

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: P834525

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1HI-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834525
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-27-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

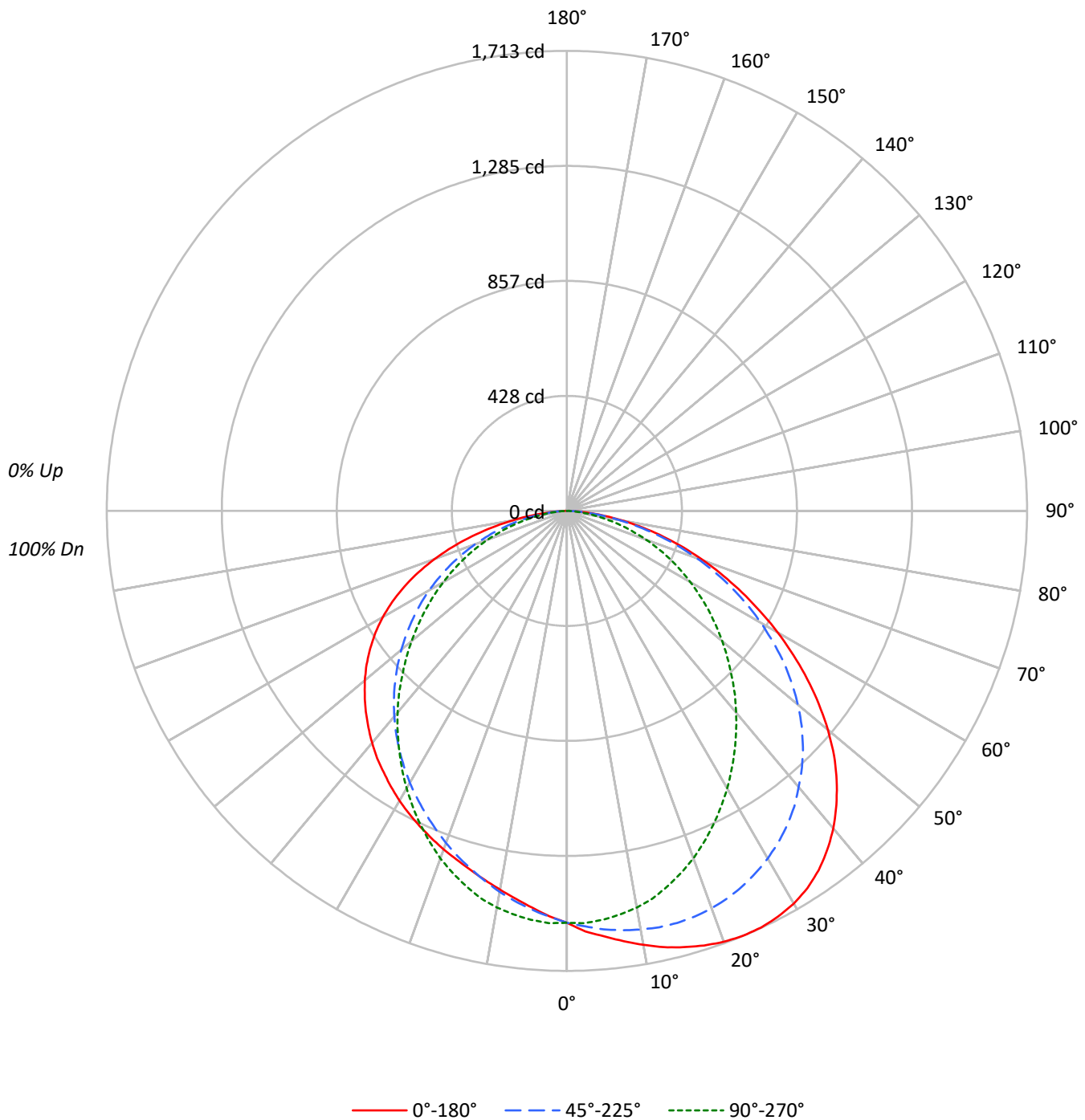
Lumens per Lamp: N/A
Luminaire Lumens: 4510.2 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P834525

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-27-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834525

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-27-120-EDD

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°	2063	2063	2063
5°	2148	2064	2003
10°	2242	2049	1957
15°	2343	2016	1929
20°	2445	1971	1920
25°	2541	1914	1924
30°	2624	1854	1936
35°	2684	1788	1952
40°	2711	1722	1981
45°	2703	1649	2013
50°	2655	1580	2055
55°	2564	1507	2098
60°	2440	1429	2129
65°	2291	1342	2126
70°	2132	1238	2063
75°	1935	1087	1903
80°	1662	893	1605
85°	1267	610	1102

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834525

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-27-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.4	3.2
10°-20°	419.9	9.3
20°-30°	643.4	14.3
30°-40°	785.1	17.4
40°-50°	821.1	18.2
50°-60°	743.1	16.5
60°-70°	562.8	12.5
70°-80°	313.6	7.0
80°-90°	75.7	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°	1208.7	26.8
0°-40°	1993.9	44.2
0°-60°	3558.1	78.9
0°-90°	4510.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4510.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1533	1533	1533	1533	1533	
5°	1590	1564	1528	1491	1483	153
15°	1682	1588	1447	1380	1384	477
25°	1712	1543	1289	1244	1296	790
35°	1634	1429	1088	1087	1188	1020
45°	1421	1243	867	905	1058	1093
55°	1093	987	642	699	894	976
65°	720	677	422	479	668	714
75°	372	352	209	250	366	395
85°	82	72	40	53	71	99
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834525

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-27-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3
2.5°	1567.1	1559.8	1553.7	1556.1	1557.4	1552.7	1548.7	1549.4	1545.3	1553.1	1535.0
5°	1590.3	1583.6	1576.5	1579.2	1576.5	1569.5	1563.8	1562.1	1551.4	1555.7	1537.3
7.5°	1616.1	1608.7	1598.3	1601.3	1595.6	1582.5	1575.2	1570.8	1554.4	1554.7	1534.3
10°	1640.9	1634.5	1620.4	1622.4	1612.0	1594.6	1582.9	1576.9	1553.7	1550.4	1529.3
12.5°	1664.0	1655.3	1640.2	1641.2	1626.1	1603.0	1587.9	1579.2	1549.0	1539.0	1518.2
15°	1681.8	1673.4	1655.3	1654.9	1635.5	1605.3	1588.2	1576.2	1538.0	1522.2	1500.4
17.5°	1696.8	1689.1	1666.7	1666.0	1642.5	1604.3	1583.9	1568.8	1521.9	1502.4	1478.3
20°	1707.6	1699.8	1674.7	1672.4	1644.2	1599.3	1574.8	1555.7	1500.8	1477.6	1450.8
22.5°	1712.6	1704.9	1676.4	1673.0	1640.2	1589.3	1561.8	1539.3	1476.6	1446.5	1418.7
25°	1711.6	1704.2	1672.0	1668.7	1632.5	1574.2	1543.3	1517.5	1446.1	1410.6	1383.1
27.5°	1703.2	1697.5	1663.7	1659.3	1618.4	1553.7	1520.9	1492.4	1412.3	1372.7	1342.9
30°	1688.8	1684.4	1648.6	1644.6	1601.0	1531.3	1494.7	1461.9	1375.8	1331.2	1301.0
32.5°	1665.7	1661.6	1625.4	1621.8	1577.5	1502.4	1464.2	1430.4	1335.9	1286.6	1256.5
35°	1633.8	1631.5	1596.3	1592.3	1547.4	1469.6	1429.1	1391.9	1294.3	1238.7	1209.9
37.5°	1591.9	1591.9	1558.1	1553.7	1509.8	1429.4	1389.5	1350.0	1247.4	1188.4	1159.9
40°	1543.3	1547.7	1513.2	1508.8	1466.3	1386.2	1342.6	1301.0	1196.8	1135.5	1107.7
42.5°	1485.0	1489.0	1460.2	1456.2	1416.3	1336.2	1295.7	1250.4	1143.8	1081.5	1052.7
45°	1420.7	1426.0	1400.2	1397.2	1360.0	1281.6	1242.7	1196.8	1088.5	1025.2	997.1
47.5°	1349.0	1356.0	1333.5	1331.9	1297.3	1225.6	1185.1	1138.5	1030.6	966.6	940.1
50°	1268.5	1278.6	1260.1	1260.1	1229.3	1157.9	1122.7	1076.1	970.2	906.2	880.1
52.5°	1182.4	1195.1	1181.4	1181.7	1156.6	1092.6	1056.0	1010.5	907.2	844.2	820.1
55°	1093.2	1105.6	1096.9	1098.3	1078.5	1020.2	987.0	941.8	842.9	781.6	758.8
57.5°	1000.1	1013.5	1007.8	1010.5	996.7	944.4	909.9	870.4	776.5	715.9	696.4
60°	906.6	919.3	916.3	920.0	911.3	866.0	834.5	793.6	709.8	651.5	634.4
62.5°	812.1	823.8	823.1	827.1	822.4	784.9	756.8	721.9	640.8	587.2	571.4
65°	719.6	729.6	728.9	733.3	732.3	702.1	676.7	644.8	571.8	522.5	508.7
67.5°	629.7	638.1	635.8	640.8	642.1	618.0	595.9	567.4	506.1	458.1	446.4
70°	541.9	547.6	544.6	548.0	551.0	532.9	514.1	489.0	436.0	393.8	384.1
72.5°	455.8	459.8	455.1	458.5	461.2	448.1	432.7	410.9	367.0	330.5	322.4
75°	372.3	378.0	368.3	371.7	373.7	360.6	351.6	333.8	295.9	267.8	262.4
77.5°	291.6	294.9	289.6	288.2	289.6	280.2	273.1	259.4	230.9	207.8	204.4
80°	214.5	216.5	211.1	209.8	210.8	204.1	198.7	188.7	168.6	151.1	149.8
82.5°	143.8	144.8	140.1	138.7	139.4	137.4	131.0	124.0	114.6	99.9	99.5
85°	82.1	82.1	78.8	77.4	78.1	74.7	72.4	68.7	65.0	55.0	55.6
87.5°	30.2	30.2	28.5	28.2	31.5	27.8	26.8	25.1	26.1	20.8	22.1
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: P834525

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-27-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3
2.5°	1540.0	1536.6	1533.6	1523.2	1527.6	1516.9	1516.2	1512.2	1509.2	1503.5	1510.8
5°	1535.0	1528.3	1519.5	1507.1	1510.8	1498.1	1495.4	1490.7	1486.7	1479.3	1485.0
7.5°	1526.9	1515.9	1502.1	1486.4	1491.4	1475.6	1471.6	1466.6	1463.2	1454.5	1459.6
10°	1515.2	1499.4	1483.3	1464.2	1467.9	1450.8	1445.8	1440.4	1437.4	1429.7	1434.8
12.5°	1497.1	1478.0	1456.2	1435.4	1439.4	1423.4	1416.7	1411.0	1409.9	1403.6	1409.6
15°	1473.6	1447.2	1424.7	1402.6	1407.3	1388.5	1385.5	1379.8	1381.5	1377.1	1384.5
17.5°	1443.8	1413.3	1388.8	1365.0	1369.7	1354.0	1351.6	1349.0	1350.6	1350.0	1358.0
20°	1410.3	1376.8	1348.6	1325.2	1327.8	1315.4	1316.4	1315.8	1319.1	1322.8	1333.9
22.5°	1372.4	1334.5	1305.0	1280.9	1284.9	1274.2	1278.9	1280.2	1285.9	1294.3	1308.4
25°	1329.9	1289.3	1258.5	1235.7	1239.4	1232.3	1240.4	1243.7	1252.8	1266.8	1281.3
27.5°	1285.3	1242.4	1209.5	1187.7	1194.8	1187.7	1199.8	1206.5	1220.3	1235.7	1253.4
30°	1238.0	1193.4	1159.6	1140.2	1146.9	1140.5	1159.9	1169.0	1182.7	1203.8	1225.0
32.5°	1188.4	1141.5	1108.3	1093.2	1097.9	1096.9	1118.7	1128.8	1147.2	1171.3	1193.8
35°	1137.5	1088.5	1055.0	1042.3	1048.0	1049.3	1075.5	1087.2	1107.3	1136.5	1160.6
37.5°	1084.9	1034.9	1002.1	991.7	996.7	1001.7	1032.2	1044.0	1066.8	1098.6	1125.1
40°	1030.2	980.3	948.1	939.7	944.8	950.1	983.3	999.4	1024.2	1058.7	1087.5
42.5°	974.9	925.0	893.8	887.8	892.8	903.2	938.4	953.5	979.6	1017.8	1049.7
45°	918.6	866.7	839.5	834.8	840.2	852.3	886.8	904.9	932.7	974.6	1008.8
47.5°	861.7	811.0	785.2	782.2	787.6	801.0	839.2	855.6	885.1	929.7	966.6
50°	804.0	754.7	729.9	728.9	734.0	748.4	784.9	804.3	834.8	884.8	922.7
52.5°	745.7	698.4	676.0	676.0	680.7	695.4	732.3	752.4	783.9	836.5	878.4
55°	687.4	642.5	621.0	622.7	629.4	642.1	678.0	699.1	730.9	785.6	829.8
57.5°	629.1	586.5	567.1	569.4	575.8	588.5	623.7	647.5	676.3	733.0	778.2
60°	571.4	531.2	514.1	516.8	522.5	535.2	571.8	592.2	621.0	678.7	723.9
62.5°	513.1	476.6	460.5	463.8	468.9	481.6	516.1	535.9	564.4	621.0	666.6
65°	455.5	421.6	407.9	411.2	415.9	427.6	460.2	479.3	506.4	561.7	605.3
67.5°	398.5	367.7	356.3	359.6	363.3	374.4	401.2	421.9	447.4	500.0	541.3
70°	342.2	314.7	304.6	308.0	311.3	321.4	344.9	364.0	387.4	435.7	473.9
72.5°	286.5	259.7	254.7	257.7	260.4	269.1	291.6	306.7	327.1	370.0	402.8
75°	232.3	209.1	205.8	208.8	211.1	217.8	236.6	249.7	266.8	304.0	330.8
77.5°	180.0	160.5	159.2	161.5	163.9	168.6	183.3	197.1	210.5	238.0	261.7
80°	131.0	115.3	115.3	117.6	117.0	122.7	133.1	144.1	153.8	173.6	191.0
82.5°	86.5	74.1	75.7	77.4	78.4	80.8	87.1	95.5	101.5	113.6	125.0
85°	47.9	39.5	41.2	42.6	41.9	44.6	47.9	53.0	56.0	61.7	67.7
87.5°	17.8	14.7	15.1	16.1	16.8	18.1	18.1	21.1	21.4	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

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834525

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-1HI-27-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1533.3	1533.3	1533.3
2.5°	1496.8	1504.8	1510.8
5°	1470.9	1477.6	1483.0
7.5°	1445.8	1451.8	1456.5
10°	1422.0	1428.7	1432.1
12.5°	1397.5	1405.3	1407.9
15°	1373.4	1381.1	1384.5
17.5°	1348.6	1358.7	1362.4
20°	1325.5	1338.2	1341.2
22.5°	1302.0	1315.1	1318.8
25°	1276.6	1292.0	1295.7
27.5°	1249.4	1267.8	1271.5
30°	1222.3	1242.4	1246.1
32.5°	1193.1	1214.9	1218.2
35°	1162.6	1184.4	1188.4
37.5°	1128.8	1152.6	1160.6
40°	1093.6	1119.4	1127.8
42.5°	1056.7	1084.9	1093.6
45°	1017.2	1048.0	1058.0
47.5°	977.3	1012.1	1020.8
50°	934.0	971.2	981.6
52.5°	888.8	929.4	939.7
55°	841.9	882.8	894.2
57.5°	790.9	833.2	845.2
60°	737.7	779.9	791.3
62.5°	683.0	721.2	732.3
65°	622.0	657.9	667.9
67.5°	557.3	590.2	598.6
70°	488.6	517.1	524.5
72.5°	416.9	436.7	446.4
75°	342.9	358.6	366.0
77.5°	268.5	279.5	285.5
80°	195.7	202.1	207.1
82.5°	128.0	130.7	134.4
85°	69.0	69.0	71.4
87.5°	23.5	22.5	23.5
90°	0.0	0.0	0.0

(END OF REPORT)