

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: P332481

Luminaire Tested: **S123RDIW-S1165D1030U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332481
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S1165D1030U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7955.6 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

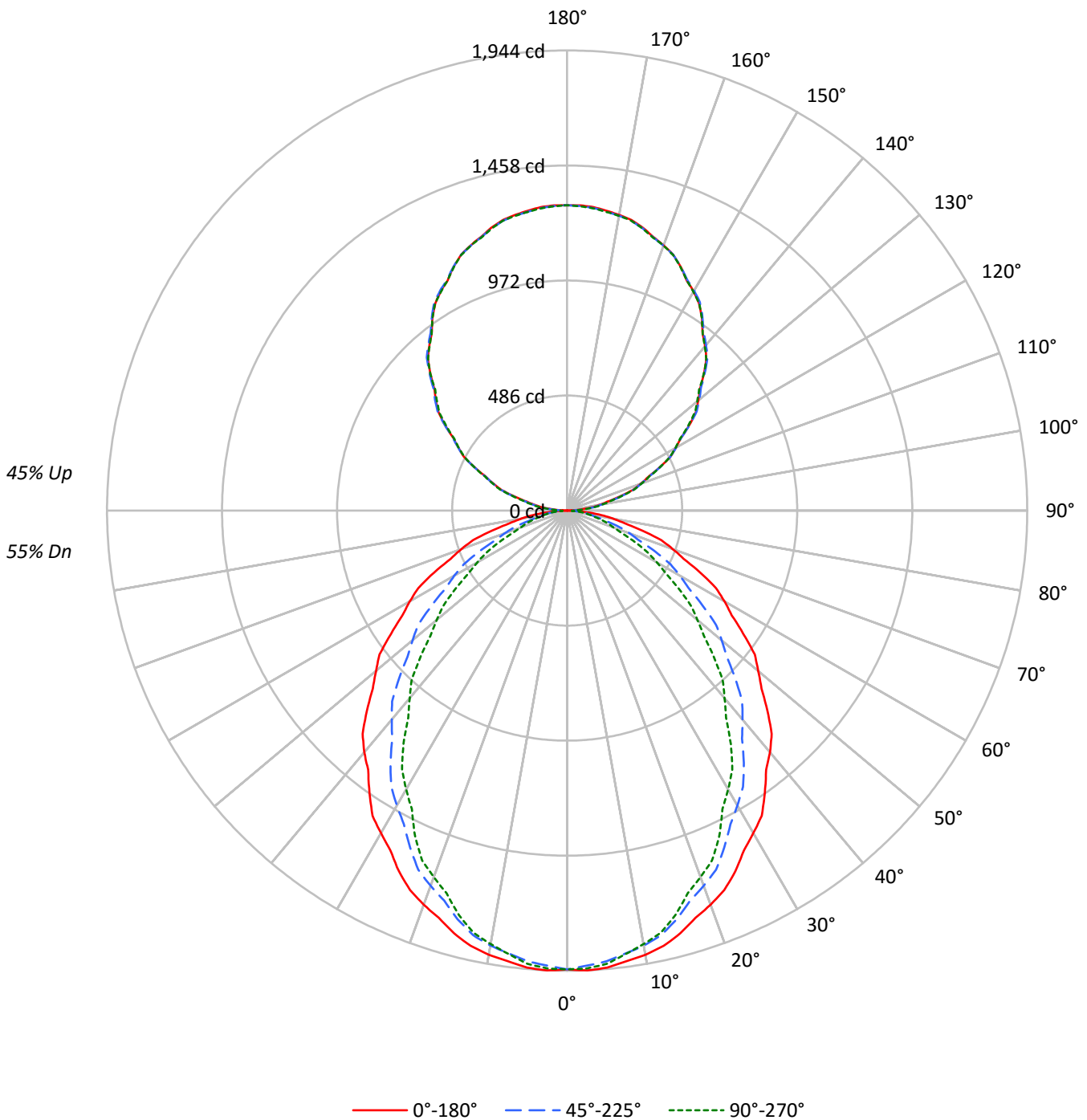
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	91	88	92	88	85	82	76	74	72	65	63	61	54	53	52	47
2	91	83	77	72	84	78	73	68	67	63	60	57	54	52	48	46	44	40
3	83	74	66	61	77	69	62	57	59	55	51	51	47	44	43	40	38	34
4	76	65	58	52	70	61	54	49	53	48	43	46	42	38	39	36	33	30
5	70	58	50	44	65	55	48	42	48	42	38	41	37	33	35	32	29	26
6	65	53	45	39	60	49	42	37	43	37	33	37	33	29	32	28	26	23
7	60	48	40	34	55	45	38	33	39	33	29	34	30	26	29	26	23	20
8	56	43	36	30	52	41	34	29	36	30	26	31	27	23	27	23	21	18
9	52	40	32	27	48	37	31	26	33	27	24	29	24	21	25	21	19	17
10	48	36	29	24	45	34	28	23	30	25	21	27	22	19	23	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20863	20863	20863
5°	20942	20653	20772
10°	20824	20394	20325
15°	20600	19917	19706
20°	20292	19321	18871
25°	19975	18650	18053
30°	19557	17877	16900
35°	19127	17102	15843
40°	18730	16190	14533
45°	18209	15289	13352
50°	17637	14267	12030
55°	17051	13097	10796
60°	16514	11845	9442
65°	15814	10488	8087
70°	14940	8806	6530
75°	13662	6929	6147
80°	12180	6137	5653
85°	10288	5434	5051



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.0	2.3
10°-20°	506.4	6.4
20°-30°	729.2	9.2
30°-40°	821.3	10.3
40°-50°	785.8	9.9
50°-60°	643.5	8.1
60°-70°	434.1	5.5
70°-80°	218.4	2.7
80°-90°	61.6	0.8
90°-100°	84.0	1.1
100°-110°	251.5	3.2
110°-120°	427.7	5.4
120°-130°	562.6	7.1
130°-140°	632.3	7.9
140°-150°	621.6	7.8
150°-160°	523.3	6.6
160°-170°	348.3	4.4
170°-180°	122.0	1.5
0°-30°	1417.6	17.8
0°-40°	2238.9	28.1
0°-60°	3668.1	46.1
0°-90°	4382.3	55.1
90°-120°	763.2	9.6
90°-150°	2579.7	32.4
90°-180°	3573.0	44.9
0°-180°	7955.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1938	1938	1938	1938	1938	
5°	1938	1930	1911	1925	1922	184
15°	1849	1830	1787	1779	1768	521
25°	1682	1641	1570	1538	1520	773
35°	1456	1397	1302	1236	1206	911
45°	1196	1123	1004	918	877	923
55°	909	828	698	610	575	814
65°	621	532	412	338	318	614
75°	328	252	167	152	148	350
85°	83	50	44	41	41	94
90°	1	11	24	28	30	8
95°	60	67	75	79	79	67
105°	228	230	239	239	241	244
115°	431	433	432	432	432	426
125°	630	633	631	627	623	562
135°	818	823	823	819	817	630
145°	992	994	997	996	992	619
155°	1136	1136	1137	1140	1134	523
165°	1237	1234	1234	1239	1233	349
175°	1287	1283	1283	1288	1282	122
180°	1290	1290	1290	1290	1290	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2
2.5°	1944.5	1943.3	1942.2	1941.1	1940.0	1937.7	1934.4	1931.0	1927.7	1924.3	1927.4
5°	1938.2	1936.4	1934.7	1932.9	1931.2	1928.2	1924.0	1919.8	1915.6	1911.4	1914.6
7.5°	1920.2	1918.4	1916.5	1914.6	1912.7	1909.0	1903.6	1898.1	1892.7	1887.2	1889.0
10°	1905.2	1902.7	1900.3	1897.8	1895.4	1891.0	1884.7	1878.4	1872.1	1865.9	1866.2
12.5°	1883.8	1881.1	1878.3	1875.6	1872.9	1867.7	1860.0	1852.3	1844.6	1836.9	1836.7
15°	1848.6	1844.7	1840.9	1837.0	1833.2	1826.4	1816.6	1806.8	1797.0	1787.3	1785.5
17.5°	1804.2	1799.8	1795.3	1790.8	1786.4	1777.9	1765.5	1753.0	1740.6	1728.2	1724.5
20°	1771.5	1766.0	1760.4	1754.8	1749.2	1739.8	1726.5	1713.2	1699.9	1686.7	1682.1
22.5°	1735.1	1728.6	1722.2	1715.8	1709.4	1699.1	1685.0	1670.9	1656.8	1642.6	1637.0
25°	1681.9	1673.2	1664.5	1655.7	1647.0	1634.6	1618.5	1602.5	1586.4	1570.3	1563.0
27.5°	1617.5	1607.9	1598.2	1588.6	1578.9	1565.2	1547.3	1529.4	1511.5	1493.6	1483.4
30°	1573.5	1563.0	1552.5	1542.0	1531.6	1516.5	1497.0	1477.4	1457.9	1438.3	1426.4
32.5°	1529.5	1517.6	1505.7	1493.8	1482.0	1465.7	1445.0	1424.3	1403.6	1383.0	1370.0
35°	1455.6	1443.0	1430.4	1417.9	1405.3	1388.2	1366.5	1344.9	1323.2	1301.5	1286.5
37.5°	1380.8	1366.8	1352.8	1338.8	1324.9	1306.3	1283.2	1260.1	1237.0	1213.8	1196.8
40°	1333.0	1317.6	1302.2	1286.9	1271.5	1251.4	1226.6	1201.8	1177.0	1152.2	1134.0
42.5°	1278.9	1263.5	1248.2	1232.8	1217.4	1196.9	1171.3	1145.6	1120.0	1094.4	1074.5
45°	1196.2	1180.5	1164.8	1149.1	1133.3	1112.0	1085.1	1058.2	1031.3	1004.4	984.5
47.5°	1113.5	1096.3	1079.0	1061.8	1044.5	1022.4	995.5	968.6	941.7	914.9	893.2
50°	1053.2	1036.8	1020.3	1003.9	987.5	965.2	936.9	908.6	880.3	852.0	830.3
52.5°	999.1	981.3	963.5	945.7	927.8	904.9	876.9	848.9	820.9	792.9	770.4
55°	908.6	891.4	874.3	857.2	840.1	816.7	787.0	757.3	727.6	697.9	677.7
57.5°	824.9	806.3	787.6	769.0	750.3	726.1	696.3	666.4	636.6	606.8	587.6
60°	767.1	747.9	728.7	709.5	690.2	666.1	637.1	608.2	579.2	550.2	531.3
62.5°	709.2	690.0	670.8	651.6	632.4	608.3	579.3	550.3	521.3	492.3	474.6
65°	620.9	601.7	582.5	563.3	544.1	520.8	493.6	466.3	439.1	411.8	394.7
67.5°	532.6	513.1	493.7	474.3	454.9	432.1	406.0	379.8	353.7	327.6	314.8
70°	474.7	455.9	437.0	418.1	399.3	377.6	353.2	328.7	304.3	279.8	267.6
72.5°	416.9	398.3	379.7	361.1	342.5	322.1	299.9	277.7	255.5	233.3	223.3
75°	328.5	311.8	295.0	278.2	261.5	243.5	224.3	205.0	185.8	166.6	163.1
77.5°	248.0	232.9	217.7	202.6	187.4	173.6	161.3	148.9	136.5	124.2	122.3
80°	196.5	182.2	167.8	153.5	139.2	128.4	121.0	113.7	106.4	99.0	98.0
82.5°	147.4	135.1	122.7	110.3	98.0	90.1	86.7	83.2	79.8	76.4	75.3
85°	83.3	75.6	67.9	60.3	52.6	48.2	47.2	46.1	45.1	44.0	43.3
87.5°	30.4	27.8	25.1	22.5	19.9	18.9	19.5	20.0	20.6	21.2	21.1
90°	1.0	3.3	5.5	7.8	10.0	12.6	15.5	18.5	21.4	24.3	25.2
92.5°	24.5	26.0	27.6	29.1	30.6	32.2	33.9	35.6	37.2	38.9	39.6
95°	59.8	61.3	62.9	64.5	66.1	67.8	69.6	71.4	73.2	75.0	75.9
97.5°	106.2	107.3	108.5	109.7	110.9	112.1	113.4	114.7	116.0	117.3	118.4
100°	137.8	139.1	140.5	141.8	143.2	144.4	145.6	146.7	147.8	148.9	149.6
102.5°	174.3	175.1	175.9	176.7	177.5	178.6	180.1	181.6	183.1	184.6	185.3
105°	228.0	228.4	228.9	229.3	229.8	231.0	233.0	235.0	237.1	239.1	239.1
107.5°	290.4	290.6	290.9	291.2	291.4	292.0	292.8	293.6	294.4	295.2	295.9
110°	329.3	329.7	330.2	330.6	331.1	331.5	332.0	332.4	332.9	333.3	334.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	369.8	370.1	370.3	370.6	370.9	371.0	371.1	371.2	371.3	371.4	372.5
115°	430.6	431.2	431.9	432.6	433.3	433.4	432.9	432.5	432.0	431.6	431.8
117.5°	491.8	492.2	492.7	493.1	493.6	493.5	492.9	492.3	491.7	491.2	491.1
120°	529.9	531.2	532.6	533.9	535.3	535.4	534.2	533.1	532.0	530.9	530.6
122.5°	569.6	570.6	571.6	572.5	573.5	573.7	573.2	572.6	572.0	571.4	570.8
125°	630.2	630.8	631.5	632.2	632.9	633.0	632.5	632.1	631.6	631.2	630.3
127.5°	686.1	687.5	689.0	690.4	691.8	692.3	691.8	691.3	690.8	690.3	689.1
130°	723.4	725.2	727.0	728.8	730.6	731.1	730.5	729.8	729.1	728.4	727.5
132.5°	760.6	762.4	764.2	766.1	767.9	768.5	768.0	767.5	767.0	766.5	765.4
135°	817.6	818.9	820.3	821.6	823.0	823.5	823.3	823.1	822.9	822.6	821.7
137.5°	870.3	871.4	872.5	873.6	874.8	875.6	876.2	876.8	877.4	878.0	877.0
140°	906.7	907.9	909.0	910.1	911.2	911.9	912.1	912.4	912.6	912.8	912.6
142.5°	940.0	941.1	942.2	943.3	944.5	945.2	945.6	946.0	946.5	946.9	946.6
145°	991.8	992.3	992.7	993.2	993.6	994.2	994.9	995.6	996.2	996.9	996.7
147.5°	1037.2	1038.0	1038.8	1039.7	1040.5	1041.2	1041.8	1042.5	1043.1	1043.7	1043.7
150°	1068.8	1069.3	1069.7	1070.2	1070.6	1071.1	1071.5	1072.0	1072.4	1072.9	1072.9
152.5°	1094.8	1095.4	1096.0	1096.7	1097.3	1097.7	1098.0	1098.3	1098.6	1098.8	1099.2
155°	1135.7	1135.7	1135.7	1135.7	1135.7	1135.8	1136.0	1136.3	1136.5	1136.7	1137.6
157.5°	1170.6	1170.3	1170.0	1169.7	1169.5	1169.4	1169.6	1169.8	1170.0	1170.1	1171.1
160°	1192.4	1192.0	1191.5	1191.1	1190.6	1190.4	1190.4	1190.4	1190.4	1190.4	1191.5
162.5°	1211.9	1211.3	1210.6	1210.0	1209.4	1209.1	1209.3	1209.5	1209.7	1209.9	1211.0
165°	1237.0	1236.3	1235.7	1235.0	1234.3	1234.0	1234.0	1234.0	1234.0	1234.0	1235.3
167.5°	1257.1	1256.2	1255.3	1254.4	1253.5	1253.1	1253.3	1253.5	1253.7	1253.8	1255.2
170°	1268.4	1267.5	1266.6	1265.7	1264.8	1264.4	1264.4	1264.4	1264.4	1264.4	1265.9
172.5°	1277.3	1276.4	1275.5	1274.6	1273.7	1273.3	1273.3	1273.3	1273.3	1273.3	1274.7
175°	1286.7	1285.8	1284.9	1284.0	1283.1	1282.6	1282.6	1282.6	1282.6	1282.6	1284.0
177.5°	1290.5	1289.8	1289.1	1288.3	1287.6	1287.3	1287.3	1287.3	1287.3	1287.3	1288.3
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2
2.5°	1930.5	1933.6	1936.6	1937.9	1937.3	1936.8	1936.2	1935.6
5°	1917.7	1920.9	1924.0	1925.2	1924.5	1923.8	1923.1	1922.4
7.5°	1890.7	1892.5	1894.2	1894.5	1893.3	1892.1	1890.9	1889.7
10°	1866.6	1866.9	1867.3	1866.6	1864.8	1863.1	1861.3	1859.6
12.5°	1836.5	1836.3	1836.1	1835.0	1833.0	1830.9	1828.9	1826.9
15°	1783.8	1782.0	1780.3	1778.2	1775.7	1773.3	1770.8	1768.4
17.5°	1720.8	1717.0	1713.3	1709.7	1706.0	1702.4	1698.8	1695.1
20°	1677.6	1673.0	1668.5	1664.1	1659.9	1655.7	1651.6	1647.4
22.5°	1631.3	1625.7	1620.0	1615.2	1611.3	1607.4	1603.5	1599.6
25°	1555.7	1548.3	1541.0	1535.4	1531.6	1527.7	1523.9	1520.0
27.5°	1473.2	1463.0	1452.8	1444.8	1438.9	1433.1	1427.2	1421.3
30°	1414.5	1402.7	1390.8	1382.1	1376.5	1370.9	1365.3	1359.7
32.5°	1357.0	1344.0	1331.0	1321.6	1315.7	1309.8	1304.0	1298.1
35°	1271.5	1256.5	1241.5	1230.8	1224.5	1218.2	1211.9	1205.7
37.5°	1179.7	1162.7	1145.6	1133.2	1125.5	1117.7	1110.0	1102.2
40°	1115.9	1097.7	1079.6	1066.5	1058.4	1050.4	1042.4	1034.3
42.5°	1054.7	1034.8	1015.0	1001.5	994.3	987.1	979.9	972.7
45°	964.6	944.7	924.8	910.7	902.3	893.9	885.5	877.1
47.5°	871.5	849.9	828.2	813.7	806.2	798.7	791.2	783.8
50°	808.7	787.0	765.3	750.5	742.5	734.4	726.4	718.4
52.5°	747.9	725.4	702.9	688.0	680.8	673.7	666.5	659.3
55°	657.4	637.1	616.9	603.3	596.3	589.3	582.3	575.3
57.5°	568.5	549.3	530.2	517.6	511.7	505.8	499.8	493.9
60°	512.4	493.6	474.7	462.3	456.4	450.4	444.5	438.6
62.5°	456.8	439.1	421.3	409.4	403.1	396.9	390.7	384.5
65°	377.6	360.5	343.4	332.9	329.1	325.2	321.4	317.5
67.5°	302.0	289.2	276.4	268.0	263.9	259.7	255.6	251.5
70°	255.3	243.1	230.9	222.9	219.0	215.2	211.3	207.5
72.5°	213.3	203.3	193.3	187.5	185.9	184.3	182.7	181.1
75°	159.6	156.1	152.6	150.6	149.9	149.2	148.5	147.8
77.5°	120.4	118.5	116.6	115.3	114.6	113.9	113.2	112.5
80°	96.9	95.9	94.8	94.0	93.3	92.6	91.9	91.2
82.5°	74.3	73.3	72.2	71.6	71.5	71.3	71.2	71.1
85°	42.6	41.9	41.2	40.9	40.9	40.9	40.9	40.9
87.5°	21.0	20.9	20.8	20.7	20.5	20.3	20.1	19.9
90°	26.1	27.0	27.9	28.6	29.0	29.5	29.9	30.4
92.5°	40.3	41.1	41.8	42.0	41.7	41.5	41.2	40.9
95°	76.8	77.7	78.6	79.0	79.0	79.0	79.0	79.0
97.5°	119.4	120.4	121.5	121.9	121.8	121.8	121.7	121.6
100°	150.3	151.0	151.6	152.2	152.6	153.1	153.5	154.0
102.5°	185.9	186.6	187.3	187.6	187.5	187.4	187.3	187.2
105°	239.1	239.1	239.1	239.3	239.8	240.2	240.7	241.1
107.5°	296.7	297.4	298.1	298.3	298.1	297.8	297.5	297.2
110°	335.1	336.0	336.9	337.1	336.7	336.2	335.8	335.3



TEST NUMBER: P332481

CATALOG NUMBER: S123RDIW-S1165D1030U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	373.6	374.6	375.7	376.2	376.1	376.0	376.0	375.9
115°	432.0	432.3	432.5	432.5	432.3	432.0	431.8	431.6
117.5°	491.1	491.0	491.0	490.6	490.0	489.4	488.7	488.1
120°	530.4	530.2	530.0	529.6	529.2	528.7	528.3	527.8
122.5°	570.2	569.6	569.1	568.4	567.8	567.2	566.6	565.9
125°	629.4	628.5	627.6	626.7	625.8	624.9	624.0	623.1
127.5°	687.8	686.6	685.3	684.1	683.1	682.1	681.0	680.0
130°	726.6	725.7	724.8	723.6	722.0	720.4	718.9	717.3
132.5°	764.4	763.3	762.2	761.1	759.8	758.6	757.4	756.2
135°	820.8	819.9	819.0	818.4	817.9	817.5	817.0	816.6
137.5°	876.1	875.1	874.2	873.3	872.4	871.6	870.7	869.9
140°	912.4	912.1	911.9	911.0	909.4	907.9	906.3	904.7
142.5°	946.4	946.2	946.0	945.2	944.0	942.8	941.6	940.4
145°	996.5	996.2	996.0	995.4	994.5	993.6	992.7	991.8
147.5°	1043.7	1043.7	1043.7	1043.0	1041.7	1040.3	1039.0	1037.6
150°	1072.9	1072.9	1072.9	1072.2	1070.9	1069.5	1068.2	1066.8
152.5°	1099.5	1099.9	1100.3	1099.9	1098.7	1097.5	1096.3	1095.2
155°	1138.5	1139.4	1140.3	1140.0	1138.4	1136.8	1135.3	1133.7
157.5°	1172.0	1173.0	1173.9	1173.8	1172.5	1171.3	1170.0	1168.7
160°	1192.7	1193.8	1194.9	1195.0	1194.1	1193.2	1192.3	1191.4
162.5°	1212.1	1213.2	1214.4	1214.2	1212.8	1211.3	1209.9	1208.4
165°	1236.7	1238.0	1239.4	1239.3	1237.7	1236.1	1234.5	1233.0
167.5°	1256.6	1258.0	1259.4	1259.4	1258.0	1256.6	1255.2	1253.8
170°	1267.5	1269.1	1270.7	1270.7	1269.1	1267.5	1265.9	1264.4
172.5°	1276.1	1277.5	1278.9	1278.8	1277.2	1275.6	1274.0	1272.5
175°	1285.3	1286.7	1288.0	1287.9	1286.3	1284.7	1283.2	1281.6
177.5°	1289.4	1290.5	1291.6	1291.5	1290.2	1289.0	1287.7	1286.5
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7

(END OF REPORT)