

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: P331843-830

Luminaire Tested: **S122RDIW-S865D1440U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331843-830
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-S865D1440U830-4F0-1E-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: 8276.1 lumens
Efficiency: N/A
Efficacy: 108.0 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

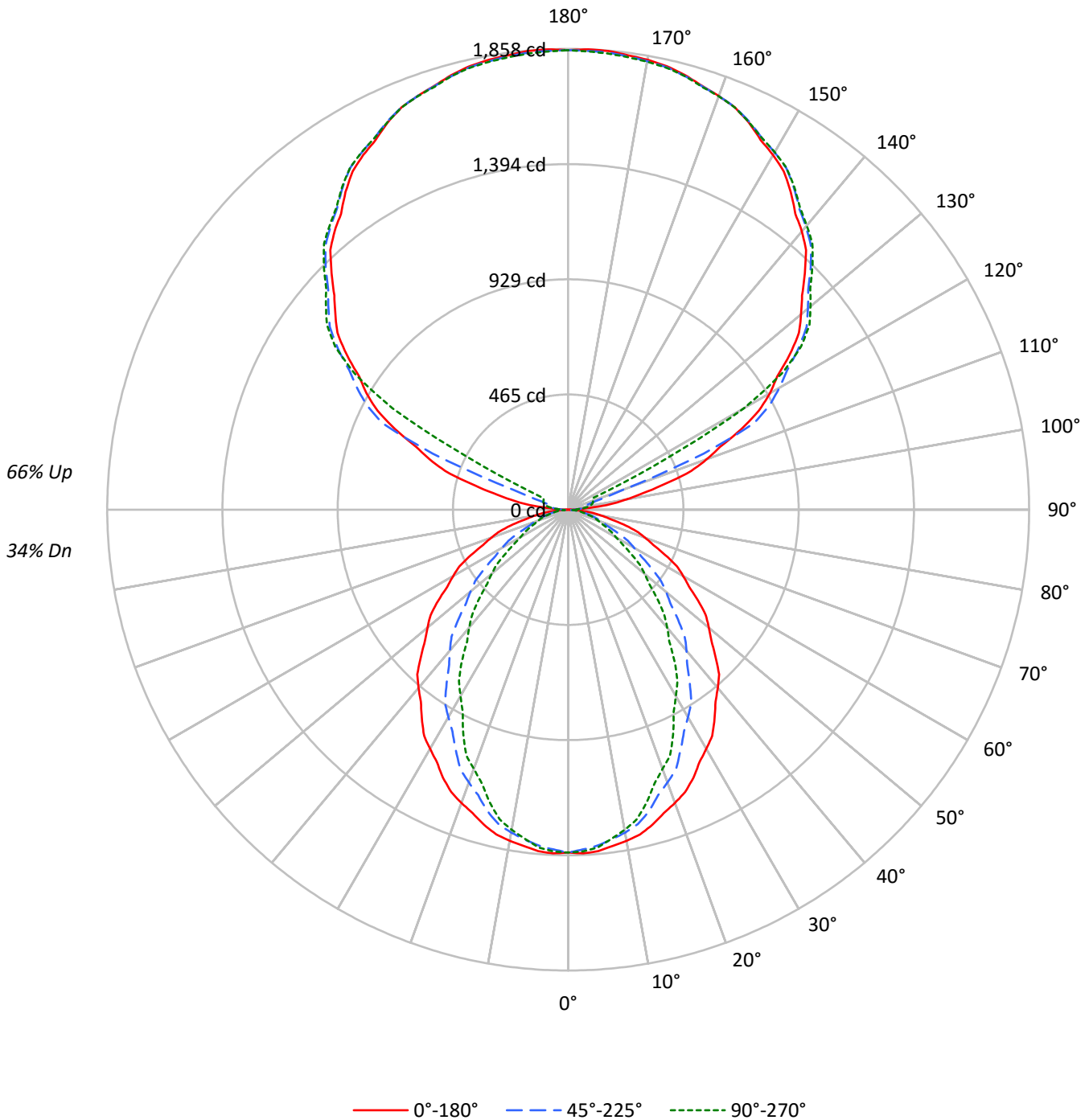
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	1.6
10°-20°	355.2	4.3
20°-30°	498.8	6.0
30°-40°	543.9	6.6
40°-50°	500.1	6.0
50°-60°	392.8	4.7
60°-70°	256.1	3.1
70°-80°	132.0	1.6
80°-90°	38.8	0.5
90°-100°	61.8	0.7
100°-110°	226.6	2.7
110°-120°	605.8	7.3
120°-130°	1000.0	12.1
130°-140°	1063.4	12.8
140°-150°	988.4	11.9
150°-160°	794.7	9.6
160°-170°	512.1	6.2
170°-180°	176.3	2.1
0°-30°	983.3	11.9
0°-40°	1527.2	18.5
0°-60°	2420.1	29.2
0°-90°	2847.0	34.4
90°-120°	894.2	10.8
90°-150°	3946.0	47.7
90°-180°	5429.0	65.6
0°-180°	8276.1	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	16	27	33	36	6
95°	87	46	52	58	58	107
105°	408	425	82	96	102	435
115°	771	794	827	236	110	759
125°	1090	1108	1133	1142	1146	971
135°	1349	1369	1382	1395	1393	1041
145°	1564	1564	1586	1594	1589	978
155°	1723	1712	1726	1734	1724	793
165°	1815	1808	1811	1819	1811	513
175°	1857	1848	1850	1858	1846	177
180°	1853	1853	1853	1853	1853	



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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°	16.3	15.2	14.0	12.9	11.8	11.5	12.0	12.4	12.9	13.4	13.5
90°	1.3	4.6	7.9	11.2	14.4	17.2	19.7	22.1	24.4	26.8	28.3
92.5°	27.1	26.8	26.5	26.2	25.9	26.3	27.5	28.7	29.9	31.1	31.9
95°	87.1	77.3	67.5	57.7	47.8	43.9	46.0	48.1	50.2	52.3	53.7
97.5°	173.0	145.2	117.5	89.8	62.1	50.7	55.5	60.3	65.1	69.9	71.2
100°	237.2	196.4	155.6	114.8	74.0	56.2	61.2	66.3	71.4	76.4	78.8
102.5°	308.0	299.4	290.8	282.1	273.5	248.0	205.7	163.2	120.9	78.5	81.6
105°	407.6	416.4	425.4	434.3	443.3	407.1	325.7	244.4	163.1	81.8	85.0
107.5°	520.9	528.1	535.4	542.5	549.8	504.6	407.1	309.5	212.0	114.5	111.1
110°	593.9	600.1	606.3	612.7	618.9	578.9	492.9	406.8	320.7	234.6	204.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	662.5	668.0	673.5	679.1	684.7	676.7	655.5	634.2	612.9	591.7	483.1
115°	770.8	775.9	780.9	786.0	791.1	797.3	804.7	812.2	819.6	827.1	689.2
117.5°	867.6	873.3	878.9	884.6	890.2	895.6	900.7	905.9	911.0	916.2	882.8
120°	938.4	942.8	947.3	951.8	956.2	961.1	966.5	971.9	977.2	982.6	986.2
122.5°	998.4	1003.1	1007.9	1012.6	1017.3	1022.6	1028.3	1034.2	1040.0	1045.8	1048.0
125°	1089.9	1093.7	1097.6	1101.5	1105.3	1110.1	1115.8	1121.4	1127.1	1132.7	1134.8
127.5°	1172.7	1177.0	1181.3	1185.5	1189.9	1194.1	1198.3	1202.6	1206.8	1211.1	1214.1
130°	1225.2	1230.0	1234.7	1239.5	1244.3	1248.3	1251.6	1254.9	1258.1	1261.4	1264.7
132.5°	1278.8	1282.9	1286.9	1291.0	1295.1	1298.7	1302.0	1305.2	1308.5	1311.8	1314.7
135°	1348.6	1353.3	1358.1	1362.8	1367.6	1371.3	1374.0	1376.7	1379.4	1382.1	1385.1
137.5°	1419.1	1422.4	1425.8	1429.1	1432.4	1435.6	1438.6	1441.7	1444.7	1447.7	1450.7
140°	1465.2	1467.5	1470.0	1472.3	1474.7	1477.5	1480.8	1484.1	1487.4	1490.6	1493.4
142.5°	1503.8	1505.9	1508.1	1510.2	1512.4	1515.3	1519.1	1522.9	1526.5	1530.3	1532.8
145°	1564.4	1564.1	1563.8	1563.5	1563.2	1565.6	1570.7	1575.7	1580.7	1585.8	1587.9
147.5°	1617.2	1616.1	1615.0	1613.8	1612.7	1614.6	1619.6	1624.7	1629.7	1634.7	1636.2
150°	1651.5	1649.4	1647.4	1645.3	1643.1	1644.5	1649.3	1654.1	1658.8	1663.6	1665.4
152.5°	1680.5	1678.2	1675.8	1673.5	1671.2	1672.3	1676.8	1681.3	1685.8	1690.4	1692.1
155°	1722.6	1719.9	1717.2	1714.5	1711.8	1712.3	1715.9	1719.5	1723.1	1726.5	1728.3
157.5°	1755.6	1753.3	1751.1	1748.8	1746.5	1746.6	1749.1	1751.6	1754.1	1756.6	1758.7
160°	1774.8	1773.0	1771.3	1769.5	1767.7	1767.7	1769.5	1771.3	1773.0	1774.8	1776.6
162.5°	1792.0	1790.3	1788.5	1786.7	1784.9	1784.7	1786.3	1787.8	1789.4	1790.9	1793.0
165°	1815.1	1813.3	1811.5	1809.7	1807.9	1807.5	1808.4	1809.2	1810.2	1811.0	1813.2
167.5°	1832.2	1830.4	1828.6	1826.8	1825.0	1824.6	1825.4	1826.3	1827.1	1828.0	1830.0
170°	1841.9	1840.1	1838.3	1836.5	1834.8	1834.1	1834.8	1835.3	1835.9	1836.5	1838.6
172.5°	1848.3	1846.5	1844.7	1843.0	1841.2	1840.6	1841.2	1841.7	1842.4	1843.0	1845.0
175°	1856.6	1854.5	1852.5	1850.4	1848.3	1847.6	1848.1	1848.7	1849.4	1849.9	1852.0
177.5°	1857.9	1856.3	1854.6	1852.9	1851.2	1850.6	1850.8	1851.1	1851.2	1851.5	1853.2
180°	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6



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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°	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2
90°	29.8	31.3	32.8	33.8	34.4	35.0	35.6	36.2
92.5°	32.6	33.5	34.2	34.8	35.2	35.4	35.8	36.2
95°	55.2	56.7	58.2	58.8	58.5	58.2	58.0	57.7
97.5°	72.4	73.5	74.7	75.5	75.9	76.3	76.6	76.9
100°	81.2	83.6	86.0	87.5	88.0	88.6	89.3	89.8
102.5°	84.7	87.8	91.0	92.9	93.8	94.5	95.4	96.2
105°	88.3	91.6	94.9	97.1	98.3	99.5	100.7	101.9
107.5°	107.8	104.4	101.1	100.1	101.2	102.5	103.7	104.8
110°	175.0	145.2	115.5	101.1	102.4	103.5	104.7	105.9



TEST NUMBER: P331843-830

CATALOG NUMBER: S122RDIW-S865D1440U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	374.4	265.7	157.0	103.1	104.2	105.1	106.0	107.0
115°	551.3	413.3	275.4	195.7	174.3	152.8	131.4	109.9
117.5°	849.4	816.1	782.7	730.8	660.3	589.7	519.2	448.8
120°	989.8	993.3	996.9	978.5	938.4	898.1	857.9	817.7
122.5°	1050.2	1052.3	1054.4	1051.6	1043.8	1036.0	1028.2	1020.4
125°	1136.9	1139.0	1141.0	1142.6	1143.5	1144.3	1145.3	1146.1
127.5°	1217.1	1220.1	1223.1	1224.8	1224.9	1225.1	1225.3	1225.5
130°	1268.0	1271.3	1274.5	1276.0	1275.7	1275.4	1275.2	1274.8
132.5°	1317.4	1320.2	1323.0	1324.3	1324.0	1323.7	1323.4	1323.0
135°	1388.0	1391.0	1394.0	1395.2	1394.6	1394.0	1393.4	1392.8
137.5°	1453.6	1456.5	1459.4	1460.4	1459.3	1458.4	1457.4	1456.3
140°	1496.0	1498.7	1501.4	1501.9	1500.5	1499.0	1497.5	1496.0
142.5°	1535.2	1537.7	1540.1	1540.6	1539.1	1537.6	1536.2	1534.6
145°	1590.0	1592.0	1594.2	1594.5	1593.0	1591.5	1590.0	1588.6
147.5°	1637.8	1639.3	1640.9	1641.0	1639.7	1638.5	1637.2	1636.0
150°	1667.2	1669.0	1670.8	1670.8	1669.4	1667.9	1666.4	1664.9
152.5°	1693.9	1695.7	1697.5	1697.4	1695.4	1693.6	1691.6	1689.6
155°	1730.1	1731.9	1733.7	1733.4	1731.1	1728.7	1726.3	1723.9
157.5°	1760.7	1762.6	1764.7	1764.5	1762.3	1759.9	1757.6	1755.3
160°	1778.4	1780.2	1782.0	1781.9	1779.8	1777.6	1775.6	1773.5
162.5°	1795.0	1797.1	1799.0	1798.7	1796.2	1793.7	1791.1	1788.6
165°	1815.2	1817.3	1819.4	1819.4	1817.3	1815.2	1813.2	1811.0
167.5°	1832.1	1834.2	1836.3	1836.0	1833.3	1830.6	1828.0	1825.2
170°	1840.7	1842.8	1844.8	1844.6	1841.9	1839.2	1836.5	1833.8
172.5°	1847.1	1849.2	1851.2	1851.0	1848.3	1845.6	1843.0	1840.2
175°	1854.1	1856.1	1858.2	1857.8	1854.8	1851.8	1848.9	1845.9
177.5°	1854.8	1856.5	1858.2	1857.9	1855.8	1853.7	1851.5	1849.4
180°	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6

(END OF REPORT)