

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: P545489

Luminaire Tested: **FMR-12-2-LD4-1STD-40-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: P545489  
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-40-UNV-93-86-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

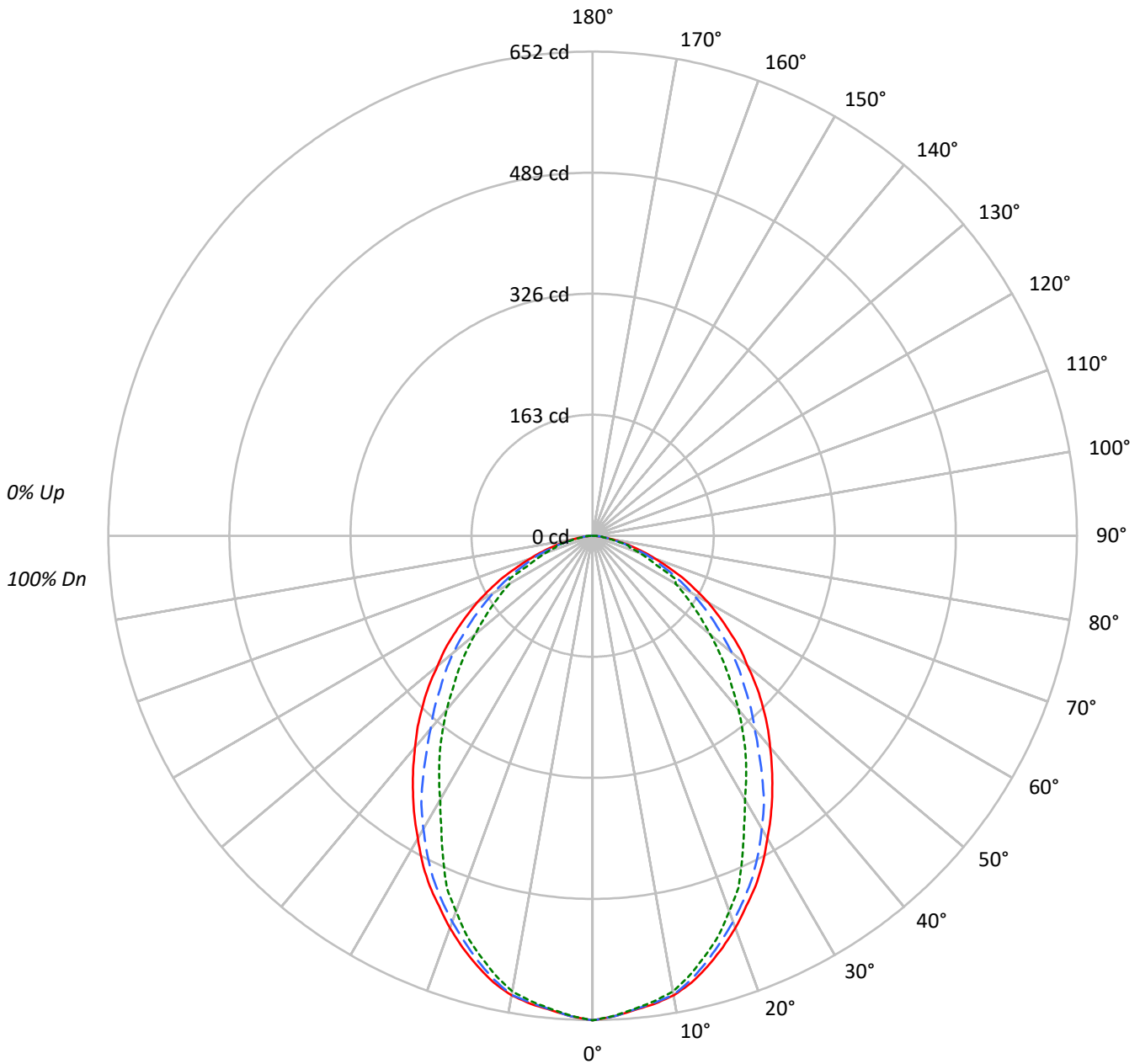
Lumens per Lamp: N/A  
Luminaire Lumens: 1281.0 lumens  
Efficiency: N/A  
Efficacy: 77.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	3512	3512	3512
5°	3464	3460	3456
10°	3434	3430	3405
15°	3341	3308	3262
20°	3219	3167	3081
25°	3087	3019	2831
30°	2925	2831	2550
35°	2771	2617	2359
40°	2613	2385	2146
45°	2463	2205	1941
50°	2280	2046	1731
55°	2109	1854	1550
60°	1932	1657	1389
65°	1700	1450	1230
70°	1400	1270	1045
75°	1115	973	1019
80°	747	700	654
85°	463	562	655



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.7	4.7
10°-20°	166.7	13.0
20°-30°	230.8	18.0
30°-40°	246.1	19.2
40°-50°	224.5	17.5
50°-60°	175.9	13.7
60°-70°	114.6	8.9
70°-80°	50.8	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°	458.2	35.8
0°-40°	704.3	55.0
0°-60°	1104.7	86.2
0°-90°	1281.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1281.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	652	652	652	652	652	
5°	641	640	640	640	640	61
15°	600	600	594	588	585	169
25°	520	517	508	490	477	239
35°	422	419	398	368	359	264
45°	324	317	290	266	255	249
55°	225	218	198	174	165	202
65°	134	126	114	116	97	132
75°	54	50	47	44	49	57
85°	8	8	9	10	11	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	652.5	652.5	652.5	652.5	652.5
2.5°	648.0	648.0	648.0	647.2	647.2
5°	641.2	640.5	640.5	639.7	639.7
7.5°	635.9	635.2	634.4	633.7	632.2
10°	628.4	628.4	627.6	623.9	623.1
12.5°	616.3	615.6	612.5	607.3	605.8
15°	599.7	599.7	593.7	587.6	585.4
17.5°	581.6	580.9	573.3	567.3	564.3
20°	562.0	560.5	552.9	543.1	537.9
22.5°	540.1	540.1	531.1	518.2	513.0
25°	519.8	516.7	508.4	490.3	476.8
27.5°	496.4	491.8	482.8	457.1	441.3
30°	470.7	468.5	455.6	422.4	410.4
32.5°	446.6	442.8	429.2	394.5	384.7
35°	421.7	418.7	398.3	368.1	359.1
37.5°	396.8	393.0	367.4	343.2	331.9
40°	371.9	367.4	339.5	317.6	305.5
42.5°	348.5	342.5	315.3	291.9	278.4
45°	323.6	316.8	289.7	265.5	255.0
47.5°	298.7	292.7	267.8	242.9	230.8
50°	272.3	267.0	244.4	219.5	206.7
52.5°	250.4	242.2	220.3	195.4	184.8
55°	224.8	218.0	197.6	174.3	165.2
57.5°	201.4	194.6	175.8	153.9	146.3
60°	179.5	169.7	153.9	135.0	129.0
62.5°	155.4	147.9	134.3	118.4	126.0
65°	133.5	126.0	113.9	116.2	96.6
67.5°	109.4	105.6	95.0	84.5	81.5
70°	89.0	84.5	80.7	69.4	66.4
72.5°	70.9	66.4	61.1	55.1	52.8
75°	53.6	49.8	46.8	44.5	49.0
77.5°	37.0	35.5	33.2	30.9	30.2
80°	24.1	23.4	22.6	21.9	21.1
82.5°	14.3	14.3	14.3	14.3	14.3
85°	7.5	8.3	9.1	9.8	10.6
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)