

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: P547283

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-93-88-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: P547283
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-LD4-4HI-35-UNV-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

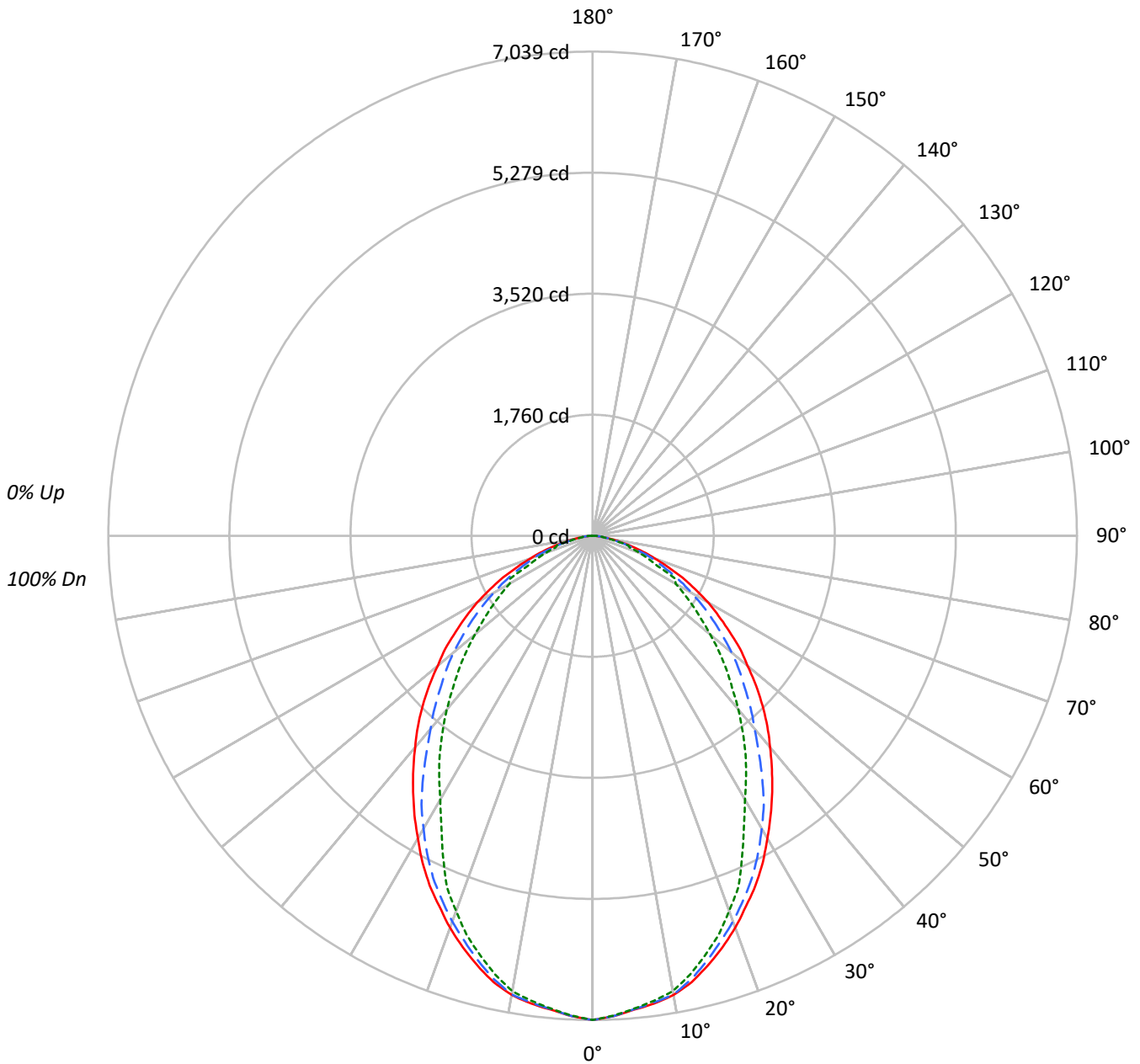
Lumens per Lamp: N/A
Luminaire Lumens: 13819.0 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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: P547283

CATALOG NUMBER: FMR-24-4-LD4-4HI-35-UNV-93-88-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																			
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°	9471	9471	9471
5°	9342	9331	9321
10°	9262	9250	9184
15°	9012	8921	8796
20°	8681	8541	8308
25°	8324	8143	7635
30°	7889	7636	6878
35°	7472	7058	6363
40°	7047	6432	5789
45°	6643	5946	5234
50°	6149	5519	4667
55°	5689	5001	4181
60°	5212	4467	3745
65°	4586	3912	3316
70°	3778	3425	2817
75°	3004	2623	2750
80°	2018	1891	1766
85°	1257	1508	1758



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	655.3	4.7
10°-20°	1798.3	13.0
20°-30°	2489.6	18.0
30°-40°	2654.7	19.2
40°-50°	2421.8	17.5
50°-60°	1897.3	13.7
60°-70°	1236.6	8.9
70°-80°	547.9	4.0
80°-90°	117.6	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°	4943.2	35.8
0°-40°	7597.8	55.0
0°-60°	11917.0	86.2
0°-90°	13819.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13819.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7039	7039	7039	7039	7039	
5°	6917	6909	6909	6901	6901	657
15°	6470	6470	6404	6339	6315	1819
25°	5607	5574	5485	5290	5143	2574
35°	4549	4516	4297	3971	3874	2844
45°	3491	3418	3125	2864	2751	2689
55°	2425	2352	2132	1880	1782	2175
65°	1440	1359	1229	1253	1042	1420
75°	578	537	504	480	529	619
85°	81	90	98	106	114	113
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7039.2	7039.2	7039.2	7039.2	7039.2
2.5°	6990.4	6990.4	6990.4	6982.2	6982.2
5°	6917.1	6909.0	6909.0	6900.9	6900.9
7.5°	6860.2	6852.0	6843.9	6835.8	6819.5
10°	6778.8	6778.8	6770.7	6730.0	6721.8
12.5°	6648.6	6640.5	6607.9	6550.9	6534.7
15°	6469.6	6469.6	6404.5	6339.4	6314.9
17.5°	6274.3	6266.1	6184.7	6119.6	6087.1
20°	6062.7	6046.4	5965.0	5859.2	5802.3
22.5°	5826.7	5826.7	5729.0	5590.7	5533.7
25°	5607.0	5574.4	5484.9	5289.6	5143.1
27.5°	5354.7	5305.9	5208.2	4931.5	4760.6
30°	5078.0	5053.6	4915.2	4557.2	4427.0
32.5°	4817.6	4776.9	4630.4	4256.1	4150.3
35°	4549.0	4516.5	4296.8	3971.3	3873.6
37.5°	4280.5	4239.8	3963.1	3702.7	3580.6
40°	4011.9	3963.1	3662.0	3426.0	3295.8
42.5°	3759.7	3694.6	3401.6	3149.3	3002.9
45°	3491.1	3417.9	3124.9	2864.5	2750.6
47.5°	3222.6	3157.5	2888.9	2620.4	2490.2
50°	2937.8	2880.8	2636.7	2368.1	2229.8
52.5°	2701.8	2612.2	2376.2	2107.7	1993.8
55°	2425.1	2351.8	2132.1	1879.8	1782.2
57.5°	2172.8	2099.6	1896.1	1660.1	1578.7
60°	1936.8	1831.0	1660.1	1456.7	1391.6
62.5°	1676.4	1595.0	1448.5	1277.6	1359.0
65°	1440.4	1359.0	1228.8	1253.2	1041.6
67.5°	1180.0	1139.3	1025.4	911.4	878.9
70°	960.3	911.4	870.7	748.7	716.1
72.5°	765.0	716.1	659.2	594.1	569.6
75°	577.8	537.1	504.5	480.1	529.0
77.5°	398.8	382.5	358.1	333.7	325.5
80°	260.4	252.3	244.1	236.0	227.9
82.5°	154.6	154.6	154.6	154.6	154.6
85°	81.4	89.5	97.7	105.8	113.9
87.5°	48.8	48.8	57.0	65.1	73.2
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)