

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: P331981

Luminaire Tested: **S123DIP-S775D805U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331981  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D805U835-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6077.4 lumens  
Efficiency: N/A  
Efficacy: 132.4 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

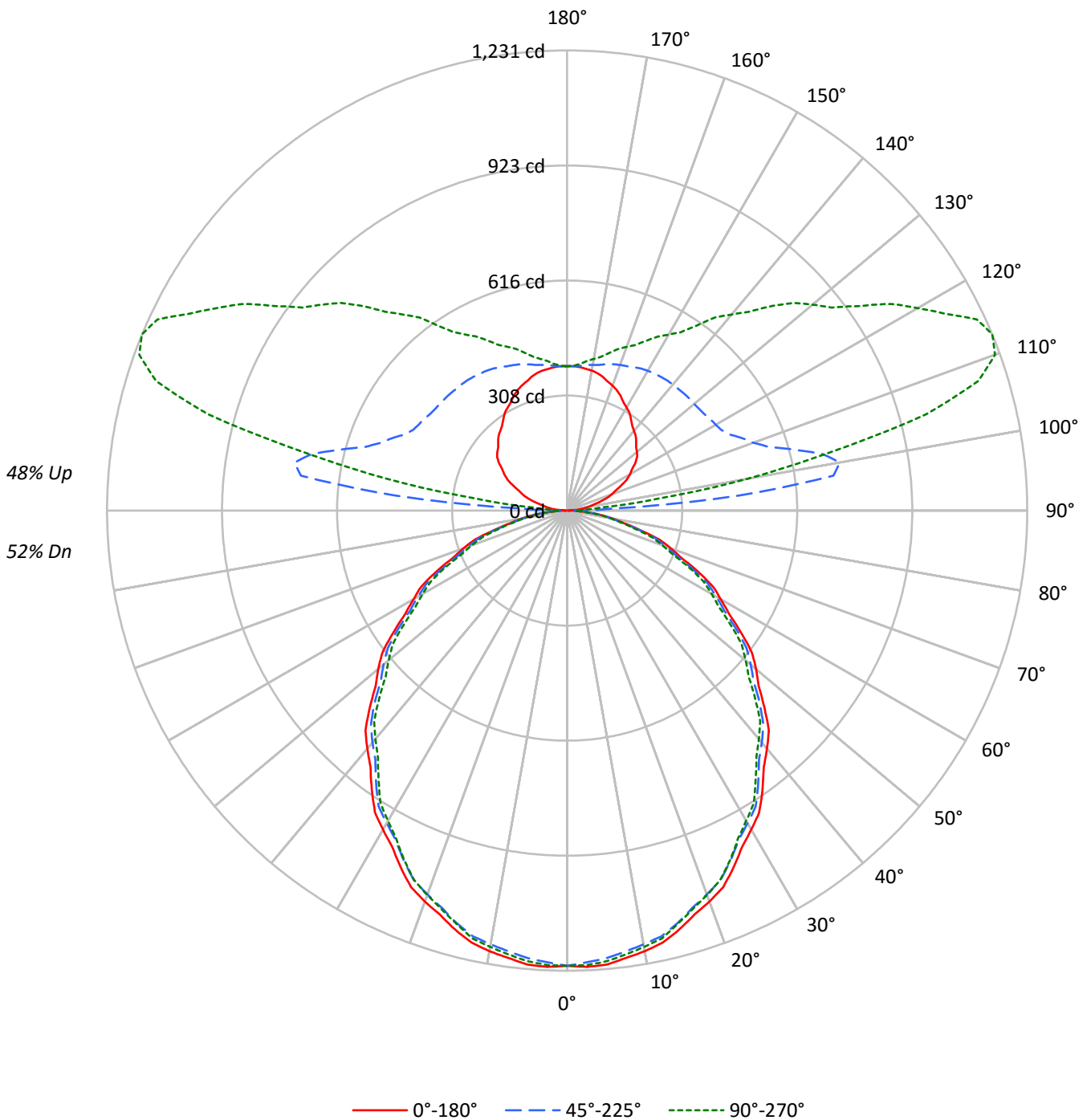
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52								
1	98	94	90	86	91	87	84	80	74	72	69	62	60	59	51	50	49	44								
2	89	82	76	70	82	76	71	66	65	61	57	55	52	49	45	43	41	37								
3	82	72	65	59	75	67	60	55	57	52	48	48	45	41	40	37	35	31								
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27								
5	68	57	49	43	63	53	46	40	45	40	35	39	34	31	32	29	26	23								
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20								
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18								
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	24	21	18	16								
9	50	38	31	25	47	36	29	24	31	26	22	27	22	19	23	19	17	14								
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	18	15	13								

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

	0°	45°	90°
0°	13108	13108	13108
5°	13169	12988	13078
10°	13081	12875	12955
15°	12929	12730	12754
20°	12749	12521	12534
25°	12511	12275	12250
30°	12246	11999	11908
35°	11971	11709	11557
40°	11682	11387	11212
45°	11365	11094	10823
50°	11047	10731	10433
55°	10631	10355	10042
60°	10211	9918	9604
65°	9841	9442	9146
70°	9294	8897	8500
75°	8492	8189	7839
80°	7662	7333	7271
85°	6719	6472	6212



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.7	1.9
10°-20°	323.9	5.3
20°-30°	478.4	7.9
30°-40°	558.9	9.2
40°-50°	561.9	9.2
50°-60°	493.6	8.1
60°-70°	367.7	6.1
70°-80°	209.5	3.4
80°-90°	63.1	1.0
90°-100°	214.9	3.5
100°-110°	608.6	10.0
110°-120°	598.7	9.9
120°-130°	477.5	7.9
130°-140°	376.5	6.2
140°-150°	281.0	4.6
150°-160°	195.9	3.2
160°-170°	115.1	1.9
170°-180°	37.4	0.6
0°-30°	917.1	15.1
0°-40°	1475.9	24.3
0°-60°	2531.4	41.7
0°-90°	3171.7	52.2
90°-120°	1422.2	23.4
90°-150°	2557.3	42.1
90°-180°	2906.0	47.8
0°-180°	6077.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1218	1218	1218	1218	1218	
5°	1219	1213	1202	1212	1210	115
15°	1160	1155	1142	1150	1144	327
25°	1053	1047	1034	1034	1031	485
35°	911	904	891	885	880	570
45°	747	742	729	717	711	576
55°	566	565	552	541	535	507
65°	386	381	371	363	359	381
75°	204	200	197	192	188	218
85°	54	52	52	50	50	60
90°	2	9	20	22	23	5
95°	27	86	464	135	91	29
105°	91	134	629	1099	994	96
115°	160	200	481	1054	1210	159
125°	223	263	449	813	954	198
135°	261	312	442	670	773	202
145°	298	341	437	549	604	187
155°	338	365	423	481	501	156
165°	370	380	405	430	437	104
175°	385	386	389	394	393	37
180°	386	386	386	386	386	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1221.9	1221.2	1220.5	1219.7	1219.0	1217.6	1215.5	1213.5	1211.4	1209.4	1211.2
5°	1218.8	1217.6	1216.5	1215.3	1214.1	1212.3	1209.7	1207.2	1204.6	1202.0	1204.4
7.5°	1206.9	1205.7	1204.5	1203.4	1202.2	1200.3	1197.6	1195.0	1192.3	1189.7	1191.8
10°	1196.8	1195.6	1194.5	1193.3	1192.2	1190.1	1187.0	1184.0	1181.0	1178.0	1180.1
12.5°	1183.4	1182.4	1181.5	1180.5	1179.5	1177.6	1174.8	1171.9	1169.1	1166.2	1167.8
15°	1160.2	1159.2	1158.3	1157.4	1156.4	1154.5	1151.4	1148.4	1145.4	1142.4	1144.2
17.5°	1133.1	1131.9	1130.7	1129.5	1128.3	1126.2	1123.2	1120.1	1117.1	1114.1	1115.4
20°	1113.0	1111.6	1110.3	1108.9	1107.5	1105.2	1102.2	1099.2	1096.2	1093.1	1094.1
22.5°	1090.4	1089.0	1087.6	1086.2	1084.8	1082.6	1079.6	1076.6	1073.6	1070.5	1071.3
25°	1053.4	1052.0	1050.6	1049.2	1047.8	1045.6	1042.5	1039.5	1036.5	1033.5	1033.7
27.5°	1013.8	1012.4	1011.1	1009.7	1008.4	1006.1	1002.8	999.6	996.3	993.0	993.2
30°	985.3	984.1	983.0	981.8	980.6	978.4	975.2	971.9	968.7	965.4	965.4
32.5°	956.8	955.3	953.7	952.2	950.7	948.7	946.1	943.6	941.1	938.6	937.3
35°	911.0	909.6	908.2	906.8	905.4	903.2	900.1	897.1	894.1	891.1	889.7
37.5°	864.0	862.3	860.5	858.7	857.0	854.6	851.5	848.4	845.3	842.3	840.6
40°	831.4	830.0	828.6	827.2	825.8	823.5	820.2	817.0	813.7	810.4	808.6
42.5°	798.7	797.1	795.5	794.0	792.4	790.0	786.7	783.4	780.2	776.9	775.1
45°	746.6	745.6	744.7	743.8	742.8	740.9	737.8	734.8	731.8	728.8	726.0
47.5°	694.8	693.5	692.1	690.8	689.4	687.3	684.5	681.7	678.8	676.0	673.2
50°	659.7	658.5	657.3	656.2	655.0	652.9	649.9	646.9	643.8	640.8	638.3
52.5°	622.8	622.0	621.2	620.4	619.6	617.6	614.4	611.2	608.0	604.8	602.6
55°	566.5	566.2	566.0	565.8	565.5	563.9	560.9	557.9	554.8	551.8	549.3
57.5°	512.9	512.1	511.3	510.5	509.7	508.1	505.7	503.2	500.8	498.4	496.1
60°	474.3	474.1	473.9	473.6	473.4	471.9	469.1	466.3	463.5	460.7	458.6
62.5°	440.0	439.4	438.8	438.2	437.6	435.9	433.1	430.3	427.5	424.7	422.6
65°	386.4	385.2	384.0	382.9	381.7	380.0	377.6	375.3	373.0	370.7	368.8
67.5°	329.6	328.6	327.6	326.5	325.5	324.1	322.4	320.6	318.8	317.1	315.4
70°	295.3	293.9	292.5	291.1	289.7	288.3	286.9	285.5	284.1	282.7	281.1
72.5°	259.3	258.2	257.2	256.2	255.2	253.9	252.3	250.7	249.1	247.5	246.1
75°	204.2	203.2	202.3	201.4	200.5	199.6	198.9	198.2	197.5	196.9	195.7
77.5°	155.4	154.9	154.4	153.9	153.3	152.7	151.8	151.0	150.2	149.3	148.5
80°	123.6	122.9	122.2	121.5	120.8	120.2	119.7	119.3	118.8	118.3	118.1
82.5°	92.6	92.4	92.3	92.1	92.0	91.9	91.8	91.7	91.6	91.5	91.1
85°	54.4	54.0	53.5	53.1	52.6	52.4	52.4	52.4	52.4	52.4	51.9
87.5°	22.1	21.8	21.6	21.5	21.3	21.2	21.5	21.8	22.1	22.3	22.0
90°	1.6	3.1	4.7	7.0	8.6	10.2	12.5	14.9	17.2	19.5	18.8
92.5°	9.7	14.4	21.0	27.1	33.6	45.2	65.7	99.3	132.3	120.2	90.7
95°	26.6	28.9	37.5	50.8	71.1	101.6	168.1	284.6	412.8	463.6	376.1
97.5°	45.3	46.1	52.9	64.4	84.4	117.4	180.9	312.3	526.0	718.5	768.7
100°	57.9	58.6	64.1	75.1	93.8	124.3	179.0	294.7	500.4	740.4	894.4
102.5°	71.0	72.4	77.2	87.6	104.5	132.4	181.5	279.7	462.8	699.7	900.7
105°	90.7	93.0	97.7	107.1	122.0	146.2	188.4	268.9	416.7	628.6	853.0
107.5°	111.6	114.0	118.5	127.7	141.7	164.2	201.2	268.2	387.3	565.7	769.5
110°	126.7	129.0	132.9	141.5	154.8	176.7	211.9	271.3	376.1	530.1	716.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	140.4	142.8	146.7	155.3	168.6	189.8	222.5	277.5	369.8	506.3	671.3
115°	160.3	163.4	168.1	175.9	189.2	210.3	240.0	287.7	367.5	480.8	616.1
117.5°	180.1	183.7	187.6	194.8	209.7	229.2	258.6	301.2	368.9	465.8	582.8
120°	193.9	196.2	200.1	208.0	222.8	242.4	270.5	311.2	371.4	458.9	565.3
122.5°	205.8	208.1	212.0	220.5	234.7	255.5	283.0	320.5	375.7	454.6	550.9
125°	222.8	224.4	229.1	237.7	252.5	273.6	301.0	335.4	382.3	448.8	532.4
127.5°	235.8	238.1	243.9	252.7	269.1	290.2	316.6	347.6	389.8	446.0	516.2
130°	243.9	246.3	253.3	262.7	279.1	300.2	326.0	355.7	394.8	444.1	507.4
132.5°	250.2	253.2	260.8	272.1	288.5	309.0	334.1	363.2	398.6	443.4	499.3
135°	261.1	264.3	272.9	284.6	301.0	322.1	346.3	372.9	404.2	442.5	488.6
137.5°	271.4	274.7	283.2	295.7	311.9	331.5	354.8	380.1	408.0	440.8	479.4
140°	278.3	282.2	290.1	302.6	318.2	337.7	360.4	383.9	410.5	440.2	473.8
142.5°	285.8	289.1	297.6	308.8	324.5	342.7	364.8	387.6	412.3	438.9	468.8
145°	297.9	300.2	307.3	319.0	332.3	350.3	370.6	391.7	413.6	437.0	462.1
147.5°	310.1	311.5	318.4	328.5	341.3	356.7	375.3	394.2	413.6	434.1	455.5
150°	318.2	319.0	325.2	335.4	346.3	360.4	378.4	394.8	413.6	431.6	451.1
152.5°	326.3	326.5	332.7	341.7	351.3	364.8	380.3	396.1	411.7	428.4	446.1
155°	338.5	338.5	343.2	351.0	359.6	370.6	383.9	396.4	409.7	423.0	438.6
157.5°	348.2	348.8	352.6	359.5	366.8	375.3	385.9	397.2	407.0	418.1	430.2
160°	355.7	355.7	358.9	365.1	370.6	378.4	387.8	397.2	405.8	414.4	424.5
162.5°	361.4	361.4	363.9	368.9	373.7	380.3	388.4	396.5	403.3	410.6	418.9
165°	369.8	369.0	370.6	374.5	377.6	383.1	389.3	394.8	399.5	405.0	411.2
167.5°	376.2	375.3	376.1	379.0	381.2	384.7	389.2	393.6	395.8	399.4	403.9
170°	380.0	378.4	379.2	381.5	383.1	384.7	388.6	391.7	393.3	395.6	399.5
172.5°	382.5	381.5	381.7	383.4	384.3	385.3	388.6	391.1	391.4	392.5	395.1
175°	385.4	384.7	383.9	385.4	385.4	386.2	387.8	389.3	388.6	388.6	390.1
177.5°	386.8	386.2	385.6	386.2	386.2	386.2	386.8	388.1	386.8	386.2	386.8
180°	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1213.1	1215.0	1216.8	1217.7	1217.5	1217.3	1217.1	1216.9
5°	1206.7	1209.0	1211.4	1212.3	1211.8	1211.4	1210.9	1210.4
7.5°	1193.9	1196.0	1198.1	1199.0	1198.7	1198.4	1198.1	1197.9
10°	1182.2	1184.2	1186.3	1187.2	1186.7	1186.2	1185.8	1185.3
12.5°	1169.3	1170.8	1172.4	1173.0	1172.7	1172.4	1172.2	1171.9
15°	1146.1	1147.9	1149.8	1150.0	1148.6	1147.2	1145.9	1144.5
17.5°	1116.7	1118.0	1119.3	1119.7	1119.2	1118.7	1118.2	1117.7
20°	1095.0	1095.9	1096.9	1097.0	1096.3	1095.6	1094.9	1094.2
22.5°	1072.0	1072.8	1073.5	1073.4	1072.6	1071.7	1070.8	1069.9
25°	1033.9	1034.2	1034.4	1034.2	1033.5	1032.8	1032.1	1031.4
27.5°	993.4	993.6	993.8	993.4	992.6	991.7	990.8	989.9
30°	965.4	965.4	965.4	964.6	963.0	961.3	959.7	958.1
32.5°	936.0	934.7	933.4	932.3	931.4	930.5	929.6	928.8
35°	888.3	886.9	885.5	884.2	883.0	881.9	880.7	879.5
37.5°	838.9	837.2	835.6	834.4	833.6	832.9	832.1	831.4
40°	806.7	804.9	803.0	801.6	800.7	799.7	798.8	797.9
42.5°	773.2	771.3	769.5	768.1	767.2	766.2	765.3	764.4
45°	723.2	720.4	717.6	715.6	714.5	713.3	712.1	711.0
47.5°	670.5	667.8	665.0	663.1	662.1	661.1	660.1	659.0
50°	635.7	633.1	630.6	628.6	627.2	625.8	624.4	623.0
52.5°	600.4	598.2	596.0	594.3	592.9	591.5	590.1	588.7
55°	546.7	544.1	541.6	539.7	538.5	537.4	536.2	535.1
57.5°	493.8	491.6	489.3	487.5	486.1	484.8	483.4	482.1
60°	456.5	454.4	452.3	450.7	449.5	448.4	447.2	446.1
62.5°	420.5	418.4	416.3	414.9	414.1	413.3	412.5	411.7
65°	366.9	365.1	363.2	361.9	361.2	360.5	359.8	359.1
67.5°	313.8	312.2	310.5	309.2	308.3	307.3	306.3	305.3
70°	279.5	277.8	276.2	274.8	273.6	272.5	271.3	270.1
72.5°	244.6	243.2	241.8	240.7	240.1	239.5	238.9	238.3
75°	194.5	193.4	192.2	191.3	190.6	189.9	189.2	188.5
77.5°	147.7	146.9	146.1	145.8	145.8	145.8	145.8	145.8
80°	117.9	117.6	117.4	117.3	117.3	117.3	117.3	117.3
82.5°	90.7	90.3	89.8	89.5	89.4	89.2	89.0	88.8
85°	51.4	51.0	50.5	50.3	50.3	50.3	50.3	50.3
87.5°	22.0	21.9	21.9	22.1	22.0	22.1	22.3	22.1
90°	19.5	20.3	21.1	22.7	21.9	22.7	23.5	22.7
92.5°	65.8	52.2	46.1	42.1	40.7	38.3	39.1	37.7
95°	281.5	190.8	149.3	121.2	106.3	99.3	93.8	90.7
97.5°	701.6	562.0	461.1	367.6	309.9	274.7	253.6	246.9
100°	921.8	858.4	767.0	655.9	577.0	519.9	489.4	490.2
102.5°	994.9	992.9	939.6	869.2	807.8	762.6	737.1	719.1
105°	1016.4	1094.5	1109.4	1089.1	1053.1	1023.4	998.4	994.5
107.5°	954.8	1081.7	1150.2	1178.0	1178.7	1168.7	1160.2	1153.0
110°	896.0	1039.8	1138.3	1193.1	1214.9	1221.2	1219.6	1218.1





TEST NUMBER: P331981

CATALOG NUMBER: S123DIP-S775D805U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	837.8	984.8	1095.2	1165.5	1205.6	1225.0	1230.9	1231.2
115°	760.7	896.7	1011.7	1096.9	1155.5	1189.9	1205.6	1209.5
117.5°	704.9	822.3	925.5	1012.0	1073.1	1112.5	1135.0	1140.4
120°	675.5	781.0	874.9	953.8	1015.6	1059.4	1078.1	1082.8
122.5°	652.4	747.9	834.8	908.2	963.0	1002.4	1023.1	1029.0
125°	621.5	706.8	781.8	844.4	894.4	928.8	948.3	953.8
127.5°	594.7	670.6	738.4	795.3	839.8	869.2	886.9	891.9
130°	577.8	648.1	711.5	764.6	806.1	834.2	850.6	856.9
132.5°	562.1	626.9	685.8	736.5	775.4	803.6	818.1	822.5
135°	541.0	596.5	647.3	691.9	730.2	753.7	767.7	773.2
137.5°	521.8	567.3	611.1	649.7	681.9	705.7	717.6	721.2
140°	510.5	550.4	587.9	621.5	651.3	673.1	685.7	684.9
142.5°	499.9	534.1	566.7	595.9	621.2	640.6	651.9	651.1
145°	487.1	512.9	537.9	560.6	580.1	596.5	602.8	604.3
147.5°	476.6	497.1	517.3	533.4	548.2	559.3	565.3	565.9
150°	469.1	487.1	503.5	518.3	530.1	538.7	543.4	543.4
152.5°	462.2	477.7	492.2	504.6	513.8	521.8	524.6	524.6
155°	451.9	464.4	476.1	485.5	492.5	498.8	500.4	501.1
157.5°	440.9	451.4	460.5	467.8	473.9	478.6	479.9	479.7
160°	434.7	443.3	451.1	456.6	462.1	466.7	466.7	466.0
162.5°	427.2	434.5	441.7	446.6	450.2	454.2	454.2	453.5
165°	417.5	422.2	427.7	431.6	434.7	437.8	437.0	437.0
167.5°	409.0	412.6	415.8	418.6	420.0	422.2	421.4	421.4
170°	403.4	405.8	408.9	410.5	411.2	412.8	412.0	412.0
172.5°	398.4	400.1	402.6	403.6	403.7	405.3	403.9	403.3
175°	391.7	392.5	394.0	394.0	394.0	394.8	394.0	393.3
177.5°	387.5	388.1	388.7	388.7	388.1	388.7	387.5	387.5
180°	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2

(END OF REPORT)