

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: P835302

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-2HI-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835302
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-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

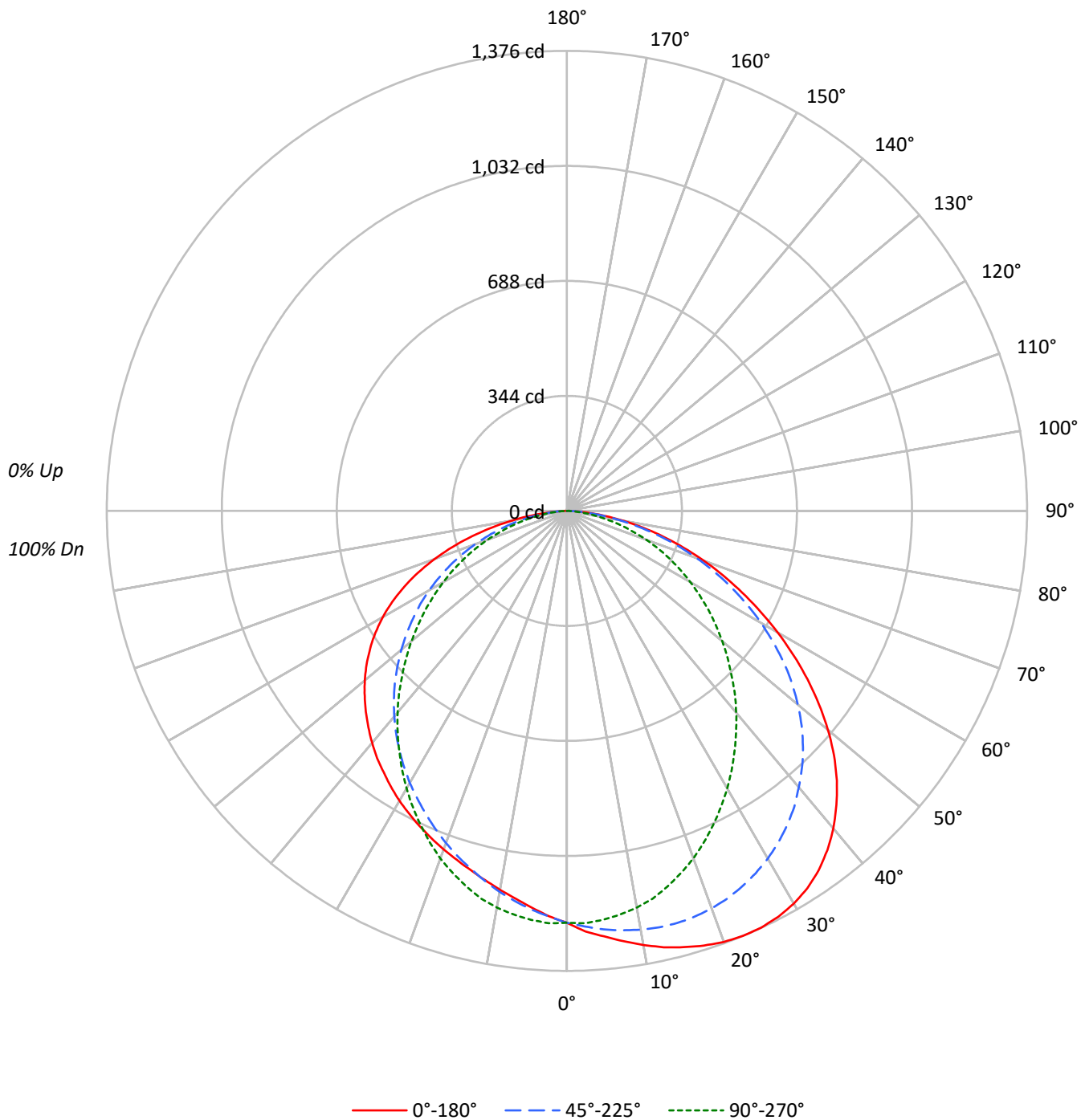
Lumens per Lamp: N/A
Luminaire Lumens: 3623.5 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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	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°	3315	3315	3315
5°	3451	3317	3219
10°	3602	3292	3144
15°	3764	3239	3099
20°	3929	3168	3086
25°	4083	3075	3091
30°	4216	2979	3111
35°	4312	2873	3137
40°	4356	2767	3183
45°	4344	2650	3235
50°	4266	2539	3302
55°	4121	2422	3370
60°	3920	2297	3421
65°	3681	2157	3417
70°	3426	1989	3316
75°	3110	1747	3057
80°	2670	1435	2579
85°	2038	982	1772



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.8	3.2
10°-20°	337.4	9.3
20°-30°	516.9	14.3
30°-40°	630.8	17.4
40°-50°	659.7	18.2
50°-60°	597.0	16.5
60°-70°	452.2	12.5
70°-80°	252.0	7.0
80°-90°	60.8	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°	971.1	26.8
0°-40°	1601.9	44.2
0°-60°	2858.6	78.9
0°-90°	3623.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3623.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1232	1232	1232	1232	1232	
5°	1278	1256	1228	1198	1192	123
15°	1351	1276	1163	1108	1112	383
25°	1375	1240	1036	999	1041	634
35°	1313	1148	874	874	955	820
45°	1141	998	696	727	850	878
55°	878	793	516	562	718	784
65°	578	544	339	385	537	573
75°	299	282	168	201	294	317
85°	66	58	32	42	57	79
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°	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9
2.5°	1259.0	1253.1	1248.3	1250.2	1251.2	1247.5	1244.2	1244.8	1241.5	1247.7	1233.2
5°	1277.6	1272.2	1266.6	1268.7	1266.6	1260.9	1256.4	1255.0	1246.4	1249.9	1235.1
7.5°	1298.4	1292.4	1284.1	1286.5	1281.9	1271.4	1265.5	1262.0	1248.8	1249.1	1232.7
10°	1318.3	1313.2	1301.9	1303.5	1295.1	1281.1	1271.7	1266.9	1248.3	1245.6	1228.6
12.5°	1336.9	1329.9	1317.7	1318.6	1306.4	1287.9	1275.7	1268.7	1244.5	1236.4	1219.7
15°	1351.1	1344.4	1329.9	1329.6	1314.0	1289.7	1276.0	1266.3	1235.6	1223.0	1205.5
17.5°	1363.2	1357.1	1339.0	1338.5	1319.6	1288.9	1272.5	1260.4	1222.7	1207.1	1187.7
20°	1371.9	1365.7	1345.5	1343.6	1321.0	1284.9	1265.2	1249.9	1205.7	1187.2	1165.6
22.5°	1375.9	1369.7	1346.8	1344.1	1317.7	1276.8	1254.7	1236.7	1186.3	1162.1	1139.8
25°	1375.1	1369.2	1343.3	1340.6	1311.6	1264.7	1239.9	1219.2	1161.8	1133.3	1111.2
27.5°	1368.4	1363.8	1336.6	1333.1	1300.2	1248.3	1221.9	1199.0	1134.7	1102.9	1078.9
30°	1356.8	1353.3	1324.5	1321.2	1286.2	1230.2	1200.9	1174.5	1105.3	1069.5	1045.3
32.5°	1338.2	1335.0	1305.9	1302.9	1267.4	1207.1	1176.4	1149.2	1073.3	1033.7	1009.4
35°	1312.6	1310.7	1282.5	1279.2	1243.2	1180.7	1148.1	1118.2	1039.9	995.2	972.0
37.5°	1279.0	1279.0	1251.8	1248.3	1213.0	1148.4	1116.3	1084.6	1002.2	954.8	931.9
40°	1239.9	1243.4	1215.7	1212.2	1178.0	1113.6	1078.6	1045.3	961.5	912.2	889.9
42.5°	1193.1	1196.3	1173.2	1169.9	1137.9	1073.5	1040.9	1004.6	919.0	868.9	845.7
45°	1141.4	1145.7	1125.0	1122.5	1092.6	1029.6	998.4	961.5	874.5	823.7	801.0
47.5°	1083.8	1089.4	1071.4	1070.0	1042.3	984.7	952.1	914.7	828.0	776.5	755.3
50°	1019.1	1027.2	1012.4	1012.4	987.6	930.3	902.0	864.6	779.5	728.1	707.1
52.5°	949.9	960.2	949.1	949.4	929.2	877.8	848.4	811.8	728.9	678.3	658.9
55°	878.3	888.3	881.3	882.4	866.5	819.6	793.0	756.6	677.2	627.9	609.6
57.5°	803.5	814.2	809.7	811.8	800.8	758.8	731.0	699.3	623.9	575.1	559.5
60°	728.3	738.6	736.1	739.1	732.1	695.8	670.5	637.6	570.3	523.4	509.7
62.5°	652.4	661.8	661.3	664.5	660.8	630.6	608.0	580.0	514.8	471.7	459.1
65°	578.1	586.2	585.6	589.1	588.3	564.1	543.6	518.1	459.4	419.8	408.7
67.5°	505.9	512.7	510.8	514.8	515.9	496.5	478.7	455.9	406.6	368.1	358.7
70°	435.4	440.0	437.5	440.2	442.7	428.1	413.0	392.8	350.3	316.4	308.6
72.5°	366.2	369.4	365.7	368.3	370.5	360.0	347.6	330.1	294.8	265.5	259.0
75°	299.1	303.7	295.9	298.6	300.2	289.7	282.5	268.2	237.8	215.1	210.8
77.5°	234.3	236.9	232.6	231.6	232.6	225.1	219.4	208.4	185.5	166.9	164.2
80°	172.3	173.9	169.6	168.6	169.4	164.0	159.7	151.6	135.4	121.4	120.4
82.5°	115.5	116.3	112.5	111.5	112.0	110.4	105.3	99.6	92.1	80.2	80.0
85°	66.0	66.0	63.3	62.2	62.7	60.0	58.2	55.2	52.2	44.2	44.7
87.5°	24.2	24.2	22.9	22.6	25.3	22.3	21.5	20.2	21.0	16.7	17.8
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°	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9	1231.9
2.5°	1237.2	1234.5	1232.1	1223.8	1227.3	1218.7	1218.1	1214.9	1212.5	1207.9	1213.8
5°	1233.2	1227.8	1220.8	1210.9	1213.8	1203.6	1201.4	1197.7	1194.4	1188.5	1193.1
7.5°	1226.7	1217.9	1206.8	1194.2	1198.2	1185.5	1182.3	1178.3	1175.6	1168.6	1172.6
10°	1217.3	1204.7	1191.7	1176.4	1179.3	1165.6	1161.6	1157.3	1154.8	1148.7	1152.7
12.5°	1202.8	1187.4	1169.9	1153.2	1156.5	1143.5	1138.2	1133.6	1132.8	1127.6	1132.5
15°	1183.9	1162.7	1144.6	1126.8	1130.6	1115.5	1113.1	1108.5	1109.9	1106.4	1112.3
17.5°	1160.0	1135.5	1115.8	1096.7	1100.5	1087.8	1085.9	1083.8	1085.1	1084.6	1091.0
20°	1133.0	1106.1	1083.5	1064.6	1066.8	1056.8	1057.6	1057.1	1059.8	1062.8	1071.6
22.5°	1102.6	1072.2	1048.5	1029.1	1032.3	1023.7	1027.5	1028.6	1033.1	1039.9	1051.2
25°	1068.4	1035.8	1011.1	992.8	995.7	990.1	996.5	999.2	1006.5	1017.8	1029.4
27.5°	1032.6	998.1	971.7	954.2	959.9	954.2	963.9	969.3	980.4	992.8	1007.0
30°	994.6	958.8	931.6	916.0	921.4	916.3	931.9	939.2	950.2	967.2	984.1
32.5°	954.8	917.1	890.4	878.3	882.1	881.3	898.8	906.9	921.7	941.1	959.1
35°	913.9	874.5	847.6	837.4	842.0	843.0	864.0	873.5	889.6	913.1	932.4
37.5°	871.6	831.5	805.1	796.7	800.8	804.8	829.3	838.7	857.0	882.6	903.9
40°	827.7	787.6	761.7	755.0	759.0	763.3	790.0	802.9	822.9	850.6	873.7
42.5°	783.3	743.2	718.1	713.3	717.3	725.6	753.9	766.0	787.0	817.7	843.3
45°	738.0	696.3	674.5	670.7	675.0	684.7	712.5	727.0	749.3	783.0	810.5
47.5°	692.3	651.6	630.9	628.4	632.8	643.5	674.2	687.4	711.1	746.9	776.5
50°	645.9	606.4	586.4	585.6	589.7	601.3	630.6	646.2	670.7	710.8	741.3
52.5°	599.1	561.1	543.1	543.1	546.9	558.7	588.3	604.5	629.8	672.1	705.7
55°	552.2	516.2	498.9	500.3	505.7	515.9	544.7	561.7	587.3	631.1	666.7
57.5°	505.4	471.2	455.6	457.5	462.6	472.8	501.1	520.2	543.4	588.9	625.2
60°	459.1	426.8	413.0	415.2	419.8	430.0	459.4	475.8	498.9	545.2	581.6
62.5°	412.2	382.9	370.0	372.7	376.7	386.9	414.7	430.5	453.4	498.9	535.6
65°	365.9	338.7	327.7	330.4	334.1	343.6	369.7	385.0	406.8	451.3	486.3
67.5°	320.1	295.4	286.2	288.9	291.9	300.8	322.3	339.0	359.5	401.7	434.9
70°	274.9	252.8	244.8	247.4	250.1	258.2	277.1	292.4	311.3	350.0	380.7
72.5°	230.2	208.7	204.6	207.1	209.2	216.2	234.3	246.4	262.8	297.3	323.6
75°	186.6	168.0	165.3	167.7	169.6	175.0	190.1	200.6	214.3	244.2	265.8
77.5°	144.6	129.0	127.9	129.8	131.7	135.4	147.3	158.3	169.1	191.2	210.3
80°	105.3	92.6	92.6	94.5	94.0	98.5	106.9	115.8	123.6	139.5	153.5
82.5°	69.5	59.5	60.9	62.2	63.0	64.9	70.0	76.7	81.6	91.3	100.4
85°	38.5	31.8	33.1	34.2	33.7	35.8	38.5	42.5	45.0	49.5	54.4
87.5°	14.3	11.8	12.1	12.9	13.5	14.5	14.5	17.0	17.2	17.8	18.8
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°	1231.9	1231.9	1231.9
2.5°	1202.5	1209.0	1213.8
5°	1181.8	1187.2	1191.5
7.5°	1161.6	1166.4	1170.2
10°	1142.5	1147.8	1150.5
12.5°	1122.8	1129.0	1131.2
15°	1103.4	1109.6	1112.3
17.5°	1083.5	1091.6	1094.5
20°	1064.9	1075.1	1077.6
22.5°	1046.1	1056.6	1059.5
25°	1025.6	1038.0	1040.9
27.5°	1003.8	1018.6	1021.6
30°	982.0	998.1	1001.1
32.5°	958.6	976.1	978.8
35°	934.1	951.6	954.8
37.5°	906.9	926.0	932.4
40°	878.6	899.3	906.1
42.5°	849.0	871.6	878.6
45°	817.2	842.0	850.0
47.5°	785.2	813.2	820.2
50°	750.4	780.3	788.7
52.5°	714.1	746.7	755.0
55°	676.4	709.2	718.4
57.5°	635.4	669.4	679.1
60°	592.6	626.6	635.7
62.5°	548.7	579.4	588.3
65°	499.7	528.6	536.6
67.5°	447.8	474.2	480.9
70°	392.6	415.5	421.4
72.5°	335.0	350.8	358.7
75°	275.5	288.1	294.0
77.5°	215.7	224.6	229.4
80°	157.2	162.4	166.4
82.5°	102.9	105.0	108.0
85°	55.5	55.5	57.4
87.5°	18.8	18.0	18.8
90°	0.0	0.0	0.0

(END OF REPORT)