

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: P834637

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3LO-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834637
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-3LO-27-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

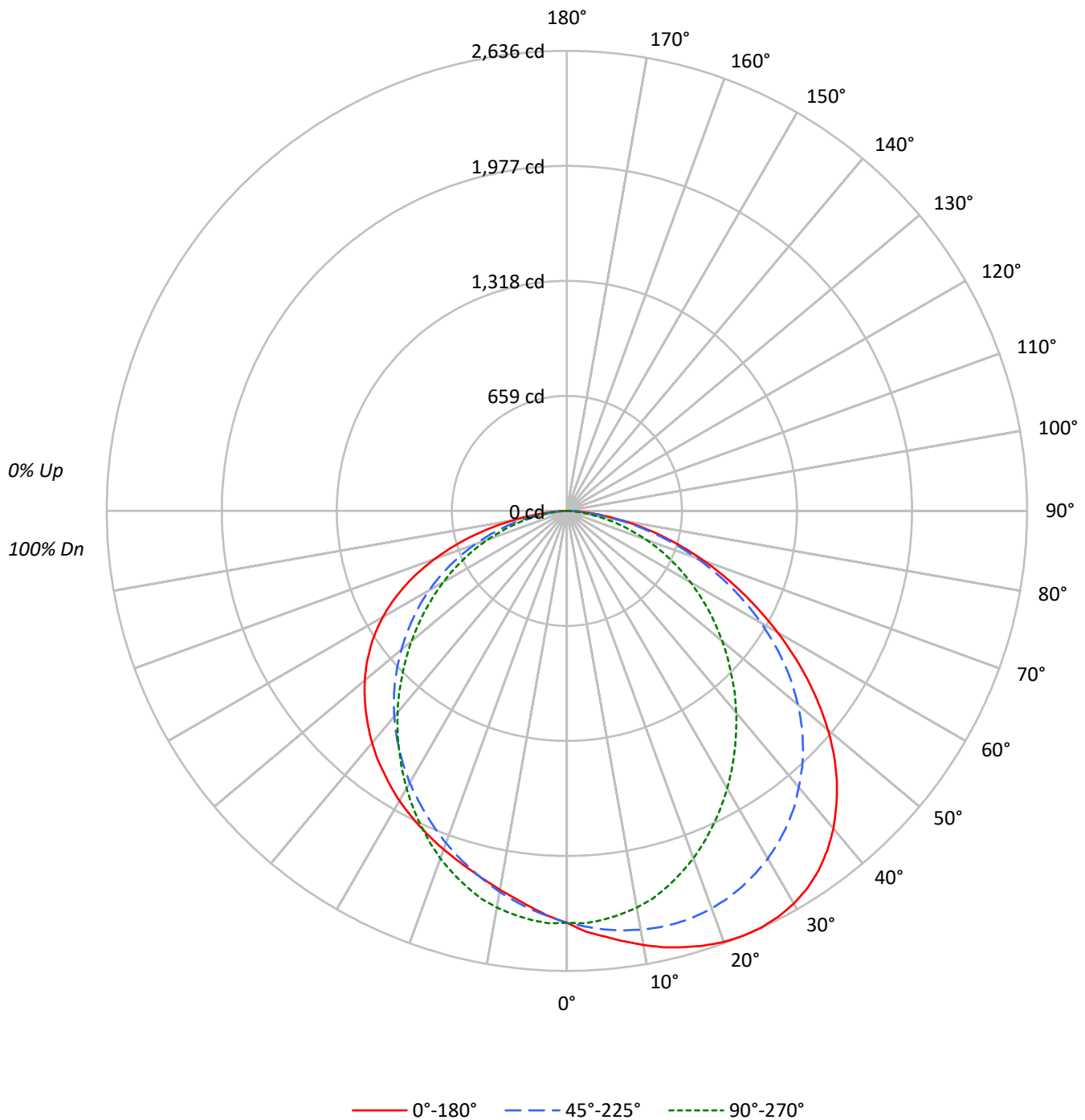
Lumens per Lamp: N/A
Luminaire Lumens: 6941.8 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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: 28.75 FT

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3175	3175	3175
5°	3306	3177	3083
10°	3450	3153	3011
15°	3606	3103	2968
20°	3763	3034	2956
25°	3911	2946	2961
30°	4038	2854	2980
35°	4130	2752	3004
40°	4172	2650	3049
45°	4161	2538	3099
50°	4087	2431	3163
55°	3947	2320	3228
60°	3755	2200	3277
65°	3526	2066	3273
70°	3281	1906	3176
75°	2979	1673	2928
80°	2558	1375	2470
85°	1951	940	1697



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.8	3.2
10°-20°	646.4	9.3
20°-30°	990.2	14.3
30°-40°	1208.4	17.4
40°-50°	1263.8	18.2
50°-60°	1143.8	16.5
60°-70°	866.2	12.5
70°-80°	482.7	7.0
80°-90°	116.4	1.7
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°	1860.4	26.8
0°-40°	3068.8	44.2
0°-60°	5476.4	78.9
0°-90°	6941.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6941.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2360	2360	2360	2360	2360	
5°	2448	2407	2352	2294	2282	236
15°	2588	2444	2227	2124	2131	734
25°	2634	2375	1984	1914	1994	1215
35°	2515	2200	1675	1673	1829	1570
45°	2187	1913	1334	1393	1628	1682
55°	1683	1519	989	1076	1376	1501
65°	1108	1042	649	738	1028	1099
75°	573	541	322	384	563	608
85°	126	111	61	82	110	152
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9
2.5°	2412.0	2400.7	2391.4	2395.0	2397.1	2389.8	2383.6	2384.7	2378.5	2390.4	2362.5
5°	2447.6	2437.3	2426.5	2430.6	2426.5	2415.6	2406.9	2404.3	2387.8	2394.5	2366.1
7.5°	2487.3	2476.0	2460.0	2464.6	2455.9	2435.7	2424.4	2417.7	2392.4	2392.9	2361.5
10°	2525.5	2515.7	2494.0	2497.1	2481.1	2454.3	2436.3	2427.0	2391.4	2386.2	2353.7
12.5°	2561.1	2547.7	2524.5	2526.0	2502.8	2467.2	2444.0	2430.6	2384.2	2368.7	2336.7
15°	2588.4	2575.5	2547.7	2547.2	2517.2	2470.8	2444.5	2425.9	2367.1	2342.9	2309.4
17.5°	2611.6	2599.8	2565.2	2564.2	2528.1	2469.3	2437.8	2414.6	2342.4	2312.5	2275.3
20°	2628.2	2616.3	2577.6	2574.0	2530.7	2461.5	2423.9	2394.5	2309.9	2274.3	2233.0
22.5°	2635.9	2624.0	2580.2	2575.0	2524.5	2446.1	2403.8	2369.2	2272.7	2226.3	2183.5
25°	2634.3	2623.0	2573.5	2568.3	2512.6	2422.9	2375.4	2335.7	2225.8	2171.1	2128.8
27.5°	2621.4	2612.7	2560.6	2553.9	2490.9	2391.4	2340.8	2297.0	2173.7	2112.8	2066.9
30°	2599.3	2592.6	2537.4	2531.2	2464.1	2356.8	2300.6	2250.0	2117.5	2048.9	2002.5
32.5°	2563.7	2557.5	2501.8	2496.1	2428.0	2312.5	2253.7	2201.6	2056.1	1980.3	1933.8
35°	2514.7	2511.1	2456.9	2450.7	2381.6	2261.9	2199.5	2142.2	1992.1	1906.5	1862.1
37.5°	2450.2	2450.2	2398.1	2391.4	2323.8	2200.0	2138.6	2077.8	1919.9	1829.1	1785.3
40°	2375.4	2382.1	2329.0	2322.3	2256.8	2133.5	2066.4	2002.5	1842.0	1747.6	1704.8
42.5°	2285.6	2291.8	2247.5	2241.3	2179.9	2056.6	1994.2	1924.6	1760.5	1664.6	1620.2
45°	2186.6	2194.9	2155.1	2150.5	2093.2	1972.5	1912.7	1842.0	1675.4	1577.9	1534.6
47.5°	2076.2	2087.0	2052.5	2049.9	1996.8	1886.4	1824.0	1752.3	1586.2	1487.7	1446.9
50°	1952.4	1967.9	1939.5	1939.5	1892.1	1782.2	1728.0	1656.3	1493.3	1394.8	1354.6
52.5°	1819.8	1839.4	1818.3	1818.8	1780.1	1681.6	1625.4	1555.2	1396.4	1299.4	1262.2
55°	1682.6	1701.7	1688.3	1690.4	1659.9	1570.2	1519.1	1449.5	1297.3	1202.9	1167.8
57.5°	1539.2	1559.9	1551.1	1555.2	1534.1	1453.6	1400.5	1339.6	1195.2	1101.8	1071.9
60°	1395.3	1414.9	1410.3	1416.0	1402.5	1332.9	1284.4	1221.5	1092.5	1002.8	976.5
62.5°	1249.9	1267.9	1266.9	1273.1	1265.8	1208.1	1164.7	1111.1	986.3	903.7	879.5
65°	1107.5	1123.0	1121.9	1128.6	1127.1	1080.7	1041.5	992.5	880.0	804.2	783.0
67.5°	969.2	982.1	978.5	986.3	988.3	951.2	917.1	873.3	778.9	705.1	687.1
70°	834.1	842.9	838.2	843.4	848.0	820.2	791.3	752.6	671.1	606.1	591.1
72.5°	701.5	707.7	700.5	705.7	709.8	689.7	665.9	632.4	564.8	508.6	496.2
75°	573.1	581.9	566.9	572.1	575.1	555.0	541.1	513.8	455.5	412.1	403.9
77.5°	448.8	453.9	445.7	443.6	445.7	431.2	420.4	399.3	355.4	319.8	314.7
80°	330.1	333.2	325.0	322.9	324.5	314.1	305.9	290.4	259.5	232.6	230.6
82.5°	221.3	222.8	215.6	213.6	214.6	211.5	201.7	190.9	176.4	153.7	153.2
85°	126.4	126.4	121.2	119.2	120.2	115.0	111.4	105.7	100.1	84.6	85.6
87.5°	46.4	46.4	43.8	43.3	48.5	42.8	41.3	38.7	40.2	32.0	34.0
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9	2359.9
2.5°	2370.2	2365.1	2360.4	2344.4	2351.2	2334.6	2333.6	2327.4	2322.8	2314.0	2325.4
5°	2362.5	2352.2	2338.8	2319.7	2325.4	2305.8	2301.6	2294.4	2288.2	2276.9	2285.6
7.5°	2350.1	2333.1	2311.9	2287.7	2295.4	2271.2	2265.0	2257.3	2252.1	2238.7	2246.4
10°	2332.1	2307.8	2283.1	2253.7	2259.3	2233.0	2225.3	2217.0	2212.4	2200.5	2208.3
12.5°	2304.2	2274.8	2241.3	2209.3	2215.5	2190.7	2180.4	2171.6	2170.1	2160.3	2169.6
15°	2268.1	2227.4	2192.8	2158.7	2166.0	2137.1	2132.4	2123.7	2126.2	2119.5	2130.9
17.5°	2222.2	2175.3	2137.6	2101.0	2108.2	2084.0	2080.3	2076.2	2078.8	2077.8	2090.1
20°	2170.6	2119.0	2075.7	2039.6	2043.7	2024.6	2026.2	2025.1	2030.3	2036.0	2053.0
22.5°	2112.3	2054.0	2008.6	1971.5	1977.7	1961.2	1968.4	1970.5	1979.2	1992.1	2013.8
25°	2046.8	1984.4	1936.9	1901.9	1907.5	1896.7	1909.1	1914.2	1928.2	1949.8	1972.0
27.5°	1978.2	1912.2	1861.6	1828.1	1838.9	1828.1	1846.7	1857.0	1878.1	1901.9	1929.2
30°	1905.5	1836.9	1784.8	1754.9	1765.2	1755.4	1785.3	1799.2	1820.4	1852.9	1885.4
32.5°	1829.1	1756.9	1705.8	1682.6	1689.9	1688.3	1721.8	1737.3	1765.7	1802.8	1837.4
35°	1750.7	1675.4	1623.8	1604.2	1613.0	1615.1	1655.3	1673.4	1704.3	1749.2	1786.3
37.5°	1669.7	1592.9	1542.3	1526.3	1534.1	1541.8	1588.8	1606.8	1641.9	1690.9	1731.6
40°	1585.7	1508.8	1459.3	1446.4	1454.1	1462.4	1513.4	1538.2	1576.4	1629.5	1673.9
42.5°	1500.5	1423.7	1375.7	1366.4	1374.2	1390.2	1444.3	1467.5	1507.8	1566.6	1615.6
45°	1413.9	1333.9	1292.2	1284.9	1293.2	1311.8	1364.9	1392.7	1435.6	1500.0	1552.6
47.5°	1326.2	1248.3	1208.6	1203.9	1212.2	1232.8	1291.6	1316.9	1362.3	1430.9	1487.7
50°	1237.5	1161.6	1123.5	1121.9	1129.7	1151.8	1208.1	1238.0	1284.9	1361.8	1420.1
52.5°	1147.7	1075.0	1040.4	1040.4	1047.6	1070.3	1127.1	1158.0	1206.5	1287.5	1352.0
55°	1058.0	988.8	955.8	958.4	968.7	988.3	1043.5	1076.0	1125.0	1209.1	1277.2
57.5°	968.2	902.7	872.8	876.4	886.2	905.8	960.0	996.6	1040.9	1128.1	1197.8
60°	879.5	817.6	791.3	795.4	804.2	823.8	880.0	911.5	955.8	1044.6	1114.2
62.5°	789.7	733.5	708.7	713.9	721.6	741.2	794.4	824.8	868.7	955.8	1026.0
65°	701.0	648.9	627.8	632.9	640.1	658.2	708.2	737.6	779.4	864.5	931.6
67.5°	613.3	565.9	548.3	553.5	559.2	576.2	617.4	649.4	688.6	769.6	833.1
70°	526.7	484.4	468.9	474.0	479.2	494.7	530.8	560.2	596.3	670.6	729.4
72.5°	441.0	399.8	392.0	396.7	400.8	414.2	448.8	472.0	503.4	569.5	620.0
75°	357.5	321.9	316.7	321.4	325.0	335.3	364.2	384.3	410.6	467.9	509.1
77.5°	277.0	247.1	245.0	248.6	252.2	259.5	282.2	303.3	323.9	366.2	402.9
80°	201.7	177.4	177.4	181.1	180.0	188.8	204.8	221.8	236.8	267.2	294.0
82.5°	133.1	114.0	116.6	119.2	120.7	124.3	134.1	147.0	156.3	174.9	192.4
85°	73.8	60.9	63.4	65.5	64.5	68.6	73.8	81.5	86.1	94.9	104.2
87.5°	27.3	22.7	23.2	24.8	25.8	27.9	27.9	32.5	33.0	34.0	36.1
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):

	160°	170°	180°
0°	2359.9	2359.9	2359.9
2.5°	2303.7	2316.1	2325.4
5°	2264.0	2274.3	2282.5
7.5°	2225.3	2234.6	2241.8
10°	2188.7	2199.0	2204.1
12.5°	2151.0	2162.9	2167.0
15°	2113.9	2125.7	2130.9
17.5°	2075.7	2091.2	2096.8
20°	2040.1	2059.7	2064.3
22.5°	2004.0	2024.1	2029.8
25°	1964.8	1988.5	1994.2
27.5°	1923.0	1951.4	1957.1
30°	1881.2	1912.2	1917.9
32.5°	1836.4	1869.9	1875.0
35°	1789.4	1822.9	1829.1
37.5°	1737.3	1773.9	1786.3
40°	1683.2	1722.9	1735.8
42.5°	1626.4	1669.7	1683.2
45°	1565.5	1613.0	1628.5
47.5°	1504.2	1557.8	1571.2
50°	1437.6	1494.9	1510.9
52.5°	1368.0	1430.4	1446.4
55°	1295.8	1358.7	1376.2
57.5°	1217.4	1282.4	1300.9
60°	1135.3	1200.3	1217.9
62.5°	1051.3	1110.1	1127.1
65°	957.4	1012.6	1028.0
67.5°	857.8	908.4	921.3
70°	752.1	795.9	807.3
72.5°	641.7	672.1	687.1
75°	527.7	551.9	563.3
77.5°	413.2	430.2	439.5
80°	301.2	311.0	318.8
82.5°	197.0	201.2	206.8
85°	106.3	106.3	109.9
87.5°	36.1	34.6	36.1
90°	0.0	0.0	0.0

(END OF REPORT)