

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: P547181

Luminaire Tested: **FMR-24-4-LD4-3STD-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: P547181
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-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

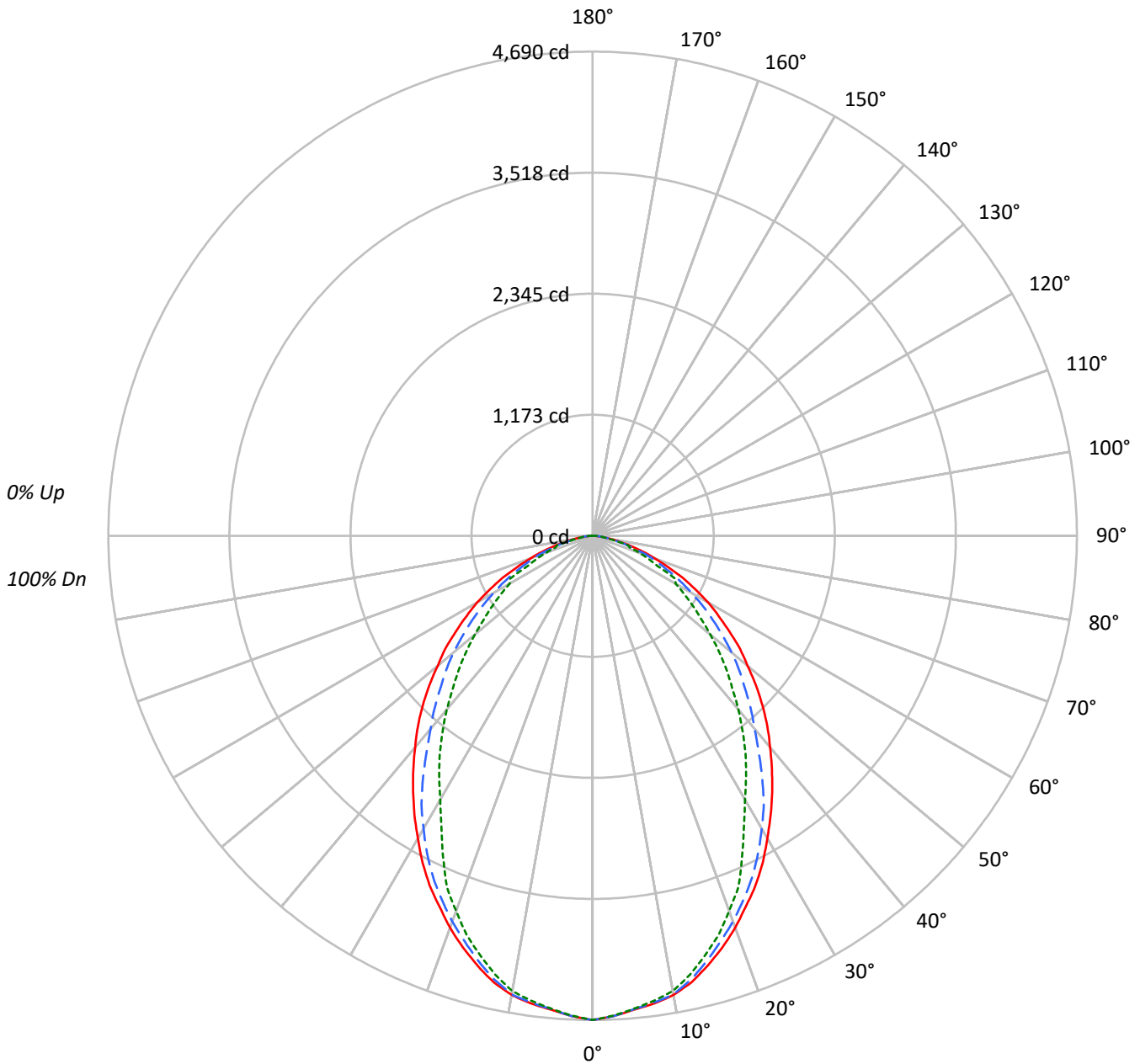
Lumens per Lamp: N/A
Luminaire Lumens: 9207.0 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6310	6310	6310
5°	6225	6217	6210
10°	6171	6163	6119
15°	6004	5944	5861
20°	5784	5690	5535
25°	5546	5425	5087
30°	5256	5088	4582
35°	4978	4702	4239
40°	4695	4285	3857
45°	4426	3962	3487
50°	4097	3677	3110
55°	3790	3332	2785
60°	3472	2976	2495
65°	3055	2606	2209
70°	2517	2282	1877
75°	2001	1748	1832
80°	1344	1261	1176
85°	837	1005	1172



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	436.6	4.7
10°-20°	1198.1	13.0
20°-30°	1658.7	18.0
30°-40°	1768.7	19.2
40°-50°	1613.6	17.5
50°-60°	1264.1	13.7
60°-70°	823.9	8.9
70°-80°	365.0	4.0
80°-90°	78.4	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°	3293.4	35.8
0°-40°	5062.1	55.0
0°-60°	7939.8	86.2
0°-90°	9207.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9207.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4690	4690	4690	4690	4690	
5°	4609	4603	4603	4598	4598	437
15°	4310	4310	4267	4224	4207	1212
25°	3736	3714	3654	3524	3427	1715
35°	3031	3009	2863	2646	2581	1895
45°	2326	2277	2082	1908	1833	1792
55°	1616	1567	1420	1252	1187	1449
65°	960	906	819	835	694	946
75°	385	358	336	320	352	413
85°	54	60	65	70	76	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4689.9	4689.9	4689.9	4689.9	4689.9
2.5°	4657.4	4657.4	4657.4	4652.0	4652.0
5°	4608.6	4603.2	4603.2	4597.8	4597.8
7.5°	4570.6	4565.2	4559.8	4554.4	4543.5
10°	4516.4	4516.4	4511.0	4483.9	4478.5
12.5°	4429.7	4424.3	4402.6	4364.6	4353.8
15°	4310.4	4310.4	4267.0	4223.6	4207.4
17.5°	4180.3	4174.8	4120.6	4077.3	4055.6
20°	4039.3	4028.5	3974.2	3903.8	3865.8
22.5°	3882.1	3882.1	3817.0	3724.8	3686.9
25°	3735.7	3714.0	3654.3	3524.2	3426.6
27.5°	3567.6	3535.1	3470.0	3285.7	3171.8
30°	3383.3	3367.0	3274.8	3036.3	2949.5
32.5°	3209.8	3182.6	3085.0	2835.6	2765.2
35°	3030.8	3009.1	2862.8	2645.9	2580.8
37.5°	2851.9	2824.8	2640.5	2467.0	2385.6
40°	2673.0	2640.5	2439.8	2282.6	2195.9
42.5°	2504.9	2461.5	2266.3	2098.3	2000.7
45°	2326.0	2277.2	2082.0	1908.5	1832.6
47.5°	2147.1	2103.7	1924.8	1745.8	1659.1
50°	1957.3	1919.3	1756.7	1577.8	1485.6
52.5°	1800.1	1740.4	1583.2	1404.3	1328.4
55°	1615.7	1566.9	1420.5	1252.5	1187.4
57.5°	1447.6	1398.8	1263.3	1106.1	1051.8
60°	1290.4	1219.9	1106.1	970.5	927.1
62.5°	1116.9	1062.7	965.1	851.2	905.5
65°	959.7	905.5	818.7	835.0	694.0
67.5°	786.2	759.1	683.2	607.3	585.6
70°	639.8	607.3	580.1	498.8	477.1
72.5°	509.7	477.1	439.2	395.8	379.5
75°	385.0	357.8	336.2	319.9	352.4
77.5°	265.7	254.8	238.6	222.3	216.9
80°	173.5	168.1	162.7	157.2	151.8
82.5°	103.0	103.0	103.0	103.0	103.0
85°	54.2	59.6	65.1	70.5	75.9
87.5°	32.5	32.5	38.0	43.4	48.8
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)