

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: P331990-935

Luminaire Tested: **S123DIP-S775D1025U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331990-935  
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-S775D1025U935-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5925.7 lumens  
Efficiency: N/A  
Efficacy: 114.0 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

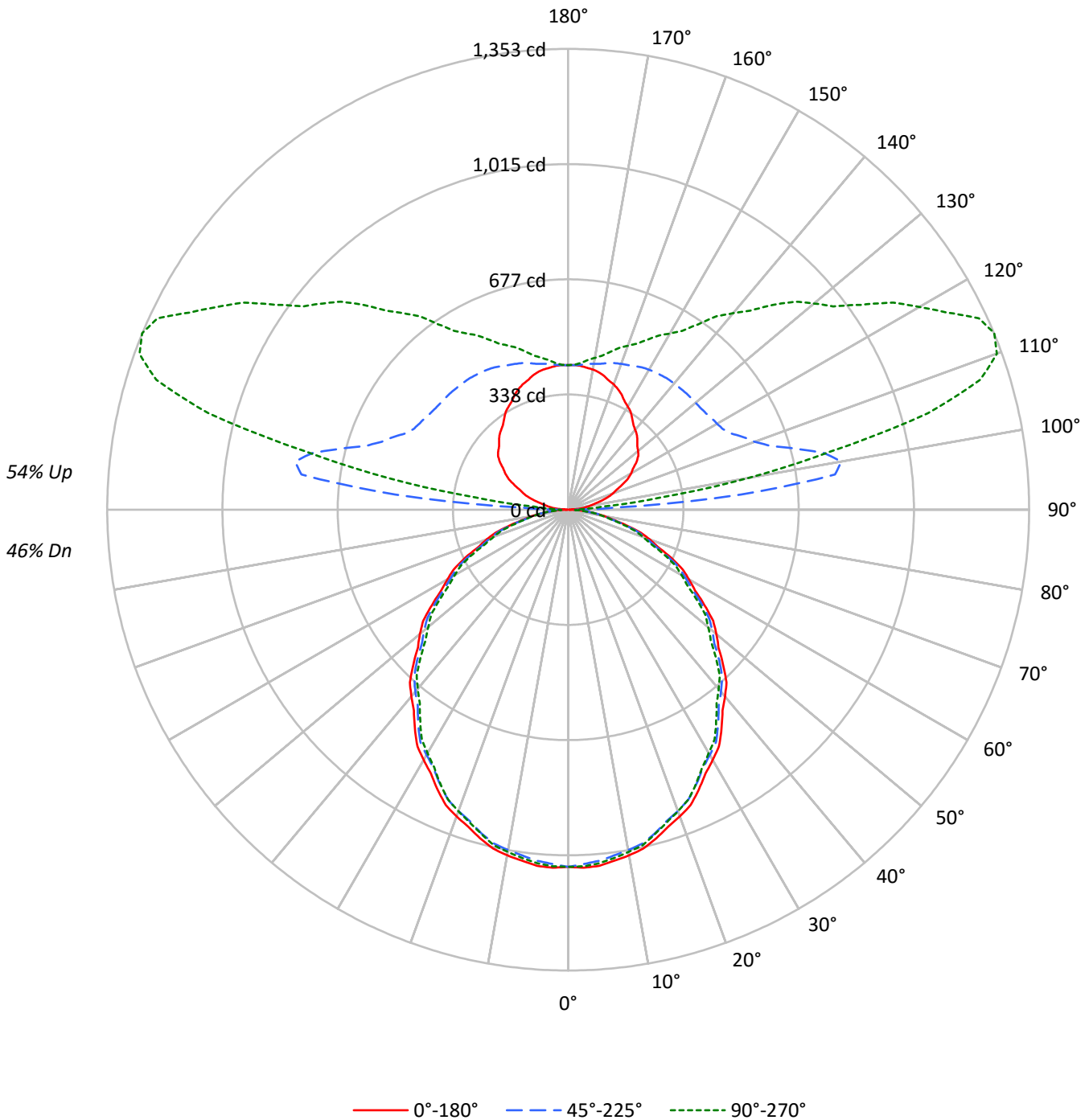
Input Watts (W): 52  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331990-935

CATALOG NUMBER: S123DIP-S775D1025U935-4F0-1E-UDD-F4

### Luminous Intensity Polar Plot





TEST NUMBER: P331990-935

CATALOG NUMBER: S123DIP-S775D1025U935-4F0-1E-UDD-F4

**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	97	97	97	97	81	81	81	66	66	66	53	53	53	46
1	97	93	89	85	89	85	82	79	71	69	66	58	57	55	46	45	44	39
2	88	81	75	69	81	74	69	65	62	58	55	51	48	46	41	39	37	32
3	80	71	64	58	73	65	59	54	55	50	46	45	42	39	36	34	32	27
4	74	63	55	49	67	58	51	46	49	43	39	40	36	33	32	29	27	23
5	67	56	48	42	62	52	44	39	44	38	34	36	32	29	29	26	24	20
6	62	50	42	36	57	46	39	34	39	34	29	33	28	25	26	23	21	18
7	57	45	37	32	53	42	35	30	35	30	26	30	25	22	24	21	19	16
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17	14
9	50	37	30	25	45	35	28	23	30	24	21	25	21	18	20	17	15	13
10	46	34	27	22	42	32	25	21	27	22	19	23	19	16	19	16	14	12

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

	0°	45°	90°
0°	11286	11286	11286
5°	11339	11182	11261
10°	11262	11086	11154
15°	11131	10961	10981
20°	10977	10781	10791
25°	10772	10568	10546
30°	10544	10331	10253
35°	10307	10081	9950
40°	10058	9805	9653
45°	9785	9552	9319
50°	9512	9239	8982
55°	9154	8916	8646
60°	8792	8540	8269
65°	8474	8130	7875
70°	8003	7660	7320
75°	7311	7049	6750
80°	6595	6316	6261
85°	5780	5570	5348



TEST NUMBER: P331990-935

CATALOG NUMBER: S123DIP-S775D1025U935-4F0-1E-UDD-F4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.8	1.7
10°-20°	278.9	4.7
20°-30°	411.9	7.0
30°-40°	481.2	8.1
40°-50°	483.8	8.2
50°-60°	425.0	7.2
60°-70°	316.6	5.3
70°-80°	180.4	3.0
80°-90°	55.1	0.9
90°-100°	236.3	4.0
100°-110°	669.0	11.3
110°-120°	658.1	11.1
120°-130°	525.0	8.9
130°-140°	413.9	7.0
140°-150°	308.9	5.2
150°-160°	215.3	3.6
160°-170°	126.5	2.1
170°-180°	41.2	0.7
0°-30°	789.6	13.3
0°-40°	1270.8	21.4
0°-60°	2179.5	36.8
0°-90°	2731.6	46.1
90°-120°	1563.5	26.4
90°-150°	2811.2	47.4
90°-180°	3194.0	53.9
0°-180°	5925.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1048	1048	1048	1048	1048	
5°	1049	1045	1035	1043	1042	99
15°	999	995	984	990	985	281
25°	907	901	890	890	888	418
35°	784	779	767	762	757	490
45°	643	639	628	617	612	496
55°	488	486	475	466	461	437
65°	333	328	319	312	309	328
75°	176	172	170	165	162	188
85°	47	45	45	43	43	51
90°	2	10	22	24	25	5
95°	29	95	510	149	100	32
105°	100	147	691	1208	1093	106
115°	176	220	529	1159	1330	174
125°	245	289	493	894	1048	217
135°	287	342	486	736	850	222
145°	327	375	480	604	664	205
155°	372	401	465	529	551	171
165°	406	418	445	472	480	115
175°	424	424	427	433	432	40
180°	425	425	425	425	425	



TEST NUMBER: P331990-935

CATALOG NUMBER: S123DIP-S775D1025U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5
2.5°	1052.1	1051.5	1050.9	1050.2	1049.6	1048.4	1046.5	1044.8	1043.0	1041.3	1042.8
5°	1049.4	1048.4	1047.4	1046.4	1045.3	1043.8	1041.6	1039.4	1037.2	1034.9	1037.0
7.5°	1039.1	1038.1	1037.1	1036.1	1035.1	1033.5	1031.1	1028.9	1026.6	1024.3	1026.1
10°	1030.4	1029.4	1028.5	1027.4	1026.5	1024.7	1022.0	1019.4	1016.8	1014.3	1016.1
12.5°	1018.9	1018.0	1017.3	1016.4	1015.5	1013.9	1011.5	1009.0	1006.6	1004.1	1005.5
15°	998.9	998.1	997.3	996.5	995.7	994.0	991.4	988.8	986.2	983.6	985.2
17.5°	975.6	974.6	973.5	972.5	971.5	969.7	967.1	964.4	961.8	959.2	960.4
20°	958.3	957.1	956.0	954.8	953.6	951.6	949.0	946.4	943.8	941.2	942.0
22.5°	938.8	937.6	936.4	935.2	934.0	932.1	929.5	927.0	924.4	921.7	922.4
25°	907.0	905.8	904.6	903.4	902.2	900.3	897.6	895.0	892.4	889.8	890.0
27.5°	872.9	871.7	870.6	869.4	868.2	866.3	863.4	860.7	857.8	855.0	855.1
30°	848.3	847.3	846.4	845.3	844.3	842.4	839.6	836.8	834.1	831.2	831.2
32.5°	823.8	822.5	821.1	819.8	818.6	816.8	814.6	812.4	810.3	808.1	807.0
35°	784.4	783.2	782.0	780.8	779.5	777.7	775.0	772.4	769.8	767.2	766.0
37.5°	743.9	742.4	740.9	739.3	737.9	735.8	733.1	730.5	727.8	725.2	723.8
40°	715.8	714.6	713.4	712.2	711.0	709.0	706.2	703.4	700.6	697.8	696.2
42.5°	687.7	686.3	684.9	683.6	682.3	680.2	677.3	674.5	671.8	668.9	667.4
45°	642.8	642.0	641.2	640.4	639.6	637.9	635.2	632.7	630.1	627.5	625.1
47.5°	598.2	597.1	595.9	594.8	593.6	591.8	589.4	586.9	584.4	582.0	579.6
50°	568.0	567.0	565.9	565.0	564.0	562.1	559.6	557.0	554.3	551.7	549.6
52.5°	536.2	535.5	534.9	534.2	533.5	531.8	529.0	526.2	523.5	520.7	518.8
55°	487.8	487.5	487.3	487.2	486.9	485.5	482.9	480.4	477.7	475.1	472.9
57.5°	441.6	440.9	440.2	439.5	438.9	437.5	435.4	433.3	431.2	429.1	427.1
60°	408.4	408.2	408.0	407.8	407.6	406.3	403.9	401.5	399.1	396.7	394.9
62.5°	378.8	378.3	377.8	377.3	376.8	375.3	372.9	370.5	368.1	365.7	363.9
65°	332.7	331.7	330.6	329.7	328.6	327.2	325.1	323.1	321.2	319.2	317.5
67.5°	283.8	282.9	282.1	281.1	280.3	279.1	277.6	276.0	274.5	273.0	271.6
70°	254.3	253.0	251.8	250.6	249.4	248.2	247.0	245.8	244.6	243.4	242.0
72.5°	223.3	222.3	221.4	220.6	219.7	218.6	217.2	215.9	214.5	213.1	211.9
75°	175.8	175.0	174.2	173.4	172.6	171.9	171.3	170.7	170.0	169.5	168.5
77.5°	133.8	133.4	132.9	132.5	132.0	131.5	130.7	130.0	129.3	128.5	127.9
80°	106.4	105.8	105.2	104.6	104.0	103.5	103.1	102.7	102.3	101.9	101.7
82.5°	79.7	79.6	79.5	79.3	79.2	79.1	79.0	79.0	78.9	78.8	78.4
85°	46.8	46.5	46.1	45.7	45.3	45.1	45.1	45.1	45.1	45.1	44.7
87.5°	19.1	18.9	18.9	18.9	18.7	18.8	19.1	19.5	19.8	20.1	19.8
90°	1.7	3.4	5.2	7.7	9.5	11.2	13.8	16.4	18.9	21.5	20.7
92.5°	10.7	15.8	23.1	29.7	36.9	49.7	72.2	109.2	145.4	132.2	99.7
95°	29.2	31.8	41.2	55.9	78.2	111.8	184.8	312.8	453.7	509.6	413.4
97.5°	49.9	50.7	58.1	70.8	92.8	129.1	198.9	343.3	578.2	789.8	845.0
100°	63.6	64.5	70.5	82.5	103.1	136.6	196.8	324.0	550.0	813.9	983.2
102.5°	78.0	79.6	84.9	96.3	114.9	145.6	199.6	307.5	508.8	769.2	990.1
105°	99.7	102.3	107.5	117.8	134.1	160.7	207.2	295.7	458.1	691.0	937.6
107.5°	122.7	125.3	130.3	140.4	155.8	180.5	221.2	294.8	425.8	621.9	845.8
110°	139.2	141.8	146.1	155.6	170.1	194.2	232.9	298.3	413.4	582.7	788.1



TEST NUMBER: P331990-935

CATALOG NUMBER: S123DIP-S775D1025U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	154.4	157.0	161.3	170.7	185.3	208.7	244.6	305.1	406.5	556.6	737.9
115°	176.2	179.6	184.8	193.4	208.0	231.2	263.8	316.2	403.9	528.6	677.3
117.5°	198.0	202.0	206.3	214.1	230.5	252.0	284.3	331.1	405.4	512.0	640.6
120°	213.1	215.7	220.0	228.6	245.0	266.4	297.4	342.1	408.2	504.5	621.4
122.5°	226.2	228.8	233.1	242.4	258.0	280.9	311.1	352.4	413.0	499.6	605.5
125°	245.0	246.7	251.8	261.2	277.6	300.8	330.9	368.7	420.3	493.4	585.3
127.5°	259.2	261.7	268.1	277.8	295.8	319.0	348.1	382.1	428.5	490.3	567.4
130°	268.1	270.7	278.4	288.8	306.8	330.0	358.3	391.1	434.0	488.2	557.8
132.5°	275.0	278.3	286.7	299.1	317.1	339.7	367.3	399.3	438.2	487.5	548.8
135°	287.1	290.5	300.0	312.8	330.9	354.0	380.7	409.9	444.4	486.5	537.2
137.5°	298.4	302.0	311.3	325.0	342.9	364.4	390.0	417.8	448.4	484.6	527.0
140°	306.0	310.2	318.8	332.6	349.8	371.3	396.2	422.0	451.2	483.9	520.8
142.5°	314.2	317.8	327.1	339.5	356.6	376.8	401.1	426.1	453.2	482.5	515.3
145°	327.4	330.0	337.8	350.7	365.2	385.0	407.3	430.6	454.6	480.4	507.9
147.5°	340.9	342.4	350.0	361.1	375.2	392.1	412.5	433.3	454.6	477.2	500.7
150°	349.8	350.7	357.5	368.7	380.7	396.2	415.9	434.0	454.6	474.4	495.8
152.5°	358.7	358.9	365.8	375.6	386.2	401.1	418.0	435.4	452.5	471.0	490.4
155°	372.1	372.1	377.3	385.9	395.4	407.3	422.0	435.8	450.3	464.9	482.2
157.5°	382.8	383.5	387.6	395.2	403.2	412.5	424.2	436.6	447.5	459.6	472.9
160°	391.1	391.1	394.5	401.3	407.3	415.9	426.3	436.6	446.1	455.5	466.7
162.5°	397.3	397.3	400.0	405.4	410.8	418.0	427.0	435.9	443.3	451.3	460.5
165°	406.5	405.6	407.3	411.6	415.1	421.1	428.0	434.0	439.2	445.2	452.0
167.5°	413.5	412.5	413.4	416.6	419.0	422.8	427.8	432.7	435.1	439.0	444.0
170°	417.7	415.9	416.8	419.4	421.1	422.8	427.1	430.6	432.3	434.9	439.2
172.5°	420.4	419.4	419.6	421.5	422.5	423.5	427.1	429.9	430.2	431.4	434.4
175°	423.7	422.8	422.0	423.7	423.7	424.6	426.3	428.0	427.1	427.1	428.9
177.5°	425.2	424.6	423.9	424.6	424.6	424.6	425.2	426.6	425.2	424.6	425.2
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6



TEST NUMBER: P331990-935

CATALOG NUMBER: S123DIP-S775D1025U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5
2.5°	1044.5	1046.1	1047.7	1048.4	1048.3	1048.1	1047.9	1047.8
5°	1039.0	1040.9	1043.0	1043.8	1043.4	1043.0	1042.6	1042.2
7.5°	1027.9	1029.8	1031.6	1032.3	1032.1	1031.8	1031.6	1031.4
10°	1017.9	1019.6	1021.4	1022.2	1021.7	1021.3	1021.0	1020.5
12.5°	1006.8	1008.1	1009.4	1010.0	1009.7	1009.4	1009.3	1009.0
15°	986.8	988.3	990.0	990.2	988.9	987.7	986.6	985.4
17.5°	961.5	962.6	963.7	964.1	963.6	963.2	962.8	962.3
20°	942.8	943.6	944.4	944.5	943.9	943.3	942.7	942.1
22.5°	923.0	923.7	924.3	924.2	923.5	922.7	922.0	921.2
25°	890.2	890.4	890.6	890.4	889.8	889.2	888.6	888.0
27.5°	855.3	855.5	855.7	855.3	854.6	853.9	853.1	852.3
30°	831.2	831.2	831.2	830.5	829.1	827.7	826.3	824.9
32.5°	805.9	804.8	803.7	802.7	801.9	801.2	800.4	799.7
35°	764.8	763.6	762.4	761.3	760.3	759.3	758.3	757.2
37.5°	722.3	720.8	719.5	718.4	717.7	717.1	716.4	715.8
40°	694.6	693.0	691.4	690.2	689.4	688.5	687.8	687.0
42.5°	665.7	664.1	662.5	661.3	660.6	659.7	658.9	658.1
45°	622.7	620.3	617.9	616.1	615.2	614.2	613.1	612.2
47.5°	577.3	575.0	572.6	570.9	570.1	569.2	568.3	567.4
50°	547.3	545.1	542.9	541.2	540.0	538.8	537.6	536.4
52.5°	516.9	515.1	513.2	511.7	510.5	509.3	508.1	506.9
55°	470.7	468.5	466.3	464.7	463.6	462.7	461.7	460.7
57.5°	425.2	423.3	421.3	419.7	418.5	417.4	416.2	415.1
60°	393.0	391.2	389.4	388.1	387.0	386.1	385.0	384.1
62.5°	362.1	360.2	358.4	357.2	356.5	355.9	355.2	354.5
65°	315.9	314.4	312.7	311.6	311.0	310.4	309.8	309.2
67.5°	270.2	268.8	267.3	266.2	265.4	264.6	263.7	262.9
70°	240.6	239.2	237.8	236.6	235.6	234.6	233.6	232.6
72.5°	210.6	209.4	208.2	207.2	206.7	206.2	205.7	205.2
75°	167.5	166.5	165.5	164.7	164.1	163.5	162.9	162.3
77.5°	127.2	126.5	125.8	125.5	125.5	125.5	125.5	125.5
80°	101.5	101.3	101.1	101.0	101.0	101.0	101.0	101.0
82.5°	78.1	77.7	77.3	77.1	77.0	76.8	76.6	76.5
85°	44.3	43.9	43.5	43.3	43.3	43.3	43.3	43.3
87.5°	19.8	19.9	19.9	20.1	20.0	20.1	20.3	20.1
90°	21.5	22.4	23.2	24.9	24.0	24.9	25.7	24.9
92.5°	72.3	57.4	50.7	46.2	44.7	42.1	43.0	41.4
95°	309.4	209.7	164.2	133.2	116.9	109.2	103.1	99.7
97.5°	771.3	617.8	506.9	404.1	340.7	302.0	278.8	271.4
100°	1013.3	943.7	843.1	721.1	634.3	571.5	538.0	538.9
102.5°	1093.7	1091.5	1032.9	955.5	887.9	838.3	810.3	790.5
105°	1117.2	1203.2	1219.5	1197.2	1157.6	1125.0	1097.5	1093.2
107.5°	1049.6	1189.1	1264.4	1295.0	1295.7	1284.7	1275.4	1267.5
110°	984.9	1143.1	1251.3	1311.5	1335.6	1342.5	1340.7	1339.0





TEST NUMBER: P331990-935

CATALOG NUMBER: S123DIP-S775D1025U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	920.9	1082.5	1203.9	1281.3	1325.3	1346.5	1353.1	1353.4
115°	836.2	985.8	1112.1	1205.7	1270.2	1308.0	1325.3	1329.6
117.5°	774.9	904.0	1017.4	1112.4	1179.7	1223.0	1247.8	1253.5
120°	742.5	858.6	961.7	1048.5	1116.4	1164.5	1185.2	1190.3
122.5°	717.1	822.2	917.7	998.3	1058.7	1102.0	1124.6	1131.2
125°	683.3	777.0	859.5	928.2	983.2	1021.0	1042.5	1048.5
127.5°	653.7	737.2	811.7	874.2	923.2	955.5	974.9	980.4
130°	635.2	712.5	782.0	840.5	886.1	917.1	935.0	941.9
132.5°	617.9	689.1	753.9	809.6	852.4	883.3	899.3	904.1
135°	594.7	655.7	711.6	760.6	802.7	828.5	844.0	850.0
137.5°	573.6	623.6	671.8	714.2	749.6	775.8	788.8	792.7
140°	561.2	605.0	646.3	683.3	715.9	739.9	753.7	752.9
142.5°	549.5	587.2	622.9	655.0	682.9	704.2	716.6	715.7
145°	535.5	563.8	591.2	616.2	637.7	655.7	662.6	664.3
147.5°	523.9	546.4	568.6	586.3	602.6	614.8	621.4	622.1
150°	515.7	535.5	553.5	569.8	582.7	592.1	597.3	597.3
152.5°	508.1	525.1	541.1	554.7	564.8	573.6	576.7	576.7
155°	496.7	510.5	523.4	533.7	541.5	548.3	550.0	550.9
157.5°	484.7	496.2	506.2	514.3	521.0	526.2	527.5	527.4
160°	477.9	487.3	495.8	501.9	507.9	513.1	513.1	512.2
162.5°	469.6	477.7	485.6	490.9	494.9	499.3	499.3	498.4
165°	458.9	464.1	470.1	474.4	477.9	481.3	480.4	480.4
167.5°	449.6	453.6	457.0	460.1	461.7	464.1	463.2	463.2
170°	443.5	446.1	449.4	451.2	452.0	453.7	452.9	452.9
172.5°	438.0	439.9	442.6	443.7	443.8	445.6	444.0	443.3
175°	430.6	431.4	433.2	433.2	433.2	434.0	433.2	432.3
177.5°	425.9	426.6	427.3	427.3	426.6	427.3	425.9	425.9
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6

(END OF REPORT)