

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: P547171

Luminaire Tested: **FMR-24-4-LD4-3STD-35-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: P547171
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-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

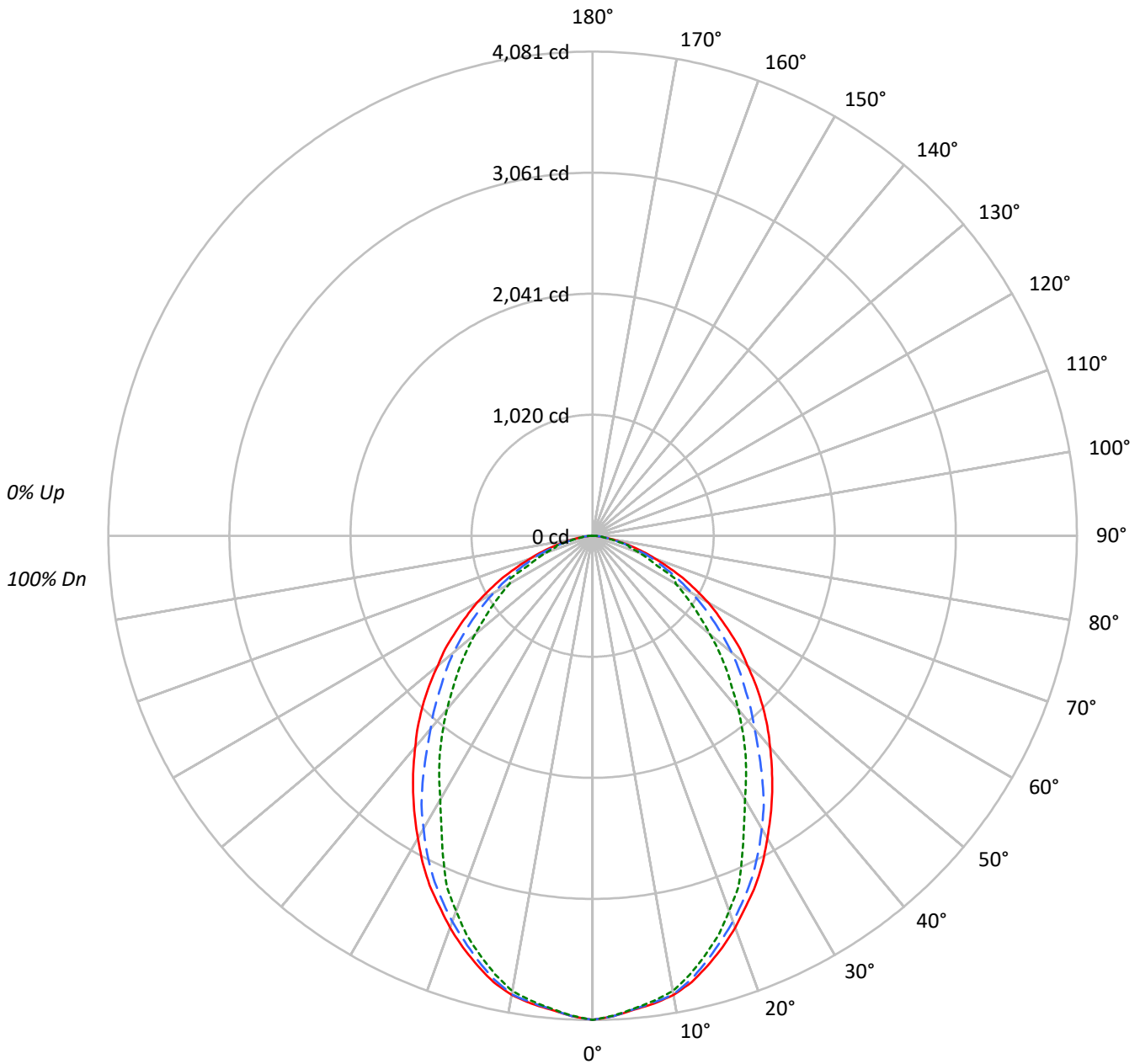
Lumens per Lamp: N/A
Luminaire Lumens: 8011.0 lumens
Efficiency: N/A
Efficacy: 80.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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									
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°	5491	5491	5491
5°	5416	5410	5403
10°	5369	5363	5324
15°	5224	5172	5099
20°	5032	4951	4816
25°	4825	4720	4426
30°	4574	4427	3987
35°	4332	4091	3688
40°	4085	3729	3356
45°	3851	3447	3034
50°	3565	3199	2706
55°	3298	2899	2423
60°	3021	2590	2171
65°	2658	2268	1922
70°	2190	1986	1633
75°	1741	1521	1594
80°	1170	1096	1024
85°	729	874	1019



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	379.9	4.7
10°-20°	1042.5	13.0
20°-30°	1443.3	18.0
30°-40°	1538.9	19.2
40°-50°	1404.0	17.5
50°-60°	1099.9	13.7
60°-70°	716.9	8.9
70°-80°	317.6	4.0
80°-90°	68.2	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°	2865.6	35.8
0°-40°	4404.5	55.0
0°-60°	6908.4	86.2
0°-90°	8011.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8011.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4081	4081	4081	4081	4081	
5°	4010	4005	4005	4000	4000	381
15°	3750	3750	3713	3675	3661	1054
25°	3250	3232	3180	3066	2982	1492
35°	2637	2618	2491	2302	2246	1649
45°	2024	1981	1812	1661	1594	1559
55°	1406	1363	1236	1090	1033	1261
65°	835	788	712	726	604	823
75°	335	311	292	278	307	359
85°	47	52	57	61	66	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4080.7	4080.7	4080.7	4080.7	4080.7
2.5°	4052.4	4052.4	4052.4	4047.7	4047.7
5°	4009.9	4005.2	4005.2	4000.5	4000.5
7.5°	3976.9	3972.2	3967.5	3962.8	3953.3
10°	3929.7	3929.7	3925.0	3901.4	3896.7
12.5°	3854.3	3849.5	3830.7	3797.6	3788.2
15°	3750.5	3750.5	3712.7	3675.0	3660.8
17.5°	3637.2	3632.5	3585.4	3547.6	3528.7
20°	3514.6	3505.2	3458.0	3396.6	3363.6
22.5°	3377.8	3377.8	3321.2	3241.0	3207.9
25°	3250.4	3231.5	3179.6	3066.4	2981.5
27.5°	3104.2	3075.9	3019.2	2858.8	2759.8
30°	2943.8	2929.6	2849.4	2641.8	2566.4
32.5°	2792.8	2769.2	2684.3	2467.3	2406.0
35°	2637.1	2618.3	2490.9	2302.2	2245.6
37.5°	2481.4	2457.9	2297.5	2146.5	2075.7
40°	2325.8	2297.5	2122.9	1986.1	1910.6
42.5°	2179.5	2141.8	1971.9	1825.7	1740.8
45°	2023.8	1981.4	1811.5	1660.6	1594.5
47.5°	1868.2	1830.4	1674.7	1519.1	1443.6
50°	1703.0	1670.0	1528.5	1372.8	1292.6
52.5°	1566.2	1514.3	1377.5	1221.9	1155.8
55°	1405.8	1363.4	1236.0	1089.8	1033.1
57.5°	1259.6	1217.1	1099.2	962.4	915.2
60°	1122.8	1061.5	962.4	844.4	806.7
62.5°	971.8	924.6	839.7	740.7	787.8
65°	835.0	787.8	712.4	726.5	603.8
67.5°	684.0	660.5	594.4	528.4	509.5
70°	556.7	528.4	504.8	434.0	415.1
72.5°	443.5	415.1	382.1	344.4	330.2
75°	334.9	311.4	292.5	278.3	306.6
77.5°	231.2	221.7	207.6	193.4	188.7
80°	151.0	146.2	141.5	136.8	132.1
82.5°	89.6	89.6	89.6	89.6	89.6
85°	47.2	51.9	56.6	61.3	66.0
87.5°	28.3	28.3	33.0	37.7	42.5
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)