

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

Luminaire Tested: **SA2XXDIP-C675D1080U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331372
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-C675D1080U835-4F0-1E-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

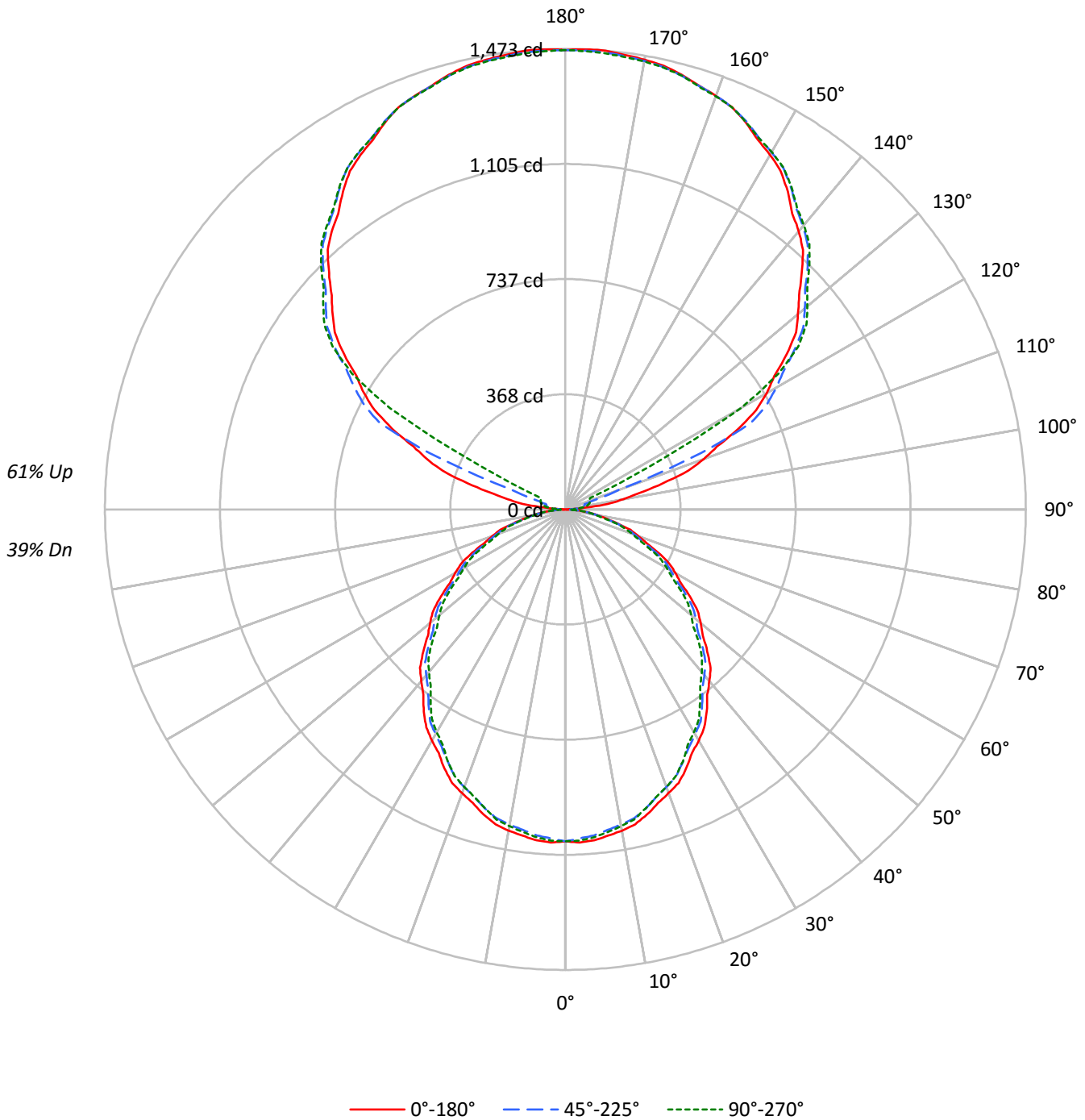
Lumens per Lamp: N/A
Luminaire Lumens: 7010.0 lumens
Efficiency: N/A
Efficacy: 123.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

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°	17142	17142	17142
5°	17208	16960	17058
10°	17105	16787	16870
15°	16893	16568	16552
20°	16593	16242	16225
25°	16295	15841	15841
30°	15910	15474	15340
35°	15554	15031	14808
40°	15104	14587	14309
45°	14661	14150	13798
50°	14179	13692	13205
55°	13678	13163	12673
60°	13120	12526	12064
65°	12520	11897	11351
70°	11759	11131	10603
75°	10699	10256	10000
80°	9493	9205	8731
85°	7762	7373	6614



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.8	1.4
10°-20°	280.9	4.0
20°-30°	412.9	5.9
30°-40°	479.6	6.8
40°-50°	479.1	6.8
50°-60°	417.8	6.0
60°-70°	308.9	4.4
70°-80°	175.0	2.5
80°-90°	50.7	0.7
90°-100°	49.0	0.7
100°-110°	179.7	2.6
110°-120°	480.4	6.9
120°-130°	793.0	11.3
130°-140°	843.3	12.0
140°-150°	783.8	11.2
150°-160°	630.2	9.0
160°-170°	406.1	5.8
170°-180°	139.8	2.0
0°-30°	793.6	11.3
0°-40°	1273.2	18.2
0°-60°	2170.1	31.0
0°-90°	2704.7	38.6
90°-120°	709.1	10.1
90°-150°	3129.2	44.6
90°-180°	4305.0	61.4
0°-180°	7010.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1062	1057	1046	1054	1052	101
15°	1011	1004	991	995	990	284
25°	915	906	889	891	889	421
35°	789	779	763	756	751	492
45°	642	635	620	609	604	495
55°	486	479	468	456	450	434
65°	328	321	311	302	297	324
75°	172	169	164	159	160	183
85°	42	41	40	37	36	48
90°	1	13	21	26	29	5
95°	69	36	42	46	46	85
105°	323	337	65	76	81	345
115°	611	630	656	187	87	602
125°	864	878	898	906	909	770
135°	1069	1086	1096	1106	1104	826
145°	1241	1241	1258	1264	1260	776
155°	1366	1358	1369	1375	1367	629
165°	1439	1434	1436	1443	1436	406
175°	1472	1465	1467	1473	1464	140
180°	1469	1469	1469	1469	1469	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1066.6	1065.7	1064.8	1063.9	1063.0	1061.5	1059.5	1057.5	1055.5	1053.5	1055.3
5°	1061.7	1060.8	1059.9	1059.0	1058.1	1056.4	1053.9	1051.4	1048.9	1046.4	1048.2
7.5°	1052.3	1050.9	1049.5	1048.1	1046.7	1044.7	1042.2	1039.6	1037.1	1034.5	1036.3
10°	1043.3	1041.7	1040.1	1038.5	1037.0	1034.8	1032.1	1029.4	1026.6	1023.9	1025.7
12.5°	1031.1	1029.7	1028.2	1026.8	1025.4	1023.4	1020.6	1017.9	1015.2	1012.5	1013.8
15°	1010.6	1009.3	1007.9	1006.6	1005.2	1003.0	1000.1	997.1	994.2	991.2	992.2
17.5°	984.5	983.1	981.8	980.4	979.1	976.9	973.9	970.9	967.9	964.9	966.0
20°	965.7	964.4	963.0	961.6	960.3	958.0	954.8	951.7	948.5	945.3	946.0
22.5°	946.9	945.0	943.1	941.2	939.3	936.9	933.9	930.9	927.9	924.9	925.0
25°	914.7	912.9	911.1	909.2	907.4	904.6	900.7	896.9	893.0	889.2	889.6
27.5°	877.9	876.3	874.7	873.0	871.4	869.1	866.0	863.0	859.9	856.9	856.2
30°	853.4	851.6	849.8	848.0	846.2	843.6	840.2	836.8	833.4	830.0	829.3
32.5°	827.3	825.8	824.4	822.9	821.5	819.0	815.4	811.8	808.2	804.6	803.4
35°	789.1	786.9	784.6	782.3	780.0	777.1	773.5	769.8	766.2	762.6	761.2
37.5°	746.0	744.0	742.0	740.0	738.1	735.2	731.6	728.0	724.4	720.7	719.0
40°	716.6	714.8	713.0	711.2	709.4	706.7	703.0	699.4	695.8	692.1	690.1
42.5°	688.1	686.2	684.4	682.6	680.8	678.1	674.4	670.8	667.2	663.6	661.3
45°	642.1	640.5	638.9	637.4	635.8	633.3	629.9	626.5	623.1	619.7	617.2
47.5°	596.4	594.9	593.4	591.9	590.4	587.9	584.3	580.8	577.3	573.7	571.1
50°	564.5	563.4	562.3	561.1	560.0	557.8	554.7	551.5	548.3	545.1	542.0
52.5°	533.5	532.0	530.5	529.0	527.5	525.3	522.3	519.3	516.3	513.3	510.7
55°	485.9	484.6	483.2	481.8	480.5	478.4	475.7	473.0	470.3	467.6	464.8
57.5°	438.1	437.1	436.0	434.9	433.8	431.8	428.8	425.8	422.8	419.8	417.1
60°	406.3	405.4	404.5	403.6	402.7	400.6	397.5	394.3	391.1	387.9	385.4
62.5°	375.3	373.8	372.4	370.9	369.5	367.5	365.1	362.6	360.2	357.7	355.4
65°	327.7	326.3	325.0	323.6	322.2	320.4	318.2	315.9	313.6	311.4	309.3
67.5°	279.3	278.2	277.1	276.0	274.9	273.4	271.3	269.3	267.3	265.2	263.6
70°	249.1	248.2	247.3	246.4	245.5	244.0	241.9	239.9	237.9	235.8	234.2
72.5°	218.1	217.1	216.2	215.3	214.4	213.3	212.0	210.7	209.4	208.0	206.5
75°	171.5	171.0	170.6	170.1	169.7	168.9	167.8	166.6	165.5	164.4	163.0
77.5°	129.9	129.1	128.3	127.5	126.8	126.2	125.7	125.2	124.8	124.3	123.7
80°	102.1	101.9	101.6	101.4	101.2	100.8	100.4	99.9	99.5	99.0	98.3
82.5°	76.0	75.9	75.9	75.8	75.8	75.6	75.3	75.1	74.8	74.5	73.7
85°	41.9	41.6	41.4	41.2	40.9	40.7	40.5	40.3	40.0	39.8	39.1
87.5°	14.9	15.1	15.2	15.4	15.5	15.6	15.6	15.7	15.7	15.7	15.4
90°	1.1	3.7	6.3	8.9	11.5	13.7	15.6	17.5	19.4	21.3	22.4
92.5°	21.5	21.2	21.0	20.8	20.5	20.9	21.8	22.8	23.7	24.7	25.3
95°	69.1	61.3	53.5	45.7	37.9	34.8	36.5	38.2	39.8	41.5	42.6
97.5°	137.1	115.2	93.2	71.2	49.3	40.2	44.0	47.8	51.7	55.5	56.4
100°	188.2	155.8	123.4	91.1	58.7	44.5	48.5	52.6	56.6	60.6	62.5
102.5°	244.3	237.4	230.6	223.7	216.9	196.7	163.1	129.5	95.9	62.3	64.8
105°	323.2	330.3	337.3	344.4	351.5	322.8	258.3	193.8	129.3	64.8	67.4
107.5°	413.1	418.8	424.5	430.2	436.0	400.2	322.8	245.5	168.1	90.8	88.1
110°	470.9	475.9	480.9	485.8	490.8	459.1	390.8	322.6	254.3	186.0	162.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	525.4	529.8	534.1	538.5	542.9	536.7	519.8	503.0	486.1	469.2	383.1
115°	611.3	615.3	619.3	623.3	627.3	632.3	638.2	644.1	650.0	655.9	546.5
117.5°	688.0	692.5	697.0	701.5	706.0	710.2	714.3	718.4	722.4	726.5	700.0
120°	744.1	747.7	751.2	754.8	758.3	762.2	766.5	770.7	775.0	779.2	782.0
122.5°	791.8	795.5	799.2	803.0	806.7	810.9	815.5	820.1	824.8	829.4	831.1
125°	864.3	867.3	870.4	873.5	876.5	880.3	884.8	889.3	893.8	898.3	899.9
127.5°	930.0	933.4	936.8	940.2	943.6	946.9	950.3	953.6	957.0	960.4	962.8
130°	971.6	975.4	979.2	983.0	986.7	989.9	992.5	995.1	997.7	1000.3	1002.9
132.5°	1014.1	1017.4	1020.6	1023.8	1027.0	1029.9	1032.5	1035.1	1037.7	1040.3	1042.5
135°	1069.4	1073.2	1077.0	1080.8	1084.5	1087.5	1089.6	1091.7	1093.9	1096.0	1098.4
137.5°	1125.3	1128.0	1130.6	1133.3	1135.9	1138.4	1140.9	1143.3	1145.7	1148.1	1150.4
140°	1161.9	1163.8	1165.7	1167.6	1169.5	1171.7	1174.3	1176.9	1179.5	1182.1	1184.2
142.5°	1192.5	1194.2	1195.9	1197.6	1199.3	1201.7	1204.6	1207.6	1210.6	1213.6	1215.5
145°	1240.6	1240.3	1240.1	1239.9	1239.6	1241.5	1245.5	1249.5	1253.6	1257.6	1259.2
147.5°	1282.5	1281.6	1280.7	1279.8	1278.9	1280.4	1284.4	1288.3	1292.3	1296.3	1297.5
150°	1309.7	1308.0	1306.4	1304.7	1303.1	1304.1	1307.9	1311.7	1315.5	1319.2	1320.7
152.5°	1332.6	1330.8	1328.9	1327.1	1325.3	1326.1	1329.7	1333.3	1336.9	1340.5	1341.9
155°	1366.0	1363.9	1361.8	1359.6	1357.5	1357.9	1360.7	1363.5	1366.4	1369.2	1370.6
157.5°	1392.2	1390.4	1388.6	1386.8	1385.0	1385.1	1387.1	1389.0	1391.0	1393.0	1394.6
160°	1407.5	1406.1	1404.6	1403.2	1401.8	1401.8	1403.2	1404.6	1406.1	1407.5	1408.9
162.5°	1421.1	1419.7	1418.2	1416.8	1415.4	1415.3	1416.5	1417.8	1419.0	1420.2	1421.8
165°	1439.4	1437.9	1436.5	1435.1	1433.7	1433.3	1434.0	1434.8	1435.5	1436.2	1437.8
167.5°	1453.0	1451.6	1450.1	1448.7	1447.3	1446.9	1447.6	1448.2	1448.9	1449.6	1451.2
170°	1460.6	1459.2	1457.8	1456.4	1455.0	1454.5	1455.0	1455.4	1455.9	1456.4	1458.0
172.5°	1465.7	1464.3	1462.9	1461.5	1460.1	1459.6	1460.1	1460.5	1461.0	1461.5	1463.1
175°	1472.3	1470.7	1469.0	1467.4	1465.7	1465.1	1465.6	1466.1	1466.5	1467.0	1468.7
177.5°	1473.4	1472.1	1470.7	1469.4	1468.1	1467.5	1467.7	1467.9	1468.1	1468.3	1469.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1057.1	1059.0	1060.8	1061.5	1061.1	1060.8	1060.4	1060.1
5°	1050.0	1051.8	1053.6	1054.3	1053.9	1053.4	1053.0	1052.5
7.5°	1038.2	1040.0	1041.8	1042.4	1041.9	1041.5	1041.0	1040.5
10°	1027.5	1029.4	1031.2	1031.7	1031.1	1030.4	1029.7	1029.0
12.5°	1015.0	1016.3	1017.6	1017.9	1017.4	1017.0	1016.5	1016.0
15°	993.1	994.0	994.9	994.8	993.6	992.5	991.4	990.2
17.5°	967.0	968.0	969.1	969.1	968.0	966.9	965.8	964.7
20°	946.7	947.4	948.0	947.9	947.0	946.1	945.2	944.3
22.5°	925.2	925.3	925.4	925.2	924.7	924.1	923.6	923.1
25°	890.1	890.5	891.0	891.0	890.5	890.1	889.6	889.2
27.5°	855.5	854.9	854.2	853.3	852.2	851.1	850.0	848.9
30°	828.6	827.9	827.2	826.4	825.5	824.6	823.7	822.8
32.5°	802.2	801.0	799.7	798.7	797.8	796.9	795.9	795.0
35°	759.9	758.5	757.1	755.9	754.8	753.6	752.5	751.3
37.5°	717.4	715.7	714.0	712.6	711.5	710.4	709.4	708.3
40°	688.1	686.0	684.0	682.5	681.6	680.7	679.8	678.9
42.5°	659.1	656.9	654.7	652.9	651.6	650.4	649.1	647.8
45°	614.7	612.2	609.7	608.0	607.1	606.2	605.3	604.3
47.5°	568.5	565.8	563.2	561.2	559.9	558.6	557.3	556.0
50°	538.8	535.6	532.4	530.3	529.1	528.0	526.9	525.7
52.5°	508.0	505.4	502.8	500.7	499.2	497.7	496.2	494.7
55°	462.1	459.4	456.7	454.7	453.6	452.5	451.3	450.2
57.5°	414.4	411.7	409.1	407.3	406.4	405.6	404.7	403.8
60°	382.9	380.4	377.9	376.4	375.7	375.0	374.3	373.6
62.5°	353.1	350.8	348.5	346.9	346.0	345.1	344.3	343.4
65°	307.3	305.2	303.2	301.6	300.5	299.3	298.2	297.1
67.5°	262.0	260.5	258.9	257.6	256.7	255.8	254.9	254.0
70°	232.6	231.1	229.5	228.2	227.3	226.4	225.5	224.6
72.5°	204.9	203.3	201.7	200.5	199.8	199.1	198.4	197.6
75°	161.6	160.3	158.9	158.5	158.9	159.4	159.8	160.3
77.5°	123.0	122.3	121.6	121.0	120.3	119.7	119.1	118.4
80°	97.7	97.0	96.3	95.7	95.3	94.8	94.4	93.9
82.5°	72.8	71.9	71.1	70.6	70.5	70.4	70.3	70.2
85°	38.5	37.8	37.1	36.6	36.4	36.2	36.0	35.7
87.5°	15.1	14.8	14.5	14.3	14.2	14.1	14.0	13.9
90°	23.6	24.8	26.0	26.8	27.3	27.8	28.2	28.7
92.5°	25.9	26.5	27.1	27.6	27.9	28.1	28.4	28.7
95°	43.8	45.0	46.2	46.7	46.4	46.2	45.9	45.7
97.5°	57.4	58.3	59.3	59.9	60.2	60.5	60.7	61.0
100°	64.4	66.3	68.2	69.3	69.8	70.3	70.8	71.2
102.5°	67.2	69.7	72.1	73.7	74.3	75.0	75.7	76.3
105°	70.0	72.6	75.2	77.0	78.0	78.9	79.8	80.8
107.5°	85.5	82.8	80.2	79.4	80.3	81.2	82.2	83.1
110°	138.8	115.2	91.5	80.2	81.1	82.1	83.0	84.0



TEST NUMBER: P331372

CATALOG NUMBER: SA2XXDIP-C675D1080U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	296.9	210.7	124.5	81.8	82.6	83.3	84.1	84.8
115°	437.1	327.8	218.4	155.2	138.2	121.2	104.2	87.2
117.5°	673.6	647.1	620.7	579.5	523.6	467.7	411.8	355.9
120°	784.9	787.7	790.6	776.0	744.1	712.2	680.3	648.5
122.5°	832.8	834.5	836.2	833.9	827.8	821.6	815.4	809.2
125°	901.6	903.2	904.9	906.1	906.8	907.5	908.2	908.9
127.5°	965.2	967.6	970.0	971.3	971.4	971.6	971.7	971.8
130°	1005.5	1008.1	1010.7	1011.9	1011.7	1011.4	1011.2	1011.0
132.5°	1044.7	1047.0	1049.2	1050.2	1049.9	1049.7	1049.5	1049.2
135°	1100.7	1103.1	1105.4	1106.4	1105.9	1105.4	1105.0	1104.5
137.5°	1152.7	1155.0	1157.3	1158.1	1157.3	1156.5	1155.7	1154.9
140°	1186.4	1188.5	1190.6	1191.1	1189.9	1188.7	1187.5	1186.4
142.5°	1217.4	1219.4	1221.3	1221.7	1220.5	1219.3	1218.2	1217.0
145°	1260.9	1262.5	1264.2	1264.4	1263.3	1262.1	1260.9	1259.7
147.5°	1298.7	1300.0	1301.2	1301.3	1300.3	1299.3	1298.3	1297.3
150°	1322.1	1323.5	1324.9	1325.0	1323.8	1322.7	1321.5	1320.3
152.5°	1343.3	1344.8	1346.2	1346.1	1344.5	1343.0	1341.4	1339.9
155°	1372.0	1373.5	1374.9	1374.6	1372.7	1370.9	1369.0	1367.1
157.5°	1396.2	1397.8	1399.4	1399.3	1397.5	1395.6	1393.8	1391.9
160°	1410.3	1411.7	1413.1	1413.0	1411.4	1409.7	1408.1	1406.4
162.5°	1423.4	1425.0	1426.7	1426.4	1424.4	1422.4	1420.3	1418.3
165°	1439.5	1441.1	1442.8	1442.8	1441.1	1439.5	1437.8	1436.2
167.5°	1452.9	1454.5	1456.2	1455.9	1453.8	1451.7	1449.6	1447.4
170°	1459.7	1461.3	1463.0	1462.7	1460.6	1458.5	1456.4	1454.2
172.5°	1464.8	1466.4	1468.1	1467.9	1465.7	1463.6	1461.5	1459.3
175°	1470.3	1472.0	1473.6	1473.3	1470.9	1468.5	1466.2	1463.8
177.5°	1470.9	1472.2	1473.6	1473.4	1471.7	1470.0	1468.3	1466.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1

(END OF REPORT)