370.4	388.2	406.0	425.5
150°	299.7	301.8	307.4	316.5	326.9	339.5	355.5	371.5	387.5	404.3	421.0
152.5°	307.6	308.5	314.1	322.0	331.9	343.4	357.8	372.1	386.5	401.5	417.1
155°	318.5	319.2	323.4	331.1	338.8	349.2	361.1	372.9	384.8	396.6	409.8
157.5°	327.8	328.4	331.8	338.5	344.6	353.4	363.5	372.9	381.6	391.6	403.1
160°	333.9	334.6	337.3	343.0	348.6	356.1	364.5	372.9	379.9	388.3	398.1
162.5°	340.0	339.6	342.4	346.9	351.9	357.8	365.2	372.4	378.3	385.5	393.5
165°	347.1	346.4	347.9	352.0	355.5	359.7	366.0	370.9	375.1	379.9	386.2
167.5°	353.0	352.1	353.4	356.1	358.6	361.2	365.8	369.9	371.8	375.1	378.9
170°	356.9	355.5	356.1	358.3	359.7	361.8	365.2	368.7	370.1	372.2	375.1
172.5°	359.1	358.3	357.8	360.0	360.8	362.3	364.7	367.0	367.9	368.9	371.1
175°	361.8	361.1	360.3	361.8	361.8	362.5	363.8	365.2	364.5	365.2	366.0
177.5°	363.0	361.9	361.3	362.5	362.5	362.5	363.0	364.2	363.0	362.5	363.0
180°	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5



TEST NUMBER: P331752-940

CATALOG NUMBER: SA2XXRDIP-C1005D725U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1502.9	1505.3	1507.8	1508.7	1508.2	1507.8	1507.3	1506.8
5°	1490.9	1493.7	1496.4	1497.3	1496.4	1495.5	1494.6	1493.7
7.5°	1466.8	1467.6	1468.4	1468.0	1466.4	1464.8	1463.3	1461.7
10°	1442.6	1441.7	1440.8	1439.5	1437.6	1435.8	1434.0	1432.2
12.5°	1415.0	1413.3	1411.7	1409.3	1406.3	1403.3	1400.3	1397.2
15°	1363.2	1357.5	1351.7	1347.3	1344.3	1341.2	1338.2	1335.2
17.5°	1304.8	1297.9	1291.0	1285.0	1279.8	1274.5	1269.3	1264.1
20°	1263.9	1256.3	1248.8	1241.6	1234.9	1228.2	1221.6	1214.9
22.5°	1219.1	1209.3	1199.5	1192.1	1187.2	1182.2	1177.2	1172.2
25°	1144.9	1132.5	1120.0	1111.5	1106.9	1102.3	1097.8	1093.2
27.5°	1074.1	1059.5	1045.0	1034.1	1026.9	1019.7	1012.4	1005.2
30°	1024.0	1008.5	993.0	981.2	973.0	964.8	956.6	948.4
32.5°	973.7	956.1	938.3	925.7	918.0	910.3	902.5	894.8
35°	895.1	876.0	856.8	843.9	837.2	830.5	823.9	817.3
37.5°	818.5	797.5	776.3	762.0	754.4	746.7	739.0	731.4
40°	767.2	745.6	724.2	709.4	701.5	693.6	685.7	677.8
42.5°	715.5	693.2	670.9	655.9	648.3	640.6	633.0	625.4
45°	640.2	618.6	597.0	582.6	575.3	568.0	560.7	553.5
47.5°	566.9	545.5	524.0	510.0	503.4	496.8	490.1	483.5
50°	519.8	498.8	477.9	464.1	457.8	451.4	445.1	438.6
52.5°	475.3	455.0	434.9	421.8	415.9	410.0	404.1	398.2
55°	407.7	389.5	371.2	359.3	353.5	347.7	342.0	336.2
57.5°	346.3	329.5	312.8	302.0	297.2	292.3	287.5	282.6
60°	303.8	288.4	272.9	262.7	257.8	253.0	248.1	243.3
62.5°	267.1	252.3	237.6	228.6	225.8	222.8	219.9	217.0
65°	217.1	206.8	196.4	190.8	189.9	189.0	188.2	187.3
67.5°	175.3	170.6	165.8	162.9	162.0	161.0	160.1	159.1
70°	152.5	149.5	146.4	144.3	143.0	141.8	140.6	139.4
72.5°	132.7	130.1	127.5	125.9	125.2	124.5	123.7	123.0
75°	105.0	103.0	100.9	99.6	99.3	99.0	98.7	98.4
77.5°	79.5	78.4	77.1	76.2	75.8	75.3	74.8	74.4
80°	63.1	62.0	60.7	60.1	60.1	60.1	60.1	60.1
82.5°	47.7	47.0	46.3	45.9	45.9	45.9	45.9	45.9
85°	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
87.5°	12.8	12.2	12.2	12.2	12.2	12.2	12.2	12.2
90°	22.3	21.0	22.3	23.0	23.0	23.0	23.0	23.0
92.5°	60.8	52.2	46.3	42.0	41.4	39.1	39.8	38.6
95°	182.6	140.1	110.8	95.5	86.4	80.9	78.7	79.5
97.5°	426.1	348.7	273.2	222.9	189.6	172.5	162.3	156.4
100°	636.4	550.0	454.5	370.1	312.3	282.3	262.1	249.5
102.5°	774.2	754.7	684.7	595.4	532.5	481.3	456.1	439.2
105°	846.9	925.7	934.8	911.8	868.5	825.3	795.3	785.6
107.5°	794.5	913.1	985.6	1019.4	1024.8	1022.4	1016.5	1003.4
110°	749.3	874.1	963.3	1020.5	1050.4	1063.7	1070.0	1069.3



TEST NUMBER: P331752-940

CATALOG NUMBER: SA2XXRDIP-C1005D725U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	708.1	827.8	923.2	988.7	1030.4	1052.6	1064.4	1068.2
115°	657.3	764.6	856.0	927.7	977.2	1009.3	1027.4	1033.8
117.5°	619.1	713.4	796.2	863.5	914.0	947.9	967.0	972.2
120°	600.1	686.6	760.5	823.9	872.7	905.4	925.7	932.6
122.5°	585.1	664.3	734.2	791.6	835.4	867.5	885.6	891.4
125°	563.2	635.0	696.3	748.6	789.1	815.6	832.9	838.6
127.5°	541.6	606.5	664.4	712.7	748.0	772.8	787.8	792.3
130°	527.6	587.6	642.7	688.7	722.8	746.5	760.5	766.1
132.5°	514.2	569.8	620.4	663.6	697.2	720.9	733.7	738.7
135°	495.6	541.6	587.6	626.6	656.7	679.7	692.1	695.0
137.5°	480.7	519.2	555.7	589.7	617.1	636.9	647.8	652.0
140°	471.2	504.7	536.7	567.4	589.7	607.8	618.3	622.5
142.5°	463.4	491.9	519.4	545.1	566.3	582.7	592.1	592.9
145°	452.4	475.4	497.0	517.2	534.0	545.8	552.8	554.8
147.5°	443.9	462.0	478.8	493.7	507.5	516.9	521.7	522.9
150°	437.7	453.1	467.7	480.3	490.7	499.1	503.3	504.0
152.5°	431.6	445.9	458.3	469.1	477.3	484.6	487.7	487.8
155°	423.1	434.3	444.7	452.4	460.0	464.9	467.7	466.4
157.5°	413.2	422.6	431.3	437.3	442.7	446.8	448.1	448.1
160°	407.1	414.7	422.4	427.3	432.2	435.7	436.3	436.3
162.5°	400.9	407.5	414.0	417.9	422.7	425.1	425.8	425.2
165°	391.7	396.6	401.5	404.3	407.1	409.8	409.8	409.2
167.5°	383.0	386.7	390.0	392.6	393.9	395.4	395.2	394.4
170°	378.5	380.6	383.3	384.8	385.5	387.5	386.8	385.5
172.5°	373.4	375.1	377.3	378.1	378.8	379.8	379.1	378.3
175°	368.0	368.7	369.4	370.1	370.1	370.9	370.1	368.7
177.5°	364.2	364.2	364.7	364.7	364.7	364.7	364.2	363.0
180°	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5

(END OF REPORT)