

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: P834653

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2STD-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834653
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-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

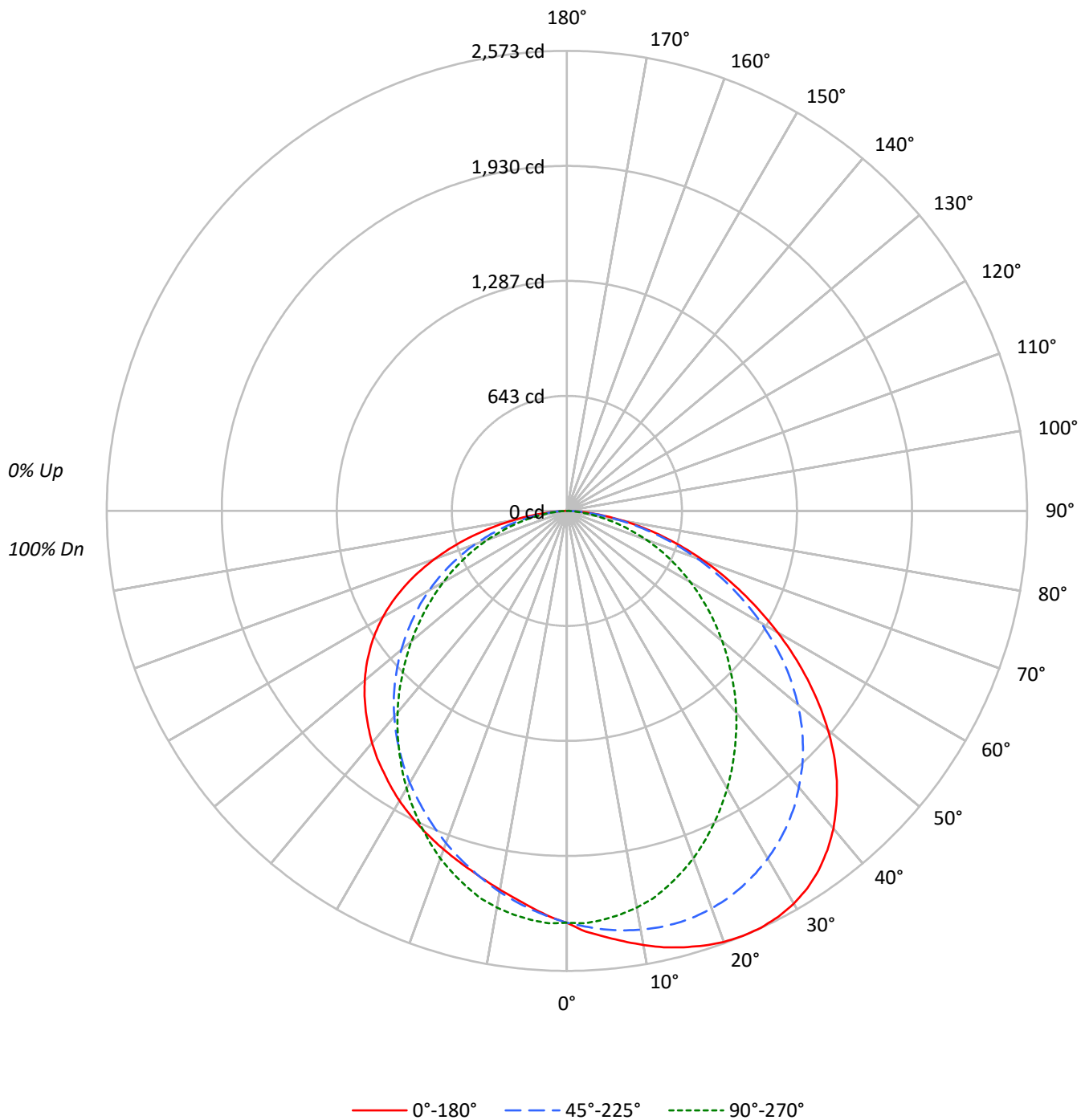
Lumens per Lamp: N/A
Luminaire Lumens: 6776.4 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	3100	3100	3100
5°	3227	3101	3009
10°	3368	3078	2940
15°	3520	3029	2897
20°	3673	2962	2885
25°	3818	2876	2890
30°	3942	2786	2909
35°	4032	2686	2933
40°	4073	2587	2976
45°	4062	2478	3025
50°	3989	2374	3087
55°	3853	2264	3151
60°	3665	2148	3199
65°	3442	2017	3195
70°	3203	1860	3100
75°	2908	1633	2859
80°	2497	1342	2411
85°	1905	917	1656

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.5	3.2
10°-20°	631.0	9.3
20°-30°	966.6	14.3
30°-40°	1179.6	17.4
40°-50°	1233.6	18.2
50°-60°	1116.5	16.5
60°-70°	845.6	12.5
70°-80°	471.2	7.0
80°-90°	113.7	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°	1816.1	26.8
0°-40°	2995.7	44.2
0°-60°	5345.9	78.9
0°-90°	6776.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6776.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2304	2304	2304	2304	2304	
5°	2389	2350	2296	2240	2228	230
15°	2527	2386	2174	2073	2080	717
25°	2572	2319	1937	1869	1947	1186
35°	2455	2147	1636	1634	1786	1533
45°	2134	1867	1302	1360	1590	1642
55°	1642	1483	965	1050	1343	1466
65°	1081	1017	633	720	1004	1072
75°	559	528	314	375	550	593
85°	123	109	59	80	107	148
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°	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7
2.5°	2354.5	2343.5	2334.4	2337.9	2339.9	2332.9	2326.8	2327.9	2321.8	2333.4	2306.2
5°	2389.3	2379.2	2368.6	2372.7	2368.6	2358.1	2349.5	2347.0	2330.9	2337.4	2309.7
7.5°	2428.1	2417.0	2401.4	2405.9	2397.3	2377.7	2366.6	2360.1	2335.4	2335.9	2305.2
10°	2465.3	2455.8	2434.6	2437.6	2422.0	2395.8	2378.2	2369.1	2334.4	2329.4	2297.6
12.5°	2500.1	2487.0	2464.3	2465.8	2443.2	2408.4	2385.8	2372.7	2327.3	2312.2	2281.0
15°	2526.7	2514.2	2487.0	2486.5	2457.3	2411.9	2386.3	2368.1	2310.7	2287.1	2254.3
17.5°	2549.4	2537.8	2504.1	2503.1	2467.8	2410.4	2379.7	2357.1	2286.6	2257.4	2221.1
20°	2565.5	2553.9	2516.2	2512.7	2470.4	2402.9	2366.1	2337.4	2254.8	2220.1	2179.8
22.5°	2573.1	2561.5	2518.7	2513.7	2464.3	2387.8	2346.5	2312.7	2218.6	2173.3	2131.5
25°	2571.6	2560.5	2512.1	2507.1	2452.7	2365.1	2318.8	2280.0	2172.8	2119.4	2078.1
27.5°	2559.0	2550.4	2499.6	2493.0	2431.6	2334.4	2285.1	2242.3	2121.9	2062.5	2017.7
30°	2537.3	2530.8	2476.9	2470.9	2405.4	2300.7	2245.8	2196.4	2067.0	2000.0	1954.7
32.5°	2502.6	2496.5	2442.2	2436.6	2370.1	2257.4	2200.0	2149.1	2007.1	1933.1	1887.8
35°	2454.7	2451.2	2398.3	2392.3	2324.8	2208.0	2147.1	2091.2	1944.7	1861.1	1817.8
37.5°	2391.8	2391.8	2340.9	2334.4	2268.4	2147.6	2087.7	2028.2	1874.2	1785.5	1742.7
40°	2318.8	2325.3	2273.5	2266.9	2203.0	2082.6	2017.2	1954.7	1798.1	1706.0	1664.2
42.5°	2231.2	2237.2	2193.9	2187.9	2127.9	2007.6	1946.7	1878.7	1718.6	1624.9	1581.6
45°	2134.5	2142.6	2103.8	2099.2	2043.4	1925.5	1867.1	1798.1	1635.5	1540.3	1498.0
47.5°	2026.7	2037.3	2003.6	2001.1	1949.2	1841.4	1780.5	1710.5	1548.4	1452.2	1412.4
50°	1905.9	1921.0	1893.3	1893.3	1847.0	1739.7	1686.8	1616.9	1457.7	1361.6	1322.3
52.5°	1776.5	1795.6	1775.0	1775.5	1737.7	1641.5	1586.6	1518.2	1363.1	1268.4	1232.2
55°	1642.5	1661.2	1648.1	1650.1	1620.4	1532.8	1482.9	1414.9	1266.4	1174.2	1140.0
57.5°	1502.6	1522.7	1514.1	1518.2	1497.5	1419.0	1367.1	1307.7	1166.7	1075.6	1046.4
60°	1362.1	1381.2	1376.7	1382.2	1369.1	1301.1	1253.8	1192.4	1066.5	978.9	953.2
62.5°	1220.1	1237.7	1236.7	1242.7	1235.7	1179.3	1137.0	1084.6	962.8	882.2	858.5
65°	1081.1	1096.2	1095.2	1101.7	1100.2	1054.9	1016.6	968.8	859.0	785.0	764.4
67.5°	946.1	958.7	955.2	962.8	964.8	928.5	895.3	852.5	760.3	688.3	670.7
70°	814.2	822.8	818.2	823.3	827.8	800.6	772.4	734.7	655.1	591.7	577.1
72.5°	684.8	690.9	683.8	688.8	692.9	673.2	650.1	617.3	551.4	496.5	484.4
75°	559.4	568.0	553.4	558.4	561.4	541.8	528.2	501.5	444.6	402.3	394.3
77.5°	438.1	443.1	435.1	433.0	435.1	421.0	410.4	389.7	346.9	312.2	307.2
80°	322.3	325.3	317.2	315.2	316.7	306.7	298.6	283.5	253.3	227.1	225.1
82.5°	216.0	217.5	210.5	208.5	209.5	206.5	196.9	186.3	172.2	150.1	149.6
85°	123.4	123.4	118.3	116.3	117.3	112.3	108.8	103.2	97.7	82.6	83.6
87.5°	45.3	45.3	42.8	42.3	47.3	41.8	40.3	37.8	39.3	31.2	33.2
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°	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7	2303.7
2.5°	2313.8	2308.7	2304.2	2288.6	2295.1	2279.0	2278.0	2272.0	2267.4	2258.9	2269.9
5°	2306.2	2296.1	2283.0	2264.4	2269.9	2250.8	2246.8	2239.7	2233.7	2222.6	2231.2
7.5°	2294.1	2277.5	2256.9	2233.2	2240.7	2217.1	2211.0	2203.5	2198.4	2185.4	2192.9
10°	2276.5	2252.8	2228.7	2200.0	2205.5	2179.8	2172.3	2164.2	2159.7	2148.1	2155.6
12.5°	2249.3	2220.6	2187.9	2156.6	2162.7	2138.5	2128.5	2119.9	2118.4	2108.8	2117.9
15°	2214.1	2174.3	2140.5	2107.3	2114.4	2086.2	2081.6	2073.1	2075.6	2069.0	2080.1
17.5°	2169.2	2123.4	2086.7	2050.9	2058.0	2034.3	2030.8	2026.7	2029.3	2028.2	2040.3
20°	2118.9	2068.5	2026.2	1991.0	1995.0	1976.4	1977.9	1976.9	1981.9	1987.5	2004.1
22.5°	2062.0	2005.1	1960.8	1924.5	1930.6	1914.4	1921.5	1923.5	1932.1	1944.7	1965.8
25°	1998.0	1937.1	1890.8	1856.5	1862.1	1851.5	1863.6	1868.6	1882.2	1903.4	1925.0
27.5°	1931.1	1866.6	1817.3	1784.5	1795.1	1784.5	1802.7	1812.7	1833.4	1856.5	1883.2
30°	1860.1	1793.1	1742.2	1713.0	1723.1	1713.5	1742.7	1756.3	1777.0	1808.7	1840.4
32.5°	1785.5	1715.0	1665.2	1642.5	1649.6	1648.1	1680.8	1695.9	1723.6	1759.9	1793.6
35°	1709.0	1635.5	1585.1	1566.0	1574.6	1576.6	1615.9	1633.5	1663.7	1707.5	1743.7
37.5°	1629.9	1554.9	1505.6	1490.0	1497.5	1505.1	1550.9	1568.5	1602.8	1650.6	1690.4
40°	1547.9	1472.8	1424.5	1411.9	1419.5	1427.5	1477.4	1501.5	1538.8	1590.7	1634.0
42.5°	1464.8	1389.8	1342.9	1333.9	1341.4	1357.0	1409.9	1432.6	1471.8	1529.2	1577.1
45°	1380.2	1302.1	1261.4	1254.3	1262.4	1280.5	1332.4	1359.6	1401.3	1464.3	1515.6
47.5°	1294.6	1218.6	1179.8	1175.3	1183.3	1203.5	1260.9	1285.5	1329.8	1396.8	1452.2
50°	1208.0	1134.0	1096.7	1095.2	1102.7	1124.4	1179.3	1208.5	1254.3	1329.3	1386.2
52.5°	1120.4	1049.4	1015.6	1015.6	1022.7	1044.8	1100.2	1130.4	1177.8	1256.8	1319.8
55°	1032.8	965.3	933.1	935.6	945.6	964.8	1018.7	1050.4	1098.2	1180.3	1246.8
57.5°	945.1	881.2	852.0	855.5	865.1	884.2	937.1	972.8	1016.1	1101.2	1169.2
60°	858.5	798.1	772.4	776.5	785.0	804.1	859.0	889.8	933.1	1019.7	1087.6
62.5°	770.9	716.0	691.9	696.9	704.4	723.6	775.4	805.2	848.0	933.1	1001.5
65°	684.3	633.4	612.8	617.8	624.9	642.5	691.4	720.1	760.8	843.9	909.4
67.5°	598.7	552.4	535.3	540.3	545.8	562.5	602.7	634.0	672.2	751.3	813.2
70°	514.1	472.8	457.7	462.8	467.8	482.9	518.1	546.8	582.1	654.6	712.0
72.5°	430.5	390.2	382.7	387.2	391.2	404.3	438.1	460.7	491.5	555.9	605.3
75°	349.0	314.2	309.2	313.7	317.2	327.3	355.5	375.1	400.8	456.7	497.0
77.5°	270.4	241.2	239.2	242.7	246.2	253.3	275.4	296.1	316.2	357.5	393.3
80°	196.9	173.2	173.2	176.7	175.7	184.3	199.9	216.5	231.1	260.8	287.0
82.5°	129.9	111.3	113.8	116.3	117.8	121.4	130.9	143.5	152.6	170.7	187.8
85°	72.0	59.4	61.9	63.9	62.9	67.0	72.0	79.6	84.1	92.7	101.7
87.5°	26.7	22.2	22.7	24.2	25.2	27.2	27.2	31.7	32.2	33.2	35.2
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°	2303.7	2303.7	2303.7
2.5°	2248.8	2260.9	2269.9
5°	2210.0	2220.1	2228.2
7.5°	2172.3	2181.3	2188.4
10°	2136.5	2146.6	2151.6
12.5°	2099.7	2111.3	2115.4
15°	2063.5	2075.1	2080.1
17.5°	2026.2	2041.3	2046.9
20°	1991.5	2010.6	2015.2
22.5°	1956.2	1975.9	1981.4
25°	1918.0	1941.1	1946.7
27.5°	1877.2	1904.9	1910.4
30°	1836.4	1866.6	1872.2
32.5°	1792.6	1825.3	1830.4
35°	1746.8	1779.5	1785.5
37.5°	1695.9	1731.7	1743.7
40°	1643.0	1681.8	1694.4
42.5°	1587.7	1629.9	1643.0
45°	1528.2	1574.6	1589.7
47.5°	1468.3	1520.7	1533.8
50°	1403.4	1459.3	1474.9
52.5°	1335.4	1396.3	1411.9
55°	1264.9	1326.3	1343.4
57.5°	1188.3	1251.8	1269.9
60°	1108.3	1171.7	1188.9
62.5°	1026.2	1083.6	1100.2
65°	934.6	988.4	1003.5
67.5°	837.4	886.7	899.3
70°	734.2	777.0	788.0
72.5°	626.4	656.1	670.7
75°	515.1	538.8	549.9
77.5°	403.3	419.9	429.0
80°	294.1	303.6	311.2
82.5°	192.4	196.4	201.9
85°	103.7	103.7	107.3
87.5°	35.2	33.7	35.2
90°	0.0	0.0	0.0

(END OF REPORT)