

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: P835194

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-2HI-30-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835194
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-2HI-30-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

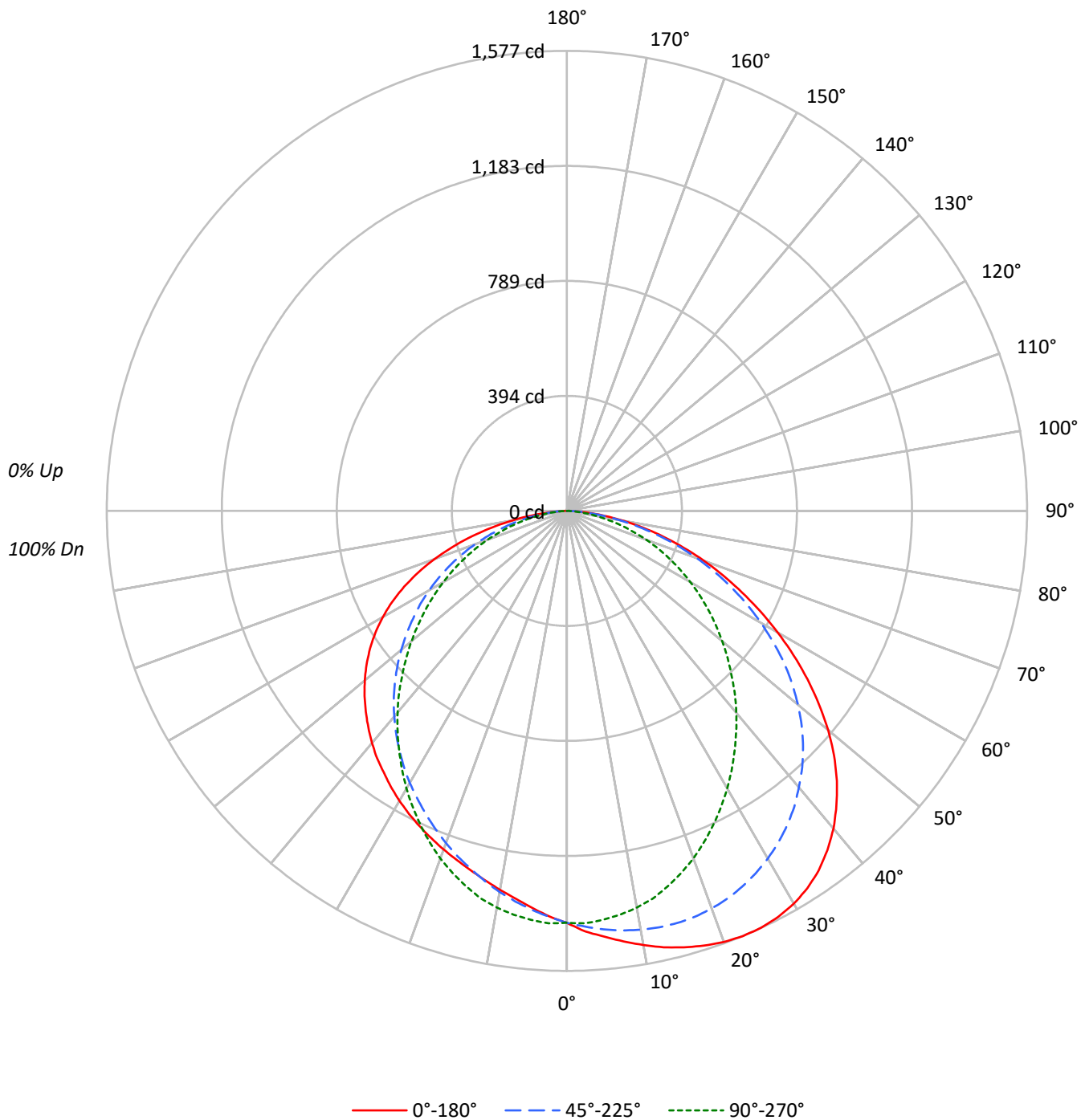
Lumens per Lamp: N/A
Luminaire Lumens: 4153.8 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

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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°	3800	3800	3800
5°	3956	3802	3689
10°	4129	3773	3604
15°	4315	3713	3552
20°	4503	3631	3538
25°	4680	3526	3543
30°	4833	3415	3566
35°	4943	3293	3596
40°	4993	3171	3648
45°	4979	3038	3708
50°	4891	2910	3785
55°	4724	2776	3864
60°	4493	2633	3922
65°	4220	2472	3917
70°	3927	2280	3801
75°	3565	2002	3505
80°	3061	1646	2957
85°	2334	1124	2029



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.9	3.2
10°-20°	386.8	9.3
20°-30°	592.5	14.3
30°-40°	723.1	17.4
40°-50°	756.2	18.2
50°-60°	684.4	16.5
60°-70°	518.3	12.5
70°-80°	288.9	7.0
80°-90°	69.7	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°	1113.2	26.8
0°-40°	1836.3	44.2
0°-60°	3276.9	78.9
0°-90°	4153.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4153.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1412	1412	1412	1412	1412	
5°	1465	1440	1408	1373	1366	141
15°	1549	1463	1333	1271	1275	439
25°	1576	1421	1187	1145	1193	727
35°	1505	1316	1002	1001	1094	940
45°	1308	1144	798	833	974	1007
55°	1007	909	592	644	824	898
65°	663	623	388	441	615	657
75°	343	324	193	230	337	364
85°	76	67	36	49	66	91
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°	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1
2.5°	1443.3	1436.5	1431.0	1433.1	1434.3	1430.0	1426.3	1426.9	1423.2	1430.3	1413.7
5°	1464.6	1458.4	1451.9	1454.4	1451.9	1445.5	1440.2	1438.7	1428.8	1432.8	1415.8
7.5°	1488.4	1481.6	1472.0	1474.8	1469.5	1457.5	1450.7	1446.7	1431.6	1431.9	1413.0
10°	1511.2	1505.3	1492.4	1494.2	1484.7	1468.6	1457.8	1452.2	1431.0	1427.9	1408.4
12.5°	1532.5	1524.5	1510.6	1511.5	1497.6	1476.3	1462.4	1454.4	1426.6	1417.4	1398.2
15°	1548.9	1541.1	1524.5	1524.2	1506.3	1478.5	1462.7	1451.6	1416.4	1401.9	1381.9
17.5°	1562.7	1555.7	1535.0	1534.4	1512.7	1477.6	1458.7	1444.8	1401.6	1383.7	1361.5
20°	1572.6	1565.5	1542.4	1540.2	1514.3	1472.9	1450.4	1432.8	1382.2	1360.9	1336.2
22.5°	1577.3	1570.2	1543.9	1540.8	1510.6	1463.7	1438.4	1417.7	1360.0	1332.2	1306.6
25°	1576.3	1569.5	1539.9	1536.8	1503.5	1449.8	1421.4	1397.6	1331.9	1299.2	1273.8
27.5°	1568.6	1563.4	1532.2	1528.2	1490.5	1431.0	1400.7	1374.5	1300.7	1264.3	1236.8
30°	1555.3	1551.3	1518.3	1514.6	1474.5	1410.3	1376.6	1346.4	1267.1	1226.0	1198.2
32.5°	1534.0	1530.3	1497.0	1493.6	1452.9	1383.7	1348.5	1317.4	1230.3	1184.9	1157.2
35°	1504.7	1502.6	1470.2	1466.4	1425.1	1353.5	1316.1	1281.9	1192.0	1140.8	1114.3
37.5°	1466.1	1466.1	1435.0	1431.0	1390.5	1316.4	1279.7	1243.3	1148.8	1094.5	1068.3
40°	1421.4	1425.4	1393.6	1389.6	1350.4	1276.6	1236.5	1198.2	1102.2	1045.7	1020.1
42.5°	1367.7	1371.4	1344.8	1341.1	1304.4	1230.6	1193.3	1151.6	1053.5	996.0	969.5
45°	1308.4	1313.4	1289.6	1286.8	1252.5	1180.3	1144.5	1102.2	1002.5	944.2	918.3
47.5°	1242.4	1248.8	1228.2	1226.6	1194.8	1128.8	1091.4	1048.5	949.1	890.2	865.8
50°	1168.3	1177.5	1160.6	1160.6	1132.2	1066.4	1034.0	991.1	893.6	834.6	810.5
52.5°	1089.0	1100.7	1088.0	1088.3	1065.2	1006.2	972.6	930.6	835.5	777.5	755.3
55°	1006.9	1018.3	1010.2	1011.5	993.3	939.6	909.0	867.3	776.3	719.8	698.8
57.5°	921.0	933.4	928.1	930.6	918.0	869.8	838.0	801.6	715.2	659.3	641.4
60°	834.9	846.7	843.9	847.3	839.2	797.6	768.6	730.9	653.7	600.0	584.3
62.5°	747.9	758.7	758.1	761.8	757.5	722.9	697.0	664.9	590.2	540.8	526.3
65°	662.7	672.0	671.3	675.3	674.4	646.6	623.2	593.9	526.6	481.2	468.5
67.5°	580.0	587.7	585.5	590.2	591.4	569.2	548.8	522.6	466.1	421.9	411.1
70°	499.1	504.4	501.6	504.7	507.4	490.8	473.5	450.3	401.6	362.7	353.7
72.5°	419.8	423.5	419.2	422.2	424.7	412.7	398.5	378.4	338.0	304.3	296.9
75°	342.9	348.2	339.2	342.3	344.2	332.1	323.8	307.4	272.5	246.6	241.7
77.5°	268.5	271.6	266.7	265.4	266.7	258.0	251.6	238.9	212.7	191.4	188.3
80°	197.5	199.4	194.5	193.2	194.1	188.0	183.0	173.8	155.3	139.2	138.0
82.5°	132.4	133.3	129.0	127.8	128.4	126.6	120.7	114.2	105.6	92.0	91.7
85°	75.6	75.6	72.5	71.3	71.9	68.8	66.7	63.3	59.9	50.6	51.2
87.5°	27.8	27.8	26.2	25.9	29.0	25.6	24.7	23.1	24.1	19.1	20.4
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°	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1	1412.1
2.5°	1418.3	1415.2	1412.4	1402.9	1406.9	1397.0	1396.4	1392.7	1389.9	1384.7	1391.4
5°	1413.7	1407.5	1399.5	1388.0	1391.4	1379.7	1377.2	1372.9	1369.2	1362.4	1367.7
7.5°	1406.3	1396.1	1383.4	1368.9	1373.5	1359.0	1355.3	1350.7	1347.6	1339.6	1344.2
10°	1395.5	1380.9	1366.1	1348.5	1351.9	1336.2	1331.6	1326.6	1323.8	1316.7	1321.4
12.5°	1378.8	1361.2	1341.1	1322.0	1325.7	1310.9	1304.7	1299.5	1298.5	1292.7	1298.2
15°	1357.2	1332.8	1312.1	1291.7	1296.1	1278.8	1276.0	1270.8	1272.3	1268.3	1275.1
17.5°	1329.7	1301.6	1279.1	1257.2	1261.5	1247.0	1244.8	1242.4	1243.9	1243.3	1250.7
20°	1298.8	1268.0	1242.1	1220.4	1222.9	1211.5	1212.4	1211.8	1214.9	1218.3	1228.5
22.5°	1264.0	1229.1	1201.9	1179.7	1183.4	1173.5	1177.8	1179.1	1184.3	1192.0	1205.0
25°	1224.8	1187.4	1159.0	1138.0	1141.4	1134.9	1142.4	1145.4	1153.8	1166.7	1180.0
27.5°	1183.7	1144.2	1114.0	1093.9	1100.4	1093.9	1105.0	1111.2	1123.8	1138.0	1154.4
30°	1140.2	1099.1	1068.0	1050.1	1056.2	1050.4	1068.3	1076.6	1089.3	1108.7	1128.2
32.5°	1094.5	1051.3	1020.7	1006.9	1011.2	1010.2	1030.3	1039.6	1056.5	1078.8	1099.4
35°	1047.6	1002.5	971.7	959.9	965.2	966.4	990.5	1001.3	1019.8	1046.7	1068.9
37.5°	999.1	953.1	922.9	913.3	918.0	922.6	950.7	961.5	982.5	1011.8	1036.2
40°	948.8	902.8	873.2	865.5	870.1	875.1	905.6	920.4	943.3	975.1	1001.6
42.5°	897.9	851.9	823.2	817.6	822.3	831.8	864.3	878.1	902.2	937.4	966.7
45°	846.0	798.2	773.2	768.9	773.8	784.9	816.7	833.4	859.0	897.6	929.1
47.5°	793.6	747.0	723.2	720.4	725.4	737.7	772.9	788.0	815.2	856.2	890.2
50°	740.5	695.1	672.3	671.3	676.0	689.2	722.9	740.8	768.9	814.9	849.7
52.5°	686.8	643.2	622.6	622.6	626.9	640.5	674.4	692.9	722.0	770.4	809.0
55°	633.1	591.7	571.9	573.5	579.7	591.4	624.4	643.9	673.2	723.5	764.2
57.5°	579.4	540.2	522.3	524.4	530.3	542.0	574.4	596.3	622.9	675.0	716.7
60°	526.3	489.2	473.5	476.0	481.2	492.9	526.6	545.4	571.9	625.0	666.7
62.5°	472.6	438.9	424.1	427.2	431.8	443.5	475.3	493.5	519.8	571.9	613.9
65°	419.5	388.3	375.6	378.7	383.0	393.9	423.8	441.4	466.4	517.3	557.4
67.5°	367.0	338.6	328.1	331.2	334.6	344.8	369.5	388.6	412.1	460.5	498.5
70°	315.1	289.8	280.6	283.7	286.7	296.0	317.6	335.2	356.8	401.3	436.4
72.5°	263.9	239.2	234.6	237.4	239.8	247.9	268.5	282.4	301.3	340.8	371.0
75°	213.9	192.6	189.5	192.3	194.5	200.6	217.9	230.0	245.7	280.0	304.6
77.5°	165.8	147.8	146.6	148.8	150.9	155.3	168.8	181.5	193.8	219.1	241.1
80°	120.7	106.2	106.2	108.3	107.7	113.0	122.5	132.7	141.7	159.9	175.9
82.5°	79.6	68.2	69.8	71.3	72.2	74.4	80.3	88.0	93.5	104.6	115.1
85°	44.1	36.4	38.0	39.2	38.6	41.1	44.1	48.8	51.5	56.8	62.3
87.5°	16.4	13.6	13.9	14.8	15.4	16.7	16.7	19.4	19.8	20.4	21.6
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°	1412.1	1412.1	1412.1
2.5°	1378.5	1385.9	1391.4
5°	1354.7	1360.9	1365.8
7.5°	1331.6	1337.1	1341.4
10°	1309.6	1315.8	1318.9
12.5°	1287.1	1294.2	1296.7
15°	1264.9	1272.0	1275.1
17.5°	1242.1	1251.3	1254.7
20°	1220.8	1232.5	1235.3
22.5°	1199.1	1211.2	1214.6
25°	1175.7	1189.9	1193.3
27.5°	1150.7	1167.7	1171.1
30°	1125.7	1144.2	1147.6
32.5°	1098.8	1118.9	1122.0
35°	1070.7	1090.8	1094.5
37.5°	1039.6	1061.5	1068.9
40°	1007.2	1030.9	1038.6
42.5°	973.2	999.1	1007.2
45°	936.8	965.2	974.4
47.5°	900.1	932.2	940.2
50°	860.2	894.5	904.1
52.5°	818.6	855.9	865.5
55°	775.4	813.0	823.5
57.5°	728.4	767.3	778.4
60°	679.4	718.3	728.7
62.5°	629.1	664.2	674.4
65°	572.9	605.9	615.2
67.5°	513.3	543.6	551.3
70°	450.0	476.3	483.1
72.5°	384.0	402.2	411.1
75°	315.8	330.3	337.1
77.5°	247.2	257.4	263.0
80°	180.3	186.1	190.8
82.5°	117.9	120.4	123.8
85°	63.6	63.6	65.7
87.5°	21.6	20.7	21.6
90°	0.0	0.0	0.0

(END OF REPORT)