

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: P545169

Luminaire Tested: **FMR-12-1-LD4-2STD-35-UNV-93-86-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: P545169  
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-12-1-LD4-2STD-35-UNV-93-86-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

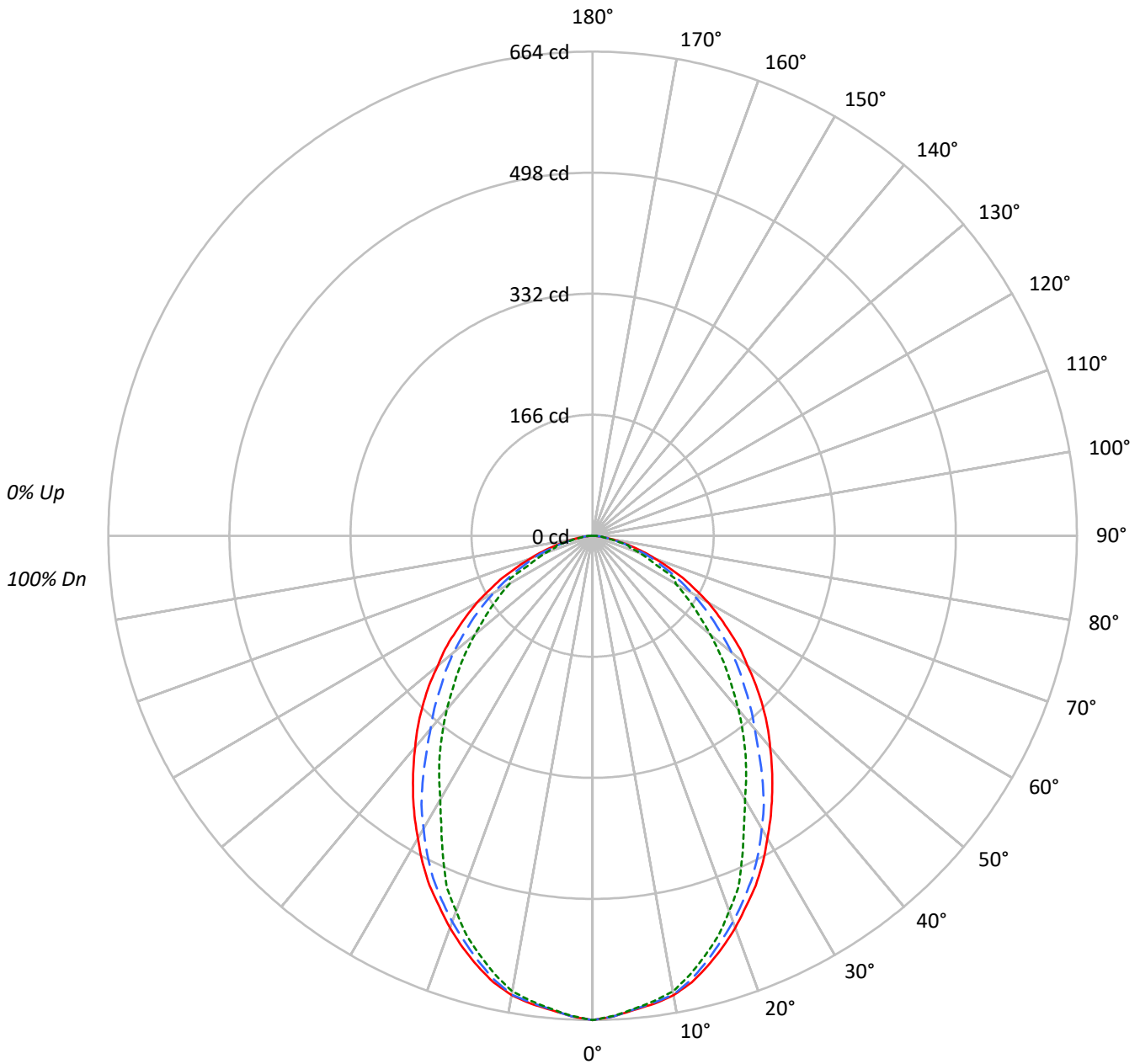
Lumens per Lamp: N/A  
Luminaire Lumens: 1304.0 lumens  
Efficiency: N/A  
Efficacy: 78.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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					20					
RC	80					70					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				100				
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7149	7149	7149
5°	7052	7045	7036
10°	6992	6983	6933
15°	6803	6734	6640
20°	6553	6448	6271
25°	6284	6147	5764
30°	5956	5765	5192
35°	5641	5328	4803
40°	5320	4856	4370
45°	5014	4489	3952
50°	4642	4166	3523
55°	4294	3776	3156
60°	3935	3373	2827
65°	3461	2954	2504
70°	2851	2587	2127
75°	2267	1980	2075
80°	1525	1426	1333
85°	951	1136	1334



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.8	4.7
10°-20°	169.7	13.0
20°-30°	234.9	18.0
30°-40°	250.5	19.2
40°-50°	228.5	17.5
50°-60°	179.0	13.7
60°-70°	116.7	8.9
70°-80°	51.7	4.0
80°-90°	11.1	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°	466.5	35.8
0°-40°	717.0	55.0
0°-60°	1124.5	86.2
0°-90°	1304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1304.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	664	664	664	664	664	
5°	653	652	652	651	651	62
15°	610	610	604	598	596	172
25°	529	526	518	499	485	243
35°	429	426	406	375	366	268
45°	329	322	295	270	260	254
55°	229	222	201	177	168	205
65°	136	128	116	118	98	134
75°	54	51	48	45	50	58
85°	8	8	9	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	664.2	664.2	664.2	664.2	664.2
2.5°	659.6	659.6	659.6	658.9	658.9
5°	652.7	652.0	652.0	651.2	651.2
7.5°	647.3	646.6	645.8	645.0	643.5
10°	639.7	639.7	638.9	635.1	634.3
12.5°	627.4	626.6	623.5	618.2	616.6
15°	610.5	610.5	604.3	598.2	595.9
17.5°	592.1	591.3	583.6	577.5	574.4
20°	572.1	570.6	562.9	552.9	547.5
22.5°	549.8	549.8	540.6	527.6	522.2
25°	529.1	526.0	517.6	499.1	485.3
27.5°	505.3	500.7	491.5	465.4	449.2
30°	479.2	476.9	463.8	430.0	417.7
32.5°	454.6	450.8	436.9	401.6	391.6
35°	429.3	426.2	405.5	374.7	365.5
37.5°	403.9	400.1	374.0	349.4	337.9
40°	378.6	374.0	345.6	323.3	311.0
42.5°	354.8	348.6	321.0	297.2	283.4
45°	329.4	322.5	294.9	270.3	259.6
47.5°	304.1	297.9	272.6	247.3	235.0
50°	277.2	271.8	248.8	223.5	210.4
52.5°	254.9	246.5	224.2	198.9	188.1
55°	228.8	221.9	201.2	177.4	168.2
57.5°	205.0	198.1	178.9	156.7	149.0
60°	182.8	172.8	156.7	137.5	131.3
62.5°	158.2	150.5	136.7	120.6	128.2
65°	135.9	128.2	116.0	118.3	98.3
67.5°	111.3	107.5	96.8	86.0	82.9
70°	90.6	86.0	82.2	70.6	67.6
72.5°	72.2	67.6	62.2	56.1	53.8
75°	54.5	50.7	47.6	45.3	49.9
77.5°	37.6	36.1	33.8	31.5	30.7
80°	24.6	23.8	23.0	22.3	21.5
82.5°	14.6	14.6	14.6	14.6	14.6
85°	7.7	8.4	9.2	10.0	10.8
87.5°	4.6	4.6	5.4	6.1	6.9
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)