

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: P547500

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-82-94-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: P547500
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-40-UNV-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

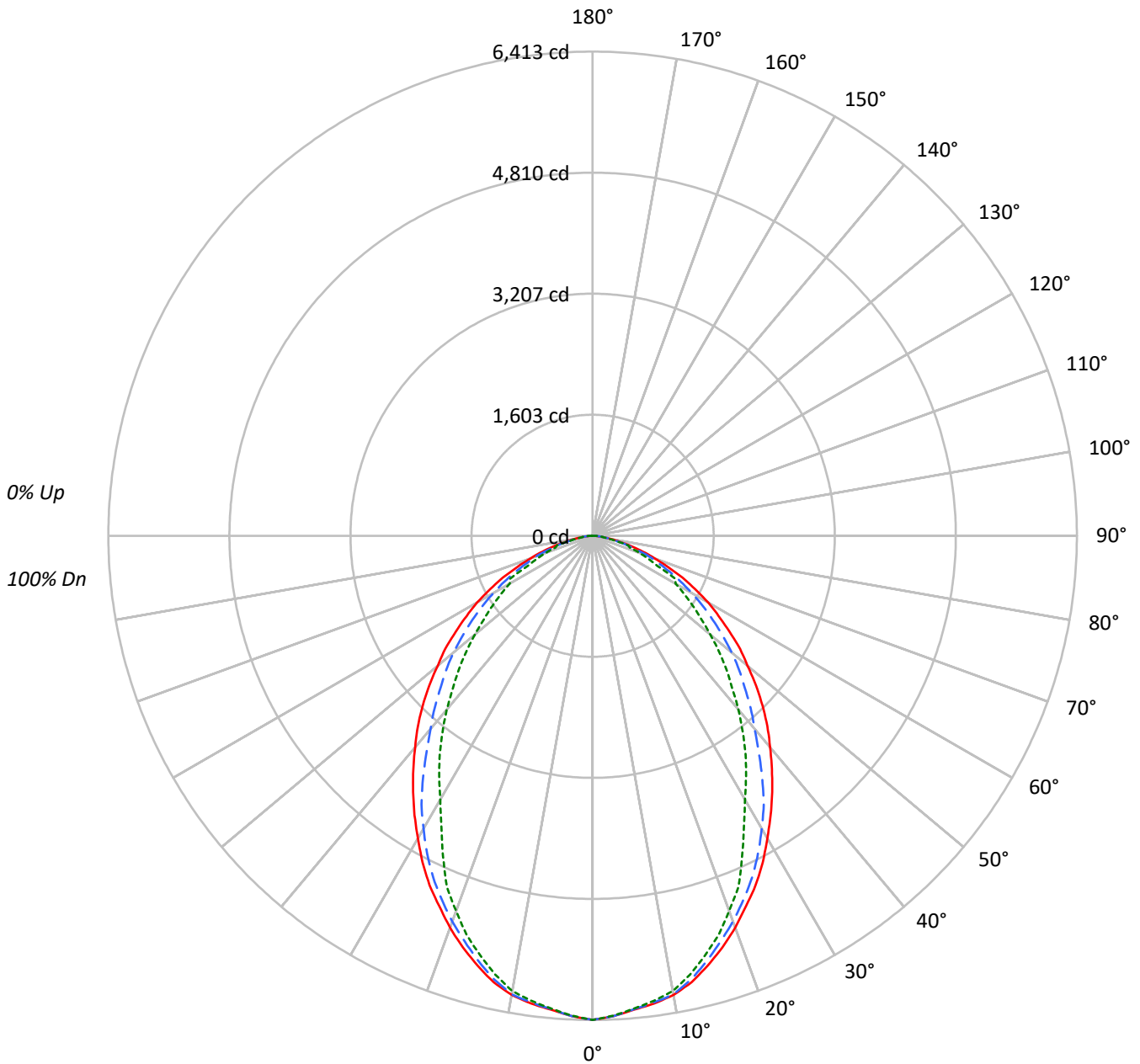
Lumens per Lamp: N/A
Luminaire Lumens: 12589.0 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8628	8628	8628
5°	8511	8501	8491
10°	8437	8427	8366
15°	8210	8127	8014
20°	7908	7781	7568
25°	7583	7418	6956
30°	7187	6957	6266
35°	6807	6429	5796
40°	6420	5860	5274
45°	6052	5417	4768
50°	5602	5028	4252
55°	5182	4556	3809
60°	4748	4070	3411
65°	4178	3564	3021
70°	3441	3120	2567
75°	2737	2389	2505
80°	1838	1723	1609
85°	1144	1374	1602



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	596.9	4.7
10°-20°	1638.2	13.0
20°-30°	2268.0	18.0
30°-40°	2418.4	19.2
40°-50°	2206.3	17.5
50°-60°	1728.4	13.7
60°-70°	1126.5	8.9
70°-80°	499.1	4.0
80°-90°	107.2	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°	4503.2	35.8
0°-40°	6921.6	55.0
0°-60°	10856.2	86.2
0°-90°	12589.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12589.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6413	6413	6413	6413	6413	
5°	6302	6294	6294	6287	6287	598
15°	5894	5894	5834	5775	5753	1657
25°	5108	5078	4997	4819	4685	2345
35°	4144	4114	3914	3618	3529	2591
45°	3180	3114	2847	2610	2506	2450
55°	2209	2142	1942	1712	1624	1982
65°	1312	1238	1119	1142	949	1293
75°	526	489	460	437	482	564
85°	74	82	89	96	104	103
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6412.7	6412.7	6412.7	6412.7	6412.7
2.5°	6368.2	6368.2	6368.2	6360.8	6360.8
5°	6301.5	6294.1	6294.1	6286.6	6286.6
7.5°	6249.6	6242.2	6234.7	6227.3	6212.5
10°	6175.4	6175.4	6168.0	6131.0	6123.5
12.5°	6056.8	6049.4	6019.8	5967.9	5953.0
15°	5893.7	5893.7	5834.4	5775.1	5752.9
17.5°	5715.8	5708.4	5634.3	5574.9	5545.3
20°	5523.0	5508.2	5434.1	5337.7	5285.8
22.5°	5308.1	5308.1	5219.1	5093.1	5041.2
25°	5107.9	5078.2	4996.7	4818.8	4685.3
27.5°	4878.1	4833.6	4744.6	4492.6	4336.9
30°	4626.0	4603.8	4477.7	4151.6	4032.9
32.5°	4388.8	4351.7	4218.3	3877.3	3780.9
35°	4144.1	4114.5	3914.3	3617.8	3528.8
37.5°	3899.5	3862.4	3610.4	3373.1	3261.9
40°	3654.9	3610.4	3336.1	3121.1	3002.5
42.5°	3425.0	3365.7	3098.8	2869.0	2735.6
45°	3180.4	3113.7	2846.8	2609.5	2505.8
47.5°	2935.7	2876.4	2631.8	2387.1	2268.5
50°	2676.3	2624.4	2402.0	2157.3	2031.3
52.5°	2461.3	2379.7	2164.7	1920.1	1816.3
55°	2209.2	2142.5	1942.3	1712.5	1623.6
57.5°	1979.4	1912.7	1727.3	1512.4	1438.2
60°	1764.4	1668.0	1512.4	1327.0	1267.7
62.5°	1527.2	1453.0	1319.6	1163.9	1238.1
65°	1312.2	1238.1	1119.4	1141.7	948.9
67.5°	1075.0	1037.9	934.1	830.3	800.7
70°	874.8	830.3	793.2	682.0	652.4
72.5°	696.9	652.4	600.5	541.2	518.9
75°	526.4	489.3	459.6	437.4	481.9
77.5°	363.3	348.4	326.2	304.0	296.5
80°	237.2	229.8	222.4	215.0	207.6
82.5°	140.9	140.9	140.9	140.9	140.9
85°	74.1	81.5	89.0	96.4	103.8
87.5°	44.5	44.5	51.9	59.3	66.7
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)