

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: P545220

Luminaire Tested: **FMR-12-1-LD4-2STD-50-UNV-81-94-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: P545220  
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-50-UNV-81-94-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

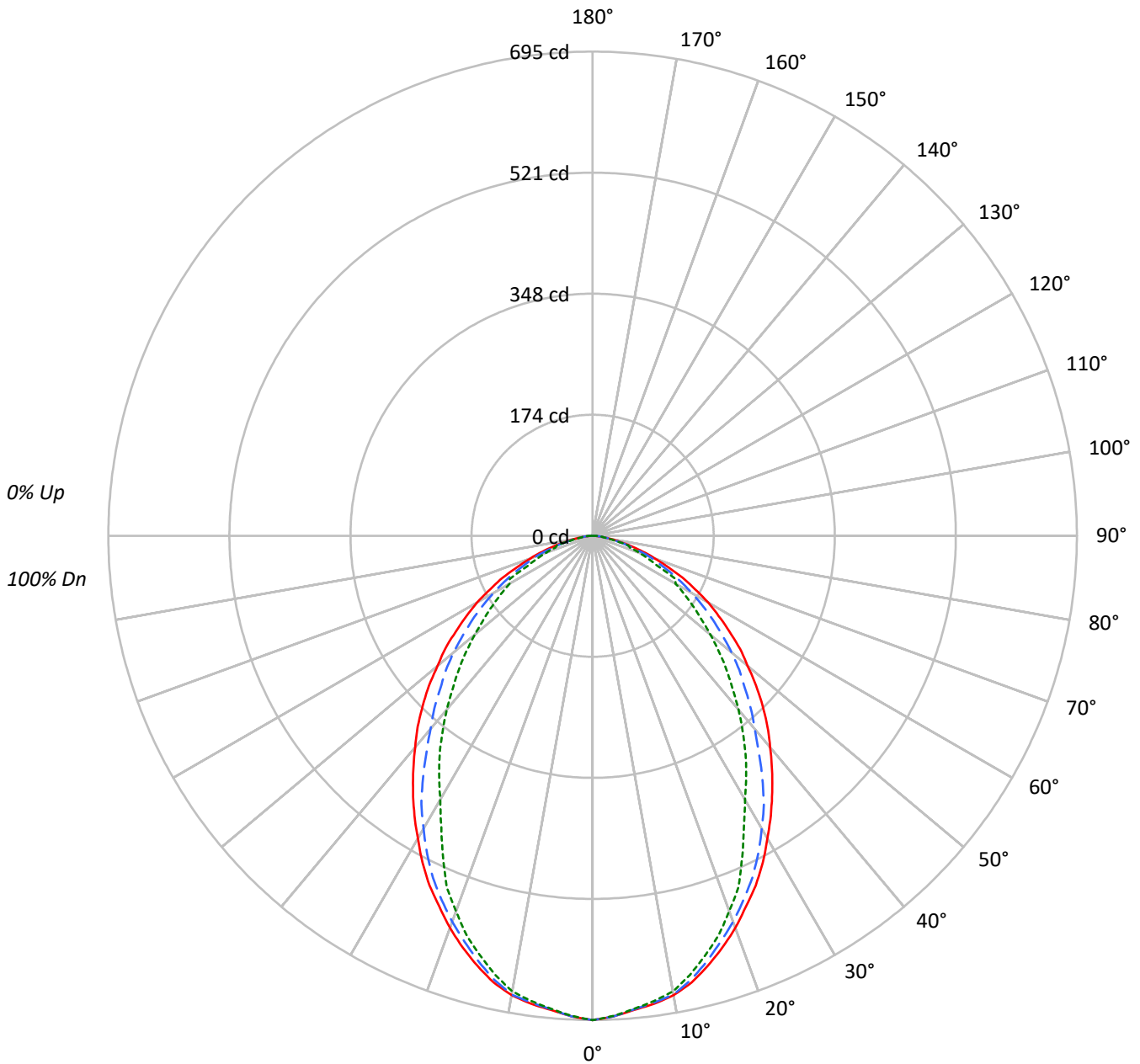
Lumens per Lamp: N/A  
Luminaire Lumens: 1365.0 lumens  
Efficiency: N/A  
Efficacy: 82.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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									
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°	7484	7484	7484
5°	7383	7374	7365
10°	7319	7310	7257
15°	7121	7049	6951
20°	6860	6749	6565
25°	6577	6435	6033
30°	6234	6034	5435
35°	5904	5577	5027
40°	5569	5082	4575
45°	5249	4699	4136
50°	4860	4361	3687
55°	4495	3952	3303
60°	4118	3531	2960
65°	3624	3092	2621
70°	2987	2707	2225
75°	2375	2071	2171
80°	1593	1494	1395
85°	988	1186	1396



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.7	4.7
10°-20°	177.6	13.0
20°-30°	245.9	18.0
30°-40°	262.2	19.2
40°-50°	239.2	17.5
50°-60°	187.4	13.7
60°-70°	122.1	8.9
70°-80°	54.1	4.0
80°-90°	11.6	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°	488.3	35.8
0°-40°	750.5	55.0
0°-60°	1177.1	86.2
0°-90°	1365.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1365.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	695	695	695	695	695	
5°	683	682	682	682	682	65
15°	639	639	633	626	624	180
25°	554	551	542	522	508	254
35°	449	446	424	392	383	281
45°	345	338	309	283	272	266
55°	240	232	211	186	176	215
65°	142	134	121	124	103	140
75°	57	53	50	47	52	61
85°	8	9	10	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	695.3	695.3	695.3	695.3	695.3
2.5°	690.5	690.5	690.5	689.7	689.7
5°	683.3	682.5	682.5	681.6	681.6
7.5°	677.6	676.8	676.0	675.2	673.6
10°	669.6	669.6	668.8	664.8	664.0
12.5°	656.7	655.9	652.7	647.1	645.5
15°	639.0	639.0	632.6	626.2	623.8
17.5°	619.8	618.9	610.9	604.5	601.3
20°	598.9	597.2	589.2	578.8	573.1
22.5°	575.5	575.5	565.9	552.2	546.6
25°	553.8	550.6	541.8	522.5	508.0
27.5°	528.9	524.1	514.5	487.1	470.2
30°	501.6	499.2	485.5	450.1	437.3
32.5°	475.9	471.8	457.4	420.4	410.0
35°	449.3	446.1	424.4	392.3	382.6
37.5°	422.8	418.8	391.5	365.7	353.7
40°	396.3	391.5	361.7	338.4	325.6
42.5°	371.4	364.9	336.0	311.1	296.6
45°	344.8	337.6	308.7	282.9	271.7
47.5°	318.3	311.9	285.4	258.8	246.0
50°	290.2	284.6	260.4	233.9	220.2
52.5°	266.9	258.0	234.7	208.2	196.9
55°	239.5	232.3	210.6	185.7	176.0
57.5°	214.6	207.4	187.3	164.0	155.9
60°	191.3	180.9	164.0	143.9	137.5
62.5°	165.6	157.6	143.1	126.2	134.2
65°	142.3	134.2	121.4	123.8	102.9
67.5°	116.6	112.5	101.3	90.0	86.8
70°	94.9	90.0	86.0	74.0	70.7
72.5°	75.6	70.7	65.1	58.7	56.3
75°	57.1	53.1	49.8	47.4	52.2
77.5°	39.4	37.8	35.4	33.0	32.2
80°	25.7	24.9	24.1	23.3	22.5
82.5°	15.3	15.3	15.3	15.3	15.3
85°	8.0	8.8	9.6	10.4	11.3
87.5°	4.8	4.8	5.6	6.4	7.2
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)