

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: P834645

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834645
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-LD4-5HI-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

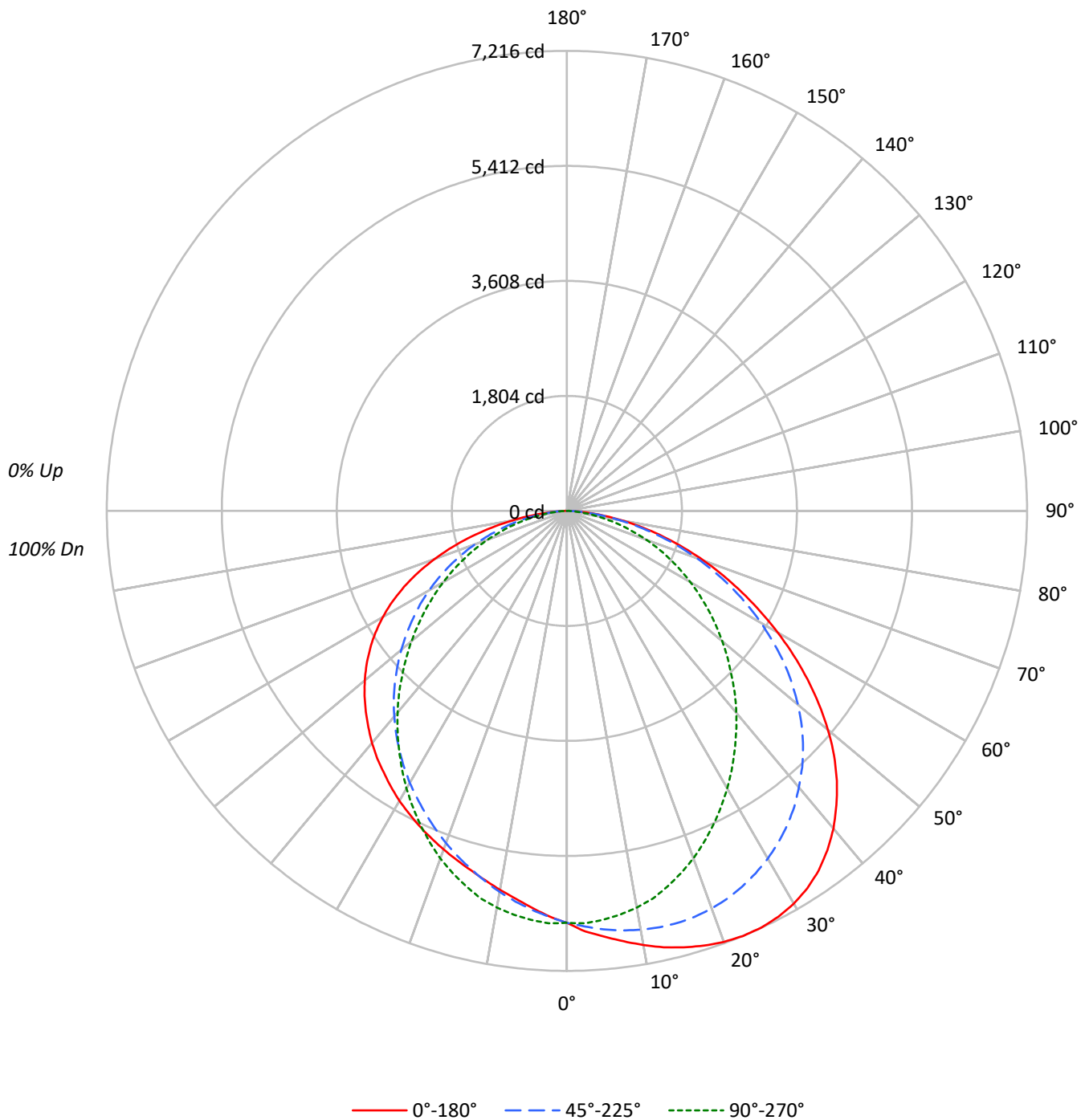
Lumens per Lamp: N/A
Luminaire Lumens: 19005.1 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 220
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
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°	8693	8693	8693
5°	9051	8698	8440
10°	9447	8632	8245
15°	9871	8494	8126
20°	10303	8307	8092
25°	10707	8066	8105
30°	11056	7813	8158
35°	11308	7534	8226
40°	11422	7255	8347
45°	11391	6949	8483
50°	11189	6657	8658
55°	10806	6351	8838
60°	10280	6023	8973
65°	9653	5656	8961
70°	8984	5217	8694
75°	8157	4581	8017
80°	7003	3764	6763
85°	5341	2572	4644

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	612.8	3.2
10°-20°	1769.6	9.3
20°-30°	2711.0	14.3
30°-40°	3308.4	17.4
40°-50°	3459.9	18.2
50°-60°	3131.4	16.5
60°-70°	2371.6	12.5
70°-80°	1321.6	7.0
80°-90°	318.8	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°	5093.4	26.8
0°-40°	8401.8	44.2
0°-60°	14993.1	78.9
0°-90°	19005.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19005.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6461	6461	6461	6461	6461	
5°	6701	6590	6440	6282	6249	646
15°	7087	6693	6098	5814	5834	2010
25°	7212	6503	5433	5241	5460	3327
35°	6885	6022	4587	4581	5008	4299
45°	5986	5237	3652	3813	4458	4606
55°	4607	4159	2707	2946	3768	4111
65°	3032	2851	1777	2020	2815	3008
75°	1569	1481	881	1052	1542	1664
85°	346	305	167	223	301	416
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°	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0
2.5°	6603.6	6572.5	6547.1	6557.0	6562.6	6542.9	6525.9	6528.7	6511.8	6544.3	6468.0
5°	6701.0	6672.8	6643.1	6654.4	6643.1	6613.5	6589.5	6582.4	6537.2	6555.6	6477.9
7.5°	6809.8	6778.7	6734.9	6747.6	6723.6	6668.6	6637.5	6619.1	6549.9	6551.3	6465.2
10°	6914.3	6887.5	6828.1	6836.6	6792.8	6719.4	6670.0	6644.6	6547.1	6533.0	6444.0
12.5°	7011.7	6975.0	6911.5	6915.7	6852.2	6754.7	6691.2	6654.4	6527.3	6485.0	6397.4
15°	7086.6	7051.3	6975.0	6973.6	6891.7	6764.6	6692.6	6641.7	6480.7	6414.4	6322.6
17.5°	7150.1	7117.7	7023.0	7020.2	6921.4	6760.4	6674.2	6610.7	6412.9	6331.0	6229.4
20°	7195.3	7162.8	7056.9	7047.0	6928.4	6739.2	6636.1	6555.6	6324.0	6226.5	6113.6
22.5°	7216.5	7184.0	7064.0	7049.9	6911.5	6696.8	6581.0	6486.4	6222.3	6095.2	5978.0
25°	7212.3	7181.2	7045.6	7031.5	6879.0	6633.3	6503.3	6394.6	6093.8	5944.1	5828.3
27.5°	7177.0	7153.0	7010.3	6992.0	6819.7	6547.1	6408.7	6288.7	5951.1	5784.5	5658.8
30°	7116.2	7097.9	6946.8	6929.8	6746.2	6452.5	6298.6	6160.2	5797.2	5609.4	5482.3
32.5°	7018.8	7001.8	6849.3	6833.8	6647.4	6331.0	6170.0	6027.4	5629.2	5421.6	5294.5
35°	6884.6	6874.7	6726.5	6709.5	6520.3	6192.6	6021.8	5865.0	5454.0	5219.6	5098.2
37.5°	6708.1	6708.1	6565.5	6547.1	6362.1	6023.2	5855.1	5688.5	5256.3	5007.8	4887.7
40°	6503.3	6521.7	6376.2	6357.9	6178.5	5841.0	5657.4	5482.3	5043.1	4784.6	4667.4
42.5°	6257.6	6274.5	6153.1	6136.1	5968.1	5630.6	5459.7	5269.0	4819.9	4557.3	4435.8
45°	5986.5	6009.0	5900.3	5887.6	5730.8	5400.4	5236.6	5043.1	4586.9	4320.0	4201.4
47.5°	5684.2	5713.9	5619.3	5612.2	5466.8	5164.5	4993.7	4797.4	4342.6	4072.9	3961.3
50°	5345.3	5387.7	5310.0	5310.0	5180.1	4879.3	4731.0	4534.7	4088.4	3818.7	3708.5
52.5°	4982.4	5036.0	4978.1	4979.5	4873.6	4603.9	4449.9	4257.9	3822.9	3557.4	3455.7
55°	4606.7	4659.0	4622.2	4627.9	4544.6	4298.8	4159.0	3968.4	3551.8	3293.3	3197.3
57.5°	4214.1	4270.6	4246.6	4257.9	4200.0	3979.7	3834.2	3667.6	3272.1	3016.5	2934.6
60°	3820.1	3873.8	3861.0	3876.6	3839.9	3649.2	3516.5	3344.2	2991.1	2745.4	2673.4
62.5°	3421.8	3471.3	3468.4	3485.4	3465.6	3307.4	3188.8	3041.9	2700.2	2474.2	2407.9
65°	3032.1	3074.4	3071.6	3090.0	3085.7	2958.6	2851.3	2717.1	2409.3	2201.7	2143.8
67.5°	2653.6	2688.9	2679.0	2700.2	2705.8	2604.2	2510.9	2390.9	2132.5	1930.5	1881.1
70°	2283.6	2307.6	2294.9	2309.0	2321.7	2245.4	2166.4	2060.4	1837.3	1659.4	1618.4
72.5°	1920.6	1937.6	1917.8	1931.9	1943.2	1888.2	1823.2	1731.4	1546.4	1392.5	1358.6
75°	1569.0	1593.0	1552.0	1566.2	1574.6	1519.6	1481.4	1406.6	1247.0	1128.4	1105.8
77.5°	1228.6	1242.8	1220.2	1214.5	1220.2	1180.6	1151.0	1093.1	973.0	875.6	861.5
80°	903.8	912.3	889.7	884.1	888.3	860.0	837.5	795.1	710.4	636.9	631.3
82.5°	605.8	610.1	590.3	584.7	587.5	579.0	552.2	522.5	483.0	420.8	419.4
85°	346.0	346.0	331.9	326.2	329.1	314.9	305.0	289.5	274.0	231.6	234.4
87.5°	127.1	127.1	120.0	118.6	132.7	117.2	113.0	105.9	110.2	87.6	93.2
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°	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0	6461.0
2.5°	6489.2	6475.1	6462.4	6418.6	6437.0	6391.8	6388.9	6372.0	6359.3	6335.3	6366.3
5°	6468.0	6439.8	6403.1	6350.8	6366.3	6312.7	6301.4	6281.6	6264.7	6233.6	6257.6
7.5°	6434.1	6387.5	6329.6	6263.2	6284.4	6218.1	6201.1	6179.9	6165.8	6129.1	6150.3
10°	6384.7	6318.3	6250.5	6170.0	6185.6	6113.6	6092.4	6069.8	6057.1	6024.6	6045.8
12.5°	6308.4	6227.9	6136.1	6048.6	6065.5	5997.8	5969.5	5945.5	5941.3	5914.4	5939.8
15°	6209.6	6098.0	6003.4	5910.2	5930.0	5850.9	5838.2	5814.2	5821.2	5802.9	5833.9
17.5°	6083.9	5955.4	5852.3	5752.0	5771.8	5705.4	5695.5	5684.2	5691.3	5688.5	5722.4
20°	5942.7	5801.4	5682.8	5584.0	5595.3	5543.0	5547.2	5544.4	5558.5	5574.1	5620.7
22.5°	5783.1	5623.5	5499.2	5397.6	5414.5	5369.3	5389.1	5394.7	5418.7	5454.0	5513.4
25°	5603.7	5432.9	5302.9	5206.9	5222.4	5192.8	5226.7	5240.8	5278.9	5338.2	5399.0
27.5°	5415.9	5235.1	5096.7	5005.0	5034.6	5005.0	5055.8	5084.0	5141.9	5206.9	5281.7
30°	5216.8	5029.0	4886.3	4804.4	4832.7	4805.8	4887.7	4925.9	4983.8	5072.7	5161.7
32.5°	5007.8	4810.1	4670.3	4606.7	4626.5	4622.2	4714.0	4756.4	4834.1	4935.8	5030.4
35°	4793.1	4586.9	4445.7	4392.0	4416.1	4421.7	4531.9	4581.3	4666.0	4788.9	4890.6
37.5°	4571.4	4361.0	4222.6	4178.8	4200.0	4221.2	4349.7	4399.1	4495.1	4629.3	4740.9
40°	4341.2	4130.8	3995.2	3959.9	3981.1	4003.7	4143.5	4211.3	4315.8	4461.2	4582.7
42.5°	4108.2	3897.8	3766.4	3741.0	3762.2	3806.0	3954.3	4017.8	4128.0	4288.9	4423.1
45°	3870.9	3652.0	3537.6	3517.9	3540.5	3591.3	3736.8	3813.0	3930.2	4106.8	4250.8
47.5°	3630.8	3417.6	3308.9	3296.2	3318.7	3375.2	3536.2	3605.4	3729.7	3917.5	4072.9
50°	3387.9	3180.3	3075.8	3071.6	3092.8	3153.5	3307.4	3389.4	3517.9	3728.3	3887.9
52.5°	3142.2	2943.1	2848.5	2848.5	2868.2	2930.4	3085.7	3170.5	3303.2	3524.9	3701.5
55°	2896.5	2707.2	2616.9	2623.9	2652.2	2705.8	2856.9	2945.9	3080.1	3310.3	3496.7
57.5°	2650.8	2471.4	2389.5	2399.4	2426.2	2479.9	2628.2	2728.4	2849.9	3088.6	3279.2
60°	2407.9	2238.4	2166.4	2177.7	2201.7	2255.3	2409.3	2495.4	2616.9	2859.8	3050.4
62.5°	2162.1	2008.2	1940.4	1954.5	1975.7	2029.4	2174.8	2258.2	2378.2	2616.9	2808.9
65°	1919.2	1776.6	1718.7	1732.8	1752.6	1802.0	1939.0	2019.5	2133.9	2366.9	2550.5
67.5°	1679.1	1549.2	1501.2	1515.3	1530.9	1577.5	1690.4	1778.0	1885.3	2107.1	2280.8
70°	1441.9	1326.1	1283.7	1297.8	1312.0	1354.3	1453.2	1533.7	1632.5	1835.9	1996.9
72.5°	1207.5	1094.5	1073.3	1086.0	1097.3	1134.0	1228.6	1292.2	1378.3	1559.1	1697.5
75°	978.7	881.2	867.1	879.8	889.7	918.0	997.0	1052.1	1124.1	1280.9	1393.9
77.5°	758.4	676.5	670.8	680.7	690.6	710.4	772.5	830.4	886.9	1002.7	1103.0
80°	552.2	485.8	485.8	495.7	492.9	516.9	560.7	607.3	648.2	731.5	805.0
82.5°	364.4	312.1	319.2	326.2	330.5	340.3	367.2	402.5	427.9	478.7	526.8
85°	201.9	166.6	173.7	179.4	176.5	187.8	201.9	223.1	235.8	259.9	285.3
87.5°	74.8	62.1	63.6	67.8	70.6	76.3	76.3	89.0	90.4	93.2	98.9
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°	6461.0	6461.0	6461.0
2.5°	6307.0	6340.9	6366.3
5°	6198.3	6226.5	6249.1
7.5°	6092.4	6117.8	6137.6
10°	5992.1	6020.3	6034.5
12.5°	5889.0	5921.5	5932.8
15°	5787.3	5819.8	5833.9
17.5°	5682.8	5725.2	5740.7
20°	5585.4	5639.0	5651.8
22.5°	5486.5	5541.6	5557.1
25°	5379.2	5444.2	5459.7
27.5°	5264.8	5342.5	5358.0
30°	5150.4	5235.1	5250.7
32.5°	5027.5	5119.3	5133.5
35°	4899.0	4990.8	5007.8
37.5°	4756.4	4856.7	4890.6
40°	4608.1	4716.9	4752.2
42.5°	4452.8	4571.4	4608.1
45°	4286.1	4416.1	4458.4
47.5°	4118.1	4264.9	4301.7
50°	3935.9	4092.6	4136.4
52.5°	3745.2	3916.1	3959.9
55°	3547.5	3719.8	3767.8
57.5°	3332.9	3510.8	3561.6
60°	3108.3	3286.3	3334.3
62.5°	2878.1	3039.1	3085.7
65°	2621.1	2772.2	2814.6
67.5°	2348.5	2486.9	2522.2
70°	2059.0	2179.1	2210.1
72.5°	1756.8	1840.1	1881.1
75°	1444.7	1511.1	1542.2
77.5°	1131.2	1177.8	1203.2
80°	824.7	851.6	872.8
82.5°	539.5	550.8	566.3
85°	290.9	290.9	300.8
87.5°	98.9	94.6	98.9
90°	0.0	0.0	0.0

(END OF REPORT)