

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: P331840

Luminaire Tested: **S122RDIW-S865D1240U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S865D1240U835-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7318.3 lumens  
Efficiency: N/A  
Efficacy: 104.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

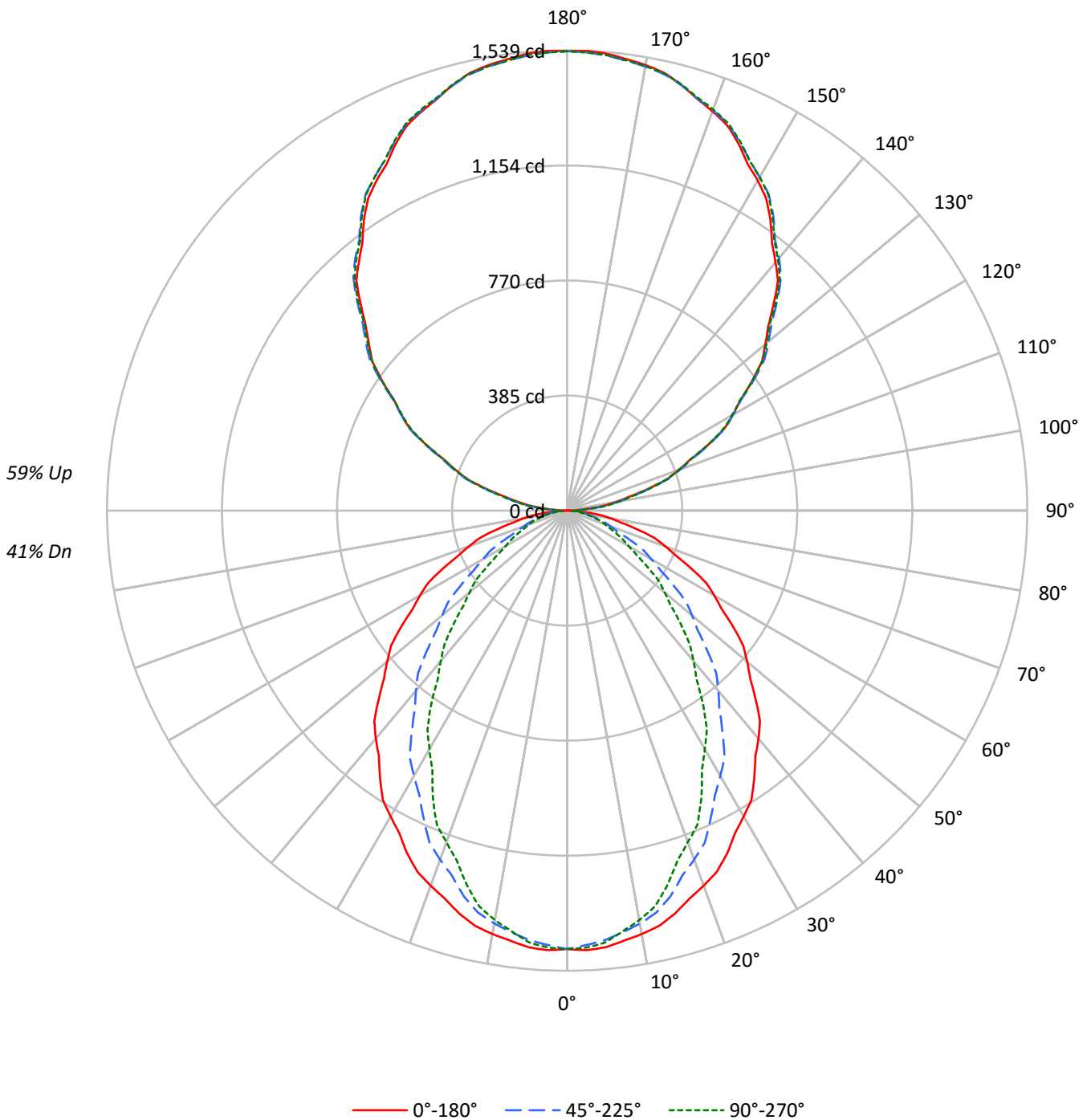
Input Watts (W): 69.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	50	30	10	50	30	10	0														
RCR																																						
0	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41																				
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	65	61	58	55	49	47	45	38	37	35	30																				
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	31	26																				
4	74	63	56	50	67	58	52	47	48	44	40	39	36	33	31	29	27	23																				
5	68	57	49	43	62	52	45	40	44	38	34	36	32	29	28	26	23	20																				
6	63	51	43	37	57	47	40	35	39	34	30	32	28	26	26	23	21	18																				
7	58	46	38	33	53	42	36	31	36	31	27	29	26	23	23	21	19	16																				
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	14																				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13																				
10	47	35	28	23	43	33	26	22	28	23	19	23	19	17	19	16	14	12																				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	23675	23675	23675
5°	23765	23378	23506
10°	23582	22996	22799
15°	23311	22313	21670
20°	22936	21340	20270
25°	22552	20236	18912
30°	22018	19099	17169
35°	21498	17864	15640
40°	20976	16585	13873
45°	20361	15150	12271
50°	19733	13700	10698
55°	19088	12141	9188
60°	18338	10498	7627
65°	17490	8821	6946
70°	16475	7265	6387
75°	15234	6625	5958
80°	13445	5923	5430
85°	10578	4668	4668



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.2	1.9
10°-20°	376.8	5.1
20°-30°	529.2	7.2
30°-40°	577.1	7.9
40°-50°	530.6	7.3
50°-60°	416.7	5.7
60°-70°	271.7	3.7
70°-80°	140.1	1.9
80°-90°	42.5	0.6
90°-100°	97.4	1.3
100°-110°	302.4	4.1
110°-120°	516.9	7.1
120°-130°	679.7	9.3
130°-140°	762.9	10.4
140°-150°	748.1	10.2
150°-160°	627.4	8.6
160°-170°	416.2	5.7
170°-180°	145.5	2.0
0°-30°	1043.3	14.3
0°-40°	1620.3	22.1
0°-60°	2567.6	35.1
0°-90°	3021.9	41.3
90°-120°	916.6	12.5
90°-150°	3107.4	42.5
90°-180°	4296.0	58.7
0°-180°	7318.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1466	1459	1442	1453	1450	139
15°	1395	1378	1335	1310	1296	393
25°	1266	1221	1136	1083	1062	582
35°	1091	1020	906	826	794	682
45°	892	800	664	573	537	688
55°	678	572	431	355	326	606
65°	458	350	231	188	182	454
75°	244	154	106	97	96	258
85°	57	31	25	25	25	67
90°	1	18	45	43	44	6
95°	67	80	83	83	80	77
105°	279	283	285	288	288	294
115°	519	526	524	522	519	513
125°	755	765	762	759	757	674
135°	976	990	993	992	988	754
145°	1185	1194	1202	1203	1198	740
155°	1355	1359	1363	1369	1365	623
165°	1474	1473	1473	1481	1476	416
175°	1534	1530	1527	1536	1529	146
180°	1536	1536	1536	1536	1536	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1471.6	1470.4	1469.2	1468.0	1466.9	1465.0	1462.4	1459.8	1457.2	1454.6	1457.0
5°	1466.3	1464.8	1463.3	1461.8	1460.4	1457.7	1453.9	1450.1	1446.2	1442.4	1445.0
7.5°	1451.1	1449.3	1447.5	1445.7	1443.8	1440.7	1436.2	1431.7	1427.2	1422.7	1423.5
10°	1438.4	1436.3	1434.3	1432.2	1430.1	1426.2	1420.3	1414.4	1408.5	1402.6	1401.7
12.5°	1422.5	1419.9	1417.4	1414.9	1412.3	1407.3	1399.7	1392.2	1384.6	1377.1	1375.5
15°	1394.6	1391.4	1388.1	1384.9	1381.6	1375.0	1365.0	1355.0	1344.9	1334.9	1329.3
17.5°	1360.4	1355.4	1350.5	1345.5	1340.6	1331.7	1318.8	1305.9	1293.1	1280.2	1273.6
20°	1334.9	1329.0	1323.1	1317.2	1311.3	1301.0	1286.2	1271.5	1256.8	1242.0	1234.6
22.5°	1307.3	1300.7	1294.1	1287.5	1280.9	1269.3	1252.6	1236.0	1219.4	1202.7	1193.2
25°	1265.9	1256.5	1247.0	1237.6	1228.2	1213.7	1194.2	1174.8	1155.3	1135.9	1123.8
27.5°	1216.0	1205.7	1195.5	1185.2	1175.0	1158.9	1136.9	1115.0	1093.0	1071.1	1057.0
30°	1181.0	1169.8	1158.6	1147.4	1136.2	1118.8	1095.2	1071.6	1048.0	1024.4	1009.4
32.5°	1147.0	1133.9	1120.8	1107.7	1094.6	1076.1	1052.0	1027.9	1003.9	979.8	962.7
35°	1090.7	1075.7	1060.7	1045.6	1030.6	1010.1	984.1	958.2	932.3	906.3	887.7
37.5°	1034.5	1018.0	1001.5	984.9	968.4	946.3	918.7	891.0	863.4	835.7	815.2
40°	995.2	977.5	959.8	942.1	924.4	901.3	872.7	844.1	815.5	786.9	765.9
42.5°	954.9	936.2	917.6	899.0	880.3	856.2	826.7	797.1	767.6	738.0	716.4
45°	891.7	871.9	852.2	832.4	812.7	787.3	756.4	725.4	694.4	663.5	642.5
47.5°	830.1	809.2	788.3	767.3	746.4	719.9	688.0	656.0	624.0	592.1	571.3
50°	785.6	764.6	743.7	722.7	701.8	675.1	642.7	610.2	577.8	545.4	525.0
52.5°	742.0	720.1	698.3	676.4	654.5	627.7	596.0	564.2	532.5	500.8	481.1
55°	678.1	655.1	632.1	609.1	586.1	558.6	526.8	494.9	463.1	431.3	413.6
57.5°	612.5	588.9	565.3	541.7	518.2	491.1	460.4	429.8	399.2	368.6	352.4
60°	567.9	544.3	520.8	497.2	473.6	446.6	416.2	385.8	355.5	325.1	310.1
62.5°	524.4	500.8	477.2	453.6	430.0	403.8	374.8	345.9	316.9	287.9	273.6
65°	457.8	433.9	410.0	386.1	362.3	337.0	310.5	284.0	257.4	230.9	220.9
67.5°	393.6	369.9	346.2	322.4	298.7	274.9	251.1	227.2	203.3	179.4	174.8
70°	349.0	326.0	303.0	280.0	257.0	235.3	215.0	194.6	174.3	153.9	151.0
72.5°	306.5	284.5	262.4	240.4	218.3	199.1	182.8	166.4	150.1	133.8	131.3
75°	244.2	223.5	202.9	182.2	161.6	146.3	136.2	126.2	116.2	106.2	104.1
77.5°	182.9	164.7	146.6	128.5	110.4	99.0	94.1	89.3	84.5	79.6	78.4
80°	144.6	129.6	114.6	99.5	84.5	75.5	72.5	69.6	66.6	63.7	62.5
82.5°	109.6	97.9	86.1	74.4	62.7	55.8	53.8	51.8	49.8	47.8	47.1
85°	57.1	50.9	44.7	38.5	32.3	28.8	27.9	27.0	26.1	25.2	25.2
87.5°	17.2	16.0	14.9	13.7	12.5	12.5	13.8	15.0	16.3	17.6	17.2
90°	1.3	4.8	8.2	11.7	15.1	20.0	26.4	32.7	39.0	45.4	44.8
92.5°	23.1	25.6	28.2	30.7	33.2	35.2	36.7	38.2	39.7	41.2	41.3
95°	67.4	70.3	73.2	76.1	79.0	80.7	81.3	81.8	82.4	83.0	83.0
97.5°	123.2	125.7	128.3	130.8	133.3	135.1	136.2	137.3	138.4	139.5	139.5
100°	164.7	167.0	169.3	171.6	173.9	175.5	176.3	177.2	178.1	178.9	178.9
102.5°	208.2	210.1	211.9	213.8	215.6	217.1	218.2	219.3	220.4	221.5	221.7
105°	278.8	279.6	280.5	281.4	282.2	283.0	283.5	284.1	284.7	285.3	285.8
107.5°	349.8	351.1	352.4	353.6	354.9	355.5	355.5	355.5	355.5	355.5	355.8
110°	395.5	397.2	398.9	400.7	402.4	403.3	403.3	403.3	403.3	403.3	403.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	445.3	447.0	448.7	450.5	452.2	452.9	452.7	452.5	452.2	452.0	451.3
115°	518.7	520.4	522.1	523.8	525.6	526.1	525.6	525.0	524.4	523.8	523.6
117.5°	591.8	594.1	596.4	598.7	601.0	601.4	599.7	598.1	596.5	594.9	594.2
120°	640.5	642.8	645.2	647.5	649.8	649.8	647.5	645.2	642.8	640.5	640.5
122.5°	685.1	687.9	690.7	693.4	696.2	696.8	695.2	693.6	691.9	690.3	689.6
125°	754.6	757.2	759.8	762.4	765.0	765.9	765.0	764.2	763.3	762.4	761.6
127.5°	822.3	825.6	828.9	832.2	835.5	836.6	835.6	834.5	833.5	832.4	831.4
130°	864.9	868.6	872.4	876.1	879.8	881.4	880.9	880.3	879.7	879.1	878.5
132.5°	912.6	915.6	918.7	921.7	924.8	926.4	926.5	926.6	926.7	926.8	925.6
135°	976.4	979.5	982.7	985.9	989.1	990.9	991.5	992.1	992.7	993.2	992.9
137.5°	1043.5	1046.1	1048.7	1051.3	1053.9	1055.6	1056.3	1057.1	1057.8	1058.6	1058.4
140°	1084.0	1086.6	1089.2	1091.8	1094.4	1096.4	1097.8	1099.3	1100.7	1102.1	1102.1
142.5°	1125.5	1128.1	1130.7	1133.3	1135.9	1137.6	1138.6	1139.6	1140.6	1141.6	1141.8
145°	1185.1	1187.2	1189.2	1191.2	1193.2	1195.1	1196.8	1198.5	1200.3	1202.0	1202.3
147.5°	1238.3	1240.7	1243.1	1245.6	1248.0	1249.8	1250.9	1252.1	1253.2	1254.4	1255.0
150°	1274.6	1276.3	1278.1	1279.8	1281.5	1283.0	1284.1	1285.3	1286.4	1287.6	1288.4
152.5°	1306.8	1308.5	1310.2	1311.9	1313.7	1315.2	1316.6	1318.0	1319.4	1320.8	1321.9
155°	1355.0	1355.9	1356.7	1357.6	1358.5	1359.3	1360.2	1361.0	1361.9	1362.8	1364.2
157.5°	1396.2	1396.8	1397.4	1398.0	1398.5	1399.1	1399.6	1400.1	1400.6	1401.2	1403.1
160°	1421.1	1421.7	1422.3	1422.9	1423.4	1423.9	1424.1	1424.4	1424.7	1425.0	1426.7
162.5°	1443.9	1444.1	1444.2	1444.3	1444.4	1444.6	1444.9	1445.2	1445.5	1445.8	1447.7
165°	1474.3	1474.0	1473.7	1473.4	1473.1	1473.0	1473.0	1473.0	1473.0	1473.0	1475.0
167.5°	1499.7	1498.8	1498.0	1497.1	1496.2	1495.8	1495.7	1495.7	1495.6	1495.5	1497.6
170°	1513.2	1512.3	1511.5	1510.6	1509.7	1509.2	1508.9	1508.6	1508.3	1508.0	1510.0
172.5°	1522.5	1521.7	1520.8	1519.9	1519.1	1518.5	1518.2	1517.9	1517.6	1517.3	1519.4
175°	1533.9	1533.1	1532.2	1531.3	1530.5	1529.8	1529.2	1528.6	1528.0	1527.4	1529.5
177.5°	1538.6	1537.9	1537.2	1536.5	1535.8	1535.3	1534.8	1534.3	1533.9	1533.4	1534.8
180°	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1459.3	1461.7	1464.0	1465.0	1464.5	1464.0	1463.6	1463.1
5°	1447.7	1450.3	1453.0	1453.9	1453.0	1452.1	1451.2	1450.3
7.5°	1424.3	1425.0	1425.8	1425.4	1423.9	1422.4	1420.8	1419.3
10°	1400.8	1399.9	1399.0	1397.7	1395.9	1394.2	1392.4	1390.6
12.5°	1373.9	1372.3	1370.7	1368.5	1365.5	1362.6	1359.6	1356.7
15°	1323.7	1318.1	1312.5	1308.2	1305.3	1302.3	1299.4	1296.4
17.5°	1266.9	1260.2	1253.6	1247.7	1242.6	1237.6	1232.5	1227.4
20°	1227.3	1219.9	1212.5	1205.6	1199.1	1192.6	1186.1	1179.7
22.5°	1183.8	1174.3	1164.8	1157.6	1152.8	1147.9	1143.1	1138.3
25°	1111.7	1099.6	1087.5	1079.2	1074.8	1070.4	1066.0	1061.6
27.5°	1042.9	1028.8	1014.7	1004.2	997.2	990.1	983.1	976.1
30°	994.3	979.3	964.2	952.7	944.8	936.8	928.9	920.9
32.5°	945.5	928.3	911.2	898.8	891.4	883.9	876.4	868.9
35°	869.1	850.6	832.0	819.5	813.0	806.5	800.0	793.5
37.5°	794.8	774.3	753.9	739.9	732.5	725.0	717.6	710.2
40°	745.0	724.1	703.1	688.8	681.2	673.5	665.8	658.2
42.5°	694.8	673.1	651.5	636.9	629.5	622.1	614.6	607.2
45°	621.6	600.7	579.7	565.7	558.6	551.6	544.5	537.4
47.5°	550.4	529.6	508.8	495.2	488.8	482.3	475.9	469.5
50°	504.7	484.3	464.0	450.7	444.5	438.3	432.1	425.9
52.5°	461.5	441.9	422.2	409.6	403.8	398.1	392.4	386.7
55°	395.9	378.2	360.5	348.8	343.2	337.6	332.0	326.4
57.5°	336.2	320.0	303.8	293.3	288.6	283.8	279.1	274.4
60°	295.0	280.0	264.9	255.1	250.3	245.6	240.9	236.2
62.5°	259.3	245.0	230.6	222.0	219.2	216.4	213.5	210.7
65°	210.8	200.8	190.8	185.3	184.4	183.6	182.7	181.8
67.5°	170.2	165.6	161.0	158.2	157.3	156.3	155.4	154.5
70°	148.0	145.1	142.1	140.1	138.9	137.7	136.5	135.3
72.5°	128.8	126.3	123.8	122.3	121.5	120.8	120.1	119.4
75°	102.0	100.0	97.9	96.7	96.4	96.1	95.8	95.5
77.5°	77.3	76.1	74.9	74.1	73.6	73.1	72.7	72.2
80°	61.3	60.2	59.0	58.4	58.4	58.4	58.4	58.4
82.5°	46.4	45.6	44.9	44.6	44.6	44.6	44.6	44.6
85°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
87.5°	16.9	16.5	16.2	16.0	16.1	16.1	16.2	16.2
90°	44.2	43.7	43.1	42.9	43.2	43.5	43.8	44.1
92.5°	41.5	41.6	41.7	41.8	41.8	41.9	42.0	42.0
95°	83.0	83.0	83.0	82.7	82.1	81.5	81.0	80.4
97.5°	139.5	139.5	139.5	139.5	139.4	139.4	139.3	139.3
100°	178.9	178.9	178.9	178.8	178.5	178.2	177.9	177.6
102.5°	221.9	222.2	222.4	222.4	222.1	221.8	221.5	221.2
105°	286.4	287.0	287.6	287.9	287.9	287.9	287.9	287.9
107.5°	356.0	356.2	356.5	355.9	354.6	353.3	351.9	350.6
110°	403.3	403.3	403.3	402.8	402.0	401.1	400.2	399.4





TEST NUMBER: P331840

CATALOG NUMBER: S122RDIW-S865D1240U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	450.6	449.9	449.2	448.6	447.9	447.3	446.7	446.0
115°	523.3	523.0	522.7	522.1	521.3	520.4	519.5	518.7
117.5°	593.5	592.8	592.1	591.4	590.5	589.6	588.8	587.9
120°	640.5	640.5	640.5	640.1	639.2	638.4	637.5	636.7
122.5°	689.0	688.3	687.6	686.9	686.3	685.6	685.0	684.4
125°	760.7	759.8	759.0	758.4	758.1	757.8	757.5	757.2
127.5°	830.4	829.3	828.3	827.3	826.4	825.5	824.6	823.6
130°	878.0	877.4	876.8	876.0	874.8	873.7	872.5	871.3
132.5°	924.3	923.0	921.8	920.7	919.8	918.8	917.9	917.0
135°	992.7	992.4	992.1	991.5	990.6	989.8	988.9	988.0
137.5°	1058.1	1057.9	1057.7	1057.0	1055.8	1054.7	1053.5	1052.4
140°	1102.1	1102.1	1102.1	1101.6	1100.4	1099.3	1098.1	1097.0
142.5°	1142.0	1142.3	1142.5	1142.0	1140.9	1139.7	1138.6	1137.4
145°	1202.6	1202.9	1203.1	1202.7	1201.6	1200.4	1199.3	1198.1
147.5°	1255.6	1256.3	1256.9	1256.7	1255.6	1254.5	1253.4	1252.3
150°	1289.3	1290.2	1291.0	1291.0	1290.2	1289.3	1288.4	1287.6
152.5°	1323.0	1324.0	1325.1	1325.1	1324.0	1323.0	1321.9	1320.8
155°	1365.7	1367.1	1368.5	1368.8	1368.0	1367.1	1366.2	1365.4
157.5°	1405.1	1407.0	1409.0	1409.3	1407.9	1406.5	1405.1	1403.7
160°	1428.5	1430.2	1431.9	1432.2	1431.1	1429.9	1428.8	1427.6
162.5°	1449.7	1451.6	1453.6	1453.9	1452.5	1451.1	1449.7	1448.4
165°	1477.0	1479.0	1481.1	1481.3	1479.9	1478.5	1477.0	1475.6
167.5°	1499.6	1501.6	1503.6	1503.9	1502.4	1500.9	1499.4	1497.9
170°	1512.0	1514.0	1516.1	1516.2	1514.5	1512.8	1511.0	1509.3
172.5°	1521.4	1523.4	1525.4	1525.5	1523.8	1522.1	1520.4	1518.6
175°	1531.5	1533.5	1535.5	1535.7	1533.9	1532.2	1530.5	1528.7
177.5°	1536.2	1537.6	1538.9	1538.9	1537.6	1536.2	1534.8	1533.4
180°	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5

(END OF REPORT)