

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: P331839-830

Luminaire Tested: **S122RDIW-S865D1240U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331839-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S865D1240U830-4F0-1E-UDD-F  
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, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7515.9 lumens  
Efficiency: N/A  
Efficacy: 107.7 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: Semi-Indirect

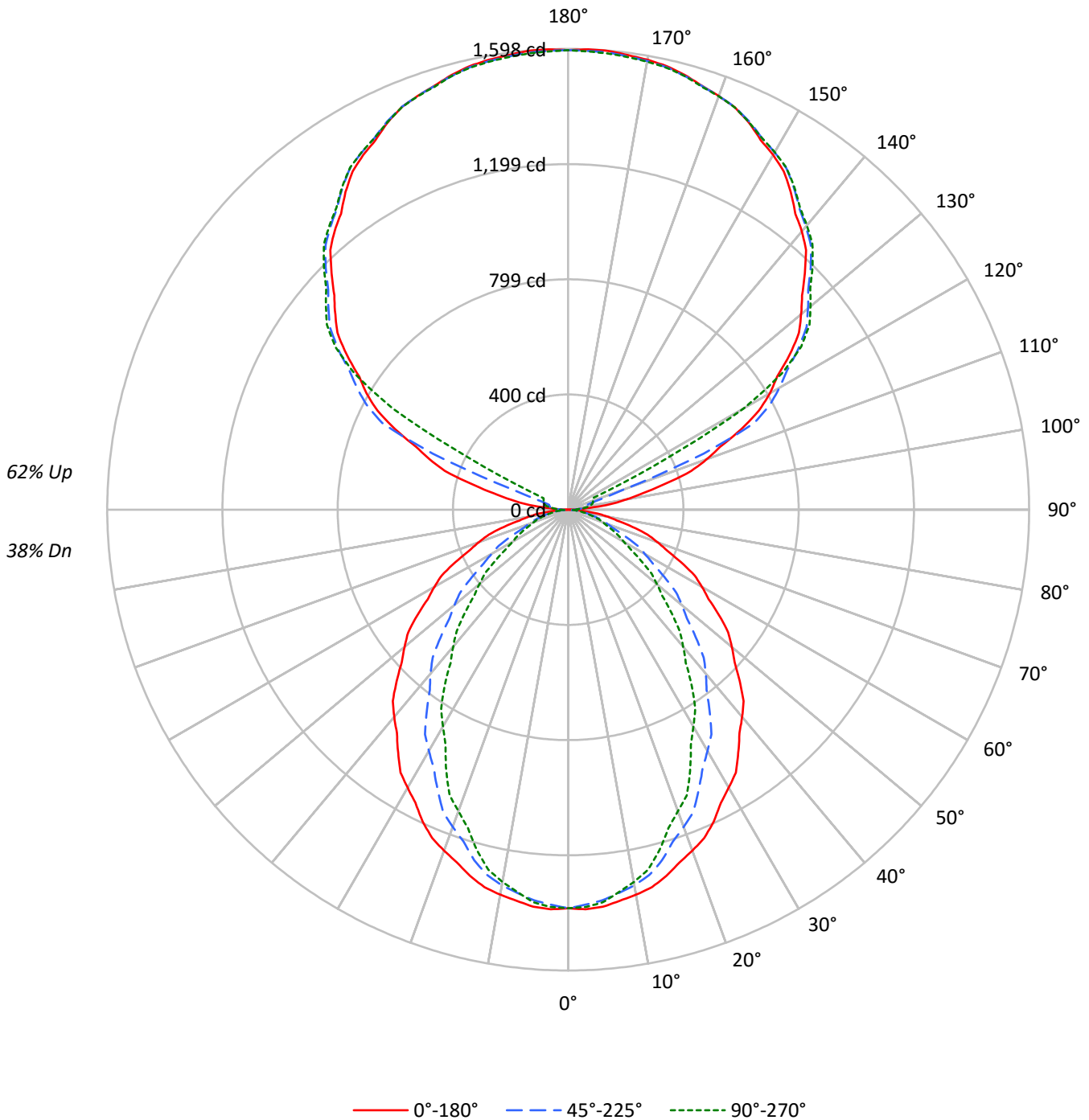
Input Watts (W): 69.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	88	84	86	83	80	77	68	65	63	53	52	51	40	39	39	33
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	34	33	28
3	80	71	64	58	72	65	59	54	53	49	45	42	39	37	32	30	29	24
4	73	63	55	49	66	57	51	46	47	42	39	38	34	32	29	27	25	21
5	67	56	48	43	61	51	45	39	42	37	33	34	30	28	26	24	22	18
6	62	50	43	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	17	15
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16	13
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	19	16	14	12
10	46	35	28	23	42	32	26	22	27	22	19	22	18	16	17	15	13	11

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

	0°	45°	90°
0°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.4	1.7
10°-20°	355.2	4.7
20°-30°	498.8	6.6
30°-40°	543.9	7.2
40°-50°	500.1	6.7
50°-60°	392.8	5.2
60°-70°	256.1	3.4
70°-80°	132.0	1.8
80°-90°	38.2	0.5
90°-100°	53.1	0.7
100°-110°	194.9	2.6
110°-120°	521.0	6.9
120°-130°	860.1	11.4
130°-140°	914.7	12.2
140°-150°	850.1	11.3
150°-160°	683.5	9.1
160°-170°	440.5	5.9
170°-180°	151.6	2.0
0°-30°	983.3	13.1
0°-40°	1527.2	20.3
0°-60°	2420.1	32.2
0°-90°	2846.4	37.9
90°-120°	769.1	10.2
90°-150°	3394.0	45.2
90°-180°	4670.0	62.1
0°-180°	7515.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	1	14	23	29	31	6
95°	75	39	45	50	50	92
105°	350	366	70	83	88	375
115°	663	683	711	203	94	653
125°	937	953	974	982	986	835
135°	1160	1178	1189	1200	1198	896
145°	1346	1346	1364	1371	1366	841
155°	1482	1472	1485	1491	1483	682
165°	1561	1555	1558	1565	1558	441
175°	1597	1589	1591	1598	1588	152
180°	1593	1593	1593	1593	1593	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.2	15.0	13.9	12.6	11.4	10.9	11.4	11.8	12.3	12.6	12.6
90°	1.1	4.0	6.8	9.6	12.4	14.9	16.9	18.9	21.0	23.1	24.3
92.5°	23.3	23.0	22.8	22.5	22.2	22.6	23.7	24.7	25.7	26.8	27.4
95°	74.9	66.4	58.1	49.6	41.1	37.8	39.6	41.4	43.2	45.0	46.3
97.5°	148.7	124.9	101.0	77.3	53.4	43.5	47.7	51.8	56.1	60.2	61.2
100°	204.1	169.0	133.8	98.8	63.7	48.3	52.7	57.0	61.4	65.7	67.8
102.5°	264.9	257.5	250.1	242.7	235.3	213.3	176.8	140.4	104.0	67.6	70.2
105°	350.5	358.2	365.9	373.5	381.3	350.2	280.2	210.2	140.3	70.3	73.1
107.5°	448.1	454.2	460.4	466.7	472.9	434.0	350.2	266.3	182.4	98.5	95.6
110°	510.8	516.1	521.5	526.9	532.3	497.9	424.0	349.9	275.8	201.8	176.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	569.8	574.6	579.3	584.1	588.9	582.1	563.8	545.5	527.3	508.9	415.5
115°	663.0	667.3	671.7	676.0	680.4	685.8	692.2	698.6	705.0	711.4	592.8
117.5°	746.2	751.1	755.9	760.8	765.7	770.3	774.7	779.1	783.5	788.0	759.2
120°	807.1	811.0	814.7	818.6	822.5	826.7	831.3	835.9	840.6	845.1	848.2
122.5°	858.8	862.8	866.9	870.9	875.0	879.5	884.5	889.5	894.6	899.6	901.4
125°	937.4	940.7	944.1	947.3	950.6	954.8	959.7	964.5	969.4	974.3	976.1
127.5°	1008.6	1012.3	1016.0	1019.7	1023.4	1027.1	1030.7	1034.3	1037.9	1041.6	1044.2
130°	1053.9	1057.9	1062.1	1066.1	1070.3	1073.7	1076.5	1079.3	1082.1	1085.0	1087.8
132.5°	1099.9	1103.4	1106.9	1110.4	1113.9	1117.0	1119.8	1122.7	1125.5	1128.3	1130.7
135°	1159.9	1163.9	1168.1	1172.1	1176.3	1179.5	1181.8	1184.1	1186.4	1188.7	1191.3
137.5°	1220.5	1223.4	1226.2	1229.2	1232.0	1234.7	1237.4	1240.0	1242.6	1245.2	1247.7
140°	1260.2	1262.3	1264.3	1266.3	1268.4	1270.8	1273.7	1276.5	1279.3	1282.1	1284.4
142.5°	1293.5	1295.2	1297.1	1298.9	1300.8	1303.3	1306.6	1309.8	1313.0	1316.3	1318.3
145°	1345.5	1345.3	1345.0	1344.7	1344.5	1346.5	1350.9	1355.3	1359.6	1364.0	1365.7
147.5°	1390.9	1390.0	1389.0	1388.0	1387.0	1388.7	1393.0	1397.3	1401.7	1405.9	1407.3
150°	1420.5	1418.7	1416.9	1415.0	1413.2	1414.5	1418.5	1422.7	1426.7	1430.9	1432.4
152.5°	1445.4	1443.4	1441.3	1439.4	1437.4	1438.3	1442.2	1446.1	1450.0	1453.9	1455.5
155°	1481.6	1479.2	1477.0	1474.6	1472.3	1472.7	1475.8	1478.8	1482.0	1485.1	1486.6
157.5°	1510.0	1508.0	1506.0	1504.1	1502.1	1502.2	1504.4	1506.6	1508.7	1510.9	1512.6
160°	1526.5	1525.0	1523.4	1521.9	1520.4	1520.4	1521.9	1523.4	1525.0	1526.5	1528.0
162.5°	1541.3	1539.7	1538.2	1536.7	1535.1	1535.0	1536.3	1537.7	1539.1	1540.4	1542.1
165°	1561.1	1559.6	1558.0	1556.5	1555.0	1554.6	1555.4	1556.1	1556.9	1557.6	1559.4
167.5°	1575.9	1574.3	1572.8	1571.3	1569.7	1569.3	1570.1	1570.7	1571.5	1572.2	1574.0
170°	1584.2	1582.6	1581.1	1579.6	1578.0	1577.5	1578.0	1578.6	1579.0	1579.6	1581.4
172.5°	1589.7	1588.2	1586.7	1585.1	1583.6	1583.1	1583.6	1584.0	1584.6	1585.1	1586.9
175°	1596.9	1595.1	1593.3	1591.5	1589.7	1589.0	1589.6	1590.1	1590.6	1591.1	1592.9
177.5°	1598.0	1596.6	1595.2	1593.7	1592.2	1591.7	1591.9	1592.0	1592.2	1592.5	1593.9
180°	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	12.7	12.7	12.7	12.8	12.9	13.0	13.1	13.2
90°	25.6	26.9	28.2	29.1	29.6	30.1	30.6	31.1
92.5°	28.1	28.7	29.4	29.9	30.2	30.5	30.8	31.1
95°	47.5	48.8	50.0	50.6	50.3	50.0	49.9	49.6
97.5°	62.2	63.2	64.3	64.9	65.2	65.6	65.9	66.2
100°	69.8	71.8	73.9	75.2	75.7	76.3	76.7	77.3
102.5°	72.9	75.6	78.2	79.9	80.6	81.3	82.1	82.8
105°	76.0	78.8	81.6	83.5	84.5	85.6	86.6	87.7
107.5°	92.7	89.8	87.0	86.1	87.1	88.1	89.2	90.2
110°	150.5	124.9	99.2	87.0	88.0	89.1	90.1	91.0





TEST NUMBER: P331839-830

CATALOG NUMBER: S122RDIW-S865D1240U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	322.0	228.6	135.1	88.7	89.5	90.4	91.1	92.0
115°	474.1	355.5	236.9	168.3	149.9	131.5	113.0	94.5
117.5°	730.6	701.8	673.2	628.5	567.9	507.3	446.7	386.0
120°	851.3	854.3	857.4	841.7	807.1	772.5	737.9	703.3
122.5°	903.2	905.1	906.9	904.5	897.8	891.1	884.4	877.6
125°	977.9	979.7	981.5	982.7	983.4	984.3	985.1	985.8
127.5°	1046.8	1049.4	1052.1	1053.5	1053.6	1053.8	1053.9	1054.0
130°	1090.6	1093.4	1096.2	1097.5	1097.2	1097.0	1096.7	1096.5
132.5°	1133.1	1135.5	1137.9	1139.0	1138.8	1138.5	1138.2	1138.0
135°	1193.8	1196.4	1199.0	1200.0	1199.5	1199.0	1198.4	1198.0
137.5°	1250.2	1252.7	1255.3	1256.0	1255.2	1254.3	1253.5	1252.5
140°	1286.8	1289.0	1291.4	1291.8	1290.5	1289.3	1288.0	1286.8
142.5°	1320.4	1322.6	1324.6	1325.0	1323.8	1322.5	1321.2	1319.9
145°	1367.5	1369.3	1371.1	1371.4	1370.1	1368.9	1367.5	1366.3
147.5°	1408.6	1409.9	1411.3	1411.4	1410.3	1409.2	1408.2	1407.1
150°	1433.9	1435.5	1437.0	1437.1	1435.9	1434.5	1433.2	1432.0
152.5°	1457.0	1458.5	1460.1	1460.0	1458.3	1456.6	1454.9	1453.2
155°	1488.1	1489.7	1491.2	1490.9	1488.8	1486.9	1484.8	1482.7
157.5°	1514.4	1516.1	1517.9	1517.7	1515.7	1513.7	1511.7	1509.7
160°	1529.7	1531.2	1532.7	1532.6	1530.8	1529.0	1527.2	1525.4
162.5°	1543.9	1545.6	1547.4	1547.1	1544.9	1542.7	1540.5	1538.3
165°	1561.2	1563.0	1564.8	1564.8	1563.0	1561.2	1559.4	1557.6
167.5°	1575.7	1577.5	1579.3	1579.1	1576.8	1574.5	1572.2	1569.9
170°	1583.2	1585.0	1586.8	1586.5	1584.2	1581.9	1579.6	1577.3
172.5°	1588.7	1590.4	1592.2	1592.0	1589.7	1587.4	1585.1	1582.8
175°	1594.7	1596.5	1598.3	1597.9	1595.3	1592.8	1590.2	1587.6
177.5°	1595.3	1596.8	1598.3	1598.0	1596.2	1594.3	1592.5	1590.6
180°	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4	1593.4

(END OF REPORT)