

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-32-34L840-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-32-34L840-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

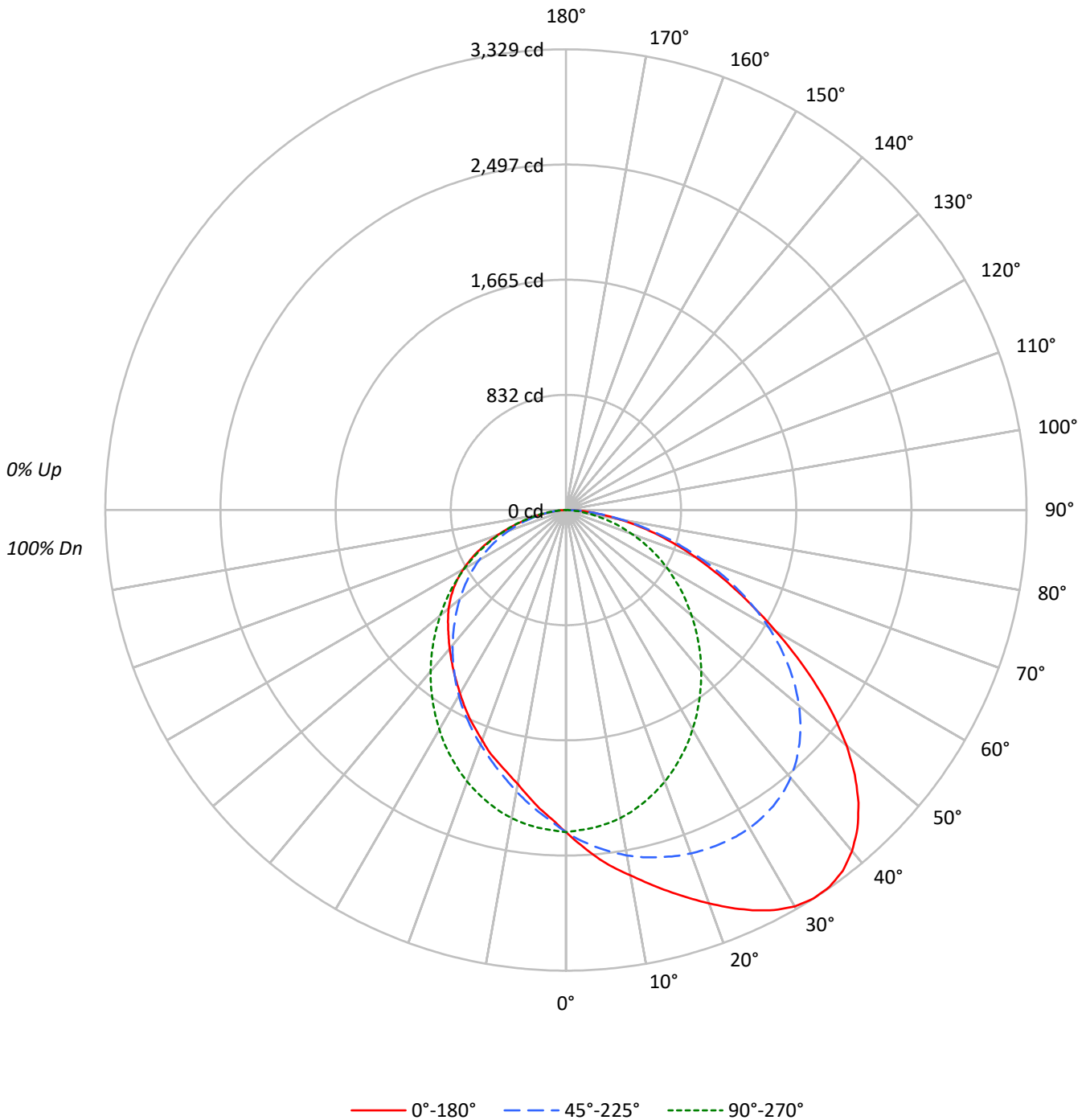
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7210.2 lumens
Efficiency: N/A
Efficacy: 98.8 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): 73
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





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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°	22411	22411	22411
5°	24318	22275	20933
10°	26198	22101	19642
15°	28418	21781	18834
20°	30986	21398	18134
25°	33895	20896	17573
30°	36770	20347	17007
35°	39053	19746	16642
40°	40438	19119	16425
45°	40721	18458	16387
50°	39651	17754	16565
55°	37130	17119	16669
60°	33750	16341	16507
65°	30601	15454	15866
70°	28008	14328	14570
75°	25409	12885	12528
80°	22227	10767	9652
85°	18701	7821	7191



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.1	3.1
10°-20°	643.0	8.9
20°-30°	1007.3	14.0
30°-40°	1262.8	17.5
40°-50°	1344.4	18.6
50°-60°	1213.6	16.8
60°-70°	898.4	12.5
70°-80°	493.0	6.8
80°-90°	126.6	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°	1871.4	26.0
0°-40°	3134.2	43.5
0°-60°	5692.3	78.9
0°-90°	7210.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7210.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2328	2328	2328	2328	2328	
5°	2516	2443	2305	2194	2166	245
15°	2851	2598	2185	1930	1890	813
25°	3191	2659	1967	1677	1654	1477
35°	3323	2612	1680	1411	1416	2072
45°	2991	2387	1356	1136	1204	2293
55°	2212	1964	1020	864	993	1973
65°	1343	1384	678	585	696	1340
75°	683	724	346	300	337	726
85°	169	166	71	66	65	200
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°	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8
2.5°	2421.6	2416.8	2411.1	2409.1	2400.5	2389.1	2378.5	2378.5	2366.1	2336.4	2315.4
5°	2516.3	2508.7	2494.3	2482.8	2464.6	2442.6	2420.6	2407.2	2377.6	2332.6	2304.9
7.5°	2603.4	2593.8	2575.6	2553.6	2524.0	2491.4	2455.1	2426.4	2381.4	2321.1	2285.7
10°	2679.9	2671.3	2649.3	2622.5	2580.4	2534.5	2480.9	2437.9	2376.6	2302.0	2260.8
12.5°	2764.1	2755.5	2724.9	2688.5	2631.1	2569.9	2499.1	2439.8	2364.2	2274.2	2227.4
15°	2851.2	2839.7	2805.3	2756.5	2679.9	2597.6	2510.6	2434.0	2344.1	2240.8	2185.3
17.5°	2937.3	2925.8	2882.8	2820.6	2724.9	2622.5	2515.4	2420.6	2315.4	2199.6	2139.3
20°	3024.4	3012.9	2958.3	2879.9	2764.1	2640.7	2514.4	2400.5	2280.9	2152.7	2088.6
22.5°	3111.4	3098.0	3032.0	2936.3	2796.6	2653.1	2503.9	2372.8	2237.9	2099.2	2030.3
25°	3190.8	3177.4	3104.7	2991.8	2831.1	2658.9	2485.7	2334.5	2190.0	2039.8	1967.1
27.5°	3259.7	3243.5	3167.9	3043.5	2860.7	2660.8	2461.8	2291.5	2134.6	1975.7	1902.1
30°	3307.6	3293.2	3212.8	3079.8	2878.0	2654.1	2431.2	2240.8	2070.5	1906.8	1830.3
32.5°	3328.6	3316.2	3236.8	3097.1	2880.8	2636.9	2393.8	2184.3	2003.5	1834.1	1756.6
35°	3322.9	3310.4	3234.8	3094.2	2872.2	2612.0	2347.0	2120.2	1931.7	1758.5	1680.1
37.5°	3286.5	3272.2	3203.3	3068.4	2847.3	2575.6	2293.4	2050.4	1854.2	1681.0	1601.6
40°	3217.6	3203.3	3143.9	3019.6	2805.3	2526.8	2232.1	1975.7	1774.8	1599.7	1521.3
42.5°	3119.1	3103.8	3056.9	2943.0	2745.0	2462.7	2162.3	1896.3	1690.6	1521.3	1439.0
45°	2990.9	2975.6	2944.0	2847.3	2666.5	2387.1	2082.9	1810.2	1602.6	1432.3	1355.7
47.5°	2832.0	2818.6	2803.3	2728.7	2569.9	2300.1	1993.9	1718.4	1510.7	1349.0	1270.6
50°	2647.4	2634.0	2638.8	2588.1	2457.9	2199.6	1896.3	1621.7	1416.0	1256.2	1185.4
52.5°	2437.9	2427.3	2450.3	2428.3	2327.8	2087.7	1792.0	1522.2	1319.4	1168.2	1100.3
55°	2212.1	2200.6	2244.6	2251.3	2182.4	1964.3	1673.4	1418.9	1221.8	1082.1	1019.9
57.5°	1979.6	1970.0	2026.4	2058.0	2023.6	1831.3	1553.8	1312.7	1121.3	992.2	930.0
60°	1752.8	1745.1	1804.5	1856.1	1852.3	1690.6	1429.4	1197.9	1020.9	901.3	848.7
62.5°	1539.4	1530.8	1590.2	1651.4	1673.4	1540.4	1306.0	1085.0	920.4	810.4	763.5
65°	1343.3	1334.7	1385.4	1448.6	1488.7	1383.5	1173.0	968.3	819.0	718.5	678.4
67.5°	1163.4	1163.4	1195.0	1253.4	1302.2	1222.8	1037.1	857.3	714.7	633.4	593.2
70°	995.0	994.1	1017.0	1058.2	1114.6	1050.5	899.4	740.5	616.2	544.4	509.0
72.5°	835.3	842.0	850.6	882.1	941.5	886.0	762.5	625.7	519.5	456.4	426.7
75°	683.1	682.2	694.6	722.4	765.4	724.3	625.7	513.8	423.8	372.2	346.4
77.5°	537.7	536.7	547.3	563.5	599.9	567.4	493.7	410.5	330.1	287.0	268.9
80°	400.9	400.9	410.5	419.1	445.9	420.0	368.4	307.1	242.1	208.6	194.2
82.5°	278.4	284.2	280.3	291.8	307.1	285.1	252.6	210.5	160.7	137.8	128.2
85°	169.3	174.1	169.3	178.9	185.6	166.5	150.2	125.3	92.8	77.5	70.8
87.5°	87.1	86.1	85.2	89.9	91.8	80.4	70.8	60.3	41.1	31.6	26.8
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8	2327.8
2.5°	2302.9	2308.7	2300.1	2268.5	2256.1	2242.7	2236.9	2231.2	2241.7	2238.8
5°	2283.8	2277.1	2255.1	2214.9	2193.9	2171.9	2161.3	2154.6	2169.0	2166.1
7.5°	2258.0	2238.8	2206.3	2157.5	2130.7	2101.1	2086.7	2078.1	2087.7	2085.8
10°	2225.4	2193.9	2153.7	2095.3	2063.8	2031.2	2015.0	2002.5	2010.2	2009.2
12.5°	2184.3	2143.2	2094.4	2028.4	1995.8	1962.3	1948.0	1939.4	1948.9	1946.1
15°	2138.4	2088.6	2032.2	1965.2	1929.8	1899.2	1888.7	1882.0	1889.6	1889.6
17.5°	2087.7	2029.3	1967.1	1899.2	1865.7	1841.8	1831.3	1826.5	1830.3	1836.0
20°	2031.2	1966.2	1899.2	1833.2	1804.5	1779.6	1770.0	1765.2	1773.9	1770.0
22.5°	1969.0	1900.1	1830.3	1768.1	1742.3	1717.4	1707.8	1705.0	1714.5	1710.7
25°	1903.0	1828.4	1759.5	1703.1	1677.2	1656.2	1647.6	1644.7	1649.5	1654.3
27.5°	1840.8	1756.6	1688.7	1638.0	1615.0	1594.9	1587.3	1582.5	1586.3	1592.1
30°	1765.2	1683.9	1616.9	1570.1	1548.1	1528.9	1523.2	1519.4	1525.1	1529.9
32.5°	1694.4	1612.2	1545.2	1499.3	1480.1	1461.9	1461.0	1459.1	1465.8	1471.5
35°	1617.9	1537.5	1472.5	1429.4	1411.2	1395.9	1398.8	1401.7	1409.3	1416.0
37.5°	1540.4	1461.9	1399.8	1360.5	1343.3	1330.9	1339.5	1343.3	1353.8	1360.5
40°	1461.9	1383.5	1326.1	1290.7	1273.5	1267.7	1280.2	1288.8	1301.2	1306.9
42.5°	1381.6	1308.9	1251.5	1218.9	1204.6	1204.6	1220.8	1234.2	1248.6	1254.3
45°	1301.2	1230.4	1175.9	1146.2	1135.7	1143.3	1162.5	1179.7	1197.9	1203.6
47.5°	1219.9	1151.0	1101.2	1074.5	1068.7	1080.2	1104.1	1127.1	1148.1	1155.8
50°	1138.6	1076.4	1026.6	1001.7	1001.7	1016.1	1046.7	1075.4	1098.4	1106.0
52.5°	1057.2	997.9	947.2	929.0	932.9	952.9	988.3	1018.0	1043.8	1051.5
55°	974.9	916.6	872.6	857.3	864.0	888.8	925.2	959.6	984.5	993.1
57.5°	893.6	838.1	797.9	785.5	795.1	822.8	864.9	894.6	920.4	928.1
60°	811.3	754.9	723.3	713.8	726.2	754.9	797.9	825.7	849.6	857.3
62.5°	730.0	677.4	649.6	641.0	655.4	686.0	728.1	753.0	771.2	778.8
65°	647.7	600.9	575.0	569.3	584.6	614.2	654.4	675.5	688.9	696.5
67.5°	566.4	526.2	502.3	497.5	513.8	540.6	577.9	589.4	601.8	609.5
70°	486.0	449.7	429.6	426.7	441.1	466.9	498.5	504.2	510.9	517.6
72.5°	406.6	377.9	357.8	356.9	370.3	391.3	417.2	418.1	420.0	426.7
75°	330.1	304.3	288.9	291.8	299.5	316.7	336.8	331.0	332.0	336.8
77.5°	256.4	235.4	224.8	226.8	232.5	244.9	258.3	251.6	247.8	252.6
80°	184.7	166.5	162.7	163.6	167.4	176.0	183.7	178.0	170.3	174.1
82.5°	121.5	110.0	108.1	109.1	111.9	116.7	118.6	110.0	108.1	111.0
85°	67.0	62.2	62.2	65.1	66.0	67.0	67.0	62.2	63.1	65.1
87.5°	26.8	26.8	29.7	32.5	30.6	26.8	23.0	15.3	15.3	18.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)