

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: P331374-840

Luminaire Tested: **SA2XXDIP-C675D1080U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331374-840
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-C675D1080U840-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

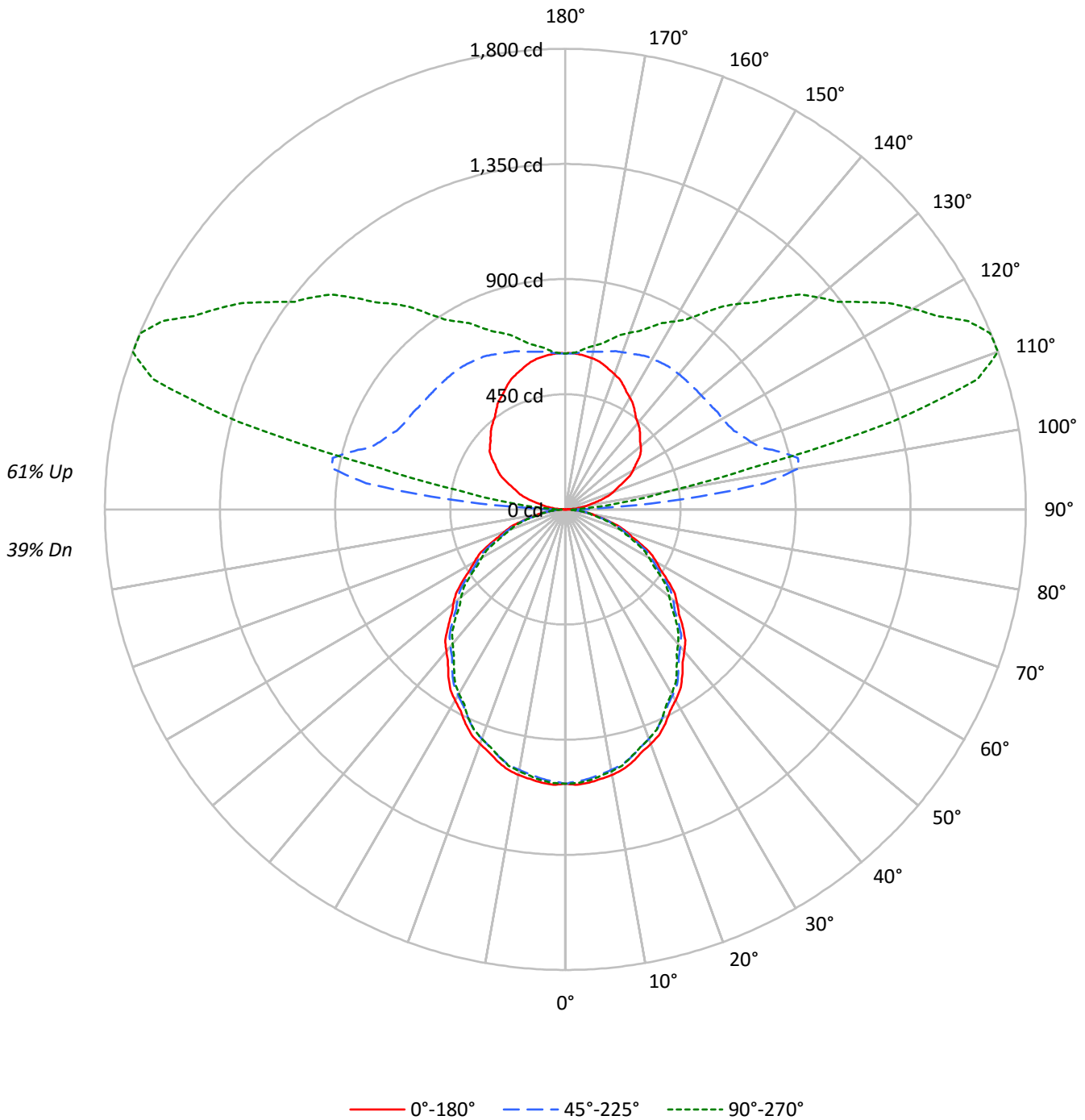
Lumens per Lamp: N/A
Luminaire Lumens: 6978.2 lumens
Efficiency: N/A
Efficacy: 122.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 56.9
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



TEST NUMBER: P331374-840
CATALOG NUMBER: SA2XXDIP-C675D1080U840-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P331374-840

CATALOG NUMBER: SA2XXDIP-C675D1080U840-4F0-1E-UDD-F4

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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	87	83	80	77	68	65	63	54	52	51	41	40	39	33
2	87	80	73	68	79	72	67	63	59	56	52	47	45	42	36	34	33	28
3	79	70	63	57	72	64	58	53	52	48	44	42	38	36	32	30	28	23
4	72	62	54	48	66	56	50	44	46	41	37	37	34	31	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	27	26	23	21	17
6	61	49	41	36	55	45	38	33	37	32	28	30	26	23	23	21	18	15
7	56	44	37	31	51	41	34	29	34	29	25	27	23	20	21	18	16	14
8	52	40	33	27	47	37	30	26	31	26	22	25	21	18	19	17	15	12
9	49	37	29	24	44	34	27	23	28	23	20	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	18	21	17	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17312	17312	17312
5°	17378	17126	17227
10°	17274	16952	17038
15°	17060	16732	16715
20°	16756	16402	16385
25°	16456	15998	15998
30°	16067	15627	15491
35°	15707	15179	14954
40°	15253	14731	14450
45°	14805	14289	13935
50°	14320	13828	13335
55°	13813	13292	12797
60°	13249	12649	12184
65°	12642	12015	11461
70°	11877	11240	10707
75°	10805	10356	10100
80°	9586	9298	8815
85°	7836	7447	6688



TEST NUMBER: P331374-840

CATALOG NUMBER: SA2XXDIP-C675D1080U840-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.8	1.4
10°-20°	283.7	4.1
20°-30°	417.0	6.0
30°-40°	484.3	6.9
40°-50°	483.8	6.9
50°-60°	421.9	6.0
60°-70°	312.0	4.5
70°-80°	176.7	2.5
80°-90°	53.0	0.8
90°-100°	243.9	3.5
100°-110°	827.7	11.9
110°-120°	879.3	12.6
120°-130°	723.9	10.4
130°-140°	581.3	8.3
140°-150°	439.3	6.3
150°-160°	308.7	4.4
160°-170°	181.7	2.6
170°-180°	59.1	0.8
0°-30°	801.5	11.5
0°-40°	1285.8	18.4
0°-60°	2191.5	31.4
0°-90°	2733.2	39.2
90°-120°	1951.0	28.0
90°-150°	3695.4	53.0
90°-180°	4245.0	60.8
0°-180°	6978.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1072	1072	1072	1072	1072	
5°	1072	1068	1057	1064	1063	102
15°	1021	1014	1001	1005	1000	287
25°	924	915	898	900	898	425
35°	797	786	770	764	759	497
45°	648	641	626	615	610	500
55°	491	484	472	460	455	439
65°	331	324	314	305	300	327
75°	173	171	166	160	162	185
85°	42	41	40	37	36	48
90°	1	16	40	38	39	4
95°	41	101	460	174	134	44
105°	143	216	869	1554	1322	152
115°	252	319	727	1501	1740	250
125°	352	416	699	1216	1411	312
135°	413	493	691	1022	1170	319
145°	472	542	687	854	934	296
155°	536	579	668	755	785	247
165°	584	602	639	678	689	165
175°	609	609	615	622	621	58
180°	610	610	610	610	610	



TEST NUMBER: P331374-840

CATALOG NUMBER: SA2XXDIP-C675D1080U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1077.1	1076.2	1075.3	1074.4	1073.5	1072.0	1070.0	1067.9	1065.9	1063.9	1065.7
5°	1072.2	1071.3	1070.4	1069.4	1068.5	1066.8	1064.3	1061.8	1059.2	1056.7	1058.5
7.5°	1062.7	1061.3	1059.9	1058.4	1057.0	1055.0	1052.5	1049.9	1047.3	1044.7	1046.5
10°	1053.6	1052.0	1050.4	1048.7	1047.2	1045.0	1042.3	1039.6	1036.7	1034.0	1035.8
12.5°	1041.3	1039.9	1038.3	1036.9	1035.5	1033.5	1030.7	1027.9	1025.2	1022.5	1023.8
15°	1020.6	1019.3	1017.8	1016.5	1015.1	1012.9	1010.0	1006.9	1004.0	1001.0	1002.0
17.5°	994.2	992.8	991.5	990.1	988.8	986.5	983.5	980.5	977.4	974.4	975.5
20°	975.2	973.9	972.5	971.1	969.8	967.5	964.2	961.1	957.9	954.6	955.3
22.5°	956.2	954.3	952.4	950.5	948.6	946.1	943.1	940.1	937.1	934.0	934.1
25°	923.7	921.9	920.1	918.2	916.4	913.5	909.6	905.7	901.8	898.0	898.4
27.5°	886.6	884.9	883.3	881.6	880.0	877.7	874.5	871.5	868.4	865.4	864.6
30°	861.8	860.0	858.2	856.4	854.5	851.9	848.5	845.1	841.6	838.2	837.5
32.5°	835.5	833.9	832.5	831.0	829.6	827.1	823.4	819.8	816.2	812.5	811.3
35°	796.9	794.7	792.3	790.0	787.7	784.8	781.1	777.4	773.8	770.1	768.7
37.5°	753.4	751.3	749.3	747.3	745.4	742.5	738.8	735.2	731.5	727.8	726.1
40°	723.7	721.9	720.0	718.2	716.4	713.7	709.9	706.3	702.7	698.9	696.9
42.5°	694.9	693.0	691.2	689.3	687.5	684.8	681.1	677.4	673.8	670.1	667.8
45°	648.4	646.8	645.2	643.7	642.1	639.5	636.1	632.7	629.2	625.8	623.3
47.5°	602.3	600.8	599.3	597.7	596.2	593.7	590.1	586.5	583.0	579.4	576.7
50°	570.1	569.0	567.8	566.6	565.5	563.3	560.2	556.9	553.7	550.5	547.3
52.5°	538.8	537.2	535.7	534.2	532.7	530.5	527.5	524.4	521.4	518.4	515.7
55°	490.7	489.4	488.0	486.6	485.2	483.1	480.4	477.7	474.9	472.2	469.4
57.5°	442.4	441.4	440.3	439.2	438.1	436.1	433.0	430.0	427.0	423.9	421.2
60°	410.3	409.4	408.5	407.6	406.7	404.6	401.4	398.2	395.0	391.7	389.2
62.5°	379.0	377.5	376.1	374.6	373.1	371.1	368.7	366.2	363.8	361.2	358.9
65°	330.9	329.5	328.2	326.8	325.4	323.6	321.3	319.0	316.7	314.5	312.4
67.5°	282.1	280.9	279.8	278.7	277.6	276.1	274.0	272.0	269.9	267.8	266.2
70°	251.6	250.6	249.7	248.8	247.9	246.4	244.3	242.3	240.2	238.1	236.5
72.5°	220.3	219.2	218.3	217.4	216.5	215.4	214.1	212.8	211.5	210.1	208.5
75°	173.2	172.7	172.3	171.8	171.4	170.6	169.5	168.2	167.1	166.0	164.6
77.5°	131.2	130.4	129.6	128.8	128.1	127.4	126.9	126.4	126.0	125.5	124.9
80°	103.1	102.9	102.6	102.4	102.2	101.8	101.4	100.9	100.5	100.0	99.3
82.5°	76.7	76.6	76.6	76.5	76.5	76.3	76.0	75.8	75.5	75.2	74.4
85°	42.3	42.0	41.8	41.6	41.3	41.1	40.9	40.7	40.4	40.2	39.5
87.5°	15.0	15.5	16.0	16.1	16.2	16.6	17.4	18.6	19.7	19.5	18.8
90°	1.2	4.6	9.4	11.7	14.0	17.6	23.4	31.7	38.7	39.9	38.7
92.5°	14.3	20.6	29.1	34.2	42.2	53.2	79.8	117.0	150.4	152.5	128.9
95°	41.1	45.7	57.5	68.1	86.8	114.9	169.0	270.9	407.1	459.9	402.4
97.5°	66.9	73.2	85.6	101.6	123.2	155.1	222.9	365.1	591.3	785.1	823.5
100°	90.3	93.8	104.4	123.2	146.6	179.5	241.7	384.8	638.1	926.8	1095.7
102.5°	111.9	114.5	125.0	143.8	168.2	201.1	258.5	385.8	620.4	931.5	1197.1
105°	143.1	147.8	156.0	173.6	199.4	232.3	287.4	391.8	585.4	869.3	1181.3
107.5°	176.9	180.7	188.6	204.8	230.5	263.5	317.0	408.0	568.0	802.6	1078.3
110°	199.4	204.1	211.2	226.4	251.1	285.1	336.7	421.1	564.3	770.7	1013.6



TEST NUMBER: P331374-840

CATALOG NUMBER: SA2XXDIP-C675D1080U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	220.0	224.8	232.8	247.0	270.7	305.7	355.5	435.3	565.2	750.1	968.6
115°	252.3	258.1	265.1	279.2	302.7	334.4	384.8	456.4	570.2	727.3	912.7
117.5°	285.6	290.2	297.3	309.7	332.2	365.1	411.7	478.9	578.6	716.3	877.5
120°	306.2	310.8	317.9	328.5	351.9	384.8	430.5	493.9	584.2	709.7	858.7
122.5°	325.9	329.6	336.7	348.2	371.6	405.5	448.4	507.1	590.8	706.0	842.7
125°	351.9	355.5	362.5	376.6	400.0	432.9	475.1	528.0	600.7	699.2	820.0
127.5°	372.5	377.3	387.2	402.6	425.2	458.9	500.0	547.3	610.8	695.2	798.9
130°	384.8	389.5	401.2	417.7	441.1	473.9	515.0	559.6	618.2	693.3	784.9
132.5°	396.1	401.7	414.3	431.7	456.2	489.0	528.2	571.8	625.7	692.4	773.6
135°	412.9	417.7	431.7	449.3	476.3	509.2	546.6	587.7	634.7	690.9	757.8
137.5°	428.9	434.5	448.6	467.4	494.1	524.6	561.7	600.0	642.7	690.7	746.8
140°	441.1	445.8	459.9	478.7	504.4	534.9	570.2	606.5	646.4	689.8	740.2
142.5°	453.3	457.1	470.2	489.0	513.8	542.5	576.7	612.2	649.2	689.8	733.7
145°	471.6	476.3	488.1	505.6	529.1	554.9	586.5	619.5	652.3	687.4	725.0
147.5°	491.3	494.8	506.0	522.3	541.8	564.7	594.5	623.4	653.2	683.3	716.1
150°	504.4	508.0	517.4	532.6	550.2	571.3	598.3	625.3	652.3	680.4	708.5
152.5°	517.6	519.3	528.6	542.0	558.7	577.8	602.1	626.2	650.4	675.7	702.0
155°	536.1	537.2	544.3	557.2	570.2	587.7	607.6	627.6	647.5	667.5	689.8
157.5°	551.6	552.8	558.5	569.7	580.0	594.8	611.7	627.6	642.2	659.0	678.3
160°	561.9	563.1	567.7	577.1	586.5	599.5	613.6	627.6	639.3	653.5	669.8
162.5°	572.3	571.6	576.2	583.7	592.2	602.3	614.5	626.7	636.5	648.7	662.4
165°	584.2	583.1	585.4	592.4	598.3	605.3	615.9	624.1	631.2	639.3	649.9
167.5°	594.1	592.7	594.8	599.3	603.5	607.9	615.6	622.5	625.7	631.2	637.7
170°	600.7	598.3	599.5	603.0	605.3	608.8	614.7	620.6	622.9	626.4	631.2
172.5°	604.4	603.0	602.3	605.8	607.2	609.8	613.8	617.7	619.1	620.9	624.6
175°	608.8	607.6	606.5	608.8	608.8	610.1	612.4	614.7	613.6	614.7	615.9
177.5°	611.0	609.0	608.1	610.1	610.1	610.1	611.0	612.9	611.0	610.1	611.0
180°	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1



TEST NUMBER: P331374-840

CATALOG NUMBER: SA2XXDIP-C675D1080U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1067.5	1069.4	1071.3	1072.0	1071.6	1071.3	1070.9	1070.6
5°	1060.4	1062.2	1064.0	1064.7	1064.3	1063.8	1063.4	1062.9
7.5°	1048.4	1050.3	1052.1	1052.7	1052.2	1051.8	1051.3	1050.8
10°	1037.6	1039.6	1041.4	1041.9	1041.3	1040.6	1039.9	1039.2
12.5°	1025.0	1026.3	1027.6	1027.9	1027.4	1027.0	1026.5	1026.0
15°	1002.9	1003.8	1004.7	1004.6	1003.4	1002.3	1001.2	1000.0
17.5°	976.5	977.5	978.7	978.7	977.5	976.4	975.3	974.2
20°	956.0	956.7	957.4	957.3	956.3	955.4	954.5	953.6
22.5°	934.3	934.4	934.5	934.3	933.8	933.2	932.7	932.2
25°	898.9	899.3	899.8	899.8	899.3	898.9	898.4	898.0
27.5°	863.9	863.3	862.6	861.7	860.6	859.5	858.4	857.3
30°	836.8	836.1	835.4	834.6	833.6	832.7	831.8	830.9
32.5°	810.1	808.9	807.6	806.6	805.7	804.8	803.8	802.8
35°	767.4	766.0	764.6	763.4	762.2	761.0	759.9	758.7
37.5°	724.5	722.8	721.0	719.6	718.5	717.4	716.4	715.3
40°	694.9	692.8	690.7	689.2	688.3	687.4	686.5	685.6
42.5°	665.6	663.4	661.2	659.3	658.0	656.8	655.5	654.2
45°	620.8	618.2	615.7	614.0	613.1	612.2	611.3	610.3
47.5°	574.1	571.4	568.8	566.7	565.4	564.1	562.8	561.5
50°	544.1	540.9	537.7	535.5	534.3	533.2	532.1	530.9
52.5°	513.0	510.4	507.8	505.6	504.1	502.6	501.1	499.6
55°	466.7	463.9	461.2	459.2	458.1	457.0	455.8	454.6
57.5°	418.5	415.8	413.1	411.3	410.4	409.6	408.7	407.8
60°	386.7	384.2	381.6	380.1	379.4	378.7	378.0	377.3
62.5°	356.6	354.3	351.9	350.3	349.4	348.5	347.7	346.8
65°	310.3	308.2	306.2	304.6	303.5	302.3	301.1	300.0
67.5°	264.6	263.1	261.5	260.1	259.2	258.3	257.4	256.5
70°	234.9	233.4	231.8	230.5	229.5	228.6	227.7	226.8
72.5°	206.9	205.3	203.7	202.5	201.8	201.1	200.4	199.5
75°	163.2	161.9	160.5	160.1	160.5	161.0	161.4	161.9
77.5°	124.2	123.5	122.8	122.2	121.5	120.9	120.3	119.6
80°	98.7	98.0	97.3	96.6	96.2	95.7	95.3	94.8
82.5°	73.5	72.6	71.8	71.3	71.2	71.1	71.0	70.9
85°	38.9	38.2	37.5	37.0	36.8	36.6	36.4	36.1
87.5°	18.0	17.0	16.9	16.8	16.6	16.4	16.2	16.0
90°	37.6	35.2	37.6	38.7	38.7	38.7	38.7	38.7
92.5°	102.3	87.8	77.9	70.6	69.7	65.9	66.9	65.0
95°	307.4	235.8	186.5	160.7	145.4	136.1	132.6	133.7
97.5°	717.2	586.8	459.9	375.2	319.1	290.2	273.1	263.3
100°	1071.1	925.6	764.9	622.9	525.5	475.1	441.1	420.0
102.5°	1302.9	1270.0	1152.5	1002.1	896.3	810.2	767.7	739.1
105°	1425.3	1557.9	1573.2	1534.5	1461.7	1389.0	1338.6	1322.1
107.5°	1337.2	1536.8	1658.8	1715.6	1724.7	1720.7	1710.6	1688.8
110°	1261.1	1471.1	1621.2	1717.5	1767.9	1790.2	1800.8	1799.6



TEST NUMBER: P331374-840

CATALOG NUMBER: SA2XXDIP-C675D1080U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1191.6	1393.2	1553.7	1664.0	1734.1	1771.4	1791.4	1797.7
115°	1106.3	1287.0	1440.6	1561.5	1644.8	1698.7	1729.2	1739.8
117.5°	1042.0	1200.6	1340.0	1453.3	1538.2	1595.2	1627.4	1636.3
120°	1010.1	1155.5	1279.9	1386.6	1468.7	1523.9	1557.9	1569.6
122.5°	984.7	1118.0	1235.8	1332.2	1405.8	1460.1	1490.4	1500.2
125°	947.9	1068.7	1171.9	1259.9	1328.0	1372.6	1401.9	1411.3
127.5°	911.5	1020.9	1118.2	1199.4	1258.8	1300.5	1325.9	1333.4
130°	888.1	989.0	1081.7	1159.0	1216.6	1256.5	1279.9	1289.3
132.5°	865.6	959.0	1044.1	1116.8	1173.4	1213.3	1234.9	1243.2
135°	834.0	911.5	989.0	1054.6	1105.1	1143.8	1164.9	1169.6
137.5°	809.0	873.7	935.2	992.5	1038.4	1071.8	1090.4	1097.3
140°	793.0	849.4	903.3	954.9	992.5	1023.0	1040.6	1047.6
142.5°	779.9	827.8	874.2	917.4	953.0	980.8	996.4	997.8
145°	761.3	800.1	836.5	870.5	898.6	918.6	930.3	933.8
147.5°	747.1	777.6	806.0	830.8	854.0	870.0	878.0	880.1
150°	736.7	762.5	787.2	808.3	825.9	840.0	847.0	848.2
152.5°	726.4	750.3	771.2	789.5	803.3	815.6	820.7	820.9
155°	712.1	730.8	748.4	761.3	774.3	782.4	787.2	784.9
157.5°	695.4	711.1	725.9	736.0	745.2	751.9	754.1	754.1
160°	685.1	698.0	710.9	719.1	727.3	733.2	734.4	734.4
162.5°	674.8	685.8	696.8	703.2	711.3	715.4	716.5	715.6
165°	659.3	667.5	675.7	680.4	685.1	689.8	689.8	688.6
167.5°	644.5	650.9	656.5	660.8	662.8	665.4	665.2	663.8
170°	637.0	640.6	645.2	647.5	648.7	652.3	651.1	648.7
172.5°	628.5	631.2	634.9	636.3	637.5	639.1	637.9	636.5
175°	619.5	620.6	621.8	622.9	622.9	624.1	622.9	620.6
177.5°	612.9	612.9	613.8	613.8	613.8	613.8	612.9	611.0
180°	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1

(END OF REPORT)