

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: P547491

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-81-88-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: P547491
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-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

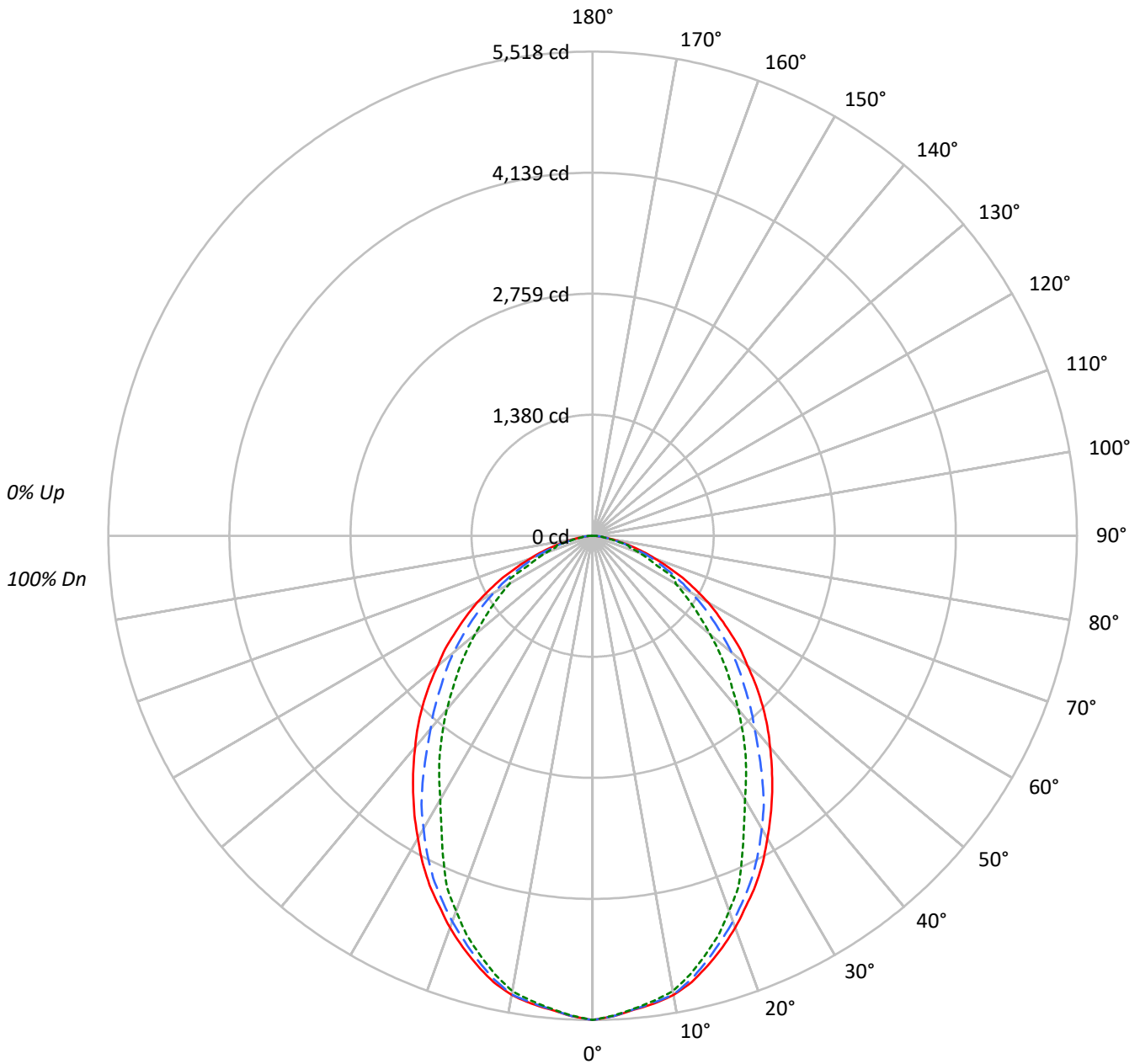
Lumens per Lamp: N/A
Luminaire Lumens: 10833.0 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	7425	7425	7425
5°	7324	7315	7306
10°	7260	7252	7199
15°	7065	6993	6896
20°	6805	6695	6513
25°	6525	6383	5986
30°	6185	5986	5392
35°	5857	5533	4988
40°	5524	5042	4538
45°	5208	4661	4103
50°	4821	4326	3659
55°	4460	3921	3277
60°	4086	3502	2936
65°	3595	3067	2600
70°	2961	2685	2209
75°	2354	2056	2156
80°	1581	1483	1384
85°	985	1183	1379



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	513.7	4.7
10°-20°	1409.7	13.0
20°-30°	1951.7	18.0
30°-40°	2081.0	19.2
40°-50°	1898.5	17.5
50°-60°	1487.3	13.7
60°-70°	969.4	8.9
70°-80°	429.5	4.0
80°-90°	92.2	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°	3875.1	35.8
0°-40°	5956.1	55.0
0°-60°	9342.0	86.2
0°-90°	10833.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10833.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5518	5518	5518	5518	5518	
5°	5422	5416	5416	5410	5410	515
15°	5072	5072	5021	4970	4950	1426
25°	4395	4370	4300	4147	4032	2018
35°	3566	3541	3368	3113	3037	2229
45°	2737	2679	2450	2246	2156	2108
55°	1901	1844	1671	1474	1397	1705
65°	1129	1065	963	982	817	1113
75°	453	421	396	376	415	485
85°	64	70	77	83	89	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5518.2	5518.2	5518.2	5518.2	5518.2
2.5°	5479.9	5479.9	5479.9	5473.5	5473.5
5°	5422.5	5416.1	5416.1	5409.7	5409.7
7.5°	5377.8	5371.5	5365.1	5358.7	5345.9
10°	5314.0	5314.0	5307.7	5275.8	5269.4
12.5°	5212.0	5205.6	5180.1	5135.4	5122.7
15°	5071.6	5071.6	5020.6	4969.6	4950.4
17.5°	4918.5	4912.1	4848.3	4797.3	4771.8
20°	4752.7	4739.9	4676.1	4593.2	4548.5
22.5°	4567.7	4567.7	4491.1	4382.7	4338.0
25°	4395.4	4369.9	4299.7	4146.6	4031.8
27.5°	4197.6	4159.4	4082.8	3865.9	3732.0
30°	3980.7	3961.6	3853.2	3572.5	3470.4
32.5°	3776.6	3744.7	3629.9	3336.4	3253.5
35°	3566.1	3540.6	3368.3	3113.1	3036.6
37.5°	3355.6	3323.7	3106.8	2902.6	2806.9
40°	3145.0	3106.8	2870.7	2685.7	2583.7
42.5°	2947.3	2896.2	2666.6	2468.8	2354.0
45°	2736.8	2679.4	2449.7	2245.6	2156.2
47.5°	2526.2	2475.2	2264.7	2054.2	1952.1
50°	2303.0	2258.3	2066.9	1856.4	1748.0
52.5°	2118.0	2047.8	1862.8	1652.3	1563.0
55°	1901.1	1843.6	1671.4	1473.6	1397.1
57.5°	1703.3	1645.9	1486.4	1301.4	1237.6
60°	1518.3	1435.4	1301.4	1141.9	1090.9
62.5°	1314.2	1250.4	1135.5	1001.6	1065.4
65°	1129.2	1065.4	963.3	982.4	816.6
67.5°	925.0	893.1	803.8	714.5	689.0
70°	752.8	714.5	682.6	586.9	561.4
72.5°	599.7	561.4	516.7	465.7	446.6
75°	452.9	421.0	395.5	376.4	414.7
77.5°	312.6	299.8	280.7	261.6	255.2
80°	204.1	197.8	191.4	185.0	178.6
82.5°	121.2	121.2	121.2	121.2	121.2
85°	63.8	70.2	76.6	82.9	89.3
87.5°	38.3	38.3	44.7	51.0	57.4
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)