

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: P834619

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3LO-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834619
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-LD4-3LO-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

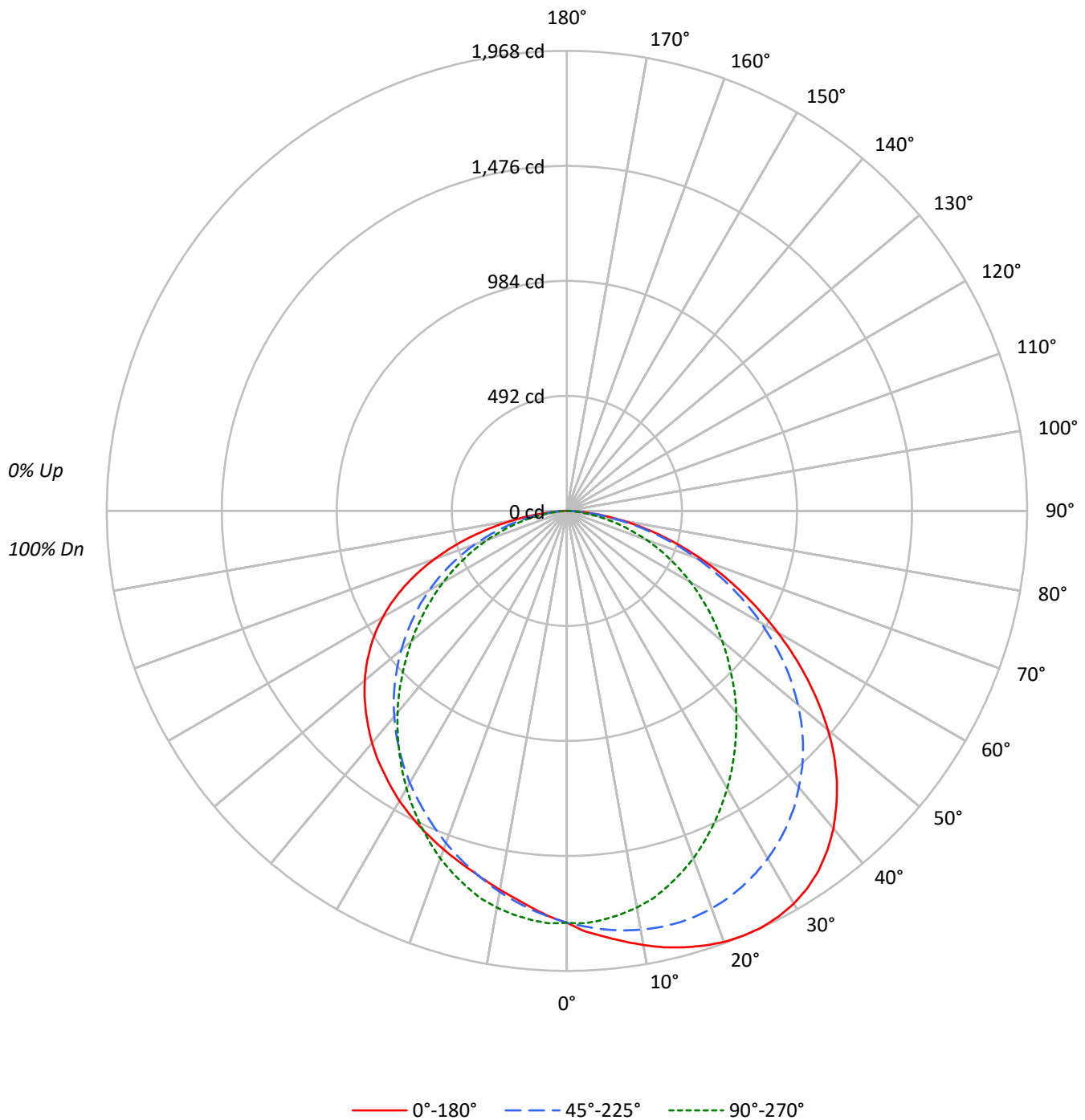
Lumens per Lamp: N/A
Luminaire Lumens: 5183.2 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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

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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°	2371	2371	2371
5°	2468	2372	2302
10°	2576	2354	2249
15°	2692	2317	2216
20°	2810	2265	2207
25°	2920	2200	2211
30°	3015	2131	2225
35°	3084	2055	2243
40°	3115	1979	2276
45°	3107	1895	2314
50°	3051	1816	2361
55°	2947	1732	2411
60°	2803	1643	2447
65°	2633	1543	2444
70°	2450	1423	2371
75°	2224	1249	2187
80°	1910	1027	1844
85°	1457	701	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°	943.6	18.2
50°-60°	854.0	16.5
60°-70°	646.8	12.5
70°-80°	360.4	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°	1389.1	26.8
0°-40°	2291.4	44.2
0°-60°	4089.0	78.9
0°-90°	5183.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5183.2	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	1249	1366	1172
45°	1633	1428	996	1040	1216	1256
55°	1256	1134	738	803	1028	1121
65°	827	778	484	551	768	820
75°	428	404	240	287	421	454
85°	94	83	45	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°	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1
2.5°	1801.0	1792.5	1785.6	1788.3	1789.8	1784.4	1779.8	1780.6	1775.9	1784.8	1764.0
5°	1827.5	1819.8	1811.8	1814.8	1811.8	1803.7	1797.1	1795.2	1782.9	1787.9	1766.7
7.5°	1857.2	1848.7	1836.8	1840.3	1833.7	1818.7	1810.2	1805.2	1786.3	1786.7	1763.2
10°	1885.7	1878.4	1862.2	1864.5	1852.6	1832.6	1819.1	1812.1	1785.6	1781.7	1757.5
12.5°	1912.3	1902.3	1884.9	1886.1	1868.8	1842.2	1824.9	1814.8	1780.2	1768.6	1744.7
15°	1932.7	1923.1	1902.3	1901.9	1879.5	1844.9	1825.2	1811.4	1767.5	1749.4	1724.3
17.5°	1950.0	1941.2	1915.4	1914.6	1887.6	1843.7	1820.2	1802.9	1749.0	1726.6	1698.9
20°	1962.4	1953.5	1924.6	1921.9	1889.6	1837.9	1809.8	1787.9	1724.7	1698.1	1667.3
22.5°	1968.1	1959.3	1926.5	1922.7	1884.9	1826.4	1794.8	1769.0	1697.0	1662.3	1630.4
25°	1967.0	1958.5	1921.5	1917.7	1876.1	1809.1	1773.6	1744.0	1661.9	1621.1	1589.5
27.5°	1957.3	1950.8	1911.9	1906.9	1859.9	1785.6	1747.8	1715.1	1623.0	1577.6	1543.3
30°	1940.8	1935.8	1894.6	1889.9	1839.9	1759.8	1717.8	1680.0	1581.1	1529.8	1495.2
32.5°	1914.2	1909.6	1868.0	1863.8	1812.9	1726.6	1682.7	1643.8	1535.2	1478.6	1443.9
35°	1877.6	1874.9	1834.5	1829.9	1778.3	1688.9	1642.3	1599.5	1487.5	1423.5	1390.4
37.5°	1829.5	1829.5	1790.6	1785.6	1735.1	1642.7	1596.8	1551.4	1433.5	1365.8	1333.0
40°	1773.6	1778.6	1739.0	1734.0	1685.0	1593.0	1542.9	1495.2	1375.4	1304.9	1272.9
42.5°	1706.6	1711.2	1678.1	1673.5	1627.7	1535.6	1489.0	1437.0	1314.5	1242.9	1209.8
45°	1632.7	1638.8	1609.2	1605.7	1562.9	1472.8	1428.1	1375.4	1251.0	1178.2	1145.8
47.5°	1550.2	1558.3	1532.5	1530.6	1490.9	1408.5	1361.9	1308.4	1184.3	1110.8	1080.4
50°	1457.8	1469.4	1448.2	1448.2	1412.7	1330.7	1290.3	1236.7	1115.0	1041.5	1011.4
52.5°	1358.8	1373.5	1357.7	1358.0	1329.2	1255.6	1213.6	1161.2	1042.6	970.2	942.5
55°	1256.4	1270.6	1260.6	1262.1	1239.4	1172.4	1134.3	1082.3	968.7	898.2	872.0
57.5°	1149.3	1164.7	1158.2	1161.2	1145.4	1085.4	1045.7	1000.2	892.4	822.7	800.3
60°	1041.8	1056.5	1053.0	1057.2	1047.2	995.2	959.0	912.0	815.8	748.7	729.1
62.5°	933.2	946.7	945.9	950.6	945.2	902.0	869.7	829.6	736.4	674.8	656.7
65°	826.9	838.5	837.7	842.7	841.6	806.9	777.6	741.0	657.1	600.5	584.7
67.5°	723.7	733.3	730.6	736.4	738.0	710.2	684.8	652.1	581.6	526.5	513.0
70°	622.8	629.3	625.9	629.7	633.2	612.4	590.8	561.9	501.1	452.6	441.4
72.5°	523.8	528.4	523.0	526.9	530.0	514.9	497.2	472.2	421.7	379.8	370.5
75°	427.9	434.5	423.3	427.1	429.4	414.4	404.0	383.6	340.1	307.7	301.6
77.5°	335.1	338.9	332.8	331.2	332.8	322.0	313.9	298.1	265.4	238.8	234.9
80°	246.5	248.8	242.6	241.1	242.3	234.6	228.4	216.8	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°	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1	1762.1
2.5°	1769.8	1765.9	1762.5	1750.5	1755.5	1743.2	1742.4	1737.8	1734.3	1727.8	1736.3
5°	1764.0	1756.3	1746.3	1732.0	1736.3	1721.6	1718.6	1713.2	1708.5	1700.1	1706.6
7.5°	1754.8	1742.0	1726.3	1708.2	1713.9	1695.8	1691.2	1685.4	1681.6	1671.6	1677.3
10°	1741.3	1723.2	1704.7	1682.7	1687.0	1667.3	1661.5	1655.4	1651.9	1643.1	1648.8
12.5°	1720.5	1698.5	1673.5	1649.6	1654.2	1635.7	1628.0	1621.5	1620.3	1613.0	1620.0
15°	1693.5	1663.1	1637.3	1611.9	1617.3	1595.7	1592.2	1585.7	1587.6	1582.6	1591.1
17.5°	1659.2	1624.2	1596.1	1568.7	1574.1	1556.0	1553.3	1550.2	1552.2	1551.4	1560.6
20°	1620.7	1582.2	1549.9	1522.9	1526.0	1511.7	1512.9	1512.1	1516.0	1520.2	1532.9
22.5°	1577.2	1533.7	1499.8	1472.1	1476.7	1464.4	1469.7	1471.3	1477.8	1487.5	1503.6
25°	1528.3	1481.7	1446.2	1420.1	1424.3	1416.2	1425.5	1429.3	1439.7	1455.9	1472.4
27.5°	1477.1	1427.8	1390.0	1365.0	1373.1	1365.0	1378.8	1386.5	1402.3	1420.1	1440.5
30°	1422.8	1371.5	1332.6	1310.3	1318.0	1310.7	1333.0	1343.4	1359.2	1383.5	1407.7
32.5°	1365.8	1311.8	1273.7	1256.4	1261.8	1260.6	1285.6	1297.2	1318.4	1346.1	1371.9
35°	1307.2	1251.0	1212.5	1197.8	1204.4	1205.9	1236.0	1249.4	1272.5	1306.1	1333.8
37.5°	1246.7	1189.4	1151.6	1139.7	1145.4	1151.2	1186.3	1199.8	1225.9	1262.5	1293.0
40°	1184.0	1126.6	1089.6	1080.0	1085.7	1091.9	1130.0	1148.5	1177.0	1216.7	1249.8
42.5°	1120.4	1063.0	1027.2	1020.3	1026.0	1038.0	1078.4	1095.8	1125.8	1169.7	1206.3
45°	1055.7	996.0	964.8	959.4	965.6	979.4	1019.1	1039.9	1071.9	1120.0	1159.3
47.5°	990.2	932.1	902.4	898.9	905.1	920.5	964.4	983.3	1017.2	1068.4	1110.8
50°	924.0	867.4	838.9	837.7	843.5	860.0	902.0	924.4	959.4	1016.8	1060.3
52.5°	857.0	802.7	776.9	776.9	782.2	799.2	841.6	864.7	900.9	961.3	1009.5
55°	789.9	738.3	713.7	715.6	723.3	738.0	779.2	803.4	840.0	902.8	953.6
57.5°	722.9	674.0	651.7	654.4	661.7	676.3	716.8	744.1	777.2	842.3	894.3
60°	656.7	610.5	590.8	593.9	600.5	615.1	657.1	680.6	713.7	779.9	831.9
62.5°	589.7	547.7	529.2	533.1	538.8	553.5	593.1	615.9	648.6	713.7	766.1
65°	523.4	484.5	468.7	472.6	478.0	491.5	528.8	550.8	582.0	645.5	695.6
67.5°	457.9	422.5	409.4	413.3	417.5	430.2	461.0	484.9	514.2	574.6	622.0
70°	393.2	361.7	350.1	354.0	357.8	369.4	396.3	418.3	445.2	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	242.6	250.3	271.9	286.9	306.6	349.3	380.1
77.5°	206.8	184.5	182.9	185.6	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	45.4	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	24.6	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°	1762.1	1762.1	1762.1
2.5°	1720.1	1729.3	1736.3
5°	1690.4	1698.1	1704.3
7.5°	1661.5	1668.5	1673.9
10°	1634.2	1641.9	1645.8
12.5°	1606.1	1614.9	1618.0
15°	1578.4	1587.2	1591.1
17.5°	1549.9	1561.4	1565.6
20°	1523.3	1537.9	1541.4
22.5°	1496.3	1511.3	1515.6
25°	1467.0	1484.8	1489.0
27.5°	1435.8	1457.0	1461.3
30°	1404.7	1427.8	1432.0
32.5°	1371.1	1396.2	1400.0
35°	1336.1	1361.1	1365.8
37.5°	1297.2	1324.5	1333.8
40°	1256.8	1286.4	1296.0
42.5°	1214.4	1246.7	1256.8
45°	1168.9	1204.4	1215.9
47.5°	1123.1	1163.2	1173.2
50°	1073.4	1116.2	1128.1
52.5°	1021.4	1068.0	1080.0
55°	967.5	1014.5	1027.6
57.5°	909.0	957.5	971.4
60°	847.7	896.3	909.3
62.5°	784.9	828.8	841.6
65°	714.8	756.1	767.6
67.5°	640.5	678.3	687.9
70°	561.6	594.3	602.8
72.5°	479.1	501.9	513.0
75°	394.0	412.1	420.6
77.5°	308.5	321.2	328.2
80°	224.9	232.2	238.0
82.5°	147.1	150.2	154.4
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)