

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: P331691

Luminaire Tested: **SA2XXRDIP-C675D725U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331691  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C675D725U835-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

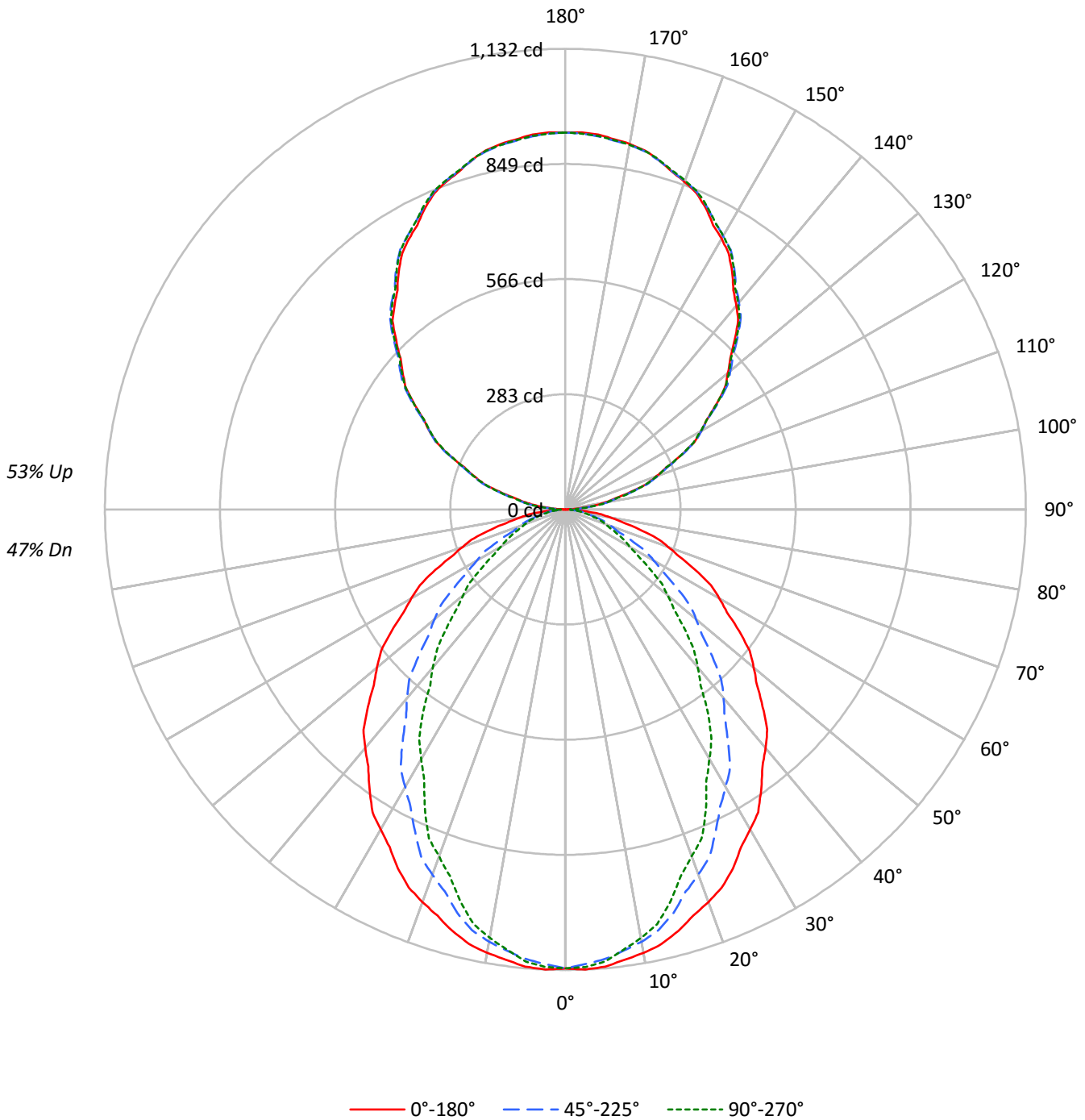
Lumens per Lamp: N/A  
Luminaire Lumens: 4913.7 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 45.9  
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	50	30	10	0	
RCR																						
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47				47
1	98	93	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41				41
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35				35
3	82	73	66	60	75	67	61	56	57	52	48	47	44	41	38	36	34	30				30
4	75	65	57	51	69	60	53	48	51	46	42	42	39	36	35	32	30	26				26
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	31	29	26	23				23
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23	20				20
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18				18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17				17
9	51	39	32	27	47	37	30	25	32	26	23	27	23	20	22	19	17	15				15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14				14

**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	2.1
10°-20°	289.9	5.9
20°-30°	407.1	8.3
30°-40°	443.9	9.0
40°-50°	408.2	8.3
50°-60°	320.6	6.5
60°-70°	209.0	4.3
70°-80°	107.8	2.2
80°-90°	31.7	0.6
90°-100°	58.7	1.2
100°-110°	182.3	3.7
110°-120°	311.6	6.3
120°-130°	409.8	8.3
130°-140°	459.9	9.4
140°-150°	450.9	9.2
150°-160°	378.2	7.7
160°-170°	250.9	5.1
170°-180°	87.7	1.8
0°-30°	802.6	16.3
0°-40°	1246.6	25.4
0°-60°	1975.3	40.2
0°-90°	2323.8	47.3
90°-120°	552.6	11.2
90°-150°	1873.2	38.1
90°-180°	2590.0	52.7
0°-180°	4913.7	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	11	27	26	27	4
95°	41	48	50	50	48	47
105°	168	170	172	173	174	177
115°	313	317	316	315	313	309
125°	455	461	460	457	456	406
135°	589	597	599	598	596	454
145°	714	720	725	725	722	446
155°	817	819	822	825	823	376
165°	889	888	888	893	890	251
175°	925	922	921	926	922	88
180°	926	926	926	926	926	



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**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°	13.2	12.2	11.2	10.1	9.1	8.9	9.7	10.5	11.2	12.0	11.8
90°	0.8	2.9	5.0	7.0	9.1	12.1	15.9	19.7	23.5	27.4	27.0
92.5°	13.9	15.4	17.0	18.5	20.0	21.2	22.1	23.0	24.0	24.9	24.9
95°	40.6	42.4	44.1	45.9	47.6	48.6	49.0	49.3	49.7	50.0	50.0
97.5°	74.3	75.8	77.3	78.8	80.4	81.5	82.1	82.8	83.4	84.1	84.1
100°	99.3	100.7	102.0	103.4	104.8	105.8	106.3	106.8	107.3	107.9	107.9
102.5°	125.5	126.6	127.8	128.9	130.0	130.9	131.5	132.2	132.8	133.5	133.6
105°	168.1	168.6	169.1	169.6	170.1	170.6	170.9	171.3	171.6	172.0	172.3
107.5°	210.9	211.7	212.4	213.2	213.9	214.3	214.3	214.3	214.3	214.3	214.5
110°	238.4	239.4	240.5	241.5	242.6	243.1	243.1	243.1	243.1	243.1	243.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	268.4	269.5	270.5	271.5	272.6	273.0	272.9	272.8	272.6	272.5	272.1
115°	312.7	313.7	314.7	315.8	316.8	317.2	316.8	316.5	316.1	315.8	315.6
117.5°	356.7	358.1	359.5	360.9	362.3	362.5	361.5	360.6	359.6	358.6	358.2
120°	386.1	387.5	388.9	390.3	391.7	391.7	390.3	388.9	387.5	386.1	386.1
122.5°	413.0	414.7	416.4	418.0	419.7	420.0	419.1	418.1	417.1	416.1	415.7
125°	454.9	456.5	458.0	459.6	461.2	461.7	461.2	460.6	460.1	459.6	459.1
127.5°	495.7	497.7	499.7	501.7	503.6	504.3	503.7	503.1	502.4	501.8	501.2
130°	521.4	523.6	525.9	528.1	530.4	531.3	531.0	530.6	530.3	530.0	529.6
132.5°	550.1	552.0	553.8	555.6	557.5	558.4	558.5	558.6	558.6	558.7	558.0
135°	588.6	590.5	592.4	594.3	596.2	597.3	597.7	598.0	598.4	598.7	598.6
137.5°	629.1	630.6	632.2	633.8	635.3	636.3	636.8	637.2	637.7	638.1	638.0
140°	653.5	655.0	656.6	658.1	659.7	660.9	661.8	662.7	663.5	664.4	664.4
142.5°	678.5	680.0	681.6	683.2	684.7	685.8	686.4	687.0	687.6	688.2	688.3
145°	714.4	715.6	716.9	718.1	719.3	720.4	721.5	722.5	723.5	724.6	724.8
147.5°	746.5	747.9	749.4	750.8	752.3	753.4	754.1	754.8	755.5	756.2	756.5
150°	768.4	769.4	770.4	771.5	772.5	773.4	774.1	774.8	775.5	776.2	776.7
152.5°	787.7	788.8	789.8	790.9	791.9	792.8	793.7	794.5	795.3	796.2	796.8
155°	816.8	817.3	817.9	818.4	818.9	819.4	819.9	820.5	821.0	821.5	822.4
157.5°	841.7	842.0	842.4	842.7	843.1	843.4	843.7	844.0	844.3	844.6	845.8
160°	856.7	857.0	857.4	857.7	858.1	858.3	858.5	858.7	858.9	859.0	860.1
162.5°	870.4	870.5	870.6	870.6	870.7	870.8	871.0	871.2	871.4	871.5	872.7
165°	888.7	888.6	888.4	888.2	888.0	887.9	887.9	887.9	887.9	887.9	889.2
167.5°	904.0	903.5	903.0	902.5	902.0	901.7	901.7	901.6	901.6	901.5	902.8
170°	912.2	911.7	911.1	910.6	910.1	909.7	909.6	909.4	909.2	909.0	910.3
172.5°	917.8	917.3	916.8	916.2	915.7	915.4	915.2	915.0	914.9	914.7	915.9
175°	924.7	924.2	923.6	923.1	922.6	922.2	921.8	921.5	921.1	920.8	922.0
177.5°	927.5	927.1	926.7	926.2	925.8	925.5	925.2	924.9	924.6	924.4	925.2
180°	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2



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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°	11.5	11.3	11.0	10.9	10.9	11.0	11.0	11.0
90°	26.7	26.3	26.0	25.9	26.1	26.2	26.4	26.6
92.5°	25.0	25.1	25.1	25.2	25.2	25.3	25.3	25.3
95°	50.0	50.0	50.0	49.9	49.5	49.2	48.8	48.5
97.5°	84.1	84.1	84.1	84.1	84.1	84.0	84.0	83.9
100°	107.9	107.9	107.9	107.8	107.6	107.4	107.3	107.1
102.5°	133.8	133.9	134.1	134.0	133.9	133.7	133.5	133.3
105°	172.7	173.0	173.4	173.5	173.5	173.5	173.5	173.5
107.5°	214.6	214.7	214.9	214.6	213.8	213.0	212.2	211.4
110°	243.1	243.1	243.1	242.8	242.3	241.8	241.3	240.7





TEST NUMBER: P331691

CATALOG NUMBER: SA2XXRDIP-C675D725U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	271.6	271.2	270.8	270.4	270.0	269.6	269.3	268.9
115°	315.4	315.3	315.1	314.7	314.2	313.7	313.2	312.7
117.5°	357.8	357.4	356.9	356.5	356.0	355.4	354.9	354.4
120°	386.1	386.1	386.1	385.9	385.3	384.8	384.3	383.8
122.5°	415.3	414.9	414.5	414.1	413.7	413.3	412.9	412.6
125°	458.6	458.0	457.5	457.2	457.0	456.8	456.7	456.5
127.5°	500.6	499.9	499.3	498.7	498.2	497.6	497.1	496.5
130°	529.3	528.9	528.6	528.0	527.3	526.7	526.0	525.3
132.5°	557.2	556.4	555.7	555.0	554.4	553.9	553.3	552.8
135°	598.4	598.2	598.0	597.7	597.2	596.7	596.1	595.6
137.5°	637.9	637.7	637.6	637.2	636.5	635.8	635.1	634.4
140°	664.4	664.4	664.4	664.0	663.4	662.7	662.0	661.3
142.5°	688.4	688.6	688.7	688.4	687.7	687.0	686.4	685.7
145°	724.9	725.1	725.3	725.0	724.3	723.6	722.9	722.2
147.5°	756.9	757.3	757.7	757.6	756.9	756.2	755.6	754.9
150°	777.2	777.7	778.3	778.3	777.7	777.2	776.7	776.2
152.5°	797.5	798.2	798.8	798.8	798.2	797.5	796.8	796.2
155°	823.2	824.1	825.0	825.2	824.6	824.1	823.6	823.1
157.5°	847.0	848.2	849.4	849.5	848.7	847.9	847.0	846.2
160°	861.1	862.2	863.2	863.4	862.7	862.0	861.3	860.6
162.5°	873.9	875.1	876.3	876.4	875.6	874.8	873.9	873.1
165°	890.4	891.6	892.8	893.0	892.1	891.2	890.4	889.5
167.5°	904.0	905.2	906.4	906.6	905.7	904.8	903.9	903.0
170°	911.5	912.7	913.9	914.0	913.0	911.9	910.9	909.8
172.5°	917.1	918.3	919.5	919.6	918.6	917.5	916.5	915.5
175°	923.2	924.4	925.6	925.7	924.7	923.6	922.6	921.6
177.5°	926.0	926.9	927.7	927.7	926.9	926.0	925.2	924.4
180°	926.2	926.2	926.2	926.2	926.2	926.2	926.2	926.2

(END OF REPORT)