

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: P547377

Luminaire Tested: **FMR-24-4-LD4-4LO-35-UNV-93-86-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: P547377
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-LD4-4LO-35-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

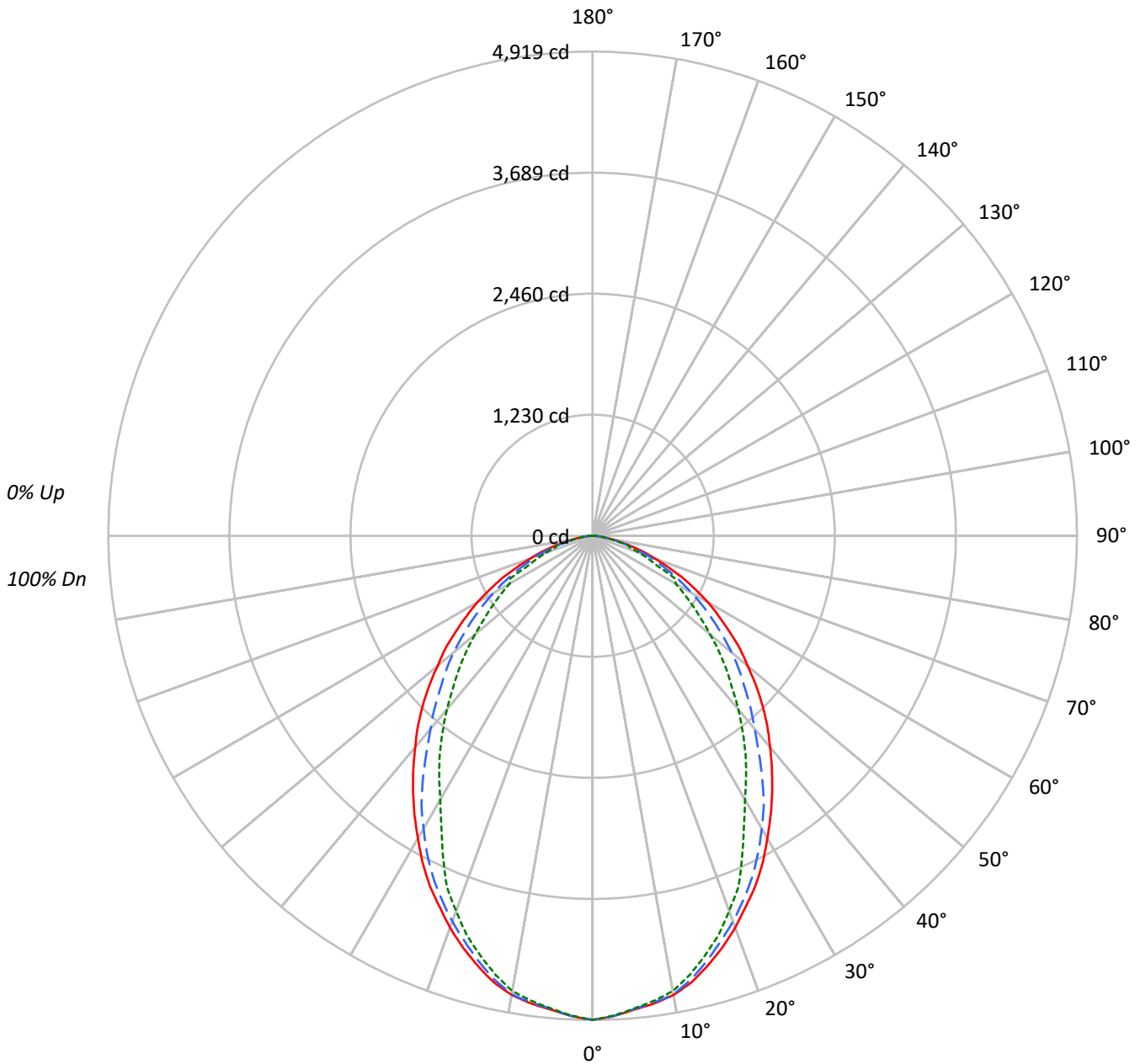
Lumens per Lamp: N/A
Luminaire Lumens: 9656.0 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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°	6618	6618	6618
5°	6528	6520	6513
10°	6471	6464	6417
15°	6297	6234	6147
20°	6066	5968	5805
25°	5816	5690	5335
30°	5513	5336	4806
35°	5221	4932	4446
40°	4924	4494	4045
45°	4642	4155	3657
50°	4297	3857	3261
55°	3975	3495	2921
60°	3642	3122	2617
65°	3204	2734	2317
70°	2640	2393	1969
75°	2099	1832	1921
80°	1410	1322	1234
85°	878	1053	1229



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	457.9	4.7
10°-20°	1256.6	13.0
20°-30°	1739.6	18.0
30°-40°	1854.9	19.2
40°-50°	1692.2	17.5
50°-60°	1325.7	13.7
60°-70°	864.1	8.9
70°-80°	382.8	4.0
80°-90°	82.2	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°	3454.0	35.8
0°-40°	5309.0	55.0
0°-60°	8326.9	86.2
0°-90°	9656.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9656.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4919	4919	4919	4919	4919	
5°	4833	4828	4828	4822	4822	459
15°	4521	4521	4475	4430	4413	1271
25°	3918	3895	3833	3696	3594	1799
35°	3179	3156	3002	2775	2707	1987
45°	2439	2388	2184	2002	1922	1879
55°	1694	1643	1490	1314	1245	1520
65°	1006	950	859	876	728	992
75°	404	375	352	336	370	433
85°	57	62	68	74	80	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4918.6	4918.6	4918.6	4918.6	4918.6
2.5°	4884.5	4884.5	4884.5	4878.8	4878.8
5°	4833.3	4827.7	4827.7	4822.0	4822.0
7.5°	4793.5	4787.9	4782.2	4776.5	4765.1
10°	4736.7	4736.7	4731.0	4702.6	4696.9
12.5°	4645.7	4640.0	4617.3	4577.5	4566.1
15°	4520.6	4520.6	4475.1	4429.6	4412.6
17.5°	4384.1	4378.4	4321.6	4276.1	4253.3
20°	4236.3	4224.9	4168.0	4094.1	4054.3
22.5°	4071.4	4071.4	4003.1	3906.5	3866.7
25°	3917.9	3895.1	3832.6	3696.1	3593.7
27.5°	3741.6	3707.5	3639.2	3445.9	3326.5
30°	3548.2	3531.2	3434.5	3184.3	3093.3
32.5°	3366.3	3337.8	3235.5	2973.9	2900.0
35°	3178.6	3155.9	3002.4	2774.9	2706.7
37.5°	2991.0	2962.6	2769.2	2587.3	2502.0
40°	2803.3	2769.2	2558.8	2393.9	2302.9
42.5°	2627.1	2581.6	2376.9	2200.6	2098.2
45°	2439.4	2388.2	2183.5	2001.6	1922.0
47.5°	2251.8	2206.3	2018.6	1831.0	1740.0
50°	2052.7	2012.9	1842.4	1654.7	1558.0
52.5°	1887.8	1825.3	1660.4	1472.7	1393.1
55°	1694.5	1643.3	1489.8	1313.5	1245.3
57.5°	1518.2	1467.1	1324.9	1160.0	1103.1
60°	1353.3	1279.4	1160.0	1017.8	972.4
62.5°	1171.4	1114.5	1012.2	892.7	949.6
65°	1006.5	949.6	858.6	875.7	727.8
67.5°	824.5	796.1	716.5	636.9	614.1
70°	671.0	636.9	608.4	523.1	500.4
72.5°	534.5	500.4	460.6	415.1	398.0
75°	403.7	375.3	352.5	335.5	369.6
77.5°	278.6	267.3	250.2	233.1	227.5
80°	182.0	176.3	170.6	164.9	159.2
82.5°	108.0	108.0	108.0	108.0	108.0
85°	56.9	62.5	68.2	73.9	79.6
87.5°	34.1	34.1	39.8	45.5	51.2
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)