

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: P332444-840

Luminaire Tested: **S123RDIW-S775D1320U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332444-840
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-S775D1320U840-4F0-1E-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: 8280.2 lumens
Efficiency: N/A
Efficacy: 134.9 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

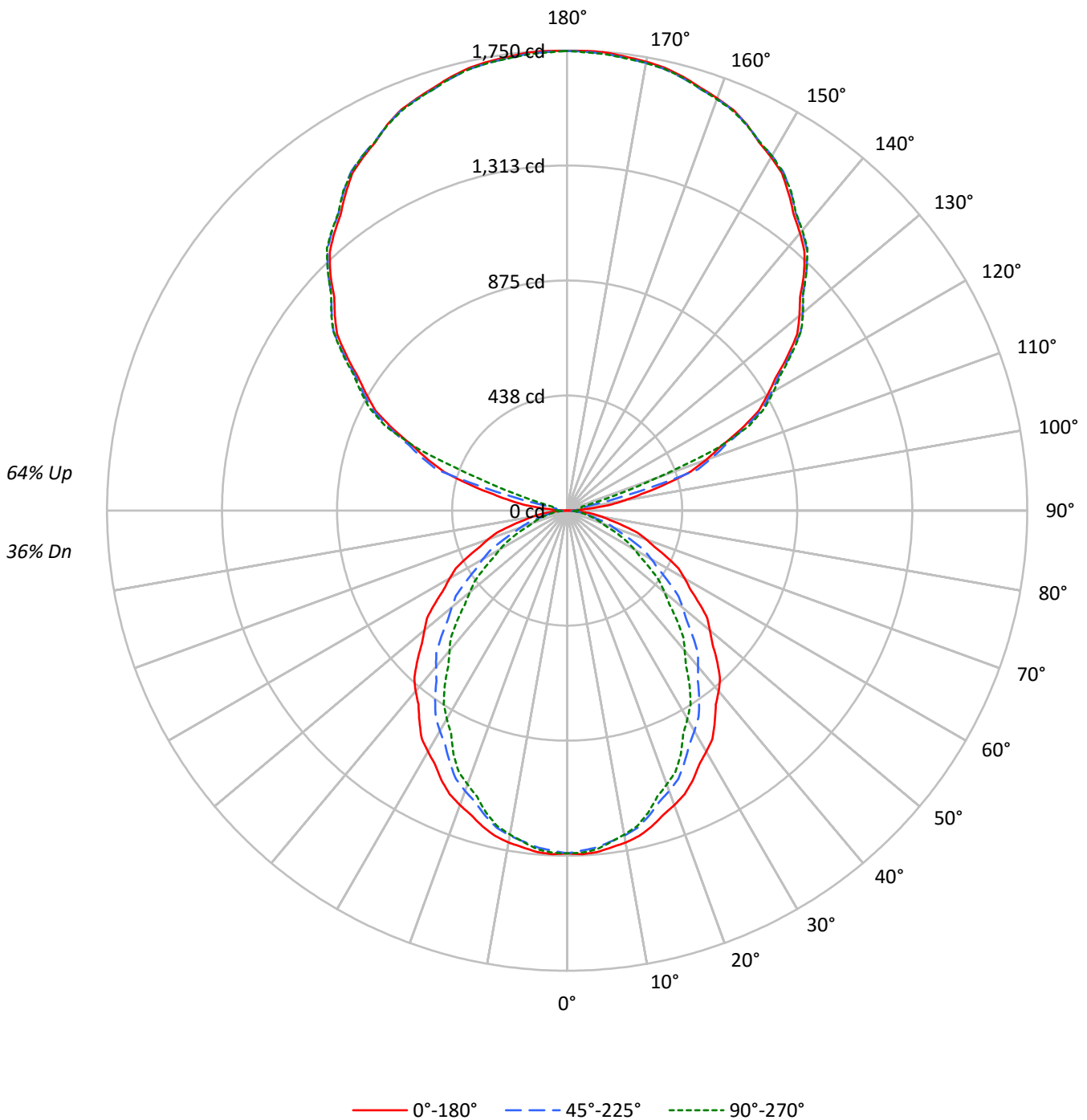
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	1.5
10°-20°	340.6	4.1
20°-30°	490.5	5.9
30°-40°	552.5	6.7
40°-50°	528.6	6.4
50°-60°	432.9	5.2
60°-70°	292.0	3.5
70°-80°	146.9	1.8
80°-90°	43.8	0.5
90°-100°	63.5	0.8
100°-110°	302.9	3.7
110°-120°	727.5	8.8
120°-130°	926.3	11.2
130°-140°	989.8	12.0
140°-150°	925.5	11.2
150°-160°	746.6	9.0
160°-170°	481.8	5.8
170°-180°	166.1	2.0
0°-30°	953.6	11.5
0°-40°	1506.1	18.2
0°-60°	2467.5	29.8
0°-90°	2950.3	35.6
90°-120°	1093.9	13.2
90°-150°	3935.5	47.5
90°-180°	5330.0	64.4
0°-180°	8280.2	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	14	31	36	39	6
95°	79	30	40	49	49	98
105°	387	394	284	67	57	410
115°	726	734	745	758	764	716
125°	1023	1033	1039	1041	1044	913
135°	1274	1282	1287	1290	1287	980
145°	1470	1479	1482	1484	1484	920
155°	1619	1617	1618	1624	1617	746
165°	1708	1704	1702	1712	1704	482
175°	1748	1742	1743	1751	1741	166
180°	1748	1748	1748	1748	1748	



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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°	20.6	19.1	17.6	16.1	14.6	14.2	14.9	15.8	16.5	17.3	17.3
90°	1.3	4.1	7.1	10.0	12.8	16.2	19.9	23.6	27.4	31.2	32.3
92.5°	24.1	23.3	22.5	21.7	20.9	21.9	24.7	27.6	30.4	33.2	35.0
95°	79.2	67.4	55.5	43.7	31.9	27.6	30.7	33.9	37.1	40.3	42.3
97.5°	159.2	153.9	148.6	143.3	137.9	124.9	104.1	83.4	62.6	41.8	44.1
100°	219.4	225.2	231.0	236.7	242.6	222.9	177.9	132.9	87.9	42.8	45.1
102.5°	288.0	292.2	296.3	300.4	304.7	282.2	233.0	183.8	134.6	85.4	78.3
105°	387.0	390.1	393.3	396.5	399.6	388.3	362.2	336.3	310.3	284.4	233.3
107.5°	491.4	493.9	496.4	499.0	501.5	504.8	509.0	513.0	517.2	521.2	483.7
110°	561.0	563.3	565.5	567.8	570.2	572.9	576.1	579.3	582.5	585.6	576.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	627.4	629.5	631.6	633.7	635.7	638.3	641.6	644.7	647.9	651.1	651.3
115°	725.9	727.6	729.3	731.0	732.8	735.0	737.5	740.1	742.8	745.4	748.2
117.5°	821.2	823.3	825.5	827.6	829.7	831.4	832.7	834.1	835.5	836.8	839.1
120°	880.4	883.0	885.6	888.2	890.8	892.5	893.3	894.2	895.1	896.0	898.3
122.5°	940.7	942.8	944.9	947.1	949.2	950.8	951.9	953.0	954.1	955.2	956.8
125°	1023.2	1025.5	1027.8	1030.2	1032.5	1034.2	1035.3	1036.5	1037.6	1038.8	1039.4
127.5°	1103.2	1105.5	1107.8	1110.1	1112.5	1114.3	1115.7	1117.1	1118.4	1119.8	1120.7
130°	1153.1	1155.4	1157.7	1160.0	1162.4	1164.1	1165.2	1166.4	1167.5	1168.6	1169.8
132.5°	1200.8	1203.2	1205.5	1207.8	1210.1	1211.7	1212.6	1213.6	1214.5	1215.4	1216.6
135°	1273.8	1275.6	1277.3	1279.0	1280.8	1282.2	1283.3	1284.5	1285.7	1286.9	1287.7
137.5°	1336.2	1338.4	1340.6	1342.7	1344.9	1346.4	1347.0	1347.7	1348.3	1348.9	1350.3
140°	1377.8	1379.5	1381.2	1382.9	1384.6	1385.9	1386.8	1387.7	1388.6	1389.4	1390.6
142.5°	1416.1	1417.9	1419.7	1421.4	1423.1	1424.4	1425.2	1426.1	1426.9	1427.8	1428.8
145°	1470.0	1472.0	1474.0	1476.0	1478.0	1479.3	1479.9	1480.5	1481.1	1481.6	1482.2
147.5°	1520.6	1521.9	1523.2	1524.5	1525.9	1526.8	1527.4	1527.9	1528.5	1529.1	1529.7
150°	1551.8	1552.6	1553.5	1554.3	1555.2	1555.9	1556.5	1557.0	1557.6	1558.2	1558.8
152.5°	1579.7	1580.1	1580.5	1580.9	1581.3	1581.8	1582.2	1582.5	1582.8	1583.2	1584.2
155°	1619.2	1618.7	1618.1	1617.5	1616.9	1616.8	1617.1	1617.4	1617.7	1617.9	1619.4
157.5°	1649.9	1649.8	1649.8	1649.7	1649.6	1649.5	1649.2	1648.9	1648.6	1648.3	1650.0
160°	1668.6	1668.3	1668.0	1667.7	1667.4	1667.2	1666.9	1666.6	1666.3	1666.0	1667.7
162.5°	1686.3	1685.5	1684.8	1683.9	1683.2	1682.7	1682.4	1682.1	1681.8	1681.5	1683.5
165°	1707.6	1706.7	1705.8	1705.0	1704.0	1703.5	1703.2	1702.9	1702.6	1702.3	1704.7
167.5°	1724.1	1723.0	1721.8	1720.7	1719.5	1719.0	1719.0	1719.0	1719.0	1719.0	1721.3
170°	1733.5	1732.3	1731.2	1730.1	1728.9	1728.3	1728.3	1728.3	1728.3	1728.3	1730.6
172.5°	1739.8	1738.4	1737.0	1735.6	1734.2	1733.6	1733.8	1734.1	1734.3	1734.5	1736.9
175°	1747.8	1746.4	1744.9	1743.4	1742.0	1741.4	1741.7	1742.0	1742.3	1742.6	1744.6
177.5°	1749.9	1748.7	1747.6	1746.5	1745.2	1744.8	1745.0	1745.2	1745.5	1745.8	1747.6
180°	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8



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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°	17.3	17.4	17.4	17.4	17.3	17.3	17.2	17.1
90°	33.4	34.6	35.7	36.7	37.3	37.8	38.4	39.0
92.5°	37.0	38.8	40.6	41.7	42.1	42.4	42.7	43.1
95°	44.3	46.4	48.4	49.4	49.4	49.4	49.4	49.4
97.5°	46.5	48.8	51.0	52.3	52.6	52.9	53.2	53.5
100°	47.5	49.8	52.1	53.4	53.6	53.9	54.2	54.5
102.5°	71.1	63.9	56.9	53.5	54.0	54.5	55.0	55.5
105°	182.2	131.2	80.1	54.8	55.4	55.9	56.6	57.2
107.5°	446.4	408.9	371.4	333.5	295.0	256.4	217.9	179.5
110°	566.5	557.0	547.5	522.1	480.9	439.6	398.4	357.1



TEST NUMBER: P332444-840

CATALOG NUMBER: S123RDIW-S775D1320U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	651.5	651.6	651.8	647.5	638.7	630.1	621.4	612.7
115°	751.1	754.0	756.9	758.9	760.0	761.2	762.3	763.6
117.5°	841.4	843.6	846.0	847.3	847.5	847.7	848.0	848.2
120°	900.6	902.9	905.2	906.4	906.4	906.4	906.4	906.4
122.5°	958.5	960.1	961.7	962.6	962.8	963.0	963.3	963.5
125°	1040.0	1040.6	1041.1	1041.7	1042.3	1042.9	1043.4	1044.0
127.5°	1121.7	1122.6	1123.6	1123.7	1123.2	1122.6	1122.0	1121.4
130°	1170.9	1172.2	1173.3	1173.6	1173.0	1172.5	1171.8	1171.2
132.5°	1217.7	1218.9	1220.0	1220.2	1219.4	1218.6	1217.8	1217.0
135°	1288.6	1289.4	1290.3	1290.3	1289.4	1288.6	1287.7	1286.9
137.5°	1351.7	1353.0	1354.4	1354.8	1354.2	1353.7	1353.1	1352.5
140°	1391.7	1392.9	1394.0	1394.3	1393.7	1393.1	1392.6	1392.0
142.5°	1429.7	1430.6	1431.6	1431.6	1430.8	1430.0	1429.2	1428.4
145°	1482.8	1483.3	1483.9	1484.2	1484.2	1484.2	1484.2	1484.2
147.5°	1530.2	1530.9	1531.5	1531.1	1529.7	1528.4	1527.1	1525.7
150°	1559.3	1559.9	1560.5	1560.3	1559.5	1558.6	1557.8	1556.9
152.5°	1585.2	1586.3	1587.3	1587.2	1585.8	1584.5	1583.2	1581.9
155°	1620.8	1622.2	1623.8	1623.6	1621.8	1620.1	1618.4	1616.7
157.5°	1651.8	1653.6	1655.3	1655.0	1652.7	1650.5	1648.2	1646.0
160°	1669.4	1671.2	1672.9	1672.7	1670.7	1668.7	1666.7	1664.7
162.5°	1685.5	1687.5	1689.4	1689.5	1687.7	1686.0	1684.2	1682.3
165°	1707.0	1709.3	1711.6	1711.7	1709.7	1707.7	1705.7	1703.6
167.5°	1723.6	1725.9	1728.2	1728.2	1725.9	1723.6	1721.3	1719.0
170°	1732.9	1735.3	1737.6	1737.6	1735.3	1732.9	1730.6	1728.3
172.5°	1739.2	1741.5	1743.8	1743.6	1741.1	1738.6	1736.1	1733.5
175°	1746.7	1748.7	1750.7	1750.5	1748.3	1746.0	1743.6	1741.3
177.5°	1749.4	1751.3	1753.1	1752.9	1750.6	1748.3	1746.0	1743.6
180°	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8	1747.8

(END OF REPORT)