

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: P546980

Luminaire Tested: **FMR-24-4-LD4-3HI-35-UNV-81-94-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: P546980
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-LD4-3HI-35-UNV-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 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

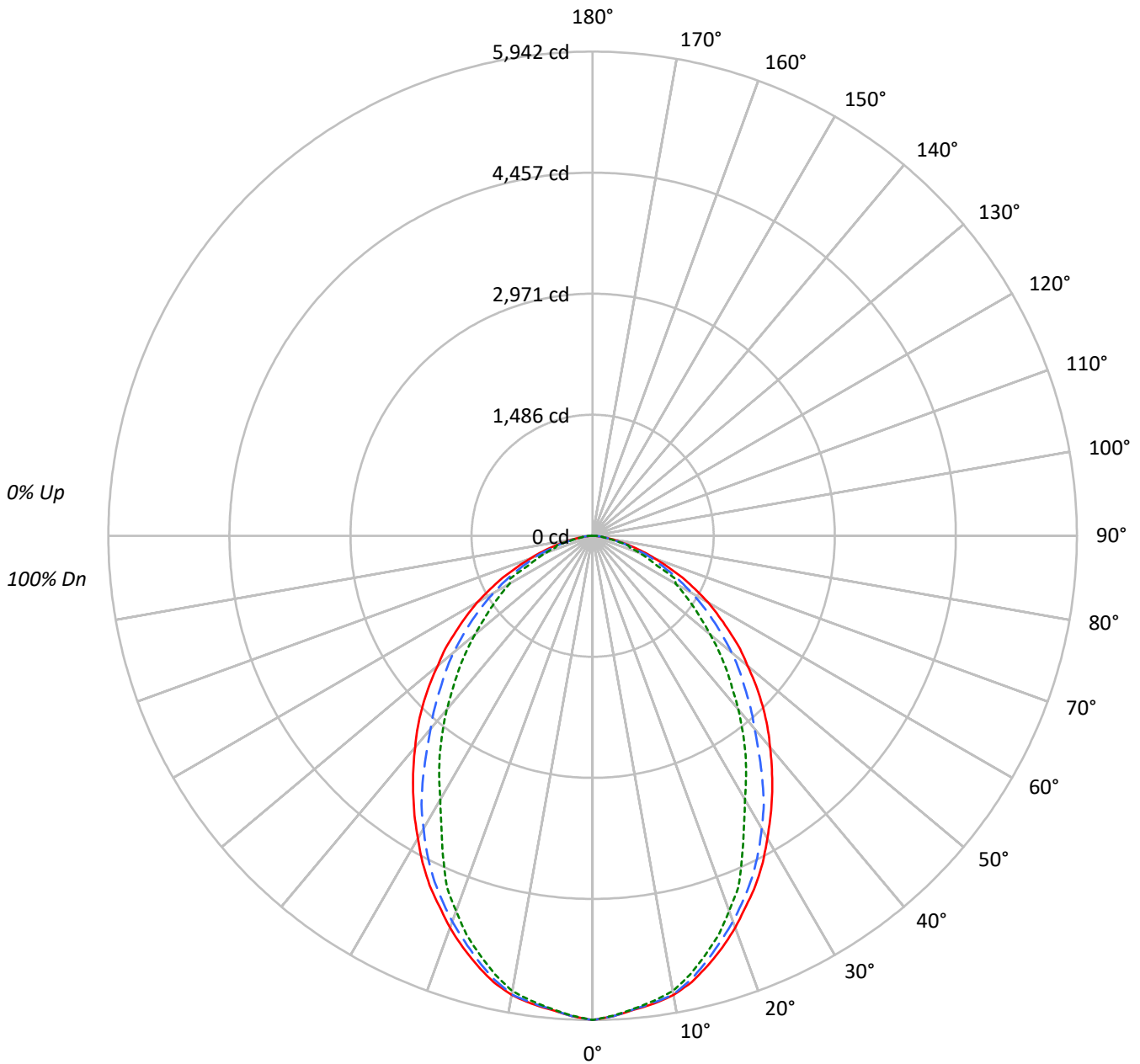
Lumens per Lamp: N/A
Luminaire Lumens: 11665.0 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
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°	7995	7995	7995
5°	7886	7877	7868
10°	7818	7809	7752
15°	7607	7531	7425
20°	7328	7210	7013
25°	7027	6873	6445
30°	6660	6446	5806
35°	6307	5957	5371
40°	5948	5429	4887
45°	5608	5019	4418
50°	5191	4659	3940
55°	4802	4222	3529
60°	4399	3771	3161
65°	3871	3302	2799
70°	3189	2891	2378
75°	2535	2214	2321
80°	1703	1597	1490
85°	1061	1272	1485



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	553.1	4.7
10°-20°	1518.0	13.0
20°-30°	2101.6	18.0
30°-40°	2240.9	19.2
40°-50°	2044.3	17.5
50°-60°	1601.6	13.7
60°-70°	1043.8	8.9
70°-80°	462.5	4.0
80°-90°	99.3	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°	4172.7	35.8
0°-40°	6413.5	55.0
0°-60°	10059.4	86.2
0°-90°	11665.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11665.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5942	5942	5942	5942	5942	
5°	5839	5832	5832	5825	5825	554
15°	5461	5461	5406	5351	5331	1535
25°	4733	4706	4630	4465	4341	2173
35°	3840	3812	3627	3352	3270	2401
45°	2947	2885	2638	2418	2322	2270
55°	2047	1985	1800	1587	1504	1836
65°	1216	1147	1037	1058	879	1198
75°	488	453	426	405	446	523
85°	69	76	82	89	96	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5942.0	5942.0	5942.0	5942.0	5942.0
2.5°	5900.8	5900.8	5900.8	5893.9	5893.9
5°	5839.0	5832.1	5832.1	5825.2	5825.2
7.5°	5790.9	5784.0	5777.1	5770.3	5756.5
10°	5722.2	5722.2	5715.3	5681.0	5674.1
12.5°	5612.3	5605.4	5577.9	5529.8	5516.1
15°	5461.1	5461.1	5406.2	5351.2	5330.6
17.5°	5296.3	5289.4	5220.7	5165.8	5138.3
20°	5117.7	5103.9	5035.2	4945.9	4897.9
22.5°	4918.5	4918.5	4836.0	4719.2	4671.2
25°	4733.0	4705.5	4629.9	4465.1	4341.4
27.5°	4520.0	4478.8	4396.4	4162.8	4018.6
30°	4286.5	4265.9	4149.1	3846.8	3736.9
32.5°	4066.7	4032.3	3908.7	3592.7	3503.4
35°	3840.0	3812.5	3627.0	3352.2	3269.8
37.5°	3613.3	3578.9	3345.4	3125.6	3022.5
40°	3386.6	3345.4	3091.2	2892.0	2782.1
42.5°	3173.6	3118.7	2871.4	2658.4	2534.8
45°	2947.0	2885.1	2637.8	2418.0	2321.8
47.5°	2720.3	2665.3	2438.6	2211.9	2102.0
50°	2479.8	2431.8	2225.7	1999.0	1882.2
52.5°	2280.6	2205.1	2005.9	1779.2	1683.0
55°	2047.1	1985.2	1799.8	1586.8	1504.4
57.5°	1834.1	1772.3	1600.6	1401.3	1332.7
60°	1634.9	1545.6	1401.3	1229.6	1174.7
62.5°	1415.1	1346.4	1222.7	1078.5	1147.2
65°	1215.9	1147.2	1037.3	1057.9	879.3
67.5°	996.1	961.7	865.5	769.4	741.9
70°	810.6	769.4	735.0	632.0	604.5
72.5°	645.7	604.5	556.4	501.5	480.9
75°	487.7	453.4	425.9	405.3	446.5
77.5°	336.6	322.9	302.3	281.6	274.8
80°	219.8	213.0	206.1	199.2	192.3
82.5°	130.5	130.5	130.5	130.5	130.5
85°	68.7	75.6	82.4	89.3	96.2
87.5°	41.2	41.2	48.1	55.0	61.8
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)