

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: P547204

Luminaire Tested: **FMR-24-4-LD4-3STD-40-UNV-81-94-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: P547204
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-LD4-3STD-40-UNV-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 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

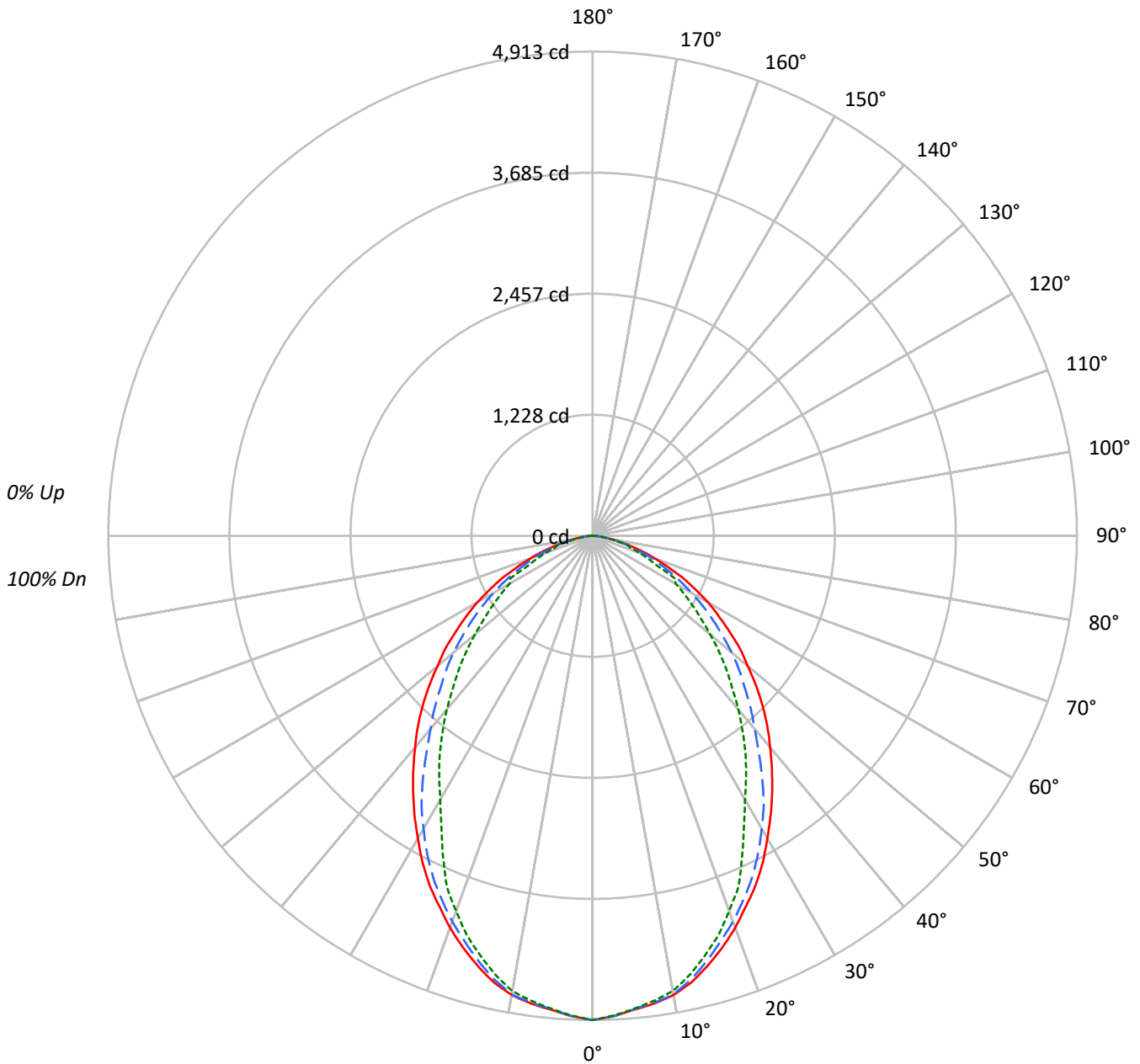
Lumens per Lamp: N/A
Luminaire Lumens: 9645.0 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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°	6610	6610	6610
5°	6521	6513	6505
10°	6464	6456	6410
15°	6290	6227	6139
20°	6059	5961	5799
25°	5810	5683	5329
30°	5506	5330	4800
35°	5215	4926	4441
40°	4918	4489	4040
45°	4636	4150	3653
50°	4292	3852	3258
55°	3970	3491	2918
60°	3638	3118	2613
65°	3201	2731	2315
70°	2637	2391	1966
75°	2097	1830	1919
80°	1409	1320	1232
85°	877	1053	1227



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	457.3	4.7
10°-20°	1255.1	13.0
20°-30°	1737.6	18.0
30°-40°	1852.8	19.2
40°-50°	1690.3	17.5
50°-60°	1324.2	13.7
60°-70°	863.1	8.9
70°-80°	382.4	4.0
80°-90°	82.1	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°	3450.1	35.8
0°-40°	5302.9	55.0
0°-60°	8317.5	86.2
0°-90°	9645.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9645.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4913	4913	4913	4913	4913	
5°	4828	4822	4822	4816	4816	458
15°	4515	4515	4470	4425	4408	1269
25°	3913	3891	3828	3692	3590	1797
35°	3175	3152	2999	2772	2704	1985
45°	2437	2386	2181	1999	1920	1877
55°	1693	1642	1488	1312	1244	1518
65°	1005	948	858	875	727	991
75°	403	375	352	335	369	432
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°	4913.0	4913.0	4913.0	4913.0	4913.0
2.5°	4879.0	4879.0	4879.0	4873.3	4873.3
5°	4827.8	4822.2	4822.2	4816.5	4816.5
7.5°	4788.1	4782.4	4776.7	4771.0	4759.7
10°	4731.3	4731.3	4725.6	4697.2	4691.5
12.5°	4640.4	4634.7	4612.0	4572.2	4560.9
15°	4515.4	4515.4	4470.0	4424.6	4407.5
17.5°	4379.1	4373.5	4316.7	4271.2	4248.5
20°	4231.5	4220.1	4163.3	4089.5	4049.7
22.5°	4066.7	4066.7	3998.6	3902.0	3862.3
25°	3913.4	3890.7	3828.2	3691.9	3589.6
27.5°	3737.3	3703.2	3635.1	3442.0	3322.7
30°	3544.2	3527.2	3430.6	3180.7	3089.8
32.5°	3362.4	3334.0	3231.8	2970.5	2896.7
35°	3175.0	3152.3	2998.9	2771.7	2703.6
37.5°	2987.6	2959.2	2766.1	2584.3	2499.1
40°	2800.1	2766.1	2555.9	2391.2	2300.3
42.5°	2624.1	2578.6	2374.2	2198.1	2095.8
45°	2436.6	2385.5	2181.0	1999.3	1919.8
47.5°	2249.2	2203.8	2016.3	1828.9	1738.0
50°	2050.4	2010.7	1840.3	1652.8	1556.3
52.5°	1885.7	1823.2	1658.5	1471.1	1391.6
55°	1692.6	1641.5	1488.1	1312.0	1243.9
57.5°	1516.5	1465.4	1323.4	1158.7	1101.9
60°	1351.8	1278.0	1158.7	1016.7	971.2
62.5°	1170.0	1113.2	1011.0	891.7	948.5
65°	1005.3	948.5	857.7	874.7	727.0
67.5°	823.6	795.2	715.7	636.1	613.4
70°	670.2	636.1	607.7	522.5	499.8
72.5°	533.9	499.8	460.1	414.6	397.6
75°	403.3	374.9	352.1	335.1	369.2
77.5°	278.3	267.0	249.9	232.9	227.2
80°	181.8	176.1	170.4	164.7	159.0
82.5°	107.9	107.9	107.9	107.9	107.9
85°	56.8	62.5	68.2	73.8	79.5
87.5°	34.1	34.1	39.8	45.4	51.1
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)