

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: P332040-840

Luminaire Tested: **S123DIP-S1000D1195U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332040-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
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-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8382.9 lumens  
Efficiency: N/A  
Efficacy: 128.2 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

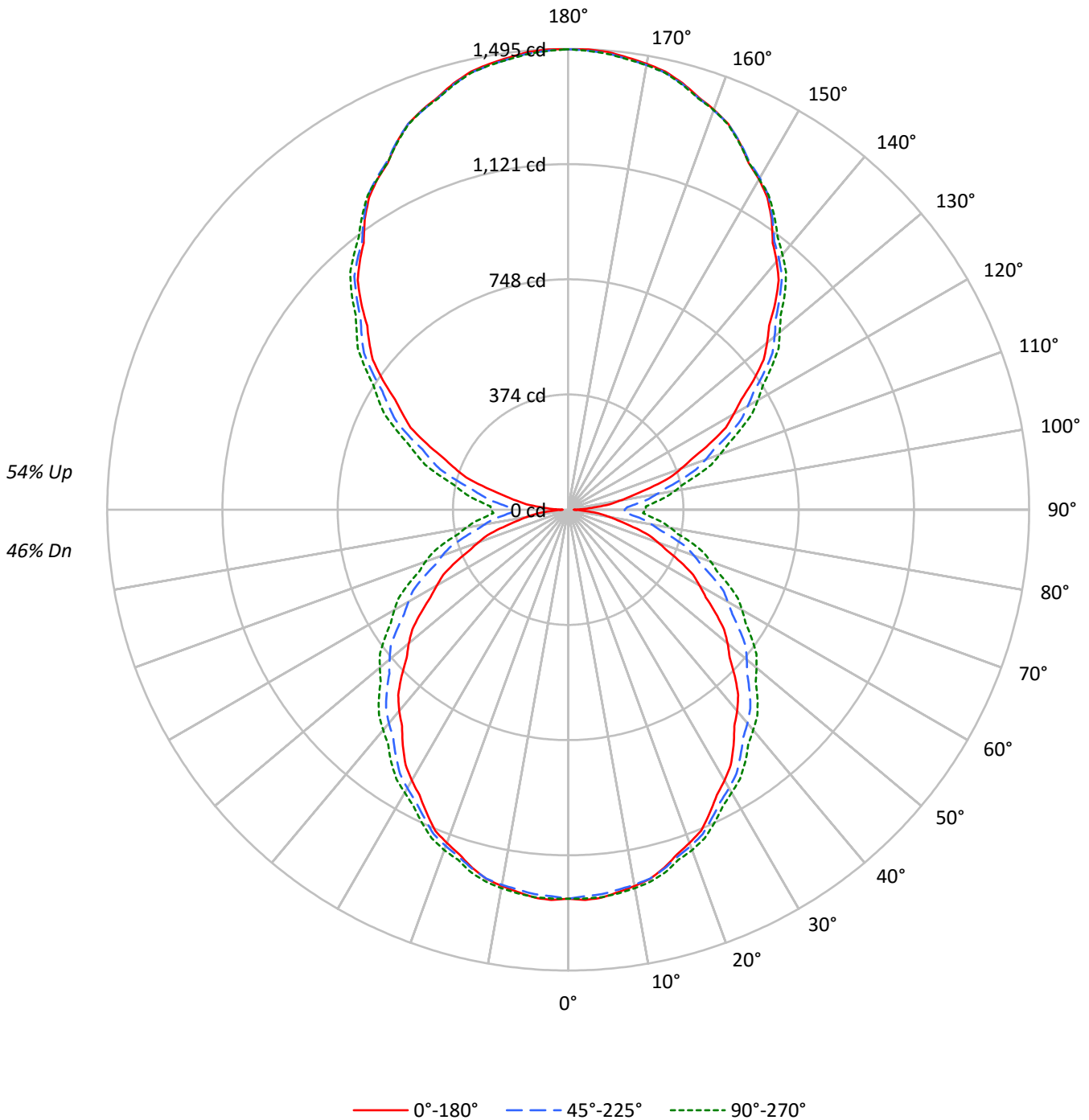
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	43	37
2	87	79	73	67	79	73	67	62	61	56	53	49	46	44	39	37	35	30
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	29	25
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	31	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18
6	61	49	40	34	56	45	37	32	38	32	28	31	27	23	25	22	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	14	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	15	12	10

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.6	1.4
10°-20°	341.0	4.1
20°-30°	510.0	6.1
30°-40°	609.0	7.3
40°-50°	637.2	7.6
50°-60°	598.0	7.1
60°-70°	499.4	6.0
70°-80°	357.3	4.3
80°-90°	217.5	2.6
90°-100°	231.0	2.8
100°-110°	389.5	4.6
110°-120°	561.0	6.7
120°-130°	689.1	8.2
130°-140°	749.2	8.9
140°-150°	723.5	8.6
150°-160°	606.1	7.2
160°-170°	403.4	4.8
170°-180°	141.3	1.7
0°-30°	970.6	11.6
0°-40°	1579.6	18.8
0°-60°	2814.7	33.6
0°-90°	3889.0	46.4
90°-120°	1181.5	14.1
90°-150°	3343.2	39.9
90°-180°	4494.0	53.6
0°-180°	8382.9	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°	84	147	223	268	284	90
105°	275	312	380	417	433	294
115°	506	527	573	606	617	500
125°	734	739	775	798	804	655
135°	950	956	969	988	994	732
145°	1150	1151	1155	1164	1165	718
155°	1315	1315	1316	1320	1313	605
165°	1433	1429	1429	1435	1428	404
175°	1490	1486	1485	1492	1484	141
180°	1494	1494	1494	1494	1494	



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**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°	45.1	60.4	75.7	91.0	106.2	122.5	139.8	157.0	174.3	191.6	202.6
95°	84.3	98.1	111.8	125.5	139.3	154.7	171.8	188.8	205.8	222.9	233.4
97.5°	136.4	148.6	160.7	172.8	184.9	198.8	214.6	230.5	246.2	262.1	272.4
100°	172.0	183.3	194.6	205.9	217.3	230.7	246.0	261.4	276.7	292.1	301.7
102.5°	213.1	222.8	232.6	242.3	252.1	264.7	280.1	295.7	311.2	326.8	336.2
105°	275.0	282.9	290.7	298.5	306.4	318.1	333.6	349.0	364.6	380.0	388.6
107.5°	345.7	352.1	358.7	365.3	371.8	381.7	395.2	408.6	422.0	435.4	444.4
110°	389.6	395.6	401.6	407.7	413.6	423.0	435.8	448.5	461.3	474.0	483.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	436.6	441.3	446.2	451.0	455.9	464.1	476.1	487.9	499.7	511.5	520.5
115°	505.5	510.0	514.4	518.9	523.3	530.8	541.3	551.8	562.2	572.7	580.3
117.5°	576.1	579.0	581.7	584.5	587.2	593.5	603.1	612.8	622.4	632.1	639.2
120°	619.1	622.3	625.3	628.4	631.6	637.4	646.2	655.0	663.8	672.6	679.3
122.5°	665.2	667.1	669.0	671.0	672.9	678.3	687.2	696.2	705.1	714.0	720.1
125°	734.0	734.7	735.5	736.3	737.1	741.6	749.9	758.3	766.7	775.0	780.3
127.5°	798.7	800.1	801.4	802.8	804.2	808.2	815.0	821.7	828.5	835.3	839.8
130°	841.9	843.6	845.5	847.3	849.0	852.5	857.9	863.2	868.6	873.8	878.6
132.5°	883.9	886.0	888.0	890.1	892.1	895.2	899.6	903.8	908.2	912.5	916.8
135°	949.7	950.9	952.2	953.4	954.6	956.8	960.0	963.0	966.1	969.3	973.7
137.5°	1010.4	1011.5	1012.5	1013.6	1014.6	1016.4	1019.0	1021.6	1024.1	1026.7	1030.5
140°	1051.5	1052.8	1054.1	1055.4	1056.7	1057.9	1059.1	1060.4	1061.5	1062.7	1067.0
142.5°	1090.0	1091.1	1092.2	1093.2	1094.3	1095.1	1095.7	1096.4	1097.0	1097.7	1101.6
145°	1150.0	1150.3	1150.5	1150.7	1150.9	1151.4	1152.3	1153.0	1153.8	1154.6	1156.8
147.5°	1201.2	1202.2	1203.2	1204.1	1205.1	1205.9	1206.6	1207.3	1208.0	1208.8	1209.5
150°	1237.9	1238.4	1238.9	1239.4	1240.0	1240.5	1241.0	1241.5	1242.0	1242.5	1242.5
152.5°	1267.9	1268.7	1269.4	1270.1	1270.8	1271.3	1271.6	1272.0	1272.3	1272.6	1273.0
155°	1315.3	1315.3	1315.3	1315.3	1315.3	1315.5	1315.8	1316.0	1316.3	1316.5	1317.6
157.5°	1355.6	1355.3	1355.0	1354.7	1354.4	1354.3	1354.6	1354.8	1355.0	1355.2	1356.3
160°	1381.0	1380.5	1380.0	1379.5	1379.0	1378.7	1378.7	1378.7	1378.7	1378.7	1380.0
162.5°	1403.5	1402.8	1402.1	1401.4	1400.7	1400.4	1400.6	1400.8	1401.0	1401.2	1402.5
165°	1432.7	1431.9	1431.1	1430.3	1429.6	1429.2	1429.2	1429.2	1429.2	1429.2	1430.7
167.5°	1455.9	1454.8	1453.8	1452.8	1451.7	1451.3	1451.5	1451.7	1451.9	1452.1	1453.7
170°	1469.1	1467.9	1466.9	1465.9	1464.8	1464.3	1464.3	1464.3	1464.3	1464.3	1466.1
172.5°	1479.4	1478.3	1477.2	1476.2	1475.2	1474.7	1474.7	1474.7	1474.7	1474.7	1476.3
175°	1490.2	1489.1	1488.0	1487.0	1486.0	1485.4	1485.4	1485.4	1485.4	1485.4	1487.0
177.5°	1494.6	1493.8	1493.0	1492.1	1491.3	1490.9	1490.9	1490.9	1490.9	1490.9	1492.1
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7



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**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°	213.5	224.5	235.5	242.2	244.7	247.2	249.7	252.2
95°	243.9	254.4	265.0	271.8	274.8	277.8	280.8	284.0
97.5°	282.7	293.0	303.3	309.9	312.9	315.8	318.7	321.6
100°	311.3	320.9	330.6	337.2	340.8	344.4	348.0	351.5
102.5°	345.6	355.0	364.4	370.5	373.4	376.4	379.4	382.3
105°	397.1	405.7	414.2	420.1	423.3	426.7	429.9	433.2
107.5°	453.4	462.4	471.5	477.2	479.5	481.9	484.2	486.7
110°	492.0	501.0	510.0	515.4	517.4	519.3	521.2	523.1





TEST NUMBER: P332040-840

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	529.4	538.4	547.3	553.1	555.6	558.3	560.8	563.4
115°	587.8	595.4	603.1	607.9	610.2	612.3	614.5	616.6
117.5°	646.5	653.7	661.0	665.4	667.0	668.6	670.3	672.0
120°	686.1	692.9	699.6	703.8	705.4	707.0	708.6	710.2
122.5°	726.2	732.4	738.4	742.1	743.6	745.0	746.4	747.8
125°	785.7	791.1	796.5	799.7	800.8	801.9	802.9	804.1
127.5°	844.4	849.0	853.6	856.4	857.2	858.1	859.0	859.8
130°	883.4	888.2	892.9	895.3	895.3	895.3	895.3	895.3
132.5°	921.1	925.4	929.7	932.2	932.9	933.5	934.2	934.9
135°	978.2	982.6	987.0	989.8	990.8	991.8	992.8	993.8
137.5°	1034.2	1037.9	1041.7	1043.8	1044.3	1044.8	1045.4	1045.9
140°	1071.4	1075.6	1079.9	1082.0	1081.7	1081.4	1081.1	1080.8
142.5°	1105.4	1109.2	1113.1	1115.0	1115.1	1115.3	1115.4	1115.5
145°	1158.9	1161.1	1163.3	1164.5	1164.7	1164.9	1165.0	1165.2
147.5°	1210.2	1210.9	1211.7	1211.8	1211.3	1210.9	1210.4	1210.0
150°	1242.5	1242.5	1242.5	1242.1	1241.1	1240.2	1239.2	1238.3
152.5°	1273.4	1273.8	1274.2	1273.8	1272.6	1271.4	1270.2	1268.9
155°	1318.6	1319.6	1320.7	1320.3	1318.5	1316.7	1314.8	1312.9
157.5°	1357.4	1358.5	1359.6	1359.4	1358.0	1356.5	1355.0	1353.5
160°	1381.3	1382.6	1383.9	1384.0	1383.0	1381.9	1380.9	1379.9
162.5°	1403.8	1405.1	1406.4	1406.2	1404.5	1402.9	1401.2	1399.6
165°	1432.3	1433.8	1435.4	1435.2	1433.4	1431.6	1429.8	1427.9
167.5°	1455.3	1456.9	1458.5	1458.5	1456.9	1455.3	1453.7	1452.1
170°	1467.9	1469.9	1471.7	1471.7	1469.9	1467.9	1466.1	1464.3
172.5°	1477.9	1479.6	1481.2	1481.1	1479.1	1477.3	1475.5	1473.7
175°	1488.5	1490.2	1491.7	1491.6	1489.8	1487.9	1486.1	1484.3
177.5°	1493.4	1494.6	1495.8	1495.7	1494.3	1492.8	1491.4	1490.0
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7

(END OF REPORT)