

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: P332172-930

Luminaire Tested: **S123DIW-S775D1320U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332172-930  
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-S775D1320U930-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1320 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

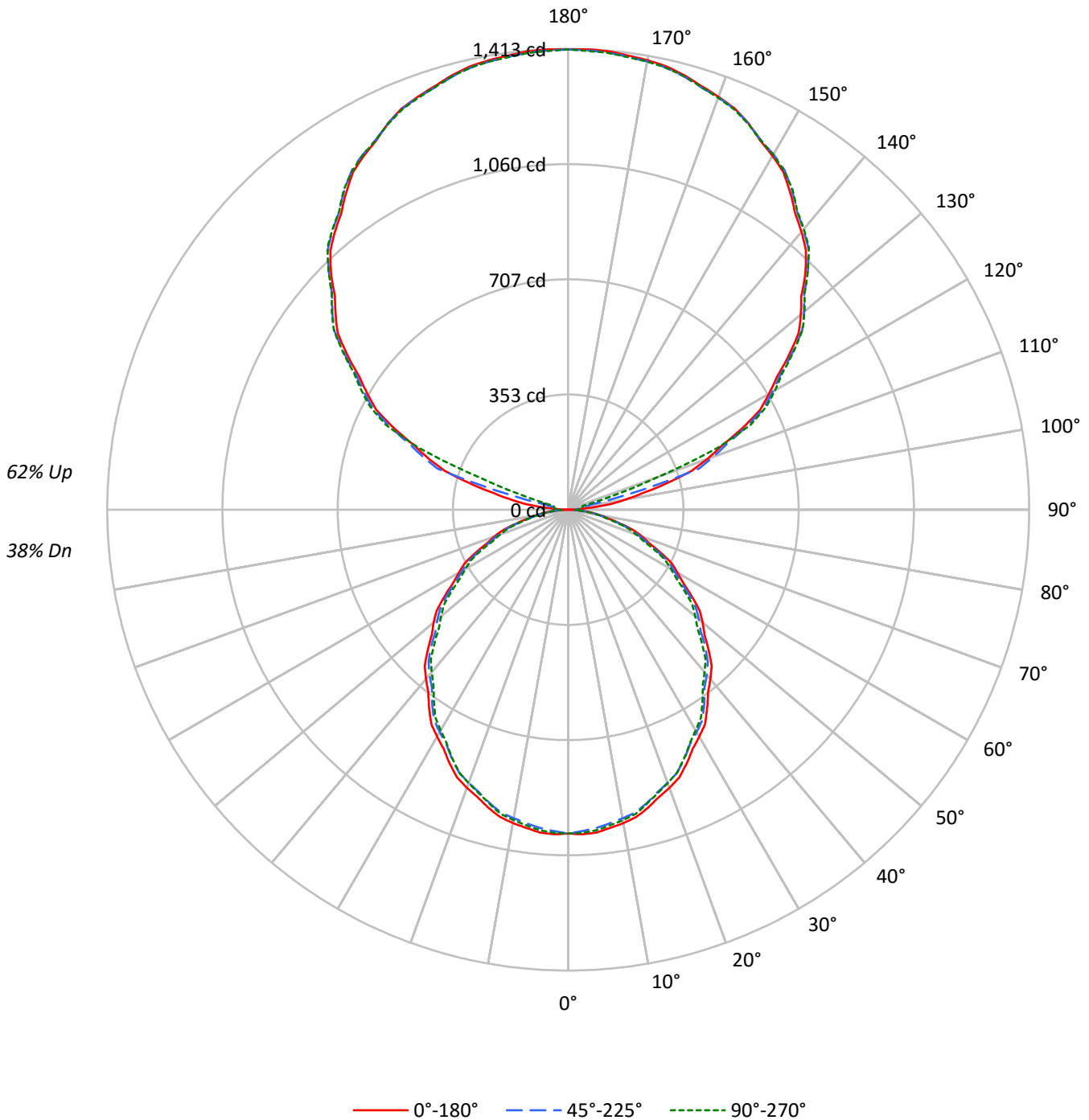
Lumens per Lamp: N/A  
Luminaire Lumens: 6890.5 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (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





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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	76	76	76		60	60	60		45	45	45	38
1	95	91	87	83	86	82	79	76	67	65	63		53	51	50		39	38	38	32
2	86	79	73	68	78	72	67	62	58	55	52		46	44	41		35	33	32	26
3	79	69	62	57	71	63	57	52	52	47	43		41	38	35		31	29	27	22
4	72	61	54	48	65	56	49	44	46	41	37		36	33	30		27	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32		32	29	26		25	22	20	17
6	61	49	41	35	55	45	38	33	37	31	28		29	25	23		22	20	18	15
7	56	44	36	31	51	40	33	29	33	28	24		27	23	20		20	18	16	13
8	52	40	32	27	47	37	30	25	30	25	21		24	20	18		19	16	14	12
9	48	36	29	24	44	33	27	22	28	23	19		22	19	16		17	15	13	10
10	45	33	26	21	41	31	24	20	25	21	17		21	17	14		16	13	11	9

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

	0°	45°	90°
0°	10687	10687	10687
5°	10737	10589	10662
10°	10665	10497	10563
15°	10541	10379	10398
20°	10394	10208	10219
25°	10200	10007	9987
30°	9984	9783	9708
35°	9759	9546	9423
40°	9524	9284	9140
45°	9266	9045	8824
50°	9008	8748	8505
55°	8668	8443	8188
60°	8325	8086	7830
65°	8023	7697	7457
70°	7578	7254	6930
75°	6924	6675	6392
80°	6248	5976	5926
85°	5483	5274	5064



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.5	1.4
10°-20°	264.1	3.8
20°-30°	390.1	5.7
30°-40°	455.7	6.6
40°-50°	458.1	6.6
50°-60°	402.4	5.8
60°-70°	299.8	4.4
70°-80°	170.8	2.5
80°-90°	53.0	0.8
90°-100°	51.3	0.7
100°-110°	244.5	3.5
110°-120°	587.3	8.5
120°-130°	747.9	10.9
130°-140°	799.1	11.6
140°-150°	747.2	10.8
150°-160°	602.7	8.7
160°-170°	389.0	5.6
170°-180°	134.1	1.9
0°-30°	747.7	10.9
0°-40°	1203.3	17.5
0°-60°	2063.8	30.0
0°-90°	2587.4	37.6
90°-120°	883.1	12.8
90°-150°	3177.3	46.1
90°-180°	4303.0	62.4
0°-180°	6890.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	993	993	993	993	993	
5°	994	989	980	988	987	94
15°	946	942	931	938	933	267
25°	859	853	843	843	841	395
35°	743	737	726	721	717	464
45°	609	605	594	584	580	470
55°	462	460	450	441	436	414
65°	315	310	302	296	293	311
75°	166	163	160	156	154	178
85°	44	43	43	41	41	49
90°	1	12	25	29	32	5
95°	64	24	32	40	40	79
105°	312	318	230	54	46	331
115°	586	592	602	612	616	578
125°	826	834	839	841	843	737
135°	1028	1035	1039	1042	1039	791
145°	1187	1194	1196	1198	1198	743
155°	1307	1305	1306	1311	1305	602
165°	1379	1376	1374	1382	1375	389
175°	1411	1406	1407	1413	1406	134
180°	1411	1411	1411	1411	1411	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9
2.5°	996.2	995.6	995.1	994.4	993.8	992.7	991.0	989.4	987.7	986.0	987.5
5°	993.7	992.7	991.8	990.8	989.9	988.4	986.3	984.2	982.1	980.0	981.9
7.5°	984.0	983.0	982.0	981.1	980.2	978.6	976.4	974.3	972.1	970.0	971.7
10°	975.8	974.8	973.9	972.9	972.0	970.3	967.8	965.3	962.9	960.4	962.1
12.5°	964.8	964.0	963.3	962.5	961.6	960.1	957.8	955.4	953.2	950.8	952.1
15°	945.9	945.1	944.4	943.6	942.8	941.3	938.7	936.3	933.8	931.4	932.9
17.5°	923.8	922.8	921.9	920.9	919.9	918.2	915.7	913.2	910.8	908.3	909.4
20°	907.4	906.3	905.2	904.1	902.9	901.1	898.6	896.2	893.7	891.2	892.0
22.5°	889.0	887.9	886.7	885.6	884.4	882.6	880.2	877.8	875.3	872.8	873.4
25°	858.8	857.7	856.6	855.4	854.3	852.5	849.9	847.5	845.1	842.6	842.8
27.5°	826.6	825.4	824.3	823.2	822.1	820.3	817.6	815.0	812.3	809.6	809.8
30°	803.3	802.3	801.4	800.5	799.5	797.7	795.1	792.4	789.8	787.1	787.1
32.5°	780.1	778.9	777.6	776.3	775.1	773.5	771.4	769.3	767.3	765.2	764.2
35°	742.7	741.6	740.5	739.3	738.2	736.4	733.9	731.4	729.0	726.5	725.4
37.5°	704.4	703.0	701.6	700.1	698.7	696.8	694.2	691.7	689.2	686.7	685.3
40°	677.8	676.7	675.6	674.4	673.3	671.4	668.7	666.1	663.4	660.7	659.3
42.5°	651.2	649.9	648.6	647.3	646.0	644.1	641.4	638.7	636.1	633.4	631.9
45°	608.7	607.9	607.2	606.4	605.6	604.1	601.5	599.1	596.6	594.2	591.9
47.5°	566.5	565.4	564.3	563.2	562.1	560.4	558.1	555.8	553.4	551.1	548.9
50°	537.9	536.9	535.9	535.0	534.0	532.3	529.9	527.4	524.9	522.4	520.4
52.5°	507.8	507.1	506.5	505.8	505.2	503.5	500.9	498.3	495.7	493.1	491.3
55°	461.9	461.6	461.5	461.3	461.1	459.7	457.3	454.9	452.3	449.9	447.8
57.5°	418.2	417.5	416.9	416.2	415.6	414.3	412.3	410.3	408.3	406.3	404.5
60°	386.7	386.5	386.4	386.1	386.0	384.7	382.5	380.2	377.9	375.6	373.9
62.5°	358.7	358.2	357.8	357.3	356.8	355.4	353.1	350.8	348.5	346.3	344.5
65°	315.0	314.1	313.1	312.2	311.2	309.8	307.9	306.0	304.1	302.2	300.7
67.5°	268.7	267.9	267.1	266.2	265.4	264.2	262.9	261.4	259.9	258.5	257.1
70°	240.8	239.6	238.5	237.3	236.2	235.1	233.9	232.8	231.6	230.5	229.2
72.5°	211.4	210.5	209.7	208.9	208.1	207.0	205.7	204.4	203.1	201.8	200.6
75°	166.5	165.7	164.9	164.2	163.5	162.7	162.2	161.6	161.0	160.5	159.6
77.5°	126.7	126.3	125.9	125.5	125.0	124.5	123.8	123.1	122.5	121.7	121.1
80°	100.8	100.2	99.6	99.1	98.5	98.0	97.6	97.3	96.9	96.4	96.3
82.5°	75.5	75.3	75.3	75.1	75.0	74.9	74.8	74.8	74.7	74.6	74.3
85°	44.4	44.0	43.6	43.3	42.9	42.7	42.7	42.7	42.7	42.7	42.3
87.5°	17.9	17.9	18.0	18.0	18.0	18.3	18.7	19.2	19.6	20.1	20.1
90°	1.1	3.3	5.7	8.1	10.4	13.0	16.1	19.1	22.1	25.2	26.1
92.5°	19.5	18.8	18.2	17.5	16.9	17.7	20.0	22.3	24.5	26.8	28.3
95°	63.9	54.4	44.8	35.3	25.8	22.3	24.8	27.4	29.9	32.5	34.2
97.5°	128.5	124.3	119.9	115.7	111.4	100.9	84.1	67.3	50.5	33.8	35.6
100°	177.2	181.8	186.5	191.1	195.8	179.9	143.7	107.3	70.9	34.6	36.4
102.5°	232.5	235.9	239.2	242.6	246.0	227.8	188.1	148.4	108.7	69.0	63.2
105°	312.4	315.0	317.6	320.1	322.6	313.5	292.4	271.5	250.5	229.6	188.3
107.5°	396.7	398.8	400.8	402.8	404.9	407.6	410.9	414.2	417.5	420.8	390.5
110°	452.9	454.8	456.6	458.4	460.3	462.5	465.1	467.7	470.3	472.8	465.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	506.5	508.3	509.9	511.6	513.2	515.4	518.0	520.5	523.1	525.6	525.8
115°	586.0	587.4	588.8	590.2	591.6	593.4	595.4	597.5	599.7	601.8	604.1
117.5°	663.0	664.7	666.4	668.1	669.8	671.2	672.3	673.4	674.5	675.6	677.4
120°	710.8	712.9	714.9	717.1	719.2	720.6	721.2	721.9	722.7	723.3	725.2
122.5°	759.5	761.2	762.9	764.6	766.3	767.6	768.5	769.4	770.3	771.2	772.5
125°	826.1	827.9	829.8	831.7	833.6	834.9	835.8	836.8	837.7	838.7	839.1
127.5°	890.6	892.5	894.4	896.3	898.1	899.6	900.7	901.9	902.9	904.1	904.8
130°	930.9	932.8	934.7	936.5	938.4	939.8	940.7	941.7	942.6	943.5	944.4
132.5°	969.5	971.3	973.2	975.1	977.0	978.3	979.0	979.7	980.5	981.2	982.2
135°	1028.4	1029.8	1031.2	1032.6	1034.0	1035.2	1036.1	1037.1	1038.0	1038.9	1039.6
137.5°	1078.7	1080.5	1082.3	1084.0	1085.8	1087.0	1087.4	1088.0	1088.5	1089.0	1090.1
140°	1112.3	1113.7	1115.1	1116.5	1117.9	1118.9	1119.7	1120.3	1121.0	1121.7	1122.7
142.5°	1143.3	1144.7	1146.1	1147.5	1148.9	1150.0	1150.6	1151.4	1152.0	1152.8	1153.5
145°	1186.7	1188.4	1190.0	1191.6	1193.3	1194.3	1194.7	1195.2	1195.7	1196.1	1196.6
147.5°	1227.6	1228.7	1229.7	1230.8	1231.9	1232.7	1233.1	1233.5	1234.0	1234.5	1235.0
150°	1252.8	1253.4	1254.2	1254.8	1255.6	1256.1	1256.6	1257.0	1257.5	1258.0	1258.5
152.5°	1275.4	1275.7	1276.0	1276.4	1276.7	1277.0	1277.3	1277.6	1277.8	1278.1	1279.0
155°	1307.3	1306.8	1306.4	1305.9	1305.4	1305.3	1305.5	1305.8	1306.0	1306.2	1307.4
157.5°	1332.0	1332.0	1332.0	1331.9	1331.8	1331.7	1331.5	1331.2	1331.0	1330.7	1332.1
160°	1347.1	1346.9	1346.6	1346.4	1346.1	1346.0	1345.7	1345.5	1345.2	1345.0	1346.4
162.5°	1361.4	1360.7	1360.2	1359.5	1358.9	1358.5	1358.3	1358.0	1357.8	1357.6	1359.2
165°	1378.6	1377.9	1377.1	1376.5	1375.7	1375.3	1375.1	1374.8	1374.6	1374.4	1376.2
167.5°	1392.0	1391.1	1390.1	1389.2	1388.2	1387.8	1387.8	1387.8	1387.8	1387.8	1389.7
170°	1399.5	1398.6	1397.7	1396.8	1395.8	1395.3	1395.3	1395.3	1395.3	1395.3	1397.2
172.5°	1404.6	1403.5	1402.3	1401.2	1400.1	1399.6	1399.8	1400.0	1400.2	1400.4	1402.2
175°	1411.0	1409.9	1408.8	1407.5	1406.4	1405.9	1406.1	1406.4	1406.6	1406.9	1408.5
177.5°	1412.8	1411.8	1410.9	1410.0	1409.0	1408.7	1408.8	1409.0	1409.2	1409.4	1410.9
180°	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9
2.5°	989.0	990.6	992.1	992.8	992.6	992.5	992.3	992.1
5°	983.8	985.7	987.7	988.4	988.0	987.7	987.2	986.8
7.5°	973.4	975.1	976.8	977.5	977.3	977.1	976.8	976.6
10°	963.8	965.5	967.2	967.9	967.5	967.1	966.8	966.4
12.5°	953.3	954.6	955.9	956.3	956.1	955.9	955.7	955.4
15°	934.4	935.9	937.4	937.6	936.5	935.3	934.3	933.1
17.5°	910.4	911.5	912.6	912.9	912.5	912.1	911.7	911.3
20°	892.8	893.5	894.3	894.4	893.8	893.2	892.7	892.1
22.5°	874.0	874.7	875.2	875.1	874.5	873.8	873.0	872.3
25°	842.9	843.2	843.3	843.2	842.6	842.0	841.5	840.9
27.5°	809.9	810.1	810.2	809.9	809.3	808.5	807.8	807.1
30°	787.1	787.1	787.1	786.4	785.1	783.7	782.4	781.1
32.5°	763.1	762.1	761.0	760.1	759.4	758.6	757.9	757.2
35°	724.2	723.1	721.9	720.9	719.9	719.0	718.0	717.1
37.5°	684.0	682.6	681.3	680.3	679.6	679.1	678.4	677.8
40°	657.7	656.2	654.7	653.5	652.8	652.0	651.3	650.5
42.5°	630.4	628.8	627.4	626.2	625.5	624.7	623.9	623.2
45°	589.6	587.3	585.1	583.4	582.5	581.6	580.6	579.7
47.5°	546.7	544.5	542.2	540.6	539.8	539.0	538.2	537.3
50°	518.3	516.2	514.1	512.5	511.4	510.2	509.1	507.9
52.5°	489.5	487.7	485.9	484.5	483.4	482.2	481.1	480.0
55°	445.7	443.6	441.6	440.0	439.0	438.1	437.2	436.3
57.5°	402.6	400.8	398.9	397.5	396.3	395.3	394.1	393.1
60°	372.2	370.5	368.8	367.5	366.5	365.6	364.6	363.7
62.5°	342.8	341.1	339.4	338.3	337.6	337.0	336.3	335.7
65°	299.1	297.7	296.1	295.1	294.5	293.9	293.3	292.8
67.5°	255.8	254.5	253.2	252.1	251.4	250.5	249.7	248.9
70°	227.9	226.5	225.2	224.0	223.1	222.2	221.2	220.2
72.5°	199.4	198.3	197.1	196.2	195.8	195.3	194.8	194.3
75°	158.6	157.7	156.7	156.0	155.4	154.8	154.3	153.7
77.5°	120.4	119.8	119.1	118.9	118.9	118.9	118.9	118.9
80°	96.1	95.9	95.7	95.6	95.6	95.6	95.6	95.6
82.5°	73.9	73.6	73.2	73.0	72.9	72.7	72.6	72.4
85°	41.9	41.6	41.2	41.0	41.0	41.0	41.0	41.0
87.5°	20.1	20.1	20.2	20.2	20.4	20.5	20.5	20.6
90°	27.0	28.0	28.9	29.6	30.1	30.5	31.0	31.5
92.5°	29.8	31.3	32.8	33.7	34.0	34.2	34.5	34.8
95°	35.8	37.4	39.1	39.9	39.9	39.9	39.9	39.9
97.5°	37.5	39.4	41.2	42.2	42.5	42.7	43.0	43.2
100°	38.3	40.2	42.1	43.1	43.3	43.5	43.8	44.0
102.5°	57.4	51.6	45.9	43.2	43.6	44.0	44.4	44.8
105°	147.1	105.9	64.7	44.3	44.8	45.2	45.7	46.1
107.5°	360.4	330.1	299.9	269.2	238.1	207.0	175.9	144.9
110°	457.4	449.7	442.1	421.5	388.2	354.9	321.6	288.3





TEST NUMBER: P332172-930

CATALOG NUMBER: S123DIW-S775D1320U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	525.9	526.0	526.2	522.8	515.7	508.7	501.7	494.6
115°	606.4	608.7	611.1	612.7	613.6	614.6	615.5	616.4
117.5°	679.3	681.1	683.0	684.0	684.2	684.4	684.6	684.8
120°	727.1	729.0	730.8	731.7	731.7	731.7	731.7	731.7
122.5°	773.8	775.1	776.4	777.1	777.3	777.5	777.7	777.9
125°	839.6	840.1	840.5	841.0	841.5	842.0	842.4	842.9
127.5°	905.6	906.3	907.1	907.2	906.8	906.3	905.8	905.3
130°	945.3	946.3	947.2	947.5	947.0	946.6	946.1	945.6
132.5°	983.1	984.1	985.0	985.1	984.5	983.8	983.2	982.5
135°	1040.3	1041.0	1041.7	1041.7	1041.0	1040.3	1039.6	1038.9
137.5°	1091.3	1092.3	1093.5	1093.8	1093.3	1092.9	1092.4	1091.9
140°	1123.6	1124.5	1125.4	1125.7	1125.2	1124.7	1124.3	1123.8
142.5°	1154.2	1155.0	1155.8	1155.8	1155.1	1154.5	1153.8	1153.2
145°	1197.1	1197.5	1198.0	1198.2	1198.2	1198.2	1198.2	1198.2
147.5°	1235.4	1235.9	1236.4	1236.1	1235.0	1234.0	1232.9	1231.8
150°	1258.9	1259.4	1259.9	1259.7	1259.1	1258.3	1257.7	1256.9
152.5°	1279.8	1280.7	1281.5	1281.4	1280.3	1279.2	1278.1	1277.1
155°	1308.6	1309.7	1310.9	1310.8	1309.4	1308.0	1306.6	1305.2
157.5°	1333.6	1335.0	1336.4	1336.1	1334.3	1332.5	1330.6	1328.9
160°	1347.8	1349.2	1350.6	1350.5	1348.8	1347.2	1345.6	1343.9
162.5°	1360.7	1362.4	1363.9	1364.0	1362.5	1361.1	1359.7	1358.2
165°	1378.1	1380.0	1381.9	1381.9	1380.3	1378.7	1377.0	1375.4
167.5°	1391.6	1393.3	1395.2	1395.2	1393.3	1391.6	1389.7	1387.8
170°	1399.1	1400.9	1402.8	1402.8	1400.9	1399.1	1397.2	1395.3
172.5°	1404.1	1406.0	1407.9	1407.7	1405.7	1403.6	1401.6	1399.5
175°	1410.1	1411.8	1413.4	1413.2	1411.4	1409.6	1407.7	1405.8
177.5°	1412.3	1413.9	1415.4	1415.2	1413.3	1411.4	1409.6	1407.7
180°	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0

(END OF REPORT)