

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-32-34L835-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-32-34L835-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

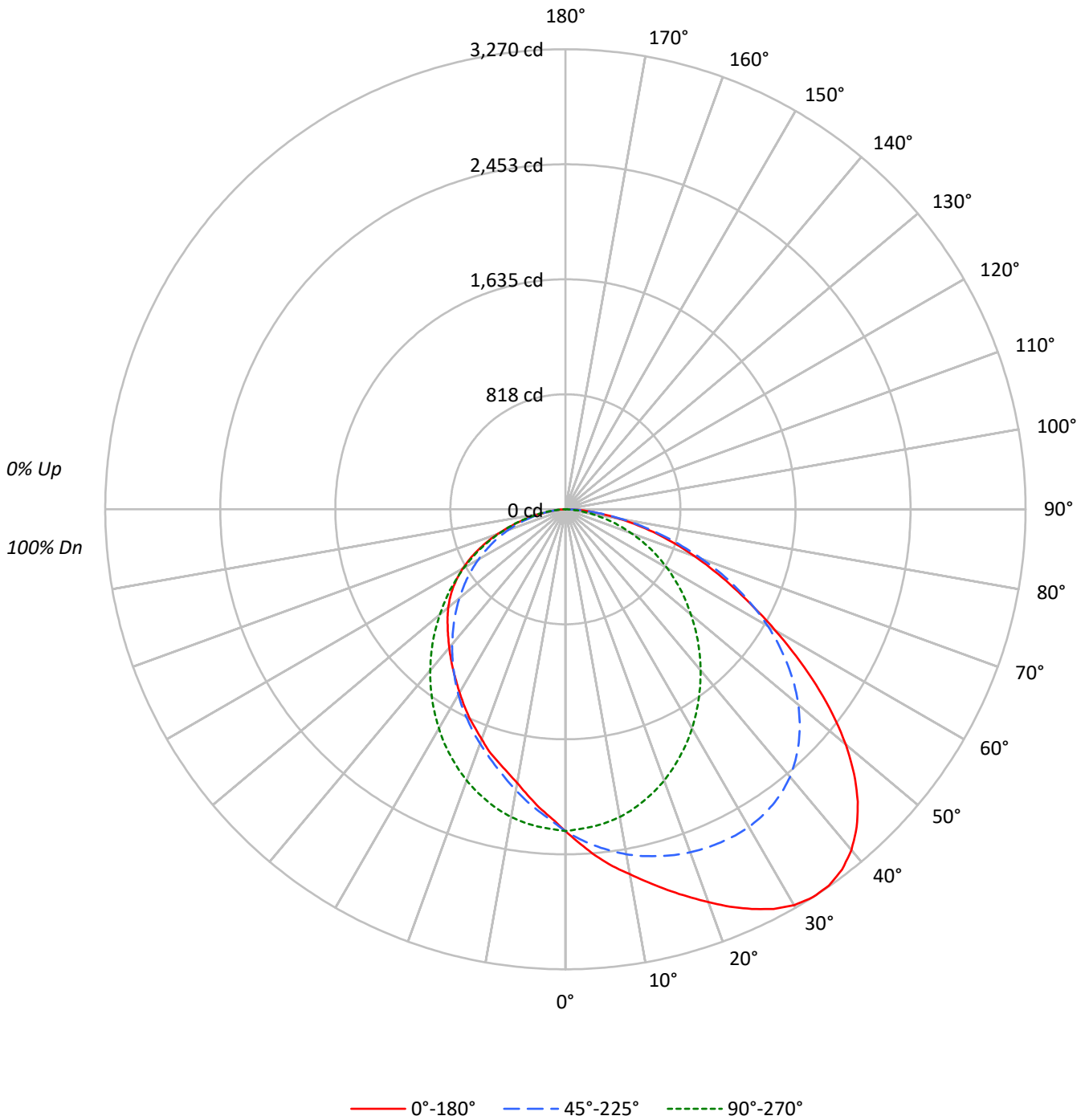
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7084.0 lumens
Efficiency: N/A
Efficacy: 97.0 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 (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-32-34L835-UNV-ASY

Luminous Intensity Polar Plot





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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	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°	22019	22019	22019
5°	23893	21884	20567
10°	25740	21715	19299
15°	27920	21399	18505
20°	30443	21024	17816
25°	33302	20530	17265
30°	36126	19991	16710
35°	38369	19400	16351
40°	39730	18784	16138
45°	40008	18135	16101
50°	38958	17444	16276
55°	36478	16820	16377
60°	33158	16055	16218
65°	30065	15183	15589
70°	27518	14077	14316
75°	24967	12658	12309
80°	21838	10578	9486
85°	18381	7688	7058



TEST NUMBER: P
 CATALOG NUMBER: 4APN-32-34L835-UNV-ASY

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.2	3.1
10°-20°	631.7	8.9
20°-30°	989.7	14.0
30°-40°	1240.7	17.5
40°-50°	1320.9	18.6
50°-60°	1192.4	16.8
60°-70°	882.7	12.5
70°-80°	484.3	6.8
80°-90°	124.3	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°	1838.6	26.0
0°-40°	3079.4	43.5
0°-60°	5592.6	78.9
0°-90°	7084.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7084.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2287	2287	2287	2287	2287	
5°	2472	2400	2264	2156	2128	241
15°	2801	2552	2147	1896	1857	799
25°	3135	2612	1933	1648	1625	1451
35°	3265	2566	1651	1386	1391	2036
45°	2938	2345	1332	1116	1183	2253
55°	2173	1930	1002	849	976	1938
65°	1320	1359	666	574	684	1317
75°	671	712	340	294	331	713
85°	166	164	70	65	64	197
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°	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1
2.5°	2379.2	2374.5	2368.9	2367.0	2358.5	2347.2	2336.9	2336.9	2324.7	2295.5	2274.9
5°	2472.3	2464.7	2450.6	2439.4	2421.5	2399.9	2378.3	2365.1	2336.0	2291.8	2264.5
7.5°	2557.8	2548.4	2530.6	2508.9	2479.8	2447.8	2412.1	2383.9	2339.7	2280.5	2245.7
10°	2633.0	2624.6	2602.9	2576.6	2535.3	2490.1	2437.5	2395.2	2335.0	2261.7	2221.3
12.5°	2715.7	2707.3	2677.2	2641.5	2585.1	2524.9	2455.3	2397.1	2322.8	2234.4	2188.4
15°	2801.3	2790.0	2756.2	2708.2	2633.0	2552.2	2466.6	2391.4	2303.1	2201.5	2147.0
17.5°	2885.9	2874.6	2832.3	2771.2	2677.2	2576.6	2471.3	2378.3	2274.9	2161.1	2101.9
20°	2971.4	2960.1	2906.6	2829.5	2715.7	2594.5	2470.4	2358.5	2241.0	2115.1	2052.1
22.5°	3057.0	3043.8	2978.9	2884.9	2747.7	2606.7	2460.0	2331.3	2198.7	2062.4	1994.7
25°	3135.0	3121.8	3050.4	2939.5	2781.5	2612.3	2442.2	2293.7	2151.7	2004.1	1932.7
27.5°	3202.7	3186.7	3112.4	2990.2	2810.7	2614.2	2418.7	2251.4	2097.2	1941.2	1868.8
30°	3249.7	3235.6	3156.6	3025.9	2827.6	2607.6	2388.6	2201.5	2034.2	1873.5	1798.3
32.5°	3270.4	3258.1	3180.1	3042.9	2830.4	2590.7	2351.9	2146.1	1968.4	1802.0	1725.9
35°	3264.7	3252.5	3178.2	3040.0	2822.0	2566.3	2305.9	2083.1	1897.9	1727.8	1650.7
37.5°	3229.0	3214.9	3147.2	3014.7	2797.5	2530.6	2253.2	2014.5	1821.8	1651.6	1573.6
40°	3161.3	3147.2	3088.9	2966.7	2756.2	2482.6	2193.1	1941.2	1743.7	1571.7	1494.6
42.5°	3064.5	3049.4	3003.4	2891.5	2696.9	2419.6	2124.5	1863.1	1661.0	1494.6	1413.8
45°	2938.5	2923.5	2892.5	2797.5	2619.9	2345.4	2046.4	1778.5	1574.5	1407.2	1332.0
47.5°	2782.5	2769.3	2754.3	2681.0	2524.9	2259.8	1959.0	1688.3	1484.3	1325.4	1248.4
50°	2601.1	2587.9	2592.6	2542.8	2414.9	2161.1	1863.1	1593.3	1391.2	1234.3	1164.7
52.5°	2395.2	2384.8	2407.4	2385.8	2287.1	2051.1	1760.7	1495.6	1296.3	1147.8	1081.0
55°	2173.3	2162.1	2205.3	2211.9	2144.2	1929.9	1644.1	1394.1	1200.4	1063.2	1002.1
57.5°	1944.9	1935.5	1991.0	2022.0	1988.2	1799.2	1526.6	1289.7	1101.7	974.8	913.7
60°	1722.1	1714.6	1772.9	1823.7	1819.9	1661.0	1404.4	1176.9	1003.0	885.5	833.8
62.5°	1512.5	1504.0	1562.3	1622.5	1644.1	1513.4	1283.1	1066.0	904.3	796.2	750.1
65°	1319.8	1311.3	1361.2	1423.2	1462.7	1359.3	1152.5	951.3	804.7	706.0	666.5
67.5°	1143.1	1143.1	1174.1	1231.4	1279.4	1201.4	1019.0	842.3	702.2	622.3	582.8
70°	977.6	976.7	999.2	1039.7	1095.1	1032.1	883.6	727.6	605.4	534.9	500.1
72.5°	820.6	827.2	835.7	866.7	925.0	870.5	749.2	614.8	510.4	448.4	419.3
75°	671.2	670.2	682.5	709.7	752.0	711.6	614.8	504.8	416.4	365.7	340.3
77.5°	528.3	527.4	537.7	553.7	589.4	557.4	485.1	403.3	324.3	282.0	264.1
80°	393.9	393.9	403.3	411.7	438.1	412.7	361.9	301.7	237.8	204.9	190.8
82.5°	273.5	279.2	275.4	286.7	301.7	280.1	248.2	206.8	157.9	135.4	126.0
85°	166.4	171.1	166.4	175.8	182.4	163.6	147.6	123.1	91.2	76.1	69.6
87.5°	85.5	84.6	83.7	88.4	90.2	79.0	69.6	59.2	40.4	31.0	26.3
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-32-34L835-UNV-ASY

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1	2287.1
2.5°	2262.6	2268.3	2259.8	2228.8	2216.6	2203.4	2197.8	2192.1	2202.5	2199.7
5°	2243.8	2237.3	2215.6	2176.2	2155.5	2133.9	2123.5	2116.9	2131.0	2128.2
7.5°	2218.5	2199.7	2167.7	2119.8	2093.4	2064.3	2050.2	2041.7	2051.1	2049.3
10°	2186.5	2155.5	2116.0	2058.7	2027.6	1995.7	1979.7	1967.5	1975.0	1974.1
12.5°	2146.1	2105.7	2057.7	1992.9	1960.9	1928.0	1913.9	1905.4	1914.8	1912.0
15°	2101.0	2052.1	1996.6	1930.8	1896.0	1866.0	1855.6	1849.0	1856.6	1856.6
17.5°	2051.1	1993.8	1932.7	1866.0	1833.1	1809.6	1799.2	1794.5	1798.3	1803.9
20°	1995.7	1931.8	1866.0	1801.1	1772.9	1748.4	1739.0	1734.3	1742.8	1739.0
22.5°	1934.6	1866.9	1798.3	1737.2	1711.8	1687.3	1677.9	1675.1	1684.5	1680.8
25°	1869.7	1796.4	1728.7	1673.2	1647.9	1627.2	1618.7	1615.9	1620.6	1625.3
27.5°	1808.6	1725.9	1659.1	1609.3	1586.8	1567.0	1559.5	1554.8	1558.6	1564.2
30°	1734.3	1654.4	1588.6	1542.6	1521.0	1502.2	1496.5	1492.8	1498.4	1503.1
32.5°	1664.8	1583.9	1518.1	1473.0	1454.2	1436.4	1435.4	1433.5	1440.1	1445.8
35°	1589.6	1510.6	1446.7	1404.4	1386.5	1371.5	1374.3	1377.1	1384.7	1391.2
37.5°	1513.4	1436.4	1375.3	1336.7	1319.8	1307.6	1316.0	1319.8	1330.1	1336.7
40°	1436.4	1359.3	1302.9	1268.1	1251.2	1245.5	1257.8	1266.2	1278.4	1284.1
42.5°	1357.4	1286.0	1229.6	1197.6	1183.5	1183.5	1199.5	1212.6	1226.7	1232.4
45°	1278.4	1208.9	1155.3	1126.2	1115.8	1123.3	1142.1	1159.1	1176.9	1182.6
47.5°	1198.5	1130.9	1082.0	1055.6	1050.0	1061.3	1084.8	1107.4	1128.0	1135.6
50°	1118.6	1057.5	1008.6	984.2	984.2	998.3	1028.4	1056.6	1079.1	1086.7
52.5°	1038.7	980.4	930.6	912.8	916.5	936.3	971.0	1000.2	1025.6	1033.1
55°	957.9	900.5	857.3	842.3	848.8	873.3	909.0	942.8	967.3	975.7
57.5°	878.0	823.5	784.0	771.8	781.2	808.4	849.8	878.9	904.3	911.8
60°	797.1	741.7	710.7	701.3	713.5	741.7	784.0	811.2	834.7	842.3
62.5°	717.2	665.5	638.3	629.8	643.9	674.0	715.4	739.8	757.7	765.2
65°	636.4	590.3	565.0	559.3	574.4	603.5	643.0	663.7	676.8	684.3
67.5°	556.5	517.0	493.5	488.8	504.8	531.1	567.8	579.1	591.3	598.8
70°	477.5	441.8	422.1	419.3	433.4	458.7	489.8	495.4	502.0	508.6
72.5°	399.5	371.3	351.6	350.6	363.8	384.5	409.9	410.8	412.7	419.3
75°	324.3	298.9	283.9	286.7	294.2	311.1	330.9	325.2	326.2	330.9
77.5°	251.9	231.2	220.9	222.8	228.4	240.6	253.8	247.2	243.5	248.2
80°	181.4	163.6	159.8	160.7	164.5	173.0	180.5	174.8	167.3	171.1
82.5°	119.4	108.1	106.2	107.2	110.0	114.7	116.6	108.1	106.2	109.0
85°	65.8	61.1	61.1	63.9	64.9	65.8	65.8	61.1	62.0	63.9
87.5°	26.3	26.3	29.1	32.0	30.1	26.3	22.6	15.0	15.0	17.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)