

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: P547309

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-82-96-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: P547309
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-LD4-4HI-40-UNV-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

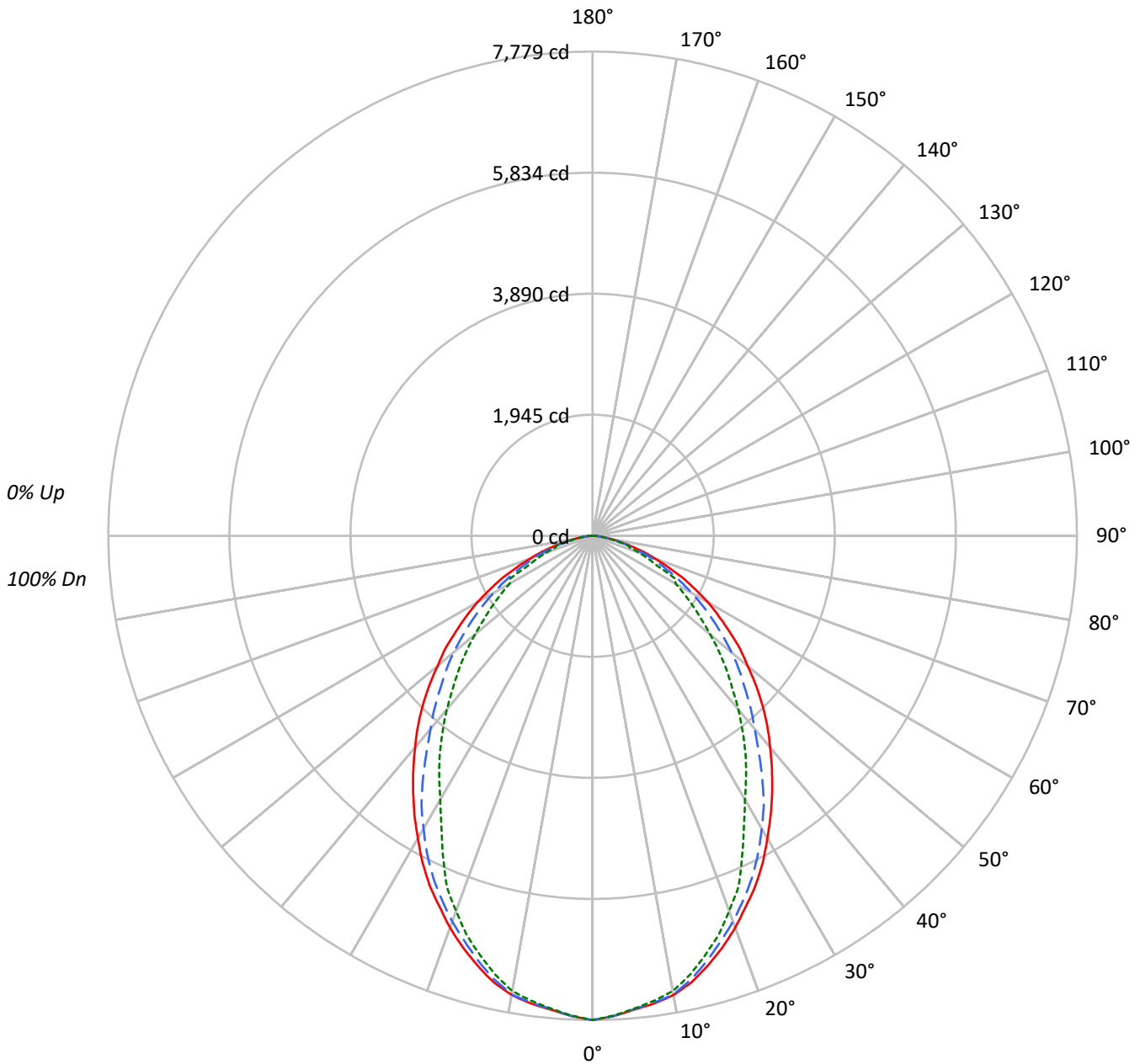
Lumens per Lamp: N/A
Luminaire Lumens: 15271.0 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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

TEST NUMBER: P547309

CATALOG NUMBER: FMR-24-4-LD4-4HI-40-UNV-82-96-EDD

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°	10466	10466	10466
5°	10324	10312	10300
10°	10235	10222	10149
15°	9959	9858	9721
20°	9593	9438	9181
25°	9199	8998	8438
30°	8718	8439	7601
35°	8257	7799	7031
40°	7787	7108	6397
45°	7341	6571	5784
50°	6795	6099	5158
55°	6286	5527	4620
60°	5760	4937	4138
65°	5067	4323	3665
70°	4175	3785	3113
75°	3319	2899	3039
80°	2230	2091	1951
85°	1388	1666	1944



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	724.1	4.7
10°-20°	1987.2	13.0
20°-30°	2751.2	18.0
30°-40°	2933.6	19.2
40°-50°	2676.3	17.5
50°-60°	2096.6	13.7
60°-70°	1366.5	8.9
70°-80°	605.4	4.0
80°-90°	130.0	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°	5462.6	35.8
0°-40°	8396.2	55.0
0°-60°	13169.1	86.2
0°-90°	15271.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15271.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7779	7779	7779	7779	7779	
5°	7644	7635	7635	7626	7626	726
15°	7149	7149	7077	7006	6978	2010
25°	6196	6160	6061	5845	5684	2845
35°	5027	4991	4748	4388	4281	3143
45°	3858	3777	3453	3166	3040	2972
55°	2680	2599	2356	2077	1969	2404
65°	1592	1502	1358	1385	1151	1569
75°	638	594	558	531	584	684
85°	90	99	108	117	126	125
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7778.8	7778.8	7778.8	7778.8	7778.8
2.5°	7724.9	7724.9	7724.9	7715.9	7715.9
5°	7644.0	7635.0	7635.0	7626.0	7626.0
7.5°	7581.0	7572.0	7563.0	7554.0	7536.0
10°	7491.1	7491.1	7482.1	7437.1	7428.1
12.5°	7347.2	7338.2	7302.2	7239.3	7221.3
15°	7149.3	7149.3	7077.4	7005.5	6978.5
17.5°	6933.5	6924.5	6834.6	6762.6	6726.7
20°	6699.7	6681.7	6591.8	6474.9	6411.9
22.5°	6438.9	6438.9	6331.0	6178.1	6115.2
25°	6196.1	6160.1	6061.2	5845.4	5683.5
27.5°	5917.3	5863.4	5755.4	5449.7	5260.8
30°	5611.6	5584.6	5431.7	5036.0	4892.1
32.5°	5323.8	5278.8	5117.0	4703.3	4586.4
35°	5027.0	4991.0	4748.2	4388.5	4280.6
37.5°	4730.3	4685.3	4379.5	4091.8	3956.9
40°	4433.5	4379.5	4046.8	3786.0	3642.1
42.5°	4154.7	4082.8	3759.0	3480.2	3318.4
45°	3857.9	3777.0	3453.3	3165.5	3039.6
47.5°	3561.2	3489.2	3192.5	2895.7	2751.8
50°	3246.4	3183.5	2913.7	2616.9	2464.0
52.5°	2985.6	2886.7	2625.9	2329.2	2203.3
55°	2679.9	2598.9	2356.1	2077.4	1969.4
57.5°	2401.1	2320.2	2095.3	1834.5	1744.6
60°	2140.3	2023.4	1834.5	1609.7	1537.8
62.5°	1852.5	1762.6	1600.7	1411.9	1501.8
65°	1591.7	1501.8	1357.9	1384.9	1151.1
67.5°	1304.0	1259.0	1133.1	1007.2	971.2
70°	1061.2	1007.2	962.2	827.3	791.4
72.5°	845.3	791.4	728.4	656.5	629.5
75°	638.5	593.5	557.6	530.6	584.5
77.5°	440.7	422.7	395.7	368.7	359.7
80°	287.8	278.8	269.8	260.8	251.8
82.5°	170.9	170.9	170.9	170.9	170.9
85°	89.9	98.9	107.9	116.9	125.9
87.5°	54.0	54.0	63.0	71.9	80.9
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)