

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: P834632

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1STD-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834632
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-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

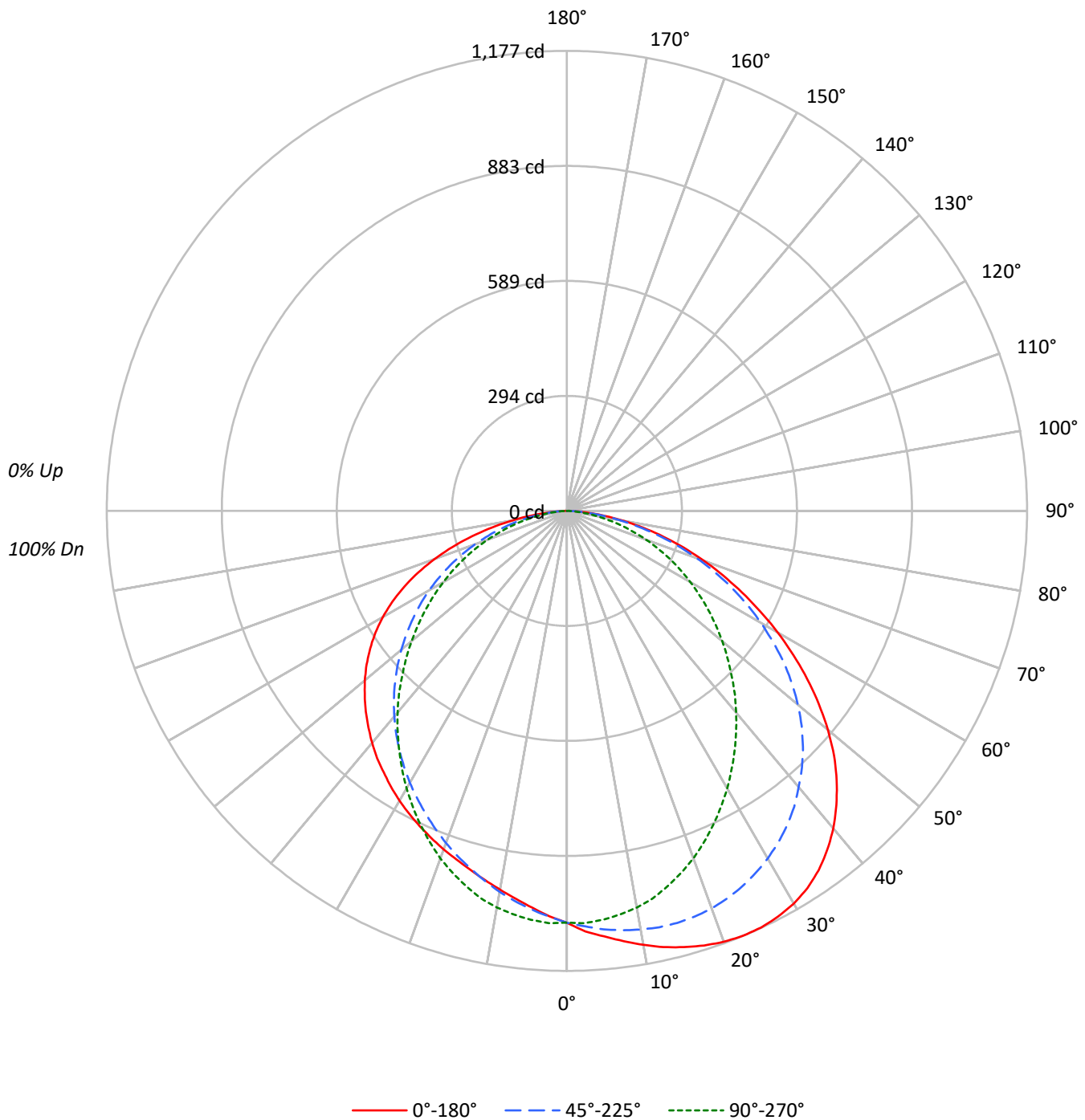
Lumens per Lamp: N/A
Luminaire Lumens: 3098.9 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	1417	1417	1417
5°	1476	1418	1376
10°	1540	1408	1344
15°	1610	1385	1325
20°	1680	1355	1320
25°	1746	1315	1322
30°	1803	1274	1330
35°	1844	1228	1341
40°	1862	1183	1361
45°	1857	1133	1383
50°	1824	1086	1412
55°	1762	1035	1441
60°	1676	982	1463
65°	1574	922	1461
70°	1465	851	1418
75°	1330	747	1307
80°	1142	614	1103
85°	871	420	756

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.9	3.2
10°-20°	288.5	9.3
20°-30°	442.1	14.3
30°-40°	539.5	17.4
40°-50°	564.2	18.2
50°-60°	510.6	16.5
60°-70°	386.7	12.5
70°-80°	215.5	7.0
80°-90°	52.0	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°	830.5	26.8
0°-40°	1370.0	44.2
0°-60°	2444.8	78.9
0°-90°	3098.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3098.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1054	1054	1054	1054	1054	
5°	1093	1074	1050	1024	1019	105
15°	1156	1091	994	948	951	328
25°	1176	1060	886	855	890	543
35°	1123	982	748	747	817	701
45°	976	854	596	622	727	751
55°	751	678	441	480	614	670
65°	494	465	290	329	459	490
75°	256	242	144	172	252	271
85°	56	50	27	36	49	68
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°	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5
2.5°	1076.8	1071.7	1067.6	1069.2	1070.1	1066.9	1064.1	1064.6	1061.8	1067.1	1054.7
5°	1092.7	1088.1	1083.2	1085.1	1083.2	1078.4	1074.5	1073.3	1065.9	1068.9	1056.3
7.5°	1110.4	1105.3	1098.2	1100.3	1096.3	1087.4	1082.3	1079.3	1068.0	1068.3	1054.2
10°	1127.4	1123.1	1113.4	1114.8	1107.6	1095.7	1087.6	1083.4	1067.6	1065.3	1050.8
12.5°	1143.3	1137.3	1127.0	1127.7	1117.3	1101.4	1091.0	1085.1	1064.3	1057.4	1043.2
15°	1155.5	1149.8	1137.3	1137.1	1123.7	1103.0	1091.3	1083.0	1056.7	1045.9	1030.9
17.5°	1165.9	1160.6	1145.2	1144.7	1128.6	1102.3	1088.3	1077.9	1045.7	1032.3	1015.7
20°	1173.3	1168.0	1150.7	1149.1	1129.7	1098.9	1082.1	1068.9	1031.2	1015.3	996.9
22.5°	1176.7	1171.4	1151.8	1149.5	1127.0	1092.0	1073.1	1057.7	1014.6	993.9	974.8
25°	1176.0	1171.0	1148.8	1146.5	1121.7	1081.6	1060.4	1042.7	993.6	969.2	950.3
27.5°	1170.3	1166.3	1143.1	1140.1	1112.0	1067.6	1045.0	1025.4	970.4	943.2	922.7
30°	1160.4	1157.4	1132.7	1130.0	1100.0	1052.1	1027.0	1004.5	945.3	914.7	893.9
32.5°	1144.5	1141.7	1116.8	1114.3	1083.9	1032.3	1006.1	982.8	917.9	884.0	863.3
35°	1122.6	1121.0	1096.8	1094.0	1063.2	1009.8	981.9	956.3	889.3	851.1	831.3
37.5°	1093.8	1093.8	1070.6	1067.6	1037.4	982.1	954.7	927.6	857.1	816.6	797.0
40°	1060.4	1063.4	1039.7	1036.7	1007.5	952.4	922.5	893.9	822.3	780.2	761.1
42.5°	1020.4	1023.1	1003.3	1000.5	973.1	918.1	890.2	859.2	785.9	743.1	723.3
45°	976.1	979.8	962.1	960.0	934.5	880.6	853.9	822.3	747.9	704.4	685.1
47.5°	926.9	931.7	916.3	915.1	891.4	842.1	814.3	782.2	708.1	664.1	645.9
50°	871.6	878.5	865.8	865.8	844.7	795.6	771.4	739.4	666.6	622.7	604.7
52.5°	812.4	821.2	811.7	812.0	794.7	750.7	725.6	694.3	623.4	580.1	563.5
55°	751.2	759.7	753.7	754.6	741.0	701.0	678.2	647.1	579.1	537.0	521.3
57.5°	687.1	696.4	692.4	694.3	684.8	648.9	625.2	598.0	533.5	491.9	478.5
60°	622.9	631.6	629.6	632.1	626.1	595.0	573.4	545.3	487.7	447.7	435.9
62.5°	558.0	566.0	565.6	568.3	565.1	539.3	520.0	496.0	440.3	403.4	392.6
65°	494.4	501.3	500.9	503.8	503.2	482.4	464.9	443.1	392.9	359.0	349.6
67.5°	432.7	438.4	436.8	440.3	441.2	424.6	409.4	389.9	347.7	314.8	306.7
70°	372.4	376.3	374.2	376.5	378.6	366.1	353.2	336.0	299.6	270.6	263.9
72.5°	313.2	315.9	312.7	315.0	316.9	307.9	297.3	282.3	252.2	227.1	221.5
75°	255.8	259.8	253.1	255.4	256.8	247.8	241.6	229.4	203.3	184.0	180.3
77.5°	200.3	202.6	199.0	198.0	199.0	192.5	187.7	178.2	158.7	142.8	140.5
80°	147.4	148.8	145.1	144.2	144.8	140.2	136.6	129.6	115.8	103.9	102.9
82.5°	98.8	99.5	96.3	95.3	95.8	94.4	90.0	85.2	78.8	68.6	68.4
85°	56.4	56.4	54.1	53.2	53.7	51.4	49.7	47.2	44.7	37.8	38.2
87.5°	20.7	20.7	19.6	19.3	21.6	19.1	18.4	17.3	18.0	14.3	15.2
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5	1053.5
2.5°	1058.1	1055.8	1053.7	1046.6	1049.6	1042.2	1041.8	1039.0	1036.9	1033.0	1038.1
5°	1054.7	1050.1	1044.1	1035.6	1038.1	1029.3	1027.5	1024.3	1021.5	1016.4	1020.4
7.5°	1049.1	1041.5	1032.1	1021.3	1024.7	1013.9	1011.1	1007.7	1005.4	999.4	1002.9
10°	1041.1	1030.3	1019.2	1006.1	1008.6	996.9	993.4	989.7	987.7	982.4	985.8
12.5°	1028.6	1015.5	1000.5	986.3	989.0	978.0	973.4	969.5	968.8	964.4	968.5
15°	1012.5	994.3	978.9	963.7	966.9	954.0	952.0	948.0	949.2	946.2	951.3
17.5°	992.0	971.1	954.3	937.9	941.1	930.3	928.7	926.9	928.0	927.6	933.1
20°	969.0	946.0	926.6	910.5	912.4	903.8	904.5	904.1	906.4	908.9	916.5
22.5°	943.0	917.0	896.7	880.1	882.9	875.5	878.7	879.7	883.6	889.3	899.0
25°	913.7	885.9	864.7	849.0	851.6	846.7	852.3	854.6	860.8	870.4	880.3
27.5°	883.1	853.6	831.1	816.1	820.9	816.1	824.4	829.0	838.4	849.0	861.2
30°	850.6	820.0	796.8	783.4	788.0	783.6	797.0	803.2	812.6	827.2	841.7
32.5°	816.6	784.3	761.5	751.2	754.4	753.7	768.7	775.6	788.2	804.8	820.2
35°	781.6	747.9	724.9	716.2	720.1	721.0	739.0	747.0	760.8	780.9	797.4
37.5°	745.4	711.1	688.5	681.4	684.8	688.3	709.3	717.3	733.0	754.8	773.0
40°	707.9	673.6	651.5	645.7	649.1	652.8	675.6	686.7	703.7	727.4	747.2
42.5°	669.9	635.6	614.1	610.0	613.5	620.6	644.8	655.1	673.1	699.3	721.2
45°	631.2	595.5	576.8	573.6	577.3	585.6	609.3	621.7	640.9	669.6	693.1
47.5°	592.0	557.3	539.5	537.5	541.1	550.4	576.6	587.9	608.2	638.8	664.1
50°	552.4	518.6	501.5	500.9	504.3	514.2	539.3	552.7	573.6	607.9	634.0
52.5°	512.4	479.9	464.5	464.5	467.7	477.8	503.2	517.0	538.6	574.8	603.6
55°	472.3	441.4	426.7	427.9	432.5	441.2	465.8	480.4	502.2	539.8	570.2
57.5°	432.2	403.0	389.6	391.2	395.6	404.4	428.5	444.9	464.7	503.6	534.7
60°	392.6	365.0	353.2	355.1	359.0	367.8	392.9	406.9	426.7	466.3	497.4
62.5°	352.6	327.5	316.4	318.7	322.2	330.9	354.6	368.2	387.8	426.7	458.0
65°	312.9	289.7	280.2	282.5	285.8	293.8	316.2	329.3	347.9	385.9	415.9
67.5°	273.8	252.6	244.8	247.1	249.6	257.2	275.6	289.9	307.4	343.6	371.9
70°	235.1	216.2	209.3	211.6	213.9	220.8	237.0	250.1	266.2	299.4	325.6
72.5°	196.9	178.5	175.0	177.1	178.9	184.9	200.3	210.7	224.7	254.2	276.8
75°	159.6	143.7	141.4	143.5	145.1	149.7	162.6	171.6	183.3	208.9	227.3
77.5°	123.7	110.3	109.4	111.0	112.6	115.8	126.0	135.4	144.6	163.5	179.8
80°	90.0	79.2	79.2	80.8	80.4	84.3	91.4	99.0	105.7	119.3	131.3
82.5°	59.4	50.9	52.0	53.2	53.9	55.5	59.9	65.6	69.8	78.1	85.9
85°	32.9	27.2	28.3	29.2	28.8	30.6	32.9	36.4	38.5	42.4	46.5
87.5°	12.2	10.1	10.4	11.1	11.5	12.4	12.4	14.5	14.7	15.2	16.1
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°	1053.5	1053.5	1053.5
2.5°	1028.4	1033.9	1038.1
5°	1010.7	1015.3	1019.0
7.5°	993.4	997.6	1000.8
10°	977.1	981.7	984.0
12.5°	960.3	965.5	967.4
15°	943.7	949.0	951.3
17.5°	926.6	933.5	936.1
20°	910.7	919.5	921.6
22.5°	894.6	903.6	906.1
25°	877.1	887.7	890.2
27.5°	858.5	871.1	873.7
30°	839.8	853.6	856.2
32.5°	819.8	834.8	837.1
35°	798.8	813.8	816.6
37.5°	775.6	791.9	797.4
40°	751.4	769.1	774.9
42.5°	726.1	745.4	751.4
45°	698.9	720.1	727.0
47.5°	671.5	695.4	701.4
50°	641.8	667.3	674.5
52.5°	610.7	638.6	645.7
55°	578.5	606.5	614.4
57.5°	543.5	572.5	580.8
60°	506.8	535.9	543.7
62.5°	469.3	495.6	503.2
65°	427.4	452.0	458.9
67.5°	382.9	405.5	411.3
70°	335.7	355.3	360.4
72.5°	286.5	300.0	306.7
75°	235.6	246.4	251.5
77.5°	184.5	192.1	196.2
80°	134.5	138.9	142.3
82.5°	88.0	89.8	92.3
85°	47.4	47.4	49.0
87.5°	16.1	15.4	16.1
90°	0.0	0.0	0.0

(END OF REPORT)