

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-X-42L840-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-X-42L840-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/ Nature Pattern Lens
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

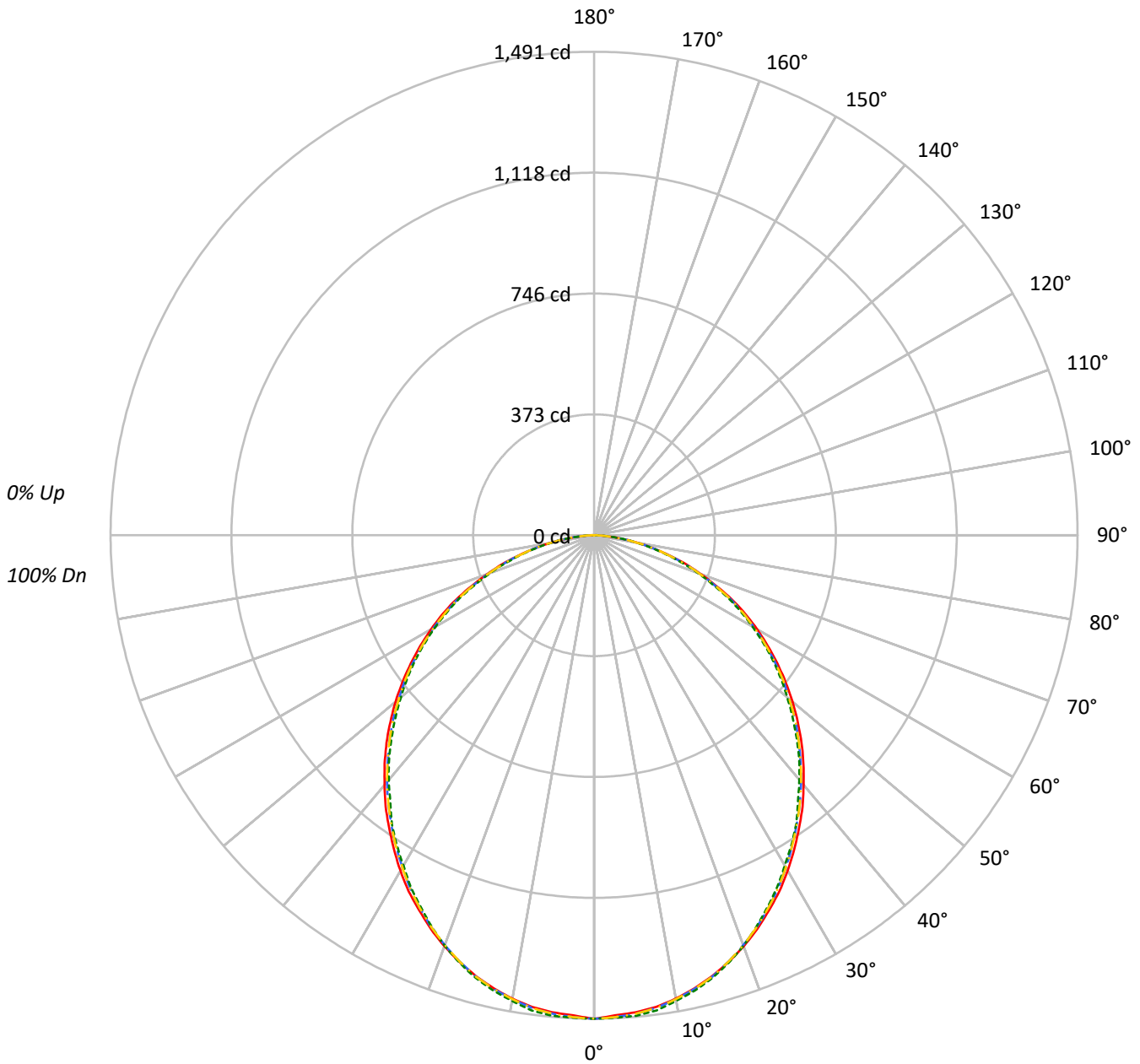
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3879.4 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.2
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	73	73	73	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	62	62	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	53	53	53	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	46	46	46	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	41	41	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	36	36	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	33	33	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	30	30	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	13757	13757	13757	13757
5°	13675	13776	13675	13776
10°	13594	13662	13594	13662
15°	13442	13495	13442	13495
20°	13246	13227	13246	13227
25°	12992	12882	12992	12882
30°	12725	12530	12725	12530
35°	12406	12242	12406	12242
40°	12104	11863	12104	11863
45°	11807	11521	11807	11521
50°	11473	11158	11473	11158
55°	11099	10835	11099	10835
60°	10717	10415	10717	10415
65°	10256	9937	10256	9937
70°	9479	9185	9479	9185
75°	8570	8309	8570	8309
80°	7353	7157	7353	7157
85°	5589	5589	5589	5589



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.7	3.6
10°-20°	397.4	10.2
20°-30°	585.8	15.1
30°-40°	683.8	17.6
40°-50°	689.4	17.8
50°-60°	609.3	15.7
60°-70°	455.7	11.7
70°-80°	252.6	6.5
80°-90°	64.8	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°	1123.9	29.0
0°-40°	1807.7	46.6
0°-60°	3106.5	80.1
0°-90°	3879.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3879.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1491	1491	1491	1491	1491	
5°	1476	1488	1476	1488	1476	140
15°	1407	1413	1407	1413	1407	397
25°	1276	1265	1276	1265	1276	588
35°	1102	1087	1102	1087	1102	690
45°	905	883	905	883	905	698
55°	690	674	690	674	690	617
65°	470	455	470	455	470	463
75°	240	233	240	233	240	256
85°	53	53	53	53	53	64
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°	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1
2.5°	1482.0	1489.3	1496.6	1494.7	1489.3	1485.6	1487.5	1487.5	1489.3	1489.3	1489.3
5°	1476.5	1483.8	1489.3	1487.5	1482.0	1480.2	1480.2	1480.2	1483.8	1487.5	1483.8
7.5°	1467.5	1472.9	1478.3	1476.5	1471.1	1469.3	1469.3	1471.1	1474.7	1478.3	1474.7
10°	1451.0	1458.3	1463.8	1460.2	1454.7	1451.0	1451.0	1451.0	1454.7	1458.3	1454.7
12.5°	1431.0	1436.5	1441.9	1440.2	1434.6	1431.0	1431.0	1431.0	1434.6	1438.3	1434.6
15°	1407.3	1412.8	1418.3	1416.5	1411.0	1407.3	1407.3	1407.3	1411.0	1412.8	1411.0
17.5°	1380.0	1385.5	1390.9	1387.3	1380.0	1376.4	1376.4	1376.4	1380.0	1381.9	1380.0
20°	1349.1	1354.5	1358.2	1354.5	1347.2	1343.6	1341.8	1341.8	1345.5	1347.2	1345.5
22.5°	1314.5	1318.2	1321.8	1318.2	1310.9	1307.2	1305.4	1303.6	1305.4	1307.2	1305.4
25°	1276.2	1279.9	1283.5	1279.9	1272.6	1267.2	1265.4	1263.5	1265.4	1265.4	1265.4
27.5°	1238.1	1239.8	1243.5	1238.1	1230.8	1225.2	1223.5	1221.7	1223.5	1223.5	1223.5
30°	1194.4	1196.2	1199.8	1194.4	1185.2	1179.8	1177.9	1176.1	1176.1	1176.1	1176.1
32.5°	1148.8	1152.5	1156.1	1148.8	1139.7	1134.2	1132.4	1130.6	1132.4	1132.4	1132.4
35°	1101.5	1103.3	1107.0	1101.5	1092.4	1086.9	1083.3	1081.4	1085.1	1086.9	1085.1
37.5°	1056.0	1057.8	1059.7	1054.1	1045.1	1039.6	1036.0	1034.1	1032.3	1032.3	1032.3
40°	1005.0	1006.8	1010.4	1005.0	995.9	990.4	986.8	985.0	985.0	985.0	985.0
42.5°	955.8	957.7	959.4	954.0	944.9	939.4	935.8	934.0	935.8	935.8	935.8
45°	904.9	904.9	906.7	901.3	894.0	888.4	884.8	883.0	883.0	883.0	883.0
47.5°	852.0	853.9	855.7	850.3	843.0	837.5	833.9	830.2	830.2	830.2	830.2
50°	799.3	799.3	801.1	795.6	788.3	782.9	781.0	779.3	777.4	777.4	777.4
52.5°	744.6	746.5	748.3	742.9	737.3	731.9	728.3	726.4	726.4	726.4	726.4
55°	690.0	690.0	691.9	688.2	682.7	677.3	673.6	671.8	673.6	673.6	673.6
57.5°	635.4	637.2	639.0	633.6	628.2	622.6	620.9	619.0	619.0	619.0	619.0
60°	580.8	580.8	582.6	578.9	573.5	568.0	566.2	564.4	564.4	564.4	564.4
62.5°	526.2	526.2	528.0	524.3	518.9	513.5	511.6	509.8	509.8	509.8	509.8
65°	469.8	469.8	469.8	466.1	462.5	460.6	458.8	456.9	455.2	455.2	455.2
67.5°	407.8	407.8	409.6	406.0	402.4	400.5	398.8	396.9	395.1	395.1	395.1
70°	351.4	351.4	353.2	351.4	347.8	345.9	344.1	342.2	340.5	340.5	340.5
72.5°	296.8	296.8	296.8	294.9	293.1	291.3	289.5	287.7	285.8	285.8	285.8
75°	240.4	240.4	242.1	240.4	238.5	236.7	234.8	234.8	233.1	233.1	233.1
77.5°	187.5	189.4	191.1	189.4	187.5	185.7	183.8	183.8	182.1	182.1	182.1
80°	138.4	140.1	142.0	140.1	138.4	136.5	134.7	134.7	134.7	134.7	134.7
82.5°	92.8	94.7	96.5	94.7	92.8	92.8	91.0	91.0	91.0	91.0	91.0
85°	52.8	54.6	56.4	56.4	54.6	54.6	52.8	52.8	52.8	52.8	52.8
87.5°	20.0	21.9	23.7	23.7	21.9	21.9	21.9	21.9	21.9	21.9	21.9
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°	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1
2.5°	1487.5	1487.5	1485.6	1489.3	1494.7	1496.6	1489.3	1482.0	1489.3	1496.6	1494.7
5°	1480.2	1480.2	1480.2	1482.0	1487.5	1489.3	1483.8	1476.5	1483.8	1489.3	1487.5
7.5°	1471.1	1469.3	1469.3	1471.1	1476.5	1478.3	1472.9	1467.5	1472.9	1478.3	1476.5
10°	1451.0	1451.0	1451.0	1454.7	1460.2	1463.8	1458.3	1451.0	1458.3	1463.8	1460.2
12.5°	1431.0	1431.0	1431.0	1434.6	1440.2	1441.9	1436.5	1431.0	1436.5	1441.9	1440.2
15°	1407.3	1407.3	1407.3	1411.0	1416.5	1418.3	1412.8	1407.3	1412.8	1418.3	1416.5
17.5°	1376.4	1376.4	1376.4	1380.0	1387.3	1390.9	1385.5	1380.0	1385.5	1390.9	1387.3
20°	1341.8	1341.8	1343.6	1347.2	1354.5	1358.2	1354.5	1349.1	1354.5	1358.2	1354.5
22.5°	1303.6	1305.4	1307.2	1310.9	1318.2	1321.8	1318.2	1314.5	1318.2	1321.8	1318.2
25°	1263.5	1265.4	1267.2	1272.6	1279.9	1283.5	1279.9	1276.2	1279.9	1283.5	1279.9
27.5°	1221.7	1223.5	1225.2	1230.8	1238.1	1243.5	1239.8	1238.1	1239.8	1243.5	1238.1
30°	1176.1	1177.9	1179.8	1185.2	1194.4	1199.8	1196.2	1194.4	1196.2	1199.8	1194.4
32.5°	1130.6	1132.4	1134.2	1139.7	1148.8	1156.1	1152.5	1148.8	1152.5	1156.1	1148.8
35°	1081.4	1083.3	1086.9	1092.4	1101.5	1107.0	1103.3	1101.5	1103.3	1107.0	1101.5
37.5°	1034.1	1036.0	1039.6	1045.1	1054.1	1059.7	1057.8	1056.0	1057.8	1059.7	1054.1
40°	985.0	986.8	990.4	995.9	1005.0	1010.4	1006.8	1005.0	1006.8	1010.4	1005.0
42.5°	934.0	935.8	939.4	944.9	954.0	959.4	957.7	955.8	957.7	959.4	954.0
45°	883.0	884.8	888.4	894.0	901.3	906.7	904.9	904.9	904.9	906.7	901.3
47.5°	830.2	833.9	837.5	843.0	850.3	855.7	853.9	852.0	853.9	855.7	850.3
50°	779.3	781.0	782.9	788.3	795.6	801.1	799.3	799.3	799.3	801.1	795.6
52.5°	726.4	728.3	731.9	737.3	742.9	748.3	746.5	744.6	746.5	748.3	742.9
55°	671.8	673.6	677.3	682.7	688.2	691.9	690.0	690.0	690.0	691.9	688.2
57.5°	619.0	620.9	622.6	628.2	633.6	639.0	637.2	635.4	637.2	639.0	633.6
60°	564.4	566.2	568.0	573.5	578.9	582.6	580.8	580.8	580.8	582.6	578.9
62.5°	509.8	511.6	513.5	518.9	524.3	528.0	526.2	526.2	526.2	528.0	524.3
65°	456.9	458.8	460.6	462.5	466.1	469.8	469.8	469.8	469.8	469.8	466.1
67.5°	396.9	398.8	400.5	402.4	406.0	409.6	407.8	407.8	407.8	409.6	406.0
70°	342.2	344.1	345.9	347.8	351.4	353.2	351.4	351.4	351.4	353.2	351.4
72.5°	287.7	289.5	291.3	293.1	294.9	296.8	296.8	296.8	296.8	296.8	294.9
75°	234.8	234.8	236.7	238.5	240.4	242.1	240.4	240.4	240.4	242.1	240.4
77.5°	183.8	183.8	185.7	187.5	189.4	191.1	189.4	187.5	189.4	191.1	189.4
80°	134.7	134.7	136.5	138.4	140.1	142.0	140.1	138.4	140.1	142.0	140.1
82.5°	91.0	91.0	92.8	92.8	94.7	96.5	94.7	92.8	94.7	96.5	94.7
85°	52.8	52.8	54.6	54.6	56.4	56.4	54.6	52.8	54.6	56.4	56.4
87.5°	21.9	21.9	21.9	21.9	23.7	23.7	21.9	20.0	21.9	23.7	23.7
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°	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1	1491.1
2.5°	1489.3	1485.6	1487.5	1487.5	1489.3	1489.3	1489.3	1487.5	1487.5	1485.6	1489.3
5°	1482.0	1480.2	1480.2	1480.2	1483.8	1487.5	1483.8	1480.2	1480.2	1480.2	1482.0
7.5°	1471.1	1469.3	1469.3	1471.1	1474.7	1478.3	1474.7	1471.1	1469.3	1469.3	1471.1
10°	1454.7	1451.0	1451.0	1451.0	1454.7	1458.3	1454.7	1451.0	1451.0	1451.0	1454.7
12.5°	1434.6	1431.0	1431.0	1431.0	1434.6	1438.3	1434.6	1431.0	1431.0	1431.0	1434.6
15°	1411.0	1407.3	1407.3	1407.3	1411.0	1412.8	1411.0	1407.3	1407.3	1407.3	1411.0
17.5°	1380.0	1376.4	1376.4	1376.4	1380.0	1381.9	1380.0	1376.4	1376.4	1376.4	1380.0
20°	1347.2	1343.6	1341.8	1341.8	1345.5	1347.2	1345.5	1341.8	1341.8	1343.6	1347.2
22.5°	1310.9	1307.2	1305.4	1303.6	1305.4	1307.2	1305.4	1303.6	1305.4	1307.2	1310.9
25°	1272.6	1267.2	1265.4	1263.5	1265.4	1265.4	1265.4	1263.5	1265.4	1267.2	1272.6
27.5°	1230.8	1225.2	1223.5	1221.7	1223.5	1223.5	1223.5	1221.7	1223.5	1225.2	1230.8
30°	1185.2	1179.8	1177.9	1176.1	1176.1	1176.1	1176.1	1176.1	1177.9	1179.8	1185.2
32.5°	1139.7	1134.2	1132.4	1130.6	1132.4	1132.4	1132.4	1130.6	1132.4	1134.2	1139.7
35°	1092.4	1086.9	1083.3	1081.4	1085.1	1086.9	1085.1	1081.4	1083.3	1086.9	1092.4
37.5°	1045.1	1039.6	1036.0	1034.1	1032.3	1032.3	1032.3	1034.1	1036.0	1039.6	1045.1
40°	995.9	990.4	986.8	985.0	985.0	985.0	985.0	985.0	986.8	990.4	995.9
42.5°	944.9	939.4	935.8	934.0	935.8	935.8	935.8	934.0	935.8	939.4	944.9
45°	894.0	888.4	884.8	883.0	883.0	883.0	883.0	883.0	884.8	888.4	894.0
47.5°	843.0	837.5	833.9	830.2	830.2	830.2	830.2	830.2	833.9	837.5	843.0
50°	788.3	782.9	781.0	779.3	777.4	777.4	777.4	779.3	781.0	782.9	788.3
52.5°	737.3	731.9	728.3	726.4	726.4	726.4	726.4	726.4	728.3	731.9	737.3
55°	682.7	677.3	673.6	671.8	673.6	673.6	673.6	671.8	673.6	677.3	682.7
57.5°	628.2	622.6	620.9	619.0	619.0	619.0	619.0	619.0	620.9	622.6	628.2
60°	573.5	568.0	566.2	564.4	564.4	564.4	564.4	564.4	566.2	568.0	573.5
62.5°	518.9	513.5	511.6	509.8	509.8	509.8	509.8	509.8	511.6	513.5	518.9
65°	462.5	460.6	458.8	456.9	455.2	455.2	455.2	456.9	458.8	460.6	462.5
67.5°	402.4	400.5	398.8	396.9	395.1	395.1	395.1	396.9	398.8	400.5	402.4
70°	347.8	345.9	344.1	342.2	340.5	340.5	340.5	342.2	344.1	345.9	347.8
72.5°	293.1	291.3	289.5	287.7	285.8	285.8	285.8	287.7	289.5	291.3	293.1
75°	238.5	236.7	234.8	234.8	233.1	233.1	233.1	234.8	234.8	236.7	238.5
77.5°	187.5	185.7	183.8	183.8	182.1	182.1	182.1	183.8	183.8	185.7	187.5
80°	138.4	136.5	134.7	134.7	134.7	134.7	134.7	134.7	134.7	136.5	138.4
82.5°	92.8	92.8	91.0	91.0	91.0	91.0	91.0	91.0	91.0	92.8	92.8
85°	54.6	54.6	52.8	52.8	52.8	52.8	52.8	52.8	52.8	54.6	54.6
87.5°	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
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: P
 CATALOG NUMBER: 4APN-X-42L840-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1491.1	1491.1	1491.1	1491.1
2.5°	1494.7	1496.6	1489.3	1482.0
5°	1487.5	1489.3	1483.8	1476.5
7.5°	1476.5	1478.3	1472.9	1467.5
10°	1460.2	1463.8	1458.3	1451.0
12.5°	1440.2	1441.9	1436.5	1431.0
15°	1416.5	1418.3	1412.8	1407.3
17.5°	1387.3	1390.9	1385.5	1380.0
20°	1354.5	1358.2	1354.5	1349.1
22.5°	1318.2	1321.8	1318.2	1314.5
25°	1279.9	1283.5	1279.9	1276.2
27.5°	1238.1	1243.5	1239.8	1238.1
30°	1194.4	1199.8	1196.2	1194.4
32.5°	1148.8	1156.1	1152.5	1148.8
35°	1101.5	1107.0	1103.3	1101.5
37.5°	1054.1	1059.7	1057.8	1056.0
40°	1005.0	1010.4	1006.8	1005.0
42.5°	954.0	959.4	957.7	955.8
45°	901.3	906.7	904.9	904.9
47.5°	850.3	855.7	853.9	852.0
50°	795.6	801.1	799.3	799.3
52.5°	742.9	748.3	746.5	744.6
55°	688.2	691.9	690.0	690.0
57.5°	633.6	639.0	637.2	635.4
60°	578.9	582.6	580.8	580.8
62.5°	524.3	528.0	526.2	526.2
65°	466.1	469.8	469.8	469.8
67.5°	406.0	409.6	407.8	407.8
70°	351.4	353.2	351.4	351.4
72.5°	294.9	296.8	296.8	296.8
75°	240.4	242.1	240.4	240.4
77.5°	189.4	191.1	189.4	187.5
80°	140.1	142.0	140.1	138.4
82.5°	94.7	96.5	94.7	92.8
85°	56.4	56.4	54.6	52.8
87.5°	23.7	23.7	21.9	20.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)