

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: P834705

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1HI-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834705
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-LD4-1HI-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

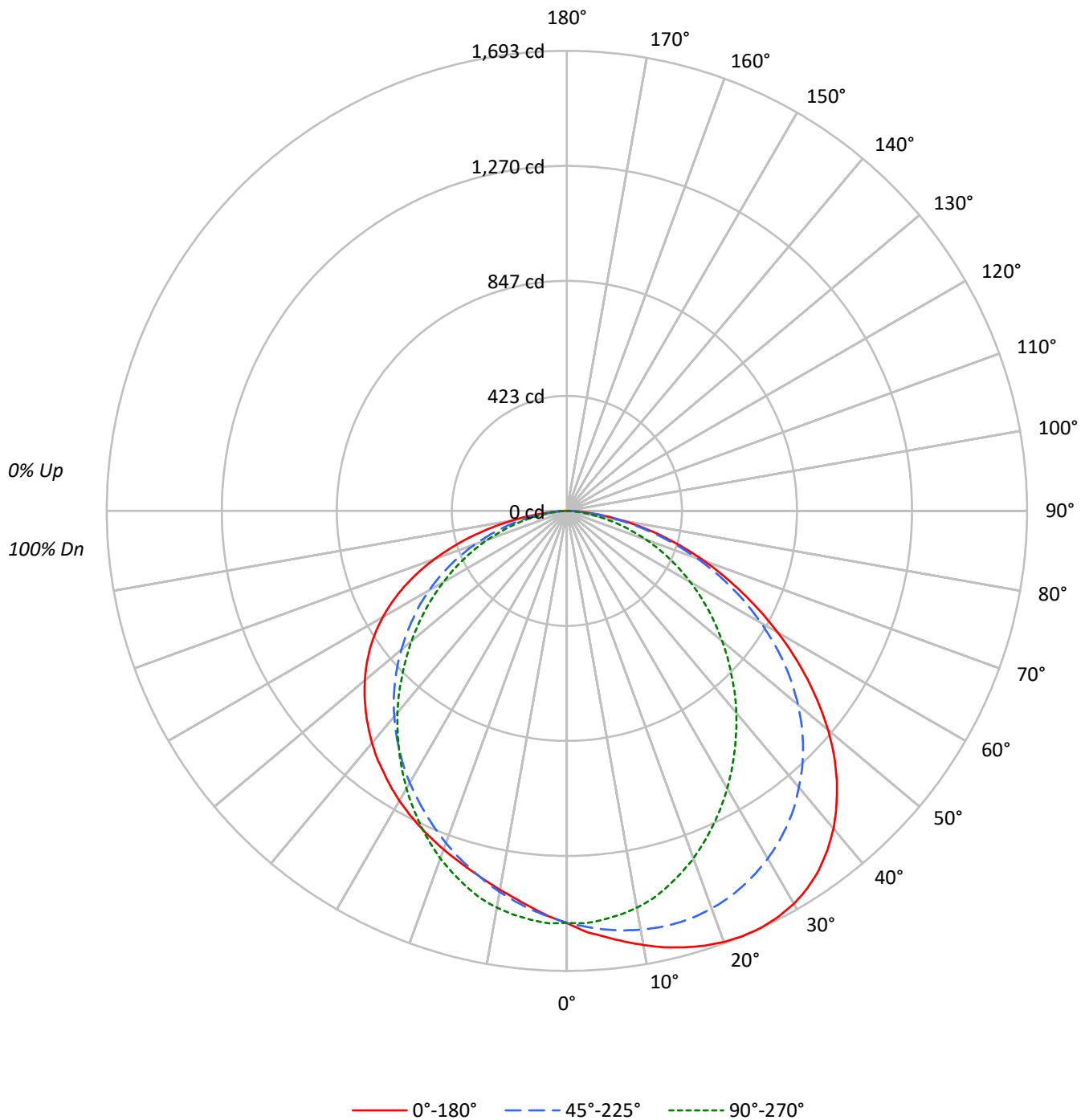
Lumens per Lamp: N/A
Luminaire Lumens: 4459.5 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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

TEST NUMBER: P834705

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-50-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834705

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-50-120-EDD-90

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°	2040	2040	2040
5°	2124	2041	1980
10°	2217	2026	1935
15°	2316	1993	1907
20°	2418	1949	1899
25°	2512	1893	1902
30°	2594	1833	1914
35°	2654	1768	1930
40°	2680	1702	1959
45°	2673	1631	1991
50°	2626	1562	2032
55°	2536	1490	2074
60°	2412	1413	2105
65°	2265	1327	2103
70°	2108	1224	2040
75°	1914	1075	1881
80°	1643	883	1587
85°	1254	604	1090

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834705

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-50-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.8	3.2
10°-20°	415.2	9.3
20°-30°	636.1	14.3
30°-40°	776.3	17.4
40°-50°	811.9	18.2
50°-60°	734.8	16.5
60°-70°	556.5	12.5
70°-80°	310.1	7.0
80°-90°	74.8	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°	1195.1	26.8
0°-40°	1971.5	44.2
0°-60°	3518.1	78.9
0°-90°	4459.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4459.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1516	1516	1516	1516	1516	
5°	1572	1546	1511	1474	1466	152
15°	1663	1570	1431	1364	1369	472
25°	1692	1526	1275	1230	1281	781
35°	1616	1413	1076	1075	1175	1009
45°	1405	1229	857	895	1046	1081
55°	1081	976	635	691	884	965
65°	712	669	417	474	660	706
75°	368	348	207	247	362	390
85°	81	72	39	52	71	98
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834705

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-50-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1
2.5°	1549.5	1542.2	1536.3	1538.6	1539.9	1535.3	1531.3	1532.0	1528.0	1535.6	1517.7
5°	1572.4	1565.8	1558.8	1561.5	1558.8	1551.8	1546.2	1544.6	1533.9	1538.3	1520.0
7.5°	1597.9	1590.6	1580.3	1583.3	1577.7	1564.8	1557.5	1553.2	1536.9	1537.3	1517.0
10°	1622.4	1616.1	1602.2	1604.2	1593.9	1576.7	1565.1	1559.1	1536.3	1533.0	1512.1
12.5°	1645.3	1636.7	1621.8	1622.8	1607.8	1585.0	1570.1	1561.5	1531.6	1521.7	1501.1
15°	1662.9	1654.6	1636.7	1636.3	1617.1	1587.3	1570.4	1558.5	1520.7	1505.1	1483.6
17.5°	1677.8	1670.1	1647.9	1647.3	1624.1	1586.3	1566.1	1551.2	1504.8	1485.6	1461.7
20°	1688.4	1680.7	1655.9	1653.6	1625.7	1581.3	1557.1	1538.3	1483.9	1461.0	1434.5
22.5°	1693.3	1685.7	1657.6	1654.2	1621.8	1571.4	1544.2	1522.0	1460.1	1430.2	1402.7
25°	1692.3	1685.1	1653.2	1649.9	1614.1	1556.5	1526.0	1500.5	1429.9	1394.8	1367.6
27.5°	1684.1	1678.4	1645.0	1640.7	1600.2	1536.3	1503.8	1475.6	1396.4	1357.3	1327.8
30°	1669.8	1665.5	1630.0	1626.1	1583.0	1514.1	1477.9	1445.5	1360.3	1316.2	1286.4
32.5°	1646.9	1643.0	1607.2	1603.5	1559.8	1485.6	1447.8	1414.3	1320.9	1272.2	1242.3
35°	1615.5	1613.1	1578.4	1574.4	1530.0	1453.1	1413.0	1376.2	1279.8	1224.8	1196.3
37.5°	1574.0	1574.0	1540.6	1536.3	1492.9	1413.3	1373.9	1334.8	1233.4	1175.1	1146.9
40°	1526.0	1530.3	1496.2	1491.9	1449.8	1370.6	1327.5	1286.4	1183.4	1122.7	1095.2
42.5°	1468.3	1472.3	1443.8	1439.8	1400.4	1321.2	1281.1	1236.4	1131.0	1069.4	1040.9
45°	1404.7	1410.0	1384.5	1381.5	1344.7	1267.2	1228.7	1183.4	1076.3	1013.7	985.8
47.5°	1333.8	1340.8	1318.6	1316.9	1282.8	1211.8	1171.8	1125.7	1019.0	955.7	929.5
50°	1254.3	1264.2	1246.0	1246.0	1215.5	1144.9	1110.1	1064.1	959.3	896.0	870.2
52.5°	1169.1	1181.7	1168.1	1168.4	1143.6	1080.3	1044.2	999.1	897.0	834.7	810.9
55°	1081.0	1093.2	1084.6	1085.9	1066.4	1008.7	975.9	931.2	833.4	772.8	750.2
57.5°	988.8	1002.1	996.5	999.1	985.5	933.8	899.7	860.6	767.8	707.8	688.6
60°	896.4	909.0	906.0	909.6	901.0	856.3	825.1	784.7	701.9	644.2	627.3
62.5°	802.9	814.5	813.9	817.8	813.2	776.1	748.3	713.8	633.6	580.6	565.0
65°	711.5	721.4	720.7	725.1	724.1	694.2	669.1	637.6	565.3	516.6	503.0
67.5°	622.7	630.9	628.6	633.6	634.9	611.1	589.2	561.0	500.4	453.0	441.4
70°	535.8	541.5	538.5	541.8	544.8	526.9	508.3	483.5	431.1	389.4	379.8
72.5°	450.7	454.7	450.0	453.3	456.0	443.1	427.8	406.3	362.9	326.7	318.8
75°	368.2	373.8	364.2	367.5	369.5	356.6	347.6	330.1	292.6	264.8	259.5
77.5°	288.3	291.6	286.3	285.0	286.3	277.0	270.1	256.5	228.3	205.5	202.1
80°	212.1	214.1	208.8	207.4	208.4	201.8	196.5	186.6	166.7	149.5	148.1
82.5°	142.2	143.2	138.5	137.2	137.9	135.9	129.6	122.6	113.3	98.8	98.4
85°	81.2	81.2	77.9	76.5	77.2	73.9	71.6	67.9	64.3	54.3	55.0
87.5°	29.8	29.8	28.2	27.8	31.1	27.5	26.5	24.9	25.8	20.5	21.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834705

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1	1516.1
2.5°	1522.7	1519.4	1516.4	1506.1	1510.4	1499.8	1499.2	1495.2	1492.2	1486.6	1493.9
5°	1517.7	1511.1	1502.5	1490.2	1493.9	1481.3	1478.6	1474.0	1470.0	1462.7	1468.3
7.5°	1509.8	1498.8	1485.2	1469.7	1474.6	1459.1	1455.1	1450.1	1446.8	1438.2	1443.2
10°	1498.2	1482.6	1466.7	1447.8	1451.4	1434.5	1429.6	1424.3	1421.3	1413.7	1418.6
12.5°	1480.3	1461.4	1439.8	1419.3	1423.3	1407.4	1400.7	1395.1	1394.1	1387.8	1393.8
15°	1457.1	1430.9	1408.7	1386.8	1391.5	1372.9	1369.9	1364.3	1365.9	1361.6	1368.9
17.5°	1427.6	1397.4	1373.2	1349.7	1354.3	1338.8	1336.4	1333.8	1335.5	1334.8	1342.7
20°	1394.4	1361.3	1333.5	1310.3	1312.9	1300.7	1301.7	1301.0	1304.3	1307.9	1318.9
22.5°	1357.0	1319.5	1290.4	1266.5	1270.5	1259.9	1264.5	1265.9	1271.5	1279.8	1293.7
25°	1314.9	1274.8	1244.3	1221.8	1225.4	1218.5	1226.4	1229.7	1238.7	1252.6	1266.9
27.5°	1270.8	1228.4	1195.9	1174.4	1181.4	1174.4	1186.3	1193.0	1206.5	1221.8	1239.4
30°	1224.1	1180.0	1146.6	1127.3	1134.0	1127.7	1146.9	1155.8	1169.4	1190.3	1211.2
32.5°	1175.1	1128.7	1095.9	1081.0	1085.6	1084.6	1106.1	1116.1	1134.3	1158.2	1180.4
35°	1124.7	1076.3	1043.2	1030.6	1036.2	1037.5	1063.4	1075.0	1094.9	1123.7	1147.6
37.5°	1072.7	1023.3	990.8	980.5	985.5	990.5	1020.6	1032.2	1054.8	1086.3	1112.4
40°	1018.7	969.3	937.5	929.2	934.2	939.5	972.3	988.2	1012.7	1046.8	1075.3
42.5°	964.0	914.6	883.8	877.8	882.8	893.1	927.9	942.8	968.6	1006.4	1037.9
45°	908.3	856.9	830.1	825.5	830.8	842.7	876.8	894.7	922.2	963.6	997.4
47.5°	852.0	801.9	776.4	773.4	778.7	792.0	829.8	846.0	875.2	919.2	955.7
50°	795.0	746.3	721.7	720.7	725.7	740.0	776.1	795.3	825.5	874.8	912.3
52.5°	737.3	690.6	668.4	668.4	673.0	687.6	724.1	743.9	775.1	827.1	868.5
55°	679.7	635.3	614.0	615.7	622.3	634.9	670.4	691.3	722.7	776.8	820.5
57.5°	622.0	579.9	560.7	563.0	569.3	581.9	616.7	640.2	668.7	724.7	769.5
60°	565.0	525.2	508.3	511.0	516.6	529.2	565.3	585.5	614.0	671.0	715.8
62.5°	507.3	471.2	455.3	458.6	463.6	476.2	510.3	529.9	558.0	614.0	659.1
65°	450.3	416.9	403.3	406.6	411.2	422.8	455.0	473.9	500.7	555.4	598.5
67.5°	394.0	363.5	352.3	355.6	359.2	370.1	396.7	417.2	442.4	494.4	535.2
70°	338.3	311.2	301.2	304.5	307.9	317.8	341.0	359.9	383.1	430.8	468.6
72.5°	283.3	256.8	251.8	254.8	257.5	266.1	288.3	303.2	323.4	365.8	398.3
75°	229.6	206.8	203.5	206.4	208.8	215.4	234.0	246.9	263.8	300.6	327.1
77.5°	178.0	158.7	157.4	159.7	162.0	166.7	181.3	194.9	208.1	235.3	258.8
80°	129.6	114.0	114.0	116.3	115.7	121.3	131.6	142.5	152.1	171.7	188.9
82.5°	85.5	73.2	74.9	76.5	77.5	79.9	86.2	94.4	100.4	112.3	123.6
85°	47.4	39.1	40.8	42.1	41.4	44.1	47.4	52.4	55.3	61.0	66.9
87.5°	17.6	14.6	14.9	15.9	16.6	17.9	17.9	20.9	21.2	21.9	23.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834705

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1516.1	1516.1	1516.1
2.5°	1479.9	1487.9	1493.9
5°	1454.4	1461.0	1466.3
7.5°	1429.6	1435.5	1440.2
10°	1406.0	1412.7	1416.0
12.5°	1381.8	1389.5	1392.1
15°	1358.0	1365.6	1368.9
17.5°	1333.5	1343.4	1347.1
20°	1310.6	1323.2	1326.2
22.5°	1287.4	1300.3	1304.0
25°	1262.2	1277.5	1281.1
27.5°	1235.4	1253.6	1257.2
30°	1208.5	1228.4	1232.1
32.5°	1179.7	1201.2	1204.6
35°	1149.6	1171.1	1175.1
37.5°	1116.1	1139.6	1147.6
40°	1081.3	1106.8	1115.1
42.5°	1044.8	1072.7	1081.3
45°	1005.7	1036.2	1046.2
47.5°	966.3	1000.8	1009.4
50°	923.6	960.3	970.6
52.5°	878.8	918.9	929.2
55°	832.4	872.8	884.1
57.5°	782.1	823.8	835.7
60°	729.4	771.1	782.4
62.5°	675.3	713.1	724.1
65°	615.0	650.5	660.4
67.5°	551.1	583.6	591.8
70°	483.1	511.3	518.6
72.5°	412.2	431.8	441.4
75°	339.0	354.6	361.9
77.5°	265.4	276.4	282.3
80°	193.5	199.8	204.8
82.5°	126.6	129.2	132.9
85°	68.3	68.3	70.6
87.5°	23.2	22.2	23.2
90°	0.0	0.0	0.0

(END OF REPORT)