

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: P331702-927

Luminaire Tested: **SA2XXRDIP-C675D1080U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331702-927
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: SA2XXRDIP-C675D1080U927-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5251.4 lumens
Efficiency: N/A
Efficacy: 92.3 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

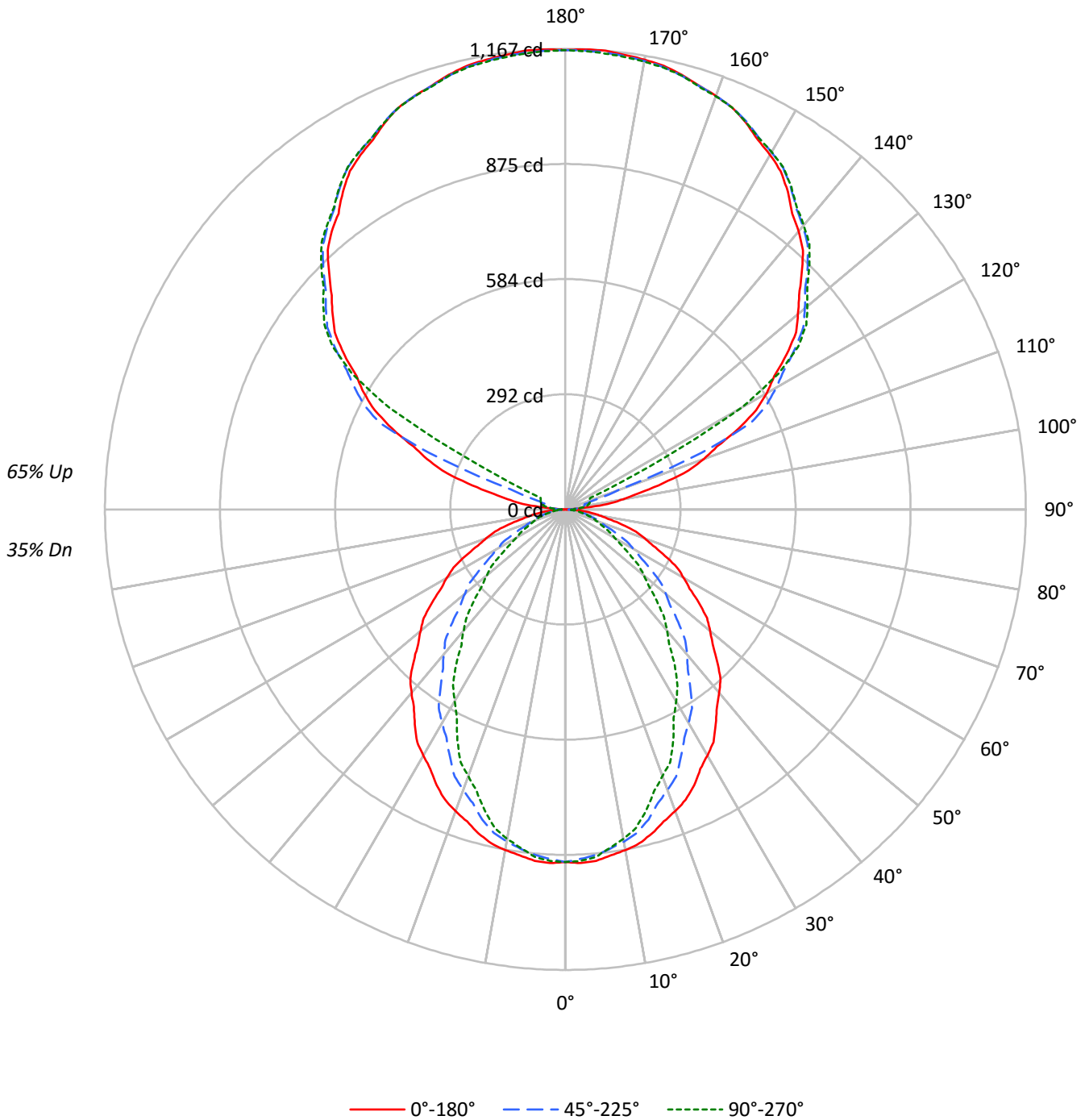
Input Watts (W): 56.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	42	42	42	35
1	95	91	87	84	86	82	79	76	66	64	62	51	50	49	38	37	36	30
2	87	80	74	69	78	72	67	63	58	55	52	46	43	41	34	32	31	26
3	79	70	63	58	71	64	58	53	52	47	44	41	38	35	30	28	27	22
4	72	62	55	49	65	57	50	45	46	41	38	36	33	30	27	25	23	19
5	67	56	48	42	60	51	44	39	41	36	33	33	29	27	25	22	21	17
6	61	50	42	37	55	45	39	34	37	32	29	30	26	23	22	20	18	15
7	57	45	37	32	51	41	34	30	34	29	25	27	23	21	21	18	16	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	23	41	31	25	21	26	21	18	21	18	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14428	14428	14428
5°	14483	14248	14326
10°	14372	14014	13895
15°	14206	13600	13207
20°	13979	13005	12352
25°	13744	12332	11526
30°	13420	11639	10465
35°	13102	10886	9532
40°	12783	10108	8454
45°	12408	9232	7478
50°	12024	8349	6521
55°	11634	7398	5599
60°	11176	6397	4647
65°	10659	5375	4233
70°	10041	4428	3895
75°	9283	4036	3631
80°	8201	3608	3310
85°	6447	2853	2853



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	1.6
10°-20°	229.7	4.4
20°-30°	322.5	6.1
30°-40°	351.7	6.7
40°-50°	323.4	6.2
50°-60°	254.0	4.8
60°-70°	165.6	3.2
70°-80°	85.4	1.6
80°-90°	25.0	0.5
90°-100°	38.8	0.7
100°-110°	142.4	2.7
110°-120°	380.6	7.2
120°-130°	628.2	12.0
130°-140°	668.1	12.7
140°-150°	620.9	11.8
150°-160°	499.2	9.5
160°-170°	321.7	6.1
170°-180°	110.7	2.1
0°-30°	635.8	12.1
0°-40°	987.5	18.8
0°-60°	1564.8	29.8
0°-90°	1840.8	35.1
90°-120°	561.7	10.7
90°-150°	2478.9	47.2
90°-180°	3411.0	65.0
0°-180°	5251.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	894	894	894	894	894	
5°	894	889	879	886	884	85
15°	850	840	814	799	790	239
25°	772	744	692	660	647	355
35°	665	622	552	503	484	416
45°	543	488	404	349	328	419
55°	413	349	263	216	199	369
65°	279	213	141	115	111	277
75°	149	94	65	59	58	158
85°	35	19	15	15	15	41
90°	1	10	17	21	23	4
95°	55	29	33	37	36	67
105°	256	267	51	60	64	274
115°	484	499	520	148	69	477
125°	685	696	712	717	720	610
135°	847	860	868	876	875	654
145°	983	983	996	1002	998	614
155°	1082	1076	1085	1089	1083	498
165°	1140	1136	1138	1143	1138	322
175°	1166	1161	1162	1167	1160	111
180°	1164	1164	1164	1164	1164	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6
2.5°	896.8	896.1	895.4	894.7	894.0	892.8	891.2	889.6	888.1	886.5	888.0
5°	893.6	892.7	891.8	890.9	890.0	888.4	886.1	883.8	881.4	879.1	880.7
7.5°	884.4	883.3	882.2	881.1	880.0	878.0	875.3	872.6	869.8	867.1	867.5
10°	876.6	875.4	874.1	872.8	871.6	869.2	865.5	862.0	858.4	854.8	854.3
12.5°	866.9	865.4	863.8	862.3	860.7	857.7	853.1	848.5	843.8	839.2	838.3
15°	849.9	848.0	846.0	844.0	842.0	838.0	831.9	825.8	819.7	813.6	810.2
17.5°	829.1	826.1	823.1	820.0	817.0	811.6	803.7	795.9	788.1	780.2	776.2
20°	813.6	809.9	806.4	802.8	799.2	792.9	783.9	774.9	766.0	756.9	752.4
22.5°	796.7	792.7	788.7	784.7	780.6	773.6	763.4	753.3	743.1	733.0	727.2
25°	771.5	765.7	760.0	754.2	748.5	739.7	727.9	716.0	704.1	692.2	684.8
27.5°	741.1	734.8	728.6	722.3	716.1	706.2	692.9	679.5	666.1	652.8	644.2
30°	719.8	712.9	706.1	699.3	692.4	681.8	667.4	653.1	638.7	624.3	615.1
32.5°	699.0	691.0	683.1	675.1	667.1	655.8	641.1	626.5	611.8	597.1	586.7
35°	664.7	655.6	646.4	637.2	628.1	615.6	599.8	584.0	568.2	552.3	541.0
37.5°	630.5	620.4	610.3	600.2	590.2	576.7	559.9	543.0	526.2	509.3	496.9
40°	606.5	595.7	584.9	574.2	563.4	549.3	531.9	514.4	497.0	479.6	466.8
42.5°	581.9	570.6	559.2	547.9	536.5	521.8	503.8	485.8	467.8	449.8	436.6
45°	543.4	531.4	519.4	507.3	495.3	479.8	461.0	442.1	423.2	404.3	391.6
47.5°	505.9	493.1	480.4	467.6	454.9	438.8	419.3	399.8	380.3	360.8	348.2
50°	478.7	466.0	453.2	440.5	427.7	411.5	391.7	371.9	352.1	332.4	320.0
52.5°	452.3	438.9	425.6	412.3	398.9	382.5	363.2	343.9	324.6	305.2	293.3
55°	413.3	399.3	385.2	371.2	357.2	340.5	321.1	301.7	282.3	262.8	252.1
57.5°	373.3	358.9	344.5	330.2	315.8	299.3	280.6	262.0	243.3	224.7	214.8
60°	346.1	331.8	317.3	303.0	288.6	272.2	253.7	235.1	216.7	198.1	188.9
62.5°	319.6	305.2	290.8	276.5	262.1	246.1	228.5	210.8	193.1	175.5	166.8
65°	279.0	264.4	249.9	235.4	220.8	205.4	189.3	173.1	156.9	140.7	134.6
67.5°	239.9	225.4	211.0	196.5	182.0	167.5	153.0	138.5	123.9	109.3	106.5
70°	212.7	198.7	184.7	170.6	156.6	143.4	131.0	118.6	106.2	93.8	92.0
72.5°	186.8	173.3	159.9	146.5	133.0	121.4	111.4	101.4	91.5	81.5	80.0
75°	148.8	136.3	123.7	111.1	98.5	89.1	83.0	76.9	70.8	64.7	63.5
77.5°	111.5	100.4	89.4	78.3	67.3	60.3	57.4	54.4	51.5	48.6	47.8
80°	88.2	79.0	69.8	60.7	51.5	46.0	44.2	42.4	40.6	38.8	38.1
82.5°	66.8	59.7	52.5	45.3	38.2	34.0	32.8	31.5	30.3	29.2	28.7
85°	34.8	31.0	27.3	23.4	19.6	17.5	17.0	16.5	15.9	15.4	15.4
87.5°	10.5	9.7	9.0	8.3	7.6	7.4	7.7	7.9	8.2	8.6	8.6
90°	0.9	2.9	5.0	7.1	9.1	10.9	12.4	13.9	15.4	16.9	17.7
92.5°	17.0	16.8	16.6	16.5	16.2	16.6	17.3	18.1	18.8	19.6	20.0
95°	54.7	48.6	42.4	36.2	30.0	27.6	28.9	30.3	31.5	32.9	33.7
97.5°	108.6	91.3	73.8	56.4	39.1	31.8	34.9	37.9	41.0	44.0	44.7
100°	149.1	123.4	97.8	72.2	46.5	35.3	38.4	41.7	44.8	48.0	49.5
102.5°	193.5	188.1	182.7	177.2	171.8	155.8	129.2	102.6	76.0	49.4	51.3
105°	256.0	261.7	267.2	272.8	278.5	255.7	204.6	153.5	102.4	51.3	53.4
107.5°	327.3	331.8	336.3	340.8	345.4	317.0	255.7	194.5	133.2	71.9	69.8
110°	373.0	377.0	381.0	384.8	388.8	363.7	309.6	255.6	201.5	147.3	128.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	416.2	419.7	423.1	426.6	430.1	425.2	411.8	398.5	385.1	371.7	303.5
115°	484.3	487.4	490.6	493.8	496.9	500.9	505.6	510.2	514.9	519.6	432.9
117.5°	545.0	548.6	552.2	555.7	559.3	562.6	565.9	569.1	572.3	575.5	554.5
120°	589.5	592.3	595.1	597.9	600.7	603.8	607.2	610.5	613.9	617.3	619.5
122.5°	627.2	630.2	633.1	636.1	639.1	642.4	646.0	649.7	653.4	657.0	658.4
125°	684.7	687.1	689.5	692.0	694.3	697.4	700.9	704.5	708.1	711.6	712.9
127.5°	736.7	739.4	742.1	744.8	747.5	750.1	752.8	755.4	758.1	760.8	762.7
130°	769.7	772.7	775.7	778.7	781.6	784.2	786.2	788.3	790.4	792.4	794.5
132.5°	803.4	806.0	808.5	811.0	813.6	815.9	817.9	820.0	822.0	824.1	825.9
135°	847.2	850.2	853.2	856.2	859.1	861.5	863.2	864.8	866.6	868.2	870.1
137.5°	891.4	893.6	895.6	897.8	899.8	901.8	903.8	905.7	907.6	909.5	911.3
140°	920.4	921.9	923.4	925.0	926.5	928.2	930.3	932.3	934.4	936.4	938.1
142.5°	944.7	946.0	947.4	948.7	950.1	952.0	954.3	956.6	959.0	961.4	962.9
145°	982.8	982.5	982.4	982.2	982.0	983.5	986.7	989.8	993.1	996.2	997.5
147.5°	1016.0	1015.3	1014.5	1013.8	1013.1	1014.3	1017.5	1020.6	1023.7	1026.9	1027.9
150°	1037.5	1036.2	1034.9	1033.6	1032.3	1033.1	1036.1	1039.1	1042.1	1045.0	1046.2
152.5°	1055.7	1054.2	1052.7	1051.3	1049.9	1050.5	1053.4	1056.2	1059.1	1061.9	1063.0
155°	1082.1	1080.5	1078.8	1077.1	1075.4	1075.7	1077.9	1080.1	1082.4	1084.7	1085.8
157.5°	1102.9	1101.5	1100.0	1098.6	1097.2	1097.3	1098.8	1100.3	1101.9	1103.5	1104.8
160°	1115.0	1113.9	1112.7	1111.6	1110.5	1110.5	1111.6	1112.7	1113.9	1115.0	1116.1
162.5°	1125.8	1124.7	1123.5	1122.4	1121.3	1121.2	1122.1	1123.2	1124.1	1125.1	1126.3
165°	1140.3	1139.1	1138.0	1136.9	1135.8	1135.4	1136.0	1136.6	1137.2	1137.7	1139.0
167.5°	1151.0	1149.9	1148.7	1147.6	1146.5	1146.2	1146.8	1147.2	1147.8	1148.3	1149.6
170°	1157.1	1156.0	1154.8	1153.7	1152.6	1152.2	1152.6	1152.9	1153.3	1153.7	1155.0
172.5°	1161.1	1160.0	1158.9	1157.8	1156.7	1156.3	1156.7	1157.0	1157.4	1157.8	1159.0
175°	1166.3	1165.1	1163.7	1162.4	1161.1	1160.6	1161.0	1161.4	1161.7	1162.1	1163.5
177.5°	1167.2	1166.2	1165.1	1164.0	1163.0	1162.5	1162.7	1162.8	1163.0	1163.2	1164.2
180°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6
2.5°	889.4	890.8	892.2	892.8	892.6	892.2	892.0	891.7
5°	882.3	883.9	885.5	886.1	885.5	884.9	884.5	883.9
7.5°	868.0	868.5	868.9	868.7	867.8	866.9	865.9	865.0
10°	853.7	853.2	852.6	851.8	850.7	849.7	848.6	847.5
12.5°	837.3	836.4	835.4	834.0	832.2	830.4	828.6	826.8
15°	806.8	803.3	799.9	797.3	795.5	793.7	791.9	790.1
17.5°	772.1	768.0	764.0	760.4	757.3	754.2	751.1	748.1
20°	748.0	743.5	738.9	734.7	730.8	726.8	722.9	718.9
22.5°	721.4	715.7	709.9	705.5	702.5	699.6	696.6	693.7
25°	677.5	670.1	662.7	657.7	655.1	652.4	649.7	647.0
27.5°	635.6	627.0	618.5	612.0	607.7	603.4	599.1	594.8
30°	606.0	596.8	587.6	580.7	575.8	570.9	566.1	561.3
32.5°	576.2	565.8	555.3	547.8	543.2	538.7	534.1	529.6
35°	529.7	518.4	507.1	499.4	495.4	491.5	487.6	483.6
37.5°	484.3	471.9	459.5	450.9	446.4	441.9	437.4	432.8
40°	454.0	441.2	428.5	419.8	415.1	410.4	405.8	401.1
42.5°	423.4	410.2	397.0	388.2	383.7	379.1	374.6	370.0
45°	378.8	366.1	353.3	344.8	340.5	336.1	331.8	327.5
47.5°	335.5	322.8	310.1	301.8	297.9	294.0	290.0	286.1
50°	307.6	295.2	282.8	274.6	270.9	267.1	263.4	259.6
52.5°	281.3	269.3	257.3	249.6	246.1	242.6	239.2	235.7
55°	241.3	230.4	219.7	212.6	209.2	205.7	202.3	198.9
57.5°	204.9	195.0	185.1	178.7	175.9	173.0	170.1	167.2
60°	179.8	170.6	161.4	155.4	152.6	149.7	146.8	143.9
62.5°	158.0	149.2	140.5	135.3	133.6	131.9	130.2	128.4
65°	128.5	122.4	116.3	113.0	112.4	111.9	111.3	110.8
67.5°	103.7	100.9	98.2	96.4	95.9	95.3	94.7	94.1
70°	90.2	88.4	86.6	85.4	84.6	83.9	83.2	82.5
72.5°	78.5	77.0	75.5	74.5	74.1	73.7	73.2	72.8
75°	62.2	60.9	59.7	58.9	58.8	58.6	58.4	58.2
77.5°	47.1	46.3	45.6	45.2	44.8	44.6	44.3	44.0
80°	37.4	36.7	36.0	35.6	35.6	35.6	35.6	35.6
82.5°	28.3	27.8	27.4	27.2	27.2	27.2	27.2	27.2
85°	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
87.5°	8.6	8.6	8.7	8.8	8.9	9.0	9.0	9.1
90°	18.7	19.6	20.6	21.2	21.6	22.0	22.3	22.7
92.5°	20.5	21.0	21.5	21.9	22.1	22.3	22.5	22.7
95°	34.7	35.6	36.6	37.0	36.8	36.6	36.4	36.2
97.5°	45.5	46.2	47.0	47.5	47.7	47.9	48.1	48.3
100°	51.0	52.5	54.0	54.9	55.3	55.7	56.1	56.4
102.5°	53.2	55.2	57.1	58.4	58.9	59.4	60.0	60.4
105°	55.5	57.5	59.6	61.0	61.8	62.5	63.2	64.0
107.5°	67.7	65.6	63.5	62.9	63.6	64.3	65.1	65.8
110°	110.0	91.3	72.5	63.5	64.2	65.0	65.8	66.5



TEST NUMBER: P331702-927

CATALOG NUMBER: SA2XXRDIP-C675D1080U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	235.2	166.9	98.6	64.8	65.4	66.0	66.6	67.2
115°	346.3	259.7	173.0	122.9	109.5	96.0	82.5	69.1
117.5°	533.6	512.6	491.7	459.1	414.8	370.5	326.2	281.9
120°	621.8	624.0	626.3	614.7	589.5	564.2	538.9	513.7
122.5°	659.7	661.1	662.4	660.6	655.8	650.9	645.9	641.0
125°	714.2	715.5	716.8	717.8	718.4	718.9	719.5	720.0
127.5°	764.6	766.5	768.4	769.4	769.5	769.7	769.8	769.8
130°	796.5	798.6	800.7	801.6	801.5	801.2	801.1	800.9
132.5°	827.6	829.4	831.2	831.9	831.7	831.6	831.4	831.2
135°	872.0	873.9	875.7	876.5	876.1	875.7	875.4	875.0
137.5°	913.1	915.0	916.8	917.4	916.8	916.2	915.5	914.9
140°	939.8	941.5	943.2	943.6	942.6	941.7	940.7	939.8
142.5°	964.4	966.0	967.5	967.8	966.9	965.9	965.0	964.1
145°	998.9	1000.1	1001.5	1001.6	1000.8	999.8	998.9	997.9
147.5°	1028.8	1029.8	1030.8	1030.9	1030.1	1029.3	1028.5	1027.7
150°	1047.3	1048.5	1049.6	1049.6	1048.7	1047.8	1046.9	1045.9
152.5°	1064.1	1065.3	1066.4	1066.4	1065.1	1063.9	1062.6	1061.4
155°	1086.9	1088.1	1089.2	1088.9	1087.4	1086.0	1084.5	1083.0
157.5°	1106.0	1107.3	1108.6	1108.5	1107.1	1105.6	1104.1	1102.6
160°	1117.2	1118.3	1119.4	1119.4	1118.1	1116.7	1115.5	1114.1
162.5°	1127.6	1128.9	1130.2	1130.0	1128.4	1126.8	1125.1	1123.6
165°	1140.3	1141.6	1143.0	1143.0	1141.6	1140.3	1139.0	1137.7
167.5°	1151.0	1152.2	1153.6	1153.3	1151.7	1150.0	1148.3	1146.6
170°	1156.3	1157.6	1159.0	1158.7	1157.1	1155.4	1153.7	1152.0
172.5°	1160.4	1161.7	1163.0	1162.8	1161.1	1159.4	1157.8	1156.0
175°	1164.7	1166.1	1167.4	1167.1	1165.2	1163.3	1161.5	1159.6
177.5°	1165.2	1166.3	1167.4	1167.2	1165.9	1164.5	1163.2	1161.8
180°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8

(END OF REPORT)