

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: P331451-840

Luminaire Tested: **SA2XXDIP-C1005D925U840-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331451-840
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: SA2XXDIP-C1005D925U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

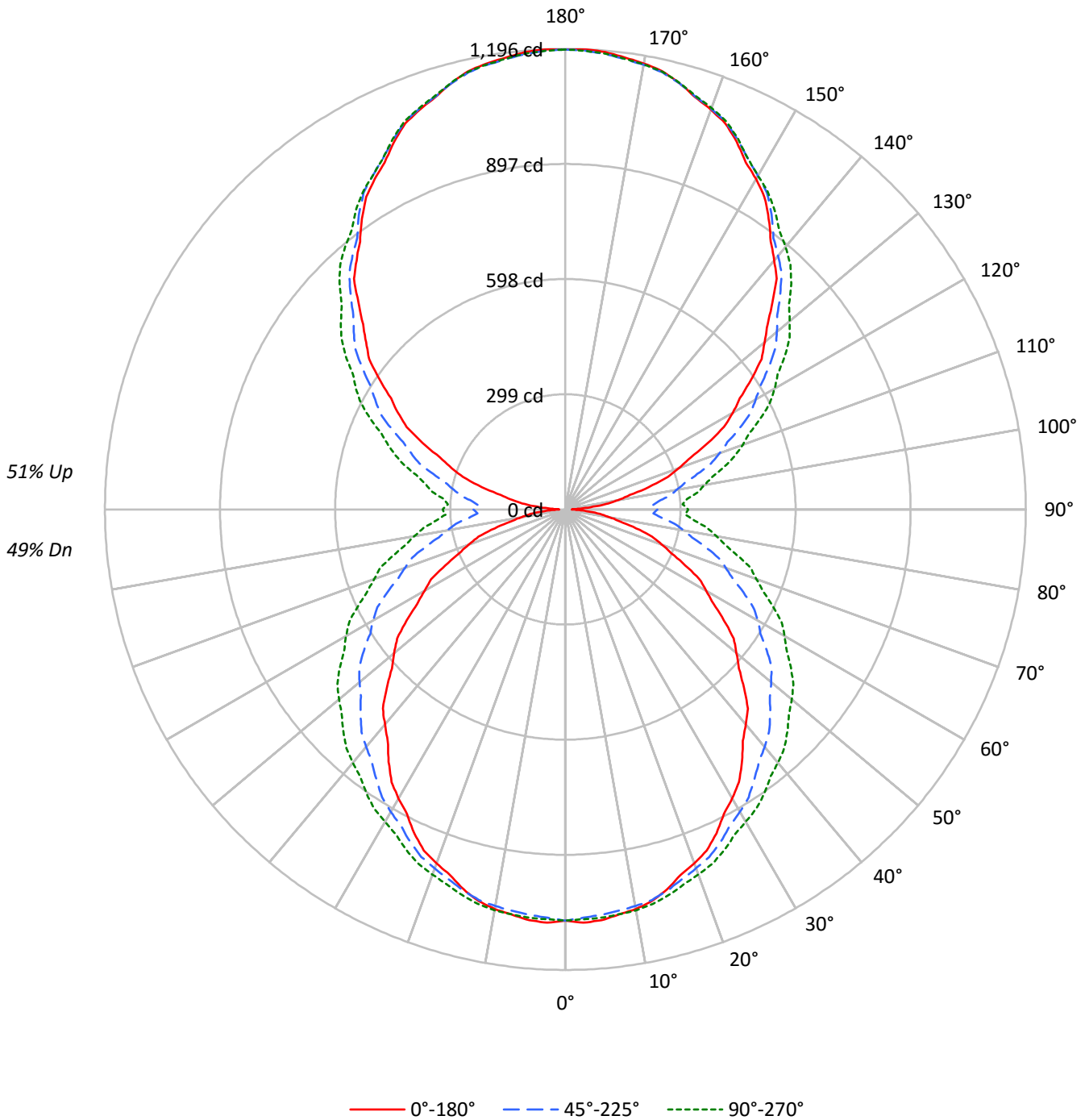
Lumens per Lamp: N/A
Luminaire Lumens: 7418.1 lumens
Efficiency: N/A
Efficacy: 111.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	96	91	87	83	88	84	80	77	70	67	65	58	56	54	46	45	44	38
2	87	79	72	66	79	72	67	62	61	56	52	50	47	44	40	38	36	31
3	79	69	61	55	72	63	56	51	53	48	43	44	40	36	35	32	30	25
4	72	60	52	46	66	56	48	43	47	41	37	39	34	31	31	28	25	21
5	66	54	45	39	60	50	42	36	42	36	31	34	30	26	28	24	22	18
6	61	48	40	33	55	44	37	31	37	32	27	31	26	23	25	22	19	16
7	56	43	35	29	51	40	33	27	34	28	24	28	24	20	23	19	17	14
8	52	39	31	26	47	36	29	24	31	25	21	26	21	18	21	17	15	12
9	48	36	28	23	44	33	26	21	28	23	19	24	19	16	19	16	13	11
10	45	33	25	20	41	30	24	19	26	20	17	22	17	14	18	14	12	10

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	1.4
10°-20°	290.2	3.9
20°-30°	439.7	5.9
30°-40°	535.6	7.2
40°-50°	576.2	7.8
50°-60°	559.5	7.5
60°-70°	488.6	6.6
70°-80°	376.1	5.1
80°-90°	257.2	3.5
90°-100°	249.6	3.4
100°-110°	362.0	4.9
110°-120°	485.6	6.5
120°-130°	575.1	7.8
130°-140°	612.6	8.3
140°-150°	584.8	7.9
150°-160°	487.7	6.6
160°-170°	323.5	4.4
170°-180°	113.0	1.5
0°-30°	831.1	11.2
0°-40°	1366.6	18.4
0°-60°	2502.3	33.7
0°-90°	3624.2	48.9
90°-120°	1097.2	14.8
90°-150°	2869.8	38.7
90°-180°	3794.0	51.1
0°-180°	7418.1	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°	16	119	240	297	319	13
95°	65	148	242	299	318	70
105°	224	274	355	409	428	238
115°	409	435	500	544	560	404
125°	590	601	645	682	697	527
135°	760	772	789	819	830	588
145°	921	928	934	944	948	576
155°	1053	1056	1059	1064	1061	485
165°	1146	1145	1145	1151	1147	323
175°	1192	1189	1187	1194	1188	113
180°	1194	1194	1194	1194	1194	



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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°	30.5	51.6	72.6	93.6	114.7	136.7	159.7	182.7	205.7	228.6	242.7
90°	16.5	39.1	61.8	84.4	107.0	131.8	158.8	185.7	212.6	239.5	252.9
92.5°	32.2	52.7	73.2	93.8	114.3	135.8	158.1	180.5	202.9	225.2	238.7
95°	64.8	83.2	101.6	120.0	138.5	158.1	179.3	200.4	221.4	242.5	255.6
97.5°	106.5	122.9	139.3	155.6	172.0	190.5	211.2	231.8	252.5	273.1	285.8
100°	138.9	153.3	167.8	182.4	196.9	214.1	234.1	254.0	273.9	293.9	306.6
102.5°	171.5	184.5	197.5	210.7	223.7	239.9	259.5	279.1	298.7	318.2	330.8
105°	224.4	235.1	245.7	256.3	267.0	281.4	299.8	318.1	336.5	354.8	367.3
107.5°	279.3	288.3	297.3	306.2	315.2	328.2	345.4	362.4	379.6	396.8	408.5
110°	313.6	321.7	330.0	338.2	346.5	359.0	375.9	392.7	409.6	426.4	437.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	352.2	359.4	366.5	373.7	380.7	392.2	408.1	423.9	439.8	455.7	466.1
115°	409.3	414.4	419.6	424.6	429.8	439.9	454.9	470.0	484.9	500.0	510.1
117.5°	464.6	468.9	473.1	477.4	481.7	490.3	503.4	516.4	529.5	542.5	552.2
120°	502.5	505.6	508.9	512.0	515.1	522.7	534.7	546.6	558.7	570.6	580.3
122.5°	537.1	539.9	542.6	545.2	548.0	555.1	566.8	578.6	590.2	601.9	610.7
125°	589.7	591.7	593.7	595.7	597.7	603.9	614.2	624.5	634.9	645.2	653.8
127.5°	642.3	644.5	646.6	648.8	651.1	656.2	664.3	672.4	680.4	688.5	696.2
130°	675.3	677.8	680.4	683.0	685.6	690.2	697.0	703.8	710.5	717.3	725.2
132.5°	712.4	714.4	716.4	718.5	720.5	724.4	730.0	735.7	741.3	747.0	754.0
135°	760.4	762.9	765.4	767.8	770.2	773.5	777.3	781.2	785.1	789.0	796.0
137.5°	812.6	814.6	816.5	818.5	820.4	822.4	824.6	826.6	828.7	830.8	837.0
140°	844.0	845.8	847.4	849.1	850.7	852.5	854.3	856.1	857.9	859.7	865.3
142.5°	876.4	878.0	879.7	881.3	883.0	884.2	885.1	886.1	887.0	887.9	892.4
145°	921.1	922.7	924.2	925.8	927.4	928.9	930.2	931.5	932.9	934.2	936.5
147.5°	962.4	964.3	966.2	968.1	970.0	971.4	972.3	973.1	974.0	974.9	975.7
150°	990.7	992.0	993.3	994.7	996.0	997.1	998.0	999.0	999.9	1000.8	1001.4
152.5°	1015.6	1017.0	1018.3	1019.7	1021.1	1022.3	1023.3	1024.4	1025.4	1026.5	1027.4
155°	1053.2	1053.8	1054.5	1055.2	1055.8	1056.5	1057.2	1057.8	1058.5	1059.1	1060.4
157.5°	1085.2	1085.6	1086.1	1086.5	1087.0	1087.4	1087.8	1088.2	1088.6	1089.0	1090.6
160°	1104.6	1105.0	1105.4	1105.9	1106.3	1106.7	1106.9	1107.1	1107.3	1107.5	1108.9
162.5°	1122.3	1122.4	1122.5	1122.6	1122.7	1122.8	1123.1	1123.3	1123.5	1123.7	1125.2
165°	1145.9	1145.7	1145.4	1145.2	1145.0	1144.9	1144.9	1144.9	1144.9	1144.9	1146.4
167.5°	1165.6	1165.0	1164.3	1163.6	1163.0	1162.6	1162.6	1162.5	1162.5	1162.4	1164.0
170°	1176.1	1175.4	1174.8	1174.1	1173.4	1173.0	1172.8	1172.6	1172.3	1172.0	1173.7
172.5°	1183.4	1182.7	1182.0	1181.3	1180.6	1180.2	1180.0	1179.7	1179.5	1179.3	1180.9
175°	1192.2	1191.5	1190.8	1190.2	1189.5	1189.0	1188.5	1188.1	1187.6	1187.2	1188.7
177.5°	1195.9	1195.3	1194.8	1194.3	1193.7	1193.3	1192.9	1192.5	1192.1	1191.8	1192.9
180°	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3



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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°	256.6	270.5	284.5	293.7	298.1	302.6	307.0	311.4
90°	266.2	279.5	292.8	301.6	306.0	310.3	314.7	319.0
92.5°	252.4	265.9	279.5	288.3	292.6	296.7	300.8	305.1
95°	268.6	281.7	294.8	303.2	306.8	310.5	314.2	317.8
97.5°	298.5	311.2	324.0	332.3	336.4	340.4	344.5	348.4
100°	319.3	332.0	344.8	352.8	356.5	360.0	363.6	367.1
102.5°	343.5	356.1	368.7	376.9	380.4	384.0	387.5	391.1
105°	379.8	392.2	404.8	412.9	416.7	420.4	424.2	428.0
107.5°	420.2	431.9	443.7	450.9	453.7	456.5	459.2	461.9
110°	448.4	459.4	470.4	477.5	480.6	483.7	486.9	489.9



TEST NUMBER: P331451-840

CATALOG NUMBER: SA2XXDIP-C1005D925U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	476.6	487.1	497.5	504.4	507.7	511.0	514.2	517.6
115°	520.2	530.3	540.4	546.9	550.1	553.2	556.3	559.5
117.5°	561.8	571.5	581.1	587.3	590.2	593.0	595.8	598.7
120°	589.9	599.5	609.2	615.5	618.5	621.7	624.8	627.9
122.5°	619.5	628.3	637.1	642.9	645.6	648.4	651.2	653.9
125°	662.5	671.1	679.6	685.4	688.3	691.2	694.0	696.9
127.5°	704.0	711.7	719.3	724.4	726.7	729.0	731.3	733.7
130°	733.0	740.7	748.5	753.4	755.3	757.1	758.9	760.8
132.5°	760.9	768.0	775.0	779.5	781.5	783.6	785.6	787.6
135°	802.9	810.0	817.0	821.5	823.6	825.7	827.8	829.8
137.5°	843.1	849.3	855.5	859.2	860.6	862.1	863.5	864.9
140°	870.7	876.3	881.7	885.0	886.3	887.4	888.6	889.7
142.5°	897.1	901.6	906.3	909.0	909.9	910.7	911.6	912.5
145°	938.8	941.1	943.4	944.9	945.7	946.5	947.5	948.3
147.5°	976.4	977.2	978.1	978.4	978.4	978.4	978.4	978.3
150°	1002.1	1002.8	1003.4	1003.4	1002.8	1002.1	1001.4	1000.8
152.5°	1028.2	1029.1	1030.0	1030.0	1029.1	1028.2	1027.4	1026.5
155°	1061.5	1062.6	1063.7	1063.9	1063.2	1062.6	1061.9	1061.2
157.5°	1092.1	1093.6	1095.1	1095.3	1094.3	1093.2	1092.1	1091.1
160°	1110.2	1111.6	1113.0	1113.2	1112.3	1111.4	1110.4	1109.5
162.5°	1126.7	1128.2	1129.7	1130.0	1128.9	1127.8	1126.8	1125.7
165°	1148.0	1149.5	1151.1	1151.3	1150.2	1149.1	1148.0	1146.9
167.5°	1165.5	1167.1	1168.6	1168.8	1167.7	1166.5	1165.4	1164.2
170°	1175.2	1176.8	1178.3	1178.4	1177.1	1175.8	1174.4	1173.1
172.5°	1182.5	1184.1	1185.6	1185.7	1184.4	1183.1	1181.6	1180.3
175°	1190.3	1191.8	1193.5	1193.6	1192.2	1190.8	1189.5	1188.2
177.5°	1194.0	1195.1	1196.1	1196.1	1195.1	1194.0	1192.9	1191.8
180°	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3

(END OF REPORT)