

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: P546728

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-82-85-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: P546728
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-LD4-2HI-40-UNV-82-85-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

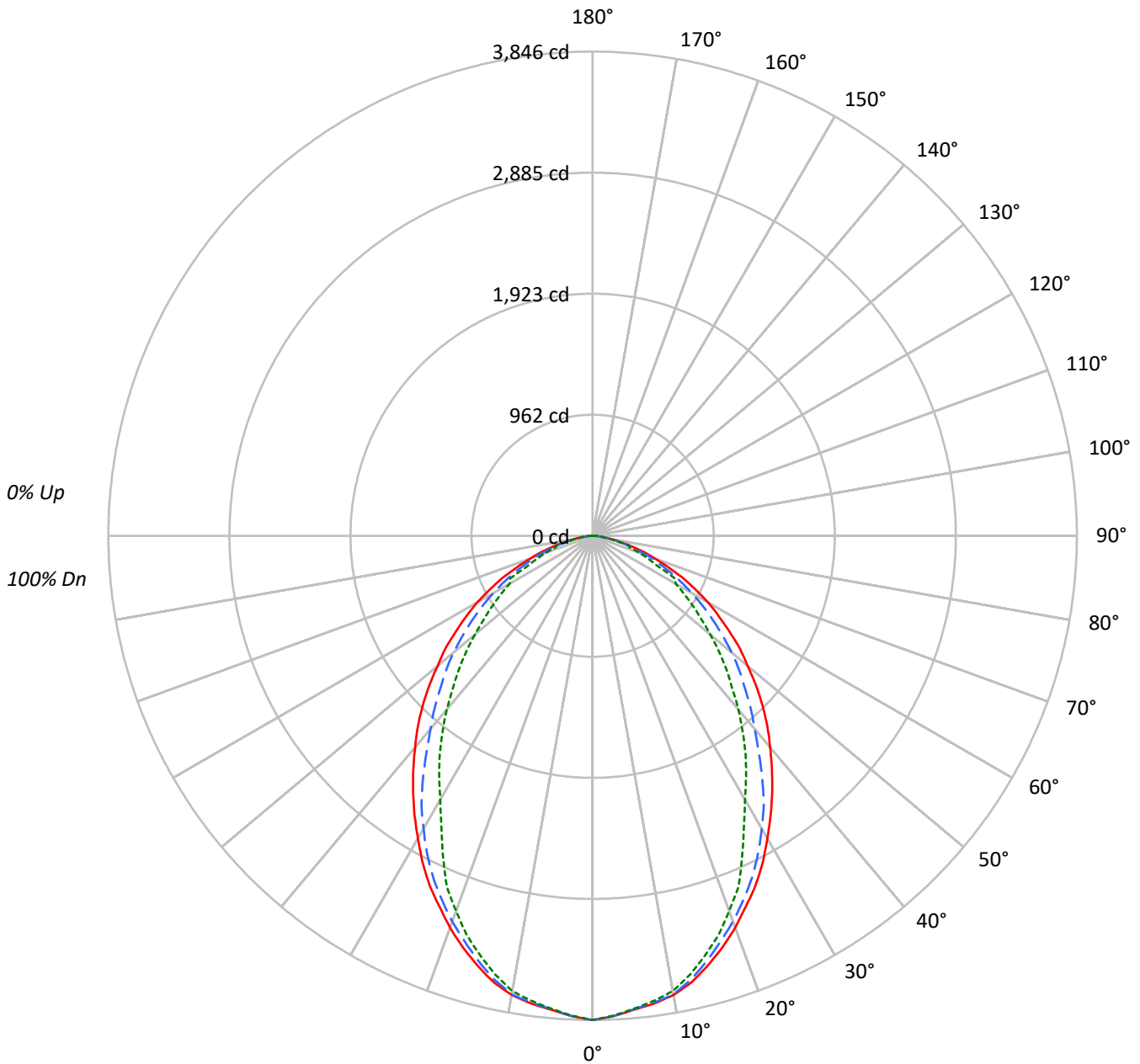
Lumens per Lamp: N/A
Luminaire Lumens: 7550.0 lumens
Efficiency: N/A
Efficacy: 87.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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

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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°	5175	5175	5175
5°	5104	5098	5092
10°	5060	5054	5018
15°	4924	4874	4806
20°	4743	4666	4539
25°	4548	4449	4172
30°	4310	4172	3758
35°	4082	3856	3476
40°	3850	3514	3163
45°	3629	3249	2860
50°	3360	3015	2550
55°	3108	2733	2284
60°	2848	2441	2046
65°	2506	2138	1812
70°	2064	1871	1539
75°	1641	1433	1502
80°	1103	1034	965
85°	687	824	960



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	358.0	4.7
10°-20°	982.5	13.0
20°-30°	1360.2	18.0
30°-40°	1450.4	19.2
40°-50°	1323.2	17.5
50°-60°	1036.6	13.7
60°-70°	675.6	8.9
70°-80°	299.3	4.0
80°-90°	64.3	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°	2700.7	35.8
0°-40°	4151.1	55.0
0°-60°	6510.8	86.2
0°-90°	7550.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7550.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3846	3846	3846	3846	3846	
5°	3779	3775	3775	3770	3770	359
15°	3535	3535	3499	3464	3450	994
25°	3063	3046	2997	2890	2810	1406
35°	2485	2468	2348	2170	2116	1554
45°	1907	1867	1707	1565	1503	1469
55°	1325	1285	1165	1027	974	1188
65°	787	742	671	685	569	776
75°	316	293	276	262	289	338
85°	44	49	53	58	62	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3845.9	3845.9	3845.9	3845.9	3845.9
2.5°	3819.2	3819.2	3819.2	3814.7	3814.7
5°	3779.2	3774.7	3774.7	3770.3	3770.3
7.5°	3748.1	3743.6	3739.2	3734.7	3725.8
10°	3703.6	3703.6	3699.1	3676.9	3672.5
12.5°	3632.5	3628.0	3610.2	3579.1	3570.2
15°	3534.6	3534.6	3499.1	3463.5	3450.2
17.5°	3427.9	3423.5	3379.0	3343.5	3325.7
20°	3312.3	3303.4	3259.0	3201.2	3170.1
22.5°	3183.4	3183.4	3130.0	3054.5	3023.3
25°	3063.4	3045.6	2996.7	2890.0	2809.9
27.5°	2925.5	2898.9	2845.5	2694.3	2601.0
30°	2774.4	2761.0	2685.4	2489.8	2418.7
32.5°	2632.1	2609.9	2529.8	2325.3	2267.5
35°	2485.4	2467.6	2347.5	2169.7	2116.3
37.5°	2338.6	2316.4	2165.2	2023.0	1956.3
40°	2191.9	2165.2	2000.7	1871.8	1800.7
42.5°	2054.1	2018.5	1858.5	1720.6	1640.6
45°	1907.4	1867.4	1707.3	1565.0	1502.8
47.5°	1760.7	1725.1	1578.4	1431.6	1360.5
50°	1605.0	1573.9	1440.5	1293.8	1218.2
52.5°	1476.1	1427.2	1298.3	1151.5	1089.3
55°	1324.9	1284.9	1164.9	1027.0	973.7
57.5°	1187.1	1147.1	1035.9	907.0	862.5
60°	1058.2	1000.4	907.0	795.9	760.3
62.5°	915.9	871.4	791.4	698.0	742.5
65°	787.0	742.5	671.4	684.7	569.1
67.5°	644.7	622.5	560.2	498.0	480.2
70°	524.6	498.0	475.7	409.0	391.3
72.5°	417.9	391.3	360.1	324.6	311.2
75°	315.7	293.4	275.7	262.3	289.0
77.5°	217.9	209.0	195.6	182.3	177.8
80°	142.3	137.8	133.4	128.9	124.5
82.5°	84.5	84.5	84.5	84.5	84.5
85°	44.5	48.9	53.4	57.8	62.2
87.5°	26.7	26.7	31.1	35.6	40.0
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)