

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-30L830-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-30L830-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/ Nature Pattern Lens
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

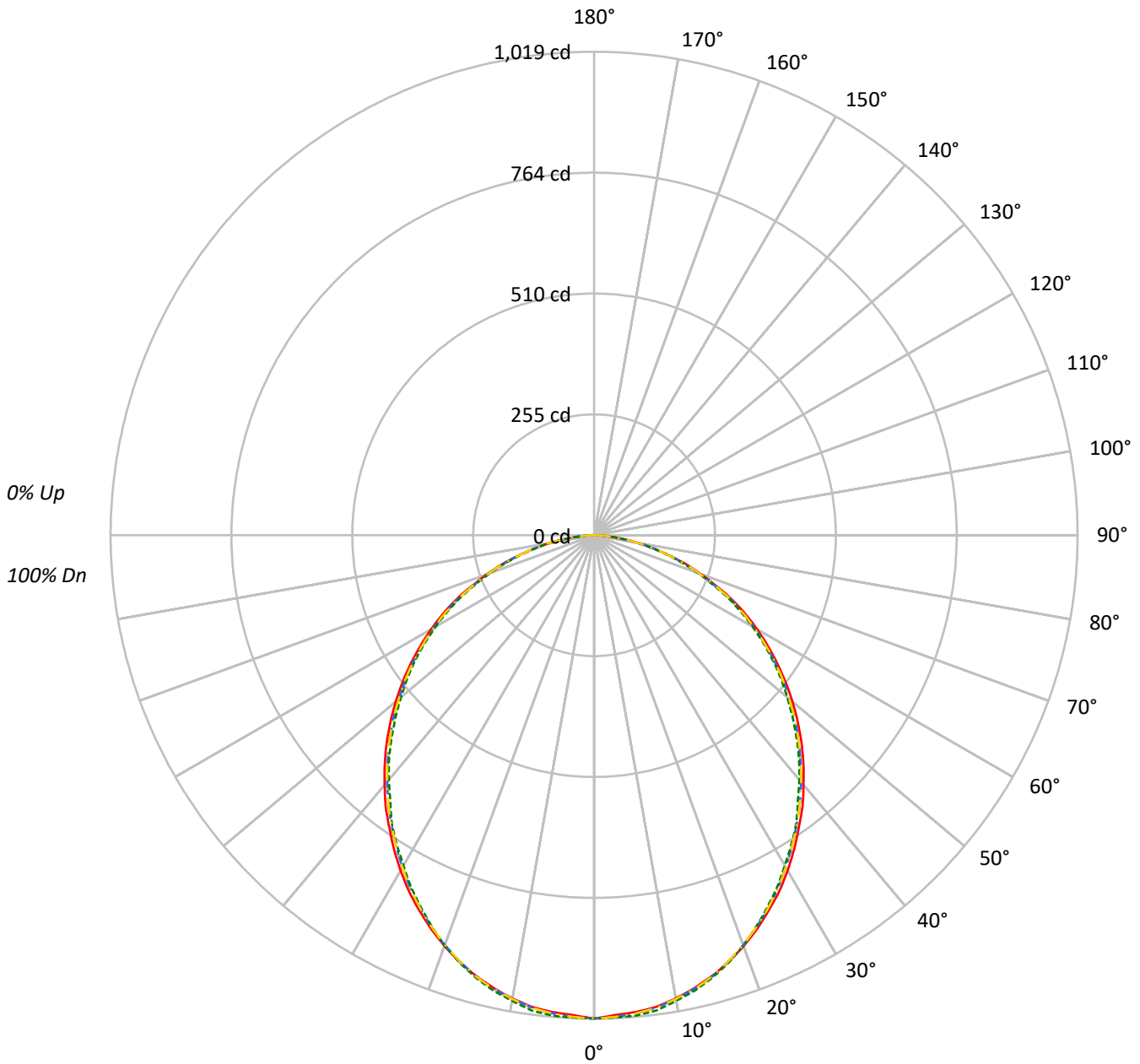
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2650.3 lumens
Efficiency: N/A
Efficacy: 81.5 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): 32.5
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				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°	9398	9398	9398	9398
5°	9342	9411	9342	9411
10°	9287	9334	9287	9334
15°	9184	9218	9184	9218
20°	9049	9037	9049	9037
25°	8876	8801	8876	8801
30°	8692	8560	8692	8560
35°	8474	8364	8474	8364
40°	8269	8104	8269	8104
45°	8066	7872	8066	7872
50°	7837	7623	7837	7623
55°	7583	7402	7583	7402
60°	7320	7115	7320	7115
65°	7006	6789	7006	6789
70°	6477	6275	6477	6275
75°	5853	5675	5853	5675
80°	5021	4888	5021	4888
85°	3822	3822	3822	3822



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.1	3.6
10°-20°	271.5	10.2
20°-30°	400.2	15.1
30°-40°	467.2	17.6
40°-50°	471.0	17.8
50°-60°	416.3	15.7
60°-70°	311.3	11.7
70°-80°	172.5	6.5
80°-90°	44.2	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°	767.8	29.0
0°-40°	1235.0	46.6
0°-60°	2122.2	80.1
0°-90°	2650.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2650.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1019	1019	1019	1019	1019	
5°	1009	1016	1009	1016	1009	96
15°	962	965	962	965	962	271
25°	872	864	872	864	872	402
35°	752	743	752	743	752	471
45°	618	603	618	603	618	477
55°	471	460	471	460	471	422
65°	321	311	321	311	321	316
75°	164	159	164	159	164	175
85°	36	36	36	36	36	44
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°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1012.4	1017.4	1022.4	1021.1	1017.4	1014.9	1016.1	1016.1	1017.4	1017.4	1017.4
5°	1008.7	1013.6	1017.4	1016.1	1012.4	1011.2	1011.2	1011.2	1013.6	1016.1	1013.6
7.5°	1002.5	1006.2	1010.0	1008.7	1005.0	1003.7	1003.7	1005.0	1007.5	1010.0	1007.5
10°	991.3	996.3	1000.0	997.5	993.8	991.3	991.3	991.3	993.8	996.3	993.8
12.5°	977.6	981.4	985.1	983.9	980.1	977.6	977.6	977.6	980.1	982.6	980.1
15°	961.5	965.1	968.9	967.6	964.0	961.5	961.5	961.5	964.0	965.1	964.0
17.5°	942.7	946.5	950.2	947.7	942.7	940.3	940.3	940.3	942.7	944.0	942.7
20°	921.6	925.4	927.9	925.4	920.4	917.9	916.7	916.7	919.1	920.4	919.1
22.5°	898.0	900.5	903.0	900.5	895.5	893.0	891.8	890.6	891.8	893.0	891.8
25°	871.9	874.4	876.9	874.4	869.4	865.7	864.5	863.2	864.5	864.5	864.5
27.5°	845.8	847.0	849.5	845.8	840.8	837.1	835.8	834.6	835.8	835.8	835.8
30°	815.9	817.2	819.7	815.9	809.7	806.0	804.7	803.5	803.5	803.5	803.5
32.5°	784.8	787.3	789.8	784.8	778.6	774.8	773.7	772.4	773.7	773.7	773.7
35°	752.4	753.7	756.2	752.4	746.3	742.6	740.1	738.8	741.3	742.6	741.3
37.5°	721.4	722.7	723.9	720.2	713.9	710.2	707.7	706.4	705.2	705.2	705.2
40°	686.6	687.8	690.3	686.6	680.3	676.7	674.2	672.9	672.9	672.9	672.9
42.5°	653.0	654.3	655.4	651.8	645.5	641.8	639.3	638.0	639.3	639.3	639.3
45°	618.2	618.2	619.4	615.7	610.7	607.0	604.5	603.3	603.3	603.3	603.3
47.5°	582.1	583.3	584.5	580.9	575.9	572.1	569.6	567.1	567.1	567.1	567.1
50°	546.0	546.0	547.3	543.5	538.5	534.9	533.6	532.4	531.1	531.1	531.1
52.5°	508.7	510.0	511.2	507.5	503.7	500.0	497.5	496.3	496.3	496.3	496.3
55°	471.4	471.4	472.6	470.1	466.4	462.7	460.2	459.0	460.2	460.2	460.2
57.5°	434.1	435.4	436.6	432.9	429.1	425.4	424.1	422.9	422.9	422.9	422.9
60°	396.7	396.7	398.0	395.5	391.8	388.1	386.8	385.6	385.6	385.6	385.6
62.5°	359.5	359.5	360.7	358.2	354.5	350.7	349.5	348.2	348.2	348.2	348.2
65°	320.9	320.9	320.9	318.4	315.9	314.7	313.4	312.2	311.0	311.0	311.0
67.5°	278.6	278.6	279.8	277.3	274.8	273.6	272.4	271.2	269.9	269.9	269.9
70°	240.1	240.1	241.3	240.1	237.6	236.3	235.1	233.8	232.6	232.6	232.6
72.5°	202.7	202.7	202.7	201.5	200.3	199.0	197.8	196.5	195.3	195.3	195.3
75°	164.2	164.2	165.4	164.2	162.9	161.7	160.4	160.4	159.2	159.2	159.2
77.5°	128.1	129.4	130.6	129.4	128.1	126.9	125.6	125.6	124.4	124.4	124.4
80°	94.5	95.8	97.0	95.8	94.5	93.3	92.0	92.0	92.0	92.0	92.0
82.5°	63.4	64.6	65.9	64.6	63.4	63.4	62.2	62.2	62.2	62.2	62.2
85°	36.1	37.3	38.5	38.5	37.3	37.3	36.1	36.1	36.1	36.1	36.1
87.5°	13.6	14.9	16.1	16.1	14.9	14.9	14.9	14.9	14.9	14.9	14.9
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°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1016.1	1016.1	1014.9	1017.4	1021.1	1022.4	1017.4	1012.4	1017.4	1022.4	1021.1
5°	1011.2	1011.2	1011.2	1012.4	1016.1	1017.4	1013.6	1008.7	1013.6	1017.4	1016.1
7.5°	1005.0	1003.7	1003.7	1005.0	1008.7	1010.0	1006.2	1002.5	1006.2	1010.0	1008.7
10°	991.3	991.3	991.3	993.8	997.5	1000.0	996.3	991.3	996.3	1000.0	997.5
12.5°	977.6	977.6	977.6	980.1	983.9	985.1	981.4	977.6	981.4	985.1	983.9
15°	961.5	961.5	961.5	964.0	967.6	968.9	965.1	961.5	965.1	968.9	967.6
17.5°	940.3	940.3	940.3	942.7	947.7	950.2	946.5	942.7	946.5	950.2	947.7
20°	916.7	916.7	917.9	920.4	925.4	927.9	925.4	921.6	925.4	927.9	925.4
22.5°	890.6	891.8	893.0	895.5	900.5	903.0	900.5	898.0	900.5	903.0	900.5
25°	863.2	864.5	865.7	869.4	874.4	876.9	874.4	871.9	874.4	876.9	874.4
27.5°	834.6	835.8	837.1	840.8	845.8	849.5	847.0	845.8	847.0	849.5	845.8
30°	803.5	804.7	806.0	809.7	815.9	819.7	817.2	815.9	817.2	819.7	815.9
32.5°	772.4	773.7	774.8	778.6	784.8	789.8	787.3	784.8	787.3	789.8	784.8
35°	738.8	740.1	742.6	746.3	752.4	756.2	753.7	752.4	753.7	756.2	752.4
37.5°	706.4	707.7	710.2	713.9	720.2	723.9	722.7	721.4	722.7	723.9	720.2
40°	672.9	674.2	676.7	680.3	686.6	690.3	687.8	686.6	687.8	690.3	686.6
42.5°	638.0	639.3	641.8	645.5	651.8	655.4	654.3	653.0	654.3	655.4	651.8
45°	603.3	604.5	607.0	610.7	615.7	619.4	618.2	618.2	618.2	619.4	615.7
47.5°	567.1	569.6	572.1	575.9	580.9	584.5	583.3	582.1	583.3	584.5	580.9
50°	532.4	533.6	534.9	538.5	543.5	547.3	546.0	546.0	546.0	547.3	543.5
52.5°	496.3	497.5	500.0	503.7	507.5	511.2	510.0	508.7	510.0	511.2	507.5
55°	459.0	460.2	462.7	466.4	470.1	472.6	471.4	471.4	471.4	472.6	470.1
57.5°	422.9	424.1	425.4	429.1	432.9	436.6	435.4	434.1	435.4	436.6	432.9
60°	385.6	386.8	388.1	391.8	395.5	398.0	396.7	396.7	396.7	398.0	395.5
62.5°	348.2	349.5	350.7	354.5	358.2	360.7	359.5	359.5	359.5	360.7	358.2
65°	312.2	313.4	314.7	315.9	318.4	320.9	320.9	320.9	320.9	320.9	318.4
67.5°	271.2	272.4	273.6	274.8	277.3	279.8	278.6	278.6	278.6	279.8	277.3
70°	233.8	235.1	236.3	237.6	240.1	241.3	240.1	240.1	240.1	241.3	240.1
72.5°	196.5	197.8	199.0	200.3	201.5	202.7	202.7	202.7	202.7	202.7	201.5
75°	160.4	160.4	161.7	162.9	164.2	165.4	164.2	164.2	164.2	165.4	164.2
77.5°	125.6	125.6	126.9	128.1	129.4	130.6	129.4	128.1	129.4	130.6	129.4
80°	92.0	92.0	93.3	94.5	95.8	97.0	95.8	94.5	95.8	97.0	95.8
82.5°	62.2	62.2	63.4	63.4	64.6	65.9	64.6	63.4	64.6	65.9	64.6
85°	36.1	36.1	37.3	37.3	38.5	38.5	37.3	36.1	37.3	38.5	38.5
87.5°	14.9	14.9	14.9	14.9	16.1	16.1	14.9	13.6	14.9	16.1	16.1
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°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1017.4	1014.9	1016.1	1016.1	1017.4	1017.4	1017.4	1016.1	1016.1	1014.9	1017.4
5°	1012.4	1011.2	1011.2	1011.2	1013.6	1016.1	1013.6	1011.2	1011.2	1011.2	1012.4
7.5°	1005.0	1003.7	1003.7	1005.0	1007.5	1010.0	1007.5	1005.0	1003.7	1003.7	1005.0
10°	993.8	991.3	991.3	991.3	993.8	996.3	993.8	991.3	991.3	991.3	993.8
12.5°	980.1	977.6	977.6	977.6	980.1	982.6	980.1	977.6	977.6	977.6	980.1
15°	964.0	961.5	961.5	961.5	964.0	965.1	964.0	961.5	961.5	961.5	964.0
17.5°	942.7	940.3	940.3	940.3	942.7	944.0	942.7	940.3	940.3	940.3	942.7
20°	920.4	917.9	916.7	916.7	919.1	920.4	919.1	916.7	916.7	917.9	920.4
22.5°	895.5	893.0	891.8	890.6	891.8	893.0	891.8	890.6	891.8	893.0	895.5
25°	869.4	865.7	864.5	863.2	864.5	864.5	864.5	863.2	864.5	865.7	869.4
27.5°	840.8	837.1	835.8	834.6	835.8	835.8	835.8	834.6	835.8	837.1	840.8
30°	809.7	806.0	804.7	803.5	803.5	803.5	803.5	803.5	804.7	806.0	809.7
32.5°	778.6	774.8	773.7	772.4	773.7	773.7	773.7	772.4	773.7	774.8	778.6
35°	746.3	742.6	740.1	738.8	741.3	742.6	741.3	738.8	740.1	742.6	746.3
37.5°	713.9	710.2	707.7	706.4	705.2	705.2	705.2	706.4	707.7	710.2	713.9
40°	680.3	676.7	674.2	672.9	672.9	672.9	672.9	672.9	674.2	676.7	680.3
42.5°	645.5	641.8	639.3	638.0	639.3	639.3	639.3	638.0	639.3	641.8	645.5
45°	610.7	607.0	604.5	603.3	603.3	603.3	603.3	603.3	604.5	607.0	610.7
47.5°	575.9	572.1	569.6	567.1	567.1	567.1	567.1	567.1	569.6	572.1	575.9
50°	538.5	534.9	533.6	532.4	531.1	531.1	531.1	532.4	533.6	534.9	538.5
52.5°	503.7	500.0	497.5	496.3	496.3	496.3	496.3	496.3	497.5	500.0	503.7
55°	466.4	462.7	460.2	459.0	460.2	460.2	460.2	459.0	460.2	462.7	466.4
57.5°	429.1	425.4	424.1	422.9	422.9	422.9	422.9	422.9	424.1	425.4	429.1
60°	391.8	388.1	386.8	385.6	385.6	385.6	385.6	385.6	386.8	388.1	391.8
62.5°	354.5	350.7	349.5	348.2	348.2	348.2	348.2	348.2	349.5	350.7	354.5
65°	315.9	314.7	313.4	312.2	311.0	311.0	311.0	312.2	313.4	314.7	315.9
67.5°	274.8	273.6	272.4	271.2	269.9	269.9	269.9	271.2	272.4	273.6	274.8
70°	237.6	236.3	235.1	233.8	232.6	232.6	232.6	233.8	235.1	236.3	237.6
72.5°	200.3	199.0	197.8	196.5	195.3	195.3	195.3	196.5	197.8	199.0	200.3
75°	162.9	161.7	160.4	160.4	159.2	159.2	159.2	160.4	160.4	161.7	162.9
77.5°	128.1	126.9	125.6	125.6	124.4	124.4	124.4	125.6	125.6	126.9	128.1
80°	94.5	93.3	92.0	92.0	92.0	92.0	92.0	92.0	92.0	93.3	94.5
82.5°	63.4	63.4	62.2	62.2	62.2	62.2	62.2	62.2	62.2	63.4	63.4
85°	37.3	37.3	36.1	36.1	36.1	36.1	36.1	36.1	36.1	37.3	37.3
87.5°	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
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-30L830-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1018.6	1018.6	1018.6	1018.6
2.5°	1021.1	1022.4	1017.4	1012.4
5°	1016.1	1017.4	1013.6	1008.7
7.5°	1008.7	1010.0	1006.2	1002.5
10°	997.5	1000.0	996.3	991.3
12.5°	983.9	985.1	981.4	977.6
15°	967.6	968.9	965.1	961.5
17.5°	947.7	950.2	946.5	942.7
20°	925.4	927.9	925.4	921.6
22.5°	900.5	903.0	900.5	898.0
25°	874.4	876.9	874.4	871.9
27.5°	845.8	849.5	847.0	845.8
30°	815.9	819.7	817.2	815.9
32.5°	784.8	789.8	787.3	784.8
35°	752.4	756.2	753.7	752.4
37.5°	720.2	723.9	722.7	721.4
40°	686.6	690.3	687.8	686.6
42.5°	651.8	655.4	654.3	653.0
45°	615.7	619.4	618.2	618.2
47.5°	580.9	584.5	583.3	582.1
50°	543.5	547.3	546.0	546.0
52.5°	507.5	511.2	510.0	508.7
55°	470.1	472.6	471.4	471.4
57.5°	432.9	436.6	435.4	434.1
60°	395.5	398.0	396.7	396.7
62.5°	358.2	360.7	359.5	359.5
65°	318.4	320.9	320.9	320.9
67.5°	277.3	279.8	278.6	278.6
70°	240.1	241.3	240.1	240.1
72.5°	201.5	202.7	202.7	202.7
75°	164.2	165.4	164.2	164.2
77.5°	129.4	130.6	129.4	128.1
80°	95.8	97.0	95.8	94.5
82.5°	64.6	65.9	64.6	63.4
85°	38.5	38.5	37.3	36.1
87.5°	16.1	16.1	14.9	13.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)