

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-28L930-X-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-28L930-X-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/
ASYMMETRIC Lens
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

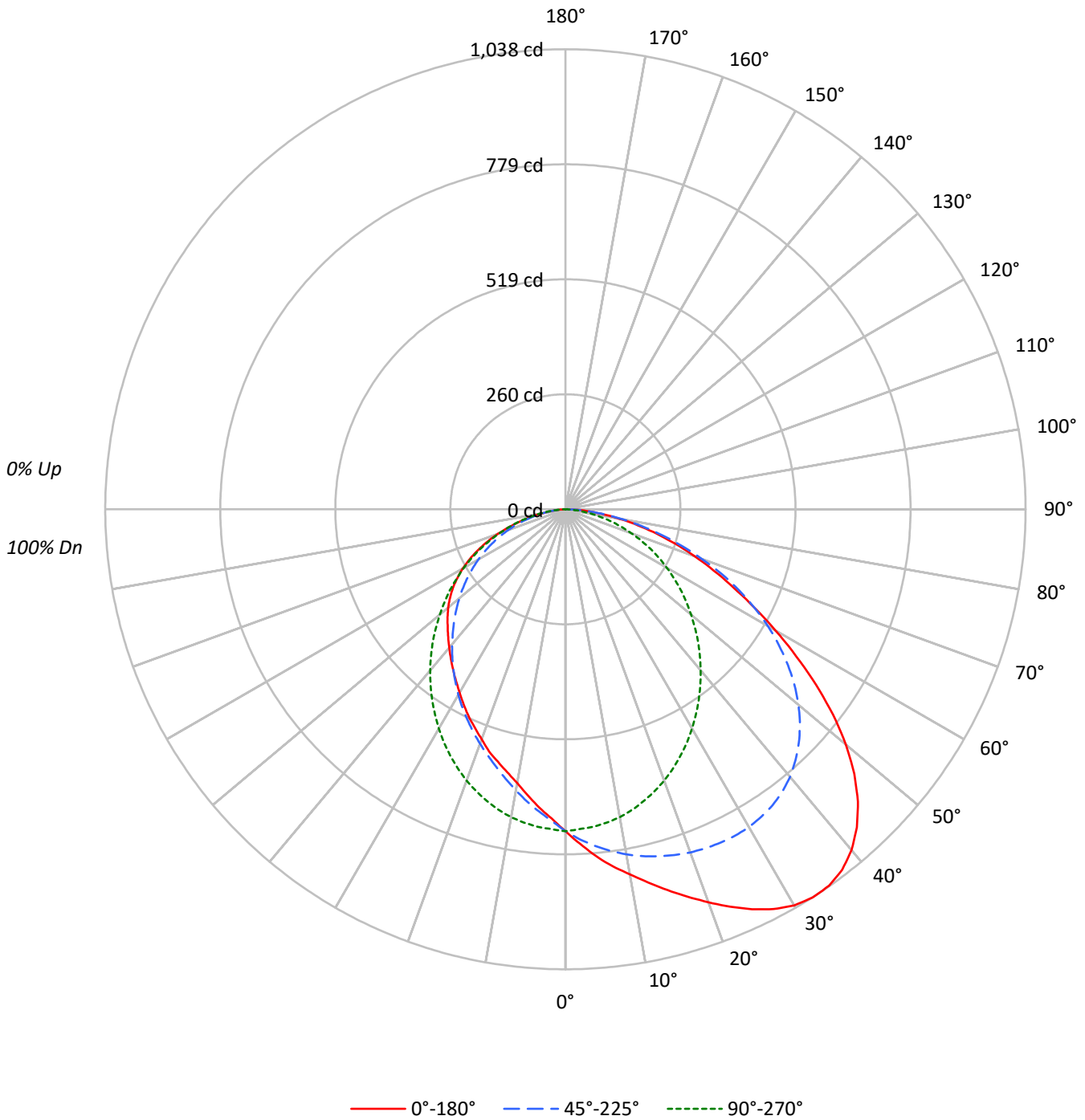
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2249.5 lumens
Efficiency: N/A
Efficacy: 69.9 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): 32.2
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

TEST NUMBER: P
CATALOG NUMBER: 4APN-28L930-X-UNV-ASY

Luminous Intensity Polar Plot





TEST NUMBER: P
 CATALOG NUMBER: 4APN-28L930-X-UNV-ASY

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	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°	6992	6992	6992
5°	7587	6949	6531
10°	8174	6896	6128
15°	8866	6795	5876
20°	9667	6676	5657
25°	10575	6519	5482
30°	11471	6348	5306
35°	12184	6161	5192
40°	12617	5965	5125
45°	12704	5759	5112
50°	12371	5539	5169
55°	11583	5341	5200
60°	10530	5099	5151
65°	9547	4820	4950
70°	8737	4470	4546
75°	7927	4021	3909
80°	6936	3360	3010
85°	5832	2441	2242



TEST NUMBER: P
 CATALOG NUMBER: 4APN-28L930-X-UNV-ASY

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.0	3.1
10°-20°	200.6	8.9
20°-30°	314.3	14.0
30°-40°	394.0	17.5
40°-50°	419.4	18.6
50°-60°	378.6	16.8
60°-70°	280.3	12.5
70°-80°	153.8	6.8
80°-90°	39.5	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°	583.8	26.0
0°-40°	977.8	43.5
0°-60°	1775.9	78.9
0°-90°	2249.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2249.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	726	726	726	726	726	
5°	785	762	719	684	676	76
15°	890	810	682	602	590	254
25°	996	830	614	523	516	461
35°	1037	815	524	440	442	646
45°	933	745	423	354	376	715
55°	690	613	318	270	310	615
65°	419	432	212	182	217	418
75°	213	226	108	93	105	227
85°	53	52	22	21	20	62
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-28L930-X-UNV-ASY

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	726.3	726.3	726.3	726.3	726.3	726.3	726.3	726.3	726.3	726.3	726.3
2.5°	755.5	754.0	752.2	751.6	748.9	745.4	742.1	742.1	738.2	728.9	722.4
5°	785.1	782.7	778.2	774.6	768.9	762.1	755.2	751.0	741.8	727.7	719.1
7.5°	812.2	809.2	803.6	796.7	787.4	777.3	766.0	757.0	743.0	724.2	713.1
10°	836.1	833.4	826.6	818.2	805.1	790.7	774.0	760.6	741.5	718.2	705.4
12.5°	862.4	859.7	850.1	838.8	820.9	801.8	779.7	761.2	737.6	709.5	694.9
15°	889.5	886.0	875.2	860.0	836.1	810.4	783.3	759.4	731.3	699.1	681.8
17.5°	916.4	912.8	899.4	880.0	850.1	818.2	784.8	755.2	722.4	686.3	667.5
20°	943.6	940.0	923.0	898.5	862.4	823.9	784.5	748.9	711.6	671.6	651.6
22.5°	970.7	966.5	946.0	916.1	872.5	827.7	781.2	740.3	698.2	654.9	633.4
25°	995.5	991.3	968.6	933.4	883.3	829.5	775.5	728.3	683.3	636.4	613.7
27.5°	1017.0	1011.9	988.3	949.5	892.5	830.1	768.0	714.9	666.0	616.4	593.4
30°	1031.9	1027.4	1002.4	960.9	897.9	828.0	758.5	699.1	646.0	594.9	571.0
32.5°	1038.5	1034.6	1009.8	966.3	898.8	822.7	746.9	681.5	625.1	572.2	548.0
35°	1036.7	1032.8	1009.2	965.4	896.1	814.9	732.2	661.5	602.7	548.6	524.2
37.5°	1025.4	1020.9	999.4	957.3	888.3	803.6	715.5	639.7	578.5	524.5	499.7
40°	1003.9	999.4	980.9	942.1	875.2	788.3	696.4	616.4	553.7	499.1	474.6
42.5°	973.1	968.3	953.7	918.2	856.4	768.3	674.6	591.6	527.5	474.6	448.9
45°	933.1	928.3	918.5	888.3	831.9	744.8	649.8	564.8	500.0	446.9	423.0
47.5°	883.6	879.4	874.6	851.3	801.8	717.6	622.1	536.1	471.3	420.9	396.4
50°	826.0	821.8	823.3	807.4	766.9	686.3	591.6	506.0	441.8	391.9	369.8
52.5°	760.6	757.3	764.5	757.6	726.3	651.3	559.1	474.9	411.6	364.5	343.3
55°	690.1	686.6	700.3	702.4	680.9	612.8	522.1	442.7	381.2	337.6	318.2
57.5°	617.6	614.6	632.2	642.1	631.3	571.3	484.8	409.5	349.8	309.5	290.1
60°	546.9	544.5	563.0	579.1	577.9	527.5	446.0	373.7	318.5	281.2	264.8
62.5°	480.3	477.6	496.1	515.2	522.1	480.6	407.5	338.5	287.2	252.8	238.2
65°	419.1	416.4	432.2	451.9	464.5	431.6	366.0	302.1	255.5	224.2	211.6
67.5°	363.0	363.0	372.8	391.0	406.3	381.5	323.6	267.5	223.0	197.6	185.1
70°	310.4	310.1	317.3	330.1	347.8	327.8	280.6	231.0	192.2	169.8	158.8
72.5°	260.6	262.7	265.4	275.2	293.7	276.4	237.9	195.2	162.1	142.4	133.1
75°	213.1	212.8	216.7	225.4	238.8	226.0	195.2	160.3	132.2	116.1	108.1
77.5°	167.8	167.5	170.7	175.8	187.2	177.0	154.0	128.1	103.0	89.6	83.9
80°	125.1	125.1	128.1	130.7	139.1	131.0	114.9	95.8	75.5	65.1	60.6
82.5°	86.9	88.7	87.5	91.0	95.8	89.0	78.8	65.7	50.1	43.0	40.0
85°	52.8	54.3	52.8	55.8	57.9	51.9	46.9	39.1	29.0	24.2	22.1
87.5°	27.2	26.9	26.6	28.1	28.7	25.1	22.1	18.8	12.8	9.9	8.4
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-28L930-X-UNV-ASY

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	726.3	726.3	726.3	726.3	726.3	726.3	726.3	726.3	726.3	726.3
2.5°	718.5	720.3	717.6	707.7	703.9	699.7	697.9	696.1	699.4	698.5
5°	712.5	710.4	703.6	691.0	684.5	677.6	674.3	672.2	676.7	675.8
7.5°	704.5	698.5	688.3	673.1	664.8	655.5	651.0	648.3	651.3	650.7
10°	694.3	684.5	671.9	653.7	643.9	633.7	628.6	624.8	627.2	626.9
12.5°	681.5	668.6	653.4	632.8	622.7	612.2	607.7	605.1	608.0	607.2
15°	667.2	651.6	634.0	613.1	602.1	592.5	589.2	587.2	589.5	589.5
17.5°	651.3	633.1	613.7	592.5	582.1	574.6	571.3	569.8	571.0	572.8
20°	633.7	613.4	592.5	571.9	563.0	555.2	552.2	550.7	553.4	552.2
22.5°	614.3	592.8	571.0	551.6	543.6	535.8	532.8	531.9	534.9	533.7
25°	593.7	570.4	548.9	531.3	523.3	516.7	514.0	513.1	514.6	516.1
27.5°	574.3	548.0	526.9	511.0	503.9	497.6	495.2	493.7	494.9	496.7
30°	550.7	525.4	504.5	489.8	483.0	477.0	475.2	474.0	475.8	477.3
32.5°	528.6	503.0	482.1	467.8	461.8	456.1	455.8	455.2	457.3	459.1
35°	504.8	479.7	459.4	446.0	440.3	435.5	436.4	437.3	439.7	441.8
37.5°	480.6	456.1	436.7	424.5	419.1	415.2	417.9	419.1	422.4	424.5
40°	456.1	431.6	413.7	402.7	397.3	395.5	399.4	402.1	406.0	407.8
42.5°	431.0	408.4	390.4	380.3	375.8	375.8	380.9	385.1	389.5	391.3
45°	406.0	383.9	366.9	357.6	354.3	356.7	362.7	368.1	373.7	375.5
47.5°	380.6	359.1	343.6	335.2	333.4	337.0	344.5	351.6	358.2	360.6
50°	355.2	335.8	320.3	312.5	312.5	317.0	326.6	335.5	342.7	345.1
52.5°	329.8	311.3	295.5	289.8	291.0	297.3	308.4	317.6	325.7	328.1
55°	304.2	286.0	272.2	267.5	269.5	277.3	288.7	299.4	307.2	309.8
57.5°	278.8	261.5	249.0	245.1	248.1	256.7	269.8	279.1	287.2	289.5
60°	253.1	235.5	225.7	222.7	226.6	235.5	249.0	257.6	265.1	267.5
62.5°	227.8	211.3	202.7	200.0	204.5	214.0	227.2	234.9	240.6	243.0
65°	202.1	187.5	179.4	177.6	182.4	191.6	204.2	210.7	214.9	217.3
67.5°	176.7	164.2	156.7	155.2	160.3	168.7	180.3	183.9	187.8	190.1
70°	151.6	140.3	134.0	133.1	137.6	145.7	155.5	157.3	159.4	161.5
72.5°	126.9	117.9	111.6	111.3	115.5	122.1	130.1	130.4	131.0	133.1
75°	103.0	94.9	90.1	91.0	93.4	98.8	105.1	103.3	103.6	105.1
77.5°	80.0	73.4	70.1	70.7	72.5	76.4	80.6	78.5	77.3	78.8
80°	57.6	51.9	50.7	51.0	52.2	54.9	57.3	55.5	53.1	54.3
82.5°	37.9	34.3	33.7	34.0	34.9	36.4	37.0	34.3	33.7	34.6
85°	20.9	19.4	19.4	20.3	20.6	20.9	20.9	19.4	19.7	20.3
87.5°	8.4	8.4	9.3	10.1	9.6	8.4	7.2	4.8	4.8	5.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)