

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: P332328-840

Luminaire Tested: **S123RDIP-S775D1195U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332328-840  
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: S123RDIP-S775D1195U840-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7088.2 lumens  
Efficiency: N/A  
Efficacy: 124.6 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

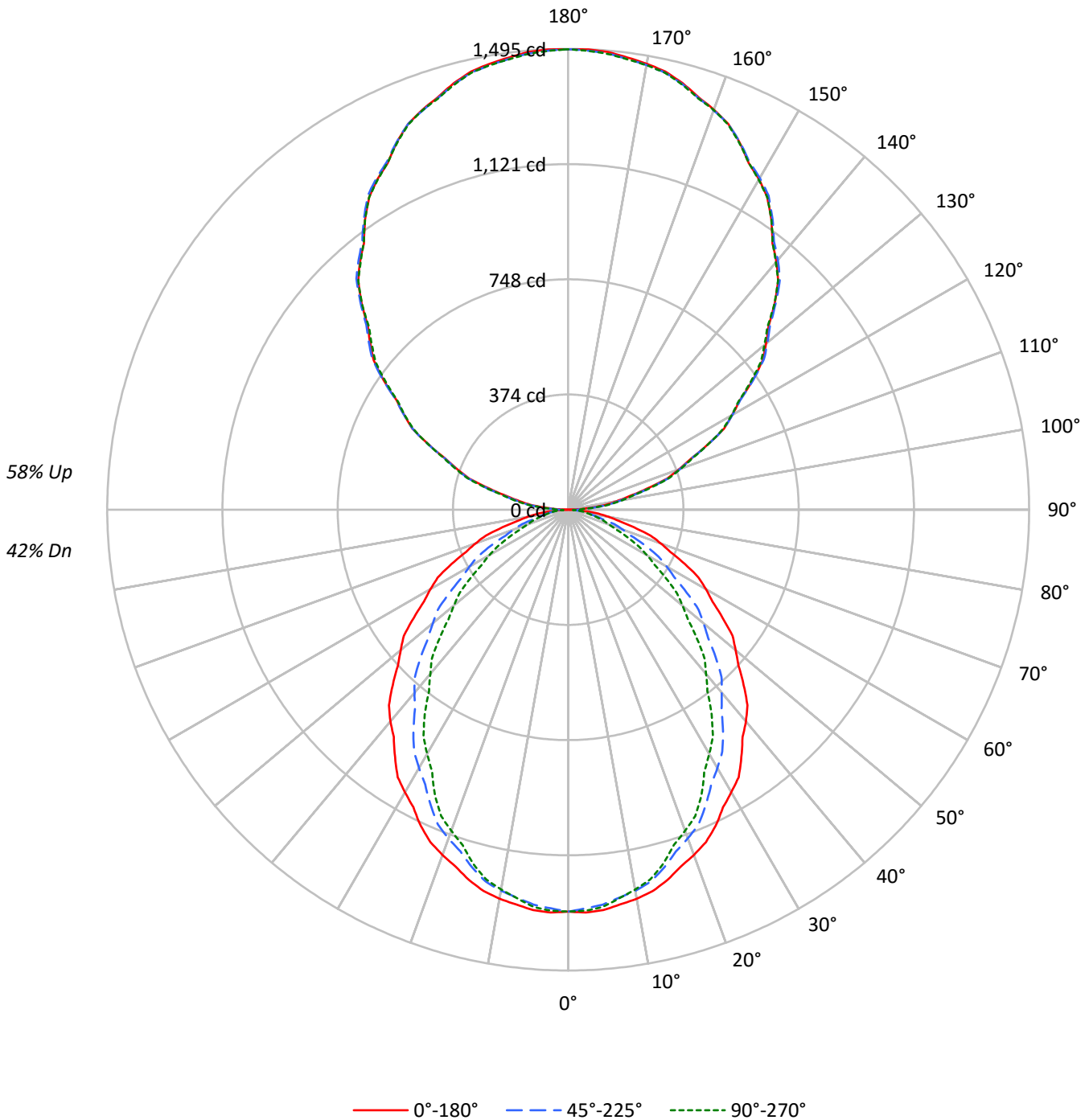
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	96	96	96	96	79	79	79	63	63	63	48	48	48	42
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	36
2	88	81	75	70	80	74	69	64	61	57	54	49	47	45	38	37	35	30
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	34	32	30	26
4	73	63	55	50	67	58	51	46	48	43	39	39	36	33	31	28	26	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	40	34	39	34	30	32	28	25	25	23	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	27	23	20	21	18	16	14
9	50	38	30	26	45	35	28	24	30	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	21	27	22	19	23	19	16	18	15	13	11

**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	1.7
10°-20°	340.6	4.8
20°-30°	490.5	6.9
30°-40°	552.5	7.8
40°-50°	528.6	7.5
50°-60°	432.9	6.1
60°-70°	292.0	4.1
70°-80°	146.9	2.1
80°-90°	43.3	0.6
90°-100°	97.3	1.4
100°-110°	291.2	4.1
110°-120°	495.4	7.0
120°-130°	651.6	9.2
130°-140°	732.3	10.3
140°-150°	719.9	10.2
150°-160°	606.0	8.5
160°-170°	403.4	5.7
170°-180°	141.3	2.0
0°-30°	953.6	13.5
0°-40°	1506.1	21.2
0°-60°	2467.5	34.8
0°-90°	2949.8	41.6
90°-120°	883.9	12.5
90°-150°	2987.7	42.2
90°-180°	4138.0	58.4
0°-180°	7088.2	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	13	28	33	35	7
95°	69	78	87	91	92	78
105°	264	267	277	277	279	283
115°	499	502	500	501	500	493
125°	730	733	731	726	722	651
135°	947	953	953	948	946	729
145°	1149	1151	1155	1153	1149	717
155°	1315	1315	1316	1320	1313	605
165°	1433	1429	1429	1435	1428	404
175°	1490	1486	1485	1492	1484	141
180°	1494	1494	1494	1494	1494	



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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	19.0	17.5	15.9	14.3	13.9	14.6	15.2	16.0	16.7	16.7
90°	1.2	3.7	6.4	9.0	11.6	14.6	18.0	21.4	24.7	28.2	29.2
92.5°	28.4	30.2	31.9	33.7	35.4	37.4	39.3	41.2	43.1	45.0	45.8
95°	69.3	71.1	72.9	74.7	76.5	78.5	80.6	82.6	84.7	86.8	87.9
97.5°	123.0	124.3	125.7	127.0	128.4	129.9	131.4	132.9	134.3	135.8	137.0
100°	159.6	161.2	162.7	164.3	165.8	167.2	168.5	169.9	171.2	172.5	173.3
102.5°	201.8	202.8	203.7	204.6	205.6	206.9	208.6	210.4	212.1	213.8	214.6
105°	264.0	264.5	265.1	265.6	266.1	267.5	269.8	272.3	274.6	276.9	276.9
107.5°	336.3	336.6	336.9	337.2	337.5	338.2	339.1	340.0	340.9	341.9	342.7
110°	381.3	381.8	382.3	382.9	383.4	384.0	384.5	385.0	385.5	386.1	387.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	428.3	428.6	428.9	429.2	429.5	429.7	429.8	429.9	430.0	430.1	431.4
115°	498.7	499.5	500.2	501.0	501.8	501.9	501.4	500.9	500.4	499.9	500.1
117.5°	569.6	570.1	570.6	571.1	571.6	571.6	570.9	570.2	569.6	568.9	568.8
120°	613.7	615.2	616.8	618.3	620.0	620.1	618.7	617.4	616.1	614.8	614.6
122.5°	659.6	660.8	662.0	663.1	664.3	664.5	663.8	663.1	662.5	661.8	661.1
125°	729.8	730.6	731.3	732.2	733.0	733.1	732.6	732.1	731.5	731.0	729.9
127.5°	794.6	796.3	797.9	799.6	801.2	801.8	801.2	800.6	800.1	799.5	798.1
130°	837.8	839.8	841.9	844.0	846.1	846.8	846.0	845.2	844.4	843.6	842.6
132.5°	880.9	883.0	885.1	887.2	889.3	890.1	889.5	888.9	888.3	887.8	886.5
135°	946.8	948.5	950.0	951.6	953.1	953.8	953.5	953.3	953.0	952.7	951.7
137.5°	1007.9	1009.2	1010.5	1011.8	1013.1	1014.1	1014.8	1015.4	1016.1	1016.8	1015.7
140°	1050.2	1051.5	1052.8	1054.1	1055.3	1056.1	1056.4	1056.6	1056.9	1057.2	1056.9
142.5°	1088.6	1089.9	1091.3	1092.6	1093.9	1094.7	1095.2	1095.7	1096.1	1096.6	1096.3
145°	1148.7	1149.2	1149.7	1150.2	1150.7	1151.4	1152.3	1153.0	1153.8	1154.6	1154.3
147.5°	1201.2	1202.2	1203.2	1204.1	1205.1	1205.9	1206.6	1207.3	1208.0	1208.8	1208.8
150°	1237.9	1238.4	1238.9	1239.4	1240.0	1240.5	1241.0	1241.5	1242.0	1242.5	1242.5
152.5°	1267.9	1268.7	1269.4	1270.1	1270.8	1271.3	1271.6	1272.0	1272.3	1272.6	1273.0
155°	1315.3	1315.3	1315.3	1315.3	1315.3	1315.5	1315.8	1316.0	1316.3	1316.5	1317.6
157.5°	1355.6	1355.3	1355.0	1354.7	1354.4	1354.3	1354.6	1354.8	1355.0	1355.2	1356.3
160°	1381.0	1380.5	1380.0	1379.5	1379.0	1378.7	1378.7	1378.7	1378.7	1378.7	1380.0
162.5°	1403.5	1402.8	1402.1	1401.4	1400.7	1400.4	1400.6	1400.8	1401.0	1401.2	1402.5
165°	1432.7	1431.9	1431.1	1430.3	1429.6	1429.2	1429.2	1429.2	1429.2	1429.2	1430.7
167.5°	1455.9	1454.8	1453.8	1452.8	1451.7	1451.3	1451.5	1451.7	1451.9	1452.1	1453.7
170°	1469.1	1467.9	1466.9	1465.9	1464.8	1464.3	1464.3	1464.3	1464.3	1464.3	1466.1
172.5°	1479.4	1478.3	1477.2	1476.2	1475.2	1474.7	1474.7	1474.7	1474.7	1474.7	1476.3
175°	1490.2	1489.1	1488.0	1487.0	1486.0	1485.4	1485.4	1485.4	1485.4	1485.4	1487.0
177.5°	1494.6	1493.8	1493.0	1492.1	1491.3	1490.9	1490.9	1490.9	1490.9	1490.9	1492.1
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7



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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°	16.7	16.7	16.7	16.7	16.6	16.6	16.5	16.4
90°	30.3	31.3	32.3	33.1	33.6	34.1	34.6	35.2
92.5°	46.8	47.6	48.4	48.7	48.4	48.1	47.7	47.4
95°	88.9	90.0	91.0	91.5	91.5	91.5	91.5	91.5
97.5°	138.3	139.5	140.7	141.2	141.1	141.0	140.9	140.8
100°	174.0	174.8	175.6	176.2	176.8	177.3	177.8	178.3
102.5°	215.3	216.1	216.9	217.2	217.1	217.0	216.9	216.8
105°	276.9	276.9	276.9	277.2	277.7	278.2	278.7	279.2
107.5°	343.6	344.5	345.3	345.5	345.2	344.9	344.6	344.3
110°	388.1	389.2	390.2	390.4	389.9	389.4	388.9	388.4





TEST NUMBER: P332328-840

CATALOG NUMBER: S123RDIP-S775D1195U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	432.6	433.9	435.2	435.8	435.7	435.6	435.5	435.4
115°	500.4	500.6	500.9	500.9	500.6	500.4	500.1	499.9
117.5°	568.8	568.7	568.7	568.3	567.5	566.7	566.0	565.3
120°	614.3	614.1	613.8	613.4	612.9	612.4	611.9	611.3
122.5°	660.5	659.7	659.0	658.3	657.6	656.9	656.1	655.4
125°	728.9	727.9	726.8	725.8	724.8	723.7	722.7	721.6
127.5°	796.6	795.2	793.7	792.3	791.1	789.9	788.7	787.6
130°	841.5	840.5	839.5	838.0	836.2	834.4	832.5	830.7
132.5°	885.2	884.0	882.7	881.4	880.0	878.6	877.2	875.8
135°	950.7	949.6	948.6	947.8	947.3	946.7	946.2	945.7
137.5°	1014.6	1013.5	1012.4	1011.4	1010.4	1009.5	1008.5	1007.4
140°	1056.6	1056.4	1056.1	1055.1	1053.3	1051.5	1049.7	1047.8
142.5°	1096.1	1095.8	1095.6	1094.7	1093.3	1091.9	1090.6	1089.1
145°	1154.1	1153.8	1153.6	1152.9	1151.9	1150.7	1149.7	1148.7
147.5°	1208.8	1208.8	1208.8	1208.0	1206.4	1204.9	1203.3	1201.7
150°	1242.5	1242.5	1242.5	1241.8	1240.2	1238.7	1237.1	1235.6
152.5°	1273.4	1273.8	1274.2	1273.8	1272.4	1271.1	1269.7	1268.4
155°	1318.6	1319.6	1320.7	1320.3	1318.5	1316.7	1314.8	1312.9
157.5°	1357.4	1358.5	1359.6	1359.4	1358.0	1356.5	1355.0	1353.5
160°	1381.3	1382.6	1383.9	1384.0	1383.0	1381.9	1380.9	1379.9
162.5°	1403.8	1405.1	1406.4	1406.2	1404.5	1402.9	1401.2	1399.6
165°	1432.3	1433.8	1435.4	1435.2	1433.4	1431.6	1429.8	1427.9
167.5°	1455.3	1456.9	1458.5	1458.5	1456.9	1455.3	1453.7	1452.1
170°	1467.9	1469.9	1471.7	1471.7	1469.9	1467.9	1466.1	1464.3
172.5°	1477.9	1479.6	1481.2	1481.1	1479.1	1477.3	1475.5	1473.7
175°	1488.5	1490.2	1491.7	1491.6	1489.8	1487.9	1486.1	1484.3
177.5°	1493.4	1494.6	1495.8	1495.7	1494.3	1492.8	1491.4	1490.0
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7

(END OF REPORT)