

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: P547519

Luminaire Tested: **FMR-24-4-LD4-4STD-50-UNV-81-84-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P547519
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-24-4-LD4-4STD-50-UNV-81-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

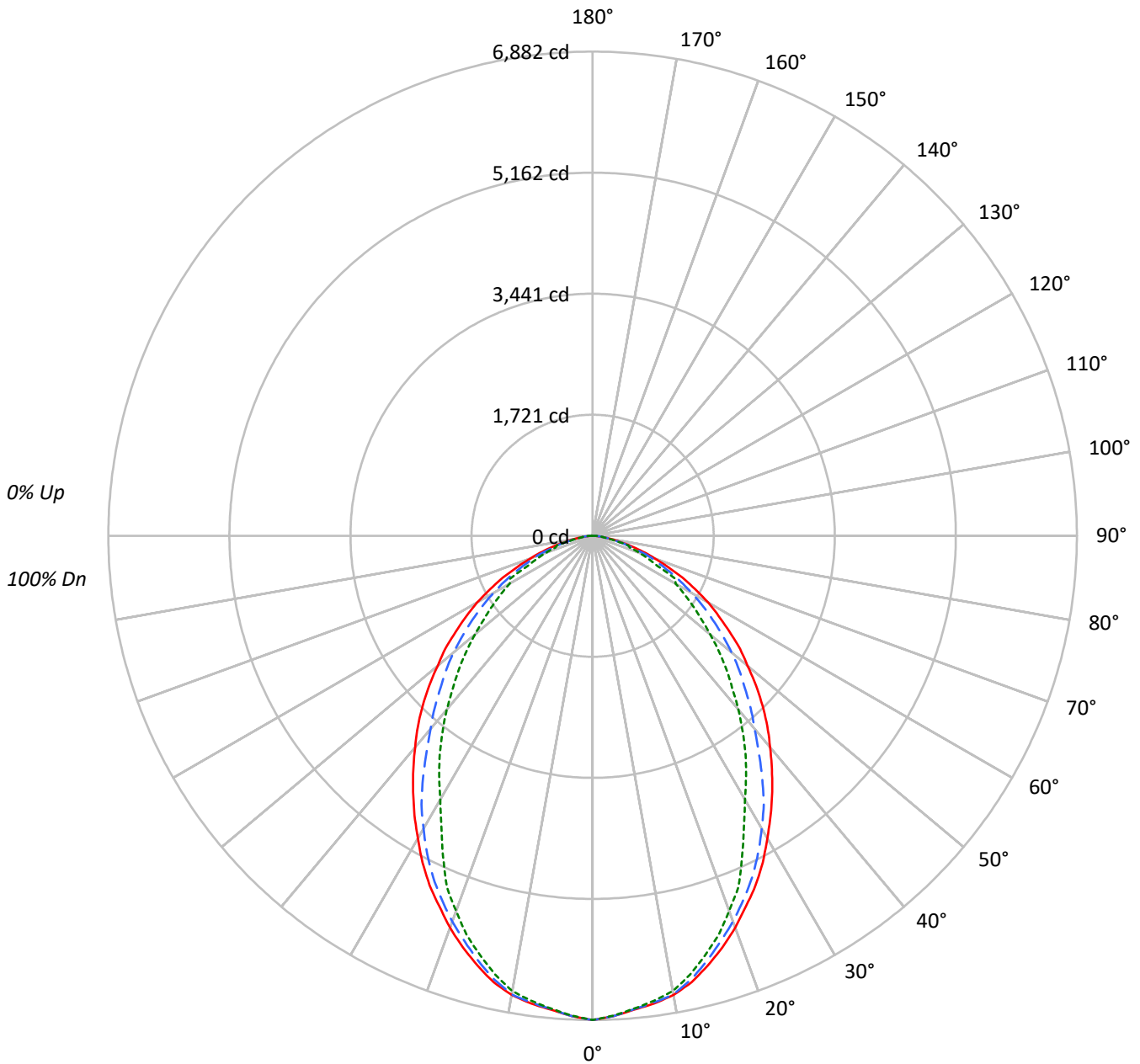
Lumens per Lamp: N/A
Luminaire Lumens: 13510.0 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
Input Voltage (V): NR
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: 25 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				20	
RC	80				70				50				30				10				0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9259	9259	9259
5°	9134	9123	9112
10°	9054	9044	8978
15°	8810	8722	8600
20°	8487	8350	8122
25°	8138	7961	7465
30°	7713	7466	6724
35°	7305	6900	6220
40°	6889	6288	5659
45°	6494	5813	5117
50°	6012	5396	4563
55°	5561	4890	4087
60°	5095	4367	3661
65°	4483	3825	3242
70°	3693	3349	2754
75°	2937	2564	2688
80°	1973	1850	1726
85°	1229	1474	1720



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	640.6	4.7
10°-20°	1758.1	13.0
20°-30°	2433.9	18.0
30°-40°	2595.3	19.2
40°-50°	2367.7	17.5
50°-60°	1854.9	13.7
60°-70°	1208.9	8.9
70°-80°	535.6	4.0
80°-90°	115.0	0.9
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°	4832.6	35.8
0°-40°	7427.9	55.0
0°-60°	11650.5	86.2
0°-90°	13510.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13510.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6882	6882	6882	6882	6882	
5°	6762	6754	6754	6747	6747	642
15°	6325	6325	6261	6198	6174	1778
25°	5482	5450	5362	5171	5028	2517
35°	4447	4416	4201	3882	3787	2780
45°	3413	3342	3055	2800	2689	2629
55°	2371	2299	2084	1838	1742	2126
65°	1408	1329	1201	1225	1018	1388
75°	565	525	493	469	517	605
85°	80	88	96	103	111	110
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6881.8	6881.8	6881.8	6881.8	6881.8
2.5°	6834.1	6834.1	6834.1	6826.1	6826.1
5°	6762.5	6754.5	6754.5	6746.6	6746.6
7.5°	6706.8	6698.8	6690.9	6682.9	6667.0
10°	6627.2	6627.2	6619.3	6579.5	6571.5
12.5°	6499.9	6492.0	6460.2	6404.5	6388.6
15°	6324.9	6324.9	6261.3	6197.6	6173.7
17.5°	6134.0	6126.0	6046.4	5982.8	5951.0
20°	5927.1	5911.2	5831.6	5728.2	5672.5
22.5°	5696.4	5696.4	5600.9	5465.7	5410.0
25°	5481.6	5449.8	5362.2	5171.3	5028.1
27.5°	5235.0	5187.2	5091.7	4821.2	4654.2
30°	4964.5	4940.6	4805.3	4455.3	4328.0
32.5°	4709.9	4670.1	4526.9	4160.9	4057.5
35°	4447.3	4415.5	4200.7	3882.5	3787.0
37.5°	4184.8	4145.0	3874.5	3619.9	3500.6
40°	3922.2	3874.5	3580.1	3349.4	3222.1
42.5°	3675.6	3612.0	3325.5	3078.9	2935.7
45°	3413.1	3341.5	3055.0	2800.5	2689.1
47.5°	3150.5	3086.9	2824.3	2561.8	2434.5
50°	2872.1	2816.4	2577.7	2315.2	2179.9
52.5°	2641.3	2553.8	2323.1	2060.6	1949.2
55°	2370.8	2299.2	2084.4	1837.8	1742.3
57.5°	2124.2	2052.6	1853.7	1623.0	1543.4
60°	1893.5	1790.1	1623.0	1424.1	1360.5
62.5°	1638.9	1559.3	1416.1	1249.1	1328.6
65°	1408.2	1328.6	1201.3	1225.2	1018.3
67.5°	1153.6	1113.8	1002.4	891.1	859.2
70°	938.8	891.1	851.3	731.9	700.1
72.5°	747.9	700.1	644.4	580.8	556.9
75°	564.9	525.1	493.3	469.4	517.1
77.5°	389.8	373.9	350.1	326.2	318.2
80°	254.6	246.6	238.7	230.7	222.8
82.5°	151.2	151.2	151.2	151.2	151.2
85°	79.6	87.5	95.5	103.4	111.4
87.5°	47.7	47.7	55.7	63.6	71.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)