

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: P547028

Luminaire Tested: **FMR-24-4-LD4-3HI-40-UNV-93-94-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: P547028
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-93-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

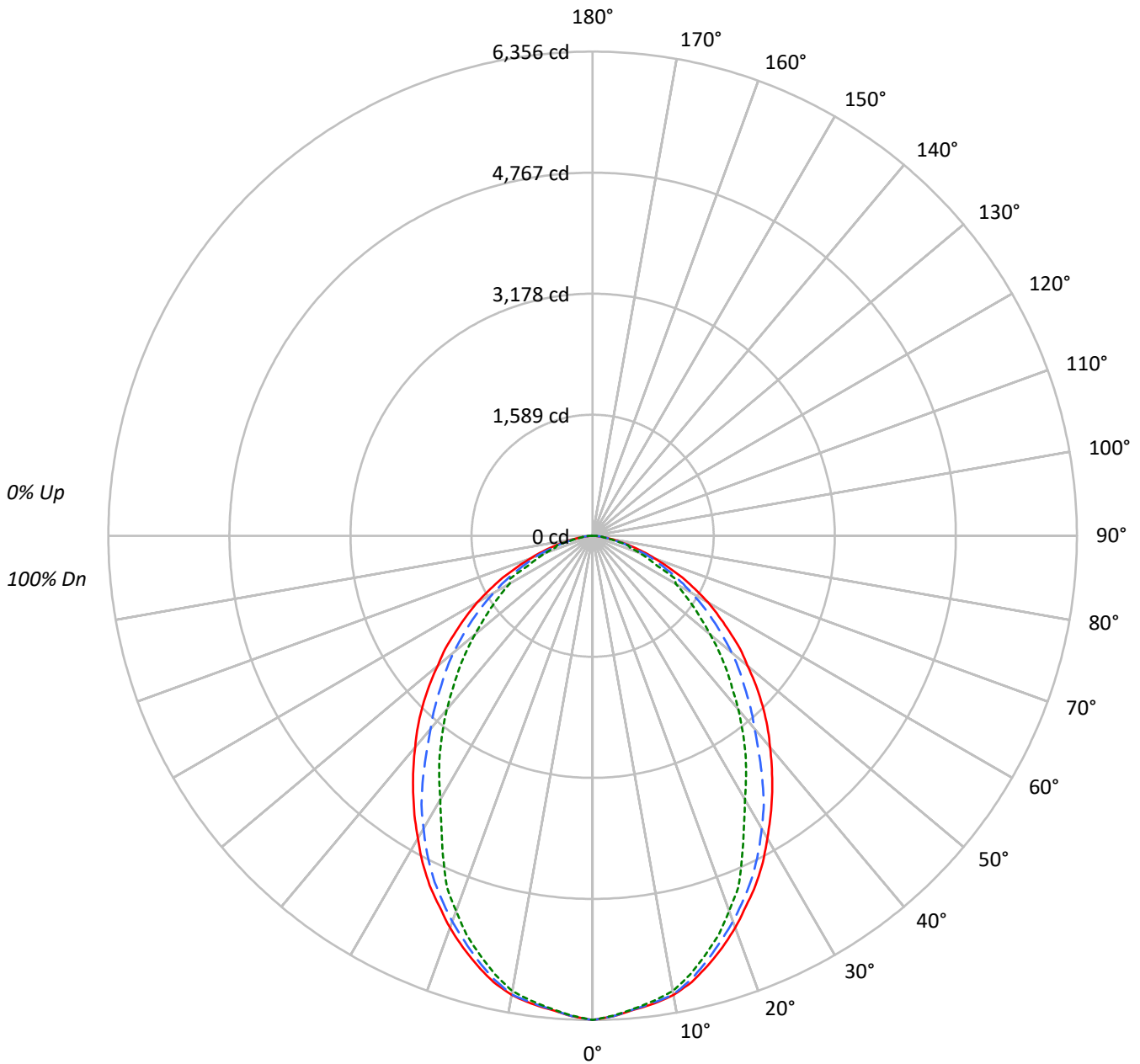
Lumens per Lamp: N/A
Luminaire Lumens: 12478.0 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P547028

CATALOG NUMBER: FMR-24-4-LD4-3HI-40-UNV-93-94-EDD

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°	8552	8552	8552
5°	8436	8426	8416
10°	8363	8353	8292
15°	8137	8055	7943
20°	7838	7712	7502
25°	7516	7353	6894
30°	7124	6896	6211
35°	6747	6373	5745
40°	6363	5808	5227
45°	5998	5369	4726
50°	5553	4984	4214
55°	5137	4516	3775
60°	4706	4034	3381
65°	4141	3533	2995
70°	3411	3093	2544
75°	2712	2368	2483
80°	1822	1708	1594
85°	1135	1362	1589



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	591.7	4.7
10°-20°	1623.8	13.0
20°-30°	2248.0	18.0
30°-40°	2397.0	19.2
40°-50°	2186.8	17.5
50°-60°	1713.2	13.7
60°-70°	1116.6	8.9
70°-80°	494.7	4.0
80°-90°	106.2	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°	4463.5	35.8
0°-40°	6860.5	55.0
0°-60°	10760.5	86.2
0°-90°	12478.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12478.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6356	6356	6356	6356	6356	
5°	6246	6239	6239	6231	6231	593
15°	5842	5842	5783	5724	5702	1642
25°	5063	5034	4953	4776	4644	2324
35°	4108	4078	3880	3586	3498	2568
45°	3152	3086	2822	2586	2484	2428
55°	2190	2124	1925	1697	1609	1964
65°	1301	1227	1110	1132	941	1282
75°	522	485	456	434	478	559
85°	74	81	88	96	103	102
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6356.1	6356.1	6356.1	6356.1	6356.1
2.5°	6312.0	6312.0	6312.0	6304.7	6304.7
5°	6245.9	6238.6	6238.6	6231.2	6231.2
7.5°	6194.5	6187.1	6179.8	6172.4	6157.7
10°	6121.0	6121.0	6113.6	6076.9	6069.5
12.5°	6003.4	5996.1	5966.7	5915.2	5900.5
15°	5841.8	5841.8	5783.0	5724.2	5702.1
17.5°	5665.4	5658.1	5584.6	5525.8	5496.4
20°	5474.4	5459.7	5386.2	5290.6	5239.2
22.5°	5261.3	5261.3	5173.1	5048.2	4996.7
25°	5062.9	5033.5	4952.6	4776.3	4644.0
27.5°	4835.1	4791.0	4702.8	4453.0	4298.7
30°	4585.2	4563.2	4438.3	4114.9	3997.4
32.5°	4350.1	4313.3	4181.1	3843.1	3747.5
35°	4107.6	4078.2	3879.8	3585.9	3497.7
37.5°	3865.1	3828.4	3578.5	3343.4	3233.2
40°	3622.6	3578.5	3306.7	3093.6	2976.0
42.5°	3394.8	3336.0	3071.5	2843.7	2711.5
45°	3152.3	3086.2	2821.7	2586.5	2483.7
47.5°	2909.9	2851.1	2608.6	2366.1	2248.5
50°	2652.7	2601.2	2380.8	2138.3	2013.4
52.5°	2439.6	2358.7	2145.7	1903.2	1800.3
55°	2189.7	2123.6	1925.2	1697.4	1609.2
57.5°	1961.9	1895.8	1712.1	1499.0	1425.5
60°	1748.9	1653.3	1499.0	1315.3	1256.5
62.5°	1513.7	1440.2	1308.0	1153.7	1227.1
65°	1300.6	1227.1	1109.6	1131.6	940.6
67.5°	1065.5	1028.7	925.9	823.0	793.6
70°	867.1	823.0	786.2	676.0	646.6
72.5°	690.7	646.6	595.2	536.4	514.4
75°	521.7	485.0	455.6	433.5	477.6
77.5°	360.1	345.4	323.3	301.3	293.9
80°	235.1	227.8	220.4	213.1	205.7
82.5°	139.6	139.6	139.6	139.6	139.6
85°	73.5	80.8	88.2	95.5	102.9
87.5°	44.1	44.1	51.4	58.8	66.1
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)