

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: P545460

Luminaire Tested: **FMR-12-2-LD4-1STD-35-UNV-93-94-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: P545460  
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-35-UNV-93-94-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187  
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

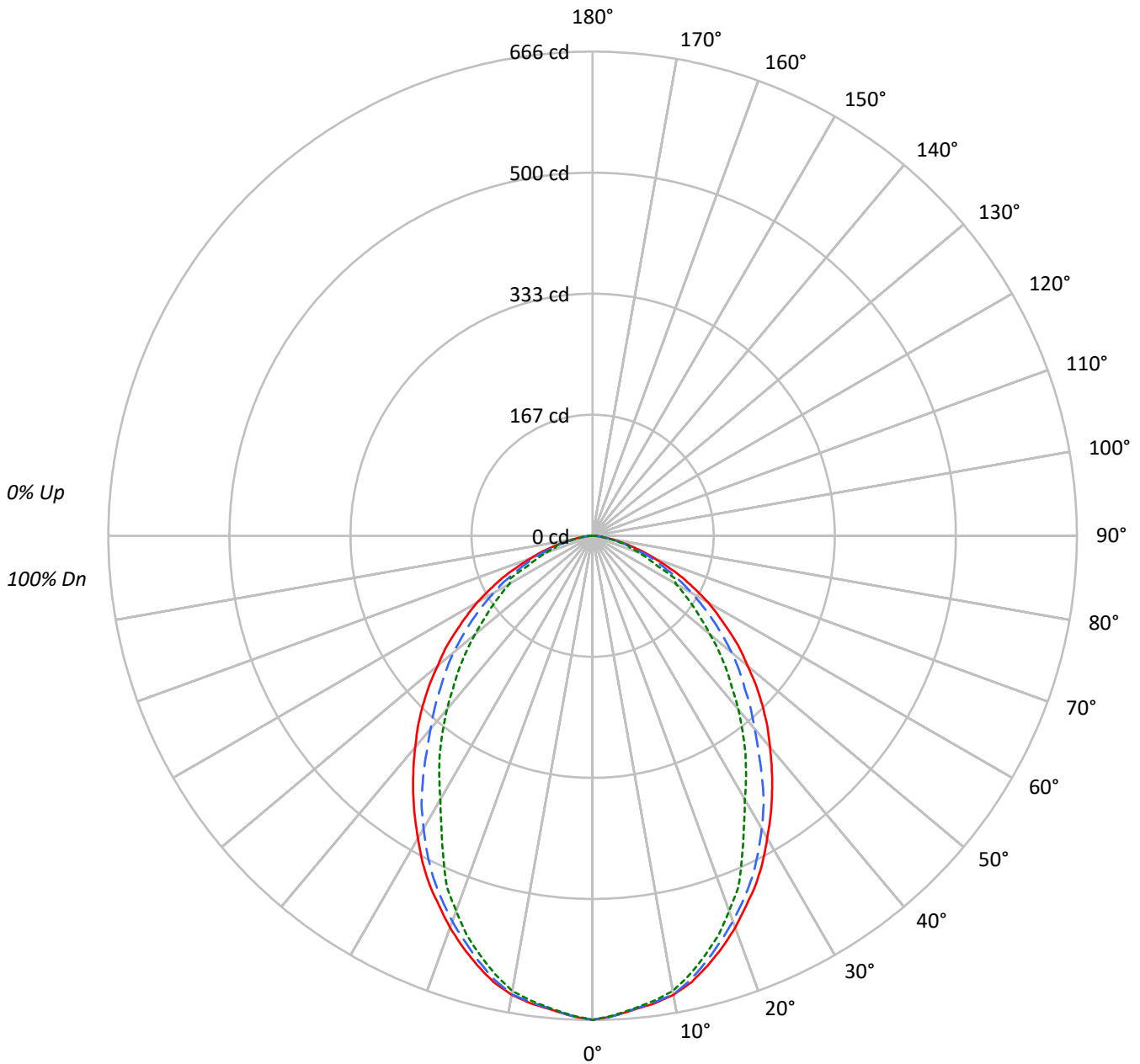
Lumens per Lamp: N/A  
Luminaire Lumens: 1307.0 lumens  
Efficiency: N/A  
Efficacy: 78.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	3583	3583	3583
5°	3534	3531	3526
10°	3504	3500	3475
15°	3409	3375	3328
20°	3284	3231	3143
25°	3149	3081	2888
30°	2985	2889	2602
35°	2826	2670	2407
40°	2666	2434	2190
45°	2513	2250	1980
50°	2327	2088	1766
55°	2152	1893	1582
60°	1972	1690	1417
65°	1734	1480	1254
70°	1429	1297	1065
75°	1135	992	1040
80°	762	716	669
85°	475	568	667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.0	4.7
10°-20°	170.1	13.0
20°-30°	235.5	18.0
30°-40°	251.1	19.2
40°-50°	229.1	17.5
50°-60°	179.4	13.7
60°-70°	117.0	8.9
70°-80°	51.8	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°	467.5	35.8
0°-40°	718.6	55.0
0°-60°	1127.1	86.2
0°-90°	1307.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1307.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	666	666	666	666	666	
5°	654	654	654	653	653	62
15°	612	612	606	600	597	172
25°	530	527	519	500	486	243
35°	430	427	406	376	366	269
45°	330	323	296	271	260	254
55°	229	222	202	178	169	206
65°	136	128	116	118	98	134
75°	55	51	48	45	50	59
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°	665.8	665.8	665.8	665.8	665.8
2.5°	661.2	661.2	661.2	660.4	660.4
5°	654.2	653.5	653.5	652.7	652.7
7.5°	648.8	648.1	647.3	646.5	645.0
10°	641.1	641.1	640.4	636.5	635.8
12.5°	628.8	628.1	625.0	619.6	618.0
15°	611.9	611.9	605.7	599.6	597.3
17.5°	593.4	592.6	585.0	578.8	575.7
20°	573.4	571.9	564.2	554.2	548.8
22.5°	551.1	551.1	541.9	528.8	523.4
25°	530.3	527.2	518.8	500.3	486.4
27.5°	506.4	501.8	492.6	466.4	450.3
30°	480.3	478.0	464.9	431.0	418.7
32.5°	455.6	451.8	437.9	402.5	392.5
35°	430.2	427.2	406.4	375.6	366.4
37.5°	404.8	401.0	374.8	350.2	338.7
40°	379.4	374.8	346.4	324.0	311.7
42.5°	355.6	349.4	321.7	297.9	284.0
45°	330.2	323.3	295.6	270.9	260.1
47.5°	304.8	298.6	273.2	247.8	235.5
50°	277.9	272.5	249.4	224.0	210.9
52.5°	255.5	247.1	224.7	199.3	188.6
55°	229.4	222.4	201.7	177.8	168.6
57.5°	205.5	198.6	179.3	157.0	149.3
60°	183.2	173.2	157.0	137.8	131.6
62.5°	158.6	150.9	137.0	120.8	128.5
65°	136.2	128.5	116.2	118.5	98.5
67.5°	111.6	107.8	97.0	86.2	83.1
70°	90.8	86.2	82.4	70.8	67.7
72.5°	72.3	67.7	62.3	56.2	53.9
75°	54.6	50.8	47.7	45.4	50.0
77.5°	37.7	36.2	33.9	31.6	30.8
80°	24.6	23.9	23.1	22.3	21.6
82.5°	14.6	14.6	14.6	14.6	14.6
85°	7.7	8.5	9.2	10.0	10.8
87.5°	4.6	4.6	5.4	6.2	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)