

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: P547298

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-81-87-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: P547298
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-81-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

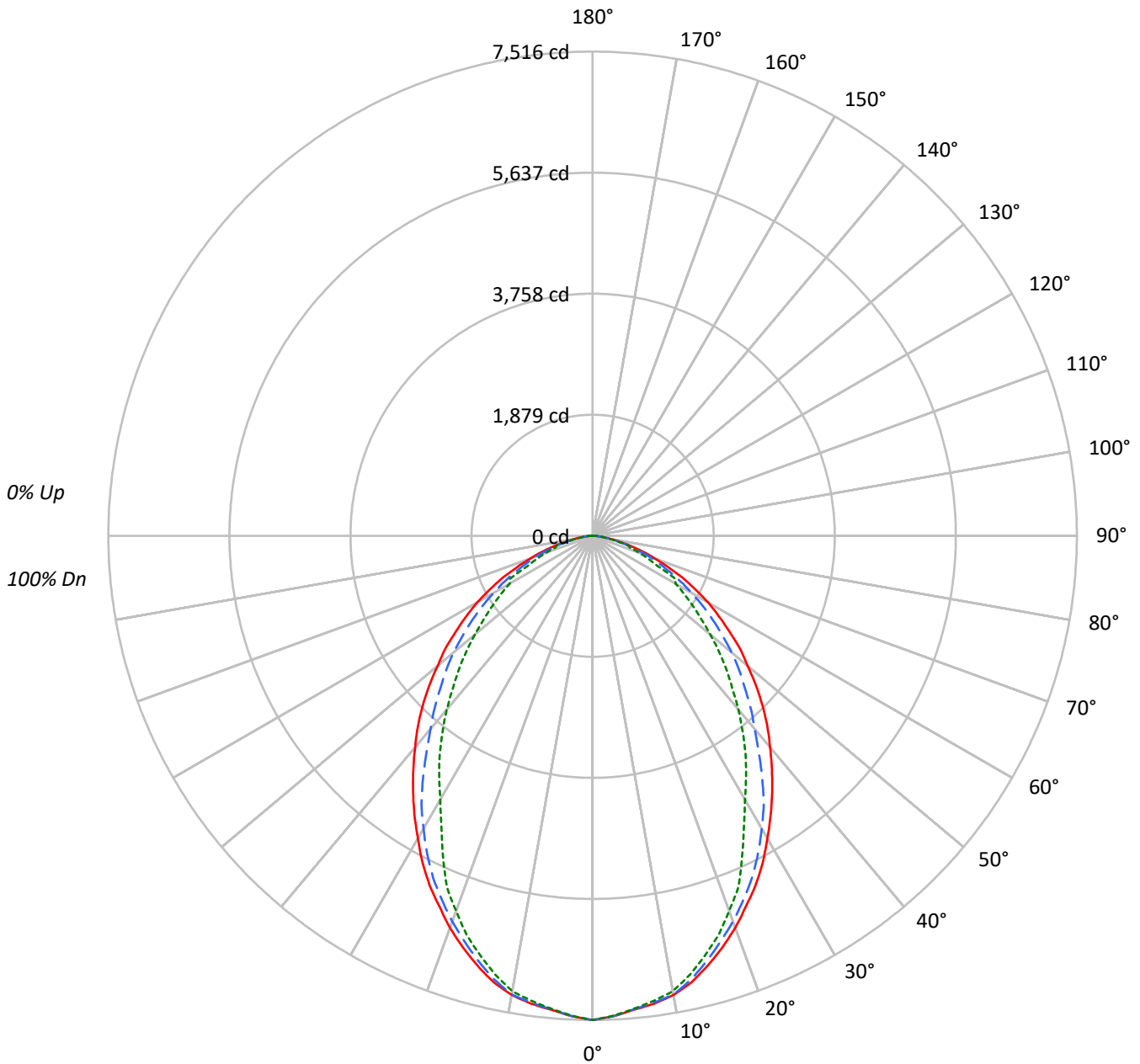
Lumens per Lamp: N/A
Luminaire Lumens: 14756.0 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10113	10113	10113
5°	9976	9964	9953
10°	9889	9878	9806
15°	9623	9526	9393
20°	9269	9120	8871
25°	8888	8695	8153
30°	8424	8154	7344
35°	7979	7536	6794
40°	7524	6868	6181
45°	7093	6349	5589
50°	6566	5893	4984
55°	6074	5341	4464
60°	5565	4770	3999
65°	4897	4177	3541
70°	4034	3658	3008
75°	3208	2801	2936
80°	2155	2020	1885
85°	1342	1610	1879



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	699.7	4.7
10°-20°	1920.2	13.0
20°-30°	2658.4	18.0
30°-40°	2834.7	19.2
40°-50°	2586.0	17.5
50°-60°	2026.0	13.7
60°-70°	1320.4	8.9
70°-80°	585.0	4.0
80°-90°	125.6	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°	5278.3	35.8
0°-40°	8113.0	55.0
0°-60°	12725.0	86.2
0°-90°	14756.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14756.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7516	7516	7516	7516	7516	
5°	7386	7378	7378	7369	7369	701
15°	6908	6908	6839	6769	6743	1942
25°	5987	5952	5857	5648	5492	2749
35°	4858	4823	4588	4240	4136	3037
45°	3728	3650	3337	3059	2937	2872
55°	2590	2511	2277	2007	1903	2323
65°	1538	1451	1312	1338	1112	1516
75°	617	574	539	513	565	661
85°	87	96	104	113	122	121
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7516.5	7516.5	7516.5	7516.5	7516.5
2.5°	7464.4	7464.4	7464.4	7455.7	7455.7
5°	7386.2	7377.5	7377.5	7368.8	7368.8
7.5°	7325.3	7316.6	7308.0	7299.3	7281.9
10°	7238.4	7238.4	7229.8	7186.3	7177.6
12.5°	7099.4	7090.7	7056.0	6995.1	6977.8
15°	6908.2	6908.2	6838.7	6769.2	6743.1
17.5°	6699.7	6691.0	6604.1	6534.6	6499.8
20°	6473.8	6456.4	6369.5	6256.5	6195.7
22.5°	6221.8	6221.8	6117.5	5969.8	5908.9
25°	5987.1	5952.4	5856.8	5648.2	5491.8
27.5°	5717.8	5665.6	5561.3	5265.9	5083.4
30°	5422.3	5396.2	5248.5	4866.2	4727.1
32.5°	5144.2	5100.8	4944.4	4544.7	4431.7
35°	4857.5	4822.7	4588.1	4240.5	4136.3
37.5°	4570.7	4527.3	4231.8	3953.8	3823.4
40°	4284.0	4231.8	3910.3	3658.3	3519.3
42.5°	4014.6	3945.1	3632.3	3362.9	3206.5
45°	3727.8	3649.6	3336.8	3058.7	2937.1
47.5°	3441.1	3371.6	3084.8	2798.1	2659.0
50°	3136.9	3076.1	2815.4	2528.7	2381.0
52.5°	2884.9	2789.4	2537.4	2250.6	2129.0
55°	2589.5	2511.3	2276.7	2007.3	1903.0
57.5°	2320.1	2241.9	2024.7	1772.7	1685.8
60°	2068.1	1955.2	1772.7	1555.4	1485.9
62.5°	1790.1	1703.2	1546.7	1364.3	1451.2
65°	1538.1	1451.2	1312.1	1338.2	1112.3
67.5°	1260.0	1216.5	1094.9	973.2	938.5
70°	1025.4	973.2	929.8	799.4	764.7
72.5°	816.8	764.7	703.9	634.3	608.3
75°	617.0	573.5	538.8	512.7	564.8
77.5°	425.8	408.4	382.3	356.3	347.6
80°	278.1	269.4	260.7	252.0	243.3
82.5°	165.1	165.1	165.1	165.1	165.1
85°	86.9	95.6	104.3	113.0	121.7
87.5°	52.1	52.1	60.8	69.5	78.2
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)