

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: P332206-840

Luminaire Tested: **S123DIW-S1000D1535U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332206-840  
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-S1000D1535U840-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1535 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10442.7 lumens  
Efficiency: N/A  
Efficacy: 136.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

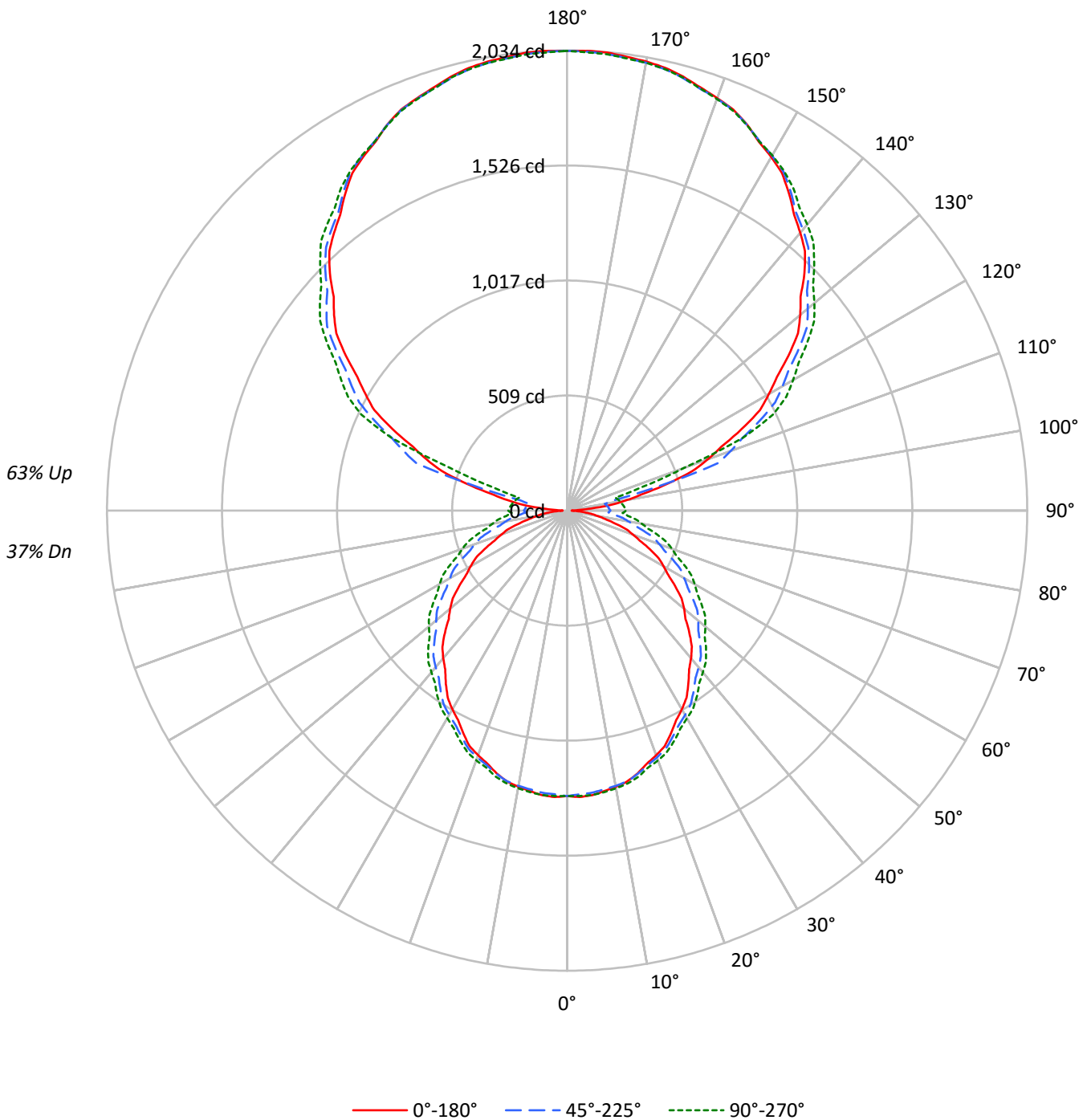
Input Watts (W): 76.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332206-840

CATALOG NUMBER: S123DIW-S1000D1535U840-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P332206-840

CATALOG NUMBER: S123DIW-S1000D1535U840-4F0-1E-UDD-D

**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	94	94	94	94	76	76	76	60	60	60	44	44	44	37				
1	94	90	85	82	85	81	78	75	66	63	61	51	50	48	38	37	36	30				
2	85	78	71	66	77	71	65	60	57	53	50	44	42	39	33	31	30	24				
3	78	68	61	55	70	62	55	50	50	45	41	39	36	33	29	27	25	20				
4	71	60	52	46	64	55	48	42	44	39	35	35	31	28	26	23	21	17				
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	15				
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13				
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11				
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10				
9	47	35	28	23	43	32	26	21	27	21	18	21	17	15	16	13	11	9				
10	44	32	25	20	40	30	23	19	24	19	16	19	16	13	15	12	10	8				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13581	13581	13581
5°	13623	13239	13246
10°	13501	12935	12870
15°	13327	12588	12458
20°	13078	12192	12005
25°	12772	11738	11529
30°	12457	11328	11046
35°	12104	10895	10660
40°	11767	10501	10247
45°	11396	10122	9918
50°	11028	9750	9554
55°	10621	9366	9226
60°	10225	8977	8892
65°	9818	8564	8493
70°	9204	8097	8084
75°	8432	7563	7667
80°	7539	7041	7193
85°	6723	6680	6917



TEST NUMBER: P332206-840

CATALOG NUMBER: S123DIW-S1000D1535U840-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.6	1.1
10°-20°	341.0	3.3
20°-30°	510.0	4.9
30°-40°	609.0	5.8
40°-50°	637.2	6.1
50°-60°	598.0	5.7
60°-70°	499.4	4.8
70°-80°	357.3	3.4
80°-90°	218.8	2.1
90°-100°	207.6	2.0
100°-110°	450.4	4.3
110°-120°	911.4	8.7
120°-130°	1114.5	10.7
130°-140°	1167.6	11.2
140°-150°	1079.7	10.3
150°-160°	868.0	8.3
160°-170°	560.2	5.4
170°-180°	193.1	1.8
0°-30°	970.6	9.3
0°-40°	1579.6	15.1
0°-60°	2814.7	27.0
0°-90°	3890.2	37.3
90°-120°	1569.3	15.0
90°-150°	4931.1	47.2
90°-180°	6552.0	62.7
0°-180°	10442.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1263	1260	1252	1262	1262	120
15°	1203	1206	1205	1218	1218	339
25°	1086	1099	1104	1121	1122	500
35°	935	956	974	994	1001	584
45°	764	797	832	857	869	589
55°	583	628	678	713	726	522
65°	403	457	517	556	572	398
75°	218	283	352	396	414	233
85°	67	136	209	254	269	71
90°	19	102	192	242	261	17
95°	107	104	183	234	250	126
105°	461	503	434	219	220	488
115°	851	878	940	986	1004	840
125°	1194	1208	1252	1283	1296	1066
135°	1484	1492	1513	1540	1544	1142
145°	1710	1719	1723	1736	1742	1070
155°	1883	1880	1881	1888	1880	867
165°	1985	1981	1979	1990	1981	561
175°	2032	2025	2026	2035	2025	193
180°	2032	2032	2032	2032	2032	



TEST NUMBER: P332206-840

CATALOG NUMBER: S123DIW-S1000D1535U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1267.3	1266.6	1265.8	1265.1	1264.4	1262.9	1261.0	1259.1	1257.1	1255.2	1257.1
5°	1263.1	1262.5	1261.9	1261.3	1260.7	1259.5	1257.7	1255.8	1253.9	1252.1	1254.6
7.5°	1250.7	1250.9	1251.0	1251.1	1251.2	1250.4	1248.7	1246.9	1245.1	1243.3	1246.4
10°	1239.8	1240.4	1241.0	1241.6	1242.2	1241.7	1240.2	1238.7	1237.2	1235.7	1238.7
12.5°	1226.6	1227.4	1228.3	1229.1	1230.0	1229.9	1228.9	1227.8	1226.8	1225.8	1228.6
15°	1202.6	1203.6	1204.5	1205.4	1206.3	1206.6	1206.3	1206.0	1205.7	1205.4	1208.5
17.5°	1172.5	1174.3	1176.1	1177.9	1179.7	1180.6	1180.5	1180.3	1180.2	1180.1	1182.9
20°	1150.4	1152.3	1154.1	1155.9	1157.7	1159.0	1159.6	1160.2	1160.8	1161.4	1164.2
22.5°	1127.3	1129.1	1131.0	1132.9	1134.7	1136.0	1136.9	1137.7	1138.6	1139.4	1142.9
25°	1085.8	1088.8	1092.0	1095.0	1098.0	1100.0	1101.0	1101.9	1102.8	1103.7	1107.6
27.5°	1044.0	1047.5	1051.0	1054.5	1057.9	1060.7	1062.7	1064.6	1066.5	1068.5	1072.0
30°	1014.3	1018.3	1022.3	1026.2	1030.3	1033.4	1035.9	1038.3	1040.8	1043.2	1046.9
32.5°	981.4	985.8	990.3	994.7	999.2	1003.0	1006.2	1009.4	1012.6	1015.7	1019.7
35°	934.6	939.5	944.4	949.3	954.2	958.6	962.6	966.5	970.5	974.5	979.1
37.5°	885.1	890.7	896.2	901.6	907.2	912.3	917.3	922.1	927.0	931.9	937.1
40°	852.1	857.7	863.1	868.7	874.1	880.0	886.1	892.2	898.3	904.4	909.6
42.5°	815.9	822.6	829.3	836.1	842.7	849.3	855.7	862.0	868.4	874.7	880.4
45°	764.2	771.5	778.9	786.2	793.6	801.0	808.6	816.3	823.9	831.5	837.4
47.5°	710.0	718.3	726.7	735.0	743.3	751.8	760.5	769.3	778.0	786.8	793.2
50°	674.9	683.4	692.0	700.5	709.0	718.1	727.5	737.0	746.5	756.0	763.0
52.5°	637.4	646.5	655.6	664.6	673.7	683.4	693.9	704.3	714.7	725.2	732.5
55°	582.8	592.9	602.9	613.0	623.1	633.6	644.6	655.6	666.6	677.6	685.9
57.5°	529.5	540.0	550.5	561.0	571.5	582.8	594.8	606.8	618.8	630.9	639.1
60°	492.1	503.0	514.0	525.0	536.0	547.8	560.3	572.9	585.4	597.9	606.4
62.5°	456.9	468.1	479.4	490.6	501.8	514.1	527.4	540.6	553.8	567.1	575.6
65°	402.7	414.7	426.6	438.5	450.4	463.0	476.5	489.9	503.3	516.8	525.9
67.5°	347.7	360.4	373.0	385.7	398.3	411.5	425.2	438.9	452.5	466.3	476.3
70°	309.2	322.3	335.5	348.7	361.8	375.7	390.3	405.1	419.7	434.3	444.1
72.5°	274.1	287.2	300.3	313.5	326.6	340.7	355.9	371.0	386.2	401.3	411.3
75°	218.5	232.9	247.2	261.7	276.0	290.7	306.1	321.3	336.6	351.8	361.9
77.5°	170.2	184.6	199.1	213.6	228.0	243.0	258.4	273.8	289.2	304.6	315.2
80°	136.0	151.1	166.0	181.0	195.9	211.4	227.2	243.2	259.0	274.9	285.3
82.5°	106.3	121.6	136.8	152.0	167.2	182.9	199.0	215.1	231.3	247.4	257.8
85°	67.4	82.6	97.9	113.2	128.5	144.2	160.4	176.5	192.7	208.9	219.3
87.5°	36.9	52.7	68.7	84.5	100.4	116.5	133.0	149.5	165.9	182.4	193.0
90°	19.4	37.7	56.0	74.3	92.7	111.8	131.7	151.7	171.6	191.6	203.3
92.5°	44.8	57.4	70.0	82.5	95.1	110.7	129.3	147.9	166.5	185.2	197.4
95°	107.2	105.3	103.5	101.7	99.9	108.3	126.9	145.5	164.2	182.9	194.7
97.5°	198.5	203.2	207.7	212.3	216.9	214.2	204.4	194.5	184.6	174.8	186.6
100°	267.5	284.0	300.4	317.0	333.5	322.6	284.3	246.0	207.7	169.4	181.0
102.5°	346.1	359.7	373.3	387.0	400.6	385.8	342.4	299.0	255.7	212.3	212.6
105°	460.9	471.9	482.9	493.9	504.9	502.0	484.9	467.9	450.8	433.7	382.8
107.5°	580.7	589.9	599.0	608.1	617.3	630.6	647.8	665.0	682.3	699.4	664.1
110°	660.5	668.6	676.8	685.0	693.2	705.2	721.1	737.0	753.0	768.8	765.7



TEST NUMBER: P332206-840

CATALOG NUMBER: S123DIW-S1000D1535U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	737.7	744.7	751.6	758.5	765.5	776.7	792.1	807.5	822.9	838.4	846.3
115°	850.8	856.5	862.1	867.9	873.5	883.3	897.4	911.4	925.4	939.5	950.1
117.5°	961.4	966.1	970.9	975.6	980.3	988.7	1000.5	1012.4	1024.2	1036.1	1046.0
120°	1029.1	1033.6	1038.1	1042.7	1047.3	1055.1	1066.2	1077.2	1088.3	1099.4	1109.1
122.5°	1099.1	1102.5	1105.7	1108.9	1112.3	1119.3	1130.2	1141.0	1152.0	1162.8	1171.4
125°	1193.8	1196.5	1199.1	1201.8	1204.6	1210.9	1221.1	1231.3	1241.5	1251.7	1258.9
127.5°	1286.8	1289.2	1291.5	1293.9	1296.3	1301.9	1310.9	1319.9	1328.8	1337.8	1344.8
130°	1344.7	1347.2	1349.5	1351.9	1354.2	1359.2	1366.7	1374.1	1381.6	1389.0	1396.1
132.5°	1399.3	1401.9	1404.4	1407.0	1409.7	1414.0	1420.0	1425.9	1431.9	1437.8	1444.7
135°	1483.8	1485.5	1487.2	1488.9	1490.7	1493.8	1498.5	1503.2	1507.9	1512.7	1519.1
137.5°	1556.0	1558.3	1560.6	1562.9	1565.2	1567.7	1570.3	1573.0	1575.6	1578.2	1584.7
140°	1603.2	1605.2	1607.2	1609.2	1611.2	1613.3	1615.2	1617.1	1619.0	1620.9	1626.8
142.5°	1647.9	1649.6	1651.4	1653.1	1655.0	1656.5	1657.6	1658.8	1660.0	1661.2	1666.4
145°	1710.4	1712.4	1714.4	1716.6	1718.6	1719.9	1720.6	1721.2	1721.9	1722.6	1725.8
147.5°	1767.9	1769.5	1771.0	1772.5	1774.0	1775.1	1775.8	1776.6	1777.2	1777.9	1779.3
150°	1804.1	1805.1	1806.1	1807.2	1808.2	1809.0	1809.7	1810.4	1811.0	1811.7	1812.3
152.5°	1836.7	1837.2	1837.7	1838.2	1838.7	1839.1	1839.5	1839.9	1840.3	1840.7	1841.9
155°	1882.6	1882.0	1881.3	1880.7	1880.0	1879.8	1880.2	1880.5	1880.8	1881.1	1882.8
157.5°	1918.2	1918.2	1918.1	1918.0	1918.0	1917.8	1917.4	1917.1	1916.8	1916.4	1918.4
160°	1940.1	1939.6	1939.3	1939.0	1938.6	1938.3	1938.0	1937.6	1937.3	1937.0	1939.0
162.5°	1960.6	1959.6	1958.8	1957.9	1957.0	1956.4	1956.1	1955.8	1955.4	1955.1	1957.4
165°	1985.3	1984.3	1983.3	1982.3	1981.3	1980.6	1980.2	1979.9	1979.6	1979.2	1982.0
167.5°	2004.6	2003.3	2002.0	2000.6	1999.2	1998.6	1998.6	1998.6	1998.6	1998.6	2001.2
170°	2015.5	2014.2	2012.8	2011.4	2010.1	2009.4	2009.4	2009.4	2009.4	2009.4	2012.2
172.5°	2022.8	2021.1	2019.5	2017.9	2016.3	2015.6	2015.9	2016.2	2016.4	2016.7	2019.4
175°	2032.1	2030.4	2028.7	2027.1	2025.4	2024.7	2025.1	2025.4	2025.7	2026.1	2028.4
177.5°	2034.5	2033.2	2031.8	2030.5	2029.1	2028.6	2028.9	2029.1	2029.4	2029.7	2031.8
180°	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1



TEST NUMBER: P332206-840

CATALOG NUMBER: S123DIW-S1000D1535U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1259.1	1261.0	1262.9	1263.8	1263.5	1263.3	1263.1	1262.8
5°	1257.0	1259.5	1261.9	1262.9	1262.6	1262.3	1262.0	1261.7
7.5°	1249.4	1252.5	1255.6	1256.9	1256.6	1256.2	1255.8	1255.5
10°	1241.7	1244.8	1247.9	1249.1	1248.5	1247.9	1247.3	1246.7
12.5°	1231.3	1234.2	1237.0	1238.1	1237.5	1236.9	1236.3	1235.7
15°	1211.5	1214.6	1217.6	1219.0	1218.7	1218.4	1218.1	1217.8
17.5°	1185.6	1188.4	1191.1	1192.2	1191.8	1191.4	1191.0	1190.5
20°	1166.9	1169.6	1172.5	1174.0	1174.3	1174.6	1174.9	1175.2
22.5°	1146.4	1149.8	1153.4	1155.0	1154.8	1154.7	1154.5	1154.3
25°	1111.7	1115.6	1119.5	1121.6	1121.6	1121.6	1121.6	1121.6
27.5°	1075.3	1078.7	1082.2	1084.0	1084.3	1084.5	1084.8	1085.0
30°	1050.6	1054.2	1057.8	1059.8	1059.8	1059.8	1059.8	1059.8
32.5°	1023.6	1027.4	1031.4	1033.7	1034.4	1035.1	1035.9	1036.6
35°	983.6	988.3	992.8	995.7	996.9	998.2	999.4	1000.6
37.5°	942.3	947.5	952.7	955.7	956.7	957.7	958.7	959.7
40°	914.7	920.0	925.1	928.4	929.6	930.8	932.0	933.2
42.5°	886.1	891.7	897.5	901.1	902.8	904.5	906.3	908.0
45°	843.1	849.0	854.7	858.9	861.3	863.7	866.3	868.7
47.5°	799.8	806.4	812.8	817.1	819.0	820.9	822.7	824.7
50°	770.0	777.0	784.1	788.6	790.8	792.9	795.1	797.2
52.5°	739.7	747.0	754.3	759.2	761.8	764.5	767.1	769.7
55°	694.1	702.4	710.6	715.9	718.4	720.8	723.3	725.7
57.5°	647.5	655.8	664.1	669.7	672.6	675.4	678.3	681.2
60°	615.0	623.6	632.1	638.0	641.5	644.8	648.1	651.5
62.5°	584.2	592.8	601.3	607.1	610.3	613.4	616.5	619.7
65°	535.1	544.3	553.4	559.6	562.6	565.6	568.8	571.8
67.5°	486.3	496.2	506.2	512.6	515.1	517.8	520.3	522.8
70°	453.8	463.6	473.4	479.9	482.9	485.9	489.0	492.1
72.5°	421.4	431.4	441.4	448.0	451.0	454.0	457.2	460.2
75°	372.0	382.1	392.1	399.1	402.7	406.4	410.0	413.7
77.5°	325.9	336.5	347.1	353.9	356.6	359.4	362.2	365.1
80°	295.7	306.1	316.4	323.2	326.2	329.2	332.3	335.4
82.5°	268.2	278.5	288.9	295.7	298.7	301.7	304.8	307.9
85°	229.6	240.0	250.4	257.2	260.2	263.3	266.3	269.4
87.5°	203.7	214.3	225.0	231.9	235.1	238.2	241.5	244.7
90°	215.0	226.7	238.4	246.2	249.9	253.7	257.3	261.1
92.5°	209.7	222.1	234.3	242.1	245.3	248.5	251.7	254.9
95°	206.5	218.3	230.1	237.6	240.7	243.7	246.7	249.8
97.5°	198.3	210.2	222.0	229.5	232.9	236.3	239.6	243.1
100°	192.5	204.0	215.6	223.1	226.4	229.8	233.2	236.6
102.5°	212.9	213.2	213.5	215.5	219.1	222.8	226.4	230.1
105°	332.0	281.2	230.4	206.7	210.2	213.5	216.9	220.4
107.5°	628.7	593.4	558.1	519.3	477.3	435.2	393.1	351.0
110°	762.5	759.4	756.3	732.1	686.5	641.0	595.4	549.9





TEST NUMBER: P332206-840

CATALOG NUMBER: S123DIW-S1000D1535U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	854.1	862.0	869.9	870.2	862.7	855.3	847.9	840.4
115°	960.8	971.5	982.2	989.4	993.2	996.9	1000.8	1004.5
117.5°	1056.0	1065.9	1075.9	1082.2	1084.9	1087.5	1090.1	1092.8
120°	1118.8	1128.5	1138.3	1144.2	1146.3	1148.5	1150.6	1152.8
122.5°	1180.1	1188.8	1197.4	1203.0	1205.4	1207.8	1210.2	1212.5
125°	1266.0	1273.0	1280.1	1285.1	1287.9	1290.7	1293.4	1296.3
127.5°	1352.0	1359.1	1366.2	1370.5	1371.9	1373.3	1374.7	1376.1
130°	1403.3	1410.5	1417.5	1421.7	1422.9	1424.0	1425.2	1426.3
132.5°	1451.7	1458.5	1465.4	1469.5	1470.6	1471.8	1472.9	1474.0
135°	1525.6	1532.2	1538.6	1542.2	1542.7	1543.2	1543.7	1544.3
137.5°	1591.0	1597.5	1604.0	1607.6	1608.4	1609.3	1610.1	1611.0
140°	1632.7	1638.7	1644.6	1648.0	1648.8	1649.7	1650.5	1651.4
142.5°	1671.5	1676.7	1681.8	1684.8	1685.4	1685.9	1686.5	1687.1
145°	1728.8	1731.9	1735.0	1737.3	1738.5	1739.7	1740.9	1742.1
147.5°	1780.7	1782.1	1783.5	1783.9	1783.5	1783.1	1782.6	1782.2
150°	1813.0	1813.7	1814.3	1814.5	1814.1	1813.7	1813.3	1812.9
152.5°	1843.1	1844.3	1845.5	1845.4	1844.0	1842.5	1841.1	1839.7
155°	1884.5	1886.1	1887.8	1887.6	1885.6	1883.6	1881.6	1879.7
157.5°	1920.5	1922.5	1924.5	1924.2	1921.6	1918.9	1916.3	1913.7
160°	1941.1	1943.0	1945.0	1944.9	1942.5	1940.2	1937.8	1935.5
162.5°	1959.6	1962.0	1964.2	1964.3	1962.3	1960.1	1958.1	1956.0
165°	1984.6	1987.3	1990.0	1990.1	1987.8	1985.5	1983.1	1980.7
167.5°	2004.0	2006.6	2009.3	2009.3	2006.6	2004.0	2001.2	1998.6
170°	2014.8	2017.5	2020.2	2020.2	2017.5	2014.8	2012.2	2009.4
172.5°	2022.1	2024.8	2027.4	2027.3	2024.4	2021.4	2018.4	2015.5
175°	2030.7	2033.1	2035.5	2035.3	2032.6	2029.9	2027.2	2024.6
177.5°	2034.0	2036.1	2038.3	2038.0	2035.3	2032.7	2029.9	2027.3
180°	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1

(END OF REPORT)