

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: P545653

Luminaire Tested: **FMR-12-2-LD4-2LO-35-UNV-93-96-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: P545653  
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-LD4-2LO-35-UNV-93-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

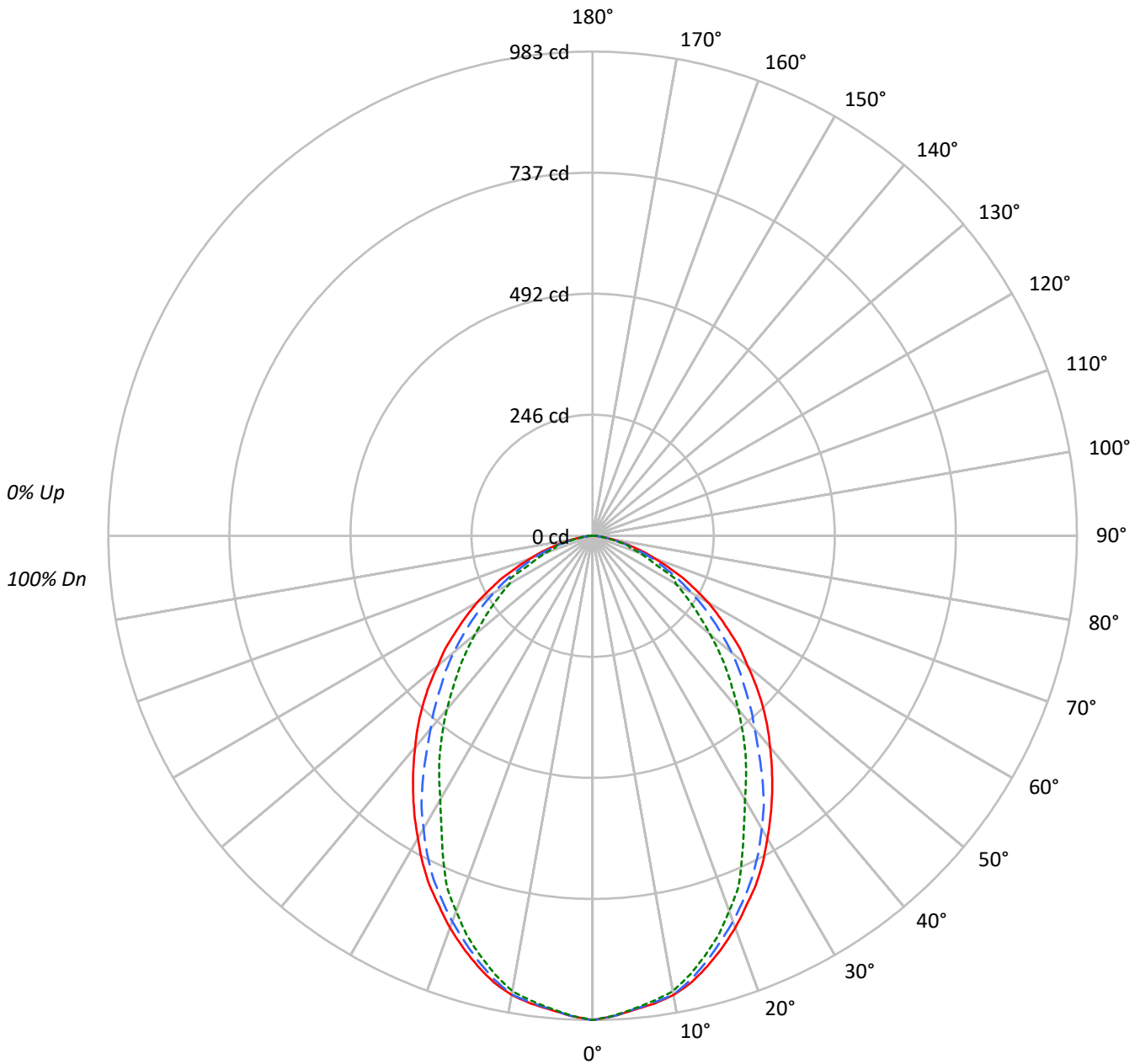
Lumens per Lamp: N/A  
Luminaire Lumens: 1930.0 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	5291	5291	5291
5°	5219	5213	5207
10°	5174	5168	5131
15°	5035	4984	4914
20°	4849	4771	4641
25°	4650	4549	4266
30°	4407	4266	3842
35°	4174	3943	3554
40°	3936	3593	3234
45°	3711	3322	2924
50°	3435	3083	2607
55°	3178	2794	2335
60°	2912	2496	2093
65°	2562	2185	1853
70°	2110	1913	1574
75°	1678	1466	1537
80°	1128	1057	986
85°	704	840	982



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.5	4.7
10°-20°	251.2	13.0
20°-30°	347.7	18.0
30°-40°	370.8	19.2
40°-50°	338.2	17.5
50°-60°	265.0	13.7
60°-70°	172.7	8.9
70°-80°	76.5	4.0
80°-90°	16.4	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°	690.4	35.8
0°-40°	1061.1	55.0
0°-60°	1664.4	86.2
0°-90°	1930.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1930.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	983	983	983	983	983	
5°	966	965	965	964	964	92
15°	904	904	894	885	882	254
25°	783	778	766	739	718	360
35°	635	631	600	555	541	397
45°	488	477	436	400	384	376
55°	339	328	298	262	249	304
65°	201	190	172	175	146	198
75°	81	75	70	67	74	86
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	983.1	983.1	983.1	983.1	983.1
2.5°	976.3	976.3	976.3	975.2	975.2
5°	966.1	964.9	964.9	963.8	963.8
7.5°	958.1	957.0	955.8	954.7	952.4
10°	946.7	946.7	945.6	939.9	938.8
12.5°	928.6	927.4	922.9	914.9	912.7
15°	903.6	903.6	894.5	885.4	882.0
17.5°	876.3	875.1	863.8	854.7	850.1
20°	846.7	844.5	833.1	818.3	810.4
22.5°	813.8	813.8	800.1	780.8	772.9
25°	783.1	778.5	766.0	738.8	718.3
27.5°	747.9	741.0	727.4	688.7	664.9
30°	709.2	705.8	686.5	636.5	618.3
32.5°	672.8	667.2	646.7	594.4	579.6
35°	635.3	630.8	600.1	554.6	541.0
37.5°	597.8	592.1	553.5	517.1	500.1
40°	560.3	553.5	511.4	478.5	460.3
42.5°	525.1	516.0	475.1	439.8	419.4
45°	487.6	477.4	436.4	400.1	384.2
47.5°	450.1	441.0	403.5	366.0	347.8
50°	410.3	402.3	368.2	330.7	311.4
52.5°	377.3	364.8	331.9	294.4	278.5
55°	338.7	328.5	297.8	262.5	248.9
57.5°	303.5	293.2	264.8	231.9	220.5
60°	270.5	255.7	231.9	203.4	194.4
62.5°	234.1	222.8	202.3	178.4	189.8
65°	201.2	189.8	171.6	175.0	145.5
67.5°	164.8	159.1	143.2	127.3	122.7
70°	134.1	127.3	121.6	104.6	100.0
72.5°	106.8	100.0	92.1	83.0	79.6
75°	80.7	75.0	70.5	67.1	73.9
77.5°	55.7	53.4	50.0	46.6	45.5
80°	36.4	35.2	34.1	33.0	31.8
82.5°	21.6	21.6	21.6	21.6	21.6
85°	11.4	12.5	13.6	14.8	15.9
87.5°	6.8	6.8	8.0	9.1	10.2
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)