

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: P332468-940

Luminaire Tested: **S123RDIW-S1000D1535U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332468-940
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-S1000D1535U940-4F0-1E-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: 8857.5 lumens
Efficiency: N/A
Efficacy: 115.6 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

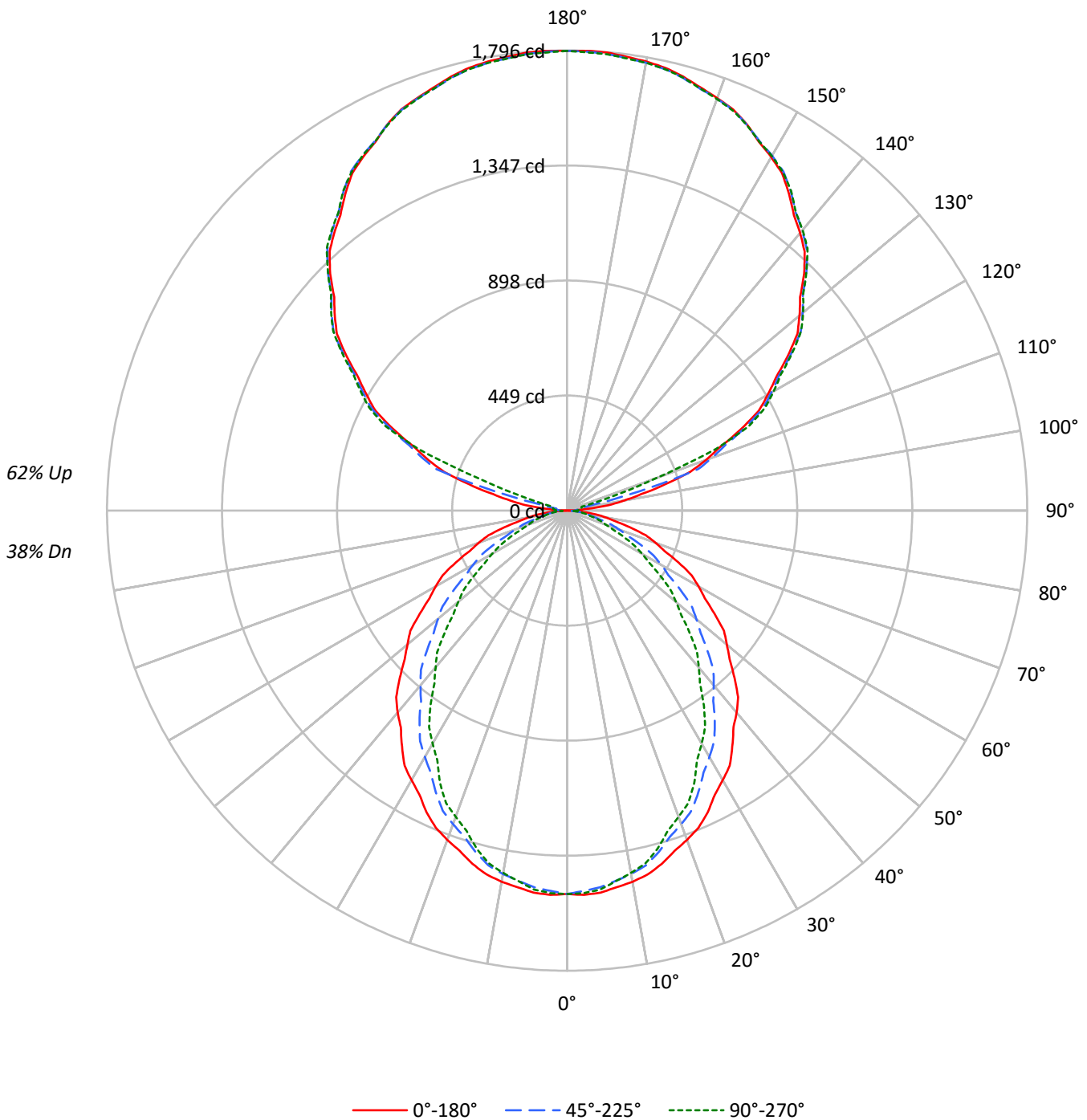
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	16108	16108	16108
5°	16170	15946	16038
10°	16078	15746	15692
15°	15905	15377	15216
20°	15668	14917	14569
25°	15423	14400	13938
30°	15100	13803	13048
35°	14767	13205	12232
40°	14462	12500	11221
45°	14059	11805	10310
50°	13618	11015	9287
55°	13165	10113	8336
60°	12751	9145	7289
65°	12210	8099	6243
70°	11534	6801	5042
75°	10551	5352	4741
80°	9403	4736	4364
85°	7941	4199	3903



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.5	1.6
10°-20°	391.0	4.4
20°-30°	563.0	6.4
30°-40°	634.1	7.2
40°-50°	606.7	6.8
50°-60°	496.8	5.6
60°-70°	335.2	3.8
70°-80°	168.6	1.9
80°-90°	49.6	0.6
90°-100°	65.2	0.7
100°-110°	310.9	3.5
110°-120°	746.8	8.4
120°-130°	951.0	10.7
130°-140°	1016.1	11.5
140°-150°	950.2	10.7
150°-160°	766.5	8.7
160°-170°	494.7	5.6
170°-180°	170.5	1.9
0°-30°	1094.5	12.4
0°-40°	1728.6	19.5
0°-60°	2832.1	32.0
0°-90°	3385.6	38.2
90°-120°	1123.0	12.7
90°-150°	4040.3	45.6
90°-180°	5472.0	61.8
0°-180°	8857.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1496	1496	1496	1496	1496	
5°	1496	1490	1476	1486	1484	142
15°	1427	1413	1380	1374	1365	402
25°	1299	1267	1212	1188	1174	597
35°	1124	1078	1005	954	931	703
45°	924	867	776	709	677	712
55°	702	640	539	471	444	629
65°	479	411	318	261	245	474
75°	254	195	129	117	114	270
85°	64	39	34	32	32	72
90°	1	15	32	37	40	7
95°	81	30	41	50	51	101
105°	397	404	292	69	59	421
115°	745	753	765	778	784	735
125°	1050	1061	1066	1069	1072	938
135°	1308	1316	1321	1325	1321	1006
145°	1509	1518	1521	1524	1524	944
155°	1662	1660	1661	1667	1660	766
165°	1753	1749	1748	1757	1749	495
175°	1794	1788	1789	1797	1788	171
180°	1794	1794	1794	1794	1794	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5
2.5°	1501.3	1500.4	1499.6	1498.7	1497.8	1496.1	1493.5	1490.9	1488.4	1485.8	1488.1
5°	1496.5	1495.0	1493.7	1492.4	1491.0	1488.7	1485.5	1482.3	1479.1	1475.8	1478.2
7.5°	1482.6	1481.1	1479.7	1478.2	1476.8	1473.9	1469.7	1465.5	1461.3	1457.1	1458.5
10°	1471.0	1469.1	1467.1	1465.3	1463.4	1460.0	1455.2	1450.3	1445.5	1440.6	1440.9
12.5°	1454.5	1452.3	1450.3	1448.1	1446.0	1442.0	1436.1	1430.1	1424.2	1418.3	1418.1
15°	1427.3	1424.3	1421.3	1418.4	1415.4	1410.2	1402.6	1395.0	1387.5	1379.9	1378.6
17.5°	1393.0	1389.6	1386.2	1382.7	1379.2	1372.7	1363.1	1353.5	1343.9	1334.3	1331.4
20°	1367.8	1363.5	1359.1	1354.9	1350.5	1343.3	1333.0	1322.8	1312.5	1302.3	1298.8
22.5°	1339.6	1334.7	1329.7	1324.7	1319.8	1311.9	1300.9	1290.0	1279.2	1268.3	1263.9
25°	1298.6	1291.9	1285.1	1278.4	1271.7	1262.0	1249.6	1237.2	1224.9	1212.5	1206.8
27.5°	1248.8	1241.4	1233.9	1226.5	1219.1	1208.4	1194.6	1180.8	1167.0	1153.2	1145.3
30°	1214.9	1206.8	1198.7	1190.6	1182.5	1170.9	1155.8	1140.7	1125.6	1110.5	1101.4
32.5°	1180.9	1171.7	1162.5	1153.3	1144.2	1131.7	1115.7	1099.7	1083.7	1067.7	1057.7
35°	1123.8	1114.1	1104.4	1094.8	1085.0	1071.7	1055.1	1038.3	1021.6	1004.9	993.3
37.5°	1066.0	1055.3	1044.5	1033.7	1022.9	1008.6	990.8	972.9	955.0	937.2	924.0
40°	1029.2	1017.4	1005.4	993.5	981.7	966.2	947.1	927.9	908.7	889.6	875.6
42.5°	987.4	975.5	963.7	951.8	940.0	924.2	904.4	884.6	864.8	845.0	829.6
45°	923.6	911.4	899.3	887.2	875.0	858.6	837.9	817.1	796.3	775.5	760.2
47.5°	859.8	846.4	833.1	819.7	806.5	789.4	768.7	747.9	727.1	706.3	689.6
50°	813.2	800.5	787.8	775.2	762.4	745.2	723.4	701.5	679.7	657.8	641.1
52.5°	771.4	757.7	743.9	730.1	716.4	698.7	677.1	655.4	633.8	612.2	594.8
55°	701.5	688.3	675.0	661.8	648.6	630.5	607.6	584.7	561.8	538.9	523.3
57.5°	636.9	622.5	608.1	593.7	579.3	560.6	537.5	514.5	491.5	468.5	453.7
60°	592.3	577.5	562.6	547.8	532.9	514.3	492.0	469.6	447.2	424.8	410.2
62.5°	547.6	532.8	517.9	503.1	488.3	469.7	447.3	424.9	402.5	380.1	366.4
65°	479.4	464.6	449.7	434.9	420.1	402.2	381.1	360.1	339.0	318.0	304.8
67.5°	411.2	396.2	381.2	366.2	351.2	333.6	313.4	293.3	273.1	252.9	243.1
70°	366.5	352.0	337.4	322.8	308.3	291.6	272.7	253.8	234.9	216.1	206.6
72.5°	321.8	307.6	293.2	278.8	264.5	248.7	231.6	214.5	197.2	180.1	172.4
75°	253.7	240.7	227.7	214.8	201.9	188.0	173.2	158.3	143.5	128.7	125.9
77.5°	191.5	179.8	168.1	156.4	144.7	134.0	124.5	114.9	105.4	95.9	94.4
80°	151.7	140.6	129.6	118.5	107.5	99.2	93.5	87.7	82.1	76.4	75.6
82.5°	113.9	104.3	94.8	85.2	75.6	69.6	66.9	64.3	61.6	58.9	58.1
85°	64.3	58.4	52.4	46.5	40.6	37.2	36.4	35.6	34.8	34.0	33.4
87.5°	23.5	21.8	20.0	18.2	16.4	16.0	16.7	17.5	18.3	19.0	19.1
90°	1.3	4.3	7.2	10.3	13.2	16.6	20.4	24.3	28.2	32.0	33.2
92.5°	24.8	24.0	23.1	22.3	21.5	22.5	25.4	28.4	31.2	34.2	36.0
95°	81.3	69.2	57.1	44.9	32.7	28.3	31.6	34.8	38.1	41.3	43.4
97.5°	163.5	158.0	152.6	147.0	141.6	128.2	106.9	85.6	64.3	42.9	45.3
100°	225.3	231.2	237.1	243.1	249.0	228.8	182.6	136.4	90.2	44.0	46.4
102.5°	295.7	300.0	304.3	308.4	312.7	289.6	239.2	188.7	138.2	87.7	80.3
105°	397.3	400.6	403.8	407.1	410.3	398.6	371.9	345.3	318.6	291.9	239.5
107.5°	504.4	507.0	509.6	512.3	514.9	518.3	522.5	526.7	530.9	535.1	496.7
110°	575.9	578.3	580.6	583.0	585.4	588.2	591.5	594.7	598.0	601.2	591.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	644.2	646.3	648.5	650.6	652.6	655.4	658.6	661.9	665.1	668.4	668.6
115°	745.2	747.0	748.8	750.6	752.3	754.6	757.2	759.8	762.5	765.2	768.1
117.5°	843.0	845.3	847.4	849.6	851.9	853.6	855.0	856.3	857.6	859.1	861.4
120°	903.8	906.5	909.2	911.9	914.5	916.3	917.1	918.0	918.9	919.8	922.2
122.5°	965.7	967.9	970.1	972.2	974.5	976.2	977.2	978.4	979.5	980.6	982.3
125°	1050.4	1052.8	1055.3	1057.6	1060.0	1061.8	1062.9	1064.1	1065.3	1066.5	1067.1
127.5°	1132.6	1135.0	1137.4	1139.7	1142.1	1144.0	1145.4	1146.8	1148.3	1149.7	1150.6
130°	1183.7	1186.2	1188.6	1190.9	1193.3	1195.1	1196.2	1197.4	1198.6	1199.8	1201.0
132.5°	1232.9	1235.2	1237.6	1239.9	1242.3	1244.0	1244.9	1245.9	1246.8	1247.8	1248.9
135°	1307.8	1309.6	1311.3	1313.1	1314.9	1316.3	1317.5	1318.8	1319.9	1321.1	1322.0
137.5°	1371.7	1374.0	1376.3	1378.5	1380.7	1382.2	1382.9	1383.5	1384.2	1384.8	1386.3
140°	1414.4	1416.2	1418.0	1419.8	1421.6	1422.8	1423.7	1424.6	1425.5	1426.4	1427.6
142.5°	1453.8	1455.6	1457.4	1459.2	1461.0	1462.3	1463.2	1464.1	1465.0	1465.9	1466.8
145°	1509.0	1511.1	1513.2	1515.3	1517.3	1518.7	1519.3	1519.8	1520.5	1521.1	1521.6
147.5°	1561.0	1562.5	1563.8	1565.1	1566.5	1567.4	1568.1	1568.7	1569.2	1569.9	1570.5
150°	1593.0	1593.9	1594.8	1595.7	1596.6	1597.3	1597.9	1598.6	1599.1	1599.7	1600.3
152.5°	1621.8	1622.3	1622.6	1623.1	1623.5	1623.9	1624.3	1624.6	1625.0	1625.3	1626.4
155°	1662.3	1661.8	1661.2	1660.6	1660.0	1659.8	1660.2	1660.5	1660.7	1661.0	1662.5
157.5°	1693.8	1693.8	1693.7	1693.6	1693.6	1693.4	1693.1	1692.8	1692.6	1692.2	1694.0
160°	1713.1	1712.7	1712.4	1712.2	1711.8	1711.5	1711.3	1710.9	1710.7	1710.4	1712.2
162.5°	1731.2	1730.4	1729.7	1728.8	1728.0	1727.5	1727.2	1727.0	1726.6	1726.4	1728.4
165°	1753.0	1752.1	1751.2	1750.3	1749.4	1748.9	1748.6	1748.3	1748.0	1747.7	1750.1
167.5°	1770.0	1768.9	1767.7	1766.6	1765.3	1764.8	1764.8	1764.8	1764.8	1764.8	1767.1
170°	1779.7	1778.5	1777.3	1776.1	1775.0	1774.3	1774.3	1774.3	1774.3	1774.3	1776.7
172.5°	1786.1	1784.7	1783.2	1781.8	1780.4	1779.8	1780.0	1780.3	1780.5	1780.7	1783.2
175°	1794.3	1792.9	1791.4	1789.9	1788.4	1787.8	1788.1	1788.4	1788.7	1789.0	1791.1
177.5°	1796.4	1795.3	1794.1	1793.0	1791.7	1791.3	1791.5	1791.7	1792.0	1792.2	1794.1
180°	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5
2.5°	1490.5	1492.9	1495.2	1496.2	1495.8	1495.4	1495.0	1494.5
5°	1480.7	1483.1	1485.5	1486.5	1485.9	1485.4	1484.9	1484.3
7.5°	1459.8	1461.2	1462.5	1462.8	1461.8	1460.9	1460.0	1459.0
10°	1441.2	1441.5	1441.7	1441.2	1439.8	1438.4	1437.1	1435.7
12.5°	1417.9	1417.8	1417.6	1416.8	1415.2	1413.6	1412.1	1410.5
15°	1377.2	1375.9	1374.6	1372.9	1371.0	1369.1	1367.3	1365.4
17.5°	1328.6	1325.7	1322.9	1320.0	1317.2	1314.4	1311.6	1308.8
20°	1295.2	1291.7	1288.3	1284.9	1281.7	1278.4	1275.1	1271.9
22.5°	1259.5	1255.2	1250.8	1247.1	1244.1	1241.1	1238.1	1235.0
25°	1201.1	1195.4	1189.8	1185.4	1182.5	1179.6	1176.6	1173.6
27.5°	1137.5	1129.6	1121.7	1115.5	1111.0	1106.4	1101.9	1097.4
30°	1092.2	1083.0	1073.8	1067.1	1062.7	1058.5	1054.1	1049.8
32.5°	1047.7	1037.7	1027.6	1020.4	1015.8	1011.3	1006.7	1002.2
35°	981.7	970.1	958.5	950.3	945.5	940.6	935.8	930.9
37.5°	910.9	897.7	884.6	874.9	869.0	863.0	857.0	851.0
40°	861.6	847.6	833.5	823.4	817.2	811.0	804.8	798.6
42.5°	814.3	799.0	783.6	773.2	767.7	762.1	756.5	751.0
45°	744.8	729.4	714.0	703.1	696.6	690.2	683.7	677.3
47.5°	672.9	656.2	639.4	628.2	622.4	616.7	610.9	605.1
50°	624.4	607.6	590.9	579.4	573.3	567.0	560.9	554.6
52.5°	577.5	560.1	542.7	531.2	525.7	520.1	514.6	509.0
55°	507.6	492.0	476.3	465.7	460.4	455.0	449.6	444.2
57.5°	438.9	424.1	409.4	399.7	395.1	390.5	385.9	381.3
60°	395.7	381.1	366.5	357.0	352.4	347.8	343.2	338.6
62.5°	352.7	339.0	325.3	316.0	311.3	306.5	301.7	296.9
65°	291.6	278.3	265.1	257.0	254.0	251.1	248.2	245.1
67.5°	233.2	223.3	213.5	206.9	203.8	200.5	197.3	194.2
70°	197.2	187.7	178.3	172.1	169.1	166.1	163.2	160.2
72.5°	164.7	156.9	149.3	144.8	143.6	142.3	141.1	139.8
75°	123.2	120.6	117.9	116.3	115.7	115.1	114.6	114.0
77.5°	93.0	91.5	90.1	89.1	88.5	88.0	87.5	86.9
80°	74.8	74.0	73.2	72.6	72.1	71.5	70.9	70.4
82.5°	57.3	56.5	55.7	55.3	55.2	55.1	54.9	54.8
85°	32.9	32.4	31.8	31.6	31.6	31.6	31.6	31.6
87.5°	19.1	19.1	19.1	19.1	19.0	18.9	18.8	18.6
90°	34.3	35.6	36.7	37.6	38.3	38.8	39.4	39.9
92.5°	37.9	39.9	41.7	42.8	43.2	43.5	43.9	44.2
95°	45.5	47.5	49.6	50.6	50.6	50.6	50.6	50.6
97.5°	47.7	50.0	52.4	53.8	54.0	54.3	54.7	54.9
100°	48.7	51.1	53.5	54.8	55.1	55.4	55.7	56.0
102.5°	73.0	65.7	58.3	54.9	55.5	56.0	56.5	57.1
105°	187.1	134.6	82.2	56.3	56.9	57.5	58.1	58.7
107.5°	458.2	419.7	381.3	342.3	302.8	263.2	223.7	184.2
110°	581.7	571.9	562.1	536.0	493.7	451.3	408.9	366.6



TEST NUMBER: P332468-940

CATALOG NUMBER: S123RDIW-S1000D1535U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	668.8	669.0	669.1	664.8	655.8	646.8	637.9	628.9
115°	771.2	774.1	777.0	779.1	780.3	781.5	782.7	783.9
117.5°	863.8	866.1	868.5	869.9	870.0	870.3	870.6	870.8
120°	924.6	926.9	929.3	930.5	930.5	930.5	930.5	930.5
122.5°	983.9	985.6	987.3	988.2	988.5	988.6	988.9	989.2
125°	1067.6	1068.3	1068.8	1069.4	1070.1	1070.6	1071.2	1071.8
127.5°	1151.6	1152.5	1153.4	1153.6	1153.1	1152.4	1151.8	1151.3
130°	1202.1	1203.4	1204.5	1204.8	1204.3	1203.6	1203.0	1202.5
132.5°	1250.2	1251.3	1252.5	1252.7	1251.9	1251.1	1250.2	1249.4
135°	1322.9	1323.7	1324.6	1324.6	1323.7	1322.9	1322.0	1321.1
137.5°	1387.7	1389.1	1390.5	1390.9	1390.4	1389.7	1389.1	1388.6
140°	1428.8	1429.9	1431.1	1431.5	1430.8	1430.3	1429.7	1429.1
142.5°	1467.8	1468.7	1469.6	1469.7	1468.9	1468.0	1467.2	1466.4
145°	1522.2	1522.9	1523.4	1523.8	1523.8	1523.8	1523.8	1523.8
147.5°	1571.0	1571.6	1572.3	1571.8	1570.5	1569.1	1567.7	1566.4
150°	1600.9	1601.5	1602.0	1602.0	1601.1	1600.2	1599.3	1598.4
152.5°	1627.5	1628.5	1629.6	1629.4	1628.1	1626.7	1625.3	1624.0
155°	1664.0	1665.4	1667.0	1666.8	1665.0	1663.2	1661.4	1659.7
157.5°	1695.8	1697.5	1699.3	1699.1	1696.7	1694.4	1692.1	1689.8
160°	1714.0	1715.7	1717.4	1717.3	1715.2	1713.2	1711.1	1709.1
162.5°	1730.4	1732.4	1734.4	1734.5	1732.7	1730.8	1729.0	1727.2
165°	1752.4	1754.8	1757.2	1757.3	1755.2	1753.2	1751.1	1749.0
167.5°	1769.5	1771.8	1774.2	1774.2	1771.8	1769.5	1767.1	1764.8
170°	1779.1	1781.5	1783.9	1783.9	1781.5	1779.1	1776.7	1774.3
172.5°	1785.5	1787.9	1790.2	1790.1	1787.5	1784.9	1782.3	1779.7
175°	1793.1	1795.2	1797.3	1797.2	1794.7	1792.4	1790.0	1787.7
177.5°	1796.0	1797.9	1799.8	1799.6	1797.2	1794.8	1792.4	1790.1
180°	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3

(END OF REPORT)