

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: P546771

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-93-88-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: P546771
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-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

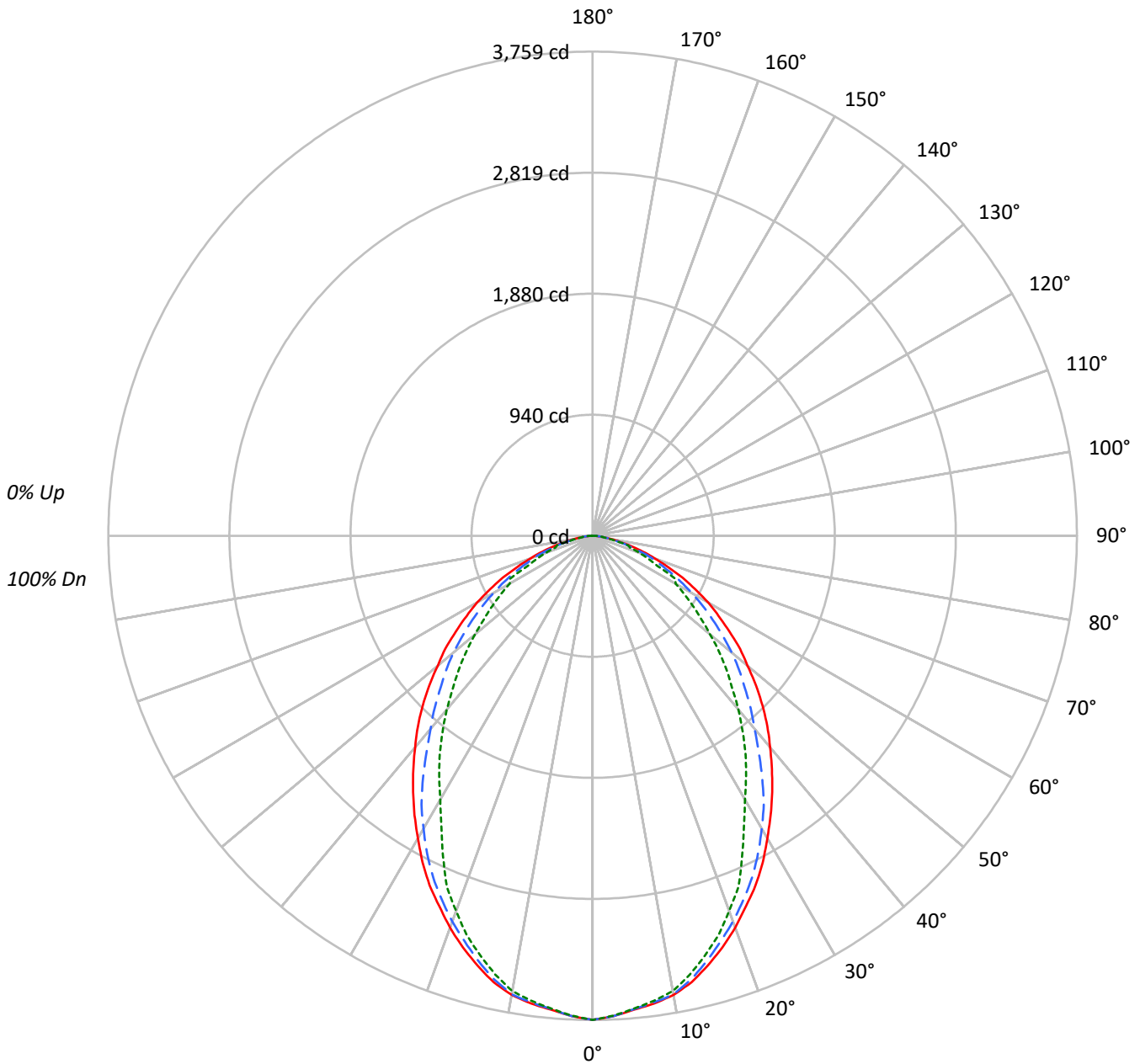
Lumens per Lamp: N/A
Luminaire Lumens: 7379.0 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	5057	5057	5057
5°	4989	4983	4977
10°	4945	4940	4904
15°	4812	4764	4697
20°	4635	4561	4436
25°	4445	4348	4077
30°	4213	4078	3673
35°	3990	3769	3397
40°	3763	3434	3091
45°	3547	3175	2795
50°	3284	2947	2492
55°	3038	2671	2232
60°	2783	2386	2000
65°	2449	2089	1771
70°	2017	1829	1504
75°	1604	1400	1469
80°	1078	1010	943
85°	672	804	939



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	349.9	4.7
10°-20°	960.2	13.0
20°-30°	1329.4	18.0
30°-40°	1417.5	19.2
40°-50°	1293.2	17.5
50°-60°	1013.1	13.7
60°-70°	660.3	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°	2639.5	35.8
0°-40°	4057.1	55.0
0°-60°	6363.4	86.2
0°-90°	7379.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7379.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3759	3759	3759	3759	3759	
5°	3694	3689	3689	3685	3685	351
15°	3455	3455	3420	3385	3372	971
25°	2994	2977	2929	2824	2746	1375
35°	2429	2412	2294	2121	2068	1519
45°	1864	1825	1669	1530	1469	1436
55°	1295	1256	1138	1004	952	1161
65°	769	726	656	669	556	758
75°	308	287	269	256	282	331
85°	44	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°	3758.8	3758.8	3758.8	3758.8	3758.8
2.5°	3732.7	3732.7	3732.7	3728.3	3728.3
5°	3693.6	3689.2	3689.2	3684.9	3684.9
7.5°	3663.2	3658.8	3654.5	3650.1	3641.4
10°	3619.7	3619.7	3615.4	3593.6	3589.3
12.5°	3550.2	3545.8	3528.5	3498.0	3489.3
15°	3454.6	3454.6	3419.8	3385.1	3372.0
17.5°	3350.3	3346.0	3302.5	3267.7	3250.4
20°	3237.3	3228.6	3185.2	3128.7	3098.3
22.5°	3111.3	3111.3	3059.2	2985.3	2954.9
25°	2994.0	2976.6	2928.8	2824.5	2746.3
27.5°	2859.3	2833.2	2781.1	2633.3	2542.1
30°	2711.5	2698.5	2624.6	2433.4	2363.9
32.5°	2572.5	2550.7	2472.5	2272.6	2216.1
35°	2429.1	2411.7	2294.4	2120.6	2068.4
37.5°	2285.7	2263.9	2116.2	1977.2	1912.0
40°	2142.3	2116.2	1955.4	1829.4	1759.9
42.5°	2007.6	1972.8	1816.4	1681.7	1603.4
45°	1864.2	1825.1	1668.6	1529.6	1468.7
47.5°	1720.8	1686.0	1542.6	1399.2	1329.7
50°	1568.7	1538.3	1407.9	1264.5	1190.6
52.5°	1442.7	1394.9	1268.9	1125.5	1064.6
55°	1294.9	1255.8	1138.5	1003.8	951.6
57.5°	1160.2	1121.1	1012.5	886.5	843.0
60°	1034.2	977.7	886.5	777.8	743.1
62.5°	895.2	851.7	773.5	682.2	725.7
65°	769.1	725.7	656.2	669.2	556.2
67.5°	630.1	608.4	547.5	486.7	469.3
70°	512.8	486.7	465.0	399.8	382.4
72.5°	408.5	382.4	352.0	317.2	304.2
75°	308.5	286.8	269.4	256.4	282.5
77.5°	212.9	204.2	191.2	178.2	173.8
80°	139.1	134.7	130.4	126.0	121.7
82.5°	82.6	82.6	82.6	82.6	82.6
85°	43.5	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)