

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: P546428

Luminaire Tested: **FMR-24-4-LD4-1HI-35-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: P546428  
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-LD4-1HI-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

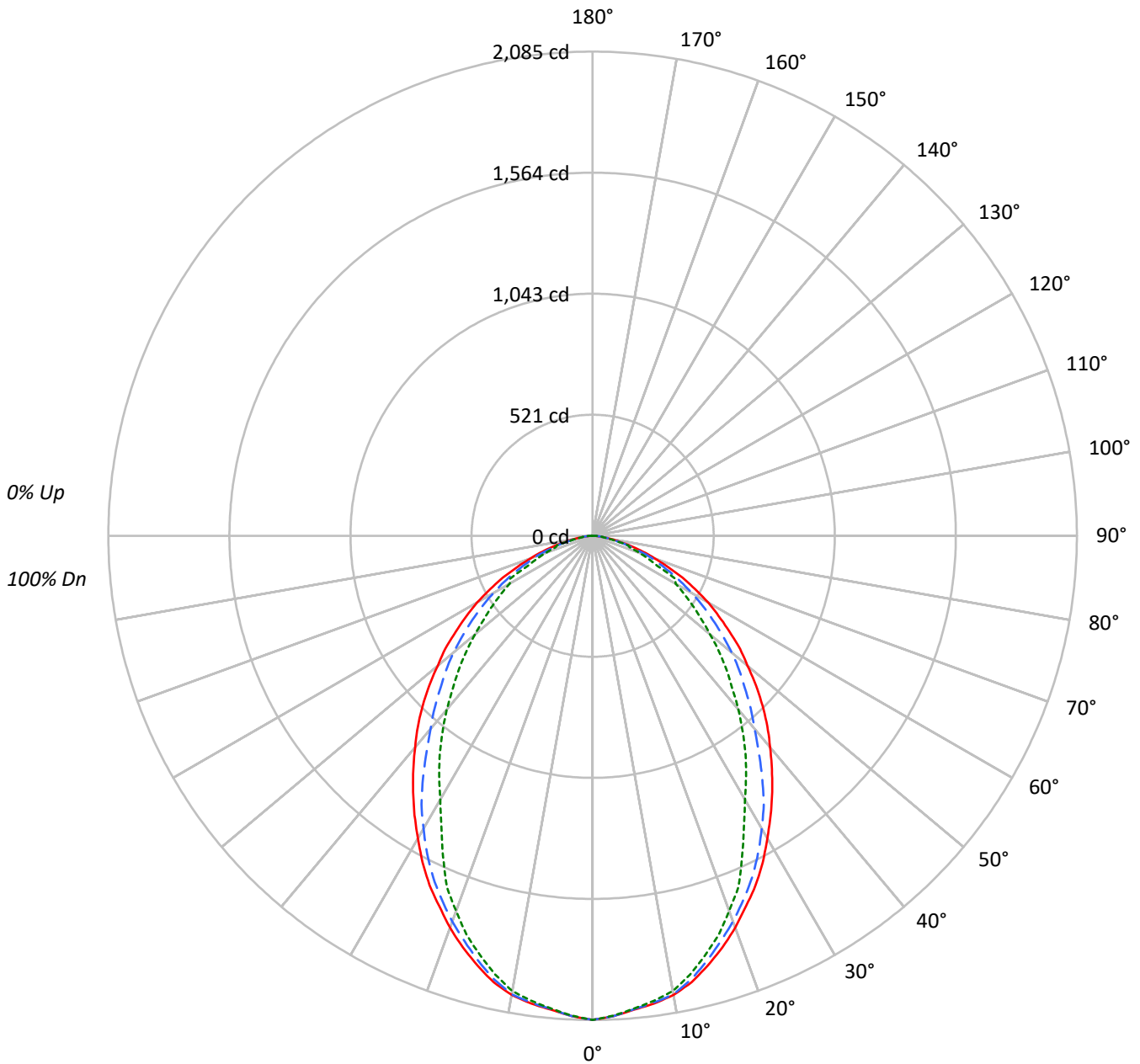
Lumens per Lamp: N/A  
Luminaire Lumens: 4093.0 lumens  
Efficiency: N/A  
Efficacy: 94.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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°	2805	2805	2805
5°	2767	2764	2761
10°	2743	2740	2720
15°	2669	2642	2605
20°	2571	2530	2461
25°	2465	2412	2261
30°	2337	2262	2037
35°	2213	2090	1884
40°	2087	1905	1715
45°	1968	1761	1550
50°	1821	1635	1382
55°	1685	1481	1238
60°	1544	1323	1109
65°	1358	1159	982
70°	1119	1015	834
75°	889	777	815
80°	597	560	523
85°	372	446	520



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	194.1	4.7
10°-20°	532.6	13.0
20°-30°	737.4	18.0
30°-40°	786.3	19.2
40°-50°	717.3	17.5
50°-60°	562.0	13.7
60°-70°	366.2	8.9
70°-80°	162.3	4.0
80°-90°	34.8	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°	1464.1	35.8
0°-40°	2250.4	55.0
0°-60°	3529.6	86.2
0°-90°	4093.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4093.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2085	2085	2085	2085	2085	
5°	2049	2046	2046	2044	2044	194
15°	1916	1916	1897	1878	1870	539
25°	1661	1651	1625	1567	1523	762
35°	1347	1338	1273	1176	1147	842
45°	1034	1012	926	848	815	797
55°	718	697	632	557	528	644
65°	427	402	364	371	308	420
75°	171	159	149	142	157	183
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2084.9	2084.9	2084.9	2084.9	2084.9
2.5°	2070.5	2070.5	2070.5	2068.0	2068.0
5°	2048.8	2046.4	2046.4	2043.9	2043.9
7.5°	2031.9	2029.5	2027.1	2024.7	2019.8
10°	2007.8	2007.8	2005.4	1993.3	1990.9
12.5°	1969.2	1966.8	1957.2	1940.3	1935.5
15°	1916.2	1916.2	1896.9	1877.6	1870.4
17.5°	1858.4	1855.9	1831.8	1812.6	1802.9
20°	1795.7	1790.9	1766.8	1735.4	1718.6
22.5°	1725.8	1725.8	1696.9	1655.9	1639.0
25°	1660.7	1651.1	1624.6	1566.7	1523.3
27.5°	1586.0	1571.5	1542.6	1460.6	1410.0
30°	1504.0	1496.8	1455.8	1349.8	1311.2
32.5°	1426.9	1414.9	1371.5	1260.6	1229.3
35°	1347.4	1337.7	1272.6	1176.2	1147.3
37.5°	1267.8	1255.8	1173.8	1096.7	1060.5
40°	1188.3	1173.8	1084.6	1014.7	976.2
42.5°	1113.6	1094.3	1007.5	932.8	889.4
45°	1034.0	1012.3	925.6	848.4	814.7
47.5°	954.5	935.2	855.7	776.1	737.6
50°	870.1	853.3	780.9	701.4	660.4
52.5°	800.2	773.7	703.8	624.3	590.5
55°	718.3	696.6	631.5	556.8	527.9
57.5°	643.6	621.9	561.6	491.7	467.6
60°	573.7	542.3	491.7	431.4	412.2
62.5°	496.5	472.4	429.0	378.4	402.5
65°	426.6	402.5	364.0	371.2	308.5
67.5°	349.5	337.4	303.7	270.0	260.3
70°	284.4	270.0	257.9	221.7	212.1
72.5°	226.6	212.1	195.2	176.0	168.7
75°	171.1	159.1	149.4	142.2	156.7
77.5°	118.1	113.3	106.1	98.8	96.4
80°	77.1	74.7	72.3	69.9	67.5
82.5°	45.8	45.8	45.8	45.8	45.8
85°	24.1	26.5	28.9	31.3	33.7
87.5°	14.5	14.5	16.9	19.3	21.7
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)