

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: P547296

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-81-85-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: P547296
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-40-UNV-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

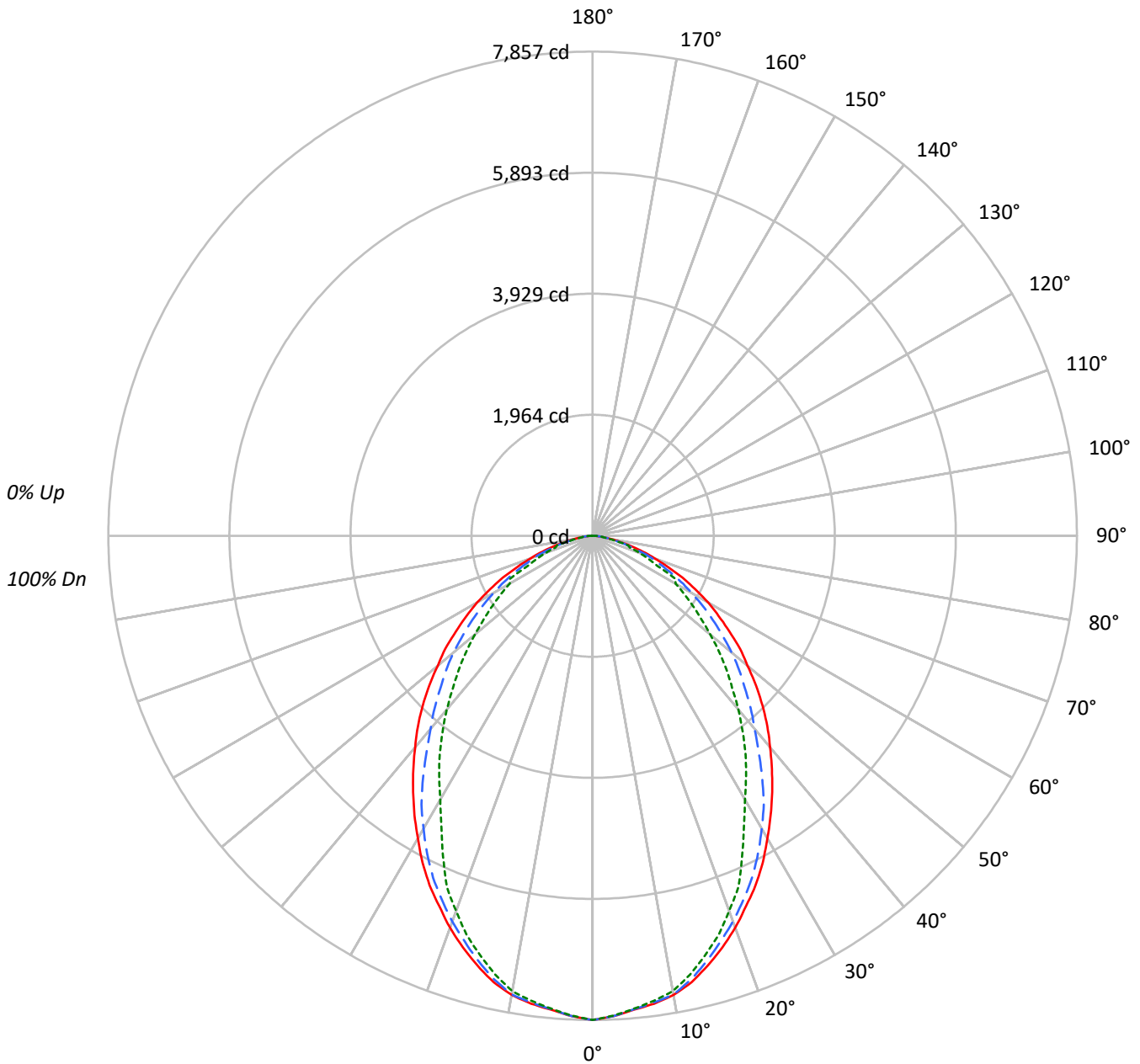
Lumens per Lamp: N/A
Luminaire Lumens: 15425.0 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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			
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°	10572	10572	10572
5°	10428	10416	10404
10°	10338	10325	10251
15°	10059	9958	9819
20°	9690	9534	9273
25°	9291	9089	8523
30°	8806	8524	7677
35°	8340	7878	7102
40°	7866	7180	6461
45°	7415	6637	5842
50°	6864	6161	5210
55°	6350	5583	4666
60°	5818	4986	4180
65°	5119	4367	3702
70°	4217	3823	3145
75°	3353	2928	3069
80°	2252	2111	1970
85°	1402	1683	1964



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	731.4	4.7
10°-20°	2007.3	13.0
20°-30°	2779.0	18.0
30°-40°	2963.2	19.2
40°-50°	2703.3	17.5
50°-60°	2117.8	13.7
60°-70°	1380.3	8.9
70°-80°	611.5	4.0
80°-90°	131.3	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°	5517.6	35.8
0°-40°	8480.8	55.0
0°-60°	13301.9	86.2
0°-90°	15425.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15425.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7857	7857	7857	7857	7857	
5°	7721	7712	7712	7703	7703	733
15°	7221	7221	7149	7076	7049	2030
25°	6259	6222	6122	5904	5741	2873
35°	5078	5041	4796	4433	4324	3174
45°	3897	3815	3488	3197	3070	3002
55°	2707	2625	2380	2098	1989	2428
65°	1608	1517	1372	1399	1163	1584
75°	645	600	563	536	590	691
85°	91	100	109	118	127	126
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7857.3	7857.3	7857.3	7857.3	7857.3
2.5°	7802.8	7802.8	7802.8	7793.7	7793.7
5°	7721.0	7712.0	7712.0	7702.9	7702.9
7.5°	7657.5	7648.4	7639.3	7630.2	7612.0
10°	7566.6	7566.6	7557.5	7512.1	7503.0
12.5°	7421.3	7412.2	7375.9	7312.3	7294.1
15°	7221.4	7221.4	7148.8	7076.1	7048.9
17.5°	7003.4	6994.3	6903.5	6830.8	6794.5
20°	6767.3	6749.1	6658.3	6540.2	6476.6
22.5°	6503.8	6503.8	6394.8	6240.4	6176.8
25°	6258.6	6222.2	6122.3	5904.3	5740.8
27.5°	5977.0	5922.5	5813.5	5504.6	5313.9
30°	5668.1	5640.9	5486.5	5086.8	4941.5
32.5°	5377.5	5332.1	5168.6	4750.7	4632.6
35°	5077.7	5041.4	4796.1	4432.8	4323.8
37.5°	4778.0	4732.5	4423.7	4133.0	3996.8
40°	4478.2	4423.7	4087.6	3824.2	3678.8
42.5°	4196.6	4123.9	3796.9	3515.3	3351.8
45°	3896.9	3815.1	3488.1	3197.4	3070.2
47.5°	3597.1	3524.4	3224.7	2924.9	2779.6
50°	3279.2	3215.6	2943.1	2643.3	2488.9
52.5°	3015.7	2915.8	2652.4	2352.6	2225.5
55°	2706.9	2625.2	2379.9	2098.3	1989.3
57.5°	2425.3	2343.6	2116.5	1853.0	1762.2
60°	2161.9	2043.8	1853.0	1626.0	1553.3
62.5°	1871.2	1780.4	1616.9	1426.1	1517.0
65°	1607.8	1517.0	1371.6	1398.9	1162.7
67.5°	1317.1	1271.7	1144.5	1017.4	981.0
70°	1071.9	1017.4	971.9	835.7	799.4
72.5°	853.9	799.4	735.8	663.1	635.8
75°	644.9	599.5	563.2	535.9	590.4
77.5°	445.1	426.9	399.7	372.4	363.3
80°	290.7	281.6	272.5	263.4	254.3
82.5°	172.6	172.6	172.6	172.6	172.6
85°	90.8	99.9	109.0	118.1	127.2
87.5°	54.5	54.5	63.6	72.7	81.8
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)