

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: P331703-930

Luminaire Tested: **SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331703-930
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-C675D1080U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5034.0 lumens
Efficiency: N/A
Efficacy: 88.5 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

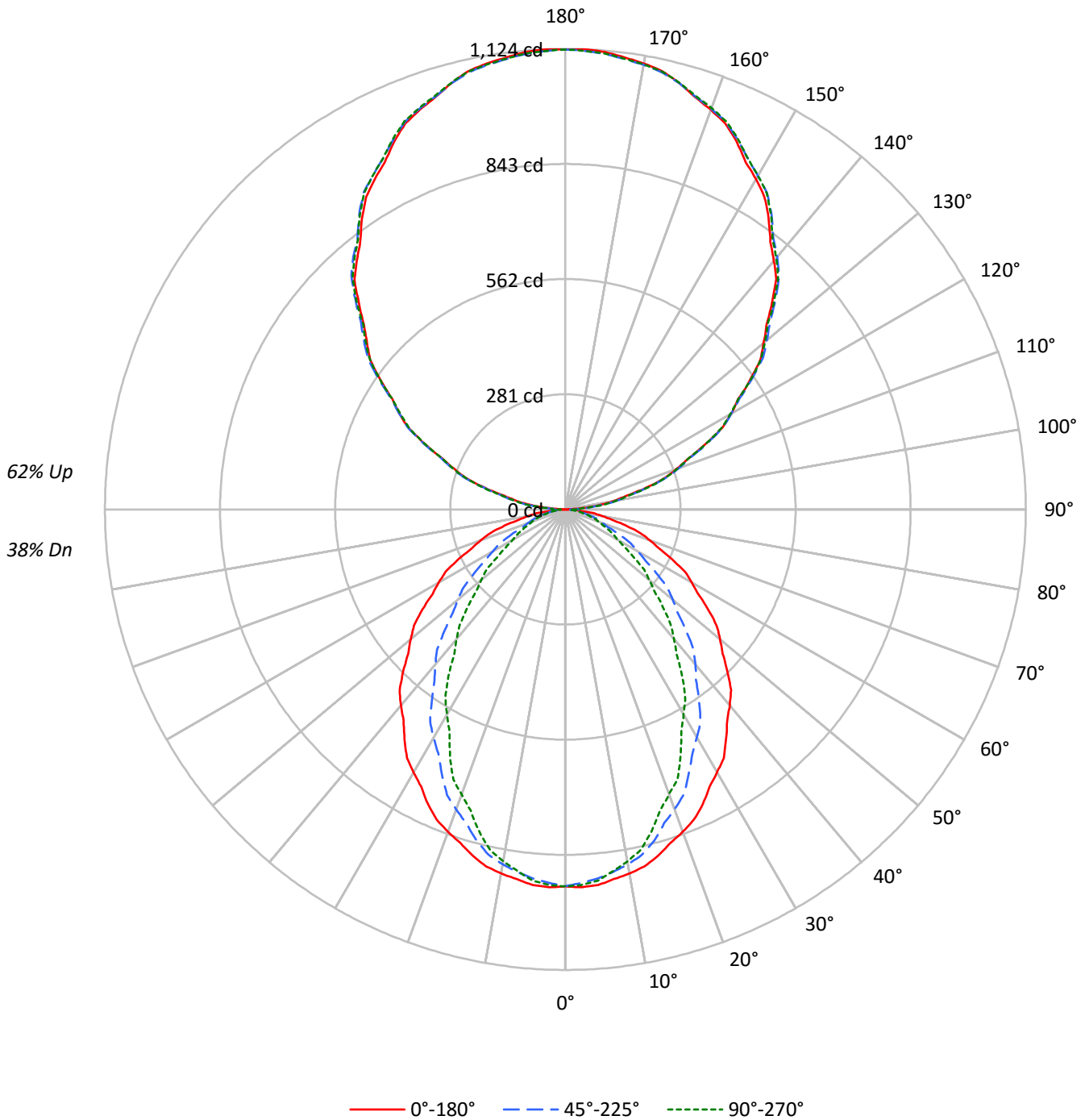
Input Watts (W): 56.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331703-930

CATALOG NUMBER: SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P331703-930

CATALOG NUMBER: SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F1

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	104	104	104	104	95	95	95	95	76	76	76	60	60	60	45	45	45	38				
1	95	91	88	84	86	83	80	77	67	65	63	53	52	51	40	39	38	32				
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	34	33	28				
3	80	71	64	58	72	64	58	54	53	48	45	42	39	37	32	30	28	24				
4	73	63	55	49	66	57	51	46	47	42	39	38	34	32	29	27	25	21				
5	67	56	48	42	61	51	44	39	42	37	33	34	30	28	26	24	22	18				
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16				
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	17	15				
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16	13				
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	19	16	14	12				
10	46	35	28	23	42	32	26	21	27	22	19	22	18	16	17	15	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14849	14849	14849
5°	14906	14663	14744
10°	14791	14423	14300
15°	14621	13996	13593
20°	14387	13385	12713
25°	14145	12691	11863
30°	13811	11979	10769
35°	13484	11203	9810
40°	13156	10404	8701
45°	12771	9501	7695
50°	12376	8593	6712
55°	11972	7614	5762
60°	11502	6584	4782
65°	10968	5532	4359
70°	10334	4556	4008
75°	9551	4155	3737
80°	8433	3710	3403
85°	6632	2927	2927



TEST NUMBER: P331703-930

CATALOG NUMBER: SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.1	1.7
10°-20°	236.4	4.7
20°-30°	331.9	6.6
30°-40°	361.9	7.2
40°-50°	332.8	6.6
50°-60°	261.4	5.2
60°-70°	170.4	3.4
70°-80°	87.9	1.7
80°-90°	27.3	0.5
90°-100°	71.1	1.4
100°-110°	220.9	4.4
110°-120°	377.5	7.5
120°-130°	496.5	9.9
130°-140°	557.2	11.1
140°-150°	546.4	10.9
150°-160°	458.3	9.1
160°-170°	304.0	6.0
170°-180°	106.2	2.1
0°-30°	654.4	13.0
0°-40°	1016.3	20.2
0°-60°	1610.5	32.0
0°-90°	1896.0	37.7
90°-120°	669.5	13.3
90°-150°	2269.5	45.1
90°-180°	3138.0	62.3
0°-180°	5034.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	920	920	920	920	920	
5°	920	915	905	912	910	87
15°	875	864	837	822	813	246
25°	794	766	712	680	666	365
35°	684	640	568	518	498	428
45°	559	502	416	359	337	432
55°	425	359	270	222	205	380
65°	287	219	145	118	114	285
75°	153	96	67	61	60	162
85°	36	19	16	16	16	42
90°	1	13	33	31	32	4
95°	49	58	61	60	59	56
105°	204	206	208	210	210	215
115°	379	384	383	382	379	375
125°	551	559	557	554	553	492
135°	713	723	726	724	722	551
145°	866	872	878	879	875	541
155°	990	992	995	1000	997	455
165°	1077	1076	1076	1082	1078	304
175°	1120	1118	1116	1122	1117	106
180°	1122	1122	1122	1122	1122	



TEST NUMBER: P331703-930

CATALOG NUMBER: SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7
2.5°	923.0	922.3	921.5	920.8	920.1	918.8	917.2	915.6	914.0	912.4	913.9
5°	919.7	918.8	917.9	916.9	916.0	914.4	911.9	909.5	907.1	904.7	906.4
7.5°	910.2	909.1	907.9	906.8	905.6	903.6	900.8	898.1	895.2	892.4	892.8
10°	902.2	900.9	899.6	898.3	897.0	894.5	890.8	887.1	883.5	879.7	879.2
12.5°	892.2	890.6	889.0	887.5	885.8	882.7	878.0	873.3	868.5	863.7	862.7
15°	874.7	872.7	870.7	868.6	866.6	862.4	856.1	849.9	843.6	837.3	833.8
17.5°	853.3	850.2	847.1	843.9	840.8	835.3	827.2	819.1	811.1	803.0	798.8
20°	837.3	833.6	829.9	826.2	822.5	816.0	806.7	797.5	788.3	779.0	774.4
22.5°	819.9	815.9	811.7	807.6	803.4	796.1	785.7	775.3	764.8	754.4	748.4
25°	794.0	788.1	782.2	776.2	770.4	761.2	749.1	736.9	724.6	712.4	704.8
27.5°	762.7	756.3	749.8	743.4	736.9	726.8	713.1	699.4	685.6	671.8	663.0
30°	740.8	733.7	726.7	719.7	712.7	701.7	686.9	672.1	657.3	642.5	633.1
32.5°	719.4	711.2	703.0	694.8	686.6	674.9	659.8	644.7	629.7	614.6	603.8
35°	684.1	674.7	665.3	655.8	646.5	633.6	617.3	601.0	584.7	568.4	556.8
37.5°	648.9	638.5	628.1	617.8	607.4	593.5	576.3	558.9	541.5	524.2	511.4
40°	624.2	613.1	602.0	590.9	579.8	565.3	547.4	529.5	511.5	493.6	480.5
42.5°	598.9	587.3	575.5	563.9	552.2	537.0	518.5	500.0	481.4	462.9	449.3
45°	559.3	546.9	534.5	522.1	509.7	493.8	474.4	455.0	435.5	416.1	403.0
47.5°	520.7	507.5	494.4	481.3	468.1	451.6	431.5	411.5	391.4	371.4	358.3
50°	492.7	479.6	466.4	453.3	440.2	423.5	403.1	382.8	362.4	342.1	329.3
52.5°	465.5	451.7	438.0	424.3	410.5	393.7	373.8	353.9	334.0	314.1	301.8
55°	425.3	410.9	396.5	382.0	367.6	350.4	330.4	310.5	290.5	270.5	259.4
57.5°	384.2	369.4	354.6	339.8	325.0	308.0	288.8	269.6	250.4	231.2	221.0
60°	356.2	341.4	326.6	311.9	297.0	280.1	261.1	242.0	223.0	203.9	194.4
62.5°	328.9	314.1	299.3	284.5	269.7	253.2	235.1	217.0	198.8	180.6	171.6
65°	287.1	272.1	257.1	242.2	227.2	211.4	194.8	178.1	161.4	144.8	138.5
67.5°	246.9	232.0	217.1	202.3	187.4	172.4	157.4	142.5	127.5	112.5	109.7
70°	218.9	204.5	190.0	175.6	161.2	147.6	134.9	122.1	109.3	96.5	94.7
72.5°	192.2	178.4	164.6	150.7	136.9	124.9	114.6	104.4	94.2	83.9	82.3
75°	153.1	140.2	127.3	114.3	101.3	91.7	85.4	79.2	72.9	66.6	65.3
77.5°	114.7	103.3	92.0	80.6	69.3	62.0	59.0	56.0	53.0	50.0	49.2
80°	90.7	81.3	71.8	62.5	53.0	47.4	45.5	43.6	41.8	39.9	39.2
82.5°	68.7	61.4	54.1	46.6	39.3	35.0	33.8	32.4	31.2	30.0	29.5
85°	35.8	31.9	28.0	24.1	20.2	18.0	17.4	17.0	16.4	15.8	15.8
87.5°	10.8	10.2	9.5	8.8	8.2	8.2	9.2	10.1	11.0	12.0	11.7
90°	1.0	3.5	6.0	8.6	11.1	14.6	19.2	23.9	28.5	33.2	32.7
92.5°	16.9	18.7	20.5	22.4	24.3	25.8	26.8	28.0	29.0	30.1	30.2
95°	49.2	51.4	53.5	55.5	57.6	58.9	59.4	59.8	60.2	60.6	60.6
97.5°	90.0	91.8	93.7	95.6	97.3	98.7	99.5	100.3	101.1	101.9	101.9
100°	120.3	122.0	123.7	125.3	127.0	128.2	128.8	129.4	130.0	130.7	130.7
102.5°	152.1	153.4	154.8	156.1	157.5	158.6	159.4	160.1	160.9	161.8	161.9
105°	203.6	204.2	204.9	205.5	206.1	206.7	207.1	207.5	207.9	208.3	208.8
107.5°	255.5	256.4	257.4	258.3	259.2	259.7	259.7	259.7	259.7	259.7	259.8
110°	288.9	290.1	291.4	292.6	293.9	294.6	294.6	294.6	294.6	294.6	294.6



TEST NUMBER: P331703-930

CATALOG NUMBER: SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	325.2	326.4	327.8	329.0	330.3	330.8	330.6	330.4	330.3	330.1	329.6
115°	378.8	380.1	381.3	382.6	383.8	384.3	383.8	383.4	383.0	382.6	382.4
117.5°	432.2	433.9	435.6	437.2	439.0	439.2	438.1	436.8	435.7	434.5	434.0
120°	467.8	469.5	471.2	472.9	474.6	474.6	472.9	471.2	469.5	467.8	467.8
122.5°	500.4	502.5	504.4	506.5	508.5	508.9	507.8	506.5	505.4	504.2	503.7
125°	551.1	553.1	555.0	556.8	558.7	559.4	558.7	558.2	557.5	556.8	556.2
127.5°	600.6	603.0	605.4	607.8	610.2	611.1	610.3	609.5	608.8	608.0	607.2
130°	631.7	634.4	637.2	639.8	642.6	643.8	643.4	642.9	642.5	642.1	641.6
132.5°	666.5	668.8	671.0	673.2	675.5	676.6	676.7	676.8	676.9	676.9	676.0
135°	713.1	715.4	717.8	720.1	722.4	723.7	724.1	724.6	725.0	725.5	725.2
137.5°	762.1	764.1	766.0	767.8	769.7	770.9	771.5	772.1	772.6	773.1	773.0
140°	791.7	793.6	795.5	797.4	799.3	800.8	801.8	802.9	804.0	804.9	804.9
142.5°	822.1	823.9	825.8	827.7	829.6	830.9	831.6	832.3	833.1	833.8	834.0
145°	865.6	867.1	868.5	870.0	871.5	872.9	874.1	875.4	876.6	877.9	878.1
147.5°	904.4	906.2	907.9	909.7	911.5	912.8	913.6	914.5	915.3	916.2	916.6
150°	930.9	932.2	933.4	934.7	936.0	937.0	937.9	938.7	939.6	940.4	941.0
152.5°	954.4	955.7	956.9	958.2	959.4	960.6	961.6	962.6	963.7	964.7	965.5
155°	989.7	990.3	990.9	991.6	992.2	992.8	993.4	994.1	994.7	995.3	996.4
157.5°	1019.8	1020.2	1020.6	1021.0	1021.5	1021.8	1022.2	1022.6	1023.0	1023.4	1024.8
160°	1038.0	1038.4	1038.8	1039.2	1039.7	1039.9	1040.2	1040.4	1040.6	1040.8	1042.0
162.5°	1054.6	1054.7	1054.8	1054.8	1055.0	1055.1	1055.3	1055.5	1055.7	1056.0	1057.4
165°	1076.8	1076.6	1076.4	1076.1	1076.0	1075.9	1075.9	1075.9	1075.9	1075.9	1077.3
167.5°	1095.4	1094.7	1094.1	1093.5	1092.8	1092.5	1092.4	1092.4	1092.3	1092.3	1093.8
170°	1105.2	1104.6	1103.9	1103.3	1102.7	1102.3	1102.0	1101.8	1101.6	1101.4	1102.9
172.5°	1112.0	1111.4	1110.8	1110.1	1109.5	1109.1	1108.9	1108.6	1108.4	1108.2	1109.7
175°	1120.4	1119.7	1119.1	1118.4	1117.9	1117.3	1116.9	1116.5	1116.1	1115.6	1117.1
177.5°	1123.7	1123.2	1122.7	1122.3	1121.8	1121.3	1121.0	1120.6	1120.3	1120.0	1121.0
180°	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3



TEST NUMBER: P331703-930

CATALOG NUMBER: SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7
2.5°	915.3	916.8	918.3	918.8	918.6	918.3	918.0	917.7
5°	908.0	909.7	911.3	911.9	911.3	910.8	910.3	909.7
7.5°	893.3	893.8	894.3	894.1	893.1	892.2	891.2	890.2
10°	878.6	878.1	877.5	876.7	875.5	874.5	873.3	872.2
12.5°	861.8	860.8	859.7	858.3	856.5	854.7	852.8	850.9
15°	830.3	826.7	823.2	820.5	818.7	816.8	815.0	813.2
17.5°	794.7	790.4	786.3	782.6	779.4	776.2	773.1	769.9
20°	769.8	765.2	760.5	756.2	752.1	748.0	744.0	739.9
22.5°	742.5	736.5	730.6	726.1	723.0	720.0	717.0	714.0
25°	697.2	689.7	682.1	676.9	674.2	671.4	668.6	665.9
27.5°	654.1	645.3	636.5	629.8	625.4	621.0	616.6	612.2
30°	623.7	614.2	604.8	597.6	592.6	587.6	582.6	577.6
32.5°	593.0	582.3	571.5	563.8	559.1	554.4	549.7	545.0
35°	545.2	533.5	521.9	514.0	509.9	505.8	501.8	497.7
37.5°	498.5	485.7	472.9	464.1	459.4	454.8	450.1	445.5
40°	467.2	454.1	441.0	432.0	427.2	422.4	417.6	412.8
42.5°	435.8	422.2	408.6	399.5	394.8	390.2	385.6	380.8
45°	389.9	376.7	363.6	354.8	350.4	345.9	341.5	337.0
47.5°	345.3	332.2	319.1	310.6	306.6	302.6	298.5	294.5
50°	316.6	303.8	291.1	282.7	278.8	274.9	271.1	267.2
52.5°	289.5	277.1	264.8	256.9	253.3	249.7	246.1	242.6
55°	248.3	237.2	226.1	218.8	215.3	211.7	208.2	204.7
57.5°	210.8	200.7	190.5	183.9	181.0	178.1	175.0	172.1
60°	185.1	175.6	166.2	160.0	157.0	154.1	151.1	148.1
62.5°	162.7	153.6	144.6	139.3	137.5	135.7	134.0	132.2
65°	132.2	126.0	119.7	116.3	115.7	115.1	114.5	114.1
67.5°	106.7	103.9	101.0	99.2	98.7	98.1	97.5	96.9
70°	92.9	91.0	89.1	87.9	87.1	86.3	85.6	84.9
72.5°	80.8	79.2	77.7	76.7	76.2	75.8	75.3	74.9
75°	64.0	62.7	61.4	60.7	60.5	60.3	60.1	59.9
77.5°	48.4	47.7	47.0	46.5	46.1	45.9	45.6	45.2
80°	38.5	37.7	37.0	36.6	36.6	36.6	36.6	36.6
82.5°	29.1	28.6	28.2	28.0	28.0	28.0	28.0	28.0
85°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
87.5°	11.5	11.3	11.0	10.9	11.0	11.0	11.1	11.1
90°	32.3	31.9	31.5	31.4	31.6	31.8	32.0	32.2
92.5°	30.2	30.3	30.5	30.5	30.6	30.6	30.7	30.7
95°	60.6	60.6	60.6	60.4	60.0	59.6	59.1	58.7
97.5°	101.9	101.9	101.9	101.9	101.8	101.8	101.7	101.7
100°	130.7	130.7	130.7	130.6	130.4	130.2	130.0	129.7
102.5°	162.1	162.2	162.4	162.4	162.2	162.0	161.8	161.6
105°	209.2	209.6	210.0	210.3	210.3	210.3	210.3	210.3
107.5°	260.0	260.2	260.3	259.9	259.0	258.0	257.1	256.1
110°	294.6	294.6	294.6	294.2	293.6	292.9	292.3	291.7



TEST NUMBER: P331703-930

CATALOG NUMBER: SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	329.1	328.6	328.2	327.7	327.2	326.7	326.3	325.8
115°	382.2	382.0	381.7	381.3	380.7	380.1	379.4	378.8
117.5°	433.5	433.0	432.5	431.9	431.3	430.6	430.0	429.4
120°	467.8	467.8	467.8	467.5	466.9	466.3	465.6	465.0
122.5°	503.2	502.7	502.1	501.7	501.2	500.8	500.3	499.9
125°	555.6	555.0	554.3	553.9	553.7	553.5	553.3	553.1
127.5°	606.5	605.7	605.0	604.2	603.6	602.9	602.3	601.5
130°	641.2	640.8	640.4	639.8	639.0	638.1	637.2	636.4
132.5°	675.1	674.2	673.3	672.5	671.8	671.1	670.4	669.8
135°	725.0	724.8	724.6	724.1	723.5	722.9	722.3	721.6
137.5°	772.8	772.7	772.5	772.0	771.1	770.3	769.5	768.6
140°	804.9	804.9	804.9	804.5	803.7	802.9	802.0	801.2
142.5°	834.1	834.3	834.5	834.1	833.2	832.4	831.6	830.7
145°	878.3	878.6	878.7	878.4	877.6	876.8	875.9	875.1
147.5°	917.1	917.5	918.0	917.9	917.0	916.2	915.4	914.7
150°	941.7	942.3	943.0	943.0	942.3	941.7	941.0	940.4
152.5°	966.3	967.0	967.8	967.8	967.0	966.3	965.5	964.7
155°	997.4	998.5	999.6	999.7	999.1	998.5	997.8	997.2
157.5°	1026.2	1027.7	1029.1	1029.3	1028.3	1027.3	1026.3	1025.2
160°	1043.3	1044.6	1045.9	1046.0	1045.2	1044.4	1043.5	1042.7
162.5°	1058.8	1060.2	1061.7	1061.8	1060.9	1059.9	1058.8	1057.9
165°	1078.8	1080.3	1081.7	1081.9	1080.9	1079.9	1078.8	1077.7
167.5°	1095.3	1096.7	1098.2	1098.4	1097.3	1096.2	1095.1	1094.1
170°	1104.3	1105.8	1107.3	1107.4	1106.1	1104.9	1103.6	1102.4
172.5°	1111.2	1112.6	1114.1	1114.2	1113.0	1111.7	1110.4	1109.1
175°	1118.6	1120.1	1121.5	1121.6	1120.4	1119.1	1117.9	1116.6
177.5°	1122.0	1123.0	1124.0	1124.0	1123.0	1122.0	1121.0	1120.0
180°	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3

(END OF REPORT)