

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: P546701

Luminaire Tested: **FMR-24-4-LD4-2HI-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: P546701
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-LD4-2HI-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

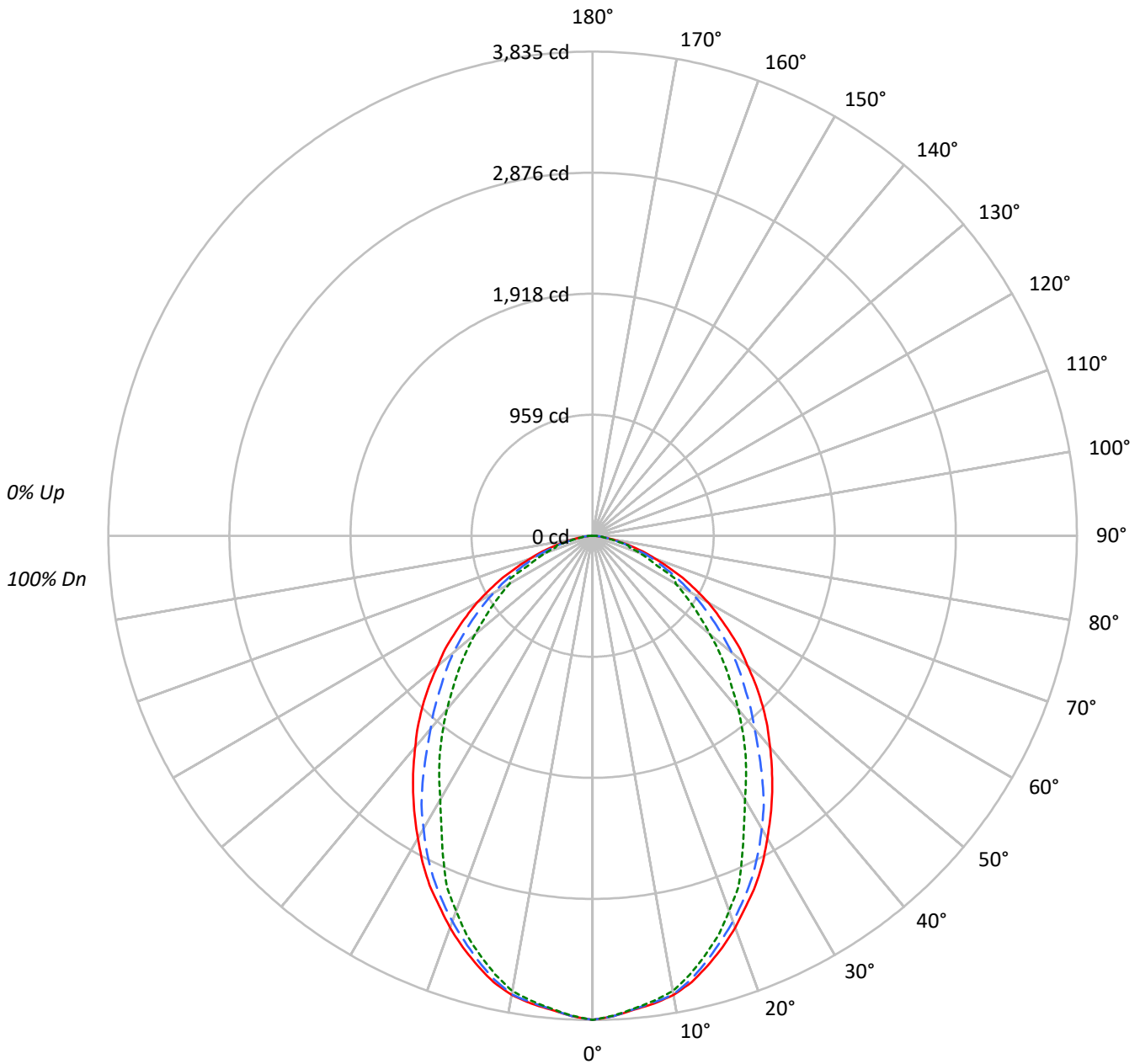
Lumens per Lamp: N/A
Luminaire Lumens: 7528.0 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	5160	5160	5160
5°	5089	5083	5077
10°	5045	5039	5003
15°	4909	4860	4792
20°	4729	4653	4526
25°	4535	4436	4159
30°	4298	4160	3747
35°	4070	3845	3466
40°	3839	3504	3153
45°	3619	3239	2851
50°	3350	3006	2543
55°	3099	2725	2278
60°	2839	2434	2040
65°	2498	2131	1806
70°	2058	1866	1535
75°	1637	1429	1498
80°	1099	1031	962
85°	684	821	959



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	357.0	4.7
10°-20°	979.6	13.0
20°-30°	1356.2	18.0
30°-40°	1446.1	19.2
40°-50°	1319.3	17.5
50°-60°	1033.6	13.7
60°-70°	673.6	8.9
70°-80°	298.5	4.0
80°-90°	64.1	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°	2692.8	35.8
0°-40°	4139.0	55.0
0°-60°	6491.8	86.2
0°-90°	7528.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7528.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3835	3835	3835	3835	3835	
5°	3768	3764	3764	3759	3759	358
15°	3524	3524	3489	3453	3440	991
25°	3054	3037	2988	2882	2802	1402
35°	2478	2460	2341	2163	2110	1549
45°	1902	1862	1702	1560	1498	1465
55°	1321	1281	1162	1024	971	1185
65°	785	740	669	683	567	773
75°	315	293	275	262	288	337
85°	44	49	53	58	62	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3834.7	3834.7	3834.7	3834.7	3834.7
2.5°	3808.1	3808.1	3808.1	3803.6	3803.6
5°	3768.2	3763.7	3763.7	3759.3	3759.3
7.5°	3737.1	3732.7	3728.3	3723.8	3715.0
10°	3692.8	3692.8	3688.4	3666.2	3661.8
12.5°	3621.9	3617.4	3599.7	3568.7	3559.8
15°	3524.3	3524.3	3488.9	3453.4	3440.1
17.5°	3417.9	3413.5	3369.2	3333.7	3316.0
20°	3302.7	3293.8	3249.5	3191.9	3160.8
22.5°	3174.1	3174.1	3120.9	3045.6	3014.5
25°	3054.4	3036.7	2987.9	2881.5	2801.7
27.5°	2917.0	2890.4	2837.2	2686.5	2593.4
30°	2766.3	2753.0	2677.6	2482.6	2411.6
32.5°	2624.4	2602.3	2522.5	2318.5	2260.9
35°	2478.1	2460.4	2340.7	2163.4	2110.2
37.5°	2331.8	2309.7	2158.9	2017.1	1950.6
40°	2185.5	2158.9	1994.9	1866.4	1795.4
42.5°	2048.1	2012.6	1853.1	1715.6	1635.8
45°	1901.8	1861.9	1702.3	1560.5	1498.4
47.5°	1755.5	1720.1	1573.8	1427.5	1356.5
50°	1600.4	1569.3	1436.3	1290.0	1214.7
52.5°	1471.8	1423.0	1294.5	1148.2	1086.1
55°	1321.1	1281.2	1161.5	1024.1	970.9
57.5°	1183.6	1143.7	1032.9	904.4	860.0
60°	1055.1	997.5	904.4	793.5	758.1
62.5°	913.2	868.9	789.1	696.0	740.3
65°	784.7	740.3	669.4	682.7	567.4
67.5°	642.8	620.6	558.6	496.5	478.8
70°	523.1	496.5	474.3	407.8	390.1
72.5°	416.7	390.1	359.1	323.6	310.3
75°	314.8	292.6	274.9	261.6	288.2
77.5°	217.2	208.4	195.1	181.8	177.3
80°	141.9	137.4	133.0	128.6	124.1
82.5°	84.2	84.2	84.2	84.2	84.2
85°	44.3	48.8	53.2	57.6	62.1
87.5°	26.6	26.6	31.0	35.5	39.9
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)