

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: P332078-927

Luminaire Tested: **S123DIP-S1165D1025U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332078-927  
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-S1165D1025U927-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7017.0 lumens  
Efficiency: N/A  
Efficacy: 105.0 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

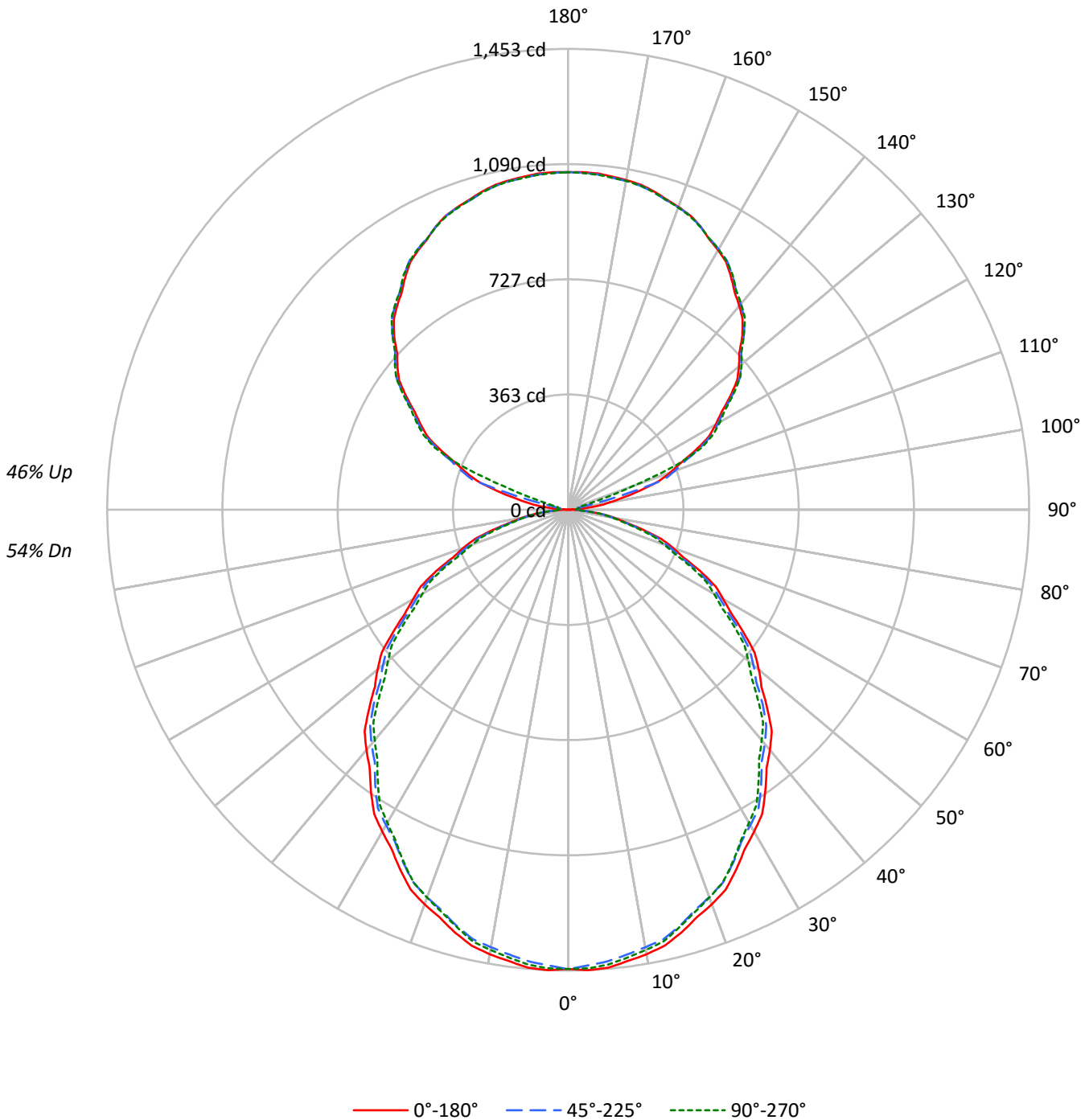
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332078-927

CATALOG NUMBER: S123DIP-S1165D1025U927-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P332078-927

CATALOG NUMBER: S123DIP-S1165D1025U927-4F0-1E-UDD-F

**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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	53	51	50	45
2	90	82	76	71	83	76	71	66	66	61	58	55	53	50	46	44	42	38
3	82	72	65	59	76	67	61	55	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	44	39	36	37	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21
7	59	46	38	32	54	43	36	31	38	32	28	32	28	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	22	19	17
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	14

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

	0°	45°	90°
0°	15588	15588	15588
5°	15662	15446	15554
10°	15557	15312	15407
15°	15375	15139	15166
20°	15163	14892	14905
25°	14878	14598	14567
30°	14564	14270	14162
35°	14236	13925	13745
40°	13893	13543	13333
45°	13516	13192	12871
50°	13137	12762	12407
55°	12643	12314	11941
60°	12144	11795	11418
65°	11703	11227	10878
70°	11053	10581	10112
75°	10098	9736	9320
80°	9106	8722	8647
85°	7991	7694	7385



TEST NUMBER: P332078-927

CATALOG NUMBER: S123DIP-S1165D1025U927-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.4	1.9
10°-20°	385.2	5.5
20°-30°	569.0	8.1
30°-40°	664.6	9.5
40°-50°	668.2	9.5
50°-60°	587.0	8.4
60°-70°	437.3	6.2
70°-80°	249.1	3.6
80°-90°	74.5	1.1
90°-100°	38.7	0.6
100°-110°	184.4	2.6
110°-120°	443.0	6.3
120°-130°	564.1	8.0
130°-140°	602.7	8.6
140°-150°	563.6	8.0
150°-160°	454.6	6.5
160°-170°	293.4	4.2
170°-180°	101.1	1.4
0°-30°	1090.6	15.5
0°-40°	1755.3	25.0
0°-60°	3010.4	42.9
0°-90°	3771.4	53.7
90°-120°	666.1	9.5
90°-150°	2396.5	34.2
90°-180°	3246.0	46.3
0°-180°	7017.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1448	1448	1448	1448	1448	
5°	1450	1443	1430	1441	1440	137
15°	1380	1374	1358	1368	1361	389
25°	1253	1245	1229	1230	1226	577
35°	1083	1075	1060	1052	1046	677
45°	888	882	867	852	846	685
55°	674	672	656	643	636	603
65°	460	453	441	431	427	453
75°	243	238	234	228	224	260
85°	65	62	62	60	60	71
90°	1	9	19	22	24	6
95°	48	18	24	30	30	60
105°	236	240	173	41	35	250
115°	442	447	454	462	465	436
125°	623	629	633	634	636	556
135°	776	780	784	786	784	597
145°	895	900	902	904	904	560
155°	986	985	985	989	984	454
165°	1040	1038	1037	1042	1037	294
175°	1064	1061	1061	1066	1060	101
180°	1064	1064	1064	1064	1064	



TEST NUMBER: P332078-927

CATALOG NUMBER: S123DIP-S1165D1025U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1453.2	1452.3	1451.4	1450.6	1449.6	1448.0	1445.6	1443.1	1440.7	1438.2	1440.4
5°	1449.5	1448.1	1446.7	1445.3	1443.9	1441.7	1438.7	1435.6	1432.6	1429.5	1432.3
7.5°	1435.3	1433.8	1432.5	1431.1	1429.7	1427.4	1424.3	1421.2	1418.0	1414.8	1417.3
10°	1423.3	1421.9	1420.5	1419.1	1417.8	1415.3	1411.7	1408.1	1404.5	1400.9	1403.4
12.5°	1407.4	1406.2	1405.0	1403.9	1402.7	1400.4	1397.1	1393.7	1390.3	1387.0	1388.8
15°	1379.7	1378.6	1377.5	1376.4	1375.3	1372.9	1369.4	1365.7	1362.2	1358.5	1360.7
17.5°	1347.6	1346.2	1344.7	1343.3	1341.8	1339.3	1335.7	1332.1	1328.5	1324.9	1326.5
20°	1323.7	1322.0	1320.3	1318.7	1317.1	1314.4	1310.8	1307.3	1303.6	1300.1	1301.2
22.5°	1296.8	1295.1	1293.5	1291.8	1290.1	1287.5	1283.9	1280.3	1276.8	1273.1	1274.0
25°	1252.7	1251.0	1249.4	1247.7	1246.1	1243.4	1239.8	1236.3	1232.6	1229.1	1229.3
27.5°	1205.6	1204.0	1202.5	1200.8	1199.2	1196.5	1192.6	1188.7	1184.9	1181.0	1181.2
30°	1171.8	1170.4	1169.0	1167.6	1166.3	1163.6	1159.8	1155.9	1152.0	1148.1	1148.1
32.5°	1137.9	1136.1	1134.2	1132.4	1130.6	1128.1	1125.2	1122.2	1119.2	1116.3	1114.7
35°	1083.4	1081.7	1080.1	1078.4	1076.7	1074.1	1070.5	1066.9	1063.3	1059.7	1058.0
37.5°	1027.5	1025.5	1023.3	1021.3	1019.1	1016.3	1012.6	1009.0	1005.4	1001.6	999.7
40°	988.7	987.1	985.4	983.7	982.1	979.3	975.4	971.5	967.7	963.8	961.6
42.5°	949.8	948.0	946.1	944.2	942.3	939.4	935.6	931.7	927.8	924.0	921.8
45°	887.9	886.8	885.7	884.6	883.4	881.1	877.5	873.9	870.3	866.6	863.4
47.5°	826.3	824.7	823.2	821.5	819.9	817.5	814.0	810.6	807.3	803.9	800.7
50°	784.5	783.2	781.7	780.4	779.0	776.5	772.9	769.3	765.6	762.1	759.1
52.5°	740.7	739.7	738.8	737.8	736.9	734.5	730.7	726.9	723.1	719.2	716.6
55°	673.7	673.4	673.1	672.9	672.6	670.7	667.0	663.5	659.8	656.2	653.2
57.5°	609.9	609.0	608.0	607.1	606.2	604.3	601.3	598.5	595.6	592.7	590.0
60°	564.1	563.8	563.6	563.2	563.0	561.2	557.9	554.5	551.2	547.9	545.4
62.5°	523.2	522.5	521.8	521.1	520.4	518.3	515.0	511.7	508.4	505.1	502.6
65°	459.5	458.1	456.7	455.3	453.9	451.9	449.1	446.3	443.5	440.8	438.6
67.5°	392.0	390.8	389.6	388.3	387.1	385.5	383.3	381.3	379.1	377.1	375.1
70°	351.2	349.5	347.8	346.2	344.5	342.9	341.2	339.5	337.9	336.2	334.3
72.5°	308.3	307.1	305.9	304.7	303.5	301.9	300.0	298.1	296.3	294.4	292.6
75°	242.8	241.7	240.6	239.5	238.4	237.4	236.6	235.8	235.0	234.1	232.7
77.5°	184.8	184.2	183.5	183.0	182.4	181.6	180.5	179.6	178.6	177.6	176.7
80°	146.9	146.1	145.3	144.4	143.6	142.9	142.4	141.8	141.2	140.7	140.5
82.5°	110.1	109.9	109.7	109.6	109.4	109.2	109.2	109.1	108.9	108.8	108.4
85°	64.7	64.2	63.6	63.1	62.5	62.3	62.3	62.3	62.3	62.3	61.7
87.5°	26.1	25.7	25.4	25.1	24.8	24.8	25.0	25.3	25.5	25.7	25.7
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.4	16.7	19.0	19.6
92.5°	14.7	14.2	13.7	13.2	12.8	13.4	15.1	16.8	18.5	20.3	21.4
95°	48.2	41.0	33.8	26.6	19.4	16.8	18.7	20.7	22.6	24.5	25.7
97.5°	97.0	93.7	90.5	87.2	84.0	76.0	63.5	50.8	38.1	25.4	26.9
100°	133.6	137.1	140.7	144.2	147.7	135.7	108.3	80.9	53.5	26.1	27.5
102.5°	175.4	177.9	180.5	183.0	185.5	171.8	141.9	111.9	82.0	52.0	47.7
105°	235.6	237.6	239.5	241.5	243.4	236.4	220.6	204.8	189.0	173.2	142.0
107.5°	299.2	300.8	302.3	303.9	305.4	307.4	309.9	312.4	314.9	317.4	294.6
110°	341.6	343.0	344.4	345.8	347.2	348.9	350.8	352.8	354.7	356.6	350.8



TEST NUMBER: P332078-927

CATALOG NUMBER: S123DIP-S1165D1025U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	382.1	383.3	384.6	385.9	387.1	388.7	390.7	392.6	394.5	396.5	396.6
115°	442.0	443.1	444.1	445.2	446.2	447.6	449.1	450.7	452.3	453.8	455.7
117.5°	500.0	501.4	502.6	504.0	505.3	506.3	507.1	507.9	508.7	509.5	511.0
120°	536.1	537.7	539.2	540.8	542.4	543.5	544.0	544.5	545.1	545.6	547.0
122.5°	572.8	574.1	575.4	576.7	578.0	579.0	579.6	580.4	581.0	581.6	582.7
125°	623.1	624.5	625.9	627.3	628.7	629.8	630.5	631.1	631.8	632.6	633.0
127.5°	671.8	673.2	674.6	676.0	677.4	678.5	679.4	680.2	681.0	681.9	682.5
130°	702.2	703.5	705.0	706.4	707.8	708.8	709.6	710.3	710.9	711.6	712.3
132.5°	731.3	732.7	734.0	735.5	736.9	737.8	738.4	738.9	739.6	740.1	740.8
135°	775.7	776.7	777.8	778.9	779.9	780.8	781.5	782.2	782.9	783.6	784.1
137.5°	813.7	815.0	816.3	817.7	819.0	819.8	820.2	820.6	821.0	821.4	822.2
140°	838.9	840.0	841.1	842.1	843.2	844.0	844.5	845.0	845.6	846.1	846.8
142.5°	862.4	863.4	864.4	865.5	866.6	867.4	867.9	868.4	868.9	869.5	870.1
145°	895.1	896.4	897.5	898.8	900.0	900.8	901.2	901.5	901.8	902.2	902.5
147.5°	925.9	926.8	927.6	928.4	929.2	929.7	930.1	930.4	930.8	931.1	931.5
150°	944.9	945.5	945.9	946.5	947.0	947.5	947.8	948.2	948.5	948.9	949.2
152.5°	961.9	962.3	962.5	962.7	963.0	963.2	963.4	963.6	963.8	964.0	964.6
155°	986.0	985.6	985.3	985.0	984.6	984.5	984.7	984.8	985.1	985.2	986.1
157.5°	1004.6	1004.6	1004.6	1004.6	1004.6	1004.4	1004.2	1004.1	1003.9	1003.7	1004.8
160°	1016.1	1015.9	1015.7	1015.6	1015.3	1015.2	1015.0	1014.9	1014.6	1014.5	1015.6
162.5°	1026.8	1026.4	1025.9	1025.5	1025.0	1024.7	1024.5	1024.3	1024.1	1024.0	1025.2
165°	1039.8	1039.3	1038.7	1038.2	1037.7	1037.4	1037.1	1037.0	1036.8	1036.6	1038.0
167.5°	1049.9	1049.2	1048.5	1047.8	1047.1	1046.7	1046.7	1046.7	1046.7	1046.7	1048.1
170°	1055.6	1054.9	1054.2	1053.5	1052.8	1052.4	1052.4	1052.4	1052.4	1052.4	1053.8
172.5°	1059.4	1058.6	1057.7	1056.9	1056.1	1055.7	1055.8	1056.0	1056.1	1056.2	1057.6
175°	1064.3	1063.4	1062.6	1061.7	1060.8	1060.4	1060.6	1060.8	1061.0	1061.1	1062.4
177.5°	1065.6	1064.9	1064.1	1063.4	1062.8	1062.5	1062.6	1062.8	1062.9	1063.0	1064.1
180°	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3



TEST NUMBER: P332078-927

CATALOG NUMBER: S123DIP-S1165D1025U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1442.6	1444.9	1447.1	1448.1	1447.9	1447.6	1447.4	1447.2
5°	1435.0	1437.8	1440.6	1441.7	1441.1	1440.6	1440.0	1439.5
7.5°	1419.8	1422.3	1424.8	1425.8	1425.5	1425.2	1424.9	1424.6
10°	1405.9	1408.3	1410.9	1411.8	1411.3	1410.7	1410.2	1409.6
12.5°	1390.6	1392.4	1394.2	1395.0	1394.6	1394.3	1394.0	1393.7
15°	1362.9	1365.2	1367.4	1367.7	1366.0	1364.4	1362.7	1361.0
17.5°	1328.0	1329.6	1331.1	1331.6	1331.0	1330.4	1329.8	1329.2
20°	1302.3	1303.4	1304.5	1304.6	1303.8	1302.9	1302.1	1301.2
22.5°	1274.9	1275.8	1276.7	1276.6	1275.6	1274.5	1273.4	1272.4
25°	1229.6	1229.9	1230.2	1229.9	1229.1	1228.2	1227.4	1226.5
27.5°	1181.5	1181.6	1181.9	1181.5	1180.4	1179.3	1178.3	1177.3
30°	1148.1	1148.1	1148.1	1147.2	1145.2	1143.3	1141.3	1139.4
32.5°	1113.1	1111.6	1110.0	1108.7	1107.7	1106.6	1105.6	1104.5
35°	1056.4	1054.7	1053.0	1051.5	1050.1	1048.8	1047.3	1046.0
37.5°	997.7	995.7	993.7	992.3	991.3	990.5	989.6	988.7
40°	959.4	957.2	955.0	953.3	952.2	951.1	950.0	948.9
42.5°	919.6	917.3	915.1	913.5	912.4	911.2	910.1	909.0
45°	860.1	856.7	853.4	851.0	849.7	848.3	846.9	845.5
47.5°	797.4	794.2	790.8	788.6	787.4	786.2	785.0	783.8
50°	756.0	753.0	749.9	747.6	745.9	744.3	742.6	740.9
52.5°	714.1	711.5	708.8	706.7	705.0	703.4	701.7	700.1
55°	650.1	647.1	644.0	641.8	640.5	639.1	637.7	636.3
57.5°	587.3	584.6	581.9	579.7	578.1	576.6	574.9	573.3
60°	543.0	540.4	538.0	536.0	534.6	533.2	531.9	530.4
62.5°	500.1	497.6	495.1	493.4	492.4	491.5	490.6	489.6
65°	436.4	434.2	432.0	430.5	429.6	428.8	427.9	427.1
67.5°	373.2	371.2	369.3	367.7	366.6	365.4	364.2	363.1
70°	332.3	330.4	328.4	326.8	325.4	324.0	322.7	321.3
72.5°	291.0	289.2	287.5	286.3	285.6	284.9	284.2	283.4
75°	231.3	230.0	228.5	227.4	226.6	225.8	225.0	224.1
77.5°	175.7	174.8	173.8	173.3	173.3	173.3	173.3	173.3
80°	140.1	139.9	139.6	139.5	139.5	139.5	139.5	139.5
82.5°	107.8	107.3	106.9	106.5	106.2	106.1	105.8	105.6
85°	61.2	60.6	60.0	59.8	59.8	59.8	59.8	59.8
87.5°	25.6	25.5	25.3	25.3	25.4	25.5	25.6	25.7
90°	20.4	21.1	21.8	22.3	22.7	23.1	23.4	23.7
92.5°	22.5	23.6	24.7	25.4	25.6	25.8	26.1	26.2
95°	26.9	28.2	29.5	30.0	30.0	30.0	30.0	30.0
97.5°	28.3	29.7	31.1	31.8	32.1	32.2	32.4	32.6
100°	28.9	30.3	31.7	32.5	32.7	32.9	33.0	33.2
102.5°	43.3	39.0	34.6	32.6	32.9	33.2	33.5	33.8
105°	111.0	79.9	48.8	33.4	33.7	34.1	34.5	34.8
107.5°	271.8	249.0	226.2	203.0	179.6	156.1	132.7	109.2
110°	345.0	339.2	333.4	318.0	292.8	267.7	242.6	217.5





TEST NUMBER: P332078-927

CATALOG NUMBER: S123DIP-S1165D1025U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	396.6	396.8	396.9	394.3	389.0	383.7	378.3	373.0
115°	457.4	459.1	460.9	462.2	462.8	463.5	464.2	464.9
117.5°	512.4	513.7	515.2	515.9	516.1	516.2	516.3	516.5
120°	548.4	549.8	551.2	551.9	551.9	551.9	551.9	551.9
122.5°	583.6	584.6	585.6	586.1	586.3	586.5	586.5	586.7
125°	633.3	633.6	634.0	634.3	634.7	635.0	635.4	635.7
127.5°	683.0	683.6	684.1	684.3	683.9	683.6	683.2	682.9
130°	713.0	713.8	714.5	714.6	714.3	713.9	713.6	713.2
132.5°	741.5	742.2	742.9	743.0	742.5	742.0	741.6	741.1
135°	784.7	785.2	785.7	785.7	785.2	784.7	784.1	783.6
137.5°	823.1	823.9	824.7	825.0	824.7	824.3	823.9	823.6
140°	847.5	848.2	848.9	849.1	848.7	848.3	848.0	847.6
142.5°	870.6	871.2	871.7	871.7	871.2	870.8	870.3	869.8
145°	902.9	903.2	903.6	903.8	903.8	903.8	903.8	903.8
147.5°	931.8	932.2	932.6	932.3	931.5	930.7	929.9	929.1
150°	949.6	949.9	950.3	950.1	949.7	949.1	948.6	948.1
152.5°	965.3	965.9	966.5	966.5	965.7	964.9	964.1	963.2
155°	987.0	987.9	988.7	988.6	987.6	986.6	985.5	984.4
157.5°	1005.8	1006.9	1008.0	1007.8	1006.4	1005.0	1003.7	1002.3
160°	1016.6	1017.6	1018.7	1018.6	1017.4	1016.1	1014.9	1013.7
162.5°	1026.4	1027.5	1028.7	1028.8	1027.7	1026.6	1025.6	1024.5
165°	1039.4	1040.8	1042.3	1042.4	1041.1	1039.9	1038.6	1037.4
167.5°	1049.6	1051.0	1052.3	1052.3	1051.0	1049.6	1048.1	1046.7
170°	1055.3	1056.7	1058.0	1058.0	1056.7	1055.3	1053.8	1052.4
172.5°	1059.1	1060.4	1061.8	1061.8	1060.3	1058.7	1057.2	1055.6
175°	1063.6	1064.9	1066.0	1066.0	1064.5	1063.2	1061.8	1060.3
177.5°	1065.2	1066.4	1067.5	1067.4	1066.0	1064.6	1063.2	1061.8
180°	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3

(END OF REPORT)