

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: P547316

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-93-94-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: P547316
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-LD4-4HI-40-UNV-93-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

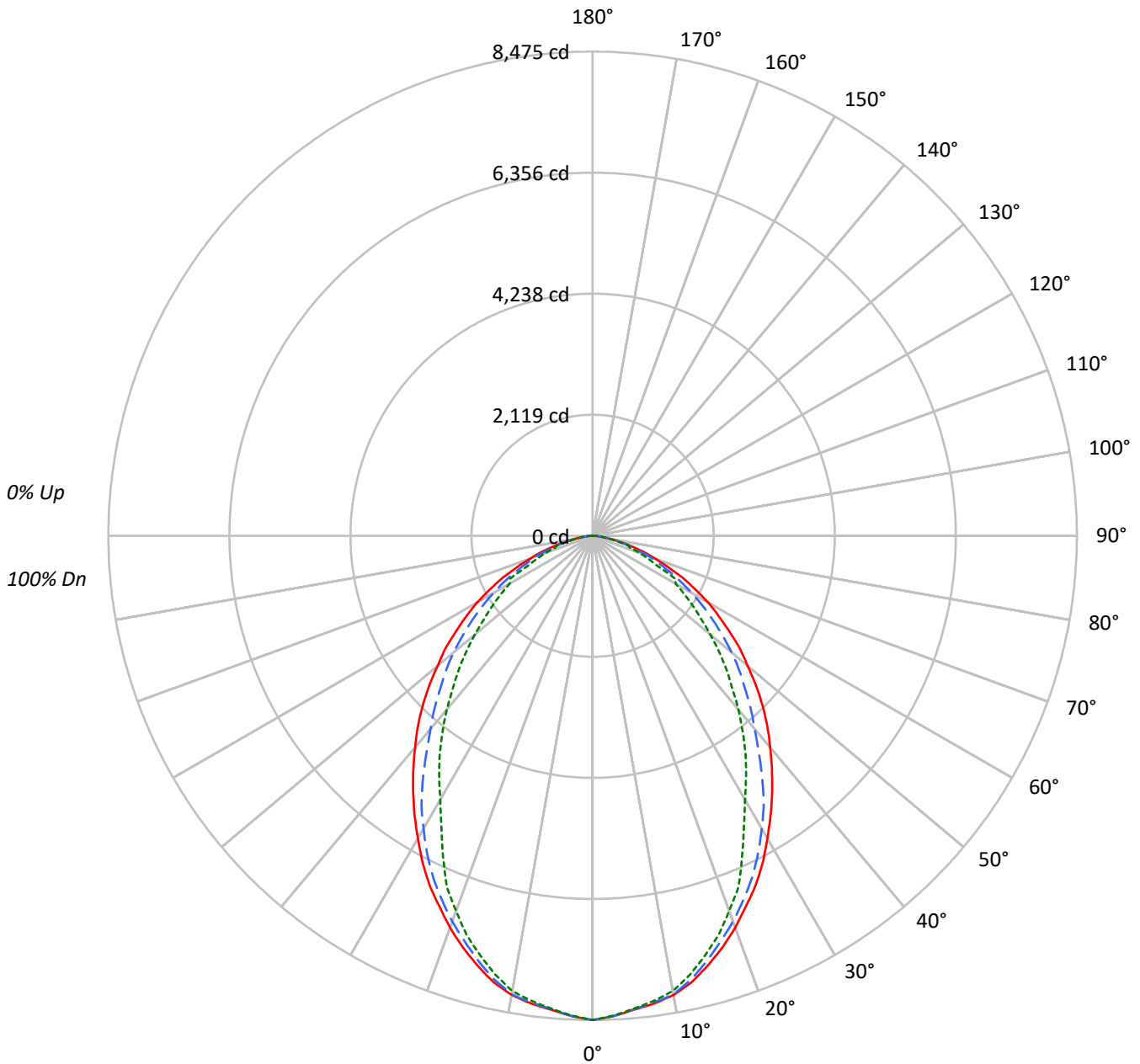
Lumens per Lamp: N/A
Luminaire Lumens: 16637.0 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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°	11403	11403	11403
5°	11248	11234	11221
10°	11150	11137	11056
15°	10850	10740	10590
20°	10451	10283	10002
25°	10021	9803	9192
30°	9498	9194	8280
35°	8996	8497	7660
40°	8484	7744	6969
45°	7998	7159	6301
50°	7403	6644	5619
55°	6849	6021	5033
60°	6275	5378	4508
65°	5521	4710	3993
70°	4548	4124	3392
75°	3616	3158	3310
80°	2429	2277	2125
85°	1513	1815	2118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	788.9	4.7
10°-20°	2165.0	13.0
20°-30°	2997.3	18.0
30°-40°	3196.0	19.2
40°-50°	2915.7	17.5
50°-60°	2284.2	13.7
60°-70°	1488.7	8.9
70°-80°	659.6	4.0
80°-90°	141.6	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°	5951.2	35.8
0°-40°	9147.2	55.0
0°-60°	14347.1	86.2
0°-90°	16637.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16637.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8475	8475	8475	8475	8475	
5°	8328	8318	8318	8308	8308	790
15°	7789	7789	7710	7632	7603	2190
25°	6750	6711	6603	6368	6192	3099
35°	5477	5438	5173	4781	4664	3424
45°	4203	4115	3762	3449	3312	3238
55°	2920	2831	2567	2263	2146	2619
65°	1734	1636	1479	1509	1254	1709
75°	696	647	607	578	637	746
85°	98	108	118	127	137	136
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8474.7	8474.7	8474.7	8474.7	8474.7
2.5°	8415.9	8415.9	8415.9	8406.1	8406.1
5°	8327.7	8317.9	8317.9	8308.1	8308.1
7.5°	8259.1	8249.3	8239.5	8229.7	8210.1
10°	8161.2	8161.2	8151.4	8102.4	8092.6
12.5°	8004.4	7994.6	7955.4	7886.8	7867.2
15°	7788.9	7788.9	7710.5	7632.1	7602.7
17.5°	7553.7	7543.9	7445.9	7367.6	7328.4
20°	7299.0	7279.4	7181.4	7054.1	6985.5
22.5°	7014.9	7014.9	6897.3	6730.7	6662.2
25°	6750.3	6711.2	6603.4	6368.2	6191.9
27.5°	6446.6	6387.8	6270.3	5937.2	5731.4
30°	6113.5	6084.1	5917.6	5486.5	5329.7
32.5°	5800.0	5751.0	5574.7	5124.0	4996.6
35°	5476.7	5437.5	5173.0	4781.1	4663.5
37.5°	5153.4	5104.4	4771.3	4457.8	4310.8
40°	4830.1	4771.3	4408.8	4124.7	3967.9
42.5°	4526.4	4448.0	4095.3	3791.6	3615.2
45°	4203.0	4114.9	3762.2	3448.7	3311.5
47.5°	3879.7	3801.4	3478.0	3154.7	2998.0
50°	3536.8	3468.2	3174.3	2851.0	2684.5
52.5°	3252.7	3144.9	2860.8	2537.5	2400.3
55°	2919.6	2831.4	2566.9	2263.2	2145.6
57.5°	2615.9	2527.7	2282.8	1998.6	1900.7
60°	2331.8	2204.4	1998.6	1753.7	1675.3
62.5°	2018.2	1920.3	1743.9	1538.2	1636.1
65°	1734.1	1636.1	1479.4	1508.8	1254.1
67.5°	1420.6	1371.6	1234.5	1097.3	1058.1
70°	1156.1	1097.3	1048.3	901.4	862.2
72.5°	920.9	862.2	793.6	715.2	685.8
75°	695.6	646.6	607.4	578.0	636.8
77.5°	480.1	460.5	431.1	401.7	391.9
80°	313.5	303.7	293.9	284.1	274.3
82.5°	186.1	186.1	186.1	186.1	186.1
85°	98.0	107.8	117.6	127.4	137.2
87.5°	58.8	58.8	68.6	78.4	88.2
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)