

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-20-22L950-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-20-22L950-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

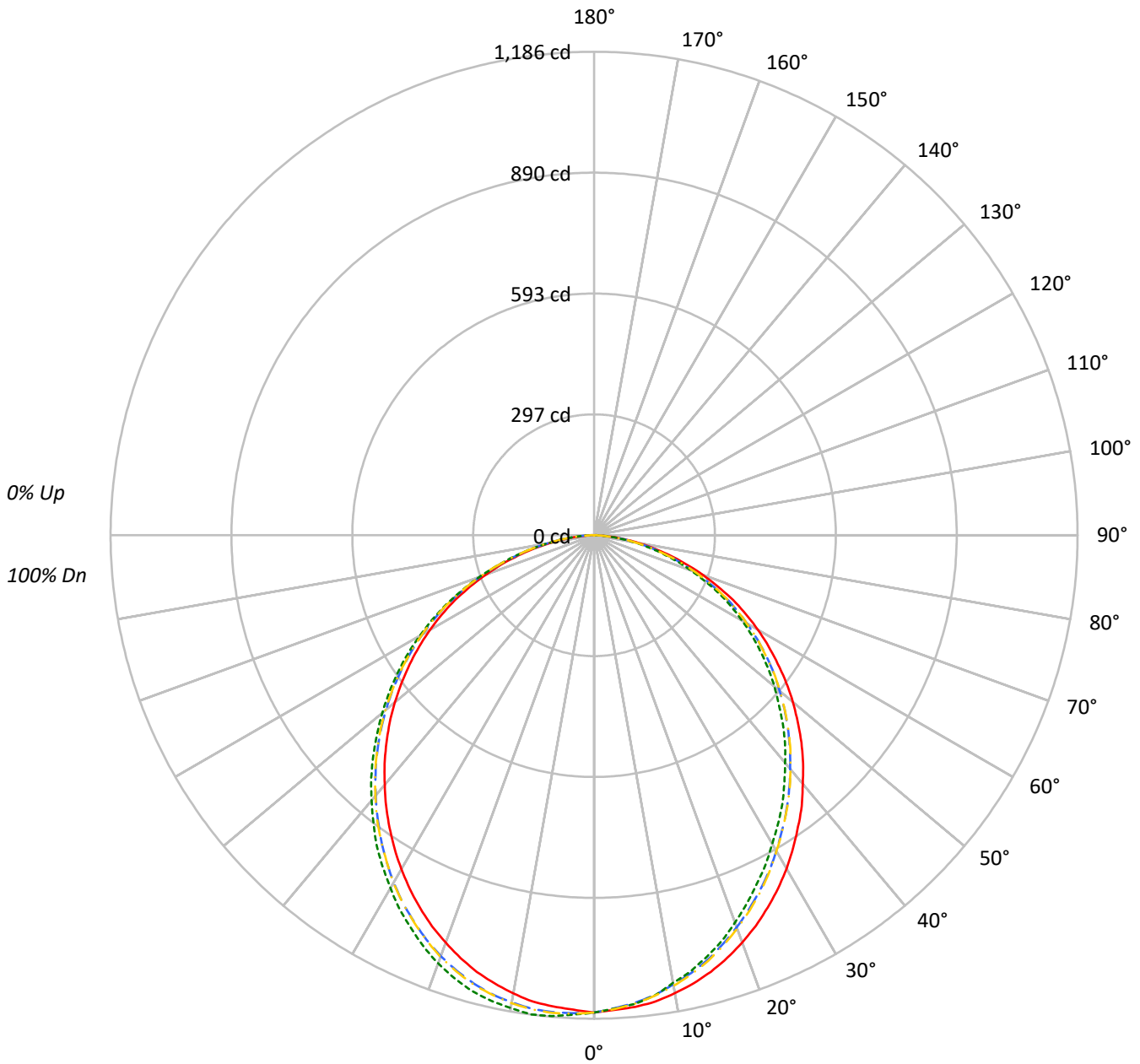
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3095.5 lumens
Efficiency: N/A
Efficacy: 64.5 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_{in}): 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	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	62	62	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	41	41	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	36	36	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	32	32	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	29	29	29	28
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°	10804	10804	10804	10804
5°	10756	10687	10744	10966
10°	10688	10449	10693	11035
15°	10587	10220	10595	11054
20°	10438	9924	10445	10978
25°	10255	9611	10276	10822
30°	10058	9311	10073	10645
35°	9828	9069	9852	10471
40°	9589	8779	9623	10229
45°	9385	8541	9394	9995
50°	9139	8291	9159	9732
55°	8849	8019	8882	9458
60°	8564	7739	8579	9110
65°	8213	7401	8213	8708
70°	7623	6844	7604	8087
75°	6912	6203	6862	7279
80°	5956	5334	5844	6248
85°	4584	4076	4446	5028



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.6	3.6
10°-20°	313.1	10.1
20°-30°	463.6	15.0
30°-40°	543.9	17.6
40°-50°	551.2	17.8
50°-60°	489.2	15.8
60°-70°	367.3	11.9
70°-80°	203.9	6.6
80°-90°	52.7	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°	887.3	28.7
0°-40°	1431.2	46.2
0°-60°	2471.6	79.8
0°-90°	3095.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3095.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1171	1171	1171	1171	1171	
5°	1161	1154	1160	1184	1161	110
15°	1108	1070	1109	1157	1108	312
25°	1007	944	1009	1063	1007	464
35°	873	805	875	930	873	546
45°	719	655	720	766	719	554
55°	550	498	552	588	550	492
65°	376	339	376	399	376	371
75°	194	174	192	204	194	206
85°	43	38	42	48	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°	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0
2.5°	1165.5	1168.3	1171.8	1168.3	1162.8	1160.1	1160.1	1159.3	1161.4	1162.1	1161.4
5°	1161.4	1162.8	1163.5	1159.3	1153.1	1149.7	1148.4	1147.7	1150.4	1153.9	1150.4
7.5°	1153.9	1153.1	1152.5	1147.0	1140.1	1135.3	1133.2	1132.6	1135.3	1138.8	1136.0
10°	1140.8	1140.1	1138.0	1131.2	1122.3	1116.1	1114.0	1111.9	1114.0	1115.3	1114.0
12.5°	1126.3	1123.6	1120.9	1113.3	1103.6	1096.8	1093.3	1090.6	1093.3	1095.4	1094.0
15°	1108.4	1104.4	1099.6	1091.3	1081.7	1074.1	1070.0	1067.2	1069.2	1070.0	1070.0
17.5°	1087.1	1082.3	1077.5	1067.2	1055.5	1047.3	1042.4	1039.0	1041.8	1043.2	1043.2
20°	1063.1	1057.6	1051.4	1040.4	1028.0	1019.1	1013.6	1009.4	1010.1	1010.8	1010.8
22.5°	1037.0	1030.1	1022.5	1010.8	997.8	988.1	982.7	977.8	977.8	978.5	978.5
25°	1007.4	999.8	992.3	980.5	966.8	956.5	949.7	944.8	944.8	944.1	945.5
27.5°	977.1	968.8	961.3	948.9	934.5	924.2	917.3	912.5	911.8	911.1	912.5
30°	944.1	934.5	926.2	913.1	899.4	889.1	882.3	876.7	875.3	874.0	875.3
32.5°	909.1	900.1	891.2	877.5	863.6	853.4	846.5	841.0	840.3	839.6	841.0
35°	872.6	863.0	854.7	841.7	828.0	817.6	810.1	805.2	805.2	805.2	805.2
37.5°	836.9	827.2	818.3	805.2	791.4	781.1	773.6	768.8	767.4	766.7	767.4
40°	796.2	788.0	779.7	767.4	753.6	743.3	737.1	731.6	730.3	728.9	731.0
42.5°	759.2	750.9	741.9	730.3	716.5	706.2	699.3	694.5	693.8	693.2	693.8
45°	719.3	709.7	700.7	689.7	677.3	667.7	660.8	656.0	655.4	654.6	655.4
47.5°	677.3	669.7	662.2	651.2	638.9	629.2	623.0	617.5	616.1	614.8	616.1
50°	636.7	628.5	621.0	610.6	598.9	590.0	584.5	579.7	578.3	577.6	578.3
52.5°	594.1	586.6	579.7	569.3	559.7	550.8	544.6	540.5	539.8	539.1	539.8
55°	550.1	543.2	537.1	528.8	519.2	510.9	505.4	500.6	499.9	498.5	499.9
57.5°	507.5	501.9	495.8	486.8	477.9	470.3	465.5	461.4	460.7	460.0	460.7
60°	464.1	458.7	453.2	445.6	436.7	429.1	424.9	421.5	420.2	419.4	420.2
62.5°	420.8	415.4	411.2	403.7	395.4	389.2	385.1	381.6	380.2	379.6	380.2
65°	376.2	371.3	366.5	359.7	353.4	348.6	344.6	341.0	339.7	339.0	339.0
67.5°	328.7	324.5	321.1	315.0	308.0	303.2	299.1	296.3	295.0	294.3	295.0
70°	282.6	279.2	275.8	270.9	265.4	261.3	258.5	255.8	254.4	253.7	253.7
72.5°	238.6	235.8	232.4	228.3	224.1	220.1	217.3	215.2	213.8	213.2	213.2
75°	193.9	191.1	189.7	186.3	182.2	179.5	176.7	175.4	174.0	174.0	174.0
77.5°	151.9	150.6	149.2	145.8	143.0	140.2	138.2	137.6	136.2	136.2	136.2
80°	112.1	111.4	110.7	108.6	105.9	103.2	101.8	101.1	100.4	100.4	100.4
82.5°	75.6	75.6	75.0	72.9	70.8	70.2	68.8	68.0	68.0	68.0	68.0
85°	43.3	43.3	43.3	42.6	41.2	41.2	39.9	39.2	38.5	38.5	38.5
87.5°	17.1	17.9	18.5	17.9	16.5	16.5	16.5	16.5	16.5	16.5	16.5
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°	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0
2.5°	1159.3	1160.7	1161.4	1164.9	1169.0	1171.8	1168.3	1164.9	1170.4	1176.6	1176.6
5°	1147.7	1149.0	1151.1	1155.3	1160.7	1164.2	1162.8	1160.1	1168.3	1175.2	1175.8
7.5°	1133.2	1134.6	1137.4	1141.4	1148.4	1153.1	1153.1	1153.9	1161.4	1169.6	1171.8
10°	1111.9	1115.3	1119.5	1125.7	1132.6	1138.8	1140.8	1141.4	1151.1	1160.1	1162.8
12.5°	1091.9	1095.4	1099.6	1106.4	1114.7	1121.5	1123.6	1126.3	1136.6	1147.0	1151.1
15°	1069.2	1072.7	1077.5	1084.4	1093.3	1100.9	1105.0	1109.2	1119.5	1130.5	1135.3
17.5°	1042.4	1045.9	1050.7	1058.9	1069.2	1078.2	1083.1	1087.9	1099.6	1111.2	1116.1
20°	1010.8	1015.7	1022.5	1030.8	1042.4	1052.7	1058.3	1063.8	1076.2	1087.9	1093.3
22.5°	978.5	984.1	991.6	1001.2	1013.6	1024.6	1031.4	1038.4	1050.7	1062.4	1068.6
25°	946.2	952.3	960.0	970.2	981.9	993.0	1001.2	1009.4	1021.9	1034.2	1040.4
27.5°	913.1	918.7	926.2	936.6	949.7	961.3	969.6	978.5	990.9	1004.0	1010.1
30°	876.7	882.9	889.8	900.1	914.5	927.6	935.8	945.5	957.9	971.0	977.1
32.5°	841.7	847.1	854.0	864.4	878.8	892.6	901.5	911.1	923.5	936.6	942.1
35°	805.2	810.7	818.3	828.6	843.1	856.1	865.0	874.7	886.3	898.8	904.9
37.5°	769.5	774.9	782.5	792.8	806.6	819.7	828.6	838.2	849.9	861.6	867.1
40°	732.3	737.9	744.1	754.4	768.1	781.1	789.4	799.0	810.7	823.1	828.6
42.5°	694.5	700.0	707.5	717.9	731.0	742.7	751.6	760.6	771.5	782.5	788.0
45°	656.6	661.5	669.1	678.7	691.0	702.1	711.0	720.0	730.3	740.6	746.1
47.5°	617.5	623.0	629.2	638.9	651.2	662.9	671.9	680.1	689.7	700.0	704.9
50°	579.7	584.5	590.7	599.6	611.3	622.3	629.9	638.1	647.1	656.6	660.8
52.5°	540.5	545.3	551.4	560.4	570.1	580.4	587.2	594.8	603.7	612.7	616.8
55°	500.6	504.1	509.5	517.8	528.1	537.7	544.6	552.2	559.7	567.3	572.1
57.5°	461.4	465.5	471.0	478.6	487.6	496.5	502.7	508.9	516.4	524.0	527.4
60°	421.5	424.9	429.1	435.9	444.9	452.4	458.7	464.9	471.0	477.9	481.4
62.5°	381.0	384.4	388.5	395.4	402.9	409.8	415.4	420.8	426.3	432.5	435.9
65°	340.4	343.8	348.0	352.8	358.9	365.1	370.6	376.2	380.2	384.4	387.8
67.5°	296.3	299.8	303.9	308.0	313.6	319.7	323.9	328.7	332.8	337.6	339.7
70°	255.1	257.9	262.0	265.4	270.2	274.4	277.8	281.9	284.7	288.8	292.3
72.5°	214.5	217.3	220.7	224.1	226.9	230.3	234.5	238.0	241.4	245.5	246.8
75°	175.4	176.7	179.5	182.2	185.0	187.7	189.7	192.5	195.3	198.0	200.1
77.5°	136.8	138.2	141.0	143.0	145.1	147.2	148.5	149.9	152.7	154.7	156.7
80°	100.4	101.8	103.8	105.9	108.0	110.0	110.0	110.0	113.5	116.2	116.9
82.5°	68.0	68.8	70.2	71.5	72.9	74.2	74.2	73.6	75.6	77.7	79.1
85°	39.2	39.9	41.2	41.2	42.0	42.0	42.0	42.0	43.3	45.4	46.7
87.5°	15.9	15.9	16.5	16.5	17.1	17.1	16.5	15.9	17.1	19.3	19.9
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0	1171.0
2.5°	1173.8	1173.2	1175.2	1175.8	1177.2	1177.2	1177.9	1177.9	1176.6	1174.4	1175.2
5°	1174.4	1174.4	1176.6	1178.6	1181.4	1184.1	1182.0	1180.0	1178.6	1176.6	1175.8
7.5°	1171.0	1172.4	1174.4	1177.9	1181.4	1185.5	1182.7	1180.0	1176.6	1173.8	1172.4
10°	1162.8	1164.2	1167.6	1171.0	1174.4	1177.9	1175.2	1172.4	1169.6	1166.2	1164.9
12.5°	1152.5	1154.5	1158.7	1162.1	1165.5	1169.6	1166.2	1162.8	1159.3	1155.9	1153.9
15°	1137.4	1140.1	1144.9	1149.0	1153.9	1157.3	1154.5	1151.8	1147.7	1142.8	1139.4
17.5°	1118.1	1122.3	1127.1	1131.8	1136.0	1139.4	1137.4	1134.6	1129.8	1124.3	1120.1
20°	1096.8	1100.9	1105.0	1109.8	1114.7	1118.1	1115.3	1111.9	1107.1	1103.0	1098.8
22.5°	1072.0	1076.2	1081.0	1085.1	1089.3	1092.7	1089.3	1085.1	1081.0	1076.8	1072.7
25°	1043.8	1047.9	1053.5	1057.6	1060.3	1063.1	1060.3	1056.9	1052.7	1048.7	1044.5
27.5°	1014.3	1018.3	1023.9	1028.0	1030.8	1033.6	1030.8	1027.3	1023.2	1019.1	1014.9
30°	981.3	985.3	990.9	995.0	997.1	999.2	996.4	993.6	990.2	986.1	981.9
32.5°	946.2	950.3	954.5	958.6	962.0	964.8	962.0	959.2	955.1	949.7	945.5
35°	909.1	913.1	918.0	922.1	926.2	929.7	925.6	920.7	917.3	913.9	910.5
37.5°	869.9	874.7	880.1	885.0	886.3	889.1	886.3	883.6	880.1	876.7	872.6
40°	831.4	835.5	840.3	845.1	847.1	849.3	846.5	843.7	839.6	836.2	832.0
42.5°	791.4	795.6	799.7	803.9	806.6	809.3	806.6	802.5	799.7	797.0	793.6
45°	750.2	754.4	757.8	761.9	764.0	766.0	763.2	759.8	757.1	755.0	751.6
47.5°	708.3	711.7	715.1	718.6	720.0	722.0	719.3	717.2	715.1	713.1	710.3
50°	664.3	667.7	671.9	675.3	675.9	678.0	675.3	673.2	671.1	669.1	667.0
52.5°	621.0	623.7	627.1	630.6	631.9	633.3	630.6	627.8	625.8	624.4	622.3
55°	575.5	578.3	581.8	584.5	586.6	588.0	585.2	582.4	580.4	579.7	577.6
57.5°	530.1	532.9	536.3	539.1	540.5	541.9	539.1	536.3	534.9	533.6	532.3
60°	484.1	486.8	489.6	491.7	493.0	493.7	491.0	488.9	488.2	487.6	486.2
62.5°	438.7	440.1	442.8	444.2	445.6	446.2	444.2	442.8	442.2	441.5	440.8
65°	391.3	394.7	396.7	398.1	398.1	398.9	396.7	396.1	395.4	394.7	393.3
67.5°	342.4	345.2	346.6	348.0	348.0	348.0	348.0	348.0	347.2	345.8	344.6
70°	295.7	297.7	299.1	299.8	299.8	299.8	298.5	297.7	298.5	298.5	297.7
72.5°	248.2	249.6	250.3	251.0	250.3	250.3	250.3	251.7	251.7	251.0	249.6
75°	202.2	203.6	204.2	205.0	204.2	204.2	204.2	205.6	205.0	205.0	204.2
77.5°	158.9	159.5	159.5	160.2	159.5	159.5	160.2	161.6	160.9	160.9	160.9
80°	117.6	117.6	117.6	118.3	117.6	117.6	118.3	119.7	118.9	118.9	118.9
82.5°	79.8	80.5	80.5	80.5	81.1	81.9	81.9	81.9	81.9	81.9	81.1
85°	47.5	48.1	47.5	47.5	47.5	47.5	48.1	48.9	48.9	48.9	48.9
87.5°	20.7	21.3	20.7	19.9	19.3	19.3	20.7	22.0	22.0	21.3	21.3
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-20-22L950-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1171.0	1171.0	1171.0	1171.0
2.5°	1177.9	1177.9	1171.8	1165.5
5°	1177.2	1175.8	1169.0	1161.4
7.5°	1173.2	1171.0	1162.1	1153.9
10°	1163.5	1160.7	1151.1	1140.8
12.5°	1151.8	1147.7	1136.6	1126.3
15°	1136.6	1131.8	1120.1	1108.4
17.5°	1116.7	1111.2	1099.6	1087.1
20°	1095.4	1089.3	1076.2	1063.1
22.5°	1069.2	1063.8	1050.1	1037.0
25°	1041.1	1034.9	1021.1	1007.4
27.5°	1010.8	1004.0	990.2	977.1
30°	977.8	971.0	957.2	944.1
32.5°	942.7	937.2	923.5	909.1
35°	907.0	900.1	886.3	872.6
37.5°	869.2	863.0	849.9	836.9
40°	829.2	823.1	809.3	796.2
42.5°	790.1	784.6	771.5	759.2
45°	748.1	742.7	730.3	719.3
47.5°	706.2	700.7	689.0	677.3
50°	663.6	658.0	647.1	636.7
52.5°	618.8	614.8	604.5	594.1
55°	574.2	569.3	559.0	550.1
57.5°	529.5	526.0	516.4	507.5
60°	483.4	479.3	471.7	464.1
62.5°	438.7	435.3	427.7	420.8
65°	391.3	388.5	382.4	376.2
67.5°	342.4	340.4	334.2	328.7
70°	295.7	292.3	287.4	282.6
72.5°	248.2	246.8	242.8	238.6
75°	202.8	201.5	197.3	193.9
77.5°	160.2	158.9	155.4	151.9
80°	118.3	117.6	114.9	112.1
82.5°	81.1	80.5	78.4	75.6
85°	48.9	47.5	45.4	43.3
87.5°	21.3	20.7	18.5	17.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)