

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: P834524

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834524
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-LD4-1STD-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

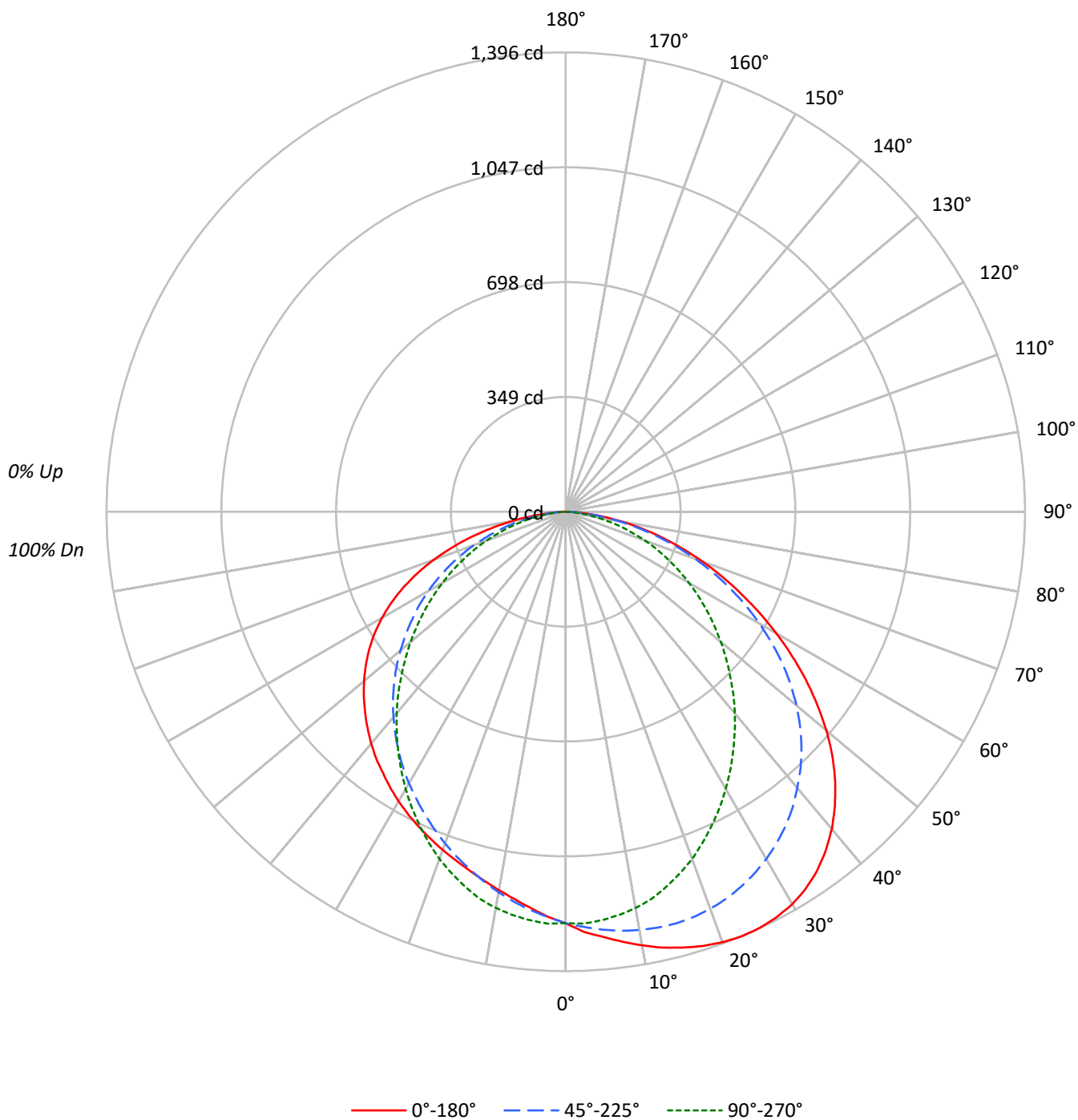
Lumens per Lamp: N/A
Luminaire Lumens: 3677.4 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	1682	1682	1682
5°	1751	1683	1633
10°	1828	1670	1595
15°	1910	1644	1572
20°	1994	1607	1566
25°	2072	1561	1568
30°	2139	1512	1578
35°	2188	1458	1592
40°	2210	1404	1615
45°	2204	1345	1642
50°	2165	1288	1675
55°	2091	1229	1710
60°	1989	1165	1736
65°	1868	1095	1734
70°	1738	1009	1683
75°	1578	886	1551
80°	1355	728	1309
85°	1033	497	898

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.6	3.2
10°-20°	342.4	9.3
20°-30°	524.6	14.3
30°-40°	640.2	17.4
40°-50°	669.5	18.2
50°-60°	605.9	16.5
60°-70°	458.9	12.5
70°-80°	255.7	7.0
80°-90°	61.7	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°	985.5	26.8
0°-40°	1625.7	44.2
0°-60°	2901.1	78.9
0°-90°	3677.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3677.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1250	1250	1250	1250	1250	
5°	1297	1275	1246	1216	1209	125
15°	1371	1295	1180	1125	1129	389
25°	1396	1258	1051	1014	1056	644
35°	1332	1165	888	886	969	832
45°	1158	1013	707	738	863	891
55°	891	805	524	570	729	795
65°	587	552	344	391	545	582
75°	304	287	170	204	298	322
85°	67	59	32	43	58	81
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°	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2
2.5°	1277.8	1271.8	1266.8	1268.8	1269.8	1266.0	1262.7	1263.3	1260.0	1266.3	1251.5
5°	1296.6	1291.2	1285.4	1287.6	1285.4	1279.7	1275.0	1273.7	1264.9	1268.5	1253.4
7.5°	1317.7	1311.7	1303.2	1305.6	1301.0	1290.3	1284.3	1280.8	1267.4	1267.7	1251.0
10°	1337.9	1332.7	1321.2	1322.9	1314.4	1300.2	1290.6	1285.7	1266.8	1264.1	1246.9
12.5°	1356.7	1349.6	1337.3	1338.2	1325.9	1307.0	1294.7	1287.6	1263.0	1254.8	1237.9
15°	1371.2	1364.4	1349.6	1349.4	1333.5	1308.9	1295.0	1285.1	1254.0	1241.2	1223.4
17.5°	1383.5	1377.2	1358.9	1358.4	1339.3	1308.1	1291.4	1279.1	1240.9	1225.0	1205.4
20°	1392.3	1386.0	1365.5	1363.6	1340.6	1304.0	1284.1	1268.5	1223.7	1204.8	1182.9
22.5°	1396.4	1390.1	1366.9	1364.1	1337.3	1295.8	1273.4	1255.1	1204.0	1179.4	1156.7
25°	1395.5	1389.5	1363.3	1360.6	1331.1	1283.5	1258.4	1237.3	1179.1	1150.2	1127.7
27.5°	1388.7	1384.1	1356.5	1352.9	1319.6	1266.8	1240.1	1216.8	1151.5	1119.3	1095.0
30°	1377.0	1373.4	1344.2	1340.9	1305.4	1248.5	1218.7	1192.0	1121.7	1085.4	1060.8
32.5°	1358.1	1354.8	1325.3	1322.3	1286.2	1225.0	1193.9	1166.3	1089.2	1049.0	1024.5
35°	1332.1	1330.2	1301.5	1298.3	1261.6	1198.2	1165.2	1134.9	1055.3	1010.0	986.5
37.5°	1298.0	1298.0	1270.4	1266.8	1231.0	1165.5	1132.9	1100.7	1017.1	969.0	945.8
40°	1258.4	1261.9	1233.8	1230.2	1195.5	1130.2	1094.7	1060.8	975.8	925.8	903.1
42.5°	1210.8	1214.1	1190.6	1187.3	1154.8	1089.5	1056.4	1019.5	932.6	881.8	858.3
45°	1158.4	1162.7	1141.7	1139.2	1108.9	1045.0	1013.3	975.8	887.6	835.9	813.0
47.5°	1099.9	1105.6	1087.3	1085.9	1057.8	999.3	966.3	928.3	840.3	788.1	766.5
50°	1034.3	1042.5	1027.5	1027.5	1002.3	944.1	915.4	877.4	791.1	738.9	717.6
52.5°	964.1	974.4	963.2	963.5	943.0	890.8	861.0	823.9	739.7	688.3	668.7
55°	891.4	901.5	894.4	895.5	879.4	831.8	804.8	767.9	687.3	637.2	618.7
57.5°	815.4	826.3	821.7	823.9	812.7	770.0	741.9	709.7	633.1	583.7	567.8
60°	739.2	749.6	747.1	750.1	743.0	706.1	680.4	647.1	578.8	531.2	517.3
62.5°	662.1	671.7	671.1	674.4	670.6	640.0	617.0	588.6	522.5	478.8	465.9
65°	586.7	594.9	594.3	597.9	597.1	572.5	551.7	525.8	466.2	426.0	414.8
67.5°	513.5	520.3	518.4	522.5	523.6	503.9	485.9	462.6	412.6	373.5	364.0
70°	441.9	446.5	444.0	446.8	449.2	434.5	419.2	398.7	355.5	321.1	313.2
72.5°	371.6	374.9	371.1	373.8	376.0	365.3	352.8	335.0	299.2	269.4	262.9
75°	303.6	308.2	300.3	303.0	304.7	294.0	286.7	272.2	241.3	218.3	214.0
77.5°	237.7	240.5	236.1	235.0	236.1	228.4	222.7	211.5	188.3	169.4	166.7
80°	174.9	176.5	172.2	171.1	171.9	166.4	162.0	153.8	137.5	123.2	122.1
82.5°	117.2	118.0	114.2	113.1	113.7	112.0	106.8	101.1	93.5	81.4	81.2
85°	66.9	66.9	64.2	63.1	63.7	60.9	59.0	56.0	53.0	44.8	45.4
87.5°	24.6	24.6	23.2	23.0	25.7	22.7	21.9	20.5	21.3	16.9	18.0
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°	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2	1250.2
2.5°	1255.6	1252.9	1250.4	1242.0	1245.5	1236.8	1236.2	1233.0	1230.5	1225.8	1231.9
5°	1251.5	1246.1	1239.0	1228.9	1231.9	1221.5	1219.3	1215.5	1212.2	1206.2	1210.8
7.5°	1245.0	1236.0	1224.8	1211.9	1216.0	1203.2	1199.9	1195.8	1193.1	1186.0	1190.1
10°	1235.4	1222.6	1209.5	1193.9	1196.9	1182.9	1178.8	1174.5	1172.0	1165.7	1169.8
12.5°	1220.7	1205.1	1187.3	1170.4	1173.7	1160.5	1155.1	1150.4	1149.6	1144.4	1149.3
15°	1201.5	1179.9	1161.6	1143.6	1147.4	1132.1	1129.7	1125.0	1126.4	1122.8	1128.8
17.5°	1177.2	1152.3	1132.4	1113.0	1116.8	1104.0	1102.1	1099.9	1101.2	1100.7	1107.3
20°	1149.9	1122.6	1099.6	1080.5	1082.7	1072.5	1073.4	1072.8	1075.6	1078.6	1087.6
22.5°	1119.0	1088.1	1064.1	1044.4	1047.7	1038.9	1042.8	1043.9	1048.5	1055.3	1066.8
25°	1084.3	1051.2	1026.1	1007.5	1010.5	1004.8	1011.3	1014.1	1021.4	1032.9	1044.7
27.5°	1048.0	1013.0	986.2	968.4	974.2	968.4	978.3	983.7	994.9	1007.5	1022.0
30°	1009.4	973.1	945.5	929.6	935.1	929.9	945.8	953.1	964.3	981.6	998.8
32.5°	969.0	930.7	903.7	891.4	895.2	894.4	912.1	920.3	935.4	955.0	973.4
35°	927.4	887.6	860.2	849.8	854.5	855.6	876.9	886.5	902.9	926.6	946.3
37.5°	884.5	843.8	817.1	808.6	812.7	816.8	841.6	851.2	869.8	895.7	917.3
40°	840.0	799.3	773.1	766.2	770.3	774.7	801.7	814.9	835.1	863.2	886.7
42.5°	794.9	754.2	728.8	723.9	728.0	736.4	765.1	777.4	798.7	829.9	855.9
45°	749.0	706.7	684.5	680.7	685.1	694.9	723.0	737.8	760.5	794.6	822.5
47.5°	702.6	661.3	640.3	637.8	642.2	653.1	684.2	697.6	721.7	758.0	788.1
50°	655.6	615.4	595.2	594.3	598.4	610.2	640.0	655.8	680.7	721.4	752.3
52.5°	608.0	569.5	551.2	551.2	555.0	567.0	597.1	613.5	639.2	682.1	716.2
55°	560.5	523.8	506.4	507.7	513.2	523.6	552.8	570.0	596.0	640.5	676.6
57.5°	512.9	478.2	462.4	464.3	469.5	479.8	508.5	527.9	551.4	597.6	634.5
60°	465.9	433.1	419.2	421.4	426.0	436.4	466.2	482.9	506.4	553.4	590.2
62.5°	418.4	388.6	375.5	378.2	382.3	392.7	420.8	436.9	460.2	506.4	543.5
65°	371.4	343.8	332.6	335.3	339.1	348.7	375.2	390.8	412.9	458.0	493.5
67.5°	324.9	299.8	290.5	293.2	296.2	305.2	327.1	344.0	364.8	407.7	441.3
70°	279.0	256.6	248.4	251.1	253.9	262.1	281.2	296.8	315.9	355.2	386.4
72.5°	233.6	211.8	207.7	210.1	212.3	219.4	237.7	250.0	266.7	301.7	328.5
75°	189.4	170.5	167.8	170.2	172.2	177.6	192.9	203.6	217.5	247.8	269.7
77.5°	146.7	130.9	129.8	131.7	133.6	137.5	149.5	160.7	171.6	194.0	213.4
80°	106.8	94.0	94.0	95.9	95.4	100.0	108.5	117.5	125.4	141.5	155.8
82.5°	70.5	60.4	61.8	63.1	63.9	65.9	71.0	77.9	82.8	92.6	101.9
85°	39.1	32.2	33.6	34.7	34.2	36.3	39.1	43.2	45.6	50.3	55.2
87.5°	14.5	12.0	12.3	13.1	13.7	14.8	14.8	17.2	17.5	18.0	19.1
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°	1250.2	1250.2	1250.2
2.5°	1220.4	1226.9	1231.9
5°	1199.3	1204.8	1209.2
7.5°	1178.8	1183.8	1187.6
10°	1159.4	1164.9	1167.6
12.5°	1139.5	1145.8	1148.0
15°	1119.8	1126.1	1128.8
17.5°	1099.6	1107.8	1110.8
20°	1080.7	1091.1	1093.6
22.5°	1061.6	1072.3	1075.3
25°	1040.9	1053.4	1056.4
27.5°	1018.7	1033.7	1036.8
30°	996.6	1013.0	1016.0
32.5°	972.8	990.6	993.3
35°	947.9	965.7	969.0
37.5°	920.3	939.7	946.3
40°	891.7	912.7	919.5
42.5°	861.6	884.5	891.7
45°	829.3	854.5	862.7
47.5°	796.8	825.2	832.4
50°	761.6	791.9	800.4
52.5°	724.7	757.8	766.2
55°	686.4	719.8	729.1
57.5°	644.9	679.3	689.2
60°	601.4	635.9	645.2
62.5°	556.9	588.1	597.1
65°	507.2	536.4	544.6
67.5°	454.4	481.2	488.0
70°	398.4	421.6	427.7
72.5°	339.9	356.1	364.0
75°	279.5	292.4	298.4
77.5°	218.9	227.9	232.8
80°	159.6	164.8	168.9
82.5°	104.4	106.6	109.6
85°	56.3	56.3	58.2
87.5°	19.1	18.3	19.1
90°	0.0	0.0	0.0

(END OF REPORT)