

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: P546831

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-93-84-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: P546831
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-40-UNV-93-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

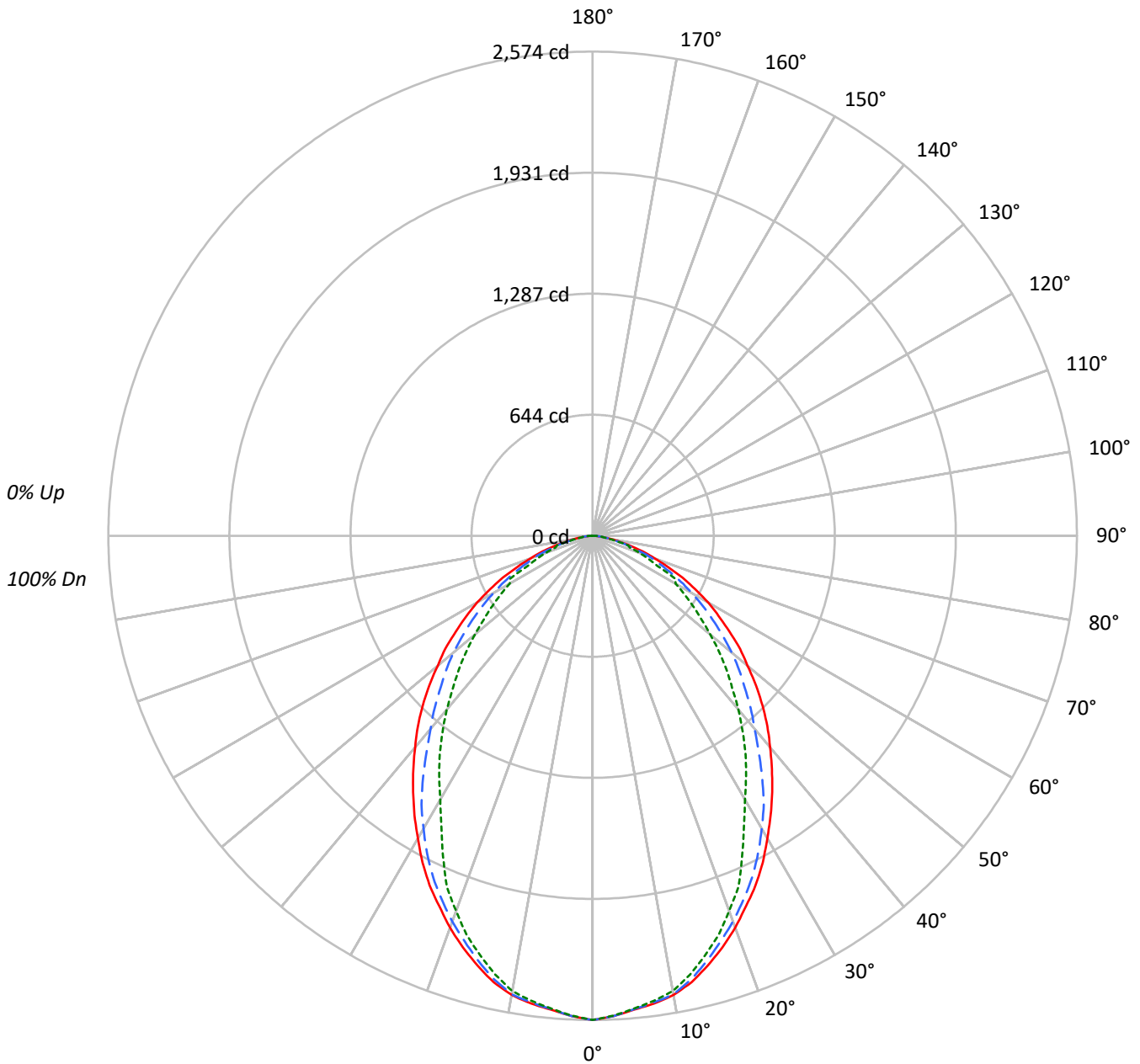
Lumens per Lamp: N/A
Luminaire Lumens: 5053.0 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	3463	3463	3463
5°	3416	3412	3408
10°	3387	3382	3358
15°	3295	3262	3216
20°	3174	3123	3038
25°	3044	2977	2792
30°	2885	2792	2515
35°	2732	2581	2326
40°	2577	2352	2117
45°	2429	2174	1914
50°	2249	2018	1707
55°	2080	1829	1529
60°	1906	1633	1369
65°	1677	1430	1213
70°	1381	1253	1030
75°	1098	959	1005
80°	738	692	645
85°	460	551	644



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.6	4.7
10°-20°	657.6	13.0
20°-30°	910.3	18.0
30°-40°	970.7	19.2
40°-50°	885.5	17.5
50°-60°	693.8	13.7
60°-70°	452.2	8.9
70°-80°	200.3	4.0
80°-90°	43.0	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°	1807.5	35.8
0°-40°	2778.2	55.0
0°-60°	4357.5	86.2
0°-90°	5053.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5053.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2574	2574	2574	2574	2574	
5°	2529	2526	2526	2523	2523	240
15°	2366	2366	2342	2318	2309	665
25°	2050	2038	2006	1934	1881	941
35°	1663	1652	1571	1452	1416	1040
45°	1277	1250	1143	1047	1006	983
55°	887	860	780	687	652	795
65°	527	497	449	458	381	519
75°	211	196	184	176	193	226
85°	30	33	36	39	42	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2573.9	2573.9	2573.9	2573.9	2573.9
2.5°	2556.1	2556.1	2556.1	2553.1	2553.1
5°	2529.3	2526.3	2526.3	2523.3	2523.3
7.5°	2508.5	2505.5	2502.5	2499.5	2493.6
10°	2478.7	2478.7	2475.7	2460.9	2457.9
12.5°	2431.1	2428.1	2416.2	2395.4	2389.4
15°	2365.6	2365.6	2341.8	2318.0	2309.1
17.5°	2294.2	2291.2	2261.5	2237.7	2225.8
20°	2216.9	2210.9	2181.1	2142.5	2121.6
22.5°	2130.6	2130.6	2094.9	2044.3	2023.4
25°	2050.2	2038.3	2005.6	1934.2	1880.6
27.5°	1958.0	1940.1	1904.4	1803.2	1740.8
30°	1856.8	1847.9	1797.3	1666.4	1618.7
32.5°	1761.6	1746.7	1693.1	1556.3	1517.6
35°	1663.4	1651.5	1571.1	1452.1	1416.4
37.5°	1565.2	1550.3	1449.1	1353.9	1309.3
40°	1467.0	1449.1	1339.0	1252.7	1205.1
42.5°	1374.7	1350.9	1243.8	1151.6	1098.0
45°	1276.6	1249.8	1142.6	1047.4	1005.8
47.5°	1178.4	1154.5	1056.4	958.2	910.5
50°	1074.2	1053.4	964.1	865.9	815.3
52.5°	987.9	955.2	868.9	770.7	729.0
55°	886.7	860.0	779.6	687.4	651.7
57.5°	794.5	767.7	693.3	607.0	577.3
60°	708.2	669.5	607.0	532.6	508.8
62.5°	613.0	583.2	529.7	467.2	496.9
65°	526.7	496.9	449.3	458.2	380.9
67.5°	431.5	416.6	374.9	333.3	321.4
70°	351.1	333.3	318.4	273.8	261.9
72.5°	279.7	261.9	241.0	217.2	208.3
75°	211.3	196.4	184.5	175.6	193.4
77.5°	145.8	139.9	130.9	122.0	119.0
80°	95.2	92.2	89.3	86.3	83.3
82.5°	56.5	56.5	56.5	56.5	56.5
85°	29.8	32.7	35.7	38.7	41.7
87.5°	17.9	17.9	20.8	23.8	26.8
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)