

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: P547314

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-93-87-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: P547314
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-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

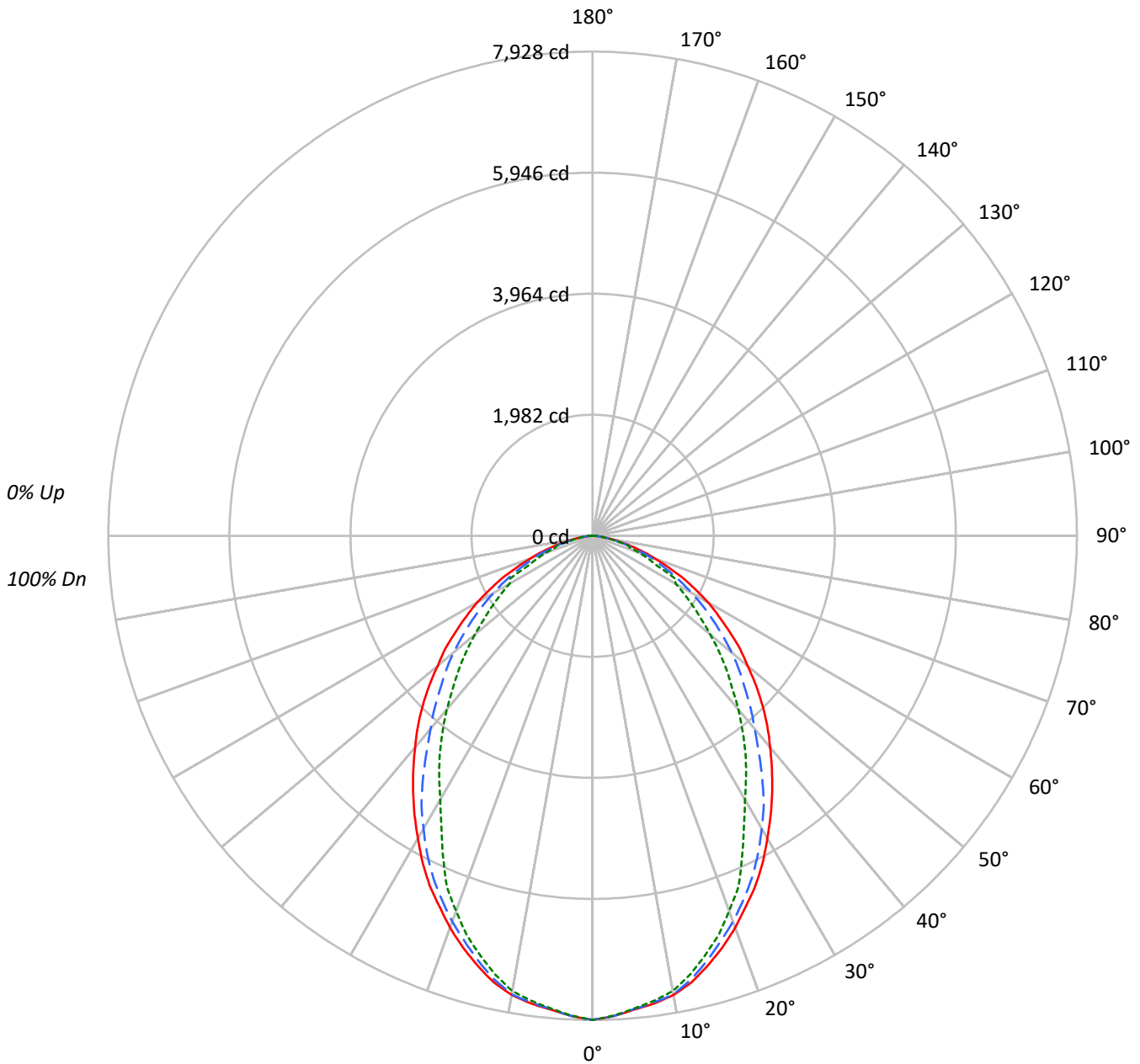
Lumens per Lamp: N/A
Luminaire Lumens: 15563.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	10667	10667	10667
5°	10522	10509	10497
10°	10430	10418	10343
15°	10149	10047	9907
20°	9776	9619	9356
25°	9375	9170	8599
30°	8885	8600	7746
35°	8415	7948	7166
40°	7936	7244	6519
45°	7481	6697	5894
50°	6925	6216	5256
55°	6407	5633	4708
60°	5870	5031	4217
65°	5165	4406	3735
70°	4255	3858	3173
75°	3383	2954	3097
80°	2273	2130	1988
85°	1414	1698	1981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	738.0	4.7
10°-20°	2025.2	13.0
20°-30°	2803.8	18.0
30°-40°	2989.7	19.2
40°-50°	2727.5	17.5
50°-60°	2136.7	13.7
60°-70°	1392.6	8.9
70°-80°	617.0	4.0
80°-90°	132.5	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°	5567.0	35.8
0°-40°	8556.7	55.0
0°-60°	13420.9	86.2
0°-90°	15563.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15563.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7928	7928	7928	7928	7928	
5°	7790	7781	7781	7772	7772	739
15°	7286	7286	7213	7139	7112	2048
25°	6315	6278	6177	5957	5792	2899
35°	5123	5086	4839	4472	4362	3203
45°	3932	3849	3519	3226	3098	3029
55°	2731	2649	2401	2117	2007	2450
65°	1622	1530	1384	1411	1173	1599
75°	651	605	568	541	596	697
85°	92	101	110	119	128	127
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7927.6	7927.6	7927.6	7927.6	7927.6
2.5°	7872.6	7872.6	7872.6	7863.4	7863.4
5°	7790.1	7780.9	7780.9	7771.8	7771.8
7.5°	7726.0	7716.8	7707.6	7698.5	7680.1
10°	7634.3	7634.3	7625.1	7579.3	7570.2
12.5°	7487.7	7478.5	7441.8	7377.7	7359.4
15°	7286.0	7286.0	7212.7	7139.4	7111.9
17.5°	7066.1	7056.9	6965.3	6892.0	6855.3
20°	6827.8	6809.5	6717.8	6598.7	6534.5
22.5°	6562.0	6562.0	6452.0	6296.2	6232.1
25°	6314.6	6277.9	6177.1	5957.1	5792.2
27.5°	6030.5	5975.5	5865.5	5553.9	5361.4
30°	5718.9	5691.4	5535.6	5132.3	4985.7
32.5°	5425.6	5379.8	5214.8	4793.2	4674.1
35°	5123.1	5086.5	4839.0	4472.4	4362.5
37.5°	4820.7	4774.9	4463.3	4170.0	4032.5
40°	4518.3	4463.3	4124.2	3858.4	3711.8
42.5°	4234.2	4160.8	3830.9	3546.8	3381.8
45°	3931.7	3849.2	3519.3	3226.0	3097.7
47.5°	3629.3	3556.0	3253.5	2951.1	2804.4
50°	3308.5	3244.4	2969.4	2667.0	2511.2
52.5°	3042.7	2941.9	2676.1	2373.7	2245.4
55°	2731.1	2648.6	2401.2	2117.1	2007.1
57.5°	2447.0	2364.5	2135.4	1869.6	1778.0
60°	2181.2	2062.1	1869.6	1640.5	1567.2
62.5°	1888.0	1796.3	1631.3	1438.9	1530.5
65°	1622.2	1530.5	1383.9	1411.4	1173.1
67.5°	1328.9	1283.1	1154.8	1026.5	989.8
70°	1081.5	1026.5	980.6	843.2	806.5
72.5°	861.5	806.5	742.4	669.0	641.5
75°	650.7	604.9	568.2	540.7	595.7
77.5°	449.1	430.7	403.3	375.8	366.6
80°	293.3	284.1	274.9	265.8	256.6
82.5°	174.1	174.1	174.1	174.1	174.1
85°	91.6	100.8	110.0	119.1	128.3
87.5°	55.0	55.0	64.2	73.3	82.5
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)