

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: P332076-940

Luminaire Tested: **S123DIP-S1165D1025U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332076-940  
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-S1165D1025U940-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7466.9 lumens  
Efficiency: N/A  
Efficacy: 111.8 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

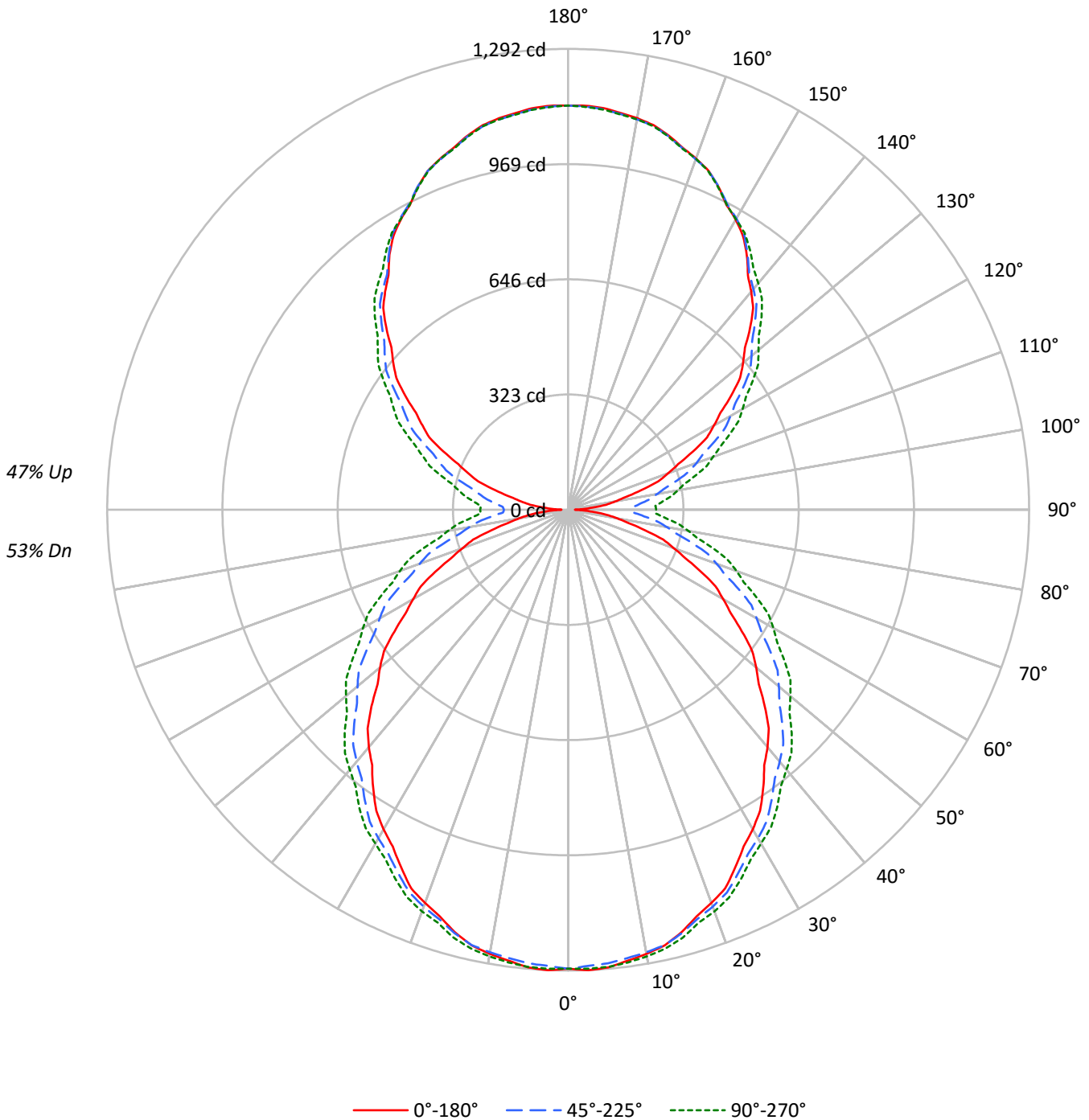
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	97	93	88	84	90	86	82	78	73	70	68	61	59	57	50	49	48	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	44	41	39	35
3	80	70	62	56	74	65	58	53	55	50	46	47	43	39	38	35	33	29
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	44	38	44	38	33	37	32	29	31	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18
7	57	44	36	30	53	41	34	29	36	30	25	30	26	22	25	22	19	16
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	19	17	14
9	49	37	29	24	45	34	27	23	30	24	20	25	21	18	21	18	15	13
10	46	34	26	21	43	31	25	20	27	22	18	23	19	16	20	16	14	12

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

	0°	45°	90°
0°	13850	13850	13850
5°	13894	13501	13509
10°	13769	13190	13124
15°	13592	12837	12705
20°	13338	12435	12243
25°	13025	11969	11757
30°	12705	11553	11264
35°	12344	11111	10871
40°	12002	10709	10450
45°	11622	10323	10113
50°	11245	9942	9744
55°	10831	9553	9410
60°	10426	9156	9068
65°	10013	8733	8661
70°	9389	8257	8243
75°	8597	7713	7819
80°	7695	7181	7334
85°	6853	6811	7053



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.0	1.6
10°-20°	347.7	4.7
20°-30°	520.1	7.0
30°-40°	621.1	8.3
40°-50°	649.8	8.7
50°-60°	609.8	8.2
60°-70°	509.3	6.8
70°-80°	364.4	4.9
80°-90°	220.7	3.0
90°-100°	210.2	2.8
100°-110°	321.1	4.3
110°-120°	442.7	5.9
120°-130°	532.5	7.1
130°-140°	572.7	7.7
140°-150°	549.8	7.4
150°-160°	459.8	6.2
160°-170°	306.0	4.1
170°-180°	107.2	1.4
0°-30°	989.8	13.3
0°-40°	1610.9	21.6
0°-60°	2870.5	38.4
0°-90°	3964.9	53.1
90°-120°	974.0	13.0
90°-150°	2629.0	35.2
90°-180°	3502.0	46.9
0°-180°	7466.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1288	1285	1277	1287	1287	122
15°	1226	1230	1229	1242	1242	345
25°	1107	1121	1126	1143	1144	510
35°	953	975	994	1014	1020	596
45°	779	813	848	874	886	601
55°	594	641	691	727	740	532
65°	411	466	527	568	583	406
75°	223	289	359	403	422	238
85°	69	139	213	259	275	72
90°	19	97	180	229	247	16
95°	68	130	205	250	266	71
105°	212	249	315	353	369	226
115°	385	406	453	487	498	381
125°	558	563	599	624	632	498
135°	721	726	740	760	766	555
145°	873	873	876	886	888	545
155°	998	998	999	1002	996	459
165°	1087	1084	1084	1089	1083	306
175°	1130	1127	1127	1132	1126	107
180°	1133	1133	1133	1133	1133	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1292.4	1291.6	1290.8	1290.1	1289.3	1288.0	1286.0	1284.0	1282.0	1280.1	1282.0
5°	1288.2	1287.5	1286.9	1286.3	1285.7	1284.4	1282.5	1280.7	1278.8	1276.9	1279.4
7.5°	1275.5	1275.7	1275.8	1275.9	1276.0	1275.2	1273.4	1271.6	1269.8	1267.9	1271.0
10°	1264.4	1265.0	1265.6	1266.2	1266.9	1266.3	1264.8	1263.2	1261.7	1260.1	1263.2
12.5°	1250.9	1251.7	1252.6	1253.5	1254.4	1254.3	1253.2	1252.1	1251.1	1250.0	1252.9
15°	1226.5	1227.4	1228.3	1229.3	1230.2	1230.6	1230.2	1229.9	1229.6	1229.3	1232.4
17.5°	1195.6	1197.5	1199.4	1201.2	1203.1	1204.0	1203.9	1203.7	1203.6	1203.5	1206.3
20°	1173.2	1175.1	1177.0	1178.8	1180.7	1182.0	1182.6	1183.2	1183.8	1184.5	1187.2
22.5°	1149.7	1151.6	1153.4	1155.3	1157.2	1158.5	1159.4	1160.3	1161.1	1162.0	1165.6
25°	1107.3	1110.4	1113.6	1116.7	1119.8	1121.8	1122.8	1123.6	1124.6	1125.5	1129.6
27.5°	1064.7	1068.3	1071.8	1075.4	1078.9	1081.7	1083.7	1085.7	1087.7	1089.7	1093.1
30°	1034.5	1038.5	1042.5	1046.6	1050.6	1053.9	1056.4	1058.9	1061.4	1063.9	1067.6
32.5°	1000.8	1005.3	1009.9	1014.4	1019.0	1022.9	1026.1	1029.4	1032.6	1035.8	1039.8
35°	953.1	958.1	963.1	968.1	973.1	977.6	981.7	985.7	989.7	993.8	998.4
37.5°	902.7	908.3	913.9	919.5	925.1	930.4	935.4	940.4	945.4	950.4	955.6
40°	869.1	874.7	880.3	885.8	891.4	897.4	903.7	909.8	916.1	922.3	927.6
42.5°	832.1	838.9	845.8	852.6	859.4	866.1	872.6	879.0	885.6	892.1	897.9
45°	779.4	786.8	794.2	801.7	809.2	816.9	824.7	832.4	840.3	848.0	853.9
47.5°	724.1	732.5	741.0	749.6	758.0	766.7	775.6	784.5	793.4	802.4	809.0
50°	688.2	697.0	705.7	714.3	723.1	732.3	742.0	751.6	761.3	770.9	778.1
52.5°	650.1	659.3	668.5	677.8	687.0	697.0	707.6	718.2	728.9	739.5	747.0
55°	594.3	604.6	614.8	625.2	635.4	646.1	657.4	668.6	679.8	691.1	699.5
57.5°	539.9	550.6	561.3	572.0	582.8	594.3	606.5	618.8	631.1	643.4	651.8
60°	501.8	513.0	524.2	535.5	546.6	558.7	571.4	584.2	597.0	609.8	618.5
62.5°	465.9	477.4	488.8	500.3	511.8	524.2	537.8	551.3	564.8	578.4	587.0
65°	410.7	422.8	435.0	447.1	459.3	472.3	485.9	499.6	513.4	527.0	536.4
67.5°	354.6	367.6	380.4	393.3	406.2	419.6	433.5	447.5	461.5	475.5	485.6
70°	315.4	328.8	342.1	355.5	369.0	383.2	398.1	413.0	428.0	442.9	452.9
72.5°	279.5	292.9	306.3	319.7	333.1	347.5	362.9	378.4	393.9	409.3	419.5
75°	222.8	237.6	252.2	266.8	281.4	296.5	312.1	327.7	343.2	358.8	369.1
77.5°	173.5	188.3	203.0	217.8	232.6	247.8	263.5	279.2	294.9	310.6	321.5
80°	138.8	154.0	169.3	184.6	199.8	215.5	231.8	248.0	264.1	280.4	291.0
82.5°	108.5	124.0	139.6	155.1	170.5	186.5	203.0	219.5	235.9	252.3	262.9
85°	68.7	84.3	99.9	115.4	131.0	147.0	163.5	180.0	196.5	213.0	223.6
87.5°	37.5	53.4	69.3	85.2	101.1	117.3	133.7	150.1	166.5	182.9	193.6
90°	19.1	36.4	53.6	70.8	88.1	105.9	124.4	142.9	161.3	179.8	191.1
92.5°	38.6	53.8	68.8	84.0	99.1	115.2	132.3	149.4	166.5	183.6	194.6
95°	67.9	81.5	95.0	108.5	122.1	137.2	154.1	170.9	187.8	204.6	215.1
97.5°	107.0	119.0	131.0	143.0	155.0	168.9	184.6	200.3	216.1	231.8	241.9
100°	133.7	144.8	156.0	167.1	178.3	191.5	206.9	222.1	237.5	252.8	262.4
102.5°	164.6	174.2	184.0	193.7	203.3	215.9	231.2	246.6	262.0	277.4	286.8
105°	211.5	219.4	227.2	235.1	243.0	254.5	269.7	284.8	300.1	315.2	324.0
107.5°	264.7	271.3	277.9	284.5	291.0	301.0	314.4	327.9	341.3	354.7	363.6
110°	297.7	303.7	309.7	315.7	321.7	331.1	344.0	356.9	369.7	382.5	391.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	333.3	338.1	343.0	347.9	352.7	361.1	373.2	385.2	397.3	409.3	418.1
115°	385.3	389.7	394.0	398.3	402.6	410.2	421.1	431.9	442.6	453.4	461.2
117.5°	438.8	441.5	444.2	446.9	449.6	455.9	465.9	476.0	486.0	496.0	503.4
120°	471.2	473.9	476.6	479.4	482.1	488.1	497.4	506.7	516.0	525.3	532.3
122.5°	506.0	507.7	509.3	511.0	512.7	518.3	527.4	536.7	546.0	555.3	561.7
125°	557.9	558.5	559.0	559.6	560.3	564.8	573.5	582.1	590.8	599.4	605.1
127.5°	607.0	608.0	608.9	609.8	610.8	614.8	621.9	628.9	636.0	642.9	648.0
130°	639.7	641.1	642.3	643.5	644.8	648.3	653.9	659.6	665.2	670.8	675.9
132.5°	671.4	672.9	674.4	675.9	677.4	680.5	685.0	689.6	694.1	698.7	703.4
135°	721.1	722.0	722.9	723.7	724.6	726.7	729.9	733.2	736.4	739.6	744.4
137.5°	767.1	767.9	768.6	769.4	770.1	771.7	774.1	776.6	779.0	781.5	785.6
140°	798.1	799.1	800.0	801.0	802.0	803.1	804.2	805.3	806.5	807.6	812.1
142.5°	827.2	828.0	828.8	829.5	830.2	830.8	831.4	832.0	832.5	833.0	837.0
145°	872.8	872.9	873.0	873.1	873.2	873.5	874.1	874.7	875.3	875.8	878.2
147.5°	911.3	912.0	912.8	913.5	914.2	914.8	915.3	915.9	916.4	917.0	917.7
150°	939.1	939.5	939.9	940.2	940.7	941.0	941.5	941.8	942.3	942.6	942.6
152.5°	961.9	962.4	963.0	963.5	964.0	964.5	964.7	964.9	965.2	965.5	965.7
155°	997.8	997.8	997.8	997.8	997.8	997.9	998.1	998.3	998.5	998.7	999.5
157.5°	1028.4	1028.2	1028.0	1027.7	1027.5	1027.4	1027.6	1027.8	1028.0	1028.1	1028.9
160°	1047.7	1047.2	1046.9	1046.5	1046.1	1045.9	1045.9	1045.9	1045.9	1045.9	1046.9
162.5°	1064.8	1064.2	1063.6	1063.1	1062.6	1062.4	1062.5	1062.7	1062.8	1063.0	1064.0
165°	1086.8	1086.2	1085.7	1085.0	1084.5	1084.1	1084.1	1084.1	1084.1	1084.1	1085.3
167.5°	1104.5	1103.7	1102.9	1102.1	1101.3	1101.0	1101.2	1101.3	1101.4	1101.6	1102.9
170°	1114.5	1113.7	1112.9	1112.1	1111.3	1110.9	1110.9	1110.9	1110.9	1110.9	1112.2
172.5°	1122.2	1121.5	1120.7	1119.9	1119.1	1118.7	1118.7	1118.7	1118.7	1118.7	1119.9
175°	1130.4	1129.6	1128.8	1128.1	1127.3	1126.9	1126.9	1126.9	1126.9	1126.9	1128.1
177.5°	1133.8	1133.2	1132.6	1131.9	1131.3	1131.0	1131.0	1131.0	1131.0	1131.0	1131.9
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1284.0	1286.0	1288.0	1288.9	1288.6	1288.3	1288.1	1287.9
5°	1281.9	1284.4	1286.9	1288.0	1287.7	1287.4	1287.1	1286.7
7.5°	1274.2	1277.3	1280.4	1281.8	1281.4	1281.0	1280.7	1280.3
10°	1266.3	1269.4	1272.6	1273.8	1273.2	1272.6	1271.9	1271.3
12.5°	1255.8	1258.6	1261.5	1262.6	1261.9	1261.3	1260.7	1260.1
15°	1235.5	1238.6	1241.7	1243.1	1242.9	1242.5	1242.2	1241.9
17.5°	1209.1	1211.9	1214.7	1215.8	1215.5	1215.0	1214.6	1214.2
20°	1190.0	1192.8	1195.6	1197.2	1197.5	1197.8	1198.1	1198.5
22.5°	1169.1	1172.7	1176.2	1177.9	1177.7	1177.5	1177.3	1177.1
25°	1133.6	1137.7	1141.7	1143.8	1143.8	1143.8	1143.8	1143.8
27.5°	1096.6	1100.1	1103.6	1105.5	1105.7	1106.0	1106.3	1106.5
30°	1071.4	1075.1	1078.8	1080.7	1080.7	1080.7	1080.7	1080.7
32.5°	1043.8	1047.8	1051.8	1054.2	1054.9	1055.7	1056.4	1057.1
35°	1003.2	1007.8	1012.4	1015.5	1016.7	1018.0	1019.2	1020.4
37.5°	960.9	966.3	971.5	974.6	975.7	976.7	977.7	978.7
40°	932.9	938.2	943.5	946.7	948.0	949.2	950.5	951.7
42.5°	903.7	909.5	915.3	919.0	920.7	922.5	924.2	926.0
45°	859.9	865.8	871.7	875.9	878.4	880.9	883.4	885.8
47.5°	815.6	822.3	829.0	833.3	835.2	837.1	839.1	841.0
50°	785.2	792.5	799.6	804.2	806.5	808.6	810.8	813.0
52.5°	754.4	761.8	769.2	774.3	776.9	779.6	782.3	785.0
55°	707.8	716.2	724.7	730.1	732.6	735.1	737.6	740.1
57.5°	660.3	668.8	677.3	683.0	685.9	688.8	691.8	694.6
60°	627.1	635.9	644.6	650.7	654.2	657.5	660.9	664.4
62.5°	595.8	604.5	613.2	619.2	622.3	625.5	628.7	631.9
65°	545.7	555.1	564.5	570.6	573.7	576.8	580.0	583.1
67.5°	495.9	506.1	516.3	522.7	525.4	528.0	530.6	533.2
70°	462.9	472.9	482.8	489.4	492.5	495.6	498.6	501.8
72.5°	429.7	440.0	450.1	456.8	459.9	463.1	466.2	469.3
75°	379.4	389.7	399.9	407.0	410.7	414.5	418.2	421.9
77.5°	332.3	343.1	354.0	360.8	363.7	366.6	369.4	372.3
80°	301.5	312.1	322.7	329.6	332.7	335.8	338.9	342.0
82.5°	273.5	284.1	294.6	301.5	304.6	307.7	310.9	314.0
85°	234.3	244.9	255.4	262.3	265.4	268.5	271.6	274.7
87.5°	204.4	215.1	225.9	232.8	236.0	239.2	242.4	245.6
90°	202.5	213.9	225.2	232.7	236.2	239.8	243.3	246.7
92.5°	205.5	216.5	227.5	234.3	236.9	239.5	242.2	244.8
95°	225.5	235.9	246.5	253.2	256.3	259.4	262.5	265.6
97.5°	252.2	262.3	272.5	279.1	282.1	285.2	288.2	291.2
100°	272.1	281.7	291.3	297.8	301.4	304.9	308.4	311.9
102.5°	296.1	305.5	314.9	321.1	324.1	327.2	330.2	333.2
105°	332.6	341.3	350.1	356.1	359.3	362.5	365.6	368.8
107.5°	372.6	381.7	390.7	396.4	398.9	401.4	403.9	406.4
110°	400.4	409.2	418.1	423.7	425.7	427.8	429.9	432.0





TEST NUMBER: P332076-940

CATALOG NUMBER: S123DIP-S1165D1025U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	426.9	435.7	444.5	450.2	452.9	455.6	458.3	460.8
115°	468.9	476.5	484.2	489.2	491.4	493.7	496.1	498.3
117.5°	510.8	518.1	525.5	530.1	532.0	533.9	535.7	537.6
120°	539.2	546.2	553.1	557.5	559.3	561.1	562.8	564.6
122.5°	568.1	574.5	580.9	584.9	586.6	588.2	589.8	591.4
125°	610.9	616.6	622.4	626.0	627.3	628.7	630.2	631.5
127.5°	653.1	658.2	663.2	666.4	667.5	668.8	669.9	671.2
130°	681.1	686.2	691.3	694.1	694.6	695.1	695.6	696.1
132.5°	708.1	712.8	717.6	720.4	721.5	722.6	723.6	724.7
135°	749.2	754.0	758.8	761.9	763.0	764.2	765.4	766.5
137.5°	789.6	793.7	797.8	800.3	801.1	801.9	802.7	803.5
140°	816.5	821.0	825.5	827.9	828.0	828.1	828.3	828.5
142.5°	841.0	845.0	848.9	851.1	851.7	852.1	852.7	853.1
145°	880.5	882.8	885.0	886.4	886.9	887.3	887.8	888.2
147.5°	918.5	919.3	920.0	920.3	920.2	920.2	920.2	920.1
150°	942.6	942.6	942.6	942.4	941.8	941.2	940.7	940.1
152.5°	966.1	966.3	966.7	966.3	965.5	964.6	963.7	962.8
155°	1000.3	1001.1	1001.8	1001.6	1000.2	998.8	997.4	996.0
157.5°	1029.7	1030.6	1031.4	1031.3	1030.2	1029.0	1028.0	1026.8
160°	1047.8	1048.8	1049.8	1049.9	1049.2	1048.4	1047.6	1046.8
162.5°	1065.0	1066.0	1066.9	1066.8	1065.5	1064.3	1063.0	1061.8
165°	1086.5	1087.7	1088.9	1088.8	1087.4	1086.0	1084.7	1083.3
167.5°	1104.0	1105.3	1106.5	1106.5	1105.3	1104.0	1102.9	1101.6
170°	1113.7	1115.0	1116.4	1116.4	1115.0	1113.7	1112.2	1110.9
172.5°	1121.1	1122.4	1123.6	1123.6	1122.1	1120.8	1119.4	1117.9
175°	1129.3	1130.4	1131.7	1131.5	1130.2	1128.7	1127.4	1126.0
177.5°	1132.9	1133.8	1134.8	1134.7	1133.6	1132.5	1131.4	1130.2
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1

(END OF REPORT)