

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: P546526

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-80-97-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: P546526  
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-80-97-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDES  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

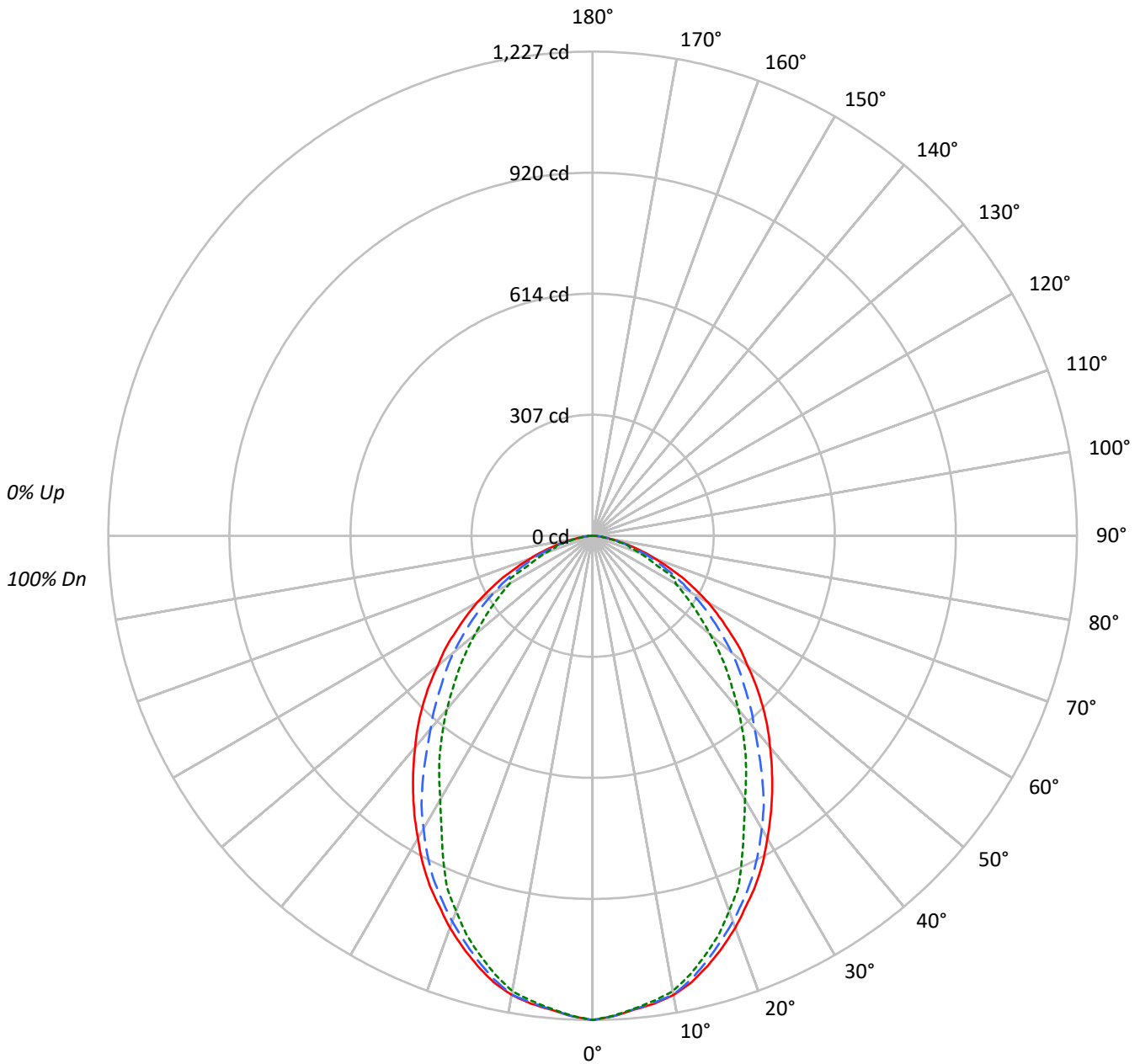
Lumens per Lamp: N/A  
Luminaire Lumens: 2409.0 lumens  
Efficiency: N/A  
Efficacy: 102.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (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°	1651	1651	1651
5°	1629	1627	1625
10°	1614	1613	1601
15°	1571	1555	1534
20°	1513	1489	1448
25°	1451	1420	1331
30°	1375	1331	1199
35°	1303	1230	1109
40°	1228	1121	1009
45°	1158	1037	912
50°	1072	962	814
55°	992	872	729
60°	908	779	653
65°	799	682	578
70°	659	597	491
75°	523	457	479
80°	352	330	308
85°	219	262	307



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.2	4.7
10°-20°	313.5	13.0
20°-30°	434.0	18.0
30°-40°	462.8	19.2
40°-50°	422.2	17.5
50°-60°	330.7	13.7
60°-70°	215.6	8.9
70°-80°	95.5	4.0
80°-90°	20.5	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°	861.7	35.8
0°-40°	1324.5	55.0
0°-60°	2077.4	86.2
0°-90°	2409.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2409.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1227	1227	1227	1227	1227	
5°	1206	1204	1204	1203	1203	114
15°	1128	1128	1116	1105	1101	317
25°	977	972	956	922	897	449
35°	793	787	749	692	675	496
45°	609	596	545	499	480	469
55°	423	410	372	328	311	379
65°	251	237	214	218	182	247
75°	101	94	88	84	92	108
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1227.1	1227.1	1227.1	1227.1	1227.1
2.5°	1218.6	1218.6	1218.6	1217.2	1217.2
5°	1205.8	1204.4	1204.4	1203.0	1203.0
7.5°	1195.9	1194.5	1193.1	1191.6	1188.8
10°	1181.7	1181.7	1180.3	1173.2	1171.8
12.5°	1159.0	1157.6	1151.9	1142.0	1139.2
15°	1127.8	1127.8	1116.5	1105.1	1100.9
17.5°	1093.8	1092.3	1078.2	1066.8	1061.1
20°	1056.9	1054.0	1039.9	1021.4	1011.5
22.5°	1015.7	1015.7	998.7	974.6	964.7
25°	977.4	971.8	956.2	922.1	896.6
27.5°	933.5	924.9	907.9	859.7	829.9
30°	885.2	881.0	856.9	794.4	771.7
32.5°	839.8	832.7	807.2	741.9	723.5
35°	793.0	787.3	749.0	692.3	675.3
37.5°	746.2	739.1	690.9	645.5	624.2
40°	699.4	690.9	638.4	597.2	574.5
42.5°	655.4	644.1	593.0	549.0	523.5
45°	608.6	595.8	544.8	499.4	479.5
47.5°	561.8	550.4	503.6	456.8	434.1
50°	512.1	502.2	459.6	412.8	388.7
52.5°	471.0	455.4	414.2	367.4	347.6
55°	422.8	410.0	371.7	327.7	310.7
57.5°	378.8	366.0	330.5	289.4	275.2
60°	337.6	319.2	289.4	253.9	242.6
62.5°	292.2	278.1	252.5	222.7	236.9
65°	251.1	236.9	214.2	218.5	181.6
67.5°	205.7	198.6	178.7	158.9	153.2
70°	167.4	158.9	151.8	130.5	124.8
72.5°	133.4	124.8	114.9	103.6	99.3
75°	100.7	93.6	88.0	83.7	92.2
77.5°	69.5	66.7	62.4	58.2	56.7
80°	45.4	44.0	42.6	41.1	39.7
82.5°	27.0	27.0	27.0	27.0	27.0
85°	14.2	15.6	17.0	18.4	19.9
87.5°	8.5	8.5	9.9	11.3	12.8
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)