

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-32-34L935-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-32-34L935-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

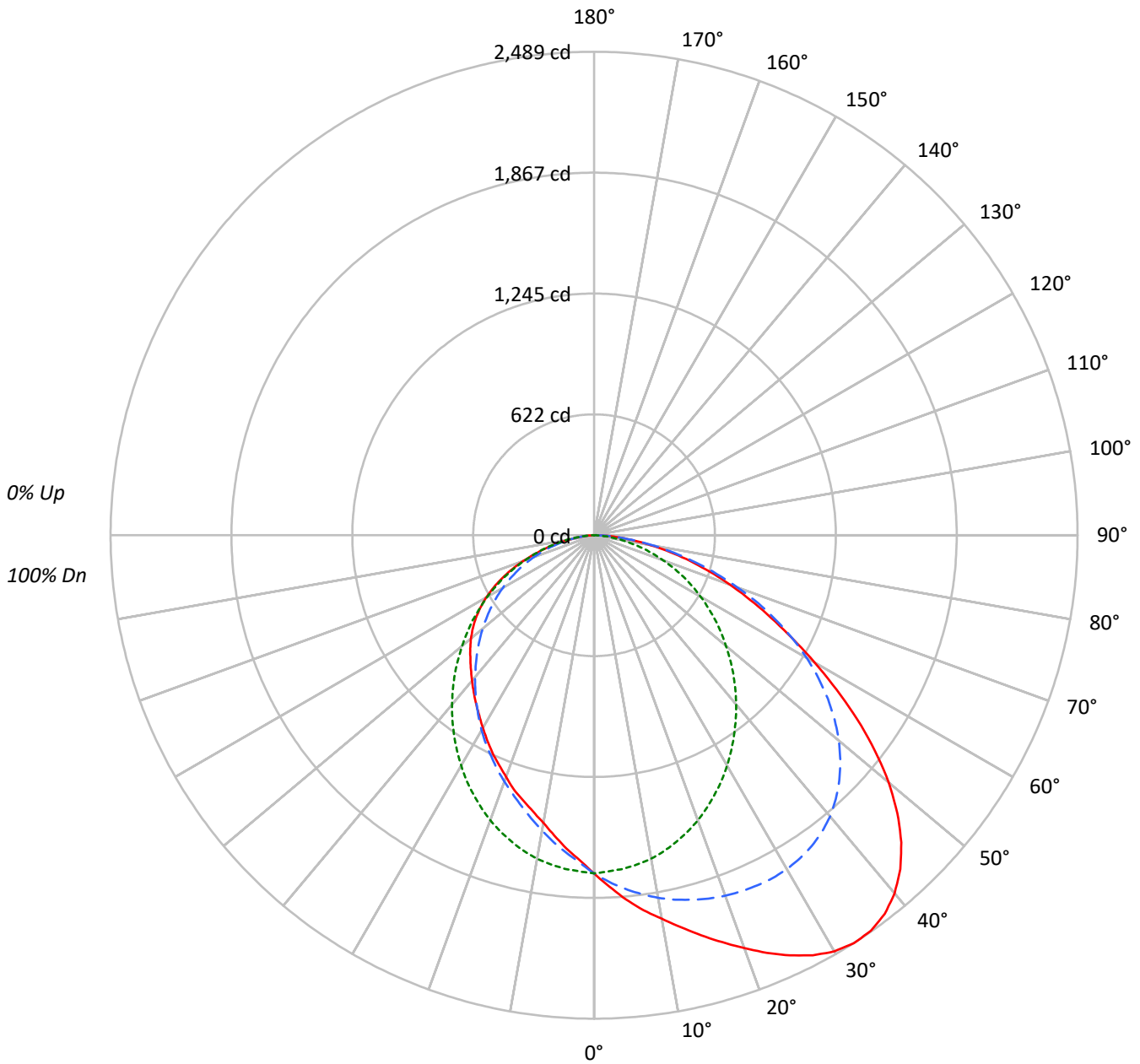
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5392.5 lumens
Efficiency: N/A
Efficacy: 73.9 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): 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



— 0°-180° - - 45°-225° - - - 90°-270°



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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°	16761	16761	16761
5°	18187	16659	15656
10°	19594	16530	14690
15°	21254	16289	14085
20°	23174	16004	13563
25°	25350	15628	13142
30°	27499	15218	12720
35°	29208	14767	12446
40°	30243	14298	12285
45°	30456	13806	12256
50°	29655	13279	12389
55°	27769	12803	12468
60°	25241	12221	12344
65°	22887	11556	11866
70°	20948	10716	10896
75°	19004	9634	9370
80°	16621	8056	7219
85°	13995	5854	5379



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.3	3.1
10°-20°	480.9	8.9
20°-30°	753.4	14.0
30°-40°	944.5	17.5
40°-50°	1005.5	18.6
50°-60°	907.7	16.8
60°-70°	671.9	12.5
70°-80°	368.7	6.8
80°-90°	94.7	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°	1399.6	26.0
0°-40°	2344.1	43.5
0°-60°	4257.2	78.9
0°-90°	5392.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5392.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1741	1741	1741	1741	1741	
5°	1882	1827	1724	1641	1620	183
15°	2132	1943	1634	1443	1413	608
25°	2386	1989	1471	1254	1237	1104
35°	2485	1954	1256	1056	1059	1550
45°	2237	1785	1014	849	900	1715
55°	1654	1469	763	646	743	1475
65°	1005	1035	507	437	521	1002
75°	511	542	259	224	252	543
85°	127	124	53	49	49	150
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°	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0
2.5°	1811.1	1807.5	1803.2	1801.8	1795.3	1786.8	1778.9	1778.9	1769.6	1747.4	1731.7
5°	1881.9	1876.2	1865.5	1856.9	1843.3	1826.8	1810.4	1800.4	1778.2	1744.5	1723.8
7.5°	1947.0	1939.9	1926.3	1909.8	1887.7	1863.3	1836.1	1814.7	1781.0	1736.0	1709.5
10°	2004.3	1997.9	1981.4	1961.4	1929.9	1895.5	1855.5	1823.3	1777.5	1721.6	1690.9
12.5°	2067.3	2060.8	2037.9	2010.7	1967.8	1922.0	1869.1	1824.7	1768.2	1700.9	1665.8
15°	2132.4	2123.8	2098.0	2061.5	2004.3	1942.8	1877.6	1820.4	1753.1	1675.9	1634.3
17.5°	2196.8	2188.2	2156.0	2109.5	2037.9	1961.4	1881.2	1810.4	1731.7	1645.1	1600.0
20°	2261.9	2253.3	2212.5	2153.8	2067.3	1975.0	1880.5	1795.3	1705.9	1610.0	1562.1
22.5°	2327.0	2317.0	2267.6	2196.1	2091.6	1984.3	1872.6	1774.6	1673.7	1569.9	1518.4
25°	2386.4	2376.4	2322.0	2237.6	2117.4	1988.6	1859.0	1746.0	1637.9	1525.6	1471.2
27.5°	2437.9	2425.8	2369.2	2276.2	2139.5	1990.0	1841.1	1713.8	1596.4	1477.6	1422.5
30°	2473.7	2463.0	2402.9	2303.4	2152.4	1985.0	1818.2	1675.9	1548.5	1426.1	1368.9
32.5°	2489.4	2480.1	2420.8	2316.3	2154.6	1972.1	1790.3	1633.6	1498.4	1371.7	1313.8
35°	2485.2	2475.9	2419.3	2314.1	2148.1	1953.5	1755.3	1585.7	1444.7	1315.2	1256.5
37.5°	2458.0	2447.2	2395.7	2294.8	2129.5	1926.3	1715.2	1533.5	1386.8	1257.2	1197.9
40°	2406.4	2395.7	2351.3	2258.3	2098.0	1889.8	1669.4	1477.6	1327.4	1196.4	1137.7
42.5°	2332.7	2321.3	2286.2	2201.1	2053.0	1841.9	1617.2	1418.2	1264.4	1137.7	1076.2
45°	2236.9	2225.4	2201.8	2129.5	1994.3	1785.3	1557.8	1353.8	1198.6	1071.2	1014.0
47.5°	2118.1	2108.1	2096.6	2040.8	1922.0	1720.2	1491.2	1285.2	1129.9	1008.9	950.3
50°	1980.0	1969.9	1973.5	1935.6	1838.3	1645.1	1418.2	1212.9	1059.0	939.5	886.6
52.5°	1823.3	1815.4	1832.6	1816.1	1741.0	1561.4	1340.3	1138.5	986.8	873.7	822.9
55°	1654.4	1645.8	1678.7	1683.7	1632.2	1469.1	1251.5	1061.2	913.8	809.3	762.8
57.5°	1480.5	1473.3	1515.6	1539.2	1513.4	1369.6	1162.1	981.8	838.6	742.0	695.5
60°	1310.9	1305.2	1349.6	1388.2	1385.3	1264.4	1069.1	895.9	763.5	674.1	634.7
62.5°	1151.3	1144.9	1189.3	1235.1	1251.5	1152.1	976.7	811.4	688.4	606.1	571.0
65°	1004.7	998.2	1036.1	1083.4	1113.4	1034.7	877.3	724.2	612.5	537.4	507.3
67.5°	870.1	870.1	893.7	937.4	973.9	914.5	775.7	641.1	534.5	473.7	443.6
70°	744.2	743.5	760.6	791.4	833.6	785.7	672.6	553.8	460.8	407.2	380.7
72.5°	624.7	629.7	636.1	659.7	704.1	662.6	570.3	468.0	388.6	341.3	319.1
75°	510.9	510.2	519.5	540.3	572.5	541.7	468.0	384.3	317.0	278.4	259.0
77.5°	402.1	401.4	409.3	421.5	448.7	424.3	369.2	307.0	246.9	214.7	201.1
80°	299.8	299.8	307.0	313.4	333.5	314.1	275.5	229.7	181.0	156.0	145.3
82.5°	208.2	212.5	209.7	218.2	229.7	213.2	188.9	157.4	120.2	103.0	95.9
85°	126.7	130.2	126.7	133.8	138.8	124.5	112.3	93.7	69.4	58.0	53.0
87.5°	65.1	64.4	63.7	67.3	68.7	60.1	53.0	45.1	30.8	23.6	20.0
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°	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0	1741.0
2.5°	1722.4	1726.7	1720.2	1696.6	1687.3	1677.3	1673.0	1668.7	1676.6	1674.4
5°	1708.1	1703.0	1686.6	1656.5	1640.8	1624.3	1616.5	1611.4	1622.2	1620.0
7.5°	1688.7	1674.4	1650.1	1613.6	1593.6	1571.4	1560.6	1554.2	1561.4	1559.9
10°	1664.4	1640.8	1610.7	1567.1	1543.5	1519.1	1507.0	1497.7	1503.4	1502.7
12.5°	1633.6	1602.9	1566.4	1517.0	1492.7	1467.6	1456.9	1450.4	1457.6	1455.5
15°	1599.3	1562.1	1519.9	1469.8	1443.3	1420.4	1412.5	1407.5	1413.2	1413.2
17.5°	1561.4	1517.7	1471.2	1420.4	1395.3	1377.5	1369.6	1366.0	1368.9	1373.2
20°	1519.1	1470.5	1420.4	1371.0	1349.6	1330.9	1323.8	1320.2	1326.7	1323.8
22.5°	1472.6	1421.1	1368.9	1322.4	1303.0	1284.4	1277.3	1275.1	1282.3	1279.4
25°	1423.3	1367.4	1315.9	1273.7	1254.4	1238.6	1232.2	1230.1	1233.6	1237.2
27.5°	1376.7	1313.8	1263.0	1225.0	1207.9	1192.8	1187.1	1183.5	1186.4	1190.7
30°	1320.2	1259.4	1209.3	1174.2	1157.8	1143.5	1139.2	1136.3	1140.6	1144.2
32.5°	1267.3	1205.7	1155.6	1121.3	1107.0	1093.4	1092.7	1091.2	1096.2	1100.5
35°	1210.0	1149.9	1101.3	1069.1	1055.5	1044.0	1046.2	1048.3	1054.0	1059.0
37.5°	1152.1	1093.4	1046.9	1017.5	1004.7	995.3	1001.8	1004.7	1012.5	1017.5
40°	1093.4	1034.7	991.8	965.3	952.4	948.1	957.4	963.9	973.2	977.5
42.5°	1033.3	978.9	936.0	911.6	900.9	900.9	913.1	923.1	933.8	938.1
45°	973.2	920.2	879.4	857.2	849.4	855.1	869.4	882.3	895.9	900.2
47.5°	912.3	860.8	823.6	803.6	799.3	807.9	825.8	842.9	858.7	864.4
50°	851.5	805.0	767.8	749.2	749.2	759.9	782.8	804.3	821.5	827.2
52.5°	790.7	746.3	708.4	694.8	697.7	712.7	739.2	761.4	780.7	786.4
55°	729.2	685.5	652.6	641.1	646.2	664.8	692.0	717.7	736.3	742.8
57.5°	668.3	626.8	596.8	587.5	594.6	615.4	646.9	669.1	688.4	694.1
60°	606.8	564.6	541.0	533.8	543.1	564.6	596.8	617.5	635.4	641.1
62.5°	546.0	506.6	485.9	479.4	490.2	513.1	544.5	563.1	576.7	582.5
65°	484.4	449.4	430.1	425.8	437.2	459.4	489.4	505.2	515.2	520.9
67.5°	423.6	393.6	375.7	372.1	384.3	404.3	432.2	440.8	450.1	455.8
70°	363.5	336.3	321.3	319.1	329.9	349.2	372.8	377.1	382.1	387.1
72.5°	304.1	282.6	267.6	266.9	276.9	292.7	312.0	312.7	314.1	319.1
75°	246.9	227.5	216.1	218.2	224.0	236.9	251.9	247.6	248.3	251.9
77.5°	191.8	176.0	168.2	169.6	173.9	183.2	193.2	188.2	185.3	188.9
80°	138.1	124.5	121.6	122.4	125.2	131.7	137.4	133.1	127.4	130.2
82.5°	90.9	82.3	80.9	81.6	83.7	87.3	88.7	82.3	80.9	83.0
85°	50.1	46.5	46.5	48.7	49.4	50.1	50.1	46.5	47.2	48.7
87.5°	20.0	20.0	22.2	24.3	22.9	20.0	17.2	11.4	11.4	13.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)