

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: P835181

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4STD-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835181
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-4STD-27-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

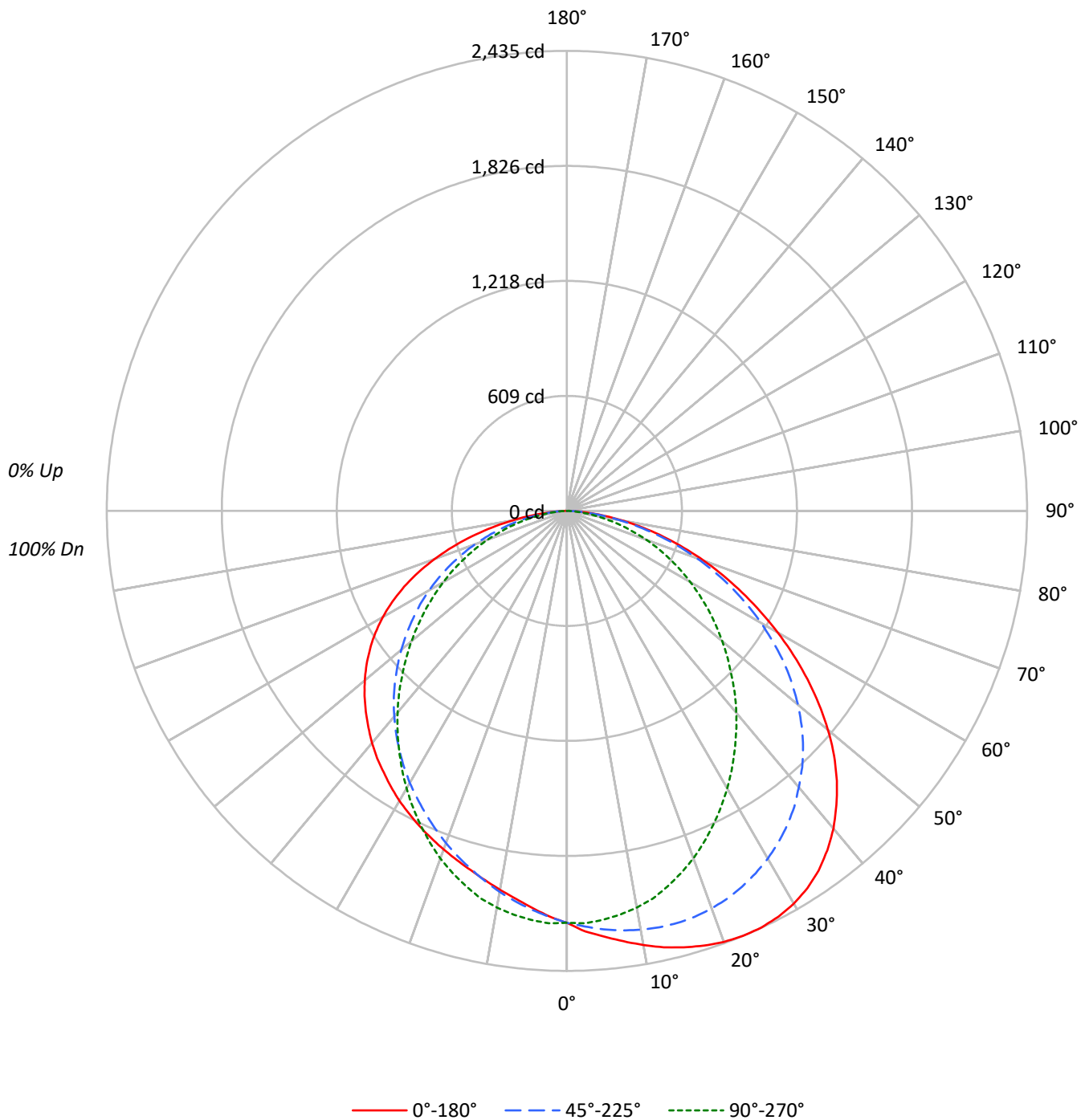
Lumens per Lamp: N/A
Luminaire Lumens: 6413.0 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

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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°	5867	5867	5867
5°	6108	5870	5696
10°	6375	5826	5564
15°	6662	5733	5484
20°	6953	5606	5461
25°	7226	5443	5470
30°	7461	5273	5505
35°	7632	5085	5551
40°	7709	4897	5633
45°	7687	4690	5725
50°	7551	4493	5843
55°	7293	4286	5965
60°	6937	4065	6055
65°	6514	3817	6047
70°	6063	3521	5868
75°	5504	3092	5411
80°	4727	2540	4564
85°	3606	1735	3134

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.8	3.2
10°-20°	597.1	9.3
20°-30°	914.8	14.3
30°-40°	1116.4	17.4
40°-50°	1167.5	18.2
50°-60°	1056.7	16.5
60°-70°	800.2	12.5
70°-80°	446.0	7.0
80°-90°	107.6	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°	1718.7	26.8
0°-40°	2835.1	44.2
0°-60°	5059.2	78.9
0°-90°	6413.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6413.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2180	2180	2180	2180	2180	
5°	2261	2224	2173	2120	2109	218
15°	2391	2258	2058	1962	1969	678
25°	2434	2194	1833	1768	1842	1123
35°	2323	2032	1548	1546	1690	1451
45°	2020	1767	1232	1287	1504	1554
55°	1554	1403	914	994	1271	1387
65°	1023	962	600	681	950	1015
75°	529	500	297	355	520	562
85°	117	103	56	75	102	140
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°	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2
2.5°	2228.3	2217.8	2209.2	2212.6	2214.5	2207.8	2202.1	2203.0	2197.3	2208.3	2182.5
5°	2261.2	2251.6	2241.6	2245.4	2241.6	2231.6	2223.5	2221.1	2205.9	2212.1	2185.9
7.5°	2297.9	2287.4	2272.6	2276.9	2268.8	2250.2	2239.7	2233.5	2210.2	2210.7	2181.6
10°	2333.1	2324.1	2304.1	2306.9	2292.1	2267.4	2250.7	2242.1	2209.2	2204.5	2174.4
12.5°	2366.0	2353.6	2332.2	2333.6	2312.2	2279.3	2257.8	2245.4	2202.5	2188.3	2158.7
15°	2391.3	2379.3	2353.6	2353.1	2325.5	2282.6	2258.3	2241.1	2186.8	2164.4	2133.5
17.5°	2412.7	2401.7	2369.8	2368.9	2335.5	2281.2	2252.1	2230.7	2163.9	2136.3	2102.0
20°	2428.0	2417.0	2381.3	2377.9	2337.9	2274.0	2239.2	2212.1	2133.9	2101.0	2062.9
22.5°	2435.1	2424.1	2383.6	2378.9	2332.2	2259.7	2220.7	2188.7	2099.6	2056.7	2017.2
25°	2433.7	2423.2	2377.4	2372.7	2321.2	2238.3	2194.4	2157.8	2056.3	2005.7	1966.7
27.5°	2421.8	2413.7	2365.5	2359.3	2301.2	2209.2	2162.5	2122.0	2008.1	1951.9	1909.5
30°	2401.3	2395.1	2344.1	2338.4	2276.4	2177.3	2125.4	2078.6	1956.2	1892.8	1849.9
32.5°	2368.4	2362.7	2311.2	2306.0	2243.1	2136.3	2082.0	2033.9	1899.5	1829.4	1786.5
35°	2323.1	2319.8	2269.7	2264.0	2200.2	2089.6	2031.9	1979.1	1840.4	1761.3	1720.3
37.5°	2263.5	2263.5	2215.4	2209.2	2146.8	2032.4	1975.7	1919.5	1773.7	1689.8	1649.3
40°	2194.4	2200.6	2151.6	2145.4	2084.8	1971.0	1909.0	1849.9	1701.7	1614.5	1575.0
42.5°	2111.5	2117.2	2076.3	2070.5	2013.8	1899.9	1842.3	1778.0	1626.4	1537.8	1496.8
45°	2020.0	2027.7	1991.0	1986.7	1933.8	1822.3	1767.0	1701.7	1547.8	1457.7	1417.7
47.5°	1918.1	1928.1	1896.1	1893.8	1844.7	1742.7	1685.0	1618.8	1465.3	1374.3	1336.7
50°	1803.7	1818.0	1791.8	1791.8	1747.9	1646.4	1596.4	1530.2	1379.6	1288.6	1251.4
52.5°	1681.2	1699.3	1679.8	1680.3	1644.5	1553.5	1501.6	1436.8	1290.0	1200.4	1166.1
55°	1554.5	1572.1	1559.7	1561.6	1533.5	1450.6	1403.4	1339.1	1198.5	1111.3	1078.9
57.5°	1422.0	1441.0	1432.9	1436.8	1417.2	1342.9	1293.8	1237.6	1104.1	1017.9	990.2
60°	1289.0	1307.1	1302.8	1308.1	1295.7	1231.4	1186.6	1128.4	1009.3	926.4	902.1
62.5°	1154.6	1171.3	1170.4	1176.1	1169.4	1116.0	1076.0	1026.5	911.1	834.9	812.5
65°	1023.1	1037.4	1036.5	1042.7	1041.2	998.3	962.1	916.9	813.0	742.9	723.4
67.5°	895.4	907.3	904.0	911.1	913.0	878.7	847.3	806.8	719.6	651.4	634.7
70°	770.6	778.7	774.4	779.1	783.4	757.7	731.0	695.3	620.0	559.9	546.1
72.5°	648.1	653.8	647.1	651.9	655.7	637.1	615.2	584.2	521.8	469.9	458.4
75°	529.4	537.5	523.7	528.5	531.3	512.8	499.9	474.6	420.8	380.8	373.1
77.5°	414.6	419.4	411.7	409.8	411.7	398.4	388.4	368.8	328.3	295.5	290.7
80°	305.0	307.8	300.2	298.3	299.7	290.2	282.6	268.3	239.7	214.9	213.0
82.5°	204.4	205.9	199.2	197.3	198.2	195.4	186.3	176.3	163.0	142.0	141.5
85°	116.8	116.8	112.0	110.1	111.0	106.3	102.9	97.7	92.4	78.2	79.1
87.5°	42.9	42.9	40.5	40.0	44.8	39.6	38.1	35.7	37.2	29.5	31.5
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2	2180.2
2.5°	2189.7	2184.9	2180.6	2165.9	2172.1	2156.8	2155.8	2150.1	2145.8	2137.7	2148.2
5°	2182.5	2173.0	2160.6	2143.0	2148.2	2130.1	2126.3	2119.6	2113.9	2103.4	2111.5
7.5°	2171.1	2155.4	2135.8	2113.4	2120.6	2098.2	2092.5	2085.3	2080.6	2068.2	2075.3
10°	2154.4	2132.0	2109.1	2082.0	2087.2	2062.9	2055.8	2048.2	2043.9	2032.9	2040.1
12.5°	2128.7	2101.5	2070.5	2041.0	2046.7	2023.8	2014.3	2006.2	2004.8	1995.7	2004.3
15°	2095.3	2057.7	2025.8	1994.3	2001.0	1974.3	1970.0	1961.9	1964.3	1958.1	1968.6
17.5°	2052.9	2009.6	1974.8	1940.9	1947.6	1925.2	1921.9	1918.1	1920.4	1919.5	1930.9
20°	2005.3	1957.6	1917.6	1884.2	1888.0	1870.4	1871.8	1870.9	1875.6	1880.9	1896.6
22.5°	1951.4	1897.6	1855.6	1821.3	1827.0	1811.8	1818.5	1820.4	1828.5	1840.4	1860.4
25°	1890.9	1833.2	1789.4	1757.0	1762.2	1752.2	1763.7	1768.4	1781.3	1801.3	1821.8
27.5°	1827.5	1766.5	1719.8	1688.8	1698.9	1688.8	1706.0	1715.5	1735.1	1757.0	1782.2
30°	1760.3	1696.9	1648.8	1621.2	1630.7	1621.7	1649.3	1662.2	1681.7	1711.7	1741.7
32.5°	1689.8	1623.1	1575.9	1554.5	1561.1	1559.7	1590.7	1605.0	1631.2	1665.5	1697.4
35°	1617.4	1547.8	1500.1	1482.0	1490.1	1492.0	1529.2	1545.9	1574.5	1615.9	1650.2
37.5°	1542.5	1471.5	1424.8	1410.1	1417.2	1424.4	1467.7	1484.4	1516.8	1562.1	1599.7
40°	1464.9	1393.9	1348.1	1336.2	1343.4	1351.0	1398.2	1421.0	1456.3	1505.4	1546.4
42.5°	1386.2	1315.2	1270.9	1262.3	1269.5	1284.3	1334.3	1355.7	1392.9	1447.2	1492.5
45°	1306.2	1232.3	1193.7	1187.1	1194.7	1211.8	1260.9	1286.6	1326.2	1385.8	1434.4
47.5°	1225.2	1153.2	1116.5	1112.2	1119.9	1138.9	1193.2	1216.6	1258.5	1321.9	1374.3
50°	1143.2	1073.2	1037.9	1036.5	1043.6	1064.1	1116.0	1143.7	1187.1	1258.1	1311.9
52.5°	1060.3	993.1	961.2	961.2	967.8	988.8	1041.2	1069.8	1114.6	1189.4	1249.0
55°	977.4	913.5	883.0	885.4	894.9	913.0	964.0	994.1	1039.3	1117.0	1179.9
57.5°	894.5	833.9	806.3	809.6	818.7	836.8	886.8	920.7	961.6	1042.2	1106.5
60°	812.5	755.3	731.0	734.8	742.9	761.0	813.0	842.0	883.0	965.0	1029.3
62.5°	729.6	677.6	654.8	659.5	666.7	684.8	733.9	762.0	802.5	883.0	947.8
65°	647.6	599.5	579.9	584.7	591.4	608.1	654.3	681.4	720.0	798.7	860.6
67.5°	566.6	522.8	506.6	511.3	516.6	532.3	570.4	600.0	636.2	711.0	769.6
70°	486.5	447.5	433.2	437.9	442.7	457.0	490.4	517.5	550.9	619.5	673.8
72.5°	407.4	369.3	362.2	366.5	370.3	382.7	414.6	436.0	465.1	526.1	572.8
75°	330.2	297.4	292.6	296.9	300.2	309.7	336.4	355.0	379.3	432.2	470.3
77.5°	255.9	228.3	226.4	229.7	233.0	239.7	260.7	280.2	299.3	338.3	372.2
80°	186.3	163.9	163.9	167.3	166.3	174.4	189.2	204.9	218.7	246.8	271.6
82.5°	122.9	105.3	107.7	110.1	111.5	114.8	123.9	135.8	144.4	161.5	177.7
85°	68.1	56.2	58.6	60.5	59.6	63.4	68.1	75.3	79.6	87.7	96.3
87.5°	25.3	21.0	21.4	22.9	23.8	25.7	25.7	30.0	30.5	31.5	33.4
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°	2180.2	2180.2	2180.2
2.5°	2128.2	2139.6	2148.2
5°	2091.5	2101.0	2108.7
7.5°	2055.8	2064.4	2071.0
10°	2021.9	2031.5	2036.2
12.5°	1987.2	1998.1	2001.9
15°	1952.8	1963.8	1968.6
17.5°	1917.6	1931.9	1937.1
20°	1884.7	1902.8	1907.1
22.5°	1851.3	1869.9	1875.2
25°	1815.1	1837.0	1842.3
27.5°	1776.5	1802.7	1808.0
30°	1737.9	1766.5	1771.8
32.5°	1696.5	1727.4	1732.2
35°	1653.1	1684.1	1689.8
37.5°	1605.0	1638.8	1650.2
40°	1554.9	1591.6	1603.5
42.5°	1502.5	1542.5	1554.9
45°	1446.3	1490.1	1504.4
47.5°	1389.6	1439.1	1451.5
50°	1328.1	1381.0	1395.8
52.5°	1263.8	1321.4	1336.2
55°	1197.1	1255.2	1271.4
57.5°	1124.6	1184.7	1201.8
60°	1048.9	1108.9	1125.1
62.5°	971.2	1025.5	1041.2
65°	884.5	935.4	949.7
67.5°	792.5	839.2	851.1
70°	694.8	735.3	745.8
72.5°	592.8	620.9	634.7
75°	487.5	509.9	520.4
77.5°	381.7	397.4	406.0
80°	278.3	287.4	294.5
82.5°	182.0	185.8	191.1
85°	98.2	98.2	101.5
87.5°	33.4	31.9	33.4
90°	0.0	0.0	0.0

(END OF REPORT)