

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-20-22L930-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-20-22L930-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

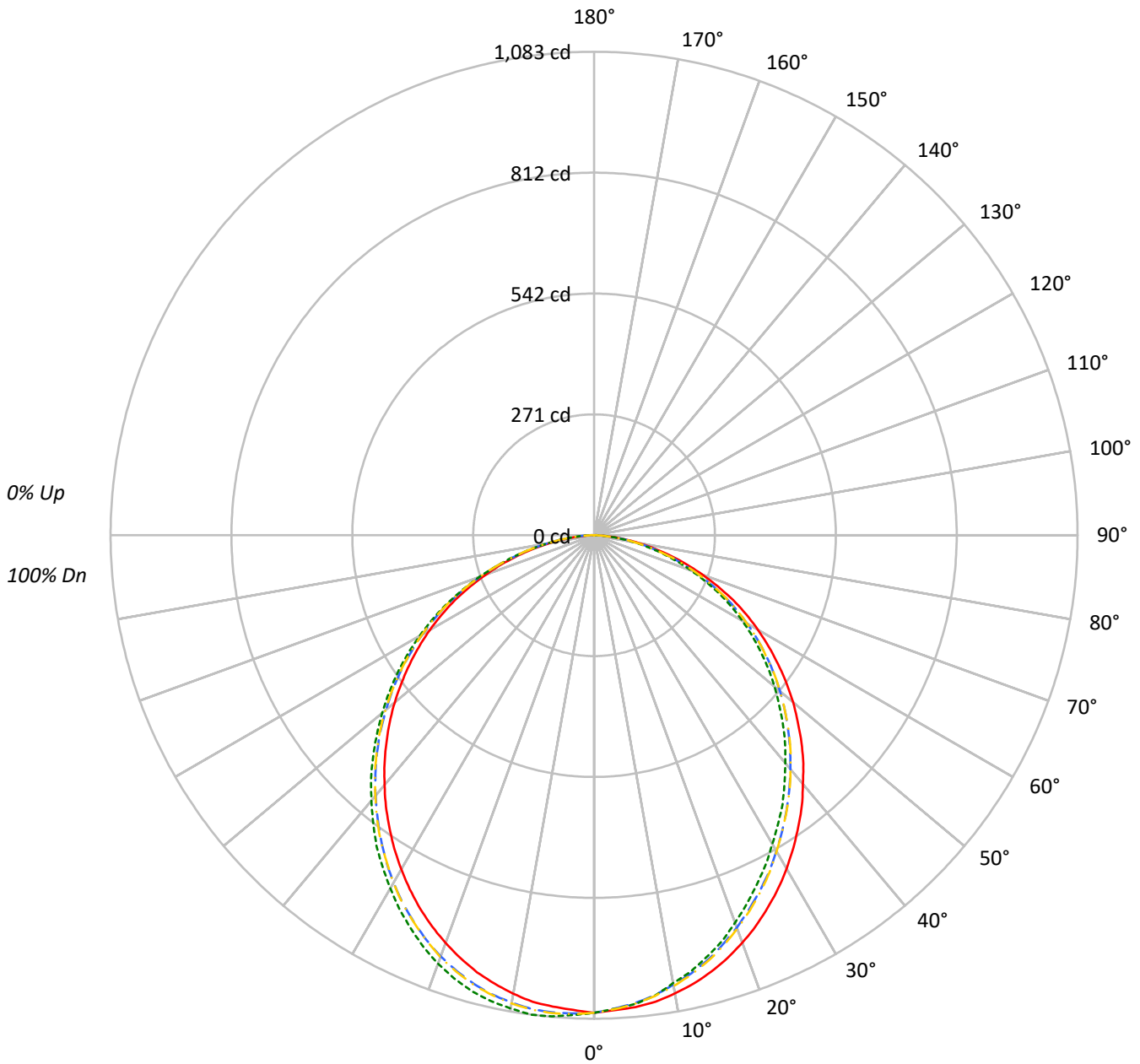
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2828.2 lumens
Efficiency: N/A
Efficacy: 58.9 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

TEST NUMBER: P
CATALOG NUMBER: 4APN-20-22L930-UNV-NP

Luminous Intensity Polar Plot



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



TEST NUMBER: P
 CATALOG NUMBER: 4APN-20-22L930-UNV-NP

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	100				
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84				
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70				
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	59				
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51				
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44				
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39				
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34				
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31				
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28				
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9871	9871	9871	9871
5°	9827	9763	9815	10020
10°	9765	9547	9770	10083
15°	9673	9338	9680	10099
20°	9537	9068	9542	10030
25°	9370	8781	9389	9888
30°	9190	8507	9202	9726
35°	8980	8286	9001	9567
40°	8763	8021	8792	9345
45°	8575	7804	8583	9132
50°	8351	7576	8368	8892
55°	8085	7327	8115	8641
60°	7824	7073	7837	8324
65°	7501	6761	7501	7955
70°	6968	6253	6949	7389
75°	6317	5668	6270	6652
80°	5441	4872	5340	5706
85°	4192	3726	4065	4584



TEST NUMBER: P
 CATALOG NUMBER: 4APN-20-22L930-UNV-NP

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.0	3.6
10°-20°	286.1	10.1
20°-30°	423.5	15.0
30°-40°	496.9	17.6
40°-50°	503.6	17.8
50°-60°	447.0	15.8
60°-70°	335.6	11.9
70°-80°	186.3	6.6
80°-90°	48.1	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°	810.7	28.7
0°-40°	1307.6	46.2
0°-60°	2258.2	79.8
0°-90°	2828.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2828.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1070	1070	1070	1070	1070	
5°	1061	1054	1060	1082	1061	101
15°	1013	978	1013	1057	1013	285
25°	920	863	922	971	920	424
35°	797	736	799	849	797	499
45°	657	598	658	700	657	507
55°	503	456	504	537	503	450
65°	344	310	344	364	344	339
75°	177	159	176	187	177	188
85°	40	35	38	43	40	48
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-20-22L930-UNV-NP

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9
2.5°	1064.9	1067.4	1070.5	1067.4	1062.4	1059.8	1059.8	1059.3	1061.1	1061.8	1061.1
5°	1061.1	1062.4	1063.0	1059.3	1053.6	1050.4	1049.2	1048.6	1051.1	1054.2	1051.1
7.5°	1054.2	1053.6	1052.9	1047.9	1041.7	1037.2	1035.4	1034.8	1037.2	1040.4	1037.9
10°	1042.3	1041.7	1039.7	1033.5	1025.4	1019.6	1017.8	1015.9	1017.8	1019.0	1017.8
12.5°	1029.0	1026.6	1024.1	1017.2	1008.4	1002.0	998.9	996.4	998.9	1000.8	999.5
15°	1012.7	1008.9	1004.6	997.1	988.3	981.4	977.6	975.0	977.0	977.6	977.6
17.5°	993.3	988.8	984.5	975.0	964.4	956.9	952.4	949.3	951.8	953.1	953.1
20°	971.3	966.3	960.6	950.6	939.2	931.0	926.1	922.3	922.9	923.6	923.6
22.5°	947.4	941.1	934.3	923.6	911.6	902.8	897.8	893.4	893.4	894.0	894.0
25°	920.4	913.5	906.6	895.9	883.4	873.9	867.6	863.3	863.3	862.6	863.8
27.5°	892.8	885.2	878.3	867.0	853.8	844.4	838.1	833.7	833.0	832.5	833.7
30°	862.6	853.8	846.3	834.3	821.8	812.4	806.0	801.0	799.7	798.5	799.7
32.5°	830.5	822.4	814.2	801.7	789.0	779.6	773.4	768.4	767.7	767.1	768.4
35°	797.3	788.5	780.9	768.9	756.4	747.0	740.1	735.7	735.7	735.7	735.7
37.5°	764.6	755.8	747.6	735.7	723.1	713.7	706.8	702.4	701.2	700.5	701.2
40°	727.6	720.0	712.4	701.2	688.5	679.1	673.5	668.4	667.3	666.0	667.8
42.5°	693.6	686.1	677.9	667.3	654.6	645.2	638.9	634.5	633.9	633.3	633.9
45°	657.2	648.4	640.2	630.2	618.8	610.0	603.7	599.4	598.7	598.1	598.7
47.5°	618.8	611.9	605.0	595.0	583.6	574.9	569.2	564.2	562.9	561.7	562.9
50°	581.8	574.2	567.3	557.9	547.2	539.0	534.0	529.6	528.4	527.8	528.4
52.5°	542.8	535.9	529.6	520.2	511.4	503.2	497.6	493.8	493.2	492.5	493.2
55°	502.6	496.3	490.7	483.1	474.4	466.8	461.7	457.4	456.8	455.5	456.8
57.5°	463.7	458.6	453.0	444.8	436.7	429.7	425.3	421.5	420.9	420.3	420.9
60°	424.0	419.0	414.0	407.2	398.9	392.0	388.3	385.1	383.8	383.3	383.8
62.5°	384.5	379.5	375.7	368.8	361.2	355.6	351.8	348.7	347.4	346.8	347.4
65°	343.6	339.3	334.9	328.6	322.9	318.6	314.8	311.6	310.3	309.7	309.7
67.5°	300.3	296.5	293.4	287.8	281.5	277.1	273.3	270.8	269.5	268.9	269.5
70°	258.3	255.1	251.9	247.6	242.5	238.7	236.2	233.7	232.4	231.8	231.8
72.5°	218.0	215.5	212.3	208.6	204.8	201.1	198.5	196.7	195.4	194.7	194.7
75°	177.2	174.6	173.4	170.3	166.5	163.9	161.4	160.2	159.0	159.0	159.0
77.5°	138.9	137.6	136.4	133.2	130.6	128.2	126.3	125.7	124.4	124.4	124.4
80°	102.4	101.8	101.1	99.3	96.7	94.2	92.9	92.4	91.7	91.7	91.7
82.5°	69.1	69.1	68.5	66.6	64.7	64.1	62.8	62.2	62.2	62.2	62.2
85°	39.6	39.6	39.6	38.9	37.7	37.7	36.4	35.8	35.2	35.2	35.2
87.5°	15.7	16.3	17.0	16.3	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



TEST NUMBER: P

CATALOG NUMBER: 4APN-20-22L930-UNV-NP

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9
2.5°	1059.3	1060.5	1061.1	1064.3	1068.0	1070.5	1067.4	1064.3	1069.3	1075.0	1075.0
5°	1048.6	1049.8	1051.7	1055.5	1060.5	1063.6	1062.4	1059.8	1067.4	1073.7	1074.3
7.5°	1035.4	1036.6	1039.1	1042.9	1049.2	1053.6	1053.6	1054.2	1061.1	1068.7	1070.5
10°	1015.9	1019.0	1022.8	1028.5	1034.8	1040.4	1042.3	1042.9	1051.7	1059.8	1062.4
12.5°	997.7	1000.8	1004.6	1010.9	1018.4	1024.7	1026.6	1029.0	1038.5	1047.9	1051.7
15°	977.0	980.1	984.5	990.8	998.9	1005.8	1009.6	1013.4	1022.8	1032.8	1037.2
17.5°	952.4	955.6	960.0	967.5	977.0	985.1	989.5	993.9	1004.6	1015.3	1019.6
20°	923.6	927.9	934.3	941.7	952.4	961.8	966.9	971.9	983.2	993.9	998.9
22.5°	894.0	899.0	906.0	914.7	926.1	936.1	942.4	948.6	960.0	970.7	976.3
25°	864.5	870.1	877.0	886.5	897.1	907.2	914.7	922.3	933.6	944.9	950.6
27.5°	834.3	839.4	846.3	855.7	867.6	878.3	885.9	894.0	905.3	917.3	922.9
30°	801.0	806.7	812.9	822.4	835.6	847.5	855.1	863.8	875.2	887.1	892.8
32.5°	768.9	774.0	780.3	789.7	802.9	815.5	823.6	832.5	843.7	855.7	860.7
35°	735.7	740.7	747.6	757.1	770.2	782.2	790.3	799.2	809.8	821.1	826.8
37.5°	703.0	708.0	714.9	724.4	737.0	748.8	757.1	765.8	776.5	787.2	792.3
40°	669.1	674.2	679.8	689.2	701.7	713.7	721.3	730.0	740.7	752.0	757.1
42.5°	634.5	639.6	646.5	655.9	667.8	678.5	686.7	694.8	704.9	714.9	720.0
45°	599.9	604.4	611.3	620.0	631.4	641.4	649.6	657.8	667.3	676.7	681.6
47.5°	564.2	569.2	574.9	583.6	595.0	605.7	613.8	621.3	630.2	639.6	643.9
50°	529.6	534.0	539.6	547.9	558.5	568.6	575.5	583.0	591.2	599.9	603.7
52.5°	493.8	498.2	503.9	512.0	520.8	530.2	536.5	543.4	551.6	559.7	563.5
55°	457.4	460.5	465.5	473.1	482.5	491.3	497.6	504.5	511.4	518.3	522.7
57.5°	421.5	425.3	430.4	437.3	445.4	453.6	459.2	464.9	471.8	478.7	481.8
60°	385.1	388.3	392.0	398.3	406.5	413.4	419.0	424.7	430.4	436.7	439.8
62.5°	348.1	351.2	355.0	361.2	368.2	374.4	379.5	384.5	389.5	395.2	398.3
65°	311.0	314.1	317.9	322.3	328.0	333.6	338.7	343.6	347.4	351.2	354.3
67.5°	270.8	273.9	277.7	281.5	286.5	292.2	295.9	300.3	304.1	308.5	310.3
70°	233.1	235.6	239.4	242.5	246.9	250.7	253.8	257.6	260.1	263.9	267.0
72.5°	196.0	198.5	201.6	204.8	207.4	210.5	214.3	217.4	220.5	224.3	225.5
75°	160.2	161.4	163.9	166.5	169.0	171.5	173.4	175.9	178.4	180.9	182.8
77.5°	125.0	126.3	128.8	130.6	132.6	134.4	135.7	136.9	139.5	141.3	143.3
80°	91.7	92.9	94.9	96.7	98.7	100.5	100.5	100.5	103.6	106.2	106.8
82.5°	62.2	62.8	64.1	65.4	66.6	67.9	67.9	67.2	69.1	71.0	72.3
85°	35.8	36.4	37.7	37.7	38.4	38.4	38.4	38.4	39.6	41.5	42.7
87.5°	14.5	14.5	15.1	15.1	15.7	15.7	15.1	14.5	15.7	17.6	18.3
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-20-22L930-UNV-NP

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9	1069.9
2.5°	1072.5	1071.8	1073.7	1074.3	1075.6	1075.6	1076.3	1076.3	1075.0	1073.0	1073.7
5°	1073.0	1073.0	1075.0	1076.8	1079.4	1081.9	1079.9	1078.1	1076.8	1075.0	1074.3
7.5°	1069.9	1071.2	1073.0	1076.3	1079.4	1083.1	1080.6	1078.1	1075.0	1072.5	1071.2
10°	1062.4	1063.6	1066.8	1069.9	1073.0	1076.3	1073.7	1071.2	1068.7	1065.6	1064.3
12.5°	1052.9	1054.9	1058.6	1061.8	1064.9	1068.7	1065.6	1062.4	1059.3	1056.1	1054.2
15°	1039.1	1041.7	1046.0	1049.8	1054.2	1057.3	1054.9	1052.4	1048.6	1044.2	1041.0
17.5°	1021.6	1025.4	1029.7	1034.1	1037.9	1041.0	1039.1	1036.6	1032.3	1027.2	1023.4
20°	1002.0	1005.8	1009.6	1014.0	1018.4	1021.6	1019.0	1015.9	1011.5	1007.7	1004.0
22.5°	979.4	983.2	987.6	991.4	995.1	998.3	995.1	991.4	987.6	983.9	980.1
25°	953.7	957.5	962.5	966.3	968.7	971.3	968.7	965.6	961.8	958.1	954.4
27.5°	926.7	930.5	935.5	939.2	941.7	944.3	941.7	938.6	934.8	931.0	927.3
30°	896.6	900.3	905.3	909.1	910.9	912.9	910.4	907.8	904.7	900.9	897.1
32.5°	864.5	868.2	872.0	875.8	878.9	881.4	878.9	876.5	872.7	867.6	863.8
35°	830.5	834.3	838.7	842.5	846.3	849.4	845.7	841.2	838.1	835.0	831.8
37.5°	794.8	799.2	804.2	808.6	809.8	812.4	809.8	807.3	804.2	801.0	797.3
40°	759.5	763.3	767.7	772.1	774.0	775.9	773.4	770.9	767.1	764.0	760.2
42.5°	723.1	726.9	730.7	734.5	737.0	739.4	737.0	733.2	730.7	728.2	725.0
45°	685.4	689.2	692.3	696.1	698.0	699.9	697.4	694.3	691.7	689.8	686.7
47.5°	647.1	650.3	653.4	656.6	657.8	659.7	657.2	655.3	653.4	651.5	649.0
50°	606.9	610.0	613.8	616.9	617.6	619.5	616.9	615.1	613.2	611.3	609.4
52.5°	567.3	569.8	572.9	576.2	577.4	578.6	576.2	573.6	571.7	570.4	568.6
55°	525.8	528.4	531.5	534.0	535.9	537.2	534.7	532.2	530.2	529.6	527.8
57.5°	484.4	486.9	490.0	492.5	493.8	495.0	492.5	490.0	488.8	487.6	486.3
60°	442.3	444.8	447.4	449.2	450.5	451.1	448.6	446.7	446.1	445.4	444.2
62.5°	400.8	402.1	404.6	405.9	407.2	407.7	405.9	404.6	403.9	403.4	402.7
65°	357.5	360.6	362.5	363.7	363.7	364.4	362.5	361.9	361.2	360.6	359.4
67.5°	312.8	315.4	316.6	317.9	317.9	317.9	317.9	317.9	317.3	316.0	314.8
70°	270.1	272.0	273.3	273.9	273.9	273.9	272.6	272.0	272.6	272.6	272.0
72.5°	226.8	228.1	228.7	229.3	228.7	228.7	228.7	229.9	229.9	229.3	228.1
75°	184.7	186.0	186.6	187.3	186.6	186.6	186.6	187.8	187.3	187.3	186.6
77.5°	145.1	145.8	145.8	146.4	145.8	145.8	146.4	147.6	147.0	147.0	147.0
80°	107.4	107.4	107.4	108.1	107.4	107.4	108.1	109.3	108.7	108.7	108.7
82.5°	72.8	73.5	73.5	73.5	74.1	74.8	74.8	74.8	74.8	74.8	74.1
85°	43.3	44.0	43.3	43.3	43.3	43.3	44.0	44.6	44.6	44.6	44.6
87.5°	18.8	19.5	18.8	18.3	17.6	17.6	18.8	20.1	20.1	19.5	19.5
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-20-22L930-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1069.9	1069.9	1069.9	1069.9
2.5°	1076.3	1076.3	1070.5	1064.9
5°	1075.6	1074.3	1068.0	1061.1
7.5°	1071.8	1069.9	1061.8	1054.2
10°	1063.0	1060.5	1051.7	1042.3
12.5°	1052.4	1048.6	1038.5	1029.0
15°	1038.5	1034.1	1023.4	1012.7
17.5°	1020.3	1015.3	1004.6	993.3
20°	1000.8	995.1	983.2	971.3
22.5°	977.0	971.9	959.3	947.4
25°	951.2	945.5	933.0	920.4
27.5°	923.6	917.3	904.7	892.8
30°	893.4	887.1	874.5	862.6
32.5°	861.3	856.4	843.7	830.5
35°	828.7	822.4	809.8	797.3
37.5°	794.1	788.5	776.5	764.6
40°	757.7	752.0	739.4	727.6
42.5°	721.8	716.9	704.9	693.6
45°	683.6	678.5	667.3	657.2
47.5°	645.2	640.2	629.5	618.8
50°	606.3	601.2	591.2	581.8
52.5°	565.5	561.7	552.3	542.8
55°	524.6	520.2	510.8	502.6
57.5°	483.8	480.6	471.8	463.7
60°	441.6	437.9	430.9	424.0
62.5°	400.8	397.7	390.7	384.5
65°	357.5	355.0	349.3	343.6
67.5°	312.8	311.0	305.4	300.3
70°	270.1	267.0	262.6	258.3
72.5°	226.8	225.5	221.7	218.0
75°	185.3	184.1	180.3	177.2
77.5°	146.4	145.1	142.0	138.9
80°	108.1	107.4	104.9	102.4
82.5°	74.1	73.5	71.6	69.1
85°	44.6	43.3	41.5	39.6
87.5°	19.5	18.8	17.0	15.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)