

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: P546620

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-80-94-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: P546620  
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-LD4-1STD-40-UNV-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

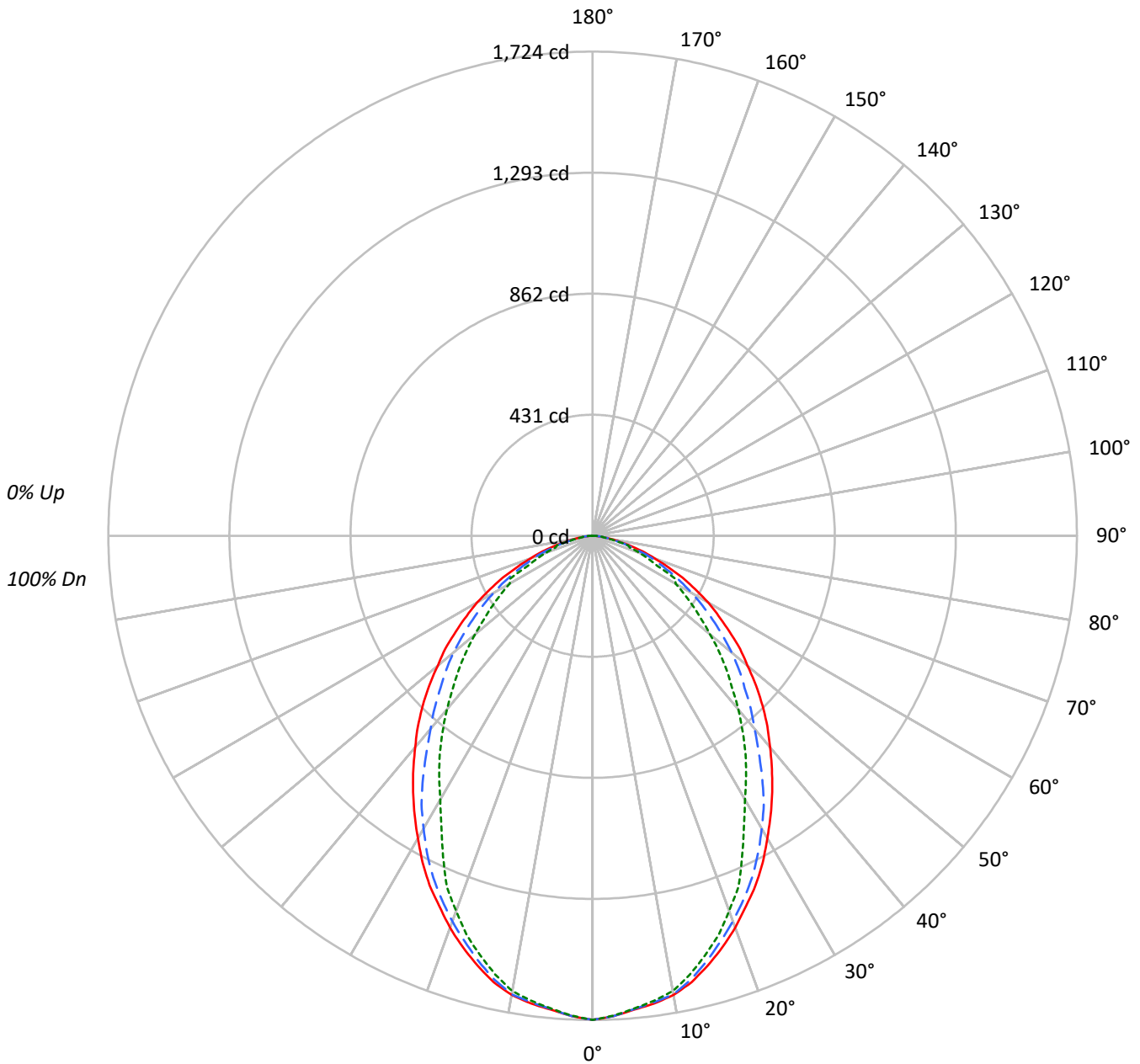
Lumens per Lamp: N/A  
Luminaire Lumens: 3384.0 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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			100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87			87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75			75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65			65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56			56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50			50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44			44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40			40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36			36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33			33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30			30																

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2319	2319	2319
5°	2288	2285	2282
10°	2268	2265	2249
15°	2207	2185	2154
20°	2126	2091	2035
25°	2038	1994	1870
30°	1932	1870	1684
35°	1830	1728	1558
40°	1725	1575	1418
45°	1627	1456	1282
50°	1506	1352	1143
55°	1393	1225	1024
60°	1276	1094	917
65°	1123	958	812
70°	925	839	690
75°	736	643	673
80°	494	463	432
85°	307	369	431



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.5	4.7
10°-20°	440.4	13.0
20°-30°	609.7	18.0
30°-40°	650.1	19.2
40°-50°	593.1	17.5
50°-60°	464.6	13.7
60°-70°	302.8	8.9
70°-80°	134.2	4.0
80°-90°	28.8	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°	1210.5	35.8
0°-40°	1860.5	55.0
0°-60°	2918.2	86.2
0°-90°	3384.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3384.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1724	1724	1724	1724	1724	
5°	1694	1692	1692	1690	1690	161
15°	1584	1584	1568	1552	1546	445
25°	1373	1365	1343	1295	1259	630
35°	1114	1106	1052	972	949	696
45°	855	837	765	702	674	659
55°	594	576	522	460	436	533
65°	353	333	301	307	255	348
75°	142	132	124	118	130	152
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1723.8	1723.8	1723.8	1723.8	1723.8
2.5°	1711.8	1711.8	1711.8	1709.8	1709.8
5°	1693.9	1691.9	1691.9	1689.9	1689.9
7.5°	1679.9	1677.9	1675.9	1673.9	1670.0
10°	1660.0	1660.0	1658.0	1648.0	1646.0
12.5°	1628.1	1626.1	1618.1	1604.2	1600.2
15°	1584.3	1584.3	1568.3	1552.4	1546.4
17.5°	1536.4	1534.4	1514.5	1498.6	1490.6
20°	1484.6	1480.6	1460.7	1434.8	1420.9
22.5°	1426.8	1426.8	1402.9	1369.0	1355.1
25°	1373.0	1365.1	1343.1	1295.3	1259.4
27.5°	1311.3	1299.3	1275.4	1207.6	1165.8
30°	1243.5	1237.5	1203.6	1116.0	1084.1
32.5°	1179.7	1169.8	1133.9	1042.2	1016.3
35°	1114.0	1106.0	1052.2	972.5	948.6
37.5°	1048.2	1038.2	970.5	906.7	876.8
40°	982.4	970.5	896.8	839.0	807.1
42.5°	920.7	904.7	833.0	771.2	735.3
45°	854.9	837.0	765.2	701.5	673.6
47.5°	789.1	773.2	707.4	641.7	609.8
50°	719.4	705.4	645.7	579.9	546.0
52.5°	661.6	639.7	581.9	516.1	488.2
55°	593.9	575.9	522.1	460.3	436.4
57.5°	532.1	514.1	464.3	406.5	386.6
60°	474.3	448.4	406.5	356.7	340.8
62.5°	410.5	390.6	354.7	312.9	332.8
65°	352.7	332.8	300.9	306.9	255.1
67.5°	289.0	279.0	251.1	223.2	215.2
70°	235.1	223.2	213.2	183.3	175.4
72.5°	187.3	175.4	161.4	145.5	139.5
75°	141.5	131.5	123.6	117.6	129.5
77.5°	97.6	93.7	87.7	81.7	79.7
80°	63.8	61.8	59.8	57.8	55.8
82.5°	37.9	37.9	37.9	37.9	37.9
85°	19.9	21.9	23.9	25.9	27.9
87.5°	12.0	12.0	13.9	15.9	17.9
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)