

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: P332208-940

Luminaire Tested: **S123DIW-S1000D1535U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332208-940
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: S123DIW-S1000D1535U940-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9149.7 lumens
Efficiency: N/A
Efficacy: 119.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

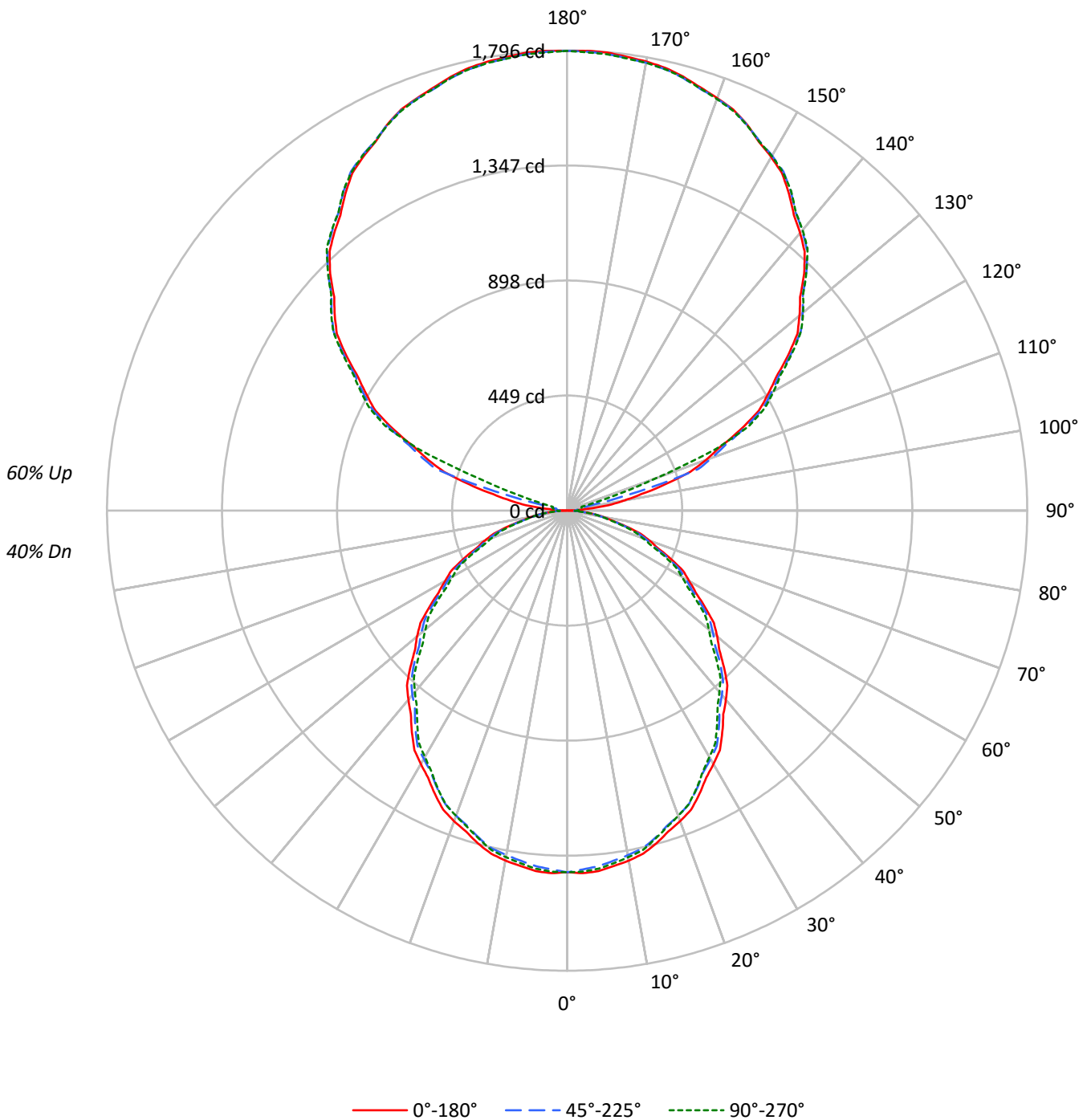
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	96	91	87	84	87	83	80	77	68	66	64	54	53	51	42	41	40	34
2	87	80	74	68	79	73	67	63	60	56	53	48	45	43	37	35	33	28
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28	24
4	72	62	54	48	66	57	50	45	47	42	38	37	34	31	29	26	24	20
5	66	55	47	41	60	50	43	38	42	36	32	34	30	27	26	23	21	18
6	61	49	41	36	55	45	38	33	37	32	28	30	26	23	24	21	19	16
7	56	44	37	31	51	41	34	29	34	29	25	28	24	21	21	19	17	14
8	52	40	33	27	48	37	30	26	31	26	22	25	21	18	20	17	15	12
9	49	37	29	24	44	34	27	23	28	23	20	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15193	15193	15193
5°	15263	15055	15159
10°	15162	14924	15017
15°	14985	14755	14782
20°	14778	14513	14528
25°	14500	14226	14197
30°	14194	13908	13801
35°	13875	13571	13397
40°	13541	13198	12995
45°	13172	12858	12543
50°	12804	12439	12092
55°	12322	12003	11639
60°	11834	11496	11130
65°	11405	10942	10603
70°	10770	10313	9854
75°	9844	9491	9087
80°	8877	8498	8424
85°	7793	7497	7188



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.0	1.5
10°-20°	375.4	4.1
20°-30°	554.6	6.1
30°-40°	647.8	7.1
40°-50°	651.3	7.1
50°-60°	572.1	6.3
60°-70°	426.2	4.7
70°-80°	242.8	2.7
80°-90°	74.7	0.8
90°-100°	65.2	0.7
100°-110°	310.9	3.4
110°-120°	746.8	8.2
120°-130°	951.0	10.4
130°-140°	1016.1	11.1
140°-150°	950.2	10.4
150°-160°	766.5	8.4
160°-170°	494.7	5.4
170°-180°	170.5	1.9
0°-30°	1062.9	11.6
0°-40°	1710.7	18.7
0°-60°	2934.1	32.1
0°-90°	3677.8	40.2
90°-120°	1123.0	12.3
90°-150°	4040.3	44.2
90°-180°	5472.0	59.8
0°-180°	9149.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1412	1412	1412	1412	1412	
5°	1413	1406	1393	1405	1403	134
15°	1345	1339	1324	1333	1326	379
25°	1221	1213	1198	1199	1195	562
35°	1056	1048	1033	1026	1020	660
45°	865	860	845	831	824	668
55°	657	655	640	627	620	588
65°	448	441	430	420	416	442
75°	237	232	228	222	218	253
85°	63	61	61	58	58	69
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°	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5
2.5°	1416.3	1415.5	1414.6	1413.7	1412.9	1411.2	1408.9	1406.5	1404.2	1401.8	1403.9
5°	1412.6	1411.3	1410.0	1408.6	1407.3	1405.2	1402.2	1399.2	1396.2	1393.3	1396.0
7.5°	1398.8	1397.5	1396.2	1394.8	1393.5	1391.2	1388.2	1385.1	1382.1	1378.9	1381.3
10°	1387.2	1385.9	1384.5	1383.1	1381.8	1379.4	1375.9	1372.3	1368.9	1365.4	1367.8
12.5°	1371.6	1370.6	1369.4	1368.2	1367.2	1364.9	1361.6	1358.3	1355.0	1351.7	1353.5
15°	1344.7	1343.6	1342.6	1341.5	1340.4	1338.1	1334.6	1331.1	1327.6	1324.1	1326.2
17.5°	1313.4	1312.0	1310.6	1309.2	1307.8	1305.4	1301.8	1298.3	1294.9	1291.3	1292.8
20°	1290.1	1288.5	1286.9	1285.2	1283.6	1281.0	1277.6	1274.1	1270.6	1267.0	1268.1
22.5°	1263.9	1262.3	1260.7	1259.0	1257.4	1254.9	1251.3	1247.9	1244.4	1240.8	1241.7
25°	1220.9	1219.3	1217.7	1216.1	1214.4	1211.9	1208.4	1204.9	1201.4	1197.8	1198.1
27.5°	1175.1	1173.5	1171.9	1170.4	1168.8	1166.1	1162.3	1158.6	1154.8	1151.0	1151.2
30°	1142.0	1140.7	1139.3	1138.0	1136.7	1134.1	1130.3	1126.5	1122.8	1119.0	1119.0
32.5°	1109.0	1107.2	1105.5	1103.7	1101.9	1099.6	1096.6	1093.8	1090.8	1087.9	1086.4
35°	1055.9	1054.3	1052.7	1051.1	1049.4	1046.9	1043.3	1039.8	1036.3	1032.8	1031.2
37.5°	1001.5	999.4	997.4	995.3	993.3	990.5	986.9	983.4	979.8	976.2	974.3
40°	963.7	962.0	960.4	958.8	957.2	954.5	950.7	946.9	943.2	939.3	937.2
42.5°	925.8	923.9	922.1	920.2	918.5	915.6	911.9	908.1	904.3	900.5	898.4
45°	865.3	864.2	863.2	862.1	861.0	858.7	855.2	851.7	848.2	844.7	841.5
47.5°	805.4	803.8	802.3	800.7	799.2	796.7	793.4	790.1	786.8	783.5	780.3
50°	764.6	763.2	761.9	760.5	759.2	756.8	753.2	749.8	746.3	742.8	739.8
52.5°	721.8	720.9	720.1	719.2	718.2	715.9	712.2	708.5	704.7	701.0	698.5
55°	656.6	656.3	656.0	655.8	655.5	653.6	650.1	646.6	643.1	639.6	636.6
57.5°	594.4	593.5	592.6	591.7	590.8	588.9	586.1	583.3	580.5	577.7	575.1
60°	549.7	549.5	549.2	548.9	548.7	547.0	543.7	540.5	537.3	534.0	531.5
62.5°	510.0	509.3	508.5	507.8	507.2	505.2	501.9	498.7	495.5	492.2	489.8
65°	447.8	446.5	445.1	443.8	442.5	440.4	437.7	435.1	432.3	429.6	427.5
67.5°	382.1	380.8	379.7	378.5	377.3	375.7	373.6	371.6	369.5	367.5	365.6
70°	342.2	340.6	339.0	337.4	335.8	334.1	332.5	330.9	329.3	327.7	325.8
72.5°	300.5	299.3	298.1	296.9	295.8	294.3	292.4	290.6	288.7	286.9	285.3
75°	236.7	235.6	234.5	233.4	232.4	231.4	230.6	229.8	229.0	228.2	226.9
77.5°	180.1	179.5	178.9	178.3	177.7	176.9	176.0	175.0	174.1	173.1	172.2
80°	143.2	142.4	141.6	140.8	140.0	139.3	138.8	138.2	137.7	137.1	136.9
82.5°	107.3	107.1	107.0	106.8	106.6	106.5	106.4	106.3	106.2	106.1	105.6
85°	63.1	62.6	62.1	61.5	61.0	60.7	60.7	60.7	60.7	60.7	60.1
87.5°	25.5	25.4	25.4	25.3	25.3	25.5	26.1	26.7	27.2	27.7	27.8
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°	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5
2.5°	1406.0	1408.3	1410.4	1411.4	1411.1	1411.0	1410.7	1410.5
5°	1398.6	1401.3	1404.1	1405.2	1404.6	1404.1	1403.6	1403.0
7.5°	1383.8	1386.3	1388.7	1389.7	1389.4	1389.1	1388.8	1388.4
10°	1370.2	1372.6	1375.1	1376.0	1375.5	1374.9	1374.4	1373.9
12.5°	1355.3	1357.1	1358.9	1359.6	1359.3	1359.0	1358.6	1358.3
15°	1328.4	1330.5	1332.8	1333.0	1331.4	1329.7	1328.1	1326.5
17.5°	1294.3	1295.8	1297.4	1297.8	1297.3	1296.6	1296.0	1295.5
20°	1269.2	1270.3	1271.4	1271.5	1270.7	1269.9	1269.1	1268.3
22.5°	1242.6	1243.4	1244.3	1244.2	1243.2	1242.2	1241.2	1240.1
25°	1198.4	1198.7	1199.0	1198.7	1197.8	1197.0	1196.2	1195.4
27.5°	1151.5	1151.6	1151.9	1151.5	1150.5	1149.4	1148.4	1147.4
30°	1119.0	1119.0	1119.0	1118.0	1116.2	1114.3	1112.4	1110.4
32.5°	1084.9	1083.4	1081.9	1080.6	1079.6	1078.5	1077.5	1076.5
35°	1029.6	1028.0	1026.4	1024.8	1023.5	1022.2	1020.8	1019.5
37.5°	972.4	970.4	968.5	967.1	966.3	965.4	964.5	963.7
40°	935.0	932.9	930.8	929.1	928.0	926.9	925.9	924.8
42.5°	896.2	894.0	891.9	890.3	889.2	888.1	887.1	886.0
45°	838.2	835.0	831.8	829.5	828.1	826.8	825.5	824.0
47.5°	777.1	774.0	770.8	768.7	767.4	766.2	765.1	763.8
50°	736.8	733.9	730.8	728.6	727.0	725.3	723.7	722.1
52.5°	695.9	693.4	690.9	688.8	687.2	685.5	683.9	682.3
55°	633.6	630.7	627.8	625.5	624.2	622.9	621.5	620.2
57.5°	572.4	569.8	567.1	565.0	563.5	561.9	560.4	558.7
60°	529.1	526.7	524.3	522.5	521.0	519.7	518.4	517.0
62.5°	487.4	485.0	482.5	480.9	479.9	479.0	478.1	477.2
65°	425.3	423.1	421.0	419.5	418.7	417.9	417.1	416.3
67.5°	363.7	361.9	360.0	358.5	357.3	356.1	355.0	353.9
70°	323.9	322.0	320.1	318.5	317.2	315.8	314.5	313.1
72.5°	283.6	281.9	280.2	279.0	278.3	277.6	277.0	276.3
75°	225.5	224.1	222.7	221.7	220.9	220.1	219.3	218.5
77.5°	171.2	170.3	169.4	169.0	169.0	169.0	169.0	169.0
80°	136.6	136.3	136.1	135.9	135.9	135.9	135.9	135.9
82.5°	105.1	104.6	104.2	103.8	103.5	103.3	103.2	102.9
85°	59.6	59.0	58.5	58.2	58.2	58.2	58.2	58.2
87.5°	27.8	27.8	27.8	27.9	28.0	28.2	28.3	28.4
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: P332208-940

CATALOG NUMBER: S123DIW-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)