

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: P545376

Luminaire Tested: **FMR-12-2-LD4-1LO-40-UNV-81-85-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: P545376  
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-LD4-1LO-40-UNV-81-85-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

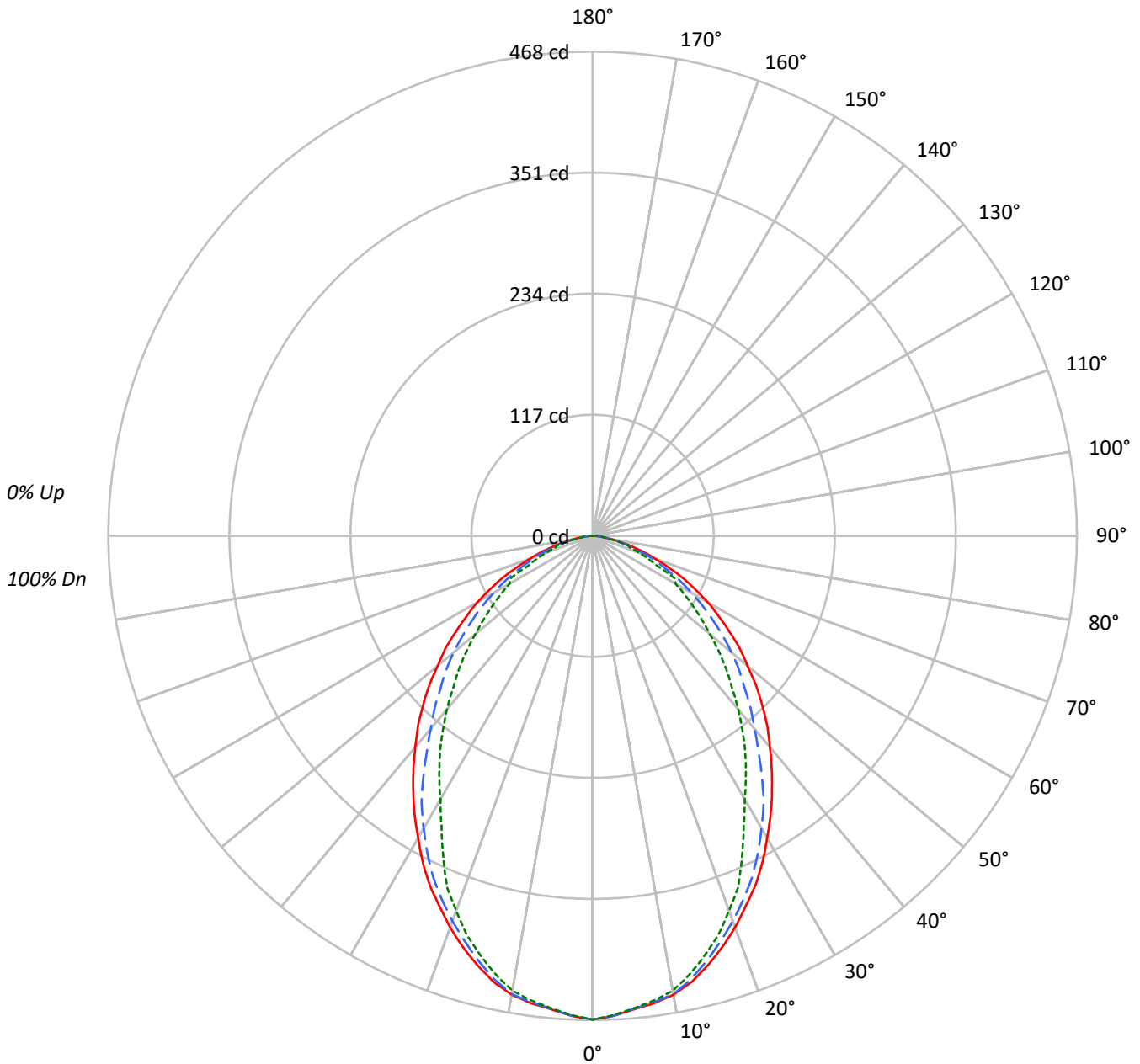
Lumens per Lamp: N/A  
Luminaire Lumens: 918.0 lumens  
Efficiency: N/A  
Efficacy: 78.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
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

TEST NUMBER: P545376

CATALOG NUMBER: FMR-12-2-LD4-1LO-40-UNV-81-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545376

CATALOG NUMBER: FMR-12-2-LD4-1LO-40-UNV-81-85-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°	2517	2517	2517
5°	2482	2480	2477
10°	2461	2458	2440
15°	2395	2371	2337
20°	2306	2270	2207
25°	2212	2164	2029
30°	2096	2029	1828
35°	1986	1875	1691
40°	1872	1709	1538
45°	1765	1580	1391
50°	1634	1467	1240
55°	1512	1329	1111
60°	1385	1187	995
65°	1219	1039	881
70°	1004	910	749
75°	799	697	730
80°	536	502	468
85°	333	401	469



TEST NUMBER: P545376

CATALOG NUMBER: FMR-12-2-LD4-1LO-40-UNV-81-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.5	4.7
10°-20°	119.5	13.0
20°-30°	165.4	18.0
30°-40°	176.3	19.2
40°-50°	160.9	17.5
50°-60°	126.0	13.7
60°-70°	82.1	8.9
70°-80°	36.4	4.0
80°-90°	7.8	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°	328.4	35.8
0°-40°	504.7	55.0
0°-60°	791.7	86.2
0°-90°	918.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	918.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	460	459	459	458	458	44
15°	430	430	426	421	420	121
25°	372	370	364	351	342	171
35°	302	300	285	264	257	189
45°	232	227	208	190	183	179
55°	161	156	142	125	118	144
65°	96	90	82	83	69	94
75°	38	36	34	32	35	41
85°	5	6	6	7	8	7
90°	0	0	0	0	0	



TEST NUMBER: P545376

CATALOG NUMBER: FMR-12-2-LD4-1LO-40-UNV-81-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	467.6	467.6	467.6	467.6	467.6
2.5°	464.4	464.4	464.4	463.8	463.8
5°	459.5	459.0	459.0	458.4	458.4
7.5°	455.7	455.2	454.6	454.1	453.0
10°	450.3	450.3	449.8	447.1	446.5
12.5°	441.7	441.1	439.0	435.2	434.1
15°	429.8	429.8	425.5	421.1	419.5
17.5°	416.8	416.3	410.9	406.5	404.4
20°	402.7	401.7	396.3	389.2	385.4
22.5°	387.1	387.1	380.6	371.4	367.6
25°	372.5	370.3	364.4	351.4	341.7
27.5°	355.7	352.5	346.0	327.6	316.2
30°	337.3	335.7	326.5	302.7	294.1
32.5°	320.0	317.3	307.6	282.7	275.7
35°	302.2	300.0	285.4	263.8	257.3
37.5°	284.4	281.7	263.3	246.0	237.9
40°	266.5	263.3	243.3	227.6	218.9
42.5°	249.8	245.4	226.0	209.2	199.5
45°	231.9	227.1	207.6	190.3	182.7
47.5°	214.1	209.8	191.9	174.1	165.4
50°	195.2	191.4	175.2	157.3	148.1
52.5°	179.5	173.5	157.9	140.0	132.4
55°	161.1	156.2	141.6	124.9	118.4
57.5°	144.3	139.5	126.0	110.3	104.9
60°	128.7	121.6	110.3	96.8	92.4
62.5°	111.4	106.0	96.2	84.9	90.3
65°	95.7	90.3	81.6	83.3	69.2
67.5°	78.4	75.7	68.1	60.5	58.4
70°	63.8	60.5	57.8	49.7	47.6
72.5°	50.8	47.6	43.8	39.5	37.8
75°	38.4	35.7	33.5	31.9	35.1
77.5°	26.5	25.4	23.8	22.2	21.6
80°	17.3	16.8	16.2	15.7	15.1
82.5°	10.3	10.3	10.3	10.3	10.3
85°	5.4	5.9	6.5	7.0	7.6
87.5°	3.2	3.2	3.8	4.3	4.9
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)