

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-39L830-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-39L830-X-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/
ASYMMETRIC Lens
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

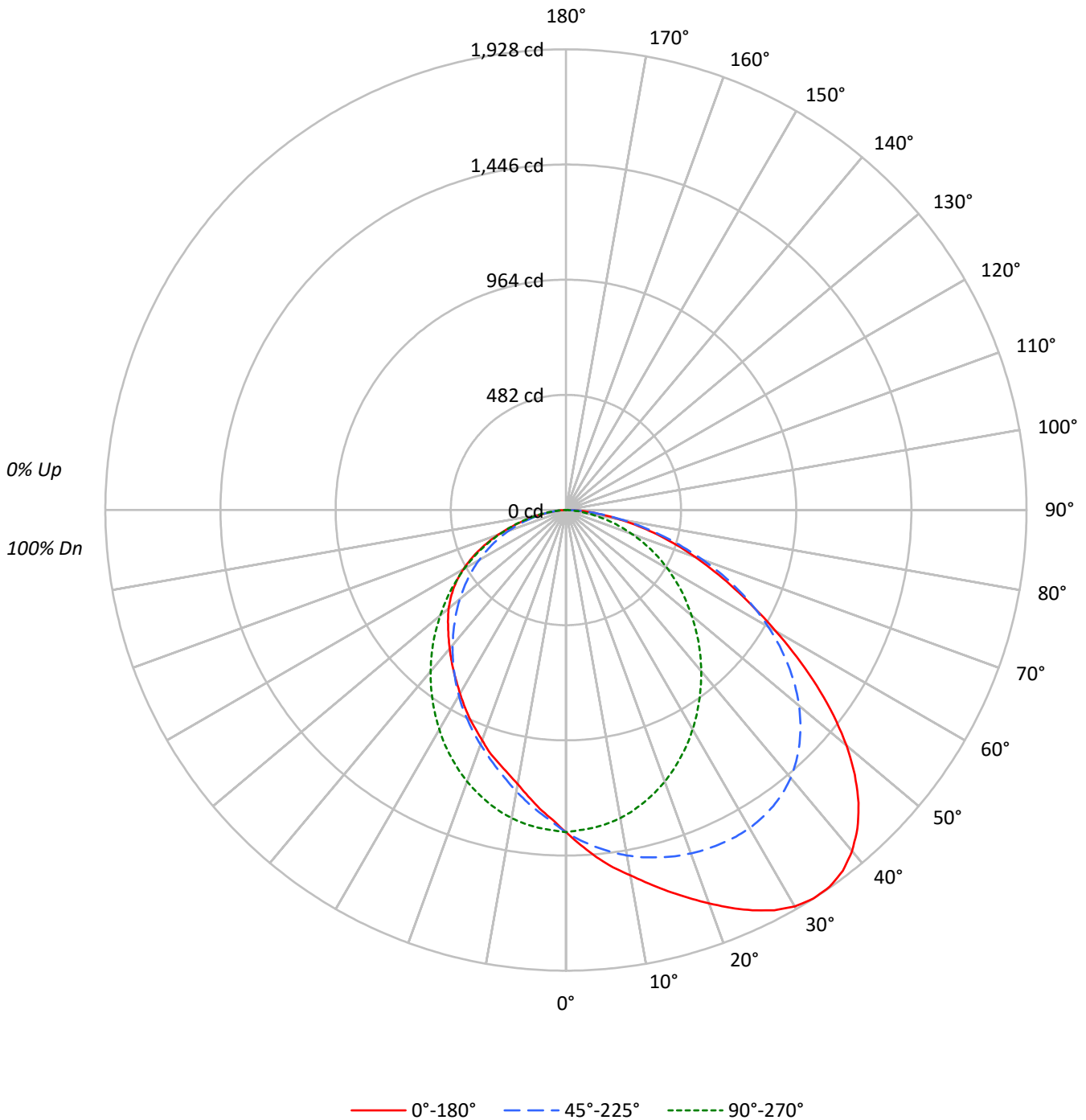
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4176.2 lumens
Efficiency: N/A
Efficacy: 91.2 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): 45.8
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°	12981	12981	12981
5°	14085	12902	12125
10°	15174	12801	11377
15°	16459	12615	10909
20°	17947	12394	10503
25°	19633	12103	10179
30°	21297	11785	9851
35°	22619	11437	9640
40°	23422	11073	9514
45°	23585	10692	9491
50°	22966	10284	9595
55°	21505	9915	9655
60°	19547	9464	9560
65°	17725	8950	9190
70°	16222	8298	8439
75°	14719	7462	7257
80°	12874	6237	5594
85°	10836	4529	4164



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.1	3.1
10°-20°	372.4	8.9
20°-30°	583.4	14.0
30°-40°	731.4	17.5
40°-50°	778.7	18.6
50°-60°	703.0	16.8
60°-70°	520.4	12.5
70°-80°	285.5	6.8
80°-90°	73.3	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°	1083.9	26.0
0°-40°	1815.4	43.5
0°-60°	3297.0	78.9
0°-90°	4176.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4176.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1348	1348	1348	1348	1348	
5°	1458	1415	1335	1271	1255	142
15°	1651	1505	1266	1118	1094	471
25°	1848	1540	1139	972	958	855
35°	1925	1513	973	817	820	1200
45°	1732	1383	785	658	697	1328
55°	1281	1138	591	500	575	1143
65°	778	801	393	339	403	776
75°	396	420	201	174	195	421
85°	98	96	41	38	38	116
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°	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3
2.5°	1402.6	1399.8	1396.5	1395.4	1390.4	1383.8	1377.7	1377.7	1370.5	1353.3	1341.1
5°	1457.5	1453.0	1444.7	1438.1	1427.5	1414.8	1402.0	1394.3	1377.1	1351.1	1335.0
7.5°	1507.9	1502.3	1491.8	1479.1	1461.9	1443.1	1422.0	1405.4	1379.3	1344.4	1323.9
10°	1552.2	1547.2	1534.5	1519.0	1494.6	1468.0	1437.0	1412.0	1376.6	1333.3	1309.5
12.5°	1601.0	1596.0	1578.3	1557.2	1524.0	1488.5	1447.5	1413.1	1369.3	1317.3	1290.1
15°	1651.4	1644.8	1624.8	1596.6	1552.2	1504.6	1454.1	1409.8	1357.7	1297.9	1265.7
17.5°	1701.3	1694.6	1669.7	1633.7	1578.3	1519.0	1456.9	1402.0	1341.1	1274.0	1239.1
20°	1751.7	1745.1	1713.5	1668.0	1601.0	1529.5	1456.4	1390.4	1321.1	1246.9	1209.7
22.5°	1802.2	1794.4	1756.2	1700.7	1619.8	1536.7	1450.3	1374.3	1296.2	1215.8	1175.9
25°	1848.2	1840.4	1798.3	1732.9	1639.8	1540.0	1439.7	1352.2	1268.5	1181.5	1139.4
27.5°	1888.1	1878.6	1834.9	1762.8	1657.0	1541.1	1425.9	1327.2	1236.3	1144.4	1101.7
30°	1915.8	1907.4	1860.9	1783.9	1666.9	1537.3	1408.1	1297.9	1199.2	1104.5	1060.1
32.5°	1928.0	1920.7	1874.8	1793.8	1668.6	1527.3	1386.5	1265.2	1160.4	1062.3	1017.5
35°	1924.6	1917.4	1873.6	1792.2	1663.6	1512.9	1359.4	1228.0	1118.9	1018.6	973.1
37.5°	1903.6	1895.3	1855.4	1777.2	1649.2	1491.8	1328.3	1187.6	1074.0	973.7	927.7
40°	1863.7	1855.4	1821.0	1749.0	1624.8	1463.6	1292.9	1144.4	1028.0	926.6	881.1
42.5°	1806.6	1797.7	1770.6	1704.6	1589.9	1426.4	1252.4	1098.4	979.2	881.1	833.5
45°	1732.3	1723.5	1705.2	1649.2	1544.5	1382.6	1206.4	1048.5	928.2	829.6	785.3
47.5°	1640.3	1632.6	1623.7	1580.5	1488.5	1332.2	1154.9	995.3	875.0	781.4	735.9
50°	1533.4	1525.6	1528.4	1499.0	1423.7	1274.0	1098.4	939.3	820.2	727.6	686.6
52.5°	1412.0	1405.9	1419.2	1406.5	1348.3	1209.2	1038.0	881.7	764.2	676.6	637.3
55°	1281.2	1274.6	1300.1	1304.0	1264.1	1137.7	969.2	821.8	707.7	626.8	590.7
57.5°	1146.6	1141.0	1173.7	1192.0	1172.1	1060.7	900.0	760.3	649.5	574.7	538.7
60°	1015.2	1010.8	1045.2	1075.1	1072.9	979.2	827.9	693.8	591.3	522.0	491.5
62.5°	891.7	886.7	921.0	956.5	969.2	892.2	756.4	628.4	533.1	469.4	442.2
65°	778.1	773.1	802.4	839.0	862.3	801.3	679.4	560.8	474.4	416.2	392.9
67.5°	673.9	673.9	692.2	726.0	754.2	708.2	600.7	496.5	414.0	366.9	343.6
70°	576.3	575.8	589.1	612.9	645.6	608.5	520.9	428.9	356.9	315.3	294.8
72.5°	483.8	487.7	492.7	510.9	545.3	513.2	441.7	362.4	300.9	264.3	247.2
75°	395.7	395.1	402.3	418.4	443.3	419.5	362.4	297.6	245.5	215.6	200.6
77.5°	311.4	310.9	317.0	326.4	347.5	328.6	286.0	237.7	191.2	166.3	155.7
80°	232.2	232.2	237.7	242.7	258.2	243.3	213.4	177.9	140.2	120.8	112.5
82.5°	161.3	164.6	162.4	169.0	177.9	165.1	146.3	121.9	93.1	79.8	74.3
85°	98.1	100.9	98.1	103.6	107.5	96.4	87.0	72.6	53.8	44.9	41.0
87.5°	50.4	49.9	49.3	52.1	53.2	46.6	41.0	34.9	23.8	18.3	15.5
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°	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3	1348.3
2.5°	1333.9	1337.2	1332.2	1313.9	1306.7	1299.0	1295.6	1292.3	1298.4	1296.8
5°	1322.8	1318.9	1306.2	1282.9	1270.7	1258.0	1251.9	1248.0	1256.3	1254.6
7.5°	1307.8	1296.8	1277.9	1249.6	1234.1	1217.0	1208.6	1203.7	1209.2	1208.1
10°	1289.0	1270.7	1247.4	1213.6	1195.3	1176.5	1167.1	1159.9	1164.3	1163.8
12.5°	1265.2	1241.3	1213.1	1174.8	1156.0	1136.6	1128.3	1123.3	1128.8	1127.2
15°	1238.6	1209.7	1177.1	1138.3	1117.8	1100.0	1093.9	1090.0	1094.5	1094.5
17.5°	1209.2	1175.4	1139.4	1100.0	1080.6	1066.8	1060.7	1057.9	1060.1	1063.4
20°	1176.5	1138.8	1100.0	1061.8	1045.2	1030.8	1025.2	1022.4	1027.4	1025.2
22.5°	1140.5	1100.6	1060.1	1024.1	1009.1	994.7	989.2	987.5	993.1	990.9
25°	1102.2	1059.0	1019.1	986.4	971.5	959.3	954.3	952.6	955.4	958.2
27.5°	1066.2	1017.5	978.1	948.7	935.4	923.8	919.4	916.6	918.8	922.1
30°	1022.4	975.3	936.5	909.4	896.6	885.6	882.2	880.0	883.3	886.1
32.5°	981.4	933.8	895.0	868.4	857.3	846.8	846.2	845.1	849.0	852.3
35°	937.1	890.5	852.9	827.9	817.4	808.5	810.2	811.9	816.3	820.2
37.5°	892.2	846.8	810.7	788.0	778.1	770.8	775.8	778.1	784.1	788.0
40°	846.8	801.3	768.1	747.6	737.6	734.3	741.5	746.5	753.7	757.0
42.5°	800.2	758.1	724.9	706.0	697.7	697.7	707.1	714.9	723.2	726.5
45°	753.7	712.7	681.1	663.9	657.8	662.2	673.3	683.3	693.8	697.1
47.5°	706.6	666.7	637.8	622.3	619.0	625.7	639.5	652.8	665.0	669.4
50°	659.5	623.4	594.6	580.2	580.2	588.5	606.3	622.9	636.2	640.6
52.5°	612.4	578.0	548.6	538.1	540.3	552.0	572.5	589.6	604.6	609.0
55°	564.7	530.9	505.4	496.5	500.4	514.8	535.9	555.8	570.2	575.2
57.5°	517.6	485.5	462.2	455.0	460.5	476.6	501.0	518.1	533.1	537.5
60°	469.9	437.2	419.0	413.4	420.6	437.2	462.2	478.2	492.1	496.5
62.5°	422.8	392.4	376.3	371.3	379.6	397.3	421.7	436.1	446.7	451.1
65°	375.2	348.0	333.1	329.7	338.6	355.8	379.1	391.2	399.0	403.4
67.5°	328.1	304.8	290.9	288.2	297.6	313.1	334.7	341.4	348.6	353.0
70°	281.5	260.5	248.8	247.2	255.5	270.4	288.7	292.0	295.9	299.8
72.5°	235.5	218.9	207.3	206.7	214.5	226.7	241.6	242.2	243.3	247.2
75°	191.2	176.2	167.4	169.0	173.5	183.4	195.1	191.7	192.3	195.1
77.5°	148.5	136.3	130.2	131.3	134.7	141.9	149.6	145.7	143.5	146.3
80°	107.0	96.4	94.2	94.8	97.0	102.0	106.4	103.1	98.6	100.9
82.5°	70.4	63.7	62.6	63.2	64.8	67.6	68.7	63.7	62.6	64.3
85°	38.8	36.0	36.0	37.7	38.2	38.8	38.8	36.0	36.6	37.7
87.5°	15.5	15.5	17.2	18.8	17.7	15.5	13.3	8.9	8.9	10.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)