

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: P331704

Luminaire Tested: **SA2XXRDIP-C675D1080U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331704  
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: SA2XXRDIP-C675D1080U835-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6529.0 lumens  
Efficiency: N/A  
Efficacy: 114.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

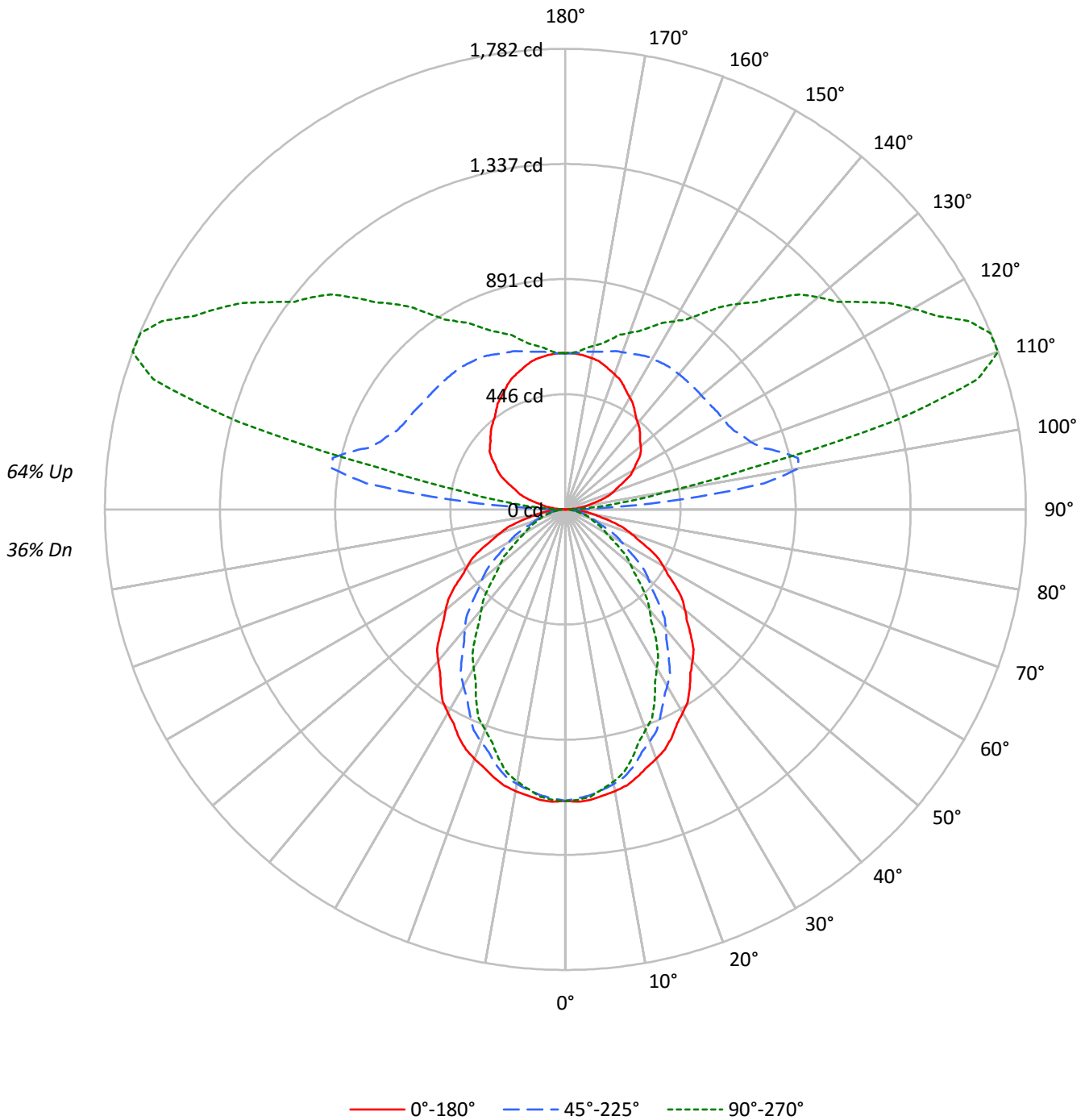
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	94	94	94	94	75	75	75	58	58	58	43	43	43	36
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	38	37	31
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	34	33	32	26
3	79	70	63	58	71	64	58	53	52	48	44	41	38	36	31	29	27	23
4	73	62	55	49	65	57	50	45	46	42	38	37	33	31	28	25	24	20
5	67	56	48	42	60	51	44	39	42	37	33	33	29	27	25	23	21	17
6	61	50	42	37	56	46	39	34	37	32	29	30	26	24	23	20	19	15
7	57	45	37	32	51	41	35	30	34	29	25	27	24	21	21	18	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	21	19	19	17	15	12
9	49	37	30	25	44	34	28	24	28	24	20	23	19	17	18	15	14	11
10	46	34	27	23	42	31	25	21	26	21	18	21	18	15	17	14	12	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	18213	18213	18213
5°	18282	17985	18084
10°	18143	17690	17539
15°	17934	17167	16672
20°	17646	16417	15593
25°	17350	15567	14549
30°	16940	14693	13209
35°	16539	13742	12033
40°	16136	12760	10671
45°	15664	11654	9439
50°	15179	10540	8231
55°	14686	9340	7068
60°	14108	8076	5867
65°	13456	6785	5345
70°	12675	5589	4914
75°	11715	5097	4585
80°	10349	4556	4175
85°	8133	3594	3594



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.6	1.6
10°-20°	289.9	4.4
20°-30°	407.1	6.2
30°-40°	443.9	6.8
40°-50°	408.2	6.3
50°-60°	320.6	4.9
60°-70°	209.0	3.2
70°-80°	107.8	1.7
80°-90°	33.4	0.5
90°-100°	241.5	3.7
100°-110°	819.6	12.6
110°-120°	870.7	13.3
120°-130°	716.8	11.0
130°-140°	575.6	8.8
140°-150°	435.0	6.7
150°-160°	305.7	4.7
160°-170°	180.0	2.8
170°-180°	58.6	0.9
0°-30°	802.6	12.3
0°-40°	1246.6	19.1
0°-60°	1975.3	30.3
0°-90°	2325.5	35.6
90°-120°	1931.9	29.6
90°-150°	3659.3	56.0
90°-180°	4204.0	64.4
0°-180°	6529.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1128	1122	1110	1118	1116	107
15°	1073	1060	1027	1008	997	302
25°	974	939	874	833	817	448
35°	839	785	697	635	610	525
45°	686	615	510	441	413	529
55°	522	440	332	273	251	466
65°	352	269	178	145	140	349
75°	188	118	82	75	74	199
85°	44	23	19	19	19	52
90°	1	16	40	38	38	4
95°	41	100	455	172	132	43
105°	142	214	861	1539	1309	151
115°	250	315	720	1486	1723	248
125°	348	412	692	1204	1398	309
135°	409	488	684	1012	1158	316
145°	467	537	681	845	925	293
155°	531	573	661	748	777	244
165°	578	596	633	671	682	163
175°	603	604	609	616	614	57
180°	604	604	604	604	604	



TEST NUMBER: P331704

CATALOG NUMBER: SA2XXRDIP-C675D1080U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1132.1	1131.2	1130.3	1129.4	1128.5	1127.0	1125.0	1123.0	1121.1	1119.1	1120.9
5°	1128.0	1126.9	1125.8	1124.6	1123.5	1121.5	1118.5	1115.6	1112.6	1109.7	1111.7
7.5°	1116.4	1115.0	1113.6	1112.2	1110.8	1108.3	1104.9	1101.5	1098.0	1094.6	1095.1
10°	1106.6	1105.0	1103.4	1101.8	1100.2	1097.2	1092.6	1088.1	1083.6	1079.0	1078.4
12.5°	1094.3	1092.4	1090.4	1088.5	1086.5	1082.7	1076.9	1071.1	1065.2	1059.4	1058.2
15°	1072.9	1070.4	1067.9	1065.4	1062.9	1057.8	1050.1	1042.4	1034.7	1027.0	1022.7
17.5°	1046.6	1042.8	1039.0	1035.1	1031.3	1024.5	1014.6	1004.7	994.8	984.9	979.8
20°	1027.0	1022.4	1017.9	1013.4	1008.8	1000.9	989.5	978.2	966.9	955.5	949.8
22.5°	1005.7	1000.7	995.6	990.5	985.4	976.5	963.7	950.9	938.1	925.3	918.0
25°	973.9	966.6	959.4	952.1	944.9	933.7	918.8	903.8	888.8	873.8	864.5
27.5°	935.5	927.6	919.7	911.8	903.9	891.5	874.7	857.8	840.9	824.0	813.2
30°	908.6	899.9	891.3	882.7	874.1	860.7	842.5	824.4	806.2	788.1	776.5
32.5°	882.4	872.3	862.3	852.2	842.1	827.8	809.3	790.8	772.3	753.8	740.6
35°	839.1	827.6	816.0	804.4	792.9	777.1	757.1	737.2	717.2	697.2	682.9
37.5°	795.9	783.1	770.4	757.7	745.0	728.0	706.8	685.5	664.2	642.9	627.2
40°	765.6	752.0	738.4	724.8	711.2	693.4	671.4	649.4	627.4	605.4	589.3
42.5°	734.6	720.3	705.9	691.6	677.3	658.7	636.0	613.3	590.5	567.8	551.1
45°	686.0	670.8	655.6	640.4	625.2	605.7	581.9	558.1	534.2	510.4	494.3
47.5°	638.6	622.5	606.4	590.3	574.2	553.9	529.3	504.7	480.1	455.5	439.5
50°	604.3	588.2	572.1	556.0	539.9	519.4	494.4	469.5	444.5	419.6	403.9
52.5°	570.9	554.0	537.2	520.4	503.5	482.9	458.5	434.1	409.7	385.3	370.2
55°	521.7	504.0	486.3	468.6	450.9	429.8	405.3	380.8	356.3	331.8	318.2
57.5°	471.2	453.1	434.9	416.8	398.6	377.8	354.2	330.7	307.1	283.6	271.1
60°	436.9	418.8	400.6	382.5	364.3	343.6	320.2	296.8	273.5	250.1	238.5
62.5°	403.4	385.3	367.1	349.0	330.8	310.6	288.4	266.1	243.8	221.5	210.5
65°	352.2	333.8	315.4	297.1	278.7	259.3	238.9	218.5	198.0	177.6	169.9
67.5°	302.8	284.5	266.3	248.1	229.8	211.5	193.1	174.8	156.4	138.0	134.5
70°	268.5	250.8	233.1	215.4	197.7	181.0	165.4	149.7	134.1	118.4	116.1
72.5°	235.8	218.8	201.9	184.9	167.9	153.2	140.6	128.0	115.5	102.9	101.0
75°	187.8	172.0	156.1	140.2	124.3	112.5	104.8	97.1	89.4	81.7	80.1
77.5°	140.7	126.7	112.8	98.9	85.0	76.1	72.4	68.7	65.0	61.3	60.3
80°	111.3	99.7	88.1	76.6	65.0	58.1	55.8	53.5	51.3	49.0	48.1
82.5°	84.3	75.3	66.3	57.2	48.2	42.9	41.4	39.8	38.3	36.8	36.2
85°	43.9	39.1	34.4	29.6	24.8	22.1	21.4	20.8	20.1	19.4	19.4
87.5°	13.3	12.5	12.0	11.0	10.0	10.0	11.2	12.8	14.2	14.4	14.0
90°	1.2	4.6	9.3	11.6	13.9	17.4	23.2	31.4	38.3	39.5	38.3
92.5°	14.2	20.4	28.8	33.9	41.8	52.7	79.0	115.9	148.9	151.0	127.6
95°	40.7	45.3	56.9	67.4	86.0	113.8	167.3	268.3	403.1	455.4	398.5
97.5°	66.2	72.5	84.8	100.6	122.0	153.6	220.7	361.5	585.5	777.4	815.5
100°	89.4	92.9	103.4	122.0	145.2	177.7	239.3	381.0	631.9	917.7	1085.0
102.5°	110.8	113.4	123.8	142.4	166.6	199.1	256.0	382.0	614.3	922.4	1185.4
105°	141.7	146.4	154.5	171.9	197.5	230.0	284.6	388.0	579.7	860.8	1169.8
107.5°	175.2	178.9	186.8	202.8	228.2	260.9	313.9	404.0	562.5	794.8	1067.8
110°	197.5	202.1	209.1	224.2	248.6	282.3	333.4	417.0	558.8	763.2	1003.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.9	222.6	230.5	244.6	268.1	302.7	352.0	431.0	559.7	742.8	959.1
115°	249.8	255.6	262.5	276.5	299.7	331.1	381.0	451.9	564.6	720.2	903.8
117.5°	282.8	287.4	294.4	306.7	329.0	361.5	407.7	474.2	572.9	709.3	868.9
120°	303.2	307.8	314.8	325.3	348.5	381.0	426.3	489.1	578.5	702.8	850.3
122.5°	322.7	326.4	333.4	344.8	368.0	401.5	444.0	502.1	585.0	699.1	834.5
125°	348.5	352.0	359.0	372.9	396.1	428.7	470.5	522.8	594.8	692.4	812.0
127.5°	368.9	373.6	383.4	398.7	421.0	454.4	495.1	542.0	604.8	688.4	791.1
130°	381.0	385.7	397.3	413.6	436.8	469.3	510.0	554.1	612.2	686.5	777.2
132.5°	392.2	397.8	410.3	427.5	451.7	484.2	523.0	566.2	619.6	685.6	766.0
135°	408.9	413.6	427.5	444.9	471.6	504.2	541.3	582.0	628.5	684.2	750.4
137.5°	424.7	430.3	444.2	462.8	489.3	519.5	556.2	594.1	636.4	684.0	739.5
140°	436.8	441.4	455.4	474.0	499.5	529.7	564.6	600.6	640.1	683.1	733.0
142.5°	448.9	452.6	465.6	484.2	508.8	537.2	571.1	606.2	642.9	683.1	726.5
145°	467.0	471.6	483.3	500.7	523.9	549.5	580.8	613.4	645.9	680.7	717.9
147.5°	486.5	490.0	501.1	517.2	536.5	559.2	588.7	617.3	646.8	676.6	709.1
150°	499.5	503.0	512.3	527.4	544.8	565.7	592.5	619.2	645.9	673.8	701.6
152.5°	512.5	514.2	523.4	536.7	553.2	572.2	596.2	620.1	644.0	669.1	695.1
155°	530.9	532.0	539.0	551.8	564.6	582.0	601.7	621.5	641.2	661.0	683.1
157.5°	546.2	547.4	553.0	564.1	574.3	589.0	605.7	621.5	635.9	652.6	671.7
160°	556.4	557.6	562.2	571.5	580.8	593.6	607.6	621.5	633.1	647.1	663.3
162.5°	566.7	566.0	570.6	578.0	586.4	596.4	608.5	620.6	630.3	642.4	655.9
165°	578.5	577.4	579.7	586.6	592.5	599.4	609.9	618.0	625.0	633.1	643.6
167.5°	588.3	586.9	589.0	593.4	597.6	602.0	609.6	616.4	619.6	625.0	631.5
170°	594.8	592.5	593.6	597.1	599.4	602.9	608.7	614.5	616.8	620.3	625.0
172.5°	598.5	597.1	596.4	599.9	601.3	603.8	607.8	611.7	613.1	614.8	618.5
175°	602.9	601.7	600.6	602.9	602.9	604.1	606.4	608.7	607.6	608.7	609.9
177.5°	605.0	603.1	602.2	604.1	604.1	604.1	605.0	606.9	605.0	604.1	605.0
180°	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1122.7	1124.5	1126.3	1127.0	1126.7	1126.3	1126.0	1125.6
5°	1113.7	1115.8	1117.8	1118.5	1117.8	1117.1	1116.5	1115.8
7.5°	1095.7	1096.3	1096.9	1096.6	1095.4	1094.3	1093.1	1091.9
10°	1077.7	1077.0	1076.3	1075.3	1073.9	1072.6	1071.2	1069.8
12.5°	1057.0	1055.8	1054.5	1052.8	1050.5	1048.3	1046.0	1043.7
15°	1018.4	1014.0	1009.7	1006.4	1004.2	1001.9	999.6	997.4
17.5°	974.7	969.5	964.4	959.9	956.0	952.1	948.2	944.3
20°	944.2	938.5	932.8	927.5	922.5	917.5	912.5	907.5
22.5°	910.7	903.4	896.1	890.6	886.8	883.1	879.4	875.7
25°	855.2	845.9	836.6	830.3	826.9	823.5	820.1	816.7
27.5°	802.3	791.5	780.7	772.5	767.1	761.7	756.3	750.9
30°	765.0	753.4	741.8	733.0	726.8	720.7	714.6	708.5
32.5°	727.4	714.2	701.0	691.5	685.7	680.0	674.2	668.5
35°	668.7	654.4	640.1	630.4	625.4	620.4	615.5	610.5
37.5°	611.4	595.7	580.0	569.2	563.5	557.8	552.1	546.4
40°	573.1	557.0	540.9	529.9	524.0	518.1	512.2	506.3
42.5°	534.5	517.8	501.2	490.0	484.3	478.6	472.9	467.1
45°	478.2	462.1	446.0	435.2	429.8	424.3	418.9	413.4
47.5°	423.5	407.5	391.4	381.0	376.0	371.1	366.1	361.2
50°	388.3	372.6	357.0	346.7	342.0	337.2	332.5	327.7
52.5°	355.1	339.9	324.8	315.1	310.7	306.3	301.9	297.5
55°	304.6	290.9	277.3	268.4	264.1	259.7	255.4	251.1
57.5°	258.6	246.2	233.7	225.6	222.0	218.4	214.7	211.1
60°	227.0	215.4	203.8	196.2	192.6	189.0	185.3	181.7
62.5°	199.5	188.4	177.4	170.8	168.6	166.5	164.3	162.1
65°	162.2	154.5	146.8	142.6	141.9	141.2	140.5	139.9
67.5°	130.9	127.4	123.9	121.7	121.0	120.3	119.6	118.8
70°	113.9	111.6	109.3	107.8	106.8	105.9	105.0	104.1
72.5°	99.1	97.2	95.3	94.1	93.5	93.0	92.4	91.9
75°	78.5	76.9	75.3	74.4	74.2	74.0	73.7	73.5
77.5°	59.4	58.5	57.6	57.0	56.6	56.3	55.9	55.5
80°	47.2	46.3	45.4	44.9	44.9	44.9	44.9	44.9
82.5°	35.7	35.1	34.6	34.3	34.3	34.3	34.3	34.3
85°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
87.5°	13.6	13.0	13.2	13.4	13.4	13.4	13.4	13.4
90°	37.2	34.9	37.2	38.3	38.3	38.3	38.3	38.3
92.5°	101.3	86.9	77.1	69.9	69.0	65.3	66.2	64.4
95°	304.4	233.5	184.7	159.1	144.0	134.8	131.3	132.4
97.5°	710.2	581.1	455.4	371.5	316.0	287.4	270.4	260.7
100°	1060.6	916.6	757.4	616.8	520.4	470.5	436.8	415.9
102.5°	1290.2	1257.6	1141.2	992.3	887.5	802.3	760.2	731.9
105°	1411.4	1542.7	1557.8	1519.5	1447.4	1375.4	1325.5	1309.2
107.5°	1324.1	1521.8	1642.6	1698.8	1707.9	1703.9	1693.9	1672.3
110°	1248.8	1456.7	1605.4	1700.7	1750.6	1772.7	1783.2	1782.0





TEST NUMBER: P331704

CATALOG NUMBER: SA2XXRDIP-C675D1080U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1180.0	1379.6	1538.5	1647.7	1717.2	1754.1	1773.9	1780.1
115°	1095.5	1274.4	1426.5	1546.2	1628.7	1682.1	1712.3	1722.8
117.5°	1031.8	1188.9	1326.9	1439.1	1523.2	1579.6	1611.5	1620.3
120°	1000.2	1144.2	1267.4	1373.1	1454.4	1509.0	1542.7	1554.3
122.5°	975.1	1107.1	1223.7	1319.2	1392.1	1445.8	1475.8	1485.5
125°	938.6	1058.3	1160.5	1247.6	1315.0	1359.2	1388.2	1397.5
127.5°	902.6	1010.9	1107.3	1187.7	1246.5	1287.8	1312.9	1320.4
130°	879.4	979.3	1071.1	1147.7	1204.7	1244.2	1267.4	1276.7
132.5°	857.1	949.6	1033.9	1105.9	1161.9	1201.4	1222.8	1231.1
135°	825.9	902.6	979.3	1044.3	1094.3	1132.6	1153.5	1158.2
137.5°	801.1	865.2	926.1	982.8	1028.3	1061.3	1079.7	1086.6
140°	785.3	841.1	894.5	945.6	982.8	1013.0	1030.4	1037.4
142.5°	772.3	819.7	865.7	908.4	943.7	971.2	986.7	988.1
145°	753.9	792.3	828.3	862.0	889.8	909.6	921.2	924.7
147.5°	739.8	770.0	798.1	822.7	845.7	861.5	869.4	871.5
150°	729.5	755.1	779.5	800.4	817.8	831.8	838.7	839.9
152.5°	719.3	743.0	763.7	781.8	795.5	807.6	812.7	812.9
155°	705.1	723.7	741.1	753.9	766.7	774.8	779.5	777.2
157.5°	688.6	704.2	718.8	728.8	737.9	744.6	746.7	746.7
160°	678.4	691.2	704.0	712.1	720.2	726.0	727.2	727.2
162.5°	668.2	679.1	690.0	696.3	704.4	708.4	709.5	708.6
165°	652.9	661.0	669.1	673.8	678.4	683.1	683.1	681.9
167.5°	638.2	644.5	650.1	654.3	656.3	658.9	658.7	657.3
170°	630.8	634.3	638.9	641.2	642.4	645.9	644.7	642.4
172.5°	622.4	625.0	628.7	630.1	631.3	632.9	631.7	630.3
175°	613.4	614.5	615.7	616.8	616.8	618.0	616.8	614.5
177.5°	606.9	606.9	607.8	607.8	607.8	607.8	606.9	605.0
180°	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1

(END OF REPORT)