

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: P547321

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-80-86-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: P547321
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-50-UNV-80-86-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

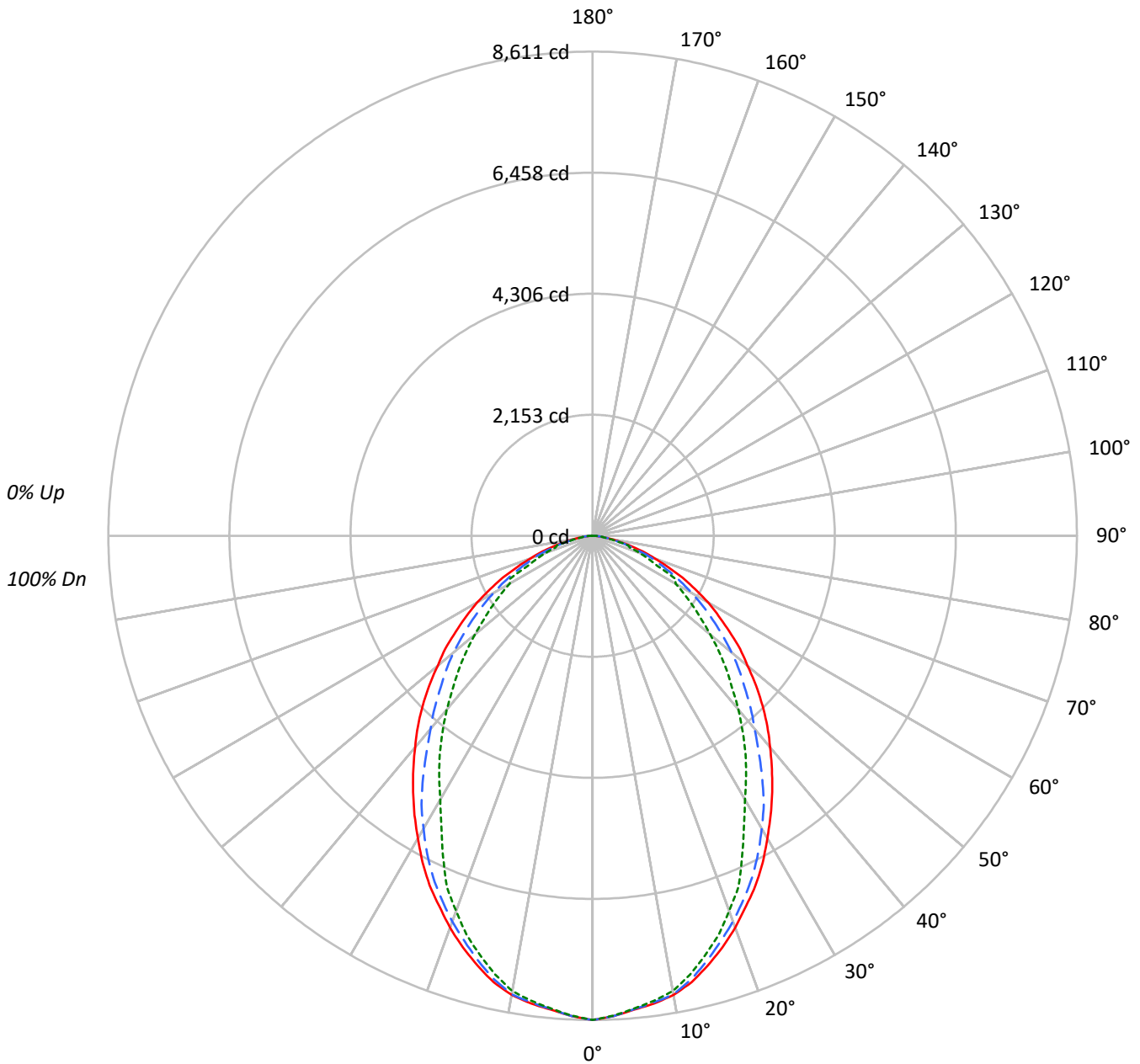
Lumens per Lamp: N/A
Luminaire Lumens: 16904.0 lumens
Efficiency: N/A
Efficacy: 97.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				20				20
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11586	11586	11586
5°	11428	11415	11401
10°	11329	11316	11234
15°	11024	10913	10760
20°	10619	10448	10163
25°	10182	9961	9340
30°	9651	9341	8413
35°	9140	8633	7783
40°	8620	7868	7081
45°	8126	7273	6402
50°	7522	6751	5709
55°	6959	6118	5114
60°	6375	5465	4581
65°	5610	4785	4057
70°	4621	4190	3446
75°	3674	3209	3363
80°	2468	2314	2159
85°	1536	1845	2152



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	801.5	4.7
10°-20°	2199.8	13.0
20°-30°	3045.4	18.0
30°-40°	3247.3	19.2
40°-50°	2962.5	17.5
50°-60°	2320.9	13.7
60°-70°	1512.6	8.9
70°-80°	670.2	4.0
80°-90°	143.9	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°	6046.7	35.8
0°-40°	9294.0	55.0
0°-60°	14577.3	86.2
0°-90°	16904.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16904.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8611	8611	8611	8611	8611	
5°	8461	8451	8451	8441	8441	803
15°	7914	7914	7834	7755	7725	2225
25°	6859	6819	6709	6470	6291	3149
35°	5565	5525	5256	4858	4738	3479
45°	4270	4181	3822	3504	3365	3290
55°	2966	2877	2608	2300	2180	2661
65°	1762	1662	1503	1533	1274	1736
75°	707	657	617	587	647	757
85°	100	110	120	129	139	138
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8610.7	8610.7	8610.7	8610.7	8610.7
2.5°	8550.9	8550.9	8550.9	8541.0	8541.0
5°	8461.4	8451.4	8451.4	8441.4	8441.4
7.5°	8391.7	8381.7	8371.8	8361.8	8341.9
10°	8292.1	8292.1	8282.2	8232.4	8222.4
12.5°	8132.9	8122.9	8083.1	8013.4	7993.5
15°	7913.9	7913.9	7834.2	7754.6	7724.7
17.5°	7674.9	7665.0	7565.4	7485.8	7446.0
20°	7416.1	7396.2	7296.7	7167.3	7097.6
22.5°	7127.4	7127.4	7008.0	6838.8	6769.1
25°	6858.7	6818.9	6709.4	6470.4	6291.3
27.5°	6550.1	6490.4	6370.9	6032.4	5823.4
30°	6211.6	6181.8	6012.5	5574.5	5415.3
32.5°	5893.1	5843.3	5664.1	5206.2	5076.8
35°	5564.6	5524.8	5256.0	4857.8	4738.4
37.5°	5236.1	5186.3	4847.9	4529.3	4380.0
40°	4907.6	4847.9	4479.5	4190.9	4031.6
42.5°	4599.0	4519.4	4161.0	3852.4	3673.2
45°	4270.5	4180.9	3822.5	3504.0	3364.6
47.5°	3942.0	3862.4	3533.9	3205.4	3046.1
50°	3593.6	3523.9	3225.3	2896.8	2727.5
52.5°	3304.9	3195.4	2906.7	2578.2	2438.9
55°	2966.5	2876.9	2608.1	2299.5	2180.0
57.5°	2657.9	2568.3	2319.4	2030.7	1931.2
60°	2369.2	2239.8	2030.7	1781.9	1702.2
62.5°	2050.6	1951.1	1771.9	1562.9	1662.4
65°	1762.0	1662.4	1503.1	1533.0	1274.2
67.5°	1443.4	1393.6	1254.3	1114.9	1075.1
70°	1174.6	1114.9	1065.1	915.8	876.0
72.5°	935.7	876.0	806.3	726.7	696.8
75°	706.8	657.0	617.2	587.3	647.0
77.5°	487.8	467.9	438.0	408.1	398.2
80°	318.5	308.6	298.6	288.7	278.7
82.5°	189.1	189.1	189.1	189.1	189.1
85°	99.5	109.5	119.5	129.4	139.4
87.5°	59.7	59.7	69.7	79.6	89.6
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)