

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: P835180

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4LO-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835180
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-27-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

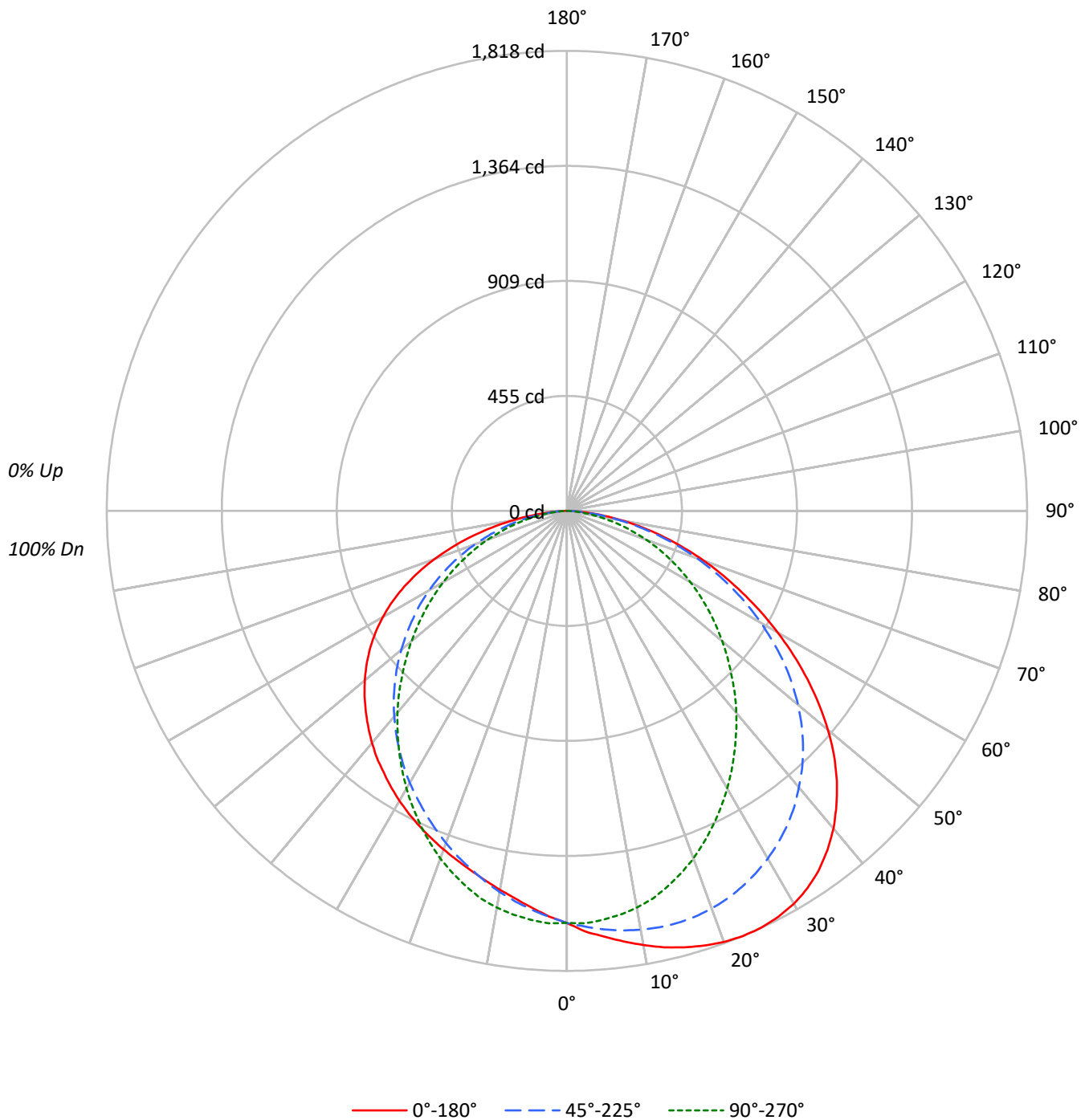
Lumens per Lamp: N/A
Luminaire Lumens: 4788.7 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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



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	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°	4381	4381	4381
5°	4561	4383	4253
10°	4761	4350	4155
15°	4975	4281	4095
20°	5192	4186	4078
25°	5396	4064	4085
30°	5572	3937	4111
35°	5699	3797	4145
40°	5756	3656	4206
45°	5740	3502	4275
50°	5638	3355	4364
55°	5446	3200	4454
60°	5180	3035	4521
65°	4865	2850	4516
70°	4527	2629	4382
75°	4110	2308	4040
80°	3529	1897	3408
85°	2692	1297	2340



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.4	3.2
10°-20°	445.9	9.3
20°-30°	683.1	14.3
30°-40°	833.6	17.4
40°-50°	871.8	18.2
50°-60°	789.0	16.5
60°-70°	597.6	12.5
70°-80°	333.0	7.0
80°-90°	80.3	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°	1283.4	26.8
0°-40°	2117.0	44.2
0°-60°	3777.8	78.9
0°-90°	4788.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4788.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1628	1628	1628	1628	1628	
5°	1688	1660	1623	1583	1575	163
15°	1786	1686	1536	1465	1470	506
25°	1817	1639	1369	1320	1376	838
35°	1735	1517	1156	1154	1262	1083
45°	1508	1319	920	961	1123	1161
55°	1161	1048	682	742	949	1036
65°	764	718	448	509	709	758
75°	395	373	222	265	389	419
85°	87	77	42	56	76	105
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°	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0
2.5°	1663.9	1656.1	1649.7	1652.2	1653.6	1648.6	1644.3	1645.0	1640.8	1649.0	1629.7
5°	1688.5	1681.3	1673.9	1676.7	1673.9	1666.4	1660.3	1658.6	1647.2	1651.8	1632.2
7.5°	1715.9	1708.0	1697.0	1700.2	1694.1	1680.3	1672.4	1667.8	1650.4	1650.7	1629.0
10°	1742.2	1735.4	1720.5	1722.6	1711.6	1693.1	1680.6	1674.2	1649.7	1646.1	1623.7
12.5°	1766.7	1757.5	1741.5	1742.5	1726.5	1702.0	1686.0	1676.7	1644.7	1634.0	1611.9
15°	1785.6	1776.7	1757.5	1757.1	1736.5	1704.5	1686.3	1673.5	1632.9	1616.2	1593.1
17.5°	1801.6	1793.4	1769.6	1768.9	1744.0	1703.4	1681.7	1665.7	1615.9	1595.2	1569.6
20°	1813.0	1804.8	1778.1	1775.6	1745.7	1698.1	1672.1	1651.8	1593.4	1568.9	1540.4
22.5°	1818.3	1810.2	1779.9	1776.3	1741.5	1687.4	1658.2	1634.4	1567.8	1535.8	1506.3
25°	1817.3	1809.4	1775.3	1771.7	1733.3	1671.4	1638.6	1611.2	1535.4	1497.7	1468.5
27.5°	1808.4	1802.3	1766.4	1761.8	1718.3	1649.7	1614.8	1584.5	1499.5	1457.5	1425.8
30°	1793.1	1788.4	1750.4	1746.1	1699.8	1625.8	1587.0	1552.2	1460.7	1413.4	1381.4
32.5°	1768.5	1764.2	1725.8	1721.9	1674.9	1595.2	1554.7	1518.7	1418.4	1366.1	1334.0
35°	1734.7	1732.2	1694.9	1690.6	1642.9	1560.4	1517.3	1477.8	1374.2	1315.2	1284.6
37.5°	1690.2	1690.2	1654.3	1649.7	1603.1	1517.7	1475.3	1433.3	1324.4	1261.8	1231.6
40°	1638.6	1643.3	1606.6	1602.0	1556.8	1471.7	1425.5	1381.4	1270.7	1205.6	1176.0
42.5°	1576.7	1581.0	1550.4	1546.1	1503.8	1418.7	1375.7	1327.6	1214.5	1148.3	1117.7
45°	1508.4	1514.1	1486.7	1483.5	1444.0	1360.7	1319.4	1270.7	1155.8	1088.5	1058.6
47.5°	1432.3	1439.7	1415.9	1414.1	1377.5	1301.3	1258.2	1208.8	1094.2	1026.2	998.1
50°	1346.8	1357.5	1338.0	1338.0	1305.2	1229.4	1192.1	1142.6	1030.2	962.2	934.4
52.5°	1255.4	1268.9	1254.3	1254.7	1228.0	1160.0	1121.2	1072.9	963.3	896.4	870.7
55°	1160.7	1173.9	1164.7	1166.1	1145.1	1083.2	1047.9	999.9	894.9	829.8	805.6
57.5°	1061.8	1076.1	1070.0	1072.9	1058.3	1002.8	966.1	924.1	824.5	760.1	739.4
60°	962.5	976.1	972.9	976.8	967.5	919.5	886.0	842.6	753.7	691.8	673.6
62.5°	862.2	874.7	873.9	878.2	873.2	833.4	803.5	766.5	680.4	623.4	606.7
65°	764.0	774.7	773.9	778.6	777.5	745.5	718.4	684.6	607.1	554.8	540.2
67.5°	668.6	677.5	675.0	680.4	681.8	656.2	632.7	602.4	537.3	486.4	474.0
70°	575.4	581.4	578.2	581.8	585.0	565.8	545.9	519.2	462.9	418.1	407.8
72.5°	483.9	488.2	483.2	486.8	489.6	475.8	459.4	436.3	389.6	350.9	342.3
75°	395.3	401.4	391.1	394.6	396.8	382.9	373.3	354.4	314.2	284.3	278.6
77.5°	309.6	313.1	307.4	306.0	307.4	297.5	290.0	275.4	245.2	220.6	217.1
80°	227.7	229.9	224.2	222.8	223.8	216.7	211.0	200.3	179.0	160.5	159.1
82.5°	152.7	153.7	148.7	147.3	148.0	145.9	139.1	131.7	121.7	106.0	105.7
85°	87.2	87.2	83.6	82.2	82.9	79.4	76.9	72.9	69.0	58.4	59.1
87.5°	32.0	32.0	30.2	29.9	33.4	29.5	28.5	26.7	27.8	22.1	23.5
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°	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0	1628.0
2.5°	1635.1	1631.5	1628.3	1617.3	1621.9	1610.5	1609.8	1605.5	1602.3	1596.3	1604.1
5°	1629.7	1622.6	1613.4	1600.2	1604.1	1590.6	1587.8	1582.8	1578.5	1570.7	1576.7
7.5°	1621.2	1609.5	1594.9	1578.1	1583.5	1566.8	1562.5	1557.1	1553.6	1544.3	1549.7
10°	1608.7	1592.0	1574.9	1554.7	1558.6	1540.4	1535.1	1529.4	1526.2	1518.0	1523.3
12.5°	1589.5	1569.2	1546.1	1524.1	1528.3	1511.2	1504.1	1498.1	1497.0	1490.3	1496.7
15°	1564.6	1536.5	1512.7	1489.2	1494.2	1474.2	1471.0	1465.0	1466.8	1462.1	1470.0
17.5°	1533.0	1500.6	1474.6	1449.3	1454.3	1437.6	1435.1	1432.3	1434.0	1433.3	1441.9
20°	1497.4	1461.8	1431.9	1407.0	1409.8	1396.7	1397.7	1397.0	1400.6	1404.5	1416.2
22.5°	1457.2	1416.9	1385.6	1360.0	1364.3	1352.9	1357.9	1359.3	1365.4	1374.2	1389.2
25°	1412.0	1368.9	1336.2	1312.0	1315.9	1308.4	1317.0	1320.5	1330.1	1345.1	1360.4
27.5°	1364.6	1319.1	1284.2	1261.1	1268.6	1261.1	1273.9	1281.0	1295.6	1312.0	1330.8
30°	1314.5	1267.1	1231.2	1210.6	1217.7	1210.9	1231.6	1241.2	1255.8	1278.2	1300.6
32.5°	1261.8	1212.0	1176.8	1160.7	1165.7	1164.7	1187.8	1198.5	1218.0	1243.7	1267.5
35°	1207.7	1155.8	1120.2	1106.7	1112.7	1114.1	1141.9	1154.3	1175.7	1206.6	1232.3
37.5°	1151.8	1098.8	1064.0	1052.9	1058.3	1063.6	1096.0	1108.4	1132.6	1166.4	1194.6
40°	1093.8	1040.8	1006.7	997.8	1003.1	1008.8	1044.0	1061.1	1087.4	1124.1	1154.7
42.5°	1035.1	982.1	949.0	942.6	948.0	959.0	996.3	1012.4	1040.1	1080.7	1114.5
45°	975.4	920.2	891.4	886.4	892.1	904.9	941.5	960.8	990.3	1034.8	1071.1
47.5°	914.9	861.1	833.7	830.5	836.2	850.5	891.0	908.5	939.8	987.1	1026.2
50°	853.7	801.3	775.0	773.9	779.3	794.6	833.4	854.0	886.4	939.4	979.6
52.5°	791.7	741.6	717.7	717.7	722.7	738.4	777.5	798.9	832.3	888.2	932.7
55°	729.8	682.1	659.4	661.1	668.3	681.8	719.9	742.3	776.1	834.1	881.1
57.5°	667.9	622.7	602.1	604.6	611.3	624.9	662.2	687.5	718.1	778.2	826.3
60°	606.7	564.0	545.9	548.7	554.8	568.3	607.1	628.8	659.4	720.6	768.6
62.5°	544.8	506.0	488.9	492.5	497.8	511.3	548.0	569.0	599.2	659.4	707.8
65°	483.6	447.6	433.1	436.6	441.6	454.1	488.6	508.8	537.7	596.4	642.6
67.5°	423.1	390.4	378.3	381.8	385.7	397.5	425.9	448.0	475.0	530.9	574.7
70°	363.3	334.1	323.5	327.0	330.6	341.2	366.2	386.4	411.3	462.6	503.2
72.5°	304.2	275.8	270.4	273.6	276.5	285.7	309.6	325.6	347.3	392.8	427.7
75°	246.6	222.0	218.5	221.7	224.2	231.3	251.2	265.1	283.2	322.7	351.2
77.5°	191.1	170.4	169.0	171.5	174.0	179.0	194.6	209.2	223.5	252.6	277.9
80°	139.1	122.4	122.4	124.9	124.2	130.2	141.3	153.0	163.3	184.3	202.8
82.5°	91.8	78.6	80.4	82.2	83.3	85.8	92.5	101.4	107.8	120.6	132.7
85°	50.9	42.0	43.8	45.2	44.5	47.3	50.9	56.2	59.4	65.5	71.9
87.5°	18.9	15.7	16.0	17.1	17.8	19.2	19.2	22.4	22.8	23.5	24.9
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°	1628.0	1628.0	1628.0
2.5°	1589.2	1597.7	1604.1
5°	1561.8	1568.9	1574.6
7.5°	1535.1	1541.5	1546.5
10°	1509.8	1516.9	1520.5
12.5°	1483.8	1492.0	1494.9
15°	1458.2	1466.4	1470.0
17.5°	1431.9	1442.6	1446.5
20°	1407.3	1420.9	1424.1
22.5°	1382.4	1396.3	1400.2
25°	1355.4	1371.8	1375.7
27.5°	1326.6	1346.1	1350.1
30°	1297.7	1319.1	1323.0
32.5°	1266.8	1289.9	1293.5
35°	1234.4	1257.5	1261.8
37.5°	1198.5	1223.7	1232.3
40°	1161.1	1188.5	1197.4
42.5°	1122.0	1151.8	1161.1
45°	1080.0	1112.7	1123.4
47.5°	1037.6	1074.6	1083.9
50°	991.7	1031.2	1042.3
52.5°	943.7	986.7	997.8
55°	893.9	937.3	949.4
57.5°	839.8	884.6	897.4
60°	783.2	828.0	840.1
62.5°	725.2	765.8	777.5
65°	660.4	698.5	709.2
67.5°	591.8	626.6	635.5
70°	518.8	549.1	556.9
72.5°	442.7	463.7	474.0
75°	364.0	380.7	388.6
77.5°	285.0	296.8	303.2
80°	207.8	214.6	219.9
82.5°	135.9	138.8	142.7
85°	73.3	73.3	75.8
87.5°	24.9	23.8	24.9
90°	0.0	0.0	0.0

(END OF REPORT)