

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: P547499

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-82-88-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: P547499
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-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 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

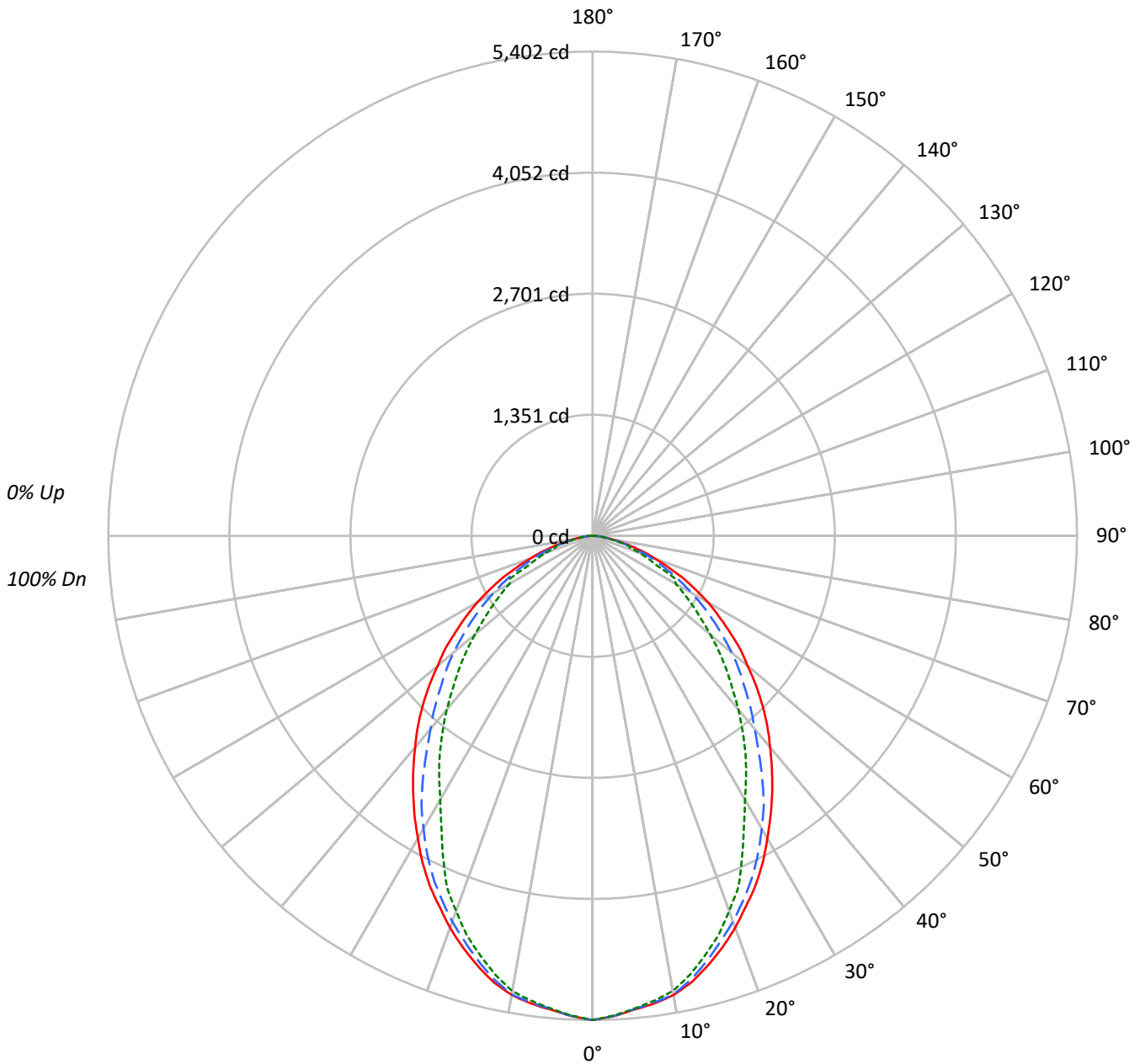
Lumens per Lamp: N/A
Luminaire Lumens: 10605.0 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
Input Voltage (V): NR
Input Current (A_{in}): 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°	7268	7268	7268
5°	7170	7161	7153
10°	7107	7099	7048
15°	6916	6846	6751
20°	6662	6555	6376
25°	6388	6249	5860
30°	6055	5860	5278
35°	5734	5416	4883
40°	5408	4936	4442
45°	5098	4563	4017
50°	4719	4235	3582
55°	4366	3838	3208
60°	4000	3428	2874
65°	3519	3002	2545
70°	2899	2629	2162
75°	2305	2013	2110
80°	1548	1452	1355
85°	965	1156	1349



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	502.9	4.7
10°-20°	1380.0	13.0
20°-30°	1910.6	18.0
30°-40°	2037.2	19.2
40°-50°	1858.6	17.5
50°-60°	1456.0	13.7
60°-70°	949.0	8.9
70°-80°	420.4	4.0
80°-90°	90.3	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°	3793.5	35.8
0°-40°	5830.7	55.0
0°-60°	9145.3	86.2
0°-90°	10605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10605.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5402	5402	5402	5402	5402	
5°	5308	5302	5302	5296	5296	504
15°	4965	4965	4915	4865	4846	1396
25°	4303	4278	4209	4059	3947	1975
35°	3491	3466	3297	3048	2973	2183
45°	2679	2623	2398	2198	2111	2064
55°	1861	1805	1636	1443	1368	1669
65°	1105	1043	943	962	799	1089
75°	443	412	387	368	406	475
85°	62	69	75	81	87	87
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5402.0	5402.0	5402.0	5402.0	5402.0
2.5°	5364.6	5364.6	5364.6	5358.3	5358.3
5°	5308.4	5302.1	5302.1	5295.9	5295.9
7.5°	5264.7	5258.4	5252.2	5245.9	5233.4
10°	5202.2	5202.2	5196.0	5164.7	5158.5
12.5°	5102.3	5096.0	5071.1	5027.3	5014.8
15°	4964.9	4964.9	4914.9	4865.0	4846.2
17.5°	4815.0	4808.8	4746.3	4696.3	4671.4
20°	4652.6	4640.1	4577.7	4496.5	4452.8
22.5°	4471.5	4471.5	4396.6	4290.4	4246.7
25°	4302.9	4277.9	4209.2	4059.3	3946.9
27.5°	4109.3	4071.8	3996.9	3784.6	3653.4
30°	3897.0	3878.2	3772.1	3497.3	3397.4
32.5°	3697.1	3665.9	3553.5	3266.2	3185.0
35°	3491.0	3466.1	3297.4	3047.6	2972.7
37.5°	3284.9	3253.7	3041.4	2841.5	2747.9
40°	3078.9	3041.4	2810.3	2629.2	2529.3
42.5°	2885.3	2835.3	2610.5	2416.9	2304.5
45°	2679.2	2623.0	2398.1	2198.3	2110.9
47.5°	2473.1	2423.1	2217.0	2010.9	1911.0
50°	2254.5	2210.8	2023.4	1817.3	1711.2
52.5°	2073.4	2004.7	1823.6	1617.5	1530.1
55°	1861.1	1804.8	1636.2	1442.6	1367.7
57.5°	1667.5	1611.2	1455.1	1274.0	1211.6
60°	1486.3	1405.2	1274.0	1117.9	1067.9
62.5°	1286.5	1224.0	1111.6	980.5	1042.9
65°	1105.4	1042.9	943.0	961.8	799.4
67.5°	905.5	874.3	786.9	699.5	674.5
70°	736.9	699.5	668.2	574.6	549.6
72.5°	587.0	549.6	505.9	455.9	437.2
75°	443.4	412.2	387.2	368.5	405.9
77.5°	306.0	293.5	274.8	256.1	249.8
80°	199.8	193.6	187.4	181.1	174.9
82.5°	118.7	118.7	118.7	118.7	118.7
85°	62.5	68.7	74.9	81.2	87.4
87.5°	37.5	37.5	43.7	50.0	56.2
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)