

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: P332445-935

Luminaire Tested: **S123RDIW-S775D1320U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332445-935
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: S123RDIW-S775D1320U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6454.0 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

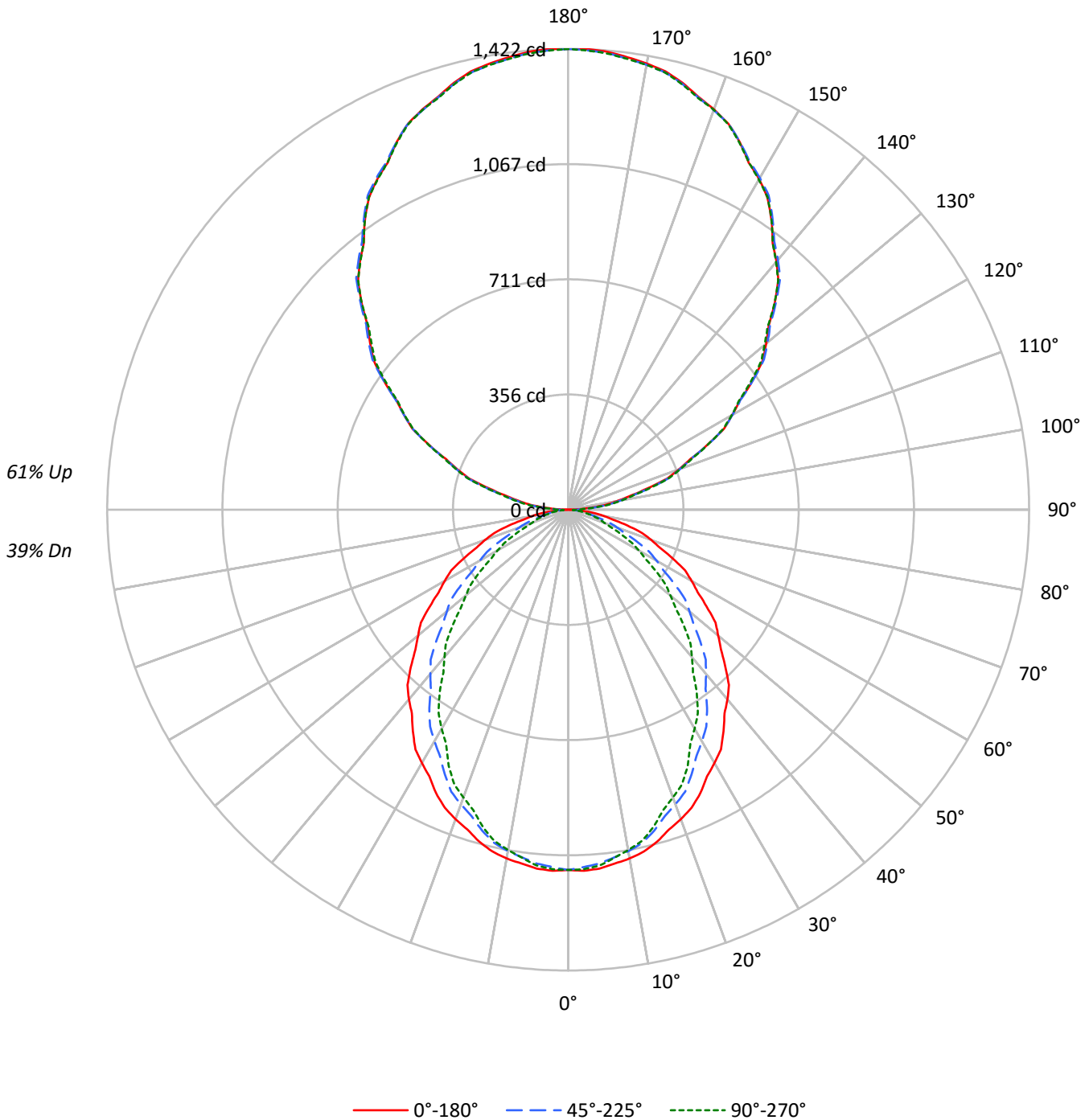
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	96	91	88	84	87	83	80	77	68	66	64	54	52	51	41	40	39	33
2	87	80	74	69	79	73	68	64	60	56	53	48	45	43	36	35	33	28
3	80	71	64	58	72	64	58	53	53	49	45	42	39	37	32	30	29	24
4	73	63	55	49	66	57	51	45	47	42	38	38	34	32	29	27	25	21
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	24	22	18
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16
7	57	45	37	32	52	41	35	30	35	29	26	28	24	21	22	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	26	22	19	20	17	15	13
9	49	37	30	25	45	34	28	24	29	24	20	24	20	17	19	16	14	12
10	46	34	27	23	42	32	25	21	27	22	18	22	18	16	17	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11965	11965	11965
5°	12011	11846	11914
10°	11943	11696	11657
15°	11814	11422	11303
20°	11639	11080	10822
25°	11457	10696	10354
30°	11216	10253	9692
35°	10970	9809	9087
40°	10742	9285	8335
45°	10443	8770	7658
50°	10114	8182	6899
55°	9779	7512	6191
60°	9472	6794	5414
65°	9070	6016	4638
70°	8567	5051	3745
75°	7835	3976	3523
80°	6986	3521	3242
85°	5903	3112	2890



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.4	1.6
10°-20°	290.4	4.5
20°-30°	418.2	6.5
30°-40°	471.1	7.3
40°-50°	450.7	7.0
50°-60°	369.0	5.7
60°-70°	249.0	3.9
70°-80°	125.3	1.9
80°-90°	37.3	0.6
90°-100°	92.6	1.4
100°-110°	277.2	4.3
110°-120°	471.4	7.3
120°-130°	620.1	9.6
130°-140°	697.0	10.8
140°-150°	685.1	10.6
150°-160°	576.8	8.9
160°-170°	383.9	5.9
170°-180°	134.4	2.1
0°-30°	813.0	12.6
0°-40°	1284.1	19.9
0°-60°	2103.8	32.6
0°-90°	2515.4	39.0
90°-120°	841.3	13.0
90°-150°	2843.5	44.1
90°-180°	3939.0	61.0
0°-180°	6454.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1112	1112	1112	1112	1112	
5°	1112	1107	1096	1104	1103	105
15°	1060	1049	1025	1020	1014	299
25°	965	941	901	882	872	443
35°	835	801	746	709	692	522
45°	686	644	576	526	503	529
55°	521	475	400	350	330	467
65°	356	305	236	194	182	352
75°	188	145	96	87	85	201
85°	48	29	25	24	23	54
90°	1	12	27	31	34	6
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°	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6
2.5°	1115.2	1114.6	1113.9	1113.3	1112.7	1111.4	1109.4	1107.5	1105.6	1103.6	1105.4
5°	1111.6	1110.6	1109.6	1108.6	1107.6	1105.9	1103.5	1101.0	1098.6	1096.3	1098.0
7.5°	1101.3	1100.3	1099.2	1098.0	1097.0	1094.8	1091.7	1088.6	1085.5	1082.4	1083.4
10°	1092.7	1091.2	1089.9	1088.5	1087.0	1084.5	1080.9	1077.4	1073.8	1070.1	1070.3
12.5°	1080.4	1078.8	1077.3	1075.7	1074.2	1071.2	1066.8	1062.4	1057.9	1053.5	1053.4
15°	1060.2	1058.0	1055.8	1053.6	1051.4	1047.5	1041.9	1036.3	1030.6	1025.0	1024.1
17.5°	1034.7	1032.3	1029.7	1027.1	1024.5	1019.7	1012.5	1005.4	998.2	991.2	989.0
20°	1016.1	1012.8	1009.6	1006.4	1003.2	997.8	990.2	982.6	975.0	967.3	964.8
22.5°	995.1	991.4	987.7	984.0	980.3	974.5	966.4	958.3	950.2	942.1	938.8
25°	964.7	959.7	954.6	949.6	944.6	937.5	928.2	919.0	909.8	900.6	896.4
27.5°	927.6	922.1	916.6	911.1	905.6	897.7	887.4	877.2	866.9	856.6	850.8
30°	902.4	896.4	890.4	884.4	878.4	869.8	858.6	847.3	836.1	824.9	818.1
32.5°	877.2	870.4	863.6	856.8	850.0	840.6	828.7	816.9	805.0	793.2	785.7
35°	834.8	827.6	820.4	813.2	806.0	796.2	783.8	771.3	758.9	746.5	737.9
37.5°	791.9	783.9	775.8	767.8	759.8	749.2	736.0	722.7	709.5	696.2	686.4
40°	764.5	755.7	746.8	738.0	729.3	717.7	703.5	689.3	675.0	660.8	650.4
42.5°	733.5	724.7	715.8	707.1	698.3	686.5	671.8	657.0	642.4	627.7	616.3
45°	686.0	677.1	668.0	659.0	650.0	637.8	622.3	606.9	591.5	576.1	564.6
47.5°	638.7	628.8	618.9	609.0	599.1	586.4	571.0	555.5	540.1	524.7	512.3
50°	604.0	594.6	585.2	575.8	566.4	553.5	537.4	521.1	504.9	488.6	476.2
52.5°	573.0	562.8	552.6	542.3	532.2	519.0	502.9	486.9	470.8	454.7	441.9
55°	521.1	511.3	501.4	491.6	481.8	468.4	451.3	434.4	417.3	400.3	388.7
57.5°	473.1	462.4	451.8	441.0	430.3	416.5	399.3	382.2	365.1	348.0	337.0
60°	440.0	429.0	417.9	406.9	395.9	382.0	365.4	348.8	332.2	315.6	304.7
62.5°	406.7	395.7	384.7	373.7	362.7	348.9	332.3	315.6	299.0	282.3	272.2
65°	356.1	345.1	334.1	323.0	312.0	298.7	283.1	267.4	251.8	236.2	226.4
67.5°	305.5	294.3	283.2	272.0	260.9	247.8	232.8	217.8	202.9	187.9	180.6
70°	272.2	261.5	250.6	239.8	229.0	216.5	202.5	188.6	174.5	160.5	153.4
72.5°	239.1	228.4	217.7	207.1	196.5	184.8	172.0	159.3	146.5	133.8	128.0
75°	188.4	178.8	169.2	159.5	150.0	139.7	128.6	117.6	106.6	95.6	93.6
77.5°	142.2	133.5	124.8	116.1	107.5	99.6	92.5	85.4	78.4	71.2	70.2
80°	112.7	104.4	96.3	88.1	79.8	73.6	69.4	65.2	61.0	56.8	56.2
82.5°	84.6	77.5	70.3	63.3	56.2	51.7	49.7	47.7	45.8	43.8	43.2
85°	47.8	43.4	39.0	34.5	30.1	27.6	27.0	26.4	25.8	25.2	24.9
87.5°	17.6	16.3	15.0	13.7	12.5	12.1	12.8	13.4	14.1	14.7	14.8
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°	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6	1111.6
2.5°	1107.2	1109.0	1110.7	1111.5	1111.1	1110.8	1110.4	1110.2
5°	1099.8	1101.6	1103.5	1104.1	1103.8	1103.4	1102.9	1102.6
7.5°	1084.4	1085.4	1086.4	1086.6	1085.9	1085.2	1084.5	1083.8
10°	1070.6	1070.7	1070.9	1070.6	1069.5	1068.5	1067.6	1066.5
12.5°	1053.3	1053.2	1053.1	1052.4	1051.3	1050.1	1049.0	1047.8
15°	1023.0	1022.0	1021.1	1019.9	1018.5	1017.0	1015.6	1014.3
17.5°	986.9	984.8	982.7	980.6	978.4	976.4	974.3	972.2
20°	962.2	959.5	956.9	954.4	952.0	949.6	947.2	944.8
22.5°	935.6	932.4	929.1	926.3	924.1	921.9	919.6	917.4
25°	892.3	888.0	883.8	880.6	878.4	876.2	874.0	871.8
27.5°	844.9	839.1	833.3	828.6	825.3	821.9	818.6	815.2
30°	811.3	804.4	797.6	792.6	789.5	786.3	783.0	779.8
32.5°	778.3	770.9	763.4	757.9	754.6	751.2	747.9	744.5
35°	729.3	720.7	712.0	705.9	702.3	698.7	695.1	691.5
37.5°	676.6	666.8	657.0	650.0	645.5	641.0	636.6	632.1
40°	640.0	629.6	619.1	611.7	607.0	602.4	597.8	593.2
42.5°	604.9	593.5	582.1	574.4	570.2	566.1	562.0	557.8
45°	553.3	541.8	530.4	522.3	517.5	512.6	507.9	503.1
47.5°	499.8	487.4	475.0	466.7	462.4	458.1	453.8	449.5
50°	463.8	451.3	438.9	430.4	425.9	421.2	416.6	412.0
52.5°	429.0	416.0	403.1	394.6	390.5	386.3	382.2	378.1
55°	377.0	365.4	353.8	345.9	342.0	337.9	334.0	329.9
57.5°	326.1	315.0	304.1	296.9	293.5	290.1	286.6	283.3
60°	293.9	283.1	272.2	265.2	261.7	258.3	254.9	251.5
62.5°	262.0	251.8	241.7	234.8	231.2	227.6	224.1	220.5
65°	216.5	206.7	196.9	190.9	188.7	186.5	184.3	182.1
67.5°	173.2	165.9	158.5	153.7	151.4	149.0	146.6	144.2
70°	146.5	139.4	132.4	127.9	125.6	123.4	121.2	119.0
72.5°	122.3	116.6	110.9	107.5	106.6	105.7	104.8	103.8
75°	91.5	89.5	87.6	86.4	85.9	85.6	85.2	84.7
77.5°	69.1	67.9	66.9	66.1	65.8	65.3	64.9	64.6
80°	55.6	55.0	54.4	53.9	53.5	53.1	52.7	52.3
82.5°	42.6	42.0	41.4	41.1	41.0	40.9	40.8	40.7
85°	24.5	24.0	23.7	23.4	23.4	23.4	23.4	23.4
87.5°	14.8	14.8	14.9	14.9	14.8	14.7	14.7	14.6
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: P332445-935

CATALOG NUMBER: S123RDIW-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)