

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: P834509

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2STD-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834509
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-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

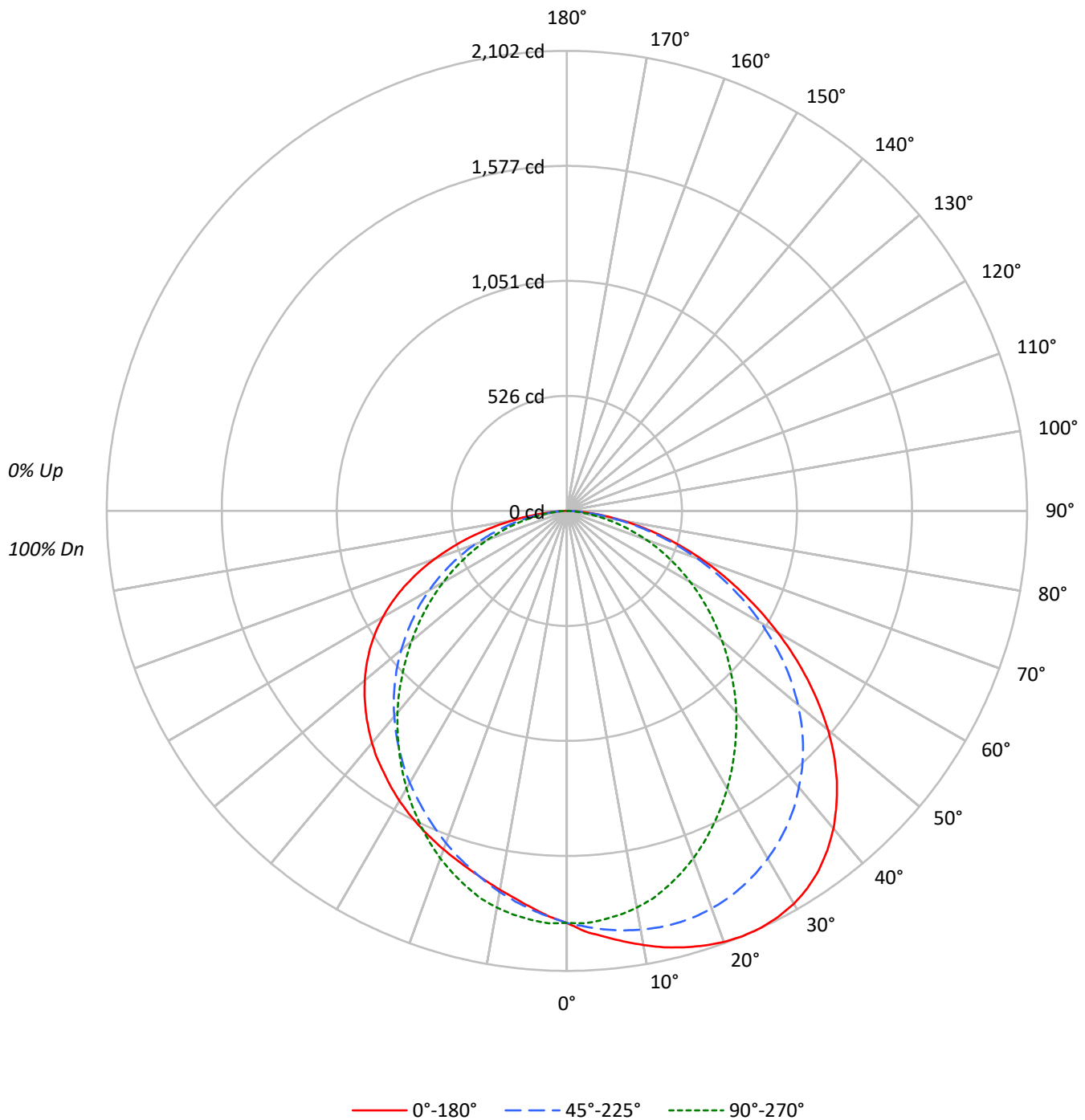
Lumens per Lamp: N/A
Luminaire Lumens: 5536.8 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2533	2533	2533
5°	2637	2534	2459
10°	2752	2515	2402
15°	2876	2475	2367
20°	3001	2420	2358
25°	3119	2350	2361
30°	3221	2276	2377
35°	3294	2195	2396
40°	3328	2114	2432
45°	3318	2024	2472
50°	3260	1939	2523
55°	3148	1850	2575
60°	2995	1755	2614
65°	2812	1648	2611
70°	2617	1520	2533
75°	2376	1334	2336
80°	2040	1096	1970
85°	1556	749	1352

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.5	3.2
10°-20°	515.5	9.3
20°-30°	789.8	14.3
30°-40°	963.8	17.4
40°-50°	1008.0	18.2
50°-60°	912.3	16.5
60°-70°	690.9	12.5
70°-80°	385.0	7.0
80°-90°	92.9	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°	1483.9	26.8
0°-40°	2447.7	44.2
0°-60°	4368.0	78.9
0°-90°	5536.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5536.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1882	1882	1882	1882	1882	
5°	1952	1920	1876	1830	1821	188
15°	2064	1950	1776	1694	1700	586
25°	2101	1895	1583	1527	1591	969
35°	2006	1754	1336	1335	1459	1252
45°	1744	1526	1064	1111	1299	1342
55°	1342	1212	789	858	1098	1198
65°	883	831	518	588	820	876
75°	457	432	257	306	449	485
85°	101	89	48	65	88	121
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°	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3
2.5°	1923.8	1914.8	1907.4	1910.3	1911.9	1906.1	1901.2	1902.0	1897.1	1906.6	1884.3
5°	1952.2	1944.0	1935.4	1938.6	1935.4	1926.7	1919.7	1917.7	1904.5	1909.8	1887.2
7.5°	1983.9	1974.8	1962.1	1965.8	1958.8	1942.8	1933.7	1928.4	1908.2	1908.6	1883.5
10°	2014.3	2006.5	1989.2	1991.7	1979.0	1957.6	1943.2	1935.8	1907.4	1903.3	1877.3
12.5°	2042.7	2032.0	2013.5	2014.8	1996.2	1967.9	1949.3	1938.6	1901.6	1889.3	1863.8
15°	2064.5	2054.3	2032.0	2031.6	2007.8	1970.7	1949.8	1934.9	1888.0	1868.7	1842.0
17.5°	2083.1	2073.6	2046.0	2045.2	2016.4	1969.5	1944.4	1925.9	1868.3	1844.4	1814.8
20°	2096.2	2086.8	2055.9	2053.0	2018.5	1963.3	1933.3	1909.8	1842.4	1814.0	1781.1
22.5°	2102.4	2092.9	2058.0	2053.8	2013.5	1951.0	1917.2	1889.7	1812.7	1775.7	1741.6
25°	2101.2	2092.1	2052.6	2048.5	2004.1	1932.5	1894.6	1862.9	1775.3	1731.7	1698.0
27.5°	2090.9	2083.9	2042.3	2037.0	1986.8	1907.4	1867.1	1832.1	1733.8	1685.2	1648.6
30°	2073.2	2067.8	2023.8	2018.9	1965.4	1879.8	1835.0	1794.6	1688.9	1634.2	1597.2
32.5°	2044.8	2039.9	1995.4	1990.9	1936.6	1844.4	1797.5	1756.0	1639.9	1579.5	1542.4
35°	2005.7	2002.8	1959.6	1954.7	1899.6	1804.1	1754.3	1708.7	1588.9	1520.6	1485.3
37.5°	1954.3	1954.3	1912.7	1907.4	1853.5	1754.7	1705.8	1657.2	1531.3	1458.9	1423.9
40°	1894.6	1900.0	1857.6	1852.2	1800.0	1701.7	1648.2	1597.2	1469.2	1393.9	1359.8
42.5°	1823.0	1828.0	1792.6	1787.6	1738.7	1640.4	1590.6	1535.0	1404.2	1327.7	1292.3
45°	1744.0	1750.6	1718.9	1715.2	1669.6	1573.3	1525.6	1469.2	1336.3	1258.6	1224.0
47.5°	1656.0	1664.6	1637.1	1635.0	1592.6	1504.6	1454.8	1397.6	1265.1	1186.6	1154.1
50°	1557.3	1569.6	1547.0	1547.0	1509.1	1421.5	1378.3	1321.1	1191.1	1112.5	1080.4
52.5°	1451.5	1467.1	1450.3	1450.7	1419.8	1341.3	1296.4	1240.5	1113.7	1036.4	1006.8
55°	1342.1	1357.3	1346.6	1348.2	1324.0	1252.4	1211.7	1156.1	1034.7	959.4	931.5
57.5°	1227.7	1244.2	1237.2	1240.5	1223.6	1159.4	1117.0	1068.5	953.3	878.8	854.9
60°	1112.9	1128.5	1124.8	1129.4	1118.7	1063.1	1024.5	974.3	871.4	799.8	778.8
62.5°	996.9	1011.3	1010.5	1015.4	1009.6	963.6	929.0	886.2	786.6	720.8	701.5
65°	883.3	895.7	894.9	900.2	899.0	861.9	830.7	791.6	701.9	641.4	624.5
67.5°	773.1	783.4	780.5	786.6	788.3	758.7	731.5	696.5	621.3	562.4	548.0
70°	665.3	672.3	668.6	672.7	676.4	654.2	631.1	600.3	535.3	483.4	471.5
72.5°	559.5	564.5	558.7	562.8	566.1	550.1	531.2	504.4	450.5	405.7	395.8
75°	457.1	464.1	452.2	456.3	458.7	442.7	431.6	409.8	363.3	328.7	322.1
77.5°	357.9	362.1	355.5	353.8	355.5	344.0	335.3	318.4	283.5	255.1	251.0
80°	263.3	265.8	259.2	257.6	258.8	250.6	244.0	231.6	206.9	185.6	183.9
82.5°	176.5	177.7	172.0	170.3	171.2	168.7	160.9	152.2	140.7	122.6	122.2
85°	100.8	100.8	96.7	95.0	95.9	91.7	88.9	84.3	79.8	67.5	68.3
87.5°	37.0	37.0	35.0	34.6	38.7	34.1	32.9	30.9	32.1	25.5	27.2
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°	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3	1882.3
2.5°	1890.5	1886.4	1882.7	1869.9	1875.3	1862.1	1861.3	1856.4	1852.7	1845.7	1854.7
5°	1884.3	1876.1	1865.4	1850.2	1854.7	1839.1	1835.8	1830.0	1825.1	1816.0	1823.0
7.5°	1874.5	1860.9	1844.0	1824.7	1830.8	1811.5	1806.6	1800.4	1796.3	1785.6	1791.8
10°	1860.1	1840.7	1821.0	1797.5	1802.0	1781.1	1774.9	1768.3	1764.6	1755.1	1761.3
12.5°	1837.8	1814.4	1787.6	1762.1	1767.1	1747.3	1739.1	1732.1	1730.9	1723.1	1730.5
15°	1809.0	1776.5	1749.0	1721.8	1727.6	1704.5	1700.8	1693.8	1695.9	1690.6	1699.6
17.5°	1772.4	1735.0	1705.0	1675.7	1681.5	1662.2	1659.3	1656.0	1658.0	1657.2	1667.1
20°	1731.3	1690.1	1655.6	1626.8	1630.1	1614.8	1616.1	1615.3	1619.4	1623.9	1637.5
22.5°	1684.8	1638.3	1602.1	1572.5	1577.4	1564.2	1570.0	1571.6	1578.6	1588.9	1606.2
25°	1632.5	1582.8	1544.9	1516.9	1521.5	1512.8	1522.7	1526.8	1537.9	1555.2	1572.9
27.5°	1577.8	1525.2	1484.8	1458.1	1466.7	1458.1	1472.9	1481.1	1498.0	1516.9	1538.7
30°	1519.8	1465.1	1423.5	1399.7	1407.9	1400.1	1423.9	1435.1	1451.9	1477.8	1503.8
32.5°	1458.9	1401.3	1360.6	1342.1	1347.8	1346.6	1373.3	1385.7	1408.3	1437.9	1465.5
35°	1396.4	1336.3	1295.2	1279.5	1286.5	1288.2	1320.3	1334.7	1359.4	1395.1	1424.8
37.5°	1331.8	1270.5	1230.2	1217.4	1223.6	1229.8	1267.2	1281.6	1309.6	1348.7	1381.2
40°	1264.7	1203.4	1163.9	1153.6	1159.8	1166.4	1207.1	1226.9	1257.3	1299.7	1335.1
42.5°	1196.8	1135.5	1097.3	1089.9	1096.0	1108.8	1152.0	1170.5	1202.6	1249.5	1288.6
45°	1127.7	1063.9	1030.6	1024.9	1031.4	1046.3	1088.6	1110.9	1145.0	1196.4	1238.4
47.5°	1057.8	995.7	964.0	960.3	966.9	983.3	1030.2	1050.4	1086.6	1141.3	1186.6
50°	987.0	926.5	896.1	894.9	901.0	918.7	963.6	987.4	1024.9	1086.2	1132.7
52.5°	915.4	857.4	829.8	829.8	835.6	853.7	899.0	923.7	962.3	1026.9	1078.3
55°	843.8	788.7	762.4	764.4	772.7	788.3	832.3	858.2	897.3	964.4	1018.7
57.5°	772.2	720.0	696.1	699.0	706.8	722.5	765.7	794.9	830.3	899.8	955.3
60°	701.5	652.1	631.1	634.4	641.4	657.0	701.9	727.0	762.4	833.1	888.7
62.5°	629.9	585.0	565.3	569.4	575.6	591.2	633.6	657.9	692.8	762.4	818.3
65°	559.1	517.6	500.7	504.8	510.6	525.0	564.9	588.3	621.7	689.6	743.0
67.5°	489.2	451.3	437.3	441.5	446.0	459.6	492.5	518.0	549.3	613.8	664.5
70°	420.1	386.3	374.0	378.1	382.2	394.6	423.4	446.8	475.6	534.9	581.8
72.5°	351.8	318.9	312.7	316.4	319.7	330.4	357.9	376.5	401.6	454.2	494.5
75°	285.1	256.7	252.6	256.3	259.2	267.4	290.5	306.5	327.5	373.2	406.1
77.5°	220.9	197.1	195.4	198.3	201.2	206.9	225.1	241.9	258.4	292.1	321.3
80°	160.9	141.5	141.5	144.4	143.6	150.6	163.3	176.9	188.8	213.1	234.5
82.5°	106.1	90.9	93.0	95.0	96.3	99.2	107.0	117.3	124.7	139.5	153.5
85°	58.8	48.5	50.6	52.3	51.4	54.7	58.8	65.0	68.7	75.7	83.1
87.5°	21.8	18.1	18.5	19.7	20.6	22.2	22.2	25.9	26.3	27.2	28.8
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°	1882.3	1882.3	1882.3
2.5°	1837.4	1847.3	1854.7
5°	1805.8	1814.0	1820.6
7.5°	1774.9	1782.3	1788.1
10°	1745.7	1753.9	1758.0
12.5°	1715.6	1725.1	1728.4
15°	1686.0	1695.5	1699.6
17.5°	1655.6	1667.9	1672.4
20°	1627.2	1642.8	1646.5
22.5°	1598.4	1614.4	1619.0
25°	1567.1	1586.0	1590.6
27.5°	1533.8	1556.4	1561.0
30°	1500.5	1525.2	1529.7
32.5°	1464.7	1491.4	1495.5
35°	1427.2	1454.0	1458.9
37.5°	1385.7	1414.9	1424.8
40°	1342.5	1374.2	1384.5
42.5°	1297.2	1331.8	1342.5
45°	1248.7	1286.5	1298.9
47.5°	1199.7	1242.5	1253.2
50°	1146.6	1192.3	1205.1
52.5°	1091.1	1140.9	1153.6
55°	1033.5	1083.7	1097.7
57.5°	971.0	1022.8	1037.6
60°	905.6	957.4	971.4
62.5°	838.5	885.4	899.0
65°	763.6	807.6	820.0
67.5°	684.2	724.5	734.8
70°	599.9	634.8	643.9
72.5°	511.8	536.1	548.0
75°	420.9	440.2	449.3
77.5°	329.6	343.1	350.5
80°	240.3	248.1	254.3
82.5°	157.2	160.5	165.0
85°	84.8	84.8	87.6
87.5°	28.8	27.6	28.8
90°	0.0	0.0	0.0

(END OF REPORT)