

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: P546727

Luminaire Tested: **FMR-24-4-LD4-2HI-40-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: P546727
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

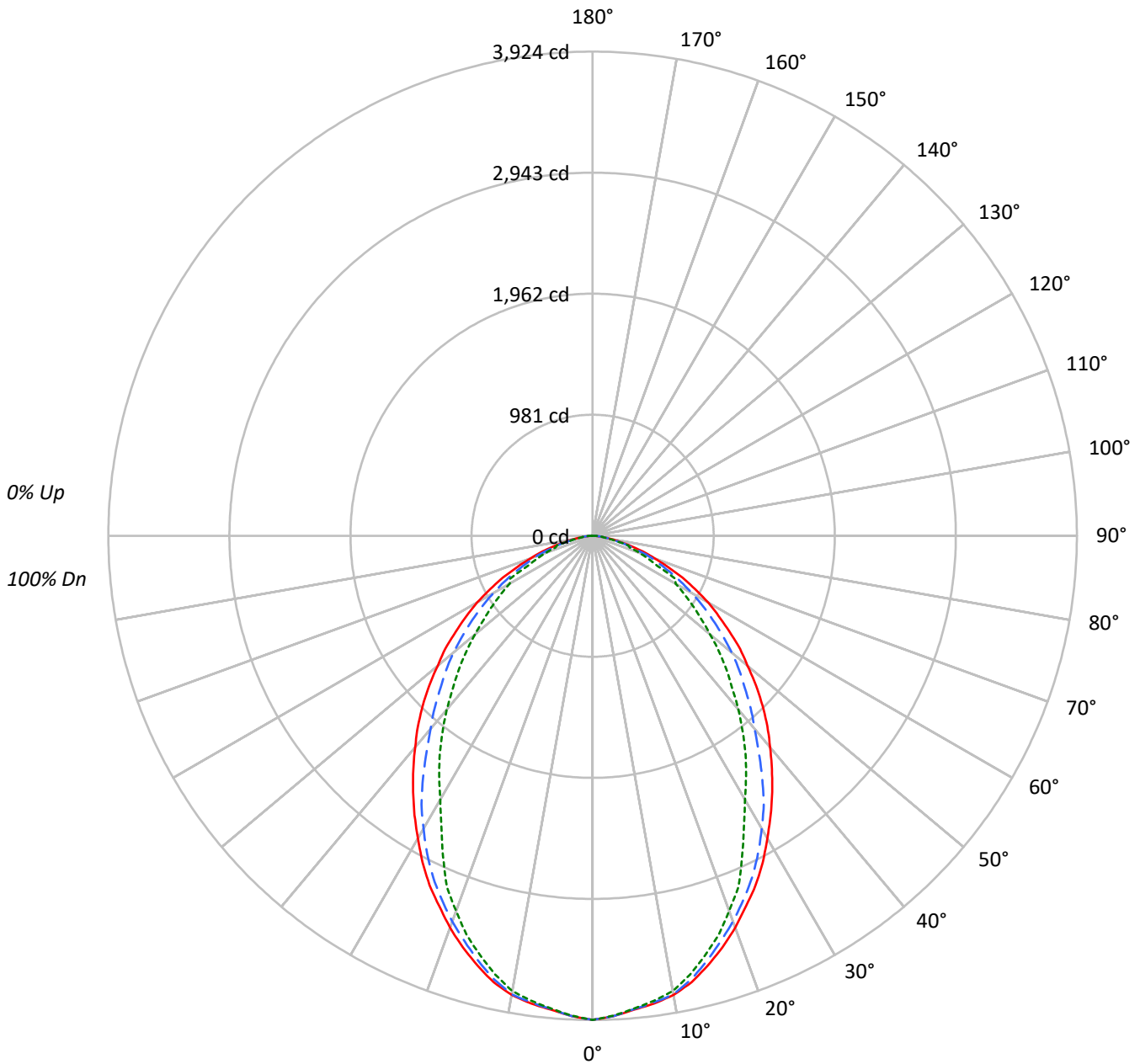
Lumens per Lamp: N/A
Luminaire Lumens: 7703.0 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	5279	5279	5279
5°	5208	5202	5195
10°	5162	5156	5119
15°	5023	4973	4903
20°	4839	4761	4631
25°	4640	4539	4256
30°	4398	4257	3834
35°	4165	3934	3547
40°	3928	3585	3227
45°	3703	3315	2917
50°	3428	3076	2602
55°	3171	2788	2330
60°	2905	2490	2087
65°	2556	2181	1848
70°	2106	1910	1570
75°	1674	1462	1533
80°	1125	1055	984
85°	701	840	980



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	365.3	4.7
10°-20°	1002.4	13.0
20°-30°	1387.8	18.0
30°-40°	1479.8	19.2
40°-50°	1350.0	17.5
50°-60°	1057.6	13.7
60°-70°	689.3	8.9
70°-80°	305.4	4.0
80°-90°	65.6	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°	2755.4	35.8
0°-40°	4235.2	55.0
0°-60°	6642.8	86.2
0°-90°	7703.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7703.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3924	3924	3924	3924	3924	
5°	3856	3851	3851	3847	3847	366
15°	3606	3606	3570	3534	3520	1014
25°	3125	3107	3057	2948	2867	1435
35°	2536	2518	2395	2214	2159	1585
45°	1946	1905	1742	1597	1533	1499
55°	1352	1311	1188	1048	993	1212
65°	803	758	685	699	581	791
75°	322	299	281	268	295	345
85°	45	50	54	59	64	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3923.8	3923.8	3923.8	3923.8	3923.8
2.5°	3896.6	3896.6	3896.6	3892.1	3892.1
5°	3855.8	3851.2	3851.2	3846.7	3846.7
7.5°	3824.0	3819.5	3814.9	3810.4	3801.3
10°	3778.6	3778.6	3774.1	3751.4	3746.9
12.5°	3706.1	3701.5	3683.4	3651.6	3642.6
15°	3606.3	3606.3	3570.0	3533.7	3520.1
17.5°	3497.4	3492.9	3447.5	3411.2	3393.1
20°	3379.5	3370.4	3325.0	3266.1	3234.3
22.5°	3247.9	3247.9	3193.5	3116.4	3084.6
25°	3125.4	3107.3	3057.4	2948.5	2866.9
27.5°	2984.8	2957.6	2903.2	2748.9	2653.7
30°	2830.6	2817.0	2739.9	2540.3	2467.7
32.5°	2685.4	2662.7	2581.1	2372.4	2313.5
35°	2535.7	2517.6	2395.1	2213.7	2159.2
37.5°	2386.0	2363.4	2209.1	2064.0	1995.9
40°	2236.3	2209.1	2041.3	1909.7	1837.2
42.5°	2095.7	2059.4	1896.1	1755.5	1673.9
45°	1946.0	1905.2	1741.9	1596.7	1533.2
47.5°	1796.3	1760.0	1610.3	1460.7	1388.1
50°	1637.6	1605.8	1469.7	1320.0	1242.9
52.5°	1506.0	1456.1	1324.6	1174.9	1111.4
55°	1351.8	1311.0	1188.5	1047.9	993.4
57.5°	1211.2	1170.3	1056.9	925.4	880.0
60°	1079.6	1020.6	925.4	812.0	775.7
62.5°	934.5	889.1	807.4	712.2	757.5
65°	802.9	757.5	685.0	698.6	580.6
67.5°	657.7	635.1	571.6	508.1	489.9
70°	535.3	508.1	485.4	417.3	399.2
72.5°	426.4	399.2	367.4	331.1	317.5
75°	322.1	299.4	281.2	267.6	294.9
77.5°	222.3	213.2	199.6	186.0	181.4
80°	145.2	140.6	136.1	131.5	127.0
82.5°	86.2	86.2	86.2	86.2	86.2
85°	45.4	49.9	54.4	59.0	63.5
87.5°	27.2	27.2	31.8	36.3	40.8
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)