

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: P547395

Luminaire Tested: **FMR-24-4-LD4-4LO-40-UNV-81-88-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: P547395
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-40-UNV-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

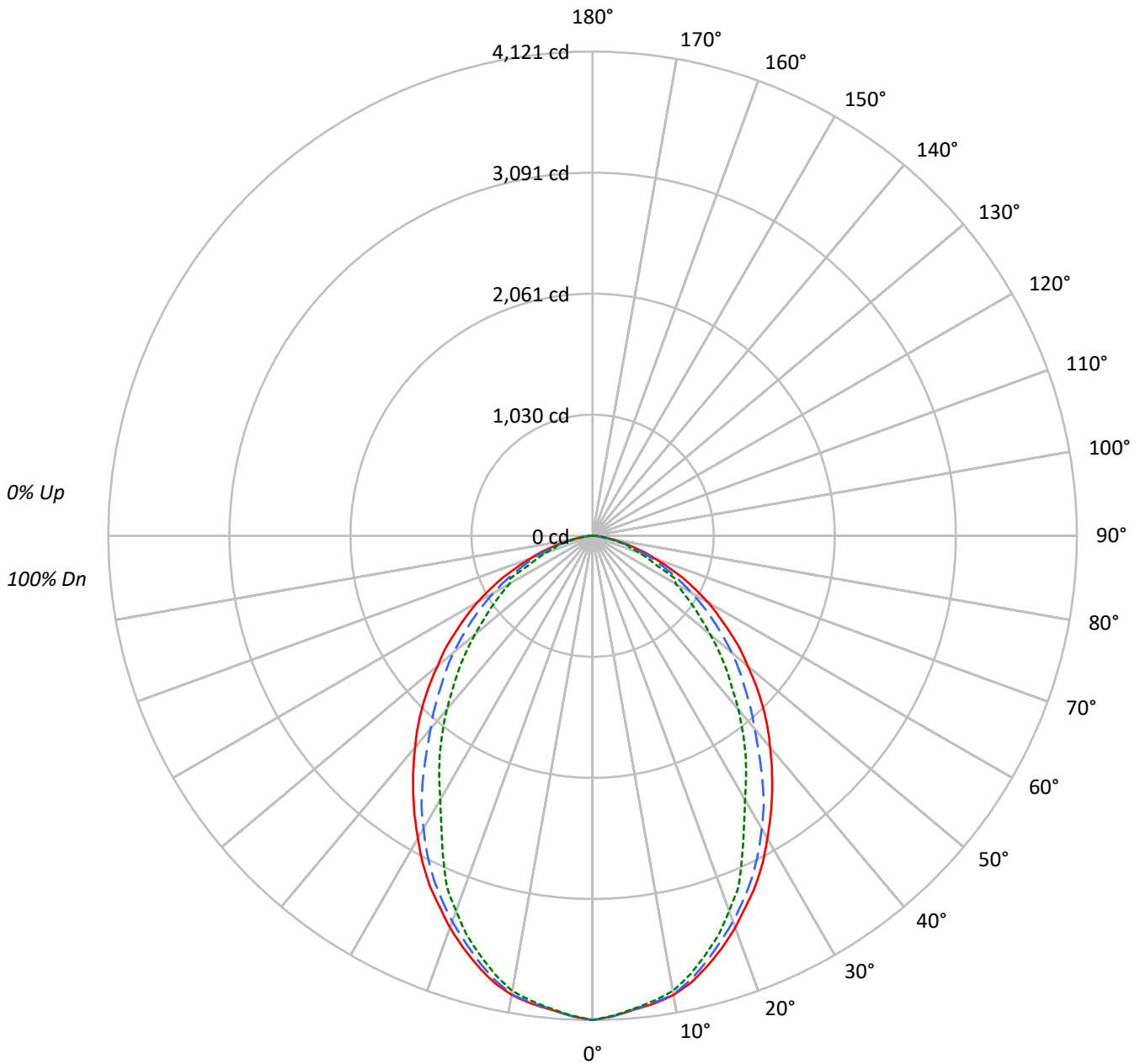
Lumens per Lamp: N/A
Luminaire Lumens: 8090.0 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
Input Voltage (V): NR
Input Current (A_{in}): 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

TEST NUMBER: P547395

CATALOG NUMBER: FMR-24-4-LD4-4LO-40-UNV-81-88-EDD

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				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°	5545	5545	5545
5°	5469	5463	5456
10°	5422	5415	5376
15°	5276	5223	5150
20°	5082	5000	4864
25°	4873	4767	4470
30°	4619	4471	4027
35°	4374	4132	3725
40°	4125	3765	3389
45°	3889	3481	3064
50°	3600	3231	2732
55°	3330	2928	2447
60°	3051	2615	2192
65°	2684	2290	1941
70°	2212	2006	1649
75°	1759	1536	1610
80°	1182	1107	1034
85°	735	883	1030



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	383.6	4.7
10°-20°	1052.8	13.0
20°-30°	1457.5	18.0
30°-40°	1554.1	19.2
40°-50°	1417.8	17.5
50°-60°	1110.7	13.7
60°-70°	723.9	8.9
70°-80°	320.7	4.0
80°-90°	68.9	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°	2893.9	35.8
0°-40°	4448.0	55.0
0°-60°	6976.5	86.2
0°-90°	8090.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8090.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4121	4121	4121	4121	4121	
5°	4050	4045	4045	4040	4040	384
15°	3788	3788	3749	3711	3697	1065
25°	3282	3263	3211	3097	3011	1507
35°	2663	2644	2515	2325	2268	1665
45°	2044	2001	1829	1677	1610	1574
55°	1420	1377	1248	1100	1043	1273
65°	843	796	719	734	610	831
75°	338	314	295	281	310	363
85°	48	52	57	62	67	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4120.9	4120.9	4120.9	4120.9	4120.9
2.5°	4092.4	4092.4	4092.4	4087.6	4087.6
5°	4049.5	4044.7	4044.7	4039.9	4039.9
7.5°	4016.1	4011.4	4006.6	4001.8	3992.3
10°	3968.5	3968.5	3963.7	3939.9	3935.1
12.5°	3892.3	3887.5	3868.4	3835.1	3825.6
15°	3787.5	3787.5	3749.3	3711.2	3696.9
17.5°	3673.1	3668.3	3620.7	3582.6	3563.5
20°	3549.2	3539.7	3492.1	3430.1	3396.8
22.5°	3411.1	3411.1	3353.9	3272.9	3239.6
25°	3282.5	3263.4	3211.0	3096.7	3010.9
27.5°	3134.8	3106.2	3049.0	2887.0	2787.0
30°	2972.8	2958.5	2877.5	2667.9	2591.7
32.5°	2820.3	2796.5	2710.8	2491.6	2429.7
35°	2663.1	2644.1	2515.4	2324.9	2267.7
37.5°	2505.9	2482.1	2320.1	2167.7	2096.2
40°	2348.7	2320.1	2143.8	2005.7	1929.5
42.5°	2201.0	2162.9	1991.4	1843.7	1757.9
45°	2043.8	2000.9	1829.4	1677.0	1610.3
47.5°	1886.6	1848.5	1691.3	1534.0	1457.8
50°	1719.8	1686.5	1543.6	1386.4	1305.4
52.5°	1581.7	1529.3	1391.1	1233.9	1167.2
55°	1419.7	1376.8	1248.2	1100.5	1043.3
57.5°	1272.0	1229.1	1110.0	971.9	924.2
60°	1133.9	1071.9	971.9	852.8	814.7
62.5°	981.4	933.8	848.0	748.0	795.6
65°	843.2	795.6	719.4	733.7	609.8
67.5°	690.8	667.0	600.3	533.6	514.5
70°	562.2	533.6	509.8	438.3	419.2
72.5°	447.8	419.2	385.9	347.8	333.5
75°	338.3	314.4	295.4	281.1	309.7
77.5°	233.4	223.9	209.6	195.3	190.6
80°	152.5	147.7	142.9	138.2	133.4
82.5°	90.5	90.5	90.5	90.5	90.5
85°	47.6	52.4	57.2	61.9	66.7
87.5°	28.6	28.6	33.3	38.1	42.9
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)