

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



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: P835198

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4LO-30-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835198
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-LD4-4LO-30-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

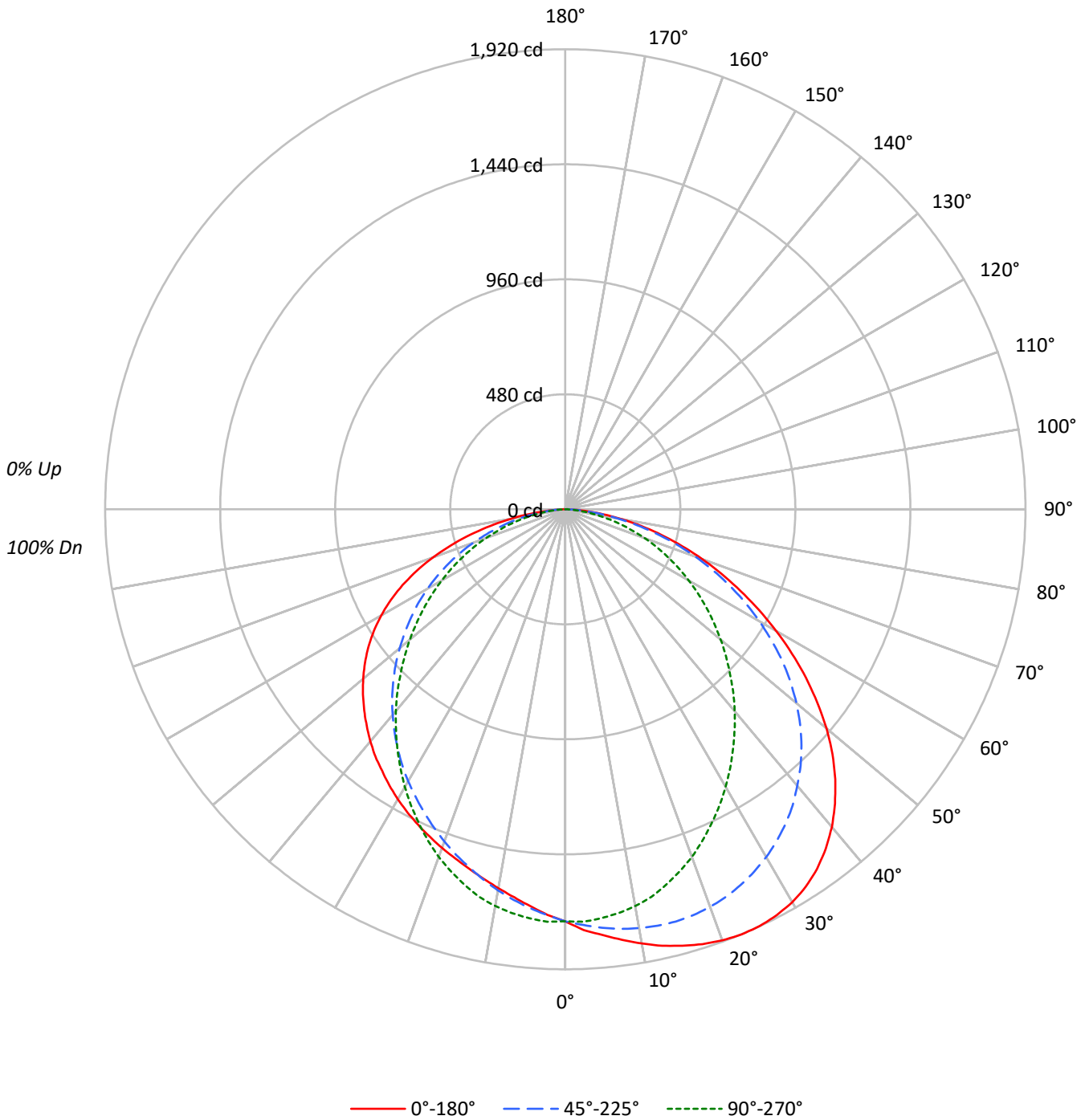
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5057.7 lumens
Efficiency: N/A
Efficacy: 108.1 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): 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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84	84	84	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70	70	70	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58	58	58	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50	50	50	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43	43	43	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37	37	37	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33	33	33	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29	29	29	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26	26	26	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24	24	24	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4627	4627	4627
5°	4817	4629	4492
10°	5028	4595	4388
15°	5254	4521	4325
20°	5484	4421	4307
25°	5699	4293	4314
30°	5885	4158	4342
35°	6019	4010	4378
40°	6080	3862	4443
45°	6063	3699	4515
50°	5955	3543	4608
55°	5752	3380	4704
60°	5471	3206	4775
65°	5138	3011	4769
70°	4781	2777	4628
75°	4341	2438	4267
80°	3727	2004	3600
85°	2844	1368	2473



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.1	3.2
10°-20°	470.9	9.3
20°-30°	721.5	14.3
30°-40°	880.5	17.4
40°-50°	920.8	18.2
50°-60°	833.4	16.5
60°-70°	631.1	12.5
70°-80°	351.7	7.0
80°-90°	84.8	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°	1355.5	26.8
0°-40°	2235.9	44.2
0°-60°	3990.0	78.9
0°-90°	5057.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5057.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1719	1719	1719	1719	1719	
5°	1783	1754	1714	1672	1663	172
15°	1886	1781	1623	1547	1553	535
25°	1919	1731	1446	1395	1453	885
35°	1832	1602	1221	1219	1333	1144
45°	1593	1394	972	1015	1186	1226
55°	1226	1107	720	784	1003	1094
65°	807	759	473	537	749	800
75°	418	394	234	280	410	443
85°	92	81	44	59	80	111
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°	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4
2.5°	1757.4	1749.1	1742.3	1745.0	1746.5	1741.2	1736.7	1737.5	1733.0	1741.6	1721.3
5°	1783.3	1775.8	1767.9	1770.9	1767.9	1760.0	1753.6	1751.7	1739.7	1744.6	1723.9
7.5°	1812.3	1804.0	1792.3	1795.7	1789.3	1774.7	1766.4	1761.5	1743.1	1743.5	1720.5
10°	1840.1	1832.9	1817.1	1819.4	1807.7	1788.2	1775.0	1768.3	1742.3	1738.6	1714.9
12.5°	1866.0	1856.2	1839.3	1840.4	1823.5	1797.6	1780.7	1770.9	1737.1	1725.8	1702.5
15°	1885.9	1876.5	1856.2	1855.8	1834.0	1800.2	1781.1	1767.5	1724.7	1707.0	1682.6
17.5°	1902.8	1894.2	1869.0	1868.2	1841.9	1799.1	1776.2	1759.3	1706.6	1684.8	1657.8
20°	1914.9	1906.2	1878.0	1875.4	1843.8	1793.5	1766.0	1744.6	1683.0	1657.0	1627.0
22.5°	1920.5	1911.8	1879.9	1876.1	1839.3	1782.2	1751.4	1726.2	1655.9	1622.1	1590.9
25°	1919.4	1911.1	1875.0	1871.3	1830.7	1765.3	1730.7	1701.8	1621.7	1581.9	1551.0
27.5°	1910.0	1903.6	1865.6	1860.7	1814.9	1742.3	1705.5	1673.6	1583.7	1539.4	1505.9
30°	1893.8	1888.9	1848.7	1844.2	1795.3	1717.2	1676.2	1639.4	1542.8	1492.8	1459.0
32.5°	1867.9	1863.4	1822.8	1818.6	1769.0	1684.8	1642.0	1604.0	1498.1	1442.8	1409.0
35°	1832.2	1829.5	1790.1	1785.6	1735.2	1648.0	1602.5	1560.8	1451.5	1389.1	1356.7
37.5°	1785.2	1785.2	1747.2	1742.3	1693.1	1602.9	1558.2	1513.8	1398.8	1332.7	1300.7
40°	1730.7	1735.6	1696.9	1692.0	1644.3	1554.4	1505.6	1459.0	1342.1	1273.3	1242.1
42.5°	1665.3	1669.8	1637.5	1633.0	1588.3	1498.4	1453.0	1402.2	1282.7	1212.8	1180.5
45°	1593.1	1599.2	1570.2	1566.8	1525.1	1437.2	1393.6	1342.1	1220.7	1149.7	1118.1
47.5°	1512.7	1520.6	1495.4	1493.5	1454.8	1374.4	1328.9	1276.7	1155.7	1083.9	1054.2
50°	1422.5	1433.8	1413.1	1413.1	1378.5	1298.5	1259.0	1206.8	1088.0	1016.2	986.9
52.5°	1325.9	1340.2	1324.8	1325.2	1297.0	1225.2	1184.2	1133.1	1017.4	946.7	919.7
55°	1226.0	1239.9	1230.1	1231.6	1209.4	1144.0	1106.8	1056.1	945.2	876.4	850.9
57.5°	1121.5	1136.5	1130.1	1133.1	1117.7	1059.1	1020.4	976.0	870.8	802.8	781.0
60°	1016.6	1030.9	1027.5	1031.7	1021.9	971.1	935.8	890.0	796.0	730.6	711.4
62.5°	910.6	923.8	923.0	927.5	922.3	880.2	848.6	809.5	718.6	658.5	640.8
65°	806.9	818.2	817.4	822.3	821.2	787.4	758.8	723.1	641.2	585.9	570.5
67.5°	706.2	715.6	712.9	718.6	720.1	693.0	668.2	636.3	567.5	513.8	500.6
70°	607.7	614.1	610.7	614.5	617.9	597.6	576.5	548.3	489.0	441.6	430.7
72.5°	511.1	515.6	510.4	514.1	517.1	502.5	485.2	460.8	411.5	370.6	361.5
75°	417.5	423.9	413.0	416.8	419.0	404.4	394.2	374.3	331.9	300.3	294.3
77.5°	327.0	330.7	324.7	323.2	324.7	314.2	306.3	290.9	258.9	233.0	229.3
80°	240.5	242.8	236.8	235.3	236.4	228.9	222.9	211.6	189.0	169.5	168.0
82.5°	161.2	162.4	157.1	155.6	156.3	154.1	146.9	139.1	128.5	112.0	111.6
85°	92.1	92.1	88.3	86.8	87.6	83.8	81.2	77.0	72.9	61.6	62.4
87.5°	33.8	33.8	31.9	31.6	35.3	31.2	30.1	28.2	29.3	23.3	24.8
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4	1719.4
2.5°	1726.9	1723.2	1719.8	1708.1	1713.0	1701.0	1700.3	1695.7	1692.4	1686.0	1694.2
5°	1721.3	1713.8	1704.0	1690.1	1694.2	1680.0	1677.0	1671.7	1667.2	1658.9	1665.3
7.5°	1712.3	1699.9	1684.5	1666.8	1672.4	1654.8	1650.3	1644.6	1640.9	1631.1	1636.7
10°	1699.1	1681.5	1663.4	1642.0	1646.1	1627.0	1621.3	1615.3	1611.9	1603.3	1608.9
12.5°	1678.8	1657.4	1633.0	1609.7	1614.2	1596.1	1588.6	1582.2	1581.1	1574.0	1580.7
15°	1652.5	1622.8	1597.7	1572.8	1578.1	1557.1	1553.7	1547.3	1549.2	1544.3	1552.6
17.5°	1619.1	1584.9	1557.4	1530.8	1536.0	1518.4	1515.7	1512.7	1514.6	1513.8	1522.9
20°	1581.5	1543.9	1512.3	1486.0	1489.0	1475.1	1476.3	1475.5	1479.3	1483.4	1495.8
22.5°	1539.0	1496.6	1463.5	1436.4	1440.9	1428.9	1434.2	1435.7	1442.1	1451.5	1467.2
25°	1491.3	1445.8	1411.2	1385.7	1389.8	1381.9	1390.9	1394.7	1404.9	1420.6	1436.8
27.5°	1441.3	1393.2	1356.4	1331.9	1339.8	1331.9	1345.5	1353.0	1368.4	1385.7	1405.6
30°	1388.3	1338.3	1300.4	1278.6	1286.1	1278.9	1300.7	1310.9	1326.3	1350.0	1373.7
32.5°	1332.7	1280.1	1242.9	1226.0	1231.2	1230.1	1254.5	1265.8	1286.5	1313.5	1338.7
35°	1275.6	1220.7	1183.1	1168.8	1175.2	1176.7	1206.0	1219.2	1241.7	1274.4	1301.5
37.5°	1216.6	1160.6	1123.7	1112.1	1117.7	1123.4	1157.6	1170.7	1196.3	1232.0	1261.7
40°	1155.3	1099.3	1063.2	1053.8	1059.5	1065.5	1102.7	1120.7	1148.5	1187.2	1219.6
42.5°	1093.3	1037.3	1002.3	995.6	1001.2	1012.9	1052.3	1069.2	1098.5	1141.4	1177.1
45°	1030.1	971.9	941.5	936.2	942.2	955.7	994.4	1014.7	1045.9	1092.9	1131.2
47.5°	966.3	909.5	880.6	877.2	883.2	898.2	941.1	959.5	992.6	1042.6	1083.9
50°	901.6	846.4	818.6	817.4	823.1	839.2	880.2	902.0	936.2	992.2	1034.7
52.5°	836.2	783.2	758.0	758.0	763.3	779.8	821.2	843.7	879.1	938.1	985.0
55°	770.8	720.5	696.4	698.3	705.8	720.1	760.3	784.0	819.7	880.9	930.6
57.5°	705.4	657.7	635.9	638.5	645.7	660.0	699.4	726.1	758.4	821.9	872.7
60°	640.8	595.7	576.5	579.5	585.9	600.2	641.2	664.1	696.4	761.1	811.8
62.5°	575.4	534.4	516.4	520.1	525.8	540.1	578.8	601.0	632.9	696.4	747.5
65°	510.8	472.8	457.4	461.1	466.4	479.6	516.0	537.4	567.9	629.9	678.7
67.5°	446.9	412.3	399.5	403.3	407.4	419.8	449.9	473.2	501.7	560.7	607.0
70°	383.7	352.9	341.6	345.4	349.1	360.4	386.7	408.2	434.5	488.6	531.4
72.5°	321.3	291.3	285.6	289.0	292.0	301.8	327.0	343.9	366.8	414.9	451.7
75°	260.4	234.5	230.8	234.1	236.8	244.3	265.3	280.0	299.2	340.9	370.9
77.5°	201.8	180.0	178.5	181.1	183.8	189.0	205.6	221.0	236.0	266.8	293.5
80°	146.9	129.3	129.3	131.9	131.2	137.6	149.2	161.6	172.5	194.7	214.2
82.5°	97.0	83.1	84.9	86.8	87.9	90.6	97.7	107.1	113.9	127.4	140.2
85°	53.7	44.3	46.2	47.7	47.0	50.0	53.7	59.4	62.8	69.2	75.9
87.5°	19.9	16.5	16.9	18.0	18.8	20.3	20.3	23.7	24.1	24.8	26.3
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):

	160°	170°	180°
0°	1719.4	1719.4	1719.4
2.5°	1678.5	1687.5	1694.2
5°	1649.5	1657.0	1663.0
7.5°	1621.3	1628.1	1633.4
10°	1594.6	1602.2	1605.9
12.5°	1567.2	1575.9	1578.9
15°	1540.1	1548.8	1552.6
17.5°	1512.3	1523.6	1527.7
20°	1486.4	1500.7	1504.1
22.5°	1460.1	1474.8	1478.9
25°	1431.5	1448.8	1453.0
27.5°	1401.1	1421.8	1425.9
30°	1370.7	1393.2	1397.3
32.5°	1338.0	1362.4	1366.1
35°	1303.8	1328.2	1332.7
37.5°	1265.8	1292.5	1301.5
40°	1226.3	1255.3	1264.7
42.5°	1185.0	1216.6	1226.3
45°	1140.6	1175.2	1186.5
47.5°	1095.9	1135.0	1144.8
50°	1047.4	1089.2	1100.8
52.5°	996.7	1042.2	1053.8
55°	944.1	989.9	1002.7
57.5°	887.0	934.3	947.8
60°	827.2	874.6	887.3
62.5°	765.9	808.8	821.2
65°	697.5	737.8	749.0
67.5°	625.0	661.8	671.2
70°	548.0	579.9	588.2
72.5°	467.5	489.7	500.6
75°	384.5	402.1	410.4
77.5°	301.0	313.4	320.2
80°	219.5	226.6	232.3
82.5°	143.6	146.6	150.7
85°	77.4	77.4	80.1
87.5°	26.3	25.2	26.3
90°	0.0	0.0	0.0

(END OF REPORT)