

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: P834647

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6STD-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834647
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-LD4-6STD-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

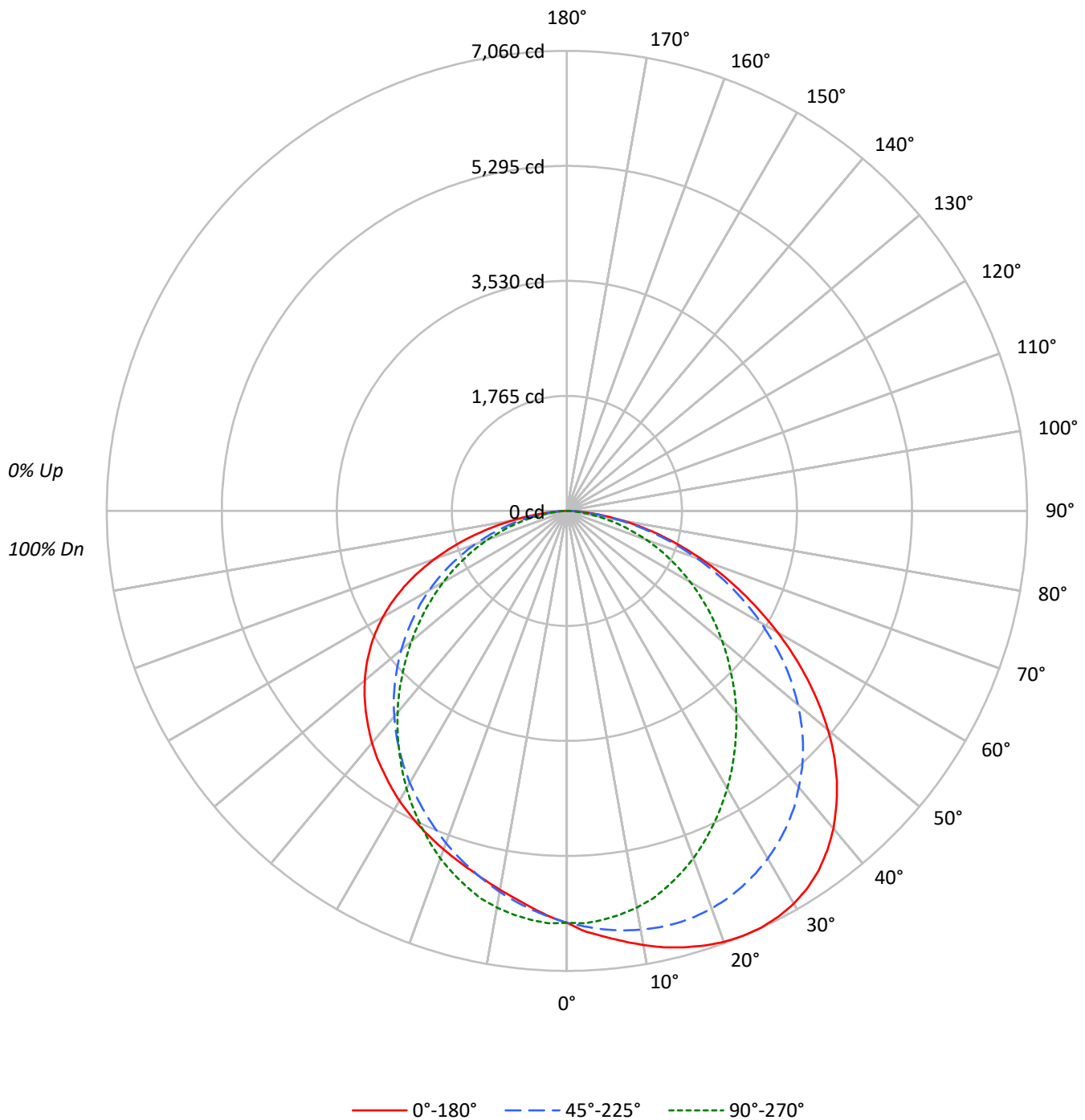
Lumens per Lamp: N/A
Luminaire Lumens: 18593.7 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 199.8
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°	8505	8505	8505
5°	8855	8510	8257
10°	9242	8445	8066
15°	9658	8310	7950
20°	10079	8127	7917
25°	10475	7891	7930
30°	10817	7644	7981
35°	11063	7371	8047
40°	11175	7098	8166
45°	11144	6799	8300
50°	10947	6513	8471
55°	10572	6213	8647
60°	10057	5893	8778
65°	9444	5534	8767
70°	8789	5104	8506
75°	7980	4482	7844
80°	6852	3683	6616
85°	5226	2516	4543

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	599.5	3.2
10°-20°	1731.3	9.3
20°-30°	2652.3	14.3
30°-40°	3236.8	17.4
40°-50°	3385.0	18.2
50°-60°	3063.6	16.5
60°-70°	2320.2	12.5
70°-80°	1293.0	7.0
80°-90°	311.9	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°	4983.1	26.8
0°-40°	8219.9	44.2
0°-60°	14668.5	78.9
0°-90°	18593.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18593.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6321	6321	6321	6321	6321	
5°	6556	6447	6300	6146	6114	632
15°	6933	6548	5966	5688	5708	1966
25°	7056	6362	5315	5127	5342	3255
35°	6736	5891	4488	4482	4899	4206
45°	5857	5123	3573	3730	4362	4506
55°	4507	4069	2649	2882	3686	4022
65°	2966	2790	1738	1976	2754	2943
75°	1535	1449	862	1029	1509	1628
85°	338	298	163	218	294	407
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°	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1
2.5°	6460.6	6430.2	6405.4	6415.0	6420.6	6401.2	6384.6	6387.4	6370.8	6402.6	6328.0
5°	6556.0	6528.3	6499.3	6510.4	6499.3	6470.3	6446.8	6439.9	6395.7	6413.7	6337.7
7.5°	6662.3	6632.0	6589.1	6601.6	6578.1	6524.2	6493.8	6475.8	6408.1	6409.5	6325.2
10°	6764.6	6738.3	6680.3	6688.6	6645.8	6573.9	6525.6	6500.7	6405.4	6391.5	6304.5
12.5°	6859.9	6824.0	6761.8	6766.0	6703.8	6608.5	6546.3	6510.4	6386.0	6344.6	6258.9
15°	6933.2	6898.6	6824.0	6822.6	6742.5	6618.1	6547.7	6497.9	6340.4	6275.5	6185.7
17.5°	6995.3	6963.6	6871.0	6868.2	6771.5	6614.0	6529.7	6467.5	6274.1	6194.0	6094.5
20°	7039.5	7007.8	6904.1	6894.5	6778.4	6593.3	6492.4	6413.7	6187.1	6091.7	5981.2
22.5°	7060.3	7028.5	6911.0	6897.2	6761.8	6551.8	6438.5	6345.9	6087.6	5963.2	5848.6
25°	7056.1	7025.7	6893.1	6879.3	6730.1	6489.6	6362.5	6256.1	5961.8	5815.4	5702.1
27.5°	7021.6	6998.1	6858.5	6840.6	6672.0	6405.4	6270.0	6152.5	5822.3	5659.3	5536.3
30°	6962.2	6944.2	6796.4	6779.8	6600.2	6312.8	6162.2	6026.8	5671.7	5487.9	5363.6
32.5°	6866.8	6850.3	6701.0	6685.8	6503.5	6194.0	6036.5	5896.9	5507.3	5304.2	5179.8
35°	6735.6	6725.9	6580.8	6564.3	6379.1	6058.6	5891.4	5738.0	5336.0	5106.6	4987.8
37.5°	6562.9	6562.9	6423.3	6405.4	6224.4	5892.8	5728.3	5565.3	5142.5	4899.4	4781.9
40°	6362.5	6380.5	6238.2	6220.2	6044.7	5714.5	5534.9	5363.6	4933.9	4681.1	4566.4
42.5°	6122.1	6138.7	6019.9	6003.3	5838.9	5508.7	5341.5	5155.0	4715.6	4458.6	4339.8
45°	5856.8	5878.9	5772.6	5760.1	5606.8	5283.5	5123.2	4933.9	4487.6	4226.5	4110.4
47.5°	5561.2	5590.2	5497.6	5490.7	5348.4	5052.7	4885.5	4693.5	4248.6	3984.7	3875.5
50°	5229.6	5271.0	5195.0	5195.0	5067.9	4773.6	4628.6	4436.5	3999.9	3736.0	3628.2
52.5°	4874.5	4927.0	4870.3	4871.7	4768.1	4504.2	4353.6	4165.7	3740.1	3480.4	3380.9
55°	4507.0	4558.1	4522.2	4527.7	4446.2	4205.8	4069.0	3882.5	3474.9	3222.0	3128.1
57.5°	4122.9	4178.1	4154.6	4165.7	4109.0	3893.5	3751.2	3588.2	3201.3	2951.2	2871.1
60°	3737.4	3789.9	3777.4	3792.6	3756.7	3570.2	3440.3	3271.8	2926.3	2685.9	2615.5
62.5°	3347.8	3396.1	3393.3	3409.9	3390.6	3235.8	3119.8	2976.1	2641.7	2420.7	2355.7
65°	2966.4	3007.9	3005.1	3023.1	3018.9	2894.6	2789.6	2658.3	2357.1	2154.0	2097.4
67.5°	2596.1	2630.7	2621.0	2641.7	2647.3	2547.8	2456.6	2339.1	2086.3	1888.7	1840.4
70°	2234.1	2257.6	2245.2	2259.0	2271.4	2196.8	2119.5	2015.8	1797.5	1623.4	1583.4
72.5°	1879.1	1895.6	1876.3	1890.1	1901.2	1847.3	1783.7	1693.9	1512.9	1362.3	1329.2
75°	1535.0	1558.5	1518.4	1532.3	1540.5	1486.7	1449.4	1376.1	1220.0	1103.9	1081.8
77.5°	1202.0	1215.9	1193.8	1188.2	1193.8	1155.1	1126.1	1069.4	952.0	856.6	842.8
80°	884.3	892.6	870.4	864.9	869.1	841.4	819.3	777.9	695.0	623.1	617.6
82.5°	592.7	596.9	577.5	572.0	574.8	566.5	540.2	511.2	472.5	411.7	410.4
85°	338.5	338.5	324.7	319.2	321.9	308.1	298.4	283.2	268.0	226.6	229.4
87.5°	124.3	124.3	117.4	116.1	129.9	114.7	110.5	103.6	107.8	85.7	91.2
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°	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1	6321.1
2.5°	6348.7	6334.9	6322.5	6279.6	6297.6	6253.4	6250.6	6234.0	6221.6	6198.1	6228.5
5°	6328.0	6300.4	6264.4	6213.3	6228.5	6176.0	6165.0	6145.6	6129.0	6098.6	6122.1
7.5°	6294.8	6249.2	6192.6	6127.6	6148.4	6083.4	6066.9	6046.1	6032.3	5996.4	6017.1
10°	6246.5	6181.5	6115.2	6036.5	6051.7	5981.2	5960.5	5938.4	5925.9	5894.1	5914.9
12.5°	6171.9	6093.1	6003.3	5917.6	5934.2	5867.9	5840.3	5816.8	5812.6	5786.4	5811.2
15°	6075.1	5966.0	5873.4	5782.2	5801.6	5724.2	5711.8	5688.3	5695.2	5677.2	5707.6
17.5°	5952.2	5826.4	5725.6	5627.5	5646.8	5581.9	5572.2	5561.2	5568.1	5565.3	5598.5
20°	5814.0	5675.8	5559.8	5463.1	5474.1	5423.0	5427.1	5424.4	5438.2	5453.4	5499.0
22.5°	5657.9	5501.8	5380.2	5280.7	5297.3	5253.1	5272.4	5277.9	5301.4	5336.0	5394.0
25°	5482.4	5315.2	5188.1	5094.2	5109.4	5080.4	5113.5	5127.3	5164.6	5222.7	5282.1
27.5°	5298.7	5121.8	4986.4	4896.6	4925.6	4896.6	4946.3	4974.0	5030.6	5094.2	5167.4
30°	5103.8	4920.1	4780.5	4700.4	4728.0	4701.8	4781.9	4819.2	4875.9	4962.9	5050.0
32.5°	4899.4	4705.9	4569.1	4507.0	4526.3	4522.2	4612.0	4653.4	4729.4	4828.9	4921.5
35°	4689.3	4487.6	4349.5	4297.0	4320.4	4326.0	4433.7	4482.1	4565.0	4685.2	4784.7
37.5°	4472.4	4266.6	4131.2	4088.3	4109.0	4129.8	4255.5	4303.9	4397.8	4529.1	4638.2
40°	4247.2	4041.3	3908.7	3874.2	3894.9	3917.0	4053.8	4120.1	4222.3	4364.7	4483.5
42.5°	4019.2	3813.4	3684.9	3660.0	3680.7	3723.6	3868.6	3930.8	4038.6	4196.1	4327.3
45°	3787.1	3573.0	3461.1	3441.7	3463.8	3513.6	3655.9	3730.5	3845.2	4017.9	4158.8
47.5°	3552.2	3343.6	3237.2	3224.8	3246.9	3302.2	3459.7	3527.4	3649.0	3832.7	3984.7
50°	3314.6	3111.5	3009.2	3005.1	3025.8	3085.2	3235.8	3316.0	3441.7	3647.6	3803.7
52.5°	3074.2	2879.4	2786.8	2786.8	2806.1	2866.9	3018.9	3101.8	3231.7	3448.6	3621.3
55°	2833.8	2648.6	2560.2	2567.1	2594.8	2647.3	2795.1	2882.1	3013.4	3238.6	3421.0
57.5°	2593.4	2417.9	2337.8	2347.4	2373.7	2426.2	2571.3	2669.4	2788.2	3021.7	3208.2
60°	2355.7	2189.9	2119.5	2130.5	2154.0	2206.5	2357.1	2441.4	2560.2	2797.9	2984.4
62.5°	2115.3	1964.7	1898.4	1912.2	1932.9	1985.4	2127.8	2209.3	2326.7	2560.2	2748.1
65°	1877.7	1738.1	1681.5	1695.3	1714.6	1763.0	1897.0	1975.8	2087.7	2315.7	2495.3
67.5°	1642.8	1515.7	1468.7	1482.5	1497.7	1543.3	1653.8	1739.5	1844.5	2061.4	2231.4
70°	1410.7	1297.4	1255.9	1269.7	1283.6	1325.0	1421.7	1500.5	1597.2	1796.2	1953.7
72.5°	1181.3	1070.8	1050.1	1062.5	1073.5	1109.5	1202.0	1264.2	1348.5	1525.3	1660.8
75°	957.5	862.2	848.3	860.8	870.4	898.1	975.4	1029.3	1099.8	1253.2	1363.7
77.5°	741.9	661.8	656.3	666.0	675.6	695.0	755.8	812.4	867.7	981.0	1079.1
80°	540.2	475.3	475.3	485.0	482.2	505.7	548.5	594.1	634.2	715.7	787.5
82.5°	356.5	305.3	312.3	319.2	323.3	333.0	359.2	393.8	418.6	468.4	515.4
85°	197.6	163.0	169.9	175.5	172.7	183.8	197.6	218.3	230.7	254.2	279.1
87.5°	73.2	60.8	62.2	66.3	69.1	74.6	74.6	87.0	88.4	91.2	96.7
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°	6321.1	6321.1	6321.1
2.5°	6170.5	6203.6	6228.5
5°	6064.1	6091.7	6113.8
7.5°	5960.5	5985.3	6004.7
10°	5862.4	5890.0	5903.8
12.5°	5761.5	5793.3	5804.3
15°	5662.0	5693.8	5707.6
17.5°	5559.8	5601.2	5616.4
20°	5464.5	5517.0	5529.4
22.5°	5367.7	5421.6	5436.8
25°	5262.7	5326.3	5341.5
27.5°	5150.8	5226.8	5242.0
30°	5038.9	5121.8	5137.0
32.5°	4918.7	5008.5	5022.3
35°	4793.0	4882.8	4899.4
37.5°	4653.4	4751.5	4784.7
40°	4508.3	4614.7	4649.3
42.5°	4356.4	4472.4	4508.3
45°	4193.3	4320.4	4361.9
47.5°	4028.9	4172.6	4208.5
50°	3850.7	4004.0	4046.9
52.5°	3664.2	3831.3	3874.2
55°	3470.7	3639.3	3686.3
57.5°	3260.7	3434.8	3484.5
60°	3041.0	3215.1	3262.1
62.5°	2815.8	2973.3	3018.9
65°	2564.4	2712.2	2753.6
67.5°	2297.7	2433.1	2467.6
70°	2014.5	2131.9	2162.3
72.5°	1718.8	1800.3	1840.4
75°	1413.4	1478.4	1508.8
77.5°	1106.7	1152.3	1177.2
80°	806.9	833.1	853.9
82.5°	527.8	538.8	554.0
85°	284.6	284.6	294.3
87.5°	96.7	92.6	96.7
90°	0.0	0.0	0.0

(END OF REPORT)