

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: P331372-840

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

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331372-840
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-C675D1080U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

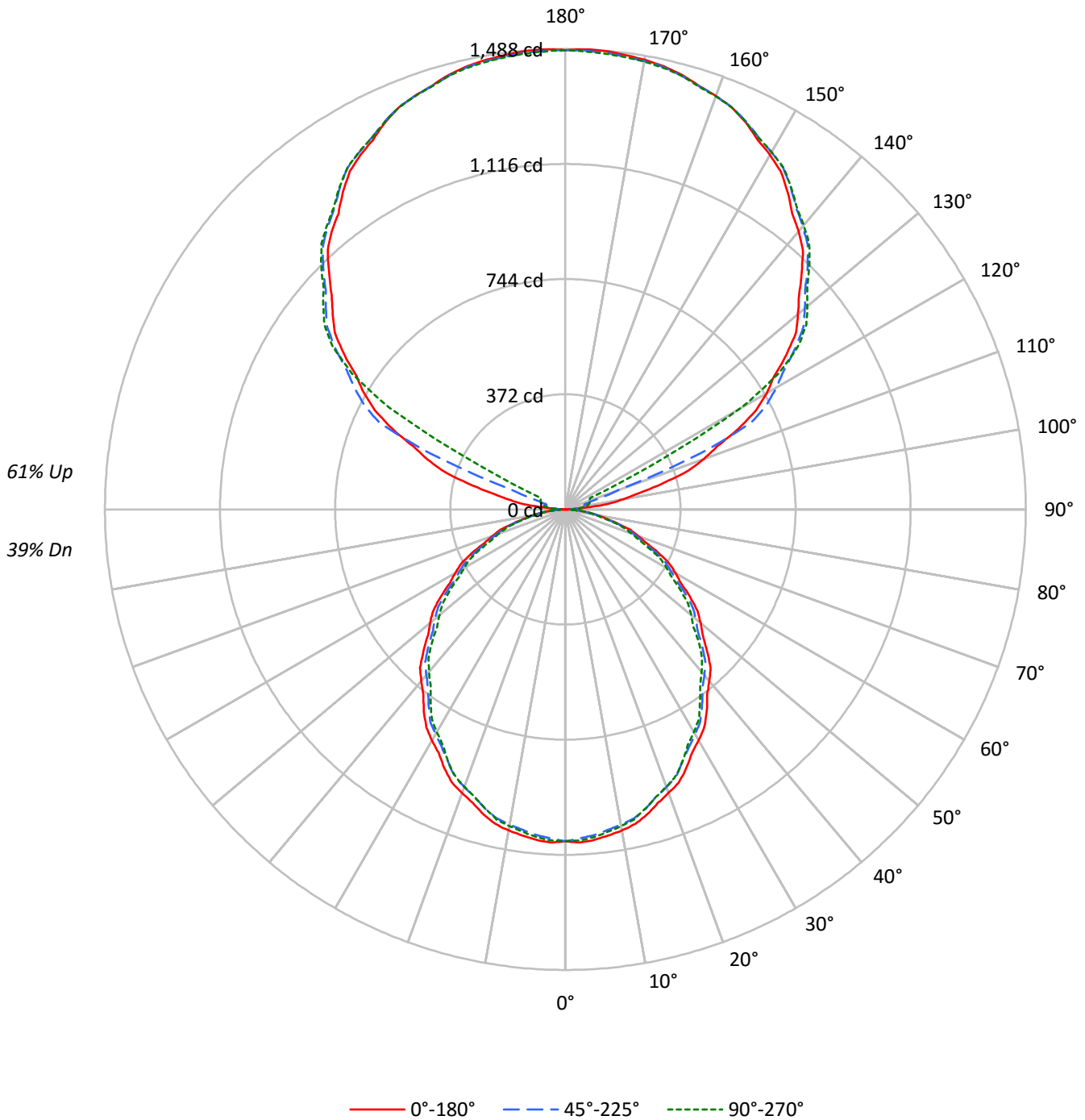
Lumens per Lamp: N/A
Luminaire Lumens: 7079.2 lumens
Efficiency: N/A
Efficacy: 124.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

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



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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	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	86	83	80	77	67	65	63	53	52	50	40	39	38	32
2	87	79	73	68	78	72	67	63	59	55	52	47	44	42	35	34	32	27
3	79	70	63	57	72	64	57	52	52	48	44	41	38	36	31	29	28	23
4	72	62	54	48	65	56	50	44	46	41	37	37	33	30	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	23	21	17
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	20	18	15
7	56	44	36	31	51	41	34	29	34	28	25	27	23	20	21	18	16	13
8	52	40	33	27	47	37	30	25	31	25	22	25	21	18	19	16	14	12
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	33	26	22	41	31	25	20	26	21	17	21	17	15	16	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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.8	1.4
10°-20°	283.7	4.0
20°-30°	417.0	5.9
30°-40°	484.3	6.8
40°-50°	483.8	6.8
50°-60°	421.9	6.0
60°-70°	312.0	4.4
70°-80°	176.7	2.5
80°-90°	51.2	0.7
90°-100°	49.5	0.7
100°-110°	181.5	2.6
110°-120°	485.1	6.9
120°-130°	800.8	11.3
130°-140°	851.6	12.0
140°-150°	791.6	11.2
150°-160°	636.4	9.0
160°-170°	410.1	5.8
170°-180°	141.2	2.0
0°-30°	801.5	11.3
0°-40°	1285.8	18.2
0°-60°	2191.5	31.0
0°-90°	2731.4	38.6
90°-120°	716.1	10.1
90°-150°	3160.1	44.6
90°-180°	4348.0	61.4
0°-180°	7079.2	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	13	22	27	29	5
95°	70	37	42	47	46	85
105°	326	340	65	77	82	349
115°	617	636	662	189	88	608
125°	873	887	907	914	918	778
135°	1080	1097	1107	1117	1115	834
145°	1253	1253	1270	1277	1272	783
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	



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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	15.2	15.3	15.6	15.7	15.8	15.8	15.9	15.9	15.9	15.6
90°	1.1	3.7	6.4	9.0	11.6	13.8	15.8	17.7	19.6	21.5	22.6
92.5°	21.7	21.4	21.2	21.0	20.7	21.1	22.0	23.0	23.9	24.9	25.5
95°	69.8	61.9	54.0	46.2	38.3	35.1	36.9	38.6	40.2	41.9	43.0
97.5°	138.5	116.3	94.1	71.9	49.8	40.6	44.4	48.3	52.2	56.0	57.0
100°	190.1	157.3	124.6	92.0	59.3	44.9	49.0	53.1	57.2	61.2	63.1
102.5°	246.7	239.7	232.9	225.9	219.0	198.6	164.7	130.8	96.8	62.9	65.4
105°	326.4	333.6	340.6	347.8	355.0	326.0	260.8	195.7	130.6	65.4	68.1
107.5°	417.2	422.9	428.7	434.4	440.3	404.1	326.0	247.9	169.8	91.7	89.0
110°	475.5	480.6	485.6	490.6	495.6	463.6	394.7	325.8	256.8	187.8	164.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	530.6	535.0	539.4	543.8	548.3	542.0	524.9	508.0	490.9	473.8	386.9
115°	617.3	621.4	625.4	629.4	633.5	638.5	644.5	650.5	656.4	662.4	551.9
117.5°	694.8	699.3	703.9	708.4	713.0	717.2	721.3	725.5	729.5	733.7	706.9
120°	751.4	755.1	758.6	762.2	765.8	769.7	774.1	778.3	782.6	786.9	789.7
122.5°	799.6	803.3	807.1	810.9	814.7	818.9	823.5	828.2	832.9	837.6	839.3
125°	872.8	875.9	879.0	882.1	885.1	889.0	893.5	898.1	902.6	907.2	908.8
127.5°	939.2	942.6	946.0	949.5	952.9	956.2	959.7	963.0	966.4	969.9	972.3
130°	981.2	985.0	988.9	992.7	996.4	999.7	1002.3	1004.9	1007.5	1010.2	1012.8
132.5°	1024.1	1027.4	1030.7	1033.9	1037.1	1040.1	1042.7	1045.3	1047.9	1050.6	1052.8
135°	1079.9	1083.8	1087.6	1091.5	1095.2	1098.2	1100.3	1102.5	1104.7	1106.8	1109.2
137.5°	1136.4	1139.1	1141.8	1144.5	1147.1	1149.6	1152.2	1154.6	1157.0	1159.4	1161.7
140°	1173.4	1175.3	1177.2	1179.1	1181.0	1183.3	1185.9	1188.5	1191.1	1193.8	1195.9
142.5°	1204.3	1206.0	1207.7	1209.4	1211.1	1213.6	1216.5	1219.5	1222.5	1225.6	1227.5
145°	1252.8	1252.5	1252.3	1252.1	1251.8	1253.7	1257.8	1261.8	1266.0	1270.0	1271.6
147.5°	1295.2	1294.2	1293.3	1292.4	1291.5	1293.0	1297.1	1301.0	1305.0	1309.1	1310.3
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°	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°	15.2	14.9	14.6	14.4	14.3	14.2	14.1	14.0
90°	23.8	25.0	26.3	27.1	27.6	28.1	28.5	29.0
92.5°	26.2	26.8	27.4	27.9	28.2	28.4	28.7	29.0
95°	44.2	45.4	46.7	47.2	46.9	46.7	46.4	46.2
97.5°	58.0	58.9	59.9	60.5	60.8	61.1	61.3	61.6
100°	65.0	67.0	68.9	70.0	70.5	71.0	71.5	71.9
102.5°	67.9	70.4	72.8	74.4	75.0	75.7	76.4	77.1
105°	70.7	73.3	75.9	77.8	78.8	79.7	80.6	81.6
107.5°	86.3	83.6	81.0	80.2	81.1	82.0	83.0	83.9
110°	140.2	116.3	92.4	81.0	81.9	82.9	83.8	84.8



TEST NUMBER: P331372-840

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	299.8	212.8	125.7	82.6	83.4	84.1	84.9	85.6
115°	441.4	331.0	220.6	156.7	139.6	122.4	105.2	88.1
117.5°	680.2	653.5	626.8	585.2	528.8	472.3	415.9	359.4
120°	792.6	795.5	798.4	783.7	751.4	719.2	687.0	654.9
122.5°	841.0	842.7	844.4	842.1	836.0	829.7	823.4	817.2
125°	910.5	912.1	913.8	915.0	915.7	916.5	917.2	917.9
127.5°	974.7	977.1	979.6	980.9	981.0	981.2	981.3	981.4
130°	1015.4	1018.0	1020.7	1021.9	1021.7	1021.4	1021.2	1021.0
132.5°	1055.0	1057.3	1059.6	1060.6	1060.3	1060.1	1059.9	1059.6
135°	1111.6	1114.0	1116.3	1117.3	1116.8	1116.3	1115.9	1115.4
137.5°	1164.1	1166.4	1168.7	1169.5	1168.7	1167.9	1167.1	1166.3
140°	1198.1	1200.2	1202.3	1202.9	1201.6	1200.4	1199.2	1198.1
142.5°	1229.4	1231.4	1233.3	1233.8	1232.5	1231.3	1230.2	1229.0
145°	1273.3	1275.0	1276.7	1276.9	1275.8	1274.6	1273.3	1272.1
147.5°	1311.5	1312.8	1314.0	1314.1	1313.1	1312.1	1311.1	1310.1
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)