

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: P331835-830

Luminaire Tested: **S122RDIW-S865D970U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331835-830
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-S865D970U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6493.1 lumens
Efficiency: N/A
Efficacy: 106.1 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

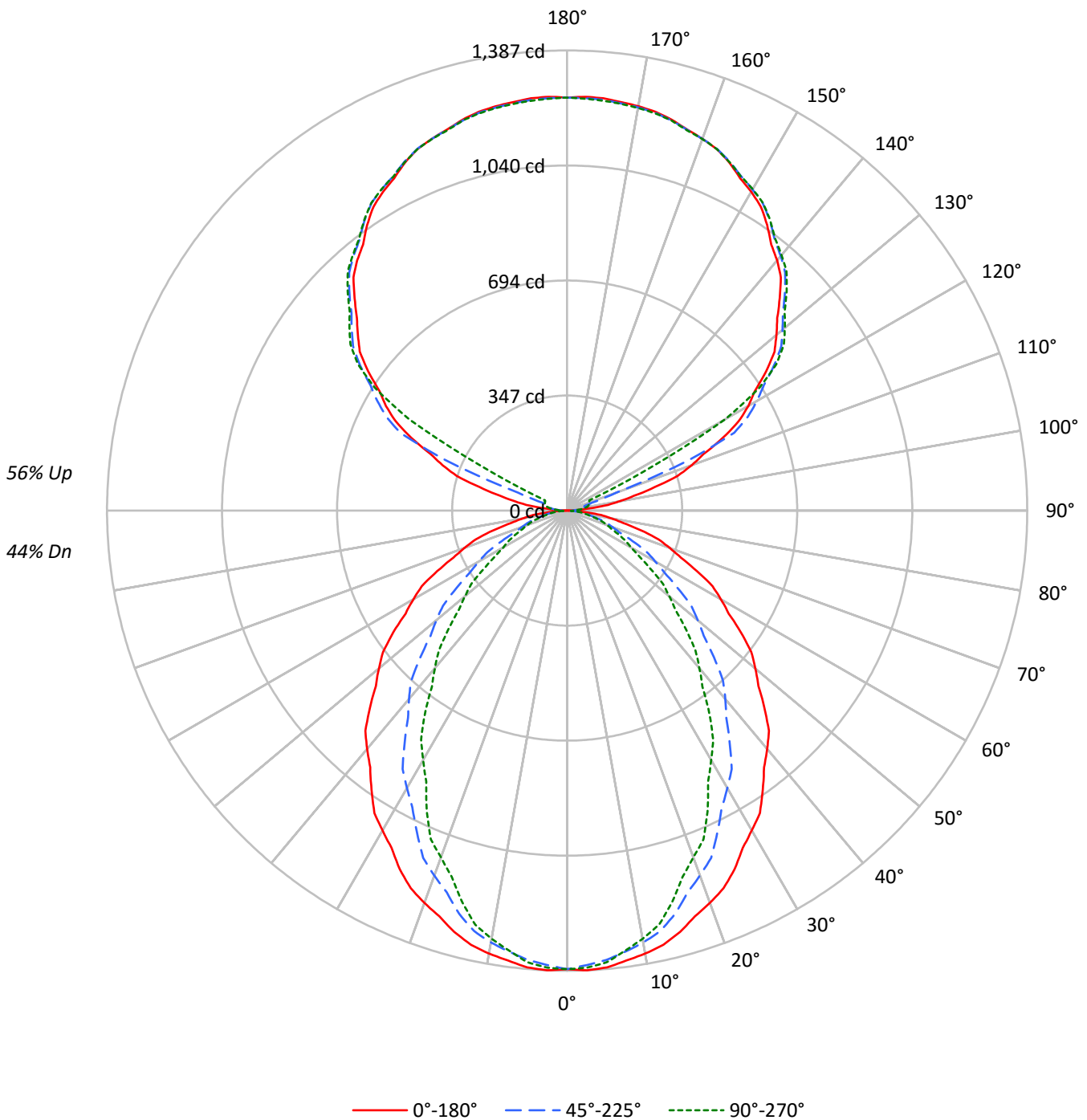
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	80	80	80	65	65	65	50	50	50	44
1	97	93	89	86	88	85	82	79	71	68	66	57	56	55	45	44	43	38
2	88	81	76	71	81	75	70	65	62	59	56	51	48	46	40	39	37	32
3	81	72	65	59	74	66	60	55	55	51	47	45	42	40	36	34	32	28
4	74	64	56	50	68	59	52	47	49	45	41	41	37	34	33	30	28	24
5	68	57	49	43	62	53	46	41	44	39	35	37	33	30	29	27	25	21
6	63	51	44	38	58	47	41	36	40	35	31	33	29	26	27	24	22	19
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	25	22	20	17
8	54	42	35	30	50	39	32	28	33	28	24	28	24	21	23	20	18	15
9	50	39	31	26	46	36	29	25	31	26	22	26	22	19	21	18	16	14
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	20	17	15	13

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	2.0
10°-20°	355.2	5.5
20°-30°	498.8	7.7
30°-40°	543.9	8.4
40°-50°	500.1	7.7
50°-60°	392.8	6.0
60°-70°	256.1	3.9
70°-80°	132.0	2.0
80°-90°	37.3	0.6
90°-100°	41.5	0.6
100°-110°	152.3	2.3
110°-120°	407.0	6.3
120°-130°	671.8	10.3
130°-140°	714.5	11.0
140°-150°	664.1	10.2
150°-160°	533.9	8.2
160°-170°	344.1	5.3
170°-180°	118.4	1.8
0°-30°	983.3	15.1
0°-40°	1527.2	23.5
0°-60°	2420.1	37.3
0°-90°	2845.5	43.8
90°-120°	600.8	9.3
90°-150°	2651.1	40.8
90°-180°	3648.0	56.2
0°-180°	6493.1	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	11	18	22	24	5
95°	58	31	35	39	39	72
105°	274	286	55	64	68	293
115°	518	534	556	158	74	510
125°	732	744	761	767	770	653
135°	906	920	929	937	936	700
145°	1051	1051	1066	1071	1067	657
155°	1157	1150	1160	1165	1158	533
165°	1220	1215	1217	1222	1217	344
175°	1247	1242	1243	1248	1240	119
180°	1245	1245	1245	1245	1245	



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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	14.9	13.5	12.2	10.8	10.4	10.7	10.9	11.3	11.6	11.6
90°	0.9	3.1	5.3	7.5	9.7	11.6	13.2	14.8	16.4	18.0	19.0
92.5°	18.2	18.0	17.8	17.6	17.4	17.7	18.5	19.3	20.1	20.9	21.4
95°	58.5	51.9	45.3	38.7	32.1	29.5	30.9	32.3	33.7	35.2	36.1
97.5°	116.2	97.6	79.0	60.3	41.8	34.0	37.3	40.5	43.7	47.0	47.8
100°	159.4	132.0	104.5	77.2	49.8	37.7	41.1	44.5	48.0	51.4	53.0
102.5°	207.0	201.1	195.4	189.5	183.7	166.6	138.2	109.7	81.2	52.8	54.9
105°	273.8	279.8	285.8	291.8	297.8	273.5	218.9	164.2	109.6	55.0	57.1
107.5°	350.0	354.9	359.7	364.5	369.4	339.0	273.5	207.9	142.4	76.9	74.6
110°	399.0	403.2	407.4	411.6	415.8	389.0	331.1	273.3	215.5	157.6	137.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	445.1	448.8	452.5	456.3	460.0	454.7	440.5	426.1	411.8	397.6	324.5
115°	517.8	521.2	524.7	528.1	531.5	535.6	540.6	545.6	550.7	555.7	463.0
117.5°	582.9	586.7	590.5	594.3	598.1	601.7	605.2	608.6	612.1	615.5	593.0
120°	630.5	633.5	636.4	639.4	642.4	645.7	649.3	653.0	656.6	660.2	662.6
122.5°	670.8	673.9	677.1	680.2	683.4	687.0	690.9	694.8	698.7	702.7	704.1
125°	732.2	734.8	737.4	740.0	742.6	745.8	749.6	753.5	757.2	761.0	762.4
127.5°	787.9	790.8	793.6	796.5	799.4	802.3	805.1	807.9	810.8	813.6	815.7
130°	823.2	826.4	829.6	832.7	835.9	838.7	840.8	843.1	845.3	847.5	849.7
132.5°	859.2	862.0	864.7	867.3	870.1	872.5	874.8	876.9	879.1	881.4	883.3
135°	906.1	909.3	912.5	915.7	918.9	921.3	923.1	924.9	926.7	928.6	930.6
137.5°	953.4	955.6	957.9	960.2	962.3	964.5	966.6	968.6	970.6	972.7	974.7
140°	984.4	986.0	987.6	989.2	990.8	992.7	994.9	997.1	999.3	1001.5	1003.3
142.5°	1010.3	1011.7	1013.2	1014.6	1016.1	1018.0	1020.6	1023.1	1025.7	1028.1	1029.8
145°	1051.0	1050.8	1050.7	1050.5	1050.3	1051.9	1055.3	1058.7	1062.1	1065.5	1066.9
147.5°	1086.6	1085.7	1085.0	1084.2	1083.5	1084.8	1088.2	1091.5	1094.9	1098.3	1099.3
150°	1109.6	1108.1	1106.7	1105.4	1104.0	1104.8	1108.1	1111.3	1114.5	1117.7	1118.9
152.5°	1129.1	1127.5	1125.9	1124.4	1122.8	1123.5	1126.5	1129.6	1132.7	1135.7	1136.9
155°	1157.3	1155.5	1153.7	1151.9	1150.1	1150.4	1152.8	1155.2	1157.6	1160.0	1161.2
157.5°	1179.5	1178.0	1176.4	1174.9	1173.4	1173.5	1175.2	1176.9	1178.5	1180.2	1181.6
160°	1192.4	1191.3	1190.1	1188.8	1187.6	1187.6	1188.8	1190.1	1191.3	1192.4	1193.6
162.5°	1204.0	1202.8	1201.6	1200.3	1199.2	1199.1	1200.1	1201.2	1202.2	1203.2	1204.6
165°	1219.5	1218.2	1217.0	1215.9	1214.7	1214.4	1214.9	1215.5	1216.2	1216.7	1218.1
167.5°	1231.0	1229.7	1228.6	1227.4	1226.2	1225.9	1226.4	1227.0	1227.6	1228.1	1229.5
170°	1237.5	1236.2	1235.1	1233.9	1232.7	1232.3	1232.7	1233.0	1233.5	1233.9	1235.3
172.5°	1241.8	1240.6	1239.3	1238.2	1237.0	1236.6	1237.0	1237.4	1237.7	1238.2	1239.6
175°	1247.4	1245.9	1244.5	1243.2	1241.8	1241.2	1241.7	1242.1	1242.5	1242.8	1244.3
177.5°	1248.3	1247.2	1246.0	1244.9	1243.8	1243.3	1243.5	1243.6	1243.8	1244.0	1245.1
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6



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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°	11.6	11.5	11.5	11.6	11.6	11.7	11.8	11.9
90°	20.0	21.0	22.1	22.7	23.1	23.5	23.9	24.3
92.5°	22.0	22.4	23.0	23.4	23.6	23.8	24.0	24.3
95°	37.1	38.2	39.1	39.5	39.3	39.1	38.9	38.7
97.5°	48.6	49.4	50.2	50.7	51.0	51.2	51.5	51.7
100°	54.6	56.2	57.8	58.7	59.1	59.6	59.9	60.3
102.5°	56.9	59.0	61.1	62.4	63.0	63.5	64.1	64.7
105°	59.4	61.5	63.7	65.2	66.1	66.8	67.7	68.4
107.5°	72.4	70.2	68.0	67.2	68.1	68.8	69.7	70.4
110°	117.5	97.6	77.6	68.0	68.7	69.6	70.3	71.2



TEST NUMBER: P331835-830

CATALOG NUMBER: S122RDIW-S865D970U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	251.5	178.5	105.5	69.3	69.9	70.6	71.3	71.9
115°	370.3	277.7	185.0	131.5	117.1	102.6	88.2	73.9
117.5°	570.6	548.3	525.8	491.0	443.6	396.2	348.9	301.5
120°	665.0	667.3	669.8	657.4	630.5	603.4	576.4	549.4
122.5°	705.6	707.0	708.4	706.5	701.3	696.1	690.8	685.6
125°	763.8	765.3	766.7	767.6	768.3	768.8	769.4	770.1
127.5°	817.7	819.7	821.8	822.8	823.0	823.1	823.2	823.3
130°	851.9	854.1	856.3	857.3	857.1	856.9	856.7	856.5
132.5°	885.1	887.0	888.9	889.8	889.5	889.3	889.1	888.9
135°	932.6	934.5	936.5	937.4	937.0	936.5	936.1	935.8
137.5°	976.6	978.5	980.5	981.2	980.5	979.8	979.1	978.5
140°	1005.1	1006.9	1008.7	1009.1	1008.1	1007.1	1006.1	1005.1
142.5°	1031.4	1033.1	1034.7	1035.0	1034.1	1033.0	1032.1	1031.0
145°	1068.3	1069.7	1071.0	1071.3	1070.3	1069.2	1068.3	1067.2
147.5°	1100.3	1101.4	1102.4	1102.5	1101.6	1100.8	1099.9	1099.1
150°	1120.1	1121.2	1122.5	1122.6	1121.6	1120.6	1119.6	1118.6
152.5°	1138.1	1139.3	1140.5	1140.5	1139.2	1137.8	1136.5	1135.2
155°	1162.4	1163.6	1164.8	1164.6	1163.0	1161.4	1159.8	1158.2
157.5°	1182.9	1184.3	1185.6	1185.5	1183.9	1182.4	1180.8	1179.3
160°	1194.9	1196.0	1197.2	1197.1	1195.7	1194.3	1193.0	1191.6
162.5°	1206.0	1207.3	1208.7	1208.5	1206.7	1205.0	1203.3	1201.6
165°	1219.6	1221.0	1222.4	1222.4	1221.0	1219.6	1218.1	1216.7
167.5°	1230.9	1232.3	1233.7	1233.5	1231.7	1229.9	1228.1	1226.3
170°	1236.7	1238.0	1239.4	1239.3	1237.5	1235.7	1233.9	1232.1
172.5°	1241.0	1242.4	1243.8	1243.6	1241.8	1240.0	1238.2	1236.4
175°	1245.7	1247.1	1248.5	1248.2	1246.1	1244.2	1242.2	1240.2
177.5°	1246.2	1247.3	1248.4	1248.3	1246.8	1245.4	1244.0	1242.6
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6

(END OF REPORT)