

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: P546722

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-81-87-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: P546722
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-81-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

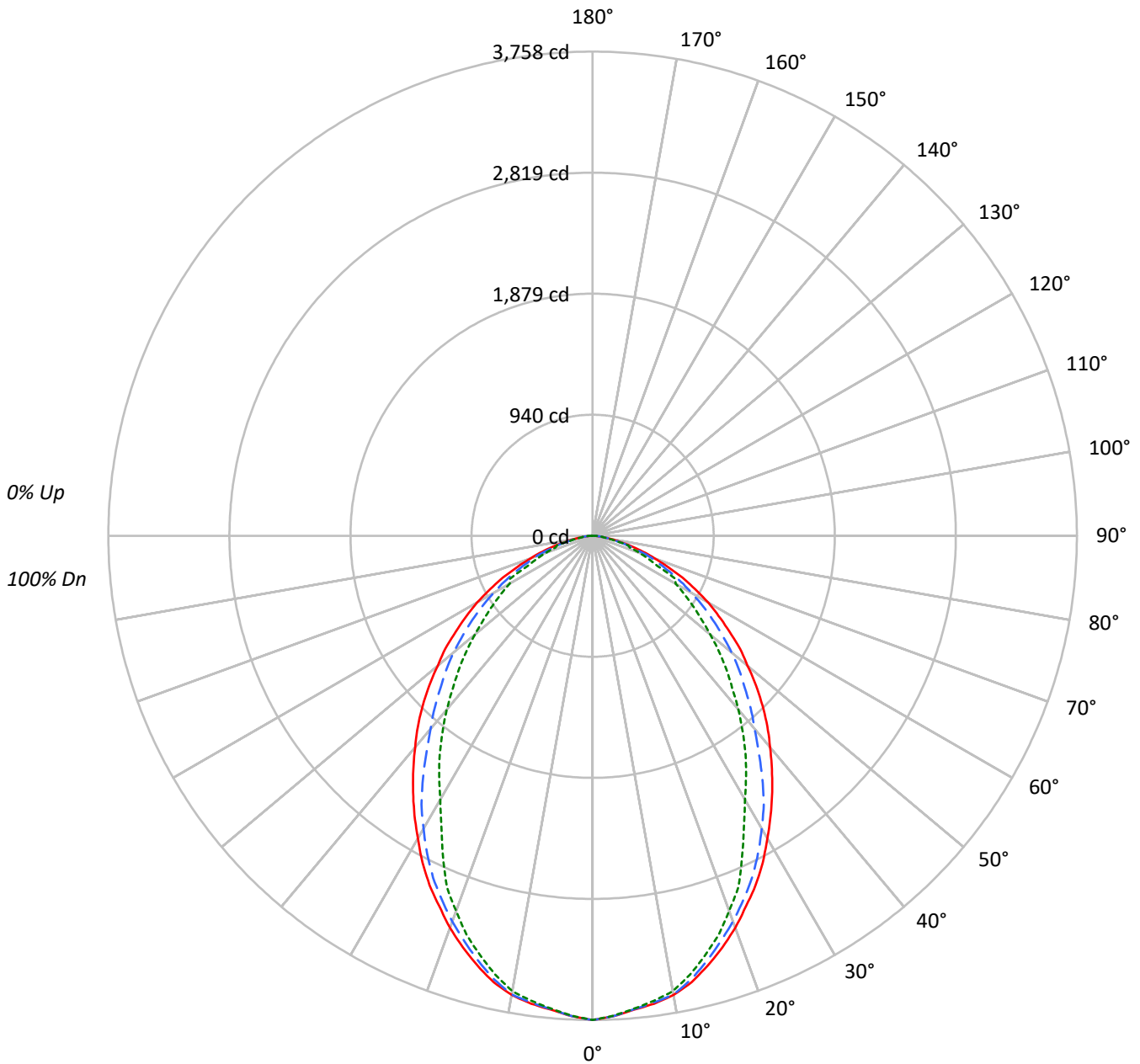
Lumens per Lamp: N/A
Luminaire Lumens: 7378.0 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P546722

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-81-87-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°	5057	5057	5057
5°	4988	4982	4976
10°	4945	4939	4903
15°	4811	4763	4696
20°	4635	4560	4436
25°	4444	4347	4077
30°	4212	4077	3672
35°	3989	3768	3397
40°	3762	3434	3091
45°	3547	3175	2794
50°	3283	2947	2492
55°	3037	2670	2232
60°	2783	2385	1999
65°	2448	2089	1770
70°	2017	1829	1504
75°	1604	1400	1468
80°	1077	1010	943
85°	670	804	939



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	349.8	4.7
10°-20°	960.1	13.0
20°-30°	1329.2	18.0
30°-40°	1417.3	19.2
40°-50°	1293.0	17.5
50°-60°	1013.0	13.7
60°-70°	660.2	8.9
70°-80°	292.5	4.0
80°-90°	62.8	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°	2639.2	35.8
0°-40°	4056.5	55.0
0°-60°	6362.5	86.2
0°-90°	7378.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7378.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3758	3758	3758	3758	3758	
5°	3693	3689	3689	3684	3684	351
15°	3454	3454	3419	3385	3372	971
25°	2994	2976	2928	2824	2746	1374
35°	2429	2411	2294	2120	2068	1518
45°	1864	1825	1668	1529	1468	1436
55°	1295	1256	1138	1004	952	1161
65°	769	726	656	669	556	758
75°	308	287	269	256	282	331
85°	43	48	52	56	61	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3758.3	3758.3	3758.3	3758.3	3758.3
2.5°	3732.2	3732.2	3732.2	3727.8	3727.8
5°	3693.1	3688.7	3688.7	3684.4	3684.4
7.5°	3662.7	3658.3	3654.0	3649.6	3640.9
10°	3619.2	3619.2	3614.9	3593.2	3588.8
12.5°	3549.7	3545.4	3528.0	3497.6	3488.9
15°	3454.1	3454.1	3419.4	3384.6	3371.6
17.5°	3349.8	3345.5	3302.1	3267.3	3249.9
20°	3236.9	3228.2	3184.7	3128.3	3097.8
22.5°	3110.9	3110.9	3058.7	2984.9	2954.5
25°	2993.6	2976.2	2928.4	2824.1	2745.9
27.5°	2858.9	2832.8	2780.7	2633.0	2541.7
30°	2711.2	2698.1	2624.3	2433.1	2363.6
32.5°	2572.1	2550.4	2472.2	2272.3	2215.8
35°	2428.7	2411.4	2294.1	2120.3	2068.1
37.5°	2285.4	2263.6	2115.9	1976.9	1911.7
40°	2142.0	2115.9	1955.2	1829.2	1759.6
42.5°	2007.3	1972.5	1816.1	1681.4	1603.2
45°	1863.9	1824.8	1668.4	1529.4	1468.5
47.5°	1720.5	1685.8	1542.4	1399.0	1329.5
50°	1568.5	1538.1	1407.7	1264.3	1190.5
52.5°	1442.5	1394.7	1268.7	1125.3	1064.5
55°	1294.8	1255.6	1138.3	1003.6	951.5
57.5°	1160.1	1121.0	1012.3	886.3	842.9
60°	1034.1	977.6	886.3	777.7	743.0
62.5°	895.0	851.6	773.4	682.1	725.6
65°	769.0	725.6	656.1	669.1	556.1
67.5°	630.0	608.3	547.4	486.6	469.2
70°	512.7	486.6	464.9	399.7	382.3
72.5°	408.4	382.3	351.9	317.2	304.1
75°	308.5	286.8	269.4	256.3	282.4
77.5°	212.9	204.2	191.2	178.1	173.8
80°	139.0	134.7	130.3	126.0	121.7
82.5°	82.6	82.6	82.6	82.6	82.6
85°	43.4	47.8	52.1	56.5	60.8
87.5°	26.1	26.1	30.4	34.8	39.1
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)