

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: P834688

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2LO-40-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834688
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-40-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

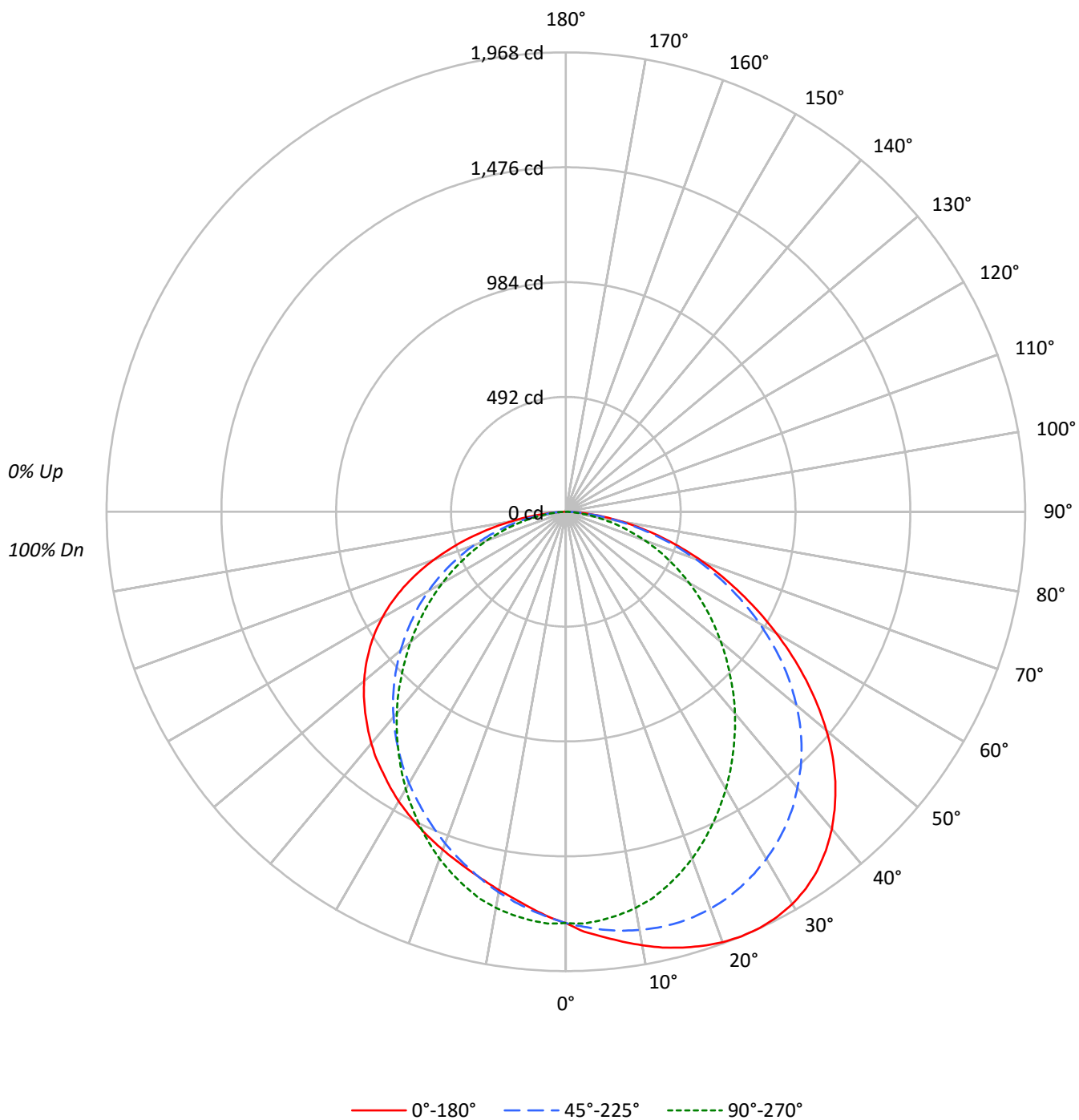
Lumens per Lamp: N/A
Luminaire Lumens: 5183.5 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



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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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2371	2371	2371
5°	2468	2372	2302
10°	2576	2354	2249
15°	2692	2317	2216
20°	2810	2266	2207
25°	2920	2200	2211
30°	3015	2131	2225
35°	3084	2055	2243
40°	3115	1979	2276
45°	3107	1895	2314
50°	3052	1816	2362
55°	2947	1732	2411
60°	2804	1643	2447
65°	2633	1543	2444
70°	2450	1423	2371
75°	2224	1249	2187
80°	1910	1027	1844
85°	1457	702	1266

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.1	3.2
10°-20°	482.6	9.3
20°-30°	739.4	14.3
30°-40°	902.3	17.4
40°-50°	943.7	18.2
50°-60°	854.1	16.5
60°-70°	646.8	12.5
70°-80°	360.5	7.0
80°-90°	86.9	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°	1389.2	26.8
0°-40°	2291.5	44.2
0°-60°	4089.2	78.9
0°-90°	5183.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5183.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1762	1762	1762	1762	1762	
5°	1828	1797	1756	1713	1704	176
15°	1933	1825	1663	1586	1591	548
25°	1967	1774	1482	1429	1489	907
35°	1878	1642	1251	1250	1366	1173
45°	1633	1428	996	1040	1216	1256
55°	1256	1134	738	804	1028	1121
65°	827	778	484	551	768	820
75°	428	404	240	287	421	454
85°	94	83	46	61	82	114
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°	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2
2.5°	1801.1	1792.6	1785.7	1788.4	1789.9	1784.5	1779.9	1780.7	1776.0	1784.9	1764.1
5°	1827.6	1819.9	1811.9	1814.9	1811.9	1803.8	1797.2	1795.3	1783.0	1788.0	1766.8
7.5°	1857.3	1848.8	1836.9	1840.4	1833.8	1818.8	1810.3	1805.3	1786.4	1786.8	1763.3
10°	1885.8	1878.5	1862.3	1864.6	1852.7	1832.7	1819.2	1812.2	1785.7	1781.8	1757.5
12.5°	1912.4	1902.4	1885.0	1886.2	1868.9	1842.3	1825.0	1814.9	1780.3	1768.7	1744.8
15°	1932.8	1923.2	1902.4	1902.0	1879.6	1845.0	1825.3	1811.5	1767.6	1749.5	1724.4
17.5°	1950.1	1941.3	1915.5	1914.7	1887.7	1843.8	1820.3	1803.0	1749.1	1726.7	1699.0
20°	1962.5	1953.6	1924.7	1922.0	1889.7	1838.0	1809.9	1788.0	1724.8	1698.2	1667.4
22.5°	1968.2	1959.4	1926.6	1922.8	1885.0	1826.5	1794.9	1769.1	1697.1	1662.4	1630.4
25°	1967.1	1958.6	1921.6	1917.8	1876.2	1809.2	1773.7	1744.1	1662.0	1621.2	1589.6
27.5°	1957.5	1950.9	1912.0	1907.0	1860.0	1785.7	1747.9	1715.2	1623.1	1577.7	1543.4
30°	1940.9	1935.9	1894.7	1890.0	1840.0	1759.9	1717.9	1680.1	1581.1	1529.9	1495.2
32.5°	1914.3	1909.7	1868.1	1863.9	1813.0	1726.7	1682.8	1643.9	1535.3	1478.7	1444.0
35°	1877.7	1875.0	1834.6	1830.0	1778.3	1689.0	1642.4	1599.6	1487.5	1423.6	1390.5
37.5°	1829.6	1829.6	1790.7	1785.7	1735.2	1642.8	1596.9	1551.5	1433.6	1365.8	1333.1
40°	1773.7	1778.7	1739.1	1734.0	1685.1	1593.1	1543.0	1495.2	1375.5	1305.0	1273.0
42.5°	1706.7	1711.3	1678.2	1673.6	1627.7	1535.7	1489.1	1437.1	1314.6	1243.0	1209.8
45°	1632.7	1638.9	1609.3	1605.8	1563.0	1472.9	1428.2	1375.5	1251.0	1178.2	1145.9
47.5°	1550.3	1558.4	1532.6	1530.7	1491.0	1408.6	1362.0	1308.4	1184.4	1110.8	1080.4
50°	1457.9	1469.4	1448.3	1448.3	1412.8	1330.8	1290.3	1236.8	1115.1	1041.5	1011.5
52.5°	1358.9	1373.5	1357.7	1358.1	1329.2	1255.7	1213.7	1161.3	1042.7	970.3	942.5
55°	1256.4	1270.7	1260.7	1262.2	1239.5	1172.5	1134.3	1082.3	968.7	898.2	872.0
57.5°	1149.4	1164.8	1158.2	1161.3	1145.5	1085.4	1045.7	1000.3	892.4	822.7	800.4
60°	1041.9	1056.5	1053.1	1057.3	1047.3	995.3	959.1	912.1	815.8	748.8	729.1
62.5°	933.3	946.8	946.0	950.6	945.2	902.1	869.7	829.7	736.5	674.8	656.7
65°	827.0	838.5	837.8	842.8	841.6	806.9	777.7	741.1	657.1	600.5	584.7
67.5°	723.7	733.4	730.7	736.5	738.0	710.3	684.8	652.1	581.6	526.5	513.1
70°	622.8	629.4	625.9	629.8	633.2	612.4	590.9	562.0	501.1	452.6	441.4
72.5°	523.8	528.5	523.1	526.9	530.0	515.0	497.3	472.2	421.8	379.8	370.5
75°	427.9	434.5	423.3	427.2	429.5	414.4	404.0	383.6	340.1	307.8	301.6
77.5°	335.1	339.0	332.8	331.2	332.8	322.0	313.9	298.1	265.4	238.8	235.0
80°	246.5	248.8	242.7	241.1	242.3	234.6	228.4	216.9	193.7	173.7	172.2
82.5°	165.2	166.4	161.0	159.5	160.2	157.9	150.6	142.5	131.7	114.8	114.4
85°	94.4	94.4	90.5	89.0	89.7	85.9	83.2	79.0	74.7	63.2	63.9
87.5°	34.7	34.7	32.7	32.4	36.2	32.0	30.8	28.9	30.0	23.9	25.4
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°	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2	1762.2
2.5°	1769.9	1766.0	1762.6	1750.6	1755.6	1743.3	1742.5	1737.9	1734.4	1727.9	1736.4
5°	1764.1	1756.4	1746.4	1732.1	1736.4	1721.7	1718.6	1713.3	1708.6	1700.2	1706.7
7.5°	1754.8	1742.1	1726.3	1708.2	1714.0	1695.9	1691.3	1685.5	1681.7	1671.7	1677.4
10°	1741.4	1723.3	1704.8	1682.8	1687.1	1667.4	1661.6	1655.5	1652.0	1643.1	1648.9
12.5°	1720.6	1698.6	1673.6	1649.7	1654.3	1635.8	1628.1	1621.6	1620.4	1613.1	1620.0
15°	1693.6	1663.2	1637.4	1611.9	1617.3	1595.8	1592.3	1585.8	1587.7	1582.7	1591.2
17.5°	1659.3	1624.3	1596.2	1568.8	1574.2	1556.1	1553.4	1550.3	1552.2	1551.5	1560.7
20°	1620.8	1582.3	1549.9	1523.0	1526.1	1511.8	1513.0	1512.2	1516.0	1520.3	1533.0
22.5°	1577.3	1533.8	1499.9	1472.1	1476.8	1464.4	1469.8	1471.4	1477.9	1487.5	1503.7
25°	1528.4	1481.8	1446.3	1420.1	1424.4	1416.3	1425.5	1429.4	1439.8	1456.0	1472.5
27.5°	1477.1	1427.8	1390.1	1365.1	1373.1	1365.1	1378.9	1386.6	1402.4	1420.1	1440.5
30°	1422.8	1371.6	1332.7	1310.4	1318.1	1310.7	1333.1	1343.5	1359.3	1383.5	1407.8
32.5°	1365.8	1311.9	1273.8	1256.4	1261.8	1260.7	1285.7	1297.3	1318.4	1346.2	1372.0
35°	1307.3	1251.0	1212.5	1197.9	1204.4	1206.0	1236.0	1249.5	1272.6	1306.1	1333.9
37.5°	1246.8	1189.4	1151.7	1139.7	1145.5	1151.3	1186.3	1199.8	1226.0	1262.6	1293.0
40°	1184.0	1126.6	1089.7	1080.0	1085.8	1092.0	1130.1	1148.6	1177.1	1216.8	1249.9
42.5°	1120.5	1063.1	1027.3	1020.3	1026.1	1038.0	1078.5	1095.8	1125.9	1169.8	1206.4
45°	1055.8	996.1	964.9	959.5	965.6	979.5	1019.2	1040.0	1071.9	1120.1	1159.4
47.5°	990.3	932.1	902.5	899.0	905.2	920.6	964.5	983.3	1017.2	1068.5	1110.8
50°	924.0	867.4	838.9	837.8	843.5	860.1	902.1	924.4	959.5	1016.9	1060.4
52.5°	857.0	802.7	776.9	776.9	782.3	799.2	841.6	864.7	900.9	961.4	1009.5
55°	790.0	738.4	713.7	715.7	723.4	738.0	779.2	803.5	840.1	902.8	953.7
57.5°	723.0	674.1	651.7	654.4	661.7	676.4	716.8	744.2	777.3	842.4	894.4
60°	656.7	610.5	590.9	593.9	600.5	615.1	657.1	680.6	713.7	780.0	832.0
62.5°	589.7	547.7	529.2	533.1	538.9	553.5	593.2	615.9	648.6	713.7	766.1
65°	523.5	484.5	468.8	472.6	478.0	491.5	528.8	550.8	582.0	645.6	695.6
67.5°	458.0	422.5	409.4	413.3	417.5	430.2	461.1	484.9	514.2	574.7	622.1
70°	393.3	361.7	350.1	354.0	357.8	369.4	396.3	418.3	445.3	500.7	544.6
72.5°	329.3	298.5	292.7	296.2	299.3	309.3	335.1	352.4	375.9	425.2	463.0
75°	266.9	240.3	236.5	240.0	242.7	250.4	271.9	287.0	306.6	349.4	380.2
77.5°	206.8	184.5	183.0	185.7	188.3	193.7	210.7	226.5	241.9	273.5	300.8
80°	150.6	132.5	132.5	135.2	134.4	141.0	152.9	165.6	176.8	199.5	219.5
82.5°	99.4	85.1	87.0	89.0	90.1	92.8	100.1	109.8	116.7	130.6	143.7
85°	55.1	45.5	47.4	48.9	48.1	51.2	55.1	60.9	64.3	70.9	77.8
87.5°	20.4	16.9	17.3	18.5	19.3	20.8	20.8	24.3	24.7	25.4	27.0
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°	1762.2	1762.2	1762.2
2.5°	1720.2	1729.4	1736.4
5°	1690.5	1698.2	1704.4
7.5°	1661.6	1668.6	1674.0
10°	1634.3	1642.0	1645.8
12.5°	1606.2	1615.0	1618.1
15°	1578.4	1587.3	1591.2
17.5°	1549.9	1561.5	1565.7
20°	1523.4	1538.0	1541.5
22.5°	1496.4	1511.4	1515.7
25°	1467.1	1484.8	1489.1
27.5°	1435.9	1457.1	1461.3
30°	1404.7	1427.8	1432.1
32.5°	1371.2	1396.3	1400.1
35°	1336.2	1361.2	1365.8
37.5°	1297.3	1324.6	1333.9
40°	1256.8	1286.5	1296.1
42.5°	1214.5	1246.8	1256.8
45°	1169.0	1204.4	1216.0
47.5°	1123.2	1163.2	1173.2
50°	1073.5	1116.2	1128.2
52.5°	1021.5	1068.1	1080.0
55°	967.6	1014.5	1027.6
57.5°	909.0	957.5	971.4
60°	847.8	896.3	909.4
62.5°	785.0	828.9	841.6
65°	714.9	756.1	767.7
67.5°	640.5	678.3	687.9
70°	561.6	594.3	602.8
72.5°	479.2	501.9	513.1
75°	394.0	412.1	420.6
77.5°	308.5	321.2	328.2
80°	224.9	232.3	238.0
82.5°	147.1	150.2	154.5
85°	79.3	79.3	82.0
87.5°	27.0	25.8	27.0
90°	0.0	0.0	0.0

(END OF REPORT)