

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: P545295

Luminaire Tested: **FMR-12-2-LD4-1HI-40-UNV-93-84-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: P545295  
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-LD4-1HI-40-UNV-93-84-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

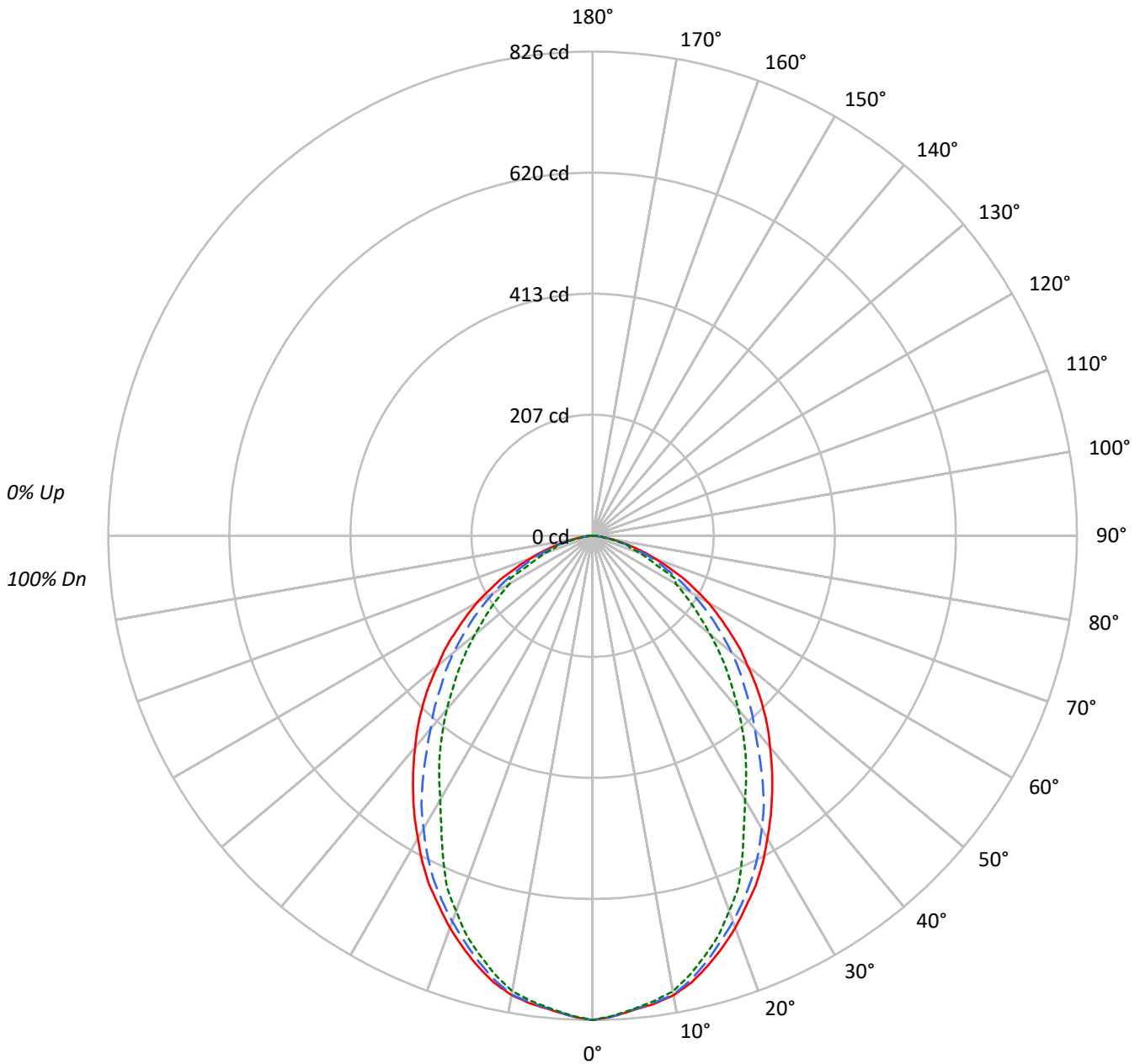
Lumens per Lamp: N/A  
Luminaire Lumens: 1622.0 lumens  
Efficiency: N/A  
Efficacy: 75.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	4447	4447	4447
5°	4386	4381	4376
10°	4348	4343	4312
15°	4231	4188	4130
20°	4076	4010	3900
25°	3908	3823	3585
30°	3704	3585	3229
35°	3508	3313	2987
40°	3308	3020	2718
45°	3119	2792	2457
50°	2887	2591	2191
55°	2670	2349	1963
60°	2447	2098	1758
65°	2153	1836	1557
70°	1773	1608	1323
75°	1410	1231	1291
80°	948	890	828
85°	593	710	827



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.9	4.7
10°-20°	211.1	13.0
20°-30°	292.2	18.0
30°-40°	311.6	19.2
40°-50°	284.3	17.5
50°-60°	222.7	13.7
60°-70°	145.1	8.9
70°-80°	64.3	4.0
80°-90°	13.8	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°	580.2	35.8
0°-40°	891.8	55.0
0°-60°	1398.7	86.2
0°-90°	1622.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1622.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	826	826	826	826	826	
5°	812	811	811	810	810	77
15°	759	759	752	744	741	213
25°	658	654	644	621	604	302
35°	534	530	504	466	455	334
45°	410	401	367	336	323	316
55°	285	276	250	221	209	255
65°	169	160	144	147	122	167
75°	68	63	59	56	62	73
85°	10	10	12	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	826.2	826.2	826.2	826.2	826.2
2.5°	820.5	820.5	820.5	819.5	819.5
5°	811.9	810.9	810.9	810.0	810.0
7.5°	805.2	804.3	803.3	802.3	800.4
10°	795.7	795.7	794.7	789.9	789.0
12.5°	780.4	779.4	775.6	768.9	767.0
15°	759.4	759.4	751.7	744.1	741.2
17.5°	736.4	735.5	725.9	718.3	714.5
20°	711.6	709.7	700.1	687.7	681.0
22.5°	683.9	683.9	672.4	656.2	649.5
25°	658.1	654.3	643.8	620.9	603.7
27.5°	628.5	622.8	611.3	578.8	558.8
30°	596.0	593.2	576.9	534.9	519.6
32.5°	565.5	560.7	543.5	499.6	487.1
35°	533.9	530.1	504.3	466.1	454.7
37.5°	502.4	497.6	465.2	434.6	420.3
40°	470.9	465.2	429.8	402.1	386.8
42.5°	441.3	433.6	399.3	369.7	352.5
45°	409.8	401.2	366.8	336.2	322.8
47.5°	378.2	370.6	339.1	307.6	292.3
50°	344.8	338.1	309.5	278.0	261.7
52.5°	317.1	306.6	278.9	247.4	234.0
55°	284.6	276.0	250.3	220.6	209.2
57.5°	255.0	246.4	222.6	194.9	185.3
60°	227.3	214.9	194.9	171.0	163.3
62.5°	196.8	187.2	170.0	150.0	159.5
65°	169.1	159.5	144.2	147.1	122.3
67.5°	138.5	133.7	120.4	107.0	103.2
70°	112.7	107.0	102.2	87.9	84.1
72.5°	89.8	84.1	77.4	69.7	66.9
75°	67.8	63.0	59.2	56.4	62.1
77.5°	46.8	44.9	42.0	39.2	38.2
80°	30.6	29.6	28.7	27.7	26.7
82.5°	18.1	18.1	18.1	18.1	18.1
85°	9.6	10.5	11.5	12.4	13.4
87.5°	5.7	5.7	6.7	7.6	8.6
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)