

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: P331541

Luminaire Tested: **S122DIW-S675D970U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331541
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: S122DIW-S675D970U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6574.2 lumens
Efficiency: N/A
Efficacy: 125.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

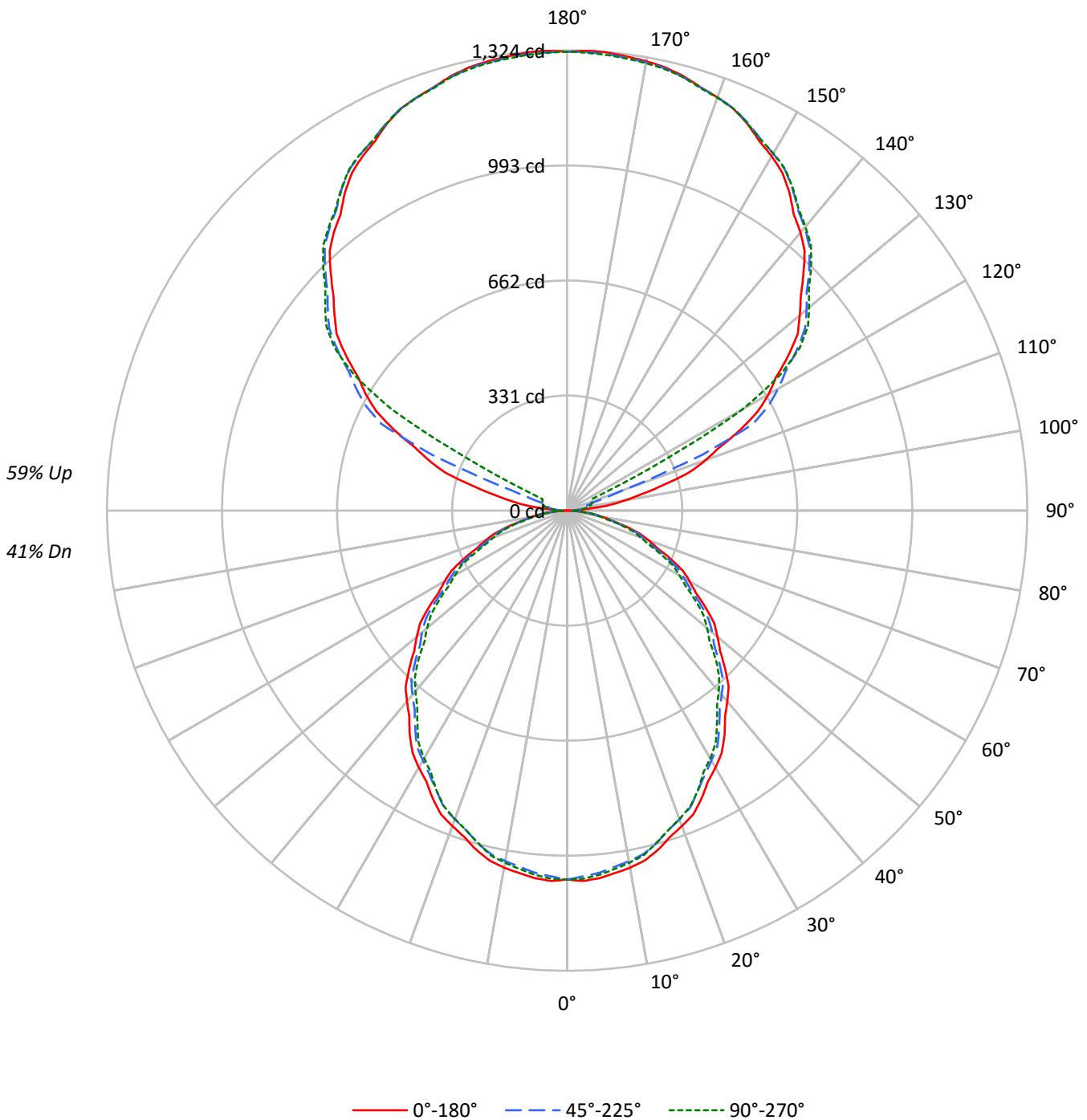
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41				
1	96	92	88	84	87	84	80	77	69	66	64	55	53	52	42	41	40	35				
2	87	80	74	69	79	73	68	63	60	56	53	48	46	43	37	36	34	29				
3	80	70	63	57	72	64	58	53	53	48	45	43	39	37	33	31	29	25				
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	30	27	25	21				
5	67	55	47	41	61	51	44	38	42	37	33	34	30	27	27	24	22	18				
6	61	50	42	36	56	45	38	33	38	33	29	31	27	24	24	21	19	16				
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14				
8	53	40	33	28	48	37	31	26	31	26	22	26	22	19	20	17	15	13				
9	49	37	30	25	45	34	27	23	29	23	20	23	20	17	19	16	14	12				
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	15	12	10				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17142	17142	17142
5°	17208	16960	17058
10°	17105	16787	16870
15°	16893	16568	16552
20°	16593	16242	16225
25°	16295	15841	15841
30°	15910	15474	15340
35°	15554	15031	14808
40°	15104	14587	14309
45°	14661	14150	13798
50°	14179	13692	13205
55°	13678	13163	12673
60°	13120	12526	12064
65°	12520	11897	11351
70°	11759	11131	10603
75°	10699	10256	10000
80°	9493	9205	8731
85°	7762	7373	6614



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.8	1.5
10°-20°	280.9	4.3
20°-30°	412.9	6.3
30°-40°	479.6	7.3
40°-50°	479.1	7.3
50°-60°	417.8	6.4
60°-70°	308.9	4.7
70°-80°	175.0	2.7
80°-90°	50.3	0.8
90°-100°	44.1	0.7
100°-110°	161.5	2.5
110°-120°	431.8	6.6
120°-130°	712.8	10.8
130°-140°	758.0	11.5
140°-150°	704.6	10.7
150°-160°	566.5	8.6
160°-170°	365.0	5.6
170°-180°	125.6	1.9
0°-30°	793.6	12.1
0°-40°	1273.2	19.4
0°-60°	2170.1	33.0
0°-90°	2704.3	41.1
90°-120°	637.4	9.7
90°-150°	2812.8	42.8
90°-180°	3870.0	58.9
0°-180°	6574.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1062	1057	1046	1054	1052	101
15°	1011	1004	991	995	990	284
25°	915	906	889	891	889	421
35°	789	779	763	756	751	492
45°	642	635	620	609	604	495
55°	486	479	468	456	450	434
65°	328	321	311	302	297	324
75°	172	169	164	159	160	183
85°	42	41	40	37	36	48
90°	1	11	19	24	26	5
95°	62	33	37	42	41	76
105°	290	303	58	68	73	310
115°	549	566	590	168	78	541
125°	777	790	807	814	817	692
135°	961	976	985	994	993	742
145°	1115	1115	1130	1136	1132	697
155°	1228	1220	1231	1236	1229	566
165°	1294	1289	1291	1297	1291	365
175°	1323	1317	1319	1324	1316	126
180°	1320	1320	1320	1320	1320	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1066.6	1065.7	1064.8	1063.9	1063.0	1061.5	1059.5	1057.5	1055.5	1053.5	1055.3
5°	1061.7	1060.8	1059.9	1059.0	1058.1	1056.4	1053.9	1051.4	1048.9	1046.4	1048.2
7.5°	1052.3	1050.9	1049.5	1048.1	1046.7	1044.7	1042.2	1039.6	1037.1	1034.5	1036.3
10°	1043.3	1041.7	1040.1	1038.5	1037.0	1034.8	1032.1	1029.4	1026.6	1023.9	1025.7
12.5°	1031.1	1029.7	1028.2	1026.8	1025.4	1023.4	1020.6	1017.9	1015.2	1012.5	1013.8
15°	1010.6	1009.3	1007.9	1006.6	1005.2	1003.0	1000.1	997.1	994.2	991.2	992.2
17.5°	984.5	983.1	981.8	980.4	979.1	976.9	973.9	970.9	967.9	964.9	966.0
20°	965.7	964.4	963.0	961.6	960.3	958.0	954.8	951.7	948.5	945.3	946.0
22.5°	946.9	945.0	943.1	941.2	939.3	936.9	933.9	930.9	927.9	924.9	925.0
25°	914.7	912.9	911.1	909.2	907.4	904.6	900.7	896.9	893.0	889.2	889.6
27.5°	877.9	876.3	874.7	873.0	871.4	869.1	866.0	863.0	859.9	856.9	856.2
30°	853.4	851.6	849.8	848.0	846.2	843.6	840.2	836.8	833.4	830.0	829.3
32.5°	827.3	825.8	824.4	822.9	821.5	819.0	815.4	811.8	808.2	804.6	803.4
35°	789.1	786.9	784.6	782.3	780.0	777.1	773.5	769.8	766.2	762.6	761.2
37.5°	746.0	744.0	742.0	740.0	738.1	735.2	731.6	728.0	724.4	720.7	719.0
40°	716.6	714.8	713.0	711.2	709.4	706.7	703.0	699.4	695.8	692.1	690.1
42.5°	688.1	686.2	684.4	682.6	680.8	678.1	674.4	670.8	667.2	663.6	661.3
45°	642.1	640.5	638.9	637.4	635.8	633.3	629.9	626.5	623.1	619.7	617.2
47.5°	596.4	594.9	593.4	591.9	590.4	587.9	584.3	580.8	577.3	573.7	571.1
50°	564.5	563.4	562.3	561.1	560.0	557.8	554.7	551.5	548.3	545.1	542.0
52.5°	533.5	532.0	530.5	529.0	527.5	525.3	522.3	519.3	516.3	513.3	510.7
55°	485.9	484.6	483.2	481.8	480.5	478.4	475.7	473.0	470.3	467.6	464.8
57.5°	438.1	437.1	436.0	434.9	433.8	431.8	428.8	425.8	422.8	419.8	417.1
60°	406.3	405.4	404.5	403.6	402.7	400.6	397.5	394.3	391.1	387.9	385.4
62.5°	375.3	373.8	372.4	370.9	369.5	367.5	365.1	362.6	360.2	357.7	355.4
65°	327.7	326.3	325.0	323.6	322.2	320.4	318.2	315.9	313.6	311.4	309.3
67.5°	279.3	278.2	277.1	276.0	274.9	273.4	271.3	269.3	267.3	265.2	263.6
70°	249.1	248.2	247.3	246.4	245.5	244.0	241.9	239.9	237.9	235.8	234.2
72.5°	218.1	217.1	216.2	215.3	214.4	213.3	212.0	210.7	209.4	208.0	206.5
75°	171.5	171.0	170.6	170.1	169.7	168.9	167.8	166.6	165.5	164.4	163.0
77.5°	129.9	129.1	128.3	127.5	126.8	126.2	125.7	125.2	124.8	124.3	123.7
80°	102.1	101.9	101.6	101.4	101.2	100.8	100.4	99.9	99.5	99.0	98.3
82.5°	76.0	75.9	75.9	75.8	75.8	75.6	75.3	75.1	74.8	74.5	73.7
85°	41.9	41.6	41.4	41.2	40.9	40.7	40.5	40.3	40.0	39.8	39.1
87.5°	14.9	15.0	15.1	15.2	15.3	15.3	15.3	15.3	15.3	15.3	14.9
90°	1.0	3.3	5.6	8.0	10.3	12.3	14.0	15.7	17.4	19.1	20.2
92.5°	19.3	19.1	18.9	18.7	18.5	18.8	19.6	20.5	21.3	22.2	22.7
95°	62.1	55.1	48.1	41.1	34.1	31.3	32.8	34.3	35.8	37.3	38.3
97.5°	123.3	103.5	83.8	64.0	44.3	36.1	39.6	43.0	46.4	49.9	50.7
100°	169.1	140.0	110.9	81.9	52.8	40.0	43.6	47.2	50.9	54.5	56.2
102.5°	219.6	213.4	207.3	201.1	194.9	176.8	146.6	116.4	86.2	56.0	58.2
105°	290.5	296.9	303.2	309.6	316.0	290.2	232.2	174.2	116.3	58.3	60.6
107.5°	371.3	376.5	381.6	386.7	391.9	359.7	290.2	220.6	151.1	81.6	79.2
110°	423.3	427.8	432.2	436.7	441.1	412.7	351.3	290.0	228.6	167.2	146.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	472.2	476.2	480.1	484.1	488.0	482.4	467.3	452.1	436.9	421.8	344.3
115°	549.4	553.0	556.7	560.3	563.9	568.3	573.6	578.9	584.3	589.6	491.2
117.5°	618.4	622.5	626.5	630.5	634.6	638.4	642.1	645.7	649.4	653.0	629.2
120°	668.9	672.1	675.2	678.4	681.6	685.1	688.9	692.8	696.6	700.4	703.0
122.5°	711.7	715.0	718.4	721.7	725.1	728.9	733.0	737.2	741.3	745.5	747.0
125°	776.8	779.6	782.4	785.1	787.9	791.3	795.3	799.4	803.4	807.4	808.9
127.5°	835.9	839.0	842.0	845.1	848.1	851.2	854.2	857.2	860.2	863.2	865.4
130°	873.4	876.8	880.2	883.5	886.9	889.8	892.1	894.5	896.8	899.2	901.5
132.5°	911.6	914.5	917.4	920.2	923.1	925.7	928.1	930.4	932.7	935.1	937.1
135°	961.3	964.7	968.1	971.5	974.9	977.5	979.4	981.3	983.2	985.2	987.3
137.5°	1011.5	1013.9	1016.3	1018.7	1021.0	1023.3	1025.5	1027.6	1029.8	1032.0	1034.1
140°	1044.4	1046.1	1047.8	1049.5	1051.2	1053.2	1055.5	1057.9	1060.2	1062.6	1064.5
142.5°	1071.9	1073.4	1075.0	1076.5	1078.0	1080.1	1082.8	1085.5	1088.2	1090.8	1092.6
145°	1115.1	1114.9	1114.7	1114.5	1114.3	1116.0	1119.6	1123.2	1126.8	1130.4	1131.9
147.5°	1152.8	1151.9	1151.1	1150.3	1149.5	1150.9	1154.5	1158.0	1161.6	1165.2	1166.3
150°	1177.2	1175.7	1174.2	1172.8	1171.3	1172.2	1175.6	1179.0	1182.4	1185.8	1187.1
152.5°	1197.9	1196.2	1194.5	1192.9	1191.2	1192.0	1195.2	1198.5	1201.7	1204.9	1206.2
155°	1227.9	1225.9	1224.0	1222.1	1220.2	1220.5	1223.1	1225.6	1228.2	1230.7	1232.0
157.5°	1251.4	1249.8	1248.1	1246.5	1244.9	1245.0	1246.8	1248.6	1250.3	1252.1	1253.6
160°	1265.1	1263.9	1262.6	1261.3	1260.0	1260.0	1261.3	1262.6	1263.9	1265.1	1266.4
162.5°	1277.4	1276.1	1274.8	1273.5	1272.3	1272.2	1273.3	1274.4	1275.5	1276.6	1278.0
165°	1293.8	1292.5	1291.2	1290.0	1288.7	1288.4	1289.0	1289.6	1290.3	1290.9	1292.4
167.5°	1306.0	1304.7	1303.5	1302.2	1300.9	1300.6	1301.2	1301.8	1302.4	1303.0	1304.4
170°	1312.9	1311.6	1310.4	1309.1	1307.8	1307.4	1307.8	1308.2	1308.7	1309.1	1310.6
172.5°	1317.5	1316.2	1314.9	1313.7	1312.4	1312.0	1312.4	1312.8	1313.2	1313.7	1315.2
175°	1323.4	1321.9	1320.4	1319.0	1317.5	1316.9	1317.4	1317.8	1318.2	1318.6	1320.1
177.5°	1324.4	1323.2	1322.0	1320.8	1319.6	1319.1	1319.3	1319.4	1319.6	1319.8	1321.0
180°	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1057.1	1059.0	1060.8	1061.5	1061.1	1060.8	1060.4	1060.1
5°	1050.0	1051.8	1053.6	1054.3	1053.9	1053.4	1053.0	1052.5
7.5°	1038.2	1040.0	1041.8	1042.4	1041.9	1041.5	1041.0	1040.5
10°	1027.5	1029.4	1031.2	1031.7	1031.1	1030.4	1029.7	1029.0
12.5°	1015.0	1016.3	1017.6	1017.9	1017.4	1017.0	1016.5	1016.0
15°	993.1	994.0	994.9	994.8	993.6	992.5	991.4	990.2
17.5°	967.0	968.0	969.1	969.1	968.0	966.9	965.8	964.7
20°	946.7	947.4	948.0	947.9	947.0	946.1	945.2	944.3
22.5°	925.2	925.3	925.4	925.2	924.7	924.1	923.6	923.1
25°	890.1	890.5	891.0	891.0	890.5	890.1	889.6	889.2
27.5°	855.5	854.9	854.2	853.3	852.2	851.1	850.0	848.9
30°	828.6	827.9	827.2	826.4	825.5	824.6	823.7	822.8
32.5°	802.2	801.0	799.7	798.7	797.8	796.9	795.9	795.0
35°	759.9	758.5	757.1	755.9	754.8	753.6	752.5	751.3
37.5°	717.4	715.7	714.0	712.6	711.5	710.4	709.4	708.3
40°	688.1	686.0	684.0	682.5	681.6	680.7	679.8	678.9
42.5°	659.1	656.9	654.7	652.9	651.6	650.4	649.1	647.8
45°	614.7	612.2	609.7	608.0	607.1	606.2	605.3	604.3
47.5°	568.5	565.8	563.2	561.2	559.9	558.6	557.3	556.0
50°	538.8	535.6	532.4	530.3	529.1	528.0	526.9	525.7
52.5°	508.0	505.4	502.8	500.7	499.2	497.7	496.2	494.7
55°	462.1	459.4	456.7	454.7	453.6	452.5	451.3	450.2
57.5°	414.4	411.7	409.1	407.3	406.4	405.6	404.7	403.8
60°	382.9	380.4	377.9	376.4	375.7	375.0	374.3	373.6
62.5°	353.1	350.8	348.5	346.9	346.0	345.1	344.3	343.4
65°	307.3	305.2	303.2	301.6	300.5	299.3	298.2	297.1
67.5°	262.0	260.5	258.9	257.6	256.7	255.8	254.9	254.0
70°	232.6	231.1	229.5	228.2	227.3	226.4	225.5	224.6
72.5°	204.9	203.3	201.7	200.5	199.8	199.1	198.4	197.6
75°	161.6	160.3	158.9	158.5	158.9	159.4	159.8	160.3
77.5°	123.0	122.3	121.6	121.0	120.3	119.7	119.1	118.4
80°	97.7	97.0	96.3	95.7	95.3	94.8	94.4	93.9
82.5°	72.8	71.9	71.1	70.6	70.5	70.4	70.3	70.2
85°	38.5	37.8	37.1	36.6	36.4	36.2	36.0	35.7
87.5°	14.6	14.3	13.9	13.7	13.6	13.5	13.4	13.3
90°	21.2	22.3	23.4	24.1	24.5	24.9	25.4	25.8
92.5°	23.3	23.8	24.4	24.8	25.0	25.3	25.5	25.8
95°	39.4	40.5	41.5	41.9	41.7	41.5	41.3	41.1
97.5°	51.6	52.4	53.3	53.8	54.1	54.3	54.6	54.8
100°	57.9	59.6	61.3	62.3	62.7	63.2	63.6	64.0
102.5°	60.4	62.6	64.8	66.2	66.8	67.4	68.0	68.6
105°	63.0	65.3	67.6	69.2	70.1	70.9	71.8	72.6
107.5°	76.8	74.5	72.1	71.3	72.2	73.0	73.9	74.7
110°	124.7	103.5	82.3	72.1	72.9	73.8	74.6	75.5



TEST NUMBER: P331541

CATALOG NUMBER: S122DIW-S675D970U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	266.8	189.4	111.9	73.5	74.2	74.9	75.6	76.3
115°	392.9	294.6	196.3	139.5	124.2	108.9	93.6	78.4
117.5°	605.4	581.7	557.9	520.9	470.6	420.4	370.2	319.9
120°	705.5	708.0	710.6	697.5	668.9	640.2	611.5	582.9
122.5°	748.6	750.1	751.6	749.6	744.0	738.5	732.9	727.4
125°	810.4	811.9	813.4	814.4	815.1	815.7	816.3	817.0
127.5°	867.6	869.7	871.9	873.0	873.2	873.3	873.4	873.5
130°	903.8	906.2	908.5	909.6	909.3	909.1	908.9	908.7
132.5°	939.1	941.1	943.1	944.0	943.7	943.5	943.3	943.1
135°	989.4	991.5	993.6	994.5	994.1	993.6	993.2	992.8
137.5°	1036.1	1038.2	1040.3	1041.0	1040.3	1039.5	1038.8	1038.1
140°	1066.4	1068.3	1070.2	1070.6	1069.6	1068.5	1067.4	1066.4
142.5°	1094.3	1096.1	1097.8	1098.1	1097.1	1096.0	1095.0	1093.9
145°	1133.4	1134.9	1136.3	1136.6	1135.5	1134.4	1133.4	1132.3
147.5°	1167.4	1168.5	1169.6	1169.7	1168.8	1167.9	1167.0	1166.1
150°	1188.4	1189.6	1190.9	1191.0	1190.0	1188.9	1187.8	1186.8
152.5°	1207.5	1208.7	1210.0	1210.0	1208.6	1207.2	1205.8	1204.4
155°	1233.3	1234.5	1235.8	1235.6	1233.9	1232.2	1230.5	1228.8
157.5°	1255.0	1256.5	1257.9	1257.8	1256.1	1254.5	1252.8	1251.2
160°	1267.7	1268.9	1270.2	1270.1	1268.6	1267.1	1265.7	1264.2
162.5°	1279.5	1280.9	1282.4	1282.2	1280.3	1278.5	1276.7	1274.9
165°	1293.9	1295.4	1296.9	1296.9	1295.4	1293.9	1292.4	1290.9
167.5°	1305.9	1307.4	1308.9	1308.7	1306.8	1304.9	1303.0	1301.1
170°	1312.1	1313.5	1315.0	1314.8	1312.9	1311.0	1309.1	1307.2
172.5°	1316.6	1318.1	1319.6	1319.4	1317.5	1315.6	1313.7	1311.8
175°	1321.6	1323.1	1324.6	1324.3	1322.1	1320.0	1317.9	1315.8
177.5°	1322.2	1323.3	1324.5	1324.4	1322.8	1321.3	1319.8	1318.3
180°	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5

(END OF REPORT)