

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: P331815-940

Luminaire Tested: **S122RDIW-S675D970U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331815-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S675D970U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 970 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5522.6 lumens  
Efficiency: N/A  
Efficacy: 105.0 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

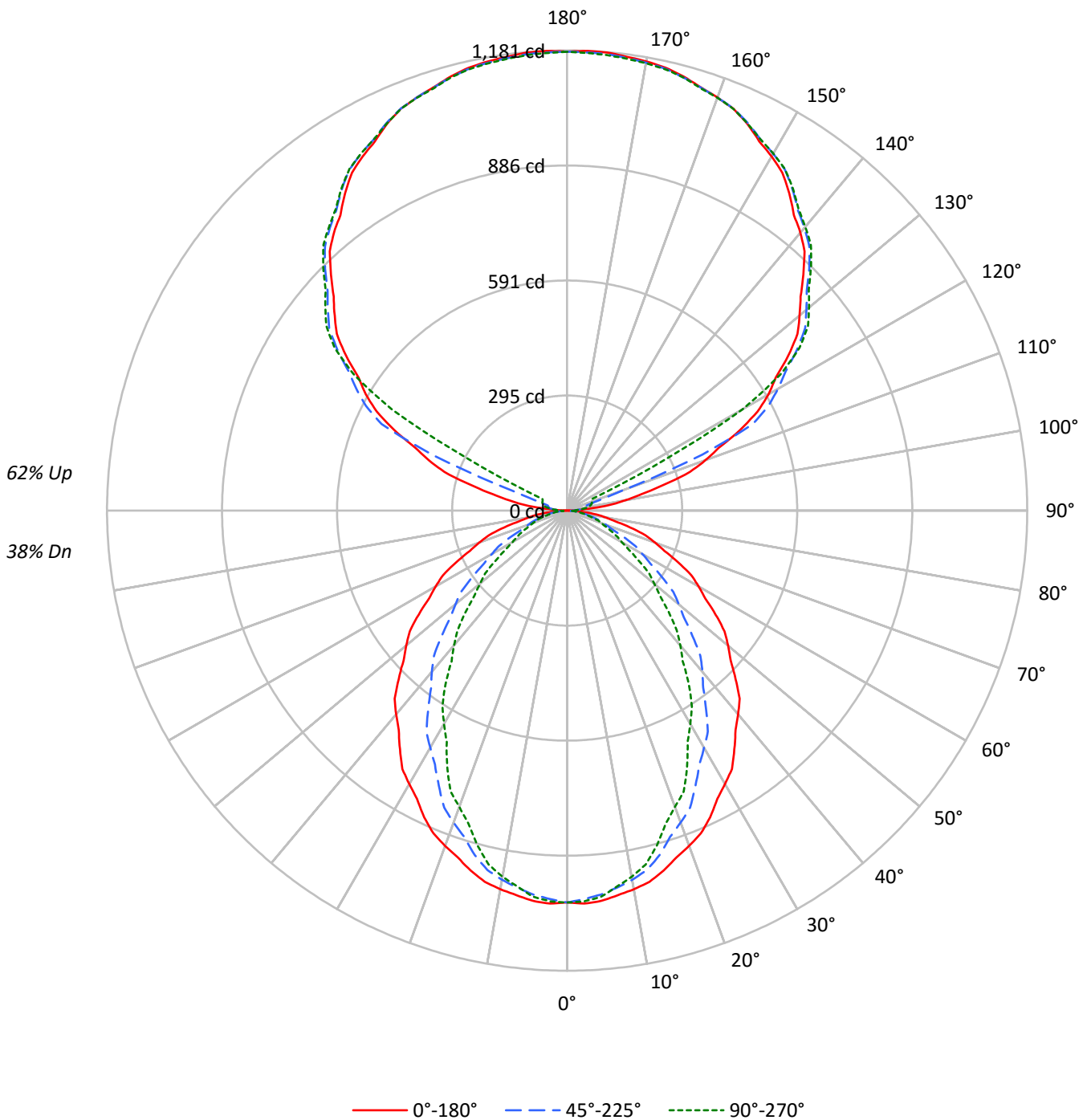
Input Watts (W): 52.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	38				
1	95	91	88	84	86	83	80	77	67	65	63	53	52	50	40	39	38	32				
2	87	80	74	69	79	73	68	64	59	56	53	47	45	43	36	34	33	28				
3	80	71	64	58	72	64	58	54	53	48	45	42	39	36	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	17	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°	16239	16239	16239
5°	16302	16037	16126
10°	16179	15775	15641
15°	15992	15308	14867
20°	15735	14639	13904
25°	15471	13881	12975
30°	15105	13103	11779
35°	14747	12254	10730
40°	14389	11377	9516
45°	13967	10392	8416
50°	13536	9399	7340
55°	13095	8329	6303
60°	12581	7201	5231
65°	12000	6052	4768
70°	11301	4985	4381
75°	10449	4548	4086
80°	9224	4063	3719
85°	7243	3205	3205



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.2	1.7
10°-20°	258.5	4.7
20°-30°	363.0	6.6
30°-40°	395.9	7.2
40°-50°	364.0	6.6
50°-60°	285.9	5.2
60°-70°	186.4	3.4
70°-80°	96.1	1.7
80°-90°	27.8	0.5
90°-100°	39.3	0.7
100°-110°	144.0	2.6
110°-120°	385.0	7.0
120°-130°	635.6	11.5
130°-140°	675.9	12.2
140°-150°	628.3	11.4
150°-160°	505.1	9.1
160°-170°	325.5	5.9
170°-180°	112.0	2.0
0°-30°	715.7	13.0
0°-40°	1111.6	20.1
0°-60°	1761.4	31.9
0°-90°	2071.8	37.5
90°-120°	568.4	10.3
90°-150°	2508.2	45.4
90°-180°	3451.0	62.5
0°-180°	5522.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1006	1006	1006	1006	1006	
5°	1006	1001	990	997	995	95
15°	957	946	916	899	889	269
25°	868	838	779	743	728	399
35°	748	700	622	566	544	468
45°	612	549	455	393	369	472
55°	465	393	296	243	224	416
65°	314	240	158	129	125	311
75°	168	106	73	67	66	177
85°	39	21	17	17	17	46
90°	1	10	17	21	23	4
95°	55	29	33	37	37	68
105°	259	270	52	61	65	277
115°	490	505	526	150	70	482
125°	693	704	720	726	728	617
135°	857	870	878	886	885	662
145°	994	994	1008	1013	1010	622
155°	1095	1088	1097	1102	1096	504
165°	1154	1149	1151	1156	1151	326
175°	1180	1175	1176	1181	1173	112
180°	1178	1178	1178	1178	1178	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1009.5	1008.7	1007.9	1007.1	1006.3	1005.0	1003.2	1001.4	999.7	997.9	999.5
5°	1005.8	1004.9	1003.9	1002.8	1001.8	1000.1	997.4	994.8	992.1	989.5	991.3
7.5°	995.5	994.3	993.0	991.8	990.5	988.3	985.3	982.2	979.1	976.1	976.5
10°	986.8	985.3	983.9	982.5	981.1	978.4	974.3	970.3	966.3	962.2	961.6
12.5°	975.8	974.1	972.3	970.6	968.8	965.5	960.3	955.1	949.9	944.7	943.6
15°	956.7	954.5	952.3	950.0	947.8	943.3	936.4	929.5	922.7	915.8	912.0
17.5°	933.3	929.9	926.5	923.0	919.6	913.6	904.7	895.9	887.1	878.2	873.7
20°	915.8	911.7	907.7	903.7	899.6	892.5	882.3	872.3	862.2	852.0	846.9
22.5°	896.8	892.3	887.8	883.2	878.7	870.8	859.3	847.9	836.5	825.1	818.6
25°	868.4	861.9	855.5	849.0	842.6	832.6	819.3	805.9	792.6	779.2	770.9
27.5°	834.2	827.2	820.1	813.1	806.0	795.0	780.0	764.9	749.8	734.8	725.1
30°	810.2	802.5	794.8	787.1	779.4	767.5	751.3	735.1	718.9	702.8	692.4
32.5°	786.8	777.8	768.9	759.9	750.9	738.2	721.7	705.2	688.7	672.2	660.4
35°	748.2	738.0	727.6	717.3	707.0	692.9	675.1	657.4	639.5	621.7	608.9
37.5°	709.7	698.3	687.0	675.6	664.3	649.2	630.3	611.3	592.3	573.3	559.3
40°	682.7	670.6	658.4	646.3	634.2	618.3	598.7	579.1	559.5	539.8	525.5
42.5°	655.1	642.3	629.5	616.7	604.0	587.4	567.1	546.9	526.6	506.3	491.4
45°	611.7	598.2	584.6	571.1	557.5	540.1	518.9	497.7	476.4	455.1	440.8
47.5°	569.4	555.1	540.7	526.4	512.0	493.9	472.0	450.0	428.1	406.2	391.9
50°	538.9	524.5	510.1	495.8	481.4	463.2	440.9	418.7	396.4	374.2	360.2
52.5°	509.1	494.0	479.0	464.0	449.0	430.6	408.8	387.1	365.3	343.6	330.1
55°	465.2	449.4	433.6	417.9	402.1	383.3	361.4	339.6	317.7	295.9	283.7
57.5°	420.2	404.0	387.8	371.7	355.4	336.9	315.8	294.9	273.8	252.9	241.7
60°	389.6	373.4	357.2	341.1	324.9	306.4	285.5	264.7	243.9	223.0	212.7
62.5°	359.7	343.6	327.3	311.2	295.0	277.0	257.2	237.3	217.4	197.5	187.7
65°	314.1	297.7	281.2	264.9	248.5	231.2	213.0	194.8	176.6	158.4	151.5
67.5°	270.0	253.7	237.5	221.2	204.9	188.6	172.2	155.9	139.5	123.1	119.9
70°	239.4	223.6	207.9	192.1	176.3	161.4	147.5	133.5	119.6	105.6	103.5
72.5°	210.3	195.1	180.0	164.9	149.7	136.6	125.4	114.1	103.0	91.8	90.1
75°	167.5	153.4	139.2	125.0	110.8	100.3	93.5	86.6	79.7	72.9	71.4
77.5°	125.5	113.0	100.6	88.2	75.8	67.9	64.6	61.3	58.0	54.7	53.8
80°	99.2	88.9	78.6	68.3	58.0	51.8	49.8	47.7	45.7	43.7	42.9
82.5°	75.2	67.1	59.1	51.0	43.0	38.3	36.9	35.5	34.2	32.8	32.3
85°	39.1	34.9	30.7	26.4	22.1	19.7	19.1	18.5	17.9	17.3	17.3
87.5°	11.9	11.0	10.1	9.2	8.3	8.0	8.3	8.6	8.9	9.3	9.3
90°	0.9	2.9	5.0	7.1	9.2	11.0	12.5	14.0	15.5	17.0	18.0
92.5°	17.2	17.0	16.9	16.7	16.5	16.8	17.5	18.3	19.0	19.8	20.2
95°	55.4	49.1	42.9	36.6	30.4	27.9	29.2	30.6	31.9	33.3	34.2
97.5°	109.9	92.3	74.7	57.1	39.5	32.2	35.3	38.3	41.4	44.5	45.2
100°	150.8	124.8	98.9	73.0	47.1	35.7	38.9	42.1	45.4	48.6	50.1
102.5°	195.8	190.3	184.9	179.3	173.8	157.7	130.7	103.8	76.9	49.9	51.9
105°	259.0	264.7	270.4	276.1	281.8	258.8	207.1	155.3	103.7	52.0	54.0
107.5°	331.1	335.7	340.3	344.8	349.5	320.7	258.8	196.7	134.7	72.8	70.6
110°	377.5	381.5	385.4	389.4	393.3	368.0	313.3	258.6	203.8	149.1	130.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	421.1	424.6	428.1	431.7	435.2	430.2	416.7	403.1	389.6	376.1	307.0
115°	489.9	493.1	496.4	499.6	502.8	506.8	511.5	516.2	521.0	525.8	438.0
117.5°	551.4	555.1	558.7	562.2	565.9	569.3	572.6	575.8	579.1	582.3	561.1
120°	596.5	599.3	602.1	604.9	607.8	610.9	614.3	617.8	621.2	624.6	626.9
122.5°	634.6	637.6	640.6	643.5	646.6	650.0	653.6	657.4	661.0	664.8	666.1
125°	692.7	695.2	697.7	700.1	702.6	705.6	709.2	712.8	716.4	720.0	721.3
127.5°	745.4	748.1	750.8	753.6	756.3	759.0	761.7	764.4	767.0	769.7	771.7
130°	778.8	781.9	784.9	787.8	790.9	793.4	795.5	797.6	799.7	801.8	803.9
132.5°	812.9	815.5	818.1	820.6	823.1	825.5	827.6	829.6	831.7	833.8	835.6
135°	857.2	860.2	863.3	866.3	869.3	871.6	873.3	875.0	876.7	878.5	880.4
137.5°	902.0	904.1	906.2	908.4	910.4	912.5	914.4	916.3	918.3	920.2	922.1
140°	931.3	932.8	934.3	935.9	937.4	939.1	941.2	943.3	945.4	947.5	949.2
142.5°	955.8	957.2	958.6	959.9	961.3	963.1	965.5	968.0	970.4	972.7	974.3
145°	994.3	994.2	994.0	993.8	993.6	995.1	998.4	1001.6	1004.8	1008.0	1009.3
147.5°	1028.0	1027.2	1026.4	1025.7	1025.0	1026.3	1029.5	1032.6	1035.8	1039.0	1040.0
150°	1049.7	1048.4	1047.0	1045.8	1044.5	1045.3	1048.3	1051.3	1054.4	1057.4	1058.5
152.5°	1068.2	1066.7	1065.1	1063.7	1062.2	1062.9	1065.8	1068.7	1071.6	1074.4	1075.6
155°	1094.9	1093.1	1091.5	1089.8	1088.1	1088.3	1090.7	1092.9	1095.2	1097.4	1098.6
157.5°	1115.9	1114.5	1112.9	1111.5	1110.1	1110.2	1111.8	1113.4	1114.9	1116.5	1117.8
160°	1128.1	1127.0	1125.9	1124.7	1123.6	1123.6	1124.7	1125.9	1127.0	1128.1	1129.3
162.5°	1139.1	1137.9	1136.8	1135.6	1134.5	1134.4	1135.4	1136.4	1137.4	1138.4	1139.6
165°	1153.7	1152.5	1151.4	1150.3	1149.1	1148.9	1149.4	1150.0	1150.6	1151.1	1152.4
167.5°	1164.6	1163.4	1162.3	1161.2	1160.0	1159.8	1160.3	1160.8	1161.4	1161.9	1163.1
170°	1170.7	1169.6	1168.5	1167.3	1166.2	1165.8	1166.2	1166.5	1167.0	1167.3	1168.7
172.5°	1174.8	1173.7	1172.5	1171.4	1170.3	1169.9	1170.3	1170.6	1171.0	1171.4	1172.8
175°	1180.1	1178.8	1177.4	1176.2	1174.8	1174.3	1174.7	1175.1	1175.5	1175.8	1177.1
177.5°	1181.0	1179.9	1178.8	1177.8	1176.7	1176.3	1176.4	1176.5	1176.7	1176.9	1177.9
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1001.1	1002.7	1004.3	1005.0	1004.7	1004.3	1004.1	1003.7
5°	993.1	995.0	996.8	997.4	996.8	996.1	995.6	995.0
7.5°	977.0	977.6	978.1	977.9	976.8	975.8	974.7	973.7
10°	961.0	960.4	959.7	958.9	957.6	956.4	955.2	954.0
12.5°	942.5	941.5	940.3	938.8	936.7	934.8	932.7	930.7
15°	908.1	904.2	900.4	897.4	895.5	893.4	891.4	889.4
17.5°	869.2	864.5	860.0	856.0	852.5	849.0	845.5	842.0
20°	842.0	836.9	831.8	827.1	822.6	818.1	813.7	809.2
22.5°	812.1	805.6	799.1	794.2	790.8	787.5	784.2	780.9
25°	762.6	754.3	746.0	740.4	737.4	734.3	731.3	728.3
27.5°	715.4	705.8	696.2	688.8	684.0	679.2	674.4	669.6
30°	682.2	671.8	661.5	653.6	648.1	642.7	637.2	631.8
32.5°	648.6	636.9	625.1	616.6	611.4	606.4	601.2	596.1
35°	596.3	583.5	570.8	562.1	557.7	553.2	548.8	544.4
37.5°	545.2	531.2	517.2	507.6	502.5	497.4	492.3	487.2
40°	511.0	496.7	482.3	472.5	467.3	462.0	456.7	451.5
42.5°	476.6	461.7	446.9	436.9	431.9	426.8	421.7	416.5
45°	426.4	412.1	397.7	388.1	383.3	378.4	373.5	368.6
47.5°	377.6	363.4	349.0	339.7	335.3	330.9	326.5	322.1
50°	346.3	332.3	318.3	309.2	305.0	300.7	296.5	292.2
52.5°	316.6	303.1	289.6	281.0	277.1	273.1	269.2	265.3
55°	271.6	259.4	247.3	239.3	235.5	231.6	227.7	223.9
57.5°	230.6	219.5	208.4	201.2	198.0	194.7	191.5	188.2
60°	202.4	192.1	181.7	175.0	171.7	168.5	165.2	162.0
62.5°	177.9	168.0	158.2	152.3	150.3	148.5	146.5	144.5
65°	144.6	137.8	130.9	127.2	126.5	125.9	125.3	124.8
67.5°	116.7	113.6	110.5	108.5	107.9	107.3	106.6	105.9
70°	101.6	99.5	97.5	96.1	95.2	94.4	93.6	92.8
72.5°	88.4	86.7	85.0	83.9	83.4	82.9	82.4	81.9
75°	70.0	68.6	67.1	66.3	66.2	66.0	65.7	65.5
77.5°	53.0	52.2	51.4	50.8	50.5	50.2	49.8	49.5
80°	42.1	41.3	40.5	40.0	40.0	40.0	40.0	40.0
82.5°	31.8	31.3	30.9	30.6	30.6	30.6	30.6	30.6
85°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
87.5°	9.3	9.3	9.4	9.4	9.5	9.5	9.6	9.7
90°	18.9	19.9	20.9	21.5	21.8	22.2	22.6	23.0
92.5°	20.8	21.2	21.8	22.1	22.3	22.6	22.7	23.0
95°	35.1	36.1	37.0	37.4	37.2	37.0	36.8	36.6
97.5°	46.0	46.7	47.5	48.0	48.2	48.4	48.7	48.9
100°	51.6	53.1	54.7	55.6	55.9	56.4	56.7	57.1
102.5°	53.9	55.8	57.8	59.0	59.6	60.1	60.6	61.2
105°	56.2	58.2	60.3	61.7	62.5	63.2	64.0	64.7
107.5°	68.5	66.4	64.3	63.6	64.4	65.1	65.9	66.6
110°	111.2	92.3	73.4	64.3	65.0	65.8	66.5	67.3





TEST NUMBER: P331815-940

CATALOG NUMBER: S122RDIW-S675D970U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.9	168.9	99.8	65.5	66.2	66.8	67.4	68.0
115°	350.4	262.7	175.0	124.4	110.8	97.1	83.5	69.9
117.5°	539.8	518.7	497.5	464.5	419.6	374.9	330.1	285.3
120°	629.1	631.3	633.6	622.0	596.5	570.9	545.3	519.8
122.5°	667.5	668.9	670.2	668.4	663.4	658.5	653.5	648.6
125°	722.6	724.0	725.3	726.2	726.8	727.4	727.9	728.5
127.5°	773.6	775.5	777.5	778.5	778.6	778.7	778.8	778.9
130°	805.9	808.1	810.1	811.1	810.8	810.7	810.5	810.3
132.5°	837.4	839.2	841.0	841.8	841.5	841.3	841.2	841.0
135°	882.3	884.1	886.0	886.8	886.4	886.0	885.6	885.3
137.5°	923.9	925.8	927.6	928.3	927.6	926.9	926.3	925.7
140°	950.9	952.6	954.3	954.7	953.8	952.8	951.8	950.9
142.5°	975.8	977.4	978.9	979.2	978.3	977.3	976.4	975.4
145°	1010.7	1012.0	1013.3	1013.5	1012.5	1011.6	1010.7	1009.7
147.5°	1041.0	1042.0	1042.9	1043.0	1042.2	1041.4	1040.6	1039.8
150°	1059.7	1060.8	1061.9	1062.0	1061.1	1060.2	1059.2	1058.3
152.5°	1076.7	1077.8	1079.0	1079.0	1077.7	1076.5	1075.2	1074.0
155°	1099.7	1100.8	1102.0	1101.8	1100.3	1098.8	1097.3	1095.7
157.5°	1119.1	1120.4	1121.7	1121.6	1120.1	1118.7	1117.1	1115.7
160°	1130.4	1131.5	1132.7	1132.6	1131.2	1129.9	1128.6	1127.3
162.5°	1140.9	1142.2	1143.5	1143.4	1141.7	1140.1	1138.4	1136.8
165°	1153.8	1155.1	1156.5	1156.5	1155.1	1153.8	1152.4	1151.1
167.5°	1164.5	1165.8	1167.2	1167.0	1165.3	1163.6	1161.9	1160.2
170°	1170.0	1171.3	1172.6	1172.4	1170.7	1169.0	1167.3	1165.6
172.5°	1174.0	1175.4	1176.7	1176.5	1174.8	1173.1	1171.4	1169.7
175°	1178.5	1179.8	1181.2	1180.9	1178.9	1177.1	1175.2	1173.3
177.5°	1179.0	1180.0	1181.1	1181.0	1179.6	1178.2	1176.9	1175.5
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5

(END OF REPORT)