

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: P332444-930

Luminaire Tested: **S123RDIW-S775D1320U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332444-930
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: S123RDIW-S775D1320U930-4F0-1E-UDD-F
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, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6684.9 lumens
Efficiency: N/A
Efficacy: 108.9 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

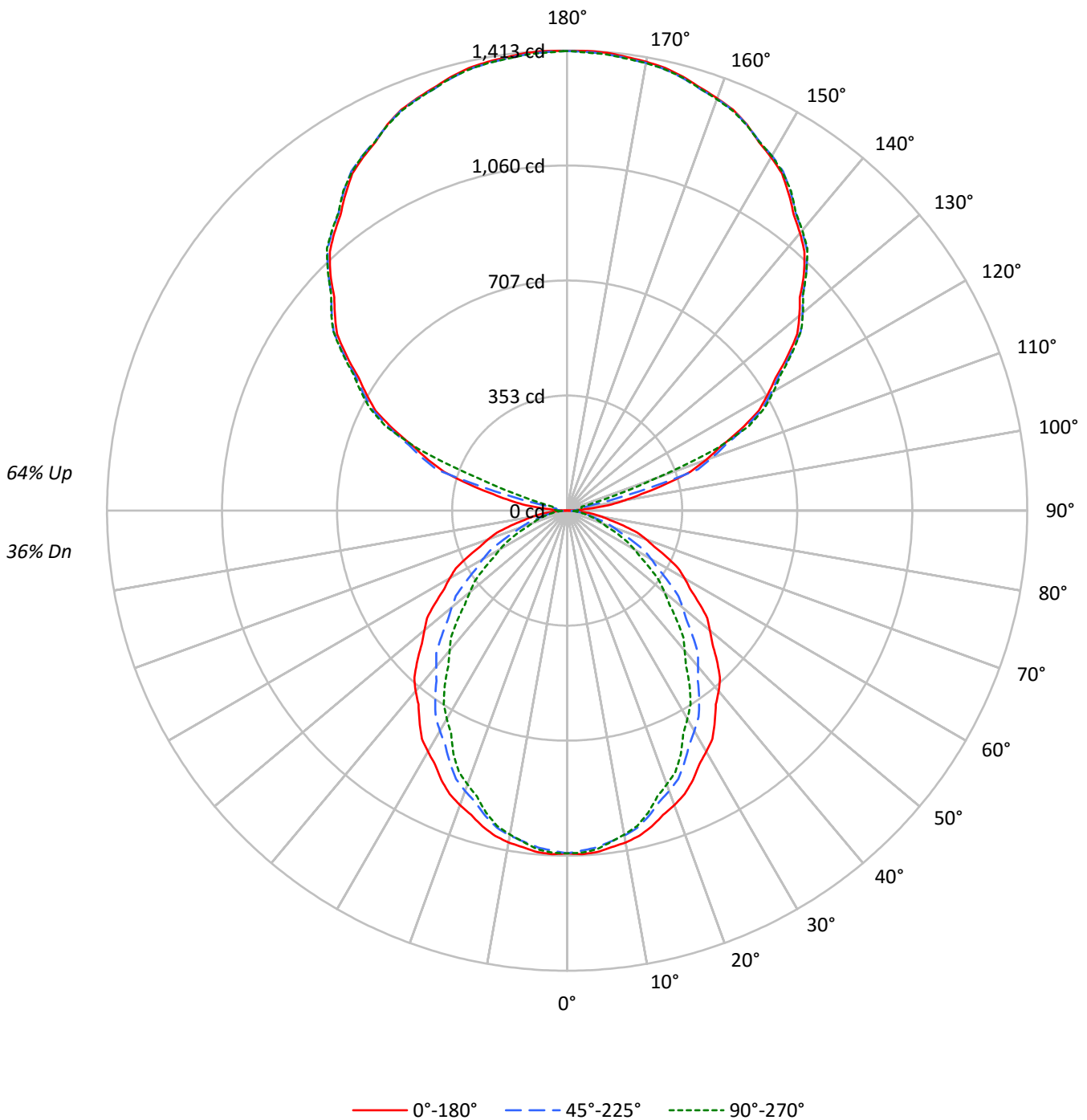
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	36
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	86	79	74	69	78	72	67	63	58	55	52	46	43	41	34	32	31	26
3	79	70	63	57	71	64	58	53	52	47	44	41	38	35	30	28	27	22
4	72	62	54	49	65	56	50	45	46	41	37	36	33	30	27	25	23	19
5	66	55	47	42	60	50	44	38	41	36	32	33	29	26	25	22	20	17
6	61	49	42	36	55	45	38	33	37	32	28	29	26	23	22	20	18	15
7	56	45	37	32	51	41	34	29	34	28	25	27	23	20	20	18	16	13
8	52	40	33	28	47	37	30	26	31	26	22	24	21	18	19	16	14	12
9	49	37	30	25	44	34	27	23	28	23	20	23	19	16	17	15	13	11
10	45	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11330	11330	11330
5°	11373	11217	11282
10°	11309	11075	11038
15°	11188	10816	10702
20°	11021	10493	10247
25°	10849	10128	9804
30°	10621	9708	9178
35°	10387	9289	8604
40°	10172	8792	7893
45°	9889	8304	7252
50°	9577	7748	6532
55°	9259	7112	5863
60°	8968	6433	5126
65°	8588	5695	4391
70°	8113	4784	3547
75°	7419	3764	3335
80°	6614	3335	3068
85°	5582	2952	2742



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	1.5
10°-20°	275.0	4.1
20°-30°	396.0	5.9
30°-40°	446.1	6.7
40°-50°	426.7	6.4
50°-60°	349.5	5.2
60°-70°	235.8	3.5
70°-80°	118.6	1.8
80°-90°	35.3	0.5
90°-100°	51.3	0.8
100°-110°	244.5	3.7
110°-120°	587.3	8.8
120°-130°	747.9	11.2
130°-140°	799.1	12.0
140°-150°	747.2	11.2
150°-160°	602.7	9.0
160°-170°	389.0	5.8
170°-180°	134.1	2.0
0°-30°	769.9	11.5
0°-40°	1215.9	18.2
0°-60°	1992.1	29.8
0°-90°	2381.8	35.6
90°-120°	883.1	13.2
90°-150°	3177.3	47.5
90°-180°	4303.0	64.4
0°-180°	6684.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1053	1053	1053	1053	1053	
5°	1053	1048	1038	1045	1044	100
15°	1004	994	971	966	960	283
25°	914	891	853	835	826	420
35°	790	759	707	671	655	495
45°	650	610	546	498	476	501
55°	493	450	379	331	312	442
65°	337	289	224	184	172	334
75°	178	137	90	82	80	190
85°	45	27	24	22	22	51
90°	1	12	25	29	32	5
95°	64	24	32	40	40	79
105°	312	318	230	54	46	331
115°	586	592	602	612	616	578
125°	826	834	839	841	843	737
135°	1028	1035	1039	1042	1039	791
145°	1187	1194	1196	1198	1198	743
155°	1307	1305	1306	1311	1305	602
165°	1379	1376	1374	1382	1375	389
175°	1411	1406	1407	1413	1406	134
180°	1411	1411	1411	1411	1411	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6
2.5°	1056.0	1055.4	1054.8	1054.2	1053.6	1052.4	1050.5	1048.7	1046.9	1045.1	1046.8
5°	1052.6	1051.7	1050.7	1049.8	1048.8	1047.2	1044.9	1042.6	1040.3	1038.1	1039.8
7.5°	1042.8	1041.9	1040.8	1039.8	1038.8	1036.7	1033.8	1030.9	1027.9	1024.9	1025.9
10°	1034.7	1033.3	1032.0	1030.7	1029.3	1027.0	1023.5	1020.2	1016.8	1013.3	1013.5
12.5°	1023.0	1021.6	1020.1	1018.6	1017.2	1014.3	1010.2	1006.0	1001.8	997.6	997.5
15°	1004.0	1001.8	999.7	997.7	995.6	991.9	986.6	981.3	975.9	970.6	969.7
17.5°	979.8	977.5	975.0	972.6	970.1	965.6	958.8	952.0	945.3	938.6	936.5
20°	962.1	959.0	956.0	953.0	950.0	944.9	937.6	930.4	923.2	916.0	913.5
22.5°	942.3	938.8	935.3	931.8	928.3	922.8	915.1	907.4	899.8	892.1	889.0
25°	913.5	908.7	903.9	899.2	894.5	887.7	879.0	870.3	861.5	852.8	848.8
27.5°	878.4	873.2	868.0	862.7	857.5	850.0	840.3	830.6	820.8	811.1	805.6
30°	854.5	848.8	843.2	837.5	831.8	823.6	813.0	802.3	791.7	781.1	774.7
32.5°	830.6	824.2	817.7	811.3	804.9	796.0	784.7	773.6	762.3	751.1	744.0
35°	790.5	783.7	776.8	770.1	763.2	753.9	742.2	730.3	718.6	706.9	698.7
37.5°	749.9	742.2	734.7	727.1	719.5	709.5	696.9	684.4	671.8	659.3	650.0
40°	723.9	715.6	707.2	698.9	690.6	679.6	666.2	652.7	639.2	625.7	615.9
42.5°	694.6	686.2	677.8	669.5	661.2	650.0	636.1	622.2	608.3	594.4	583.6
45°	649.6	641.2	632.6	624.0	615.5	604.0	589.3	574.7	560.1	545.5	534.7
47.5°	604.8	595.4	586.0	576.7	567.3	555.3	540.7	526.0	511.4	496.8	485.1
50°	571.9	563.0	554.2	545.2	536.3	524.2	508.8	493.4	478.1	462.7	450.9
52.5°	542.6	533.0	523.3	513.6	503.9	491.5	476.2	461.1	445.8	430.6	418.4
55°	493.4	484.1	474.8	465.5	456.2	443.5	427.4	411.3	395.2	379.0	368.0
57.5°	448.0	437.9	427.8	417.6	407.5	394.4	378.1	361.9	345.7	329.5	319.1
60°	416.6	406.2	395.7	385.3	374.9	361.7	346.0	330.3	314.5	298.8	288.5
62.5°	385.1	374.7	364.3	353.8	343.5	330.4	314.6	298.9	283.2	267.3	257.7
65°	337.2	326.8	316.3	305.9	295.5	282.8	268.1	253.2	238.5	223.6	214.3
67.5°	289.3	278.7	268.2	257.6	247.0	234.6	220.5	206.3	192.1	177.9	171.0
70°	257.8	247.6	237.3	227.1	216.9	205.0	191.8	178.6	165.3	152.0	145.3
72.5°	226.4	216.3	206.2	196.1	186.1	175.0	162.9	150.8	138.8	126.7	121.2
75°	178.4	169.3	160.2	151.1	142.0	132.2	121.8	111.4	100.9	90.5	88.6
77.5°	134.7	126.5	118.2	110.0	101.7	94.3	87.6	80.9	74.2	67.4	66.4
80°	106.7	98.9	91.2	83.4	75.6	69.7	65.7	61.7	57.8	53.8	53.2
82.5°	80.1	73.4	66.6	59.9	53.2	48.9	47.0	45.2	43.4	41.5	40.9
85°	45.2	41.1	36.9	32.7	28.5	26.2	25.6	25.0	24.5	23.9	23.6
87.5°	16.6	15.4	14.2	13.0	11.8	11.5	12.1	12.7	13.3	13.9	13.9
90°	1.1	3.3	5.7	8.1	10.4	13.0	16.1	19.1	22.1	25.2	26.1
92.5°	19.5	18.8	18.2	17.5	16.9	17.7	20.0	22.3	24.5	26.8	28.3
95°	63.9	54.4	44.8	35.3	25.8	22.3	24.8	27.4	29.9	32.5	34.2
97.5°	128.5	124.3	119.9	115.7	111.4	100.9	84.1	67.3	50.5	33.8	35.6
100°	177.2	181.8	186.5	191.1	195.8	179.9	143.7	107.3	70.9	34.6	36.4
102.5°	232.5	235.9	239.2	242.6	246.0	227.8	188.1	148.4	108.7	69.0	63.2
105°	312.4	315.0	317.6	320.1	322.6	313.5	292.4	271.5	250.5	229.6	188.3
107.5°	396.7	398.8	400.8	402.8	404.9	407.6	410.9	414.2	417.5	420.8	390.5
110°	452.9	454.8	456.6	458.4	460.3	462.5	465.1	467.7	470.3	472.8	465.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	506.5	508.3	509.9	511.6	513.2	515.4	518.0	520.5	523.1	525.6	525.8
115°	586.0	587.4	588.8	590.2	591.6	593.4	595.4	597.5	599.7	601.8	604.1
117.5°	663.0	664.7	666.4	668.1	669.8	671.2	672.3	673.4	674.5	675.6	677.4
120°	710.8	712.9	714.9	717.1	719.2	720.6	721.2	721.9	722.7	723.3	725.2
122.5°	759.5	761.2	762.9	764.6	766.3	767.6	768.5	769.4	770.3	771.2	772.5
125°	826.1	827.9	829.8	831.7	833.6	834.9	835.8	836.8	837.7	838.7	839.1
127.5°	890.6	892.5	894.4	896.3	898.1	899.6	900.7	901.9	902.9	904.1	904.8
130°	930.9	932.8	934.7	936.5	938.4	939.8	940.7	941.7	942.6	943.5	944.4
132.5°	969.5	971.3	973.2	975.1	977.0	978.3	979.0	979.7	980.5	981.2	982.2
135°	1028.4	1029.8	1031.2	1032.6	1034.0	1035.2	1036.1	1037.1	1038.0	1038.9	1039.6
137.5°	1078.7	1080.5	1082.3	1084.0	1085.8	1087.0	1087.4	1088.0	1088.5	1089.0	1090.1
140°	1112.3	1113.7	1115.1	1116.5	1117.9	1118.9	1119.7	1120.3	1121.0	1121.7	1122.7
142.5°	1143.3	1144.7	1146.1	1147.5	1148.9	1150.0	1150.6	1151.4	1152.0	1152.8	1153.5
145°	1186.7	1188.4	1190.0	1191.6	1193.3	1194.3	1194.7	1195.2	1195.7	1196.1	1196.6
147.5°	1227.6	1228.7	1229.7	1230.8	1231.9	1232.7	1233.1	1233.5	1234.0	1234.5	1235.0
150°	1252.8	1253.4	1254.2	1254.8	1255.6	1256.1	1256.6	1257.0	1257.5	1258.0	1258.5
152.5°	1275.4	1275.7	1276.0	1276.4	1276.7	1277.0	1277.3	1277.6	1277.8	1278.1	1279.0
155°	1307.3	1306.8	1306.4	1305.9	1305.4	1305.3	1305.5	1305.8	1306.0	1306.2	1307.4
157.5°	1332.0	1332.0	1332.0	1331.9	1331.8	1331.7	1331.5	1331.2	1331.0	1330.7	1332.1
160°	1347.1	1346.9	1346.6	1346.4	1346.1	1346.0	1345.7	1345.5	1345.2	1345.0	1346.4
162.5°	1361.4	1360.7	1360.2	1359.5	1358.9	1358.5	1358.3	1358.0	1357.8	1357.6	1359.2
165°	1378.6	1377.9	1377.1	1376.5	1375.7	1375.3	1375.1	1374.8	1374.6	1374.4	1376.2
167.5°	1392.0	1391.1	1390.1	1389.2	1388.2	1387.8	1387.8	1387.8	1387.8	1387.8	1389.7
170°	1399.5	1398.6	1397.7	1396.8	1395.8	1395.3	1395.3	1395.3	1395.3	1395.3	1397.2
172.5°	1404.6	1403.5	1402.3	1401.2	1400.1	1399.6	1399.8	1400.0	1400.2	1400.4	1402.2
175°	1411.0	1409.9	1408.8	1407.5	1406.4	1405.9	1406.1	1406.4	1406.6	1406.9	1408.5
177.5°	1412.8	1411.8	1410.9	1410.0	1409.0	1408.7	1408.8	1409.0	1409.2	1409.4	1410.9
180°	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6
2.5°	1048.4	1050.1	1051.7	1052.5	1052.1	1051.8	1051.5	1051.2
5°	1041.5	1043.2	1044.9	1045.5	1045.2	1044.8	1044.4	1044.1
7.5°	1026.9	1027.8	1028.7	1028.9	1028.3	1027.6	1027.0	1026.3
10°	1013.7	1013.9	1014.1	1013.7	1012.8	1011.8	1010.9	1009.9
12.5°	997.4	997.3	997.2	996.5	995.5	994.3	993.3	992.1
15°	968.7	967.8	966.9	965.7	964.4	963.0	961.7	960.4
17.5°	934.5	932.5	930.5	928.5	926.5	924.5	922.6	920.6
20°	911.1	908.6	906.1	903.8	901.5	899.2	896.9	894.6
22.5°	886.0	882.9	879.8	877.2	875.1	872.9	870.8	868.7
25°	844.9	840.9	836.9	833.9	831.8	829.6	827.6	825.5
27.5°	800.1	794.6	789.0	784.6	781.5	778.3	775.1	771.9
30°	768.3	761.7	755.3	750.6	747.5	744.5	741.4	738.4
32.5°	736.9	729.9	722.8	717.7	714.5	711.3	708.2	705.0
35°	690.6	682.4	674.3	668.5	665.0	661.6	658.2	654.8
37.5°	640.7	631.4	622.2	615.5	611.2	607.0	602.8	598.6
40°	606.0	596.1	586.3	579.2	574.8	570.5	566.1	561.7
42.5°	572.7	562.0	551.2	543.9	540.0	536.1	532.1	528.2
45°	523.9	513.1	502.2	494.6	490.0	485.4	480.9	476.4
47.5°	473.3	461.5	449.8	441.9	437.8	433.7	429.7	425.7
50°	439.2	427.4	415.6	407.6	403.2	398.8	394.5	390.1
52.5°	406.2	394.0	381.7	373.7	369.7	365.8	361.9	358.0
55°	357.0	346.0	335.0	327.6	323.8	320.0	316.3	312.4
57.5°	308.8	298.3	288.0	281.1	277.9	274.7	271.4	268.2
60°	278.3	268.1	257.8	251.1	247.9	244.6	241.4	238.1
62.5°	248.1	238.5	228.9	222.3	218.9	215.6	212.2	208.8
65°	205.0	195.8	186.5	180.8	178.7	176.6	174.6	172.4
67.5°	164.0	157.1	150.1	145.5	143.3	141.0	138.8	136.6
70°	138.7	132.0	125.4	121.1	119.0	116.8	114.8	112.7
72.5°	115.9	110.4	105.0	101.8	100.9	100.1	99.2	98.3
75°	86.7	84.8	82.9	81.8	81.4	81.0	80.6	80.2
77.5°	65.4	64.3	63.3	62.6	62.3	61.9	61.5	61.1
80°	52.7	52.1	51.5	51.0	50.6	50.3	49.9	49.5
82.5°	40.4	39.8	39.2	38.9	38.8	38.7	38.6	38.6
85°	23.2	22.7	22.4	22.2	22.2	22.2	22.2	22.2
87.5°	13.9	14.0	14.0	14.0	13.9	13.9	13.9	13.8
90°	27.0	28.0	28.9	29.6	30.1	30.5	31.0	31.5
92.5°	29.8	31.3	32.8	33.7	34.0	34.2	34.5	34.8
95°	35.8	37.4	39.1	39.9	39.9	39.9	39.9	39.9
97.5°	37.5	39.4	41.2	42.2	42.5	42.7	43.0	43.2
100°	38.3	40.2	42.1	43.1	43.3	43.5	43.8	44.0
102.5°	57.4	51.6	45.9	43.2	43.6	44.0	44.4	44.8
105°	147.1	105.9	64.7	44.3	44.8	45.2	45.7	46.1
107.5°	360.4	330.1	299.9	269.2	238.1	207.0	175.9	144.9
110°	457.4	449.7	442.1	421.5	388.2	354.9	321.6	288.3



TEST NUMBER: P332444-930

CATALOG NUMBER: S123RDIW-S775D1320U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	525.9	526.0	526.2	522.8	515.7	508.7	501.7	494.6
115°	606.4	608.7	611.1	612.7	613.6	614.6	615.5	616.4
117.5°	679.3	681.1	683.0	684.0	684.2	684.4	684.6	684.8
120°	727.1	729.0	730.8	731.7	731.7	731.7	731.7	731.7
122.5°	773.8	775.1	776.4	777.1	777.3	777.5	777.7	777.9
125°	839.6	840.1	840.5	841.0	841.5	842.0	842.4	842.9
127.5°	905.6	906.3	907.1	907.2	906.8	906.3	905.8	905.3
130°	945.3	946.3	947.2	947.5	947.0	946.6	946.1	945.6
132.5°	983.1	984.1	985.0	985.1	984.5	983.8	983.2	982.5
135°	1040.3	1041.0	1041.7	1041.7	1041.0	1040.3	1039.6	1038.9
137.5°	1091.3	1092.3	1093.5	1093.8	1093.3	1092.9	1092.4	1091.9
140°	1123.6	1124.5	1125.4	1125.7	1125.2	1124.7	1124.3	1123.8
142.5°	1154.2	1155.0	1155.8	1155.8	1155.1	1154.5	1153.8	1153.2
145°	1197.1	1197.5	1198.0	1198.2	1198.2	1198.2	1198.2	1198.2
147.5°	1235.4	1235.9	1236.4	1236.1	1235.0	1234.0	1232.9	1231.8
150°	1258.9	1259.4	1259.9	1259.7	1259.1	1258.3	1257.7	1256.9
152.5°	1279.8	1280.7	1281.5	1281.4	1280.3	1279.2	1278.1	1277.1
155°	1308.6	1309.7	1310.9	1310.8	1309.4	1308.0	1306.6	1305.2
157.5°	1333.6	1335.0	1336.4	1336.1	1334.3	1332.5	1330.6	1328.9
160°	1347.8	1349.2	1350.6	1350.5	1348.8	1347.2	1345.6	1343.9
162.5°	1360.7	1362.4	1363.9	1364.0	1362.5	1361.1	1359.7	1358.2
165°	1378.1	1380.0	1381.9	1381.9	1380.3	1378.7	1377.0	1375.4
167.5°	1391.6	1393.3	1395.2	1395.2	1393.3	1391.6	1389.7	1387.8
170°	1399.1	1400.9	1402.8	1402.8	1400.9	1399.1	1397.2	1395.3
172.5°	1404.1	1406.0	1407.9	1407.7	1405.7	1403.6	1401.6	1399.5
175°	1410.1	1411.8	1413.4	1413.2	1411.4	1409.6	1407.7	1405.8
177.5°	1412.3	1413.9	1415.4	1415.2	1413.3	1411.4	1409.6	1407.7
180°	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0	1411.0

(END OF REPORT)