

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-42L850-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-42L850-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/ Nature Pattern Lens
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

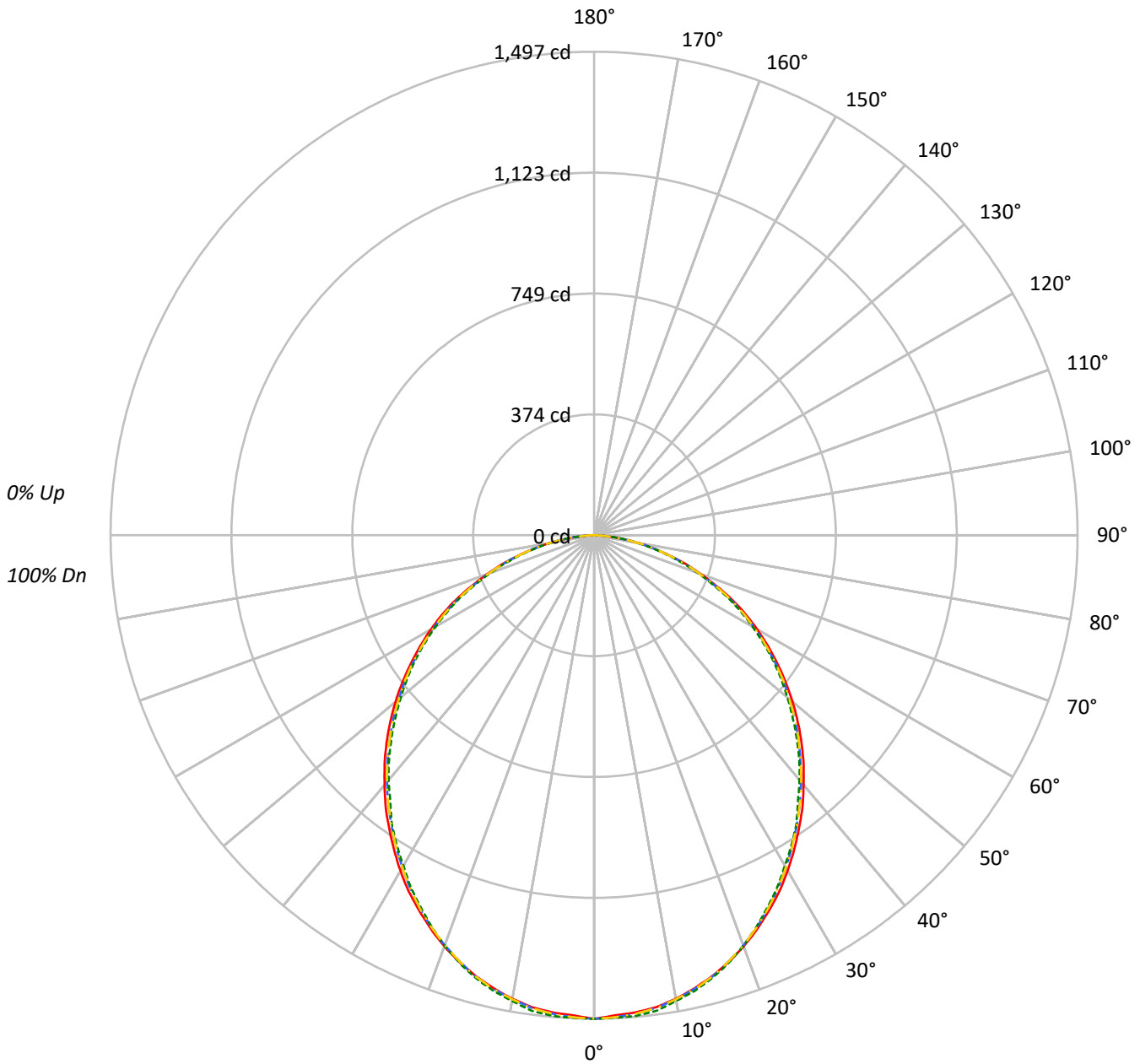
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3895.7 lumens
Efficiency: N/A
Efficacy: 84.3 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 (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	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°	13814	13814	13814	13814
5°	13733	13834	13733	13834
10°	13651	13719	13651	13719
15°	13498	13552	13498	13552
20°	13302	13283	13302	13283
25°	13048	12936	13048	12936
30°	12777	12583	12777	12583
35°	12458	12294	12458	12294
40°	12155	11913	12155	11913
45°	11855	11570	11855	11570
50°	11520	11206	11520	11206
55°	11146	10882	11146	10882
60°	10763	10459	10763	10459
65°	10298	9977	10298	9977
70°	9517	9223	9517	9223
75°	8602	8341	8602	8341
80°	7380	7189	7380	7189
85°	5611	5611	5611	5611



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.3	3.6
10°-20°	399.1	10.2
20°-30°	588.2	15.1
30°-40°	686.7	17.6
40°-50°	692.3	17.8
50°-60°	611.9	15.7
60°-70°	457.6	11.7
70°-80°	253.6	6.5
80°-90°	65.0	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°	1128.6	29.0
0°-40°	1815.3	46.6
0°-60°	3119.5	80.1
0°-90°	3895.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3895.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1497	1497	1497	1497	1497	
5°	1483	1494	1483	1494	1483	141
15°	1413	1419	1413	1419	1413	398
25°	1282	1271	1282	1271	1282	591
35°	1106	1092	1106	1092	1106	693
45°	909	887	909	887	909	701
55°	693	676	693	676	693	620
65°	472	457	472	457	472	464
75°	241	234	241	234	241	257
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°	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3
2.5°	1488.2	1495.6	1502.9	1501.0	1495.6	1491.9	1493.7	1493.7	1495.6	1495.6	1495.6
5°	1482.8	1490.0	1495.6	1493.7	1488.2	1486.4	1486.4	1486.4	1490.0	1493.7	1490.0
7.5°	1473.6	1479.1	1484.6	1482.8	1477.2	1475.4	1475.4	1477.2	1480.9	1484.6	1480.9
10°	1457.1	1464.4	1469.9	1466.3	1460.8	1457.1	1457.1	1457.1	1460.8	1464.4	1460.8
12.5°	1437.0	1442.6	1448.0	1446.2	1440.7	1437.0	1437.0	1437.0	1440.7	1444.3	1440.7
15°	1413.2	1418.8	1424.2	1422.4	1416.9	1413.2	1413.2	1413.2	1416.9	1418.8	1416.9
17.5°	1385.9	1391.3	1396.8	1393.1	1385.9	1382.2	1382.2	1382.2	1385.9	1387.7	1385.9
20°	1354.8	1360.2	1363.9	1360.2	1352.9	1349.3	1347.4	1347.4	1351.1	1352.9	1351.1
22.5°	1320.0	1323.7	1327.3	1323.7	1316.3	1312.7	1310.9	1309.1	1310.9	1312.7	1310.9
25°	1281.7	1285.3	1289.0	1285.3	1278.0	1272.5	1270.7	1268.9	1270.7	1270.7	1270.7
27.5°	1243.2	1245.1	1248.8	1243.2	1235.9	1230.4	1228.6	1226.8	1228.6	1228.6	1228.6
30°	1199.3	1201.2	1204.9	1199.3	1190.2	1184.8	1182.9	1181.1	1181.1	1181.1	1181.1
32.5°	1153.6	1157.3	1161.0	1153.6	1144.5	1139.0	1137.2	1135.4	1137.2	1137.2	1137.2
35°	1106.1	1108.0	1111.6	1106.1	1097.0	1091.5	1087.9	1086.0	1089.6	1091.5	1089.6
37.5°	1060.4	1062.2	1064.1	1058.5	1049.4	1044.0	1040.3	1038.4	1036.6	1036.6	1036.6
40°	1009.2	1011.1	1014.7	1009.2	1000.1	994.6	991.0	989.1	989.1	989.1	989.1
42.5°	959.9	961.6	963.5	958.1	948.9	943.4	939.7	938.0	939.7	939.7	939.7
45°	908.6	908.6	910.5	905.0	897.7	892.2	888.5	886.7	886.7	886.7	886.7
47.5°	855.6	857.5	859.3	853.8	846.5	841.0	837.4	833.7	833.7	833.7	833.7
50°	802.6	802.6	804.4	799.0	791.6	786.2	784.3	782.5	780.7	780.7	780.7
52.5°	747.7	749.6	751.4	745.9	740.5	734.9	731.3	729.5	729.5	729.5	729.5
55°	692.9	692.9	694.7	691.1	685.6	680.2	676.5	674.6	676.5	676.5	676.5
57.5°	638.1	639.9	641.7	636.3	630.7	625.3	623.5	621.6	621.6	621.6	621.6
60°	583.3	583.3	585.0	581.4	575.9	570.4	568.6	566.8	566.8	566.8	566.8
62.5°	528.4	528.4	530.2	526.6	521.0	515.6	513.7	511.9	511.9	511.9	511.9
65°	471.7	471.7	471.7	468.0	464.4	462.6	460.7	458.9	457.0	457.0	457.0
67.5°	409.6	409.6	411.4	407.7	404.0	402.2	400.4	398.6	396.7	396.7	396.7
70°	352.8	352.8	354.7	352.8	349.2	347.4	345.6	343.7	341.9	341.9	341.9
72.5°	298.0	298.0	298.0	296.1	294.4	292.6	290.7	288.9	287.0	287.0	287.0
75°	241.3	241.3	243.1	241.3	239.5	237.7	235.8	235.8	234.0	234.0	234.0
77.5°	188.3	190.1	192.0	190.1	188.3	186.5	184.7	184.7	182.8	182.8	182.8
80°	138.9	140.8	142.6	140.8	138.9	137.1	135.3	135.3	135.3	135.3	135.3
82.5°	93.2	95.1	96.9	95.1	93.2	93.2	91.4	91.4	91.4	91.4	91.4
85°	53.0	54.9	56.7	56.7	54.9	54.9	53.0	53.0	53.0	53.0	53.0
87.5°	20.1	21.9	23.8	23.8	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°	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3
2.5°	1493.7	1493.7	1491.9	1495.6	1501.0	1502.9	1495.6	1488.2	1495.6	1502.9	1501.0
5°	1486.4	1486.4	1486.4	1488.2	1493.7	1495.6	1490.0	1482.8	1490.0	1495.6	1493.7
7.5°	1477.2	1475.4	1475.4	1477.2	1482.8	1484.6	1479.1	1473.6	1479.1	1484.6	1482.8
10°	1457.1	1457.1	1457.1	1460.8	1466.3	1469.9	1464.4	1457.1	1464.4	1469.9	1466.3
12.5°	1437.0	1437.0	1437.0	1440.7	1446.2	1448.0	1442.6	1437.0	1442.6	1448.0	1446.2
15°	1413.2	1413.2	1413.2	1416.9	1422.4	1424.2	1418.8	1413.2	1418.8	1424.2	1422.4
17.5°	1382.2	1382.2	1382.2	1385.9	1393.1	1396.8	1391.3	1385.9	1391.3	1396.8	1393.1
20°	1347.4	1347.4	1349.3	1352.9	1360.2	1363.9	1360.2	1354.8	1360.2	1363.9	1360.2
22.5°	1309.1	1310.9	1312.7	1316.3	1323.7	1327.3	1323.7	1320.0	1323.7	1327.3	1323.7
25°	1268.9	1270.7	1272.5	1278.0	1285.3	1289.0	1285.3	1281.7	1285.3	1289.0	1285.3
27.5°	1226.8	1228.6	1230.4	1235.9	1243.2	1248.8	1245.1	1243.2	1245.1	1248.8	1243.2
30°	1181.1	1182.9	1184.8	1190.2	1199.3	1204.9	1201.2	1199.3	1201.2	1204.9	1199.3
32.5°	1135.4	1137.2	1139.0	1144.5	1153.6	1161.0	1157.3	1153.6	1157.3	1161.0	1153.6
35°	1086.0	1087.9	1091.5	1097.0	1106.1	1111.6	1108.0	1106.1	1108.0	1111.6	1106.1
37.5°	1038.4	1040.3	1044.0	1049.4	1058.5	1064.1	1062.2	1060.4	1062.2	1064.1	1058.5
40°	989.1	991.0	994.6	1000.1	1009.2	1014.7	1011.1	1009.2	1011.1	1014.7	1009.2
42.5°	938.0	939.7	943.4	948.9	958.1	963.5	961.6	959.9	961.6	963.5	958.1
45°	886.7	888.5	892.2	897.7	905.0	910.5	908.6	908.6	908.6	910.5	905.0
47.5°	833.7	837.4	841.0	846.5	853.8	859.3	857.5	855.6	857.5	859.3	853.8
50°	782.5	784.3	786.2	791.6	799.0	804.4	802.6	802.6	802.6	804.4	799.0
52.5°	729.5	731.3	734.9	740.5	745.9	751.4	749.6	747.7	749.6	751.4	745.9
55°	674.6	676.5	680.2	685.6	691.1	694.7	692.9	692.9	692.9	694.7	691.1
57.5°	621.6	623.5	625.3	630.7	636.3	641.7	639.9	638.1	639.9	641.7	636.3
60°	566.8	568.6	570.4	575.9	581.4	585.0	583.3	583.3	583.3	585.0	581.4
62.5°	511.9	513.7	515.6	521.0	526.6	530.2	528.4	528.4	528.4	530.2	526.6
65°	458.9	460.7	462.6	464.4	468.0	471.7	471.7	471.7	471.7	471.7	468.0
67.5°	398.6	400.4	402.2	404.0	407.7	411.4	409.6	409.6	409.6	411.4	407.7
70°	343.7	345.6	347.4	349.2	352.8	354.7	352.8	352.8	352.8	354.7	352.8
72.5°	288.9	290.7	292.6	294.4	296.1	298.0	298.0	298.0	298.0	298.0	296.1
75°	235.8	235.8	237.7	239.5	241.3	243.1	241.3	241.3	241.3	243.1	241.3
77.5°	184.7	184.7	186.5	188.3	190.1	192.0	190.1	188.3	190.1	192.0	190.1
80°	135.3	135.3	137.1	138.9	140.8	142.6	140.8	138.9	140.8	142.6	140.8
82.5°	91.4	91.4	93.2	93.2	95.1	96.9	95.1	93.2	95.1	96.9	95.1
85°	53.0	53.0	54.9	54.9	56.7	56.7	54.9	53.0	54.9	56.7	56.7
87.5°	21.9	21.9	21.9	21.9	23.8	23.8	21.9	20.1	21.9	23.8	23.8
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3	1497.3
2.5°	1495.6	1491.9	1493.7	1493.7	1495.6	1495.6	1495.6	1493.7	1493.7	1491.9	1495.6
5°	1488.2	1486.4	1486.4	1486.4	1490.0	1493.7	1490.0	1486.4	1486.4	1486.4	1488.2
7.5°	1477.2	1475.4	1475.4	1477.2	1480.9	1484.6	1480.9	1477.2	1475.4	1475.4	1477.2
10°	1460.8	1457.1	1457.1	1457.1	1460.8	1464.4	1460.8	1457.1	1457.1	1457.1	1460.8
12.5°	1440.7	1437.0	1437.0	1437.0	1440.7	1444.3	1440.7	1437.0	1437.0	1437.0	1440.7
15°	1416.9	1413.2	1413.2	1413.2	1416.9	1418.8	1416.9	1413.2	1413.2	1413.2	1416.9
17.5°	1385.9	1382.2	1382.2	1382.2	1385.9	1387.7	1385.9	1382.2	1382.2	1382.2	1385.9
20°	1352.9	1349.3	1347.4	1347.4	1351.1	1352.9	1351.1	1347.4	1347.4	1349.3	1352.9
22.5°	1316.3	1312.7	1310.9	1309.1	1310.9	1312.7	1310.9	1309.1	1310.9	1312.7	1316.3
25°	1278.0	1272.5	1270.7	1268.9	1270.7	1270.7	1270.7	1268.9	1270.7	1272.5	1278.0
27.5°	1235.9	1230.4	1228.6	1226.8	1228.6	1228.6	1228.6	1226.8	1228.6	1230.4	1235.9
30°	1190.2	1184.8	1182.9	1181.1	1181.1	1181.1	1181.1	1181.1	1182.9	1184.8	1190.2
32.5°	1144.5	1139.0	1137.2	1135.4	1137.2	1137.2	1137.2	1135.4	1137.2	1139.0	1144.5
35°	1097.0	1091.5	1087.9	1086.0	1089.6	1091.5	1089.6	1086.0	1087.9	1091.5	1097.0
37.5°	1049.4	1044.0	1040.3	1038.4	1036.6	1036.6	1036.6	1038.4	1040.3	1044.0	1049.4
40°	1000.1	994.6	991.0	989.1	989.1	989.1	989.1	989.1	991.0	994.6	1000.1
42.5°	948.9	943.4	939.7	938.0	939.7	939.7	939.7	938.0	939.7	943.4	948.9
45°	897.7	892.2	888.5	886.7	886.7	886.7	886.7	886.7	888.5	892.2	897.7
47.5°	846.5	841.0	837.4	833.7	833.7	833.7	833.7	833.7	837.4	841.0	846.5
50°	791.6	786.2	784.3	782.5	780.7	780.7	780.7	782.5	784.3	786.2	791.6
52.5°	740.5	734.9	731.3	729.5	729.5	729.5	729.5	729.5	731.3	734.9	740.5
55°	685.6	680.2	676.5	674.6	676.5	676.5	676.5	674.6	676.5	680.2	685.6
57.5°	630.7	625.3	623.5	621.6	621.6	621.6	621.6	621.6	623.5	625.3	630.7
60°	575.9	570.4	568.6	566.8	566.8	566.8	566.8	566.8	568.6	570.4	575.9
62.5°	521.0	515.6	513.7	511.9	511.9	511.9	511.9	511.9	513.7	515.6	521.0
65°	464.4	462.6	460.7	458.9	457.0	457.0	457.0	458.9	460.7	462.6	464.4
67.5°	404.0	402.2	400.4	398.6	396.7	396.7	396.7	398.6	400.4	402.2	404.0
70°	349.2	347.4	345.6	343.7	341.9	341.9	341.9	343.7	345.6	347.4	349.2
72.5°	294.4	292.6	290.7	288.9	287.0	287.0	287.0	288.9	290.7	292.6	294.4
75°	239.5	237.7	235.8	235.8	234.0	234.0	234.0	235.8	235.8	237.7	239.5
77.5°	188.3	186.5	184.7	184.7	182.8	182.8	182.8	184.7	184.7	186.5	188.3
80°	138.9	137.1	135.3	135.3	135.3	135.3	135.3	135.3	135.3	137.1	138.9
82.5°	93.2	93.2	91.4	91.4	91.4	91.4	91.4	91.4	91.4	93.2	93.2
85°	54.9	54.9	53.0	53.0	53.0	53.0	53.0	53.0	53.0	54.9	54.9
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-42L850-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1497.3	1497.3	1497.3	1497.3
2.5°	1501.0	1502.9	1495.6	1488.2
5°	1493.7	1495.6	1490.0	1482.8
7.5°	1482.8	1484.6	1479.1	1473.6
10°	1466.3	1469.9	1464.4	1457.1
12.5°	1446.2	1448.0	1442.6	1437.0
15°	1422.4	1424.2	1418.8	1413.2
17.5°	1393.1	1396.8	1391.3	1385.9
20°	1360.2	1363.9	1360.2	1354.8
22.5°	1323.7	1327.3	1323.7	1320.0
25°	1285.3	1289.0	1285.3	1281.7
27.5°	1243.2	1248.8	1245.1	1243.2
30°	1199.3	1204.9	1201.2	1199.3
32.5°	1153.6	1161.0	1157.3	1153.6
35°	1106.1	1111.6	1108.0	1106.1
37.5°	1058.5	1064.1	1062.2	1060.4
40°	1009.2	1014.7	1011.1	1009.2
42.5°	958.1	963.5	961.6	959.9
45°	905.0	910.5	908.6	908.6
47.5°	853.8	859.3	857.5	855.6
50°	799.0	804.4	802.6	802.6
52.5°	745.9	751.4	749.6	747.7
55°	691.1	694.7	692.9	692.9
57.5°	636.3	641.7	639.9	638.1
60°	581.4	585.0	583.3	583.3
62.5°	526.6	530.2	528.4	528.4
65°	468.0	471.7	471.7	471.7
67.5°	407.7	411.4	409.6	409.6
70°	352.8	354.7	352.8	352.8
72.5°	296.1	298.0	298.0	298.0
75°	241.3	243.1	241.3	241.3
77.5°	190.1	192.0	190.1	188.3
80°	140.8	142.6	140.8	138.9
82.5°	95.1	96.9	95.1	93.2
85°	56.7	56.7	54.9	53.0
87.5°	23.8	23.8	21.9	20.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)