

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: P332170-927

Luminaire Tested: **S123DIW-S775D1320U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332170-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S775D1320U927-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1320 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6743.7 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

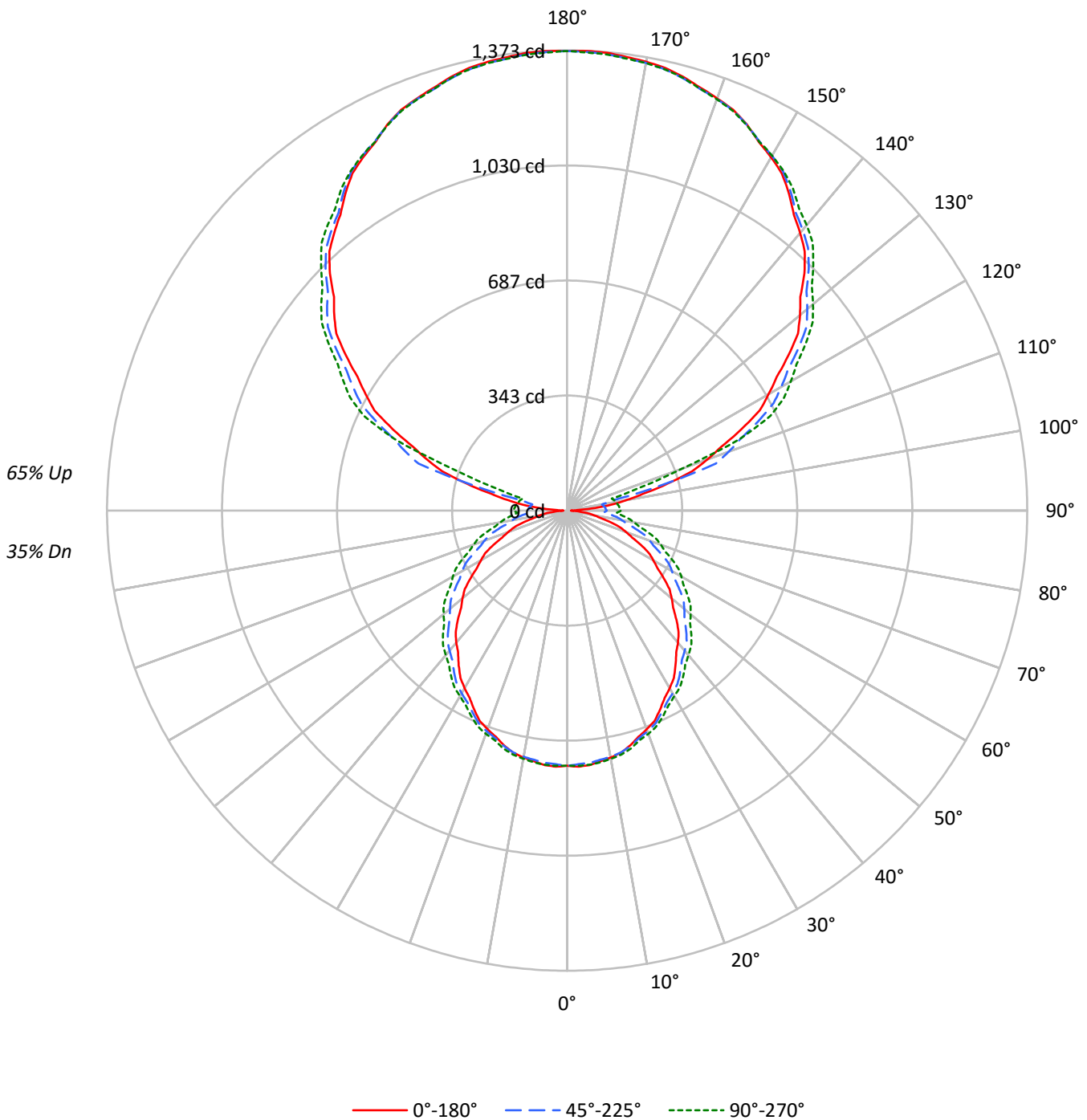
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332170-927

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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	94	89	85	81	84	81	77	74	64	62	60	50	48	47	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	41	38	31	30	28	23
3	77	68	60	54	69	61	55	50	49	45	41	38	35	32	27	25	24	19
4	71	60	52	46	63	54	47	42	43	38	34	34	30	27	24	22	20	16
5	65	53	45	39	58	48	41	36	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	36	31	35	29	26	27	23	20	20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22	24	21	18	18	15	13	11
8	51	39	31	26	46	35	28	24	29	23	20	22	19	16	17	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8196	8196	8196
5°	8222	7990	7994
10°	8148	7806	7766
15°	8043	7597	7518
20°	7893	7358	7245
25°	7708	7084	6957
30°	7517	6836	6666
35°	7305	6575	6434
40°	7102	6337	6184
45°	6877	6109	5986
50°	6655	5883	5766
55°	6409	5652	5569
60°	6171	5417	5366
65°	5924	5168	5126
70°	5555	4887	4879
75°	5090	4566	4628
80°	4551	4249	4341
85°	4050	4032	4175



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.2	1.1
10°-20°	205.8	3.1
20°-30°	307.8	4.6
30°-40°	367.5	5.5
40°-50°	384.5	5.7
50°-60°	360.9	5.4
60°-70°	301.4	4.5
70°-80°	215.6	3.2
80°-90°	132.4	2.0
90°-100°	130.5	1.9
100°-110°	296.9	4.4
110°-120°	610.2	9.0
120°-130°	749.3	11.1
130°-140°	786.6	11.7
140°-150°	728.2	10.8
150°-160°	585.7	8.7
160°-170°	378.0	5.6
170°-180°	130.3	1.9
0°-30°	585.7	8.7
0°-40°	953.3	14.1
0°-60°	1698.6	25.2
0°-90°	2348.1	34.8
90°-120°	1037.6	15.4
90°-150°	3301.7	49.0
90°-180°	4396.0	65.2
0°-180°	6743.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	761	761	761	761	761	
5°	762	760	756	762	761	72
15°	726	728	728	735	735	204
25°	655	663	666	676	677	302
35°	564	577	588	600	604	353
45°	461	481	502	517	524	356
55°	352	379	409	430	438	315
65°	243	276	312	336	345	240
75°	132	171	212	239	250	141
85°	41	82	126	153	163	43
90°	12	63	118	149	161	10
95°	71	65	114	145	155	84
105°	310	336	285	138	138	329
115°	574	591	629	658	670	566
125°	805	814	842	860	869	719
135°	1001	1007	1019	1036	1038	770
145°	1154	1160	1162	1171	1174	722
155°	1270	1268	1269	1274	1268	585
165°	1340	1336	1335	1343	1336	378
175°	1371	1366	1367	1373	1366	130
180°	1371	1371	1371	1371	1371	



TEST NUMBER: P332170-927

CATALOG NUMBER: S123DIW-S775D1320U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4
2.5°	764.8	764.3	763.9	763.4	763.0	762.2	761.0	759.9	758.7	757.5	758.7
5°	762.3	761.9	761.5	761.2	760.8	760.1	759.0	757.9	756.8	755.7	757.2
7.5°	754.8	754.9	754.9	755.0	755.1	754.6	753.5	752.5	751.4	750.4	752.2
10°	748.2	748.5	748.9	749.3	749.6	749.4	748.5	747.6	746.6	745.7	747.6
12.5°	740.2	740.8	741.2	741.8	742.3	742.3	741.6	741.0	740.4	739.7	741.4
15°	725.8	726.4	726.9	727.5	728.0	728.2	728.0	727.9	727.6	727.5	729.3
17.5°	707.6	708.7	709.8	710.8	711.9	712.5	712.4	712.3	712.3	712.2	713.8
20°	694.3	695.4	696.5	697.6	698.7	699.4	699.8	700.2	700.5	700.9	702.6
22.5°	680.3	681.4	682.5	683.7	684.8	685.6	686.1	686.6	687.1	687.6	689.8
25°	655.3	657.1	658.9	660.8	662.7	663.8	664.4	665.0	665.5	666.1	668.4
27.5°	630.1	632.2	634.3	636.4	638.5	640.1	641.3	642.5	643.6	644.8	646.9
30°	612.1	614.6	617.0	619.3	621.7	623.7	625.1	626.6	628.1	629.5	631.8
32.5°	592.2	594.9	597.6	600.3	603.0	605.3	607.2	609.2	611.1	613.0	615.4
35°	564.0	567.0	570.0	572.9	575.8	578.5	580.9	583.3	585.7	588.1	590.9
37.5°	534.2	537.5	540.8	544.2	547.5	550.6	553.6	556.5	559.4	562.4	565.5
40°	514.3	517.6	520.9	524.3	527.5	531.1	534.7	538.4	542.1	545.8	548.9
42.5°	492.3	496.5	500.5	504.5	508.6	512.5	516.3	520.2	524.0	527.9	531.3
45°	461.2	465.6	470.0	474.4	478.9	483.4	488.0	492.6	497.3	501.8	505.3
47.5°	428.5	433.6	438.6	443.5	448.5	453.7	459.0	464.2	469.5	474.8	478.7
50°	407.3	412.4	417.6	422.8	427.9	433.3	439.1	444.8	450.5	456.2	460.4
52.5°	384.7	390.1	395.6	401.1	406.5	412.4	418.7	425.0	431.3	437.6	442.0
55°	351.7	357.7	363.8	369.9	376.0	382.4	389.0	395.7	402.3	408.9	413.9
57.5°	319.5	325.8	332.2	338.5	344.9	351.6	358.9	366.2	373.4	380.7	385.7
60°	297.0	303.6	310.2	316.9	323.5	330.6	338.2	345.7	353.2	360.8	366.0
62.5°	275.7	282.5	289.3	296.0	302.9	310.2	318.2	326.2	334.2	342.2	347.4
65°	243.0	250.3	257.4	264.6	271.8	279.4	287.6	295.6	303.8	311.9	317.4
67.5°	209.8	217.5	225.1	232.7	240.3	248.3	256.6	264.8	273.1	281.4	287.4
70°	186.6	194.6	202.5	210.4	218.3	226.7	235.6	244.4	253.3	262.1	268.0
72.5°	165.4	173.3	181.3	189.2	197.1	205.7	214.8	223.9	233.1	242.2	248.3
75°	131.9	140.5	149.2	157.9	166.5	175.5	184.7	193.9	203.1	212.4	218.4
77.5°	102.7	111.5	120.2	128.9	137.6	146.6	156.0	165.2	174.5	183.8	190.2
80°	82.1	91.2	100.2	109.2	118.3	127.5	137.1	146.7	156.3	165.9	172.1
82.5°	64.2	73.4	82.5	91.7	100.9	110.4	120.1	129.8	139.6	149.3	155.6
85°	40.6	49.8	59.1	68.3	77.5	87.0	96.8	106.5	116.3	126.1	132.4
87.5°	22.3	31.9	41.5	51.2	60.8	70.6	80.6	90.6	100.6	110.6	117.0
90°	11.8	23.1	34.4	45.7	57.0	68.8	81.1	93.5	105.8	118.2	125.3
92.5°	29.1	36.6	44.1	51.6	59.1	68.6	80.1	91.6	103.1	114.5	122.1
95°	71.3	69.2	67.1	65.0	62.9	67.6	79.1	90.6	102.2	113.7	121.0
97.5°	133.0	135.3	137.7	140.0	142.3	139.7	132.0	124.3	116.6	108.9	116.2
100°	179.6	190.0	200.4	210.9	221.3	213.1	186.2	159.5	132.6	105.8	113.0
102.5°	232.7	241.3	249.9	258.4	267.0	256.2	225.9	195.7	165.5	135.2	134.8
105°	310.2	317.1	324.0	330.9	337.9	335.1	322.7	310.1	297.7	285.3	250.4
107.5°	391.1	396.8	402.6	408.4	414.1	422.3	433.1	443.8	454.6	465.2	440.8
110°	445.0	450.1	455.3	460.4	465.6	473.0	482.9	492.7	502.6	512.5	509.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	497.2	501.5	505.9	510.2	514.6	521.6	531.2	540.7	550.2	559.8	564.6
115°	573.5	577.1	580.7	584.2	587.8	594.0	602.6	611.3	620.0	628.7	635.3
117.5°	648.2	651.2	654.3	657.3	660.3	665.4	672.7	680.0	687.3	694.6	700.8
120°	694.0	696.9	699.8	702.8	705.8	710.7	717.4	724.1	730.9	737.7	743.7
122.5°	741.2	743.4	745.5	747.7	749.8	754.2	760.9	767.5	774.2	780.8	786.2
125°	805.2	807.0	808.7	810.6	812.4	816.4	822.7	828.9	835.2	841.5	845.7
127.5°	867.9	869.5	871.2	872.7	874.4	878.0	883.5	889.0	894.5	900.0	904.4
130°	907.0	908.6	910.3	911.9	913.5	916.6	921.2	925.8	930.4	935.0	939.4
132.5°	943.8	945.6	947.4	949.2	950.9	953.6	957.4	961.0	964.6	968.4	972.6
135°	1000.9	1002.1	1003.3	1004.4	1005.6	1007.7	1010.6	1013.5	1016.4	1019.4	1023.4
137.5°	1049.6	1051.2	1052.8	1054.4	1055.9	1057.6	1059.1	1060.8	1062.5	1064.1	1068.1
140°	1081.6	1082.9	1084.3	1085.7	1087.0	1088.3	1089.6	1090.8	1092.0	1093.2	1096.9
142.5°	1111.7	1112.9	1114.1	1115.4	1116.6	1117.5	1118.3	1119.1	1119.9	1120.7	1123.9
145°	1153.9	1155.3	1156.7	1158.1	1159.5	1160.4	1160.9	1161.3	1161.8	1162.2	1164.2
147.5°	1192.8	1193.8	1194.8	1195.9	1197.0	1197.7	1198.2	1198.6	1199.0	1199.5	1200.4
150°	1217.3	1217.9	1218.6	1219.2	1220.0	1220.5	1221.0	1221.4	1221.9	1222.3	1222.8
152.5°	1239.2	1239.5	1239.8	1240.2	1240.5	1240.8	1241.1	1241.3	1241.6	1241.9	1242.7
155°	1270.2	1269.8	1269.3	1268.8	1268.4	1268.3	1268.5	1268.8	1269.0	1269.2	1270.3
157.5°	1294.3	1294.2	1294.2	1294.1	1294.0	1294.0	1293.7	1293.5	1293.2	1293.0	1294.3
160°	1308.9	1308.7	1308.4	1308.2	1308.0	1307.8	1307.6	1307.3	1307.1	1306.9	1308.2
162.5°	1322.8	1322.2	1321.6	1321.0	1320.4	1320.0	1319.8	1319.5	1319.3	1319.1	1320.6
165°	1339.5	1338.8	1338.1	1337.4	1336.7	1336.3	1336.1	1335.9	1335.6	1335.4	1337.2
167.5°	1352.5	1351.6	1350.7	1349.8	1348.8	1348.5	1348.5	1348.5	1348.5	1348.5	1350.3
170°	1359.9	1358.9	1358.0	1357.2	1356.2	1355.7	1355.7	1355.7	1355.7	1355.7	1357.6
172.5°	1364.8	1363.7	1362.6	1361.4	1360.4	1359.9	1360.1	1360.3	1360.5	1360.7	1362.5
175°	1371.0	1369.9	1368.8	1367.6	1366.5	1366.0	1366.3	1366.5	1366.8	1367.0	1368.6
177.5°	1372.7	1371.7	1370.9	1370.0	1369.0	1368.7	1368.9	1369.0	1369.2	1369.4	1370.9
180°	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4
2.5°	759.9	761.0	762.2	762.7	762.6	762.4	762.2	762.2
5°	758.6	760.1	761.5	762.2	762.0	761.8	761.7	761.4
7.5°	754.0	755.9	757.7	758.5	758.3	758.1	757.9	757.6
10°	749.4	751.2	753.0	753.8	753.4	753.0	752.7	752.3
12.5°	743.1	744.8	746.5	747.2	746.8	746.5	746.1	745.7
15°	731.1	733.0	734.8	735.6	735.5	735.3	735.1	734.9
17.5°	715.5	717.2	718.8	719.5	719.3	719.0	718.7	718.5
20°	704.3	705.9	707.6	708.4	708.7	708.8	709.0	709.2
22.5°	691.8	694.0	696.0	697.0	697.0	696.8	696.7	696.6
25°	670.9	673.3	675.7	676.8	676.8	676.8	676.8	676.8
27.5°	649.0	651.0	653.1	654.2	654.3	654.5	654.7	654.8
30°	634.0	636.2	638.4	639.5	639.5	639.5	639.5	639.5
32.5°	617.7	620.0	622.4	623.8	624.2	624.7	625.1	625.6
35°	593.7	596.4	599.1	600.9	601.7	602.4	603.1	603.9
37.5°	568.6	571.8	574.9	576.8	577.3	578.0	578.5	579.2
40°	552.1	555.2	558.3	560.2	561.0	561.7	562.4	563.2
42.5°	534.7	538.1	541.6	543.8	544.9	545.9	546.9	548.0
45°	508.8	512.3	515.9	518.3	519.8	521.3	522.8	524.3
47.5°	482.7	486.6	490.6	493.1	494.2	495.4	496.5	497.6
50°	464.7	468.9	473.2	475.9	477.2	478.5	479.8	481.1
52.5°	446.4	450.8	455.2	458.2	459.8	461.4	463.0	464.5
55°	418.9	423.9	428.8	432.1	433.6	435.0	436.5	438.0
57.5°	390.8	395.8	400.8	404.2	405.9	407.7	409.3	411.1
60°	371.1	376.3	381.4	385.1	387.1	389.1	391.2	393.2
62.5°	352.6	357.7	362.9	366.4	368.3	370.2	372.1	373.9
65°	323.0	328.4	334.0	337.7	339.5	341.4	343.3	345.1
67.5°	293.4	299.5	305.5	309.3	310.9	312.4	314.0	315.5
70°	273.9	279.8	285.7	289.5	291.4	293.3	295.1	297.0
72.5°	254.3	260.3	266.4	270.4	272.2	274.0	275.8	277.7
75°	224.5	230.6	236.7	240.8	243.0	245.3	247.5	249.7
77.5°	196.6	203.0	209.5	213.5	215.2	216.9	218.6	220.3
80°	178.4	184.7	191.0	195.0	196.9	198.7	200.6	202.4
82.5°	161.8	168.1	174.4	178.4	180.3	182.1	183.9	185.8
85°	138.6	144.9	151.1	155.2	157.0	158.9	160.7	162.6
87.5°	123.4	129.9	136.3	140.5	142.5	144.4	146.3	148.3
90°	132.5	139.7	146.9	151.6	153.9	156.2	158.5	160.8
92.5°	129.6	137.2	144.8	149.6	151.5	153.4	155.4	157.4
95°	128.3	135.6	142.9	147.4	149.3	151.1	153.0	154.9
97.5°	123.6	130.9	138.2	142.8	144.9	146.9	149.1	151.1
100°	120.1	127.2	134.4	139.0	141.1	143.1	145.2	147.3
102.5°	134.4	134.0	133.6	134.4	136.7	138.9	141.2	143.5
105°	215.5	180.5	145.7	129.3	131.4	133.5	135.6	137.7
107.5°	416.4	392.0	367.5	341.0	312.4	283.8	255.2	226.7
110°	507.2	504.5	501.8	485.0	454.1	423.2	392.3	361.4





TEST NUMBER: P332170-927

CATALOG NUMBER: S123DIW-S775D1320U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	569.4	574.2	578.9	578.8	573.5	568.3	563.1	557.9
115°	642.0	648.7	655.4	660.0	662.3	664.7	667.1	669.5
117.5°	706.9	713.1	719.3	723.3	724.8	726.5	728.1	729.8
120°	749.8	755.8	761.8	765.6	766.8	768.1	769.4	770.7
122.5°	791.5	796.9	802.2	805.6	807.2	808.6	810.1	811.5
125°	850.1	854.4	858.7	861.7	863.5	865.2	867.0	868.7
127.5°	908.8	913.1	917.5	920.1	920.9	921.7	922.5	923.3
130°	943.8	948.2	952.6	955.1	955.8	956.5	957.1	957.7
132.5°	976.8	981.1	985.4	987.9	988.5	989.0	989.7	990.3
135°	1027.4	1031.4	1035.4	1037.5	1037.8	1038.0	1038.2	1038.5
137.5°	1072.1	1076.1	1080.1	1082.4	1082.8	1083.3	1083.7	1084.2
140°	1100.6	1104.2	1107.9	1110.0	1110.5	1111.0	1111.4	1111.8
142.5°	1127.1	1130.3	1133.5	1135.3	1135.5	1135.8	1136.1	1136.4
145°	1166.1	1168.0	1170.0	1171.2	1172.0	1172.7	1173.5	1174.3
147.5°	1201.3	1202.2	1203.1	1203.3	1203.0	1202.6	1202.2	1201.8
150°	1223.2	1223.7	1224.2	1224.2	1223.9	1223.6	1223.3	1223.0
152.5°	1243.5	1244.4	1245.2	1245.1	1244.1	1243.2	1242.1	1241.2
155°	1271.5	1272.6	1273.7	1273.6	1272.2	1270.9	1269.6	1268.2
157.5°	1295.8	1297.1	1298.5	1298.2	1296.5	1294.7	1292.9	1291.2
160°	1309.6	1311.0	1312.3	1312.2	1310.6	1309.0	1307.4	1305.8
162.5°	1322.2	1323.7	1325.2	1325.3	1323.9	1322.5	1321.1	1319.7
165°	1339.0	1340.8	1342.7	1342.7	1341.2	1339.6	1338.0	1336.4
167.5°	1352.1	1353.8	1355.7	1355.7	1353.8	1352.1	1350.3	1348.5
170°	1359.4	1361.2	1363.0	1363.0	1361.2	1359.4	1357.6	1355.7
172.5°	1364.3	1366.1	1367.9	1367.8	1365.8	1363.8	1361.8	1359.9
175°	1370.2	1371.7	1373.3	1373.2	1371.4	1369.6	1367.8	1366.0
177.5°	1372.3	1373.8	1375.2	1375.1	1373.2	1371.4	1369.6	1367.8
180°	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0

(END OF REPORT)