

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: P547255

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-80-84-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: P547255  
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-35-UNV-80-84-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

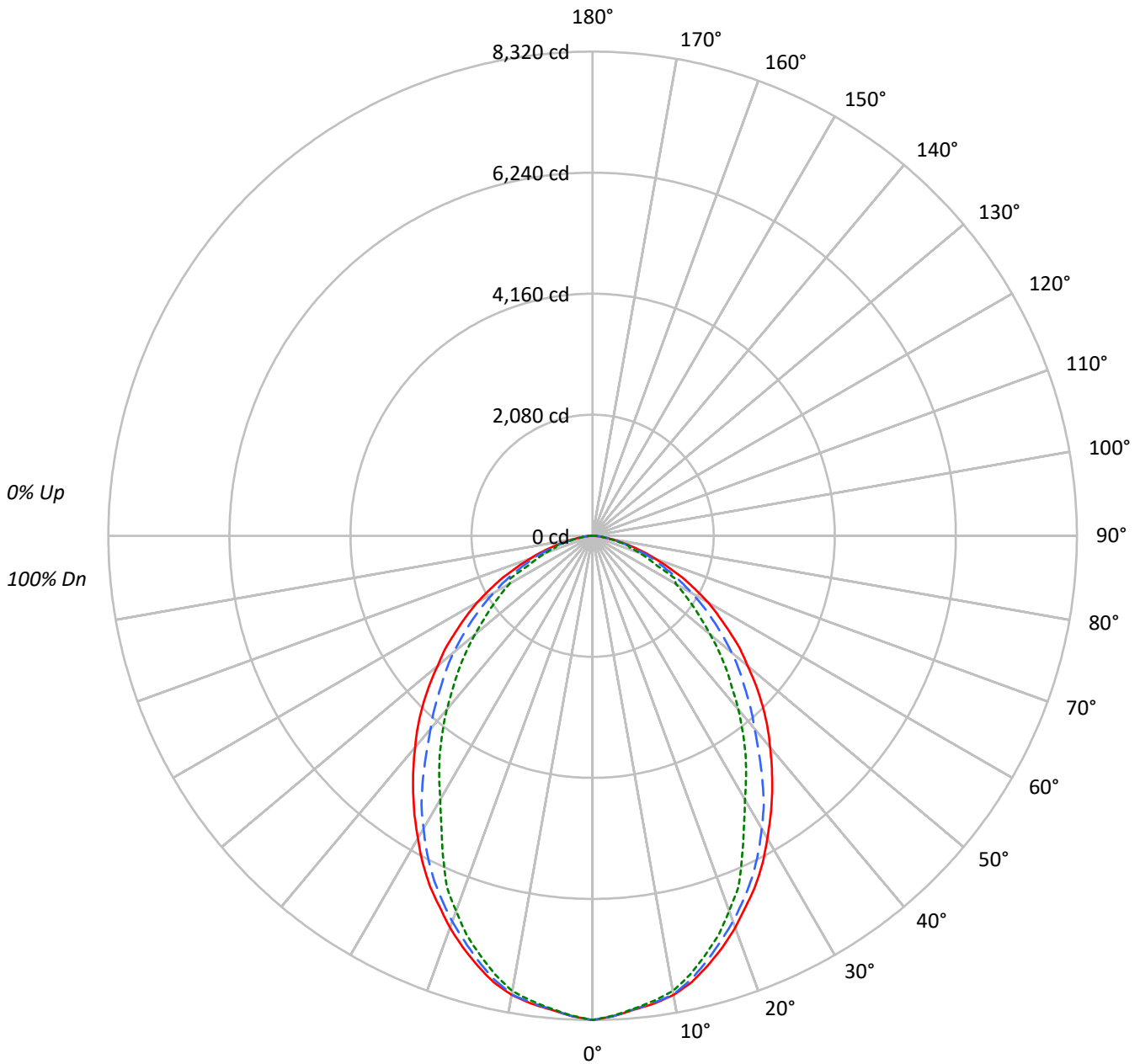
Lumens per Lamp: N/A  
Luminaire Lumens: 16333.0 lumens  
Efficiency: N/A  
Efficacy: 94.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	11194	11194	11194
5°	11042	11029	11016
10°	10946	10933	10854
15°	10651	10544	10397
20°	10260	10095	9819
25°	9838	9624	9024
30°	9325	9026	8129
35°	8831	8342	7520
40°	8329	7602	6842
45°	7851	7028	6186
50°	7268	6523	5516
55°	6724	5911	4941
60°	6160	5280	4426
65°	5420	4624	3919
70°	4465	4049	3330
75°	3550	3100	3250
80°	2385	2235	2087
85°	1485	1782	2079



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	774.5	4.7
10°-20°	2125.4	13.0
20°-30°	2942.5	18.0
30°-40°	3137.6	19.2
40°-50°	2862.4	17.5
50°-60°	2242.5	13.7
60°-70°	1461.5	8.9
70°-80°	647.5	4.0
80°-90°	139.0	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°	5842.4	35.8
0°-40°	8980.0	55.0
0°-60°	14084.9	86.2
0°-90°	16333.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16333.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8320	8320	8320	8320	8320	
5°	8176	8166	8166	8156	8156	776
15°	7646	7646	7570	7493	7464	2150
25°	6627	6588	6483	6252	6079	3042
35°	5377	5338	5078	4694	4578	3361
45°	4126	4040	3693	3386	3251	3178
55°	2866	2780	2520	2222	2106	2571
65°	1702	1606	1452	1481	1231	1678
75°	683	635	596	568	625	732
85°	96	106	115	125	135	133
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8319.8	8319.8	8319.8	8319.8	8319.8
2.5°	8262.1	8262.1	8262.1	8252.5	8252.5
5°	8175.5	8165.9	8165.9	8156.3	8156.3
7.5°	8108.2	8098.6	8089.0	8079.4	8060.1
10°	8012.0	8012.0	8002.4	7954.3	7944.7
12.5°	7858.1	7848.5	7810.0	7742.7	7723.5
15°	7646.5	7646.5	7569.6	7492.6	7463.8
17.5°	7415.7	7406.1	7309.9	7232.9	7194.5
20°	7165.6	7146.4	7050.2	6925.2	6857.8
22.5°	6886.7	6886.7	6771.3	6607.8	6540.4
25°	6627.0	6588.5	6482.7	6251.9	6078.8
27.5°	6328.8	6271.1	6155.7	5828.7	5626.7
30°	6001.8	5973.0	5809.4	5386.2	5232.3
32.5°	5694.0	5645.9	5472.8	5030.4	4905.3
35°	5376.6	5338.1	5078.5	4693.7	4578.3
37.5°	5059.2	5011.1	4684.1	4376.3	4232.0
40°	4741.8	4684.1	4328.2	4049.3	3895.4
42.5°	4443.6	4366.7	4020.4	3722.3	3549.1
45°	4126.2	4039.7	3693.4	3385.6	3251.0
47.5°	3808.8	3731.9	3414.5	3097.1	2943.2
50°	3472.2	3404.9	3116.3	2798.9	2635.4
52.5°	3193.3	3087.5	2808.5	2491.1	2356.5
55°	2866.2	2779.7	2520.0	2221.8	2106.4
57.5°	2568.1	2481.5	2241.1	1962.1	1865.9
60°	2289.2	2164.1	1962.1	1721.7	1644.7
62.5°	1981.4	1885.2	1712.1	1510.1	1606.3
65°	1702.4	1606.3	1452.4	1481.2	1231.1
67.5°	1394.7	1346.6	1211.9	1077.2	1038.8
70°	1135.0	1077.2	1029.2	884.9	846.4
72.5°	904.1	846.4	779.1	702.1	673.3
75°	682.9	634.8	596.3	567.5	625.2
77.5°	471.3	452.1	423.2	394.3	384.7
80°	307.8	298.2	288.5	278.9	269.3
82.5°	182.7	182.7	182.7	182.7	182.7
85°	96.2	105.8	115.4	125.0	134.7
87.5°	57.7	57.7	67.3	76.9	86.6
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)