

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: P544982

Luminaire Tested: **FMR-12-1-LD4-2HI-35-UNV-93-97-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: P544982  
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-LD4-2HI-35-UNV-93-97-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

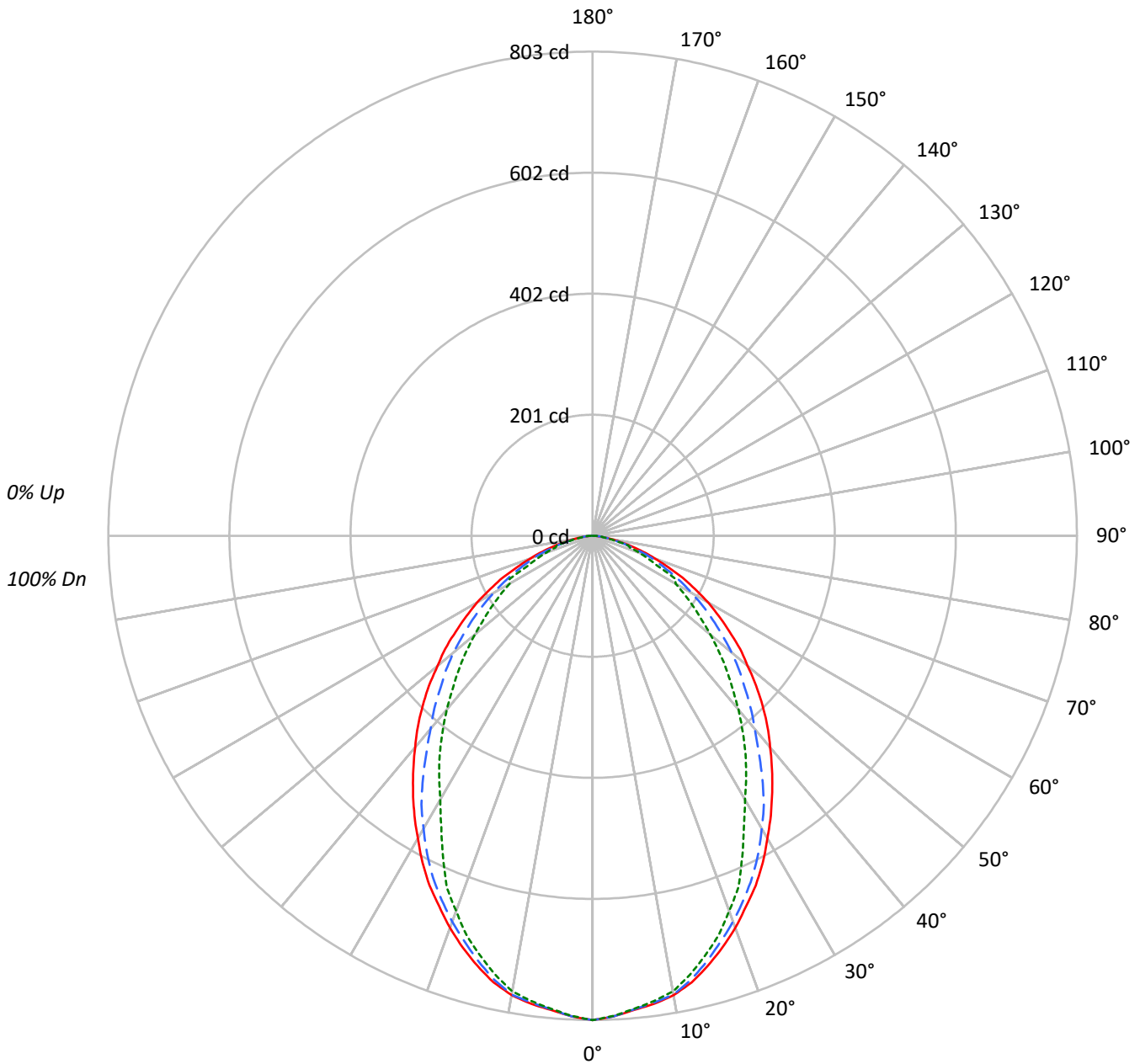
Lumens per Lamp: N/A  
Luminaire Lumens: 1577.0 lumens  
Efficiency: N/A  
Efficacy: 73.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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

TEST NUMBER: P544982

CATALOG NUMBER: FMR-12-1-LD4-2HI-35-UNV-93-97-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P544982

CATALOG NUMBER: FMR-12-1-LD4-2HI-35-UNV-93-97-EDD

**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°	8647	8647	8647
5°	8529	8519	8509
10°	8455	8446	8384
15°	8227	8145	8031
20°	7926	7797	7584
25°	7600	7434	6970
30°	7203	6971	6279
35°	6821	6443	5808
40°	6433	5872	5285
45°	6065	5428	4778
50°	5615	5039	4262
55°	5193	4566	3817
60°	4758	4077	3419
65°	4187	3571	3028
70°	3449	3128	2571
75°	2741	2396	2512
80°	1841	1729	1612
85°	1149	1371	1606



TEST NUMBER: P544982

CATALOG NUMBER: FMR-12-1-LD4-2HI-35-UNV-93-97-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.8	4.7
10°-20°	205.2	13.0
20°-30°	284.1	18.0
30°-40°	302.9	19.2
40°-50°	276.4	17.5
50°-60°	216.5	13.7
60°-70°	141.1	8.9
70°-80°	62.5	4.0
80°-90°	13.4	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°	564.1	35.8
0°-40°	867.0	55.0
0°-60°	1359.9	86.2
0°-90°	1577.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1577.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	803	803	803	803	803	
5°	789	788	788	788	788	75
15°	738	738	731	723	721	208
25°	640	636	626	604	587	294
35°	519	515	490	453	442	325
45°	398	390	357	327	314	307
55°	277	268	243	214	203	248
65°	164	155	140	143	119	162
75°	66	61	58	55	60	71
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



TEST NUMBER: P544982

CATALOG NUMBER: FMR-12-1-LD4-2HI-35-UNV-93-97-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	803.3	803.3	803.3	803.3	803.3
2.5°	797.7	797.7	797.7	796.8	796.8
5°	789.4	788.4	788.4	787.5	787.5
7.5°	782.9	781.9	781.0	780.1	778.2
10°	773.6	773.6	772.7	768.0	767.1
12.5°	758.7	757.8	754.1	747.6	745.7
15°	738.3	738.3	730.9	723.4	720.7
17.5°	716.0	715.1	705.8	698.4	694.6
20°	691.9	690.0	680.7	668.6	662.1
22.5°	664.9	664.9	653.8	638.0	631.5
25°	639.9	636.1	625.9	603.6	586.9
27.5°	611.1	605.5	594.4	562.8	543.3
30°	579.5	576.7	560.9	520.1	505.2
32.5°	549.8	545.1	528.4	485.7	473.6
35°	519.1	515.4	490.3	453.2	442.0
37.5°	488.5	483.8	452.3	422.5	408.6
40°	457.8	452.3	417.9	391.0	376.1
42.5°	429.0	421.6	388.2	359.4	342.7
45°	398.4	390.0	356.6	326.9	313.9
47.5°	367.8	360.3	329.7	299.0	284.2
50°	335.3	328.8	300.9	270.2	254.5
52.5°	308.3	298.1	271.2	240.5	227.5
55°	276.7	268.4	243.3	214.5	203.4
57.5°	248.0	239.6	216.4	189.4	180.2
60°	221.0	209.0	189.4	166.2	158.8
62.5°	191.3	182.0	165.3	145.8	155.1
65°	164.4	155.1	140.2	143.0	118.9
67.5°	134.7	130.0	117.0	104.0	100.3
70°	109.6	104.0	99.4	85.4	81.7
72.5°	87.3	81.7	75.2	67.8	65.0
75°	65.9	61.3	57.6	54.8	60.4
77.5°	45.5	43.6	40.9	38.1	37.1
80°	29.7	28.8	27.9	26.9	26.0
82.5°	17.6	17.6	17.6	17.6	17.6
85°	9.3	10.2	11.1	12.1	13.0
87.5°	5.6	5.6	6.5	7.4	8.4
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)