

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: P547334

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-81-97-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: P547334
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-81-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

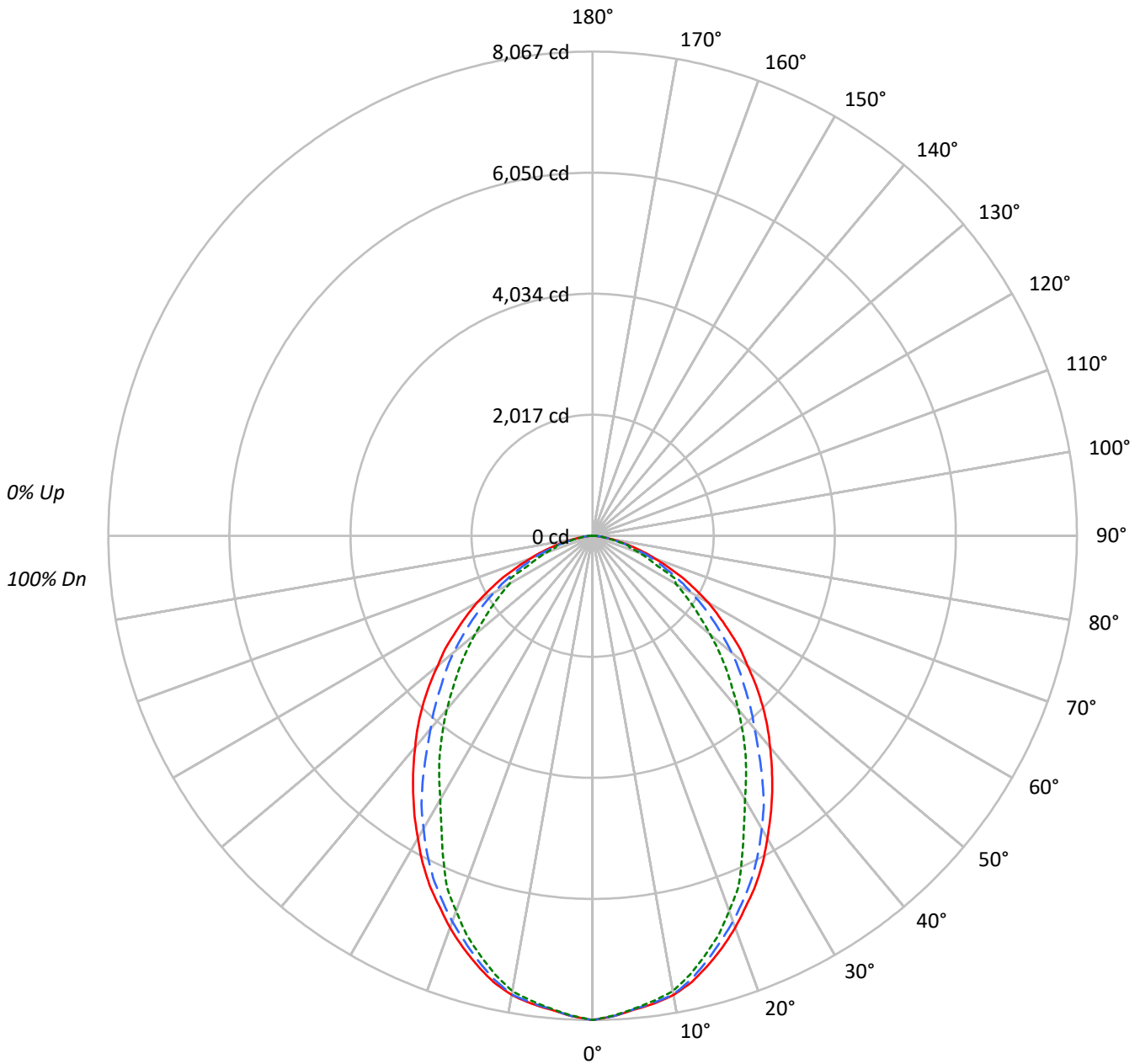
Lumens per Lamp: N/A
Luminaire Lumens: 15837.0 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				
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°	10854	10854	10854
5°	10707	10694	10682
10°	10614	10601	10525
15°	10328	10224	10081
20°	9948	9788	9521
25°	9539	9332	8750
30°	9041	8752	7882
35°	8563	8088	7292
40°	8076	7371	6634
45°	7613	6815	5998
50°	7047	6325	5349
55°	6519	5732	4791
60°	5973	5120	4292
65°	5255	4484	3801
70°	4329	3926	3229
75°	3442	3006	3151
80°	2312	2168	2023
85°	1440	1727	2016



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	750.9	4.7
10°-20°	2060.9	13.0
20°-30°	2853.2	18.0
30°-40°	3042.3	19.2
40°-50°	2775.5	17.5
50°-60°	2174.4	13.7
60°-70°	1417.1	8.9
70°-80°	627.8	4.0
80°-90°	134.8	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°	5665.0	35.8
0°-40°	8707.3	55.0
0°-60°	13657.2	86.2
0°-90°	15837.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15837.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8067	8067	8067	8067	8067	
5°	7927	7918	7918	7909	7909	752
15°	7414	7414	7340	7265	7237	2084
25°	6426	6388	6286	6062	5894	2950
35°	5213	5176	4924	4551	4439	3259
45°	4001	3917	3581	3283	3152	3082
55°	2779	2695	2444	2154	2042	2493
65°	1651	1558	1408	1436	1194	1627
75°	662	616	578	550	606	710
85°	93	103	112	121	131	129
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8067.2	8067.2	8067.2	8067.2	8067.2
2.5°	8011.2	8011.2	8011.2	8001.9	8001.9
5°	7927.3	7917.9	7917.9	7908.6	7908.6
7.5°	7862.0	7852.7	7843.3	7834.0	7815.3
10°	7768.7	7768.7	7759.4	7712.8	7703.4
12.5°	7619.5	7610.2	7572.9	7507.6	7488.9
15°	7414.3	7414.3	7339.7	7265.1	7237.1
17.5°	7190.5	7181.2	7087.9	7013.3	6976.0
20°	6948.0	6929.4	6836.1	6714.9	6649.6
22.5°	6677.6	6677.6	6565.6	6407.1	6341.8
25°	6425.7	6388.4	6285.9	6062.0	5894.2
27.5°	6136.6	6080.7	5968.8	5651.7	5455.8
30°	5819.5	5791.6	5633.0	5222.7	5073.4
32.5°	5521.1	5474.5	5306.6	4877.6	4756.4
35°	5213.3	5176.0	4924.2	4551.2	4439.3
37.5°	4905.6	4858.9	4541.9	4243.4	4103.5
40°	4597.8	4541.9	4196.8	3926.3	3777.1
42.5°	4308.7	4234.1	3898.3	3609.2	3441.4
45°	4000.9	3917.0	3581.3	3282.8	3152.3
47.5°	3693.2	3618.6	3310.8	3003.0	2853.8
50°	3366.8	3301.5	3021.7	2713.9	2555.4
52.5°	3096.3	2993.7	2723.2	2415.5	2284.9
55°	2779.2	2695.3	2443.5	2154.4	2042.4
57.5°	2490.1	2406.2	2173.0	1902.5	1809.3
60°	2219.6	2098.4	1902.5	1669.4	1594.8
62.5°	1921.2	1827.9	1660.1	1464.2	1557.5
65°	1650.7	1557.5	1408.3	1436.2	1193.8
67.5°	1352.3	1305.7	1175.1	1044.5	1007.2
70°	1100.5	1044.5	997.9	858.0	820.7
72.5°	876.7	820.7	755.4	680.8	652.8
75°	662.2	615.5	578.2	550.2	606.2
77.5°	457.0	438.3	410.4	382.4	373.0
80°	298.4	289.1	279.8	270.5	261.1
82.5°	177.2	177.2	177.2	177.2	177.2
85°	93.3	102.6	111.9	121.2	130.6
87.5°	56.0	56.0	65.3	74.6	83.9
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)