

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: P546871

Luminaire Tested: **FMR-24-4-LD4-2STD-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: P546871  
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-LD4-2STD-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**

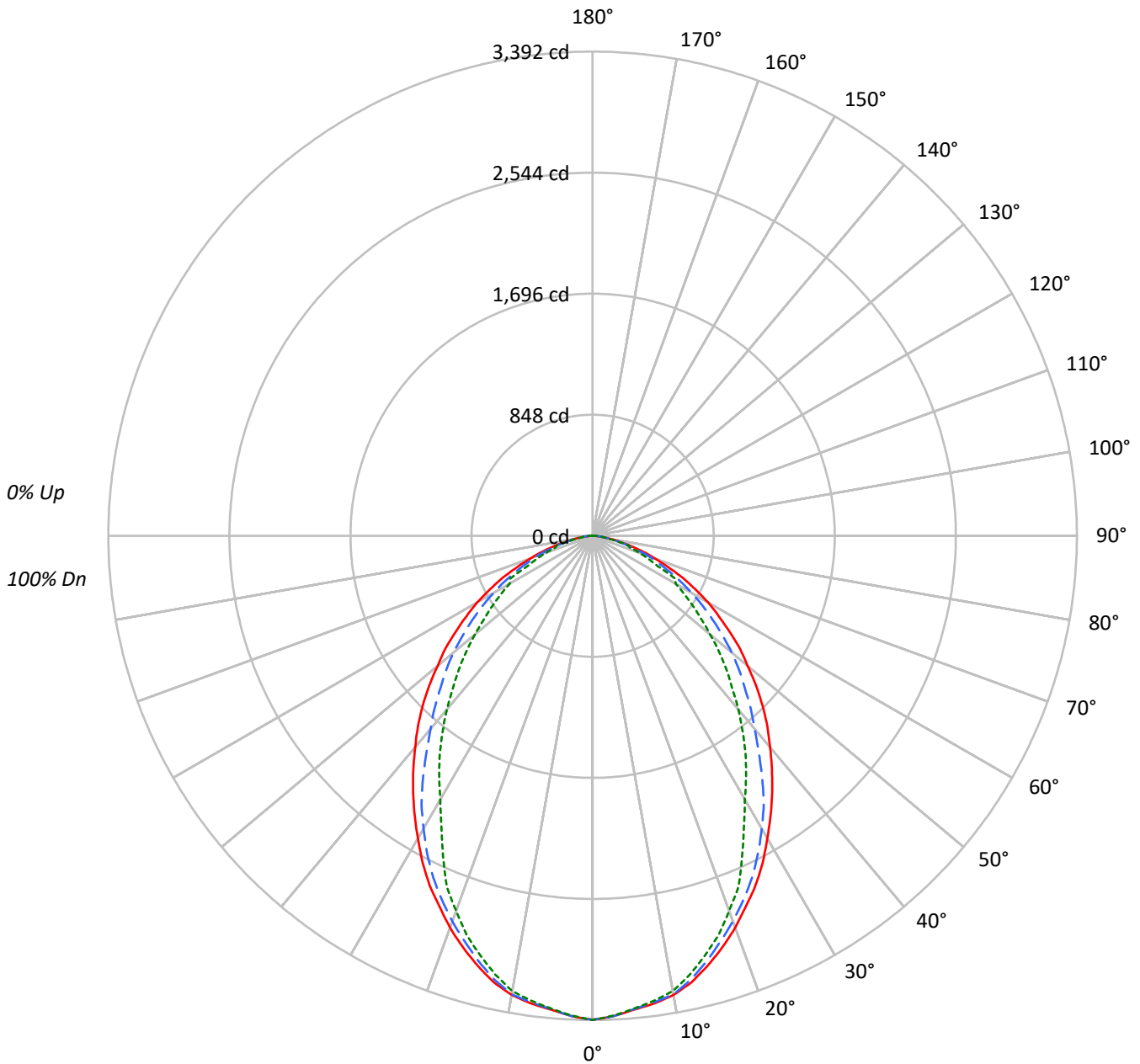
Lumens per Lamp: N/A  
Luminaire Lumens: 6658.0 lumens  
Efficiency: N/A  
Efficacy: 100.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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°	4563	4563	4563
5°	4501	4496	4491
10°	4462	4457	4425
15°	4342	4298	4238
20°	4182	4115	4003
25°	4010	3923	3679
30°	3801	3679	3314
35°	3600	3400	3065
40°	3395	3099	2789
45°	3201	2865	2522
50°	2963	2659	2249
55°	2741	2410	2014
60°	2511	2152	1804
65°	2209	1885	1598
70°	1820	1650	1357
75°	1447	1264	1325
80°	972	911	851
85°	605	726	848



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	315.7	4.7
10°-20°	866.4	13.0
20°-30°	1199.5	18.0
30°-40°	1279.0	19.2
40°-50°	1166.8	17.5
50°-60°	914.1	13.7
60°-70°	595.8	8.9
70°-80°	264.0	4.0
80°-90°	56.7	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°	2381.6	35.8
0°-40°	3660.6	55.0
0°-60°	5741.6	86.2
0°-90°	6658.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6658.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3392	3392	3392	3392	3392	
5°	3333	3329	3329	3325	3325	316
15°	3117	3117	3086	3054	3042	876
25°	2701	2686	2643	2548	2478	1240
35°	2192	2176	2070	1913	1866	1370
45°	1682	1647	1506	1380	1325	1296
55°	1168	1133	1027	906	859	1048
65°	694	655	592	604	502	684
75°	278	259	243	231	255	298
85°	39	43	47	51	55	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3391.5	3391.5	3391.5	3391.5	3391.5
2.5°	3368.0	3368.0	3368.0	3364.1	3364.1
5°	3332.7	3328.8	3328.8	3324.8	3324.8
7.5°	3305.2	3301.3	3297.4	3293.5	3285.6
10°	3266.0	3266.0	3262.1	3242.5	3238.6
12.5°	3203.3	3199.4	3183.7	3156.2	3148.4
15°	3117.0	3117.0	3085.7	3054.3	3042.5
17.5°	3022.9	3019.0	2979.8	2948.4	2932.8
20°	2921.0	2913.2	2873.9	2823.0	2795.5
22.5°	2807.3	2807.3	2760.2	2693.6	2666.1
25°	2701.4	2685.8	2642.6	2548.5	2477.9
27.5°	2579.9	2556.4	2509.3	2376.0	2293.7
30°	2446.6	2434.8	2368.2	2195.7	2132.9
32.5°	2321.1	2301.5	2230.9	2050.6	1999.6
35°	2191.7	2176.0	2070.2	1913.4	1866.3
37.5°	2062.3	2042.7	1909.4	1784.0	1725.2
40°	1933.0	1909.4	1764.4	1650.7	1587.9
42.5°	1811.4	1780.0	1638.9	1517.4	1446.8
45°	1682.0	1646.7	1505.6	1380.1	1325.2
47.5°	1552.6	1521.3	1391.9	1262.5	1199.8
50°	1415.4	1388.0	1270.3	1141.0	1074.3
52.5°	1301.7	1258.6	1144.9	1015.5	960.6
55°	1168.4	1133.1	1027.3	905.7	858.7
57.5°	1046.9	1011.6	913.5	799.8	760.6
60°	933.2	882.2	799.8	701.8	670.5
62.5°	807.7	768.5	697.9	615.6	654.8
65°	694.0	654.8	592.0	603.8	501.9
67.5°	568.5	548.9	494.0	439.1	423.4
70°	462.7	439.1	419.5	360.7	345.0
72.5°	368.6	345.0	317.6	286.2	274.5
75°	278.4	258.8	243.1	231.3	254.9
77.5°	192.1	184.3	172.5	160.8	156.8
80°	125.5	121.5	117.6	113.7	109.8
82.5°	74.5	74.5	74.5	74.5	74.5
85°	39.2	43.1	47.0	51.0	54.9
87.5°	23.5	23.5	27.4	31.4	35.3
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)