

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: P834209

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-1STD-35-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834209
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2-LD4-1STD-35-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

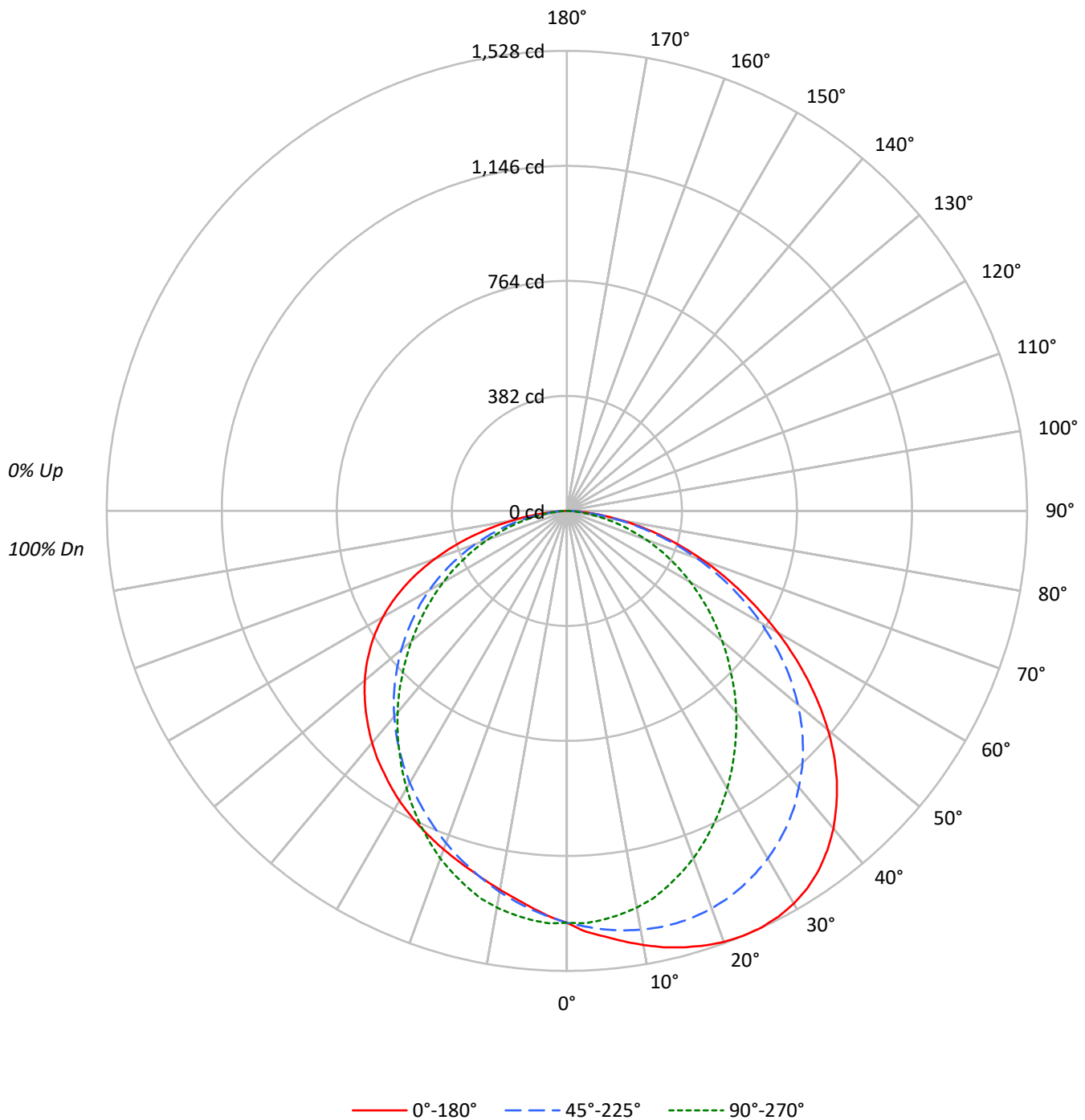
Lumens per Lamp: N/A
Luminaire Lumens: 4024.0 lumens
Efficiency: N/A
Efficacy: 120.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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	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°	3681	3681	3681
5°	3833	3683	3574
10°	4000	3656	3491
15°	4180	3597	3441
20°	4363	3518	3427
25°	4534	3415	3432
30°	4682	3309	3454
35°	4789	3190	3483
40°	4837	3072	3535
45°	4824	2943	3593
50°	4738	2819	3666
55°	4576	2689	3743
60°	4353	2551	3800
65°	4088	2395	3794
70°	3804	2209	3682
75°	3454	1940	3395
80°	2966	1595	2864
85°	2263	1090	1967



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.7	3.2
10°-20°	374.7	9.3
20°-30°	574.0	14.3
30°-40°	700.5	17.4
40°-50°	732.6	18.2
50°-60°	663.0	16.5
60°-70°	502.1	12.5
70°-80°	279.8	7.0
80°-90°	67.5	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°	1078.4	26.8
0°-40°	1778.9	44.2
0°-60°	3174.5	78.9
0°-90°	4024.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4024.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1368	1368	1368	1368	1368	
5°	1419	1395	1364	1330	1323	137
15°	1500	1417	1291	1231	1235	426
25°	1527	1377	1150	1110	1156	704
35°	1458	1275	971	970	1060	910
45°	1268	1109	773	807	944	975
55°	975	881	573	624	798	870
65°	642	604	376	428	596	637
75°	332	314	187	223	326	352
85°	73	65	35	47	64	88
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°	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0
2.5°	1398.2	1391.6	1386.2	1388.3	1389.5	1385.3	1381.8	1382.3	1378.8	1385.6	1369.5
5°	1418.8	1412.8	1406.6	1409.0	1406.6	1400.3	1395.2	1393.7	1384.1	1388.0	1371.6
7.5°	1441.9	1435.3	1426.0	1428.7	1423.6	1412.0	1405.4	1401.5	1386.8	1387.1	1368.9
10°	1464.0	1458.3	1445.7	1447.5	1438.3	1422.7	1412.3	1406.9	1386.2	1383.2	1364.4
12.5°	1484.6	1476.8	1463.4	1464.3	1450.8	1430.2	1416.7	1409.0	1382.0	1373.1	1354.5
15°	1500.5	1493.0	1476.8	1476.5	1459.2	1432.3	1417.0	1406.3	1372.2	1358.1	1338.7
17.5°	1513.9	1507.0	1487.0	1486.4	1465.5	1431.4	1413.1	1399.7	1357.8	1340.5	1319.0
20°	1523.5	1516.6	1494.2	1492.1	1467.0	1426.9	1405.1	1388.0	1339.0	1318.4	1294.4
22.5°	1528.0	1521.1	1495.7	1492.7	1463.4	1417.9	1393.4	1373.4	1317.5	1290.6	1265.7
25°	1527.1	1520.5	1491.8	1488.8	1456.5	1404.5	1377.0	1353.9	1290.3	1258.6	1234.0
27.5°	1519.6	1514.5	1484.3	1480.4	1443.9	1386.2	1356.9	1331.5	1260.1	1224.8	1198.2
30°	1506.7	1502.9	1470.9	1467.3	1428.4	1366.2	1333.6	1304.3	1227.5	1187.7	1160.8
32.5°	1486.1	1482.5	1450.2	1446.9	1407.5	1340.5	1306.4	1276.2	1191.9	1147.9	1121.0
35°	1457.7	1455.6	1424.2	1420.6	1380.6	1311.2	1275.0	1241.8	1154.8	1105.2	1079.4
37.5°	1420.3	1420.3	1390.1	1386.2	1347.1	1275.3	1239.7	1204.4	1112.9	1060.3	1034.9
40°	1377.0	1380.9	1350.1	1346.2	1308.2	1236.7	1197.9	1160.8	1067.8	1013.1	988.2
42.5°	1324.9	1328.5	1302.8	1299.2	1263.6	1192.2	1156.0	1115.6	1020.5	964.9	939.2
45°	1267.5	1272.3	1249.3	1246.6	1213.4	1143.4	1108.7	1067.8	971.2	914.7	889.6
47.5°	1203.5	1209.8	1189.8	1188.3	1157.5	1093.5	1057.3	1015.8	919.5	862.4	838.7
50°	1131.8	1140.7	1124.3	1124.3	1096.8	1033.1	1001.7	960.1	865.7	808.5	785.2
52.5°	1054.9	1066.3	1054.0	1054.3	1031.9	974.8	942.2	901.5	809.4	753.2	731.7
55°	975.4	986.5	978.7	979.9	962.2	910.2	880.6	840.2	752.0	697.3	677.0
57.5°	892.3	904.2	899.1	901.5	889.3	842.6	811.8	776.5	692.8	638.7	621.4
60°	808.8	820.2	817.5	820.8	813.0	772.7	744.5	708.1	633.3	581.3	566.0
62.5°	724.5	735.0	734.4	738.0	733.8	700.3	675.2	644.1	571.7	523.9	509.8
65°	642.0	651.0	650.4	654.2	653.3	626.4	603.7	575.3	510.1	466.2	453.9
67.5°	561.9	569.3	567.2	571.7	572.9	551.4	531.6	506.2	451.5	408.8	398.3
70°	483.5	488.6	485.9	488.9	491.6	475.4	458.7	436.3	389.0	351.3	342.7
72.5°	406.7	410.2	406.1	409.1	411.4	399.8	386.0	366.6	327.4	294.8	287.7
75°	332.2	337.3	328.6	331.6	333.4	321.7	313.7	297.8	264.0	238.9	234.1
77.5°	260.1	263.1	258.3	257.2	258.3	250.0	243.7	231.4	206.0	185.4	182.4
80°	191.4	193.2	188.4	187.2	188.1	182.1	177.3	168.3	150.4	134.9	133.7
82.5°	128.3	129.2	125.0	123.8	124.4	122.6	116.9	110.6	102.3	89.1	88.8
85°	73.3	73.3	70.3	69.1	69.7	66.7	64.6	61.3	58.0	49.0	49.6
87.5°	26.9	26.9	25.4	25.1	28.1	24.8	23.9	22.4	23.3	18.5	19.7
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°	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0
2.5°	1374.0	1371.0	1368.3	1359.0	1362.9	1353.3	1352.7	1349.2	1346.5	1341.4	1348.0
5°	1369.5	1363.5	1355.7	1344.7	1348.0	1336.6	1334.2	1330.0	1326.4	1319.9	1324.9
7.5°	1362.3	1352.4	1340.2	1326.1	1330.6	1316.6	1313.0	1308.5	1305.5	1297.7	1302.2
10°	1351.8	1337.8	1323.4	1306.4	1309.7	1294.4	1290.0	1285.2	1282.5	1275.6	1280.1
12.5°	1335.7	1318.7	1299.2	1280.7	1284.3	1269.9	1263.9	1258.9	1258.0	1252.3	1257.7
15°	1314.8	1291.1	1271.1	1251.4	1255.6	1238.8	1236.1	1231.0	1232.5	1228.7	1235.2
17.5°	1288.2	1260.9	1239.1	1217.9	1222.1	1208.0	1205.9	1203.5	1205.0	1204.4	1211.6
20°	1258.3	1228.4	1203.2	1182.3	1184.7	1173.6	1174.5	1173.9	1176.9	1180.2	1190.1
22.5°	1224.5	1190.7	1164.4	1142.8	1146.4	1136.9	1141.0	1142.2	1147.3	1154.8	1167.4
25°	1186.5	1150.3	1122.8	1102.5	1105.8	1099.5	1106.7	1109.6	1117.7	1130.3	1143.1
27.5°	1146.7	1108.5	1079.1	1059.7	1066.0	1059.7	1070.5	1076.5	1088.7	1102.5	1118.3
30°	1104.6	1064.8	1034.6	1017.3	1023.2	1017.5	1034.9	1043.0	1055.2	1074.1	1092.9
32.5°	1060.3	1018.4	988.8	975.4	979.6	978.7	998.1	1007.1	1023.5	1045.1	1065.1
35°	1014.9	971.2	941.3	929.9	935.0	936.2	959.5	970.0	987.9	1014.0	1035.5
37.5°	967.9	923.4	894.1	884.8	889.3	893.8	921.0	931.4	951.8	980.2	1003.8
40°	919.2	874.6	845.9	838.4	842.9	847.7	877.3	891.7	913.8	944.6	970.3
42.5°	869.8	825.3	797.5	792.1	796.6	805.8	837.2	850.7	874.0	908.1	936.5
45°	819.6	773.3	749.0	744.8	749.6	760.4	791.2	807.3	832.2	869.5	900.0
47.5°	768.8	723.6	700.6	697.9	702.7	714.6	748.7	763.4	789.7	829.5	862.4
50°	717.3	673.4	651.3	650.4	654.8	667.7	700.3	717.6	744.8	789.4	823.2
52.5°	665.3	623.1	603.1	603.1	607.3	620.5	653.3	671.3	699.4	746.3	783.7
55°	613.3	573.2	554.1	555.6	561.6	572.9	604.9	623.7	652.2	700.9	740.4
57.5°	561.3	523.3	505.9	508.0	513.7	525.1	556.5	577.7	603.4	653.9	694.3
60°	509.8	473.9	458.7	461.1	466.2	477.5	510.1	528.4	554.1	605.5	645.9
62.5°	457.8	425.2	410.8	413.8	418.3	429.7	460.5	478.1	503.5	554.1	594.7
65°	406.4	376.2	363.9	366.9	371.1	381.5	410.5	427.6	451.8	501.2	540.0
67.5°	355.5	328.0	317.9	320.8	324.1	334.0	357.9	376.5	399.2	446.1	482.9
70°	305.3	280.8	271.8	274.8	277.8	286.8	307.7	324.7	345.7	388.7	422.8
72.5°	255.7	231.7	227.3	229.9	232.3	240.1	260.1	273.6	291.8	330.1	359.4
75°	207.2	186.6	183.6	186.3	188.4	194.4	211.1	222.8	238.0	271.2	295.1
77.5°	160.6	143.2	142.0	144.1	146.2	150.4	163.6	175.8	187.8	212.3	233.5
80°	116.9	102.9	102.9	105.0	104.4	109.4	118.7	128.6	137.2	154.9	170.4
82.5°	77.1	66.1	67.6	69.1	70.0	72.1	77.7	85.2	90.6	101.4	111.5
85°	42.8	35.3	36.8	38.0	37.4	39.8	42.8	47.2	49.9	55.0	60.4
87.5°	15.8	13.2	13.5	14.4	15.0	16.1	16.1	18.8	19.1	19.7	20.9
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°	1368.0	1368.0	1368.0
2.5°	1335.4	1342.6	1348.0
5°	1312.4	1318.4	1323.1
7.5°	1290.0	1295.3	1299.5
10°	1268.7	1274.7	1277.7
12.5°	1246.9	1253.8	1256.2
15°	1225.4	1232.2	1235.2
17.5°	1203.2	1212.2	1215.5
20°	1182.6	1194.0	1196.7
22.5°	1161.7	1173.3	1176.6
25°	1139.0	1152.7	1156.0
27.5°	1114.7	1131.2	1134.5
30°	1090.5	1108.5	1111.7
32.5°	1064.5	1083.9	1086.9
35°	1037.3	1056.7	1060.3
37.5°	1007.1	1028.3	1035.5
40°	975.7	998.7	1006.2
42.5°	942.8	967.9	975.7
45°	907.5	935.0	944.0
47.5°	871.9	903.0	910.8
50°	833.4	866.5	875.8
52.5°	793.0	829.2	838.4
55°	751.1	787.6	797.8
57.5°	705.7	743.4	754.1
60°	658.1	695.8	706.0
62.5°	609.4	643.5	653.3
65°	555.0	587.0	595.9
67.5°	497.3	526.6	534.0
70°	436.0	461.4	468.0
72.5°	372.0	389.6	398.3
75°	305.9	319.9	326.5
77.5°	239.5	249.4	254.8
80°	174.6	180.3	184.8
82.5°	114.2	116.6	119.9
85°	61.6	61.6	63.7
87.5°	20.9	20.0	20.9
90°	0.0	0.0	0.0

(END OF REPORT)