

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: P547339

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-82-88-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: P547339
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-LD4-4HI-50-UNV-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

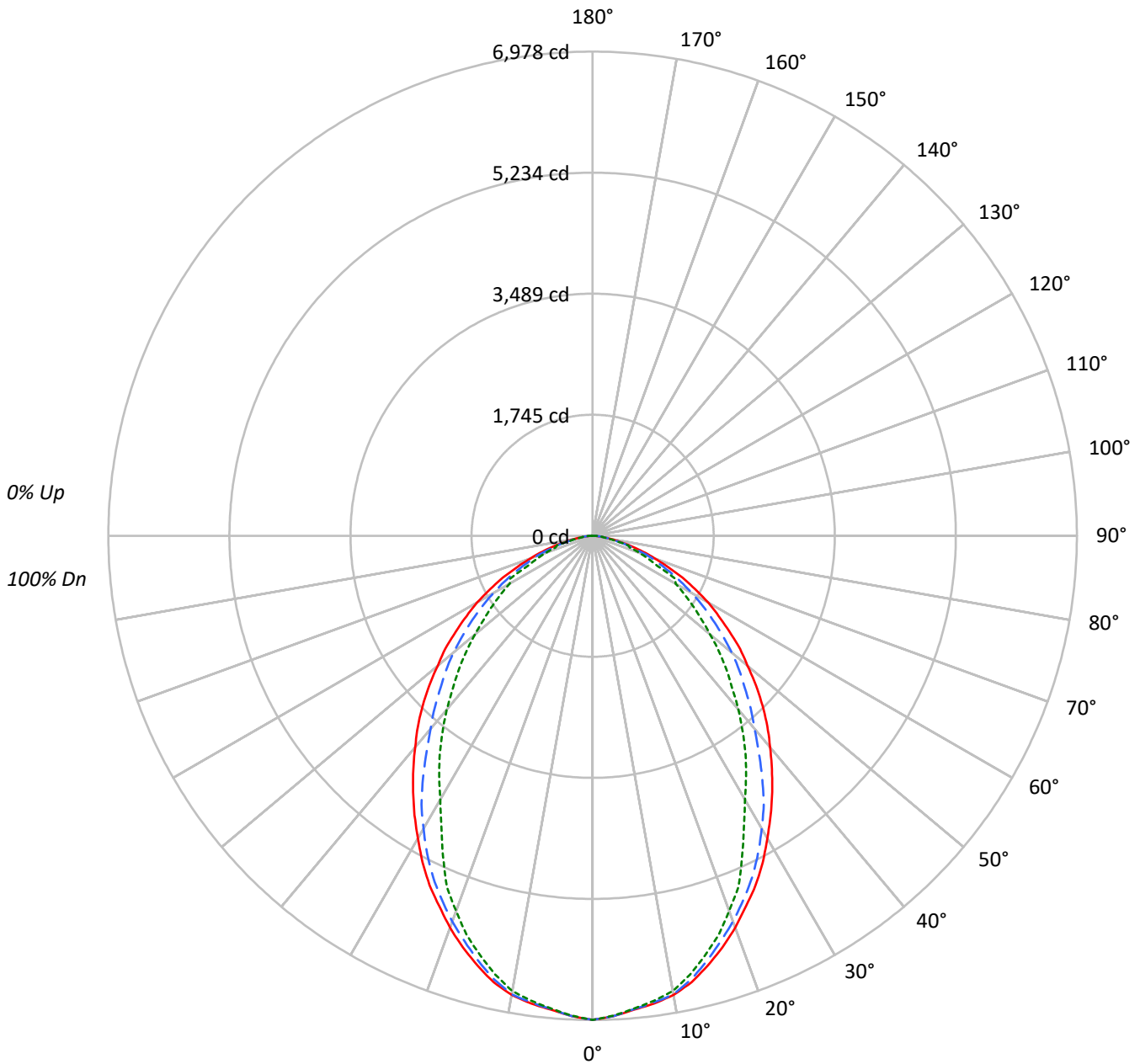
Lumens per Lamp: N/A
Luminaire Lumens: 13698.0 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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					
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°	9388	9388	9388
5°	9261	9250	9239
10°	9180	9169	9103
15°	8933	8843	8719
20°	8605	8466	8235
25°	8251	8072	7569
30°	7820	7570	6818
35°	7407	6996	6307
40°	6985	6376	5738
45°	6585	5894	5188
50°	6095	5471	4626
55°	5639	4958	4144
60°	5166	4428	3712
65°	4546	3878	3287
70°	3745	3395	2793
75°	2977	2600	2726
80°	2000	1875	1750
85°	1246	1494	1743



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	649.5	4.7
10°-20°	1782.6	13.0
20°-30°	2467.8	18.0
30°-40°	2631.4	19.2
40°-50°	2400.6	17.5
50°-60°	1880.7	13.7
60°-70°	1225.8	8.9
70°-80°	543.1	4.0
80°-90°	116.6	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°	4899.9	35.8
0°-40°	7531.3	55.0
0°-60°	11812.6	86.2
0°-90°	13698.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13698.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6978	6978	6978	6978	6978	
5°	6857	6848	6848	6840	6840	651
15°	6413	6413	6348	6284	6260	1803
25°	5558	5526	5437	5243	5098	2552
35°	4509	4477	4259	3936	3840	2819
45°	3461	3388	3098	2839	2726	2666
55°	2404	2331	2113	1863	1767	2156
65°	1428	1347	1218	1242	1032	1407
75°	573	532	500	476	524	614
85°	81	89	97	105	113	112
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6977.6	6977.6	6977.6	6977.6	6977.6
2.5°	6929.2	6929.2	6929.2	6921.1	6921.1
5°	6856.6	6848.5	6848.5	6840.4	6840.4
7.5°	6800.1	6792.0	6784.0	6775.9	6759.8
10°	6719.4	6719.4	6711.4	6671.0	6663.0
12.5°	6590.4	6582.3	6550.1	6493.6	6477.5
15°	6412.9	6412.9	6348.4	6283.9	6259.7
17.5°	6219.3	6211.3	6130.6	6066.1	6033.8
20°	6009.6	5993.5	5912.8	5807.9	5751.5
22.5°	5775.7	5775.7	5678.9	5541.7	5485.3
25°	5557.9	5525.6	5436.9	5243.3	5098.1
27.5°	5307.8	5259.4	5162.6	4888.3	4718.9
30°	5033.5	5009.3	4872.2	4517.3	4388.2
32.5°	4775.4	4735.1	4589.9	4218.8	4113.9
35°	4509.2	4476.9	4259.1	3936.5	3839.7
37.5°	4243.0	4202.7	3928.4	3670.3	3549.3
40°	3976.8	3928.4	3630.0	3396.0	3267.0
42.5°	3726.8	3662.2	3371.8	3121.8	2976.6
45°	3460.6	3388.0	3097.6	2839.4	2726.5
47.5°	3194.4	3129.8	2863.6	2597.4	2468.4
50°	2912.0	2855.6	2613.6	2347.4	2210.2
52.5°	2678.1	2589.4	2355.4	2089.2	1976.3
55°	2403.8	2331.2	2113.4	1863.4	1766.6
57.5°	2153.8	2081.2	1879.5	1645.6	1564.9
60°	1919.8	1815.0	1645.6	1443.9	1379.4
62.5°	1661.7	1581.0	1435.8	1266.5	1347.1
65°	1427.8	1347.1	1218.1	1242.3	1032.5
67.5°	1169.7	1129.3	1016.4	903.5	871.2
70°	951.9	903.5	863.1	742.1	709.9
72.5°	758.3	709.9	653.4	588.9	564.7
75°	572.7	532.4	500.1	475.9	524.3
77.5°	395.3	379.1	354.9	330.7	322.7
80°	258.1	250.1	242.0	233.9	225.9
82.5°	153.3	153.3	153.3	153.3	153.3
85°	80.7	88.7	96.8	104.9	112.9
87.5°	48.4	48.4	56.5	64.5	72.6
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)