

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: P547526

Luminaire Tested: **FMR-24-4-LD4-4STD-50-UNV-81-97-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: P547526  
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-LD4-4STD-50-UNV-81-97-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

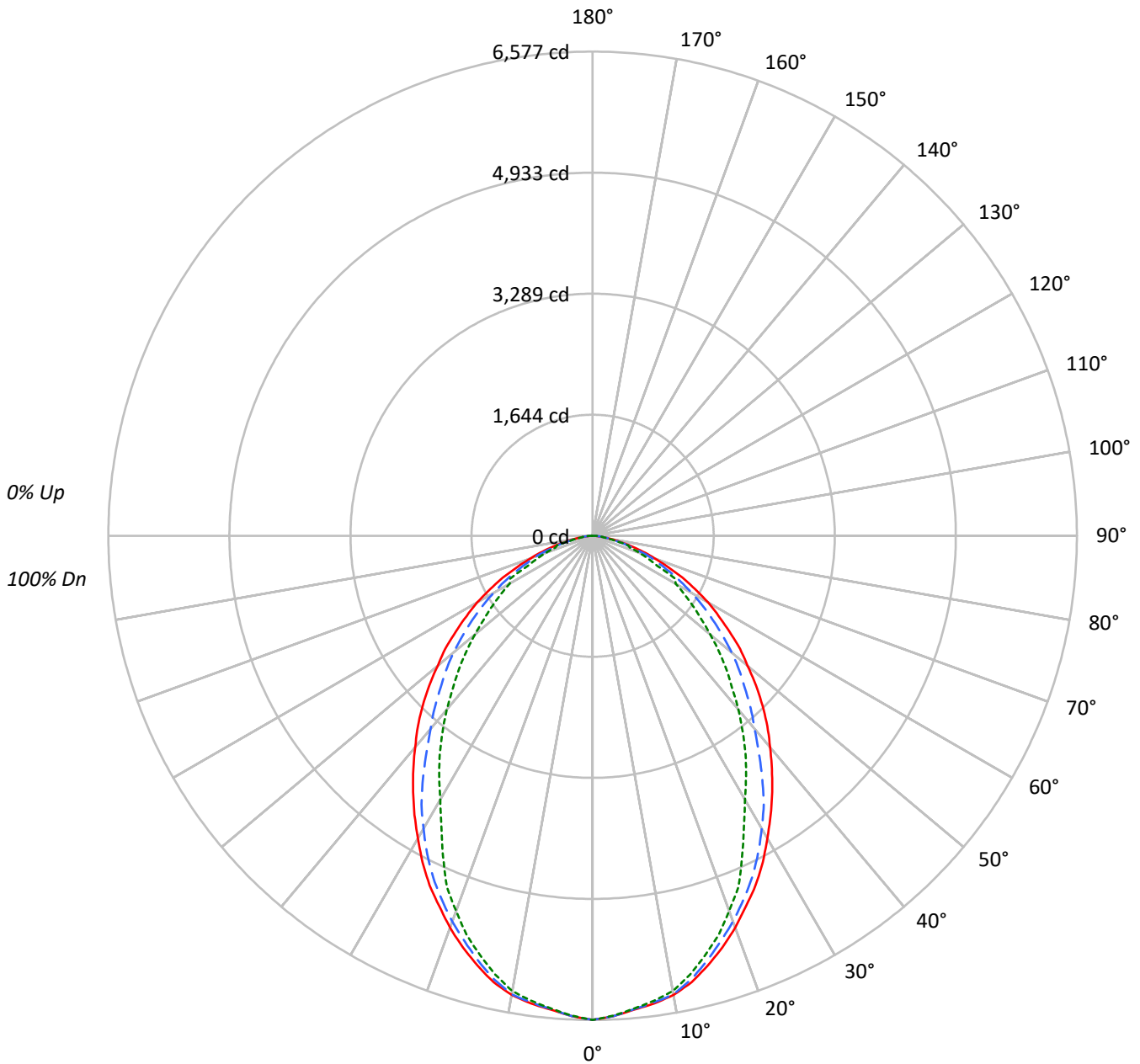
Lumens per Lamp: N/A  
Luminaire Lumens: 12911.0 lumens  
Efficiency: N/A  
Efficacy: 96.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 133.2  
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°	8849	8849	8849
5°	8729	8718	8708
10°	8653	8643	8580
15°	8420	8335	8218
20°	8110	7980	7762
25°	7777	7608	7134
30°	7371	7135	6426
35°	6981	6594	5945
40°	6584	6009	5409
45°	6206	5555	4890
50°	5745	5156	4361
55°	5315	4673	3906
60°	4869	4174	3499
65°	4285	3655	3098
70°	3530	3200	2632
75°	2806	2451	2569
80°	1885	1767	1650
85°	1173	1408	1643



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	612.2	4.7
10°-20°	1680.1	13.0
20°-30°	2326.0	18.0
30°-40°	2480.2	19.2
40°-50°	2262.7	17.5
50°-60°	1772.6	13.7
60°-70°	1155.3	8.9
70°-80°	511.9	4.0
80°-90°	109.9	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°	4618.4	35.8
0°-40°	7098.6	55.0
0°-60°	11133.9	86.2
0°-90°	12911.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12911.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6577	6577	6577	6577	6577	
5°	6463	6455	6455	6447	6447	613
15°	6044	6044	5984	5923	5900	1699
25°	5238	5208	5124	4942	4805	2405
35°	4250	4220	4014	3710	3619	2657
45°	3262	3193	2920	2676	2570	2512
55°	2266	2197	1992	1756	1665	2032
65°	1346	1270	1148	1171	973	1326
75°	540	502	471	449	494	579
85°	76	84	91	99	106	105
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6576.7	6576.7	6576.7	6576.7	6576.7
2.5°	6531.1	6531.1	6531.1	6523.5	6523.5
5°	6462.6	6455.0	6455.0	6447.4	6447.4
7.5°	6409.4	6401.8	6394.2	6386.6	6371.4
10°	6333.4	6333.4	6325.8	6287.8	6280.2
12.5°	6211.7	6204.1	6173.7	6120.5	6105.3
15°	6044.5	6044.5	5983.6	5922.8	5900.0
17.5°	5862.0	5854.4	5778.4	5717.5	5687.1
20°	5664.3	5649.1	5573.1	5474.2	5421.0
22.5°	5443.8	5443.8	5352.6	5223.3	5170.1
25°	5238.5	5208.1	5124.5	4942.0	4805.2
27.5°	5002.8	4957.2	4866.0	4607.5	4447.8
30°	4744.3	4721.5	4592.3	4257.7	4136.1
32.5°	4501.0	4463.0	4326.2	3976.4	3877.6
35°	4250.1	4219.7	4014.4	3710.3	3619.1
37.5°	3999.2	3961.2	3702.7	3459.4	3345.4
40°	3748.3	3702.7	3421.4	3200.9	3079.3
42.5°	3512.6	3451.8	3178.1	2942.4	2805.5
45°	3261.7	3193.3	2919.6	2676.3	2569.9
47.5°	3010.8	2950.0	2699.1	2448.2	2326.6
50°	2744.7	2691.5	2463.4	2212.5	2083.3
52.5°	2524.2	2440.6	2220.1	1969.2	1862.8
55°	2265.7	2197.3	1992.0	1756.3	1665.1
57.5°	2030.0	1961.6	1771.5	1551.0	1475.0
60°	1809.5	1710.7	1551.0	1361.0	1300.1
62.5°	1566.2	1490.2	1353.4	1193.7	1269.7
65°	1345.8	1269.7	1148.1	1170.9	973.2
67.5°	1102.5	1064.4	958.0	851.5	821.1
70°	897.2	851.5	813.5	699.5	669.1
72.5°	714.7	669.1	615.9	555.0	532.2
75°	539.8	501.8	471.4	448.6	494.2
77.5°	372.6	357.3	334.5	311.7	304.1
80°	243.3	235.7	228.1	220.5	212.9
82.5°	144.5	144.5	144.5	144.5	144.5
85°	76.0	83.6	91.2	98.8	106.4
87.5°	45.6	45.6	53.2	60.8	68.4
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)