

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: P547350

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-93-97-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: P547350
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-93-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

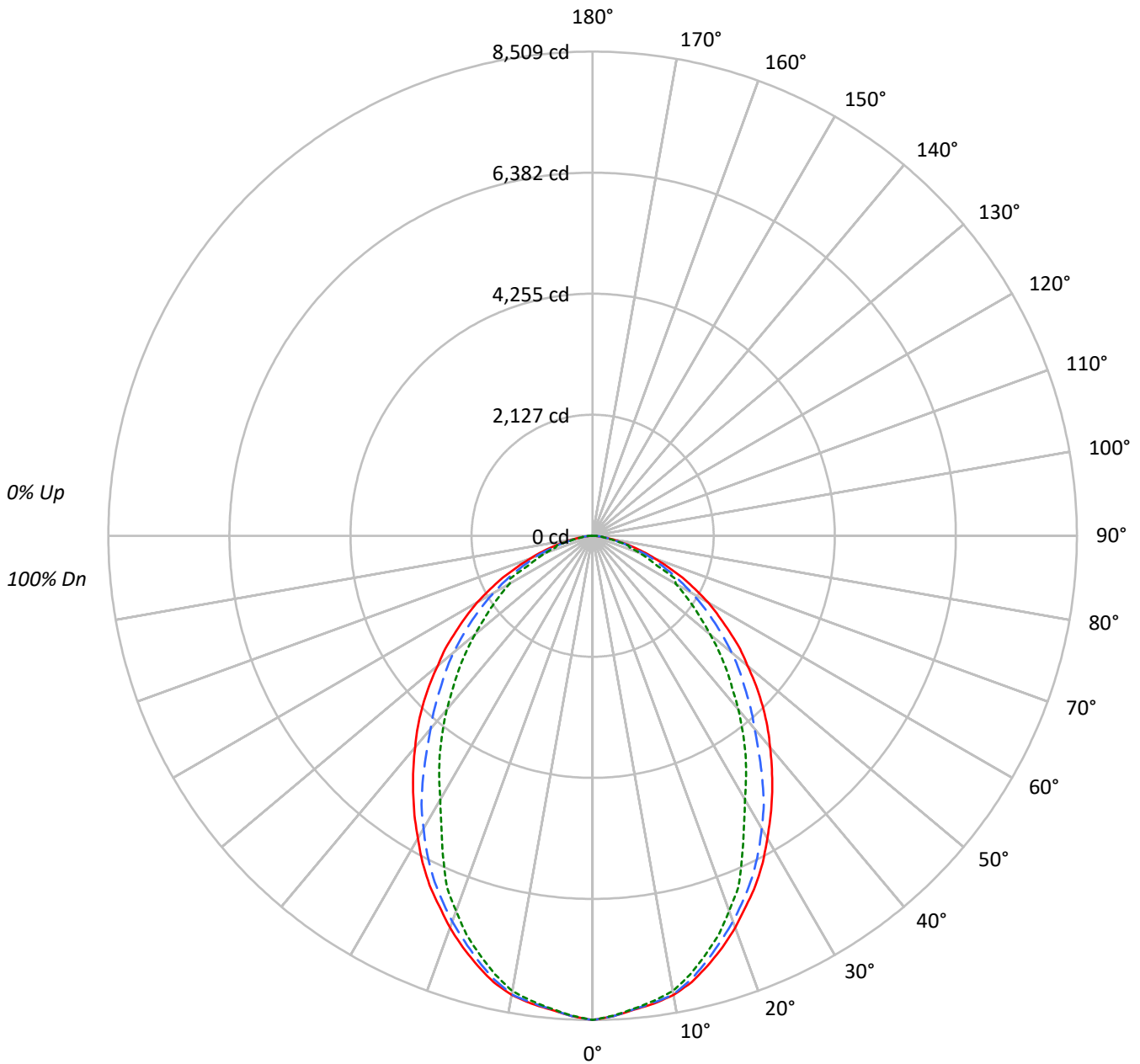
Lumens per Lamp: N/A
Luminaire Lumens: 16704.0 lumens
Efficiency: N/A
Efficacy: 96.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
Input Voltage (V): NR
Input Current (A_{in}): 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: P547350

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-93-97-EDD

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°	11449	11449	11449
5°	11293	11280	11266
10°	11195	11182	11101
15°	10893	10784	10633
20°	10493	10324	10042
25°	10062	9843	9229
30°	9536	9231	8314
35°	9032	8531	7691
40°	8518	7775	6997
45°	8030	7187	6326
50°	7433	6671	5642
55°	6876	6046	5053
60°	6300	5400	4526
65°	5543	4729	4009
70°	4566	4140	3405
75°	3631	3171	3324
80°	2439	2287	2134
85°	1519	1822	2126



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	792.1	4.7
10°-20°	2173.7	13.0
20°-30°	3009.4	18.0
30°-40°	3208.9	19.2
40°-50°	2927.4	17.5
50°-60°	2293.4	13.7
60°-70°	1494.7	8.9
70°-80°	662.2	4.0
80°-90°	142.2	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°	5975.2	35.8
0°-40°	9184.0	55.0
0°-60°	14404.8	86.2
0°-90°	16704.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16704.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8509	8509	8509	8509	8509	
5°	8361	8351	8351	8342	8342	794
15°	7820	7820	7742	7663	7633	2198
25°	6778	6738	6630	6394	6217	3112
35°	5499	5459	5194	4800	4682	3438
45°	4220	4131	3777	3462	3325	3251
55°	2931	2843	2577	2272	2154	2629
65°	1741	1643	1485	1515	1259	1716
75°	698	649	610	580	639	749
85°	98	108	118	128	138	136
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8508.8	8508.8	8508.8	8508.8	8508.8
2.5°	8449.8	8449.8	8449.8	8439.9	8439.9
5°	8361.2	8351.4	8351.4	8341.6	8341.6
7.5°	8292.4	8282.5	8272.7	8262.9	8243.2
10°	8194.0	8194.0	8184.2	8135.0	8125.2
12.5°	8036.6	8026.8	7987.4	7918.6	7898.9
15°	7820.2	7820.2	7741.5	7662.8	7633.3
17.5°	7584.1	7574.3	7475.9	7397.2	7357.9
20°	7328.4	7308.7	7210.3	7082.5	7013.6
22.5°	7043.1	7043.1	6925.1	6757.9	6689.0
25°	6777.5	6738.2	6630.0	6393.9	6216.8
27.5°	6472.6	6413.6	6295.5	5961.1	5754.5
30°	6138.1	6108.6	5941.4	5508.6	5351.2
32.5°	5823.4	5774.2	5597.1	5144.6	5016.7
35°	5498.7	5459.4	5193.8	4800.3	4682.3
37.5°	5174.1	5125.0	4790.5	4475.7	4328.2
40°	4849.5	4790.5	4426.5	4141.3	3983.9
42.5°	4544.6	4465.9	4111.8	3806.8	3629.8
45°	4220.0	4131.4	3777.3	3462.5	3324.8
47.5°	3895.4	3816.7	3492.0	3167.4	3010.0
50°	3551.1	3482.2	3187.1	2862.5	2695.3
52.5°	3265.8	3157.6	2872.3	2547.7	2410.0
55°	2931.4	2842.8	2577.2	2272.3	2154.2
57.5°	2626.4	2537.9	2292.0	2006.7	1908.3
60°	2341.1	2213.3	2006.7	1760.8	1682.1
62.5°	2026.4	1928.0	1750.9	1544.4	1642.7
65°	1741.1	1642.7	1485.4	1514.9	1259.1
67.5°	1426.3	1377.1	1239.4	1101.7	1062.4
70°	1160.7	1101.7	1052.5	905.0	865.6
72.5°	924.7	865.6	796.8	718.1	688.6
75°	698.4	649.2	609.9	580.4	639.4
77.5°	482.0	462.3	432.8	403.3	393.5
80°	314.8	304.9	295.1	285.3	275.4
82.5°	186.9	186.9	186.9	186.9	186.9
85°	98.4	108.2	118.0	127.9	137.7
87.5°	59.0	59.0	68.9	78.7	88.5
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)