

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: FAIL-SAFE

Report Number: P709150

Luminaire Tested: **4APN-39L950-X-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709150  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-39L950-X-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

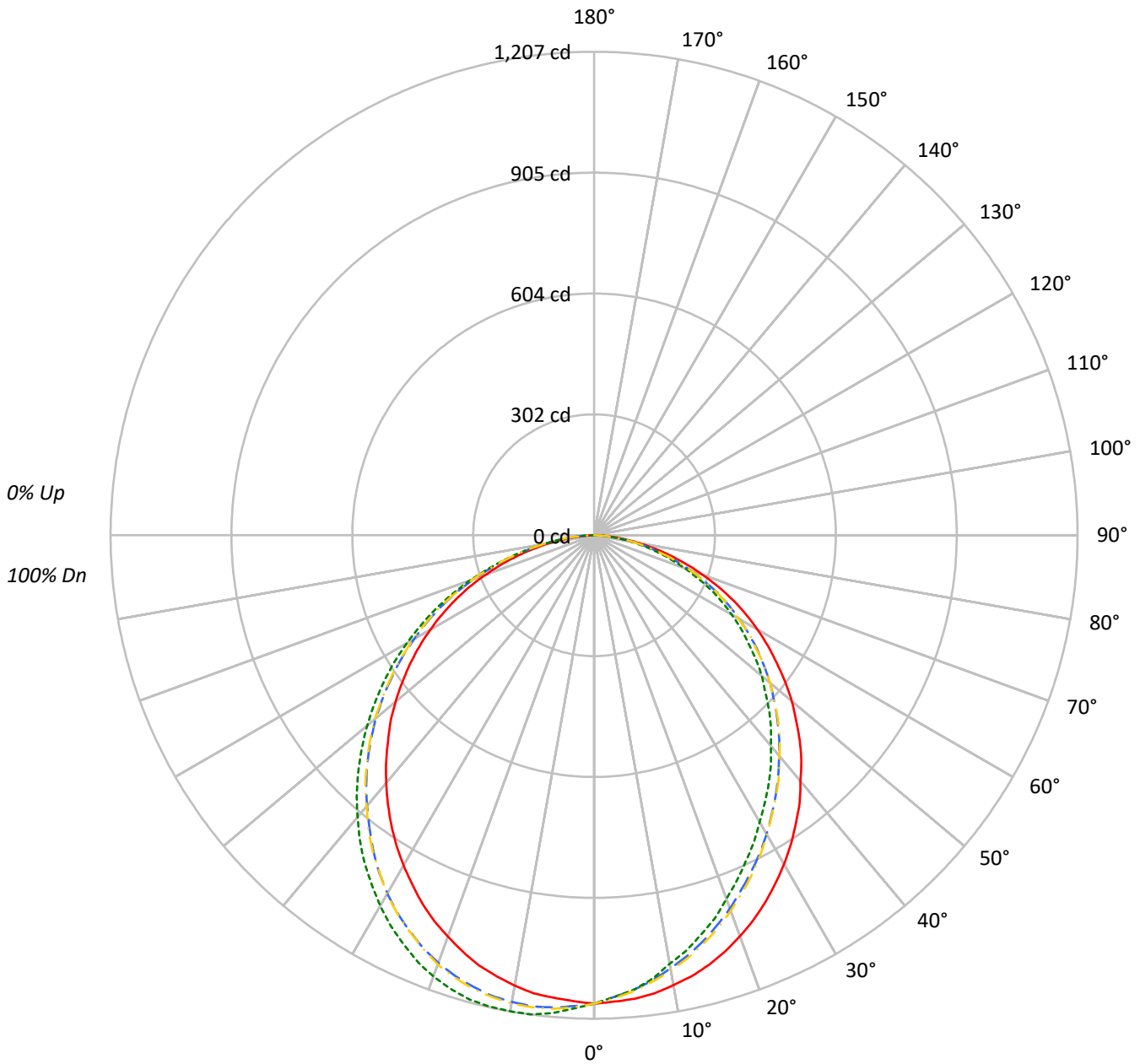
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3136.6 lumens  
Efficiency: N/A  
Efficacy: 68.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 45.8  
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



— 0°-180°    - - 45°-225°    - · - 90°-270°    - · - 135°-315°



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84	84	84	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	70	70	70	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59	59	59	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51	51	51	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44	44	44	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	38	38	38	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34	34	34	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30	30	30	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27	27	27	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25	25	25	25

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

	0°	90°	180°	270°
0°	10790	10790	10790	10790
5°	10758	10550	10733	11089
10°	10684	10176	10696	11304
15°	10602	9856	10615	11461
20°	10457	9483	10469	11509
25°	10290	9131	10330	11462
30°	10106	8809	10134	11374
35°	9895	8553	9939	11250
40°	9656	8269	9719	11058
45°	9477	8061	9494	10858
50°	9248	7843	9285	10614
55°	8960	7555	9022	10320
60°	8691	7324	8715	9961
65°	8346	7019	8346	9531
70°	7780	6496	7745	8886
75°	7072	5896	6980	7971
80°	6115	5063	5903	6817
85°	4764	3779	4478	5600



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.5	3.5
10°-20°	313.6	10.0
20°-30°	466.3	14.9
30°-40°	549.5	17.5
40°-50°	559.5	17.8
50°-60°	498.5	15.9
60°-70°	375.5	12.0
70°-80°	208.8	6.7
80°-90°	54.3	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	890.4	28.4
0°-40°	1439.9	45.9
0°-60°	2497.9	79.6
0°-90°	3136.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3136.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1170	1170	1170	1170	1170	
5°	1162	1139	1159	1197	1162	110
15°	1110	1032	1111	1200	1110	313
25°	1011	897	1015	1126	1011	466
35°	878	759	882	999	878	550
45°	726	618	728	832	726	560
55°	557	470	561	642	557	499
65°	382	322	382	437	382	377
75°	198	165	196	224	198	211
85°	45	36	42	53	45	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5
2.5°	1165.5	1165.5	1166.9	1161.6	1155.0	1152.3	1151.0	1149.7	1152.3	1153.6	1152.3
5°	1161.6	1158.9	1156.3	1149.7	1141.7	1136.4	1133.8	1132.5	1135.1	1139.1	1135.1
7.5°	1153.6	1148.3	1143.1	1133.8	1124.5	1116.6	1112.6	1110.0	1112.6	1116.6	1113.9
10°	1140.4	1133.8	1125.9	1115.3	1102.0	1092.8	1088.8	1084.8	1086.2	1086.2	1086.2
12.5°	1127.2	1117.9	1108.7	1095.4	1080.9	1070.3	1063.7	1058.4	1061.0	1062.4	1062.4
15°	1110.0	1098.1	1084.8	1070.3	1055.7	1043.8	1035.9	1030.6	1031.9	1031.9	1033.2
17.5°	1088.8	1075.6	1062.4	1045.2	1028.0	1014.7	1005.5	998.8	1001.5	1002.8	1004.1
20°	1065.0	1050.4	1035.9	1017.4	998.8	984.3	975.0	967.1	965.8	965.8	967.1
22.5°	1039.9	1024.0	1006.8	986.9	967.1	951.2	942.0	934.0	932.7	932.7	934.0
25°	1010.8	993.6	976.4	956.5	935.3	919.5	907.6	899.6	898.3	897.0	899.6
27.5°	980.3	963.1	945.9	926.1	903.6	887.7	875.8	867.9	865.2	863.9	866.6
30°	948.6	928.7	910.2	889.0	869.2	853.3	841.4	832.2	829.5	826.9	829.5
32.5°	914.2	894.3	874.5	853.3	833.5	817.6	805.7	796.4	793.8	792.5	795.1
35°	878.5	858.6	840.1	818.9	799.1	783.2	771.3	763.4	760.7	759.4	760.7
37.5°	842.7	822.9	804.4	783.2	763.4	747.5	735.6	727.6	726.3	725.0	726.3
40°	801.7	784.5	766.0	746.2	726.3	710.4	701.2	691.9	689.3	686.6	690.6
42.5°	766.0	748.8	730.3	711.8	691.9	676.0	665.5	657.5	654.9	653.6	654.9
45°	726.3	707.8	689.3	672.1	653.6	639.0	628.4	620.5	619.2	617.8	619.2
47.5°	684.0	668.1	652.2	635.0	616.5	602.0	592.7	584.8	582.1	579.5	582.1
50°	644.3	628.4	612.5	596.7	579.5	566.2	557.0	549.0	547.7	546.4	547.7
52.5°	602.0	586.1	571.5	555.7	541.1	527.9	518.6	512.0	510.7	509.3	510.7
55°	557.0	543.7	530.5	517.3	502.7	490.8	482.9	474.9	472.3	469.7	472.3
57.5°	514.6	502.7	489.5	476.3	463.0	452.5	444.5	437.9	436.6	435.3	436.6
60°	471.0	460.4	448.5	436.6	423.4	412.8	406.2	400.9	398.2	396.9	398.2
62.5°	427.3	416.7	407.5	395.6	383.7	375.7	369.1	363.8	361.2	359.9	361.2
65°	382.3	373.1	363.8	353.2	344.0	336.0	329.4	324.1	322.8	321.5	321.5
67.5°	336.0	328.1	320.2	310.9	300.3	292.4	285.8	281.8	280.5	279.1	280.5
70°	288.4	281.8	273.9	265.9	258.0	251.4	247.4	243.4	242.1	240.8	240.8
72.5°	243.4	238.1	231.5	224.9	218.3	211.7	207.7	205.1	203.7	202.4	202.4
75°	198.4	193.2	189.2	183.9	177.3	173.3	169.3	166.7	165.4	165.4	165.4
77.5°	156.1	152.1	148.2	142.9	138.9	134.9	132.3	131.0	129.7	129.7	129.7
80°	115.1	112.5	109.8	107.2	103.2	99.2	97.9	96.6	95.3	95.3	95.3
82.5°	78.1	76.7	74.1	71.4	68.8	67.5	66.1	64.8	64.8	64.8	64.8
85°	45.0	43.7	42.3	41.0	39.7	39.7	38.4	37.0	35.7	35.7	35.7
87.5°	18.5	18.5	18.5	17.2	15.9	15.9	15.9	15.9	15.9	15.9	15.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5
2.5°	1149.7	1152.3	1155.0	1158.9	1162.9	1166.9	1165.5	1164.2	1169.5	1176.1	1177.5
5°	1132.5	1135.1	1139.1	1145.7	1152.3	1157.6	1158.9	1158.9	1169.5	1178.8	1181.4
7.5°	1111.3	1115.3	1120.6	1127.2	1136.4	1144.4	1148.3	1153.6	1164.2	1176.1	1181.4
10°	1084.8	1091.5	1099.4	1108.7	1117.9	1127.2	1135.1	1141.7	1155.0	1168.2	1176.1
12.5°	1061.0	1067.6	1075.6	1086.2	1098.1	1110.0	1117.9	1127.2	1143.1	1158.9	1168.2
15°	1034.6	1041.2	1050.4	1061.0	1074.3	1087.5	1099.4	1111.3	1127.2	1144.4	1155.0
17.5°	1005.5	1012.1	1021.3	1034.6	1049.1	1063.7	1076.9	1090.1	1108.7	1127.2	1139.1
20°	969.7	979.0	990.9	1004.1	1021.3	1038.5	1051.8	1066.3	1086.2	1106.0	1119.2
22.5°	935.3	944.6	957.8	973.7	992.2	1010.8	1026.6	1042.5	1063.7	1083.5	1098.1
25°	902.3	912.9	926.1	942.0	959.2	977.7	996.2	1014.7	1035.9	1057.1	1071.6
27.5°	869.2	878.5	891.7	907.6	927.4	945.9	964.5	983.0	1005.5	1028.0	1043.8
30°	832.2	842.7	854.6	870.5	891.7	912.9	931.4	951.2	973.7	996.2	1012.1
32.5°	797.8	807.0	818.9	834.8	856.0	877.1	897.0	918.1	939.3	961.8	977.7
35°	763.4	772.6	784.5	800.4	821.6	842.7	862.6	882.4	903.6	924.8	940.6
37.5°	729.0	738.2	750.1	766.0	785.8	807.0	825.5	845.4	866.6	887.7	902.3
40°	693.2	702.5	711.8	727.6	747.5	768.7	787.2	807.0	828.2	849.4	863.9
42.5°	657.5	666.8	678.7	694.6	713.1	731.6	750.1	768.7	788.5	808.3	822.9
45°	621.8	629.7	641.6	656.2	674.7	691.9	710.4	727.6	747.5	766.0	780.6
47.5°	584.8	592.7	602.0	616.5	635.0	653.6	672.1	689.3	706.5	725.0	738.2
50°	549.0	557.0	567.6	580.8	598.0	615.2	631.1	646.9	664.1	681.3	693.2
52.5°	512.0	519.9	529.2	542.4	557.0	572.9	587.4	603.3	619.2	635.0	646.9
55°	474.9	480.2	488.2	500.1	516.0	531.8	546.4	560.9	575.5	588.7	600.6
57.5°	437.9	444.5	453.8	464.4	477.6	490.8	504.1	517.3	530.5	543.7	554.3
60°	400.9	406.2	412.8	422.0	435.3	447.2	460.4	472.3	484.2	496.1	505.4
62.5°	362.5	367.8	374.4	383.7	394.2	404.8	416.7	427.3	437.9	448.5	457.8
65°	322.8	328.1	334.7	342.7	351.9	361.2	371.8	382.3	390.3	398.2	407.5
67.5°	281.8	287.1	293.7	300.3	308.3	317.5	326.8	336.0	344.0	351.9	358.5
70°	242.1	246.1	252.7	258.0	264.6	271.2	279.1	287.1	292.4	299.0	306.9
72.5°	203.7	207.7	213.0	218.3	222.3	227.6	235.5	242.1	248.7	256.7	260.6
75°	166.7	169.3	173.3	177.3	181.2	185.2	190.5	195.8	201.1	205.1	210.4
77.5°	129.7	132.3	136.3	138.9	141.6	144.2	148.2	152.1	156.1	158.8	164.0
80°	95.3	97.9	100.5	103.2	105.8	108.5	109.8	111.1	116.4	120.4	123.0
82.5°	64.8	66.1	67.5	70.1	71.4	72.8	74.1	74.1	76.7	79.4	83.3
85°	37.0	38.4	39.7	39.7	39.7	39.7	41.0	42.3	43.7	46.3	49.0
87.5°	14.6	14.6	15.9	15.9	15.9	15.9	15.9	15.9	17.2	19.8	21.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5	1169.5
2.5°	1176.1	1177.5	1180.1	1181.4	1182.7	1182.7	1184.1	1185.4	1182.7	1180.1	1178.8
5°	1182.7	1184.1	1188.0	1192.0	1194.7	1197.3	1196.0	1194.7	1192.0	1188.0	1185.4
7.5°	1184.1	1188.0	1192.0	1197.3	1201.3	1206.6	1203.9	1201.3	1196.0	1190.7	1186.7
10°	1180.1	1185.4	1192.0	1198.6	1202.6	1206.6	1203.9	1201.3	1196.0	1189.4	1184.1
12.5°	1174.8	1181.4	1189.4	1196.0	1199.9	1205.2	1201.3	1197.3	1190.7	1184.1	1177.5
15°	1162.9	1170.8	1180.1	1188.0	1194.7	1199.9	1196.0	1193.3	1185.4	1176.1	1166.9
17.5°	1148.3	1158.9	1168.2	1177.5	1182.7	1188.0	1185.4	1182.7	1173.5	1162.9	1152.3
20°	1131.1	1141.7	1151.0	1160.3	1166.9	1172.2	1168.2	1164.2	1155.0	1145.7	1135.1
22.5°	1110.0	1120.6	1131.1	1140.4	1147.0	1152.3	1147.0	1140.4	1131.1	1121.9	1111.3
25°	1083.5	1095.4	1107.3	1116.6	1120.6	1125.9	1120.6	1115.3	1106.0	1096.7	1084.8
27.5°	1057.1	1069.0	1080.9	1090.1	1094.1	1099.4	1094.1	1088.8	1079.6	1070.3	1058.4
30°	1026.6	1038.5	1050.4	1059.7	1063.7	1067.6	1062.4	1057.1	1049.1	1039.9	1028.0
32.5°	992.2	1004.1	1013.4	1022.7	1028.0	1033.2	1028.0	1024.0	1014.7	1002.8	990.9
35°	955.2	967.1	979.0	988.3	993.6	998.8	992.2	985.6	977.7	968.4	957.8
37.5°	914.2	927.4	940.6	951.2	955.2	960.5	955.2	948.6	940.6	931.4	919.5
40°	875.8	887.7	899.6	910.2	914.2	918.1	912.9	907.6	898.3	889.0	877.1
42.5°	836.1	848.0	858.6	867.9	871.8	877.1	871.8	865.2	858.6	850.7	840.1
45°	793.8	805.7	815.0	824.2	828.2	832.2	826.9	820.2	813.6	807.0	796.4
47.5°	750.1	760.7	770.0	779.2	781.9	785.8	780.6	776.6	770.0	763.4	754.1
50°	705.1	715.7	725.0	732.9	735.6	739.5	734.3	729.0	723.7	718.4	710.4
52.5°	658.8	668.1	677.4	685.3	687.9	690.6	685.3	680.0	674.7	669.4	661.5
55°	611.2	620.5	629.7	636.4	639.0	641.6	636.4	632.4	627.1	623.1	615.2
57.5°	563.6	572.9	580.8	587.4	590.0	592.7	587.4	582.1	578.1	574.2	567.6
60°	514.6	523.9	530.5	535.8	538.5	539.8	534.5	530.5	527.9	525.2	518.6
62.5°	467.0	473.6	480.2	484.2	486.9	488.2	484.2	481.6	478.9	476.3	471.0
65°	416.7	424.7	430.0	433.9	435.3	436.6	432.6	430.0	427.3	424.7	420.7
67.5°	366.5	373.1	377.0	381.0	382.3	382.3	382.3	381.0	378.4	374.4	370.4
70°	316.2	321.5	325.5	328.1	329.4	329.4	326.8	324.1	324.1	322.8	320.2
72.5°	264.6	268.6	271.2	273.9	273.9	273.9	273.9	275.2	273.9	271.2	267.2
75°	215.6	219.6	222.3	223.6	223.6	223.6	223.6	224.9	223.6	222.3	219.6
77.5°	169.3	172.0	173.3	174.6	174.6	174.6	176.0	177.3	176.0	174.6	173.3
80°	125.7	127.0	128.3	129.7	128.3	128.3	129.7	132.3	131.0	129.7	128.3
82.5°	86.0	87.3	88.6	88.6	90.0	91.3	91.3	91.3	91.3	90.0	88.6
85°	51.6	52.9	52.9	52.9	52.9	52.9	54.2	55.6	55.6	54.2	54.2
87.5°	23.8	25.1	23.8	22.5	21.2	21.2	23.8	26.5	26.5	25.1	25.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P709150

CATALOG NUMBER: 4APN-39L950-X-UNV

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1169.5	1169.5	1169.5	1169.5
2.5°	1180.1	1178.8	1172.2	1165.5
5°	1184.1	1180.1	1170.8	1161.6
7.5°	1184.1	1178.8	1165.5	1153.6
10°	1177.5	1169.5	1155.0	1140.4
12.5°	1169.5	1160.3	1143.1	1127.2
15°	1157.6	1147.0	1128.5	1110.0
17.5°	1140.4	1127.2	1108.7	1088.8
20°	1123.2	1108.7	1086.2	1065.0
22.5°	1099.4	1086.2	1062.4	1039.9
25°	1072.9	1058.4	1034.6	1010.8
27.5°	1045.2	1028.0	1004.1	980.3
30°	1013.4	996.2	972.4	948.6
32.5°	979.0	963.1	939.3	914.2
35°	944.6	927.4	903.6	878.5
37.5°	906.2	890.4	866.6	842.7
40°	865.2	849.4	825.5	801.7
42.5°	826.9	812.3	788.5	766.0
45°	784.5	770.0	747.5	726.3
47.5°	740.9	726.3	705.1	684.0
50°	698.5	684.0	664.1	644.3
52.5°	650.9	639.0	620.5	602.0
55°	604.6	592.7	574.2	557.0
57.5°	558.3	547.7	530.5	514.6
60°	509.3	498.8	485.5	471.0
62.5°	463.0	453.8	440.6	427.3
65°	414.1	406.2	394.2	382.3
67.5°	363.8	357.2	346.6	336.0
70°	313.5	305.6	297.7	288.4
72.5°	263.3	259.3	251.4	243.4
75°	215.6	211.7	205.1	198.4
77.5°	170.7	166.7	161.4	156.1
80°	125.7	123.0	119.1	115.1
82.5°	87.3	84.7	82.0	78.1
85°	52.9	50.3	47.6	45.0
87.5°	23.8	22.5	19.8	18.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)