

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: P834511

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834511
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-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

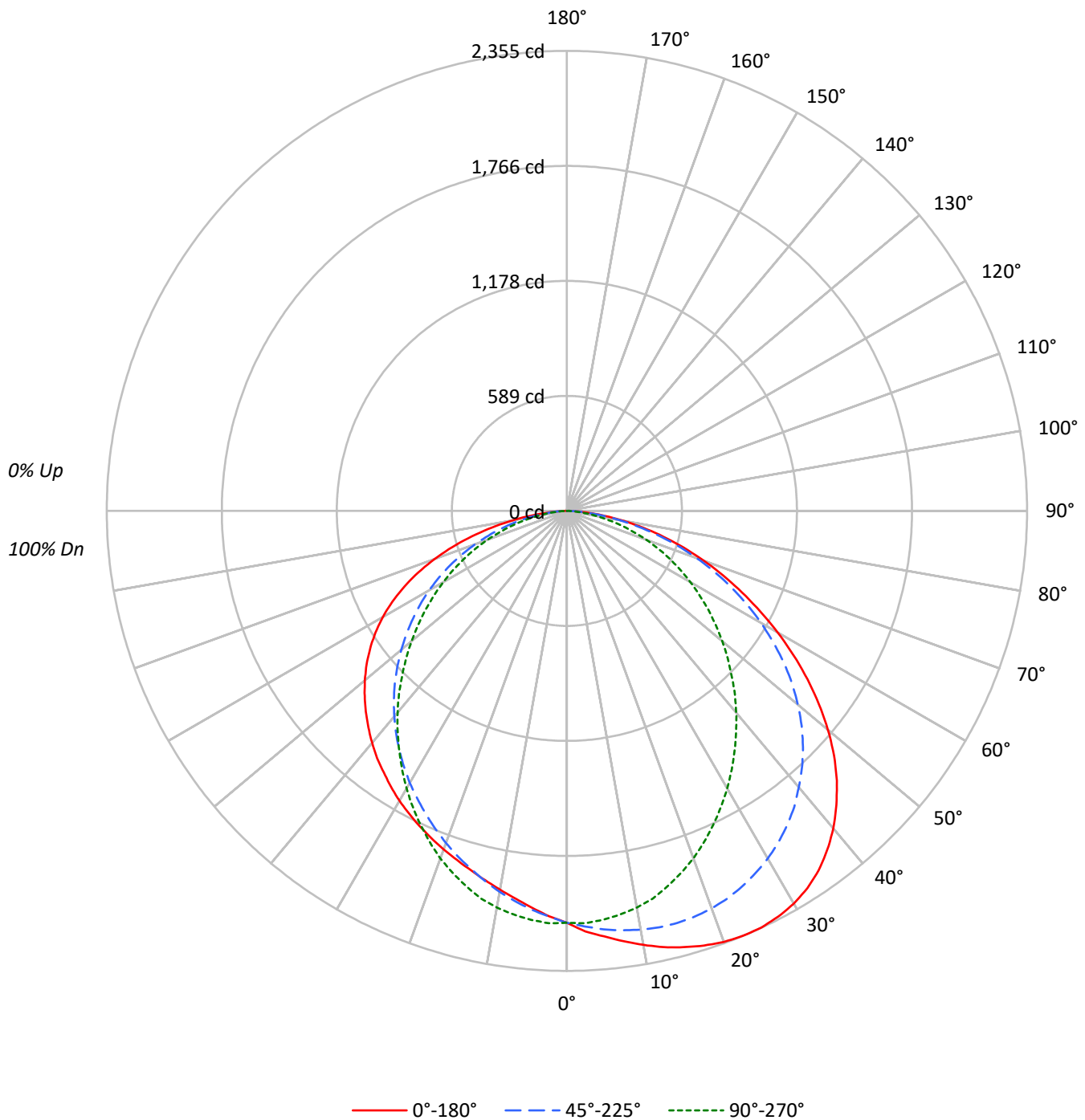
Lumens per Lamp: N/A
Luminaire Lumens: 6201.3 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	2837	2837	2837
5°	2953	2838	2754
10°	3082	2817	2690
15°	3221	2772	2652
20°	3362	2710	2641
25°	3494	2632	2645
30°	3608	2549	2662
35°	3690	2458	2684
40°	3727	2367	2723
45°	3717	2267	2768
50°	3651	2172	2825
55°	3526	2072	2884
60°	3354	1965	2928
65°	3150	1846	2924
70°	2931	1702	2837
75°	2662	1495	2616
80°	2285	1228	2207
85°	1743	840	1516

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.9	3.2
10°-20°	577.4	9.3
20°-30°	884.6	14.3
30°-40°	1079.5	17.4
40°-50°	1129.0	18.2
50°-60°	1021.8	16.5
60°-70°	773.8	12.5
70°-80°	431.2	7.0
80°-90°	104.0	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°	1661.9	26.8
0°-40°	2741.5	44.2
0°-60°	4892.2	78.9
0°-90°	6201.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6201.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2108	2108	2108	2108	2108	
5°	2186	2150	2101	2050	2039	211
15°	2312	2184	1990	1897	1904	656
25°	2353	2122	1773	1710	1782	1086
35°	2246	1965	1497	1495	1634	1403
45°	1953	1709	1192	1244	1455	1503
55°	1503	1357	883	961	1229	1341
65°	989	930	580	659	918	981
75°	512	483	288	343	503	543
85°	113	100	54	73	98	136
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°	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2
2.5°	2154.7	2144.6	2136.3	2139.5	2141.4	2134.9	2129.4	2130.3	2124.8	2135.4	2110.5
5°	2186.5	2177.3	2167.6	2171.3	2167.6	2158.0	2150.1	2147.8	2133.1	2139.1	2113.7
7.5°	2222.0	2211.9	2197.6	2201.7	2193.9	2175.9	2165.8	2159.8	2137.2	2137.7	2109.6
10°	2256.1	2247.4	2228.0	2230.8	2216.5	2192.5	2176.4	2168.1	2136.3	2131.7	2102.7
12.5°	2287.9	2275.9	2255.2	2256.6	2235.8	2204.0	2183.3	2171.3	2129.9	2116.0	2087.5
15°	2312.3	2300.8	2275.9	2275.5	2248.7	2207.3	2183.8	2167.2	2114.6	2093.0	2063.0
17.5°	2333.1	2322.5	2291.6	2290.7	2258.4	2205.9	2177.8	2157.0	2092.5	2065.8	2032.6
20°	2347.8	2337.2	2302.7	2299.4	2260.7	2199.0	2165.3	2139.1	2063.5	2031.7	1994.8
22.5°	2354.7	2344.1	2305.0	2300.4	2255.2	2185.2	2147.4	2116.5	2030.3	1988.8	1950.6
25°	2353.3	2343.2	2299.0	2294.4	2244.6	2164.4	2122.0	2086.5	1988.4	1939.5	1901.8
27.5°	2341.8	2334.0	2287.4	2281.5	2225.2	2136.3	2091.1	2052.0	1941.8	1887.5	1846.5
30°	2322.0	2316.0	2266.7	2261.2	2201.3	2105.4	2055.2	2010.0	1891.6	1830.3	1788.9
32.5°	2290.2	2284.7	2234.9	2229.8	2169.0	2065.8	2013.3	1966.7	1836.8	1769.0	1727.6
35°	2246.4	2243.2	2194.8	2189.3	2127.5	2020.6	1964.9	1913.7	1779.6	1703.1	1663.5
37.5°	2188.8	2188.8	2142.3	2136.3	2075.9	1965.3	1910.5	1856.1	1715.1	1634.0	1594.9
40°	2122.0	2128.0	2080.5	2074.6	2016.0	1905.9	1846.0	1788.9	1645.5	1561.2	1523.0
42.5°	2041.8	2047.4	2007.7	2002.2	1947.4	1837.2	1781.5	1719.3	1572.7	1487.0	1447.4
45°	1953.4	1960.7	1925.3	1921.1	1870.0	1762.1	1708.7	1645.5	1496.7	1409.6	1370.9
47.5°	1854.8	1864.4	1833.6	1831.2	1783.8	1685.2	1629.4	1565.4	1417.0	1329.0	1292.6
50°	1744.2	1758.0	1732.6	1732.6	1690.2	1592.1	1543.7	1479.7	1334.0	1246.0	1210.1
52.5°	1625.7	1643.2	1624.3	1624.8	1590.2	1502.2	1452.0	1389.3	1247.4	1160.8	1127.6
55°	1503.2	1520.2	1508.2	1510.1	1482.9	1402.7	1357.1	1294.9	1158.9	1074.6	1043.3
57.5°	1375.1	1393.5	1385.6	1389.3	1370.4	1298.6	1251.1	1196.7	1067.7	984.3	957.6
60°	1246.5	1264.0	1259.8	1264.9	1252.9	1190.7	1147.4	1091.2	976.0	895.8	872.3
62.5°	1116.5	1132.7	1131.7	1137.3	1130.8	1079.2	1040.5	992.6	881.1	807.3	785.7
65°	989.4	1003.2	1002.3	1008.2	1006.9	965.4	930.4	886.6	786.1	718.4	699.5
67.5°	865.9	877.4	874.2	881.1	882.9	849.7	819.3	780.1	695.8	629.9	613.8
70°	745.1	753.0	748.8	753.4	757.6	732.7	706.9	672.3	599.5	541.4	528.1
72.5°	626.7	632.2	625.8	630.4	634.1	616.1	594.9	565.0	504.6	454.4	443.3
75°	512.0	519.8	506.4	511.0	513.8	495.8	483.4	459.0	406.9	368.2	360.8
77.5°	400.9	405.5	398.1	396.3	398.1	385.2	375.6	356.7	317.5	285.7	281.1
80°	294.9	297.7	290.3	288.5	289.8	280.6	273.3	259.4	231.8	207.8	206.0
82.5°	197.7	199.1	192.6	190.8	191.7	188.9	180.2	170.5	157.6	137.3	136.9
85°	112.9	112.9	108.3	106.4	107.4	102.8	99.5	94.5	89.4	75.6	76.5
87.5°	41.5	41.5	39.2	38.7	43.3	38.2	36.9	34.6	35.9	28.6	30.4
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2	2108.2
2.5°	2117.4	2112.8	2108.7	2094.4	2100.4	2085.6	2084.7	2079.2	2075.0	2067.2	2077.3
5°	2110.5	2101.3	2089.3	2072.3	2077.3	2059.8	2056.1	2049.7	2044.1	2034.0	2041.8
7.5°	2099.4	2084.2	2065.3	2043.7	2050.6	2028.9	2023.4	2016.5	2011.9	1999.9	2006.8
10°	2083.3	2061.7	2039.5	2013.3	2018.3	1994.8	1987.9	1980.6	1976.4	1965.8	1972.7
12.5°	2058.4	2032.2	2002.2	1973.6	1979.2	1957.1	1947.8	1940.0	1938.6	1929.9	1938.2
15°	2026.2	1989.8	1958.9	1928.5	1934.9	1909.1	1905.0	1897.1	1899.4	1893.5	1903.6
17.5°	1985.2	1943.2	1909.6	1876.9	1883.3	1861.7	1858.4	1854.8	1857.1	1856.1	1867.2
20°	1939.1	1893.0	1854.3	1822.0	1825.7	1808.7	1810.1	1809.1	1813.7	1818.8	1834.0
22.5°	1887.0	1834.9	1794.4	1761.2	1766.7	1752.0	1758.4	1760.3	1768.1	1779.6	1799.0
25°	1828.5	1772.7	1730.3	1699.0	1704.1	1694.4	1705.4	1710.1	1722.5	1741.9	1761.7
27.5°	1767.2	1708.2	1663.1	1633.1	1642.8	1633.1	1649.7	1658.9	1677.8	1699.0	1723.4
30°	1702.2	1640.9	1594.4	1567.7	1576.9	1568.1	1594.9	1607.3	1626.2	1655.2	1684.3
32.5°	1634.0	1569.5	1523.9	1503.2	1509.6	1508.2	1538.2	1552.0	1577.3	1610.5	1641.4
35°	1564.0	1496.7	1450.6	1433.1	1440.9	1442.8	1478.7	1494.9	1522.5	1562.6	1595.8
37.5°	1491.6	1423.0	1377.8	1363.5	1370.4	1377.4	1419.3	1435.4	1466.8	1510.5	1546.9
40°	1416.5	1347.9	1303.6	1292.1	1299.0	1306.4	1352.0	1374.1	1408.2	1455.7	1495.3
42.5°	1340.5	1271.8	1229.0	1220.7	1227.6	1241.9	1290.3	1311.0	1346.9	1399.5	1443.2
45°	1263.1	1191.6	1154.3	1147.9	1155.2	1171.8	1219.3	1244.2	1282.4	1340.0	1387.0
47.5°	1184.7	1115.2	1079.7	1075.5	1082.9	1101.3	1153.9	1176.4	1217.0	1278.3	1329.0
50°	1105.5	1037.7	1003.6	1002.3	1009.2	1029.0	1079.2	1105.9	1147.9	1216.5	1268.6
52.5°	1025.3	960.3	929.4	929.4	935.9	956.2	1006.9	1034.5	1077.8	1150.2	1207.8
55°	945.1	883.4	853.9	856.2	865.4	882.9	932.2	961.2	1005.0	1080.1	1141.0
57.5°	864.9	806.4	779.7	782.9	791.7	809.2	857.6	890.3	929.9	1007.8	1070.0
60°	785.7	730.4	706.9	710.6	718.4	735.9	786.1	814.2	853.9	933.1	995.3
62.5°	705.5	655.3	633.1	637.8	644.7	662.2	709.6	736.8	776.0	853.9	916.5
65°	626.2	579.7	560.8	565.4	571.9	588.0	632.7	659.0	696.3	772.3	832.2
67.5°	547.9	505.5	489.8	494.4	499.5	514.7	551.6	580.2	615.2	687.5	744.2
70°	470.5	432.7	418.9	423.5	428.1	441.9	474.2	500.4	532.7	599.1	651.6
72.5°	394.0	357.1	350.2	354.4	358.0	370.0	400.9	421.6	449.7	508.7	553.9
75°	319.3	287.5	282.9	287.1	290.3	299.5	325.3	343.3	366.8	418.0	454.8
77.5°	247.5	220.7	218.9	222.1	225.3	231.8	252.1	271.0	289.4	327.2	359.9
80°	180.2	158.5	158.5	161.7	160.8	168.7	182.9	198.1	211.5	238.7	262.7
82.5°	118.9	101.8	104.1	106.4	107.8	111.1	119.8	131.3	139.6	156.2	171.9
85°	65.9	54.4	56.7	58.5	57.6	61.3	65.9	72.8	77.0	84.8	93.1
87.5°	24.4	20.3	20.7	22.1	23.0	24.9	24.9	29.0	29.5	30.4	32.3
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°	2108.2	2108.2	2108.2
2.5°	2058.0	2069.0	2077.3
5°	2022.5	2031.7	2039.1
7.5°	1987.9	1996.2	2002.7
10°	1955.2	1964.4	1969.0
12.5°	1921.6	1932.2	1935.9
15°	1888.4	1899.0	1903.6
17.5°	1854.3	1868.1	1873.2
20°	1822.5	1840.0	1844.2
22.5°	1790.2	1808.2	1813.3
25°	1755.2	1776.4	1781.5
27.5°	1717.9	1743.2	1748.3
30°	1680.6	1708.2	1713.3
32.5°	1640.5	1670.4	1675.0
35°	1598.5	1628.5	1634.0
37.5°	1552.0	1584.7	1595.8
40°	1503.6	1539.1	1550.6
42.5°	1452.9	1491.6	1503.6
45°	1398.6	1440.9	1454.8
47.5°	1343.7	1391.6	1403.6
50°	1284.3	1335.4	1349.7
52.5°	1222.1	1277.8	1292.1
55°	1157.5	1213.8	1229.4
57.5°	1087.5	1145.6	1162.2
60°	1014.2	1072.3	1088.0
62.5°	939.1	991.7	1006.9
65°	855.3	904.6	918.4
67.5°	766.3	811.5	823.0
70°	671.9	711.0	721.2
72.5°	573.2	600.4	613.8
75°	471.4	493.1	503.2
77.5°	369.1	384.3	392.6
80°	269.1	277.9	284.8
82.5°	176.0	179.7	184.8
85°	94.9	94.9	98.2
87.5°	32.3	30.9	32.3
90°	0.0	0.0	0.0

(END OF REPORT)