

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: P331452-840

Luminaire Tested: **SA2XXDIP-C1005D925U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331452-840
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: SA2XXDIP-C1005D925U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

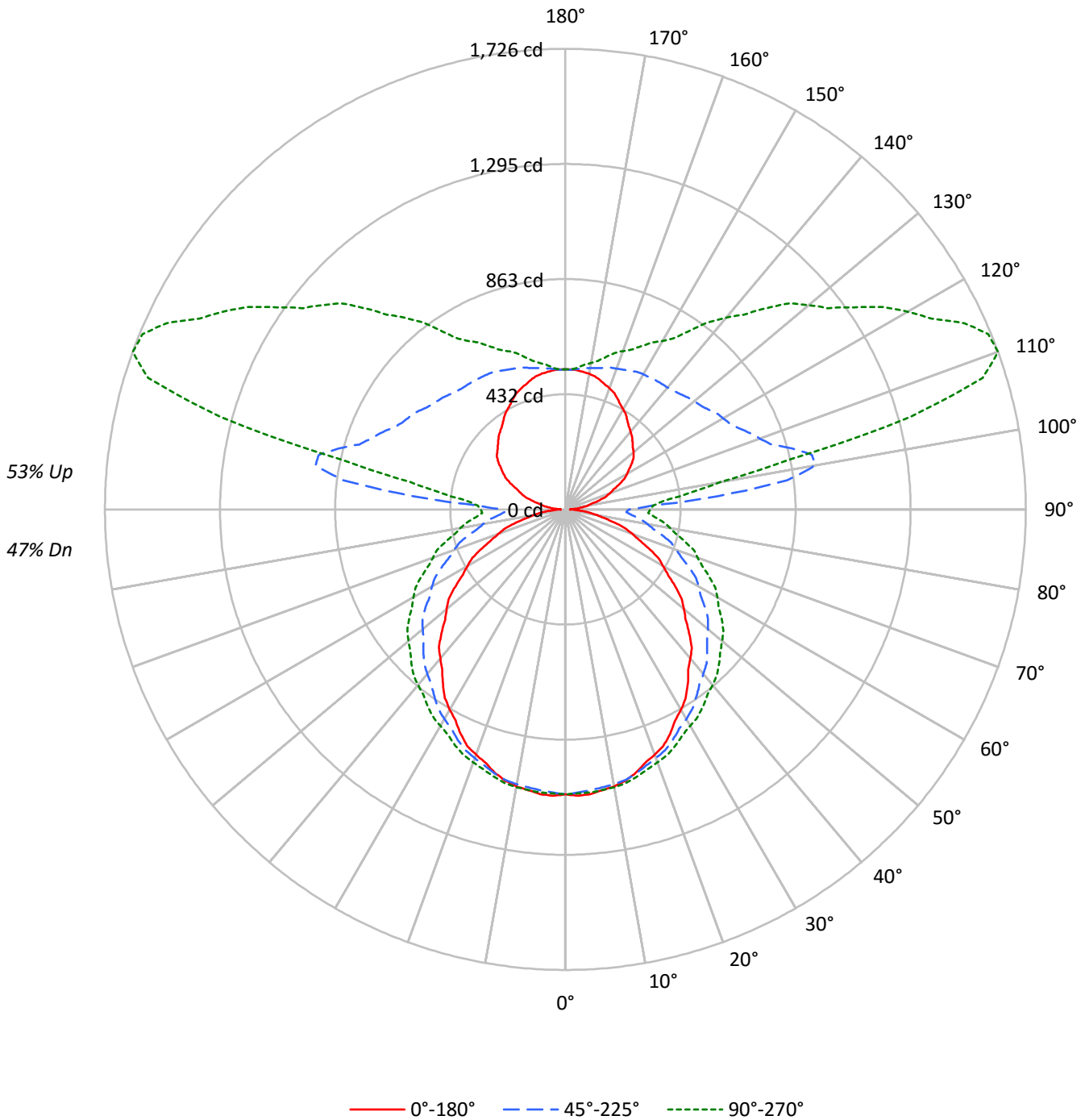
Lumens per Lamp: N/A
Luminaire Lumens: 7725.8 lumens
Efficiency: N/A
Efficacy: 115.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47
1	96	91	86	82	88	83	80	76	69	67	64	57	55	53	45	43	42	37
2	87	78	72	66	79	72	66	61	60	56	52	49	46	43	39	36	34	30
3	79	68	61	54	72	63	56	51	52	47	43	43	39	36	34	31	29	24
4	72	60	52	46	65	55	48	42	46	41	36	38	34	30	30	27	24	21
5	66	53	45	39	60	49	42	36	41	35	31	34	29	26	27	24	21	18
6	60	48	39	33	55	44	37	31	37	31	27	30	26	22	24	21	18	15
7	56	43	35	29	51	40	32	27	33	28	23	28	23	20	22	19	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	17	20	17	14	12
9	48	35	28	23	44	33	26	21	28	22	18	23	19	16	19	15	13	11
10	45	32	25	20	41	30	23	19	26	20	16	21	17	14	17	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	1.3
10°-20°	290.2	3.8
20°-30°	439.7	5.7
30°-40°	535.6	6.9
40°-50°	576.2	7.5
50°-60°	559.5	7.2
60°-70°	488.6	6.3
70°-80°	376.1	4.9
80°-90°	257.1	3.3
90°-100°	383.5	5.0
100°-110°	838.1	10.8
110°-120°	839.3	10.9
120°-130°	668.7	8.7
130°-140°	519.0	6.7
140°-150°	380.8	4.9
150°-160°	265.2	3.4
160°-170°	156.1	2.0
170°-180°	50.8	0.7
0°-30°	831.1	10.8
0°-40°	1366.6	17.7
0°-60°	2502.3	32.4
0°-90°	3624.1	46.9
90°-120°	2060.9	26.7
90°-150°	3629.5	47.0
90°-180°	4102.0	53.1
0°-180°	7725.8	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	238	296	318	12
95°	48	173	573	384	370	47
105°	131	240	880	1520	1340	140
115°	223	300	718	1427	1651	220
125°	306	364	653	1138	1321	272
135°	356	426	611	926	1067	276
145°	405	466	591	742	819	255
155°	461	497	574	649	674	212
165°	502	517	549	583	592	141
175°	523	524	528	535	533	50
180°	524	524	524	524	524	



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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	72.9	93.8	114.7	136.6	159.7	183.1	206.2	228.4	242.3
90°	16.5	39.5	63.4	85.4	107.3	131.4	158.4	187.4	215.5	238.5	251.4
92.5°	26.6	50.6	76.3	99.4	124.8	154.2	198.1	251.4	301.1	324.2	317.3
95°	47.7	67.9	94.1	119.4	151.6	194.2	261.3	369.5	507.1	573.1	536.7
97.5°	68.3	88.1	113.2	141.3	174.2	218.6	296.7	438.7	652.9	839.1	884.9
100°	88.5	104.2	126.0	154.8	187.7	232.0	304.6	446.9	683.8	951.0	1108.8
102.5°	105.7	119.6	140.3	168.0	200.7	244.0	312.1	440.1	660.4	946.3	1187.0
105°	130.7	144.7	161.8	186.8	218.9	261.2	326.4	433.9	618.1	879.9	1160.0
107.5°	159.5	170.7	185.4	207.3	237.3	278.2	341.3	436.7	591.3	810.0	1058.4
110°	177.5	188.4	201.4	221.4	249.4	290.4	351.6	441.1	580.9	775.2	994.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	195.3	205.1	217.7	235.8	262.0	302.9	361.6	446.2	573.9	748.7	947.5
115°	222.9	231.7	241.6	257.4	281.3	318.2	377.0	453.9	567.2	717.7	887.3
117.5°	249.9	256.5	265.0	278.1	299.9	336.6	391.0	462.9	562.9	695.6	844.2
120°	267.7	273.1	280.5	290.9	312.6	348.3	401.3	469.6	560.9	682.5	820.1
122.5°	284.6	288.4	295.0	305.4	326.2	361.9	411.7	475.0	560.0	671.9	798.7
125°	305.5	308.5	314.6	326.6	346.8	380.5	427.8	484.1	557.6	653.3	766.4
127.5°	323.2	326.9	335.0	348.0	367.0	400.3	444.4	494.0	557.3	638.7	736.4
130°	333.7	337.4	347.1	360.8	380.7	412.3	454.8	500.4	558.0	629.8	716.6
132.5°	343.4	347.8	358.4	372.9	393.5	424.4	463.6	506.8	558.7	621.5	699.2
135°	356.3	360.3	372.4	387.6	410.7	440.7	476.4	515.1	558.9	610.7	675.3
137.5°	370.0	374.8	386.8	402.8	425.8	452.7	486.0	520.5	558.7	601.5	656.0
140°	380.5	384.2	396.0	411.7	433.5	459.9	490.9	522.8	557.7	595.7	644.6
142.5°	391.0	393.8	404.9	420.6	441.6	466.2	495.6	526.2	558.3	593.3	635.3
145°	405.2	409.2	419.3	434.4	454.5	476.8	503.9	532.2	560.4	590.6	624.9
147.5°	422.1	425.2	434.7	448.7	465.4	485.2	510.8	535.6	561.2	587.0	615.5
150°	433.4	436.4	444.4	457.6	472.7	490.8	514.0	537.1	560.4	584.6	608.7
152.5°	444.6	446.1	454.1	465.6	480.0	496.4	517.3	538.0	558.8	580.6	603.1
155°	460.6	461.6	467.7	478.8	489.8	504.9	522.1	539.2	556.3	573.5	592.6
157.5°	473.9	474.9	479.8	489.4	498.3	511.0	525.5	539.2	551.7	566.2	582.8
160°	482.8	483.8	487.8	495.8	503.9	515.0	527.1	539.2	549.3	561.4	575.5
162.5°	491.6	491.0	495.0	501.5	508.8	517.5	528.0	538.4	546.8	557.3	569.1
165°	501.9	500.9	502.9	509.0	514.0	520.1	529.2	536.2	542.2	549.3	558.4
167.5°	510.4	509.2	511.0	514.8	518.5	522.3	529.0	534.8	537.6	542.2	547.9
170°	516.0	514.0	515.0	518.1	520.1	523.1	528.2	533.2	535.2	538.2	542.2
172.5°	519.3	518.1	517.5	520.5	521.7	523.9	527.4	530.8	532.0	533.4	536.6
175°	523.1	522.1	521.1	523.1	523.1	524.1	526.1	528.2	527.1	528.2	529.2
177.5°	524.9	523.3	522.5	524.1	524.1	524.1	524.9	526.5	524.9	524.1	524.9
180°	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1



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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°	256.1	269.7	284.2	293.7	298.0	302.5	306.8	311.2
90°	264.1	275.8	291.5	301.5	305.7	309.7	313.9	318.0
92.5°	308.0	309.0	314.0	316.6	319.8	320.7	325.7	328.2
95°	468.2	419.8	390.5	377.0	368.0	364.1	365.2	370.2
97.5°	806.4	707.0	610.7	546.2	502.2	481.4	470.8	466.4
100°	1100.4	988.2	862.8	749.1	669.2	629.7	604.2	589.9
102.5°	1290.3	1274.6	1186.0	1064.9	977.9	907.7	874.9	854.1
105°	1381.7	1507.6	1532.8	1507.4	1448.8	1390.1	1350.5	1340.2
107.5°	1292.3	1475.4	1591.7	1648.2	1659.8	1660.2	1655.4	1640.3
110°	1218.5	1409.9	1549.8	1639.9	1687.1	1710.0	1722.8	1725.6



TEST NUMBER: P331452-840

CATALOG NUMBER: SA2XXDIP-C1005D925U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1150.1	1334.2	1483.2	1585.3	1649.3	1685.2	1706.1	1715.4
115°	1063.9	1229.4	1371.8	1482.7	1558.0	1608.1	1638.1	1651.0
117.5°	995.7	1142.2	1272.1	1376.2	1452.8	1505.3	1536.4	1547.5
120°	959.8	1094.4	1210.8	1309.3	1383.6	1434.7	1467.7	1481.7
122.5°	930.0	1053.9	1164.4	1253.5	1320.1	1369.9	1399.2	1410.8
125°	885.6	998.7	1096.6	1178.4	1239.9	1281.3	1309.7	1320.8
127.5°	841.6	944.1	1036.3	1111.9	1165.9	1204.8	1229.5	1239.0
130°	813.5	908.5	996.3	1068.3	1120.4	1157.5	1180.4	1191.2
132.5°	786.2	874.4	955.5	1023.4	1074.7	1111.8	1133.1	1143.1
135°	748.1	821.8	895.5	956.9	1003.1	1039.1	1060.0	1066.7
137.5°	715.7	777.7	836.9	890.4	932.2	963.2	981.4	989.8
140°	695.4	749.3	801.1	849.3	883.6	911.9	929.1	937.2
142.5°	679.4	725.0	769.3	809.5	841.9	867.5	882.8	885.8
145°	658.2	693.6	726.9	758.0	783.9	802.7	814.6	819.3
147.5°	642.4	668.8	693.5	715.4	736.2	750.7	758.4	761.0
150°	633.0	655.1	676.3	694.4	709.5	721.6	727.7	728.7
152.5°	624.1	644.6	662.6	678.3	690.1	700.6	705.1	705.3
155°	611.8	627.9	643.0	654.1	665.2	672.3	676.3	674.3
157.5°	597.4	611.0	623.7	632.4	640.2	646.0	647.8	647.8
160°	588.5	599.7	610.8	617.8	624.9	630.0	631.0	631.0
162.5°	579.8	589.2	598.6	604.1	611.2	614.6	615.6	614.8
165°	566.4	573.5	580.6	584.6	588.5	592.6	592.6	591.6
167.5°	553.7	559.2	564.0	567.6	569.5	571.7	571.5	570.3
170°	547.2	550.3	554.3	556.3	557.3	560.4	559.4	557.3
172.5°	540.0	542.2	545.4	546.6	547.6	549.1	548.1	546.8
175°	532.2	533.2	534.2	535.2	535.2	536.2	535.2	533.2
177.5°	526.5	526.5	527.4	527.4	527.4	527.4	526.5	524.9
180°	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1

(END OF REPORT)