

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: P834671

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834671
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-LD4-2STD-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

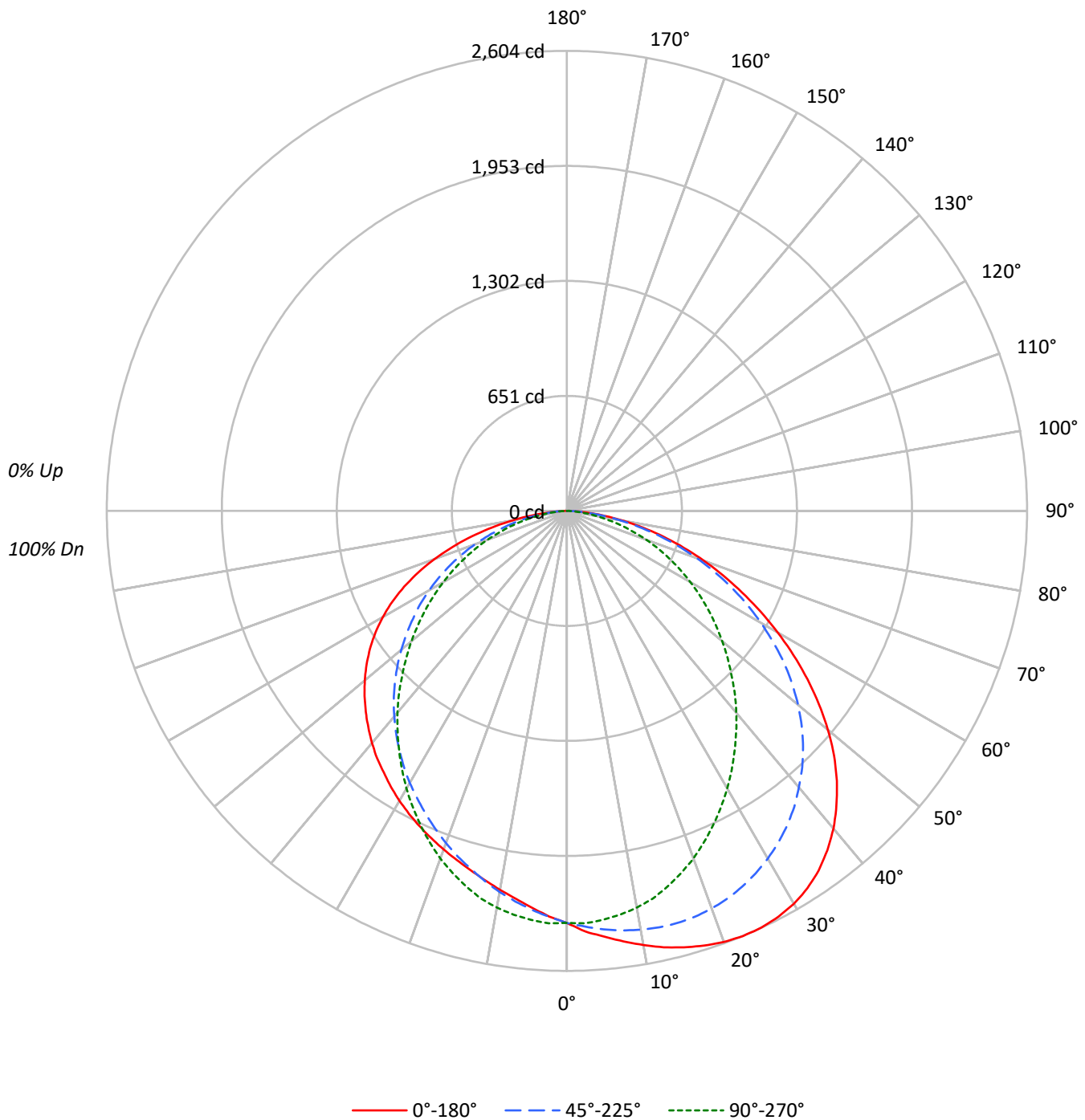
Lumens per Lamp: N/A
Luminaire Lumens: 6859.0 lumens
Efficiency: N/A
Efficacy: 103.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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

Peachtree City, GA 30269



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3137	3137	3137
5°	3266	3139	3046
10°	3409	3115	2976
15°	3563	3066	2933
20°	3718	2998	2921
25°	3864	2911	2925
30°	3990	2820	2944
35°	4081	2719	2969
40°	4122	2618	3012
45°	4111	2508	3062
50°	4038	2403	3125
55°	3900	2292	3190
60°	3710	2174	3238
65°	3484	2041	3234
70°	3242	1883	3138
75°	2944	1653	2894
80°	2528	1358	2441
85°	1928	928	1677



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.2	3.2
10°-20°	638.6	9.3
20°-30°	978.4	14.3
30°-40°	1194.0	17.4
40°-50°	1248.7	18.2
50°-60°	1130.1	16.5
60°-70°	855.9	12.5
70°-80°	477.0	7.0
80°-90°	115.1	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°	1838.2	26.8
0°-40°	3032.2	44.2
0°-60°	5411.1	78.9
0°-90°	6859.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6859.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2332	2332	2332	2332	2332	
5°	2418	2378	2324	2267	2255	233
15°	2558	2415	2201	2098	2106	725
25°	2603	2347	1961	1891	1970	1201
35°	2485	2173	1655	1653	1807	1552
45°	2160	1890	1318	1376	1609	1662
55°	1663	1501	977	1063	1360	1484
65°	1094	1029	641	729	1016	1085
75°	566	535	318	380	557	601
85°	125	110	60	80	109	150
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°	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8
2.5°	2383.3	2372.0	2362.9	2366.4	2368.5	2361.3	2355.2	2356.2	2350.1	2361.8	2334.3
5°	2418.4	2408.2	2397.5	2401.6	2397.5	2386.8	2378.2	2375.6	2359.3	2365.9	2337.9
7.5°	2457.7	2446.5	2430.7	2435.2	2426.6	2406.7	2395.5	2388.9	2363.9	2364.4	2333.3
10°	2495.4	2485.7	2464.3	2467.4	2451.6	2425.0	2407.2	2398.0	2362.9	2357.8	2325.7
12.5°	2530.6	2517.3	2494.4	2495.9	2473.0	2437.8	2414.9	2401.6	2355.7	2340.4	2308.8
15°	2557.6	2544.8	2517.3	2516.8	2487.2	2441.4	2415.4	2397.0	2338.9	2315.0	2281.8
17.5°	2580.5	2568.8	2534.6	2533.6	2497.9	2439.8	2408.7	2385.8	2314.4	2284.9	2248.2
20°	2596.8	2585.1	2546.9	2543.3	2500.5	2432.2	2395.0	2365.9	2282.3	2247.2	2206.4
22.5°	2604.5	2592.7	2549.4	2544.3	2494.4	2416.9	2375.1	2341.0	2245.6	2199.8	2157.5
25°	2602.9	2591.7	2542.8	2537.7	2482.6	2394.0	2347.1	2307.8	2199.3	2145.2	2103.4
27.5°	2590.2	2581.5	2530.0	2523.4	2461.2	2362.9	2312.9	2269.6	2147.8	2087.6	2042.3
30°	2568.3	2561.6	2507.1	2501.0	2434.7	2328.7	2273.2	2223.2	2092.2	2024.4	1978.6
32.5°	2533.1	2527.0	2471.9	2466.3	2399.1	2284.9	2226.8	2175.3	2031.6	1956.7	1910.8
35°	2484.7	2481.1	2427.6	2421.5	2353.2	2234.9	2173.3	2116.7	1968.4	1883.8	1839.9
37.5°	2421.0	2421.0	2369.5	2362.9	2296.1	2173.8	2113.1	2053.0	1897.0	1807.3	1764.0
40°	2347.1	2353.7	2301.2	2294.6	2229.8	2108.0	2041.8	1978.6	1820.1	1726.8	1684.5
42.5°	2258.4	2264.5	2220.7	2214.6	2153.9	2032.1	1970.4	1901.6	1739.5	1644.7	1600.9
45°	2160.5	2168.7	2129.4	2124.8	2068.3	1949.0	1889.9	1820.1	1655.4	1559.1	1516.3
47.5°	2051.5	2062.2	2028.0	2025.5	1973.0	1863.9	1802.2	1731.4	1567.3	1469.9	1429.6
50°	1929.1	1944.4	1916.4	1916.4	1869.5	1760.9	1707.4	1636.6	1475.5	1378.2	1338.4
52.5°	1798.1	1817.5	1796.6	1797.1	1758.9	1661.5	1606.0	1536.7	1379.7	1283.9	1247.2
55°	1662.6	1681.4	1668.2	1670.2	1640.1	1551.5	1501.0	1432.2	1281.8	1188.6	1153.9
57.5°	1520.9	1541.3	1532.6	1536.7	1515.8	1436.3	1383.8	1323.6	1180.9	1088.7	1059.1
60°	1378.7	1398.0	1393.5	1399.1	1385.8	1317.0	1269.1	1206.9	1079.5	990.8	964.8
62.5°	1234.9	1252.8	1251.8	1257.9	1250.7	1193.7	1150.9	1097.8	974.5	893.0	869.0
65°	1094.3	1109.6	1108.5	1115.2	1113.6	1067.8	1029.0	980.6	869.5	794.6	773.7
67.5°	957.7	970.4	966.9	974.5	976.5	939.8	906.2	862.9	769.6	696.7	678.9
70°	824.1	832.8	828.2	833.3	837.9	810.4	781.8	743.6	663.1	598.9	584.1
72.5°	693.2	699.3	692.1	697.2	701.3	681.4	658.0	624.9	558.1	502.5	490.3
75°	566.3	574.9	560.1	565.2	568.3	548.4	534.7	507.6	450.0	407.2	399.1
77.5°	443.4	448.5	440.4	438.3	440.4	426.1	415.4	394.5	351.2	316.0	310.9
80°	326.2	329.3	321.1	319.1	320.6	310.4	302.2	286.9	256.4	229.9	227.8
82.5°	218.7	220.2	213.0	211.0	212.0	209.0	199.3	188.6	174.3	151.9	151.4
85°	124.9	124.9	119.8	117.7	118.8	113.7	110.1	104.5	98.9	83.6	84.6
87.5°	45.9	45.9	43.3	42.8	47.9	42.3	40.8	38.2	39.8	31.6	33.6
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°	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8	2331.8
2.5°	2342.0	2336.9	2332.3	2316.5	2323.1	2306.8	2305.8	2299.7	2295.1	2286.4	2297.6
5°	2334.3	2324.1	2310.9	2292.0	2297.6	2278.3	2274.2	2267.0	2260.9	2249.7	2258.4
7.5°	2322.1	2305.3	2284.4	2260.4	2268.1	2244.1	2238.0	2230.4	2225.3	2212.0	2219.6
10°	2304.3	2280.3	2255.8	2226.8	2232.4	2206.4	2198.8	2190.6	2186.0	2174.3	2181.9
12.5°	2276.7	2247.7	2214.6	2183.0	2189.1	2164.6	2154.4	2145.7	2144.2	2134.5	2143.7
15°	2241.1	2200.8	2166.6	2133.0	2140.1	2111.6	2107.0	2098.3	2100.9	2094.3	2105.5
17.5°	2195.7	2149.3	2112.1	2075.9	2083.1	2059.1	2055.5	2051.5	2054.0	2053.0	2065.2
20°	2144.7	2093.8	2050.9	2015.3	2019.3	2000.5	2002.0	2001.0	2006.1	2011.7	2028.5
22.5°	2087.1	2029.5	1984.7	1948.0	1954.1	1937.8	1944.9	1947.0	1955.6	1968.4	1989.8
25°	2022.4	1960.7	1913.8	1879.2	1884.8	1874.1	1886.3	1891.4	1905.2	1926.6	1948.5
27.5°	1954.6	1889.4	1839.4	1806.3	1817.0	1806.3	1824.6	1834.8	1855.7	1879.2	1906.2
30°	1882.7	1815.0	1763.5	1733.9	1744.1	1734.4	1764.0	1777.8	1798.7	1830.8	1862.9
32.5°	1807.3	1736.0	1685.5	1662.6	1669.7	1668.2	1701.3	1716.6	1744.6	1781.3	1815.5
35°	1729.8	1655.4	1604.5	1585.1	1593.8	1595.8	1635.6	1653.4	1684.0	1728.3	1765.0
37.5°	1649.8	1573.9	1523.9	1508.1	1515.8	1523.4	1569.8	1587.6	1622.3	1670.7	1711.0
40°	1566.7	1490.8	1441.9	1429.1	1436.8	1444.9	1495.4	1519.9	1557.6	1610.1	1653.9
42.5°	1482.7	1406.7	1359.3	1350.1	1357.8	1373.6	1427.1	1450.0	1489.8	1547.9	1596.3
45°	1397.0	1318.0	1276.7	1269.6	1277.8	1296.1	1348.6	1376.1	1418.4	1482.1	1534.1
47.5°	1310.4	1233.4	1194.2	1189.6	1197.7	1218.1	1276.2	1301.2	1346.1	1413.8	1469.9
50°	1222.7	1147.8	1110.1	1108.5	1116.2	1138.1	1193.7	1223.2	1269.6	1345.5	1403.1
52.5°	1134.0	1062.2	1028.0	1028.0	1035.2	1057.6	1113.6	1144.2	1192.1	1272.2	1335.9
55°	1045.3	977.1	944.4	947.0	957.2	976.5	1031.1	1063.2	1111.6	1194.7	1262.0
57.5°	956.7	891.9	862.4	865.9	875.6	895.0	948.5	984.7	1028.5	1114.7	1183.5
60°	869.0	807.8	781.8	785.9	794.6	814.0	869.5	900.6	944.4	1032.1	1100.9
62.5°	780.3	724.8	700.3	705.4	713.0	732.4	784.9	815.0	858.3	944.4	1013.7
65°	692.7	641.2	620.3	625.4	632.5	650.3	699.8	728.8	770.1	854.2	920.5
67.5°	606.0	559.1	541.8	546.9	552.5	569.3	610.1	641.7	680.4	760.4	823.1
70°	520.4	478.6	463.3	468.4	473.5	488.8	524.5	553.5	589.2	662.6	720.7
72.5°	435.8	395.0	387.4	391.9	396.0	409.3	443.4	466.4	497.4	562.7	612.6
75°	353.2	318.0	312.9	317.5	321.1	331.3	359.8	379.7	405.7	462.3	503.1
77.5°	273.7	244.1	242.1	245.7	249.2	256.4	278.8	299.7	320.1	361.9	398.1
80°	199.3	175.3	175.3	178.9	177.9	186.5	202.3	219.2	233.9	264.0	290.5
82.5°	131.5	112.6	115.2	117.7	119.3	122.8	132.5	145.3	154.4	172.8	190.1
85°	72.9	60.1	62.7	64.7	63.7	67.8	72.9	80.5	85.1	93.8	103.0
87.5°	27.0	22.4	22.9	24.5	25.5	27.5	27.5	32.1	32.6	33.6	35.7
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°	2331.8	2331.8	2331.8
2.5°	2276.2	2288.5	2297.6
5°	2237.0	2247.2	2255.3
7.5°	2198.8	2207.9	2215.1
10°	2162.6	2172.8	2177.9
12.5°	2125.4	2137.1	2141.2
15°	2088.7	2100.4	2105.5
17.5°	2050.9	2066.2	2071.8
20°	2015.8	2035.1	2039.7
22.5°	1980.1	2000.0	2005.6
25°	1941.4	1964.8	1970.4
27.5°	1900.1	1928.1	1933.7
30°	1858.8	1889.4	1895.0
32.5°	1814.5	1847.6	1852.7
35°	1768.1	1801.2	1807.3
37.5°	1716.6	1752.8	1765.0
40°	1663.1	1702.3	1715.1
42.5°	1607.0	1649.8	1663.1
45°	1546.9	1593.8	1609.1
47.5°	1486.2	1539.2	1552.5
50°	1420.5	1477.0	1492.8
52.5°	1351.7	1413.3	1429.1
55°	1280.3	1342.5	1359.8
57.5°	1202.8	1267.1	1285.4
60°	1121.8	1186.0	1203.3
62.5°	1038.7	1096.8	1113.6
65°	946.0	1000.5	1015.8
67.5°	847.6	897.5	910.3
70°	743.1	786.4	797.6
72.5°	634.0	664.1	678.9
75°	521.4	545.4	556.6
77.5°	408.3	425.1	434.2
80°	297.7	307.3	315.0
82.5°	194.7	198.8	204.4
85°	105.0	105.0	108.6
87.5°	35.7	34.1	35.7
90°	0.0	0.0	0.0

(END OF REPORT)