

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: P332171-935

Luminaire Tested: **S123DIW-S775D1320U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332171-935  
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-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

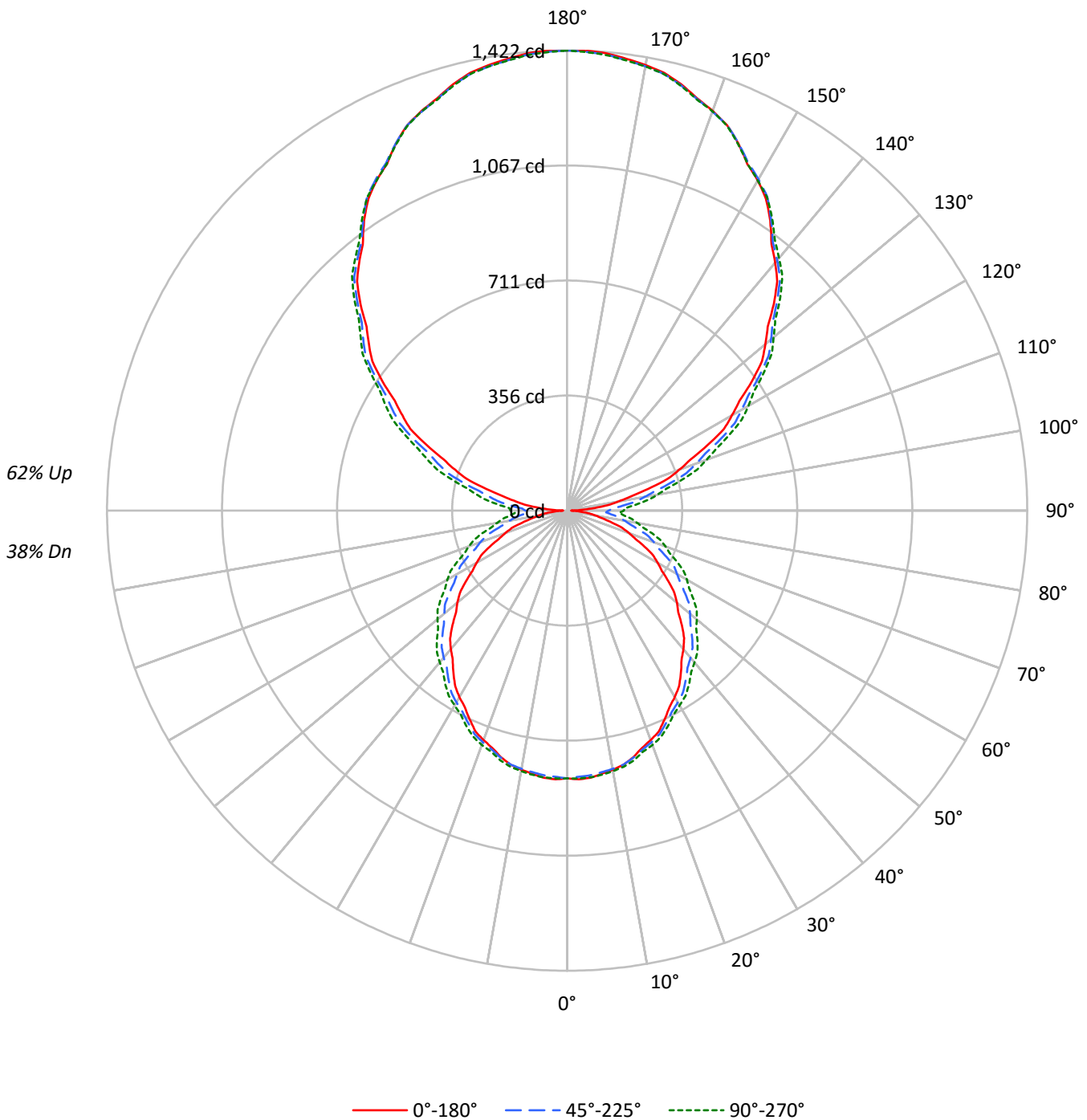
Lumens per Lamp: N/A  
Luminaire Lumens: 6724.0 lumens  
Efficiency: N/A  
Efficacy: 109.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 61.4  
Input Voltage (V): 120  
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





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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	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	94	90	86	82	85	81	78	75	66	63	61	52	50	48	39	37	36	30
2	85	78	71	66	77	71	65	61	57	53	50	45	42	40	33	32	30	25
3	78	68	61	55	70	62	55	50	50	45	42	39	36	33	29	27	25	21
4	71	60	52	46	64	55	48	42	44	39	35	35	31	28	26	24	21	17
5	65	53	45	39	59	49	41	36	40	34	30	31	27	24	23	21	19	15
6	60	48	40	34	54	43	36	31	36	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	22	19	19	16	14	12
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	18	15	13	10
9	48	35	28	23	43	32	26	21	27	22	18	21	17	15	16	14	12	9
10	44	32	25	20	40	30	23	19	24	19	16	20	16	13	15	12	10	8

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

	0°	45°	90°
0°	8908	8908	8908
5°	8936	8684	8689
10°	8856	8484	8441
15°	8741	8257	8171
20°	8579	7997	7875
25°	8377	7698	7561
30°	8171	7430	7245
35°	7939	7146	6992
40°	7720	6888	6722
45°	7475	6640	6505
50°	7232	6394	6267
55°	6967	6143	6052
60°	6707	5889	5832
65°	6441	5617	5571
70°	6040	5312	5303
75°	5534	4961	5030
80°	4951	4618	4718
85°	4409	4384	4537



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.5	1.2
10°-20°	223.7	3.3
20°-30°	334.5	5.0
30°-40°	399.5	5.9
40°-50°	418.0	6.2
50°-60°	392.2	5.8
60°-70°	327.6	4.9
70°-80°	234.4	3.5
80°-90°	144.0	2.1
90°-100°	180.3	2.7
100°-110°	341.6	5.1
110°-120°	514.5	7.7
120°-130°	644.7	9.6
130°-140°	708.0	10.5
140°-150°	687.5	10.2
150°-160°	576.8	8.6
160°-170°	383.9	5.7
170°-180°	134.4	2.0
0°-30°	636.6	9.5
0°-40°	1036.1	15.4
0°-60°	1846.2	27.5
0°-90°	2552.1	38.0
90°-120°	1036.4	15.4
90°-150°	3076.7	45.8
90°-180°	4172.0	62.0
0°-180°	6724.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	828	826	821	828	828	79
15°	789	791	791	799	799	222
25°	712	721	724	735	736	328
35°	613	627	639	652	656	383
45°	501	523	545	562	570	386
55°	382	412	444	468	476	342
65°	264	300	339	365	375	261
75°	143	186	231	260	271	153
85°	44	89	137	166	177	46
90°	13	68	129	162	175	12
95°	76	119	172	203	213	82
105°	258	284	331	356	367	276
115°	479	494	524	545	552	474
125°	697	702	724	738	741	622
135°	903	909	918	929	932	696
145°	1094	1096	1099	1104	1104	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°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	831.2	830.7	830.3	829.7	829.3	828.4	827.2	825.9	824.6	823.3	824.6
5°	828.5	828.1	827.7	827.3	826.9	826.1	824.9	823.7	822.5	821.3	822.9
7.5°	820.4	820.4	820.5	820.6	820.7	820.2	819.0	817.9	816.7	815.5	817.5
10°	813.2	813.6	814.0	814.4	814.8	814.5	813.5	812.5	811.5	810.5	812.5
12.5°	804.5	805.1	805.6	806.2	806.8	806.8	806.1	805.4	804.7	804.0	805.8
15°	788.8	789.5	790.1	790.7	791.3	791.4	791.3	791.1	790.8	790.7	792.6
17.5°	769.0	770.3	771.5	772.6	773.8	774.4	774.3	774.2	774.1	774.0	775.8
20°	754.6	755.8	757.0	758.2	759.4	760.2	760.6	761.0	761.4	761.8	763.6
22.5°	739.4	740.6	741.8	743.0	744.2	745.1	745.7	746.2	746.8	747.3	749.7
25°	712.2	714.2	716.2	718.2	720.2	721.5	722.1	722.7	723.3	723.9	726.5
27.5°	684.8	687.1	689.4	691.6	694.0	695.7	697.0	698.3	699.6	700.9	703.1
30°	665.3	668.0	670.5	673.1	675.7	677.9	679.4	681.1	682.7	684.2	686.6
32.5°	643.7	646.6	649.5	652.5	655.4	657.9	660.0	662.1	664.2	666.2	668.8
35°	613.0	616.2	619.5	622.7	625.9	628.8	631.4	634.0	636.6	639.2	642.2
37.5°	580.6	584.2	587.8	591.4	595.0	598.4	601.7	604.9	608.0	611.2	614.7
40°	559.0	562.6	566.2	569.8	573.3	577.2	581.2	585.2	589.2	593.2	596.6
42.5°	535.1	539.6	544.0	548.4	552.8	557.1	561.2	565.4	569.6	573.8	577.5
45°	501.3	506.1	510.8	515.7	520.5	525.4	530.4	535.4	540.4	545.4	549.2
47.5°	465.7	471.2	476.6	482.1	487.5	493.1	498.9	504.5	510.3	516.0	520.3
50°	442.6	448.2	453.8	459.5	465.1	471.0	477.3	483.5	489.7	495.8	500.4
52.5°	418.1	424.0	430.0	435.9	441.9	448.2	455.1	461.9	468.8	475.6	480.4
55°	382.3	388.8	395.5	402.1	408.7	415.6	422.8	430.1	437.2	444.4	449.9
57.5°	347.2	354.1	361.0	367.9	374.9	382.2	390.1	398.0	405.9	413.8	419.2
60°	322.8	329.9	337.2	344.4	351.6	359.3	367.6	375.7	383.9	392.2	397.8
62.5°	299.6	307.0	314.4	321.8	329.2	337.2	345.9	354.6	363.3	372.0	377.5
65°	264.2	272.0	279.7	287.6	295.4	303.7	312.5	321.3	330.2	339.0	345.0
67.5°	228.1	236.3	244.7	253.0	261.2	269.9	278.9	287.8	296.8	305.8	312.4
70°	202.9	211.5	220.1	228.7	237.3	246.4	256.1	265.6	275.3	284.9	291.3
72.5°	179.8	188.4	197.0	205.6	214.2	223.5	233.4	243.4	253.3	263.2	269.8
75°	143.4	152.7	162.2	171.6	181.0	190.7	200.7	210.8	220.8	230.8	237.4
77.5°	111.6	121.1	130.6	140.1	149.6	159.4	169.5	179.6	189.7	199.8	206.7
80°	89.3	99.1	108.9	118.7	128.5	138.6	149.0	159.5	169.9	180.3	187.1
82.5°	69.7	79.7	89.7	99.7	109.7	119.9	130.5	141.1	151.7	162.3	169.1
85°	44.2	54.2	64.2	74.2	84.2	94.5	105.2	115.8	126.4	137.1	143.9
87.5°	24.2	34.7	45.1	55.6	66.1	76.8	87.6	98.5	109.3	120.2	127.3
90°	12.8	25.1	37.5	49.8	62.0	74.9	88.3	101.8	115.2	128.6	136.5
92.5°	38.1	48.6	59.2	69.7	80.2	91.4	103.3	115.2	127.1	139.0	146.5
95°	75.8	85.3	94.9	104.4	114.0	124.7	136.5	148.3	160.1	171.9	179.1
97.5°	125.9	134.2	142.6	150.9	159.2	168.8	179.6	190.5	201.3	212.1	219.2
100°	160.0	167.9	175.8	183.7	191.6	200.8	211.2	221.7	232.1	242.6	249.2
102.5°	199.5	206.1	212.8	219.5	226.1	234.8	245.5	256.1	266.9	277.6	284.0
105°	258.5	263.8	269.1	274.4	279.7	287.7	298.6	309.4	320.3	331.1	336.7
107.5°	326.1	330.5	334.9	339.3	343.7	350.4	359.5	368.6	377.6	386.7	392.9
110°	368.3	372.5	376.5	380.6	384.8	391.1	399.6	408.1	416.6	425.1	431.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	413.0	416.3	419.6	422.8	426.0	431.6	439.4	447.2	455.0	462.8	469.0
115°	479.1	482.2	485.4	488.5	491.7	496.6	503.3	510.1	516.8	523.5	528.6
117.5°	546.4	548.4	550.4	552.3	554.3	558.4	564.5	570.6	576.7	582.8	587.5
120°	587.6	590.1	592.6	595.1	597.6	601.5	606.9	612.3	617.7	623.0	627.4
122.5°	631.4	633.0	634.6	636.3	637.8	641.5	647.1	652.8	658.4	664.1	667.9
125°	697.3	698.0	698.8	699.6	700.3	703.3	708.6	713.9	719.3	724.5	727.8
127.5°	759.0	760.3	761.7	763.1	764.5	767.3	771.5	775.8	780.1	784.4	787.0
130°	800.0	801.8	803.6	805.4	807.2	809.7	813.0	816.2	819.5	822.8	825.5
132.5°	840.4	842.3	844.3	846.3	848.2	850.5	853.2	855.8	858.5	861.1	863.6
135°	903.0	904.3	905.5	906.8	908.1	909.7	911.7	913.7	915.6	917.6	920.2
137.5°	960.9	961.9	963.0	964.1	965.2	966.6	968.5	970.4	972.3	974.2	976.4
140°	1000.3	1001.6	1002.8	1004.1	1005.3	1006.3	1007.2	1008.1	1008.9	1009.8	1012.5
142.5°	1037.0	1038.0	1039.1	1040.2	1041.3	1042.2	1042.7	1043.3	1043.8	1044.4	1046.8
145°	1094.2	1094.4	1094.8	1095.0	1095.4	1095.9	1096.6	1097.3	1098.1	1098.8	1100.2
147.5°	1143.2	1144.2	1145.0	1146.0	1146.9	1147.6	1148.3	1149.0	1149.7	1150.4	1150.9
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°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	825.9	827.2	828.4	829.0	828.8	828.6	828.5	828.4
5°	824.5	826.1	827.7	828.4	828.2	828.0	827.9	827.6
7.5°	819.5	821.6	823.5	824.4	824.1	824.0	823.7	823.5
10°	814.5	816.5	818.5	819.3	818.9	818.5	818.1	817.7
12.5°	807.7	809.5	811.3	812.1	811.7	811.3	810.9	810.5
15°	794.6	796.7	798.7	799.5	799.4	799.2	798.9	798.7
17.5°	777.7	779.5	781.3	782.0	781.8	781.4	781.2	780.9
20°	765.4	767.2	769.0	770.0	770.3	770.4	770.6	770.9
22.5°	751.9	754.2	756.5	757.6	757.5	757.3	757.2	757.1
25°	729.2	731.8	734.3	735.6	735.6	735.6	735.6	735.6
27.5°	705.3	707.6	709.8	711.0	711.2	711.4	711.5	711.7
30°	689.1	691.5	693.9	695.1	695.1	695.1	695.1	695.1
32.5°	671.3	673.9	676.5	678.0	678.5	679.0	679.4	679.9
35°	645.2	648.2	651.2	653.2	653.9	654.7	655.5	656.3
37.5°	618.0	621.5	624.8	626.9	627.5	628.2	628.8	629.5
40°	600.0	603.4	606.8	608.9	609.8	610.5	611.3	612.2
42.5°	581.2	584.9	588.7	591.1	592.2	593.3	594.4	595.6
45°	553.0	556.8	560.7	563.4	565.0	566.5	568.2	569.8
47.5°	524.6	528.9	533.2	536.0	537.2	538.5	539.7	540.9
50°	505.1	509.6	514.3	517.3	518.7	520.0	521.5	522.9
52.5°	485.2	490.0	494.7	498.0	499.7	501.4	503.2	504.9
55°	455.3	460.7	466.1	469.6	471.2	472.8	474.4	476.0
57.5°	424.7	430.2	435.6	439.3	441.2	443.1	444.9	446.8
60°	403.4	409.0	414.6	418.5	420.7	422.9	425.2	427.3
62.5°	383.2	388.8	394.4	398.2	400.3	402.3	404.4	406.4
65°	351.0	357.0	363.0	367.0	369.0	371.0	373.1	375.1
67.5°	318.9	325.5	332.1	336.2	337.9	339.6	341.3	342.9
70°	297.7	304.1	310.6	314.7	316.8	318.7	320.7	322.8
72.5°	276.4	282.9	289.6	293.9	295.8	297.8	299.8	301.9
75°	244.0	250.6	257.3	261.7	264.2	266.6	269.0	271.4
77.5°	213.7	220.7	227.6	232.0	233.9	235.7	237.6	239.4
80°	193.9	200.7	207.6	212.0	214.0	215.9	218.0	220.0
82.5°	175.9	182.7	189.5	193.9	196.0	197.9	199.9	201.9
85°	150.7	157.5	164.3	168.7	170.7	172.7	174.7	176.7
87.5°	134.2	141.2	148.3	152.8	154.9	157.0	159.1	161.3
90°	144.3	152.1	159.9	165.1	167.6	170.0	172.5	175.0
92.5°	153.9	161.4	168.8	173.2	174.8	176.3	177.9	179.4
95°	186.3	193.5	200.7	205.3	207.3	209.3	211.3	213.4
97.5°	226.3	233.4	240.6	245.0	246.9	248.8	250.7	252.6
100°	255.7	262.3	268.8	273.4	275.9	278.4	280.9	283.4
102.5°	290.3	296.8	303.2	307.3	309.2	311.1	313.0	314.9
105°	342.3	348.0	353.6	357.6	359.8	362.1	364.5	366.8
107.5°	399.1	405.2	411.4	415.2	416.6	418.1	419.6	421.0
110°	437.5	443.7	449.9	453.6	454.7	455.7	456.8	458.0





TEST NUMBER: P332171-935

CATALOG NUMBER: S123DIW-S775D1320U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	475.3	481.5	487.7	491.6	493.4	495.0	496.6	498.3
115°	533.6	538.6	543.7	546.9	548.3	549.7	551.0	552.3
117.5°	592.3	597.0	601.8	604.5	605.4	606.2	607.1	608.0
120°	631.7	636.1	640.4	643.1	644.0	644.9	645.8	646.7
122.5°	671.7	675.5	679.2	681.6	682.3	682.9	683.6	684.4
125°	731.0	734.2	737.4	739.3	739.6	740.0	740.5	740.9
127.5°	789.5	792.1	794.7	796.1	796.3	796.5	796.8	796.9
130°	828.4	831.2	834.0	835.2	834.6	834.1	833.5	833.0
132.5°	866.0	868.5	870.9	872.2	872.2	872.2	872.3	872.3
135°	922.8	925.4	928.1	929.6	930.1	930.6	931.1	931.6
137.5°	978.4	980.6	982.7	983.8	983.9	984.0	984.0	984.0
140°	1015.3	1018.0	1020.8	1021.7	1021.1	1020.3	1019.6	1018.8
142.5°	1049.3	1051.7	1054.1	1055.2	1054.8	1054.5	1054.2	1053.9
145°	1101.6	1102.9	1104.2	1104.8	1104.7	1104.4	1104.2	1104.1
147.5°	1151.4	1151.8	1152.4	1152.2	1151.4	1150.6	1149.9	1149.1
150°	1182.6	1182.6	1182.6	1182.1	1180.9	1179.8	1178.8	1177.7
152.5°	1211.9	1212.4	1212.7	1212.4	1211.2	1210.0	1208.8	1207.6
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)