

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: P547299

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-81-88-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: P547299
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-40-UNV-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

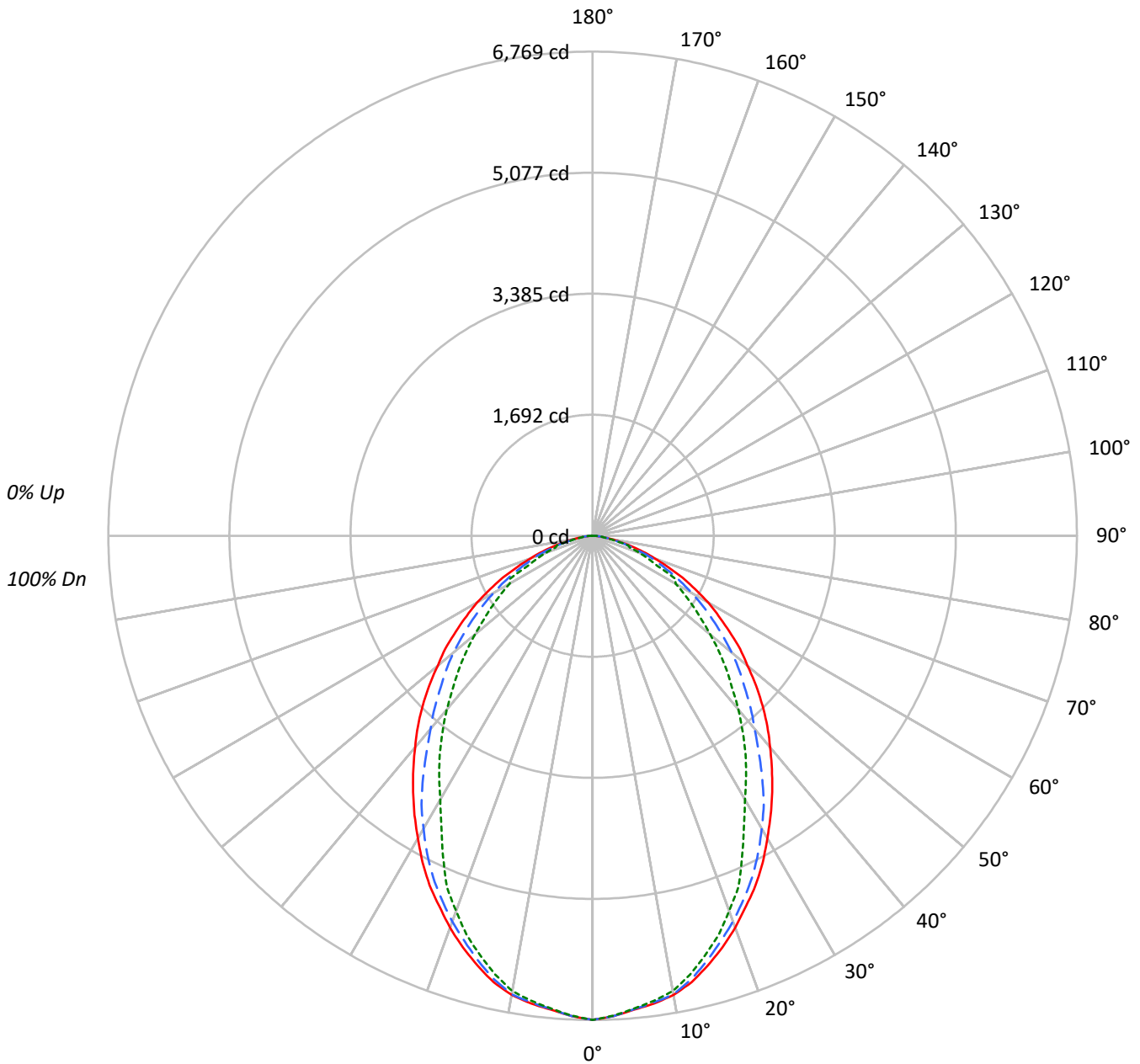
Lumens per Lamp: N/A
Luminaire Lumens: 13288.0 lumens
Efficiency: N/A
Efficacy: 76.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
Input Voltage (V): NR
Input Current (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°	9107	9107	9107
5°	8984	8973	8962
10°	8906	8895	8831
15°	8666	8578	8458
20°	8347	8213	7989
25°	8004	7830	7342
30°	7586	7343	6614
35°	7185	6786	6118
40°	6776	6185	5566
45°	6388	5718	5033
50°	5913	5307	4488
55°	5470	4809	4020
60°	5012	4296	3601
65°	4409	3762	3189
70°	3633	3294	2709
75°	2888	2522	2644
80°	1940	1819	1698
85°	1209	1450	1692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	630.1	4.7
10°-20°	1729.2	13.0
20°-30°	2394.0	18.0
30°-40°	2552.7	19.2
40°-50°	2328.8	17.5
50°-60°	1824.4	13.7
60°-70°	1189.1	8.9
70°-80°	526.8	4.0
80°-90°	113.1	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°	4753.2	35.8
0°-40°	7305.9	55.0
0°-60°	11459.0	86.2
0°-90°	13288.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13288.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6769	6769	6769	6769	6769	
5°	6651	6644	6644	6636	6636	631
15°	6221	6221	6158	6096	6072	1749
25°	5392	5360	5274	5086	4946	2475
35°	4374	4343	4132	3819	3725	2735
45°	3357	3287	3005	2754	2645	2586
55°	2332	2262	2050	1808	1714	2092
65°	1385	1307	1182	1205	1002	1365
75°	556	516	485	462	509	595
85°	78	86	94	102	110	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6768.7	6768.7	6768.7	6768.7	6768.7
2.5°	6721.8	6721.8	6721.8	6714.0	6714.0
5°	6651.4	6643.5	6643.5	6635.7	6635.7
7.5°	6596.6	6588.8	6580.9	6573.1	6557.5
10°	6518.3	6518.3	6510.5	6471.4	6463.5
12.5°	6393.1	6385.3	6354.0	6299.2	6283.6
15°	6221.0	6221.0	6158.4	6095.8	6072.3
17.5°	6033.2	6025.3	5947.1	5884.5	5853.2
20°	5829.7	5814.1	5735.8	5634.1	5579.3
22.5°	5602.8	5602.8	5508.9	5375.9	5321.1
25°	5391.5	5360.2	5274.1	5086.3	4945.5
27.5°	5148.9	5102.0	5008.1	4742.0	4577.7
30°	4882.9	4859.4	4726.4	4382.1	4256.9
32.5°	4632.5	4593.3	4452.5	4092.5	3990.8
35°	4374.2	4342.9	4131.7	3818.7	3724.8
37.5°	4116.0	4076.9	3810.8	3560.4	3443.1
40°	3857.8	3810.8	3521.3	3294.4	3169.2
42.5°	3615.2	3552.6	3270.9	3028.3	2887.5
45°	3357.0	3286.6	3004.8	2754.4	2644.9
47.5°	3098.7	3036.1	2777.9	2519.7	2394.5
50°	2824.9	2770.1	2535.3	2277.1	2144.1
52.5°	2597.9	2511.9	2284.9	2026.7	1917.2
55°	2331.9	2261.5	2050.2	1807.6	1713.7
57.5°	2089.3	2018.9	1823.3	1596.3	1518.1
60°	1862.4	1760.7	1596.3	1400.7	1338.1
62.5°	1612.0	1533.7	1392.9	1228.5	1306.8
65°	1385.0	1306.8	1181.6	1205.1	1001.6
67.5°	1134.6	1095.5	986.0	876.4	845.1
70°	923.4	876.4	837.3	719.9	688.6
72.5°	735.6	688.6	633.8	571.2	547.8
75°	555.6	516.5	485.2	461.7	508.6
77.5°	383.4	367.8	344.3	320.8	313.0
80°	250.4	242.6	234.8	226.9	219.1
82.5°	148.7	148.7	148.7	148.7	148.7
85°	78.3	86.1	93.9	101.7	109.6
87.5°	47.0	47.0	54.8	62.6	70.4
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)