

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: P547277

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-82-96-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: P547277
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-35-UNV-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

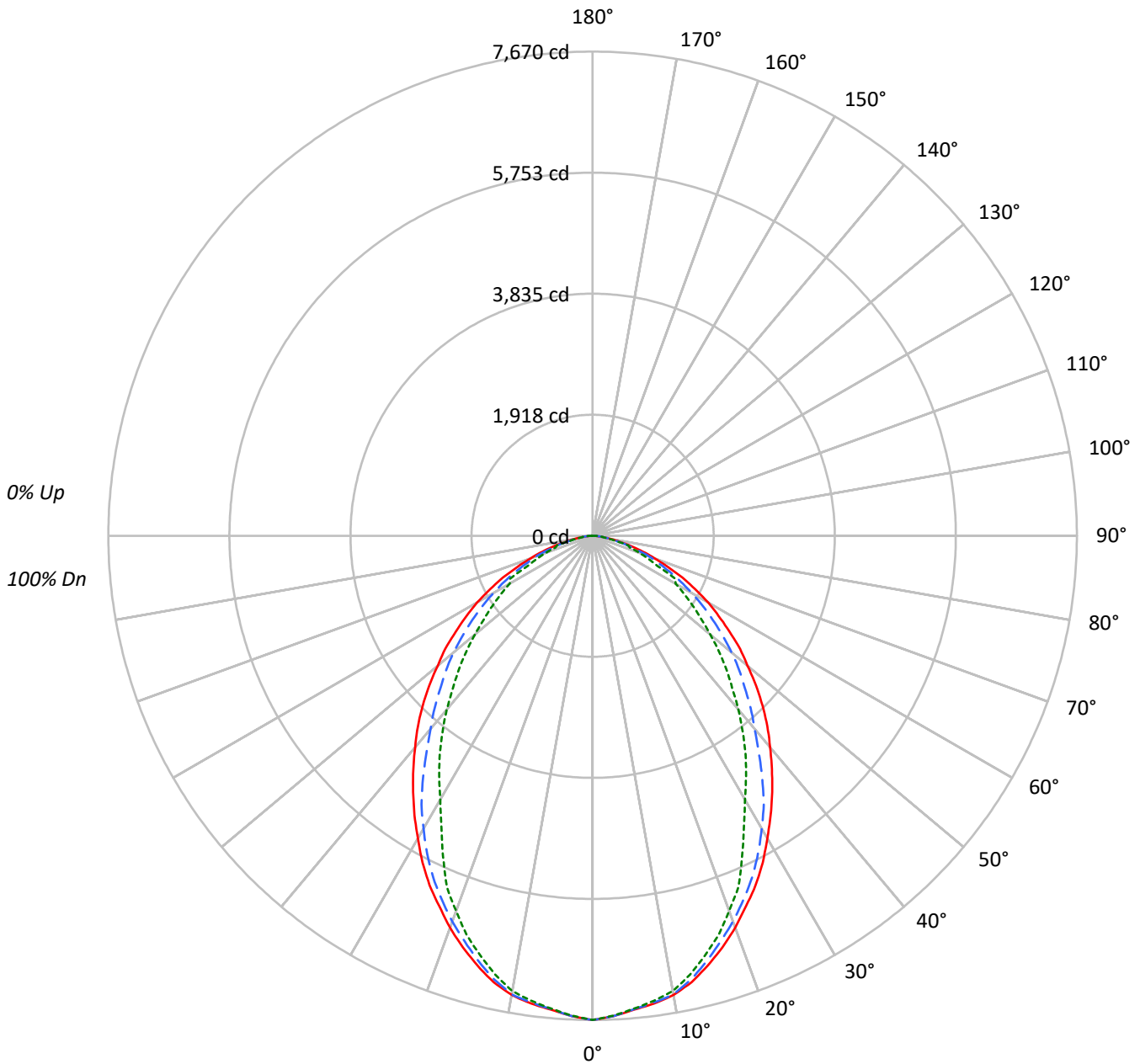
Lumens per Lamp: N/A
Luminaire Lumens: 15057.0 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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					20					
RC	80					70					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°	10320	10320	10320
5°	10179	10168	10156
10°	10091	10079	10006
15°	9819	9720	9584
20°	9458	9306	9052
25°	9070	8872	8319
30°	8596	8321	7494
35°	8141	7690	6933
40°	7678	7008	6307
45°	7238	6479	5703
50°	6700	6014	5085
55°	6198	5450	4555
60°	5679	4867	4080
65°	4996	4263	3613
70°	4116	3733	3070
75°	3273	2858	2996
80°	2198	2061	1924
85°	1369	1643	1916



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	714.0	4.7
10°-20°	1959.4	13.0
20°-30°	2712.7	18.0
30°-40°	2892.5	19.2
40°-50°	2638.8	17.5
50°-60°	2067.3	13.7
60°-70°	1347.4	8.9
70°-80°	596.9	4.0
80°-90°	128.2	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°	5386.0	35.8
0°-40°	8278.5	55.0
0°-60°	12984.6	86.2
0°-90°	15057.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15057.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7670	7670	7670	7670	7670	
5°	7537	7528	7528	7519	7519	715
15°	7049	7049	6978	6907	6881	1982
25°	6109	6074	5976	5764	5604	2805
35°	4957	4921	4682	4327	4221	3099
45°	3804	3724	3405	3121	2997	2930
55°	2642	2562	2323	2048	1942	2370
65°	1569	1481	1339	1366	1135	1547
75°	630	585	550	523	576	675
85°	89	98	106	115	124	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7669.8	7669.8	7669.8	7669.8	7669.8
2.5°	7616.6	7616.6	7616.6	7607.8	7607.8
5°	7536.8	7528.0	7528.0	7519.1	7519.1
7.5°	7474.8	7465.9	7457.0	7448.2	7430.4
10°	7386.1	7386.1	7377.2	7332.9	7324.0
12.5°	7244.2	7235.4	7199.9	7137.8	7120.1
15°	7049.2	7049.2	6978.2	6907.3	6880.7
17.5°	6836.3	6827.5	6738.8	6667.9	6632.4
20°	6605.8	6588.1	6499.4	6384.1	6322.1
22.5°	6348.7	6348.7	6242.3	6091.5	6029.5
25°	6109.3	6073.8	5976.3	5763.5	5603.9
27.5°	5834.4	5781.2	5674.8	5373.3	5187.1
30°	5532.9	5506.3	5355.6	4965.4	4823.6
32.5°	5249.2	5204.8	5045.2	4637.4	4522.1
35°	4956.6	4921.1	4681.7	4327.0	4220.6
37.5°	4664.0	4619.6	4318.2	4034.4	3901.4
40°	4371.4	4318.2	3990.1	3732.9	3591.1
42.5°	4096.5	4025.6	3706.3	3431.5	3271.9
45°	3803.9	3724.1	3404.9	3121.1	2997.0
47.5°	3511.3	3440.3	3147.7	2855.1	2713.3
50°	3200.9	3138.9	2872.9	2580.3	2429.5
52.5°	2943.8	2846.3	2589.1	2296.5	2172.4
55°	2642.3	2562.5	2323.1	2048.2	1941.8
57.5°	2367.5	2287.7	2066.0	1808.8	1720.2
60°	2110.3	1995.0	1808.8	1587.2	1516.2
62.5°	1826.6	1737.9	1578.3	1392.1	1480.8
65°	1569.4	1480.8	1338.9	1365.5	1135.0
67.5°	1285.7	1241.4	1117.2	993.1	957.6
70°	1046.3	993.1	948.8	815.8	780.3
72.5°	833.5	780.3	718.2	647.3	620.7
75°	629.5	585.2	549.7	523.1	576.3
77.5°	434.5	416.7	390.1	363.5	354.7
80°	283.7	274.9	266.0	257.1	248.3
82.5°	168.5	168.5	168.5	168.5	168.5
85°	88.7	97.5	106.4	115.3	124.1
87.5°	53.2	53.2	62.1	70.9	79.8
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)