

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: P

Luminaire Tested: **4APN-20-22L940-UNV-NP**

Issue Date: 06/06/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 06/06/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-20-22L940-UNV-NP  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
w/ Nature Pattern Lens  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

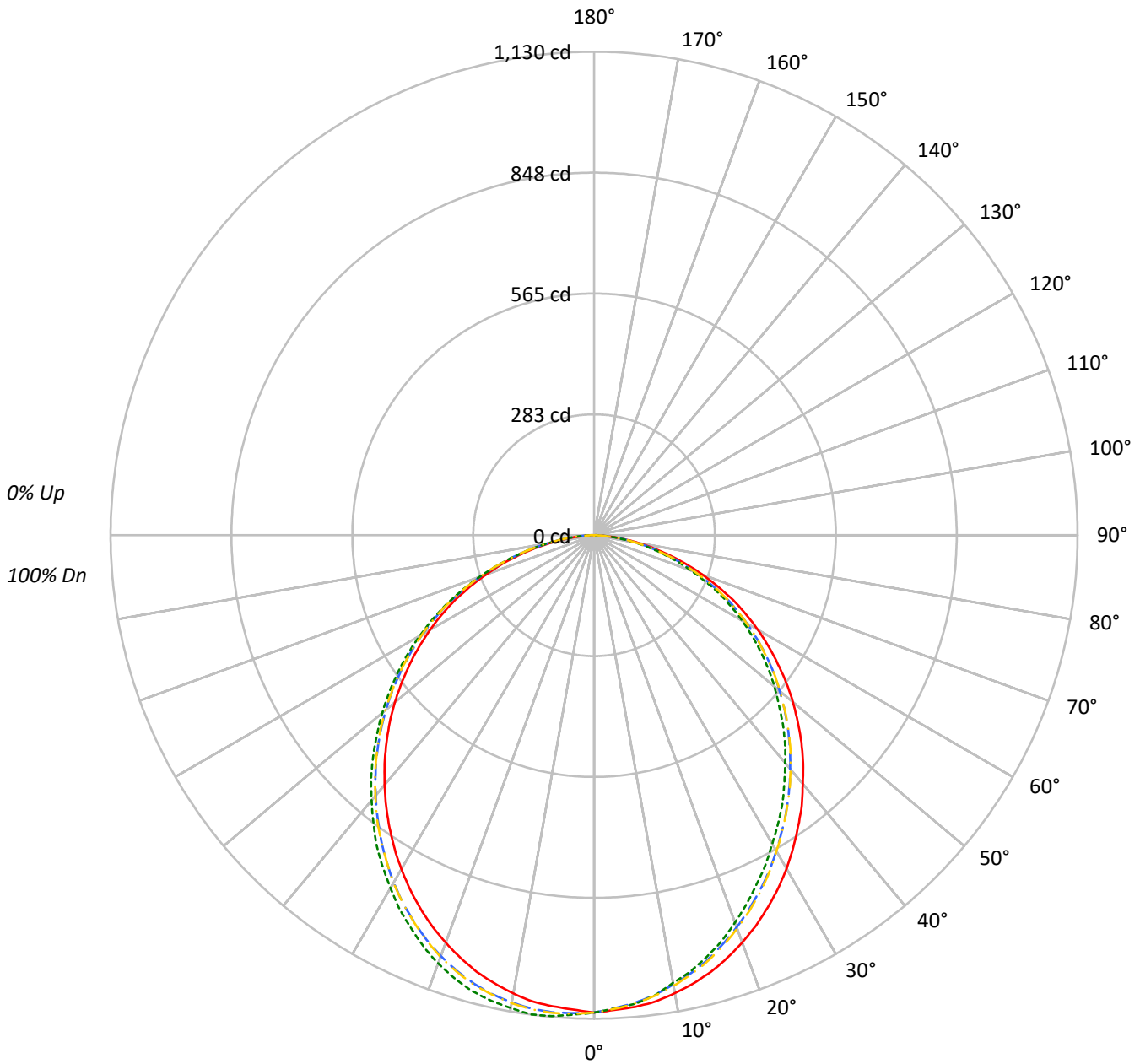
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2949.3 lumens  
Efficiency: N/A  
Efficacy: 61.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.19 / 1.32  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	95	92	94	91	89	90	88	86	84	84	84	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70	70	70	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	59	59	59	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51	51	51	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44	44	44	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39	39	39	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34	34	34	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31	31	31	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28	28	28	28
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°	10294	10294	10294	10294
5°	10249	10182	10236	10449
10°	10183	9956	10189	10514
15°	10088	9738	10094	10532
20°	9945	9456	9952	10459
25°	9771	9157	9790	10311
30°	9583	8871	9597	10142
35°	9364	8641	9387	9977
40°	9138	8365	9169	9745
45°	8942	8138	8951	9524
50°	8708	7899	8727	9272
55°	8432	7641	8463	9009
60°	8160	7375	8173	8680
65°	7824	7051	7824	8296
70°	7262	6520	7246	7704
75°	6588	5910	6541	6933
80°	5674	5079	5568	5951
85°	4372	3885	4224	4785



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.4	3.6
10°-20°	298.3	10.1
20°-30°	441.7	15.0
30°-40°	518.2	17.6
40°-50°	525.2	17.8
50°-60°	466.1	15.8
60°-70°	349.9	11.9
70°-80°	194.3	6.6
80°-90°	50.2	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°	845.4	28.7
0°-40°	1363.6	46.2
0°-60°	2354.9	79.8
0°-90°	2949.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2949.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1116	1116	1116	1116	1116	
5°	1107	1099	1105	1128	1107	105
15°	1056	1020	1057	1103	1056	298
25°	960	900	962	1013	960	442
35°	831	767	833	886	831	520
45°	685	624	686	730	685	528
55°	524	475	526	560	524	469
65°	358	323	358	380	358	353
75°	185	166	184	194	185	196
85°	41	37	40	45	41	50
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°	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7
2.5°	1110.5	1113.1	1116.4	1113.1	1107.9	1105.2	1105.2	1104.6	1106.6	1107.2	1106.6
5°	1106.6	1107.9	1108.5	1104.6	1098.7	1095.4	1094.1	1093.5	1096.1	1099.4	1096.1
7.5°	1099.4	1098.7	1098.0	1092.8	1086.2	1081.7	1079.7	1079.0	1081.7	1084.9	1082.3
10°	1086.9	1086.2	1084.3	1077.7	1069.2	1063.3	1061.3	1059.4	1061.3	1062.7	1061.3
12.5°	1073.1	1070.5	1067.9	1060.7	1051.5	1045.0	1041.7	1039.1	1041.7	1043.7	1042.3
15°	1056.2	1052.2	1047.6	1039.7	1030.5	1023.3	1019.5	1016.8	1018.8	1019.5	1019.5
17.5°	1035.8	1031.3	1026.6	1016.8	1005.6	997.8	993.2	990.0	992.5	993.8	993.8
20°	1012.9	1007.7	1001.8	991.2	979.4	971.0	965.7	961.7	962.4	963.1	963.1
22.5°	988.0	981.4	974.2	963.1	950.7	941.5	936.2	931.6	931.6	932.3	932.3
25°	959.8	952.6	945.4	934.3	921.2	911.3	904.8	900.1	900.1	899.5	900.8
27.5°	930.9	923.1	915.9	904.1	890.4	880.5	874.0	869.4	868.7	868.1	869.4
30°	899.5	890.4	882.5	870.1	856.9	847.1	840.6	835.3	834.0	832.7	834.0
32.5°	866.1	857.6	849.1	836.0	822.9	813.0	806.5	801.2	800.6	799.9	801.2
35°	831.4	822.2	814.4	801.9	788.8	779.0	771.8	767.2	767.2	767.2	767.2
37.5°	797.3	788.1	779.6	767.2	754.1	744.2	737.0	732.4	731.1	730.5	731.1
40°	758.7	750.8	742.9	731.1	718.1	708.2	702.3	697.1	695.7	694.5	696.4
42.5°	723.3	715.5	706.9	695.7	682.6	672.9	666.3	661.7	661.1	660.4	661.1
45°	685.3	676.1	667.6	657.1	645.3	636.2	629.6	625.0	624.4	623.7	624.4
47.5°	645.3	638.1	630.9	620.4	608.6	599.5	593.6	588.3	587.0	585.7	587.0
50°	606.7	598.8	591.6	581.8	570.6	562.1	556.9	552.3	551.0	550.3	551.0
52.5°	566.0	558.8	552.3	542.5	533.3	524.8	518.9	514.9	514.3	513.6	514.3
55°	524.2	517.6	511.7	503.8	494.7	486.8	481.6	477.0	476.3	475.0	476.3
57.5°	483.5	478.2	472.3	463.9	455.4	448.1	443.6	439.6	439.0	438.3	439.0
60°	442.2	437.0	431.8	424.6	416.0	408.8	404.9	401.6	400.3	399.7	400.3
62.5°	401.0	395.7	391.8	384.6	376.7	370.8	366.9	363.6	362.3	361.6	362.3
65°	358.4	353.8	349.2	342.6	336.7	332.2	328.2	324.9	323.6	323.0	323.0
67.5°	313.2	309.2	305.9	300.0	293.5	289.0	285.0	282.4	281.0	280.4	281.0
70°	269.2	266.0	262.7	258.2	252.9	248.9	246.4	243.7	242.4	241.7	241.7
72.5°	227.4	224.7	221.5	217.5	213.5	209.7	207.0	205.1	203.8	203.1	203.1
75°	184.8	182.1	180.8	177.6	173.6	171.0	168.4	167.1	165.8	165.8	165.8
77.5°	144.8	143.5	142.2	138.9	136.3	133.7	131.7	131.0	129.7	129.7	129.7
80°	106.8	106.1	105.5	103.5	100.9	98.3	97.0	96.3	95.6	95.6	95.6
82.5°	72.1	72.1	71.5	69.4	67.5	66.8	65.6	64.8	64.8	64.8	64.8
85°	41.3	41.3	41.3	40.7	39.3	39.3	38.0	37.3	36.7	36.7	36.7
87.5°	16.4	17.1	17.7	17.1	15.8	15.8	15.8	15.8	15.8	15.8	15.8
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°	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7
2.5°	1104.6	1105.9	1106.6	1109.8	1113.8	1116.4	1113.1	1109.8	1115.1	1121.0	1121.0
5°	1093.5	1094.8	1096.7	1100.7	1105.9	1109.2	1107.9	1105.2	1113.1	1119.7	1120.3
7.5°	1079.7	1081.0	1083.6	1087.6	1094.1	1098.7	1098.7	1099.4	1106.6	1114.4	1116.4
10°	1059.4	1062.7	1066.6	1072.5	1079.0	1084.9	1086.9	1087.6	1096.7	1105.2	1107.9
12.5°	1040.4	1043.7	1047.6	1054.1	1062.0	1068.6	1070.5	1073.1	1083.0	1092.8	1096.7
15°	1018.8	1022.0	1026.6	1033.2	1041.7	1048.9	1052.8	1056.8	1066.6	1077.1	1081.7
17.5°	993.2	996.5	1001.1	1008.9	1018.8	1027.3	1031.9	1036.4	1047.6	1058.7	1063.3
20°	963.1	967.6	974.2	982.1	993.2	1003.0	1008.3	1013.6	1025.4	1036.4	1041.7
22.5°	932.3	937.5	944.8	953.9	965.7	976.2	982.8	989.3	1001.1	1012.2	1018.1
25°	901.5	907.4	914.6	924.4	935.6	946.1	953.9	961.7	973.5	985.3	991.2
27.5°	870.1	875.3	882.5	892.3	904.8	915.9	923.8	932.3	944.0	956.5	962.4
30°	835.3	841.2	847.8	857.6	871.4	883.8	891.7	900.8	912.6	925.0	930.9
32.5°	801.9	807.1	813.7	823.5	837.3	850.4	858.9	868.1	879.9	892.3	897.6
35°	767.2	772.5	779.6	789.4	803.2	815.7	824.2	833.4	844.5	856.3	862.2
37.5°	733.1	738.3	745.5	755.4	768.5	780.9	789.4	798.6	809.8	820.9	826.1
40°	697.8	703.0	708.8	718.7	731.8	744.2	752.1	761.3	772.5	784.3	789.4
42.5°	661.7	667.0	674.2	683.9	696.4	707.5	716.1	724.6	735.1	745.5	750.8
45°	625.7	630.3	637.5	646.6	658.4	668.9	677.4	686.0	695.7	705.6	710.9
47.5°	588.3	593.6	599.5	608.6	620.4	631.6	640.1	648.0	657.1	667.0	671.5
50°	552.3	556.9	562.8	571.3	582.4	592.9	600.1	608.0	616.5	625.7	629.6
52.5°	514.9	519.5	525.4	533.9	543.2	552.9	559.5	566.8	575.2	583.7	587.7
55°	477.0	480.3	485.4	493.4	503.1	512.4	518.9	526.1	533.3	540.5	545.1
57.5°	439.6	443.6	448.7	456.0	464.5	473.0	478.9	484.8	492.0	499.3	502.5
60°	401.6	404.9	408.8	415.4	423.8	431.1	437.0	442.9	448.7	455.4	458.6
62.5°	363.0	366.2	370.2	376.7	383.9	390.5	395.7	401.0	406.2	412.1	415.4
65°	324.3	327.6	331.6	336.1	342.0	347.9	353.1	358.4	362.3	366.2	369.5
67.5°	282.4	285.6	289.6	293.5	298.7	304.6	308.6	313.2	317.1	321.7	323.6
70°	243.0	245.7	249.6	252.9	257.5	261.4	264.7	268.6	271.3	275.1	278.4
72.5°	204.4	207.0	210.3	213.5	216.2	219.4	223.4	226.7	229.9	233.9	235.2
75°	167.1	168.4	171.0	173.6	176.2	178.9	180.8	183.5	186.1	188.6	190.7
77.5°	130.4	131.7	134.3	136.3	138.2	140.2	141.5	142.8	145.4	147.4	149.4
80°	95.6	97.0	98.9	100.9	102.9	104.8	104.8	104.8	108.1	110.7	111.4
82.5°	64.8	65.6	66.8	68.1	69.4	70.7	70.7	70.1	72.1	74.0	75.3
85°	37.3	38.0	39.3	39.3	39.9	39.9	39.9	39.9	41.3	43.2	44.5
87.5°	15.0	15.0	15.8	15.8	16.4	16.4	15.8	15.0	16.4	18.3	19.0
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°	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7	1115.7
2.5°	1118.4	1117.6	1119.7	1120.3	1121.6	1121.6	1122.3	1122.3	1121.0	1119.0	1119.7
5°	1119.0	1119.0	1121.0	1122.9	1125.6	1128.2	1126.2	1124.3	1122.9	1121.0	1120.3
7.5°	1115.7	1117.0	1119.0	1122.3	1125.6	1129.5	1126.9	1124.3	1121.0	1118.4	1117.0
10°	1107.9	1109.2	1112.5	1115.7	1119.0	1122.3	1119.7	1117.0	1114.4	1111.1	1109.8
12.5°	1098.0	1100.0	1103.9	1107.2	1110.5	1114.4	1111.1	1107.9	1104.6	1101.3	1099.4
15°	1083.6	1086.2	1090.8	1094.8	1099.4	1102.6	1100.0	1097.4	1093.5	1088.9	1085.6
17.5°	1065.3	1069.2	1073.8	1078.4	1082.3	1085.6	1083.6	1081.0	1076.4	1071.2	1067.2
20°	1045.0	1048.9	1052.8	1057.4	1062.0	1065.3	1062.7	1059.4	1054.8	1050.9	1046.9
22.5°	1021.4	1025.4	1029.9	1033.8	1037.8	1041.0	1037.8	1033.8	1029.9	1026.0	1022.0
25°	994.6	998.4	1003.7	1007.7	1010.2	1012.9	1010.2	1007.0	1003.0	999.1	995.2
27.5°	966.3	970.3	975.6	979.4	982.1	984.7	982.1	978.8	974.8	971.0	967.0
30°	934.9	938.9	944.0	948.0	949.9	952.0	949.3	946.7	943.4	939.5	935.6
32.5°	901.5	905.4	909.4	913.2	916.6	919.1	916.6	914.0	910.0	904.8	900.8
35°	866.1	870.1	874.6	878.6	882.5	885.8	881.8	877.3	874.0	870.7	867.4
37.5°	828.8	833.4	838.6	843.2	844.5	847.1	844.5	841.9	838.6	835.3	831.4
40°	792.1	796.1	800.6	805.2	807.1	809.1	806.5	803.9	799.9	796.7	792.7
42.5°	754.1	758.0	761.9	765.9	768.5	771.2	768.5	764.5	761.9	759.4	756.0
45°	714.7	718.7	722.0	725.9	727.9	729.9	727.2	724.0	721.3	719.3	716.1
47.5°	674.8	678.1	681.4	684.7	686.0	687.9	685.3	683.3	681.4	679.4	676.7
50°	632.9	636.2	640.1	643.4	644.0	646.0	643.4	641.4	639.4	637.5	635.5
52.5°	591.6	594.2	597.5	600.8	602.1	603.4	600.8	598.2	596.2	594.9	592.9
55°	548.4	551.0	554.3	556.9	558.8	560.1	557.5	555.0	552.9	552.3	550.3
57.5°	505.2	507.7	511.1	513.6	514.9	516.2	513.6	511.1	509.7	508.4	507.1
60°	461.2	463.9	466.4	468.5	469.8	470.4	467.8	465.8	465.1	464.5	463.2
62.5°	417.9	419.3	421.9	423.2	424.6	425.2	423.2	421.9	421.3	420.6	420.0
65°	372.8	376.1	378.0	379.3	379.3	380.0	378.0	377.4	376.7	376.1	374.8
67.5°	326.3	328.9	330.2	331.6	331.6	331.6	331.6	331.6	330.8	329.5	328.2
70°	281.7	283.7	285.0	285.6	285.6	285.6	284.3	283.7	284.3	284.3	283.7
72.5°	236.5	237.8	238.5	239.2	238.5	238.5	238.5	239.8	239.8	239.2	237.8
75°	192.6	193.9	194.5	195.3	194.5	194.5	194.5	195.9	195.3	195.3	194.5
77.5°	151.3	152.0	152.0	152.7	152.0	152.0	152.7	154.0	153.3	153.3	153.3
80°	112.0	112.0	112.0	112.7	112.0	112.0	112.7	114.0	113.3	113.3	113.3
82.5°	76.0	76.6	76.6	76.6	77.3	78.0	78.0	78.0	78.0	78.0	77.3
85°	45.2	45.8	45.2	45.2	45.2	45.2	45.8	46.6	46.6	46.6	46.6
87.5°	19.6	20.3	19.6	19.0	18.3	18.3	19.6	20.9	20.9	20.3	20.3
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: P  
 CATALOG NUMBER: 4APN-20-22L940-UNV-NP

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1115.7	1115.7	1115.7	1115.7
2.5°	1122.3	1122.3	1116.4	1110.5
5°	1121.6	1120.3	1113.8	1106.6
7.5°	1117.6	1115.7	1107.2	1099.4
10°	1108.5	1105.9	1096.7	1086.9
12.5°	1097.4	1093.5	1083.0	1073.1
15°	1083.0	1078.4	1067.2	1056.2
17.5°	1064.0	1058.7	1047.6	1035.8
20°	1043.7	1037.8	1025.4	1012.9
22.5°	1018.8	1013.6	1000.5	988.0
25°	991.9	986.0	972.9	959.8
27.5°	963.1	956.5	943.4	930.9
30°	931.6	925.0	912.0	899.5
32.5°	898.2	893.0	879.9	866.1
35°	864.2	857.6	844.5	831.4
37.5°	828.1	822.2	809.8	797.3
40°	790.2	784.3	771.2	758.7
42.5°	752.8	747.6	735.1	723.3
45°	712.8	707.5	695.7	685.3
47.5°	672.9	667.6	656.5	645.3
50°	632.2	627.0	616.5	606.7
52.5°	589.6	585.7	575.9	566.0
55°	547.0	542.5	532.6	524.2
57.5°	504.4	501.2	492.0	483.5
60°	460.5	456.7	449.5	442.2
62.5°	417.9	414.7	407.5	401.0
65°	372.8	370.2	364.3	358.4
67.5°	326.3	324.3	318.4	313.2
70°	281.7	278.4	273.8	269.2
72.5°	236.5	235.2	231.2	227.4
75°	193.3	192.0	188.0	184.8
77.5°	152.7	151.3	148.1	144.8
80°	112.7	112.0	109.4	106.8
82.5°	77.3	76.6	74.7	72.1
85°	46.6	45.2	43.2	41.3
87.5°	20.3	19.6	17.7	16.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)