

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: P835166

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-5STD-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835166
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-LD4-5STD-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

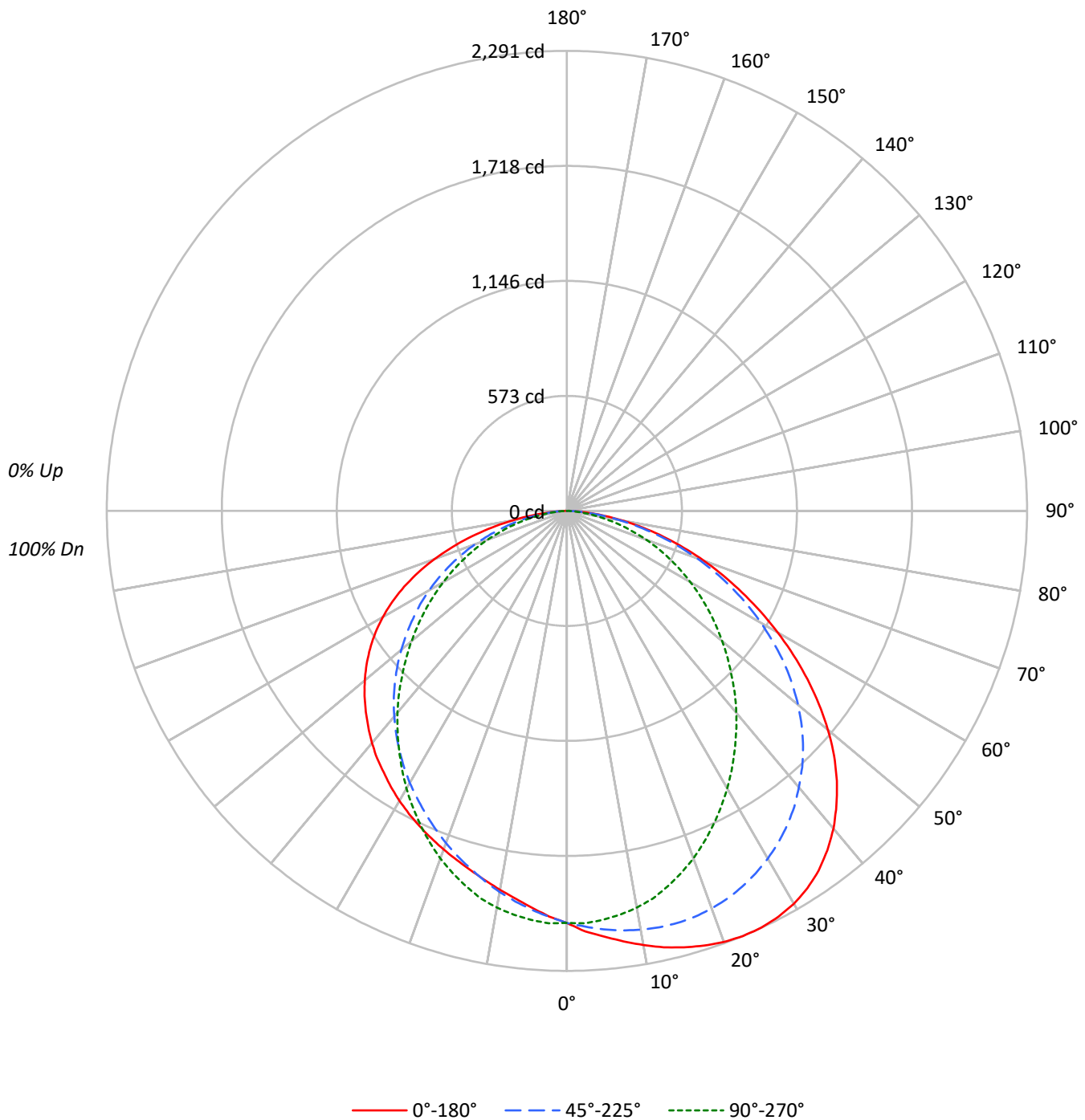
Lumens per Lamp: N/A
Luminaire Lumens: 6034.4 lumens
Efficiency: N/A
Efficacy: 72.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 83.2
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

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	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°	5521	5521	5521
5°	5747	5523	5360
10°	5999	5482	5235
15°	6269	5394	5161
20°	6542	5275	5139
25°	6799	5122	5147
30°	7021	4962	5180
35°	7181	4784	5223
40°	7254	4607	5300
45°	7234	4413	5387
50°	7105	4227	5498
55°	6862	4033	5613
60°	6528	3825	5698
65°	6130	3592	5691
70°	5705	3313	5522
75°	5180	2909	5091
80°	4448	2391	4294
85°	3393	1633	2949



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.6	3.2
10°-20°	561.9	9.3
20°-30°	860.8	14.3
30°-40°	1050.5	17.4
40°-50°	1098.6	18.2
50°-60°	994.3	16.5
60°-70°	753.0	12.5
70°-80°	419.6	7.0
80°-90°	101.2	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°	1617.2	26.8
0°-40°	2667.7	44.2
0°-60°	4760.6	78.9
0°-90°	6034.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6034.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2052	2052	2052	2052	2052	
5°	2128	2092	2045	1994	1984	205
15°	2250	2125	1936	1846	1852	638
25°	2290	2065	1725	1664	1734	1056
35°	2186	1912	1456	1455	1590	1365
45°	1901	1663	1160	1211	1416	1462
55°	1463	1321	860	935	1196	1305
65°	963	905	564	641	894	955
75°	498	470	280	334	490	528
85°	110	97	53	71	96	132
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°	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5
2.5°	2096.7	2086.9	2078.8	2081.9	2083.7	2077.5	2072.1	2073.0	2067.6	2077.9	2053.7
5°	2127.7	2118.7	2109.3	2112.9	2109.3	2099.9	2092.3	2090.0	2075.7	2081.5	2056.8
7.5°	2162.2	2152.3	2138.4	2142.5	2134.9	2117.4	2107.5	2101.7	2079.7	2080.2	2052.8
10°	2195.4	2186.9	2168.0	2170.7	2156.8	2133.5	2117.8	2109.8	2078.8	2074.3	2046.1
12.5°	2226.3	2214.7	2194.5	2195.8	2175.7	2144.7	2124.5	2112.9	2072.5	2059.1	2031.3
15°	2250.1	2238.9	2214.7	2214.2	2188.2	2147.9	2125.0	2108.9	2057.7	2036.7	2007.5
17.5°	2270.3	2260.0	2229.9	2229.0	2197.6	2146.5	2119.2	2099.0	2036.2	2010.2	1977.9
20°	2284.6	2274.3	2240.7	2237.5	2199.9	2139.8	2107.1	2081.5	2008.0	1977.0	1941.1
22.5°	2291.4	2281.0	2242.9	2238.4	2194.5	2126.3	2089.6	2059.5	1975.7	1935.3	1898.1
25°	2290.0	2280.1	2237.1	2232.6	2184.2	2106.2	2064.9	2030.4	1934.9	1887.3	1850.6
27.5°	2278.8	2271.2	2225.9	2220.1	2165.4	2078.8	2034.9	1996.8	1889.6	1836.7	1796.8
30°	2259.5	2253.7	2205.7	2200.3	2142.0	2048.8	1999.9	1955.9	1840.7	1781.1	1740.7
32.5°	2228.6	2223.2	2174.8	2169.8	2110.6	2010.2	1959.1	1913.8	1787.3	1721.4	1681.1
35°	2186.0	2182.8	2135.8	2130.4	2070.3	1966.3	1912.0	1862.2	1731.7	1657.3	1618.7
37.5°	2129.9	2129.9	2084.6	2078.8	2020.1	1912.5	1859.1	1806.2	1669.0	1590.0	1551.9
40°	2064.9	2070.7	2024.6	2018.7	1961.8	1854.6	1796.3	1740.7	1601.3	1519.2	1482.0
42.5°	1986.9	1992.3	1953.7	1948.3	1895.0	1787.8	1733.5	1673.0	1530.4	1447.0	1408.4
45°	1900.8	1908.0	1873.4	1869.4	1819.6	1714.7	1662.7	1601.3	1456.4	1371.7	1334.0
47.5°	1804.8	1814.3	1784.2	1782.0	1735.8	1639.8	1585.6	1523.2	1378.8	1293.2	1257.8
50°	1697.2	1710.7	1686.0	1686.0	1644.8	1549.2	1502.2	1439.8	1298.1	1212.5	1177.5
52.5°	1582.0	1599.0	1580.6	1581.1	1547.4	1461.8	1412.9	1351.9	1213.8	1129.5	1097.2
55°	1462.7	1479.3	1467.6	1469.4	1443.0	1364.9	1320.6	1260.0	1127.7	1045.7	1015.2
57.5°	1338.0	1356.0	1348.4	1351.9	1333.6	1263.6	1217.4	1164.5	1039.0	957.8	931.8
60°	1212.9	1230.0	1225.9	1230.9	1219.2	1158.7	1116.5	1061.8	949.7	871.7	848.8
62.5°	1086.5	1102.2	1101.3	1106.7	1100.4	1050.2	1012.5	965.9	857.4	785.6	764.5
65°	962.7	976.2	975.3	981.1	979.8	939.4	905.3	862.7	765.0	699.1	680.7
67.5°	842.6	853.8	850.6	857.4	859.1	826.9	797.3	759.2	677.1	613.0	597.3
70°	725.1	732.7	728.7	733.1	737.2	713.0	687.9	654.2	583.4	526.9	513.9
72.5°	609.8	615.2	608.9	613.4	617.0	599.5	578.9	549.7	491.0	442.1	431.4
75°	498.2	505.8	492.8	497.3	500.0	482.5	470.4	446.6	395.9	358.3	351.1
77.5°	390.1	394.6	387.4	385.6	387.4	374.9	365.5	347.1	309.0	278.0	273.5
80°	287.0	289.7	282.5	280.7	282.0	273.1	265.9	252.5	225.5	202.2	200.4
82.5°	192.4	193.7	187.4	185.6	186.5	183.8	175.3	165.9	153.4	133.6	133.2
85°	109.9	109.9	105.4	103.6	104.5	100.0	96.9	91.9	87.0	73.5	74.4
87.5°	40.4	40.4	38.1	37.7	42.2	37.2	35.9	33.6	35.0	27.8	29.6
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°	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5	2051.5
2.5°	2060.4	2055.9	2051.9	2038.0	2043.8	2029.5	2028.6	2023.2	2019.2	2011.5	2021.4
5°	2053.7	2044.7	2033.1	2016.5	2021.4	2004.4	2000.8	1994.5	1989.1	1979.3	1986.9
7.5°	2042.9	2028.1	2009.8	1988.7	1995.4	1974.3	1969.0	1962.2	1957.7	1946.1	1952.8
10°	2027.2	2006.2	1984.6	1959.1	1964.0	1941.1	1934.4	1927.2	1923.2	1912.9	1919.6
12.5°	2003.0	1977.5	1948.3	1920.5	1925.9	1904.4	1895.4	1887.8	1886.4	1877.9	1886.0
15°	1971.6	1936.2	1906.2	1876.6	1882.9	1857.7	1853.7	1846.1	1848.3	1842.5	1852.4
17.5°	1931.7	1890.9	1858.2	1826.4	1832.6	1811.6	1808.4	1804.8	1807.1	1806.2	1816.9
20°	1886.9	1842.1	1804.4	1773.0	1776.6	1760.0	1761.3	1760.4	1764.9	1769.9	1784.7
22.5°	1836.2	1785.6	1746.1	1713.8	1719.2	1704.8	1711.1	1712.9	1720.5	1731.7	1750.6
25°	1779.3	1725.0	1683.8	1653.3	1658.2	1648.8	1659.6	1664.0	1676.1	1695.0	1714.3
27.5°	1719.6	1662.2	1618.3	1589.2	1598.6	1589.2	1605.3	1614.3	1632.6	1653.3	1677.0
30°	1656.4	1596.8	1551.5	1525.5	1534.4	1525.9	1551.9	1564.0	1582.4	1610.7	1638.9
32.5°	1590.0	1527.3	1482.9	1462.7	1469.0	1467.6	1496.8	1510.2	1534.9	1567.2	1597.2
35°	1521.9	1456.4	1411.6	1394.5	1402.2	1404.0	1438.9	1454.6	1481.5	1520.5	1552.8
37.5°	1451.5	1384.7	1340.7	1326.8	1333.6	1340.3	1381.1	1396.8	1427.3	1469.9	1505.3
40°	1378.4	1311.6	1268.5	1257.3	1264.1	1271.2	1315.6	1337.1	1370.3	1416.5	1455.1
42.5°	1304.4	1237.6	1195.9	1187.8	1194.6	1208.5	1255.5	1275.7	1310.7	1361.8	1404.4
45°	1229.1	1159.6	1123.3	1117.0	1124.2	1140.3	1186.5	1210.7	1247.9	1304.0	1349.7
47.5°	1152.9	1085.1	1050.6	1046.6	1053.8	1071.7	1122.8	1144.8	1184.2	1243.9	1293.2
50°	1075.7	1009.8	976.6	975.3	982.0	1001.3	1050.2	1076.2	1117.0	1183.8	1234.5
52.5°	997.7	934.5	904.4	904.4	910.7	930.4	979.8	1006.7	1048.8	1119.2	1175.3
55°	919.7	859.6	830.9	833.1	842.1	859.1	907.1	935.4	978.0	1051.1	1110.3
57.5°	841.7	784.7	758.7	761.8	770.4	787.4	834.5	866.3	904.9	980.7	1041.2
60°	764.5	710.7	687.9	691.4	699.1	716.1	765.0	792.3	830.9	908.0	968.6
62.5°	686.5	637.6	616.1	620.6	627.3	644.4	690.5	717.0	755.1	830.9	891.9
65°	609.4	564.1	545.7	550.2	556.5	572.2	615.7	641.2	677.5	751.5	809.8
67.5°	533.2	491.9	476.7	481.1	486.1	500.9	536.7	564.5	598.6	669.0	724.2
70°	457.8	421.1	407.6	412.1	416.6	430.0	461.4	487.0	518.4	582.9	634.0
72.5°	383.4	347.5	340.8	344.8	348.4	360.1	390.1	410.3	437.6	495.0	539.0
75°	310.7	279.8	275.3	279.4	282.5	291.5	316.6	334.1	356.9	406.7	442.6
77.5°	240.8	214.8	213.0	216.1	219.3	225.5	245.3	263.7	281.6	318.4	350.2
80°	175.3	154.3	154.3	157.4	156.5	164.1	178.0	192.8	205.8	232.3	255.6
82.5°	115.7	99.1	101.3	103.6	104.9	108.1	116.6	127.8	135.9	152.0	167.3
85°	64.1	52.9	55.2	56.9	56.1	59.6	64.1	70.8	74.9	82.5	90.6
87.5°	23.8	19.7	20.2	21.5	22.4	24.2	24.2	28.2	28.7	29.6	31.4
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°	2051.5	2051.5	2051.5
2.5°	2002.6	2013.3	2021.4
5°	1968.1	1977.0	1984.2
7.5°	1934.4	1942.5	1948.8
10°	1902.6	1911.6	1916.0
12.5°	1869.9	1880.2	1883.8
15°	1837.6	1847.9	1852.4
17.5°	1804.4	1817.8	1822.8
20°	1773.4	1790.5	1794.5
22.5°	1742.1	1759.5	1764.5
25°	1708.0	1728.6	1733.5
27.5°	1671.7	1696.3	1701.3
30°	1635.3	1662.2	1667.2
32.5°	1596.3	1625.5	1630.0
35°	1555.5	1584.7	1590.0
37.5°	1510.2	1542.1	1552.8
40°	1463.1	1497.7	1508.9
42.5°	1413.8	1451.5	1463.1
45°	1360.9	1402.2	1415.6
47.5°	1307.6	1354.2	1365.8
50°	1249.7	1299.5	1313.4
52.5°	1189.2	1243.4	1257.3
55°	1126.4	1181.1	1196.3
57.5°	1058.2	1114.7	1130.9
60°	986.9	1043.4	1058.7
62.5°	913.9	965.0	979.8
65°	832.2	880.2	893.7
67.5°	745.7	789.6	800.9
70°	653.8	691.9	701.8
72.5°	557.8	584.3	597.3
75°	458.7	479.8	489.7
77.5°	359.2	374.0	382.0
80°	261.9	270.4	277.1
82.5°	171.3	174.9	179.8
85°	92.4	92.4	95.5
87.5°	31.4	30.0	31.4
90°	0.0	0.0	0.0

(END OF REPORT)