

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-30L935-UNV-ASY**

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-30L935-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/
ASYMMETRIC Lens
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

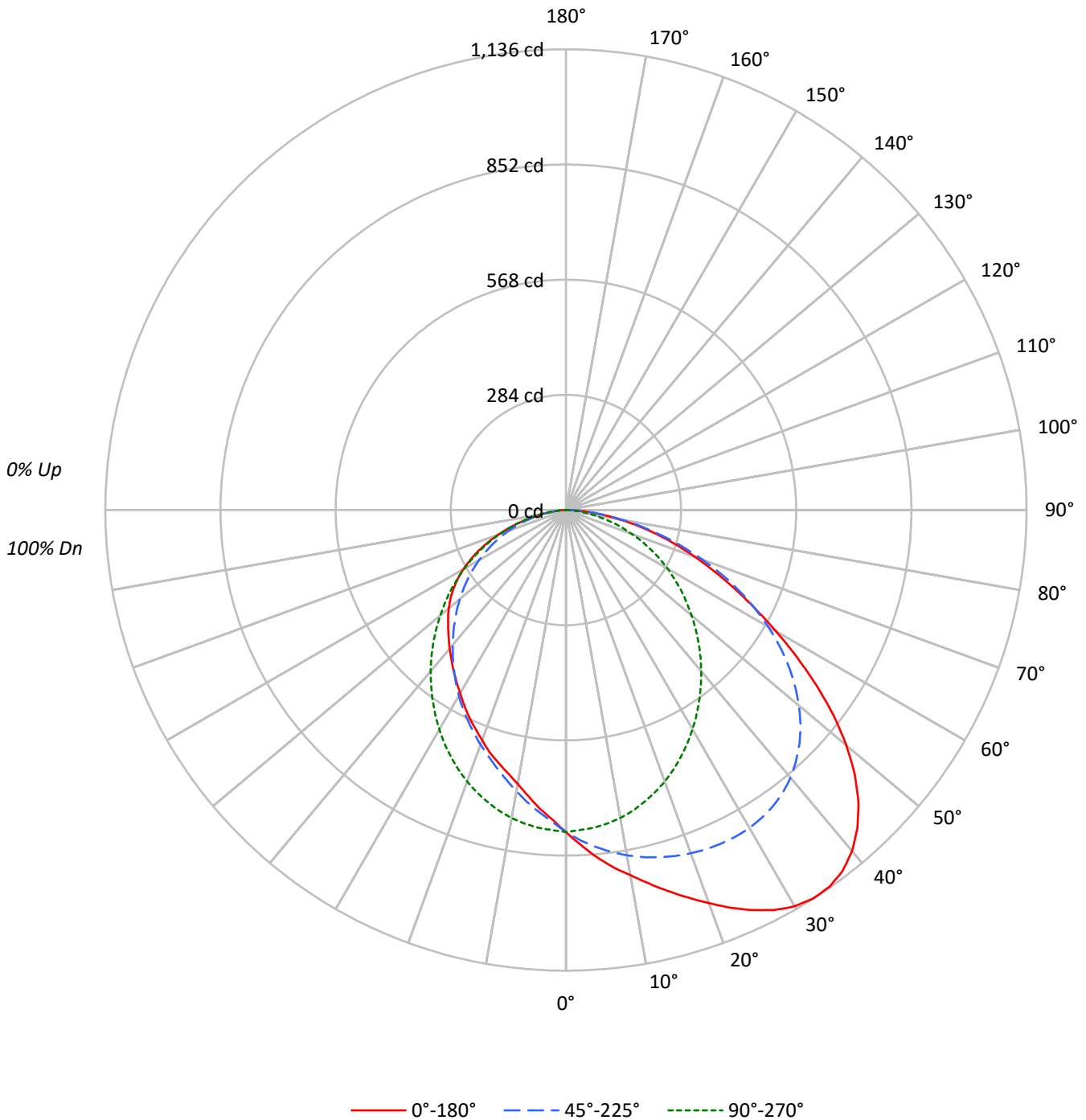
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2459.7 lumens
Efficiency: N/A
Efficacy: 75.7 lumens/watt
Spacing Criteria (0/90/45): 1.53 / 1.18 / 1.46
Luminous Opening: Rectangular (W 0.29' x L: 3.83' 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





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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	94	97	94	91	93	91	88	90	88	86	86	86	86	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	72	72	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	60	60	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	52	52	52	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	45	45	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	39	39	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	35	35	35	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	31	31	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	28	28	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	25	25	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7645	7645	7645
5°	8296	7599	7142
10°	8937	7540	6700
15°	9695	7430	6425
20°	10570	7300	6186
25°	11563	7129	5994
30°	12543	6941	5802
35°	13323	6736	5678
40°	13795	6523	5604
45°	13892	6297	5590
50°	13526	6057	5651
55°	12666	5839	5687
60°	11514	5574	5630
65°	10440	5271	5413
70°	9556	4887	4971
75°	8667	4397	4274
80°	7584	3676	3293
85°	6385	2673	2452



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.4	3.1
10°-20°	219.3	8.9
20°-30°	343.6	14.0
30°-40°	430.8	17.5
40°-50°	458.6	18.6
50°-60°	414.0	16.8
60°-70°	306.5	12.5
70°-80°	168.2	6.8
80°-90°	43.2	1.8
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°	638.4	26.0
0°-40°	1069.2	43.5
0°-60°	1941.9	78.9
0°-90°	2459.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2459.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	794	794	794	794	794	
5°	858	833	786	748	739	84
15°	973	886	746	658	645	277
25°	1088	907	671	572	564	504
35°	1134	891	573	481	483	707
45°	1020	814	462	387	411	782
55°	755	670	348	295	339	673
65°	458	472	231	199	238	457
75°	233	247	118	102	115	248
85°	58	57	24	22	22	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	794.1	794.1	794.1	794.1	794.1	794.1	794.1	794.1	794.1	794.1	794.1
2.5°	826.1	824.5	822.5	821.9	818.9	815.0	811.4	811.4	807.2	797.1	789.9
5°	858.4	855.8	850.9	847.0	840.8	833.3	825.8	821.2	811.1	795.8	786.3
7.5°	888.1	884.9	878.7	871.1	861.0	849.9	837.5	827.7	812.4	791.8	779.8
10°	914.2	911.3	903.8	894.6	880.3	864.6	846.3	831.7	810.8	785.3	771.3
12.5°	943.0	940.0	929.6	917.2	897.6	876.7	852.5	832.3	806.5	775.8	759.8
15°	972.7	968.7	957.0	940.3	914.2	886.2	856.5	830.3	799.7	764.4	745.5
17.5°	1002.0	998.1	983.4	962.2	929.6	894.6	858.1	825.8	789.9	750.4	729.8
20°	1031.7	1027.8	1009.2	982.4	943.0	900.8	857.8	818.9	778.1	734.4	712.5
22.5°	1061.4	1056.9	1034.3	1001.7	954.1	905.1	854.2	809.5	763.4	716.1	692.6
25°	1088.5	1084.0	1059.2	1020.6	965.8	907.1	848.0	796.4	747.1	695.9	671.1
27.5°	1112.0	1106.5	1080.7	1038.3	975.9	907.7	839.8	781.7	728.2	674.0	648.9
30°	1128.3	1123.5	1096.0	1050.7	981.8	905.4	829.4	764.4	706.3	650.5	624.4
32.5°	1135.5	1131.3	1104.2	1056.5	982.8	899.5	816.6	745.2	683.5	625.7	599.3
35°	1133.6	1129.3	1103.5	1055.6	979.8	891.1	800.6	723.3	659.0	599.9	573.1
37.5°	1121.2	1116.3	1092.8	1046.7	971.4	878.7	782.4	699.5	632.6	573.5	546.4
40°	1097.7	1092.8	1072.5	1030.1	957.0	862.0	761.5	674.0	605.5	545.7	519.0
42.5°	1064.0	1058.8	1042.8	1004.0	936.4	840.1	737.7	646.9	576.7	519.0	490.9
45°	1020.3	1015.1	1004.3	971.4	909.7	814.4	710.6	617.5	546.7	488.6	462.5
47.5°	966.1	961.6	956.3	930.9	876.7	784.7	680.2	586.2	515.4	460.2	433.5
50°	903.1	898.6	900.2	882.9	838.5	750.4	646.9	553.2	483.1	428.6	404.4
52.5°	831.7	828.1	835.9	828.4	794.1	712.2	611.3	519.3	450.1	398.5	375.4
55°	754.6	750.7	765.7	768.0	744.5	670.1	570.9	484.0	416.8	369.2	347.9
57.5°	675.3	672.0	691.3	702.1	690.3	624.7	530.1	447.8	382.5	338.5	317.3
60°	598.0	595.3	615.6	633.2	631.9	576.7	487.6	408.6	348.3	307.5	289.5
62.5°	525.2	522.2	542.5	563.4	570.9	525.5	445.5	370.1	314.0	276.5	260.5
65°	458.3	455.3	472.6	494.2	507.9	472.0	400.2	330.3	279.4	245.1	231.4
67.5°	396.9	396.9	407.7	427.6	444.2	417.1	353.8	292.4	243.8	216.1	202.4
70°	339.5	339.1	347.0	361.0	380.3	358.4	306.8	252.6	210.2	185.7	173.6
72.5°	284.9	287.2	290.2	300.9	321.2	302.2	260.1	213.5	177.2	155.7	145.6
75°	233.0	232.7	237.0	246.4	261.1	247.1	213.5	175.3	144.6	127.0	118.2
77.5°	183.4	183.1	186.7	192.2	204.6	193.6	168.4	140.0	112.6	97.9	91.7
80°	136.8	136.8	140.0	143.0	152.1	143.3	125.7	104.8	82.6	71.2	66.3
82.5°	95.0	96.9	95.6	99.6	104.8	97.3	86.2	71.8	54.8	47.0	43.7
85°	57.8	59.4	57.8	61.0	63.3	56.8	51.2	42.8	31.7	26.4	24.2
87.5°	29.7	29.4	29.0	30.7	31.3	27.4	24.2	20.6	14.0	10.8	9.1
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	794.1	794.1	794.1	794.1	794.1	794.1	794.1	794.1	794.1	794.1
2.5°	785.6	787.6	784.7	773.9	769.6	765.1	763.1	761.2	764.7	763.8
5°	779.1	776.8	769.3	755.6	748.4	740.9	737.3	735.0	739.9	739.0
7.5°	770.3	763.8	752.7	736.0	726.9	716.8	711.9	708.9	712.2	711.5
10°	759.2	748.4	734.7	714.8	704.0	692.9	687.4	683.1	685.8	685.4
12.5°	745.2	731.1	714.5	692.0	680.9	669.4	664.5	661.6	664.9	663.9
15°	729.5	712.5	693.3	670.4	658.3	647.9	644.3	642.0	644.6	644.6
17.5°	712.2	692.3	671.1	647.9	636.5	628.3	624.7	623.1	624.4	626.4
20°	692.9	670.7	647.9	625.4	615.6	607.1	603.8	602.2	605.1	603.8
22.5°	671.7	648.2	624.4	603.2	594.4	585.9	582.6	581.6	584.9	583.6
25°	649.2	623.7	600.2	581.0	572.2	565.0	562.1	561.1	562.7	564.3
27.5°	628.0	599.3	576.1	558.8	551.0	544.1	541.5	539.9	541.2	543.1
30°	602.2	574.5	551.6	535.6	528.1	521.6	519.6	518.3	520.3	521.9
32.5°	578.0	550.0	527.1	511.5	504.9	498.7	498.4	497.8	500.0	502.0
35°	551.9	524.5	502.3	487.6	481.4	476.2	477.2	478.2	480.8	483.1
37.5°	525.5	498.7	477.5	464.1	458.3	454.0	457.0	458.3	461.8	464.1
40°	498.7	472.0	452.4	440.3	434.4	432.5	436.7	439.7	443.9	445.9
42.5°	471.3	446.5	426.9	415.8	410.9	410.9	416.5	421.0	425.9	427.9
45°	443.9	419.7	401.1	391.0	387.4	390.0	396.6	402.4	408.6	410.6
47.5°	416.2	392.7	375.7	366.5	364.6	368.5	376.7	384.5	391.7	394.3
50°	388.4	367.2	350.2	341.7	341.7	346.6	357.1	366.9	374.7	377.3
52.5°	360.7	340.4	323.1	316.9	318.2	325.1	337.2	347.3	356.1	358.7
55°	332.6	312.7	297.7	292.4	294.7	303.2	315.6	327.4	335.9	338.8
57.5°	304.9	285.9	272.2	268.0	271.2	280.7	295.1	305.2	314.0	316.6
60°	276.8	257.5	246.8	243.5	247.7	257.5	272.2	281.7	289.8	292.4
62.5°	249.0	231.1	221.6	218.7	223.6	234.0	248.4	256.9	263.1	265.7
65°	221.0	205.0	196.2	194.2	199.4	209.5	223.3	230.4	235.0	237.6
67.5°	193.2	179.5	171.4	169.7	175.3	184.4	197.1	201.1	205.3	207.9
70°	165.8	153.4	146.6	145.6	150.5	159.3	170.1	172.0	174.3	176.6
72.5°	138.7	128.9	122.1	121.7	126.3	133.5	142.3	142.6	143.3	145.6
75°	112.6	103.8	98.6	99.6	102.2	108.0	114.9	112.9	113.3	114.9
77.5°	87.5	80.3	76.7	77.4	79.3	83.6	88.1	85.8	84.5	86.2
80°	63.0	56.8	55.5	55.8	57.1	60.1	62.7	60.7	58.1	59.4
82.5°	41.5	37.5	36.9	37.2	38.2	39.8	40.5	37.5	36.9	37.9
85°	22.8	21.2	21.2	22.2	22.5	22.8	22.8	21.2	21.5	22.2
87.5°	9.1	9.1	10.1	11.1	10.4	9.1	7.8	5.2	5.2	6.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)