

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: P834620

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3STD-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834620
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-LD4-3STD-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

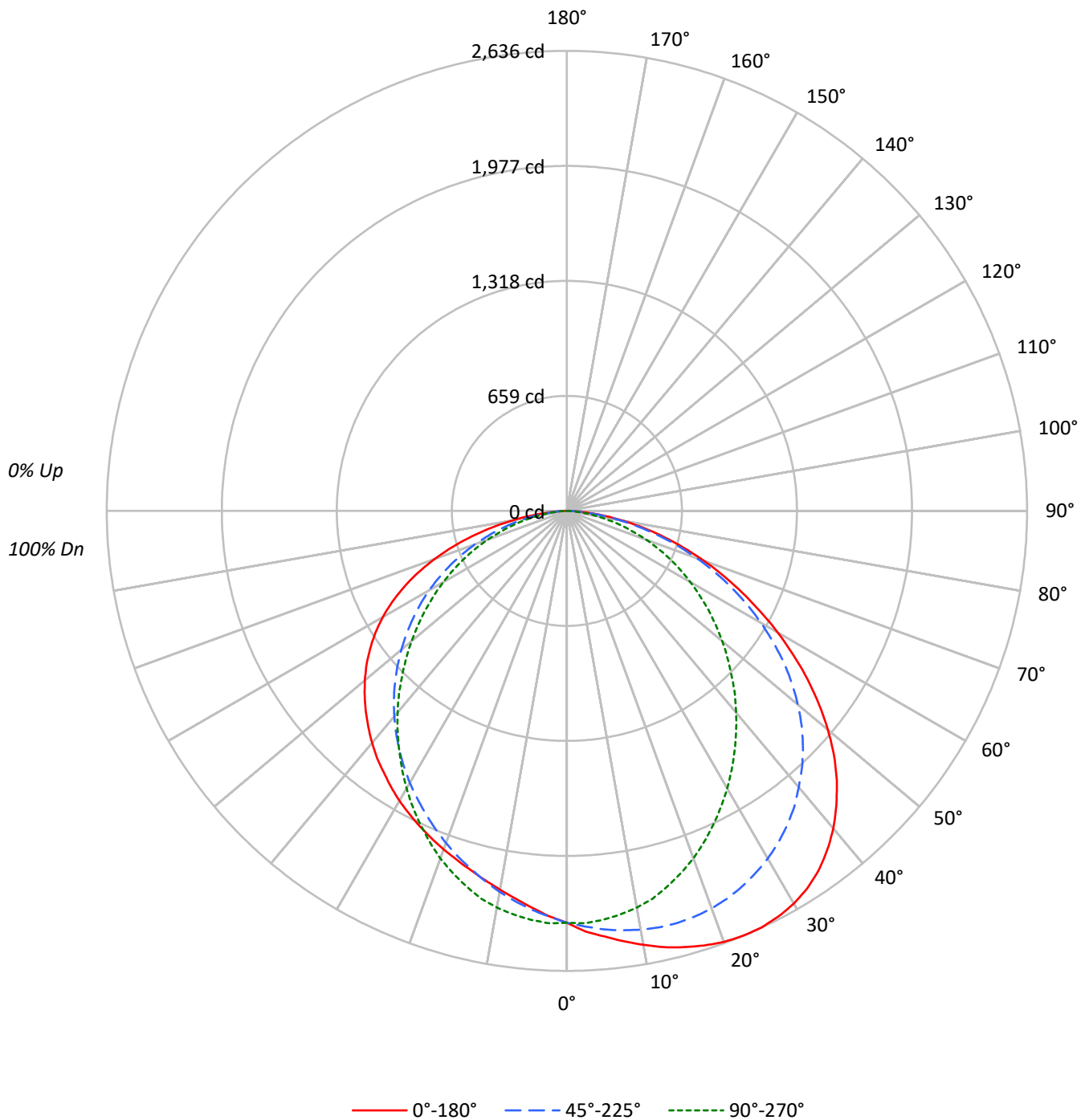
Lumens per Lamp: N/A
Luminaire Lumens: 6941.1 lumens
Efficiency: N/A
Efficacy: 69.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	86	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	61	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3175	3175	3175
5°	3306	3177	3083
10°	3450	3153	3011
15°	3605	3102	2968
20°	3763	3034	2955
25°	3911	2946	2960
30°	4038	2854	2979
35°	4130	2752	3004
40°	4172	2650	3048
45°	4160	2538	3098
50°	4086	2431	3162
55°	3947	2319	3228
60°	3754	2200	3277
65°	3526	2066	3273
70°	3281	1905	3175
75°	2979	1673	2928
80°	2558	1375	2470
85°	1951	940	1697

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.8	3.2
10°-20°	646.3	9.3
20°-30°	990.1	14.3
30°-40°	1208.3	17.4
40°-50°	1263.6	18.2
50°-60°	1143.7	16.5
60°-70°	866.1	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°	1860.2	26.8
0°-40°	3068.5	44.2
0°-60°	5475.8	78.9
0°-90°	6941.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6941.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2360	2360	2360	2360	2360	
5°	2447	2407	2352	2294	2282	236
15°	2588	2444	2227	2124	2131	734
25°	2634	2375	1984	1914	1994	1215
35°	2514	2199	1675	1673	1829	1570
45°	2186	1912	1334	1393	1628	1682
55°	1682	1519	989	1076	1376	1501
65°	1107	1041	649	738	1028	1098
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°	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7
2.5°	2411.8	2400.4	2391.1	2394.8	2396.8	2389.6	2383.4	2384.4	2378.3	2390.1	2362.3
5°	2447.4	2437.0	2426.2	2430.3	2426.2	2415.4	2406.6	2404.0	2387.5	2394.2	2365.9
7.5°	2487.1	2475.7	2459.7	2464.4	2455.6	2435.5	2424.2	2417.4	2392.2	2392.7	2361.2
10°	2525.2	2515.4	2493.8	2496.9	2480.9	2454.1	2436.0	2426.7	2391.1	2386.0	2353.5
12.5°	2560.8	2547.4	2524.2	2525.8	2502.6	2467.0	2443.8	2430.3	2383.9	2368.5	2336.5
15°	2588.2	2575.3	2547.4	2546.9	2517.0	2470.6	2444.3	2425.7	2366.9	2342.7	2309.1
17.5°	2611.4	2599.5	2565.0	2563.9	2527.8	2469.0	2437.6	2414.4	2342.1	2312.2	2275.1
20°	2627.9	2616.0	2577.3	2573.7	2530.4	2461.3	2423.6	2394.2	2309.7	2274.1	2232.8
22.5°	2635.6	2623.8	2579.9	2574.8	2524.2	2445.8	2403.5	2369.0	2272.5	2226.1	2183.3
25°	2634.1	2622.7	2573.2	2568.1	2512.4	2422.6	2375.2	2335.4	2225.6	2170.9	2128.6
27.5°	2621.2	2612.4	2560.3	2553.6	2490.7	2391.1	2340.6	2296.8	2173.5	2112.6	2066.7
30°	2599.0	2592.3	2537.1	2530.9	2463.9	2356.6	2300.4	2249.8	2117.3	2048.7	2002.2
32.5°	2563.4	2557.2	2501.5	2495.8	2427.8	2312.2	2253.4	2201.3	2055.9	1980.1	1933.7
35°	2514.4	2510.8	2456.6	2450.5	2381.3	2261.7	2199.3	2142.0	1991.9	1906.3	1862.0
37.5°	2449.9	2449.9	2397.8	2391.1	2323.6	2199.8	2138.4	2077.6	1919.7	1828.9	1785.1
40°	2375.2	2381.9	2328.7	2322.0	2256.5	2133.3	2066.2	2002.2	1841.8	1747.5	1704.6
42.5°	2285.4	2291.6	2247.2	2241.1	2179.7	2056.4	1994.0	1924.4	1760.3	1664.4	1620.1
45°	2186.4	2194.6	2154.9	2150.3	2093.0	1972.3	1912.5	1841.8	1675.2	1577.8	1534.4
47.5°	2076.0	2086.8	2052.3	2049.7	1996.6	1886.2	1823.8	1752.1	1586.0	1487.5	1446.8
50°	1952.2	1967.7	1939.3	1939.3	1891.9	1782.0	1727.9	1656.2	1493.2	1394.7	1354.4
52.5°	1819.7	1839.3	1818.1	1818.6	1779.9	1681.4	1625.2	1555.1	1396.2	1299.2	1262.1
55°	1682.5	1701.6	1688.1	1690.2	1659.8	1570.0	1519.0	1449.3	1297.2	1202.8	1167.7
57.5°	1539.1	1559.7	1550.9	1555.1	1533.9	1453.5	1400.3	1339.5	1195.1	1101.7	1071.8
60°	1395.2	1414.8	1410.1	1415.8	1402.4	1332.8	1284.3	1221.4	1092.4	1002.7	976.4
62.5°	1249.7	1267.8	1266.7	1272.9	1265.7	1208.0	1164.6	1111.0	986.2	903.6	879.4
65°	1107.4	1122.8	1121.8	1128.5	1127.0	1080.6	1041.4	992.4	879.9	804.1	783.0
67.5°	969.1	982.0	978.4	986.2	988.2	951.1	917.1	873.2	778.8	705.1	687.0
70°	834.0	842.8	838.1	843.3	847.9	820.1	791.2	752.5	671.0	606.0	591.1
72.5°	701.5	707.6	700.4	705.6	709.7	689.6	665.9	632.3	564.8	508.6	496.2
75°	573.0	581.8	566.8	572.0	575.1	555.0	541.1	513.7	455.4	412.1	403.9
77.5°	448.7	453.9	445.6	443.6	445.6	431.2	420.4	399.2	355.4	319.8	314.6
80°	330.1	333.2	324.9	322.9	324.4	314.1	305.9	290.4	259.4	232.6	230.6
82.5°	221.3	222.8	215.6	213.5	214.6	211.5	201.7	190.8	176.4	153.7	153.2
85°	126.4	126.4	121.2	119.1	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°	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7	2359.7
2.5°	2370.0	2364.8	2360.2	2344.2	2350.9	2334.4	2333.4	2327.2	2322.5	2313.8	2325.1
5°	2362.3	2351.9	2338.5	2319.5	2325.1	2305.5	2301.4	2294.2	2288.0	2276.6	2285.4
7.5°	2349.9	2332.9	2311.7	2287.5	2295.2	2271.0	2264.8	2257.0	2251.9	2238.5	2246.2
10°	2331.8	2307.6	2282.8	2253.4	2259.1	2232.8	2225.1	2216.8	2212.2	2200.3	2208.0
12.5°	2304.0	2274.6	2241.1	2209.1	2215.3	2190.5	2180.2	2171.4	2169.9	2160.1	2169.4
15°	2267.9	2227.1	2192.6	2158.5	2165.7	2136.9	2132.2	2123.5	2126.0	2119.3	2130.7
17.5°	2222.0	2175.0	2137.4	2100.8	2108.0	2083.7	2080.1	2076.0	2078.6	2077.6	2089.9
20°	2170.4	2118.8	2075.5	2039.4	2043.5	2024.4	2026.0	2024.9	2030.1	2035.8	2052.8
22.5°	2112.1	2053.8	2008.4	1971.3	1977.5	1961.0	1968.2	1970.3	1979.0	1991.9	2013.6
25°	2046.6	1984.2	1936.7	1901.7	1907.3	1896.5	1908.9	1914.1	1928.0	1949.6	1971.8
27.5°	1978.0	1912.0	1861.4	1827.9	1838.7	1827.9	1846.5	1856.8	1877.9	1901.7	1929.0
30°	1905.3	1836.7	1784.6	1754.7	1765.0	1755.2	1785.1	1799.0	1820.2	1852.7	1885.2
32.5°	1828.9	1756.7	1705.7	1682.5	1689.7	1688.1	1721.7	1737.1	1765.5	1802.6	1837.2
35°	1750.5	1675.2	1623.7	1604.1	1612.8	1614.9	1655.1	1673.2	1704.1	1749.0	1786.1
37.5°	1669.6	1592.7	1542.2	1526.2	1533.9	1541.7	1588.6	1606.6	1641.7	1690.7	1731.5
40°	1585.5	1508.6	1459.1	1446.2	1454.0	1462.2	1513.3	1538.0	1576.2	1629.3	1673.7
42.5°	1500.4	1423.5	1375.6	1366.3	1374.0	1390.0	1444.2	1467.4	1507.6	1566.4	1615.4
45°	1413.7	1333.8	1292.0	1284.8	1293.1	1311.6	1364.7	1392.6	1435.4	1499.9	1552.5
47.5°	1326.1	1248.2	1208.5	1203.8	1212.1	1232.7	1291.5	1316.8	1362.2	1430.8	1487.5
50°	1237.4	1161.5	1123.4	1121.8	1129.6	1151.7	1208.0	1237.9	1284.8	1361.7	1419.9
52.5°	1147.6	1074.9	1040.3	1040.3	1047.5	1070.2	1127.0	1157.9	1206.4	1287.4	1351.9
55°	1057.9	988.7	955.7	958.3	968.6	988.2	1043.4	1075.9	1124.9	1209.0	1277.1
57.5°	968.1	902.6	872.7	876.3	886.1	905.7	959.9	996.5	1040.8	1128.0	1197.6
60°	879.4	817.5	791.2	795.3	804.1	823.7	879.9	911.4	955.7	1044.4	1114.1
62.5°	789.7	733.4	708.7	713.8	721.6	741.2	794.3	824.7	868.6	955.7	1025.9
65°	700.9	648.8	627.7	632.9	640.1	658.1	708.2	737.6	779.3	864.4	931.5
67.5°	613.3	565.8	548.3	553.4	559.1	576.1	617.4	649.4	688.6	769.5	833.0
70°	526.6	484.3	468.8	474.0	479.2	494.6	530.7	560.1	596.2	670.5	729.3
72.5°	441.0	399.7	392.0	396.6	400.8	414.2	448.7	471.9	503.4	569.4	620.0
75°	357.4	321.8	316.7	321.3	324.9	335.3	364.1	384.3	410.6	467.8	509.1
77.5°	277.0	247.1	245.0	248.6	252.2	259.4	282.1	303.3	323.9	366.2	402.8
80°	201.7	177.4	177.4	181.0	180.0	188.8	204.8	221.8	236.7	267.2	294.0
82.5°	133.1	114.0	116.6	119.1	120.7	124.3	134.1	147.0	156.3	174.8	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°	2359.7	2359.7	2359.7
2.5°	2303.5	2315.8	2325.1
5°	2263.7	2274.1	2282.3
7.5°	2225.1	2234.3	2241.6
10°	2188.4	2198.8	2203.9
12.5°	2150.8	2162.7	2166.8
15°	2113.7	2125.5	2130.7
17.5°	2075.5	2091.0	2096.6
20°	2039.9	2059.5	2064.1
22.5°	2003.8	2023.9	2029.6
25°	1964.6	1988.3	1994.0
27.5°	1922.8	1951.2	1956.9
30°	1881.0	1912.0	1917.7
32.5°	1836.2	1869.7	1874.9
35°	1789.2	1822.8	1828.9
37.5°	1737.1	1773.8	1786.1
40°	1683.0	1722.7	1735.6
42.5°	1626.2	1669.6	1683.0
45°	1565.4	1612.8	1628.3
47.5°	1504.0	1557.6	1571.1
50°	1437.5	1494.7	1510.7
52.5°	1367.8	1430.3	1446.2
55°	1295.6	1358.6	1376.1
57.5°	1217.2	1282.2	1300.8
60°	1135.2	1200.2	1217.8
62.5°	1051.2	1110.0	1127.0
65°	957.3	1012.5	1027.9
67.5°	857.7	908.3	921.2
70°	752.0	795.8	807.2
72.5°	641.6	672.1	687.0
75°	527.6	551.9	563.2
77.5°	413.1	430.2	439.4
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)