

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: P834542

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1STD-30-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834542
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-30-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

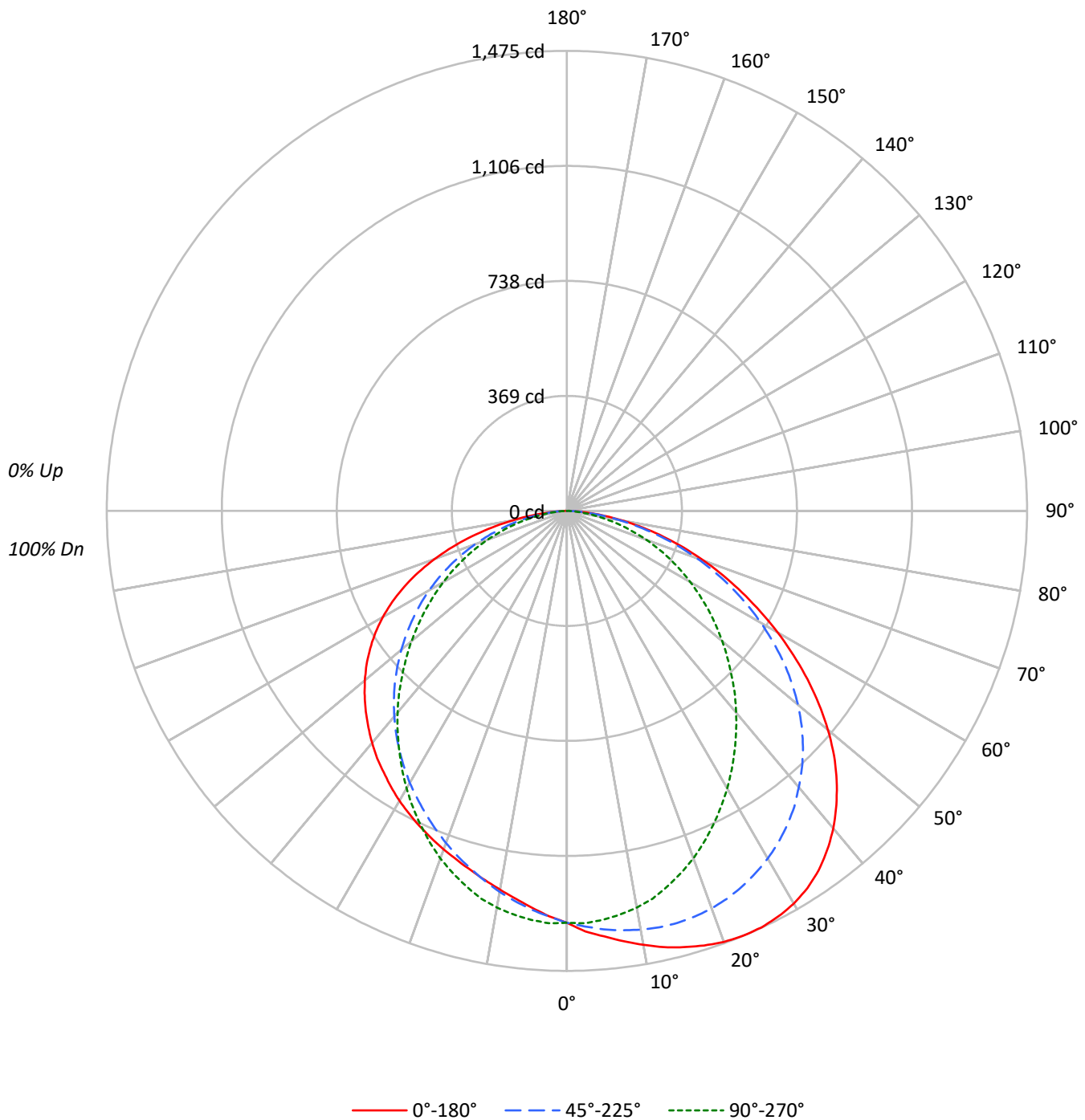
Lumens per Lamp: N/A
Luminaire Lumens: 3884.0 lumens
Efficiency: N/A
Efficacy: 116.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	1777	1777	1777
5°	1850	1778	1725
10°	1931	1764	1685
15°	2017	1736	1661
20°	2106	1698	1654
25°	2188	1648	1656
30°	2259	1597	1667
35°	2311	1540	1681
40°	2334	1483	1706
45°	2328	1420	1734
50°	2287	1361	1769
55°	2209	1298	1806
60°	2101	1231	1834
65°	1973	1156	1831
70°	1836	1066	1777
75°	1667	936	1639
80°	1431	769	1382
85°	1091	526	949



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.2	3.2
10°-20°	361.6	9.3
20°-30°	554.0	14.3
30°-40°	676.1	17.4
40°-50°	707.1	18.2
50°-60°	640.0	16.5
60°-70°	484.7	12.5
70°-80°	270.1	7.0
80°-90°	65.2	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°	1040.9	26.8
0°-40°	1717.0	44.2
0°-60°	3064.1	78.9
0°-90°	3884.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3884.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1320	1320	1320	1320	1320	
5°	1370	1347	1316	1284	1277	132
15°	1448	1368	1246	1188	1192	411
25°	1474	1329	1110	1071	1116	680
35°	1407	1231	937	936	1023	879
45°	1223	1070	746	779	911	941
55°	942	850	553	602	770	840
65°	620	583	363	413	575	615
75°	321	303	180	215	315	340
85°	71	62	34	46	62	85
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°	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4
2.5°	1349.6	1343.2	1338.0	1340.0	1341.2	1337.1	1333.7	1334.3	1330.8	1337.4	1321.8
5°	1369.5	1363.7	1357.6	1359.9	1357.6	1351.6	1346.7	1345.2	1336.0	1339.7	1323.9
7.5°	1391.7	1385.3	1376.4	1379.0	1374.1	1362.8	1356.5	1352.7	1338.6	1338.9	1321.3
10°	1413.0	1407.6	1395.4	1397.2	1388.2	1373.2	1363.1	1357.9	1338.0	1335.1	1316.9
12.5°	1433.0	1425.5	1412.5	1413.3	1400.3	1380.4	1367.4	1359.9	1334.0	1325.3	1307.4
15°	1448.3	1441.0	1425.5	1425.2	1408.4	1382.5	1367.7	1357.3	1324.4	1310.9	1292.1
17.5°	1461.2	1454.6	1435.3	1434.7	1414.5	1381.6	1364.0	1351.0	1310.6	1293.9	1273.1
20°	1470.5	1463.8	1442.2	1440.2	1415.9	1377.3	1356.2	1339.7	1292.4	1272.5	1249.4
22.5°	1474.8	1468.2	1443.6	1440.8	1412.5	1368.6	1344.9	1325.6	1271.6	1245.7	1221.7
25°	1473.9	1467.6	1439.9	1437.0	1405.8	1355.6	1329.1	1306.8	1245.4	1214.8	1191.1
27.5°	1466.7	1461.8	1432.7	1428.9	1393.7	1338.0	1309.7	1285.2	1216.2	1182.2	1156.5
30°	1454.3	1450.6	1419.7	1416.2	1378.7	1318.7	1287.2	1258.9	1184.8	1146.4	1120.4
32.5°	1434.4	1430.9	1399.8	1396.6	1358.5	1293.9	1260.9	1231.8	1150.4	1108.0	1082.0
35°	1407.0	1405.0	1374.7	1371.2	1332.5	1265.6	1230.6	1198.6	1114.6	1066.7	1041.9
37.5°	1370.9	1370.9	1341.8	1338.0	1300.2	1230.9	1196.6	1162.5	1074.2	1023.4	998.9
40°	1329.1	1332.8	1303.1	1299.3	1262.7	1193.7	1156.2	1120.4	1030.6	977.8	953.9
42.5°	1278.8	1282.3	1257.5	1254.0	1219.7	1150.7	1115.8	1076.8	985.0	931.4	906.5
45°	1223.4	1228.0	1205.8	1203.2	1171.2	1103.7	1070.2	1030.6	937.4	882.9	858.6
47.5°	1161.7	1167.7	1148.4	1146.9	1117.2	1055.5	1020.5	980.4	887.5	832.4	809.6
50°	1092.4	1101.1	1085.2	1085.2	1058.6	997.2	966.9	926.7	835.5	780.4	757.9
52.5°	1018.2	1029.2	1017.4	1017.6	996.0	940.9	909.4	870.2	781.3	727.0	706.2
55°	941.5	952.1	944.6	945.8	928.8	878.5	850.0	811.0	725.9	673.0	653.4
57.5°	861.2	872.8	867.9	870.2	858.3	813.3	783.6	749.5	668.7	616.5	599.7
60°	780.7	791.7	789.1	792.2	784.7	745.8	718.6	683.4	611.3	561.1	546.3
62.5°	699.3	709.4	708.8	712.3	708.3	675.9	651.7	621.7	551.8	505.6	492.1
65°	619.7	628.3	627.7	631.5	630.6	604.6	582.7	555.3	492.4	449.9	438.1
67.5°	542.3	549.5	547.5	551.8	553.0	532.2	513.2	488.6	435.8	394.5	384.4
70°	466.7	471.6	469.0	471.9	474.5	458.9	442.7	421.1	375.5	339.1	330.8
72.5°	392.5	396.0	391.9	394.8	397.1	385.9	372.6	353.8	316.0	284.6	277.6
75°	320.6	325.6	317.2	320.1	321.8	310.5	302.8	287.5	254.8	230.6	226.0
77.5°	251.1	254.0	249.4	248.2	249.4	241.3	235.2	223.4	198.9	178.9	176.1
80°	184.7	186.4	181.8	180.7	181.5	175.8	171.1	162.5	145.2	130.2	129.0
82.5°	123.8	124.7	120.6	119.5	120.1	118.3	112.8	106.8	98.7	86.0	85.7
85°	70.7	70.7	67.8	66.7	67.2	64.4	62.3	59.2	56.0	47.3	47.9
87.5°	26.0	26.0	24.5	24.2	27.1	24.0	23.1	21.6	22.5	17.9	19.0
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°	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4	1320.4
2.5°	1326.2	1323.3	1320.7	1311.7	1315.5	1306.3	1305.7	1302.2	1299.6	1294.7	1301.1
5°	1321.8	1316.1	1308.6	1297.9	1301.1	1290.1	1287.8	1283.7	1280.3	1273.9	1278.8
7.5°	1314.9	1305.4	1293.6	1280.0	1284.3	1270.8	1267.3	1263.0	1260.1	1252.6	1256.9
10°	1304.8	1291.3	1277.4	1260.9	1264.1	1249.4	1245.1	1240.5	1237.9	1231.2	1235.6
12.5°	1289.2	1272.8	1254.0	1236.1	1239.6	1225.7	1220.0	1215.1	1214.2	1208.7	1213.9
15°	1269.0	1246.2	1226.9	1207.8	1211.9	1195.7	1193.1	1188.2	1189.7	1185.9	1192.3
17.5°	1243.3	1217.1	1196.0	1175.5	1179.6	1166.0	1164.0	1161.7	1163.1	1162.5	1169.5
20°	1214.5	1185.6	1161.4	1141.2	1143.5	1132.8	1133.7	1133.1	1136.0	1139.2	1148.7
22.5°	1181.9	1149.3	1123.9	1103.1	1106.5	1097.3	1101.3	1102.5	1107.4	1114.6	1126.7
25°	1145.2	1110.3	1083.7	1064.1	1067.3	1061.2	1068.2	1071.0	1078.8	1091.0	1103.4
27.5°	1106.8	1069.9	1041.6	1022.8	1028.9	1022.8	1033.2	1039.0	1050.8	1064.1	1079.4
30°	1066.1	1027.8	998.6	981.9	987.6	982.1	998.9	1006.7	1018.5	1036.7	1054.9
32.5°	1023.4	983.0	954.4	941.5	945.5	944.6	963.4	972.0	987.9	1008.7	1028.0
35°	979.6	937.4	908.6	897.6	902.5	903.6	926.2	936.3	953.6	978.7	999.5
37.5°	934.2	891.2	863.0	854.0	858.3	862.7	888.9	899.0	918.7	946.1	968.9
40°	887.2	844.2	816.5	809.3	813.6	818.2	846.8	860.6	882.0	911.7	936.5
42.5°	839.6	796.6	769.7	764.5	768.9	777.8	808.1	821.1	843.6	876.5	903.9
45°	791.1	746.4	723.0	718.9	723.6	733.9	763.7	779.3	803.2	839.3	868.7
47.5°	742.0	698.4	676.2	673.6	678.2	689.8	722.7	736.8	762.2	800.6	832.4
50°	692.4	650.0	628.6	627.7	632.1	644.5	675.9	692.7	718.9	761.9	794.6
52.5°	642.2	601.5	582.1	582.1	586.2	598.9	630.6	647.9	675.1	720.4	756.5
55°	591.9	553.3	534.8	536.2	542.0	553.0	583.9	602.0	629.5	676.5	714.6
57.5°	541.7	505.1	488.3	490.4	495.8	506.8	537.1	557.6	582.4	631.2	670.2
60°	492.1	457.5	442.7	445.0	449.9	460.9	492.4	510.0	534.8	584.4	623.4
62.5°	441.9	410.4	396.6	399.4	403.8	414.7	444.5	461.5	486.0	534.8	574.1
65°	392.2	363.1	351.2	354.1	358.2	368.3	396.3	412.7	436.1	483.7	521.2
67.5°	343.2	316.6	306.8	309.7	312.9	322.4	345.5	363.4	385.3	430.6	466.1
70°	294.7	271.0	262.3	265.2	268.1	276.8	297.0	313.4	333.6	375.2	408.1
72.5°	246.8	223.7	219.3	221.9	224.3	231.8	251.1	264.1	281.7	318.6	346.9
75°	200.0	180.1	177.2	179.8	181.8	187.6	203.8	215.0	229.7	261.8	284.9
77.5°	155.0	138.2	137.1	139.1	141.1	145.2	157.9	169.7	181.2	204.9	225.4
80°	112.8	99.3	99.3	101.3	100.7	105.6	114.6	124.1	132.5	149.5	164.5
82.5°	74.5	63.8	65.2	66.7	67.5	69.6	75.0	82.3	87.4	97.8	107.7
85°	41.3	34.1	35.5	36.7	36.1	38.4	41.3	45.6	48.2	53.1	58.3
87.5°	15.3	12.7	13.0	13.9	14.4	15.6	15.6	18.2	18.5	19.0	20.2
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°	1320.4	1320.4	1320.4
2.5°	1288.9	1295.9	1301.1
5°	1266.7	1272.5	1277.1
7.5°	1245.1	1250.3	1254.3
10°	1224.6	1230.4	1233.2
12.5°	1203.5	1210.2	1212.5
15°	1182.7	1189.4	1192.3
17.5°	1161.4	1170.0	1173.2
20°	1141.5	1152.4	1155.0
22.5°	1121.3	1132.5	1135.7
25°	1099.3	1112.6	1115.8
27.5°	1075.9	1091.8	1095.0
30°	1052.6	1069.9	1073.1
32.5°	1027.5	1046.2	1049.1
35°	1001.2	1020.0	1023.4
37.5°	972.0	992.5	999.5
40°	941.7	964.0	971.2
42.5°	910.0	934.2	941.7
45°	875.9	902.5	911.2
47.5°	841.6	871.6	879.1
50°	804.4	836.4	845.3
52.5°	765.4	800.3	809.3
55°	725.0	760.2	770.0
57.5°	681.1	717.5	727.9
60°	635.2	671.6	681.4
62.5°	588.2	621.1	630.6
65°	535.7	566.5	575.2
67.5°	480.0	508.2	515.5
70°	420.8	445.3	451.7
72.5°	359.0	376.1	384.4
75°	295.3	308.8	315.2
77.5°	231.2	240.7	245.9
80°	168.5	174.0	178.4
82.5°	110.3	112.6	115.7
85°	59.5	59.5	61.5
87.5°	20.2	19.3	20.2
90°	0.0	0.0	0.0

(END OF REPORT)