

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: P546759

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-82-84-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: P546759
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-LD4-2HI-50-UNV-82-84-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

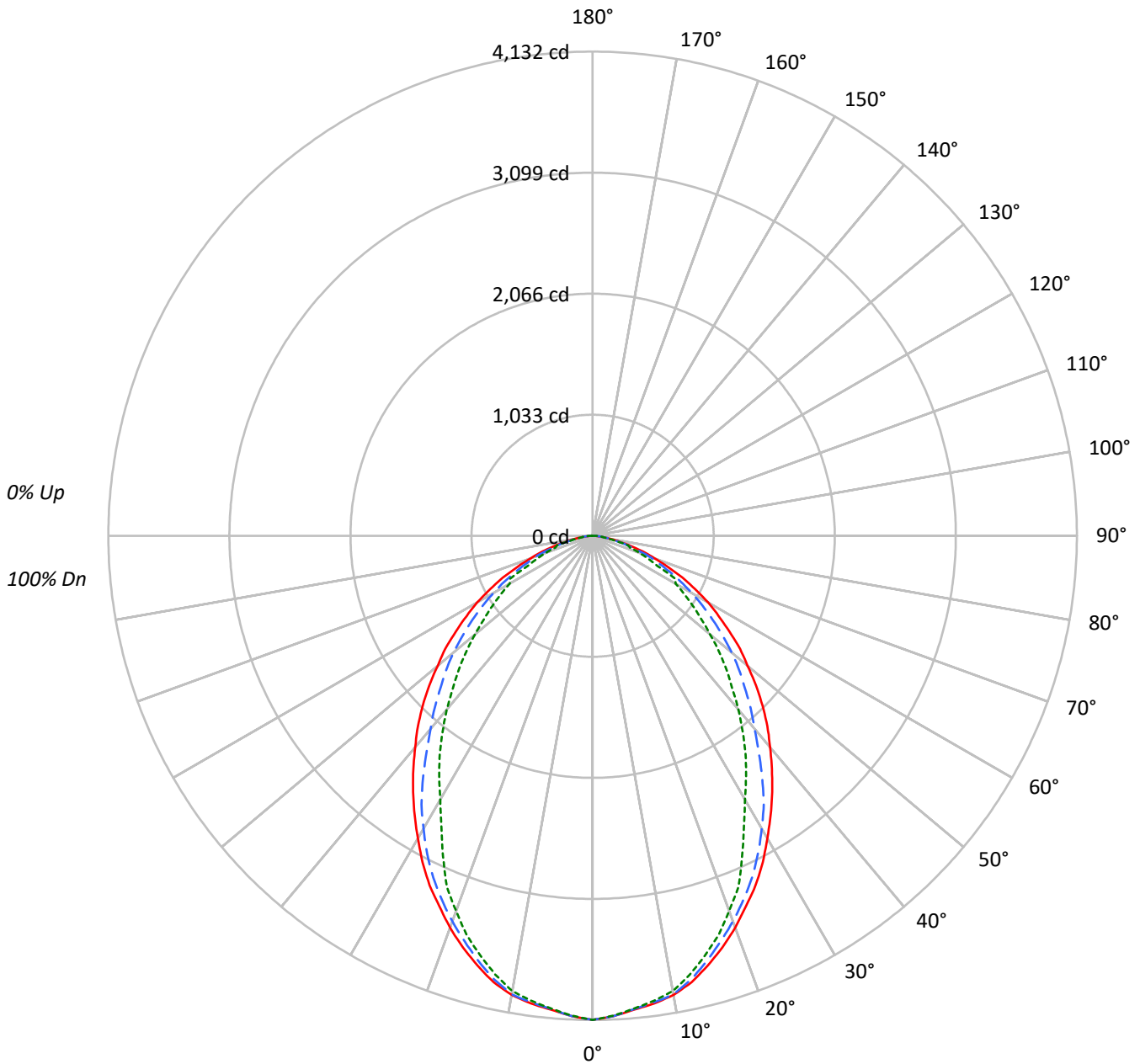
Lumens per Lamp: N/A
Luminaire Lumens: 8111.0 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	5559	5559	5559
5°	5484	5477	5471
10°	5436	5429	5390
15°	5289	5236	5163
20°	5095	5013	4876
25°	4886	4779	4482
30°	4631	4482	4037
35°	4386	4142	3734
40°	4136	3775	3398
45°	3899	3490	3072
50°	3609	3239	2739
55°	3339	2936	2454
60°	3059	2622	2198
65°	2691	2296	1947
70°	2217	2011	1653
75°	1763	1539	1614
80°	1184	1110	1036
85°	738	885	1033



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	384.6	4.7
10°-20°	1055.5	13.0
20°-30°	1461.3	18.0
30°-40°	1558.1	19.2
40°-50°	1421.5	17.5
50°-60°	1113.6	13.7
60°-70°	725.8	8.9
70°-80°	321.6	4.0
80°-90°	69.1	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°	2901.4	35.8
0°-40°	4459.5	55.0
0°-60°	6994.6	86.2
0°-90°	8111.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8111.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4132	4132	4132	4132	4132	
5°	4060	4055	4055	4050	4050	385
15°	3797	3797	3759	3721	3706	1068
25°	3291	3272	3219	3105	3019	1511
35°	2670	2651	2522	2331	2274	1669
45°	2049	2006	1834	1681	1614	1578
55°	1423	1380	1251	1103	1046	1277
65°	845	798	721	736	611	833
75°	339	315	296	282	310	363
85°	48	52	57	62	67	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4131.6	4131.6	4131.6	4131.6	4131.6
2.5°	4103.0	4103.0	4103.0	4098.2	4098.2
5°	4060.0	4055.2	4055.2	4050.4	4050.4
7.5°	4026.6	4021.8	4017.0	4012.2	4002.7
10°	3978.8	3978.8	3974.0	3950.1	3945.4
12.5°	3902.4	3897.6	3878.5	3845.0	3835.5
15°	3797.3	3797.3	3759.1	3720.9	3706.5
17.5°	3682.6	3677.9	3630.1	3591.9	3572.8
20°	3558.5	3548.9	3501.1	3439.0	3405.6
22.5°	3419.9	3419.9	3362.6	3281.4	3248.0
25°	3291.0	3271.9	3219.3	3104.7	3018.7
27.5°	3142.9	3114.2	3056.9	2894.5	2794.2
30°	2980.5	2966.2	2885.0	2674.8	2598.4
32.5°	2827.7	2803.8	2717.8	2498.1	2436.0
35°	2670.0	2650.9	2522.0	2330.9	2273.6
37.5°	2512.4	2488.5	2326.1	2173.3	2101.6
40°	2354.8	2326.1	2149.4	2010.9	1934.5
42.5°	2206.7	2168.5	1996.6	1848.5	1762.5
45°	2049.1	2006.1	1834.2	1681.3	1614.4
47.5°	1891.5	1853.3	1695.6	1538.0	1461.6
50°	1724.3	1690.9	1547.6	1389.9	1308.7
52.5°	1585.8	1533.2	1394.7	1237.1	1170.2
55°	1423.4	1380.4	1251.4	1103.4	1046.0
57.5°	1275.3	1232.3	1112.9	974.4	926.6
60°	1136.8	1074.7	974.4	855.0	816.8
62.5°	984.0	936.2	850.2	749.9	797.7
65°	845.4	797.7	721.2	735.6	611.4
67.5°	692.6	668.7	601.8	535.0	515.9
70°	563.6	535.0	511.1	439.4	420.3
72.5°	449.0	420.3	386.9	348.7	334.4
75°	339.1	315.2	296.1	281.8	310.5
77.5°	234.0	224.5	210.2	195.8	191.1
80°	152.8	148.1	143.3	138.5	133.7
82.5°	90.8	90.8	90.8	90.8	90.8
85°	47.8	52.5	57.3	62.1	66.9
87.5°	28.7	28.7	33.4	38.2	43.0
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)