

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: P332441-840

Luminaire Tested: **S123RDIW-S775D1030U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332441-840
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-S775D1030U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6557.8 lumens
Efficiency: N/A
Efficacy: 124.7 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: General Diffuse

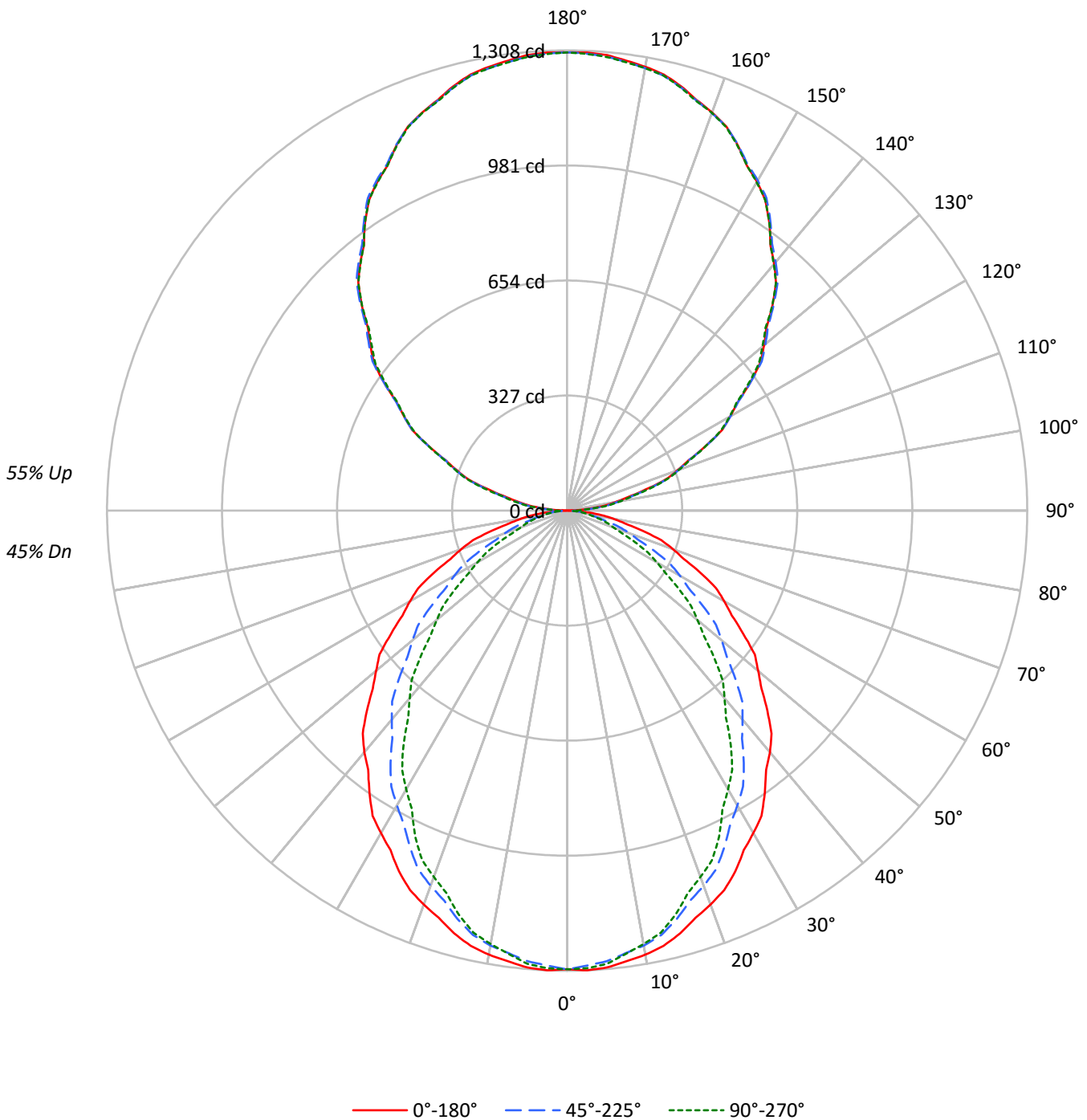
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81		65	65	65		52	52	52	45
1	97	93	89	86	89	85	82	79	71	69	67		58	56	55		46	45	44	38
2	88	81	75	70	81	75	70	65	63	59	56		51	49	46		41	39	38	33
3	81	72	65	59	74	66	60	55	55	51	47		46	42	40		36	34	32	28
4	74	64	56	50	68	59	52	47	49	44	40		41	37	34		33	30	28	24
5	68	57	49	43	62	52	45	40	44	39	35		37	33	30		30	27	25	21
6	63	51	43	37	57	47	40	35	40	35	31		33	29	26		27	24	22	19
7	58	46	38	33	53	43	36	31	36	31	27		30	26	23		25	22	19	17
8	54	42	34	29	49	39	32	27	33	28	24		28	24	21		23	20	17	15
9	50	38	31	26	46	36	29	24	30	25	22		26	22	19		21	18	16	14
10	47	35	28	23	43	33	26	22	28	23	19		24	20	17		19	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14034	14034	14034
5°	14088	13894	13973
10°	14008	13719	13672
15°	13857	13397	13256
20°	13651	12997	12693
25°	13438	12545	12144
30°	13155	12026	11368
35°	12867	11506	10657
40°	12600	10891	9777
45°	12250	10286	8983
50°	11863	9597	8092
55°	11470	8811	7263
60°	11108	7967	6351
65°	10639	7055	5440
70°	10049	5923	4393
75°	9191	4662	4134
80°	8195	4135	3800
85°	6916	3656	3396



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	1.9
10°-20°	340.6	5.2
20°-30°	490.5	7.5
30°-40°	552.5	8.4
40°-50°	528.6	8.1
50°-60°	432.9	6.6
60°-70°	292.0	4.5
70°-80°	146.9	2.2
80°-90°	42.7	0.7
90°-100°	84.9	1.3
100°-110°	254.0	3.9
110°-120°	431.9	6.6
120°-130°	568.1	8.7
130°-140°	638.6	9.7
140°-150°	627.7	9.6
150°-160°	528.4	8.1
160°-170°	351.8	5.4
170°-180°	123.2	1.9
0°-30°	953.6	14.5
0°-40°	1506.1	23.0
0°-60°	2467.5	37.6
0°-90°	2949.2	45.0
90°-120°	770.8	11.8
90°-150°	2605.2	39.7
90°-180°	3609.0	55.0
0°-180°	6557.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1304	1298	1286	1295	1293	124
15°	1244	1231	1202	1197	1190	350
25°	1132	1104	1056	1035	1022	520
35°	979	940	876	832	811	613
45°	805	755	676	617	590	621
55°	611	557	470	410	387	548
65°	418	358	277	227	214	413
75°	221	170	112	102	99	236
85°	56	34	30	28	28	63
90°	1	11	24	29	31	6
95°	60	68	76	80	80	68
105°	230	233	242	242	244	247
115°	435	438	436	437	436	430
125°	636	639	637	633	629	567
135°	826	831	831	827	825	636
145°	1002	1004	1007	1006	1002	625
155°	1147	1147	1148	1151	1145	528
165°	1249	1246	1246	1252	1245	352
175°	1299	1296	1295	1301	1294	123
180°	1302	1302	1302	1302	1302	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1308.0	1307.3	1306.5	1305.8	1305.0	1303.5	1301.2	1299.0	1296.8	1294.4	1296.6
5°	1303.8	1302.6	1301.4	1300.3	1299.1	1297.1	1294.2	1291.4	1288.6	1285.9	1287.9
7.5°	1291.7	1290.5	1289.2	1287.9	1286.7	1284.1	1280.5	1276.9	1273.2	1269.5	1270.7
10°	1281.6	1279.9	1278.3	1276.7	1275.0	1272.0	1267.8	1263.6	1259.4	1255.2	1255.4
12.5°	1267.2	1265.4	1263.5	1261.7	1259.9	1256.4	1251.2	1246.1	1240.8	1235.7	1235.6
15°	1243.5	1240.9	1238.3	1235.8	1233.1	1228.6	1222.0	1215.5	1208.8	1202.2	1201.1
17.5°	1213.7	1210.7	1207.7	1204.7	1201.6	1196.0	1187.6	1179.2	1170.8	1162.6	1160.0
20°	1191.7	1187.9	1184.2	1180.4	1176.7	1170.3	1161.3	1152.5	1143.6	1134.6	1131.6
22.5°	1167.2	1162.9	1158.5	1154.2	1149.8	1143.0	1133.5	1124.0	1114.5	1105.0	1101.2
25°	1131.5	1125.6	1119.6	1113.8	1107.9	1099.5	1088.7	1077.9	1067.1	1056.3	1051.4
27.5°	1088.0	1081.6	1075.1	1068.6	1062.2	1052.9	1040.9	1028.9	1016.7	1004.7	997.8
30°	1058.4	1051.4	1044.4	1037.3	1030.3	1020.2	1007.0	993.8	980.7	967.6	959.6
32.5°	1028.9	1020.9	1012.9	1004.9	996.9	985.9	972.0	958.2	944.2	930.3	921.6
35°	979.2	970.7	962.2	953.8	945.3	933.8	919.3	904.6	890.1	875.6	865.5
37.5°	928.9	919.4	910.0	900.6	891.2	878.8	863.2	847.7	832.1	816.6	805.1
40°	896.7	886.4	876.0	865.7	855.4	841.8	825.2	808.5	791.7	775.1	762.9
42.5°	860.3	850.0	839.6	829.3	819.0	805.2	787.9	770.6	753.5	736.2	722.9
45°	804.7	794.2	783.6	773.0	762.3	748.1	729.9	711.9	693.8	675.7	662.3
47.5°	749.1	737.5	725.9	714.3	702.7	687.8	669.7	651.6	633.5	615.4	600.9
50°	708.4	697.4	686.4	675.3	664.3	649.2	630.3	611.2	592.2	573.1	558.6
52.5°	672.1	660.1	648.1	636.1	624.2	608.7	589.9	571.1	552.2	533.3	518.3
55°	611.2	599.7	588.1	576.6	565.1	549.4	529.4	509.5	489.5	469.5	455.9
57.5°	554.9	542.4	529.9	517.3	504.7	488.5	468.4	448.3	428.2	408.2	395.3
60°	516.0	503.1	490.2	477.3	464.3	448.1	428.6	409.1	389.6	370.1	357.4
62.5°	477.1	464.1	451.2	438.3	425.5	409.2	389.7	370.2	350.7	331.1	319.2
65°	417.7	404.8	391.8	378.9	366.0	350.3	332.0	313.7	295.4	277.0	265.5
67.5°	358.3	345.2	332.1	319.0	306.0	290.6	273.1	255.5	237.9	220.4	211.8
70°	319.3	306.7	294.0	281.2	268.6	254.0	237.5	221.2	204.7	188.2	180.0
72.5°	280.4	267.9	255.4	242.9	230.5	216.7	201.8	186.8	171.9	156.9	150.2
75°	221.0	209.7	198.4	187.1	175.9	163.8	150.9	137.9	125.0	112.1	109.8
77.5°	166.8	156.6	146.4	136.2	126.0	116.8	108.5	100.2	91.9	83.5	82.3
80°	132.2	122.5	112.9	103.3	93.6	86.3	81.4	76.4	71.6	66.7	65.9
82.5°	99.2	90.9	82.5	74.2	65.9	60.6	58.3	55.9	53.7	51.4	50.7
85°	56.0	50.9	45.7	40.5	35.3	32.4	31.7	31.0	30.3	29.6	29.2
87.5°	20.5	18.9	17.3	15.7	14.0	13.5	14.1	14.7	15.3	16.0	15.9
90°	1.0	3.3	5.6	7.9	10.1	12.7	15.7	18.7	21.6	24.5	25.4
92.5°	24.7	26.3	27.9	29.4	30.9	32.5	34.2	36.0	37.6	39.3	40.0
95°	60.4	61.9	63.5	65.1	66.8	68.5	70.3	72.1	73.9	75.7	76.6
97.5°	107.2	108.4	109.6	110.8	112.0	113.2	114.5	115.8	117.1	118.5	119.6
100°	139.2	140.5	141.9	143.2	144.6	145.8	147.0	148.1	149.3	150.4	151.1
102.5°	176.0	176.8	177.6	178.4	179.3	180.4	181.9	183.4	184.9	186.4	187.1
105°	230.2	230.7	231.2	231.6	232.1	233.3	235.3	237.3	239.4	241.5	241.5
107.5°	293.3	293.5	293.8	294.1	294.3	294.9	295.7	296.5	297.3	298.1	298.8
110°	332.5	333.0	333.5	333.9	334.4	334.8	335.3	335.7	336.2	336.6	337.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	373.4	373.8	374.0	374.3	374.6	374.7	374.8	374.9	375.0	375.1	376.2
115°	434.8	435.5	436.2	436.9	437.6	437.7	437.2	436.8	436.3	435.9	436.1
117.5°	496.7	497.1	497.6	498.0	498.5	498.4	497.8	497.2	496.6	496.0	495.9
120°	535.1	536.4	537.9	539.2	540.6	540.7	539.5	538.4	537.2	536.1	535.8
122.5°	575.2	576.2	577.2	578.1	579.2	579.4	578.9	578.2	577.6	577.0	576.4
125°	636.4	637.0	637.7	638.4	639.1	639.2	638.7	638.3	637.8	637.4	636.5
127.5°	692.9	694.3	695.8	697.2	698.6	699.1	698.6	698.1	697.6	697.1	695.9
130°	730.5	732.4	734.2	736.0	737.8	738.3	737.7	737.0	736.3	735.6	734.7
132.5°	768.1	769.9	771.7	773.7	775.5	776.1	775.6	775.1	774.6	774.1	773.0
135°	825.7	827.0	828.4	829.7	831.1	831.6	831.4	831.2	831.0	830.7	829.8
137.5°	878.9	880.0	881.1	882.2	883.4	884.2	884.8	885.4	886.1	886.7	885.7
140°	915.6	916.9	918.0	919.1	920.2	920.9	921.1	921.4	921.6	921.8	921.6
142.5°	949.3	950.4	951.5	952.6	953.8	954.5	954.9	955.3	955.8	956.2	955.9
145°	1001.6	1002.1	1002.5	1003.0	1003.4	1004.0	1004.7	1005.4	1006.0	1006.7	1006.5
147.5°	1047.4	1048.2	1049.0	1050.0	1050.8	1051.5	1052.1	1052.8	1053.4	1054.0	1054.0
150°	1079.3	1079.8	1080.3	1080.8	1081.2	1081.7	1082.1	1082.6	1083.0	1083.5	1083.5
152.5°	1105.6	1106.2	1106.8	1107.5	1108.1	1108.5	1108.8	1109.1	1109.4	1109.6	1110.0
155°	1146.9	1146.9	1146.9	1146.9	1146.9	1147.0	1147.2	1147.5	1147.7	1147.9	1148.8
157.5°	1182.1	1181.8	1181.5	1181.2	1181.0	1180.9	1181.1	1181.3	1181.5	1181.6	1182.7
160°	1204.2	1203.8	1203.3	1202.9	1202.3	1202.1	1202.1	1202.1	1202.1	1202.1	1203.3
162.5°	1223.9	1223.2	1222.5	1221.9	1221.3	1221.0	1221.2	1221.4	1221.6	1221.8	1222.9
165°	1249.2	1248.5	1247.9	1247.2	1246.5	1246.2	1246.2	1246.2	1246.2	1246.2	1247.5
167.5°	1269.5	1268.6	1267.7	1266.8	1265.9	1265.5	1265.7	1265.9	1266.1	1266.2	1267.6
170°	1280.9	1280.0	1279.1	1278.2	1277.3	1276.9	1276.9	1276.9	1276.9	1276.9	1278.4
172.5°	1289.9	1289.0	1288.1	1287.2	1286.3	1285.9	1285.9	1285.9	1285.9	1285.9	1287.3
175°	1299.4	1298.5	1297.6	1296.7	1295.8	1295.3	1295.3	1295.3	1295.3	1295.3	1296.7
177.5°	1303.2	1302.5	1301.8	1301.0	1300.3	1300.0	1300.0	1300.0	1300.0	1300.0	1301.0
180°	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1298.6	1300.7	1302.7	1303.6	1303.2	1302.8	1302.4	1302.1
5°	1290.0	1292.1	1294.2	1295.1	1294.6	1294.1	1293.6	1293.2
7.5°	1271.9	1273.0	1274.2	1274.4	1273.6	1272.8	1272.0	1271.2
10°	1255.7	1255.9	1256.1	1255.7	1254.5	1253.2	1252.1	1250.9
12.5°	1235.4	1235.3	1235.2	1234.4	1233.0	1231.6	1230.3	1228.9
15°	1199.9	1198.7	1197.6	1196.2	1194.6	1192.9	1191.2	1189.6
17.5°	1157.5	1155.1	1152.6	1150.1	1147.6	1145.2	1142.8	1140.3
20°	1128.5	1125.4	1122.4	1119.4	1116.6	1113.8	1111.0	1108.1
22.5°	1097.4	1093.6	1089.7	1086.5	1083.9	1081.3	1078.6	1076.0
25°	1046.5	1041.6	1036.6	1032.9	1030.3	1027.6	1025.1	1022.5
27.5°	991.0	984.2	977.3	971.9	968.0	964.0	960.1	956.1
30°	951.6	943.5	935.5	929.7	925.9	922.2	918.4	914.6
32.5°	912.8	904.1	895.3	889.0	885.0	881.1	877.2	873.2
35°	855.4	845.3	835.2	828.0	823.7	819.5	815.3	811.0
37.5°	793.6	782.1	770.6	762.3	757.1	751.8	746.7	741.4
40°	750.6	738.4	726.2	717.4	712.0	706.6	701.1	695.8
42.5°	709.4	696.1	682.8	673.7	668.8	664.0	659.1	654.3
45°	648.9	635.5	622.1	612.6	606.9	601.3	595.7	590.1
47.5°	586.2	571.7	557.1	547.3	542.3	537.2	532.3	527.3
50°	544.0	529.4	514.8	504.8	499.5	494.0	488.7	483.2
52.5°	503.1	488.0	472.8	462.8	458.0	453.1	448.3	443.4
55°	442.2	428.6	415.0	405.8	401.1	396.4	391.7	387.0
57.5°	382.4	369.5	356.7	348.2	344.3	340.2	336.2	332.2
60°	344.7	332.0	319.3	311.0	307.0	303.0	299.0	295.0
62.5°	307.3	295.4	283.5	275.4	271.1	267.0	262.9	258.6
65°	254.0	242.5	231.0	223.9	221.4	218.7	216.2	213.6
67.5°	203.2	194.6	185.9	180.3	177.5	174.7	172.0	169.2
70°	171.8	163.5	155.3	150.0	147.3	144.7	142.2	139.6
72.5°	143.5	136.7	130.1	126.1	125.0	124.0	122.9	121.8
75°	107.3	105.0	102.7	101.3	100.8	100.4	99.9	99.4
77.5°	81.0	79.7	78.5	77.6	77.2	76.6	76.1	75.7
80°	65.2	64.5	63.8	63.2	62.7	62.3	61.8	61.3
82.5°	50.0	49.3	48.6	48.2	48.1	48.0	47.9	47.8
85°	28.7	28.2	27.8	27.5	27.5	27.5	27.5	27.5
87.5°	15.9	15.9	15.9	15.9	15.8	15.7	15.6	15.5
90°	26.4	27.3	28.2	28.9	29.3	29.8	30.2	30.7
92.5°	40.7	41.5	42.2	42.4	42.1	41.9	41.6	41.3
95°	77.6	78.5	79.4	79.8	79.8	79.8	79.8	79.8
97.5°	120.6	121.6	122.7	123.1	123.0	123.0	122.9	122.8
100°	151.8	152.5	153.1	153.7	154.1	154.6	155.0	155.5
102.5°	187.7	188.4	189.1	189.5	189.3	189.2	189.1	189.0
105°	241.5	241.5	241.5	241.7	242.2	242.6	243.1	243.5
107.5°	299.6	300.3	301.0	301.2	301.0	300.7	300.4	300.1
110°	338.4	339.3	340.2	340.4	340.0	339.5	339.1	338.6



TEST NUMBER: P332441-840

CATALOG NUMBER: S123RDIW-S775D1030U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	377.3	378.3	379.4	379.9	379.8	379.7	379.7	379.6
115°	436.3	436.6	436.8	436.8	436.6	436.3	436.1	435.9
117.5°	495.9	495.8	495.8	495.4	494.8	494.2	493.5	492.9
120°	535.6	535.4	535.2	534.8	534.4	533.9	533.5	533.0
122.5°	575.8	575.2	574.7	574.0	573.4	572.8	572.2	571.5
125°	635.6	634.7	633.8	632.9	632.0	631.1	630.2	629.2
127.5°	694.6	693.4	692.1	690.8	689.8	688.8	687.7	686.7
130°	733.8	732.9	732.0	730.7	729.1	727.5	726.0	724.4
132.5°	771.9	770.8	769.7	768.6	767.3	766.1	764.9	763.7
135°	828.9	828.0	827.1	826.5	826.0	825.6	825.1	824.7
137.5°	884.7	883.7	882.8	881.9	881.0	880.2	879.3	878.5
140°	921.4	921.1	920.9	920.0	918.4	916.9	915.2	913.6
142.5°	955.7	955.5	955.3	954.5	953.3	952.1	950.9	949.7
145°	1006.3	1006.0	1005.8	1005.2	1004.3	1003.4	1002.5	1001.6
147.5°	1054.0	1054.0	1054.0	1053.3	1052.0	1050.6	1049.2	1047.8
150°	1083.5	1083.5	1083.5	1082.8	1081.5	1080.1	1078.7	1077.3
152.5°	1110.3	1110.8	1111.2	1110.8	1109.5	1108.3	1107.1	1106.0
155°	1149.7	1150.6	1151.5	1151.2	1149.6	1148.0	1146.5	1144.9
157.5°	1183.6	1184.6	1185.5	1185.4	1184.1	1182.9	1181.5	1180.2
160°	1204.5	1205.6	1206.7	1206.8	1205.9	1205.0	1204.1	1203.2
162.5°	1224.1	1225.2	1226.4	1226.2	1224.8	1223.2	1221.8	1220.3
165°	1248.9	1250.2	1251.6	1251.5	1249.9	1248.3	1246.7	1245.2
167.5°	1269.0	1270.4	1271.8	1271.8	1270.4	1269.0	1267.6	1266.2
170°	1280.0	1281.6	1283.2	1283.2	1281.6	1280.0	1278.4	1276.9
172.5°	1288.7	1290.1	1291.5	1291.4	1289.8	1288.2	1286.6	1285.1
175°	1298.0	1299.4	1300.7	1300.6	1299.0	1297.4	1295.9	1294.2
177.5°	1302.1	1303.2	1304.3	1304.2	1302.9	1301.7	1300.4	1299.2
180°	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4

(END OF REPORT)