

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: P332172-935

Luminaire Tested: **S123DIW-S775D1320U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332172-935  
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-S775D1320U935-4F0-1E-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: 7276.7 lumens  
Efficiency: N/A  
Efficacy: 118.5 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

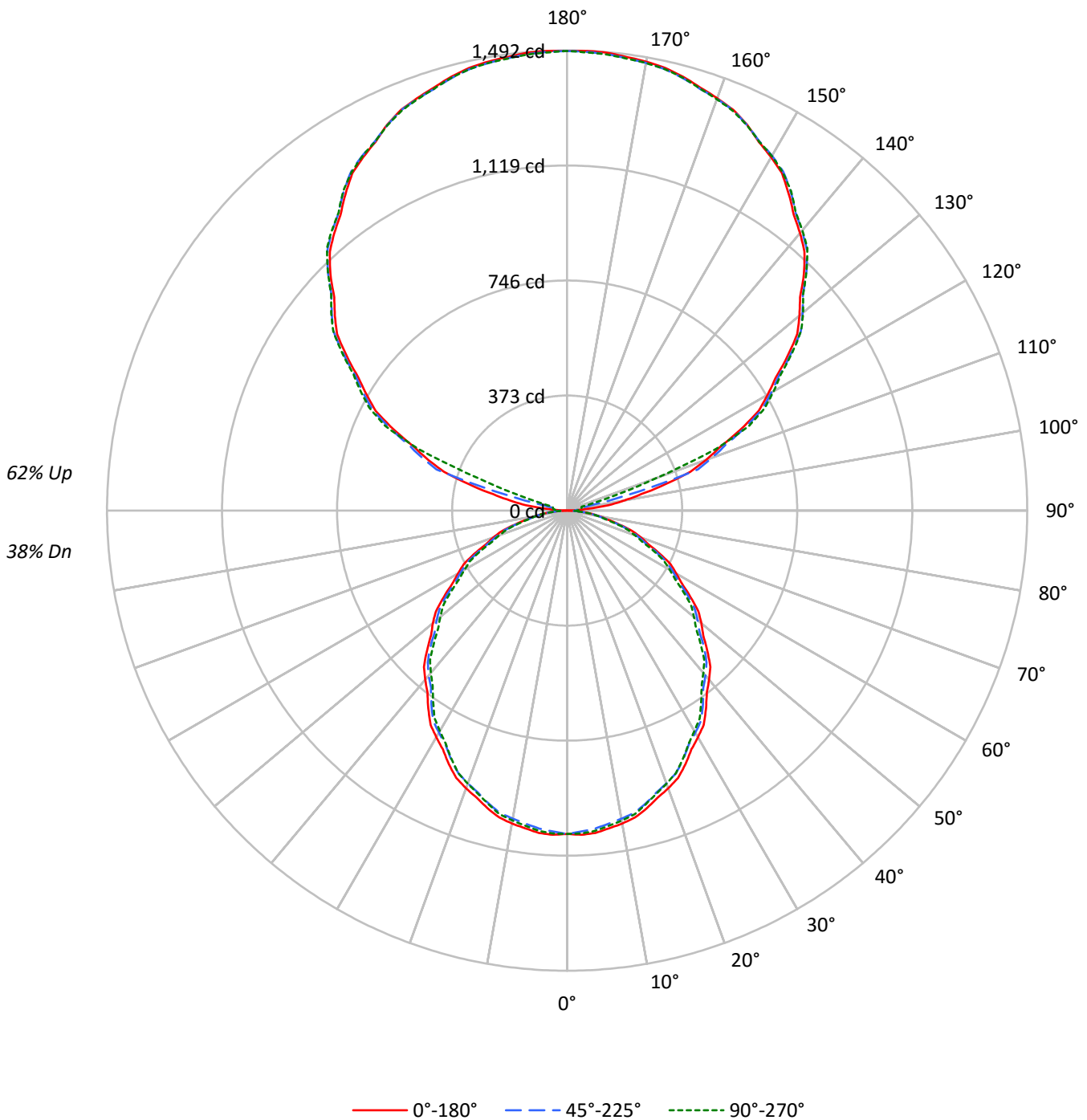
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332172-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P332172-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-F

**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°	11286	11286	11286
5°	11339	11182	11261
10°	11262	11086	11154
15°	11131	10961	10981
20°	10977	10781	10791
25°	10772	10568	10546
30°	10544	10331	10253
35°	10307	10081	9950
40°	10058	9805	9653
45°	9785	9552	9319
50°	9512	9239	8982
55°	9154	8916	8646
60°	8792	8540	8269
65°	8474	8130	7875
70°	8003	7660	7320
75°	7311	7049	6750
80°	6595	6316	6261
85°	5780	5570	5348



TEST NUMBER: P332172-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.8	1.4
10°-20°	278.9	3.8
20°-30°	411.9	5.7
30°-40°	481.2	6.6
40°-50°	483.8	6.6
50°-60°	425.0	5.8
60°-70°	316.6	4.4
70°-80°	180.4	2.5
80°-90°	56.0	0.8
90°-100°	54.2	0.7
100°-110°	258.2	3.5
110°-120°	620.2	8.5
120°-130°	789.8	10.9
130°-140°	843.9	11.6
140°-150°	789.1	10.8
150°-160°	636.5	8.7
160°-170°	410.8	5.6
170°-180°	141.6	1.9
0°-30°	789.6	10.9
0°-40°	1270.8	17.5
0°-60°	2179.5	30.0
0°-90°	2732.4	37.6
90°-120°	932.6	12.8
90°-150°	3355.4	46.1
90°-180°	4544.0	62.4
0°-180°	7276.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1048	1048	1048	1048	1048	
5°	1049	1045	1035	1043	1042	99
15°	999	995	984	990	985	281
25°	907	901	890	890	888	418
35°	784	779	767	762	757	490
45°	643	639	628	617	612	496
55°	488	486	475	466	461	437
65°	333	328	319	312	309	328
75°	176	172	170	165	162	188
85°	47	45	45	43	43	51
90°	1	12	27	31	33	6
95°	68	25	34	42	42	83
105°	330	336	242	58	49	350
115°	619	626	636	646	651	611
125°	872	881	886	888	890	779
135°	1086	1093	1097	1100	1097	836
145°	1253	1261	1263	1265	1265	784
155°	1380	1378	1379	1384	1378	636
165°	1456	1453	1451	1459	1452	411
175°	1490	1485	1486	1493	1485	142
180°	1490	1490	1490	1490	1490	



TEST NUMBER: P332172-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5
2.5°	1052.1	1051.5	1050.9	1050.2	1049.6	1048.4	1046.5	1044.8	1043.0	1041.3	1042.8
5°	1049.4	1048.4	1047.4	1046.4	1045.3	1043.8	1041.6	1039.4	1037.2	1034.9	1037.0
7.5°	1039.1	1038.1	1037.1	1036.1	1035.1	1033.5	1031.1	1028.9	1026.6	1024.3	1026.1
10°	1030.4	1029.4	1028.5	1027.4	1026.5	1024.7	1022.0	1019.4	1016.8	1014.3	1016.1
12.5°	1018.9	1018.0	1017.3	1016.4	1015.5	1013.9	1011.5	1009.0	1006.6	1004.1	1005.5
15°	998.9	998.1	997.3	996.5	995.7	994.0	991.4	988.8	986.2	983.6	985.2
17.5°	975.6	974.6	973.5	972.5	971.5	969.7	967.1	964.4	961.8	959.2	960.4
20°	958.3	957.1	956.0	954.8	953.6	951.6	949.0	946.4	943.8	941.2	942.0
22.5°	938.8	937.6	936.4	935.2	934.0	932.1	929.5	927.0	924.4	921.7	922.4
25°	907.0	905.8	904.6	903.4	902.2	900.3	897.6	895.0	892.4	889.8	890.0
27.5°	872.9	871.7	870.6	869.4	868.2	866.3	863.4	860.7	857.8	855.0	855.1
30°	848.3	847.3	846.4	845.3	844.3	842.4	839.6	836.8	834.1	831.2	831.2
32.5°	823.8	822.5	821.1	819.8	818.6	816.8	814.6	812.4	810.3	808.1	807.0
35°	784.4	783.2	782.0	780.8	779.5	777.7	775.0	772.4	769.8	767.2	766.0
37.5°	743.9	742.4	740.9	739.3	737.9	735.8	733.1	730.5	727.8	725.2	723.8
40°	715.8	714.6	713.4	712.2	711.0	709.0	706.2	703.4	700.6	697.8	696.2
42.5°	687.7	686.3	684.9	683.6	682.3	680.2	677.3	674.5	671.8	668.9	667.4
45°	642.8	642.0	641.2	640.4	639.6	637.9	635.2	632.7	630.1	627.5	625.1
47.5°	598.2	597.1	595.9	594.8	593.6	591.8	589.4	586.9	584.4	582.0	579.6
50°	568.0	567.0	565.9	565.0	564.0	562.1	559.6	557.0	554.3	551.7	549.6
52.5°	536.2	535.5	534.9	534.2	533.5	531.8	529.0	526.2	523.5	520.7	518.8
55°	487.8	487.5	487.3	487.2	486.9	485.5	482.9	480.4	477.7	475.1	472.9
57.5°	441.6	440.9	440.2	439.5	438.9	437.5	435.4	433.3	431.2	429.1	427.1
60°	408.4	408.2	408.0	407.8	407.6	406.3	403.9	401.5	399.1	396.7	394.9
62.5°	378.8	378.3	377.8	377.3	376.8	375.3	372.9	370.5	368.1	365.7	363.9
65°	332.7	331.7	330.6	329.7	328.6	327.2	325.1	323.1	321.2	319.2	317.5
67.5°	283.8	282.9	282.1	281.1	280.3	279.1	277.6	276.0	274.5	273.0	271.6
70°	254.3	253.0	251.8	250.6	249.4	248.2	247.0	245.8	244.6	243.4	242.0
72.5°	223.3	222.3	221.4	220.6	219.7	218.6	217.2	215.9	214.5	213.1	211.9
75°	175.8	175.0	174.2	173.4	172.6	171.9	171.3	170.7	170.0	169.5	168.5
77.5°	133.8	133.4	132.9	132.5	132.0	131.5	130.7	130.0	129.3	128.5	127.9
80°	106.4	105.8	105.2	104.6	104.0	103.5	103.1	102.7	102.3	101.9	101.7
82.5°	79.7	79.6	79.5	79.3	79.2	79.1	79.0	79.0	78.9	78.8	78.4
85°	46.8	46.5	46.1	45.7	45.3	45.1	45.1	45.1	45.1	45.1	44.7
87.5°	18.9	18.9	19.0	19.0	19.0	19.3	19.7	20.2	20.7	21.2	21.2
90°	1.1	3.5	6.0	8.5	10.9	13.8	17.0	20.1	23.3	26.6	27.6
92.5°	20.6	19.9	19.2	18.5	17.8	18.7	21.1	23.5	25.9	28.3	29.9
95°	67.5	57.4	47.4	37.3	27.2	23.5	26.2	28.9	31.6	34.4	36.1
97.5°	135.7	131.2	126.7	122.2	117.6	106.5	88.8	71.1	53.4	35.6	37.6
100°	187.1	192.0	196.9	201.8	206.8	190.0	151.7	113.3	74.9	36.5	38.5
102.5°	245.6	249.1	252.6	256.1	259.8	240.6	198.6	156.7	114.8	72.8	66.7
105°	329.9	332.6	335.4	338.0	340.7	331.1	308.8	286.7	264.6	242.5	198.9
107.5°	419.0	421.1	423.3	425.4	427.6	430.4	433.9	437.4	440.9	444.4	412.4
110°	478.3	480.3	482.2	484.1	486.1	488.4	491.2	493.9	496.6	499.3	491.2



TEST NUMBER: P332172-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	534.9	536.7	538.5	540.3	542.0	544.2	547.0	549.7	552.4	555.1	555.3
115°	618.9	620.4	621.8	623.3	624.7	626.6	628.8	631.0	633.3	635.5	637.9
117.5°	700.2	702.0	703.8	705.6	707.4	708.9	710.0	711.2	712.3	713.4	715.4
120°	750.6	752.9	755.0	757.2	759.5	761.0	761.6	762.4	763.2	763.9	765.9
122.5°	802.0	803.8	805.6	807.4	809.3	810.6	811.6	812.5	813.5	814.4	815.8
125°	872.4	874.3	876.3	878.3	880.3	881.8	882.7	883.7	884.7	885.7	886.1
127.5°	940.6	942.5	944.5	946.5	948.5	950.0	951.2	952.4	953.6	954.8	955.5
130°	983.1	985.1	987.1	989.0	991.0	992.5	993.4	994.5	995.4	996.3	997.4
132.5°	1023.8	1025.8	1027.8	1029.8	1031.7	1033.1	1033.9	1034.7	1035.4	1036.2	1037.2
135°	1086.1	1087.5	1089.0	1090.5	1092.0	1093.2	1094.2	1095.2	1096.1	1097.2	1097.9
137.5°	1139.2	1141.1	1143.0	1144.8	1146.7	1147.9	1148.4	1149.0	1149.5	1150.0	1151.2
140°	1174.7	1176.1	1177.6	1179.1	1180.5	1181.6	1182.4	1183.1	1183.9	1184.6	1185.6
142.5°	1207.4	1208.8	1210.4	1211.9	1213.3	1214.4	1215.1	1215.9	1216.6	1217.4	1218.1
145°	1253.3	1255.0	1256.7	1258.4	1260.2	1261.2	1261.7	1262.2	1262.7	1263.2	1263.7
147.5°	1296.4	1297.5	1298.6	1299.8	1301.0	1301.7	1302.3	1302.7	1303.2	1303.7	1304.2
150°	1323.0	1323.7	1324.5	1325.2	1325.9	1326.5	1327.1	1327.5	1328.0	1328.5	1329.0
152.5°	1346.9	1347.2	1347.6	1347.9	1348.2	1348.6	1348.9	1349.2	1349.4	1349.8	1350.7
155°	1380.5	1380.1	1379.6	1379.1	1378.5	1378.5	1378.7	1379.0	1379.2	1379.4	1380.7
157.5°	1406.7	1406.6	1406.6	1406.5	1406.4	1406.4	1406.1	1405.8	1405.6	1405.3	1406.8
160°	1422.6	1422.4	1422.1	1421.9	1421.6	1421.4	1421.2	1420.9	1420.6	1420.4	1421.9
162.5°	1437.7	1437.0	1436.4	1435.7	1435.1	1434.7	1434.4	1434.2	1433.9	1433.7	1435.4
165°	1455.9	1455.1	1454.3	1453.6	1452.9	1452.4	1452.2	1451.9	1451.6	1451.4	1453.4
167.5°	1470.0	1469.0	1468.0	1467.1	1466.0	1465.6	1465.6	1465.6	1465.6	1465.6	1467.6
170°	1478.0	1477.0	1476.0	1475.1	1474.0	1473.5	1473.5	1473.5	1473.5	1473.5	1475.5
172.5°	1483.3	1482.1	1480.9	1479.7	1478.6	1478.1	1478.3	1478.5	1478.7	1478.9	1480.8
175°	1490.1	1488.9	1487.7	1486.4	1485.2	1484.7	1485.0	1485.2	1485.5	1485.7	1487.5
177.5°	1491.9	1490.9	1490.0	1489.0	1488.0	1487.6	1487.8	1488.0	1488.2	1488.4	1490.0
180°	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1



TEST NUMBER: P332172-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5
2.5°	1044.5	1046.1	1047.7	1048.4	1048.3	1048.1	1047.9	1047.8
5°	1039.0	1040.9	1043.0	1043.8	1043.4	1043.0	1042.6	1042.2
7.5°	1027.9	1029.8	1031.6	1032.3	1032.1	1031.8	1031.6	1031.4
10°	1017.9	1019.6	1021.4	1022.2	1021.7	1021.3	1021.0	1020.5
12.5°	1006.8	1008.1	1009.4	1010.0	1009.7	1009.4	1009.3	1009.0
15°	986.8	988.3	990.0	990.2	988.9	987.7	986.6	985.4
17.5°	961.5	962.6	963.7	964.1	963.6	963.2	962.8	962.3
20°	942.8	943.6	944.4	944.5	943.9	943.3	942.7	942.1
22.5°	923.0	923.7	924.3	924.2	923.5	922.7	922.0	921.2
25°	890.2	890.4	890.6	890.4	889.8	889.2	888.6	888.0
27.5°	855.3	855.5	855.7	855.3	854.6	853.9	853.1	852.3
30°	831.2	831.2	831.2	830.5	829.1	827.7	826.3	824.9
32.5°	805.9	804.8	803.7	802.7	801.9	801.2	800.4	799.7
35°	764.8	763.6	762.4	761.3	760.3	759.3	758.3	757.2
37.5°	722.3	720.8	719.5	718.4	717.7	717.1	716.4	715.8
40°	694.6	693.0	691.4	690.2	689.4	688.5	687.8	687.0
42.5°	665.7	664.1	662.5	661.3	660.6	659.7	658.9	658.1
45°	622.7	620.3	617.9	616.1	615.2	614.2	613.1	612.2
47.5°	577.3	575.0	572.6	570.9	570.1	569.2	568.3	567.4
50°	547.3	545.1	542.9	541.2	540.0	538.8	537.6	536.4
52.5°	516.9	515.1	513.2	511.7	510.5	509.3	508.1	506.9
55°	470.7	468.5	466.3	464.7	463.6	462.7	461.7	460.7
57.5°	425.2	423.3	421.3	419.7	418.5	417.4	416.2	415.1
60°	393.0	391.2	389.4	388.1	387.0	386.1	385.0	384.1
62.5°	362.1	360.2	358.4	357.2	356.5	355.9	355.2	354.5
65°	315.9	314.4	312.7	311.6	311.0	310.4	309.8	309.2
67.5°	270.2	268.8	267.3	266.2	265.4	264.6	263.7	262.9
70°	240.6	239.2	237.8	236.6	235.6	234.6	233.6	232.6
72.5°	210.6	209.4	208.2	207.2	206.7	206.2	205.7	205.2
75°	167.5	166.5	165.5	164.7	164.1	163.5	162.9	162.3
77.5°	127.2	126.5	125.8	125.5	125.5	125.5	125.5	125.5
80°	101.5	101.3	101.1	101.0	101.0	101.0	101.0	101.0
82.5°	78.1	77.7	77.3	77.1	77.0	76.8	76.6	76.5
85°	44.3	43.9	43.5	43.3	43.3	43.3	43.3	43.3
87.5°	21.3	21.3	21.4	21.4	21.5	21.6	21.7	21.8
90°	28.5	29.5	30.5	31.3	31.8	32.2	32.7	33.2
92.5°	31.5	33.1	34.6	35.6	35.9	36.2	36.4	36.8
95°	37.8	39.5	41.2	42.1	42.1	42.1	42.1	42.1
97.5°	39.6	41.6	43.5	44.6	44.9	45.1	45.4	45.6
100°	40.5	42.4	44.4	45.5	45.7	46.0	46.2	46.5
102.5°	60.6	54.5	48.5	45.6	46.1	46.5	46.9	47.4
105°	155.3	111.8	68.3	46.8	47.3	47.7	48.2	48.7
107.5°	380.6	348.6	316.7	284.3	251.5	218.6	185.8	153.0
110°	483.0	474.9	466.8	445.1	410.0	374.8	339.7	304.4





TEST NUMBER: P332172-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	555.4	555.5	555.7	552.1	544.6	537.2	529.8	522.4
115°	640.4	642.8	645.3	647.0	648.0	649.0	650.0	651.0
117.5°	717.4	719.3	721.3	722.4	722.6	722.7	723.0	723.2
120°	767.8	769.8	771.8	772.7	772.7	772.7	772.7	772.7
122.5°	817.2	818.6	819.9	820.7	820.9	821.0	821.3	821.5
125°	886.7	887.2	887.6	888.1	888.6	889.2	889.6	890.1
127.5°	956.3	957.1	957.9	958.0	957.6	957.1	956.6	956.1
130°	998.3	999.4	1000.3	1000.6	1000.1	999.6	999.1	998.6
132.5°	1038.2	1039.2	1040.2	1040.3	1039.7	1039.0	1038.3	1037.6
135°	1098.6	1099.3	1100.1	1100.1	1099.3	1098.6	1097.9	1097.2
137.5°	1152.4	1153.6	1154.8	1155.1	1154.6	1154.2	1153.7	1153.1
140°	1186.5	1187.6	1188.5	1188.8	1188.3	1187.7	1187.3	1186.8
142.5°	1218.9	1219.7	1220.6	1220.6	1219.9	1219.2	1218.5	1217.8
145°	1264.2	1264.6	1265.2	1265.4	1265.4	1265.4	1265.4	1265.4
147.5°	1304.7	1305.2	1305.7	1305.4	1304.2	1303.1	1302.0	1300.8
150°	1329.5	1330.0	1330.5	1330.3	1329.6	1328.9	1328.2	1327.4
152.5°	1351.5	1352.5	1353.3	1353.2	1352.0	1350.9	1349.8	1348.7
155°	1381.9	1383.1	1384.4	1384.2	1382.8	1381.3	1379.8	1378.4
157.5°	1408.3	1409.8	1411.3	1411.0	1409.1	1407.2	1405.2	1403.3
160°	1423.3	1424.9	1426.3	1426.2	1424.4	1422.7	1421.0	1419.3
162.5°	1437.0	1438.7	1440.4	1440.5	1438.9	1437.4	1435.9	1434.3
165°	1455.3	1457.3	1459.3	1459.4	1457.7	1456.0	1454.2	1452.5
167.5°	1469.6	1471.4	1473.4	1473.4	1471.4	1469.6	1467.6	1465.6
170°	1477.5	1479.5	1481.4	1481.4	1479.5	1477.5	1475.5	1473.5
172.5°	1482.8	1484.8	1486.8	1486.6	1484.5	1482.3	1480.1	1478.0
175°	1489.2	1490.9	1492.6	1492.5	1490.6	1488.6	1486.6	1484.6
177.5°	1491.5	1493.1	1494.7	1494.5	1492.5	1490.6	1488.6	1486.6
180°	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1

(END OF REPORT)