

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: P546525

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-80-96-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: P546525  
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-24-4-LD4-1LO-40-UNV-80-96-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

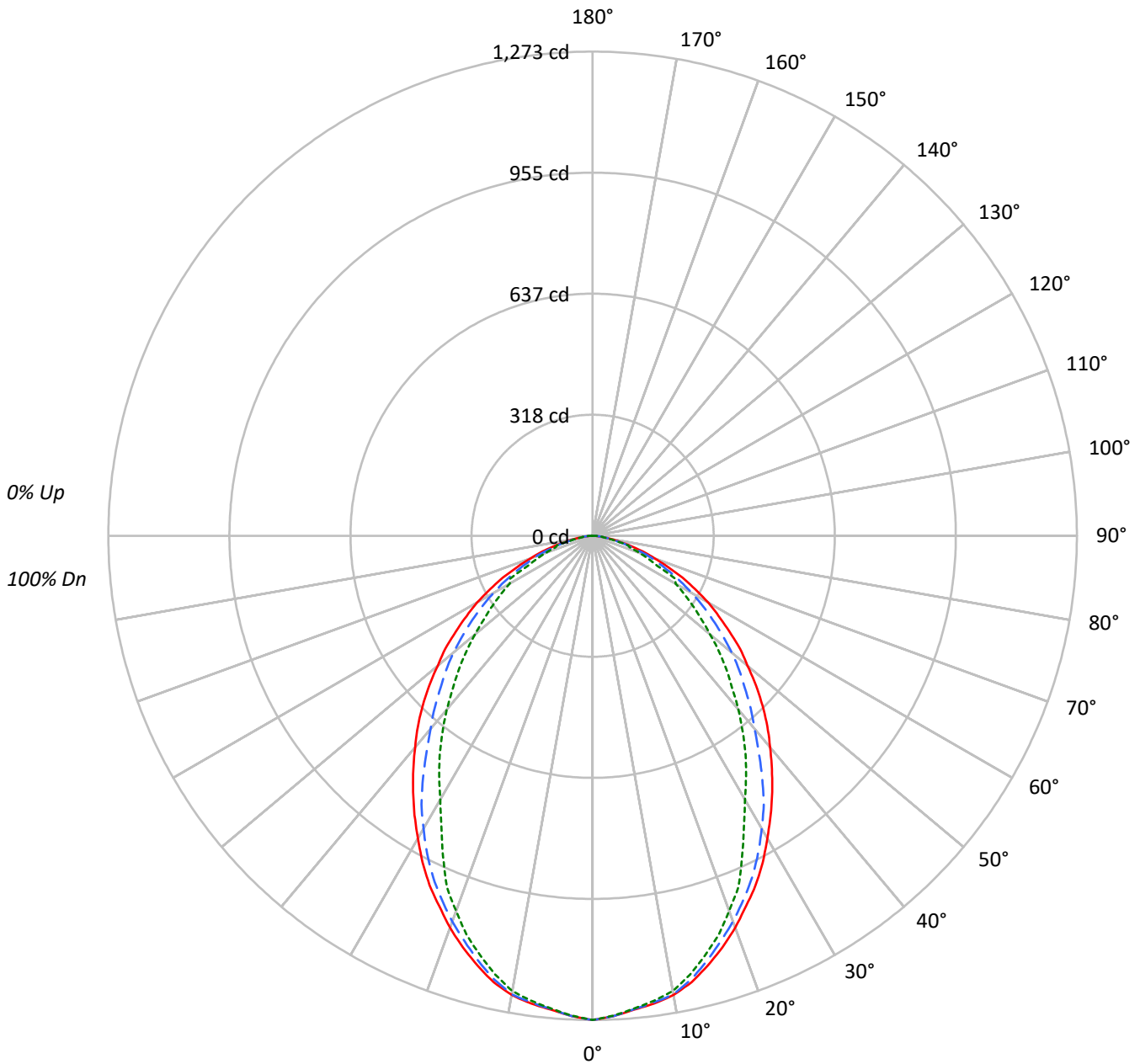
Lumens per Lamp: N/A  
Luminaire Lumens: 2499.0 lumens  
Efficiency: N/A  
Efficacy: 106.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	1713	1713	1713
5°	1690	1687	1685
10°	1675	1673	1661
15°	1630	1613	1591
20°	1570	1545	1502
25°	1505	1473	1381
30°	1427	1381	1244
35°	1351	1276	1151
40°	1274	1163	1047
45°	1201	1075	946
50°	1112	998	844
55°	1029	905	756
60°	942	808	677
65°	829	707	600
70°	683	620	509
75°	543	474	498
80°	365	342	319
85°	227	273	318



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.5	4.7
10°-20°	325.2	13.0
20°-30°	450.2	18.0
30°-40°	480.1	19.2
40°-50°	438.0	17.5
50°-60°	343.1	13.7
60°-70°	223.6	8.9
70°-80°	99.1	4.0
80°-90°	21.3	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°	893.9	35.8
0°-40°	1374.0	55.0
0°-60°	2155.0	86.2
0°-90°	2499.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2499.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1273	1273	1273	1273	1273	
5°	1251	1249	1249	1248	1248	119
15°	1170	1170	1158	1146	1142	329
25°	1014	1008	992	957	930	466
35°	823	817	777	718	700	514
45°	631	618	565	518	497	486
55°	438	425	386	340	322	393
65°	260	246	222	227	188	257
75°	104	97	91	87	96	112
85°	15	16	18	19	21	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1273.0	1273.0	1273.0	1273.0	1273.0
2.5°	1264.1	1264.1	1264.1	1262.7	1262.7
5°	1250.9	1249.4	1249.4	1247.9	1247.9
7.5°	1240.6	1239.1	1237.6	1236.2	1233.2
10°	1225.9	1225.9	1224.4	1217.0	1215.6
12.5°	1202.3	1200.8	1195.0	1184.7	1181.7
15°	1169.9	1169.9	1158.2	1146.4	1142.0
17.5°	1134.6	1133.2	1118.4	1106.7	1100.8
20°	1096.4	1093.4	1078.7	1059.6	1049.3
22.5°	1053.7	1053.7	1036.0	1011.0	1000.7
25°	1014.0	1008.1	991.9	956.6	930.1
27.5°	968.3	959.5	941.8	891.8	860.9
30°	918.3	913.9	888.9	824.1	800.6
32.5°	871.2	863.8	837.4	769.7	750.5
35°	822.6	816.8	777.0	718.2	700.5
37.5°	774.1	766.7	716.7	669.6	647.5
40°	725.5	716.7	662.2	619.6	596.0
42.5°	679.9	668.1	615.1	569.5	543.0
45°	631.3	618.1	565.1	518.0	497.4
47.5°	582.8	571.0	522.4	473.9	450.3
50°	531.3	521.0	476.8	428.2	403.2
52.5°	488.6	472.4	429.7	381.2	360.5
55°	438.5	425.3	385.6	339.9	322.3
57.5°	392.9	379.7	342.9	300.2	285.5
60°	350.2	331.1	300.2	263.4	251.6
62.5°	303.2	288.4	261.9	231.0	245.8
65°	260.5	245.8	222.2	226.6	188.4
67.5°	213.4	206.0	185.4	164.8	158.9
70°	173.7	164.8	157.5	135.4	129.5
72.5°	138.3	129.5	119.2	107.4	103.0
75°	104.5	97.1	91.2	86.8	95.7
77.5°	72.1	69.2	64.8	60.3	58.9
80°	47.1	45.6	44.1	42.7	41.2
82.5°	28.0	28.0	28.0	28.0	28.0
85°	14.7	16.2	17.7	19.1	20.6
87.5°	8.8	8.8	10.3	11.8	13.2
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)