

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: P547468

Luminaire Tested: **FMR-24-4-LD4-4STD-35-UNV-82-94-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: P547468
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-LD4-4STD-35-UNV-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

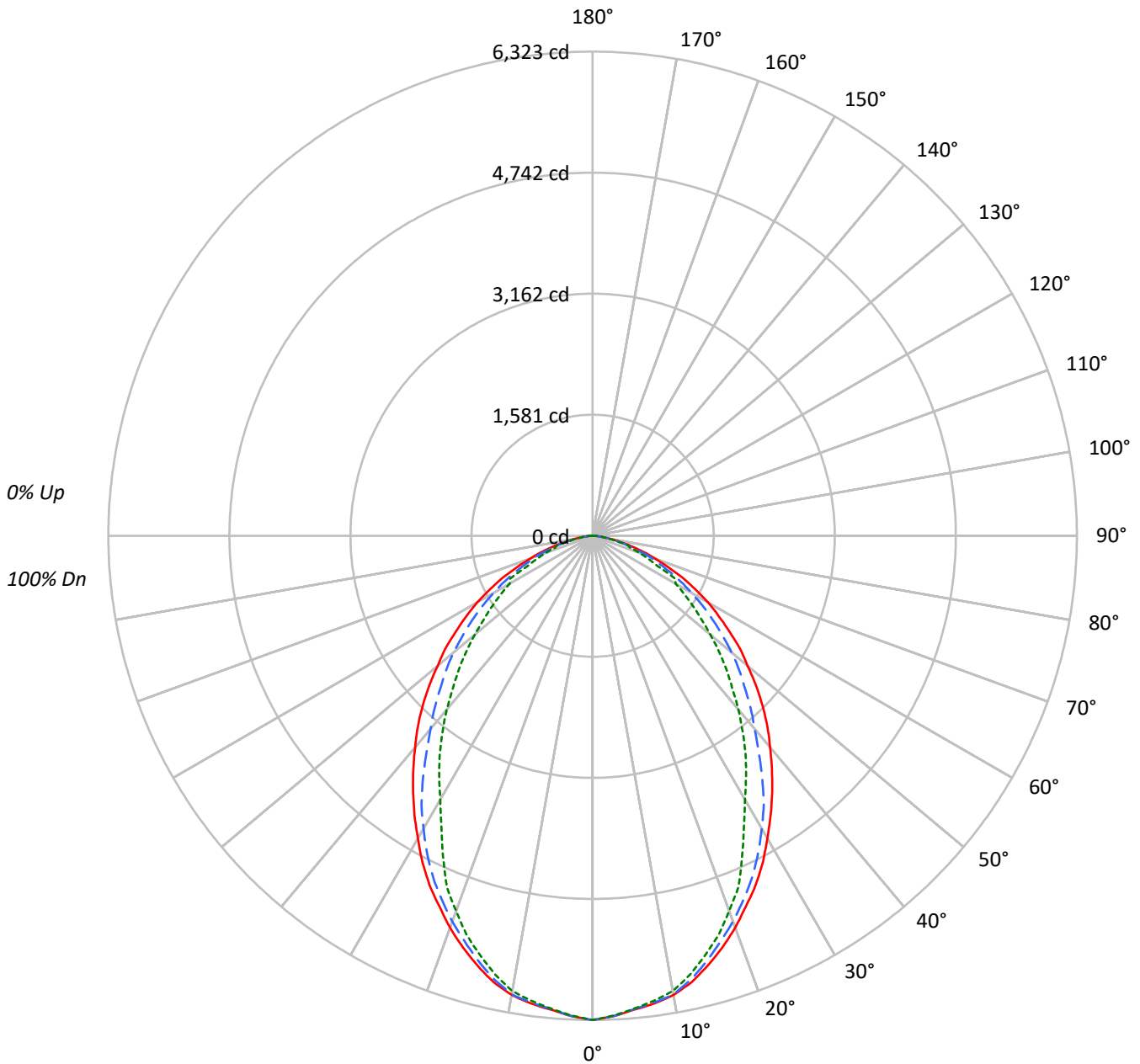
Lumens per Lamp: N/A
Luminaire Lumens: 12413.0 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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°	8508	8508	8508
5°	8392	8382	8372
10°	8319	8309	8249
15°	8095	8013	7901
20°	7798	7672	7463
25°	7477	7314	6858
30°	7087	6859	6178
35°	6712	6340	5715
40°	6330	5778	5200
45°	5967	5341	4701
50°	5524	4958	4192
55°	5110	4493	3755
60°	4681	4013	3364
65°	4119	3514	2979
70°	3393	3077	2531
75°	2698	2356	2470
80°	1812	1699	1586
85°	1129	1354	1579



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	588.6	4.7
10°-20°	1615.3	13.0
20°-30°	2236.3	18.0
30°-40°	2384.6	19.2
40°-50°	2175.4	17.5
50°-60°	1704.3	13.7
60°-70°	1110.8	8.9
70°-80°	492.1	4.0
80°-90°	105.7	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°	4440.2	35.8
0°-40°	6824.8	55.0
0°-60°	10704.5	86.2
0°-90°	12413.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12413.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6323	6323	6323	6323	6323	
5°	6213	6206	6206	6199	6199	590
15°	5811	5811	5753	5694	5672	1634
25°	5036	5007	4927	4751	4620	2312
35°	4086	4057	3860	3567	3480	2555
45°	3136	3070	2807	2573	2471	2416
55°	2178	2112	1915	1689	1601	1954
65°	1294	1221	1104	1126	936	1275
75°	519	482	453	431	475	556
85°	73	80	88	95	102	101
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6323.0	6323.0	6323.0	6323.0	6323.0
2.5°	6279.2	6279.2	6279.2	6271.8	6271.8
5°	6213.4	6206.1	6206.1	6198.7	6198.7
7.5°	6162.2	6154.9	6147.6	6140.3	6125.7
10°	6089.1	6089.1	6081.8	6045.2	6037.9
12.5°	5972.1	5964.8	5935.6	5884.4	5869.8
15°	5811.3	5811.3	5752.8	5694.4	5672.4
17.5°	5635.9	5628.6	5555.5	5497.0	5467.8
20°	5445.8	5431.2	5358.1	5263.1	5211.9
22.5°	5233.8	5233.8	5146.1	5021.9	4970.7
25°	5036.5	5007.2	4926.8	4751.4	4619.8
27.5°	4809.9	4766.0	4678.3	4429.8	4276.3
30°	4561.3	4539.4	4415.1	4093.5	3976.6
32.5°	4327.4	4290.9	4159.3	3823.0	3728.0
35°	4086.2	4057.0	3859.6	3567.2	3479.5
37.5°	3845.0	3808.4	3559.9	3326.0	3216.3
40°	3603.8	3559.9	3289.4	3077.4	2960.5
42.5°	3377.1	3318.7	3055.5	2828.9	2697.3
45°	3135.9	3070.1	2807.0	2573.1	2470.7
47.5°	2894.7	2836.2	2595.0	2353.8	2236.8
50°	2638.9	2587.7	2368.4	2127.2	2002.9
52.5°	2426.9	2346.5	2134.5	1893.2	1790.9
55°	2178.3	2112.5	1915.2	1688.6	1600.9
57.5°	1951.7	1885.9	1703.2	1491.2	1418.1
60°	1739.7	1644.7	1491.2	1308.5	1250.0
62.5°	1505.8	1432.7	1301.2	1147.6	1220.7
65°	1293.8	1220.7	1103.8	1125.7	935.7
67.5°	1059.9	1023.4	921.0	818.7	789.5
70°	862.6	818.7	782.2	672.5	643.3
72.5°	687.1	643.3	592.1	533.6	511.7
75°	519.0	482.4	453.2	431.3	475.1
77.5°	358.2	343.6	321.6	299.7	292.4
80°	233.9	226.6	219.3	212.0	204.7
82.5°	138.9	138.9	138.9	138.9	138.9
85°	73.1	80.4	87.7	95.0	102.3
87.5°	43.9	43.9	51.2	58.5	65.8
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)