

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: P547308

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-82-94-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: P547308
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-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC 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

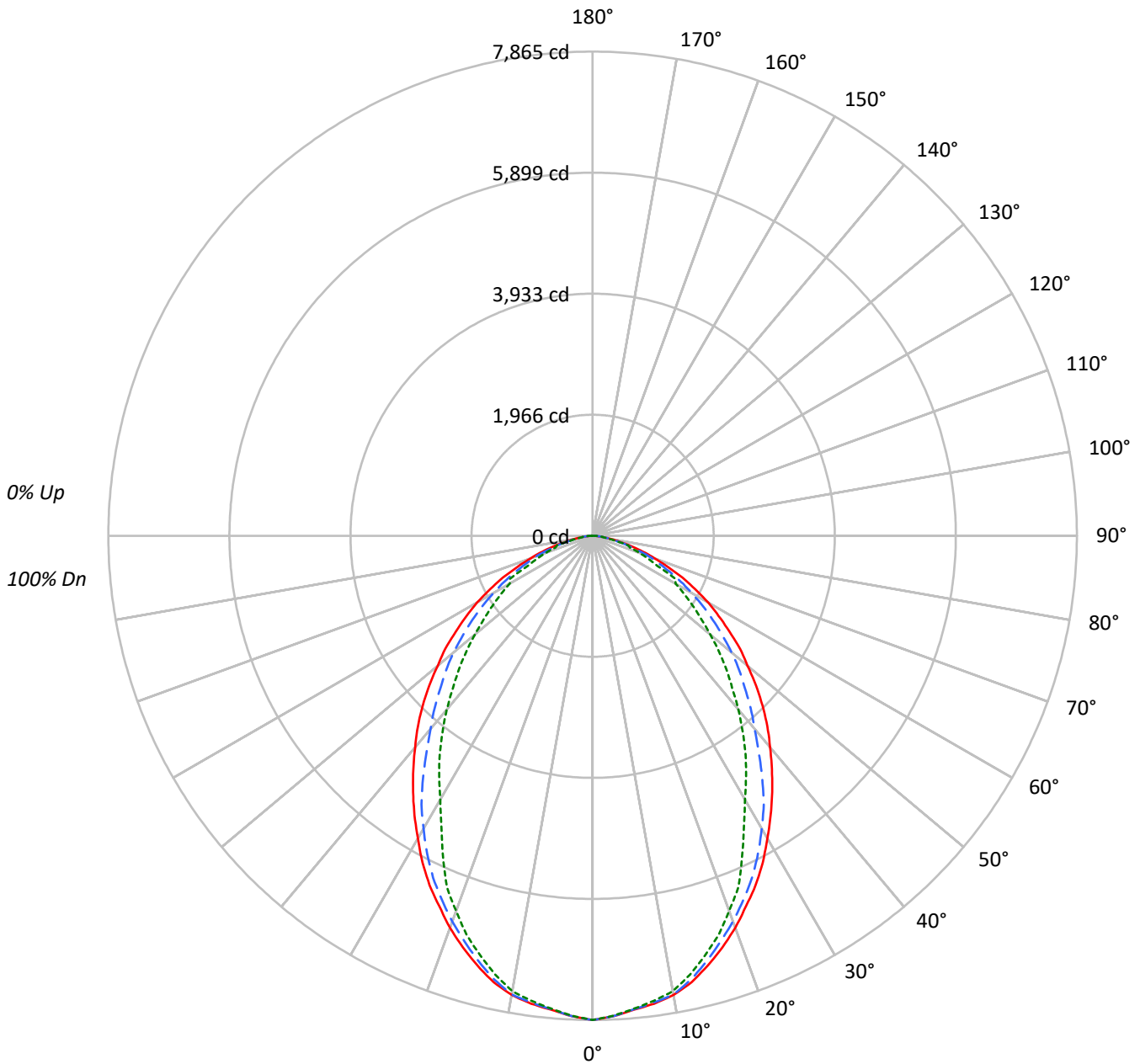
Lumens per Lamp: N/A
Luminaire Lumens: 15441.0 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	10583	10583	10583
5°	10439	10427	10415
10°	10349	10336	10262
15°	10070	9968	9829
20°	9700	9543	9283
25°	9301	9099	8532
30°	8815	8533	7685
35°	8349	7886	7109
40°	7874	7187	6468
45°	7423	6644	5848
50°	6871	6167	5215
55°	6356	5589	4671
60°	5824	4992	4184
65°	5124	4371	3706
70°	4221	3828	3148
75°	3356	2931	3072
80°	2255	2114	1973
85°	1403	1684	1965



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	732.2	4.7
10°-20°	2009.4	13.0
20°-30°	2781.8	18.0
30°-40°	2966.2	19.2
40°-50°	2706.1	17.5
50°-60°	2120.0	13.7
60°-70°	1381.7	8.9
70°-80°	612.2	4.0
80°-90°	131.4	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°	5523.4	35.8
0°-40°	8489.6	55.0
0°-60°	13315.7	86.2
0°-90°	15441.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15441.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7865	7865	7865	7865	7865	
5°	7729	7720	7720	7711	7711	734
15°	7229	7229	7156	7083	7056	2032
25°	6265	6229	6129	5910	5747	2876
35°	5083	5047	4801	4437	4328	3178
45°	3901	3819	3492	3201	3073	3005
55°	2710	2628	2382	2100	1991	2430
65°	1610	1518	1373	1400	1164	1586
75°	646	600	564	536	591	692
85°	91	100	109	118	127	126
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7865.4	7865.4	7865.4	7865.4	7865.4
2.5°	7810.9	7810.9	7810.9	7801.8	7801.8
5°	7729.0	7720.0	7720.0	7710.9	7710.9
7.5°	7665.4	7656.3	7647.2	7638.1	7619.9
10°	7574.5	7574.5	7565.4	7519.9	7510.8
12.5°	7429.0	7419.9	7383.5	7319.9	7301.7
15°	7228.9	7228.9	7156.2	7083.4	7056.2
17.5°	7010.7	7001.6	6910.7	6837.9	6801.6
20°	6774.3	6756.1	6665.2	6547.0	6483.3
22.5°	6510.6	6510.6	6401.5	6246.9	6183.2
25°	6265.1	6228.7	6128.7	5910.4	5746.8
27.5°	5983.2	5928.6	5819.5	5510.4	5319.4
30°	5674.0	5646.7	5492.2	5092.1	4946.6
32.5°	5383.1	5337.6	5173.9	4755.6	4637.4
35°	5083.0	5046.6	4801.1	4437.4	4328.3
37.5°	4782.9	4737.4	4428.3	4137.3	4000.9
40°	4482.8	4428.3	4091.8	3828.2	3682.7
42.5°	4201.0	4128.2	3800.9	3519.0	3355.3
45°	3900.9	3819.1	3491.7	3200.7	3073.4
47.5°	3600.8	3528.1	3228.0	2927.9	2782.5
50°	3282.6	3218.9	2946.1	2646.1	2491.5
52.5°	3018.9	2918.9	2655.2	2355.1	2227.8
55°	2709.7	2627.9	2382.4	2100.5	1991.4
57.5°	2427.8	2346.0	2118.7	1855.0	1764.0
60°	2164.1	2045.9	1855.0	1627.6	1554.9
62.5°	1873.2	1782.2	1618.6	1427.6	1518.5
65°	1609.5	1518.5	1373.0	1400.3	1163.9
67.5°	1318.5	1273.0	1145.7	1018.4	982.0
70°	1073.0	1018.4	973.0	836.6	800.2
72.5°	854.7	800.2	736.5	663.8	636.5
75°	645.6	600.1	563.8	536.5	591.0
77.5°	445.6	427.4	400.1	372.8	363.7
80°	291.0	281.9	272.8	263.7	254.6
82.5°	172.8	172.8	172.8	172.8	172.8
85°	90.9	100.0	109.1	118.2	127.3
87.5°	54.6	54.6	63.7	72.7	81.8
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)