

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: P709144

Luminaire Tested: **4APN-39L940-X-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709144  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-39L940-X-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

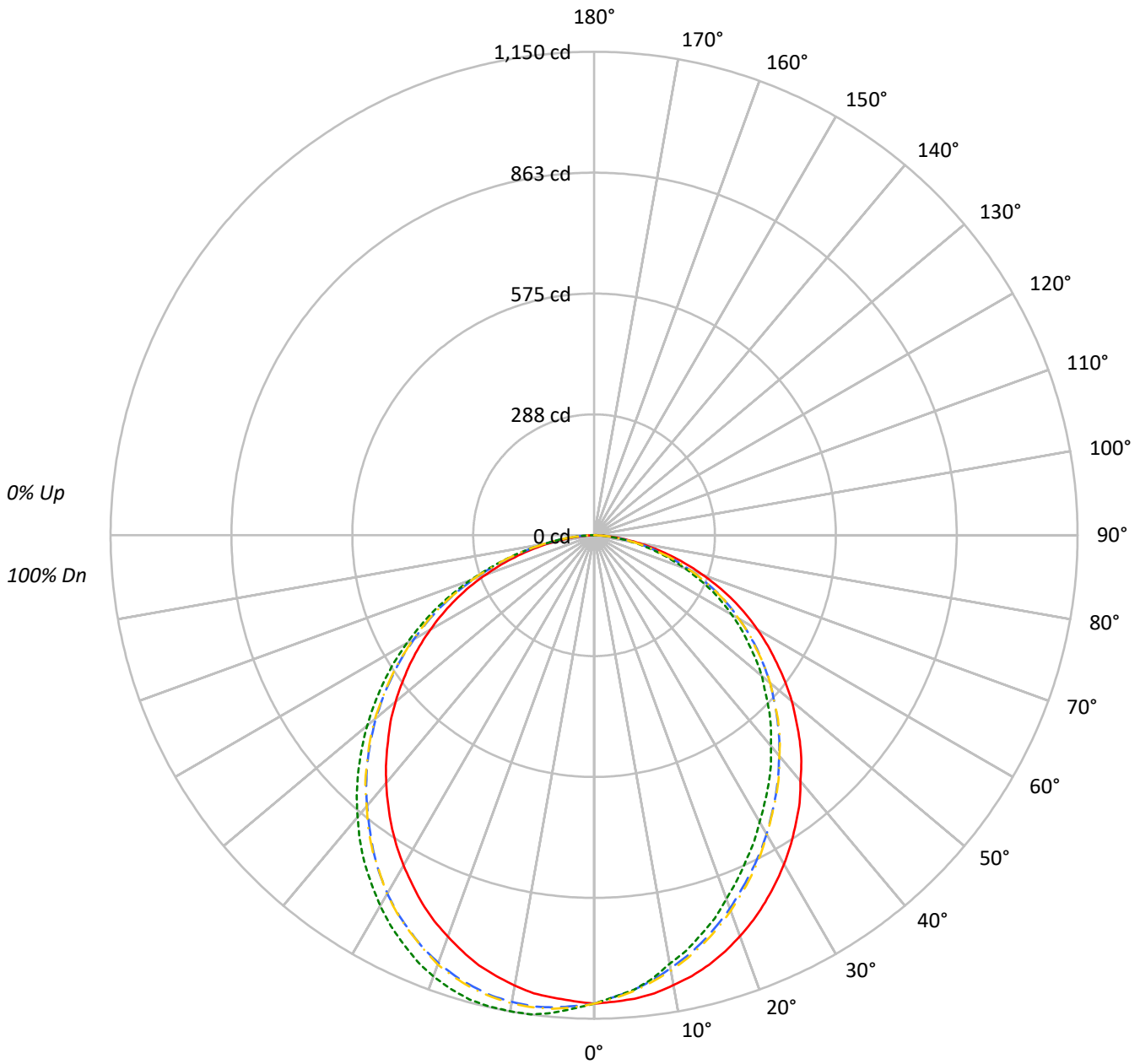
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2988.4 lumens  
Efficiency: N/A  
Efficacy: 65.2 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				
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	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	61	61	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	41	41	41	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	36	36	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	32	32	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	29	29	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

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

	0°	90°	180°	270°
0°	10281	10281	10281	10281
5°	10250	10051	10226	10565
10°	10179	9695	10191	10770
15°	10101	9391	10113	10920
20°	9963	9035	9975	10965
25°	9803	8700	9842	10920
30°	9629	8393	9655	10837
35°	9427	8149	9469	10719
40°	9200	7879	9261	10536
45°	9029	7680	9046	10344
50°	8812	7472	8847	10113
55°	8537	7198	8596	9833
60°	8280	6977	8304	9490
65°	7953	6687	7953	9082
70°	7413	6188	7378	8468
75°	6741	5618	6652	7593
80°	5829	4824	5627	6498
85°	4541	3599	4266	5335



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.3	3.5
10°-20°	298.8	10.0
20°-30°	444.2	14.9
30°-40°	523.6	17.5
40°-50°	533.1	17.8
50°-60°	474.9	15.9
60°-70°	357.8	12.0
70°-80°	199.0	6.7
80°-90°	51.7	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°	848.3	28.4
0°-40°	1371.9	45.9
0°-60°	2379.9	79.6
0°-90°	2988.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2988.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1114	1114	1114	1114	1114	
5°	1107	1085	1104	1141	1107	105
15°	1058	983	1059	1143	1058	298
25°	963	855	967	1073	963	444
35°	837	724	841	952	837	524
45°	692	589	693	793	692	533
55°	531	448	534	611	531	475
65°	364	306	364	416	364	360
75°	189	158	187	213	189	201
85°	43	34	40	50	43	52
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°	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3
2.5°	1110.5	1110.5	1111.7	1106.7	1100.4	1097.9	1096.6	1095.4	1097.9	1099.1	1097.9
5°	1106.7	1104.2	1101.7	1095.4	1087.8	1082.8	1080.2	1079.0	1081.5	1085.3	1081.5
7.5°	1099.1	1094.1	1089.1	1080.2	1071.4	1063.8	1060.1	1057.5	1060.1	1063.8	1061.3
10°	1086.5	1080.2	1072.7	1062.6	1050.0	1041.2	1037.4	1033.6	1034.9	1034.9	1034.9
12.5°	1073.9	1065.1	1056.3	1043.7	1029.8	1019.7	1013.4	1008.4	1010.9	1012.2	1012.2
15°	1057.5	1046.2	1033.6	1019.7	1005.9	994.5	987.0	981.9	983.2	983.2	984.4
17.5°	1037.4	1024.8	1012.2	995.8	979.4	966.8	958.0	951.7	954.2	955.4	956.7
20°	1014.7	1000.8	987.0	969.3	951.7	937.8	929.0	921.4	920.2	920.2	921.4
22.5°	990.7	975.6	959.2	940.3	921.4	906.3	897.5	889.9	888.6	888.6	889.9
25°	963.0	946.6	930.2	911.3	891.2	876.0	864.7	857.1	855.9	854.6	857.1
27.5°	934.0	917.6	901.2	882.3	860.9	845.8	834.4	826.9	824.4	823.1	825.6
30°	903.8	884.9	867.2	847.0	828.1	813.0	801.7	792.8	790.3	787.8	790.3
32.5°	871.0	852.1	833.2	813.0	794.1	779.0	767.6	758.8	756.3	755.0	757.6
35°	837.0	818.1	800.4	780.2	761.3	746.2	734.9	727.3	724.8	723.5	724.8
37.5°	802.9	784.0	766.4	746.2	727.3	712.2	700.8	693.3	692.0	690.7	692.0
40°	763.9	747.5	729.8	710.9	692.0	676.9	668.1	659.2	656.7	654.2	658.0
42.5°	729.8	713.4	695.8	678.1	659.2	644.1	634.0	626.5	623.9	622.7	623.9
45°	692.0	674.4	656.7	640.3	622.7	608.8	598.7	591.2	589.9	588.6	589.9
47.5°	651.7	636.5	621.4	605.0	587.4	573.5	564.7	557.1	554.6	552.1	554.6
50°	613.9	598.7	583.6	568.5	552.1	539.5	530.7	523.1	521.8	520.6	521.8
52.5°	573.5	558.4	544.5	529.4	515.5	502.9	494.1	487.8	486.5	485.3	486.5
55°	530.7	518.1	505.5	492.8	479.0	467.6	460.1	452.5	450.0	447.5	450.0
57.5°	490.3	479.0	466.4	453.8	441.2	431.1	423.5	417.2	416.0	414.7	416.0
60°	448.7	438.6	427.3	416.0	403.4	393.3	387.0	381.9	379.4	378.1	379.4
62.5°	407.1	397.1	388.2	376.9	365.5	358.0	351.7	346.6	344.1	342.9	344.1
65°	364.3	355.5	346.6	336.5	327.7	320.2	313.9	308.8	307.6	306.3	306.3
67.5°	320.2	312.6	305.0	296.2	286.1	278.6	272.3	268.5	267.2	266.0	267.2
70°	274.8	268.5	260.9	253.4	245.8	239.5	235.7	231.9	230.7	229.4	229.4
72.5°	231.9	226.9	220.6	214.3	208.0	201.7	197.9	195.4	194.1	192.9	192.9
75°	189.1	184.0	180.2	175.2	168.9	165.1	161.3	158.8	157.6	157.6	157.6
77.5°	148.7	145.0	141.2	136.1	132.4	128.6	126.0	124.8	123.5	123.5	123.5
80°	109.7	107.1	104.6	102.1	98.3	94.5	93.3	92.0	90.8	90.8	90.8
82.5°	74.4	73.1	70.6	68.1	65.5	64.3	63.0	61.8	61.8	61.8	61.8
85°	42.9	41.6	40.3	39.1	37.8	37.8	36.6	35.3	34.0	34.0	34.0
87.5°	17.6	17.6	17.6	16.4	15.1	15.1	15.1	15.1	15.1	15.1	15.1
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°	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3
2.5°	1095.4	1097.9	1100.4	1104.2	1108.0	1111.7	1110.5	1109.2	1114.3	1120.6	1121.8
5°	1079.0	1081.5	1085.3	1091.6	1097.9	1102.9	1104.2	1104.2	1114.3	1123.1	1125.6
7.5°	1058.8	1062.6	1067.6	1073.9	1082.8	1090.3	1094.1	1099.1	1109.2	1120.6	1125.6
10°	1033.6	1039.9	1047.5	1056.3	1065.1	1073.9	1081.5	1087.8	1100.4	1113.0	1120.6
12.5°	1010.9	1017.2	1024.8	1034.9	1046.2	1057.5	1065.1	1073.9	1089.1	1104.2	1113.0
15°	985.7	992.0	1000.8	1010.9	1023.5	1036.1	1047.5	1058.8	1073.9	1090.3	1100.4
17.5°	958.0	964.3	973.1	985.7	999.6	1013.4	1026.0	1038.6	1056.3	1073.9	1085.3
20°	923.9	932.8	944.1	956.7	973.1	989.5	1002.1	1016.0	1034.9	1053.8	1066.4
22.5°	891.2	900.0	912.6	927.7	945.4	963.0	978.1	993.3	1013.4	1032.3	1046.2
25°	859.7	869.7	882.3	897.5	913.9	931.5	949.1	966.8	987.0	1007.1	1021.0
27.5°	828.1	837.0	849.6	864.7	883.6	901.2	918.9	936.5	958.0	979.4	994.5
30°	792.8	802.9	814.3	829.4	849.6	869.7	887.4	906.3	927.7	949.1	964.3
32.5°	760.1	768.9	780.2	795.4	815.5	835.7	854.6	874.8	894.9	916.4	931.5
35°	727.3	736.1	747.5	762.6	782.8	802.9	821.8	840.7	860.9	881.1	896.2
37.5°	694.5	703.4	714.7	729.8	748.7	768.9	786.5	805.4	825.6	845.8	859.7
40°	660.5	669.3	678.1	693.3	712.2	732.3	750.0	768.9	789.1	809.2	823.1
42.5°	626.5	635.3	646.6	661.8	679.4	697.0	714.7	732.3	751.2	770.2	784.0
45°	592.4	600.0	611.3	625.2	642.8	659.2	676.9	693.3	712.2	729.8	743.7
47.5°	557.1	564.7	573.5	587.4	605.0	622.7	640.3	656.7	673.1	690.7	703.4
50°	523.1	530.7	540.7	553.4	569.7	586.1	601.3	616.4	632.8	649.1	660.5
52.5°	487.8	495.4	504.2	516.8	530.7	545.8	559.7	574.8	589.9	605.0	616.4
55°	452.5	457.6	465.1	476.5	491.6	506.7	520.6	534.4	548.3	560.9	572.3
57.5°	417.2	423.5	432.3	442.4	455.0	467.6	480.2	492.8	505.5	518.1	528.1
60°	381.9	387.0	393.3	402.1	414.7	426.0	438.6	450.0	461.3	472.7	481.5
62.5°	345.4	350.4	356.7	365.5	375.6	385.7	397.1	407.1	417.2	427.3	436.1
65°	307.6	312.6	318.9	326.5	335.3	344.1	354.2	364.3	371.8	379.4	388.2
67.5°	268.5	273.5	279.8	286.1	293.7	302.5	311.3	320.2	327.7	335.3	341.6
70°	230.7	234.5	240.8	245.8	252.1	258.4	266.0	273.5	278.6	284.9	292.4
72.5°	194.1	197.9	202.9	208.0	211.8	216.8	224.4	230.7	237.0	244.5	248.3
75°	158.8	161.3	165.1	168.9	172.7	176.5	181.5	186.6	191.6	195.4	200.4
77.5°	123.5	126.0	129.8	132.4	134.9	137.4	141.2	145.0	148.7	151.3	156.3
80°	90.8	93.3	95.8	98.3	100.8	103.4	104.6	105.9	110.9	114.7	117.2
82.5°	61.8	63.0	64.3	66.8	68.1	69.3	70.6	70.6	73.1	75.6	79.4
85°	35.3	36.6	37.8	37.8	37.8	37.8	39.1	40.3	41.6	44.1	46.6
87.5°	13.9	13.9	15.1	15.1	15.1	15.1	15.1	15.1	16.4	18.9	20.2
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°	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3	1114.3
2.5°	1120.6	1121.8	1124.4	1125.6	1126.9	1126.9	1128.1	1129.4	1126.9	1124.4	1123.1
5°	1126.9	1128.1	1131.9	1135.7	1138.2	1140.7	1139.5	1138.2	1135.7	1131.9	1129.4
7.5°	1128.1	1131.9	1135.7	1140.7	1144.5	1149.6	1147.0	1144.5	1139.5	1134.4	1130.7
10°	1124.4	1129.4	1135.7	1142.0	1145.8	1149.6	1147.0	1144.5	1139.5	1133.2	1128.1
12.5°	1119.3	1125.6	1133.2	1139.5	1143.3	1148.3	1144.5	1140.7	1134.4	1128.1	1121.8
15°	1108.0	1115.5	1124.4	1131.9	1138.2	1143.3	1139.5	1137.0	1129.4	1120.6	1111.7
17.5°	1094.1	1104.2	1113.0	1121.8	1126.9	1131.9	1129.4	1126.9	1118.0	1108.0	1097.9
20°	1077.7	1087.8	1096.6	1105.4	1111.7	1116.8	1113.0	1109.2	1100.4	1091.6	1081.5
22.5°	1057.5	1067.6	1077.7	1086.5	1092.8	1097.9	1092.8	1086.5	1077.7	1068.9	1058.8
25°	1032.3	1043.7	1055.0	1063.8	1067.6	1072.7	1067.6	1062.6	1053.8	1044.9	1033.6
27.5°	1007.1	1018.5	1029.8	1038.6	1042.4	1047.5	1042.4	1037.4	1028.6	1019.7	1008.4
30°	978.1	989.5	1000.8	1009.6	1013.4	1017.2	1012.2	1007.1	999.6	990.7	979.4
32.5°	945.4	956.7	965.5	974.4	979.4	984.4	979.4	975.6	966.8	955.4	944.1
35°	910.1	921.4	932.8	941.6	946.6	951.7	945.4	939.1	931.5	922.7	912.6
37.5°	871.0	883.6	896.2	906.3	910.1	915.1	910.1	903.8	896.2	887.4	876.0
40°	834.4	845.8	857.1	867.2	871.0	874.8	869.7	864.7	855.9	847.0	835.7
42.5°	796.6	808.0	818.1	826.9	830.7	835.7	830.7	824.4	818.1	810.5	800.4
45°	756.3	767.6	776.5	785.3	789.1	792.8	787.8	781.5	775.2	768.9	758.8
47.5°	714.7	724.8	733.6	742.4	744.9	748.7	743.7	739.9	733.6	727.3	718.5
50°	671.8	681.9	690.7	698.3	700.8	704.6	699.6	694.5	689.5	684.4	676.9
52.5°	627.7	636.5	645.4	652.9	655.5	658.0	652.9	647.9	642.8	637.8	630.2
55°	582.3	591.2	600.0	606.3	608.8	611.3	606.3	602.5	597.5	593.7	586.1
57.5°	537.0	545.8	553.4	559.7	562.2	564.7	559.7	554.6	550.8	547.1	540.7
60°	490.3	499.2	505.5	510.5	513.0	514.3	509.2	505.5	502.9	500.4	494.1
62.5°	445.0	451.3	457.6	461.3	463.9	465.1	461.3	458.8	456.3	453.8	448.7
65°	397.1	404.6	409.7	413.4	414.7	416.0	412.2	409.7	407.1	404.6	400.8
67.5°	349.2	355.5	359.2	363.0	364.3	364.3	364.3	363.0	360.5	356.7	352.9
70°	301.3	306.3	310.1	312.6	313.9	313.9	311.3	308.8	308.8	307.6	305.0
72.5°	252.1	255.9	258.4	260.9	260.9	260.9	260.9	262.2	260.9	258.4	254.6
75°	205.5	209.2	211.8	213.0	213.0	213.0	213.0	214.3	213.0	211.8	209.2
77.5°	161.3	163.9	165.1	166.4	166.4	166.4	167.6	168.9	167.6	166.4	165.1
80°	119.7	121.0	122.3	123.5	122.3	122.3	123.5	126.0	124.8	123.5	122.3
82.5°	81.9	83.2	84.5	84.5	85.7	87.0	87.0	87.0	87.0	85.7	84.5
85°	49.2	50.4	50.4	50.4	50.4	50.4	51.7	52.9	52.9	51.7	51.7
87.5°	22.7	23.9	22.7	21.4	20.2	20.2	22.7	25.2	25.2	23.9	23.9
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: P709144  
 CATALOG NUMBER: 4APN-39L940-X-UNV

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1114.3	1114.3	1114.3	1114.3
2.5°	1124.4	1123.1	1116.8	1110.5
5°	1128.1	1124.4	1115.5	1106.7
7.5°	1128.1	1123.1	1110.5	1099.1
10°	1121.8	1114.3	1100.4	1086.5
12.5°	1114.3	1105.4	1089.1	1073.9
15°	1102.9	1092.8	1075.2	1057.5
17.5°	1086.5	1073.9	1056.3	1037.4
20°	1070.2	1056.3	1034.9	1014.7
22.5°	1047.5	1034.9	1012.2	990.7
25°	1022.3	1008.4	985.7	963.0
27.5°	995.8	979.4	956.7	934.0
30°	965.5	949.1	926.5	903.8
32.5°	932.8	917.6	894.9	871.0
35°	900.0	883.6	860.9	837.0
37.5°	863.4	848.3	825.6	802.9
40°	824.4	809.2	786.5	763.9
42.5°	787.8	773.9	751.2	729.8
45°	747.5	733.6	712.2	692.0
47.5°	705.9	692.0	671.8	651.7
50°	665.5	651.7	632.8	613.9
52.5°	620.2	608.8	591.2	573.5
55°	576.0	564.7	547.1	530.7
57.5°	531.9	521.8	505.5	490.3
60°	485.3	475.2	462.6	448.7
62.5°	441.2	432.3	419.7	407.1
65°	394.5	387.0	375.6	364.3
67.5°	346.6	340.3	330.2	320.2
70°	298.7	291.2	283.6	274.8
72.5°	250.8	247.1	239.5	231.9
75°	205.5	201.7	195.4	189.1
77.5°	162.6	158.8	153.8	148.7
80°	119.7	117.2	113.4	109.7
82.5°	83.2	80.7	78.2	74.4
85°	50.4	47.9	45.4	42.9
87.5°	22.7	21.4	18.9	17.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)