

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: P834665

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6STD-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834665
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-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

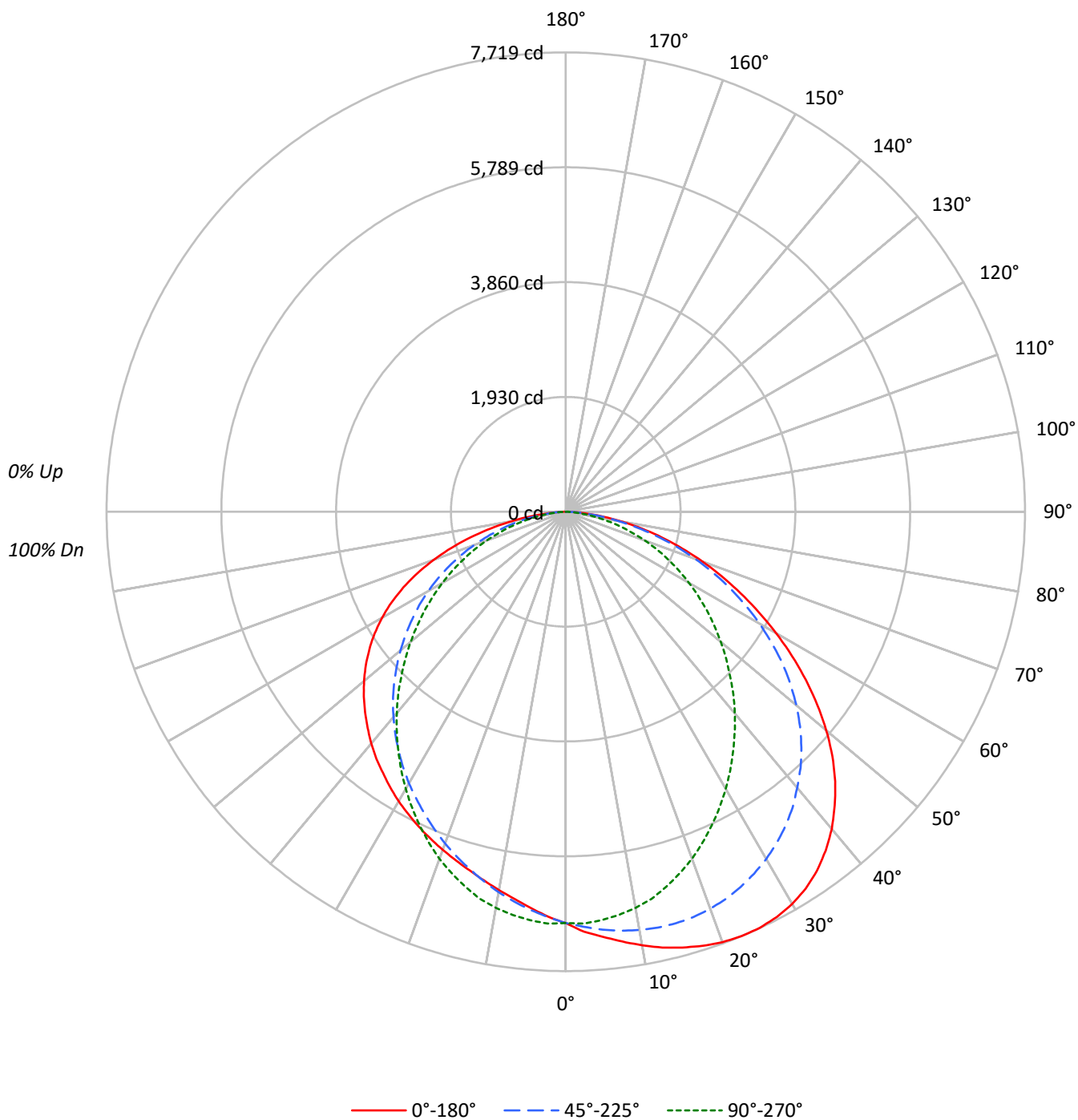
Lumens per Lamp: N/A
Luminaire Lumens: 20329.1 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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
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°	9299	9299	9299
5°	9681	9304	9028
10°	10105	9234	8819
15°	10559	9086	8692
20°	11020	8885	8656
25°	11453	8627	8670
30°	11826	8357	8726
35°	12096	8059	8798
40°	12218	7761	8928
45°	12185	7433	9074
50°	11968	7121	9262
55°	11559	6793	9454
60°	10996	6443	9598
65°	10326	6050	9585
70°	9609	5580	9300
75°	8725	4900	8576
80°	7491	4027	7234
85°	5714	2753	4968

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	655.5	3.2
10°-20°	1892.9	9.3
20°-30°	2899.9	14.3
30°-40°	3538.9	17.4
40°-50°	3700.9	18.2
50°-60°	3349.6	16.5
60°-70°	2536.8	12.5
70°-80°	1413.7	7.0
80°-90°	341.0	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°	5448.2	26.8
0°-40°	8987.1	44.2
0°-60°	16037.6	78.9
0°-90°	20329.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	20329.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6911	6911	6911	6911	6911	
5°	7168	7048	6888	6719	6684	691
15°	7580	7159	6523	6219	6240	2150
25°	7715	6956	5811	5606	5840	3559
35°	7364	6441	4906	4900	5357	4598
45°	6404	5601	3906	4079	4769	4927
55°	4928	4449	2896	3151	4030	4397
65°	3243	3050	1900	2160	3011	3217
75°	1678	1585	943	1125	1650	1780
85°	370	326	178	239	322	445
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°	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0
2.5°	7063.6	7030.4	7003.2	7013.8	7019.8	6998.7	6980.5	6983.6	6965.4	7000.2	6918.6
5°	7167.9	7137.6	7105.9	7118.0	7105.9	7074.2	7048.5	7041.0	6992.6	7012.3	6929.2
7.5°	7284.2	7250.9	7204.1	7217.7	7192.0	7133.1	7099.9	7080.2	7006.2	7007.7	6915.6
10°	7396.0	7367.3	7303.8	7312.9	7266.0	7187.5	7134.6	7107.4	7003.2	6988.1	6892.9
12.5°	7500.2	7460.9	7392.9	7397.5	7329.5	7225.3	7157.3	7118.0	6982.0	6936.7	6843.1
15°	7580.2	7542.5	7460.9	7459.4	7371.8	7235.8	7158.8	7104.4	6932.2	6861.2	6763.0
17.5°	7648.2	7613.5	7512.3	7509.2	7403.5	7231.3	7139.1	7071.2	6859.7	6772.1	6663.3
20°	7696.6	7661.8	7548.5	7538.0	7411.1	7208.6	7098.4	7012.3	6764.5	6660.3	6539.4
22.5°	7719.2	7684.5	7556.1	7541.0	7392.9	7163.3	7039.4	6938.2	6655.8	6519.8	6394.4
25°	7714.7	7681.5	7536.4	7521.3	7358.2	7095.3	6956.4	6840.0	6518.3	6358.2	6234.3
27.5°	7676.9	7651.2	7498.7	7479.0	7294.7	7003.2	6855.2	6726.8	6365.7	6187.5	6053.0
30°	7612.0	7592.3	7430.7	7412.6	7216.2	6902.0	6737.3	6589.3	6201.1	6000.1	5864.2
32.5°	7507.7	7489.6	7326.5	7309.8	7110.4	6772.1	6599.9	6447.3	6021.3	5799.2	5663.3
35°	7364.2	7353.7	7195.0	7176.9	6974.5	6624.0	6441.2	6273.6	5834.0	5583.2	5453.3
37.5°	7175.4	7175.4	7022.8	7003.2	6805.3	6442.8	6263.0	6084.7	5622.5	5356.6	5228.2
40°	6956.4	6976.0	6820.4	6800.8	6608.9	6247.9	6051.5	5864.2	5394.4	5118.0	4992.6
42.5°	6693.5	6711.6	6581.7	6563.6	6383.8	6022.8	5840.0	5636.1	5155.7	4874.7	4744.8
45°	6403.5	6427.7	6311.3	6297.7	6130.1	5776.6	5601.3	5394.4	4906.5	4621.0	4494.1
47.5°	6080.2	6111.9	6010.7	6003.2	5847.6	5524.3	5341.5	5131.5	4645.1	4356.6	4237.3
50°	5717.7	5763.0	5679.9	5679.9	5540.9	5219.2	5060.5	4850.6	4373.2	4084.7	3966.9
52.5°	5329.4	5386.8	5324.9	5326.4	5213.1	4924.6	4759.9	4554.5	4089.2	3805.2	3696.5
55°	4927.6	4983.5	4944.2	4950.3	4861.1	4598.3	4448.8	4244.8	3799.2	3522.7	3420.0
57.5°	4507.7	4568.1	4542.4	4554.5	4492.6	4256.9	4101.3	3923.1	3500.1	3226.7	3139.1
60°	4086.2	4143.6	4130.0	4146.6	4107.4	3903.4	3761.4	3577.1	3199.5	2936.6	2859.6
62.5°	3660.2	3713.1	3710.1	3728.2	3707.0	3537.9	3411.0	3253.9	2888.3	2646.6	2575.6
65°	3243.3	3288.6	3285.6	3305.2	3300.7	3164.7	3049.9	2906.4	2577.1	2355.0	2293.1
67.5°	2838.4	2876.2	2865.6	2888.3	2894.3	2785.6	2685.9	2557.5	2281.0	2065.0	2012.1
70°	2442.7	2468.3	2454.7	2469.8	2483.4	2401.9	2317.3	2204.0	1965.3	1775.0	1731.2
72.5°	2054.4	2072.6	2051.4	2066.5	2078.6	2019.7	1950.2	1852.0	1654.1	1489.5	1453.2
75°	1678.3	1704.0	1660.2	1675.3	1684.3	1625.4	1584.6	1504.6	1333.9	1207.0	1182.8
77.5°	1314.2	1329.3	1305.2	1299.1	1305.2	1262.9	1231.1	1169.2	1040.8	936.6	921.5
80°	966.8	975.9	951.7	945.6	950.2	920.0	895.8	850.5	759.8	681.3	675.2
82.5°	648.1	652.6	631.4	625.4	628.4	619.4	590.6	558.9	516.6	450.2	448.7
85°	370.1	370.1	355.0	349.0	352.0	336.9	326.3	309.7	293.1	247.7	250.8
87.5°	136.0	136.0	128.4	126.9	142.0	125.4	120.8	113.3	117.8	93.7	99.7
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0	6911.0
2.5°	6941.3	6926.2	6912.6	6865.7	6885.4	6837.0	6834.0	6815.9	6802.3	6776.6	6809.8
5°	6918.6	6888.4	6849.1	6793.2	6809.8	6752.4	6740.3	6719.2	6701.1	6667.8	6693.5
7.5°	6882.3	6832.5	6770.6	6699.6	6722.2	6651.2	6633.1	6610.4	6595.3	6556.1	6578.7
10°	6829.5	6758.5	6686.0	6599.9	6616.5	6539.4	6516.8	6492.6	6479.0	6444.3	6466.9
12.5°	6747.9	6661.8	6563.6	6469.9	6488.1	6415.6	6385.4	6359.7	6355.1	6326.4	6353.6
15°	6642.2	6522.8	6421.6	6321.9	6343.1	6258.5	6244.9	6219.2	6226.7	6207.1	6240.3
17.5°	6507.7	6370.2	6260.0	6152.7	6173.9	6102.9	6092.3	6080.2	6087.8	6084.7	6121.0
20°	6356.7	6205.6	6078.7	5973.0	5985.0	5929.1	5933.7	5930.7	5945.8	5962.4	6012.2
22.5°	6186.0	6015.3	5882.3	5773.6	5791.7	5743.3	5764.5	5770.5	5796.2	5834.0	5897.4
25°	5994.1	5811.3	5672.3	5569.6	5586.2	5554.5	5590.8	5605.9	5646.7	5710.1	5775.1
27.5°	5793.2	5599.8	5451.8	5353.6	5385.3	5353.6	5408.0	5438.2	5500.1	5569.6	5649.7
30°	5580.2	5379.3	5226.7	5139.1	5169.3	5140.6	5228.2	5269.0	5330.9	5426.1	5521.3
32.5°	5356.6	5145.1	4995.6	4927.6	4948.8	4944.2	5042.4	5087.7	5170.8	5279.6	5380.8
35°	5127.0	4906.5	4755.4	4698.0	4723.7	4729.7	4847.6	4900.4	4991.1	5122.5	5231.2
37.5°	4889.8	4664.8	4516.7	4469.9	4492.6	4515.2	4652.7	4705.6	4808.3	4951.8	5071.1
40°	4643.6	4418.5	4273.5	4235.8	4258.4	4282.6	4432.1	4504.6	4616.4	4772.0	4901.9
42.5°	4394.4	4169.3	4028.8	4001.6	4024.3	4071.1	4229.7	4297.7	4415.5	4587.7	4731.2
45°	4140.6	3906.4	3784.1	3762.9	3787.1	3841.5	3997.1	4078.7	4204.0	4392.9	4546.9
47.5°	3883.8	3655.7	3539.4	3525.8	3549.9	3610.4	3782.6	3856.6	3989.5	4190.4	4356.6
50°	3624.0	3401.9	3290.1	3285.6	3308.2	3373.2	3537.9	3625.5	3762.9	3988.0	4158.7
52.5°	3361.1	3148.1	3046.9	3046.9	3068.1	3134.5	3300.7	3391.3	3533.3	3770.5	3959.3
55°	3098.3	2895.8	2799.2	2806.7	2836.9	2894.3	3056.0	3151.1	3294.6	3540.9	3740.3
57.5°	2835.4	2643.6	2556.0	2566.5	2595.2	2652.6	2811.2	2918.5	3048.4	3303.7	3507.6
60°	2575.6	2394.3	2317.3	2329.4	2355.0	2412.4	2577.1	2669.3	2799.2	3059.0	3262.9
62.5°	2312.7	2148.1	2075.6	2090.7	2113.3	2170.7	2326.3	2415.5	2543.9	2799.2	3004.6
65°	2052.9	1900.3	1838.4	1853.5	1874.7	1927.5	2074.1	2160.2	2282.5	2531.8	2728.2
67.5°	1796.1	1657.1	1605.8	1620.9	1637.5	1687.4	1808.2	1901.9	2016.7	2253.8	2439.6
70°	1542.3	1418.5	1373.1	1388.3	1403.4	1448.7	1554.4	1640.5	1746.3	1963.8	2136.0
72.5°	1291.6	1170.7	1148.1	1161.7	1173.7	1213.0	1314.2	1382.2	1474.4	1667.7	1815.8
75°	1046.9	942.6	927.5	941.1	951.7	981.9	1066.5	1125.4	1202.4	1370.1	1491.0
77.5°	811.2	723.6	717.5	728.1	738.7	759.8	826.3	888.2	948.7	1072.5	1179.8
80°	590.6	519.7	519.7	530.2	527.2	552.9	599.7	649.6	693.4	782.5	861.0
82.5°	389.7	333.8	341.4	349.0	353.5	364.1	392.8	430.5	457.7	512.1	563.5
85°	216.0	178.3	185.8	191.8	188.8	200.9	216.0	238.7	252.3	278.0	305.1
87.5°	80.1	66.5	68.0	72.5	75.5	81.6	81.6	95.2	96.7	99.7	105.7
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°	6911.0	6911.0	6911.0
2.5°	6746.4	6782.6	6809.8
5°	6630.1	6660.3	6684.5
7.5°	6516.8	6544.0	6565.1
10°	6409.5	6439.7	6454.8
12.5°	6299.2	6334.0	6346.1
15°	6190.5	6225.2	6240.3
17.5°	6078.7	6124.0	6140.6
20°	5974.5	6031.9	6045.5
22.5°	5868.7	5927.6	5944.3
25°	5753.9	5823.4	5840.0
27.5°	5631.6	5714.6	5731.3
30°	5509.2	5599.8	5616.5
32.5°	5377.8	5476.0	5491.1
35°	5240.3	5338.5	5356.6
37.5°	5087.7	5195.0	5231.2
40°	4929.1	5045.4	5083.2
42.5°	4763.0	4889.8	4929.1
45°	4584.7	4723.7	4769.0
47.5°	4404.9	4562.0	4601.3
50°	4210.1	4377.8	4424.6
52.5°	4006.1	4188.9	4235.8
55°	3794.7	3979.0	4030.3
57.5°	3565.0	3755.4	3809.8
60°	3324.9	3515.2	3566.6
62.5°	3078.6	3250.8	3300.7
65°	2803.7	2965.3	3010.6
67.5°	2512.1	2660.2	2698.0
70°	2202.5	2330.9	2364.1
72.5°	1879.2	1968.3	2012.1
75°	1545.4	1616.4	1649.6
77.5°	1210.0	1259.8	1287.0
80°	882.2	910.9	933.6
82.5°	577.1	589.1	605.8
85°	311.2	311.2	321.8
87.5°	105.7	101.2	105.7
90°	0.0	0.0	0.0

(END OF REPORT)