

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: P547020

Luminaire Tested: **FMR-24-4-LD4-3HI-40-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: P547020
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

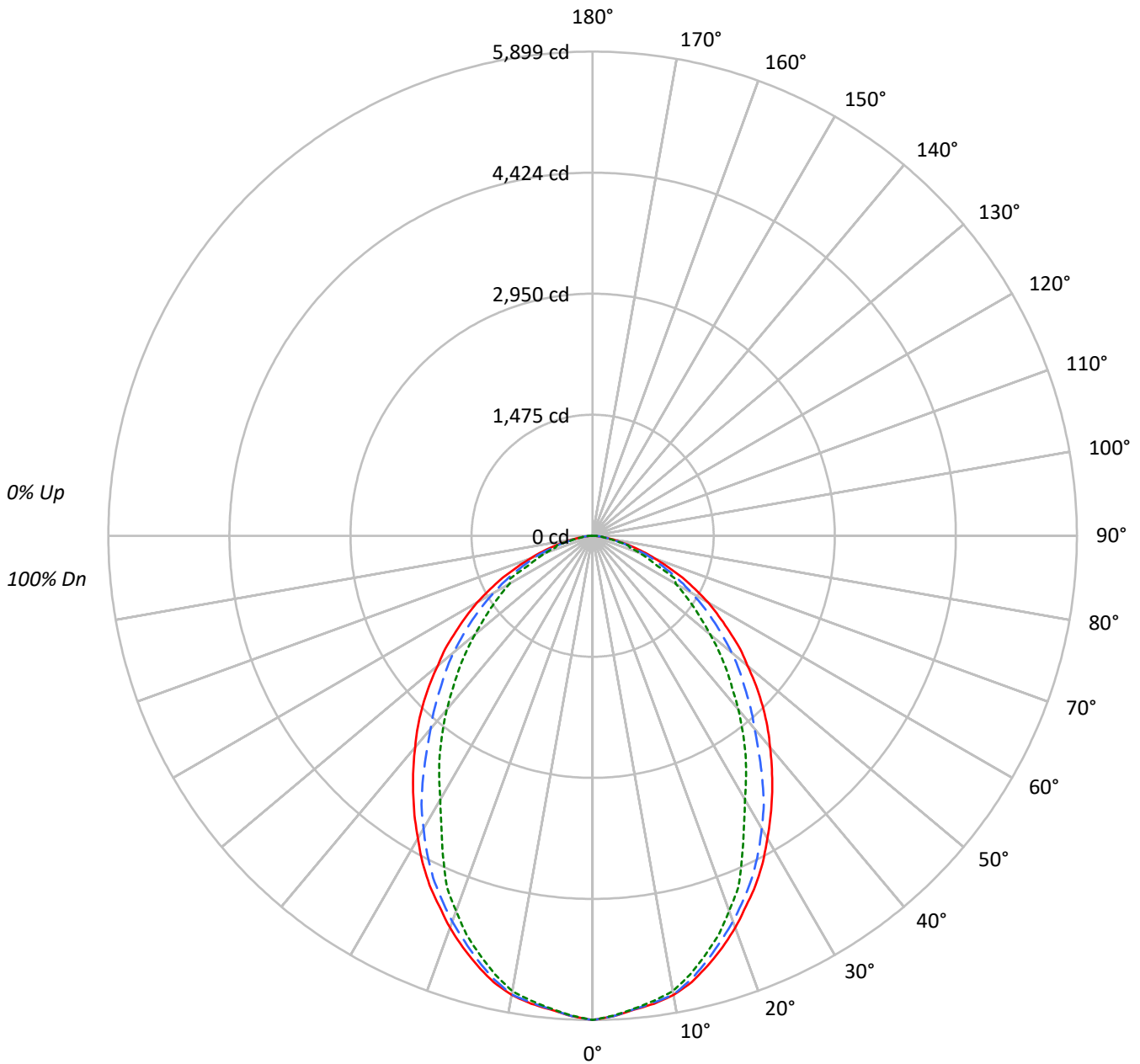
Lumens per Lamp: N/A
Luminaire Lumens: 11581.0 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	7937	7937	7937
5°	7829	7820	7811
10°	7762	7752	7696
15°	7552	7476	7372
20°	7275	7158	6962
25°	6976	6824	6399
30°	6612	6400	5764
35°	6262	5915	5332
40°	5905	5390	4851
45°	5567	4983	4386
50°	5153	4625	3912
55°	4767	4191	3504
60°	4368	3744	3138
65°	3843	3279	2779
70°	3166	2871	2361
75°	2517	2198	2305
80°	1691	1585	1480
85°	1053	1263	1474



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	549.1	4.7
10°-20°	1507.1	13.0
20°-30°	2086.4	18.0
30°-40°	2224.7	19.2
40°-50°	2029.6	17.5
50°-60°	1590.0	13.7
60°-70°	1036.3	8.9
70°-80°	459.1	4.0
80°-90°	98.6	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°	4142.6	35.8
0°-40°	6367.4	55.0
0°-60°	9987.0	86.2
0°-90°	11581.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11581.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5899	5899	5899	5899	5899	
5°	5797	5790	5790	5783	5783	550
15°	5422	5422	5367	5313	5292	1524
25°	4699	4672	4597	4433	4310	2157
35°	3812	3785	3601	3328	3246	2383
45°	2926	2864	2619	2401	2305	2254
55°	2032	1971	1787	1575	1494	1823
65°	1207	1139	1030	1050	873	1190
75°	484	450	423	402	443	519
85°	68	75	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°	5899.2	5899.2	5899.2	5899.2	5899.2
2.5°	5858.3	5858.3	5858.3	5851.5	5851.5
5°	5796.9	5790.1	5790.1	5783.3	5783.3
7.5°	5749.2	5742.3	5735.5	5728.7	5715.1
10°	5681.0	5681.0	5674.2	5640.1	5633.2
12.5°	5571.9	5565.0	5537.8	5490.0	5476.4
15°	5421.8	5421.8	5367.3	5312.7	5292.2
17.5°	5258.1	5251.3	5183.1	5128.6	5101.3
20°	5080.8	5067.2	4999.0	4910.3	4862.6
22.5°	4883.0	4883.0	4801.2	4685.3	4637.5
25°	4698.9	4671.6	4596.6	4432.9	4310.2
27.5°	4487.5	4446.6	4364.7	4132.9	3989.6
30°	4255.6	4235.2	4119.2	3819.1	3710.0
32.5°	4037.4	4003.3	3880.5	3566.8	3478.1
35°	3812.3	3785.0	3600.9	3328.1	3246.3
37.5°	3587.3	3553.2	3321.3	3103.1	3000.8
40°	3362.2	3321.3	3069.0	2871.2	2762.1
42.5°	3150.8	3096.2	2850.7	2639.3	2516.5
45°	2925.7	2864.4	2618.8	2400.6	2305.1
47.5°	2700.7	2646.1	2421.1	2196.0	2086.9
50°	2462.0	2414.2	2209.6	1984.6	1868.7
52.5°	2264.2	2189.2	1991.4	1766.4	1670.9
55°	2032.3	1970.9	1786.8	1575.4	1493.6
57.5°	1820.9	1759.5	1589.0	1391.3	1323.1
60°	1623.1	1534.5	1391.3	1220.8	1166.2
62.5°	1404.9	1336.7	1213.9	1070.7	1138.9
65°	1207.1	1138.9	1029.8	1050.3	872.9
67.5°	988.9	954.8	859.3	763.8	736.5
70°	804.7	763.8	729.7	627.4	600.2
72.5°	641.1	600.2	552.4	497.9	477.4
75°	484.2	450.1	422.8	402.4	443.3
77.5°	334.2	320.5	300.1	279.6	272.8
80°	218.2	211.4	204.6	197.8	191.0
82.5°	129.6	129.6	129.6	129.6	129.6
85°	68.2	75.0	81.8	88.7	95.5
87.5°	40.9	40.9	47.7	54.6	61.4
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)