

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: P332170-935

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332170-935
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-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: 7329.6 lumens
Efficiency: N/A
Efficacy: 119.4 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

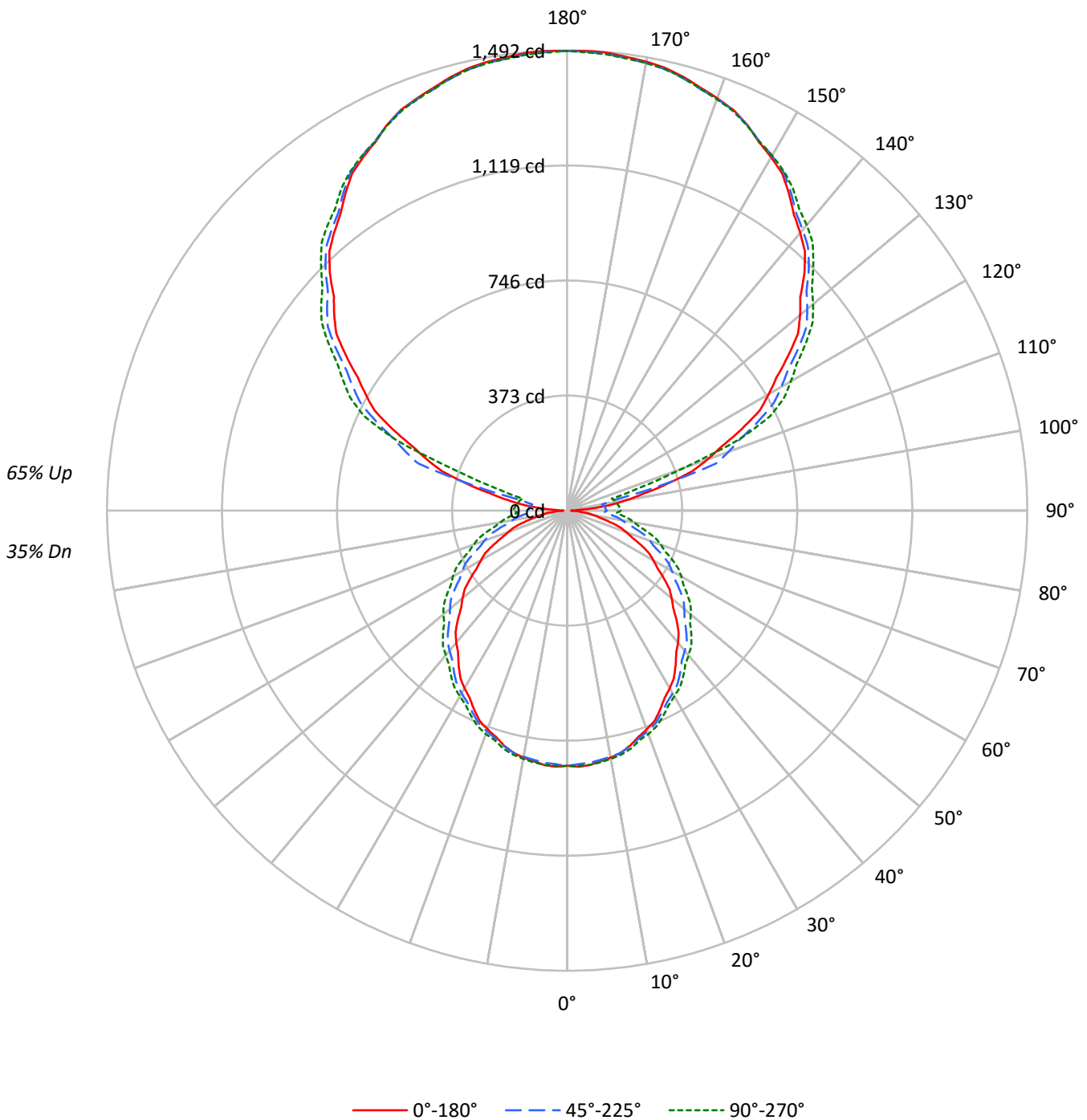
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332170-935

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

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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°	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	1.1
10°-20°	223.7	3.1
20°-30°	334.5	4.6
30°-40°	399.5	5.5
40°-50°	418.0	5.7
50°-60°	392.2	5.4
60°-70°	327.6	4.5
70°-80°	234.4	3.2
80°-90°	143.9	2.0
90°-100°	141.9	1.9
100°-110°	322.7	4.4
110°-120°	663.3	9.0
120°-130°	814.4	11.1
130°-140°	854.9	11.7
140°-150°	791.5	10.8
150°-160°	636.5	8.7
160°-170°	410.8	5.6
170°-180°	141.6	1.9
0°-30°	636.6	8.7
0°-40°	1036.1	14.1
0°-60°	1846.2	25.2
0°-90°	2552.1	34.8
90°-120°	1127.8	15.4
90°-150°	3588.5	49.0
90°-180°	4777.0	65.2
0°-180°	7329.6	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	128	162	175	11
95°	78	71	124	158	168	91
105°	337	366	310	149	150	357
115°	623	642	683	715	728	615
125°	875	885	915	935	944	782
135°	1088	1094	1108	1126	1129	837
145°	1254	1261	1263	1272	1276	785
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	



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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	66.0	76.7	87.6	98.5	109.3	120.2	127.2
90°	12.8	25.1	37.4	49.7	61.9	74.8	88.2	101.6	115.0	128.5	136.2
92.5°	31.6	39.8	48.0	56.1	64.2	74.6	87.0	99.5	112.0	124.4	132.7
95°	77.5	75.2	72.9	70.6	68.4	73.4	86.0	98.5	111.1	123.6	131.5
97.5°	144.6	147.1	149.6	152.1	154.6	151.8	143.4	135.1	126.7	118.4	126.3
100°	195.2	206.6	217.8	229.2	240.6	231.6	202.4	173.3	144.1	114.9	122.8
102.5°	253.0	262.3	271.6	280.9	290.2	278.4	245.6	212.7	179.9	147.0	146.5
105°	337.2	344.7	352.1	359.6	367.2	364.2	350.7	337.1	323.6	310.0	272.2
107.5°	425.1	431.3	437.6	443.8	450.0	459.0	470.7	482.3	494.0	505.7	479.1
110°	483.7	489.2	494.8	500.4	506.0	514.1	524.9	535.5	546.3	557.0	554.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	540.4	545.1	549.8	554.6	559.3	566.9	577.3	587.6	598.1	608.5	613.6
115°	623.4	627.2	631.1	635.0	638.9	645.6	655.0	664.4	673.8	683.3	690.5
117.5°	704.5	707.7	711.1	714.4	717.6	723.2	731.2	739.1	747.0	754.9	761.6
120°	754.2	757.4	760.6	763.9	767.1	772.4	779.7	787.0	794.4	801.8	808.3
122.5°	805.6	808.0	810.3	812.6	814.9	819.8	827.0	834.2	841.5	848.6	854.5
125°	875.1	877.1	879.0	881.0	883.0	887.3	894.1	901.0	907.8	914.6	919.2
127.5°	943.3	945.0	946.8	948.6	950.4	954.2	960.3	966.2	972.2	978.2	982.9
130°	985.8	987.6	989.4	991.1	992.9	996.3	1001.3	1006.3	1011.2	1016.2	1021.0
132.5°	1025.8	1027.8	1029.7	1031.7	1033.5	1036.5	1040.5	1044.5	1048.4	1052.5	1057.1
135°	1087.9	1089.2	1090.5	1091.7	1093.0	1095.2	1098.4	1101.6	1104.7	1107.9	1112.3
137.5°	1140.8	1142.5	1144.3	1146.0	1147.6	1149.4	1151.2	1153.0	1154.8	1156.6	1160.9
140°	1175.5	1177.0	1178.5	1180.0	1181.5	1182.8	1184.2	1185.5	1186.9	1188.2	1192.2
142.5°	1208.3	1209.6	1210.9	1212.3	1213.6	1214.6	1215.5	1216.3	1217.2	1218.1	1221.6
145°	1254.1	1255.7	1257.1	1258.7	1260.2	1261.2	1261.7	1262.2	1262.7	1263.2	1265.3
147.5°	1296.4	1297.5	1298.6	1299.8	1301.0	1301.7	1302.3	1302.7	1303.2	1303.7	1304.7
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



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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°	134.1	141.2	148.2	152.7	154.9	157.0	159.0	161.2
90°	144.0	151.8	159.6	164.8	167.3	169.8	172.3	174.8
92.5°	140.9	149.1	157.4	162.6	164.7	166.8	168.9	171.1
95°	139.4	147.4	155.3	160.2	162.3	164.3	166.3	168.3
97.5°	134.3	142.2	150.2	155.2	157.5	159.7	162.0	164.3
100°	130.5	138.3	146.1	151.1	153.3	155.6	157.8	160.1
102.5°	146.0	145.6	145.2	146.1	148.6	151.0	153.5	155.9
105°	234.2	196.2	158.3	140.5	142.8	145.1	147.4	149.6
107.5°	452.5	426.0	399.4	370.7	339.6	308.5	277.4	246.4
110°	551.2	548.3	545.4	527.1	493.5	459.9	426.4	392.8



TEST NUMBER: P332170-935

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	618.9	624.1	629.2	629.0	623.4	617.7	612.0	606.3
115°	697.8	705.1	712.3	717.3	719.9	722.5	725.0	727.6
117.5°	768.4	775.1	781.8	786.1	787.8	789.6	791.3	793.2
120°	814.9	821.5	828.0	832.1	833.4	834.8	836.3	837.7
122.5°	860.3	866.1	871.9	875.6	877.3	878.8	880.5	882.0
125°	923.9	928.6	933.3	936.6	938.5	940.4	942.3	944.2
127.5°	987.7	992.5	997.2	1000.1	1000.9	1001.8	1002.6	1003.5
130°	1025.8	1030.6	1035.4	1038.1	1038.9	1039.6	1040.3	1040.9
132.5°	1061.7	1066.3	1071.0	1073.7	1074.4	1075.0	1075.6	1076.3
135°	1116.6	1121.0	1125.3	1127.7	1127.9	1128.2	1128.4	1128.7
137.5°	1165.3	1169.6	1173.9	1176.4	1176.9	1177.4	1177.8	1178.4
140°	1196.2	1200.1	1204.2	1206.4	1206.9	1207.5	1207.9	1208.4
142.5°	1225.0	1228.5	1232.0	1233.9	1234.2	1234.5	1234.8	1235.1
145°	1267.4	1269.5	1271.6	1273.0	1273.8	1274.6	1275.4	1276.3
147.5°	1305.7	1306.7	1307.6	1307.9	1307.5	1307.1	1306.7	1306.2
150°	1329.5	1330.0	1330.5	1330.6	1330.2	1329.9	1329.6	1329.2
152.5°	1351.5	1352.5	1353.3	1353.2	1352.2	1351.2	1350.0	1349.0
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)