

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: P332468

Luminaire Tested: **S123RDIW-S1000D1535U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332468
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S1000D1535U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1535 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9933.2 lumens
Efficiency: N/A
Efficacy: 129.7 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: Semi-Indirect

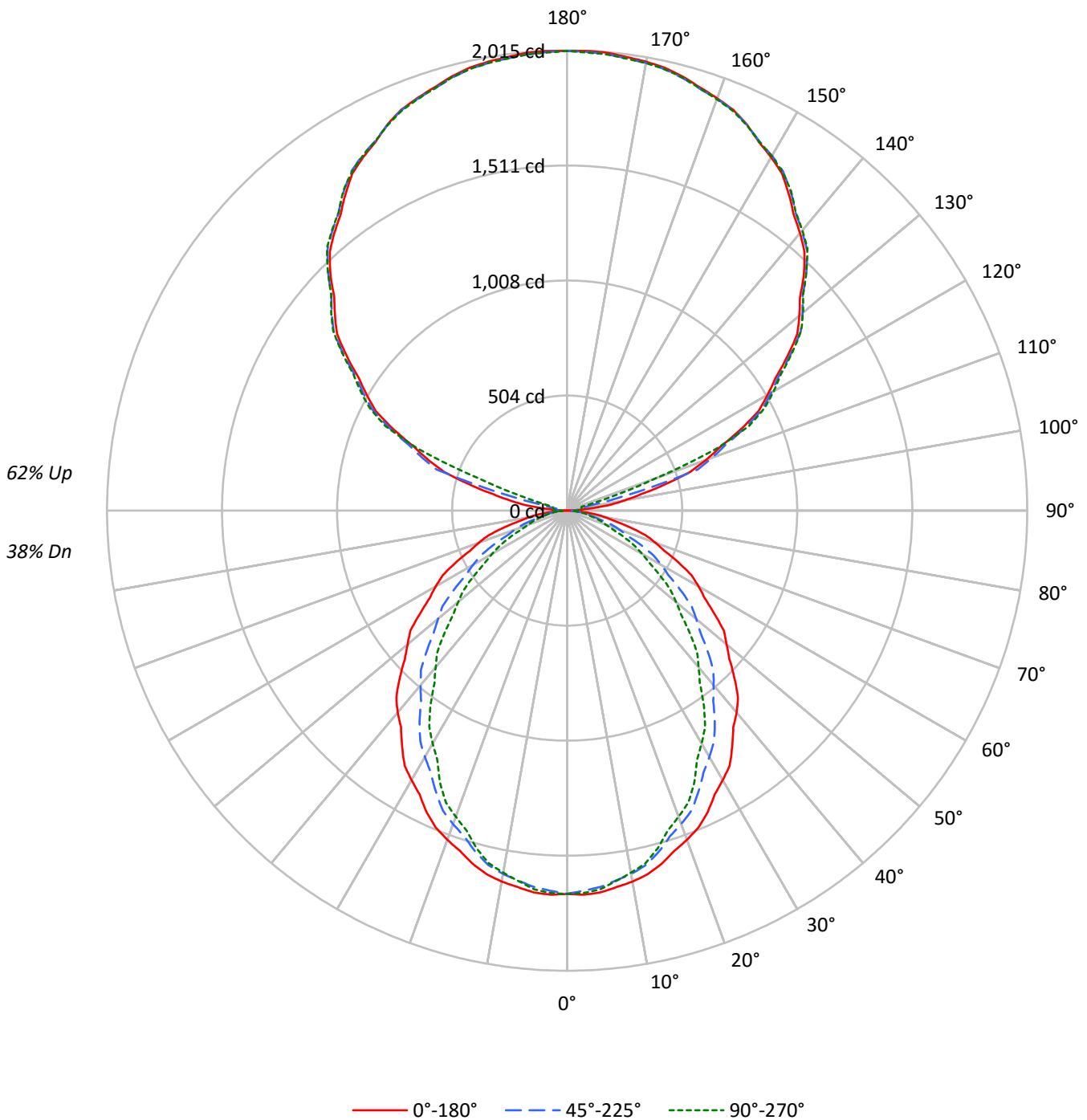
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	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	40	39	33				
2	87	80	74	69	79	73	68	64	59	56	53	47	45	43	36	34	33	28				
3	80	70	63	58	72	64	58	53	53	48	45	42	39	36	32	30	28	24				
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	29	26	25	21				
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	23	22	18				
6	62	50	42	36	56	46	39	34	38	33	29	30	27	24	24	21	19	16				
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	22	19	17	14				
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13				
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12				
10	46	34	27	22	42	31	25	21	26	22	18	22	18	15	17	14	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18064	18064	18064
5°	18133	17882	17986
10°	18030	17658	17598
15°	17836	17245	17063
20°	17570	16728	16339
25°	17296	16149	15631
30°	16933	15479	14633
35°	16561	14808	13717
40°	16218	14018	12584
45°	15767	13239	11561
50°	15270	12353	10416
55°	14763	11340	9348
60°	14299	10256	8174
65°	13692	9082	7002
70°	12935	7626	5655
75°	11832	6001	5319
80°	10544	5312	4891
85°	8904	4705	4372



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.6	1.6
10°-20°	438.5	4.4
20°-30°	631.4	6.4
30°-40°	711.2	7.2
40°-50°	680.4	6.8
50°-60°	557.2	5.6
60°-70°	375.9	3.8
70°-80°	189.1	1.9
80°-90°	55.7	0.6
90°-100°	73.2	0.7
100°-110°	348.7	3.5
110°-120°	837.5	8.4
120°-130°	1066.5	10.7
130°-140°	1139.5	11.5
140°-150°	1065.6	10.7
150°-160°	859.5	8.7
160°-170°	554.7	5.6
170°-180°	191.2	1.9
0°-30°	1227.4	12.4
0°-40°	1938.6	19.5
0°-60°	3176.1	32.0
0°-90°	3796.7	38.2
90°-120°	1259.4	12.7
90°-150°	4531.0	45.6
90°-180°	6136.0	61.8
0°-180°	9933.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1678	1678	1678	1678	1678	
5°	1678	1671	1655	1666	1665	159
15°	1601	1584	1548	1541	1531	451
25°	1456	1421	1360	1332	1316	669
35°	1260	1209	1127	1070	1044	788
45°	1036	972	870	795	760	799
55°	787	717	604	528	498	705
65°	538	461	357	293	275	532
75°	284	219	144	131	128	303
85°	72	44	38	36	35	81
90°	2	17	36	42	45	8
95°	91	34	46	56	57	113
105°	446	454	327	78	66	472
115°	836	845	858	873	879	825
125°	1178	1190	1196	1199	1202	1052
135°	1467	1475	1482	1486	1482	1129
145°	1692	1702	1706	1709	1709	1059
155°	1864	1862	1863	1869	1861	859
165°	1966	1962	1960	1971	1961	555
175°	2012	2005	2006	2016	2005	191
180°	2012	2012	2012	2012	2012	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2
2.5°	1683.6	1682.6	1681.7	1680.7	1679.7	1677.8	1674.9	1672.0	1669.1	1666.2	1668.8
5°	1678.2	1676.6	1675.1	1673.6	1672.1	1669.5	1665.9	1662.3	1658.7	1655.0	1657.7
7.5°	1662.6	1661.0	1659.4	1657.7	1656.1	1652.9	1648.2	1643.5	1638.8	1634.1	1635.6
10°	1649.6	1647.5	1645.3	1643.2	1641.1	1637.3	1631.9	1626.4	1621.0	1615.6	1615.9
12.5°	1631.1	1628.7	1626.4	1624.0	1621.6	1617.1	1610.5	1603.8	1597.2	1590.5	1590.3
15°	1600.6	1597.3	1593.9	1590.6	1587.3	1581.4	1572.9	1564.4	1556.0	1547.5	1546.0
17.5°	1562.2	1558.3	1554.5	1550.6	1546.7	1539.4	1528.6	1517.9	1507.1	1496.3	1493.1
20°	1533.9	1529.1	1524.2	1519.4	1514.5	1506.4	1494.9	1483.4	1471.9	1460.4	1456.5
22.5°	1502.3	1496.8	1491.2	1485.6	1480.1	1471.2	1458.9	1446.7	1434.5	1422.3	1417.4
25°	1456.3	1448.8	1441.2	1433.6	1426.1	1415.3	1401.4	1387.5	1373.6	1359.7	1353.3
27.5°	1400.5	1392.2	1383.8	1375.5	1367.1	1355.2	1339.7	1324.2	1308.7	1293.3	1284.4
30°	1362.4	1353.3	1344.3	1335.2	1326.1	1313.1	1296.2	1279.2	1262.3	1245.4	1235.1
32.5°	1324.3	1314.0	1303.7	1293.4	1283.2	1269.1	1251.2	1233.3	1215.3	1197.4	1186.2
35°	1260.3	1249.4	1238.5	1227.7	1216.8	1201.9	1183.2	1164.4	1145.7	1126.9	1113.9
37.5°	1195.5	1183.4	1171.3	1159.2	1147.1	1131.1	1111.1	1091.0	1071.0	1051.0	1036.2
40°	1154.2	1140.9	1127.5	1114.2	1100.9	1083.5	1062.1	1040.6	1019.1	997.6	981.9
42.5°	1107.3	1094.0	1080.7	1067.4	1054.1	1036.4	1014.2	992.0	969.8	947.6	930.4
45°	1035.8	1022.1	1008.5	994.9	981.3	962.9	939.6	916.3	893.0	869.7	852.5
47.5°	964.2	949.2	934.3	919.3	904.4	885.3	862.0	838.7	815.4	792.1	773.4
50°	911.9	897.7	883.5	869.3	855.0	835.7	811.2	786.7	762.2	737.7	718.9
52.5°	865.1	849.7	834.2	818.8	803.4	783.5	759.3	735.0	710.8	686.5	667.0
55°	786.7	771.9	757.0	742.2	727.4	707.1	681.4	655.7	630.0	604.3	586.8
57.5°	714.3	698.1	682.0	665.8	649.7	628.7	602.8	577.0	551.2	525.4	508.8
60°	664.2	647.6	630.9	614.3	597.6	576.8	551.7	526.6	501.5	476.4	460.0
62.5°	614.1	597.5	580.8	564.2	547.6	526.7	501.6	476.5	451.4	426.3	410.9
65°	537.6	521.0	504.3	487.7	471.1	451.0	427.4	403.8	380.2	356.6	341.8
67.5°	461.1	444.3	427.5	410.7	393.9	374.1	351.5	328.9	306.3	283.6	272.6
70°	411.0	394.7	378.4	362.0	345.7	327.0	305.8	284.6	263.4	242.3	231.7
72.5°	360.9	344.9	328.8	312.7	296.6	278.9	259.7	240.5	221.2	202.0	193.3
75°	284.5	269.9	255.4	240.9	226.4	210.8	194.2	177.5	160.9	144.3	141.2
77.5°	214.8	201.6	188.5	175.4	162.3	150.3	139.6	128.9	118.2	107.5	105.9
80°	170.1	157.7	145.3	132.9	120.5	111.2	104.8	98.4	92.1	85.7	84.8
82.5°	127.7	117.0	106.3	95.5	84.8	78.0	75.0	72.1	69.1	66.1	65.2
85°	72.1	65.5	58.8	52.2	45.5	41.7	40.8	39.9	39.0	38.1	37.5
87.5°	26.4	24.4	22.4	20.4	18.4	17.9	18.7	19.6	20.5	21.3	21.4
90°	1.5	4.8	8.1	11.5	14.8	18.6	22.9	27.2	31.6	35.9	37.2
92.5°	27.8	26.9	25.9	25.0	24.1	25.2	28.5	31.8	35.0	38.3	40.4
95°	91.2	77.6	64.0	50.3	36.7	31.7	35.4	39.0	42.7	46.3	48.7
97.5°	183.3	177.2	171.1	164.9	158.8	143.8	119.9	96.0	72.1	48.1	50.8
100°	252.7	259.3	265.9	272.6	279.2	256.6	204.8	153.0	101.2	49.3	52.0
102.5°	331.6	336.4	341.2	345.9	350.7	324.8	268.2	211.6	155.0	98.4	90.1
105°	445.5	449.2	452.8	456.5	460.1	447.0	417.1	387.2	357.3	327.4	268.6
107.5°	565.7	568.6	571.5	574.5	577.4	581.2	585.9	590.7	595.4	600.1	557.0
110°	645.8	648.5	651.1	653.8	656.5	659.6	663.3	666.9	670.6	674.2	663.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	722.4	724.8	727.2	729.6	731.9	735.0	738.6	742.3	745.9	749.6	749.8
115°	835.7	837.7	839.7	841.7	843.7	846.2	849.2	852.1	855.1	858.1	861.4
117.5°	945.4	947.9	950.3	952.8	955.3	957.3	958.8	960.3	961.8	963.4	966.0
120°	1013.6	1016.6	1019.6	1022.6	1025.6	1027.6	1028.5	1029.5	1030.5	1031.5	1034.2
122.5°	1083.0	1085.4	1087.9	1090.3	1092.8	1094.7	1095.9	1097.2	1098.4	1099.7	1101.6
125°	1178.0	1180.7	1183.4	1186.0	1188.7	1190.7	1192.0	1193.3	1194.7	1196.0	1196.7
127.5°	1270.1	1272.8	1275.5	1278.1	1280.8	1282.9	1284.5	1286.1	1287.7	1289.3	1290.3
130°	1327.5	1330.2	1332.9	1335.5	1338.2	1340.2	1341.5	1342.8	1344.2	1345.5	1346.8
132.5°	1382.6	1385.2	1387.9	1390.5	1393.2	1395.1	1396.1	1397.2	1398.2	1399.3	1400.6
135°	1466.6	1468.6	1470.6	1472.6	1474.6	1476.2	1477.5	1478.9	1480.2	1481.5	1482.5
137.5°	1538.3	1540.9	1543.4	1545.9	1548.4	1550.1	1550.8	1551.5	1552.3	1553.0	1554.6
140°	1586.2	1588.2	1590.2	1592.2	1594.2	1595.6	1596.6	1597.6	1598.6	1599.6	1601.0
142.5°	1630.4	1632.4	1634.4	1636.4	1638.4	1639.9	1640.9	1641.9	1642.9	1643.9	1644.9
145°	1692.3	1694.6	1697.0	1699.3	1701.6	1703.1	1703.8	1704.4	1705.1	1705.8	1706.4
147.5°	1750.6	1752.2	1753.7	1755.2	1756.7	1757.8	1758.5	1759.2	1759.8	1760.5	1761.2
150°	1786.5	1787.5	1788.5	1789.5	1790.5	1791.3	1792.0	1792.7	1793.3	1794.0	1794.6
152.5°	1818.8	1819.3	1819.7	1820.2	1820.7	1821.1	1821.5	1821.9	1822.3	1822.7	1823.9
155°	1864.2	1863.6	1862.9	1862.3	1861.6	1861.4	1861.8	1862.1	1862.4	1862.7	1864.4
157.5°	1899.5	1899.5	1899.4	1899.3	1899.3	1899.1	1898.7	1898.4	1898.1	1897.7	1899.7
160°	1921.1	1920.7	1920.4	1920.1	1919.7	1919.4	1919.1	1918.7	1918.4	1918.1	1920.1
162.5°	1941.4	1940.5	1939.7	1938.8	1937.9	1937.3	1937.0	1936.7	1936.3	1936.0	1938.3
165°	1965.9	1964.9	1963.9	1962.9	1961.9	1961.3	1960.9	1960.6	1960.3	1959.9	1962.6
167.5°	1985.0	1983.7	1982.4	1981.1	1979.7	1979.1	1979.1	1979.1	1979.1	1979.1	1981.7
170°	1995.8	1994.5	1993.1	1991.8	1990.5	1989.8	1989.8	1989.8	1989.8	1989.8	1992.5
172.5°	2003.0	2001.4	1999.8	1998.2	1996.6	1995.9	1996.2	1996.5	1996.7	1997.0	1999.7
175°	2012.2	2010.6	2008.9	2007.3	2005.6	2004.9	2005.3	2005.6	2005.9	2006.3	2008.6
177.5°	2014.6	2013.3	2012.0	2010.7	2009.3	2008.8	2009.1	2009.3	2009.6	2009.9	2012.0
180°	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2
2.5°	1671.5	1674.2	1676.8	1677.9	1677.4	1677.0	1676.5	1676.0
5°	1660.5	1663.2	1665.9	1667.0	1666.4	1665.8	1665.2	1664.6
7.5°	1637.1	1638.6	1640.1	1640.4	1639.3	1638.3	1637.3	1636.2
10°	1616.2	1616.5	1616.8	1616.2	1614.6	1613.1	1611.6	1610.1
12.5°	1590.1	1590.0	1589.8	1588.8	1587.1	1585.3	1583.6	1581.8
15°	1544.5	1543.0	1541.5	1539.6	1537.5	1535.4	1533.3	1531.2
17.5°	1489.9	1486.7	1483.5	1480.3	1477.2	1474.0	1470.9	1467.7
20°	1452.5	1448.6	1444.7	1440.9	1437.3	1433.6	1430.0	1426.4
22.5°	1412.5	1407.6	1402.7	1398.5	1395.2	1391.8	1388.4	1385.0
25°	1347.0	1340.6	1334.3	1329.4	1326.1	1322.8	1319.5	1316.1
27.5°	1275.6	1266.8	1257.9	1251.0	1245.9	1240.8	1235.7	1230.7
30°	1224.8	1214.5	1204.2	1196.7	1191.8	1187.0	1182.1	1177.3
32.5°	1174.9	1163.7	1152.4	1144.3	1139.2	1134.1	1129.0	1123.9
35°	1100.9	1087.9	1074.9	1065.7	1060.3	1054.8	1049.4	1043.9
37.5°	1021.5	1006.7	992.0	981.2	974.5	967.8	961.1	954.4
40°	966.2	950.5	934.7	923.4	916.4	909.5	902.5	895.6
42.5°	913.2	896.0	878.8	867.1	860.9	854.7	848.4	842.2
45°	835.2	818.0	800.7	788.5	781.2	774.0	766.7	759.5
47.5°	754.6	735.9	717.1	704.5	698.0	691.6	685.1	678.6
50°	700.2	681.4	662.7	649.8	642.9	635.9	629.0	622.0
52.5°	647.6	628.1	608.6	595.7	589.5	583.3	577.1	570.8
55°	569.2	551.7	534.1	522.3	516.3	510.2	504.2	498.1
57.5°	492.2	475.6	459.1	448.2	443.1	437.9	432.8	427.6
60°	443.7	427.4	411.0	400.3	395.2	390.0	384.9	379.7
62.5°	395.5	380.2	364.8	354.4	349.1	343.7	338.3	332.9
65°	327.0	312.1	297.3	288.2	284.9	281.6	278.3	274.9
67.5°	261.5	250.4	239.4	232.0	228.5	224.9	221.3	217.8
70°	221.1	210.5	199.9	193.0	189.6	186.3	183.0	179.7
72.5°	184.7	176.0	167.4	162.4	161.0	159.6	158.2	156.8
75°	138.2	135.2	132.2	130.4	129.8	129.1	128.5	127.9
77.5°	104.3	102.6	101.0	99.9	99.3	98.7	98.1	97.5
80°	83.9	83.0	82.1	81.4	80.8	80.2	79.5	78.9
82.5°	64.3	63.4	62.5	62.0	61.9	61.8	61.6	61.5
85°	36.9	36.3	35.7	35.4	35.4	35.4	35.4	35.4
87.5°	21.4	21.4	21.4	21.4	21.3	21.2	21.1	20.9
90°	38.5	39.9	41.2	42.2	42.9	43.5	44.2	44.8
92.5°	42.5	44.7	46.8	48.0	48.4	48.8	49.2	49.6
95°	51.0	53.3	55.6	56.8	56.8	56.8	56.8	56.8
97.5°	53.5	56.1	58.8	60.3	60.6	60.9	61.3	61.6
100°	54.6	57.3	60.0	61.5	61.8	62.1	62.5	62.8
102.5°	81.9	73.7	65.4	61.6	62.2	62.8	63.4	64.0
105°	209.8	151.0	92.2	63.1	63.8	64.5	65.1	65.8
107.5°	513.8	470.7	427.6	383.9	339.6	295.2	250.9	206.6
110°	652.3	641.3	630.4	601.1	553.6	506.1	458.6	411.1



TEST NUMBER: P332468

CATALOG NUMBER: S123RDIW-S1000D1535U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	750.0	750.2	750.4	745.5	735.4	725.4	715.4	705.3
115°	864.8	868.1	871.4	873.7	875.1	876.4	877.7	879.1
117.5°	968.7	971.3	974.0	975.5	975.7	976.0	976.3	976.5
120°	1036.9	1039.5	1042.2	1043.5	1043.5	1043.5	1043.5	1043.5
122.5°	1103.4	1105.3	1107.2	1108.2	1108.5	1108.7	1109.0	1109.3
125°	1197.3	1198.0	1198.6	1199.3	1200.0	1200.6	1201.3	1202.0
127.5°	1291.4	1292.5	1293.5	1293.7	1293.1	1292.4	1291.7	1291.1
130°	1348.1	1349.5	1350.8	1351.1	1350.5	1349.8	1349.1	1348.5
132.5°	1402.0	1403.3	1404.6	1404.8	1403.9	1403.0	1402.0	1401.1
135°	1483.5	1484.5	1485.5	1485.5	1484.5	1483.5	1482.5	1481.5
137.5°	1556.2	1557.8	1559.4	1559.8	1559.2	1558.5	1557.8	1557.2
140°	1602.3	1603.6	1604.9	1605.3	1604.6	1604.0	1603.3	1602.6
142.5°	1646.0	1647.1	1648.1	1648.2	1647.3	1646.3	1645.4	1644.5
145°	1707.1	1707.8	1708.4	1708.8	1708.8	1708.8	1708.8	1708.8
147.5°	1761.8	1762.5	1763.2	1762.7	1761.2	1759.7	1758.1	1756.6
150°	1795.3	1796.0	1796.6	1796.5	1795.5	1794.5	1793.5	1792.5
152.5°	1825.1	1826.3	1827.5	1827.3	1825.8	1824.2	1822.7	1821.2
155°	1866.1	1867.7	1869.4	1869.2	1867.2	1865.2	1863.2	1861.3
157.5°	1901.7	1903.7	1905.7	1905.4	1902.8	1900.2	1897.6	1895.0
160°	1922.1	1924.0	1926.0	1925.9	1923.5	1921.2	1918.9	1916.6
162.5°	1940.5	1942.8	1945.0	1945.1	1943.1	1941.0	1939.0	1936.9
165°	1965.2	1967.9	1970.6	1970.7	1968.4	1966.1	1963.7	1961.4
167.5°	1984.4	1987.0	1989.7	1989.7	1987.0	1984.4	1981.7	1979.1
170°	1995.1	1997.8	2000.5	2000.5	1997.8	1995.1	1992.5	1989.8
172.5°	2002.3	2005.0	2007.6	2007.5	2004.6	2001.7	1998.7	1995.8
175°	2010.9	2013.2	2015.6	2015.4	2012.7	2010.1	2007.4	2004.8
177.5°	2014.1	2016.2	2018.4	2018.1	2015.4	2012.8	2010.1	2007.5
180°	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2

(END OF REPORT)