

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: P332173-935

Luminaire Tested: **S123DIW-S775D1320U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332173-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
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-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6671.1 lumens
Efficiency: N/A
Efficacy: 108.6 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: General Diffuse

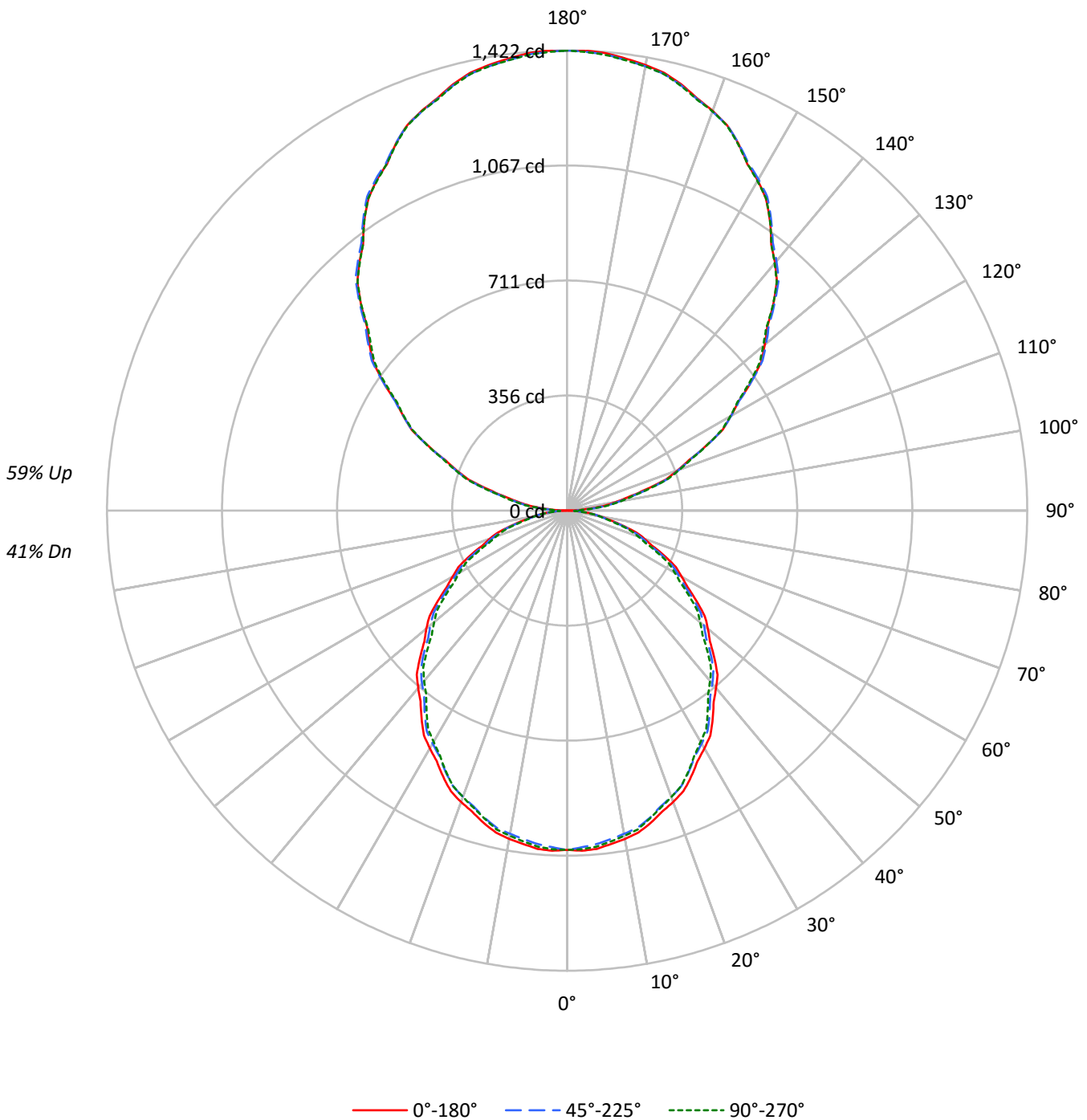
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41
1	96	91	88	84	87	83	80	77	68	66	64	55	53	52	42	41	40	34
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	34	29
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	33	31	29	24
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25	21
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	24	22	18
6	61	49	41	36	56	45	38	33	38	32	28	31	27	24	24	21	19	16
7	57	44	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	14
8	52	40	33	27	48	37	30	26	31	26	22	25	21	19	20	17	15	13
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	16	14	11
10	46	34	27	22	42	31	25	20	26	21	18	22	18	15	17	14	12	10

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	1.5
10°-20°	278.9	4.2
20°-30°	411.9	6.2
30°-40°	481.2	7.2
40°-50°	483.8	7.3
50°-60°	425.0	6.4
60°-70°	316.6	4.7
70°-80°	180.4	2.7
80°-90°	56.0	0.8
90°-100°	92.6	1.4
100°-110°	277.2	4.2
110°-120°	471.4	7.1
120°-130°	620.1	9.3
130°-140°	697.0	10.4
140°-150°	685.1	10.3
150°-160°	576.8	8.6
160°-170°	383.9	5.8
170°-180°	134.4	2.0
0°-30°	789.6	11.8
0°-40°	1270.8	19.0
0°-60°	2179.5	32.7
0°-90°	2732.5	41.0
90°-120°	841.3	12.6
90°-150°	2843.5	42.6
90°-180°	3939.0	59.0
0°-180°	6671.1	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	34	7
95°	66	74	83	87	87	74
105°	251	254	264	264	266	269
115°	475	478	476	477	476	469
125°	695	698	696	691	687	619
135°	901	907	907	902	900	694
145°	1093	1096	1099	1098	1093	683
155°	1252	1252	1253	1257	1250	576
165°	1364	1360	1360	1366	1359	384
175°	1418	1414	1414	1420	1413	135
180°	1422	1422	1422	1422	1422	



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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	19.0	19.0	19.0	19.0	19.3	19.8	20.2	20.8	21.3	21.3
90°	1.1	3.6	6.1	8.5	11.0	13.9	17.1	20.3	23.6	26.8	27.8
92.5°	27.0	28.7	30.4	32.1	33.8	35.6	37.4	39.2	41.1	42.9	43.7
95°	65.9	67.6	69.4	71.1	72.8	74.7	76.7	78.7	80.7	82.7	83.6
97.5°	117.0	118.3	119.6	120.9	122.2	123.6	125.0	126.4	127.9	129.3	130.4
100°	151.9	153.3	154.8	156.4	157.8	159.2	160.4	161.7	162.9	164.2	164.9
102.5°	192.1	193.0	193.9	194.8	195.6	196.9	198.5	200.2	201.8	203.5	204.2
105°	251.2	251.8	252.3	252.7	253.2	254.6	256.8	259.1	261.3	263.6	263.6
107.5°	320.0	320.4	320.6	321.0	321.2	321.8	322.7	323.6	324.5	325.4	326.2
110°	362.9	363.4	363.9	364.4	364.9	365.4	365.9	366.4	366.9	367.4	368.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	407.6	407.9	408.2	408.5	408.8	409.0	409.1	409.1	409.3	409.4	410.6
115°	474.6	475.4	476.0	476.8	477.6	477.7	477.2	476.7	476.2	475.7	476.0
117.5°	542.1	542.5	543.0	543.5	544.1	544.0	543.3	542.7	542.0	541.4	541.3
120°	584.0	585.5	587.0	588.5	590.0	590.1	588.8	587.6	586.4	585.1	584.9
122.5°	627.8	628.9	630.0	631.1	632.1	632.4	631.7	631.1	630.4	629.8	629.1
125°	694.6	695.3	696.0	696.8	697.6	697.7	697.2	696.7	696.2	695.7	694.7
127.5°	756.2	757.9	759.4	761.0	762.6	763.1	762.6	762.0	761.5	761.0	759.5
130°	797.3	799.3	801.3	803.3	805.3	805.9	805.1	804.4	803.7	802.9	801.9
132.5°	838.4	840.4	842.4	844.4	846.4	847.1	846.5	846.0	845.4	844.9	843.7
135°	901.2	902.7	904.1	905.6	907.1	907.8	907.5	907.2	907.0	906.7	905.8
137.5°	959.2	960.4	961.7	962.9	964.2	965.2	965.8	966.5	967.1	967.8	966.6
140°	999.4	1000.7	1001.9	1003.2	1004.4	1005.1	1005.4	1005.6	1005.9	1006.2	1005.9
142.5°	1036.0	1037.3	1038.5	1039.8	1041.0	1041.9	1042.3	1042.8	1043.2	1043.7	1043.4
145°	1093.2	1093.7	1094.2	1094.8	1095.2	1095.9	1096.6	1097.3	1098.1	1098.8	1098.5
147.5°	1143.2	1144.2	1145.0	1146.0	1146.9	1147.6	1148.3	1149.0	1149.7	1150.4	1150.4
150°	1178.1	1178.6	1179.1	1179.6	1180.1	1180.6	1181.1	1181.6	1182.1	1182.6	1182.6
152.5°	1206.7	1207.4	1208.1	1208.8	1209.4	1210.0	1210.3	1210.6	1210.9	1211.2	1211.6
155°	1251.8	1251.8	1251.8	1251.8	1251.8	1252.0	1252.2	1252.4	1252.7	1252.9	1254.0
157.5°	1290.2	1290.0	1289.6	1289.3	1289.0	1289.0	1289.2	1289.3	1289.6	1289.8	1290.8
160°	1314.3	1313.9	1313.4	1312.9	1312.3	1312.1	1312.1	1312.1	1312.1	1312.1	1313.4
162.5°	1335.8	1335.1	1334.4	1333.7	1333.0	1332.7	1333.0	1333.2	1333.3	1333.5	1334.8
165°	1363.5	1362.7	1362.0	1361.2	1360.6	1360.1	1360.1	1360.1	1360.1	1360.1	1361.6
167.5°	1385.6	1384.6	1383.6	1382.6	1381.6	1381.2	1381.4	1381.6	1381.8	1382.0	1383.5
170°	1398.1	1397.1	1396.1	1395.2	1394.1	1393.6	1393.6	1393.6	1393.6	1393.6	1395.3
172.5°	1407.9	1407.0	1405.9	1405.0	1403.9	1403.4	1403.4	1403.4	1403.4	1403.4	1405.0
175°	1418.2	1417.2	1416.3	1415.2	1414.2	1413.8	1413.8	1413.8	1413.8	1413.8	1415.2
177.5°	1422.5	1421.7	1420.8	1420.0	1419.3	1418.8	1418.8	1418.8	1418.8	1418.8	1420.0
180°	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6



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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	21.4	21.4	21.4	21.5	21.6	21.8	21.9
90°	28.8	29.8	30.7	31.5	32.0	32.5	33.0	33.5
92.5°	44.4	45.3	46.1	46.3	46.0	45.7	45.4	45.1
95°	84.6	85.6	86.6	87.1	87.1	87.1	87.1	87.1
97.5°	131.6	132.8	133.9	134.4	134.3	134.2	134.1	134.0
100°	165.7	166.3	167.1	167.7	168.2	168.8	169.3	169.7
102.5°	204.9	205.7	206.5	206.7	206.6	206.6	206.5	206.4
105°	263.6	263.6	263.6	263.8	264.3	264.8	265.3	265.8
107.5°	327.0	327.8	328.6	328.8	328.6	328.2	328.0	327.6
110°	369.4	370.4	371.3	371.6	371.1	370.7	370.1	369.6



TEST NUMBER: P332173-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	411.7	412.9	414.1	414.7	414.6	414.5	414.4	414.3
115°	476.2	476.5	476.7	476.7	476.5	476.2	476.0	475.7
117.5°	541.3	541.2	541.1	540.8	540.1	539.4	538.7	538.0
120°	584.6	584.4	584.2	583.8	583.3	582.8	582.3	581.8
122.5°	628.5	627.8	627.2	626.5	625.9	625.2	624.5	623.8
125°	693.7	692.8	691.7	690.8	689.7	688.7	687.8	686.7
127.5°	758.1	756.7	755.4	754.1	752.9	751.8	750.7	749.5
130°	800.9	800.0	798.9	797.5	795.8	794.1	792.4	790.7
132.5°	842.5	841.3	840.2	838.9	837.5	836.2	834.8	833.5
135°	904.7	903.8	902.8	902.1	901.6	901.0	900.5	900.1
137.5°	965.6	964.6	963.5	962.6	961.7	960.7	959.8	958.8
140°	1005.6	1005.4	1005.1	1004.2	1002.5	1000.7	998.9	997.2
142.5°	1043.2	1042.9	1042.7	1041.9	1040.5	1039.2	1037.8	1036.6
145°	1098.3	1098.1	1097.9	1097.3	1096.2	1095.2	1094.2	1093.2
147.5°	1150.4	1150.4	1150.4	1149.7	1148.2	1146.7	1145.2	1143.8
150°	1182.6	1182.6	1182.6	1181.8	1180.3	1178.9	1177.3	1175.9
152.5°	1211.9	1212.4	1212.7	1212.3	1211.0	1209.7	1208.4	1207.1
155°	1254.9	1255.9	1256.9	1256.5	1254.8	1253.1	1251.3	1249.6
157.5°	1291.8	1292.9	1294.0	1293.7	1292.4	1291.0	1289.6	1288.2
160°	1314.6	1315.9	1317.1	1317.2	1316.2	1315.3	1314.2	1313.2
162.5°	1336.0	1337.3	1338.5	1338.3	1336.8	1335.2	1333.6	1332.0
165°	1363.1	1364.6	1366.1	1366.0	1364.3	1362.5	1360.7	1359.0
167.5°	1385.1	1386.6	1388.2	1388.2	1386.6	1385.1	1383.5	1382.0
170°	1397.1	1398.9	1400.6	1400.6	1398.9	1397.1	1395.3	1393.6
172.5°	1406.5	1408.1	1409.6	1409.5	1407.8	1406.0	1404.3	1402.6
175°	1416.7	1418.2	1419.7	1419.5	1417.8	1416.1	1414.4	1412.6
177.5°	1421.3	1422.5	1423.7	1423.6	1422.1	1420.7	1419.4	1418.0
180°	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6

(END OF REPORT)