

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: P331843-940

Luminaire Tested: **S122RDIW-S865D1440U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331843-940
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-S865D1440U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1440 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7829.8 lumens
Efficiency: N/A
Efficacy: 102.2 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

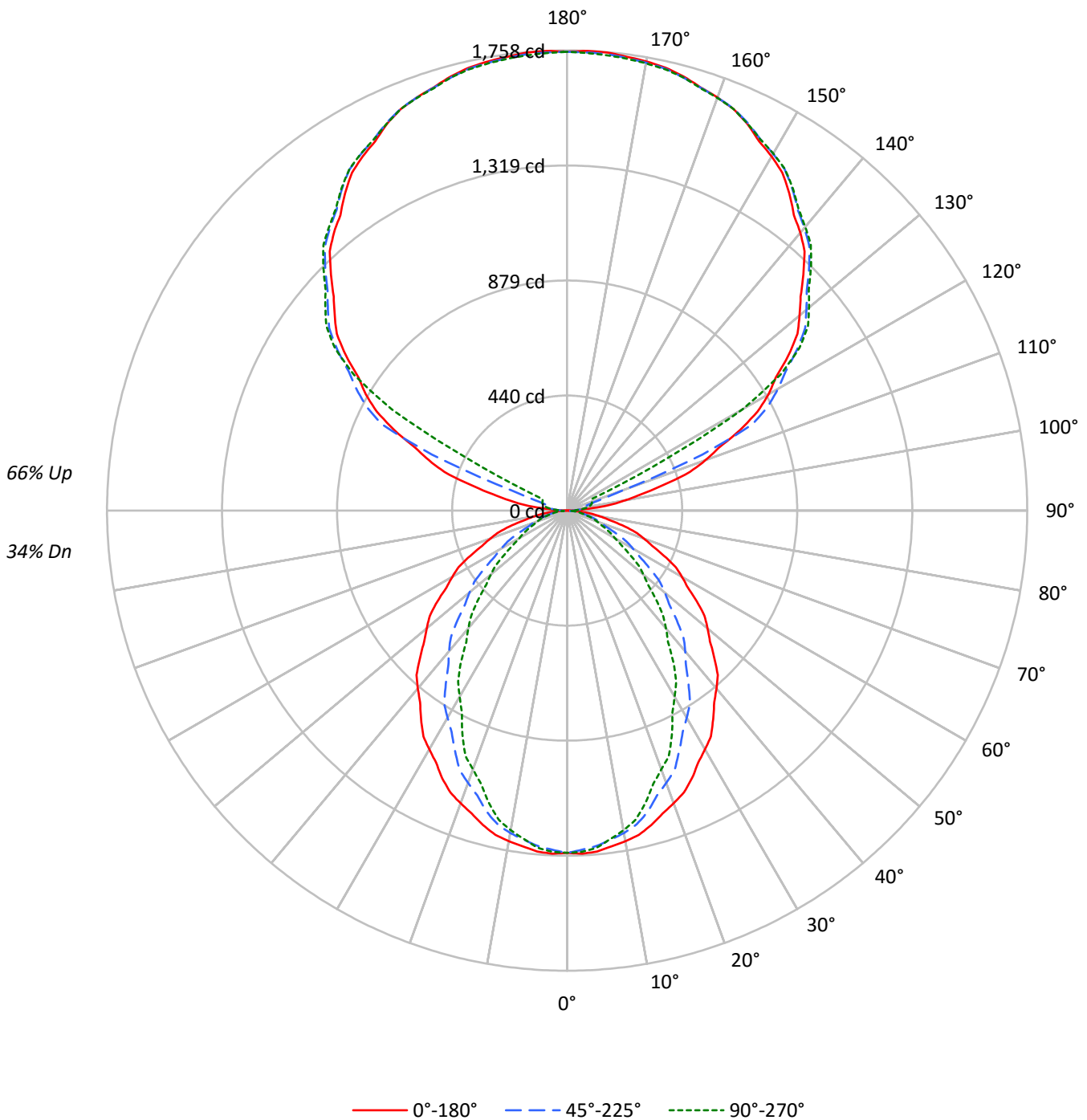
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42
1	95	91	87	84	85	82	79	76	66	64	62	51	50	48	37	37	36
2	86	79	74	69	78	72	67	63	58	55	52	45	43	41	33	32	31
3	79	70	63	58	71	64	58	53	51	47	44	40	37	35	30	28	26
4	72	62	55	49	65	56	50	45	46	41	38	36	33	30	27	25	23
5	66	55	48	42	60	50	44	39	41	36	32	32	29	26	24	22	20
6	61	50	42	36	55	45	39	34	37	32	28	29	26	23	22	20	18
7	57	45	37	32	51	41	34	30	34	29	25	27	23	21	20	18	16
8	53	41	33	28	47	37	31	26	31	26	22	25	21	18	19	16	15
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	17	15	13
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21111	21111	21111
5°	21191	20846	20960
10°	21028	20505	20330
15°	20787	19896	19323
20°	20452	19029	18076
25°	20110	18045	16864
30°	19634	17031	15310
35°	19170	15930	13947
40°	18704	14790	12370
45°	18155	13511	10942
50°	17595	12215	9540
55°	17022	10826	8194
60°	16353	9361	6801
65°	15595	7866	6193
70°	14691	6477	5693
75°	13587	5908	5315
80°	11985	5281	4844
85°	9429	4168	4168



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	1.6
10°-20°	336.0	4.3
20°-30°	471.9	6.0
30°-40°	514.6	6.6
40°-50°	473.1	6.0
50°-60°	371.6	4.7
60°-70°	242.3	3.1
70°-80°	124.9	1.6
80°-90°	36.7	0.5
90°-100°	58.5	0.7
100°-110°	214.4	2.7
110°-120°	573.1	7.3
120°-130°	946.0	12.1
130°-140°	1006.1	12.8
140°-150°	935.1	11.9
150°-160°	751.8	9.6
160°-170°	484.5	6.2
170°-180°	166.8	2.1
0°-30°	930.3	11.9
0°-40°	1444.9	18.5
0°-60°	2289.6	29.2
0°-90°	2693.5	34.4
90°-120°	846.0	10.8
90°-150°	3733.2	47.7
90°-180°	5136.0	65.6
0°-180°	7829.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1308	1308	1308	1308	1308	
5°	1308	1301	1286	1296	1293	124
15°	1244	1229	1190	1168	1156	350
25°	1129	1089	1013	966	947	519
35°	973	910	808	736	708	608
45°	795	713	592	511	479	614
55°	605	510	385	316	291	540
65°	408	312	206	168	162	405
75°	218	137	95	87	85	230
85°	51	27	22	22	22	60
90°	1	15	25	32	34	6
95°	82	43	50	55	55	101
105°	386	402	77	91	96	412
115°	729	751	782	223	104	718
125°	1031	1048	1072	1080	1084	919
135°	1276	1296	1308	1319	1318	985
145°	1480	1480	1500	1508	1503	925
155°	1630	1620	1633	1640	1631	751
165°	1717	1710	1713	1721	1713	485
175°	1756	1748	1750	1758	1746	167
180°	1753	1753	1753	1753	1753	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1312.2	1311.2	1310.1	1309.0	1308.1	1306.4	1304.0	1301.7	1299.4	1297.1	1299.2
5°	1307.5	1306.2	1304.8	1303.5	1302.3	1299.8	1296.5	1293.1	1289.6	1286.2	1288.5
7.5°	1294.0	1292.4	1290.8	1289.1	1287.5	1284.7	1280.7	1276.7	1272.6	1268.6	1269.4
10°	1282.6	1280.8	1279.0	1277.1	1275.2	1271.8	1266.5	1261.2	1256.0	1250.7	1249.9
12.5°	1268.5	1266.1	1263.9	1261.7	1259.4	1254.9	1248.1	1241.4	1234.7	1228.0	1226.5
15°	1243.6	1240.7	1237.8	1234.9	1232.0	1226.1	1217.2	1208.3	1199.3	1190.3	1185.4
17.5°	1213.1	1208.6	1204.3	1199.8	1195.4	1187.5	1176.0	1164.5	1153.1	1141.6	1135.7
20°	1190.3	1185.1	1179.8	1174.6	1169.3	1160.1	1146.9	1133.8	1120.7	1107.5	1100.9
22.5°	1165.7	1159.8	1154.0	1148.1	1142.2	1131.8	1117.0	1102.2	1087.4	1072.5	1064.0
25°	1128.8	1120.4	1112.0	1103.6	1095.2	1082.3	1064.9	1047.6	1030.2	1012.9	1002.1
27.5°	1084.3	1075.1	1066.0	1056.9	1047.8	1033.4	1013.8	994.3	974.6	955.1	942.5
30°	1053.1	1043.1	1033.1	1023.1	1013.2	997.6	976.6	955.6	934.5	913.5	900.1
32.5°	1022.8	1011.1	999.4	987.7	976.1	959.6	938.1	916.6	895.2	873.7	858.4
35°	972.6	959.2	945.8	932.4	919.0	900.7	877.5	854.4	831.3	808.2	791.6
37.5°	922.5	907.8	893.0	878.2	863.5	843.8	819.2	794.5	769.9	745.2	726.9
40°	887.4	871.6	855.9	840.1	824.3	803.7	778.2	752.7	727.2	701.7	683.0
42.5°	851.5	834.8	818.2	801.6	785.0	763.5	737.2	710.8	684.5	658.1	638.8
45°	795.1	777.5	759.9	742.3	724.7	702.0	674.5	646.8	619.2	591.7	572.9
47.5°	740.2	721.6	702.9	684.2	665.6	641.9	613.5	585.0	556.4	528.0	509.4
50°	700.5	681.8	663.2	644.4	625.8	602.0	573.1	544.1	515.2	486.3	468.1
52.5°	661.6	642.1	622.7	603.2	583.6	559.7	531.5	503.1	474.8	446.6	429.0
55°	604.7	584.2	563.7	543.1	522.6	498.1	469.8	441.3	413.0	384.6	368.8
57.5°	546.2	525.1	504.1	483.0	462.1	437.9	410.5	383.3	356.0	328.7	314.2
60°	506.4	485.4	464.4	443.4	422.3	398.2	371.1	344.0	317.0	289.9	276.5
62.5°	467.6	446.6	425.5	404.5	383.4	360.1	334.2	308.4	282.6	256.7	244.0
65°	408.2	386.9	365.6	344.3	323.1	300.5	276.9	253.2	229.5	205.9	197.0
67.5°	351.0	329.8	308.7	287.5	266.4	245.1	223.9	202.6	181.3	160.0	155.9
70°	311.2	290.7	270.2	249.7	229.2	209.8	191.7	173.5	155.4	137.2	134.6
72.5°	273.3	253.7	234.0	214.4	194.7	177.5	163.0	148.4	133.8	119.3	117.1
75°	217.8	199.3	180.9	162.5	144.1	130.5	121.5	112.5	103.6	94.7	92.8
77.5°	163.1	146.9	130.7	114.6	98.4	88.3	83.9	79.6	75.3	71.0	69.9
80°	128.9	115.6	102.2	88.7	75.3	67.3	64.6	62.1	59.4	56.8	55.7
82.5°	97.7	87.3	76.8	66.3	55.9	49.8	48.0	46.2	44.4	42.6	42.0
85°	50.9	45.4	39.9	34.3	28.8	25.7	24.9	24.1	23.3	22.5	22.5
87.5°	15.4	14.4	13.3	12.2	11.1	10.9	11.3	11.8	12.2	12.7	12.8
90°	1.2	4.4	7.5	10.6	13.6	16.3	18.6	20.9	23.1	25.3	26.8
92.5°	25.6	25.3	25.1	24.8	24.5	24.9	26.0	27.2	28.3	29.4	30.1
95°	82.4	73.1	63.8	54.6	45.2	41.6	43.5	45.5	47.5	49.5	50.8
97.5°	163.6	137.4	111.2	85.0	58.8	48.0	52.5	57.1	61.6	66.2	67.3
100°	224.4	185.8	147.2	108.6	70.0	53.1	57.9	62.7	67.5	72.3	74.5
102.5°	291.4	283.3	275.1	266.9	258.8	234.6	194.6	154.4	114.4	74.3	77.2
105°	385.6	394.0	402.4	410.9	419.4	385.1	308.2	231.2	154.3	77.4	80.4
107.5°	492.8	499.6	506.5	513.3	520.1	477.4	385.1	292.8	200.5	108.3	105.1
110°	561.9	567.8	573.6	579.6	585.5	547.7	466.3	384.9	303.4	221.9	193.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	626.8	632.0	637.2	642.5	647.7	640.2	620.2	600.0	579.9	559.8	457.0
115°	729.2	734.1	738.8	743.6	748.4	754.3	761.3	768.4	775.4	782.5	652.0
117.5°	820.8	826.2	831.5	836.9	842.2	847.3	852.1	857.0	861.8	866.7	835.2
120°	887.8	892.0	896.2	900.4	904.6	909.3	914.4	919.4	924.5	929.6	933.0
122.5°	944.6	949.0	953.5	958.0	962.4	967.4	972.9	978.4	983.9	989.4	991.5
125°	1031.1	1034.7	1038.4	1042.1	1045.7	1050.3	1055.6	1061.0	1066.3	1071.7	1073.6
127.5°	1109.5	1113.5	1117.6	1121.6	1125.7	1129.7	1133.7	1137.7	1141.7	1145.8	1148.6
130°	1159.1	1163.7	1168.1	1172.7	1177.2	1181.0	1184.1	1187.2	1190.3	1193.4	1196.5
132.5°	1209.9	1213.7	1217.5	1221.4	1225.2	1228.7	1231.8	1234.8	1238.0	1241.1	1243.8
135°	1275.9	1280.3	1284.9	1289.3	1293.9	1297.4	1299.9	1302.4	1305.0	1307.5	1310.4
137.5°	1342.6	1345.7	1348.9	1352.0	1355.1	1358.2	1361.0	1364.0	1366.8	1369.7	1372.4
140°	1386.2	1388.4	1390.7	1392.9	1395.2	1397.8	1401.0	1404.1	1407.2	1410.2	1412.8
142.5°	1422.7	1424.7	1426.7	1428.8	1430.8	1433.6	1437.2	1440.7	1444.2	1447.8	1450.1
145°	1480.1	1479.7	1479.4	1479.2	1478.9	1481.1	1485.9	1490.8	1495.5	1500.3	1502.3
147.5°	1530.0	1528.9	1527.9	1526.8	1525.7	1527.5	1532.2	1537.0	1541.8	1546.5	1547.9
150°	1562.5	1560.5	1558.5	1556.6	1554.5	1555.9	1560.3	1564.9	1569.3	1573.9	1575.6
152.5°	1589.8	1587.7	1585.5	1583.2	1581.1	1582.1	1586.4	1590.6	1594.9	1599.2	1600.9
155°	1629.7	1627.1	1624.6	1622.0	1619.5	1620.0	1623.4	1626.7	1630.1	1633.4	1635.1
157.5°	1660.9	1658.8	1656.6	1654.5	1652.3	1652.4	1654.7	1657.2	1659.5	1661.9	1663.8
160°	1679.1	1677.4	1675.8	1674.1	1672.4	1672.4	1674.1	1675.8	1677.4	1679.1	1680.8
162.5°	1695.3	1693.7	1692.0	1690.3	1688.6	1688.5	1690.0	1691.4	1692.9	1694.3	1696.3
165°	1717.2	1715.5	1713.8	1712.1	1710.4	1710.0	1710.8	1711.6	1712.5	1713.3	1715.4
167.5°	1733.4	1731.7	1730.0	1728.3	1726.6	1726.2	1727.0	1727.8	1728.6	1729.4	1731.3
170°	1742.6	1740.9	1739.2	1737.5	1735.8	1735.2	1735.8	1736.3	1736.9	1737.5	1739.5
172.5°	1748.6	1747.0	1745.3	1743.6	1741.9	1741.3	1741.9	1742.4	1743.0	1743.6	1745.5
175°	1756.5	1754.5	1752.6	1750.6	1748.6	1747.9	1748.5	1749.0	1749.6	1750.2	1752.1
177.5°	1757.7	1756.2	1754.6	1753.0	1751.4	1750.8	1751.0	1751.2	1751.4	1751.7	1753.3
180°	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1301.3	1303.4	1305.5	1306.4	1305.9	1305.5	1305.1	1304.7
5°	1290.9	1293.2	1295.7	1296.5	1295.7	1294.9	1294.1	1293.2
7.5°	1270.1	1270.7	1271.4	1271.0	1269.7	1268.4	1266.9	1265.6
10°	1249.1	1248.3	1247.5	1246.3	1244.7	1243.2	1241.6	1240.0
12.5°	1225.1	1223.7	1222.3	1220.3	1217.6	1215.0	1212.4	1209.8
15°	1180.4	1175.4	1170.4	1166.5	1164.0	1161.3	1158.7	1156.0
17.5°	1129.7	1123.7	1117.8	1112.6	1108.0	1103.6	1099.0	1094.5
20°	1094.4	1087.8	1081.2	1075.0	1069.3	1063.5	1057.7	1052.0
22.5°	1055.6	1047.1	1038.7	1032.2	1028.0	1023.6	1019.3	1015.0
25°	991.3	980.5	969.7	962.3	958.4	954.5	950.6	946.6
27.5°	930.0	917.4	904.8	895.5	889.2	882.9	876.6	870.4
30°	886.6	873.3	859.8	849.5	842.5	835.4	828.3	821.2
32.5°	843.1	827.8	812.5	801.5	794.9	788.2	781.5	774.8
35°	775.0	758.5	741.9	730.8	725.0	719.2	713.4	707.6
37.5°	708.7	690.5	672.3	659.8	653.2	646.5	639.9	633.3
40°	664.3	645.7	627.0	614.2	607.4	600.6	593.7	586.9
42.5°	619.6	600.2	580.9	567.9	561.3	554.7	548.0	541.4
45°	554.3	535.7	516.9	504.4	498.1	491.9	485.5	479.2
47.5°	490.8	472.3	453.7	441.6	435.9	430.1	424.4	418.7
50°	450.0	431.9	413.8	401.9	396.4	390.8	385.3	379.8
52.5°	411.5	394.0	376.5	365.2	360.1	355.0	349.9	344.8
55°	353.0	337.2	321.5	311.0	306.0	301.0	296.0	291.1
57.5°	299.8	285.3	270.9	261.5	257.3	253.1	248.9	244.7
60°	263.1	249.7	236.2	227.5	223.2	219.0	214.8	210.6
62.5°	231.2	218.5	205.6	198.0	195.5	193.0	190.4	187.9
65°	188.0	179.1	170.1	165.2	164.4	163.7	162.9	162.1
67.5°	151.8	147.7	143.6	141.1	140.3	139.4	138.6	137.8
70°	132.0	129.4	126.7	124.9	123.9	122.8	121.7	120.6
72.5°	114.9	112.6	110.4	109.1	108.3	107.7	107.1	106.5
75°	91.0	89.2	87.3	86.2	86.0	85.7	85.4	85.2
77.5°	68.9	67.9	66.8	66.1	65.6	65.2	64.8	64.4
80°	54.7	53.7	52.6	52.1	52.1	52.1	52.1	52.1
82.5°	41.4	40.7	40.0	39.8	39.8	39.8	39.8	39.8
85°	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
87.5°	12.8	12.8	12.9	13.0	13.1	13.3	13.4	13.5
90°	28.2	29.6	31.0	32.0	32.5	33.1	33.7	34.2
92.5°	30.9	31.7	32.4	32.9	33.3	33.5	33.9	34.2
95°	52.3	53.7	55.1	55.6	55.4	55.1	54.8	54.6
97.5°	68.5	69.6	70.7	71.4	71.8	72.1	72.5	72.8
100°	76.8	79.1	81.3	82.8	83.3	83.8	84.4	85.0
102.5°	80.2	83.1	86.1	87.9	88.7	89.4	90.2	91.0
105°	83.6	86.7	89.8	91.8	93.0	94.2	95.2	96.4
107.5°	102.0	98.8	95.7	94.7	95.8	96.9	98.1	99.2
110°	165.6	137.4	109.2	95.7	96.8	97.9	99.1	100.2



TEST NUMBER: P331843-940

CATALOG NUMBER: S122RDIW-S865D1440U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	354.2	251.4	148.6	97.6	98.5	99.4	100.3	101.2
115°	521.6	391.0	260.6	185.1	164.9	144.5	124.3	104.0
117.5°	803.6	772.0	740.5	691.3	624.6	557.9	491.2	424.6
120°	936.4	939.8	943.2	925.8	887.8	849.7	811.6	773.6
122.5°	993.5	995.6	997.6	994.9	987.5	980.2	972.8	965.4
125°	1075.6	1077.5	1079.5	1080.9	1081.8	1082.6	1083.5	1084.3
127.5°	1151.5	1154.3	1157.2	1158.8	1158.9	1159.0	1159.2	1159.4
130°	1199.6	1202.7	1205.8	1207.2	1206.9	1206.7	1206.4	1206.0
132.5°	1246.3	1249.0	1251.7	1252.9	1252.6	1252.3	1252.1	1251.7
135°	1313.1	1316.0	1318.8	1319.9	1319.4	1318.8	1318.2	1317.7
137.5°	1375.2	1378.0	1380.7	1381.6	1380.6	1379.7	1378.8	1377.8
140°	1415.3	1417.9	1420.4	1420.9	1419.6	1418.2	1416.8	1415.3
142.5°	1452.4	1454.7	1457.1	1457.5	1456.1	1454.6	1453.3	1451.9
145°	1504.2	1506.2	1508.2	1508.5	1507.1	1505.7	1504.2	1502.9
147.5°	1549.4	1550.9	1552.4	1552.5	1551.3	1550.2	1548.9	1547.7
150°	1577.3	1579.0	1580.6	1580.7	1579.4	1578.0	1576.5	1575.1
152.5°	1602.6	1604.3	1606.0	1605.9	1604.0	1602.2	1600.4	1598.5
155°	1636.8	1638.5	1640.2	1639.9	1637.7	1635.5	1633.2	1630.9
157.5°	1665.7	1667.6	1669.6	1669.4	1667.2	1665.0	1662.8	1660.6
160°	1682.5	1684.2	1685.9	1685.8	1683.8	1681.8	1679.8	1677.8
162.5°	1698.2	1700.1	1702.0	1701.7	1699.3	1696.9	1694.5	1692.1
165°	1717.3	1719.3	1721.3	1721.3	1719.3	1717.3	1715.4	1713.3
167.5°	1733.3	1735.3	1737.2	1737.0	1734.5	1731.9	1729.4	1726.8
170°	1741.4	1743.4	1745.3	1745.1	1742.6	1740.0	1737.5	1734.9
172.5°	1747.5	1749.4	1751.4	1751.1	1748.6	1746.1	1743.6	1741.0
175°	1754.1	1756.0	1758.0	1757.7	1754.8	1751.9	1749.2	1746.3
177.5°	1754.8	1756.4	1758.0	1757.7	1755.7	1753.7	1751.7	1749.6
180°	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7

(END OF REPORT)