

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: P834644

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5STD-27-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834644
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-LD4-5STD-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

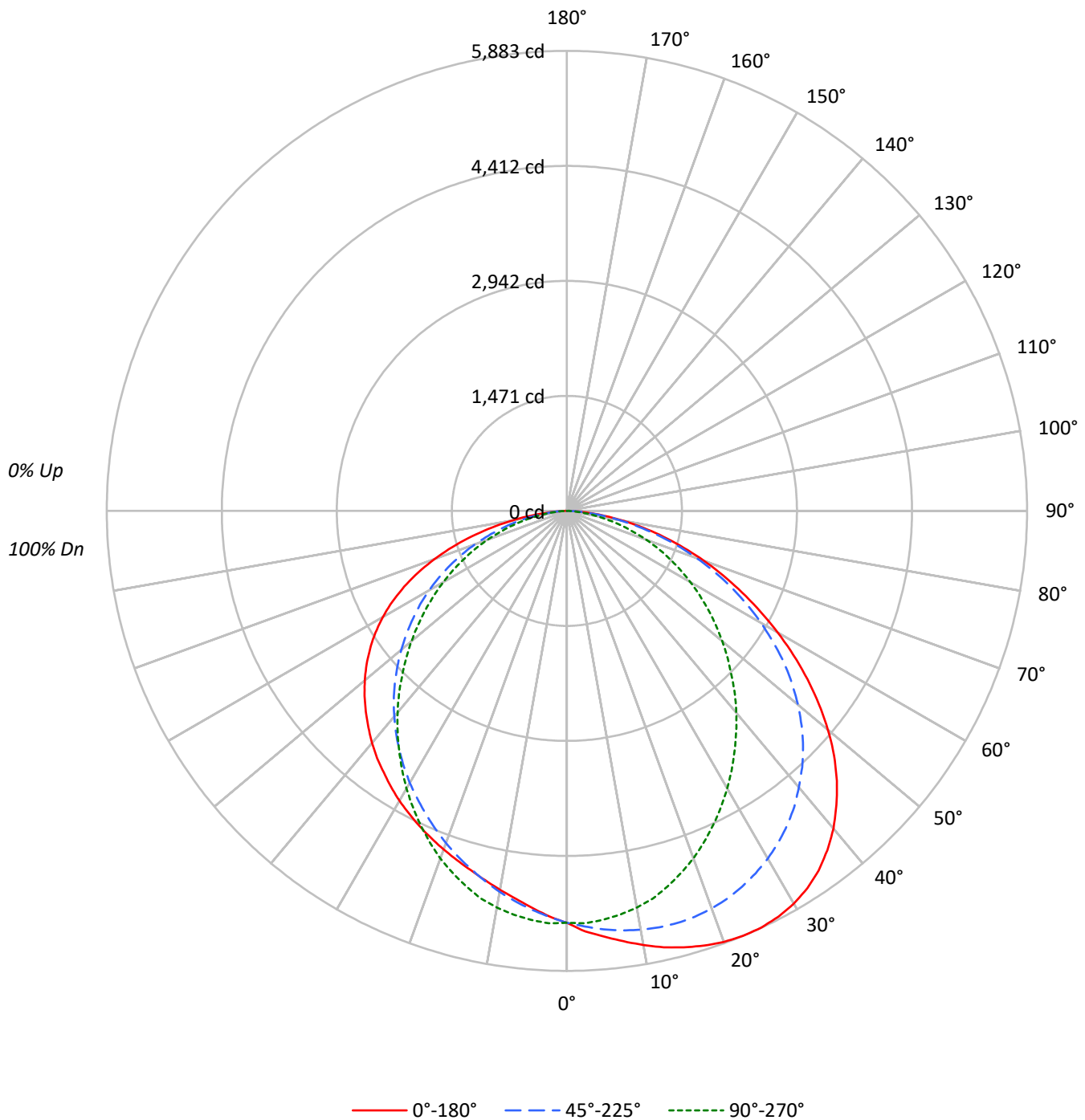
Lumens per Lamp: N/A
Luminaire Lumens: 15494.0 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 166.5
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



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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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7087	7087	7087
5°	7378	7091	6881
10°	7701	7038	6721
15°	8048	6925	6625
20°	8399	6772	6597
25°	8729	6576	6608
30°	9013	6370	6650
35°	9219	6142	6706
40°	9312	5915	6805
45°	9287	5665	6916
50°	9122	5427	7059
55°	8810	5177	7206
60°	8381	4911	7315
65°	7870	4611	7305
70°	7324	4253	7088
75°	6649	3735	6536
80°	5709	3069	5513
85°	4355	2098	3785

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	499.6	3.2
10°-20°	1442.7	9.3
20°-30°	2210.2	14.3
30°-40°	2697.2	17.4
40°-50°	2820.7	18.2
50°-60°	2552.9	16.5
60°-70°	1933.4	12.5
70°-80°	1077.5	7.0
80°-90°	259.9	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°	4152.4	26.8
0°-40°	6849.6	44.2
0°-60°	12223.2	78.9
0°-90°	15494.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15494.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5267	5267	5267	5267	5267	
5°	5463	5372	5250	5121	5095	527
15°	5777	5456	4971	4740	4756	1638
25°	5880	5302	4429	4273	4451	2712
35°	5613	4909	3740	3735	4083	3505
45°	4880	4269	2977	3109	3635	3755
55°	3756	3391	2207	2402	3072	3351
65°	2472	2324	1448	1646	2295	2452
75°	1279	1208	718	858	1257	1357
85°	282	249	136	182	245	339
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°	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3
2.5°	5383.6	5358.3	5337.5	5345.6	5350.2	5334.1	5320.3	5322.6	5308.8	5335.2	5273.1
5°	5463.0	5440.0	5415.8	5425.0	5415.8	5391.7	5372.1	5366.3	5329.5	5344.5	5281.1
7.5°	5551.7	5526.4	5490.7	5501.0	5481.5	5436.6	5411.2	5396.3	5339.8	5341.0	5270.8
10°	5636.9	5615.0	5566.7	5573.6	5537.9	5478.0	5437.7	5417.0	5337.5	5326.0	5253.5
12.5°	5716.3	5686.4	5634.6	5638.0	5586.2	5506.8	5455.0	5425.0	5321.4	5286.9	5215.5
15°	5777.4	5748.6	5686.4	5685.2	5618.5	5514.9	5456.1	5414.7	5283.4	5229.3	5154.5
17.5°	5829.2	5802.7	5725.5	5723.2	5642.6	5511.4	5441.2	5389.4	5228.2	5161.4	5078.5
20°	5866.0	5839.5	5753.2	5745.1	5648.4	5494.1	5410.1	5344.5	5155.6	5076.2	4984.1
22.5°	5883.3	5856.8	5758.9	5747.4	5634.6	5459.6	5365.2	5288.0	5072.7	4969.1	4873.6
25°	5879.8	5854.5	5744.0	5732.5	5608.1	5407.8	5301.9	5213.2	4968.0	4845.9	4751.5
27.5°	5851.0	5831.5	5715.2	5700.2	5559.8	5337.5	5224.7	5126.9	4851.7	4715.8	4613.4
30°	5801.5	5786.6	5663.4	5649.6	5499.9	5260.4	5134.9	5022.1	4726.2	4573.1	4469.4
32.5°	5722.1	5708.3	5583.9	5571.3	5419.3	5161.4	5030.1	4913.9	4589.2	4419.9	4316.3
35°	5612.7	5604.7	5483.8	5469.9	5315.7	5048.6	4909.3	4781.5	4446.4	4255.3	4156.3
37.5°	5468.8	5468.8	5352.5	5337.5	5186.7	4910.4	4773.4	4637.5	4285.2	4082.6	3984.7
40°	5301.9	5316.8	5198.2	5183.3	5037.1	4761.9	4612.2	4469.4	4111.4	3900.7	3805.1
42.5°	5101.5	5115.3	5016.3	5002.5	4865.5	4590.3	4451.0	4295.6	3929.5	3715.3	3616.3
45°	4880.5	4898.9	4810.2	4799.9	4672.1	4402.7	4269.1	4111.4	3739.5	3521.9	3425.2
47.5°	4634.1	4658.3	4581.1	4575.4	4456.8	4210.4	4071.1	3911.1	3540.3	3320.4	3229.5
50°	4357.8	4392.3	4329.0	4329.0	4223.1	3977.8	3856.9	3696.9	3333.1	3113.2	3023.4
52.5°	4061.9	4105.6	4058.4	4059.6	3973.2	3753.3	3627.8	3471.2	3116.6	2900.2	2817.3
55°	3755.6	3798.2	3768.3	3772.9	3705.0	3504.6	3390.7	3235.2	2895.6	2684.9	2606.6
57.5°	3435.6	3481.6	3462.0	3471.2	3424.0	3244.4	3125.8	2990.0	2667.6	2459.2	2392.5
60°	3114.3	3158.1	3147.7	3160.4	3130.5	2975.0	2866.8	2726.3	2438.5	2238.2	2179.5
62.5°	2789.7	2830.0	2827.7	2841.5	2825.4	2696.4	2599.7	2480.0	2201.3	2017.1	1963.0
65°	2471.9	2506.4	2504.1	2519.1	2515.6	2412.0	2324.5	2215.2	1964.2	1794.9	1747.7
67.5°	2163.3	2192.1	2184.1	2201.3	2205.9	2123.0	2047.1	1949.2	1738.5	1573.9	1533.6
70°	1861.7	1881.3	1870.9	1882.4	1892.8	1830.6	1766.1	1679.8	1497.9	1352.8	1319.4
72.5°	1565.8	1579.6	1563.5	1575.0	1584.2	1539.3	1486.4	1411.5	1260.7	1135.2	1107.6
75°	1279.1	1298.7	1265.3	1276.8	1283.7	1238.8	1207.7	1146.7	1016.6	919.9	901.5
77.5°	1001.7	1013.2	994.7	990.1	994.7	962.5	938.3	891.1	793.3	713.8	702.3
80°	736.8	743.8	725.3	720.7	724.2	701.2	682.7	648.2	579.1	519.2	514.6
82.5°	493.9	497.4	481.3	476.6	479.0	472.0	450.2	426.0	393.8	343.1	341.9
85°	282.1	282.1	270.6	266.0	268.3	256.7	248.7	236.0	223.4	188.8	191.1
87.5°	103.6	103.6	97.9	96.7	108.2	95.6	92.1	86.3	89.8	71.4	76.0
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°	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3	5267.3
2.5°	5290.3	5278.8	5268.5	5232.8	5247.7	5210.9	5208.6	5194.8	5184.4	5164.8	5190.2
5°	5273.1	5250.0	5220.1	5177.5	5190.2	5146.4	5137.2	5121.1	5107.3	5082.0	5101.5
7.5°	5245.4	5207.4	5160.2	5106.1	5123.4	5069.3	5055.5	5038.2	5026.7	4996.8	5014.0
10°	5205.1	5151.0	5095.8	5030.1	5042.8	4984.1	4966.8	4948.4	4938.0	4911.6	4928.8
12.5°	5143.0	5077.3	5002.5	4931.1	4944.9	4889.7	4866.7	4847.1	4843.6	4821.8	4842.5
15°	5062.4	4971.4	4894.3	4818.3	4834.4	4769.9	4759.6	4740.0	4745.8	4730.8	4756.1
17.5°	4959.9	4855.1	4771.1	4689.3	4705.5	4651.4	4643.3	4634.1	4639.8	4637.5	4665.2
20°	4844.8	4729.6	4632.9	4552.3	4561.6	4519.0	4522.4	4520.1	4531.6	4544.3	4582.3
22.5°	4714.7	4584.6	4483.3	4400.4	4414.2	4377.3	4393.5	4398.1	4417.6	4446.4	4494.8
25°	4568.5	4429.2	4323.2	4244.9	4257.6	4233.4	4261.1	4272.6	4303.7	4352.0	4401.5
27.5°	4415.3	4268.0	4155.1	4080.3	4104.5	4080.3	4121.7	4144.8	4192.0	4244.9	4306.0
30°	4253.0	4099.9	3983.6	3916.8	3939.8	3918.0	3984.7	4015.8	4063.0	4135.6	4208.1
32.5°	4082.6	3921.4	3807.4	3755.6	3771.7	3768.3	3843.1	3877.7	3941.0	4023.9	4101.0
35°	3907.6	3739.5	3624.4	3580.6	3600.2	3604.8	3694.6	3734.9	3804.0	3904.1	3987.0
37.5°	3726.8	3555.3	3442.5	3406.8	3424.0	3441.3	3546.1	3586.4	3664.7	3774.0	3865.0
40°	3539.2	3367.6	3257.1	3228.3	3245.6	3264.0	3378.0	3433.3	3518.5	3637.0	3736.1
42.5°	3349.2	3177.7	3070.6	3049.9	3067.1	3102.8	3223.7	3275.5	3365.3	3496.6	3606.0
45°	3155.8	2977.3	2884.1	2868.0	2886.4	2927.8	3046.4	3108.6	3204.1	3348.1	3465.5
47.5°	2960.1	2786.2	2697.6	2687.2	2705.6	2751.7	2882.9	2939.3	3040.7	3193.8	3320.4
50°	2762.0	2592.8	2507.6	2504.1	2521.4	2570.9	2696.4	2763.2	2868.0	3039.5	3169.6
52.5°	2561.7	2399.4	2322.2	2322.2	2338.3	2389.0	2515.6	2584.7	2693.0	2873.7	3017.6
55°	2361.4	2207.1	2133.4	2139.2	2162.2	2205.9	2329.1	2401.7	2511.0	2698.7	2850.7
57.5°	2161.0	2014.8	1948.0	1956.1	1978.0	2021.7	2142.6	2224.4	2323.4	2517.9	2673.4
60°	1963.0	1824.9	1766.1	1775.3	1794.9	1838.7	1964.2	2034.4	2133.4	2331.4	2486.9
62.5°	1762.7	1637.2	1581.9	1593.4	1610.7	1654.5	1773.0	1841.0	1938.8	2133.4	2290.0
65°	1564.7	1448.4	1401.2	1412.7	1428.8	1469.1	1580.8	1646.4	1739.7	1929.6	2079.3
67.5°	1368.9	1263.0	1223.9	1235.4	1248.0	1286.0	1378.1	1449.5	1537.0	1717.8	1859.4
70°	1175.5	1081.1	1046.6	1058.1	1069.6	1104.1	1184.7	1250.3	1330.9	1496.7	1628.0
72.5°	984.4	892.3	875.0	885.4	894.6	924.5	1001.7	1053.5	1123.7	1271.1	1383.9
75°	797.9	718.4	706.9	717.3	725.3	748.4	812.8	857.7	916.5	1044.3	1136.4
77.5°	618.3	551.5	546.9	554.9	563.0	579.1	629.8	677.0	723.0	817.4	899.2
80°	450.2	396.1	396.1	404.1	401.8	421.4	457.1	495.1	528.5	596.4	656.3
82.5°	297.0	254.4	260.2	266.0	269.4	277.5	299.3	328.1	348.9	390.3	429.4
85°	164.6	135.9	141.6	146.2	143.9	153.1	164.6	181.9	192.3	211.8	232.6
87.5°	61.0	50.7	51.8	55.3	57.6	62.2	62.2	72.5	73.7	76.0	80.6
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°	5267.3	5267.3	5267.3
2.5°	5141.8	5169.5	5190.2
5°	5053.2	5076.2	5094.6
7.5°	4966.8	4987.5	5003.7
10°	4885.1	4908.1	4919.6
12.5°	4801.0	4827.5	4836.7
15°	4718.1	4744.6	4756.1
17.5°	4632.9	4667.5	4680.1
20°	4553.5	4597.2	4607.6
22.5°	4472.9	4517.8	4530.5
25°	4385.4	4438.4	4451.0
27.5°	4292.1	4355.5	4368.1
30°	4198.9	4268.0	4280.6
32.5°	4098.7	4173.6	4185.1
35°	3993.9	4068.8	4082.6
37.5°	3877.7	3959.4	3987.0
40°	3756.8	3845.4	3874.2
42.5°	3630.1	3726.8	3756.8
45°	3494.3	3600.2	3634.7
47.5°	3357.3	3477.0	3506.9
50°	3208.7	3336.5	3372.2
52.5°	3053.3	3192.6	3228.3
55°	2892.1	3032.6	3071.7
57.5°	2717.1	2862.2	2903.6
60°	2534.1	2679.1	2718.3
62.5°	2346.4	2477.7	2515.6
65°	2136.9	2260.1	2294.6
67.5°	1914.7	2027.5	2056.3
70°	1678.6	1776.5	1801.8
72.5°	1432.2	1500.2	1533.6
75°	1177.8	1231.9	1257.2
77.5°	922.2	960.2	980.9
80°	672.4	694.2	711.5
82.5°	439.8	449.0	461.7
85°	237.2	237.2	245.2
87.5°	80.6	77.1	80.6
90°	0.0	0.0	0.0

(END OF REPORT)