

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: P331459

Luminaire Tested: **SA2XXDIP-C1005D1080U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331459
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D1080U835-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

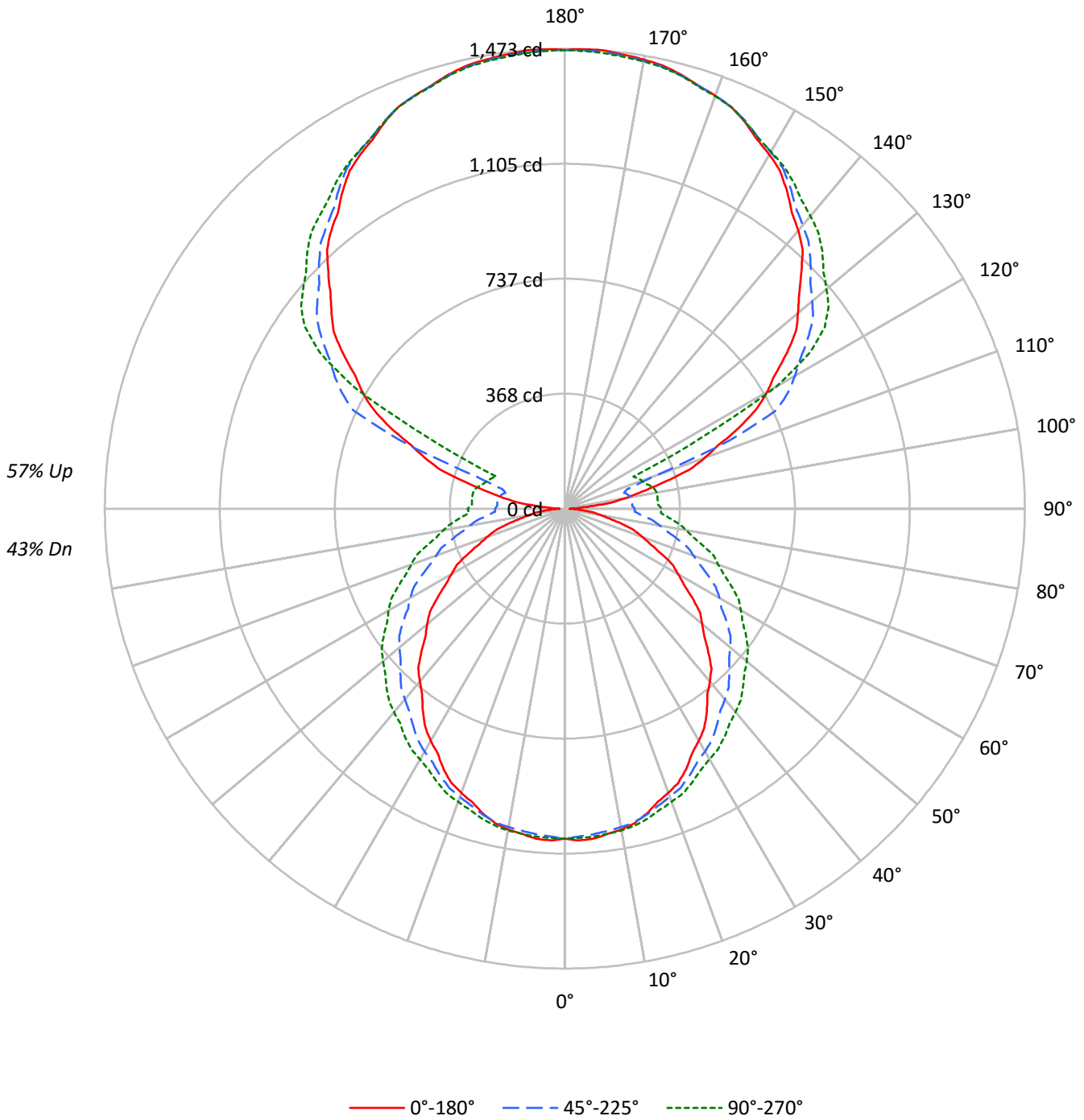
Lumens per Lamp: N/A
Luminaire Lumens: 8343.2 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 71.7
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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50	43
1	95	90	86	82	86	82	79	75	68	65	62	54	52	51	42	41	39	34
2	86	78	71	66	78	71	65	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	17	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17073	17073	17073
5°	17157	16435	16373
10°	17049	15949	15770
15°	16814	15435	15136
20°	16517	14884	14525
25°	16223	14353	13970
30°	15810	13808	13414
35°	15392	13280	13021
40°	14952	12831	12629
45°	14535	12429	12294
50°	14086	12066	11964
55°	13616	11675	11627
60°	13040	11269	11271
65°	12441	10795	10850
70°	11770	10285	10393
75°	10911	9784	9973
80°	9555	9272	9549
85°	8259	8830	9217



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.2	1.2
10°-20°	287.3	3.4
20°-30°	435.4	5.2
30°-40°	530.3	6.4
40°-50°	570.5	6.8
50°-60°	554.1	6.6
60°-70°	483.8	5.8
70°-80°	372.4	4.5
80°-90°	253.6	3.0
90°-100°	221.2	2.7
100°-110°	305.5	3.7
110°-120°	563.4	6.8
120°-130°	839.3	10.1
130°-140°	862.8	10.3
140°-150°	787.2	9.4
150°-160°	630.2	7.6
160°-170°	406.1	4.9
170°-180°	139.8	1.7
0°-30°	822.9	9.9
0°-40°	1353.3	16.2
0°-60°	2477.9	29.7
0°-90°	3587.7	43.0
90°-120°	1090.1	13.1
90°-150°	3579.4	42.9
90°-180°	4756.0	57.0
0°-180°	8343.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1060	1056	1047	1055	1054	101
15°	1012	1014	1014	1028	1027	285
25°	920	930	944	962	967	423
35°	792	819	848	880	892	495
45°	650	692	745	790	808	501
55°	498	555	633	686	708	445
65°	340	416	506	566	588	338
75°	188	275	372	436	458	199
85°	55	150	248	310	334	59
90°	16	117	224	288	311	14
95°	81	122	218	279	299	94
105°	331	391	197	260	283	354
115°	617	656	748	323	242	607
125°	867	884	950	997	1016	774
135°	1071	1088	1113	1154	1166	827
145°	1241	1241	1258	1273	1277	776
155°	1366	1358	1369	1375	1367	629
165°	1439	1434	1436	1443	1436	406
175°	1472	1465	1467	1473	1464	140
180°	1469	1469	1469	1469	1469	



TEST NUMBER: P331459

CATALOG NUMBER: SA2XXDIP-C1005D1080U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1063.6	1062.8	1061.9	1061.1	1060.3	1058.9	1057.0	1055.1	1053.2	1051.3	1052.7
5°	1060.5	1059.5	1058.5	1057.4	1056.4	1054.9	1052.9	1050.8	1048.8	1046.7	1048.8
7.5°	1051.0	1050.3	1049.6	1049.0	1048.3	1047.2	1045.6	1044.0	1042.5	1040.9	1043.3
10°	1043.7	1043.0	1042.3	1041.6	1040.9	1040.1	1039.1	1038.0	1037.0	1036.0	1038.7
12.5°	1031.4	1031.5	1031.7	1031.8	1031.9	1031.6	1030.9	1030.1	1029.4	1028.6	1031.4
15°	1011.5	1012.2	1012.8	1013.5	1014.2	1014.5	1014.5	1014.5	1014.5	1014.5	1017.6
17.5°	985.7	987.2	988.6	990.0	991.4	992.7	993.8	994.9	996.0	997.1	1000.3
20°	968.6	970.3	972.0	973.7	975.4	976.9	978.3	979.6	981.0	982.4	986.1
22.5°	950.2	952.1	954.1	956.1	958.1	960.0	961.9	963.8	965.7	967.6	971.4
25°	919.5	921.9	924.3	926.7	929.1	931.8	934.8	937.9	941.0	944.0	948.1
27.5°	882.7	886.6	890.5	894.4	898.3	902.0	905.6	909.2	912.8	916.5	921.6
30°	858.2	862.6	867.1	871.5	875.9	880.4	884.8	889.2	893.6	898.1	903.5
32.5°	831.2	836.2	841.2	846.2	851.1	856.2	861.5	866.7	872.0	877.2	883.5
35°	792.3	798.1	803.9	809.7	815.5	821.6	828.1	834.5	841.0	847.5	855.0
37.5°	750.0	756.7	763.4	770.0	776.7	784.2	792.6	801.0	809.4	817.8	826.1
40°	721.8	729.3	736.8	744.3	751.8	760.1	769.3	778.5	787.7	796.9	805.8
42.5°	694.9	702.3	709.8	717.3	724.8	733.8	744.4	755.0	765.5	776.1	785.7
45°	649.8	659.0	668.2	677.4	686.6	697.1	709.1	721.0	732.9	744.8	755.4
47.5°	605.4	615.4	625.4	635.4	645.4	657.4	671.4	685.3	699.3	713.2	724.3
50°	574.7	585.3	595.8	606.4	616.9	629.9	645.2	660.5	675.8	691.2	702.8
52.5°	545.3	556.4	567.5	578.6	589.7	603.3	619.4	635.6	651.7	667.9	679.7
55°	498.1	510.3	522.6	534.9	547.1	562.1	579.8	597.5	615.2	632.9	645.2
57.5°	451.5	465.3	479.1	493.0	506.8	522.7	540.8	558.8	576.9	594.9	608.1
60°	418.4	433.0	447.7	462.3	477.0	494.0	513.4	532.8	552.2	571.6	584.6
62.5°	389.0	404.1	419.3	434.5	449.7	467.0	486.4	505.8	525.3	544.7	558.4
65°	340.2	356.9	373.6	390.3	407.0	425.4	445.5	465.5	485.6	505.7	519.7
67.5°	295.5	312.9	330.3	347.8	365.2	384.2	404.8	425.4	445.9	466.5	480.6
70°	263.6	281.3	299.0	316.7	334.4	353.8	375.0	396.1	417.2	438.3	452.9
72.5°	234.2	252.4	270.7	288.9	307.2	327.0	348.4	369.8	391.2	412.6	426.9
75°	188.5	207.6	226.6	245.7	264.8	285.2	307.0	328.8	350.6	372.4	387.0
77.5°	144.4	164.3	184.3	204.2	224.2	245.2	267.4	289.5	311.6	333.8	348.4
80°	114.9	135.7	156.5	177.3	198.0	219.5	241.6	263.8	285.9	308.0	322.3
82.5°	90.4	110.9	131.4	151.9	172.4	193.9	216.3	238.7	261.1	283.5	297.8
85°	55.2	76.3	97.4	118.5	139.6	161.1	182.9	204.7	226.5	248.3	262.6
87.5°	30.3	51.1	71.9	92.7	113.5	135.0	157.2	179.4	201.5	223.7	237.8
90°	16.4	38.7	61.1	83.4	105.8	128.8	152.5	176.2	199.9	223.6	238.4
92.5°	35.6	53.7	71.9	90.0	108.2	128.2	150.2	172.1	194.0	215.9	229.9
95°	81.4	89.6	97.8	106.0	114.2	129.4	151.4	173.5	195.6	217.7	231.8
97.5°	147.9	140.1	132.4	124.7	116.9	124.8	148.2	171.7	195.1	218.6	232.1
100°	198.9	179.1	159.4	139.6	119.8	121.5	144.6	167.7	190.8	213.8	228.3
102.5°	253.8	258.4	263.1	267.8	272.4	267.2	252.2	237.1	222.0	207.0	221.8
105°	330.8	347.8	364.8	381.7	398.7	383.8	337.0	290.2	243.4	196.6	211.2
107.5°	420.5	434.1	447.7	461.3	474.9	451.5	391.2	330.8	270.4	210.0	218.8
110°	477.1	488.8	500.6	512.4	524.1	504.2	452.7	401.1	349.5	297.9	285.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	531.5	541.6	551.7	561.8	571.9	576.5	575.5	574.5	573.5	572.5	497.2
115°	617.4	625.1	632.9	640.7	648.4	662.9	684.2	705.4	726.6	747.9	648.7
117.5°	692.6	699.5	706.5	713.4	720.4	732.9	751.2	769.4	787.6	805.9	789.5
120°	748.7	753.6	758.5	763.4	768.4	779.7	797.6	815.5	833.4	851.2	863.6
122.5°	796.4	800.6	804.9	809.2	813.5	824.3	841.8	859.2	876.6	894.1	905.0
125°	867.3	870.4	873.5	876.5	879.6	888.8	904.2	919.6	935.0	950.4	961.2
127.5°	933.0	936.1	939.1	942.2	945.3	952.9	965.0	977.1	989.3	1001.4	1012.3
130°	974.7	978.1	981.6	985.0	988.4	995.0	1004.8	1014.5	1024.3	1034.0	1044.8
132.5°	1017.2	1020.1	1023.0	1025.8	1028.7	1034.2	1042.3	1050.4	1058.5	1066.7	1076.8
135°	1071.0	1074.7	1078.5	1082.3	1086.1	1090.7	1096.3	1101.8	1107.3	1112.9	1122.4
137.5°	1126.9	1129.4	1132.0	1134.6	1137.2	1140.4	1144.3	1148.2	1152.1	1156.1	1164.6
140°	1163.4	1165.0	1166.5	1168.1	1169.6	1172.1	1175.3	1178.6	1181.9	1185.2	1192.7
142.5°	1194.1	1195.4	1196.8	1198.1	1199.5	1201.7	1204.8	1208.0	1211.1	1214.2	1220.5
145°	1240.6	1240.3	1240.1	1239.9	1239.6	1241.5	1245.5	1249.5	1253.6	1257.6	1261.3
147.5°	1282.5	1281.6	1280.7	1279.8	1278.9	1280.4	1284.4	1288.3	1292.3	1296.3	1297.8
150°	1309.7	1308.0	1306.4	1304.7	1303.1	1304.1	1307.9	1311.7	1315.5	1319.2	1320.7
152.5°	1332.6	1330.8	1328.9	1327.1	1325.3	1326.1	1329.7	1333.3	1336.9	1340.5	1341.9
155°	1366.0	1363.9	1361.8	1359.6	1357.5	1357.9	1360.7	1363.5	1366.4	1369.2	1370.6
157.5°	1392.2	1390.4	1388.6	1386.8	1385.0	1385.1	1387.1	1389.0	1391.0	1393.0	1394.6
160°	1407.5	1406.1	1404.6	1403.2	1401.8	1401.8	1403.2	1404.6	1406.1	1407.5	1408.9
162.5°	1421.1	1419.7	1418.2	1416.8	1415.4	1415.3	1416.5	1417.8	1419.0	1420.2	1421.8
165°	1439.4	1437.9	1436.5	1435.1	1433.7	1433.3	1434.0	1434.8	1435.5	1436.2	1437.8
167.5°	1453.0	1451.6	1450.1	1448.7	1447.3	1446.9	1447.6	1448.2	1448.9	1449.6	1451.2
170°	1460.6	1459.2	1457.8	1456.4	1455.0	1454.5	1455.0	1455.4	1455.9	1456.4	1458.0
172.5°	1465.7	1464.3	1462.9	1461.5	1460.1	1459.6	1460.1	1460.5	1461.0	1461.5	1463.1
175°	1472.3	1470.7	1469.0	1467.4	1465.7	1465.1	1465.6	1466.1	1466.5	1467.0	1468.7
177.5°	1473.4	1472.1	1470.7	1469.4	1468.1	1467.5	1467.7	1467.9	1468.1	1468.3	1469.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1054.0	1055.4	1056.8	1057.2	1056.6	1056.1	1055.5	1055.0
5°	1050.8	1052.9	1054.9	1055.7	1055.4	1055.1	1054.7	1054.4
7.5°	1045.8	1048.3	1050.7	1051.8	1051.4	1051.1	1050.7	1050.4
10°	1041.4	1044.2	1046.9	1048.1	1047.7	1047.4	1047.1	1046.7
12.5°	1034.1	1036.8	1039.5	1040.7	1040.4	1040.0	1039.7	1039.4
15°	1020.7	1023.7	1026.8	1028.2	1027.8	1027.5	1027.1	1026.8
17.5°	1003.5	1006.7	1009.9	1011.5	1011.5	1011.5	1011.5	1011.5
20°	989.8	993.6	997.3	999.2	999.2	999.2	999.2	999.2
22.5°	975.1	978.9	982.6	984.8	985.3	985.9	986.4	987.0
25°	952.2	956.3	960.4	962.9	964.0	965.0	966.0	967.0
27.5°	926.8	932.0	937.2	940.1	940.9	941.6	942.4	943.1
30°	909.0	914.4	919.9	923.1	924.1	925.1	926.2	927.2
32.5°	889.8	896.0	902.3	906.3	908.2	910.0	911.9	913.7
35°	862.5	870.0	877.5	882.4	884.8	887.2	889.6	891.9
37.5°	834.4	842.7	851.0	856.4	858.9	861.5	864.0	866.5
40°	814.6	823.5	832.3	838.3	841.4	844.4	847.5	850.6
42.5°	795.4	805.1	814.8	821.1	824.2	827.3	830.3	833.4
45°	765.9	776.5	787.0	794.0	797.4	800.8	804.2	807.6
47.5°	735.3	746.3	757.4	764.8	768.5	772.3	776.0	779.8
50°	714.3	725.9	737.5	745.2	748.9	752.6	756.4	760.1
52.5°	691.6	703.4	715.3	723.2	727.2	731.3	735.3	739.3
55°	657.5	669.7	682.0	690.3	694.7	699.2	703.6	708.0
57.5°	621.4	634.6	647.8	656.6	661.1	665.6	670.1	674.6
60°	597.5	610.5	623.4	632.3	637.0	641.8	646.6	651.3
62.5°	572.2	585.9	599.7	608.8	613.3	617.8	622.3	626.8
65°	533.7	547.6	561.6	570.8	575.2	579.6	584.1	588.5
67.5°	494.7	508.8	522.9	532.3	536.9	541.5	546.2	550.8
70°	467.6	482.2	496.9	506.2	510.3	514.4	518.5	522.6
72.5°	441.3	455.7	470.0	479.7	484.6	489.5	494.4	499.3
75°	401.7	416.3	431.0	440.5	444.9	449.4	453.8	458.2
77.5°	362.9	377.5	392.1	401.8	406.5	411.3	416.1	420.8
80°	336.6	351.0	365.3	374.8	379.6	384.3	389.1	393.9
82.5°	312.1	326.4	340.7	350.1	354.6	359.1	363.6	368.1
85°	276.9	291.2	305.5	315.0	319.8	324.6	329.3	334.1
87.5°	252.0	266.1	280.2	289.5	294.0	298.4	302.9	307.3
90°	253.2	268.0	282.8	292.5	297.0	301.6	306.1	310.7
92.5°	243.9	257.8	271.8	280.9	285.3	289.7	294.1	298.4
95°	245.9	260.1	274.2	283.2	287.0	290.9	294.7	298.6
97.5°	245.6	259.2	272.7	281.7	286.0	290.3	294.6	298.9
100°	242.8	257.3	271.8	281.2	285.4	289.6	293.8	298.0
102.5°	236.5	251.3	266.1	275.7	280.1	284.5	288.9	293.3
105°	225.7	240.2	254.7	264.3	269.0	273.7	278.4	283.1
107.5°	227.6	236.4	245.2	251.9	256.6	261.3	266.0	270.7
110°	272.5	259.7	247.0	243.0	247.7	252.4	257.1	261.8



TEST NUMBER: P331459

CATALOG NUMBER: SA2XXDIP-C1005D1080U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	422.0	346.7	271.4	236.0	240.5	245.0	249.5	254.0
115°	549.5	450.4	351.2	295.0	281.7	268.5	255.2	242.0
117.5°	773.1	756.7	740.4	706.0	653.5	601.1	548.7	496.3
120°	876.0	888.4	900.7	892.8	864.7	836.5	808.4	780.3
122.5°	916.0	927.0	937.9	941.9	938.9	935.9	932.9	930.0
125°	972.1	982.9	993.8	1001.1	1004.9	1008.6	1012.4	1016.2
127.5°	1023.1	1034.0	1044.8	1051.8	1055.0	1058.1	1061.3	1064.4
130°	1055.6	1066.4	1077.1	1083.8	1086.2	1088.7	1091.2	1093.7
132.5°	1086.9	1097.0	1107.1	1113.4	1115.9	1118.4	1120.9	1123.4
135°	1131.9	1141.4	1150.9	1156.8	1159.0	1161.3	1163.6	1165.8
137.5°	1173.2	1181.8	1190.4	1195.4	1196.9	1198.5	1200.0	1201.5
140°	1200.3	1207.9	1215.5	1219.7	1220.6	1221.4	1222.3	1223.1
142.5°	1226.8	1233.1	1239.4	1242.8	1243.4	1244.0	1244.6	1245.2
145°	1265.0	1268.7	1272.4	1274.5	1275.0	1275.5	1276.0	1276.6
147.5°	1299.3	1300.8	1302.3	1302.9	1302.8	1302.6	1302.4	1302.2
150°	1322.1	1323.5	1324.9	1325.0	1323.8	1322.7	1321.5	1320.3
152.5°	1343.3	1344.8	1346.2	1346.1	1344.5	1343.0	1341.4	1339.9
155°	1372.0	1373.5	1374.9	1374.6	1372.7	1370.9	1369.0	1367.1
157.5°	1396.2	1397.8	1399.4	1399.3	1397.5	1395.6	1393.8	1391.9
160°	1410.3	1411.7	1413.1	1413.0	1411.4	1409.7	1408.1	1406.4
162.5°	1423.4	1425.0	1426.7	1426.4	1424.4	1422.4	1420.3	1418.3
165°	1439.5	1441.1	1442.8	1442.8	1441.1	1439.5	1437.8	1436.2
167.5°	1452.9	1454.5	1456.2	1455.9	1453.8	1451.7	1449.6	1447.4
170°	1459.7	1461.3	1463.0	1462.7	1460.6	1458.5	1456.4	1454.2
172.5°	1464.8	1466.4	1468.1	1467.9	1465.7	1463.6	1461.5	1459.3
175°	1470.3	1472.0	1473.6	1473.3	1470.9	1468.5	1466.2	1463.8
177.5°	1470.9	1472.2	1473.6	1473.4	1471.7	1470.0	1468.3	1466.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1

(END OF REPORT)