

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: P331459-840

Luminaire Tested: **SA2XXDIP-C1005D1080U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331459-840
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-C1005D1080U840-4F0-1E-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

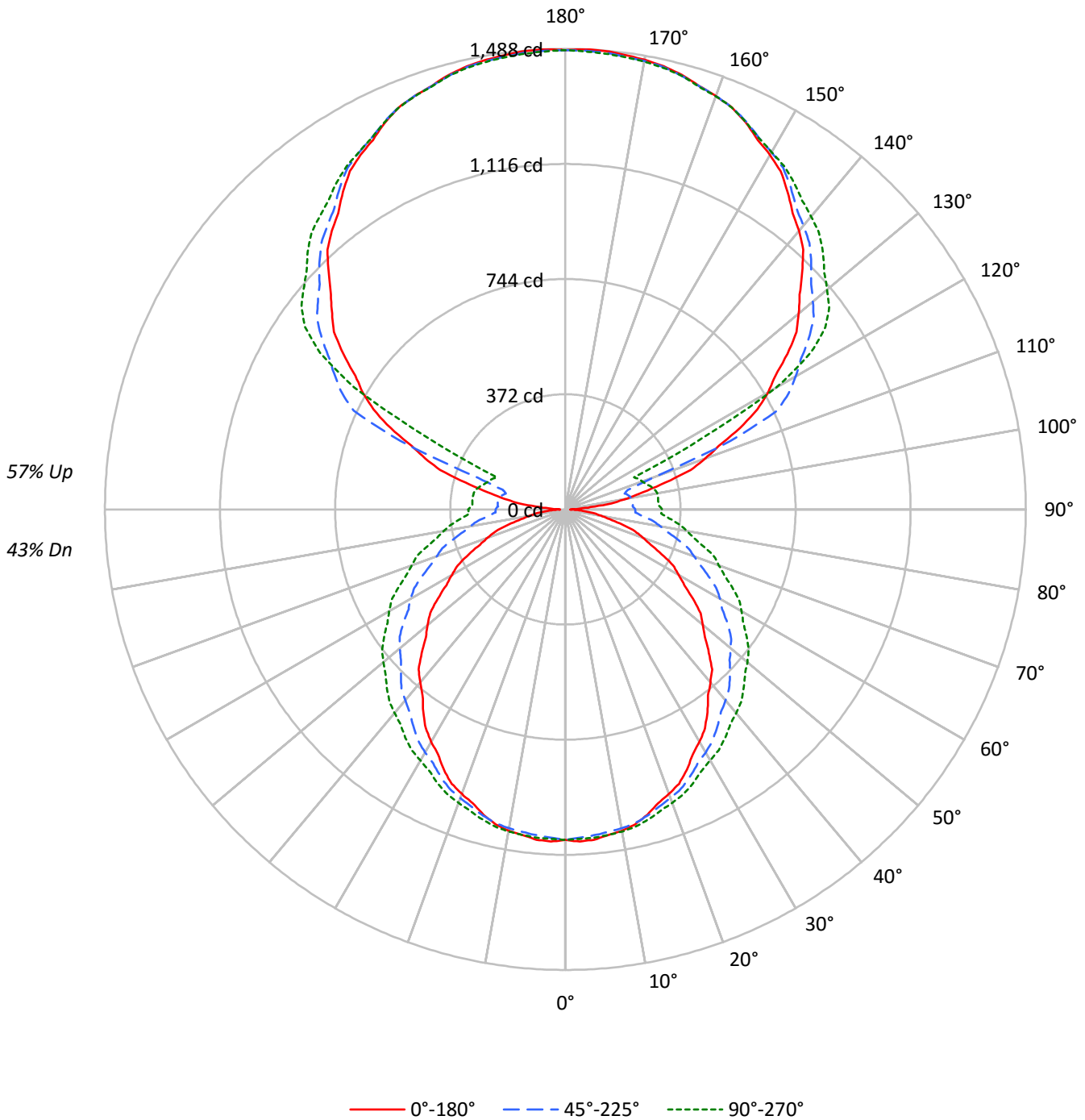
Lumens per Lamp: N/A
Luminaire Lumens: 8425.5 lumens
Efficiency: N/A
Efficacy: 117.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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°	17241	17241	17241
5°	17327	16597	16534
10°	17217	16106	15925
15°	16980	15587	15284
20°	16681	15031	14669
25°	16384	14494	14107
30°	15966	13945	13546
35°	15544	13412	13150
40°	15099	12958	12754
45°	14678	12551	12415
50°	14226	12185	12082
55°	13750	11789	11742
60°	13168	11380	11382
65°	12566	10901	10957
70°	11886	10385	10497
75°	11021	9881	10071
80°	9646	9362	9643
85°	8334	8915	9308



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.2	1.2
10°-20°	290.2	3.4
20°-30°	439.7	5.2
30°-40°	535.6	6.4
40°-50°	576.2	6.8
50°-60°	559.5	6.6
60°-70°	488.6	5.8
70°-80°	376.1	4.5
80°-90°	256.1	3.0
90°-100°	223.4	2.7
100°-110°	308.5	3.7
110°-120°	569.0	6.8
120°-130°	847.6	10.1
130°-140°	871.3	10.3
140°-150°	795.0	9.4
150°-160°	636.4	7.6
160°-170°	410.1	4.9
170°-180°	141.2	1.7
0°-30°	831.1	9.9
0°-40°	1366.6	16.2
0°-60°	2502.3	29.7
0°-90°	3623.1	43.0
90°-120°	1100.9	13.1
90°-150°	3614.7	42.9
90°-180°	4802.0	57.0
0°-180°	8425.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1071	1066	1057	1066	1065	102
15°	1022	1024	1024	1038	1037	288
25°	929	940	953	971	976	427
35°	800	827	856	889	901	500
45°	656	699	752	798	816	506
55°	503	560	639	693	715	450
65°	344	420	511	572	594	341
75°	190	278	376	440	463	201
85°	56	152	251	313	337	60
90°	17	118	226	290	314	14
95°	82	123	220	281	302	95
105°	334	395	198	262	286	358
115°	624	662	755	326	244	613
125°	876	893	960	1007	1026	781
135°	1082	1099	1124	1165	1177	835
145°	1253	1253	1270	1286	1289	784
155°	1380	1371	1383	1388	1381	635
165°	1454	1448	1450	1457	1450	410
175°	1487	1480	1482	1488	1478	141
180°	1484	1484	1484	1484	1484	



TEST NUMBER: P331459-840

CATALOG NUMBER: SA2XXDIP-C1005D1080U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1074.1	1073.3	1072.4	1071.6	1070.8	1069.3	1067.4	1065.5	1063.6	1061.7	1063.1
5°	1071.0	1070.0	1068.9	1067.8	1066.8	1065.3	1063.3	1061.2	1059.1	1057.0	1059.1
7.5°	1061.4	1060.7	1060.0	1059.3	1058.6	1057.5	1055.9	1054.3	1052.8	1051.2	1053.6
10°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.4	1049.4	1048.2	1047.2	1046.2	1048.9
12.5°	1041.6	1041.7	1041.9	1042.0	1042.1	1041.8	1041.1	1040.3	1039.6	1038.7	1041.6
15°	1021.5	1022.2	1022.8	1023.5	1024.2	1024.5	1024.5	1024.5	1024.5	1024.5	1027.6
17.5°	995.4	996.9	998.4	999.8	1001.2	1002.5	1003.6	1004.7	1005.8	1006.9	1010.2
20°	978.2	979.9	981.6	983.3	985.0	986.5	988.0	989.3	990.7	992.1	995.8
22.5°	959.6	961.5	963.5	965.5	967.6	969.5	971.4	973.3	975.2	977.1	981.0
25°	928.6	931.0	933.4	935.8	938.3	941.0	944.0	947.2	950.3	953.3	957.5
27.5°	891.4	895.3	899.3	903.2	907.2	910.9	914.5	918.2	921.8	925.5	930.7
30°	866.7	871.1	875.7	880.1	884.5	889.1	893.5	898.0	902.4	907.0	912.4
32.5°	839.4	844.4	849.5	854.5	859.5	864.6	870.0	875.3	880.6	885.9	892.2
35°	800.1	806.0	811.8	817.7	823.5	829.7	836.3	842.7	849.3	855.9	863.4
37.5°	757.4	764.2	770.9	777.6	784.4	791.9	800.4	808.9	817.4	825.9	834.2
40°	728.9	736.5	744.1	751.6	759.2	767.6	776.9	786.2	795.5	804.8	813.7
42.5°	701.8	709.2	716.8	724.4	732.0	741.0	751.7	762.4	773.1	783.8	793.5
45°	656.2	665.5	674.8	684.1	693.4	704.0	716.1	728.1	740.1	752.1	762.9
47.5°	611.4	621.5	631.6	641.7	651.8	663.9	678.0	692.1	706.2	720.2	731.4
50°	580.4	591.1	601.7	612.4	623.0	636.1	651.6	667.0	682.5	698.0	709.7
52.5°	550.7	561.9	573.1	584.3	595.5	609.3	625.5	641.9	658.1	674.5	686.4
55°	503.0	515.3	527.8	540.2	552.5	567.6	585.5	603.4	621.3	639.1	651.6
57.5°	456.0	469.9	483.8	497.9	511.8	527.9	546.1	564.3	582.6	600.8	614.1
60°	422.5	437.3	452.1	466.9	481.7	498.9	518.5	538.1	557.6	577.2	590.4
62.5°	392.8	408.1	423.4	438.8	454.1	471.6	491.2	510.8	530.5	550.1	563.9
65°	343.6	360.4	377.3	394.2	411.0	429.6	449.9	470.1	490.4	510.7	524.8
67.5°	298.4	316.0	333.6	351.2	368.8	388.0	408.8	429.6	450.3	471.1	485.3
70°	266.2	284.1	301.9	319.8	337.7	357.3	378.7	400.0	421.3	442.6	457.4
72.5°	236.5	254.9	273.4	291.8	310.2	330.2	351.8	373.4	395.1	416.7	431.1
75°	190.4	209.6	228.8	248.1	267.4	288.0	310.0	332.0	354.1	376.1	390.8
77.5°	145.8	165.9	186.1	206.2	226.4	247.6	270.0	292.4	314.7	337.1	351.8
80°	116.0	137.0	158.0	179.0	200.0	221.7	244.0	266.4	288.7	311.0	325.5
82.5°	91.3	112.0	132.7	153.4	174.1	195.8	218.4	241.1	263.7	286.3	300.7
85°	55.7	77.1	98.4	119.7	141.0	162.7	184.7	206.7	228.7	250.7	265.2
87.5°	30.6	51.6	72.6	93.6	114.6	136.3	158.8	181.2	203.5	225.9	240.1
90°	16.6	39.1	61.7	84.2	106.8	130.1	154.0	177.9	201.9	225.8	240.8
92.5°	36.0	54.2	72.6	90.9	109.3	129.5	151.7	173.8	195.9	218.0	232.2
95°	82.2	90.5	98.8	107.0	115.3	130.7	152.9	175.2	197.5	219.8	234.1
97.5°	149.4	141.5	133.7	125.9	118.1	126.0	149.7	173.4	197.0	220.8	234.4
100°	200.9	180.9	161.0	141.0	121.0	122.7	146.0	169.4	192.7	215.9	230.6
102.5°	256.3	260.9	265.7	270.4	275.1	269.8	254.7	239.4	224.2	209.0	224.0
105°	334.1	351.2	368.4	385.5	402.6	387.6	340.3	293.1	245.8	198.5	213.3
107.5°	424.6	438.4	452.1	465.9	479.6	456.0	395.1	334.1	273.1	212.1	221.0
110°	481.8	493.6	505.5	517.5	529.3	509.2	457.2	405.1	352.9	300.8	288.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	536.7	546.9	557.1	567.3	577.5	582.2	581.2	580.2	579.2	578.1	502.1
115°	623.5	631.3	639.1	647.0	654.8	669.4	690.9	712.4	733.8	755.3	655.1
117.5°	699.4	706.4	713.5	720.4	727.5	740.1	758.6	777.0	795.4	813.9	797.3
120°	756.1	761.0	766.0	770.9	776.0	787.4	805.5	823.5	841.6	859.6	872.1
122.5°	804.3	808.5	812.8	817.2	821.5	832.4	850.1	867.7	885.2	902.9	913.9
125°	875.9	879.0	882.1	885.1	888.3	897.6	913.1	928.7	944.2	959.8	970.7
127.5°	942.2	945.3	948.4	951.5	954.6	962.3	974.5	986.7	999.1	1011.3	1022.3
130°	984.3	987.7	991.3	994.7	998.2	1004.8	1014.7	1024.5	1034.4	1044.2	1055.1
132.5°	1027.2	1030.2	1033.1	1035.9	1038.8	1044.4	1052.6	1060.8	1068.9	1077.2	1087.4
135°	1081.6	1085.3	1089.1	1093.0	1096.8	1101.5	1107.1	1112.7	1118.2	1123.9	1133.5
137.5°	1138.0	1140.5	1143.2	1145.8	1148.4	1151.7	1155.6	1159.5	1163.5	1167.5	1176.1
140°	1174.9	1176.5	1178.0	1179.6	1181.1	1183.7	1186.9	1190.2	1193.6	1196.9	1204.5
142.5°	1205.9	1207.2	1208.6	1209.9	1211.3	1213.6	1216.7	1219.9	1223.0	1226.2	1232.5
145°	1252.8	1252.5	1252.3	1252.1	1251.8	1253.7	1257.8	1261.8	1266.0	1270.0	1273.7
147.5°	1295.2	1294.2	1293.3	1292.4	1291.5	1293.0	1297.1	1301.0	1305.0	1309.1	1310.6
150°	1322.6	1320.9	1319.3	1317.6	1316.0	1317.0	1320.8	1324.6	1328.5	1332.2	1333.7
152.5°	1345.7	1343.9	1342.0	1340.2	1338.4	1339.2	1342.8	1346.5	1350.1	1353.7	1355.1
155°	1379.5	1377.4	1375.2	1373.0	1370.9	1371.3	1374.1	1377.0	1379.9	1382.7	1384.1
157.5°	1405.9	1404.1	1402.3	1400.5	1398.7	1398.8	1400.8	1402.7	1404.7	1406.7	1408.4
160°	1421.4	1420.0	1418.5	1417.0	1415.6	1415.6	1417.0	1418.5	1420.0	1421.4	1422.8
162.5°	1435.1	1433.7	1432.2	1430.8	1429.4	1429.3	1430.5	1431.8	1433.0	1434.2	1435.8
165°	1453.6	1452.1	1450.7	1449.3	1447.8	1447.4	1448.1	1449.0	1449.7	1450.4	1452.0
167.5°	1467.3	1465.9	1464.4	1463.0	1461.6	1461.2	1461.9	1462.5	1463.2	1463.9	1465.5
170°	1475.0	1473.6	1472.2	1470.8	1469.4	1468.8	1469.4	1469.8	1470.3	1470.8	1472.4
172.5°	1480.2	1478.7	1477.3	1475.9	1474.5	1474.0	1474.5	1474.9	1475.4	1475.9	1477.5
175°	1486.8	1485.2	1483.5	1481.9	1480.2	1479.6	1480.1	1480.6	1481.0	1481.5	1483.2
177.5°	1487.9	1486.6	1485.2	1483.9	1482.6	1482.0	1482.2	1482.4	1482.6	1482.8	1484.1
180°	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1064.4	1065.8	1067.2	1067.6	1067.0	1066.5	1065.9	1065.4
5°	1061.2	1063.3	1065.3	1066.1	1065.8	1065.5	1065.1	1064.8
7.5°	1056.1	1058.6	1061.1	1062.2	1061.8	1061.5	1061.1	1060.8
10°	1051.7	1054.5	1057.2	1058.4	1058.0	1057.7	1057.4	1057.0
12.5°	1044.3	1047.0	1049.8	1051.0	1050.7	1050.3	1050.0	1049.7
15°	1030.8	1033.8	1036.9	1038.3	1037.9	1037.6	1037.2	1036.9
17.5°	1013.4	1016.6	1019.9	1021.5	1021.5	1021.5	1021.5	1021.5
20°	999.6	1003.4	1007.1	1009.1	1009.1	1009.1	1009.1	1009.1
22.5°	984.7	988.6	992.3	994.5	995.0	995.6	996.1	996.7
25°	961.6	965.7	969.9	972.4	973.5	974.5	975.5	976.5
27.5°	935.9	941.2	946.4	949.4	950.2	950.9	951.7	952.4
30°	918.0	923.4	929.0	932.2	933.2	934.2	935.3	936.3
32.5°	898.6	904.8	911.2	915.2	917.2	919.0	920.9	922.7
35°	871.0	878.6	886.2	891.1	893.5	896.0	898.4	900.7
37.5°	842.6	851.0	859.4	864.8	867.4	870.0	872.5	875.0
40°	822.6	831.6	840.5	846.6	849.7	852.7	855.9	859.0
42.5°	803.2	813.0	822.8	829.2	832.3	835.5	838.5	841.6
45°	773.5	784.2	794.8	801.8	805.3	808.7	812.1	815.6
47.5°	742.6	753.7	764.9	772.3	776.1	779.9	783.7	787.5
50°	721.3	733.1	744.8	752.6	756.3	760.0	763.9	767.6
52.5°	698.4	710.3	722.4	730.3	734.4	738.5	742.6	746.6
55°	664.0	676.3	688.7	697.1	701.6	706.1	710.5	715.0
57.5°	627.5	640.9	654.2	663.1	667.6	672.2	676.7	681.3
60°	603.4	616.5	629.5	638.5	643.3	648.1	653.0	657.7
62.5°	577.8	591.7	605.6	614.8	619.4	623.9	628.4	633.0
65°	539.0	553.0	567.1	576.4	580.9	585.3	589.9	594.3
67.5°	499.6	513.8	528.1	537.6	542.2	546.8	551.6	556.2
70°	472.2	487.0	501.8	511.2	515.3	519.5	523.6	527.8
72.5°	445.7	460.2	474.6	484.4	489.4	494.3	499.3	504.2
75°	405.7	420.4	435.3	444.8	449.3	453.8	458.3	462.7
77.5°	366.5	381.2	396.0	405.8	410.5	415.4	420.2	425.0
80°	339.9	354.5	368.9	378.5	383.3	388.1	392.9	397.8
82.5°	315.2	329.6	344.1	353.6	358.1	362.6	367.2	371.7
85°	279.6	294.1	308.5	318.1	323.0	327.8	332.5	337.4
87.5°	254.5	268.7	283.0	292.4	296.9	301.3	305.9	310.3
90°	255.7	270.6	285.6	295.4	299.9	304.6	309.1	313.8
92.5°	246.3	260.3	274.5	283.7	288.1	292.6	297.0	301.3
95°	248.3	262.7	276.9	286.0	289.8	293.8	297.6	301.5
97.5°	248.0	261.8	275.4	284.5	288.8	293.2	297.5	301.8
100°	245.2	259.8	274.5	284.0	288.2	292.5	296.7	300.9
102.5°	238.8	253.8	268.7	278.4	282.9	287.3	291.8	296.2
105°	227.9	242.6	257.2	266.9	271.7	276.4	281.1	285.9
107.5°	229.8	238.7	247.6	254.4	259.1	263.9	268.6	273.4
110°	275.2	262.3	249.4	245.4	250.1	254.9	259.6	264.4



TEST NUMBER: P331459-840

CATALOG NUMBER: SA2XXDIP-C1005D1080U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	426.2	350.1	274.1	238.3	242.9	247.4	252.0	256.5
115°	554.9	454.8	354.7	297.9	284.5	271.1	257.7	244.4
117.5°	780.7	764.2	747.7	713.0	659.9	607.0	554.1	501.2
120°	884.6	897.2	909.6	901.6	873.2	844.8	816.4	788.0
122.5°	925.0	936.1	947.2	951.2	948.2	945.1	942.1	939.2
125°	981.7	992.6	1003.6	1011.0	1014.8	1018.5	1022.4	1026.2
127.5°	1033.2	1044.2	1055.1	1062.2	1065.4	1068.5	1071.8	1074.9
130°	1066.0	1076.9	1087.7	1094.5	1096.9	1099.4	1102.0	1104.5
132.5°	1097.6	1107.8	1118.0	1124.4	1126.9	1129.4	1132.0	1134.5
135°	1143.1	1152.7	1162.3	1168.2	1170.4	1172.8	1175.1	1177.3
137.5°	1184.8	1193.5	1202.1	1207.2	1208.7	1210.3	1211.8	1213.4
140°	1212.1	1219.8	1227.5	1231.7	1232.6	1233.4	1234.4	1235.2
142.5°	1238.9	1245.3	1251.6	1255.1	1255.7	1256.3	1256.9	1257.5
145°	1277.5	1281.2	1285.0	1287.1	1287.6	1288.1	1288.6	1289.2
147.5°	1312.1	1313.6	1315.1	1315.8	1315.7	1315.5	1315.2	1315.0
150°	1335.1	1336.6	1338.0	1338.1	1336.9	1335.7	1334.5	1333.3
152.5°	1356.6	1358.1	1359.5	1359.4	1357.8	1356.2	1354.6	1353.1
155°	1385.5	1387.0	1388.5	1388.2	1386.2	1384.4	1382.5	1380.6
157.5°	1410.0	1411.6	1413.2	1413.1	1411.3	1409.4	1407.5	1405.6
160°	1424.2	1425.6	1427.0	1426.9	1425.3	1423.6	1422.0	1420.3
162.5°	1437.4	1439.1	1440.8	1440.5	1438.5	1436.4	1434.3	1432.3
165°	1453.7	1455.3	1457.0	1457.0	1455.3	1453.7	1452.0	1450.4
167.5°	1467.2	1468.8	1470.6	1470.3	1468.1	1466.0	1463.9	1461.7
170°	1474.1	1475.7	1477.4	1477.1	1475.0	1472.9	1470.8	1468.5
172.5°	1479.3	1480.9	1482.6	1482.4	1480.2	1478.0	1475.9	1473.7
175°	1484.8	1486.5	1488.1	1487.8	1485.4	1483.0	1480.7	1478.2
177.5°	1485.4	1486.7	1488.1	1487.9	1486.2	1484.5	1482.8	1481.1
180°	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6

(END OF REPORT)