

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: P332085-940

Luminaire Tested: **S123DIP-S1165D1195U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332085-940  
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-S1165D1195U940-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 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: 7982.2 lumens  
Efficiency: N/A  
Efficacy: 111.3 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: General Diffuse

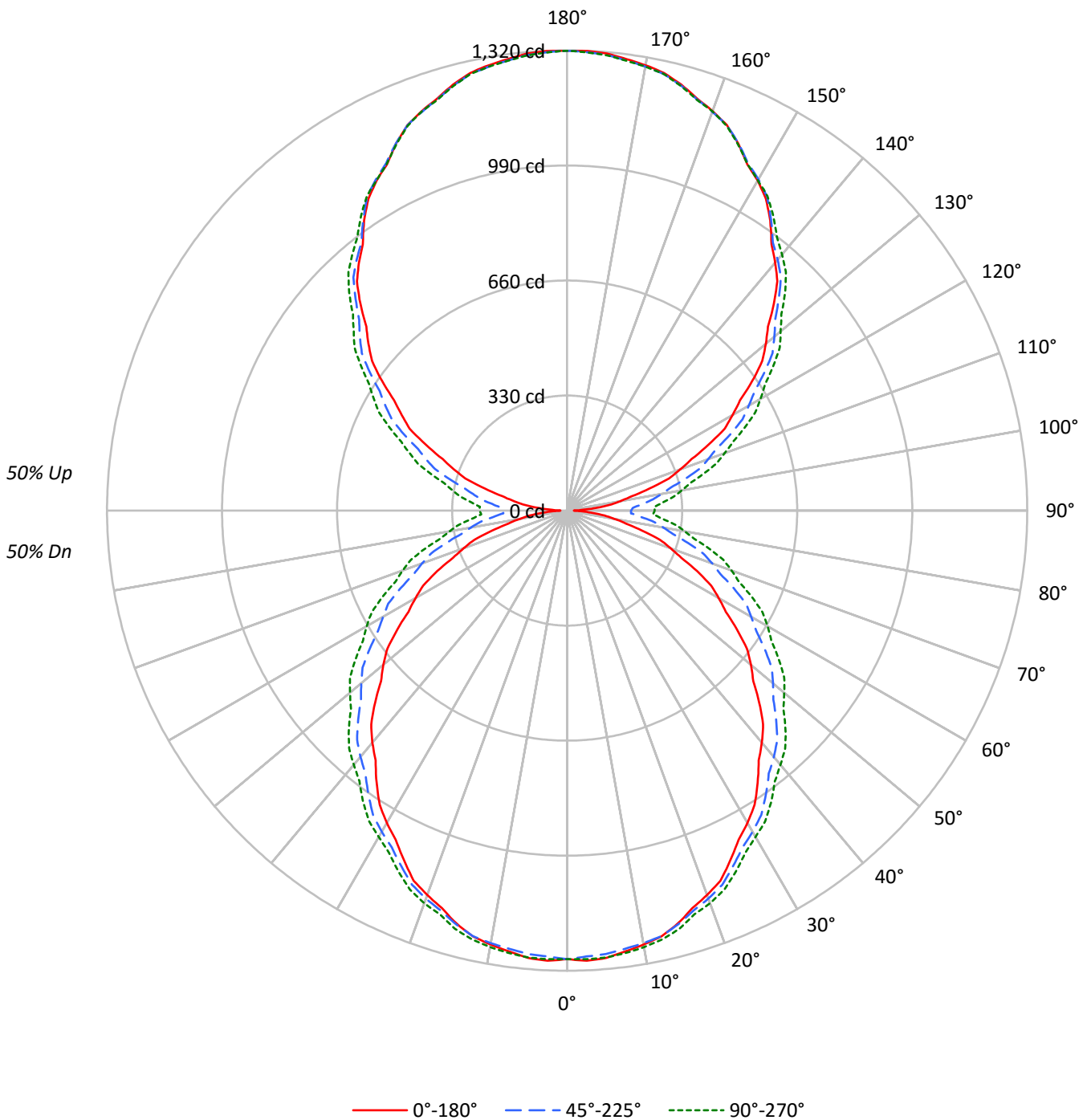
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	51	43	37	43	37	33	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	53	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

**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	1.5
10°-20°	347.7	4.4
20°-30°	520.1	6.5
30°-40°	621.1	7.8
40°-50°	649.8	8.1
50°-60°	609.8	7.6
60°-70°	509.3	6.4
70°-80°	364.4	4.6
80°-90°	221.2	2.8
90°-100°	222.3	2.8
100°-110°	357.4	4.5
110°-120°	504.3	6.3
120°-130°	613.6	7.7
130°-140°	663.8	8.3
140°-150°	639.3	8.0
150°-160°	535.2	6.7
160°-170°	356.2	4.5
170°-180°	124.7	1.6
0°-30°	989.8	12.4
0°-40°	1610.9	20.2
0°-60°	2870.5	36.0
0°-90°	3965.4	49.7
90°-120°	1084.0	13.6
90°-150°	3000.7	37.6
90°-180°	4017.0	50.3
0°-180°	7982.2	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	99	183	233	251	16
95°	76	139	215	261	277	81
105°	244	282	350	388	404	261
115°	447	469	516	549	560	443
125°	649	654	690	714	721	579
135°	839	844	858	878	884	646
145°	1016	1016	1020	1029	1031	634
155°	1162	1162	1162	1166	1159	534
165°	1265	1262	1262	1267	1261	357
175°	1316	1312	1312	1317	1311	125
180°	1319	1319	1319	1319	1319	



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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	53.5	69.5	85.4	101.4	117.6	134.1	150.6	167.1	183.5	194.3
90°	19.3	36.8	54.4	72.0	89.5	107.7	126.6	145.5	164.3	183.2	194.7
92.5°	42.2	57.5	72.9	88.2	103.5	119.8	137.1	154.5	171.8	189.2	200.3
95°	76.5	90.3	104.1	117.8	131.6	147.0	164.2	181.2	198.3	215.4	226.0
97.5°	122.3	134.5	146.6	158.8	170.9	185.0	200.9	216.9	232.7	248.6	259.0
100°	153.6	164.9	176.2	187.5	198.9	212.3	227.8	243.3	258.8	274.3	284.0
102.5°	189.7	199.5	209.3	219.1	228.9	241.6	257.2	272.8	288.4	304.0	313.4
105°	244.3	252.3	260.2	268.1	276.1	287.8	303.3	318.7	334.2	349.6	358.4
107.5°	306.5	313.1	319.8	326.4	333.0	343.0	356.6	370.1	383.7	397.3	406.3
110°	345.1	351.2	357.3	363.4	369.4	378.9	391.8	404.7	417.7	430.6	439.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	386.6	391.5	396.4	401.3	406.1	414.6	426.7	438.7	450.8	462.8	471.7
115°	447.4	451.7	456.2	460.7	465.0	472.6	483.4	494.2	504.9	515.7	523.3
117.5°	509.6	512.4	515.1	517.9	520.7	527.0	537.0	546.9	556.9	566.8	574.1
120°	547.5	550.4	553.3	556.2	559.2	565.3	574.4	583.5	592.6	601.7	608.7
122.5°	588.1	589.9	591.7	593.5	595.4	600.8	610.0	619.2	628.4	637.6	643.9
125°	648.6	649.3	650.1	650.7	651.4	656.0	664.6	673.2	681.7	690.4	696.0
127.5°	705.8	706.9	708.1	709.4	710.5	714.5	721.5	728.4	735.5	742.4	747.3
130°	744.0	745.5	747.0	748.5	750.1	753.6	759.1	764.7	770.3	775.8	780.8
132.5°	781.0	782.7	784.5	786.3	788.1	791.2	795.7	800.1	804.7	809.1	813.7
135°	838.9	840.0	841.1	842.1	843.2	845.3	848.6	851.7	854.9	858.1	862.8
137.5°	892.5	893.4	894.3	895.2	896.1	897.9	900.4	902.9	905.4	907.9	911.9
140°	928.7	929.8	930.9	932.1	933.3	934.4	935.6	936.7	937.9	939.1	943.5
142.5°	962.7	963.6	964.5	965.4	966.3	967.1	967.6	968.2	968.8	969.5	973.4
145°	1015.7	1015.8	1016.0	1016.2	1016.3	1016.7	1017.4	1018.1	1018.8	1019.5	1021.7
147.5°	1060.7	1061.6	1062.4	1063.2	1064.1	1064.8	1065.4	1066.0	1066.7	1067.4	1068.1
150°	1093.1	1093.5	1094.0	1094.4	1094.9	1095.4	1095.8	1096.3	1096.7	1097.2	1097.2
152.5°	1119.5	1120.3	1120.9	1121.5	1122.1	1122.6	1122.8	1123.2	1123.5	1123.7	1124.1
155°	1161.5	1161.5	1161.5	1161.5	1161.5	1161.5	1161.8	1162.0	1162.3	1162.4	1163.4
157.5°	1197.0	1196.8	1196.5	1196.2	1196.0	1195.9	1196.1	1196.3	1196.5	1196.7	1197.7
160°	1219.4	1219.0	1218.5	1218.1	1217.6	1217.4	1217.4	1217.4	1217.4	1217.4	1218.5
162.5°	1239.3	1238.7	1238.1	1237.4	1236.8	1236.5	1236.7	1236.9	1237.1	1237.2	1238.4
165°	1265.1	1264.4	1263.6	1262.9	1262.3	1261.9	1261.9	1261.9	1261.9	1261.9	1263.3
167.5°	1285.6	1284.6	1283.7	1282.8	1281.8	1281.5	1281.7	1281.8	1282.0	1282.2	1283.6
170°	1297.2	1296.2	1295.3	1294.4	1293.4	1293.0	1293.0	1293.0	1293.0	1293.0	1294.6
172.5°	1306.3	1305.4	1304.4	1303.5	1302.6	1302.2	1302.2	1302.2	1302.2	1302.2	1303.6
175°	1315.8	1314.9	1313.9	1313.0	1312.2	1311.6	1311.6	1311.6	1311.6	1311.6	1313.0
177.5°	1319.7	1319.0	1318.3	1317.5	1316.8	1316.4	1316.4	1316.4	1316.4	1316.4	1317.5
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9



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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°	205.1	215.9	226.7	233.6	236.8	240.0	243.3	246.5
90°	206.3	217.8	229.3	236.8	240.4	244.0	247.5	251.1
92.5°	211.3	222.5	233.5	240.3	242.9	245.5	248.2	250.7
95°	236.6	247.2	257.7	264.6	267.7	270.8	273.9	277.1
97.5°	269.3	279.6	290.0	296.7	299.7	302.7	305.8	308.8
100°	293.7	303.4	313.2	319.8	323.3	326.9	330.6	334.1
102.5°	323.0	332.4	341.9	348.1	351.2	354.2	357.2	360.3
105°	367.1	375.8	384.5	390.5	393.8	397.1	400.3	403.6
107.5°	415.4	424.5	433.5	439.3	441.8	444.3	446.7	449.2
110°	448.6	457.6	466.6	472.2	474.2	476.3	478.3	480.3





TEST NUMBER: P332085-940

CATALOG NUMBER: S123DIP-S1165D1195U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	480.7	489.6	498.6	504.4	507.0	509.7	512.4	515.1
115°	531.1	538.8	546.4	551.4	553.8	556.0	558.2	560.5
117.5°	581.5	588.9	596.2	600.8	602.6	604.4	606.2	608.0
120°	615.6	622.6	629.5	633.8	635.5	637.3	639.0	640.7
122.5°	650.2	656.6	662.9	666.8	668.3	669.9	671.4	673.0
125°	701.6	707.2	712.8	716.2	717.5	718.7	720.1	721.3
127.5°	752.2	757.1	762.0	764.9	766.0	767.0	768.0	769.1
130°	785.8	790.8	795.8	798.3	798.6	798.9	799.2	799.4
132.5°	818.2	822.8	827.3	830.1	831.0	831.9	832.7	833.6
135°	867.5	872.2	876.8	879.8	880.8	881.9	883.1	884.1
137.5°	915.9	919.8	923.7	926.0	926.8	927.5	928.1	928.8
140°	948.0	952.4	956.9	959.0	959.0	958.9	958.9	958.9
142.5°	977.3	981.2	985.2	987.3	987.7	987.9	988.3	988.6
145°	1024.0	1026.3	1028.5	1029.8	1030.2	1030.5	1030.8	1031.1
147.5°	1068.8	1069.6	1070.3	1070.6	1070.3	1070.1	1069.8	1069.5
150°	1097.2	1097.2	1097.2	1096.8	1096.1	1095.3	1094.6	1093.8
152.5°	1124.4	1124.8	1125.2	1124.8	1123.7	1122.7	1121.6	1120.5
155°	1164.3	1165.2	1166.2	1165.8	1164.2	1162.6	1161.0	1159.3
157.5°	1198.5	1199.5	1200.5	1200.3	1199.1	1197.7	1196.5	1195.2
160°	1219.7	1220.8	1222.0	1222.1	1221.2	1220.2	1219.3	1218.4
162.5°	1239.6	1240.7	1241.9	1241.7	1240.2	1238.8	1237.2	1235.8
165°	1264.7	1266.1	1267.5	1267.3	1265.7	1264.1	1262.5	1260.9
167.5°	1285.0	1286.5	1287.9	1287.9	1286.5	1285.0	1283.6	1282.2
170°	1296.2	1297.9	1299.5	1299.5	1297.9	1296.2	1294.6	1293.0
172.5°	1305.0	1306.4	1307.9	1307.8	1306.1	1304.5	1302.9	1301.3
175°	1314.4	1315.8	1317.1	1317.1	1315.5	1313.8	1312.2	1310.6
177.5°	1318.7	1319.7	1320.8	1320.7	1319.5	1318.1	1316.9	1315.6
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9

(END OF REPORT)