

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: P547396

Luminaire Tested: **FMR-24-4-LD4-4LO-40-UNV-81-94-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: P547396
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-LD4-4LO-40-UNV-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 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

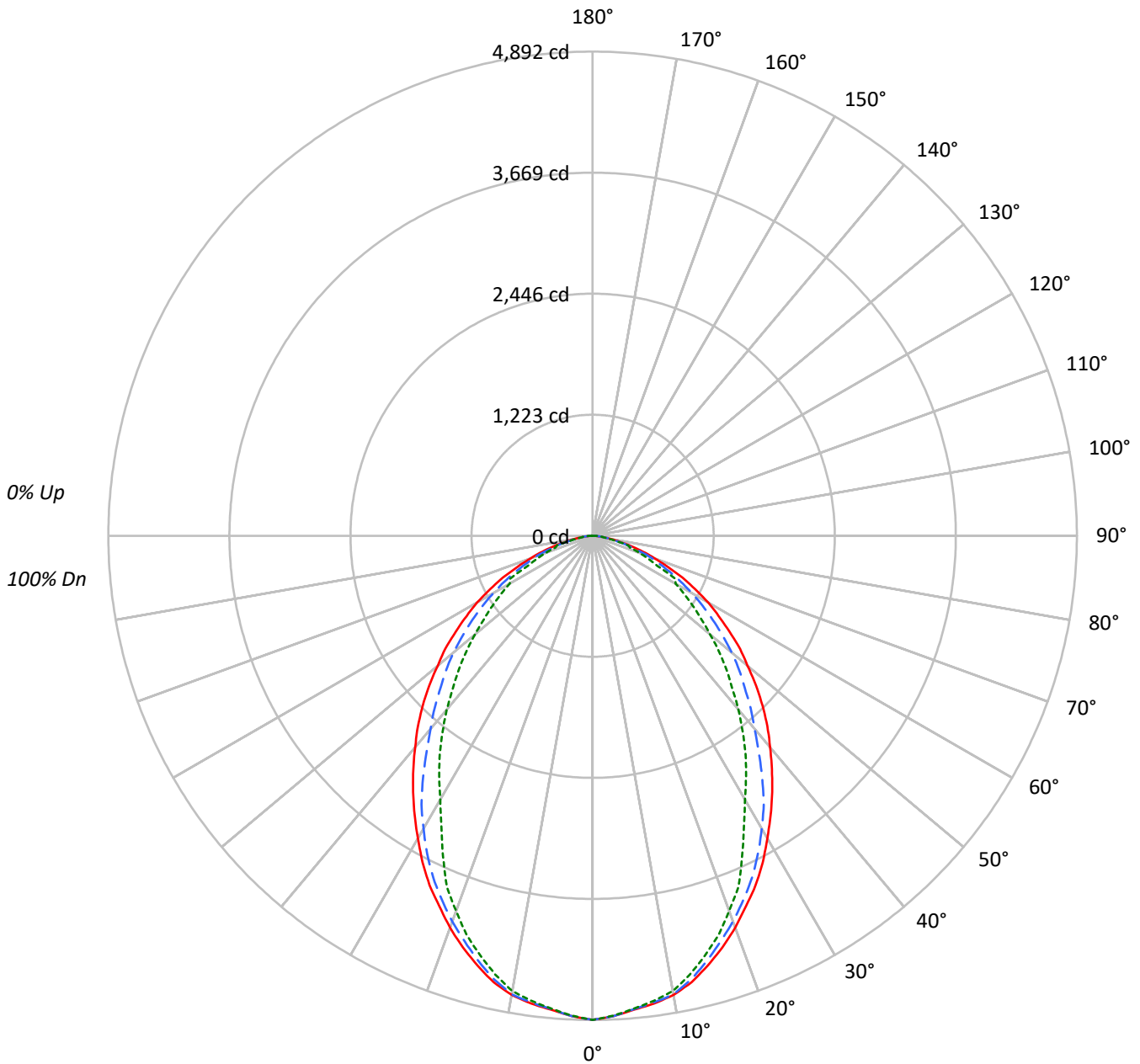
Lumens per Lamp: N/A
Luminaire Lumens: 9603.0 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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			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°	6582	6582	6582
5°	6492	6485	6477
10°	6436	6428	6382
15°	6262	6199	6113
20°	6032	5935	5773
25°	5784	5658	5306
30°	5482	5307	4780
35°	5192	4904	4421
40°	4897	4470	4023
45°	4616	4132	3637
50°	4273	3835	3243
55°	3953	3476	2905
60°	3622	3104	2602
65°	3187	2719	2304
70°	2625	2380	1958
75°	2087	1823	1911
80°	1402	1315	1227
85°	874	1048	1223



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	455.3	4.7
10°-20°	1249.7	13.0
20°-30°	1730.1	18.0
30°-40°	1844.8	19.2
40°-50°	1682.9	17.5
50°-60°	1318.5	13.7
60°-70°	859.3	8.9
70°-80°	380.7	4.0
80°-90°	81.7	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°	3435.1	35.8
0°-40°	5279.8	55.0
0°-60°	8281.2	86.2
0°-90°	9603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9603.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4892	4892	4892	4892	4892	
5°	4807	4801	4801	4796	4796	456
15°	4496	4496	4450	4405	4388	1264
25°	3896	3874	3812	3676	3574	1789
35°	3161	3139	2986	2760	2692	1976
45°	2426	2375	2172	1991	1911	1869
55°	1685	1634	1482	1306	1238	1512
65°	1001	944	854	871	724	986
75°	402	373	351	334	368	430
85°	57	62	68	74	79	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4891.6	4891.6	4891.6	4891.6	4891.6
2.5°	4857.7	4857.7	4857.7	4852.1	4852.1
5°	4806.8	4801.2	4801.2	4795.5	4795.5
7.5°	4767.2	4761.6	4755.9	4750.3	4739.0
10°	4710.7	4710.7	4705.0	4676.7	4671.1
12.5°	4620.2	4614.5	4591.9	4552.3	4541.0
15°	4495.8	4495.8	4450.5	4405.3	4388.3
17.5°	4360.1	4354.4	4297.9	4252.6	4230.0
20°	4213.0	4201.7	4145.2	4071.7	4032.1
22.5°	4049.0	4049.0	3981.2	3885.0	3845.5
25°	3896.3	3873.7	3811.5	3675.8	3574.0
27.5°	3721.0	3687.1	3619.2	3427.0	3308.2
30°	3528.8	3511.8	3415.7	3166.8	3076.4
32.5°	3347.8	3319.5	3217.7	2957.6	2884.1
35°	3161.2	3138.6	2985.9	2759.7	2691.8
37.5°	2974.6	2946.3	2754.0	2573.1	2488.2
40°	2788.0	2754.0	2544.8	2380.8	2290.3
42.5°	2612.6	2567.4	2363.8	2188.5	2086.7
45°	2426.0	2375.1	2171.5	1990.6	1911.4
47.5°	2239.4	2194.2	2007.6	1820.9	1730.5
50°	2041.5	2001.9	1832.2	1645.6	1549.5
52.5°	1877.5	1815.3	1651.3	1464.7	1385.5
55°	1685.2	1634.3	1481.6	1306.3	1238.5
57.5°	1509.9	1459.0	1317.6	1153.6	1097.1
60°	1345.9	1272.4	1153.6	1012.3	967.0
62.5°	1164.9	1108.4	1006.6	887.8	944.4
65°	1000.9	944.4	853.9	870.9	723.8
67.5°	820.0	791.7	712.5	633.4	610.7
70°	667.3	633.4	605.1	520.3	497.6
72.5°	531.6	497.6	458.1	412.8	395.9
75°	401.5	373.2	350.6	333.6	367.6
77.5°	277.1	265.8	248.8	231.9	226.2
80°	181.0	175.3	169.7	164.0	158.3
82.5°	107.4	107.4	107.4	107.4	107.4
85°	56.6	62.2	67.9	73.5	79.2
87.5°	33.9	33.9	39.6	45.2	50.9
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)