

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: P834670

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2LO-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834670
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-LD4-2LO-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

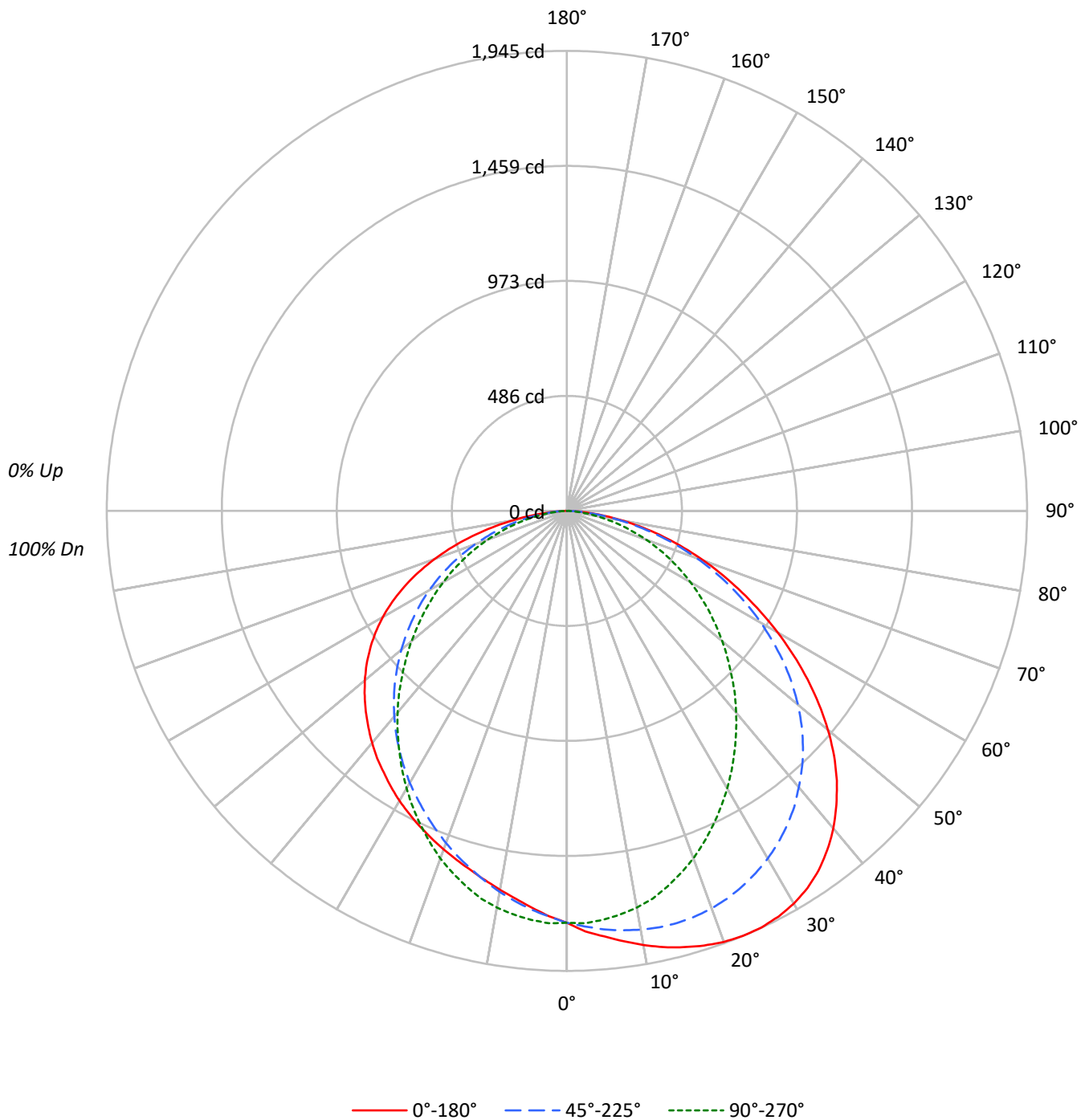
Lumens per Lamp: N/A
Luminaire Lumens: 5121.8 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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	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°	2343	2343	2343
5°	2439	2344	2275
10°	2546	2326	2222
15°	2660	2289	2190
20°	2776	2239	2181
25°	2886	2174	2184
30°	2980	2106	2198
35°	3048	2030	2217
40°	3078	1955	2249
45°	3070	1873	2286
50°	3015	1794	2333
55°	2912	1711	2382
60°	2770	1623	2418
65°	2601	1524	2415
70°	2421	1406	2343
75°	2198	1235	2161
80°	1888	1014	1822
85°	1439	693	1252

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.1	3.2
10°-20°	476.9	9.3
20°-30°	730.6	14.3
30°-40°	891.6	17.4
40°-50°	932.4	18.2
50°-60°	843.9	16.5
60°-70°	639.1	12.5
70°-80°	356.2	7.0
80°-90°	85.9	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°	1372.6	26.8
0°-40°	2264.2	44.2
0°-60°	4040.6	78.9
0°-90°	5121.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5121.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1741	1741	1741	1741	1741	
5°	1806	1776	1736	1693	1684	174
15°	1910	1804	1643	1567	1572	542
25°	1944	1753	1464	1412	1471	897
35°	1855	1623	1236	1235	1350	1159
45°	1613	1411	984	1028	1202	1241
55°	1242	1121	730	794	1015	1108
65°	817	768	479	544	758	811
75°	423	399	238	284	416	448
85°	93	82	45	60	81	112
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°	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2
2.5°	1779.6	1771.3	1764.4	1767.1	1768.6	1763.3	1758.7	1759.5	1754.9	1763.6	1743.1
5°	1805.9	1798.3	1790.3	1793.3	1790.3	1782.3	1775.8	1773.9	1761.7	1766.7	1745.8
7.5°	1835.2	1826.8	1815.0	1818.4	1812.0	1797.1	1788.8	1783.8	1765.2	1765.5	1742.3
10°	1863.4	1856.1	1840.1	1842.4	1830.6	1810.8	1797.5	1790.7	1764.4	1760.6	1736.6
12.5°	1889.6	1879.7	1862.6	1863.7	1846.6	1820.4	1803.2	1793.3	1759.1	1747.7	1724.1
15°	1909.8	1900.3	1879.7	1879.3	1857.3	1823.0	1803.6	1789.9	1746.5	1728.6	1703.9
17.5°	1926.9	1918.2	1892.7	1891.9	1865.3	1821.9	1798.7	1781.5	1728.2	1706.2	1678.8
20°	1939.1	1930.3	1901.8	1899.1	1867.2	1816.2	1788.4	1766.7	1704.3	1678.0	1647.6
22.5°	1944.8	1936.1	1903.7	1899.9	1862.6	1804.7	1773.5	1748.0	1676.9	1642.6	1611.0
25°	1943.7	1935.3	1898.8	1894.9	1853.8	1787.6	1752.6	1723.3	1642.2	1601.9	1570.7
27.5°	1934.1	1927.7	1889.2	1884.3	1837.9	1764.4	1727.1	1694.8	1603.8	1558.9	1525.0
30°	1917.8	1912.8	1872.1	1867.5	1818.1	1738.9	1697.4	1660.1	1562.3	1511.7	1477.4
32.5°	1891.5	1887.0	1845.9	1841.7	1791.4	1706.2	1662.8	1624.3	1517.0	1461.1	1426.8
35°	1855.4	1852.7	1812.7	1808.2	1757.2	1668.9	1622.8	1580.6	1469.8	1406.7	1373.9
37.5°	1807.8	1807.8	1769.4	1764.4	1714.5	1623.2	1577.9	1533.0	1416.5	1349.6	1317.2
40°	1752.6	1757.6	1718.4	1713.4	1665.1	1574.1	1524.6	1477.4	1359.1	1289.4	1257.8
42.5°	1686.4	1691.0	1658.2	1653.7	1608.4	1517.4	1471.4	1420.0	1298.9	1228.2	1195.4
45°	1613.3	1619.4	1590.1	1586.7	1544.4	1455.4	1411.2	1359.1	1236.1	1164.2	1132.2
47.5°	1531.9	1539.9	1514.4	1512.5	1473.3	1391.8	1345.8	1292.9	1170.3	1097.6	1067.5
50°	1440.5	1451.9	1431.0	1431.0	1396.0	1314.9	1275.0	1222.1	1101.8	1029.1	999.4
52.5°	1342.7	1357.2	1341.6	1342.0	1313.4	1240.7	1199.2	1147.5	1030.3	958.7	931.3
55°	1241.5	1255.6	1245.7	1247.2	1224.7	1158.5	1120.8	1069.5	957.2	887.5	861.7
57.5°	1135.7	1150.9	1144.4	1147.5	1131.9	1072.5	1033.3	988.4	881.8	812.9	790.9
60°	1029.5	1044.0	1040.5	1044.7	1034.8	983.4	947.7	901.2	806.1	739.9	720.5
62.5°	922.2	935.5	934.7	939.3	934.0	891.3	859.4	819.8	727.7	666.8	648.9
65°	817.1	828.5	827.8	832.7	831.6	797.3	768.4	732.3	649.3	593.3	577.7
67.5°	715.1	724.6	722.0	727.7	729.2	701.8	676.7	644.3	574.7	520.3	506.9
70°	615.4	621.9	618.5	622.3	625.7	605.1	583.8	555.3	495.1	447.2	436.2
72.5°	517.6	522.2	516.8	520.6	523.7	508.8	491.3	466.6	416.7	375.3	366.1
75°	422.8	429.3	418.3	422.1	424.4	409.5	399.2	379.1	336.1	304.1	298.0
77.5°	331.1	334.9	328.8	327.3	328.8	318.2	310.2	294.6	262.2	236.0	232.2
80°	243.6	245.9	239.8	238.2	239.4	231.8	225.7	214.3	191.4	171.6	170.1
82.5°	163.3	164.4	159.1	157.6	158.3	156.0	148.8	140.8	130.2	113.4	113.0
85°	93.2	93.2	89.4	87.9	88.7	84.9	82.2	78.0	73.8	62.4	63.2
87.5°	34.3	34.3	32.3	32.0	35.8	31.6	30.4	28.5	29.7	23.6	25.1
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°	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2	1741.2
2.5°	1748.8	1745.0	1741.6	1729.8	1734.7	1722.5	1721.8	1717.2	1713.8	1707.3	1715.7
5°	1743.1	1735.5	1725.6	1711.5	1715.7	1701.2	1698.2	1692.9	1688.3	1679.9	1686.4
7.5°	1734.0	1721.4	1705.8	1687.9	1693.6	1675.7	1671.2	1665.5	1661.6	1651.8	1657.5
10°	1720.6	1702.7	1684.5	1662.8	1667.0	1647.6	1641.9	1635.8	1632.3	1623.6	1629.3
12.5°	1700.1	1678.4	1653.7	1630.1	1634.6	1616.4	1608.7	1602.3	1601.1	1593.9	1600.8
15°	1673.4	1643.4	1617.9	1592.8	1598.1	1576.8	1573.4	1566.9	1568.8	1563.8	1572.2
17.5°	1639.6	1604.9	1577.2	1550.1	1555.5	1537.6	1534.9	1531.9	1533.8	1533.0	1542.1
20°	1601.5	1563.5	1531.5	1504.8	1507.9	1493.8	1494.9	1494.2	1498.0	1502.2	1514.7
22.5°	1558.5	1515.5	1482.0	1454.6	1459.2	1447.0	1452.3	1453.8	1460.3	1469.8	1485.8
25°	1510.2	1464.1	1429.1	1403.2	1407.4	1399.4	1408.6	1412.4	1422.6	1438.6	1455.0
27.5°	1459.6	1410.8	1373.5	1348.8	1356.8	1348.8	1362.5	1370.1	1385.7	1403.2	1423.4
30°	1405.9	1355.3	1316.8	1294.8	1302.4	1295.1	1317.2	1327.5	1343.1	1367.1	1391.0
32.5°	1349.6	1296.3	1258.6	1241.5	1246.8	1245.7	1270.4	1281.8	1302.8	1330.2	1355.7
35°	1291.7	1236.1	1198.1	1183.6	1190.1	1191.6	1221.3	1234.6	1257.5	1290.6	1318.0
37.5°	1232.0	1175.3	1138.0	1126.2	1131.9	1137.6	1172.2	1185.5	1211.4	1247.6	1277.6
40°	1169.9	1113.2	1076.7	1067.2	1072.9	1079.0	1116.6	1134.9	1163.1	1202.3	1235.0
42.5°	1107.1	1050.4	1015.0	1008.2	1013.9	1025.7	1065.6	1082.8	1112.5	1155.8	1192.0
45°	1043.2	984.2	953.4	948.0	954.1	967.8	1007.0	1027.6	1059.2	1106.7	1145.6
47.5°	978.5	921.0	891.7	888.3	894.4	909.6	953.0	971.6	1005.1	1055.8	1097.6
50°	913.0	857.1	828.9	827.8	833.5	849.9	891.3	913.4	948.0	1004.8	1047.8
52.5°	846.8	793.1	767.6	767.6	773.0	789.7	831.6	854.4	890.2	949.9	997.5
55°	780.6	729.6	705.2	707.1	714.7	729.2	769.9	793.9	830.1	892.1	942.3
57.5°	714.4	666.0	644.0	646.6	653.8	668.3	708.3	735.3	768.0	832.3	883.7
60°	648.9	603.2	583.8	586.9	593.3	607.8	649.3	672.5	705.2	770.7	822.1
62.5°	582.7	541.2	522.9	526.7	532.4	546.9	586.1	608.6	640.9	705.2	757.0
65°	517.2	478.8	463.2	467.0	472.3	485.6	522.5	544.2	575.1	637.9	687.3
67.5°	452.5	417.5	404.6	408.4	412.6	425.1	455.6	479.2	508.1	567.8	614.6
70°	388.6	357.4	346.0	349.8	353.6	365.0	391.6	413.3	440.0	494.8	538.2
72.5°	325.4	295.0	289.2	292.7	295.7	305.6	331.1	348.2	371.5	420.2	457.5
75°	263.7	237.5	233.7	237.1	239.8	247.4	268.7	283.5	302.9	345.2	375.6
77.5°	204.4	182.3	180.8	183.4	186.1	191.4	208.2	223.8	239.0	270.2	297.2
80°	148.8	130.9	130.9	133.6	132.8	139.3	151.1	163.7	174.7	197.1	216.9
82.5°	98.2	84.1	86.0	87.9	89.1	91.7	99.0	108.5	115.3	129.0	142.0
85°	54.4	44.9	46.8	48.3	47.6	50.6	54.4	60.1	63.6	70.0	76.9
87.5°	20.2	16.7	17.1	18.3	19.0	20.6	20.6	24.0	24.4	25.1	26.6
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):

	160°	170°	180°
0°	1741.2	1741.2	1741.2
2.5°	1699.7	1708.8	1715.7
5°	1670.4	1678.0	1684.1
7.5°	1641.9	1648.7	1654.0
10°	1614.8	1622.4	1626.3
12.5°	1587.1	1595.8	1598.8
15°	1559.6	1568.4	1572.2
17.5°	1531.5	1542.9	1547.1
20°	1505.2	1519.7	1523.1
22.5°	1478.6	1493.4	1497.6
25°	1449.7	1467.2	1471.4
27.5°	1418.8	1439.8	1444.0
30°	1388.0	1410.8	1415.0
32.5°	1354.9	1379.6	1383.4
35°	1320.3	1345.0	1349.6
37.5°	1281.8	1308.8	1318.0
40°	1241.9	1271.2	1280.7
42.5°	1200.0	1232.0	1241.9
45°	1155.1	1190.1	1201.5
47.5°	1109.8	1149.4	1159.3
50°	1060.7	1102.9	1114.7
52.5°	1009.3	1055.4	1067.2
55°	956.0	1002.5	1015.4
57.5°	898.2	946.1	959.8
60°	837.7	885.6	898.6
62.5°	775.6	819.0	831.6
65°	706.4	747.1	758.5
67.5°	632.9	670.2	679.7
70°	554.9	587.2	595.6
72.5°	473.5	495.9	506.9
75°	389.3	407.2	415.6
77.5°	304.9	317.4	324.3
80°	222.3	229.5	235.2
82.5°	145.4	148.4	152.6
85°	78.4	78.4	81.1
87.5°	26.6	25.5	26.6
90°	0.0	0.0	0.0

(END OF REPORT)