

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: P835341

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-3HI-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835341
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-LD4-3HI-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

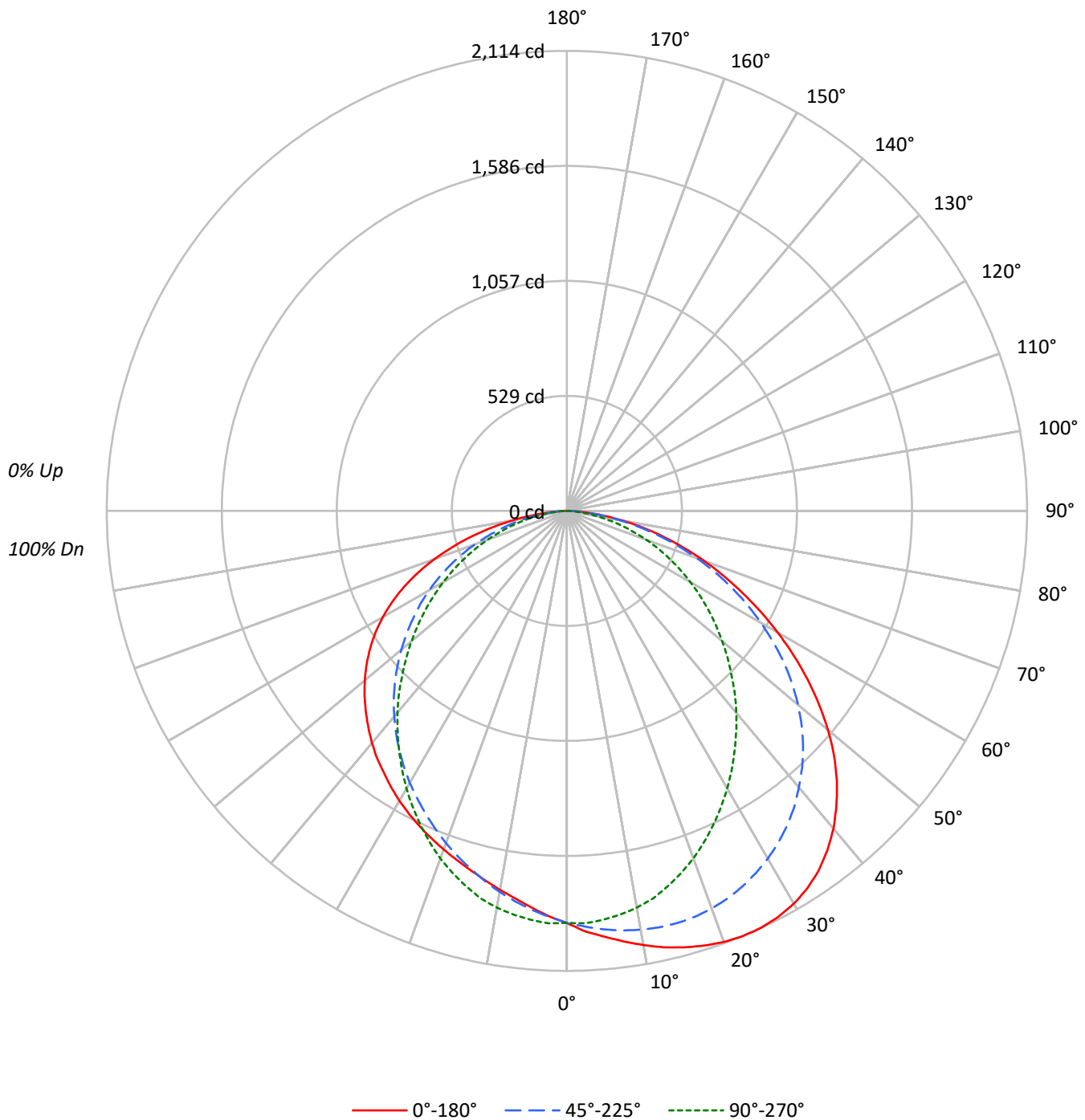
Lumens per Lamp: N/A
Luminaire Lumens: 5568.2 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 66
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°	5094	5094	5094
5°	5303	5097	4946
10°	5535	5058	4831
15°	5784	4977	4762
20°	6037	4867	4742
25°	6274	4726	4749
30°	6478	4578	4780
35°	6626	4415	4820
40°	6693	4252	4891
45°	6675	4072	4971
50°	6556	3901	5074
55°	6332	3721	5179
60°	6023	3529	5258
65°	5656	3314	5251
70°	5264	3057	5094
75°	4780	2685	4697
80°	4104	2205	3963
85°	3131	1507	2720



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.5	3.2
10°-20°	518.5	9.3
20°-30°	794.3	14.3
30°-40°	969.3	17.4
40°-50°	1013.7	18.2
50°-60°	917.5	16.5
60°-70°	694.8	12.5
70°-80°	387.2	7.0
80°-90°	93.4	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°	1492.3	26.8
0°-40°	2461.6	44.2
0°-60°	4392.7	78.9
0°-90°	5568.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5568.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1893	1893	1893	1893	1893	
5°	1963	1931	1887	1840	1831	189
15°	2076	1961	1787	1704	1709	589
25°	2113	1905	1592	1536	1600	975
35°	2017	1764	1344	1342	1467	1260
45°	1754	1534	1070	1117	1306	1349
55°	1350	1218	793	863	1104	1204
65°	888	835	520	592	825	881
75°	460	434	258	308	452	488
85°	101	89	49	65	88	122
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°	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0
2.5°	1934.7	1925.6	1918.2	1921.1	1922.7	1917.0	1912.0	1912.8	1907.9	1917.4	1895.0
5°	1963.3	1955.0	1946.3	1949.6	1946.3	1937.6	1930.6	1928.5	1915.3	1920.7	1897.9
7.5°	1995.2	1986.1	1973.2	1977.0	1969.9	1953.8	1944.7	1939.3	1919.0	1919.4	1894.2
10°	2025.8	2017.9	2000.5	2003.0	1990.2	1968.7	1954.2	1946.7	1918.2	1914.1	1888.0
12.5°	2054.3	2043.6	2024.9	2026.2	2007.6	1979.0	1960.4	1949.6	1912.4	1900.0	1874.3
15°	2076.3	2065.9	2043.6	2043.2	2019.2	1981.9	1960.8	1945.9	1898.8	1879.3	1852.4
17.5°	2094.9	2085.4	2057.6	2056.8	2027.8	1980.7	1955.4	1936.8	1878.9	1854.9	1825.1
20°	2108.1	2098.6	2067.6	2064.7	2029.9	1974.5	1944.3	1920.7	1852.8	1824.3	1791.2
22.5°	2114.3	2104.8	2069.6	2065.5	2024.9	1962.1	1928.1	1900.4	1823.0	1785.8	1751.5
25°	2113.1	2104.0	2064.3	2060.1	2015.4	1943.4	1905.4	1873.5	1785.4	1741.5	1707.6
27.5°	2102.7	2095.7	2053.9	2048.5	1998.1	1918.2	1877.6	1842.5	1743.6	1694.8	1657.9
30°	2084.9	2079.6	2035.3	2030.3	1976.5	1890.5	1845.4	1804.8	1698.5	1643.5	1606.2
32.5°	2056.4	2051.4	2006.7	2002.2	1947.6	1854.9	1807.7	1765.9	1649.3	1588.4	1551.2
35°	2017.1	2014.2	1970.7	1965.8	1910.3	1814.3	1764.3	1718.4	1597.9	1529.3	1493.7
37.5°	1965.4	1965.4	1923.6	1918.2	1864.0	1764.7	1715.5	1666.6	1540.0	1467.2	1432.0
40°	1905.4	1910.8	1868.1	1862.8	1810.2	1711.3	1657.5	1606.2	1477.5	1401.8	1367.5
42.5°	1833.4	1838.3	1802.8	1797.8	1748.6	1649.7	1599.6	1543.7	1412.2	1335.2	1299.6
45°	1753.9	1760.6	1728.7	1725.0	1679.0	1582.2	1534.2	1477.5	1343.9	1265.7	1230.9
47.5°	1665.4	1674.1	1646.4	1644.3	1601.7	1513.1	1463.1	1405.5	1272.3	1193.3	1160.6
50°	1566.1	1578.5	1555.7	1555.7	1517.7	1429.5	1386.1	1328.6	1197.8	1118.8	1086.5
52.5°	1459.8	1475.5	1458.5	1458.9	1427.9	1348.9	1303.8	1247.5	1120.1	1042.3	1012.5
55°	1349.7	1365.0	1354.2	1355.9	1331.5	1259.5	1218.5	1162.7	1040.6	964.9	936.8
57.5°	1234.7	1251.2	1244.2	1247.5	1230.5	1166.0	1123.4	1074.5	958.7	883.8	859.8
60°	1119.2	1134.9	1131.2	1135.8	1125.0	1069.2	1030.3	979.8	876.3	804.4	783.3
62.5°	1002.5	1017.0	1016.2	1021.2	1015.4	969.0	934.3	891.2	791.1	724.9	705.5
65°	888.3	900.8	899.9	905.3	904.1	866.8	835.4	796.1	705.9	645.1	628.1
67.5°	777.5	787.8	784.9	791.1	792.8	763.0	735.7	700.5	624.8	565.6	551.1
70°	669.1	676.1	672.4	676.5	680.2	657.9	634.7	603.7	538.3	486.2	474.2
72.5°	562.7	567.7	561.9	566.0	569.3	553.2	534.2	507.3	453.1	408.0	398.0
75°	459.7	466.7	454.7	458.9	461.3	445.2	434.0	412.1	365.4	330.6	324.0
77.5°	360.0	364.1	357.5	355.8	357.5	345.9	337.2	320.3	285.1	256.5	252.4
80°	264.8	267.3	260.7	259.0	260.3	252.0	245.4	232.9	208.1	186.6	185.0
82.5°	177.5	178.7	173.0	171.3	172.1	169.6	161.8	153.1	141.5	123.3	122.9
85°	101.4	101.4	97.2	95.6	96.4	92.3	89.4	84.8	80.3	67.9	68.7
87.5°	37.2	37.2	35.2	34.8	38.9	34.3	33.1	31.0	32.3	25.7	27.3
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0	1893.0
2.5°	1901.2	1897.1	1893.4	1880.5	1885.9	1872.7	1871.9	1866.9	1863.2	1856.1	1865.2
5°	1895.0	1886.8	1876.0	1860.7	1865.2	1849.5	1846.2	1840.4	1835.4	1826.3	1833.4
7.5°	1885.1	1871.4	1854.5	1835.0	1841.2	1821.8	1816.8	1810.6	1806.5	1795.7	1801.9
10°	1870.6	1851.2	1831.3	1807.7	1812.3	1791.2	1785.0	1778.3	1774.6	1765.1	1771.3
12.5°	1848.3	1824.7	1797.8	1772.1	1777.1	1757.2	1749.0	1741.9	1740.7	1732.8	1740.3
15°	1819.3	1786.6	1758.9	1731.6	1737.4	1714.2	1710.5	1703.5	1705.5	1700.1	1709.2
17.5°	1782.5	1744.8	1714.6	1685.3	1691.0	1671.6	1668.7	1665.4	1667.5	1666.6	1676.6
20°	1741.1	1699.7	1665.0	1636.0	1639.3	1624.0	1625.3	1624.4	1628.6	1633.1	1646.8
22.5°	1694.4	1647.6	1611.2	1581.4	1586.4	1573.1	1578.9	1580.6	1587.6	1597.9	1615.3
25°	1641.8	1591.7	1553.7	1525.5	1530.1	1521.4	1531.3	1535.5	1546.6	1564.0	1581.8
27.5°	1586.8	1533.8	1493.3	1466.4	1475.1	1466.4	1481.3	1489.5	1506.5	1525.5	1547.5
30°	1528.4	1473.4	1431.6	1407.6	1415.9	1408.0	1432.0	1443.2	1460.2	1486.2	1512.3
32.5°	1467.2	1409.3	1368.3	1349.7	1355.5	1354.2	1381.1	1393.5	1416.3	1446.1	1473.8
35°	1404.3	1343.9	1302.5	1286.8	1293.8	1295.5	1327.8	1342.2	1367.1	1403.1	1432.9
37.5°	1339.3	1277.7	1237.1	1224.3	1230.5	1236.7	1274.4	1288.9	1317.0	1356.3	1389.0
40°	1271.9	1210.3	1170.5	1160.2	1166.4	1173.0	1214.0	1233.8	1264.5	1307.1	1342.7
42.5°	1203.6	1142.0	1103.5	1096.1	1102.3	1115.1	1158.5	1177.2	1209.4	1256.6	1295.9
45°	1134.1	1070.0	1036.5	1030.7	1037.3	1052.2	1094.8	1117.2	1151.5	1203.2	1245.4
47.5°	1063.8	1001.3	969.4	965.7	972.3	988.9	1036.1	1056.3	1092.7	1147.8	1193.3
50°	992.6	931.8	901.2	899.9	906.1	923.9	969.0	993.0	1030.7	1092.3	1139.1
52.5°	920.6	862.3	834.6	834.6	840.3	858.6	904.1	928.9	967.8	1032.7	1084.5
55°	848.6	793.2	766.7	768.8	777.0	792.8	837.0	863.1	902.4	969.9	1024.5
57.5°	776.6	724.1	700.1	703.0	710.8	726.6	770.0	799.4	835.0	904.9	960.8
60°	705.5	655.8	634.7	638.0	645.1	660.8	705.9	731.1	766.7	837.9	893.7
62.5°	633.5	588.4	568.5	572.6	578.9	594.6	637.2	661.6	696.8	766.7	823.0
65°	562.3	520.5	503.5	507.7	513.5	528.0	568.1	591.7	625.2	693.5	747.3
67.5°	492.0	453.9	439.8	444.0	448.5	462.2	495.3	520.9	552.4	617.3	668.2
70°	422.5	388.5	376.1	380.2	384.4	396.8	425.8	449.3	478.3	537.9	585.1
72.5°	353.8	320.7	314.5	318.2	321.5	332.3	360.0	378.6	403.8	456.8	497.3
75°	286.7	258.2	254.0	257.8	260.7	268.9	292.1	308.3	329.4	375.3	408.4
77.5°	222.2	198.2	196.5	199.4	202.3	208.1	226.3	243.3	259.8	293.8	323.1
80°	161.8	142.3	142.3	145.2	144.4	151.4	164.3	177.9	189.9	214.3	235.8
82.5°	106.8	91.4	93.5	95.6	96.8	99.7	107.6	117.9	125.4	140.3	154.3
85°	59.2	48.8	50.9	52.5	51.7	55.0	59.2	65.4	69.1	76.1	83.6
87.5°	21.9	18.2	18.6	19.9	20.7	22.3	22.3	26.1	26.5	27.3	29.0
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°	1893.0	1893.0	1893.0
2.5°	1847.9	1857.8	1865.2
5°	1816.0	1824.3	1830.9
7.5°	1785.0	1792.4	1798.2
10°	1755.6	1763.9	1768.0
12.5°	1725.4	1734.9	1738.2
15°	1695.6	1705.1	1709.2
17.5°	1665.0	1677.4	1681.9
20°	1636.4	1652.1	1655.9
22.5°	1607.5	1623.6	1628.2
25°	1576.0	1595.1	1599.6
27.5°	1542.5	1565.3	1569.8
30°	1509.0	1533.8	1538.4
32.5°	1473.0	1499.9	1504.0
35°	1435.3	1462.2	1467.2
37.5°	1393.5	1422.9	1432.9
40°	1350.1	1382.0	1392.3
42.5°	1304.6	1339.3	1350.1
45°	1255.8	1293.8	1306.2
47.5°	1206.5	1249.6	1260.3
50°	1153.2	1199.1	1211.9
52.5°	1097.3	1147.4	1160.2
55°	1039.4	1089.8	1103.9
57.5°	976.5	1028.6	1043.5
60°	910.7	962.8	976.9
62.5°	843.2	890.4	904.1
65°	767.9	812.2	824.6
67.5°	688.1	728.6	739.0
70°	603.3	638.4	647.5
72.5°	514.7	539.1	551.1
75°	423.3	442.7	451.8
77.5°	331.4	345.1	352.5
80°	241.6	249.5	255.7
82.5°	158.1	161.4	165.9
85°	85.2	85.2	88.1
87.5°	29.0	27.7	29.0
90°	0.0	0.0	0.0

(END OF REPORT)