

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: P332039-840

Luminaire Tested: **S123DIP-S1000D1195U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332039-840  
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: S123DIP-S1000D1195U840-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9060.4 lumens  
Efficiency: N/A  
Efficacy: 138.5 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: General Diffuse

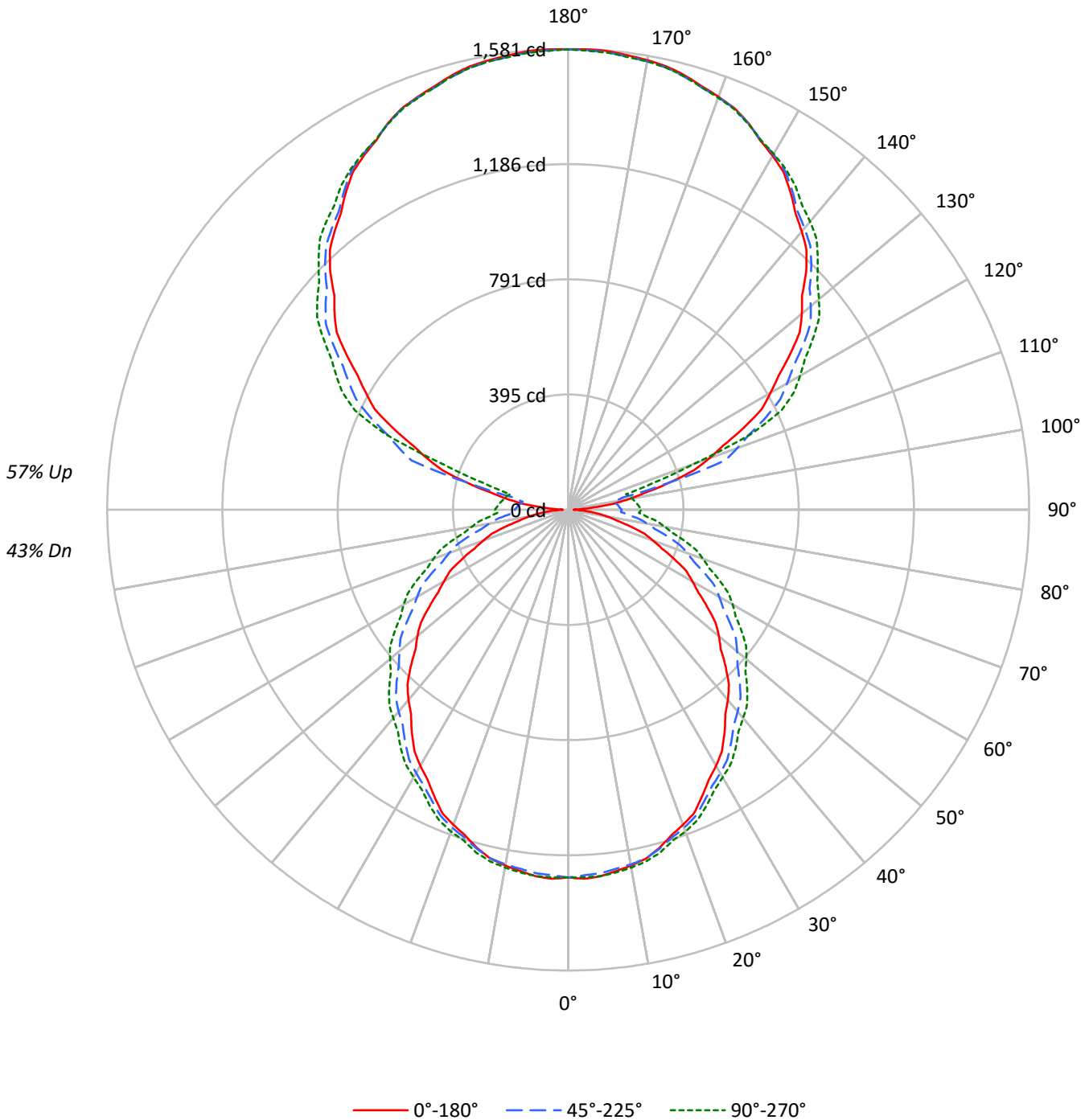
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332039-840

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-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	0
RCR																		
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50	43
1	95	91	86	83	87	83	79	76	68	66	63	55	53	51	42	41	40	34
2	86	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	32	30	28	23
4	72	61	53	46	65	56	48	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	20	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	17	19	16	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	10
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	11	9

**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: P332039-840

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.6	1.3
10°-20°	341.0	3.8
20°-30°	510.0	5.6
30°-40°	609.0	6.7
40°-50°	637.2	7.0
50°-60°	598.0	6.6
60°-70°	499.4	5.5
70°-80°	357.3	3.9
80°-90°	217.5	2.4
90°-100°	191.1	2.1
100°-110°	371.9	4.1
110°-120°	722.9	8.0
120°-130°	874.5	9.7
130°-140°	911.1	10.1
140°-150°	839.9	9.3
150°-160°	674.6	7.4
160°-170°	435.4	4.8
170°-180°	150.0	1.7
0°-30°	970.6	10.7
0°-40°	1579.6	17.4
0°-60°	2814.7	31.1
0°-90°	3889.0	42.9
90°-120°	1285.9	14.2
90°-150°	3911.4	43.2
90°-180°	5171.0	57.1
0°-180°	9060.4	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	99	184	233	251	16
95°	87	96	172	221	237	100
105°	361	401	360	201	206	382
115°	663	688	746	789	807	654
125°	929	940	983	1013	1026	830
135°	1154	1160	1179	1206	1211	888
145°	1330	1336	1339	1352	1358	832
155°	1463	1461	1462	1467	1461	674
165°	1543	1539	1538	1547	1539	436
175°	1579	1574	1574	1582	1573	150
180°	1579	1579	1579	1579	1579	



TEST NUMBER: P332039-840

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-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°	36.8	52.5	68.3	84.0	99.8	115.7	132.0	148.2	164.5	180.8	191.4
90°	19.1	36.7	54.2	71.8	89.4	107.7	126.5	145.5	164.5	183.5	194.9
92.5°	38.6	51.4	64.1	77.0	89.7	105.0	122.9	140.8	158.6	176.5	188.3
95°	86.6	88.0	89.2	90.4	91.6	101.1	119.0	136.7	154.6	172.5	183.7
97.5°	157.3	163.3	169.3	175.2	181.2	181.9	177.4	172.9	168.4	164.0	175.1
100°	210.7	225.6	240.7	255.6	270.6	264.8	238.1	211.6	184.9	158.3	169.3
102.5°	271.5	284.1	296.6	309.1	321.7	312.7	282.1	251.5	220.8	190.2	192.4
105°	360.6	370.8	381.0	391.2	401.4	401.3	391.0	380.7	370.3	360.0	322.4
107.5°	453.3	461.8	470.4	478.9	487.5	499.8	515.9	532.1	548.3	564.4	538.8
110°	515.1	522.7	530.3	537.9	545.4	556.7	571.9	586.9	602.0	617.1	616.4



TEST NUMBER: P332039-840

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	575.2	581.6	587.9	594.4	600.8	611.3	625.8	640.5	655.1	669.6	677.5
115°	662.8	667.9	673.2	678.4	683.7	693.0	706.3	719.6	733.0	746.3	756.3
117.5°	748.6	752.8	757.0	761.1	765.4	773.2	784.7	796.3	807.8	819.3	828.6
120°	801.0	804.9	808.7	812.6	816.5	823.8	834.7	845.6	856.5	867.3	876.4
122.5°	855.5	858.2	860.9	863.5	866.3	872.9	883.5	894.1	904.7	915.2	923.5
125°	928.7	930.8	932.8	934.9	937.1	943.0	952.9	962.8	972.7	982.6	989.6
127.5°	1001.0	1002.7	1004.5	1006.2	1008.0	1013.2	1021.8	1030.4	1038.9	1047.5	1054.4
130°	1046.0	1047.7	1049.6	1051.4	1053.1	1057.5	1064.7	1071.9	1079.0	1086.2	1093.1
132.5°	1088.0	1090.0	1092.1	1094.2	1096.2	1100.0	1105.8	1111.5	1117.2	1123.0	1129.5
135°	1153.8	1155.0	1156.3	1157.5	1158.7	1161.5	1166.0	1170.4	1174.8	1179.2	1185.5
137.5°	1209.8	1211.5	1213.3	1215.0	1216.7	1218.8	1221.3	1223.8	1226.2	1228.7	1234.8
140°	1246.2	1247.8	1249.3	1250.9	1252.4	1254.2	1255.8	1257.5	1259.2	1260.9	1266.6
142.5°	1280.9	1282.2	1283.5	1285.0	1286.3	1287.4	1288.3	1289.3	1290.3	1291.2	1296.2
145°	1329.5	1331.0	1332.5	1334.0	1335.5	1336.7	1337.2	1337.7	1338.2	1338.7	1341.7
147.5°	1373.9	1375.1	1376.3	1377.5	1378.7	1379.6	1380.1	1380.6	1381.1	1381.6	1382.9
150°	1402.1	1402.8	1403.6	1404.4	1405.2	1405.8	1406.3	1406.8	1407.4	1408.0	1408.5
152.5°	1427.4	1427.7	1428.2	1428.5	1428.9	1429.2	1429.5	1429.9	1430.2	1430.5	1431.4
155°	1463.1	1462.6	1462.0	1461.5	1461.0	1460.9	1461.1	1461.4	1461.7	1461.9	1463.2
157.5°	1490.8	1490.7	1490.7	1490.6	1490.6	1490.4	1490.2	1489.9	1489.7	1489.3	1491.0
160°	1507.6	1507.4	1507.1	1506.9	1506.6	1506.3	1506.1	1505.8	1505.6	1505.3	1506.9
162.5°	1523.6	1523.0	1522.3	1521.6	1520.9	1520.5	1520.1	1519.9	1519.6	1519.3	1521.2
165°	1542.9	1542.1	1541.3	1540.5	1539.7	1539.2	1538.9	1538.6	1538.4	1538.1	1540.2
167.5°	1557.9	1556.8	1555.8	1554.8	1553.7	1553.2	1553.2	1553.2	1553.2	1553.2	1555.3
170°	1566.3	1565.3	1564.3	1563.2	1562.2	1561.7	1561.7	1561.7	1561.7	1561.7	1563.7
172.5°	1572.0	1570.7	1569.4	1568.2	1566.9	1566.4	1566.6	1566.8	1567.0	1567.2	1569.3
175°	1579.2	1577.9	1576.6	1575.3	1574.0	1573.5	1573.8	1574.0	1574.3	1574.5	1576.4
177.5°	1581.1	1580.0	1579.0	1578.0	1576.9	1576.5	1576.7	1576.9	1577.1	1577.3	1579.0
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



TEST NUMBER: P332039-840

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-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°	202.0	212.5	223.1	229.9	233.2	236.3	239.4	242.7
90°	206.3	217.7	229.1	236.7	240.2	243.9	247.4	251.0
92.5°	200.2	212.0	223.8	231.3	234.4	237.5	240.7	243.8
95°	195.0	206.3	217.6	224.8	227.8	230.9	234.0	237.0
97.5°	186.3	197.5	208.7	215.9	219.2	222.6	225.9	229.2
100°	180.2	191.2	202.1	209.2	212.5	215.8	219.1	222.5
102.5°	194.5	196.6	198.7	201.6	205.1	208.6	212.2	215.7
105°	284.9	247.2	209.6	192.5	195.7	199.0	202.3	205.6
107.5°	513.1	487.5	461.8	432.9	400.8	368.7	336.6	304.6
110°	615.8	615.1	614.5	596.7	561.9	527.0	492.2	457.4





TEST NUMBER: P332039-840

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	685.4	693.2	701.0	702.4	697.2	692.1	686.8	681.7
115°	766.2	776.1	786.1	792.7	796.3	799.7	803.2	806.7
117.5°	838.0	847.4	856.7	862.6	865.3	867.9	870.4	873.0
120°	885.6	894.6	903.7	909.4	911.5	913.6	915.7	917.9
122.5°	931.8	940.0	948.3	953.5	955.9	958.3	960.6	962.9
125°	996.4	1003.4	1010.4	1015.1	1017.8	1020.5	1023.1	1025.8
127.5°	1061.4	1068.2	1075.1	1079.3	1080.9	1082.4	1084.0	1085.5
130°	1099.8	1106.7	1113.6	1117.6	1118.9	1120.2	1121.6	1122.9
132.5°	1136.1	1142.8	1149.3	1153.3	1154.7	1156.0	1157.3	1158.7
135°	1191.7	1198.0	1204.4	1207.8	1208.6	1209.3	1210.1	1210.8
137.5°	1240.8	1246.9	1253.0	1256.6	1257.6	1258.6	1259.6	1260.6
140°	1272.1	1277.8	1283.4	1286.7	1287.7	1288.7	1289.7	1290.7
142.5°	1301.1	1306.1	1310.9	1313.8	1314.6	1315.3	1316.2	1317.0
145°	1344.6	1347.6	1350.6	1352.6	1353.9	1355.1	1356.3	1357.6
147.5°	1384.1	1385.4	1386.6	1387.3	1387.2	1387.0	1386.9	1386.8
150°	1409.0	1409.5	1410.0	1410.2	1410.0	1409.9	1409.7	1409.5
152.5°	1432.3	1433.3	1434.2	1434.1	1433.1	1432.0	1430.9	1429.9
155°	1464.5	1465.8	1467.1	1466.9	1465.4	1463.9	1462.3	1460.8
157.5°	1492.5	1494.0	1495.6	1495.4	1493.4	1491.3	1489.2	1487.2
160°	1508.4	1510.0	1511.6	1511.5	1509.6	1507.8	1505.9	1504.1
162.5°	1523.0	1524.7	1526.5	1526.5	1524.9	1523.3	1521.7	1520.0
165°	1542.4	1544.4	1546.5	1546.6	1544.8	1543.0	1541.2	1539.3
167.5°	1557.3	1559.4	1561.6	1561.6	1559.4	1557.3	1555.3	1553.2
170°	1565.8	1567.9	1569.9	1569.9	1567.9	1565.8	1563.7	1561.7
172.5°	1571.5	1573.5	1575.6	1575.5	1573.2	1570.9	1568.6	1566.3
175°	1578.2	1580.0	1581.9	1581.7	1579.6	1577.5	1575.5	1573.4
177.5°	1580.6	1582.4	1584.0	1583.8	1581.8	1579.6	1577.5	1575.5
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2

(END OF REPORT)