

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: P545505

Luminaire Tested: **FMR-12-2-LD4-1STD-50-UNV-81-86-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: P545505  
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-12-2-LD4-1STD-50-UNV-81-86-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

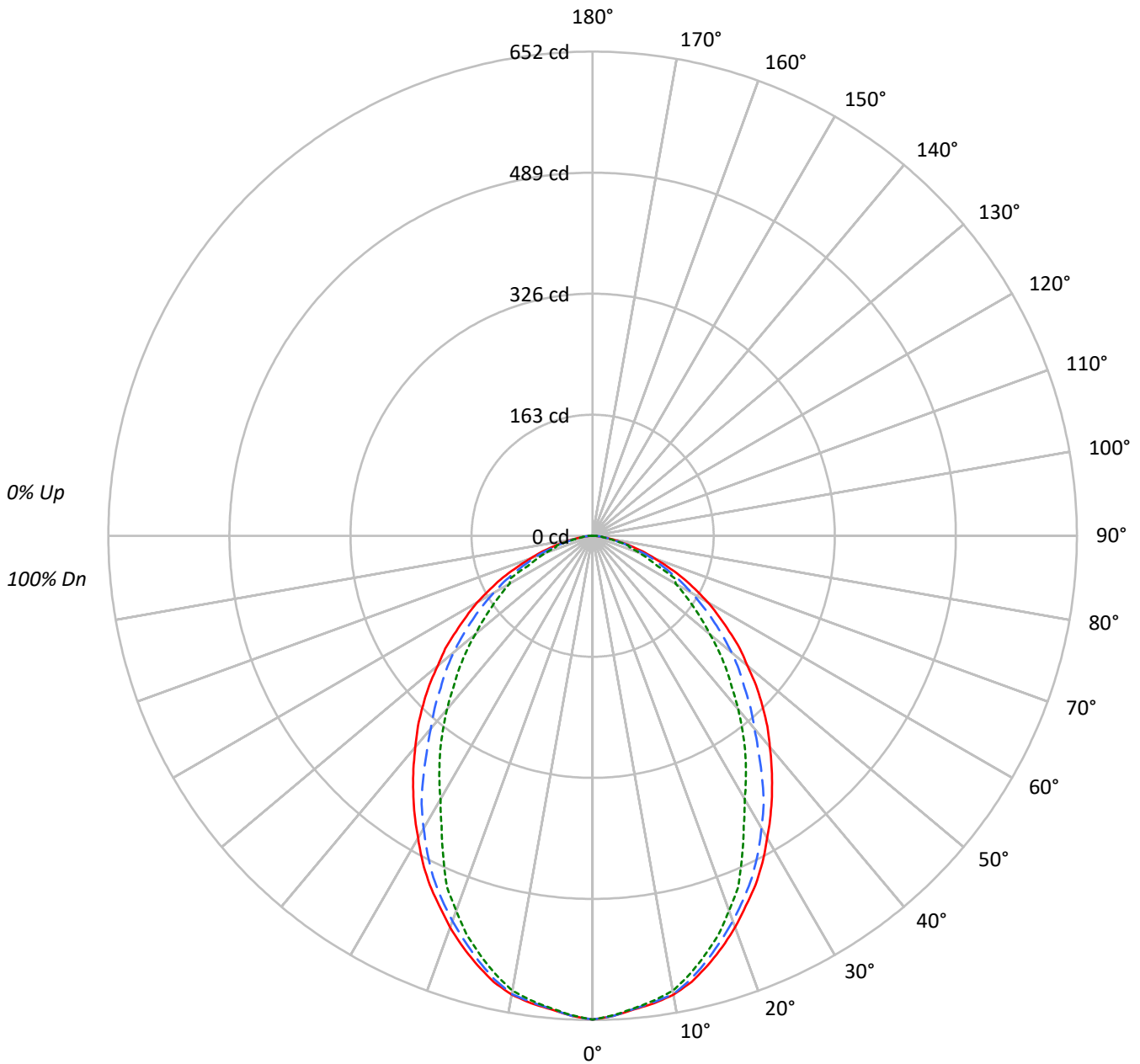
Lumens per Lamp: N/A  
Luminaire Lumens: 1279.0 lumens  
Efficiency: N/A  
Efficacy: 77.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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									
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°	3506	3506	3506
5°	3459	3455	3451
10°	3429	3425	3400
15°	3336	3303	3257
20°	3214	3162	3076
25°	3081	3014	2827
30°	2921	2827	2546
35°	2766	2613	2355
40°	2609	2381	2143
45°	2459	2201	1938
50°	2277	2043	1728
55°	2106	1851	1547
60°	1930	1653	1386
65°	1698	1448	1228
70°	1399	1268	1043
75°	1112	971	1019
80°	747	700	654
85°	463	556	648



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.6	4.7
10°-20°	166.4	13.0
20°-30°	230.4	18.0
30°-40°	245.7	19.2
40°-50°	224.1	17.5
50°-60°	175.6	13.7
60°-70°	114.5	8.9
70°-80°	50.7	4.0
80°-90°	10.9	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°	457.5	35.8
0°-40°	703.2	55.0
0°-60°	1102.9	86.2
0°-90°	1279.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1279.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	652	652	652	652	652	
5°	640	640	640	639	639	61
15°	599	599	593	587	584	168
25°	519	516	508	490	476	238
35°	421	418	398	368	358	263
45°	323	316	289	265	255	249
55°	224	218	197	174	165	201
65°	133	126	114	116	96	131
75°	54	50	47	44	49	57
85°	8	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	651.5	651.5	651.5	651.5	651.5
2.5°	647.0	647.0	647.0	646.2	646.2
5°	640.2	639.5	639.5	638.7	638.7
7.5°	634.9	634.2	633.4	632.7	631.2
10°	627.4	627.4	626.7	622.9	622.1
12.5°	615.4	614.6	611.6	606.3	604.8
15°	598.8	598.8	592.8	586.7	584.5
17.5°	580.7	580.0	572.4	566.4	563.4
20°	561.1	559.6	552.1	542.3	537.0
22.5°	539.3	539.3	530.2	517.4	512.2
25°	518.9	515.9	507.6	489.6	476.0
27.5°	495.6	491.1	482.0	456.4	440.6
30°	470.0	467.7	454.9	421.8	409.7
32.5°	445.9	442.1	428.6	393.9	384.1
35°	421.0	418.0	397.7	367.6	358.5
37.5°	396.2	392.4	366.8	342.7	331.4
40°	371.3	366.8	338.9	317.1	305.0
42.5°	348.0	341.9	314.8	291.5	277.9
45°	323.1	316.3	289.2	265.1	254.6
47.5°	298.3	292.2	267.4	242.5	230.5
50°	271.9	266.6	244.0	219.2	206.4
52.5°	250.1	241.8	219.9	195.1	184.5
55°	224.4	217.7	197.3	174.0	164.9
57.5°	201.1	194.3	175.5	153.6	146.1
60°	179.3	169.5	153.6	134.8	128.8
62.5°	155.2	147.6	134.1	118.3	125.8
65°	133.3	125.8	113.7	116.0	96.4
67.5°	109.2	105.4	94.9	84.4	81.3
70°	88.9	84.4	80.6	69.3	66.3
72.5°	70.8	66.3	61.0	55.0	52.7
75°	53.5	49.7	46.7	44.4	49.0
77.5°	36.9	35.4	33.1	30.9	30.1
80°	24.1	23.3	22.6	21.8	21.1
82.5°	14.3	14.3	14.3	14.3	14.3
85°	7.5	8.3	9.0	9.8	10.5
87.5°	4.5	4.5	5.3	6.0	6.8
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)