

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: P547403

Luminaire Tested: **FMR-24-4-LD4-4LO-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: P547403
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-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

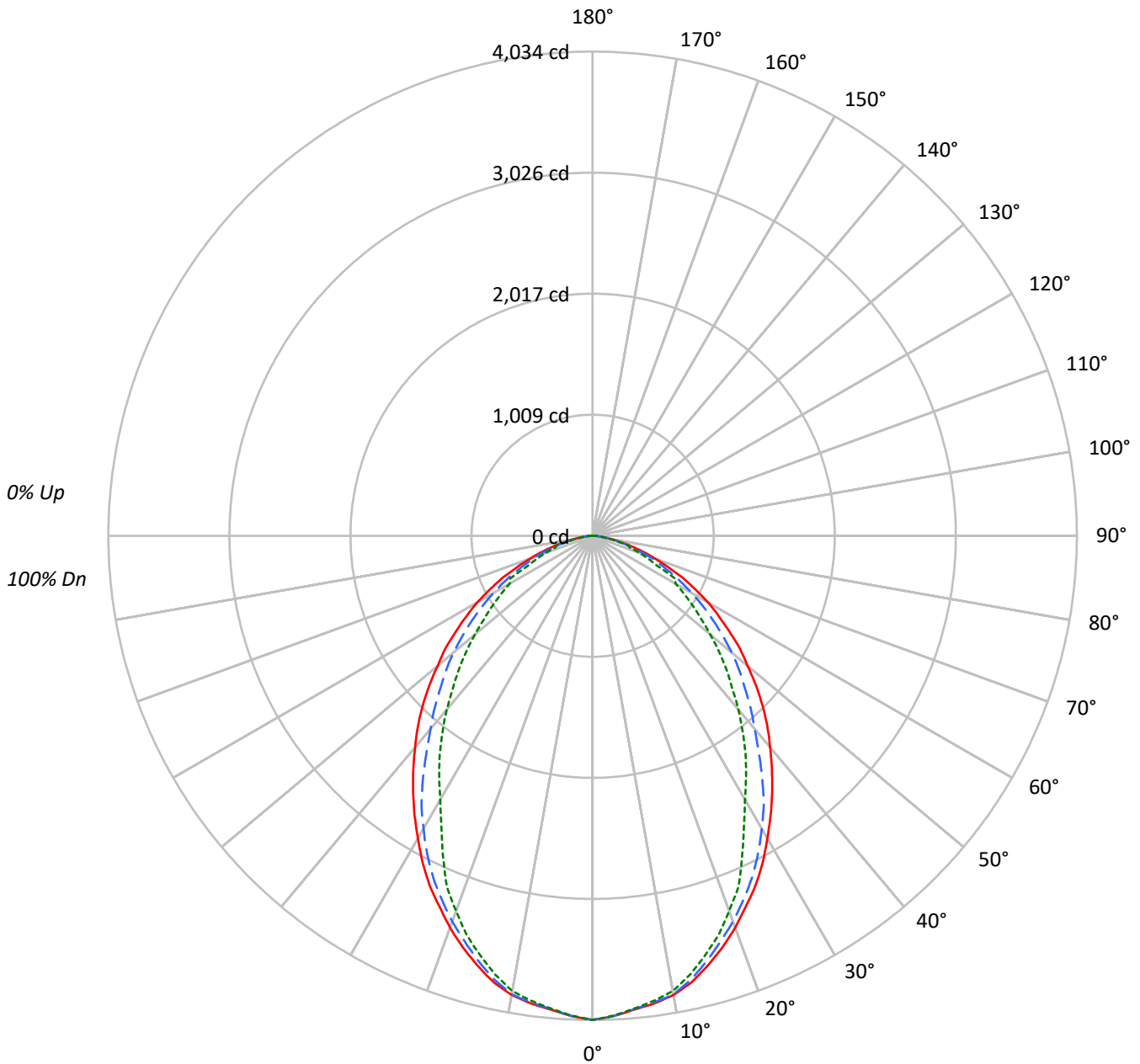
Lumens per Lamp: N/A
Luminaire Lumens: 7919.0 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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																			
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°	5427	5427	5427
5°	5354	5347	5341
10°	5307	5301	5263
15°	5164	5112	5041
20°	4974	4894	4761
25°	4770	4666	4376
30°	4521	4376	3941
35°	4282	4044	3646
40°	4038	3686	3317
45°	3807	3407	2999
50°	3524	3163	2675
55°	3260	2866	2396
60°	2987	2560	2146
65°	2628	2242	1900
70°	2165	1963	1614
75°	1721	1503	1576
80°	1156	1084	1012
85°	719	865	1008



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	375.5	4.7
10°-20°	1030.5	13.0
20°-30°	1426.7	18.0
30°-40°	1521.3	19.2
40°-50°	1387.8	17.5
50°-60°	1087.2	13.7
60°-70°	708.6	8.9
70°-80°	313.9	4.0
80°-90°	67.4	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°	2832.7	35.8
0°-40°	4353.9	55.0
0°-60°	6829.0	86.2
0°-90°	7919.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7919.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4034	4034	4034	4034	4034	
5°	3964	3959	3959	3955	3955	376
15°	3707	3707	3670	3633	3619	1042
25°	3213	3194	3143	3031	2947	1475
35°	2607	2588	2462	2276	2220	1630
45°	2001	1959	1791	1642	1576	1541
55°	1390	1348	1222	1077	1021	1246
65°	825	779	704	718	597	813
75°	331	308	289	275	303	355
85°	47	51	56	61	65	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4033.8	4033.8	4033.8	4033.8	4033.8
2.5°	4005.9	4005.9	4005.9	4001.2	4001.2
5°	3963.9	3959.2	3959.2	3954.6	3954.6
7.5°	3931.2	3926.6	3921.9	3917.2	3907.9
10°	3884.6	3884.6	3879.9	3856.6	3852.0
12.5°	3810.0	3805.3	3786.7	3754.0	3744.7
15°	3707.4	3707.4	3670.1	3632.8	3618.8
17.5°	3595.5	3590.8	3544.2	3506.9	3488.2
20°	3474.2	3464.9	3418.3	3357.6	3325.0
22.5°	3339.0	3339.0	3283.0	3203.7	3171.1
25°	3213.1	3194.4	3143.1	3031.2	2947.3
27.5°	3068.5	3040.5	2984.6	2826.0	2728.1
30°	2910.0	2896.0	2816.7	2611.5	2536.9
32.5°	2760.7	2737.4	2653.5	2439.0	2378.3
35°	2606.8	2588.2	2462.3	2275.7	2219.8
37.5°	2452.9	2429.6	2271.1	2121.8	2051.9
40°	2299.1	2271.1	2098.5	1963.3	1888.7
42.5°	2154.5	2117.2	1949.3	1804.7	1720.8
45°	2000.6	1958.6	1790.7	1641.5	1576.2
47.5°	1846.7	1809.4	1655.5	1501.6	1427.0
50°	1683.5	1650.8	1510.9	1357.0	1277.8
52.5°	1548.2	1496.9	1361.7	1207.8	1142.5
55°	1389.7	1347.7	1221.8	1077.2	1021.3
57.5°	1245.1	1203.2	1086.6	951.3	904.7
60°	1109.9	1049.3	951.3	834.7	797.4
62.5°	960.7	914.0	830.1	732.2	778.8
65°	825.4	778.8	704.2	718.2	596.9
67.5°	676.2	652.9	587.6	522.3	503.6
70°	550.3	522.3	499.0	429.0	410.4
72.5°	438.4	410.4	377.7	340.4	326.4
75°	331.1	307.8	289.1	275.1	303.1
77.5°	228.5	219.2	205.2	191.2	186.5
80°	149.2	144.6	139.9	135.2	130.6
82.5°	88.6	88.6	88.6	88.6	88.6
85°	46.6	51.3	56.0	60.6	65.3
87.5°	28.0	28.0	32.6	37.3	42.0
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)