

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: P546788

Luminaire Tested: **FMR-24-4-LD4-2LO-35-UNV-81-94-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: P546788  
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-LD4-2LO-35-UNV-81-94-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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**

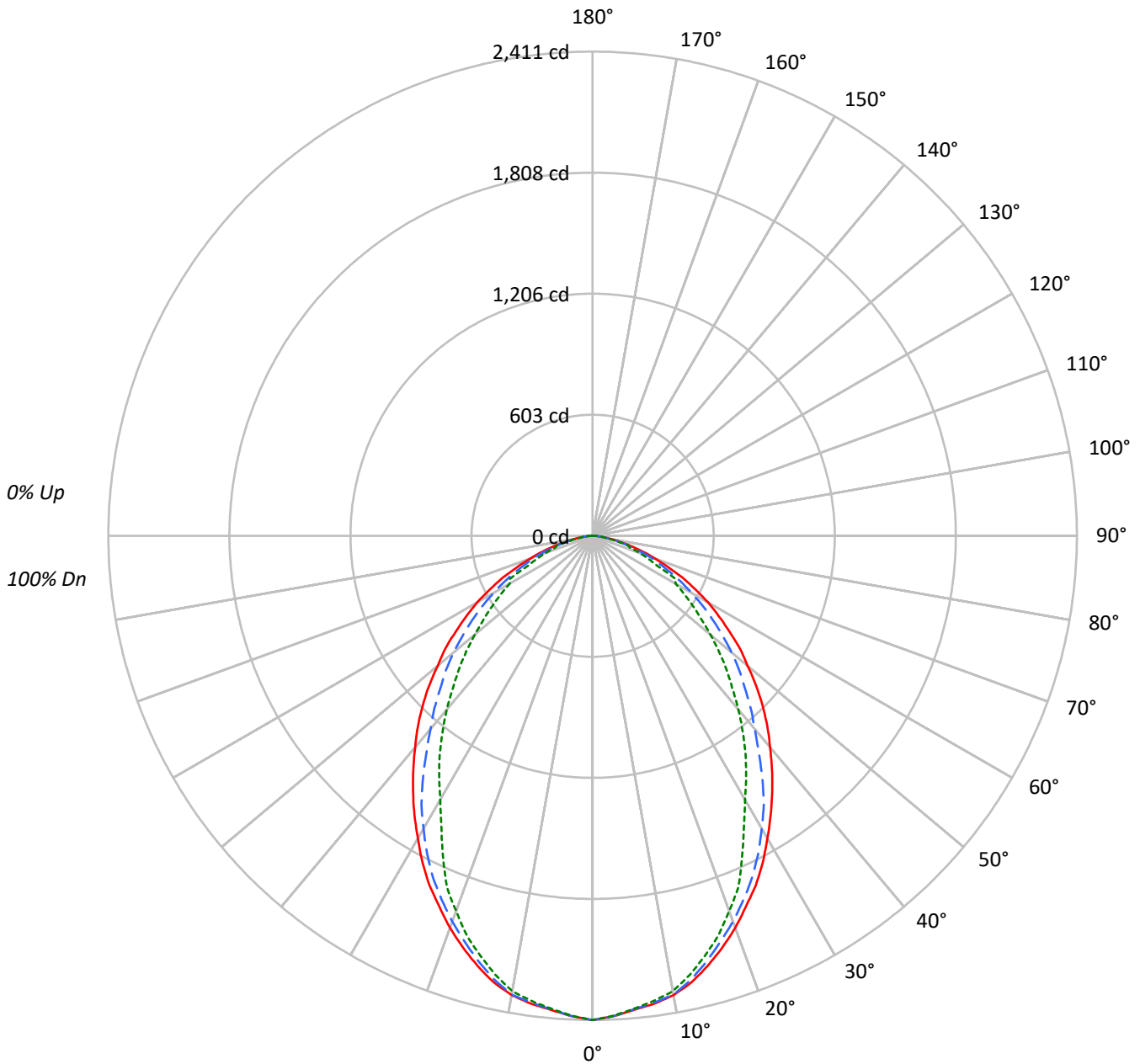
Lumens per Lamp: N/A  
Luminaire Lumens: 4734.0 lumens  
Efficiency: N/A  
Efficacy: 101.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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°	3245	3245	3245
5°	3200	3197	3193
10°	3173	3169	3146
15°	3087	3056	3013
20°	2974	2926	2846
25°	2852	2790	2616
30°	2703	2616	2356
35°	2560	2418	2180
40°	2414	2203	1983
45°	2276	2037	1793
50°	2107	1891	1599
55°	1949	1713	1432
60°	1785	1530	1283
65°	1571	1340	1136
70°	1294	1173	965
75°	1029	898	942
80°	691	648	605
85°	431	517	602



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	224.5	4.7
10°-20°	616.0	13.0
20°-30°	852.9	18.0
30°-40°	909.4	19.2
40°-50°	829.7	17.5
50°-60°	650.0	13.7
60°-70°	423.6	8.9
70°-80°	187.7	4.0
80°-90°	40.3	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°	1693.4	35.8
0°-40°	2602.8	55.0
0°-60°	4082.4	86.2
0°-90°	4734.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4734.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2411	2411	2411	2411	2411	
5°	2370	2367	2367	2364	2364	225
15°	2216	2216	2194	2172	2163	623
25°	1921	1910	1879	1812	1762	882
35°	1558	1547	1472	1360	1327	974
45°	1196	1171	1070	981	942	921
55°	831	806	730	644	610	745
65°	493	466	421	429	357	486
75°	198	184	173	164	181	212
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2411.4	2411.4	2411.4	2411.4	2411.4
2.5°	2394.7	2394.7	2394.7	2391.9	2391.9
5°	2369.6	2366.8	2366.8	2364.0	2364.0
7.5°	2350.1	2347.3	2344.5	2341.7	2336.2
10°	2322.2	2322.2	2319.4	2305.5	2302.7
12.5°	2277.6	2274.8	2263.7	2244.2	2238.6
15°	2216.3	2216.3	2194.0	2171.7	2163.3
17.5°	2149.4	2146.6	2118.7	2096.4	2085.3
20°	2076.9	2071.3	2043.4	2007.2	1987.7
22.5°	1996.1	1996.1	1962.6	1915.2	1895.7
25°	1920.8	1909.6	1879.0	1812.1	1761.9
27.5°	1834.4	1817.6	1784.2	1689.4	1630.9
30°	1739.6	1731.2	1683.8	1561.2	1516.6
32.5°	1650.4	1636.4	1586.3	1458.0	1421.8
35°	1558.4	1547.2	1472.0	1360.4	1327.0
37.5°	1466.4	1452.4	1357.7	1268.4	1226.6
40°	1374.4	1357.7	1254.5	1173.7	1129.1
42.5°	1288.0	1265.7	1165.3	1078.9	1028.7
45°	1196.0	1170.9	1070.5	981.3	942.3
47.5°	1104.0	1081.7	989.7	897.7	853.1
50°	1006.4	986.9	903.2	811.2	763.9
52.5°	925.5	894.9	814.0	722.0	683.0
55°	830.8	805.7	730.4	644.0	610.5
57.5°	744.3	719.2	649.6	568.7	540.8
60°	663.5	627.3	568.7	499.0	476.7
62.5°	574.3	546.4	496.2	437.7	465.6
65°	493.4	465.6	421.0	429.3	356.8
67.5°	404.2	390.3	351.3	312.2	301.1
70°	329.0	312.2	298.3	256.5	245.3
72.5°	262.1	245.3	225.8	203.5	195.1
75°	197.9	184.0	172.8	164.5	181.2
77.5°	136.6	131.0	122.7	114.3	111.5
80°	89.2	86.4	83.6	80.8	78.1
82.5°	53.0	53.0	53.0	53.0	53.0
85°	27.9	30.7	33.5	36.2	39.0
87.5°	16.7	16.7	19.5	22.3	25.1
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)